3GPP TSG-RAN2#AH-1801 Tdoc R2-180xxxx

**Vancouver, Canada, 22-26 Jan 2018**

**Agenda Item: 10.4.3.1**

**Source: Ericsson**

**Title: Review issue list for TS 38.331 EN-DC ASN.1 freeze**

**Version: 1.0**

**Document for: Discussion and decision**

# Introduction

This document provides an overview of list of issues resulting from the review of the PDU specification and related procedure text and field descriptions.

For some issues the proposed solution is indicated as well as the company & Tdoc introducing this in the standard. For some of the issues this document includes further considerations. The following companies volunteered for the review.

“ID” identifies the company, and consists of “X” (<letter>), as “E” for Ericsson.

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# Instructions for RIL and CR storage

RIL and Editorial CR is stored in <ftp://ftp.3gpp.org/Email_Discussions/RAN2/>.

Companies are requested to provide their review comments and change proposals directly in the stored documents (see Classification below). Companies are encouraged to continuously introduce their comments/changes in the RILs/CR, e.g. when one area have been reviewed (and not provide all comments together on the last day).

When storing the documents after providing updates, companies should **add their Company ID** (**one letter**, see section 1) to the file name.

Companies are encouraged to try to resolve collisions. Also the Rapporteur will take an active role in this (and storage/merging problems can be discussed via email). In future reviews, we can potentially use more sophisticated tools.

# Instructions for RIL

**Issue Number (I-No)**

All issues should be numbered in a format Xyyy where

* X is the unique ID (<letter>) assigned to each company, see the table in clause 1.
* yyy is a running number starting from 001, i.e. 001, 002, …. 999.
* Ex: “E103”.

To avoid duplicated I-No numbers, companies may use the table very last in this document.

Colour codes

X000 Solution on issue has been implemented, further info provided on implementation.

X000 Solution on issue has not been implemented, further info provided on reason.

X000 Issue not relevant for EN-DC

**Description**

Describe the issue in a few words.

**Classification (Class):**

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| --- | --- |
| Class 1 | Straigthforward clarification/correction will not be included in RIL but company will directly include in “Minor corrections CR”. This can include small things like addition of need codes (as long as relatively straightforward) |
| Class 2 | Small issue i.e. solution requires some discussion but possible to concluded as part of ASN.1 review. Within column Details in the RIL, the company raising the issue is invited to suggest a proposed way forward, that other companies review and if not agreeable may suggest alternatives for. |
| Class 3 | More significant issue, i.e. requiring more extensive analysis by a contribution. Class 3 issues are within the scope of the ASN.1 review (i.e. does not concern more functional aspects). Companies are requested to volunteer for drafting a contribution (CR).  A contribution may address multiple issues, but these should be clearly marked. |
| Class 4 | Issue of type 4 are like type 3, with the exception that the issue is not only adressing ASN.1 aspects but also more functional aspects. Companies are still invited to draft a contribution, but this would be treated in the agenda item covering the concerned related functionality. |

Companies are requested to provide contribution details, to have an overview of the status (in particular regarding which issues are not covered).

**Details (proposed solution/ discussion)**

Mainly relevant for issues of class 2, the cell is intended to discuss/ agree the proposed way forward. The company raising the issue is invited to suggest a proposed way forward, that other companies review and if not agreeable may suggest alternatives for.

Companies are encouraged to describe solutions in the same manner as they correct issues in CRs, i.e. propose changes that are shown in the same manner using change marks.

It is therefore suggested to use “**simulated change marks**” for the issue reporting, i.e.

* Added parts are marked with underlined red coloured text, e.g. new text .
* Deleted parts are marked with strikethough red coloured text, e.g. ~~delated text.~~
* If there is a need to high-light something by marking text with a colour, e.g. to high-light small changes, it is recommended that yellow colour is used, e.g. spelling error.
* Reason for these “simulated change marks” is to alow for more easy moving/copy/paste without loosing the changes.

Companies are encouraged to comment issues introduced by other companies, both on agreeing or objecting. These comments shall be **tagged with the company name** for easy search. E.g. “Ericsson: We agree”.

**Status/Ref (to be filled in by the Rapporteur)**

Status of the issue, in particular:

Class 2: indicate FFS if no (confirmed) way forward yet

Class 3: indicate company planning to bring a contribution

Class 4: same as 3, but also indicate agenda item

(coding/coloring TBD)

# Conclusion & recommendation

This paper includes a of list of issues resulting from the review of [1]. RAN2 is requested to endorse the status including the solutions proposed.

# References

[1] TS 38.331 RRC specification

# Review issue list (Annex)

#### Revision History

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| --- | --- | --- |
| **Version** | **File name** | **Revision history** |
| 0.0 | RIL 38331 merged | First merged version of company input |
| 0.1 | RIL 38331 merged r1 | Q006: Modified  E114: Proposed to be closed.  E123, E124, E125, E126: New  Q020: New  H106: Proposed to be rejected.  H129: Proposed to be rejected.  H242: Modified  I078-i091: New  E121: Originally numbered E115 (duplicate)  E122: Originally numbered E116 (duplicate)  C043: New  E026: TP added  E027: TP added  Z001, Z007, Z008, Z011, Z026, Z029, Z030, Z032: Deleted (Class 1 issue)  Z033, Z035, Z040, Z042, Z063: Deleted (Class 1 issue)  Z003: Modified  Z081, Z082, Z083, Z084, Z085, Z086: New  O013, O014 deleted (Class 1 issue)  E127, E128: New |
| 0.2 | RIL 38331 merged r2 | New: N265, N285, N298, N274, N266, N280, N281, N282, N299, N284, N275, N277, N278, N279  New: N286, N287, N288, N289, N290, N291, N292, N297, N267, N268, N269, N270, N271, N272, N273  New: N293, N294, N295  New: C044  New: H284, H285, H286, H287, H288  New: F001, F002, F003, F004, F005, F006, F007, F008, F009, F010  Modified: H010, H011  New: Q021, Q022, Q023, Q024  New: v016, v039, v040  New: S027 S028. S029, S030, S031  New: E129, E130, E131, E132, E134 |
| 0.3 | RIL 38331 merged r3 | Commented: N273, N274, C019, S007, I022, I034, S005, M063, H219, S021  Commented: I031, I060, H248, H249  Reference to TDoc added: S015, S016, S017, E128 (Samsung Tdoc)  Modified: M032, H273, H274, E105  New: S031, Q024, Q025, Q026, Q027, E135  Commented: v010, N002, F004, C001, O002, N004, C002, L004, N007, C003, I006, I007, I008, E106, O007, O008, O009, O10, S001, S002, S003, S004  Commented: F006, F007, C004, I010, C005, H001, L006, H003, L010 etc |
| 0.4 | RIL 38331 merged r34 | New: Q028, Q029, D024, Q030  Commented: Z054, Q019, H223, H231, H232, L022, 013 etc  Some Tdoc references added |
| 0.5 | RIL 38331 merged r5 | Commented: M022, I049, H019, H026, H029, C025 |
| 1.0 | R2-180xxxx RIL Rapporteur comments after AH 1801 was R2-1801670 | RIL in R2-1801670 with Rapporteur comments added. |

**Colour codes on I-No**

X000 Solution on issue has been implemented, further info provided on implementation.

X000 Solution on issue has not been implemented, further info provided on reason.

X000 Issue not relevant for EN-DC

#### Foreword

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I001 | Measurement related fields should be grouped in separate section instead of radio resouce configuration | 2 | **[Ericsson]**: We disagree. That is the case in LTE, however, our understanding was that it is challenging to define a consistent classifiation e.g. in the case some IEs are not only measurement related. Hence, considering the benefit is not major we suggest to kep a single section as in the current version.  => Leave unchanged |  |
| I002 | As agreed in RAN2#99bis,  7) Agreed to re-use the conditions approach with its table and apply this for network constraints, to distinguish Message Constraints (e.g Cond MC-N) and Configuration Constraints (e.g. Cond CC-N). In TS36.331, this is typically documented in field descriptions.  But it is missing in the spec when deploy the condition. | 2 | check all conditions to reflect this agreement.  => Guidelines TP to be provided to RAN2#101 on the usage of these new condition types (Samsung). Draft to be provided early to the ASN.1 review email list or at NR AH in R2-1801599. (I002) (Offline discussion #21, Samsung)  => Apply the guidelines in the ASN.1 review CRs (action to CR editors). Aim to complete for RAN2#101  Rap: Only TP is implemented. All conditions are not checked to reflect this agreement. |  |
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#### 1 Scope

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#### 2 References

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| F001 | The reference to LTE MAC specification is added, since in 5.3.5.3 it should be refered. | 2 | Add a reference:  [13] 3GPP TS 36.321: " Evolved Universal Terrestrial Radio Access (E-UTRA) Medium Access Control (MAC); Protocol specification".  Rap: rejected, no need to add |  |
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#### 3 Definitions, symbols and abbreviations

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| L001 | This version defines the “Special Cell” in section 3.1 and the SpCell refers to the Special Cell. However, we think that it is redundant definition, and it is enough to define SpCell in 3.2 as what RAN2 agreed at #100 meeting. Also we need to descrive a definition of “PSCell”. Lastly, we don’t have strong view on this, “Pcell” can be defined as the SpCell of the MN. | 2 | In 3.1 section, **~~Special Cell:~~** ~~For Dual Connectivity operation the term Special Cell refers to the PCell of the MCG or the PSCell of the SCG, otherwise the term Special Cell refers to the PCell.~~  In 3.2 section,  Pcell ~~Primary Cell~~ the SpCell of the MN  PSCell SpCell of a secondary cell group  SpCell ~~Special Cell~~ primary cell of a master and a secondary cell group  **[Ericsson]** We agree with the change but would suggest to say ”primary cell of a master cell group or a secondary cell group”  **[vivo]:** We agree with intention to avoid redundancy. But think the suggested definition should be moved to section 3.1. Moreover, LG’s proposal on PCell is not aligned with definitions in the stage 2 spec TS 37.340. Thus we suggest further modifications highlighted yellow. 3.1 Definitions P~~c~~Cell ~~Primary Cell~~ ~~the~~ SpCell of ~~the MN~~ a master cell group  PSCell SpCell of a secondary cell group  SpCell ~~Special Cell~~ primary cell of a master and a secondary cell group  Rap: No changes implemented: Can be discussed further. |  |
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#### 3.1 Definitions

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M001 | 1. Generally, definitions of the terms exist in 36.331 for LTE should also be listed in 38.331, e.g. Dual connectivity, Primary cell, Primary secondary cell, Master cell group, Secondary cell group, etc. 2. We have special cell definition ‘Special Cell: For Dual Connectivity operation the term Special Cell refers to the PCell of the MCG or the PSCell of the SCG, otherwise the term Special Cell refers to the PCell.’, but no definition of PCell and PSCell. 3. The definition of bandwidth part shold also be added. | 1 |  |  |
| F002 | As proposed by RAN2 chair at RAN#74,   * “RAN” - appropriate for text describing network behaviour over the radio interface * “NR” corresponds to “E-UTRA” in LTE specs - appropriate for cases where the intent was really to refer to the radio access technology * “5G-RAN” corresponds to “E-UTRAN” in LTE specs - appropriate for cases describing network architecture and relation to EPC.   It is proposed to align these terms, “RAN” and “NR” within TS38.331 | 3 | For example, in the following sections:  1) 4.2.1 UE states and state transitions including inter RAT  - RRC\_CONNECTED:  - The UE stores the AS context.  - Transfer of unicast data to/from UE.  - At lower layers, the UE may be configured with a UE specific DRX.;  - For UEs supporting CA, use of one or more SCells, aggregated with the SpCell, for increased bandwidth;  - For UEs supporting DC, use of one SCG, aggregated with the MCG, for increased bandwidth;  - Network controlled mobility, i.e. handover within NR and to/from E-UTRA~~N~~.  - The UE:  2) 4.2.1  Figure 4.2.1-2 illustrates an overview of UE state machine and state transitions in NR as well as the mobility procedures supported between ~~NR/NGC and E-UTRAN/EPC~~NG-RAN and E-UTRAN.  ……  The UE state machine, state transition and mobility procedures between NG-RAN and E-UTRAN ~~NR/NGC and E-UTRA/NGC~~ is FFS.  3) 5.1.2 General requirements  1> set the rrc-TransactionIdentifier in the response message, if included, to the same value as included in the message received from ~~NR~~ gNB that triggered the response message;  ……  1> upon receiving an extension field comprising the entries in addition to the ones carried by the original field (regardless of whether ~~NR~~ gNB signals more entries in total); apply the following generic behaviour if explicitly stated to be applicable:  4) in some figures, “network” / “RAN” should be changed to “gNB” or “NG-RAN”  **[Ericsson]** To be discussed. The intention of correct this terminology is good. Some points to be clarified are:   * Whether instead of RAN, 5G-RAN should be used in 38.331; * Whether when 38.331 is using the term “RAN” it is only refering to the NR RRC entity or also for EUTRAN connected to 5GC; In that case, how to make a distinction between both RATs when in 38.331. In the example given, “mobility procedures between NG-RAN and E-UTRAN”, there might be some ambiguity as it is not clear whther EUTRAN is LTE connected to EPC or 5GC, distinction needed as some procedures might differ.   **[vivo]**: I have prepared a TP on terminology for subclause 11.2 in R2-1801526  Rap: Further discussions may be needed. |  |
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#### 3.2 Abbreviations

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M002 | 1. Several abbreviations are missing 2. Whether to use bandwidth part or abbrevation of BWP? | 1 | 1. Add following abbrevations, which exist in LTE, e.g. CA, DC, TDD, TTT, DL-SCH, SFN 2. Add new abbrevations for NR, e.g. SFTD.   Use abbrevation of BWP for bandwidth part in the procedure and ASN.1. |  |
| E100 | Looks that many abbreviations are not used. | 2 | Clean up abbreviations.  Task the rapporteor to delete abbreviations not used in the specification. |  |
| E101 | Should use abbreviation 5GC instead of NGC | 2 | Replace all NGC wth 5GC and add abbreviation  5GC 5G Core Network |  |

#### 4 General

#### 4.1 Introduction

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M003 | - “clause 6 specifies the RRC messages in ASN.1;” is not proper reflecting ‘The contents of each RRC message is specified in sub-clause 6.2 using ASN.1 to specify the message syntax and using tables when needed to provide further detailed information about the fields specified in the message syntax.’. | 1 | Suggest to change to -clause 6 specifies the RRC message in a mixed format (i.e. tabular & ASN.1 together)  Rap: No update |  |
| N001 | There are two types of FFS: either as Editor's note or FFS  in square brackets in normative text. The ones in [] are numerously hidden in section 4 | 2 | Align FFS appearance in specification, or officially note  Rap: No update |  |
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#### 4.2 Architecture

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#### 4.2.1 UE states and state transitions including inter RAT

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M004 | Indent for the UE behavior description in RRC\_IDLE. | 1 | - The UE:  - Monitors a Paging channel;  - Performs neighbouring cell measurements and cell (re-)selection;  - Acquires system information |  |
| L002 | From a UE perspepctive, RRC\_INACTIVE does not have RRC connection between UE and the eNB, and RAN2 define RRC\_INACTIVE as a new RRC state in NR. | 2 | A UE is either in RRC\_CONNECTED state ~~or in RRC\_INACTIVE state~~ when an RRC connection has been established or transits to RRC\_INACTIVE state by network configuration from RRC\_CONNECTED state.  **[Ericsson]** Disagree. The UE has a suspended RRC connection when in RRC\_INACTIVE.  => Not applicable to EN-DC |  |
| F003 | For RRC\_INACTIVE, periodical RAN-based notification area update is also supported. However, the current text only talks about RAN-based notification area updates when moving outside the RAN-based notification area. | 2 | 2 Options could be considered.  Option 1:  - RRC\_INACTIVE:  - A UE specific DRX may be configured by upper layers or by RRC layer;  - UE controlled mobility based on network configuration;  - The UE stores the AS context;  - The UE:  - Monitors a Paging channel;  - Performs neighbouring cell measurements and cell (re-)selection;  - Performs RAN-based notification area updates periodically and when moving outside the RAN-based notification area;  Option 2:  - RRC\_INACTIVE:  - A UE specific DRX may be configured by upper layers or by RRC layer;  - UE controlled mobility based on network configuration;  - The UE stores the AS context;  - The UE:  - Monitors a Paging channel;  - Performs neighbouring cell measurements and cell (re-)selection;  - Performs RAN-based notification area updates when moving outside the RAN-based notification area;  Rap: Not aaplicable for EN-DC |  |

#### 4.2.2 Signalling radio bearers

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I003 | Need to add SRB1/1S, SRB2/2S and SRB3 | 2 | Can use 36.331 as start point.  Rap: No text added. |  |
| E102 | SRB3 | 2 | Should add description of SBB3. Now, SRB3 is shortly described later in 5.3.5.1:  In EN-DC, SRB3 can be used to perform measurement, MAC, RLC, PDCP, physical layer and RLF timers and constants (re-)configurations.  Text proposal not available yet.  Rap: No text added. |  |
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#### 4.3 Services

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#### 4.3.1 Services provided to upper layers

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| V040 | At RAN2#99 meeting, there are some agreements reached for RRC\_INACTIVE UE to inform NAS layers. Highlight yellow.  29.    In the following cases the UE releases the UE context, UE AS informs UE NAS  29.1.  Case (b) upon failure of resume procedure (including the RAN update case);  FFS Whether this applies in all cases of failure of resume procedure  29.2.  Case (d) upon reselecting to other RAT;  29.3.  Case (e) upon reception of CN initiating paging;  Therefore, we suggest to capture the above agreements for illustration of UE notifications in RRC\_INACTIVE to higher layers. | 2 | Prepare a contribution for discussion.  The RRC protocol offers the following services to upper layers:  -     Broadcast of common control information;  -     Notification of UEs in RRC\_IDLE, e.g. about a terminating call [FFS, for ETWS, for CMAS];  -    Notification of UEs in RRC\_INACTIVE, e.g., upon RRC resume failure, reselecting to other RAT;  -     Transfer of dedicated control information, i.e. information for one specific UE.  Rap: No updates, not essential for EN-DC | See Tdoc R2-1801527 |
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#### 4.3.2 Services expected from lower layers

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#### 4.4 Functions

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I004 | - Other functions including e.g. transfer of dedicated NAS information and non-3GPP dedicated information, transfer of UE radio access capability information [FFS support for RAN sharing (multiple PLMN identities)];  What does “non-3GPP dedicated information” refer to? | 2 | Suggest to remove “non-3GPP dedicated information,” for now |  |
| v010 | According to RAN2#99 agreements for NG-EN-DC and NE-DC and NR SA   1. UP integrity protection can be configured on a per radio bearer (i.e. per DRB) basis.   Thus suggest the initial configuration of AS integrity protection to include the DRB. | 2 | - Initial security activation, i.e. initial configuration of AS integrity protection (SRBs, DRBs) and AS ciphering (SRBs, DRBs);  [Ericsson[ Disagree. Details for IP for DRBs have not been concluded, so this can be added later.  => Not applicable to EN-DC |  |
| N002 | Text: 'In case of DC, cell management including e.g. change of PSCell, addition/ modification/ release of SCG cell(s)[FFS, and addition/modification/release of SCG TAG(s)].' conveys FFS that is unclear to identify, i.e. what is actually FFS. **Related to N001** | 2 | Confirm the scope of FFS, e.g. that all operation are FFS: addition/modification/release of SCG(s) cells  [Ericsson] FFS seems to refer to SCG TAGs. In our view, this detail is not needed at all.  Our suggestion is to remove “[FFS, and addition/modification/release of SCG TAG(s)]”  Rap: FFS removed |  |
| F004 | AS integrity protection can also be configured to DRB. | 2 | Proposed modification:  - Initial security activation, i.e. initial configuration of AS integrity protection (SRBs, DRBs) and AS ciphering (SRBs, DRBs);  [Ericsson] Duplicate comment with v010. |  |
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#### 5 Procedures

#### 5.1 General

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#### 5.1.1 Introduction

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M005 | Correction to “and UE capability transfer (5.~~8~~6)” | 1 | and UE capability transfer(5.6)  Rap: Siuperseeded by E010 |  |
| E010 | The following text would need to be revised for each new subsection added. It does not provide additional clarity and is difficult to maintain. | 2 | Delete the following text:  ~~The procedural requirements are structured according to the main functional areas: system information (5.2), connection control (5.3), inter-RAT mobility (5.4), measurements (5.5) and UE capability transfer (5.8). In addition, sub-clause 5.7 covers other aspects e.g. NAS dedicated information transfer.~~ |  |
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#### 5.1.2 General requirements

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.2 System information

Only MIB acquisition applicable for EN-DC.

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| I-No | Description | Class | Details (proposed solution/ discussion) |  |
| C001 | In RAN2 #99bis agreements  2: "intraFreqReselection" IE is present in the MIB and it has the same effect as the LTE "intraFreqReselection" IE  We may add actions for "intraFreqReselection" IE | 2 | 5.2.2.4 Actions upon receipt of SI message  Upon receiving the MasterInformationBlock the UE shall:  1> store the acquired MIB;  1> if the UE is in RRC\_IDLE or if the UE is in RRC\_INACTIVE or if the UE is in RRC\_CONNECTED while T311 is running: [FFS]  2> if the cellBarred in the acquired MIB is set to barred;  3> consider the cell as barred in accordance with TS 38.304 [FFS]; and  3> perform barring as if intraFreqReselection is set to allowed;  2> else,  3> apply the received parameter(s) [FFS] to acquire SIB1.  [Ericsson] The proposed addition corresponds to the earlier agreement, not the current one that is described here. The text should instead say  3> control cell reselection to intra-frequency cells according to intraFreqReselection, as specified in TS 38.304 [xx];  A reference to TS 38.304 should then be added as well. This part is not relevant for NSA and could thus be handled later on.  **[vivo]**: we think that this should be captured in 38.304 not 38.331. Further according to 36.304 subclause 5.3.1, there should not be any assumption on “allowed” or “not allowed”, the UE behavior should apply the aquire parameters in SIB1. So this addition is not correct.  Rap: Not for EN-DC |  |
| E031 | Need to be clarified what parts of 5.2 that are applicable for EN-DC, as well as details of MIB aquisition. Ericsson will submit tdoc with text proposal. | 4 | Ericsson will submit tdoc with text proposal.  RAN2 AH: Agreements, see CCBB | See Tdoc R2-1800302 |
| O001 | Wrong spelling of “periodicity” as below  - the SystemInformationBlockType1 (SIB1) is transmitted on the DL-SCH with a periodicity of [X] and repetitions made within [X]. SIB1 includes information regarding the availability and scheduling (e.g. periodcity, SI-window size) of other SIBs. It also indicates whether they (i.e. other SIBs) are provided via periodic broadcast basis or only on-demand basis (refer Figure 5.2.2.X.X FFS\_Ref). If other SIBs are provided on-demand then SIB1 includes information for the UE to perform SI request; | 1 | Correct to “periodicity” |  |
| O002 | Wrong spelling of “signalling” as beow  - For SCells, RAN provides the required SI by dedicated signaling. Nevertheless, the UE shall acquire MIB of the PSCell to get SFN timing of the SCG (which may be different from MCG). Upon change of relevant SI, RAN releases and adds the concerned SCell. | 1 | Correct to “signaling”  [Ericsson] Should be change to “signalling” |  |
| O003 | Terminology “SystemInformation” should be italic  - SIBs other than SystemInformationBlockType1 are carried in SystemInformation (SI) messages, which are transmitted on the DL-SCH. Each SI message is transmitted within periodically occurring time domain windows (referred to as SI-windows); | 1 | Corrected straight forward to:  - SIBs other than SystemInformationBlockType1 are carried in SystemInformation (SI) messages, which are transmitted on the DL-SCH. Each SI message is transmitted within periodically occurring time domain windows (referred to as SI-windows); |  |
| O004 | Unclear defintition of SIB1, Is this equiverlent to RMSI? RAN2 has not clearly agree that RMSI is only SIB1 or SIB1+SIB2.  - the MasterInformationBlock (MIB) is always transmitted on the BCH (refer Figure 5.2.2.X.X FFS\_Ref) with a periodicity of 80 ms and repetitions made within 80 ms [X] and it includes parameters that are needed to acquire SystemInformationBlockType1 (SIB1) from the cell [FFS TBD-RAN1];  - the SystemInformationBlockType1 (SIB1) is transmitted on the DL-SCH with a periodicity of [X] and repetitions made within [X]. SIB1 includes information regarding the availability and scheduling (e.g. periodcity, SI-window size) of other SIBs. It also indicates whether they (i.e. other SIBs) are provided via periodic broadcast basis or only on-demand basis (refer Figure 5.2.2.X.X FFS\_Ref). If other SIBs are provided on-demand then SIB1 includes information for the UE to perform SI request; | 3 | Suggest to add note that RAN2 has not yet agreed RMSI contains only SIB1 or SIB1+SIB2. After RAN2 confirms the assumption then it is correct to say that  - the MasterInformationBlock (MIB) is always transmitted on the BCH (refer Figure 5.2.2.X.X FFS\_Ref) with a periodicity of 80 ms and repetitions made within 80 ms [X] and it includes parameters that are needed to acquire SystemInformationBlockType1 (SIB1) from the cell [FFS TBD-RAN1];  Note: RAN2 has not decided whether RMSI contains only SIB1 or SIB1+SIB2. If RAN2 agrees RMSI contains SIB1+SIB2, MIB also includes parameters that are needed to acquire SIB2.  **[vivo]:** Agree with the intention . But we prefer the Note isn’t needed and suggest to clarify RMSI equals NR SIB1 in the Definitions Subclause 3.1 in order to maximally reuse existing work. Besides, in RAN1 discussion, the SIB1 presence is understood to be RMSI in RAN1's terminology.  But is also acceptable to wait until RAN2 final decision.  .  Rap: Not EN-DC | See Tdoc R2-1800059 |
| O005 | Terminology should be italic 5.2.2.4.1 Actions upon reception of the MasterInformationBlock Upon receiving the MasterInformationBlock the UE shall:  1> store the acquired MIB;  1> if the UE is in RRC\_IDLE or if the UE is in RRC\_INACTIVE or if the UE is in RRC\_CONNECTED while T311 is running: [FFS]  2> if the cellBarred in the acquired MIB is set to barred;  3> consider the cell as barred in accordance with TS 38.304 [FFS];  2> else,  3> apply the received parameter(s) [FFS] to acquire SIB1.  3> consider the cell as barred in accordance with TS 38.304 [FFS];  2> else,  3> apply the received parameter(s) [FFS] to acquire SIB1. | 1 | 5.2.2.4.1 Actions upon reception of the MasterInformationBlock Upon receiving the MasterInformationBlock the UE shall:  1> store the acquired MIB;  1> if the UE is in RRC\_IDLE or if the UE is in RRC\_INACTIVE or if the UE is in RRC\_CONNECTED while T311 is running: [FFS]  2> if the cellBarred in the acquired MIB is set to barred;  3> consider the cell as barred in accordance with TS 38.304 [FFS];  2> else,  3> apply the received parameter(s) [FFS] to acquire SIB1.  Rap: MasterInformationBlock -> MIB |  |
| O006 | MIB content has been agreed so the FFS an be removed.  Upon receiving the MasterInformationBlock the UE shall:  1> store the acquired MIB;  1> if the UE is in RRC\_IDLE or if the UE is in RRC\_INACTIVE or if the UE is in RRC\_CONNECTED while T311 is running: [FFS]  2> if the cellBarred in the acquired MIB is set to barred;  3> consider the cell as barred in accordance with TS 38.304 [FFS];  2> else,  3> apply the received parameter(s) [FFS] to acquire SIB1.  Editor’s Note: To be updated when content of the MasterInformationBlock has been agreed.FFS. | 1 | Upon receiving the MasterInformationBlock the UE shall:  1> store the acquired MIB;  1> if the UE is in RRC\_IDLE or if the UE is in RRC\_INACTIVE or if the UE is in RRC\_CONNECTED while T311 is running: [FFS]  2> if the cellBarred in the acquired MIB is set to barred;  3> consider the cell as barred in accordance with TS 38.304 [FFS];  2> else,  3> apply the received parameter(s) [FFS] to acquire SIB1.  ~~Editor’s Note: To be updated when content of the MasterInformationBlock has been agreed.FFS.~~ |  |
| N004 | In connected mode UE is now required to receive many SIBs – why?, Is this agreed somewhere? | 2 | Remove/FFS/Note the paragarph from 5.2.2.1 about connected mode requirement to receive SIBs. Anyway this is impossible for NSA UE.  [Ericsson] This is the same as in LTE, but there the UE shall have a valid version of MIB, SIB1, SIB2 and (depending on support) SIB8 and/or SIB17. Since we don’t support mobility to CDMA2000 or RAN-assisted WLAN interworking in NR Rel-15 it might be possible to remove the SystemInformationBlockTypeX part. For NSA, it is true that the UE would only need to acquire the MIB and this could be clarified.  Rap: Not releant for EN-DC |  |
| N005 | SIB1 acquisition seems unnecessary requirement for NSA UE | 2 | In 5.2.2.3.1 it seems NSA UE is required to acquire SIB1? Why?  **[vivo]**: we also don’t tink tha for NSA UE acquiring SIB1 is should be a requirement  Rap: Not for EN-DC |  |
| C044 | In RAN1 #91, there are some agreements for PBCH and RMSI as below.  Agreements:  Define the 3 MSB of SS/PBCH block index (or 3 reserved bits in FR1), 1 bit half radio frame index, 4 LSB of SFN from the PBCH payload as physical layer generated signals. The rest of the PBCH payload will be provided by upper layers with 80 msec TTI.  RMSI TTI is 160ms from RAN1 perspective  Send an LS to RAN2 to inform the above decision –   approved LS in [R1-1721557](file:///C:\Users\merias\Documents\ETSI\RANWG1\TSGR1_91-USA\R1-1721557.zip)  Therefore, MIB/SIB1 periodicities [X] can be changed referring to RAN1’s agreements. | 2 | -     the MasterInformationBlock (MIB) is always transmitted on the BCH (refer Figure 5.2.2.X.X FFS\_Ref) with a periodicity of 80 ms and repetitions made within 80 ms ~~[X]~~ and it includes parameters that are needed to acquire SystemInformationBlockType1 (SIB1) from the cell [FFS TBD-RAN1];  -     the SystemInformationBlockType1 (SIB1) is transmitted on the DL-SCH with a periodicity of ~~[X]~~160 ms and repetitions made within ~~[X]~~160 ms. SIB1 includes information regarding the availability and scheduling (e.g. periodcity, SI-window size) of other SIBs. It also indicates whether they (i.e. other SIBs) are provided via periodic broadcast basis or only on-demand basis (refer Figure 5.2.2.X.X FFS\_Ref). If other SIBs are provided on-demand then SIB1 includes information for the UE to perform SI request;  -     SIBs other than SystemInformationBlockType1 are carried in SystemInformation (SI) messages, which are transmitted on the DL-SCH. Each SI message is transmitted within periodically occurring time domain windows (referred to as SI-windows);  -     For SCells, RAN provides the required SI by dedicated signaling. Nevertheless, the UE shall acquire MIB of the PSCell to get SFN timing of the SCG (which may be different from MCG). Upon change of relevant SI, RAN releases and adds the concerned SCell.  Editor’s Note: Reference to RAN1 specification may be used for the MIB/SIB1 periodicities [X].FFS  Rap: Not for EN-DC | C044 |
| F005 | As the highlighted yellow text shown, SI means system information including MIB and a number of SIBs:  System Information (SI) is divided into the MasterInformationBlock (MIB) and a number of SystemInformationBlocks (SIBs) where:  On the other hand, only SIBs other than SIB1 are carriered in SI messages.  If above considernation is agreed, then the use for “SI” and “SI message” should be reviewed. | 2: | In some cases SI should be used other than SI message. For example,  5.2.2.4 Actions upon receipt of SI ~~message~~  Rap: Not for EN-DC |  |
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#### 5.3 Connection control

#### 5.3.1 Introduction

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.2 Paging

Targeted for completion in June 2018.

#### 5.3.3 RRC connection establihshment

Targeted for completion in June 2018.

#### 5.3.4 Initial security activation

Targeted for completion in June 2018.

#### 5.3.5 RRC reconfiguration

#### 5.3.5.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M006 | How to capture BWP addition/modification/release. It was agreed that one subclause for BWP addition/modification and one subclause for BWP release are needed. | 1 | It’s beneficial to have a separate subclause for BWP addition/modification/release considering the flexibility and extendability. Otherwise, if BWP addition/modification/release is included in the Scell addition/modification procedure, the whole section need to be revised for either BWP or Scell reconfiguration.  A CR can be provided for BWP addition/modification and BWP release.  RAN2 AH: Discussed [R2-1800650](file:///C:\Data\3GPP\Extracts\R2-1800650%20TP%20for%20BWP%20Addition%20Modification%20and%20Release%20in%20NR%20RRC.docx). Come back at next meeting when ASN structure is more stable. | See Tdoc R2-1800650 |
| M007 | RAN2 agreed to use “reconfiguration with sync” instead of “handover” in RRC SPEC. | 1 | The purpose of this procedure is to modify an RRC connection, e.g. to establish/ modify/ release RBs, to perform ~~handover~~ reconfiguration with sync, to setup/ modify/ release measurements, to add/ modify/ release SCells and cell groups. As part of the procedure, NAS dedicated information may be transferred from RAN to the UE. |  |
| I005 | Editor’s Note: FFS\_Standalone: Check terminology (“RAN may …” or “Network may …”). Update figures accordingly.  Some figure, RAN is used, some figures network is used. Should be aligned. RAN seems more suitable. | 2 | Use RAN for also figures  Rap: Used “Network” in figuers and text, see e.g. I041. |  |
| N006 | The sentence at the endof 5.3.5.1 is bit misleading as it seems to say that SRB3 can be used to perform measurements. Slight rewording proposed. | 2 | In EN-DC, SRB3 can be used to ~~perform~~ configure measurements, MAC, RLC, PDCP, physical layer and RLF timers and constants ~~(re-)configurations~~. |  |

#### 5.3.5.2 Initiation

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M008 | There is no IE named “secondaryCellGroup”. The procedure text should base the IE “secondaryCellGroupToAddModList” | 1 | 1> if the received RRCReconfiguration includes the SecondaryCellGroupToReleaseList:  2> perform the SCG release according to 5.3.5.4;  1> if the received RRCReconfiguration includes the ~~secondaryCellGroup~~ secondaryCellGroupToAddModList :  2> for each CellGroupId in the secondaryCellGroupToAddModList:  ~~2~~3> perform the cell group configuration for the SCG according to 5.3.5.5;  1> if the RRCReconfiguration message contains the radioBearerConfig:  2> perform the radio bearer configuration according to 5.3.5.6; |  |
| C002 | reconfigurationWithSync can also be included in NSA case where no SRB2 can be established | 2 | - the reconfigurationWithSync is included in masterCellGroupConfig only when AS-security has been activated, and SRB2 with at least one DRB are setup in MCG and not suspended;  - the establishment of RBs (other than SRB1, that is established during RRC connection establishment) is included only when AS security has been activated;  - the addition of Secondary Cell Groups and SCells is performed only when AS security has been activated;  - the reconfigurationWithSync is included in secondaryCellGroupToAddModList only when at least one DRB are setup in SCG and not suspended;  [Ericsson] We agree with the first change that the first bullet covers only MCG. But we are not sure that SRB2 is required to be configured as this is optional for the network to configure.  For the last bullet: we do not think this is needed as always there should be one bearer setup when EN-DC is configured.  => First bullet, text should be updated to align with decision that ASN.1 will only contain a single cell group for EN-DC  => Last bullet remove " and not suspended " |  |
| L004 | It seems proper to unify the terminology in whould specification (e.g. EN-DC mode 🡪 EN-DC, EUTRA 🡪 E-UTRA)  Since the second bullet describes a joint configuration, using ‘SRB1’ is not incorrect. But it seems better to use a more generic expression like E-UTRA MCG rather than SRB1 which is configured in LTE RRC. | 2 | 1> if the UE is operating in EN-DC ~~mode~~ (MCG is E-UTRA):  2> if RRCReconfiguration was received via ~~SRB1~~E-UTRA MCG:  3> construct RRCReconfigurationComplete message and submit it via the E-UTRA MCG as specified in TS 36.331 [10].  3> if reconfigurationWithSync was included in spCellConfig of an SCG:  4> initiate the random access procedure on the SpCell, as specified in TS 38.321 [3];  2> else (RRCReconfiguration was received via SRB3):  3> submit the RRCReconfigurationComplete message via SRB3 to lower layers for transmission using the new configuration;  [Ericsson] we think that usage of SRB1 is clearer.  **[vivo]**: Do we have alternative SRB other than SRB1?  => Replace "if the UE is operating in EN-DC mode (MCG is E-UTRA" with a condition that refers to a field configured within LTE RRC. |  |
| N007 | Question: Should we have limitation not to activate measurements until security is activated? | 2 | To be solved if such a limitation is needed  **[Ericsson]** In NR, RRCConnectionResume will be encrypted, hence, AS security will be up and running. Perhaps the debate is about the connection setup procedure. One needs to double check the LTE case, whether exceptions could exist for the measurement configuration in RRCConnectionReconfiguration.  **[Ericsson2]** In LTE, there is following limiation: “Measurement configuration may be sent prior to security activation. But: In order to protect privacy of UEs, MEASUREMENT REPORT is only sent from the UE after successful security activation.” . This applies to EN-DC and there security is already activated when EN-DC setup. For standalone case, this can be discussed later.  Rap: Not for EN-DCu |  |

#### 5.3.5.3 Reception of an RRCReconfiguration by the UE

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C003 | ReconfigurationWithSync can be sent over SRB3. E.g. change of PScell to another configured Scell without MCG involvment | 2 | 1> if the UE is operating in EN-DC mode (MCG is EUTRA):  2> if RRCReconfiguration was received via SRB1:  3> construct RRCReconfigurationComplete message and submit it via the EUTRA MCG as specified in TS 36.331 [10].  3> if reconfigurationWithSync was included in spCellConfig of an SCG:  4> initiate the random access procedure on the SpCell, as specified in TS 38.321 [3];  2> else (RRCReconfiguration was received via SRB3):  3> submit the RRCReconfigurationComplete message via SRB3 to lower layers for transmission using the new configuration;  3> if reconfigurationWithSync was included in spCellConfig :  4> initiate the random access procedure on the SpCell, as specified in TS 38.321 [3];  [Ericsson] Disagree. When the reconfigurationComplete message is sent to SCG, then the payload in the MAC layer should trigger RA. RRC triggering for RA is needed only when complete message is sent to other leg (similar to LTE).  In addition, it is not clear if reconfigurationWithSynch can be sent over SRB3.  => Add a note under the first bullet 4 to explain why the RRC initiates randon access for this specific case, and why it is not needed in cases that an RRC response is sent over the SCG. Wording to be finalised offline.  => Don't add the change proposed above.  Rapr: the following note added:  “In the case of SRB1, the random access is triggered by RRC layer itself as there is not necessarily other UL transmission. In the case of SRB3, the random access is triggered by the MAC layer due to arrival of *RRCReconfigurationComplete*.” |  |
| I006 | 1> if the UE is operating in EN-DC mode (MCG is EUTRA):  Here MCG is EUTRA should be MCG is EUTRAN. Otherwise how to distinguish NG-EN DC? | 2 | 1> if the UE is operating in EN-DC mode (MCG is EUTRAN):  [Ericsson] In our view, “EN-DC” refers to Option 3 only. Then Option 7 should be called NG-EN-DC. Anyway, we can remove whole clarification “(MCG is EUTRA)”. |  |
| I007 | It is confused which SRB1 is using.  2> submit the RRCReconfigurationComplete message via SRB1 to lower layers for transmission using the new configuration;  It would be good to clarify, the first SRB1 is EUTRA MCG SRB | 2 | Suggest to  2> if RRCReconfiguration was received via EUTRA MCG SRB1:  3> construct RRCReconfigurationComplete message and submit it via the EUTRA MCG SRB1 as specified in TS 36.331 [10].  Or we can  2> if RRCReconfiguration was received via LTE RRC ~~SRB1~~:  3> construct RRCReconfigurationComplete message and submit it via the ~~EUTRA MCG~~ LTE RRC as specified in TS 36.331 [10].  [Ericsson] Duplicate with L004. We prefer to refer to SRB1. So if something more is needed, our preference is Option 1 here.  **[vivo]**: see L004  RAN2 AH: RAN2 discussed [R2-1801208](file:///C:\Data\3GPP\Extracts\R2-1801208%20%20E110%20Clarification%20on%20UE%20configuration%20in%2038331.doc)  Rap: This was not discussed in offline discussion #11. Not so clear what the conlusion is. We leave it as it is now. | See Tdoc R2-1800952 |
| I008 | There are serveral parts mentioning sync reconfiguration as:  3> if reconfigurationWithSync was included in spCellConfig of an SCG:  4> initiate the random access procedure on the SpCell, as specified in TS 38.321 [3];  in 5.3.5.5.1, there is description about the handling of reconfigurationWithSync. Can we put them together? | Cover | Suggest  1 in section 5.3.5.3, to remove  ~~3> if reconfigurationWithSync was included in spCellConfig of an SCG:~~  ~~4> initiate the random access procedure on the SpCell, as specified in TS 38.321 [3];~~  Add in 5.3.5.5.1  The UE performs the following actions based on a received CellGroupConfig IE:  1> if the received CellGroupConfig contains the spCellConfig with reconfigurationWithSync:  2> initiate the random access procedure on the SpCell, as specified in TS 38.321 [3];  2> perform Reconfiguration with sync according to 5.3.5.5.2;  2> resume all suspended radio bearers and resume SCG transmission for all radio bearers, if suspended;  In section 5.3.5.3, to remove  ~~1> if MAC of an NR cell group successfully completes a random access procedure triggered above;~~  ~~2> stop timer T304 for that cell group;~~  ~~2> apply the parts of the CQI reporting configuration, the scheduling request configuration and the sounding RS configuration that do not require the UE to know the SFN of the respective target SpCell, if any;~~  ~~2> apply the parts of the measurement and the radio resource configuration that require the UE to know the SFN of the respective target SPCell (e.g. measurement gaps, periodic CQI reporting, scheduling request configuration, sounding RS configuration), if any, upon acquiring the SFN of that target SpCell;~~  ~~2> the procedure ends;~~  Add it at the end of 5.3.5.5.2  1> perform the measurement related actions as specified in 5.5.6.1;  1> if MAC of an NR cell group successfully completes a random access procedure triggered above;  2> stop timer T304 for that cell group;  2> apply the parts of the CQI reporting configuration, the scheduling request configuration and the sounding RS configuration that do not require the UE to know the SFN of the respective target SpCell, if any;  2> apply the parts of the measurement and the radio resource configuration that require the UE to know the SFN of the respective target SPCell (e.g. measurement gaps, periodic CQI reporting, scheduling request configuration, sounding RS configuration), if any, upon acquiring the SFN of that target SpCell;  2> the procedure ends;  [Ericsson] Duplicate with C003. Disagree. In LTE, MAC payload triggers RA in normal HO case, and RRC only when there is no complete message send to the correspoding PCell. Thus there is need to separate different cases.  => Covered by discussion of C003 |  |
| E103 | On the FFS;  “clarify that/whether SCG(s) must perform a reconfiguration with sync when the MCG performs a synchronous reconfiguration” | 2 | Could be clarified in 36.331 instead. For LTE-LTE DC, there is already sentence in 36.331:  “The UE performs the SCG change related actions upon receiving an RRCConnectionReconfiguration message including mobilityControlInfoSCG, see 5.3.10.10.”  Similar text could be added for EN-DC in 36.331.  => FFS can be removed. |  |
| E104 | Editor’s note: FFS / TODOs:  - Handling of first reconfiguration after re-establishment | 2 | Should clarify that this is about NR re-establishment for standalone. LTE re-establishment was solved in the last meeting  Change note to:  Handling of first reconfiguration after re-establishment to NR MCG  **[vivo]**: Not so sure if it is about NR re-establishment. Maybe more clarification is neede  Rap: we removed whole note as per O007 |  |
| E105 | On the FFS:  Editor’s Note: For EN-DC, SCG release is not supported by SecondaryCellGroupToReleaseList (instead by field in 36.331). FFS how to capture  The FFS is not clear. Release of EN-DC is captured already | 2 | Add a general descripton to 38.331 how SCG is removed in EN-DC.  TP to be provided by Ericsson  [Ericsson]  Modify the NOTE:  NOTE: In EN-DC, SCG release is not signalled by SecondaryCellGroupToReleaseList. Instead, release of EN-DC is signalled by EUTRA in 36.331.  Rap: Due to O007, whole SecondaryCellGroupToReleaseList can be removed as well as note. |  |
| E106 | 1> if the UE is operating in EN-DC mode (MCG is EUTRA):  2> if RRCReconfiguration was received via SRB1:  3> construct RRCReconfigurationComplete message and submit it via the EUTRA MCG as specified in TS 36.331 [10]. |  | It would be clearer to refer to “SRB1” instead of “via the EUTRA MCG”:  1> if the UE is operating in EN-DC mode (MCG is EUTRA):  2> if RRCReconfiguration was received via SRB1:  3> construct RRCReconfigurationComplete message and submit it via SRB1 embedded in EUTRA RRCConnectionReconfigurationComplete message~~the EUTRA MCG~~ as specified in TS 36.331 [10].  [Ericsson] Relates to I007 and L004.  => Already covered by contributions |  |
| O007 | EN-DC condition should be added into the formal texts instead of editor notes.  Editor’s Note: For EN-DC, MCG configuration is not supported.  1> if the received RRCReconfiguration includes the masterCellGroupConfig:  2> perform the cell group configuration for the MCG according to 5.3.5.5; | 2 | Propose to add EN-DC as a condition in formal specification texts as follows:  1> if not operate in EN-DC mode and the received RRCReconfiguration includes the masterCellGroupConfig:  2> perform the cell group configuration for the MCG according to 5.3.5.5;  [Ericsson] Disagree. Intention of the note is to state that MCG configuration is needed only for Standalone NR and thus the spec is not maybe complete.   * Change Editor’s Note to: MCG configuration is needed only for standalone NR to be completed June 2018.   => In case of whole section or paragraph related to SA then an editor's note can mark it as for compltion in 2018.  => In case the text is embedded with text needed for EN-DC then remove the text related to SA. |  |
| O008 | EN-DC condition should be added into the formal texts instead of editor notes.  Editor’s Note: For EN-DC, SCG release is not supported by SecondaryCellGroupToReleaseList (instead by field in 36.331). FFS how to capture  1> if the received RRCReconfiguration includes the SecondaryCellGroupToReleaseList:  2> perform the SCG release according to 5.3.5.4;  1> if the received RRCReconfiguration includes the secondaryCellGroup:  2> perform the cell group configuration for the SCG according to 5.3.5.5;  1> if the RRCReconfiguration message contains the radioBearerConfig:  2> perform the radio bearer configuration according to 5.3.5.6; | 2 | Propose to add EN-DC as a condition in formal specification texts as follows:  1> if not operate in EN-DC mode and the received RRCReconfiguration includes the SecondaryCellGroupToReleaseList:  2> perform the SCG release according to 5.3.5.4;  1> if the received RRCReconfiguration includes the secondaryCellGroup:  2> perform the cell group configuration for the SCG according to 5.3.5.5;  1> if the RRCReconfiguration message contains the radioBearerConfig:  2> perform the radio bearer configuration according to 5.3.5.6;  [Ericsson] Duplicate with E105. See proposal in E105.  => Same issue as O007 |  |
| O009 | EN-DC condition should be added into the formal texts instead of editor notes.  Editor’s Note: dedicatedInfoNASList is not supported for EN-DC. FFS how to capture  1> if the RRCReconfiguration message includes the dedicatedInfoNASList:  2> forward each element of the dedicatedInfoNASList to upper layers in the same order as listed;  1> if the RRCReconfiguration message includes the measConfig:  2> perform the measurement configuration procedure as specified in 5.5.2; | 2 | Propose to add EN-DC as a condition in formal specification texts as follows:  1> if not operate in EN-DC mode and the RRCReconfiguration message includes the dedicatedInfoNASList:  2> forward each element of the dedicatedInfoNASList to upper layers in the same order as listed;  1> if the RRCReconfiguration message includes the measConfig:  2> perform the measurement configuration procedure as specified in 5.5.2;  [Ericsson] Disagree that we should capture in the procedures if some part is not needed for EN-DC. The intention of the note was only to indicate that the dedicatedInfoNASList is to be completed by June. If something is captured, it could be in conditions or field description that the field should not be included.  Clarify note to: “Editor’s Note: dedicatedInfoNASList is not supported for EN-DC but completed by June 2018 for standalone NR”.  => Same issue as O007 | T |
| O10 | EN-DC condition should be added into the formal texts instead of editor notes.  Editor’s Note: otherConfig is not supported for EN-DC. FFS how to capture  1> if the RRCReconfiguration message includes the otherConfig:  2> perform the other configuration procedure as specified in 5.3.10.9; | 2 | Propose to add EN-DC as a condition in formal specification texts as follows:  1> if not operate in EN-DC mode and the RRCReconfiguration message includes the otherConfig:  2> perform the other configuration procedure as specified in 5.3.10.9;  [Ericsson] Disagree. See O009.  => Same issue as O007 |  |
| O11 | A typo in SPCell  1> if MAC of an NR cell group successfully completes a random access procedure triggered above;  2> stop timer T304 for that cell group;  2> apply the parts of the CQI reporting configuration, the scheduling request configuration and the sounding RS configuration that do not require the UE to know the SFN of the respective target SpCell, if any;  2> apply the parts of the measurement and the radio resource configuration that require the UE to know the SFN of the respective target SPCell (e.g. measurement gaps, periodic CQI reporting, scheduling request configuration, sounding RS configuration), if any, upon acquiring the SFN of that target SpCell;  2> the procedure ends; | 1 | SPCell should be corrected to SpCell.  1> if MAC of an NR cell group successfully completes a random access procedure triggered above;  2> stop timer T304 for that cell group;  2> apply the parts of the CQI reporting configuration, the scheduling request configuration and the sounding RS configuration that do not require the UE to know the SFN of the respective target SpCell, if any;  2> apply the parts of the measurement and the radio resource configuration that require the UE to know the SFN of the respective target Sp~~P~~Cell (e.g. measurement gaps, periodic CQI reporting, scheduling request configuration, sounding RS configuration), if any, upon acquiring the SFN of that target SpCell;  2> the procedure ends; |  |
| S001 | Editor’s notes about parts not applicable in e.g. case of EN-DC | 2 | Network restrictions that can easily be captured by a condition in signalling seem best to be specified in PDU section  [Ericsson] Related to O009. Intention of Editors note was not to capture network restrictions but instead capture that some parts of procedures are for standalone NR and not completed by March 2018.  It can be discussed separately if there is need to capture more network restrictions like:  1) MCG, otherConfig and fullConfig cannot be configured for EN-DC.  => Same issue as O007 |  |
| S002 | otherConfig is not included in RRCReconfiguration | 2 | Remove related procedure text  [Ericsson] We prefer to keep procedures related to standalone.  => Same issue as O007 |  |
| S003 | It seems inappropriate to specify action upon reconfigurationWithSync in this section as it concerns subfield of a subfield of cellGroupd field | 2 | Network constraints regarding when RA may be triggered can be captured by conditions  [Ericsson] Related to I008. As actions depends on which SRB is used, those are taken one level up. We do not understand how network constains relate to the procedures under discussion.  => Provide a paper to show the different options that are under consideration. (S003) (Offline discussion #22, Samsung). R2-1801601 |  |
| S004 | The procedure ends only occurs in case RA completes succesfully | 2 | Is ‘procedure ends’ to prevent that UE performs subsequent subclauses of this procedure e.g. 5.3.5.4 Secondary cell group release?  [Ericsson] Intention is to complete reconfiguration procedure. Also in LTE, “procedure ends” is in level2:  1> if MAC indicates the successful reception of a PDCCH transmission addressed to C-RNTI and if rach-Skip is configured:  ..  2> the procedure ends;  Subsequent clauses should not be prevented (as those are called from 5.3.5.3). However, when RA fails, T304 expires and re-establishment is triggered.  Rap: not clear what should be changed now. |  |
| F006 | No subclause 5.3.10.9 is specified in the spec. | 2 | Add an FFS:  1> if the RRCReconfiguration message includes the otherConfig:  2> perform the other configuration procedure as specified in ~~5.3.10.9~~ the subclause corresponding to “other configuration” [FFS];  [Ericsson] Related to E018. |  |
| F007 | In NE-DC, the RA on SpCell of SCG is specified in LTE MAC spec, so the reference should be TS 36.321.  In case of NE-DC, MAC of E-UTRA performs RA procedure, so “NR” is deleted. | 2 | 1> else if the UE is operating in NR SA mode(~~NR SA or NE-DC)~~:  2> submit the RRCReconfigurationComplete message via SRB1 to lower layers for transmission using the new configuration;  2> if reconfigurationWithSync was included in spCellConfig of an SCG:  3> initiate the random access procedure on the SpCell, as specified in TS 38.321 [3];  1> else (NE-DC):  2> submit the RRCReconfigurationComplete message via SRB1 to lower layers for transmission using the new configuration;  2> if reconfigurationWithSync was included in spCellConfig of an SCG:  3> initiate the random access procedure on the SpCell, as specified in TS 36.321 [13];  1> if MAC of a~~n NR~~ cell group successfully completes a random access procedure triggered above;  [Ericsson] About reference: In our understanding, it should be either 38.331 (NR-NR CR) or 36.321 (NE-DC). About indication from MAC layer: this is only from MCG (related to sending RRCReconfigurationComplete) so NR is correct.  => Covered by earlier issues |  |
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#### 5.3.5.4 Secondary cell group release

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C004 | According to existing specification, when SCG is released (not changed), SN doesn’t send SRB3 release IE to MN and the rrc reconfiguration message which sends from MN to UE only contains scg-ConfigReleaseNR IE. When UE receive scg-ConfigReleaseNR IE, it performs secondary cell group release in section 5.3.5.4. However, there is a note for secondary cell group that release of cell group means only release of the lower layer configuration of the cell group but the RadioBearerConfig may not be released. That means SRB3 will be maintained in UE if only SCG release happens. There will be a problem when UE is reconfigured with EN-DC and SRB3 is not needed. How to release SRB3 when SCG is released (not changed) needs to be resolved. | 2 | NOTE: Release of cell group means only release of the lower layer configuration of the cell group and SRB3 but DRB configurations in the RadioBearerConfig may not be released.  [Ericsson] We agree that SRB3 needs to be released. Need to check if something is needed in 36.331.  **[vivo]**: we don’t this addition brings any clarification and don’t any problem with UE not releasing SRB3. This note is applied for both SCG release and SCG changed cases, for the source SCG release during the SCG change procedure, the SRB3 may be kept. In our understanding, UE needs to follow the instruction of received RadioBearerConfig to decide whether to release the SRB3 or not.  => Task to check that all the UE and/or network actions are clear from normative text to ensure that all the required configuration is released when the SCG is released. (C004) (Offline discussion #23, CATT). R2-1801602 |  |
| L005 | For now, RAN2 assumes only one SCG but the procedure text was written based on the multiple SCG. ‘entire’ can cause a misreading. | 2 | 1> for each CellGroupId in the SecondaryCellGroupToReleaseList or as a result of SCG release triggered by E-UTRA:  2> reset SCG MAC, if configured;  2> for each RLC bearer that is part of the SCG configuration:  3> perform RLC bearer release procedure as specified in 5.3.5.5.3;  2> release the ~~entire~~ SCG configuration;  => Remove the 'entire'  => Meaning of SCG configuration can be addressed by discussion from C004. |  |
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#### 5.3.5.5 Cell Group configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.5.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M009 | The IE name should be italic. | 1 | The UE performs the following actions based on a received CellGroupConfig IE:  1> if the received CellGroupConfig contains the spCellConfig with reconfigurationWithSync:  2> perform Reconfiguration with sync according to 5.3.5.5.2;  2> resume all suspended radio bearers and resume SCG transmission for all radio bearers, if suspended;  1> if the CellGroupConfig contains the rlc-BearerToReleaseList:  2> perform RLC bearer release as specified in 5.3.5.5.3;  1> for each element in RLC-BeaererToAddModList:  2> configure the RLC bearer as specified in 5.3.5.5.4;  1> if the CellGroupConfig contains the mac-CellGroupConfig: |  |
| I009 | 1> for each element in RLC-BeaererToAddModList:  2> configure the RLC bearer as specified in 5.3.5.5.4;  Should align with other description | 2 | 1> if the CellGroupConfig contains the RLC-BeaererToAddModList, for each element in RLC-BeaererToAddModList:  2> configure the RLC bearer as specified in 5.3.5.5.4; |  |
| I010 | Two parts related to sPcell configuration, can be combined  1> if the received CellGroupConfig contains the spCellConfig with reconfigurationWithSync:  2> perform Reconfiguration with sync according to 5.3.5.5.2;  2> resume all suspended radio bearers and resume SCG transmission for all radio bearers, if suspended;  1> if the CellGroupConfig contains the spCellConfig:  2> configure the SpCell as specified in 5.3.5.5.7; | 2 | Suggest:  ~~1> if the received CellGroupConfig contains the spCellConfig with reconfigurationWithSync:~~  ~~2> perform Reconfiguration with sync according to 5.3.5.5.2;~~  ~~2> resume all suspended radio bearers and resume SCG transmission for all radio bearers, if suspended;~~  1> if the CellGroupConfig contains the spCellConfig:  2> configure the SpCell as specified in 5.3.5.5.7;  2> if the received spCellConfig contains reconfigurationWithSync:  3> perform Reconfiguration with sync according to 5.3.5.5.2;  3> resume all suspended radio bearers and resume SCG transmission for all radio bearers, if suspended;  [**Ericsson**] Disagree that we should change execution order just because of combination.  => Covered by H001 |  |
| C005 | According to the description, the UE would perform SpCell configuration twice if the received CellGroupConfig contains the spCellConfig with reconfigurationWithSync. | 2 | Change to:  The UE performs the following actions based on a received CellGroupConfig IE:  1> if the received CellGroupConfig contains the spCellConfig with reconfigurationWithSync:  2> perform Reconfiguration with sync according to 5.3.5.5.2;  2> resume all suspended radio bearers and resume SCG transmission for all radio bearers, if suspended;  1> if the CellGroupConfig contains the spCellConfig with spCellConfigDedicated:  2> configure the SpCell as specified in 5.3.5.5.7;  1> if the CellGroupConfig contains the rlc-BearerToReleaseList:  2> perform RLC bearer release as specified in 5.3.5.5.3;  1> for each element in RLC-BeaererToAddModList:  2> configure the RLC bearer as specified in 5.3.5.5.4;  1> if the CellGroupConfig contains the mac-CellGroupConfig:  2> configure the MAC entity of this cell group as specified in 5.3.5.5.5;  1> if the CellGroupConfig contains the rlf-TimersAndConstants  2> configure the RLF timers for this cell group as specified in 5.3.5.5.6;  1> if the CellGroupConfig contains the sCellToReleaseList:  2> for each entry in the sCellToReleaseList:  3> release the SCell as specified in 5.3.5.5.8;  ~~1> if the CellGroupConfig contains the spCellConfig:~~  ~~2> configure the SpCell as specified in 5.3.5.5.7;~~  [**Ericsson**] Related to I010 &H001. Disagree, for us it does not look like if the UE executes spCellConfig twice. Howver, we agree that procedue can be discussed.  => Covered by H001 |  |
| C006 | Agreement: RLM configuration and RLF related timers and constants are located as part of the SpCell configuration information (therefore a separate configuration from RRM)  So this part should be moved to section 5.3.5.5.7 SpCell Configuration | 2 | ~~1> if the CellGroupConfig contains the rlf-TimersAndConstants~~  ~~2> configure the RLF timers for this cell group as specified in 5.3.5.5.6;~~  Move to section 5.3.5.5.7 SpCell Configuration |  |
| H001 | The reconfigurationWithSync is included in the spCellConfig. The description on reconfigurationWithSync can be merged with spCellConfig. | 2 | 1> if the received CellGroupConfig contains the spCellConfig ~~with reconfigurationWithSync~~:  2> if the spCellConfig contains the reconfigurationWithSync:  ~~2~~3> perform Reconfiguration with sync according to 5.3.5.5.2;  ~~2~~3> resume all suspended radio bearers and resume SCG transmission for all radio bearers, if suspended;  2> configure the SpCell as specified in 5.3.5.5.7;  1> if the CellGroupConfig contains the rlc-BearerToReleaseList:  2> perform RLC bearer release as specified in 5.3.5.5.3;  1> for each element in RLC-BeaererToAddModList:  2> configure the RLC bearer as specified in 5.3.5.5.4;  1> if the CellGroupConfig contains the mac-CellGroupConfig:  2> configure the MAC entity of this cell group as specified in 5.3.5.5.5;  1> if the CellGroupConfig contains the rlf-TimersAndConstants  2> configure the RLF timers for this cell group as specified in 5.3.5.5.6;  1> if the CellGroupConfig contains the sCellToReleaseList:  2> for each entry in the sCellToReleaseList:  3> release the SCell as specified in 5.3.5.5.8;  ~~1> if the CellGroupConfig contains the spCellConfig:~~  ~~2> configure the SpCell as specified in 5.3.5.5.7;~~  [**Ericsson**] Related to I010 and H001.  => Make change as proposed  => In additiona, move the bullets relating to sCell release to the top of the sequence  Rap: This seems to be overlapping with S003. For that it was agreed that Samsung drafts a CR and then we look if the resulting order is fine etc. Because of this, we propose to postpone implementation of this change. |  |
| L006 | During the reconfiguration with Sync, bearer suspension is not performed. | 2 | 1> if the received CellGroupConfig contains the spCellConfig with reconfigurationWithSync:  2> perform Reconfiguration with sync according to 5.3.5.5.2;  ~~2> resume all suspended radio bearers and resume SCG transmission for all radio bearers, if suspended;~~  1> if the CellGroupConfig contains the rlc-BearerToReleaseList:  2> perform RLC bearer release as specified in 5.3.5.5.3;  [**Ericsson**] Disagree with the change. This is to recover from SCG failure.  => No change needed |  |
| L007 | The result does not depend on the order of execution. But it seems to be desirable to perform Pcell configuration firstly and perform Scell configuration. | 2 | *1> if the CellGroupConfig contains the spCellConfig:*  *2> configure the SpCell as specified in 5.3.5.5.7;*  *1> if the CellGroupConfig contains the sCellToReleaseList:*  *2> for each entry in the sCellToReleaseList:*  *3> release the SCell as specified in 5.3.5.5.8;*  *~~1> if the CellGroupConfig contains the spCellConfig:~~*  *~~2> configure the SpCell as specified in 5.3.5.5.7;~~*  *RAN2 AH: Discussed* [*R2-1801484*](file:///C:\Data\3GPP\Extracts\R2-1801484%20Discussion%20on%20initial%20active%20BWP%20ID%20%5bH031%5d.doc)*. Noted.*  *Rap*: seems R2-1801484 is not really related to the topic |  |
| L008 | Similar sentences are located in two different places for the same meaning. The redundant sentences could be removed. | 2 | 1> if the CellGroupConfig contains the sCellToReleaseList:  2> ~~for each entry in the sCellToReleaseList:~~  ~~3>~~ release the SCell as specified in 5.3.5.5.8;  …  1> if the CellGroupConfig contains the sCellToAddModList:  2> ~~for each entry in the sCellToAddModList:~~  ~~3>~~ add or modify the SCell as specified in 5.3.5.5.9;  => change bullets to say "perform action as specified in 5.3.5.5.8/9"  =>Proposed deletions are correct |  |
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#### 5.3.5.5.2 Reconfiguration with synch

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C007 | Whether the T313 and T310 will be unified to one timer like T304 and T307 merged into T304 is FFS | 2 | 2> stop timer T313, if running  Editor’s Note: whether T310 and T313 can be combined into one timer is FFS  => Covered by documents |  |
| H002 | Cannot find carrierFreq and targetPhysCellId in ASN.1. The frequencyInfoDL and physCellId in ServingCellConfigCommon seems can be used here. | 2 | 1> if the ~~carrierFreq~~frequencyInfoDL is included:  2> consider the target SpCell to be one on the frequency indicated by the ~~carrierFreq~~frequencyInfoDL with a physical cell identity indicated by the ~~targetP~~physCellId;  1> else:  2> consider the target SpCell to be one on the frequency of the source SpCell with a physical cell identity indicated by the ~~targetP~~physCellId; |  |
| H003 | 1> perform the measurement related actions as specified in 5.5.6.1;  This behavior is not appliable to EN-DC, and there is no 5.5.6.1 subsection. | 2 | Add Editor’s Note: In EN-DC, the following behavior is not needed.  **[Ericsson]** We partially agree. This optmization does not exist in NR SA or EN-DC. Hence, we do not see the need for the editor’s note. |  |
| L009 | Since S5.3.5.5.2 is used commonly regardless of cell group, it is better to confine the range of cell groups to which procedure text applies. | 2 | 1> configure lower layers in accordance with the received spCellConfigCommon for this cell group;  1> configure lower layers in accordance with any additional fields, not covered in the previous, if included in the received reconfigurationWithSync for this cell group;  => Change is not needed |  |
| L010 | T312 is not agreed yet. It is better to add the sentence mentioning “FFS: whether to support T312 for early RLF declaration” | 2 | The UE shall perform the following actions to execute a reconfiguration with sync.  Editor’s Note: Master cell group config is not supported for EN-DC. FFS how to capture  Editor’s Note: It is FFS whether to support T312 for early RLF declaration  1> if the cellGroupId of the CellGroupConfig triggering the reconfiguration with sync is 0 (master cell group):  2> stop timer T310, if running;  2> stop timer T312, if running;  **[Ericsson]** We partially agree. T312 has not been formally agreed, so we suggest to be discussed during ASN.1 review instead of adding editor’s note. We have provided a discussion paper R2-1801328 - Enhancing Handover Failure.  ***[Ericsson2]*** We propose to discuss if T312 is needed for EN-DC (based on paper R2-1801206 - E128 draft CR on alignment and missing issues on RRC timers)  Later on, T312 in standalone NR canbe discussed (R2-1801328 - Enhancing Handover Failure).  Rap: As per agreements, T312 is not applicable to EN-DC. All discussion of T312 removed from the specification. | See Tdoc R2-1801206  See Tdoc R2-1801328 |
| F008 | It is understood that “SCells” in the spec should always include PSCell in DC case. Thus, it is proposed to clarify the use of “SCell” within TS38.331. | 3 | There are some examples as following:  1) 5.3.5.5.2  1> consider the SCell(s) of this cell group other than PSCell, if configured, to be in deactivated state;  2) 5.5.1,  The measurement procedures distinguish the following types of cells:  1. The serving cell(s) - these are the PCell and optional one or more SCells~~, if configured for a UE supporting CA~~.  2. Listed cells - these are cells listed within the measurement object(s).  3. Detected cells - these are cells that are not listed within the measurement object(s) but are detected by the UE on the carrier frequency(ies) indicated by the measurement object(s).  3) 6.3.2 Radio resource control information elements – CellGroupConfig The CellGroupConfig IE is used to configure a master cell group (MCG) or secondary cell group (SCG). ~~A cell group~~MCG comprises of one MAC entity, a set of logical channels with associated RLC entites and of a primary cell (~~SpCell~~PCell) and one or more secondary cells (SCells). SCG comprises of one MAC entity, a set of logical channels with associated RLC entites and one or more secondary cells (SCells).  4) 6.4 RRC multiplicity and type constraint values  maxNrofServingCells INTEGER ::= 16 -- Max number of serving serving cells ~~(SpCell + SCells)~~ per cell group  maxNrofSCells INTEGER ::= 15 -- Max number of secondary serving cells, other than PSCell, per cell group  [**Ericsson**] It would be good to discuss if PSCell is considered as SCell or not. For us this is not clear.  => Add clear definition of the terms PSCell and SCell.  => Discuss offline whether the PSCell should be considered as an SCell (F008)(Offline discussion 15, Ericsson)  Rap: It was agreed that PScell is not SCell. Definitions can be discussed later. | ToDisc |
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#### 5.3.5.5.3 Logical Channel release

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M010 | Correct typo  “lrlc-BearerToReleaseList” 🡪  “rlc-BearerToReleaseList” | 1 | The UE shall:  1> for each LogicalChannelIdentity value included in the ~~l~~rlc-BearerToReleaseList that is part of the current UE configuration (LCH release), or  1> for each LogicalChannelIdentity value that is to be released as the result of full configuration option according to 5.3.5.7 or as the result of an SCG release according to 5.3.5.4: |  |
| H004 | One logial channel ID corresponds to one RLC entity. | 2 | 1> for each LogicalChannelIdentity value that is to be released as the result of full configuration option according to 5.3.5.7 or as the result of an SCG release according to 5.3.5.4:  2> release the RLC entity ~~or entities~~ (includes discarding all pending RLC PDUs and RLC SDUs);  2> release the DTCH logical channel.  => Change is agreed |  |
| L011 | For one logical channel ID, only one RLC bearer is associated. So, the ‘or entities’ shold be removed. | 2 | 1> for each LogicalChannelIdentity value that is to be released as the result of full configuration option according to 5.3.5.7 or as the result of an SCG release according to 5.3.5.4:  2> release the RLC entity ~~or entities~~ (includes discarding all pending RLC PDUs and RLC SDUs);  2> release the DTCH logical channel.  => Change is agreed |  |

#### 5.3.5.5.4 Logical Channel addition/modification

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M012 | Remove duplicate clause. The deleted clause has been covered by previous if-else clauses. | 1 | 2> if the logical channel ID corresponds to an SRB (i.e. ID less than or equal to 3) and if mac-LogicalChannelConfig is not included:  3> configure this MAC entity with a logical channel in accordance to the default configuration defined in 9.2 for the corresponding SRB;  2> else:  3> configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;  ~~2> configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;~~  => Change is agreed. Check offline that the DRB case is covered (M012) (Offline discussion 16, Intel)  =>The DRB case is covered by the else so the change is ok. |  |
| I011 | 2> if the logical channel ID corresponds to an SRB (i.e. ID less than or equal to 3) and if mac-LogicalChannelConfig is not included:  3> configure this MAC entity with a logical channel in accordance to the default configuration defined in 9.2 for the corresponding SRB;  2> else:  3> configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;  2> configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;  Looks like for SRB, mac-LogicalChannelConfig may be configured twice. | 2 | suggest  1> else ~~(a logical channel with the given ID was not configured before)~~ if the logical channel ID corresponds to an SRB (i.e. ID less than or equal to 3):  2> if ~~the logical channel ID corresponds to an SRB (i.e. ID less than or equal to 3) and~~ rlc-Config is not included:  3> establish an RLC entity in accordance with the default configuration defined in 9.2 for the corresponding SRB;  2> else:  3> establish an RLC entity in accordance with the received rlc-Config;  2> if ~~the logical channel ID corresponds to an SRB (i.e. ID less than or equal to 3) and if~~ mac-LogicalChannelConfig is not included:  3> configure this MAC entity with a logical channel in accordance to the default configuration defined in 9.2 for the corresponding SRB;  2>  else:  3> configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;  1> else:  2>  configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;  2>  associate this logical channel with the PDCP entity identified by servedRadioBearer;  [**Ericsson**] Duplicate/alternative to M012  => Change is not needed. Covered by M012 |  |
| H005 | One logial channel ID corresponds to one RLC entity. | 2 | 1> for each LogicalChannelIdentity value that is to be released as the result of full configuration option according to 5.3.5.7 or as the result of an SCG release according to 5.3.5.4:  2> release the RLC entity ~~or entities~~ (includes discarding all pending RLC PDUs and RLC SDUs);  2> release the DTCH logical channel.  [**Ericsson**] Duplicate to H004 -> remove |  |
| H006 | The IE name used in the procedure is not consistent | 1 | 1> else (a logical channel with the given ~~ID~~logicalChannelIdentity was not configured before):  2> if the ~~logical channel ID~~logicalChannelIdentity corresponds to an SRB (i.e. ~~ID~~logicalChannelIdentity is less than or equal to 3) and rlc-Config is not included:  3> establish an RLC entity in accordance with the default configuration defined in 9.2 for the corresponding SRB; |  |
| H007 | The MAC entity configuration according to mac-LogicalChannelConfig is redundant | 2 | 2> if the ~~logical channel ID~~logicalChannelIdentity corresponds to an SRB (i.e. ~~ID~~logicalChannelIdentity less than or equal to 3) and if mac-LogicalChannelConfig is not included:  3> configure this MAC entity with a logical channel in accordance to the default configuration defined in 9.2 for the corresponding SRB;  2> else:  3> configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;  ~~2> configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;~~  **[vivo]**: Duplicate with L011. See comment to L011  => Covered by M012 |  |
| F009 | A sentence in this subclause is redundant | 2 | Delete the redundant sentence:  2> else:  3> configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;  2> configure this MAC entity with a logical channel in accordance to the received mac-LogicalChannelConfig;  2> associate this logical channel with the PDCP entity identified by servedRadioBearer;  [**Ericsson**] Duplicate/alternative to M012/I011 |  |
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#### 5.3.5.5.5 MAC entity configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| E107 | Procedural text missing | 2 | Add a short procedural text. Could be extended if it is found that any of the parameters require a non-trivial actions:  5.3.5.5.5 MAC entity configuration  Configure or re-configure the MAC entity of this cell group in accordance with the received *mac-CellGroupConfig*.  [**Ericsson**] See contribution “R2-1801207 E108 Missing procedures for reconfiguration” for more detailed description. | See Tdoc R2-1801207 |
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#### 5.3.5.5.6 RLF Timers & Constants configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref | |
| M013 | | Whether to not to harmanize RLF timers and constants for MCG and SCG. | 1 | Two CRs with/without harmonization of RLF timers and constants can be provided for comparision.  RAN2 AH: ??? R2-1800651 ??? | See Tdoc R2-1800651 |
| E108 | | Procedural text missing | 3 | Ericsson will provide TP  [**Ericsson**] See R2-1801207 E108 Missing procedures for reconfiguration  RAN2 AH RAN2 discussed [R2-1801207](file:///C:\Data\3GPP\Extracts\R2-1801207%20E108%20Missing%20procedures%20for%20reconfiguration.doc). | See Tdoc R2-1801205  See Tdoc R2-1801207 |
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#### 5.3.5.5.7 SpCell Configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C008 | Add the RLM /RLF timer and constants description. | 2 | 1> if the SpCellConfig contains the rlf-TimersAndConstants  2> configure the RLF timers for this cell group as specified in 5.3.5.5.6;  [Ericsson3] Related to E108. See R2-1801207.  => Already covered |  |
| E109 | Procedural text missing | 2 | Add short procedural text in accordance with the corresponding text for the SCell Addition/Modification. Note that for the SpCell the spCellConfigCommon was already applied in section 5.3.5.5.2.  5.3.5.5.7 SpCell Configuration  ~~Editor’s Note: May contain procedures similar to the one in 36.331, section 5.3.10.6 (Physical channel reconfiguration), i.e., applying L1 parameters for the SpCell~~  Configure the SpCell in accordance with the spCellConfigDedicated. |  |
| E133 | Add RLM configuration/re-configuration procedure e.g. RS-RLM resources and UE actions upon. | 3 | Network may provide RLM configuration via Msg4 (within SpCell configuration, as agreed) and RRCReconfiguration. We propose a discussion about the need for an RLM default configuration. We have provided a discussion paper in R2-1800594. We may also provide a CR during the meeting.  Rap: related Tdoc not discussed at AH. | See Tdoc R2-1800594 |

#### 5.3.5.5.8 SCell Release

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| L012 | In EN-DC, re-establishment of SCG does not exist, and if an intention of this procedure text is for the case when re-establishment in MCG initiates, it is sufficient to perform the SCG release specified in 5.3.5.4. | 2 | ~~1> if the release is triggered by RRC connection re-establishment:~~  ~~2> release all SCells that are part of the current UE configuration;~~  [**Ericsson**] This text was more for standalone NR. Can edit the Editor note:  Editor’s Note: MCG Re-establishemnt is to be completed by June 2018  => Remove text |  |
| F010 | SCell release triggered by SCG release is missing. | Class 2 | Add the SCell release case triggered by SCG release  5.3.5.5.8 SCell Release  The UE shall:  1> if the release is triggered by reception of the *sCellToReleaseList*:  2> for each *sCellIndex* value included in the *sCellToReleaseList*:  3> if the current UE configuration includes an SCell with value *sCellIndex*:  4> release the SCell;  Editor’s Note: Need to be updated for EN-DC.FFS.  1> if the release is triggered by secondary cell group release:  2> release all SCells that are part of the current secondary cell group configuration.  1> if the release is triggered by RRC connection re-establishment:  2> release all SCells that are part of the current UE configuration.  [**Ericsson**] Disagree. We consider that releasing SCells is covered already by SCG release.  => No change needed |  |
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#### 5.3.5.5.9 SCell Addition/Modification

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.6 Radio Bearer configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.6.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M014 | The IE name should be italic. | 1 | The UE shall perform the following actions based on a received RadioBearerConfig IE:  1> if the RadioBearerConfig includes the srb-ToReleaseList:  2> perform the SRB release as specified in 5.3.5.6.2;  1> if the RadioBearerConfig includes the srb-ToAddModList:  2> perform the SRB addition or reconfiguration as specified in 5.3.5.6.3;  1> if the RadioBearerConfig includes the drb-ToReleaseList:  2> perform DRB release as specified in 5.3.5.6.4;  1> if the RadioBearerConfig includes the drb-ToAddModList:  2> perform DRB addition or reconfiguration as specified in 5.3.5.6.5; |  |
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#### 5.3.5.6.2 SRB release

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| E110 | 1> for each srb-Identity value included in the srb-ToAddModList that is not part of the current UE configuration or configured with pdcp-Config (SRB establishment or reconfiguration from E-UTRA PDCP to NR PDCP):  It should discussed if “the UE current configuration” strictly refers to bearers configured with NR. If so, the latter part “configured with pdcp-Config” can be removed | 3 | Clarify and align 38.331 and 36.331.  Ericsson will provide TP  Rap: TP in R2-1801208  RAN2 AH: RAN2 discussed [R2-1801208](file:///C:\Data\3GPP\Extracts\R2-1801208%20%20E110%20Clarification%20on%20UE%20configuration%20in%2038331.doc) | See Tdoc R2-1801208 |
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#### 5.3.5.6.3 SRB addition/ modification

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M015 | The key used for SRB us not KUPenc. | 1 | 1> for each srb-Identity value included in the srb-ToAddModList that is not part of the current UE configuration or configured with pdcp-Config (SRB establishment or reconfiguration from E-UTRA PDCP to NR PDCP):  2> establish a PDCP entity and configure it with the security algorithms according to securityConfig and apply the keys (~~KUPenc~~KRRCint and KRRCenc) associated with the KeNB/S-KgNB as indicated in keyToUse, if applicable;  2> if the current UE configuration as specified in TS 36.331 includes an SRB identified with the same srb-Identity value: |  |
| I012 | 1> for each srb-Identity value included in the srb-ToAddModList that is not part of the current UE configuration or configured with pdcp-Config (SRB establishment or reconfiguration from E-UTRA PDCP to NR PDCP):  Not quite sure for SRB configured with E-UTRA PDCP, whether not configured with pdcp-Config can cover? Since pdcp-Config is optional, and the UE may use default value. | 2 | Suggest  1> for each srb-Identity value included in the srb-ToAddModList that is not part of the current UE configuration ,or configured with E-UTRA PDCP entity ~~pdcp-Config~~ (SRB establishment or reconfiguration from E-UTRA PDCP to NR PDCP):  [**Ericsson**]: The sentence should say that “not configured with NR PDCP entity”. In R2-1801208 we remove to delete the thing.  RAN2 AH: RAN2 discussed [R2-1801208](file:///C:\Data\3GPP\Extracts\R2-1801208%20%20E110%20Clarification%20on%20UE%20configuration%20in%2038331.doc)  => Already covered by documents | See Tdoc R2-1800952  See Tdoc R2-R2-1801208 |
| I013 | 2> establish a PDCP entity and configure it with the security algorithms according to securityConfig and apply the keys (KUPenc) associated with the KeNB/S-KgNB as indicated in keyToUse, if applicable;  It is unclear whether securityConfig is must be present for MCG SRB1/2 using NR PDCP. If not, then we do not need to mention KeNB. | 2 | => Already covered by documents |  |
| I014 | The UE shall for the SRB with SRB Identity corresponding to srb-ToRelease:  1> release the PDCP entity.  PDCp configuration contains  moreThanOneRLC which should also be removed, but it is not PDCP entity. | 2 | The UE shall for the SRB with SRB Identity corresponding to srb-ToRelease:  1> release the PDCP ~~entity~~ configured by PDCP-Config.  [Ericsson3] We agree with the comment but the proposed sentence is not very clear.  => No change needed. |  |
| H008 | According to the following RAN2 agreement:  “For handling 2 (i.e. no PDCP re-establishment) of SRBs, PDCP should discard all stored SDUs and PDUs”, RRC should indicate PDCP to discard all stored SDUs and PDUs when there is no PDCP re-establishment. | 2 | 1> for each srb-Identity value included in the srb-ToAddModList that is part of the current UE configuration:  2> if reestablishPDCP is set:  3> configure the PDCP entity to apply the integrity protection algorithm and KRRCint key associated with the KeNB/S-KgNB as indicated in keyToUse , i.e. the integrity protection configuration shall be applied to all subsequent messages received and sent by the UE, including the message used to indicate the successful completion of the procedure;  3> configure the PDCP entity to apply the ciphering algorithm and KRRCenc key associated with the KeNB/S-KgNB as indicated in keyToUse, i.e. the ciphering configuration shall be applied to all subsequent messages received and sent by the UE, including the message used to indicate the successful completion of the procedure;  3> re-establish the PDCP entity of this SRB as specified in 38.323;  3> resume the SRB, if suspended;  2> else:  3> configure the PDCP entity to discard all the stored PDCP SDUs and PDUs.  2> if the pdcp-Config is included:  3> reconfigure the PDCP entity in accordance with the received pdcp-Config.  [Ericsson3] See R2-1801071 and R2-1801157 related to the topic.  => To discuss based on the contributions |  |
| E118 | 2> establish a PDCP entity and configure it with the security algorithms according to securityConfig and apply the keys (KUPenc) associated with the KeNB/S-KgNB as indicated in keyToUse, if applicable;  Should be KRRCenc | 2 | Update KUPenc-> KRRCenc |  |
| L022 | In EN-DC, the pdcp-Config for SRB is accompanied by SRB establishment or reconfiguration from E-UTRA PDCP to NR PDCP. Thus, there is no need a bullet for the case pdcp-Config is included. | 2 | The UE shall:  1> for each srb-Identity value included in the srb-ToAddModList that is not part of the current UE configuration or configured with pdcp-Config (SRB establishment or reconfiguration from E-UTRA PDCP to NR PDCP):  2> establish a PDCP entity and configure it in accordance with the received pdcp-Config;  2> configure the PDCP entity with the security algorithms according to securityConfig and apply the keys (KUPenc) associated with the KeNB/S-KgNB as indicated in keyToUse, if applicable;  2> if the current UE configuration as specified in TS 36.331 includes an SRB identified with the same srb-Identity value:  3> associate the E-UTRA RLC and DCCH entities of this SRB with the NR PDCP entity;  3> release the E-UTRA PDCP entity of this SRB;  ~~2> if the pdcp-Config is included:~~  ~~3> configure the PDCP entity in accordance with the received pdcp-Config;~~  2> else:  3> apply the corresponding default configuration for the SRB as specified in 9.2.1~~configure the PDCP entity in accordance with the specified configuration defined in 9.2.1 for the corresponding SRB~~;  1> for each srb-Identity value included in the srb-ToAddModList that is part of the current UE configuration and configured with pdcp-Config:  2> if reestablishPDCP is set:  [Ericsson3] In our understanding, PDCP can be reconfigured for the existing SRB. In addition, when new NR PDCP entity (either due toswitch or new SRB), default configruation can be applied. Thus we think that the proposal is not correct.  Here is our reasoning::   1. An SRB that uses NR PDCP can be added with a default configuration, i.e. without pdcp-config included    * thus, entering to the main clause fulfilling the first criteria (i.e. srb-identity is not part of current UE configuration) doesn’t guarantee that there will be a pdcp-config for that SRB 2. If the proposed correction is adopted,    * if the second check (“if the current UE configuration as specified in TS 36.331 ….”) is not fulfilled (i.e. we are not switching from LTE to NR PDCP),  we “apply the corresponding default configuration for the SRB…..”)      1. This means, that we will end up reverting the pdcp configuration to the default (“apply the corresponding default configuration ….”)  * Thus, we propose to keep it the original way   => No change is needed  => Condition for the pdcpConfig field to be corrected so that it doesn't need to be included in this case.  => Add default PDCP configuration  => Check that is is clear to the UE when change of PDCP type from LTE to NR occurs without the inclusion of pdcpConfig.  [Ericsson]: change regarding the ommission of pdcp-Config check made. CR will be submitted regarding the default PDCP configuration. |  |
| L013 | In our understanding, PDCP reestablishment of SRB does not accompanied with SRB suspenstion. | 2 | 3> re-establish the PDCP entity of this SRB as specified in 38.323;  ~~3> resume the SRB, if suspended;~~  [Ericsson]  SRBs get suspended during   1. **re-establishment:** we have agreed in the last meeting we revert to LTE PDCP, so true the resume SRB clause above doesn’t apply for EN-DC in this case (but it will apply for SA) 2. **suspend/resume:** we have also agreed in the last meeting we revert to LTE PDCP (SRB1), but we have also agreed to make it possible to include NR PDCP info the resume message (e.g. we can reconfigure SRB1 to NR PDCP, and resume SRB2 with NR PDCP  in the Resume command). As such the resume is applicable here 3. **SCG failure:** If the MN decides to keep the SN after SCG failure, there is already a line in cell group configuration section ( “resume all suspended radio bearers and resume SCG transmission for all radio bearers, if suspended;”) that takes care of the resumption of the SRBs, so the resume SRB clause above is not required.  * So considering that the resume clause that is proposed to be removed is needed for handling LTE suspend/resume as described above and also needed in the case of SA (which we have to add anyway soon) , we propose to keep it as before.   => Check offline what was agreed at last meeting for PDCP for SRB2 when LTE is suspended  => For EN-DC the bearers are suspended and resumed within the LTE spec, not NR spec. |  |
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#### 5.3.5.6.4 DRB release

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| L014 | Since "DRB addition" is performed after "DRB release", it is not known whether a new bearer is added while in DRB release. | 2 | ~~1> if new bearer is not added with same eps-BearerIdentity:~~  1~~2~~> if the procedure was triggered due to handover:  2~~3~~> indicate the release of the DRB(s) and the eps-BearerIdentity of the released DRB(s) to upper layers after successful handover;  ~~12~~> else:  2~~3~~> indicate the release of the DRB(s) and the eps-BearerIdentity of the released DRB(s) to upper layers immediately;  Ericsson3] Disagree. The UE can check the whole content of the RRCReconfiguraiton  => Bullet is kept but reworded to be clear what it means by 'same'  Rap: Not really clear how to capture |  |
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#### 5.3.5.6.5 DRB addition/ modification

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M016 | The IE name should be italic. | 1 | 1> for each drb-Identity value included in the drb-ToAddModList that is not part of the current UE configuration (DRB establishment including the case when full configuration option is used):  2> establish a PDCP entity and configure it in accordance with the received pdcp-Config; |  |
| I015 | Editor’s Note: Full configuration is not applicable for EN-DC. For EN-DC, NR RRCReconfiguration message does not include the fullConfig IE.  2> if the RRCReconfiguration message includes the fullConfig IE:  3> associate the established DRB with corresponding included eps-BearerIdentity;  2> else if no DRB was configured with the same eps-BearerIdentity prior to receiving this reconfiguration:  Editor’s Note: FFS\_CHECK:  Full configuration is not applicable for EN-DC, then why do we need to link it to EPS id? | 2 | There are serveral parts are not relevant to EN-DC and cannot be stable before June. These parts should be removed  [Ericsson3] Our preference is to keep standalone parts in the procedures as we do not need to do extra work to deleting/adding them.  =>Already covered |  |
| M017 | Use “the network” instead of “the eNB” in NR RRC SPEC. | 1 | NOTE: Removal and addition of the same drb-Identity in a single radioResourceConfig is not supported. In case drb-Identity is removed and added due to handover or re-establishment with the full configuration option, the ~~eNB~~ network can use the same value of drb-Identity. |  |
| I016 | the ciphering configuration shall be applied to all subsequent messages received and sent by the UE;  This is for DRB, why do we need “all subsequent messages”? | 2 | Suggest  2> if reestablishPDCP is set  3> configure the PDCP entities of this RadioBearerConfig to apply the ciphering algorithm and KUPenc key associated with the KeNB/S-KgNB as indicated in keyToUse, i.e. the ciphering configuration shall be applied to all subsequent PDCP PDUs~~messages~~ received and sent by the UE; |  |
| C009 | Integrity for DRB can be configured,  Agreements for NG-EN-DC and NE-DC and NR SA  UP integrity protection can be configured on a per radio bearer (i.e. per DRB) basis. | 2 | 1> for each drb-Identity value included in the drb-ToAddModList that is not part of the current UE configuration (DRB establishment including the case when full configuration option is used):  2> establish a PDCP entity and configure it in accordance with the received pdcp-Config;  3>If integrityProtection in the pdcp-Config is set to true, configure the PDCP entity with the security algorithms according to securityConfig and apply the keys (KUPint) associated with the KeNB/S-KgNB as indicated in keyToUse.  …  1> for each drb-Identity value included in the drb-ToAddModList that is part of the current UE configuration:  2> if reestablishPDCP is set  …  2> if the pdcp-Config is included:  3> reconfigure the PDCP entity in accordance with the received pdcp-Config;  3> If integrityProtection in the pdcp-Config is set to true, configure the PDCP entity with the security algorithms according to securityConfig and apply the keys (KUPint) associated with the KeNB/S-KgNB as indicated in keyToUse  *[Ericsson3] We prefer to capture missing standlone parts later.*  *=> No change needed* |  |
| E111 | Same comment as for 5.3.5.6.2 (E110):  Here it is not clear if we refer to LTE+NR configuration or only NR configuration:  2> else if no DRB was configured with the same eps-BearerIdentity prior to receiving this reconfiguration: | 2 | Should clarify that this refers to LTE+NR configuration  [Ericsson3] See E110 and “R2-1801208 E110 Clarification on UE configuration in 38331  => Already covered |  |
| E112 | This note is not clear as there is no field “radioResourceConfig”  NOTE: Removal and addition of the same drb-Identity in a single radioResourceConfig is not supported. In case drb-Identity is removed and added due to handover or re-establishment with the full configuration option, the eNB can use the same value of drb-Identity. | 3 | Should discuss in which cases removal and addition of the same drb-Identity is OK and clarify the note correspondingly.  Ericsson to provide TP.  Rap: Ericsson to come back with TP at next meeting. |  |
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#### 5.3.5.7 Full configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I017 | This part is unrelated to EN-DC, and not stable. Should be removed. | 2 | Remove the content.  [Ericsson] Our preference is to keep standalone parts in the procedures as we do not need to do extra work to deleting/adding them.  Rap: Accordong to agreement, content kept, but Editor’s note on top indicate targeted for completion in June 2018. |  |
| C010 | As full configuration for NSA is not supported, and SA case is not discussed , so this section can be added upon full configuration has been discussed, now this section can be deleted | 2 | Delete this section, and add it after furter agreement has been made.  Rap: See I017 |  |
| v016 | Log MDT is not supported and should be deleted. | 2 | The UE shall:  1> release/ clear all current dedicated radio configurations except the MCG C-RNTI, the MCG security configuration and the PDCP, RLC, logical channel configurations for the RBs ~~and the logged measurement configuration~~;  Rap: See I017 |  |
| v039 | NB iot is not supported in NR yet | 2 | Remove NB iot  else (full configuration after re-establishment):  2> use values for timers T301, T310, T311 and constants N310, N311, as included in ue-TimersAndConstants received in SystemInformationBlockType2 ~~(or SystemInformationBlockType2-NB in NB-IoT)~~;  1> apply the default physical channel configuration as specified in 9.2.4;  1> apply the default semi-persistent scheduling configuration as specified in 9.2.3;  Rap: See I017 |  |
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#### 5.3.5.8 Security key update

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I018 | Editor’s Note: FFS reference to 33.401 correct?  I assume, should be 33.501 since the NR algorithms are specified in 33.501;’ | 2 | should be 33.501 since the NR algorithms are specified in 33.501;’ |  |
| I019 | 1> for all radio bearers configured with S-KgNB:  2> configure lower layers to apply the KRRCint key, i.e. the integrity protection shall be applied to all subsequent messages received and sent by the UE, including the message used to indicate the successful completion of the procedure;  2> configure lower layers to apply the ciphering algorithm, the KRRCenc key and the KUPenc key, i.e. the ciphering shall be applied to all subsequent messages received and sent by the UE, including the message used to indicate the successful completion of the procedure.  The above should be removed since the configuration of the lower layers should be done in the DRB/SRB-ToAddMod in the radioBearerConfig. Otherwise there will be a duplication of the same action as in 5.3.5.6.5 (DRB) and 5.3.5.6.3 (SRB):  2> if reestablishPDCP is set  3> configure the PDCP entities of this RadioBearerConfig to apply the ciphering algorithm and KUPenc key associated with the KeNB/S-KgNB as indicated in keyToUse, i.e. the ciphering configuration shall be applied to all subsequent messages received and sent by the UE; | 2 | Remove  ~~1> for all radio bearers configured with S-KgNB:~~  ~~2> configure lower layers to apply the KRRCint key, i.e. the integrity protection shall be applied to all subsequent messages received and sent by the UE, including the message used to indicate the successful completion of the procedure;~~  ~~2> configure lower layers to apply the ciphering algorithm, the KRRCenc key and the KUPenc key, i.e. the ciphering shall be applied to all subsequent messages received and sent by the UE, including the message used to indicate the successful completion of the procedure.~~ | 1800936 |
| C011 | The sk-Counter is defined in 36.331 | 2 | Upon reception of sk-Counter the UE shall  NOTE: sk-counter as specified in 36.331 for EN-DC  1> update the S-KgNB key based on the KeNB key and using the received sk-Counter value, as specified in TS 33.401 [32];  => Do not add Note  => Clarify the " Upon reception of sk-Counter the UE shall" to remove the initiation within NR spec (i.e. take out Upon reception) make it clear that the sk-counter comes from LTE RRC. |  |

#### 5.3.5.9 Reconfiguration failure

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.9.1 Integrity check failure

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.5.9.2 Inability to comply with RRCReconfiguration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I020 | >             initiate the connection re-establishment procedure as specified in TS 36.331 [10, 5.3.7], upon which the connection reconfiguration procedure ends;  It should not be NR RRC initiating the LTE re-establishment. | 2 | Suggest:  >             inform the LTE RRC to initiate the connection re-establishment procedure as specified in TS 36.331 [10, 5.3.7], upon which the connection reconfiguration procedure ends;  **[vivo]**: don’t understand the intention of such addition.  RAN2 AH: RAN2 discussed [R2-1801208](file:///C:\Data\3GPP\Extracts\R2-1801208%20%20E110%20Clarification%20on%20UE%20configuration%20in%2038331.doc) | 1800952 |
| O12 | RRCReconfiguration should be italic 5.3.5.9.2 Inability to comply with RRCReconfiguration The UE shall:  1> if the UE is operating in EN-DC:  2> if the UE is unable to comply with (part of) the configuration included in the RRCReconfiguration message received over SRB3;  3> continue using the configuration used prior to the reception of RRCReconfiguration message;  3> initiate the SCG failure information procedure as specified in subclause 5.7.3 to report SCG reconfiguration error, upon which the connection reconfiguration procedure ends; | 1 | The UE shall:  1> if the UE is operating in EN-DC:  2> if the UE is unable to comply with (part of) the configuration included in the RRCReconfiguration message received over SRB3;  3> continue using the configuration used prior to the reception of RRCReconfiguration message;  3> initiate the SCG failure information procedure as specified in subclause 5.7.3 to report SCG reconfiguration error, upon which the connection reconfiguration procedure ends; |  |
| N012 | “UE is operating in EN-DC” is not clear | 2 | One should probably have definition for oprating in EN-DC as it is used in multiple places. Easiest probably to have this definition in 3 e.g. EN-DC: UE is configured with MCG in LTE and SCG in NR  => Already covered |  |
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#### 5.3.5.9.3 T304 expiry (Reconfiguration with synch Failure)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z002 | UE ‘s behaviour upon T304 expiry, when T304 is received from MN embeded NR RRCReconfiguration message. | 3 | According to RAN2 agreement:” A failure of the MN RRC messages, including one encapsulating SN RRC message with or without any MN reconfiguration fields triggers a re-establishment procedure. ” in our view, if the T304 for SN change is received in LTE RRC message(i.e. inter-MN handover with SN change), then UE should trigger RRC-reestablishment procedure when T304 expires; UE may trigger SCGFailureInformation only when T304 is received via SRB3, so more clarification/discussion is needed, and a paper will be prepared by ZTE on this aspect.  Rap: outcome unclear, may need to be revisited. | ZTE will prepare a tdoc |
| E013 | The following note cannot be considered a note as it contains actions for the UE which seem normative.  NOTE 1: Following T304 expiry any dedicated preamble, if provided within the rach-ConfigDedicated, is not available for use by the UE anymore. | 2 | Rewrite the contents of the note using normative text, e.g.  1> else, if T304 of a secondary cell group expires:  ~~NOTE 1: Following T304 expiry any dedicated preamble, if provided within the rach-ConfigDedicated, is not available for use by the UE anymore.~~  2> release rach-ConfigDedicated;  2> initiate the SCG failure information procedure as specified in subclause 5.7.3 to report SCG change failure;  [Ericsson3] Related paper is R2-1801205, R2-1801206  => Change is agreed |  |

#### 5.3.6 Counter check

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.7 RRC connection re-establishment

Targeted for completion in June 2018.

#### 5.3.8 RRC connection release

Targeted for completion in June 2018.

#### 5.3.9 RRC connection release requested by upper layers

Targeted for completion in June 2018.

#### 5.3.10 Radio resource configuration

Targeted for completion in June 2018.

#### 5.3.11 Radio link failure related actions

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M018 | Whether to harmanize the RLF for MCG and SCG. | 1 | Considering the conditions and following behaviors for MCG RLF and SCG RLF are different, it is suggested that the procedure for MCG and SCG RLF detection is not harmonized.  **[Ericsson]** We disagree. In our view, the harmonization has been explicitly agreed and captured in initial version of 38.331. The reason this is being dsicusseed is an approved TP on RLF that had not taken that agreement into account (during review companies have not spotted that the text contradicted the agreement). Most of the actions are the same, hence harmonization makes sense.  => Already covered |  |
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#### 5.3.11.1 Detection of physical layer problems in RRC\_CONNECTED

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C012 | Algin with the PSCell or delete T313, | 3 | 1> upon receiving N310 consecutive "out-of-sync" indications for the ~~SpPCell~~  PCell from lower layers while T311 is not running:  2> start timer T310;  Editor’s Note: FFS: The following is wrong since according to other agreed TPs there is no T307 and no N313/T313. Rewrite the previous statement so that it applies to the PCell of any cell group. Remove the following. Update also PCell/PScell to SpCell  1> upon receiving N313 consecutive "out-of-sync" indications for the PSCell from lower layers while T304 is not running:  2> start T313;  or  1> upon receiving N310 consecutive "out-of-sync" indications for the SpPCell from lower layers while T311 is not running:  2> start timer T310;  ~~Editor’s Note: FFS: The following is wrong since according to other agreed TPs there is no T307 and no N313/T313. Rewrite the previous statement so that it applies to the PCell of any cell group. Remove the following. Update also PCell/PScell to SpCell~~  ~~1> upon receiving N313 consecutive "out-of-sync" indications for the PSCell from lower layers while T304 is not running:~~  ~~2> start T313;~~  [Ericsson3] See also [R2-1800147](file:///C:\Data\3GPP\Extracts\R2-1800147%20RLM%20related%20timers%20and%20constants%20combination(RILNo%20C012).docx)  RAN2 AH: Agreed to base TP on [R2-1800147](file:///C:\Data\3GPP\Extracts\R2-1800147%20RLM%20related%20timers%20and%20constants%20combination(RILNo%20C012).docx) | See Tdoc R2-1800147 |
| O13 | One type for SpCell 5.3.11.1 Detection of physical layer problems in RRC\_CONNECTED The UE shall:  1> upon receiving N310 consecutive "out-of-sync" indications for the SpPCell from lower layers while T311 is not running:  2> start timer T310; | 1 | Should be corrected as SpCell. 5.3.11.1 Detection of physical layer problems in RRC\_CONNECTED The UE shall:  1> upon receiving N310 consecutive "out-of-sync" indications for the Sp~~P~~Cell from lower layers while T311 is not running:  2> start timer T310;  Ericsson3] See also R2-1801206 |  |
| E128 | Timers T310 and T313 | 3 | There are some open issues on timers  - Should unify timers T313 and T310 similar to T304. Also procedures for MCG and SCG can be unified.  - Some RRC timer values missing  Discussion paper and CR provided by Ericsson  Rap: TDoc by Samsung (R2-1801496)  RAN2 AH: Discussed [R2-1801205](file:///C:\Data\3GPP\Extracts\R2-1801205%20-%20E128%20Alignment%20and%20missing%20issues%20on%20RRC%20timers.docx) | See Tdoc R2-1801205 (Ericsson)  See Tdoc R2-1801206 (Ericsson)  See Tdoc R2-1801496 (Samsung) |
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#### 5.3.11.2 Recovery of physical layer problems

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.3.11.3 Detection of radio link failure

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M019 | Correct typo on reference section. The SCG Failure section is 5.7.3 (not 5.7.34). | 1 | The UE shall:  1> upon T313 expiry, or  1> upon random access problem indication from SCG MAC, or  1> upon indication from SCG RLC that the maximum number of retransmissions has been reached:  2> consider radio link failure to be detected for the SCG i.e. SCG-RLF;  Editor’s Note: FFS: How to handle RLC failure in CA duplication for SCG DRB and SRB.  2> initiate the SCG failure information procedure as specified in 5.7.3~~4~~ to report SCG radio link failure; |  |
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#### 5.3.12 UE actions upon leaving RRC\_CONNECTED

Targeted for completion in June 2018.

#### 5.3.13 UE actions upon PUCCH/SRS release request

Targeted for completion in June 2018.

#### 5.4 Inter-RAT mobility

Targeted for completion in June 2018.

#### 5.5 Measurements

#### 5.5.1 Introduction

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I021 | - For inter-RAT E-UTRA measurements a measurement object is a single EUTRA carrier frequency. Associated with this E-UTRA carrier frequency, the network can configure a list of cell specific offsets, a list of 'blacklisted' cells and a list of 'whitelisted' cells. Blacklisted cells are not applicable in event evaluation or measurement reporting. Whitelisted cells are the only ones applicable in event evaluation or measurement reporting.agreed for LTE,  whiteCellList is not supported for NR measurements reporting in LTE(Bx events). No use case is identified.  Do we need to support whiltecellList for LTE measurement in NR?  whether cell specific offset is useful. | 2 | Not so sure whether it is useful to have it for B1/2. If we follow the same logic, it should not be used for them in NR.  **[Ericsson]** We disagree. The text is based on the following agreement from RAN2#96 Reno:  3: The measurement object for LTE in NR specification could reuse structure of measurement object for LTE frequency defined in LTE specification.  In deployments where some LTE cells are connected only to 5GC or EPC, NG-RAN may want measurements only concerning one type of cells. A discussoin may need to be taken in this topic. As that is not the most essential for EN-DC we suggest to postpone the discussion out of ASN.1 review.  => Not applicable to EN-DC |  |
| I022 | The network may configure the UE to report the following measurement information based on SS/PBCH block(s):  - Measurement results per SS/PBCH block.  - Measurement results per cell based on SS/PBCH block(s).  - SS/PBCH block(s) indexes.  The network may configure the UE to report the following measurement information based on CSI-RS resources:  - Measurement results per CSI-RS resource.  - Measurement results per cell based on CSI-RS resource(s).  - CSI-RS resource measurement identifiers.  Since reporting of SSB alone is not allow. Suggest to combine with SS/PBCH blocks index:  e.g.  - SS/PBCH block(s) indexes with optional measurement result per SS/PBCH block | 2 | - SS/PBCH block(s) indexes with optional Measurement results per SS/PBCH block.  - Measurement results per cell based on SS/PBCH block(s).  ~~- SS/PBCH block(s) indexes.~~  - CSI-RS resource measurement identifiers with optional Measurement results per CSI-RS resource.  - Measurement results per cell based on CSI-RS resource(s).  ~~- CSI-RS resource measurement identifiers.~~  [Ericsson] We partially agree. The suggestion is relevant, although the exact formulation gives the impression that indexes are mandatory and measurements are optional (when in fact both are optional). Hence, we suggest the following alternative:  - Measurement results per SS/PBCH block or only the SS/PBCH block identifiers.  - Measurement results per cell based on SS/PBCH block(s).  ~~- SS/PBCH block(s) indexes.~~  - Measurement results per CSI-RS resource or only the CSI-RS resource identifiers.  - Measurement results per cell based on CSI-RS resource(s).  ~~- CSI-RS resource measurement identifiers.~~  [Samsung] We agree to both Intel and Ericsson. According to the following agreement from RAN2 NR AH1706, we suggest the below alternative:  8    Beam measurement (based on NR-SS and CSI-RS) can be included in the measurement report and can be configured by the network (i.e. network configures the UE to report beam identifier only, beam measurement result and identifier, or no beam reporting)   -     SS/PBCH block(s) indexes and m~~M~~easurement results per SS/PBCH block.  -     Measurement results per cell based on SS/PBCH block(s).  -     SS/PBCH block(s) indexes.    -     CSI-RS resource measurement identifiers and m~~M~~easurement results per CSI-RS resource.  -     Measurement results per cell based on CSI-RS resource(s).  -     CSI-RS resource measurement identifiers.  => No change needed |  |
| I023 | - RS type: The RS that the UE uses for cell measurement results (SS/PBCH block or CSI-RS).  This should be for both beam and cell, and Should clarify only SS/PBCH block or CSI-RS can be configured in a single reporting configuration. | 2 | RS type: The RS that the UE uses for beam and cell measurement results (SS/PBCH block or CSI-RS). Only SS/PBCH block or CSI-RS can be configured in a single reporting configuration.  => Only add the 'beam and' |  |
| I024 | **5. Measurement gaps:** Periods that the UE may use to perform measurements, i.e. no (UL, DL) transmissions are scheduled.  The description on single per UE gap and independent gap should be added | 3 | We plan to provide the whole picture on how to capture gap related issues in one contribution, including ASN.1, procedure, etc.  [Ericsson] We partially agree that updates are needed. It might be sufficient to simply add this NOTE:  Note: In EN-DC, some UEs may need per UE gaps that applies to all measurements (i.e. LTE FR1, NR FR1/FR2), while other UEs may be able to measure with independent and potentially different gap patterns for FR1(LTE/NR) and NR FR2 serving cells. In the former case, the measurement gap set by E-UTRAN applies to both NR FR1 and FR2 frequencies, while in the latter it applies only to NR FR1 frequencies and the gap for FR2 frequencies is configured by NR.  RAN2 AH: Discussed [R2-1800957](file:///C:\Data\3GPP\Extracts\R2-1800957-38331_CRxxxx-(REL-15).doc). | See Tdoc R2-1800957 |
| I025 | An RRC\_CONNECTED UE maintains a single measurement object list, a single reporting configuration list, and a single measurement identities list.  What’s the meaning of this sentence? Looks like pure UE implementation. We may add restriction that for the same RS type, the network only configures a gignle measurement object for a given frequency. | 2 | An RRC\_CONNECTED UE maintains a single measurement object list, a single reporting configuration list, and a single measurement identities list for a given frequency for the same RS-type.  [Ericsson] We disagree. The addition makes the sentence confusing as it is not clear whether each list is for a given frequency for the same RS or only the measurement identity list. The text as it is is the same been taken from 36.331 and, as the concept of these lists have not really changed from LTE to NR, we prefer to keep the text as it is. We also don’t agree that implies any UE implementation.  => No change needed |  |
| I026 | Clarification on E-UTRAN measurement objects. | 2 | The measurement procedures distinguish the following types of cells:  1. The serving cell(s) - these are the PCell and one or more SCells, if configured for a UE supporting CA.E-UTRAN PCell/SCell(s) are serving cell(s) if the UE is configured with EN-DC.  2. Listed cells - these are cells listed within the measurement object(s).  3. Detected cells - these are cells that are not listed within the measurement object(s) but are detected by the UE on the carrier frequency(ies) indicated by the measurement object(s).  For NR measurement object(s), the UE measures and reports on the serving cell(s), listed cells and/or detected cells.  ~~Editor’s Note: FFS Whether the definitions of serving cells, listed cells and detected cells in 38.331 are also applicable for E-UTRAN measurement object(s).~~  => Only change to remove the editor's note |  |
| N015 | The abbreviation "CD-SSB" (Cell-Defining SSB) is used, but not explained anywhere within the specification. "SSB" is also not captured in the appropriate section (e.g. Definitions or Abbreviations). | 2 | Add proper definition and/or abbreviation in 3.1 Definitions and/or 3.2 Abbreviations.  [Ericsson] We agree this needs to be resolved. The proble is that the term cell defining SSB is so far only used here. Hence, as we are using the term SS/PBCH block for SSB, as in the RAN1 spcifications, we could for the time being use the term cell defining SS/PBCH block. |  |
| E132 | Definition of Quantity Configuration needs to be updated | 2 | We suggest to update the definition to reflect the following agreemen from RAN2#100 Reno:  Agreements  1 Different filter coefficients can be configured for different measurement quantities, for different RS types, and for cell and beam measurements.  **4. Quantity configurations:** The quantity configuration defines the measurement ~~quantities and associated~~ filtering configuration used for all event evaluation and related reporting of that measurement type. For NR measurements, the network may configure up to 2 quantity configurations with a reference in the NR measurement object to the configuration that is to be used. In each configuration, different filter coefficients can be configured for different measurement quantities, for different RS types, and for measurements per cell and per beam. |  |

#### 5.5.2 Measurement configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| N016 | Simplify s-MeasureConfig procedural text as anyway procedural text in 5.5.3 defines how parameter is used | 2 | Remove everything about s-MeasureConfig from 5.3.5.9.2 (usage is defined anyway in 5.5.3)  => Offline discussion whether the varMeasConfig could be removed from the spec (N0016) (Offline discussion 17, Ericsson) |  |
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#### 5.5.2.2 Measurement identity removal

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I027 | Do we consider measurement id autonomous removal for A1/2/6? | 2 | Autonomous removal should be added  [Ericsson] In our view this is not needed as it is meant to simply address an inconsistent network configuration. |  |
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#### 5.5.2.3 Measurement identity addition/ modification

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#### 5.5.2.4 Measurement object removal

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#### 5.5.2.5 Measurement object addition/ modification

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I028 | BlackCellsToAddMod ::= SEQUENCE {  cellIndex INTEGER (1..maxNrofCellMeas),  physCellIdRange PhysCellIdRange  }  A PhysCellIdRange is used for blackcell lists. It would be good to either maintain the note as LTE, or | 2 | Suggest  Either add note as  NOTE 1: For each cellIndex included in the blackCellsToRemoveList that concerns overlapping ranges of cells, a cell is removed from the black list of cells only if all cell indexes containing it are removed.  Or change ASN.1 as  BlackCellsToAddMod ::= SEQUENCE {  cellIndex INTEGER (1..maxNrofCellMeas),  physCellIdRange PhysCellId~~Range~~  } |  |
| I029 | Same comments for whiteCell lists; | 2 | Rap: Not implemented yet |  |
| I030 | Editor’s Note: FFS Whether the UE should delete a measurement reporting entry based on one RS type (e.g. SS/PBCH block), stop timers and reset variables (e.g. timeToTrigger) when parameters associated to another RS type are modified in measObject.  What is the logical argument to do so? Don’t see the need of mixing them. | 2 | The FFS can be removed.  [Ericsson] We prefer to keep the FFS at least until the issue is discussed. The FFS was added after email discussion. The logic was that the same measObject can have paramters per RS type that are basically independent. Hence, if parameters related to CSI-RS (like the ones for cell quality derivation) are modified or if CSI-RS resources are added (e.g. cell quality derivation ones), it would be odd to delete measurements based on SS/PBCH block, stop timer, etc. as these have nothing to do with the changes. We have provided a paper in R2-1801327 - Measurement object update procedure. | See Tdoc R2-1801327 |
| N017 | Generally cellIndex seems to be unnecessary parameter in cellsToAddModList. Anyway a PCI is only once in the list so why to have index in addition?  **Related to N018** | 2 | remove cellIndex from cellsToAddModList (and from revemolist) => resulting in following procedural text:  3> if the received measObject includes the cellsToRemoveList:  4> remove the entry with the matching physCellId from the cellsToAddModList:  3> if the received measObject includes the cellsToAddModList:  4> for each physCellId value included in the cellsToAddModList:  5> if an entry with the matching ce physCellId llIndex exists in the cellsToAddModList:  6> replace the entry with the value received for this physCellId;  5> else:  6> add a new entry for the received physCellId to the cellsToAddModList; | See Tdoc R2-1800677 |
| N018 | Similarly there does not seem to be need to have index in the black and white lists. as Anyway PCIs are listed there and that can act as reference.  **Related to N 1017** | 2 | remove index from black and whitelists => resulting simplified procedural text and removal of unncessary parameter:  if the received measObject includes the blackCellsToRemoveList:  4> remove the entry with the matching physCellId from the blackCellsToAddModList:  3> if the received measObject includes the blackCellsToAddModList:  4> for each physCellId included in the blackCellsToAddModList:  5> if an entry with the matching physCellId is not included in the blackCellsToAddModList:  6> add a new entry for the received physCellId to the blackCellsToAddModList;  3> if the received measObject includes the whiteCellsToRemoveList:  4> for each physCellId included in the whiteCellsToRemoveList:  5> remove the entry with the matching physCellId from the whiteCellsToAddModList;  3> if the received measObject includes the whiteCellsToAddModList:  4> for each physCellId included in the whiteCellsToAddModList:  5> if an entry with the matching cellIndex is not included in the whiteCellsToAddModList:  6> add a new entry for the received physCellId to the whiteCellsToAddModList;  CellsToAddModList ::= SEQUENCE (SIZE (1..maxNrofCellMeas)) OF CellsToAddMod  CellsToAddMod ::= SEQUENCE {  physCellId PhysCellId,  cellIndividualOffset Q-OffsetRangeList  }  BlackCellsToAddModList ::= SEQUENCE (SIZE (1..maxNrofCellRanges)) OF BlackCellsToAddMod  BlackCellsToAddMod ::= SEQUENCE {  physCellIdRange PhysCellIdRange  }  WhiteCellsToAddModList ::= SEQUENCE (SIZE (1..maxNrofCellRanges)) OF WhiteCellsToAddMod  WhiteCellsToAddMod ::= SEQUENCE {    physCellIdRange PhysCellIdRange  }  -- Cell list  cellsToRemoveList CellList OPTIONAL,  cellsToAddModList CellsToAddModList OPTIONAL,  -- Black list  blackCellsToRemoveList CellList OPTIONAL,  blackCellsToAddModList BlackCellsToAddModList OPTIONAL,  -- White list  whiteCellsToRemoveList CellList OPTIONAL,  whiteCellsToAddModList WhiteCellsToAddModList OPTIONAL  CellList ::= SEQUENCE (SIZE (1..maxNrofCellMeas)) OF PhysCellId | See Tdoc R2-1800677 |

#### 5.5.2.6 Reporting configuration removal

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#### 5.5.2.7 Reporting configuration addition/ modification

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.8 Quantity configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.2.9 Measurement gap configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I031 | Editor’s Note: FFS How measurement gaps are configured.  Editor’s Note: FFS how to capture the e.g. following agreement: For the independent gap case where UE is able to apply a different gap pattern for LTE/FR1 and FR2: a NR RRC configures a measurement gap configuration for FR2. | 3 | In R2-1712650, we provided ASN.1 for both 36.331 and 38.331 on gap for FR1/2, it could be used as baseline. We are happy to provide contribution on measurement gap for both LTE and NR if it is not easy to be solved in review procedure.  The UE shall:  1>    if measGapConfig is set to setup:  2>    if a measurement gap configuration is already setup, release the measurement gap configuration;  2>    if the UE is operating in EN-DC:  3>    setup the measurement gap configuration indicated by the measGapConfig in accordance with the received gapOffset, i.e., the first subframe of each gap occurs at an SFN and subframe meeting the following condition (SFN and subframe of SCG cells on FR2 as defined in TS 38.133 [x]):  SFN mod T = FLOOR(gapOffset/10);  subframe = gapOffset mod 10;  with T = MGRP/10 as defined in TS 38.133 [x];  2>    else:  3>    setup the measurement gap configuration indicated by the measGapConfig in accordance with the received gapOffset, i.e., the first subframe of each gap occurs at an SFN and subframe meeting the following condition (SFN and subframe of MCG cells on both FR1 and FR2 as defined in TS 38.133 [x]):  SFN mod T = FLOOR(gapOffset/10);  subframe = gapOffset mod 10;  with T = MGRP/10 as defined in TS 38.133 [x];  NOTE:    The UE applies a single gap, which timing is relative to the MCG cells, even when configured with DC.  1>    else:  2>    release the measurement gap configuration; – MeasGapConfig The IE MeasGapConfig specifies the measurement gap configuration and controls setup/ release of measurement gaps.  MeasGapConfig  MeasGapConfig ::= CHOICE {  release NULL,  setup SEQUENCE {  gapOffset CHOICE {  gp0 INTEGER (0..19),  gp1 INTEGER (0..39),  gp2 INTEGER (0..79),  gp3 ...  },  -- w = [1+x]ms, y = [2.25]ms, z = [5+x] in MGL as defined based on RF switching time in RAN4  mgl ::= ENUMERATE{3,4,6,w,y,z, spare1, spare2}  }  }  [Ericsson]: we agree partially, but we have provided an alternate way to capture this in a CR (R2-1801174)  [Samsung] We think this is a class 4 issue i.e. not for ASN.1 session. Anyhow, some remarks   1. According to RAN4 LS (R2-1712143), measurement gap offset has the granularity of maximum slot length among the serving cells for which the gap is configured 2. In NR standalone mode, the network can configure 1 or 2 measurement gaps based on UE capability (the proposed text only considers single measurement gap configuration for standalone)   RAN2 AH: Discussed [R2-1800957](file:///C:\Data\3GPP\Extracts\R2-1800957-38331_CRxxxx-(REL-15).doc). | See Tdoc R2-1800957  See Tdoc R2-1801174  See Tdoc R2-1801174 (Ericsson) |
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#### 5.5.2.10 Reference signal measurement timing configuration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.3 Performing measurements

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.3.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I032 | Based on discussion and agreement “ Different filter coefficients can be configured for different measurement quantities, for different RS types, and for cell and beam measurements”. Looks like there is no motivation for combined triggered. We prefer not to, otherwise, it is unclear the relationship between each configuration. The network can configure multiple of them individually. So it is an optimization.SO the FFS can be removed. | 2 | Suggest to remove FFS  ~~Editor’s Note: FFS Whether multiple quantities and be configured as trigger quantities, e.g. RSRP and RSRQ; RSRP and SINR; RSRQ and SINR; RSRP, RSRQ and SINR.~~  [Ericsson] We disagree. We do not understand the relation between the agreement shown in I032 and the FFS, so perhaps there is a misunderstanding about the motivations. A paper explaining the gains in terms of measurement reporting signalling without any drawbacks in terms of the amount of measurements has been submitted: R2-1800599 - Triggering conditions for A1-A6 events in NR. As requested in I0032, motivation is described in the paper and we suggest to discuss it as part of the ASN.1 review or keep the FFS until the paper is discussed.  => Already covered | See Tdoc R2-1800599 |
| I033 | 3> if a measurement gap configuration is setup, or  3> if the UE does not require measurement gaps to perform the concerned measurements:  This should include the aspect where in EN-DC, LTE configured gap for FR1 and FR2. | 3 | We plan to provide the whole picture on how to capture gap related issues in one contribution, including ASN.1, procedure, etc.  RAN2 AH: Discussed [R2-1800957](file:///C:\Data\3GPP\Extracts\R2-1800957-38331_CRxxxx-(REL-15).doc).  Rap: TP on procedure text not agreed at AH. | See Tdoc 1800957 |
| N021 | There seems to be a redundant "or" in the following condition: "4> if s-MeasureConfig is set to csi-rsrp and the PCell RSRP based on CSI-RS, after layer 3 filtering, is lower than csi-rsrp or," | 2 | Remove "or": 4> if s-MeasureConfig is set to csi-rsrp and the PCell RSRP based on CSI-RS, after layer 3 filtering, is lower than csi-rsrp ~~or~~," |  |
| N022 | It appears there is no justification in the agreements to keep the following FFS in the specification: "Editor’s Note: FFS Whether multiple quantities and be configured as trigger quantities, e.g. RSRP and RSRQ; RSRP and SINR; RSRQ and SINR; RSRP, RSRQ and SINR. " | 2 | Remove the FFS/Editor's Note. |  |

#### 5.5.3.2 Layer 3 filtering

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.3.3 Derivation of measurement results

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I034 | 2> if nroSS-BlocksToAverage in the associated measObject is not configured; or  2> if absThreshSS-BlocksConsolidation in the associated measObject is not configured; or  2> if the highest beam measurement quantity value is below absThreshSS-BlocksConsolidation:  3> derive each cell measurement quantity based on SS/PBCH block as the highest beam measurement quantity value, where each beam measurement quantity is described in TS 38.215 [9];  It would be good to align file name between LTE and NR, and the description style. Looks like the description in LTE RRC is more clear, i.e. only if all these 3 conditions are met, the UE will do beam average. | 2 | Use LTE style, i.e.  2> if nroSS-BlocksToAverage in the associated measObject is ~~not~~ configured; ~~or~~ and  2> if absThreshSS-BlocksConsolidation in the associated measObject is ~~not~~ configured; ~~or~~ and  2> if more than one of these NR-SS beams the ~~highest~~ beam measurement quantity value is ~~below~~ above absThreshSS-BlocksConsolidation:  3> derive each cell measurement quantity based on SS/PBCH block as the linear average of the power values of the highest beam measurement quantity values above absThreshSS-BlocksConsolidation where the total number of averaged beams shall not exceed nroSS-BlocksToAverage;  [Ericsson] We disagree. The meaning (or at least the intention to switch the logic) seems to be similar to the one in current version, hence, we see do not agree with the argument that motivates the change.  [Samsung] We support Intel’s suggestion to apply LTE style of having ‘and’ conditions with configurations first (and even further alignment with the concise LTE specification text can be considered i.e. also for bullet 3).  => Try to reword to use positive logic and combine the three level 2 bullets. Then determine whether the result is simpler than the existign text. Can be concluded offline (I034) (Offline discussion 18, Huawei). |  |
| I035 | The UE shall:  1> for each cell measurement quantity to be derived based on SS/PBCH block;  …  1> for each cell measurement quantity to be derived based on CSI-RS;  …  One more level should be added for agreement where there can ony be one rsType configured in each reportConfig:  If reportConfig is set to ss …… (copy the SS/PBCH measurement here) 1> else …… (copy the CSI-RS measurement here) | 2 | One more level should be added for agreement where there can ony be one rsType configured in each reportConfig:  If reportConfig is set to ss …… (copy the SS/PBCH measurement here) 1> else …… (copy the CSI-RS measurement here)  [Ericsson] We disagree. That would be redundant as that logic for RS type selection is already captured in 5.5.3.1. Notice that while 5.5.3.1 describe what measurements to perform, 5.5.3.3 describe how they are performed. Hence, in our view that logic should not be in 5.5.3.3.  => No change needed |  |
| I036 | The UE shall:  1> for each layer 3 beam filtered measurement quantity to be derived based on SS/PBCH block;  2> derive each configured beam measurement quantity based on SS/PBCH block as described in TS 38.215[9], and apply layer 3 beam filtering as described in 5.5.3.2;  1> for each layer 3 beam filtered measurement quantity to be derived based on CSI-RS;  One more level should be added for agreement where there can ony be one rsType configured in each reportConfig:  If reportConfig is set to ss …… (copy the SS/PBCH measurement here) 1> else …… (copy the CSI-RS measurement here) | 2 | One more level should be added for agreement where there can ony be one rsType configured in each reportConfig:  If reportConfig is set to ss …… (copy the SS/PBCH measurement here) 1> else …… (copy the CSI-RS measurement here)  [Ericsson] We disagree. Same as previously, that would be redundant as that logic for RS type selection based on reportConfig is already captured in 5.5.3.1. Notice that while 5.5.3.1 describe what measurements to perform, 5.5.3.3 describe how they are performed. Hence, in our view that logic should not be in 5.5.3.3.  => No change needed |  |
| N023 | The parameter's name nroSS-BlocksToAverage is not fully in line with the naming convention. Perhaps slight renaming can be considered, to increase its clarity. | 2 | Rename to e.g. nrOfSS-BlocksToAverage. Applicable to all occurrences of this parameter (i.e. not limited to subsection 5.5.3.3). |  |
| N024 | The following sentence requires rephrasing: "The network may configure the UE to perform RSRP, RSRQ and SINR measurement results per cell associated to NR carrier frequencies based on parameters configured in the measObject and in the reportConfig..." | 2 | Either: "The network may configure the UE to perform RSRP, RSRQ and SINR measurements ~~results~~ per cell associated to NR carrier frequencies based on parameters configured in the measObjectNR and in the reportConfigNR..."  or: The network may configure the UE to derive~~perform~~ RSRP, RSRQ and SINR measurement results per cell associated to NR carrier frequencies based on parameters configured in the measObjectNR and in the reportConfigNR..."  => Can be discussed offline to consider possible alternative rewording (N024) (Offline discussion 19, Hauwei)  Rap: R2-1801651 |  |
| N025 | The following sentence requires rephrasing: "The network can configure the UE to perform RSRP, RSRQ and SINR measurement results per beam based on parameters configured in the measObject and in the reportConfig..." | 2 | Either: The network can configure the UE to perform RSRP, RSRQ and SINR measurements ~~results~~ per beam based on parameters configured in the measObjectNR and in the reportConfigNR..."  or: The network can configure the UE to derive~~perform~~ RSRP, RSRQ and SINR measurement results per beam based on parameters configured in the measObjectNR and in the reportConfigNR..."  => Covered by previous issue |  |

#### 5.5.4 Measurement report triggering

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z003 | In current ASN.1, the useWhiteCellList IE is only introduced when reportType is set to eventTriggered, but in the text description, only reportCGI is excluded in subclause 2>, which mismatch with the ASN.1, the proposed solution is aligned with the current ASN.1.  In addition, based on the RAN2 AH agreement on whiteCellList :”If whitelisted cells are provided, only whitelisted cells are used in event evaluation and reporting (as in LTE)”, it’s a bit confused about the “as in LTE”, so we suggest to make some further clarification on whether whiteCellList can be supported in periodical measurement, and we will prepare contribution on this aspect. | 3 | 5.5.4.1 General If security has been activated successfully, the UE shall:  1> for each measId included in the measIdList within VarMeasConfig:  2> if the corresponding reportConfig ~~does not~~ includes a reportType set to ~~reportCGI~~eventTriggered :  3> if the corresponding measObject concerns NR;  4> if the eventA1 or eventA2 is configured in the corresponding reportConfig:  5> consider only the serving cell to be applicable;  4> else:  5> if useWhiteCellList is set to TRUE:  6> consider any neighbouring cell detected on the associated frequency to be applicable when the concerned cell is included in the whiteCellsToAddModList defined within the VarMeasConfig for this measId;  5> else:  6> consider any neighbouring cell detected on the associated frequency to be applicable when the concerned cell is not included in the blackCellsToAddModList defined within the VarMeasConfig for this measId;  5> for events involving a serving cell on one frequency and neighbours on another frequency, consider the serving cell on the other frequency as a neighbouring cell;  2> if the corresponding reportConfig inlcudes a reportType set to periodical:  3> if the corresponding measObject concerns NR;  4> consider any neighbouring cell detected on the associated frequency to be applicable when the concerned cell is not included in the blackCellsToAddModList defined within the VarMeasConfig for this measId;  Rap: Yelow-marked text above added by ZTE.  RAN2 AH: Discussed [R2-1800447](file:///C:\Data\3GPP\Extracts\R2-1800447%20Clarification%20on%20whiteCellList(RIL%20No%20Z003).docx). No changes from this tdoc agreed. | ZTE will prepare a Tdoc |
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#### 5.5.4.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| D001 | The condition for measurement event other than A1,A2 is ambiguous (i.e. the description of level 5>)  It is better to have the following if condition  5> if there is whitelist  5> if there is blacklist (rather than “else”)  5> else (if the event involves a serving cell on one frequency and neighbor cell on another frequency) | 2 | The following formulation is proposed:  1> for each measId included in the measIdList within VarMeasConfig:  2> if the corresponding reportConfig does not include a reportType set to reportCGI:  3> if the corresponding measObject concerns NR;  4> if the eventA1 or eventA2 is configured in the corresponding reportConfig:  5> consider only the serving cell to be applicable;  4> else:  if ~~for~~ an event~~s~~ involves~~ing~~ a serving cell on one frequency and neighbours on another frequency  5> if useWhiteCellList is set to TRUE:  6> consider any neighbouring cell detected on the associated frequency to be applicable when the concerned cell is included in the whiteCellsToAddModList defined within the VarMeasConfig for this measId;  5> ~~else~~ if blackCellsToAddModList is included:  6> consider any neighbouring cell detected on the associated frequency to be applicable when the concerned cell is not included in the blackCellsToAddModList defined within the VarMeasConfig for this measId;  5> else (if ~~for~~ an event~~s~~ involves~~ing~~ a serving cell on one frequency and neighbours on another frequency)~~,~~  6> consider the serving cell on the other frequency as a neighbouring cell;  [Ericsson] We agree the current text,s omehwat from LTE, is a bit confusing. We wonder if the new proposal solves it without creating pther problems. The way it is written looksnow like the UE only consider other neighbours cells for triggering events when useWhiteCell is set to TRUE or when a black list in that MO is configured. In other words, for MO’s which do not have black or white lists, isn’t so that the following clause would not happen: “consider any neighbouring cell detected on the associated frequency to be applicable”?  => Last bullet 5 should not be else, but should be a separate independent condition and moved above the bullet 5 for the useWhiteCellList |  |
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#### 6.1 General

#### 5.5.4.2 Event A1 (Serving becomes better than threshold)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| N027 | Definitions of **Hys** and **Thresh** use the reference to reportConfigEUTRA while the correct one should be reportConfigNR. | 2 | Replace reportConfigEUTRA with reportConfigNR: "as defined within reportConfig~~EUTRA~~NR" |  |
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#### 5.5.4.3 Event A2 (Serving becomes worse than threshold)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| N028 | Definitions of **Hys** and **Thresh** use the reference to reportConfigEUTRA while the correct one should be reportConfigNR. | 2 | Replace reportConfigEUTRA with reportConfigNR: "as defined within reportConfig~~EUTRA~~NR" |  |
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#### 5.5.4.4 Event A3 (Neighbour becomes offset better than PCell/ PSCell)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z004 | In legacy LTE DC, the usePSCell can be set by MeNB to control the compared serving cell(i.e. PSCell or PCell), but in EN-DC, for SN configured measurement, usePSCell is not needed anymore, because only PSCell can be used for SN A3 measurement, and the usePSCelll is not supported in current ASN.1, so we can delete the relevant description.  In addition, considering it might be supported in NR-NR DC in the future release, we think it is future proof to keep the title of this section, but add the clear description for EN-DC case. | 2 | 5.5.4.4 Event A3 (Neighbour becomes offset better than PCell/ PSCell) The UE shall:  1> consider the entering condition for this event to be satisfied when condition A3-1, as specified below, is fulfilled;  1> consider the leaving condition for this event to be satisfied when condition A3-2, as specified below, is fulfilled;   1. in EN-DC, use the PSCell for Mp, Ofp and Ocp;   ~~1> if~~ ~~usePSCell of the corresponding reportConfig is set to true:~~  ~~2> use the PSCell for Mp, Ofp and Ocp;~~  ~~1> else:~~  ~~2> use the PCell for Mp, Ofp and Ocp;~~  NOTE The cell(s) that triggers the event is on the frequency indicated in the associated measObject which may be different from the frequency used by the PCell/ PSCell. |  |
| N029 | NOTE in Event A3 description refers to measObject while it should refer to measObjectNR. | 2 | Replace measObject with measObjectNR: "measObjectNR" |  |
| N030 | usePSCell is non-existent in ASN.1, but is referred to in the procedural text. | 2/3 | Introduce usePSCell parameter to reportConfigNR IE (needs discussion how exactly to do that). |  |
| N031 | The condition "1> if usePSCell of the corresponding reportConfig is set to true:" refers to reportConfig while it should refer to "reportConfigNR" | 2 | Replace reportConfig with reportConfigNR |  |

#### 5.5.4.5 Event A4 (Neighbour becomes better than threshold)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.5.4.6 Event A5 (PCell/ PSCell becomes worse than threshold1 and neighbour becomes better than threshold2)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z005 | Similar comments with A3 event | 2 | 5.5.4.6 Event A5 (PCell/ PSCell becomes worse than threshold1 and neighbour becomes better than threshold2) The UE shall:  1> consider the entering condition for this event to be satisfied when both condition A5-1 and condition A5-2, as specified below, are fulfilled;  1> consider the leaving condition for this event to be satisfied when condition A5-3 or condition A5-4, i.e. at least one of the two, as specified below, is fulfilled;   1. in EN-DC, use the PSCell for Mp, Ofp and Ocp;   ~~1> if usePSCell of the corresponding reportConfig is set to true:~~  ~~2> use the PSCell for Mp;~~  ~~1> else:~~  ~~2> use the PCell for Mp;~~  NOTE: The cell(s) that triggers the event is on the frequency indicated in the associated measObject which may be different from the frequency used by the PCell/ PSCell. |  |
| N032 | usePSCell is non-existent in ASN.1, but is referred to in the procedural text. | 2/3 | Introduce usePSCell parameter to reportConfigNR IE (needs discussion how exactly to do that). |  |
| N033 | The condition "1> if usePSCell of the corresponding reportConfig is set to true:" refers to reportConfig while it should refer to "reportConfigNR" | 2 | Replace reportConfig with reportConfigNR |  |
| N034 | NOTE in Event A5 description refers to measObject while it should refer to measObjectNR. | 2 | Replace measObject with measObjectNR: "measObjectNR" |  |

#### 5.5.4.7 Event A6 (Neighbour becomes offset better than SCell)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z006 | In EN-DC, from UE’s perspective, the SN PSCell can also be treated as a SCell, different from legacy LTE, it may be confused whether A6 can be configured by SN for intra-freq PSCell change? or only A3 event can be configured?  In order to avoid duplication of functions, we suggest that in EN-DC, only A3 event can be used to trigger intra-freq PSCell change, so we think an explicit note is needed to explain the usecase of A6 for EN-DC. | 2 | 5.5.4.7 Event A6 (Neighbour becomes offset better than SCell) The UE shall:  1> consider the entering condition for this event to be satisfied when condition A6-1, as specified below, is fulfilled;  1> consider the leaving condition for this event to be satisfied when condition A6-2, as specified below, is fulfilled;  1> for this measurement, consider the (secondary) cell that is configured on the frequency indicated in the associated measObjectNR to be the serving cell;  NOTE 1: The neighbour(s) is on the same frequency as the SCell i.e. both are on the frequency indicated in the associated measObject.  NOTE 2: In EN-DC, The cell(s) that triggers the event is on the frequency indicated in the associated measObject shall be different from the frequency used by the PSCell. |  |
| I037 | Editor’s Note: FFS Whether multiple trigger quantities is supported in Rel-15.  We prefer not to support and it is optimization. | 3 | We prefer not to support and it is optimization.  RAN2 AH: Discussed [R2-1800958](file:///C:\Data\3GPP\Extracts\R2-1800958-38331_CRxxxx-(REL-15).doc) |  |
| N035 | NOTE in Event A6 description refers to measObject while it should refer to measObjectNR. | 2 | Replace measObject with measObjectNR: "measObjectNR" |  |
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#### 5.5.5 Measurement reporting

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| N036 | In subsection 5.5.5.2, the word order in the parameter's name onlyReportBeamIds is a bit odd.   * The work "only" should be after "report"   "Ids" could be"IDs" | 2 | Rename to reportOnlyBeamID |  |
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#### 5.5.5.2 Reporting of beam measurement information

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I038 | 2> if the measurement information to be included is based on SS/PBCH block:  3> include within resultsSSB-Indexes the index associated to the best beam for that SS/PBCH block quantity and the remaining beams whose quantity is above absThreshSS-BlocksConsolidation defined in the VarMeasConfig for the corresponding measObject;  3> if onlyReportBeamIds is not configured, include the SS/PBCH based measurement results associated to each beam index;  2> else if the beam measurement information to be included is based on CSI-RS:  Suggest to reword to “if rsType set to ss:” and  Suggest to reword to “else if rsType set to csi-rs:” | 2 | Suggest to reword to “if rsType set to ss:” and  Suggest to reword to “else if rsType set to csi-rs:” | Issue was solved, not as suggested. Issue was discussed in meeting. |
| I039 | Editor’s Note: FFS which quantity to use for ordering beam measurement results.  Suggest to use RSRP | 2 | Suggest to use RSRP |  |
| H009 | Since RAN1 does not use the term beam, we prefer to use the SS/PBCH block indexes or CSI-RS index, instead of beam index. |  | For beam measurement information to be included in a measurement report the UE shall:  1> set rsIndexResults to include up to maxNrofRsIndexesToReport ~~beam indexes~~SS/PBCH block indexes or CSI-RS indexes in order of decreasing quantity as follows:  2> if the measurement information to be included is based on SS/PBCH block:  3> include within resultsSSB-Indexes the index associated to the best beam for that SS/PBCH block quantity and the remaining beams whose quantity is above absThreshSS-BlocksConsolidation defined in the VarMeasConfig for the corresponding measObject;  3> if onlyReportBeamIds is not configured, include the SS/PBCH based measurement results associated to each ~~beam index~~ SS/PBCH block index;  2> else if the beam measurement information to be included is based on CSI-RS:  3> include within resultsCSI-RSIndexes the index associated to the best beam for that CSI-RS quantity and the remaining beams whose quantity is above absThreshCSI-RS-Consolidation defined in the VarMeasConfig for the corresponding measObject;  3> if onlyReportBeamIds is not configured, include the CSI-RS based measurement results associated to each ~~beam index~~CSI-RS index; |  |
| S005 | Field onlyReportBeamIds is redundant (was commented serveral times before). Also related procedures should be removed | 2 | 1> set rsIndexResults to include up to maxNrofRsIndexesToReport beam indexes in order of decreasing quantity as follows:  2> if the measurement information to be included is based on SS/PBCH block:  3> include within resultsSSB-Indexes the index associated to the best beam for that SS/PBCH block quantity and the remaining beams whose quantity is above absThreshSS-BlocksConsolidation defined in the VarMeasConfig for the corresponding measObject;  ~~3> if onlyReportBeamIds is not configured, include the SS/PBCH based measurement results associated to each beam index;~~  2> else if the beam measurement information to be included is based on CSI-RS:  3> include within resultsCSI-RSIndexes the index associated to the best beam for that CSI-RS quantity and the remaining beams whose quantity is above absThreshCSI-RS-Consolidation defined in the VarMeasConfig for the corresponding measObject;  ~~3> if onlyReportBeamIds is not configured, include the CSI-RS based measurement results associated to each beam index;~~  [Ericsson] We disagree. It is unclear how would the UE know that it shall not include beam measurements in the reports but only the indexes. We have a paper explaining our reasoning in R2-1801333.  [Samsung] We so far did not agree to have an explicit indication. We think we should not introduce this explicit indication as the functionality can be can be achieved with beam reporting configured (i.e. maxNrofIndexesToReport present) but with all quantities absent (in reportQuantityRsIndexes)  => Aim to determine a simple rule to be used to determine the quantity to be used for determining the best beams to report by index only. Hence avoid the explicit indication onlyReportBeamIds. Offline discussion, Huawei (can be included in the offline on beam order sorting) | 1801333 (Ericsson) |

#### 5.6 UE capabilities

#### 5.6.1 UE capability transfer

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 5.7 Other

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| E026 | Sub-clause 5.6.1.4 is referred to from 36.331 for compilation of either supported CA band combinations or supported MR-DC band combinations, depending on the requested capabilities (for NR or for MR-DC).  It is however not described in 5.1.6.4 what type of band combinations that the UE should include in the compiled list. | 2 | Add in the procedure what type of band combinations the UE shall include in the complied list of band combinations, depending on what type of capabilities that are requested/provided.  ~~TP to be provided.~~  Ericsson: TP added. Class 3 change changed to Class 2  Add in the procedure what type of band combinations the UE shall include in the complied list of band combinations, depending on what type of capabilities that are requested/provided.  “The UE shall:  1>  if includes requestedFreqBandList:  2>  if the UECapabilityEnquiry includes a request for supported NR CA band combinations:  3~~2~~>      compile a list of supported NR CA band combinations, candidate for inclusion in the UECapabilityInformation message, only consisting of bands included in requestedFreqBandList, and prioritized in the order of requestedFreBandList, (i.e. first include remaining band combinations containing the first-listed band, then include remaining band combinations containing the second-listed band, and so on);  2>  else if the UECapabilityEnquiry includes a request for supported MR DC band combinations:  3>  compile a list of supported MR DC band combinations, candidate for inclusion in the UECapabilityInformation message, only consisting of bands included in requestedFreqBandList, and prioritized in the order of requestedFreBandList, (i.e. first include remaining band combinations containing the first-listed band, then include remaining band combinations containing the second-listed band, and so on);  2>  for each band combination included in the candidate list:  3>  if it is regarded as a fallback band combination with the same capabilities of another band combination included in the list of candidates as specified in TS 38.306 [xx]:  4>  remove the band combination from the list of candidates;  2>  include all band combinations in the candidate list into supportedBandCombination;  1>  else:  2> include all band combinations supported by the UE into supportedBandCombination, excluding fallback band combinations with the same capabilities of another band combination included in the list of band combinations supported by the UE.“  => No change needed  => Need to consider whether the prioritisation is clear on the case EN-DC where the band list has NR and LTE bands. |  |
| E027 | In sub-clause 5.1.6.4 there is a missing reference to where requestedFreqBandList may be included:  “The UE shall:  1> if includes requestedFreqBandList:”  The IE requestedFreqBandList, which seems to be called “FreqBandList” in 36.331 UECapabilityEnquiry, is not defined in this specification. | 2 | Add the missing message name where requestedFreqBandList is included. Since the sub-clause may be referred to from both E-UTRA (36.331) and from NR (38.331) it is however not clear what message that should be indicated here.  Add the definition of requestedFreqBandList in the specification (name to be coordinated with the name that is used in 36.331).  ~~TP to be provided.~~  Ericsson: TP added. Class 3 change changed to Class 2  Add the missing message name where requestedFreqBandList is included. Since the sub-clause may be referred to from both E-UTRA (36.331) and from NR (38.331) it is however not clear what message that should be indicated here.  “The UE shall:  1>  if UECapabilityEnquiry includes requestedFreqBandList:”  Add the definition of requestedFreqBandList in the specification (name to be coordinated with the name that is used in 36.331).  => Change senstence to "if requestedFreqBandList is received:" |  |
| E028 | In sub-clause 5.6.1.5, it is stated that the supportedBasebandProcessingCombination is compiled based on the band combinations in supportedBandCombination. It is however then not clear how the relations between the band combinations and baseband processing combinations are indicated.  “1> for each band combination included in supportedBandCombination:  2> include the baseband processing combination supported for the band combination into supportedBasebandProcessingCombination, unless it is already included;” | 4 | Need to be discussed. |  |
| I077 | 1> if includes requestedFreqBandList:  requestedFreqBandList is missing in ASN.1 part. Is the intention for the whole section targeting June? This part should be used for EN-DC. | 3 | Complete the subsection 5.6.1.4 and 5.6.1.5 | See Tdoc R2-1800911  See Tdoc R2-1801533 |
| N037 | 5.6.1.4 starts with: The UE shall: >if includes Related to N038, N045, N046 | 2 | Add to the condition 'if UECapabilityEnquiry includes'  RAN2 AH: Discussed [R2-1800831](file:///C:\Data\3GPP\Extracts\R2-1800831%20UE%20capability%20enquiry%20and%20reporting%20in%20NR%20RRC.docx) (UE capability enquiry/reporting in NR RRC [N.037, N.038, N.040, N.045, N.046, N.221, N.222]  Rap: Not for EN-DC | See Tdoc R2-1800831  ToDisc |
| N038 | UECapabilityEnquiry message does not exist in ASN.1, is referred by procedural text though  Related to N045, N046 | 3 | Add UECapabilityEnquiry in ASN.1 (if seend needed)  Nokia will provide a contribution on UE capabilities.  RAN2 AH: Discussed [R2-1800831](file:///C:\Data\3GPP\Extracts\R2-1800831%20UE%20capability%20enquiry%20and%20reporting%20in%20NR%20RRC.docx) (UE capability enquiry/reporting in NR RRC [N.037, N.038, N.040, N.045, N.046, N.221, N.222]  Rap: Not for EN-DC | See Tdoc R2-1800831 |
| N040 | 5.6.1.4 use 'supportedBandCombination' IE, which does not exist Related to N038, N045, N046 | 3 | Add UECapabilityInformation in ASN.1  Nokia will provide a contribution on UE capabilities.  RAN2 AH: Discussed [R2-1800831](file:///C:\Data\3GPP\Extracts\R2-1800831%20UE%20capability%20enquiry%20and%20reporting%20in%20NR%20RRC.docx) (UE capability enquiry/reporting in NR RRC [N.037, N.038, N.040, N.045, N.046, N.221, N.222] | See Tdoc R2-1800831 |
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#### 5.7.1 DL information transfer

Targeted for completion in June 2018.

#### 5.7.2 UL information transfer

Targeted for completion in June 2018.

#### 5.7.3 SCG failure information

#### 5.7.3.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| v020 | The figure is under clause 5.7.1, but the figure caption reflected 5.6.13.1-1 as follow.  Also, in the figure, In case of SRB3, the SCG failure information can be sent to en-gNB, so we think that RAN should be change to RAN/NR 5.7.3.1 General   Figure 5.6.13.1-1: SCG failure information | 2 | Correct the figure cation as follow 5.7.3.1 General EXISTING:    PROPOSED:    Figure 5.7~~6~~.~~1~~3.1-1: SCG failure information  Rap: Not implemented yet. |  |
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#### 5.7.3.2 Initiation

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M020 | Correct the reference section number. | 1 | 1> upon detecting radio link failure for the SCG, in accordance with subclause 5.3.11.3,  1> upon reconfiguration with sync failure of the SCG, in accordance with subclause 5.3.5.9.3,  1> upon stopping uplink transmission towards the SCG’s SpCell due to exceeding the maximum uplink transmission timing difference, in accordance with subclause x.x.x of TS 38.133 [xx]FFS\_Ref.  Editor’s Note: FFS on RAN1 decision on powerControlMode;  1> upon SCG configuration failure, in accordance with subclause 5.3.5.~~8~~9.2;  1> upon integrity check failure indication from SCG lower layers, in accordance with subclause 5.3.5.9.1~~3~~; |  |
| I040 | 2>           initiate transmission of the SCGFailureInformation message as specified in TS 36.331 [10, 5.6.13.3];  It should not be NR RRC initiating the LTE re-establishment. | 2 | Suggest:  >             inform the LTE RRC to initiate transmission of the SCGFailureInformation message as specified in TS 36.331 [10, 5.6.13.3];  RAN2 AH: RAN2 discussed [R2-1801208](file:///C:\Data\3GPP\Extracts\R2-1801208%20%20E110%20Clarification%20on%20UE%20configuration%20in%2038331.doc)  Rap:Other solution agreed. | See Tdoc R2-1800952 |
| L015 | It seems to be enough to say “include …in accordance with TS38.331” as in current LTE RRC in order to avoid describe all the interaction between LTE RRC and NR RRC. |  | 1> if the UE is operating in EN-DC:  2> determine the failure type in accordance with subclause 5.7.3.3;  ~~2> indicate the failure type information to the MCG RRC entity;~~  2> set the contents of FailureReportSCG-ToOtherRAT in accordance with subclause 5.7.3.4;  ~~2> indicate the FailureReportSCG-ToOtherRAT to the MCG RRC entity;~~  2> initiate transmission of the SCGFailureInformation message as specified in TS 36.331 [10, 5.6.13.3];  => Check offline also how this is captured in 36.331 to ensure they are consistent (L015)(Offline discussion 20, Ericsson)  => We aim to avoid specifying such interactions between RRC entities in the UE. |  |
| L016 | In some cases,T304 is not necessary. | 2 | 1> suspend SCG transmission for all SRBs and DRBs;  1> reset SCG-MAC;  1> stop T304, if running; |  |

#### 5.7.3.3 Failure type determination

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#### 5.7.3.4 Setting the contents of FailureReportSCGtoOtherRAT

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C013 | How does the UE set the contents of FailureReportSCGtoOtherRAT when there are two rsTypes configured for RRM measurement by SN. | 4 | We agreed:  The UE includes in the SCG Failure Information message the measurement results available according to current measurement configuration of both the MN and the SN.  However, there are two rsTypes for measurement configuration. Hence, there are two issues need to be confirmed for SCG failure report:   1. rsType of measurement results that are inluded in FailureReportSCGtoOtherRAT: only SSB, only CSI-RS, or both rsTypes 2. According to the statements in 5.7.3.4, UE would rank to find the best neighbor cell on serving frequency and set the content of neighbor cell reporting. If two rsTypes are included in FailureReportSCGtoOtherRAT, which rsType would the UE rank based on to find the best neighbor serving frequency cell and set the content of neighbor cell reporting?   [Ericsson] We don’t think there is an issue here. The SCG failure information message contains both an MN measurent part and an SN measurement part. The FailureReportSCGtoOtherRAT defined here is  Rap: May need to be revisited |  |
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#### 6 Protocol data units, formats and parameters (ASN.1)

#### 6.1.1 Introduction

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| D002 | How to use the BOOLEAN type | 2 | In current ASN.1, the BOOLEAN type is used for not only the mandatory IE but also for the optional IE. For example, the useWhiteCellList in ReportConfigNR is defined following:  useWhiteCellList BOOLEAN OPTIONAL  However it would be necessary to specify whether to indicate TRUE or FALSE in case of the IE is absent.Therefore it is proposed that **the BOOLEAN type should not be used for the optional IE**.  There are two ways to correct the above issue. One is to change presence to mandatory, the other is to change type to ENUMERATED which only be true with need code R. **Which one should we use?**  useWhiteCellList BOOLEAN ~~OPTIONAL~~  useWhiteCellList ~~BOOLEAN~~ENUMERATED {true} OPTIONAL -- Need R  **[vivo]**: We think BOOLEAN type should not be used for the optional IE  => We will use OPTIONAL ENUMERATED (TRUE). Note that OPTIONAL BOOLEAN may still need to be used in the case of extensions in future to avoid mandatory fields in extensions.  Rap: Agreement used generally. See N134. |  |
| N134 | It would be good to avoid same names for OPTIONAL parameters within the same SEQUENCE to avoid compiler issues. | 3 | This occurs with repeated, same name optional parameters within a SEQUENCE/CHOICE. Example:  eventA3       SEQUENCE {         a3-Offset                   MeasTriggerQuantityOffset,         reportOnLeave                BOOLEAN,         hysteresis                  Hysteresis,         timeToTrigger                TimeToTrigger,         useWhiteCellList             BOOLEAN                     OPTIONAL  },  eventA4       SEQUENCE {         a4-Threshold                MeasTriggerQuantity,         reportOnLeave                BOOLEAN,         hysteresis                  Hysteresis,         timeToTrigger                TimeToTrigger,         useWhiteCellList             BOOLEAN                     OPTIONAL  },  This causes a failure in compilation due to creating two functions with the same name. There are two possible solutions: either add an -Ax suffix for these parameters or replace each SEQUENCE by an EventAx type defined separately (i.e. within the main body of the SEQUENCE).  Currently, useWhiteCellList is the only instance of this problem in NR RRC.  **Nokia will provide a contribution on this.**  Rap: Implemented by making useWhiteCellList a mandatory BOOLEAN. See D002. | See Tdoc R2-1800832 |
| N136 | It would be good to avoid same names for OPTIONAL parameters within the same CHOICE to avoid compiler issues. | 3 | This occurs with choice structures with the same name under a given SEQUENCE/CHOICE. Example:         reportConfigType                           CHOICE {                periodic                                         SEQUENCE {                       reportSlotConfig                           CHOICE {                             sl5                                             INTEGER(0..4),                             sl10                                            INTEGER(0..9),                             sl20                                            INTEGER(0..19),                             sl40                                            INTEGER(0..39),                             sl80                                            INTEGER(0..79),                             sl160                                           INTEGER(0..159),                             sl320                                           INTEGER(0..319)                       },                       pucch-CSI-ResourceIndex                                  Type-FFS                },                semiPersistent                     SEQUENCE {                       reportSlotConfig                    CHOICE {                             sl5                                       INTEGER(0..4),                             sl10                                      INTEGER(0..9),                             sl20                                      INTEGER(0..19),                             sl40                                      INTEGER(0..39),                             sl80                                      INTEGER(0..79),                             sl160                                     INTEGER(0..159),                             sl320                                     INTEGER(0..319)                       },                       pucch-CSI-ResourceIndex                                  Type-FFS                },  Here the solution is to add a suffix to the variable name reportSlotConfig, for example -periodic and -semiPersistent  We found 3 cccurences for this: In reportSlotConfig, ri-Restriction, and profiles.  **Nokia will provide a contribution on this.**  **Rap: Not implemented yet** | See Tdoc R2-1800832 |
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#### 6.1.2 Need codes for optional downlink fields

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| D003 | Need codes are not yet included in the whole draft TS | 2 | For Measurement related section, DCM includes our proposal for the need codes in the draft CR. |  |
| N041 | What should be the need code for AddModList and ReleaseList fields and IEs? Do we use Need N or Need M? | 2 | On one hand, UE stores at least the AddModList contents (Need M), but never stores the ReleaseList (Need N). On the other hand, UE acts on the contents of the lists and stores information based on them (Need N). We propose to use Need M for AddModList and Need N for ReleaseList. Or then we use Need M for both (like in LTE RRC)  Rap: Generic text in accordance with the discussuion on R2-1800650 during the AH meeting. |  |
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#### 6.2 RRC messages

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| N265 | The NR RRC structure is not easy to follow - it might be worth trying to capture some diagrams in an (informative) annex | 4 | Discuss whether we need to capture something about the ASN.1 structure within annex.  Nokia will provide a contribution on this.  RAN2 AH: Discussed [R2-1800830](file:///C:\Data\3GPP\Extracts\R2-1800830%20Overall%20structure%20of%20NR%20RRC.docx)  Rap: Not agreed to capture structure in annex |  |
| N285 | Discuss whether we should keep the ASN.1 comments on fields or not. | 3 | Discuss whether we should try to keep the comments within ASN.1 as they do help understanding some parts, and what should then be captured in field descriptions  => We will remove the comments and where necessary field desciptions should be added  Rap: Not completed in draft CR |  |
| N298 | Using underscore in variable names causes some issues with ASN1C library (and possibly with some compilers, even) | 2 | Do not use underscore in field names - currently the FFS\_VALUE do that (but those should be removed), and the only other part is in SRS-Resource::freqHopping:        freqHopping                                                      SetupRelease { SEQUENCE {          c\_SRS                                  INTEGER (0..63),          b\_SRS                                  INTEGER (0..3),          b\_hop                                  INTEGER (0..3)      } }                                                                                                             OPTIONAL, -- Need M  Rap: Probably only remain for FFS\_VALUE |  |
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#### 6.2.1 General message structure

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – NR-RRC-Definitions

#### – BCCH-BCH-Message

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – DL-DCCH-Message

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| N045 | The DL-DCCH-Message and Section 5.6.1.4 refers to UECapabilityEnquiry message. The overall ASN.1 for the message is missing  **Related to N038, N046** | 3 | Add UECapabilityEnquiry or remove it from the message to have ASN.1 compile.  **Nokia will provide a contribution on UE capabilities.**  RAN2 AH: Discussed [R2-1800831](file:///C:\Data\3GPP\Extracts\R2-1800831%20UE%20capability%20enquiry%20and%20reporting%20in%20NR%20RRC.docx) (UE capability enquiry/reporting in NR RRC [N.037, N.038, N.040, N.045, N.046, N.221, N.222]  Not for EN-DC? | See Tdoc R2-1800831 |
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#### – UL-DCCH-Message

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| N046 | Section 5.6.1.4 refers to IEs that are supposed to be a content of UL message in response to UECapabilityEnquiry, while such message is not defined in UL  **Related to N038, N045** | 3 | This procedure is used by LTE RRC, but presumably also by NR RRC. Hence, maybe we need to add UECapabilityInformation (conveying suppportedBandCombinations according to 5.6.1.4)  **Nokia will provide a contribution on UE capabilities.**  RAN2 AH: Discussed [R2-1800831](file:///C:\Data\3GPP\Extracts\R2-1800831%20UE%20capability%20enquiry%20and%20reporting%20in%20NR%20RRC.docx) (UE capability enquiry/reporting in NR RRC [N.037, N.038, N.040, N.045, N.046, N.221, N.222]  Not for EN-DC? | See Tdoc R2-1800831 |
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#### 6.2.2 Message definitions

#### – MIB

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C014 | The agreements of pdcchConfigSIB1 are as below.  Consider pdcchConfigSIB1 (in MIB) as mandatory field and define one code-point (e.g. all-zeros) as “SIB1 not present”. | 2 | Remove FFS  ~~-- FFS: Make optional and omit e.g. in EN-DC or in other cells not broadcasting SIB1? Or make it mandatory to avoid optional fields in MIB?~~  pdcchConfigSIB1 INTEGER(0..255), | Done |
| C015 | Agreements (replace the WA from previous meeting that is not confirmed)  1: "cellBarred" IE (corresponding to "Information for quick identification that UE can't camp on the cell" in RAN1 LS) is present in the MIB and it has the same effect as the LTE "cellBarred" IE.  FFS Duration of the barring timer.  2: "intraFreqReselection" IE is present in the MIB and it has the same effect as the LTE "intraFreqReselection" IE  FFS Whetheradditional"cellBarred" and "intraFreqReselection" IEs are signalled in NR SIB1  The explanation of "cellBarred" IE and "intraFreqReselection" IE needs to be changed. | 2 | ~~-- Indicates that UE shall not campe on this cell~~  -- barred means the cell is barred, as defined in TS 36.304.  cellBarred ENUMERATED {barred, notBarred},  ~~-- Indicates that intraFreqReselection is not allowed when cellBarred is set to barred.~~  -- Used to control cell reselection to intra-frequency cells when the highest ranked cell is barred, or treated as barred by the UE, as specified in TS 36.304.  intraFreqReselection ENUMERATED{allowed, notAllowed},  [Ericsson] The reference should not be to 36.304, but to TS 38.304, with a reference to that specification. | Done |
| H010 | halfFrameIndex is missing | 2 | pdcchConfigSIB1                                                                                  INTEGER(0..255),  halfFrameIndex   INTEGER (0..1),  [Modified by Huawei: This issue is obviated by a decision from RAN1#91.  It can be ignored.] | no change |
| H011 | ssb-IndexExplicit is missing | 2 | pdcchConfigSIB1                                                                                  INTEGER(0..255),  halfFrameIndex   INTEGER (0..1),  ssb-IndexExplicit    INTEGER (0..7),  [Modified by Huawei: This issue is obviated by a decision from RAN1#91.  It can be ignored.] | no change |
| O14 | One typo within the notes, should be value instead of “alues”  -- Subcarrier spacing for SIB1, Msg.2/4 for initial access and SI-messages.  -- ~~Values~~If the UE acquires this MIB on a carrier frequency <6GHz, the alues 15 and 30 kHz are applicable ~~for~~. | 1 | Correct the typo, use “value”  -- Subcarrier spacing for SIB1, Msg.2/4 for initial access and SI-messages.  -- ~~Values~~If the UE acquires this MIB on a carrier frequency <6GHz, the values 15 and 30 kHz are applicable ~~for~~. | Done |
| D004 | The size of spare bits | 2 | 2 bits given that MIB payload is 24 bits according to the RAN1 agreement. | Done (based on L1 table) |
| H287 | It may be possible to increase the number of spare bits in MIB by optimising the structure | 3 | See separate contributions in R2-1801195 and R2-1801196. | No change |
|  |  |  | RAN2 AH: Discussed [R2-1801195](file:///C:\Data\3GPP\Extracts\R2-1801195%20On%20the%20size%20of%20MIB.doc) On the size of MIB Huawei, HiSilicon |  |
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#### – MeasurementReport

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I041 | Direction: UE to NG-RAN  Should be UE to network | 2 | Direction: UE to ~~NG-RAN~~ network  => Use 'network' for the direction for all Uu messages. |  |
| I042 | Do not we leave NCE for measurementReport? | 2 | -- TAG-MEASUREMENTREPORT-START  MeasurementReport ::= SEQUENCE {  criticalExtensions CHOICE {  measurementReport MeasurementReport-IEs,  criticalExtensionsFuture SEQUENCE {}  }  }  MeasurementReport-IEs ::= SEQUENCE {  measResults MeasResults,  nonCriticalExtension SEQUENCE{} OPTIONAL  -- FFSMEASUREMENTREPORT-STOP  Rap: Already captured in Class 1 CR. Can be closed as Agreed. |  |
| v025 | As in LTE, to save the signaling overhead in “MeasResultServFreq2NR”, we should use “ServCellIndex” instead of “ARFCN-ValueNR” for the carrierFreq, as the network knows the frequency of the serving cell. | 2 | MeasResultServFreq2NR ::= SEQUENCE {  carrierFreq ServCellIndex~~ARFCN-ValueNR~~,  measResultServingCell MeasResultNR,  measResultBestNeighServingCell MeasResultNR OPTIONAL  }  [Ericsson] In RAN2#99, we have an agreement:  3: The following measurements are included in SN part of SCGFailureInformation  - ARFCN value and NR serving cells and NR neighbour cells measurement results with a quality indicator (RSRP, RSRQ or equivalent).  Thus, **the ARFCN-ValueNR is the proper type** (so that the target SN can understand the measurement)  => No change needed |  |
| D005 | The non-critical extension fields are missing.  It is proposed to include not critical extension fields. | 2 | MeasurementReport-IEs ::= SEQUENCE {  measResults MeasResults,  -- FFS  lateNonCriticalExtension OCTET STRING OPTIONAL,  nonCriticalExtension SEQUENCE {} OPTIONAL  }  Rap: Same as I042. Already captured in Class 1 CR. Can be closed as Agreed. |  |

#### – RRCReconfiguration

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C016 | TypoNo need to maintain SN release list , if the IE is not present, UE should do nothing | 12 | RRCReconfiguration-IEs ::= secondaryCellGroupToAddModList{  -- Configuration of Radio Bearers (DRBs, SRBs) including SDAP/PDCP.  -- ~~In~~ In EN-DC this field may only be present if the RRCReconfiguration  -- is transmitted over SRB3.  radioBearerConfig RadioBearerConfig (SIZE (1..maxSecCellGroups)) OF CellGroupConfigsecondaryCellGroupToReleaseList SEQUENCE (SIZE (1..maxSecCellGroups)) OF CellGroupId OPTIONAL, -- Need ~~M~~N  Rap: Whole cell group config removed |  |
| I043 | Why is it that RadioBearerConfig is transmitted only on SRB3 and not as embedded NR message in LTE RRC message? | 2 | ~~-- In In EN-DC this field may only be present if the RRCReconfiguration~~  ~~-- is transmitted over SRB3.~~  radioBearerConfig RadioBearerConfig OPTIONAL, -- Need M  [Ericsson3] Disagree with the comment. RadioBearerConfig should be transmitted in the separate container and PDCP is configured there. There is also agreement related to this from Reno:  Agreement  1 For EN-DC for Dec 17, the UE behaviour will only be specified for the case that the embedded NR RRC PDU in the LTE RRRCConnectionReconfiguration includes secondaryCellGroupToAddModList and/or measConfig and nothing else.  => No change is needed |  |
| Z081 | In order have a futureproof design and provide the possibility for the efficient reconfiguration from SCG to MCG (i.e. without interruption to the data transfer over SCG), the cell group id of the MCG should be configurable, and a separate IE should be introduced to indicate the cell group id for the MCG. With this change, both the MCG andSCG will be configured by the same IE CellGroupToAddModList and there is no restriction that the MCG should always be the cell with ID0. | 4 | RRCReconfiguration-IEs ::= SEQUENCE {  -- Configuration of Radio Bearers (DRBs, SRBs) including SDAP/PDCP.  -- In In EN-DC this field may only be present if the RRCReconfiguration  -- is transmitted over SRB3.  radioBearerConfig RadioBearerConfig OPTIONAL, -- Need M  -- Configuration of primary and secondary cell groups (Dual Connectivity):  ~~masterCellGroupConfig CellGroupConfig~~  masterCellGroupID CellGroupId OPTIONAL, -- Need M  ~~secondary~~CellGroupToAddModList SEQUENCE (SIZE (1..maxSCellGroups)) OF CellGroupConfig OPTIONAL, -- Need M  ~~secondary~~CellGroupToReleaseList SEQUENCE (SIZE (1..maxSCellGroups)) OF CellGroupId OPTIONAL, -- Need M  measConfig MeasConfig OPTIONAL, -- Need M  lateNonCriticalExtension OCTET STRING OPTIONAL,  nonCriticalExtension SEQUENCE{} OPTIONAL  }  [**Ericsson4**] The procedures for handling the MCG are quite different from the ones for the secondary (relation to SI; security parameters; …). Therefore, we prefer the current structure.  RAN2 AH: Discused [R2-1800406](file:///C:\Data\3GPP\Extracts\R2-1800406%20Consideration%20on%20the%20configuration%20of%20cell%20group%20(RILNo%20Z081).docx). Further discussion also based on R2-1800837.  Rap: Updated based on agreement => The ASN.1 will includfe configuration of 1 single SCG. Alternative structure (such as Nokia proposal) can be discussed in the next meeting | ZTE will have a Tdoc for this issue at the upcoming meeting.  See [R2-1800406](file:///C:\Data\3GPP\Extracts\R2-1800406%20Consideration%20on%20the%20configuration%20of%20cell%20group%20(RILNo%20Z081).docx) |
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#### – RRCReconfigurationComplete

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M021 | Direction of NR RRC message should not to E-UTRAN. | 1 | The RRCReconfigurationComplete message is used to confirm the successful completion of an RRC connection reconfiguration.  Signalling radio bearer: SRB1 or SRB3  RLC-SAP: AM  Logical channel: DCCH  Direction: UE to Network~~E‑UTRAN~~ |  |
| I044 | Direction: UE to E-UTRAN  Should be UE to network | 2 | Direction: UE to ~~E-UTRAN~~ network |  |
| C017 | No EUTRAN, |  | Direction: UE to ~~E‑UTRAN~~Network |  |
| I045 | RRCReconfigurationComplete-IEs ::= SEQUENCE {  -- FFS  }  Add NCE for the message | 2 | nonCriticalExtension SEQUENCE{} OPTIONAL  -- FFS  } | See Tdoc R2-1800950  See Tdoc R2-1801535 |
| H012 | Based on current discussion, we don’t see any other parameters are needed in this message for now. Thus this message can be completed. | 2 | RRCReconfigurationComplete-IEs ::= SEQUENCE {  ~~-- FFS~~  lateNonCriticalExtension OCTET STRING OPTIONAL,  nonCriticalExtension SEQUENCE{} OPTIONAL  } |  |
| D006 | The non-critical extension fields are missing.  It is proposed to include not critical extension fields. | 2 | RRCReconfigurationComplete-IEs ::= SEQUENCE {  -- FFS  lateNonCriticalExtension OCTET STRING OPTIONAL,  nonCriticalExtension SEQUENCE {} OPTIONAL  } | Covered in the draft CR |
| N054 | Is the field masterCellGroupConfig needed for NSA at all? | 2 | Since NSA doesn't support standalone, perhaps we should remove the NR MCG configuration for now?  [Ericsson3] We prefer to keep that so that signalling structure is consistent and in order.  RAN2 AH: Discussion based on R2-1800837 (Setup, modification and release of EN-DC [N.054, N.056, N.057, N.214, N.218)  N214 and N218 missing.  Rap: MCG configuration removed | See Tdoc R2-1800837 |
| N056 | RRCReconfiguration – How do we remove masterCellGroupConfig. Or is it necessary? Probably OK to go to IDLE and setup new connection with en-dc. | 2 | If it is not OK to go to IDLE to remove MCG and setup eN-DC make masterCellGroupConfig releasable.  RAN2 AH: Discuaaion based on R2-1800837.  Rap: not valid anymore | See Tdoc R2-1800837  ToDisc |
| N057 | Stupid question: Is there need to have list of SCG? Why not just one? | 2 | If no need to have list of SCG then just a one SCG config should be included here.  RAN2 AH: Discuaaion based on R2-1800837.  Rap: list removed | See Tdoc R2-1800837 |
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#### – SIB1

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I046 | Editor’s Note: Discuss whether to keep SIB1 for the December version. FFS  SIB1 is unrelated to the completion of EN-DC, should be removed. | 2 | Remove the part related to SIB1 for now.  [Ericsson3] Disagree, we prefer to keep standlone parts also so that there is no need to delete/add them back and forth.  => No change needed |  |
| I047 | Add NCE for SIB1 | 2 | SIB1 ::= SEQUENCE {  -- FFS / TODO: Add other parameters.  -- Time domain positions of the transmitted SS-blocks in an SS-Burst-Set (see 38.213, section 4.1)  ssb-PositionsInBurst SEQUENCE {  -- Indicates the presence of the up to 8 SSBs in one group  inOneGroup BIT STRING (SIZE (8)),  -- For above 6 GHz: indicates which groups of SSBs is present  groupPresence BIT STRING (SIZE (8)) OPTIONAL -- Cond above6GHzOnly  },  …………………..  nonCriticalExtension SEQUENCE{} OPTIONAL  -- FFS  } |  |
| H013 | Keep SIB1? | 2 | Need to decide if we keep SIB1 (and add BCCH-DL-SCH-Message class) or delete it. Our preference would be to delete. |  |
| H014 | ssb-PeriodicityServingCell duplication | 2 | Introduce a common type for the two instances of ssb-PeriodicityServingCell (here and in ServingCellConfigCommon).  ssb-periodicityServingCell ~~ENUMERATED { ms5, ms10, ms20, ms40, ms80, ms160, spare1, spare2 }~~SSB-PeriodicityServingCell,  […]  SSB-PeriodicityServingCell ::= ENUMERATED { ms5, ms10, ms20, ms40, ms80, ms160, spare2, spare1 }  […]  [in ServingCellConfigCommon]  ssb-periodicityServingCell ~~ENUMERATED { ms5, ms10, ms20, ms40, ms80, ms160, spare1, spare2 }~~SSB-PeriodicityServingCell, |  |
| H015 | pucch-ConfigCommon is not needed | 2 | PUCCH-ConfigCommon is already included in UplinkConfigCommon, it doesn’t need to appear separately here.  pdcch-ConfigCommon PDCCH-ConfigCommon OPTIONAL~~,~~  ~~pucch-ConfigCommon PUCCH-ConfigCommon OPTIONAL~~ | See Tdoc R2-1800479 |
| H016 | tdd-UL-DL-ConfigurationSet2 is needed | 2 | Per RAN1 agreements, our understanding is tdd-UL-DL-ConfigurationSet2 should be signalled along with tdd-UL-DL-ConfigurationSet (same as in ServingCellConfigCommon).  tdd-UL-DL-configuration TDD-UL-DL-ConfigCommon OPTIONAL, -- Cond TDD  tdd-UL-DL-ConfigurationSet2 TDD-UL-DL-ConfigCommon OPTIONAL, -- Cond TDD |  |
| N274 | UplinkConfigCommon already contains BWP-UL, which contains (as mandatory element!) PUCCH-Config and PUCCH-ConfigCommon. But SIB1 also contains PUCCH-ConfigCommon as an optional element! So why do we need PUCCH-ConfigCommon at all separately? | 3 | Discuss if the PUCCH-ConfigCommon is needed here, or whether we should move UL BWP to another SIB.  [Qualcomm]: We think the field in UL BWP should be OPTIONAL. Once the field is optional, we think if UL BWP-specific parameters are included, that overrides the value included directly under SIB1. (i.e., outside of per-BWP specific parameters).  => Covered by earlier discussion |  |
| N266 | The size of SIB1 seems to be possible to be quite big (at least >1000 bits, but could be the same amount in octets, even) - something needs to be done to compact the size. One of the main reasons is the inclusion of UplinkConfigCommon in SIB1 for UL/SUL, which can grow to be quite big. | 3 | Discuss how to ensure SIB1 size is minimized. For example, do we really need the UL BWP information for UL/SUL in SIB1, or could those be moved to e.g. SIB2? Or do we create some limitations for the SIB1 BWP configurations?  Nokia will provide a contribution on this (note that this is not strictly related to EN-DC completion, but important to handle) | See Tdoc R2-1801519 |
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#### 6.3 RRC information elements

#### – SetupRelease Information Element

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I048 | It would be good to keep consistant across the spec, so far, some parts explist release/setup are used, for instance  PHR-Config ::= CHOICE {  release NULL,  setup SEQUENCE { | 2 | Keep consistance across the spec on release/setup structure |  |
| D007 | UplinkConfigCommon | 2 | The UplinkConfigCommon should be specified as a global IE as it is included in the other places (ServingCellConfigCommon). |  |
| N058 | It's not clear how to refer to the elements of SetupRelease in procedural text since A.3.8 has no mention on this. Presumably we use "setup" and "release" (just like before), but this is not fully clear in RRC text. | 2 | Add more verbose description:  "See A.3.8 for guidelines on how to use this IE in ASN.1 and in procedural text." For A.3.8, add the following guidance:  "In procedural text, a field defined using the parameterized SetupRelease type is referred to using the values defined for the type itself, namely, "setup" and "release". For example, procedural text for field-r15 above could be as follows: 1> if the field-r15 is set to "setup": 2> do something; 1> else (field-r15 is set to "release"): 2> release the field-r15 (if appropriate)"  => Change is agreed with addition of "If the field requires procedural text..." |  |
| N135 | There can be issues with SetupRelease used for unnamed types – any SEQUENCE wrapped with the SetupRelease should be defined explicitly. | 3 | This concerns all instances of the use of the SetupRelease parameterized type.  Below shows an example:                ssb-ToMeasure         SetupRelease {                       CHOICE {                             shortBitmap           BIT STRING (SIZE (4)),                             mediumBitmap          BIT STRING (SIZE (8)),                             longBitmap           BIT STRING (SIZE (64))                       }                }                                                             OPTIONAL      -- Need M  This may cause issues with some compilers (whereas some other compilers are completely fine with it).  The solution is to define a type SSB-ToMeasure and to use it in the parameterized type:                ssb-ToMeasure         SetupRelease { SSB-ToMeasure }              OPTIONAL      -- Need M  **Nokia will provide a contribution on this topic.** | See Tdoc R2-1800832 |
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#### 6.3.1 System information blocks

#### 6.3.2 Radio resource control information elements

#### – Alpha

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref | |
| D008 | | This section includes not only the radio resource control information elements but also the measurement information elements.  For readability, it is better to separate the section same as LTE. | 2 | It is proposed to add a new section for the measurement information elements and to move all the measurement information ementnts from this section.  6.3.2 Radio resource control information elements  6.3.3 Measurement information elements  6.3.~~3~~4 UE capability information elements  6.3.~~4~~5 Other information elements  => Already covered | No Change needed |
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#### – DRB-Identity

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| D009 | Regarding the DRB-ID range, it is different from LTE’s one. In EN-DC, since the DRB-ID is assigned by MeNB, it should be used the same range as LTE. | 2 | DRB-Identity ::= INTEGER (~~4~~1..32)  Moreover, it is necessary to change the structure of servedRadioBearer in CellGroupConfig. (See D006)  [Ericsson3] Agree with Docomo  RAN2 AH: Same issue as 015. | Done |
| O15 | Unaligned DRB-Identity value range in TS 36.331 and TS 38.331.  In TS 36.331, DRB-identity value is defined as follows: – DRB-Identity The IE DRB-Identity is used to identify a DRB used by a UE.  DRB-Identity information elements  -- ASN1START  DRB-Identity ::= INTEGER (1..32)  -- ASN1STOP  In TS 38.331, DRB-identity is defined as follows:  DRB-Identity information elements  -- ASN1START  -- TAG-DRB-IDENTITY-START  DRB-Identity ::= INTEGER (4..32)  -- TAG-DRB-IDENTITY-STOP  -- ASN1STOP | 3 | Propose to clarify this issue for EN-DC case, as for a split bearer, a commond DRB ID is used in MN and SN legs. Thus if in TS 36.331, DRB-Identity value starts from 1 but in SN leg DRB Identity start from 4, then 2 and 3 can not be allocated for split bearer. Here we assume DRB and SRB IDs are independent like LTE.  RAN2 AH: Discussed [R2-1800577](file:///C:\Data\3GPP\Extracts\38331_CRyyyy_(REL-15)_R2-1800577_CR%20on%20DRB%20ID%20Range%20for%20NR.docx) | See Tdoc R2-1800577  Done in D009 |
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#### – BandwidthPart-Config

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| I-No | Description | Class | | Details (proposed solution/ discussion) | | Status/ ref | |
| M022 | 1. Abbreviation of BWP can be used instead of bandwidthpart, just for IE alignment between different specs. 2. Generally, the name of the IEs for L1 parameters should be aligned with RAN1 specs. 3. New IE for BWP-pair-index is conditional optional for TDD. 4. There is no IE for location. The location and bandwidth for the BWP is jointly configured by one IE. | 1 | | 1. BandwidthPart-> BWP 2. Align the name of IE with RAN1 specs. 3. Add new IE BWP-pair-index for TDD. 4. Remove the IE location for BWP configuration.   **[Ericsson]**  1+2. Disagree: We tried use use descriptive names which one can still comprehend in a few weeks or years from now. The RAN1 names proposed in the L1 table are mostly not ASN.1 compliant and many are not comprehensible. Furthermore, for most of the parameters we added the corresponding RAN1 field name in the field description (currently ASN.1 comment). But we noticed that RAN1 also keeps changing their parameter names.  3. Disagree: As discussed in Reno and as explained in the field description of uplinkBandwidthPartsToReleaseList: ”In case of TDD uplink- and downlink BWP with the same bandwidthPartId are considered as a BWP pair and must have the same center frequency.” Hence, no additional field is needed. 🡺 Discuss based on H019 which proposes the same and also provide a TP.  4. Disagree: Maybe this comment was based on v1.0.0 (15.0.0) of the specification? In v1.0.1, there is just one common field: ”locationAndBandwidth”  **[Samsung]**  3. Agree: Current understanding of the same ID for BWP pair may restrict the flexible BWP configuration for the case of 2 DL BWPs and 1 UL BWP especially when they have the same center frequency. Please refer R2-1801467 for discussion.  => Covered by earlier discussions  [**Rap**]  1) ”BWP” abbreviation adopted already in class 1 CR  2) IE names generally not adopted to RAN1 names since most did not fulfill the ASN.1 requirements. Secondly, many RAN1 names weren't comprehensible/descriptive. But rapporteur will try to refer to RAN1 field name in field description.  3) RAN1 agreed not to introduce explicitl BWP pairs => We stick to the current structure where a pair comprises of UL- and DL BWP with same ID  4) This was already correctly coverd in 38.331 v1.0.1 | | All issues addressed | |
| I049 | Do we need to configure both firstActiveDownlinkBwp-Id and defaultDownlinkBwp-Id if bandwidthPartInactivityTimer is not configured? Seems not. | 2 | | if inactivitytimer expires (i.e. it is configured) but there is no defaultBWP configured, the UE switches to the initial BWP (only applicable to the NR SA and for PCell). If you agree, then how about the below comment?  If defaultBWP is not configured for SCells, the firstActiveBWP is considered as the default BWP (as this BWP is conditioned only on SCells, and can in a way be viewed as initial BWP for SCells).  **[Ericsson]** Could one go one step beyond and merge the firstActiveDownlinkBwp-Id and defaultDownlinkBwp-Id also for the case where the bandwidthPartInactivityTimeris configured?  **[Samsung]**  Optional configuration for timer-based BWP switching should be supported as DRX in LTE. Therefore, if default BWP is not configured for SCell, it should be understood that network does not support timer-based BWP configuration at the SCell. In that sense, BWP inactivity timer should be also not configured if default BWP is not configured. Please refer R2-1801467 including detail proposal. | | To discuss  **FFS for next meeting** | |
| Z009 | The configuration information for RACH and PUCCH should be optional, need R. PUSCH related information should be optional, need M. | 2 | | UplinkBandwidthPart ::= SEQUENCE {  genericParameters BandwidthPart, -- Frequency location of the uplink "direct current" frequency.  -- Corresponds to L1 parameter 'UL-BWP-DC'. (see 38.211, section FFS\_Section)  directCurrentLocation INTEGER (0..3299) OPTIONAL,  -- FFS\_CHECK: Several (UE specific) BWPs may be configured with RACH resources. Hence, they must be provided with  -- the information in RACH-ConfigCommon... even though it is in this case strictly speaking not a cell-specific parameter.  -- OK to keep or re-structure the RACH config?  rach-ConfigCommon RACH-ConfigCommon OPTIONAL, --Need R  pusch-ConfigCommon PUSCH-ConfigCommon OPTIONAL, --Need R  pusch-Config PUSCH-Config OPTIONAL, --Need M -- FFS: Is the PUSCH also BWP-specific??    pucch-ConfigCommon PUCCH-ConfigCommon OPTIONAL, --Need R  pucch-Config PUCCH-Config OPTIONAL --Need R  }  **[Ericsson]** We basically agree that these fields must be OPTIONAL but prefer Huawei's suggestion in ”H021” (SetupRelease {xxx} OPTIONAL, -- Need M) | | Duplicate of H021 | |
| M023 | 1. PDSCH, PDCCH, PUSCH and PUCCH is per BWP or per cell. | 1 | | 1. PDSCH, PDCCH, PUSCH and PUCCH is per BWP.   **[Ericsson]** Most of these IEs are already in the BWPs in v1.0.1. But as commented by other companies we had not yet moved PDSCH-Config and SRS-Config. | | Duplicate | |
| I050 | The below statement can be ambiguous:  The BandwidthPart-Config IE is used to configure a bandwidth part as defined in 38.211, section 4.2.2. Bandwidth parts are configured per serving cell for uplink (if the serving cell is configured with an uplink) and for downlink.  Change to:  The BandwidthPart-Config IE is used to configure a bandwidth part as defined in 38.211, section 4.2.2. Bandwidth parts are configured per serving cell for downlink and for uplink (if the serving cell is configured with an uplink). | 2 | | The below statement can be ambiguous:  The BandwidthPart-Config IE is used to configure a bandwidth part as defined in 38.211, section 4.2.2. Bandwidth parts are configured per serving cell for uplink (if the serving cell is configured with an uplink) and for downlink.  Change to:  The BandwidthPart-Config IE is used to configure a bandwidth part as defined in 38.211, section 4.2.2. Bandwidth parts are configured per serving cell for downlink and for uplink (if the serving cell is configured with an uplink) ~~and for downlink~~.  **[Ericsson]** Tend to disagree. In the original text the parathesis belongs unambiguously to the "serving cell for uplink” and not to the ”for downlink”. With the proposed change, the text in parathesis could apply to both. | | Not adopted/ not needed | |
| I051 | locationAndBandwidth cannot be optional  locationAndBandwidth INTEGER (1..65536) OPTIONAL, | 2 | | locationAndBandwidth INTEGER (1..65536) ~~OPTIONAL~~,  **[Ericsson]** We agree that the NW must configure this field when creating a new BWP. But if it just changes another parameter in the BandwidthPart, we could benefit from delta-signalling if this field is OPTIONAL -- Need M. Maybe RAN2 should discuss whether it is likely or allowed that the (few) other parameters in BandwidthPart are modified for an existing BWP.  => No change needed now, but all field need to be reviewed for OPTIONAL and need code. | | Not needed | |
| I052 | If the UL BWP has DC location, then how is the locationAndBandwidth interpreted? | 2 | | For the UL BWP how do DC location and locationAndBandwidth differ in providing the UL BWP location in PRB?  => Need to follow up wit RAN1 haw this field is used | | No change needed according to offline discussion. | |
| Q020 | RACH configuration: Some BWP may not have PRACH resources configured | 2 | | RACH configuration should be OPTIONAL in UplinkBandwidthPart IE.  UplinkBandwidthPart ::= SEQUENCE {  genericParameters BandwidthPart, -- Frequency location of the uplink "direct current" frequency.  -- Corresponds to L1 parameter 'UL-BWP-DC'. (see 38.211, section FFS\_Section)  directCurrentLocation INTEGER (0..3299) OPTIONAL,  -- FFS\_CHECK: Several (UE specific) BWPs may be configured with RACH resources. Hence, they must be provided with  -- the information in RACH-ConfigCommon... even though it is in this case strictly speaking not a cell-specific parameter.  -- OK to keep or re-structure the RACH config?  rach-ConfigCommon RACH-ConfigCommon OPTIONAL,  pusch-ConfigCommon PUSCH-ConfigCommon,  pusch-Config PUSCH-Config, -- FFS: Is the PUSCH also BWP-specific??    pucch-ConfigCommon PUCCH-ConfigCommon,  pucch-Config PUCCH-Config  } | | Duplicate: Already covered by Z009. | |
| H017 | Configuration of SUL BWPs is missing | | 2 | | Add:  supplementary-UL-BWP-ToReleaseList SEQUENCE (SIZE (1..maxNrofBandwidthParts)) OF BandwidthPartId OPTIONAL, -- CondSULconfigured  supplementary-UL-BWP-ToAddModList SEQUENCE (SIZE (1..maxNrofBandwidthParts)) OF UplinkBandwidthPart OPTIONAL, -- CondSULconfigured  **[Ericsson]** We agree that v1.0.1 does not allow configuring dedicated BWPs for UL. But we would prefer to add those differently than proposed by H017:  In ServingCellConfigCommon we configure the DL carrier, the UL carrier and optionally the SUL carrier. Both UL carriers use the type UplinkConfigCommon in which the frequencyInfoUL and the initialUplinkBandwidthPart are configured. So, the order is Cell=>Carrier=>BWP.  The structure proposed in H017 would result in a different order for ServingCellConfigDedicated: Cell=>BWP=>Carrier.  To ensure alignment, we suggest the following structure in ServingCellConfigDedicated (types, lists and comments omitted for better readability):  ServingCellConfig ::= SEQUENCE {  tdd-UL-DL-configurationDedicated TDD-UL-DL-Config OPTIONAL, -- Cond TDD  downlinkBandwidthPartsToReleaseList  downlinkBandwidthPartsToAddModList  firstActiveDownlinkBwp-Id  bandwidthPartInactivityTimer  defaultDownlinkBwp-Id  uplinkConfig UplinkConfig OPTIONAL,  supplementaryUplink SetupRelease { SEQUENCE {  uplinkConfigDedicated UplinkConfig  } } OPTIONAL, -- Need M  UplinkConfig ::= SEQUENCE {  uplinkBandwidthPartsToReleaseList  uplinkBandwidthPartsToAddModList  firstActiveUplinkBwp-Id  }  In this manner we would have the same order ”Cell=>Carrier=>BWP” both in ServingCellConfigCommon and in ServingCellConfig(Dedicated). **We will included this change also in our draft CR in E127 (R2-1801167)**.  RAN2 AH: Discussed [R2-1800749](file:///C:\Data\3GPP\Extracts\R2-1800749%20CR%20on%2038.331%20for%20support%20of%20SUL%20(ASN.1%20H017,%20H018,%20H021,%20H038,%20H208%20).doc) (CR on 38.331 for support of SUL (ASN.1 H017, H018, H021, H038, H208 ) ) | | See Tdoc R2-1800749  🡺 Covered as proposed in agreed baseline CR in R2-1801541 |
| H018 | Indication of first active UL should indicate whether it is UL BWP or SUL BWP | | 2 | | Add:  firstActiveUplinkCarrier ENUMERATED { uplink, supplementaryUplink },  **[Ericsson]** Is this intended to address this agreement: ”For contention based RA, if the network does not explicitly tell the UE which carrier to use, the UE shall perform UL selection based on the RSRP threshold as initial access.”? If so, it should maybe be in ServingCellConfigCommon=>supplementaryUplink? Any other suggestion?  RAN2 AH: Discussed [R2-1800749](file:///U:\Data\SVN\SWEA\Swea-L23\RAN2_100AH_Vancouver\Docs\R2-1800749.zip) (CR on 38.331 for support of SUL (ASN.1 H017, H018, H021, H038, H208 ) ) | | See Tdoc R2-1800749  🡺 Not needed with agreed baseline CR in R2-1801541 |
| H019 | Up to 4 bandwidth part pairs (DL + UL ID) can be configured for TDD. | | 2 | | Define:  BandwidthPartPair ::= SEQUENCE {  bandwidthPartPairId BandwidthPartPairId,  downlinkBandwidthPart BandwidthPartId,  uplinkBandwidthPart BandwidthPartId  }  Add:  bandwidthPartPairsToReleaseList SEQUENCE (SIZE (1..maxNrofBandwidthPartPairs)) OF BandwidthPartPairID OPTIONAL, -- Cond TDD  bandwidthPartPairsToAddModList SEQUENCE (SIZE (1..maxNrofBandwidthPartParis)) OF BandwidthPartPair OPTIONAL, -- Cond TDD  **[Ericsson]** Disagree: As discussed in Reno and as explained in the field description of uplinkBandwidthPartsToReleaseList: ”In case of TDD uplink- and downlink BWP with the same bandwidthPartId are considered as a BWP pair and must have the same center frequency.” Hence, no additional field is needed.  ***[Samsung]*** Agree: Current understanding of the same ID for BWP pair may restrict the flexible BWP configuration for the case of 2 DL BWPs and 1 UL BWP especially when they have the same center frequency.  => Can be discussed in offline discussion on BWP configuration. | | Covered in M022 |
| H020 | In BandwidthPart, subcarrierSpacing can take values n0 to n4 but in RAN1 sheet it is up to n5 | | 2 | | Add n5:  subcarrierSpacing ENUMERATED {n0, n1, n2, n3, n4, n5} OPTIONAL, | | Added in R2-1801591 |
| H021 | For UplinkBandwidthPart , "common" and "dedicated" resources may not include PUCCH or PUSCH depending on the configuration for SUL case. | | 2 | | Use Setup Release and OPTIONAL:  pusch-ConfigCommon SetupRelease {PUSCH-ConfigCommon} OPTIONAL,  pusch-Config SetupRelease {PUSCH-Config} OPTIONAL, -- FFS: Is the PUSCH also BWP-specific??    pucch-ConfigCommon SetupRelease {PUCCH-ConfigCommon},  pucch-Config SetupRelease {PUCCH-Config} OPTIONAL,  RAN2 AH: Discussed [R2-1800749](file:///C:\Data\3GPP\Extracts\R2-1800749%20CR%20on%2038.331%20for%20support%20of%20SUL%20(ASN.1%20H017,%20H018,%20H021,%20H038,%20H208%20).doc) (CR on 38.331 for support of SUL (ASN.1 H017, H018, H021, H038, H208 ) ) | | See Tdoc R2-1800749  Added in R2-1801591  To be checked whether some must never be released... not even when used for a dedciated BWP. |
| H022 | For UplinkBandwidthPart, there may not always be RACH resources for all UL BWPs | | 2 | | Add Setup Release and OPTIONAL:  rach-ConfigCommon SetupRelease {RACH-ConfigCommon} OPTIONAL, | | Added in R2-1801591 |
| H023 | According to RAN2 agreements:  “For reconfiguration with synchronisation or for SCell addition, one DL/UL BWP indicated in the RRC message is the active BWP until it is changed by DCI”,  The first active DL/UL BWPs configured in firstActiveDownlinkBwp-Id and firstActiveUplinkBwp-Id should not only be applicable to SCell but also to SpCell.  On the other hand, the first active DL/UL BWP shall be configured and shall only be configured when downlinkBandwidthPartsToAddModList/ uplinkBandwidthPartsToAddModList is configured for the first time for the serving cell. | | 3 | | -- ID of the downlink bandwidth part to be used upon MAC-activation of an SCell. If not provided, the UE uses the default BWP  firstActiveDownlinkBwp-Id BandwidthPartId OPTIONAL, -- Cond ~~SCellOnly~~FirstDLBWPConfig  -- ID of the uplink bandwidth part to be used upon MAC-activation of an SCell. ~~If not provided, the UE uses the FFS: default BWP~~  firstActiveUplinkBwp-Id BandwidthPartId OPTIONAL, -- Cond ~~SCellOnly~~FirstULBWPConfig  The corresponding explaination of those two conditions should be added.  **[Ericsson]** Should be discussed together with Intels proposal to merge some of these indicators I049. We should not over-optimize these things. | | **FFS to be discussed in next meeting** |
| H024 | For “ -- FFS: Conditions! What to do when certain fields or the entire bandwidth part is omitted? Assume parameters of the carrier instead?  -- Or use the initialBWP derived from SIB1 or ServingCellConfigCommon? Or make it mandatory to provide at least one BWP”, before the initial BWP configuration after initial access, the UE continues to use the initial DL/UL BWPs. | | 2 | | -- The UE uses the initial DL/UL BWPs derived from MIB/SIB1 or ServingCellConfigCommon before dedicated BWPs have not been configured in BandwidthPart-Config. ~~FFS: Conditions! What to do when certain fields or the entire bandwidth part is omitted? Assume parameters of the carrier instead?~~  ~~-- Or use the initialBWP derived from SIB1 or ServingCellConfigCommon? Or make it mandatory to provide at least one BWP.~~ | | Old comment removed as suggested. New comment not necessary with agreed new structure in R2-1801541. |
| H025 | For “-- FFS: May the NW change the default BWP with a regular RRC reconfiguration or only with Reconfiguration with sync?”, the default DL BWP can be changed with either a regular RRC reconfiguration or with Reconfiguration with sync. | | 2 | | ~~-- FFS: May the NW change the default BWP with a regular RRC reconfiguration or only with Reconfiguration with sync?~~ | | Covered in R2-1801591 |
| H026 | For “-- FFS: Whether to add a default uplink BWP”, the default uplink BWP is not needed. | | 2 | | ~~-- FFS: Whether to add a default uplink BWP~~  **[Ericsson]** If the DL falls back upon timer expiry but the UL does not, the UEs UL and DL BWPs would be different. If the UE then wants to send a RA, it could not unless it changes autonomously the UL BWP? It looks much clearer to let both fall back.  **[Samsung]**  If DL-UL BWP pair ID is configured, UE can switch the UL BWP paired with the default DL BWP upon BWP inactivity timer. A relevent corrections are proposed in R2-1801467.  => Can be discussed in offline discussion on BWP configuration. | | **FFS to be discussed in next meeting** |
| H027 | For “-- The duration in ms after which the UE falls back to the default Bandwidth Part. (see 38.321, section FFS\_Section)”, the section is 5.15. | | 2 | | -- The duration in ms after which the UE falls back to the default Bandwidth Part. (see 38.321, section ~~FFS\_Section~~5.15) | | Covered in R2-1801591 |
| H028 | For “ -- FFS: For TDD the UE switches also the paired uplink BWP to the one with the defaultDownlinkBwp-Id”, for TDD the UE should switch to the DL/UL BWP pair. The details have already been agreed by RAN1 and the procedure is specified in TS38.321. | | 2 | | ~~-- FFS: For TDD the UE switches also the paired uplink BWP to the one with the defaultDownlinkBwp-Id.~~ | | Covered in R2-1801591 |
| H029 | For “ -- FFS: For FDD the UE switches the uplink BWP????? If only DL is affected, consider moving it into the DownlinkBandwidthPart”, for FDD, the uplink BWP is not switched based on this timer. A relevant issue is whether the configuration of this timer needs to be BWP specfic. Although the timer can be started per BWP, it may not be necessary to configure different values for different BWPs. Therefore, we think it is fine to leave this configuration as it is. | | 2 | | ~~-- FFS: For FDD the UE switches the uplink BWP????? If only DL is affected, consider moving it into the DownlinkBandwidthPart~~  **[Ericsson]** If the DL falls back upon timer expiry but the UL does not, the UEs UL and DL BWPs would be different. If the UE then wants to send a RA, it could not unless it changes autonomously the UL BWP? It looks much clearer to let both fall back.  **[Samsung]**  If DL-UL BWP pair ID is configured, UE can switch the UL BWP paired with the default DL BWP upon BWP inactivity timer.  => Can be discussed in offline discussion on BWP configuration. | | (FFS removed since those details are covered in 38.321) |
| H030 | For “ -- FFS: RAN2 to discuss/confirm value range. RAN1 just suggested values from 1ms/0.5ms and up to about 50 ms.  -- FFS: Rapporteur adopted DRX inactivity timers as baseline”, from the instruction in R1-1721581, seems RAN1 suggesting “Granularity of the timer: 1 ms (subframe) for sub6, 0.5 ms (half-subframe) for mmWave”, so it is not the minimum value but the granularity being 0.5/1ms. But that granularity would make the configuration more bit-consuming. We are fine to follow RAN1 or discuss further. | | 3 | | Change the values to what RAN1 suggested, i.e. with the granularity of 0.5/1ms, or further discuss. Options could include INTEGER (1..50), INTEGER (1..100) with the real value being half the signalled value, or a more complex structure allowing different granularity in low and high ranges e.g. a CHOICE between low and high with different ranges for each. Could also consider a CHOICE between 1 ms granularity (sub6) and 0.5 ms granularity (>6).  -- FFS: RAN2 to discuss/confirm value range. RAN1 just suggested values from 1ms/0.5ms and up to about 50 ms.  -- FFS: Rapporteur adopted DRX inactivity timers as baseline.  -- When the network releases the timer configuration, the UE stops the timer without swithching to the default (FFS: and uplink?) BWP.  bandwidthPartInactivityTimer SetupRelease { ENUMERATED {  ms0dot5, ms1, ms2, ms3, ms4, ms5, ms6, ms8, ms10, ms20, ms30, ms40, ms50, ms60, ms80, spare}} OPTIONAL -- Need M    **[Ericsson]** A granularity of 1 or 0.5 ms across the entire range makes no sense to us. But we should allow for larger values as discussed in our contribution R2-1801134. | | See also Ericsson R2-1801134  **FFS: To be discussed in UP session**. |
| H031 | For the bandwidthPartId in IE BandwidthPart, as this IE is also used for initial DL/UL BWP, it should be clear whether the ID is needed for the initial BWPs. From the RAN1’s LS (and also based on inputs from our RAN1 colleagues), the ID is not needed for initial BWPs. | | 2 | | The ID does not need to be configured for the initial BWPs.  -- Parameters used in UplinkBandwidthPart and DownlinkBandwidthPart  BandwidthPart ::= SEQUENCE {  -- An identifier for this bandwidth part.  -- Corresponds to L1 parameter 'UL-BWP-index'. (see 38.211, 38.213, section 12)  -- The ID is absent for initial BWP configurations.  bandwidthPartId BandwidthPartId OPTIONAL, -- Need S  **[Ericsson]** Even if we don't configure it explicitly, we may have to specify that the initial BWP uses alywas a specific ID. This is necessary if there is any other configuration that links to a particular BWP. Such cases are e.g. in the CSI-RS framework. Hence, we cannot just remove the configuration if we don't fix other parts accordingly.  RAN2 AH Discussed [R2-1801484](file:///C:\Data\3GPP\Extracts\R2-1801484%20Discussion%20on%20initial%20active%20BWP%20ID%20%5bH031%5d.doc) | | Covered in R2-1801591 |
| H032 | The fields locationAndBandwidth and subcarrierSpacing should be mandatorily configured. | | 2 | | Remove “Optional” for fields locationAndBandwidth and subcarrierSpacing.  -- Parameters used in UplinkBandwidthPart and DownlinkBandwidthPart  BandwidthPart ::= SEQUENCE {  -- An identifier for this bandwidth part.  -- Corresponds to L1 parameter 'UL-BWP-index'. (see 38.211, 38.213, section 12)  bandwidthPartId BandwidthPartId,  -- Frequency domain location and bandwidth of this bandwidth part defined commonly in a table (FFS\_Section). It is represents the  -- distance in number of PRBs in relation to the lowest usable subcarrier defined by the scsSpecificCarrier  -- with the same subcarrier spacing as this BWP.  -- Corresponds to L1 parameter 'DL-BWP-loc'. (see 38.211, section FFS\_Section).  -- In case of TDD, a BWP-pair (UL BWP and DL BWP with the same bandwidthPartId) must have the same location (see 38.211, section REF)  -- FFS\_Value: RAN1 seems to discuss the final range.  locationAndBandwidth INTEGER (1..65536) ~~OPTIONAL~~,  -- Subcarrier spacing to be used in this BWP. It is applied to at least PDCCH, PDSCH and corresponding DMRS.  -- The values provided here are converted into a subcarrier spacing as indicated in 38.211, Table 4.1-2.  -- FFS: Isn't the SCS known from the SCS configured in the scsSpecificCarrier?  subcarrierSpacing ENUMERATED {n0, n1, n2, n3, n4} ~~OPTIONAL~~,  -- Indicates whether to use the extended cyclic prefix for this bandwidth part. If not set, the UE uses the normal cyclic prefix.  -- Normal CP is supported for all numerologies and slot formats. Extended CP is supported only for 60 kHz subcarrier spacing.  -- (see 38.211, section 4.2.2)  cyclicPrefix ENUMERATED { extended } OPTIONAL  }  **[Ericsson]** Mostly a duplicate of ”I051”. As we said there, we intended to have them OPTIONAL for the purpose of delta signalling (at least the locationAndBandwidth). | | Covered in R2-1801591 |
| H033 | SRS configuration is missing, propose to add it in UplinkBandwidthPart | | 2 | | Add  UplinkBandwidthPart  ::=         SEQUENCE {      genericParameters                BandwidthPart, -- Frequency location of the uplink "direct current" frequency. OPTIONAL,         -- Corresponds to L1 parameter 'UL-BWP-DC'. (see 38.211, section FFS\_Section)         directCurrentLocation        INTEGER (0..3299)                                                            OPTIONAL, -- Cond UplinkOnly      -- FFS\_CHECK: Several (UE specific) BWPs may be configured with RACH resources. Hence, they must be provided with      -- the information in RACH-ConfigCommon... even though it is in this case strictly speaking not a cell-specific parameter.      -- OK to keep or re-structure the RACH config?      rach-ConfigCommon                SetupRelease {RACH-ConfigCommon}                                          OPTIONAL,      pusch-ConfigCommon               SetupRelease {PUSCH-ConfigCommon}                                          OPTIONAL,      pusch-Config                     SetupRelease {PUSCH-Config}                                                OPTIONAL,             -- FFS: Is the PUSCH also BWP-specific??        pucch-ConfigCommon               SetupRelease {PUCCH-ConfigCommon},      pucch-Config                     SetupRelease {PUCCH-Config}                                            OPTIONAL,  srs-Config        SetupRelease {SRS-Config}                           OPTIONAL  } | | Covered in R2-1801591 |
| H034 | suo-duo-mode is missing | | 3 | | RAN1 parameter list shows this as CHOICE{dual,case1,case2}. A clear indication from the network is needed on the operation modes, and the UE capabilities need to be correctly captured. A separate contribution will be provided  **[Ericsson]** Yes, we missed it. One should note, though, that the UE can derive the use of SUO case 1 from the presence of a TDD UL/DL pattern (conveyed via LTE RRC). Therefore, the signalling details should be investigated a bit.  RAN2 AH: Disussed R2-1800748 | | See Tdoc R2-1800748  RAN2-AH2018-01 agreed that this is not needed |
| D010 | subcarrierSpacing | | 2 | | We’re wondering if “n5” is also included for future proofing although it is not supported in Rel-15. L1 parameter list seems to suggest to add “n5” as well. | | Duplicate of H020 |
| N061 | PDSCH-config should possibly be moved to DL BWP configuration | | 4 | | Discuss if PDSCH is part of DL BWP or common to serving cell | | Covered in R2-1801591  (in BWP) |
| N062 | Need codes are missing for most of the fields | | 2 | | Needs discusion on which need codes to use, most likely many are Need M  **[Ericsson]** And besides ”Need M” at least the higher level IEs should also have SetupRelease (as suggested by Huawei above). | | See TDoc R2-1800833  Covered in R2-1801591 |
| E127 | IEs with suffix “Common” inside IEs with suffix “Dedicated” and vice versa. | 4 | | Several high level IEs (e.g. PDCCH-Config, PUCCH-Config, RACH-Config, ...) had to be moved from the ServingCellConfigCommon and ServingCellConfigDedicated into the Bandwidth-Part related IEs.  Unfortunately, as a result there are now IEs with the suffix ”Common” (e.g. RACH-ConfigCommon, PDCCH-ConfigCommon, PUCCH-ConfigCommon, ...) inside the ServingCellConfigDedicated. While it is necessary to configure e.g. RACH resources (RACH-ConfigCommon) inside a dedicated bandwidth part, it breaks the well-established convention that the content of IEs with suffix ”Common” may only be changed in an ”RRCReconfiguration with sync” or by SCell removal/addition.  It is desirable to maintain at least the principle that IEs with suffix ”Common” contain parameters which are typically common to several UEs and can hence not be changed without affecting also other UEs. Secondly, IEs with the suffix ”Dedicated” should not contain any such parameters that are common to several UEs. A strict split as in LTE is unfortunately no longer possible.  We will provide a draft CR with the title ” E127 - Cleaning up Common vs. Dedicated” to highlight the changes since it affects quite many sections in 38.331 in TDoc R2-1801167. It will also address a couple of other corrections related to BWPs (as mentioned above). | | See TDoc R2-1801167  Covered in R2-1801591 | |
| N284 | Linking DL and UL BWPs: For TDD, UL and DL BWP lists may have different size (i.e. there is no 1-to-1 correspondence with UL and DL BWPs) --> either RRC or MAC has to provide the mapping. It's also not clear whether both BWP-index and center frequency should match for the paired BWPs with TDD. | 3 | | Discuss how we treat TDD and FDD for BWPs since they are slightly different. We could use CHOICE to have different structures to better show we need both UL and DL for TDD, whereas we may not need both for FDD always. | | | Duplicate of M022 and H19. Discuss based on th latter. |
| S034 | RLM-RS configuration should be per-BWP by the latest RAN1. There must be multiple way to capture RLM-RS. However the optimistic one is using BeamFailureDetectionConfig IE. | 3 | | Except RLM BLER threshold pair index, the other parameters i.e., RLM-RS is strongly related to the beam management RS. In RAN1, either part or all of CSI-RS for beam management can be reused for RLM. And each RS for beam management is per-BWP basis. Therefore we can use the BeamFailureDetectionConfig IE with conditional presence “SpCell config” which can reduce unnecessary RLM-RS configuration for all Scells. | | See Tdoc R2-1802485 | |

#### – CellGroupConfig

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M024 | The need code for “rlc-BearerToAddModList” and “rlc-BearerToReleaseList” are missed. It should be “Need M” | 1 | CellGroupConfig ::= SEQUENCE {  cellGroupId CellGroupId,  -- Logical Channel configuration and association with radio bearers:  rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF LCH-Config OPTIONAL, -- Need M  rlc-BearerToReleaseList SEQUENCE (SIZE(1..maxLCH)) OF LogicalChannelIdentity OPTIONAL, -- Need M  -- Parameters applicable for the entire cell group:  mac-CellGroupConfig MAC-CellGroupConfig OPTIONAL, -- Need M  rlf-TimersAndConstants RLF-TimersAndConstants OPTIONAL, -- Need M  physical-CellGroupConfig PhysicalCellGroupConfig OPTIONAL, -- Need M  -- Serving Cell specific parameters (PCell and SCells)  spCellConfig SpCellConfig OPTIONAL, -- Need M  sCellToAddModList SCellToAddModList OPTIONAL, -- Need M  sCellToReleaseList SCellToReleaseList OPTIONAL -- Need M  }  **[Ericsson]** Generally agree that need codes are missing. But for the release list it **should be ”N”** since the UE does not maintain the fields in this list. | M024  Done |
| I053 | It is unclear what the meaning is for servedRadioBearer. | 2 | Add file description to clarify the relationship betwee servedRadioBearer and SRB/DRB.  Value 1 is applicable for SRB1 only.  Value 2 is applicable for SRB2 only.  Value 3 is applicable for SRB3 only.  Value 4-32 are applicable for DRB only. Value 4 is corresponding to drb-Identity 4, Value 5 is corresponding to drb-Identity 5, and so on.  **[Ericsson]** We are not sure that any further clarification is needed. But if so, we would suggest referring to the SRB-Identity and the DRB-Identity...  -- The ID of the Radio Bearer which this logical channel is associated with. Values 1, 2 and 3 correspond to  -- an SRB-Identity. Values 4..32 correspond to a DRB-Identity:  servedRadioBearer INTEGER (1..32) OPTIONAL, -- Cond LCH-SetupOnly  ... or maybe even better: Change this to a CHOICE among DRB-Identity and SRB-Identity.  [Ericsson3] See D009. We prefer also the latter approacc as DRB-ID space should be 1..32 (as in LTE). |  |
| I054 | cellGroupid is mandatory present, but start from 1. However in procedure part, MCG is 0. How to set it for MCG configuration? | 2 | CellGroupId ::= INTEGER (~~1~~0.. maxSCellGroups) | Done |
| M025 | We suggest to add extension marker “…” in the IE “CellGroupConfig” so that it is easier be extended in the future. | 1 | CellGroupConfig ::= SEQUENCE {  cellGroupId CellGroupId,  -- Logical Channel configuration and association with radio bearers:  rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF LCH-Config OPTIONAL,  rlc-BearerToReleaseList SEQUENCE (SIZE(1..maxLCH)) OF LogicalChannelIdentity OPTIONAL,  -- Parameters applicable for the entire cell group:  mac-CellGroupConfig MAC-CellGroupConfig OPTIONAL, -- Need M  rlf-TimersAndConstants RLF-TimersAndConstants OPTIONAL, -- Need M  physical-CellGroupConfig PhysicalCellGroupConfig OPTIONAL, -- Need M  -- Serving Cell specific parameters (PCell and SCells)  spCellConfig SpCellConfig OPTIONAL, -- Need M  sCellToAddModList SCellToAddModList OPTIONAL, -- Need M  sCellToReleaseList SCellToReleaseList OPTIONAL -- Need M  ...  } | Done |
| Z010 | It is specified in RRC that "CellGroupConfig with cellGroupId 0 is used for the MCG." .However, the IE CellGroupId can not be used to indicate the ID 0 (CellGroupId ::= INTEGER (1.. maxSCellGroups)).  To indicate 0, we can either revise the range of IE CellGroupId or set the IE as optional (absence of this IE means 0). | 2 | CellGroupConfig ::= SEQUENCE {  cellGroupId CellGroupId  ……  }  It is proposed to revise the range of IE CellGroupId as follows:  CellGroupId ::= INTEGER (~~1~~0.. maxSCellGroups) | Done |
| I055 | secondaryCellGroupToAddModList SEQUENCE (SIZE (1..maxSCellGroups)) OF CellGroupConfig OPTIONAL, -- Need M  secondaryCellGroupToReleaseList SEQUENCE (SIZE (1..maxSCellGroups)) OF CellGroupId OPTIONAL, -- Need M  Do we want to support more than 1 SCellGroup for now? At least it would be good to clarify in Rel-15 only one SCell group. | 2 | Add field description on “cellGroupId” as  **cellGroupId**  In this version of specification, the cellGroupId can only be set as 0 and 1. | Done |
| I056 | No non-critical extensions for PhysicalCellGroupConfig | 2 | Add the below  PhysicalCellGroupConfig ::= SEQUENCE {  ……  nonCriticalExtension SEQUENCE{} OPTIONAL  -- FFS  }  Or atleast an extension marker ‘;;;’  PhysicalCellGroupConfig ::= SEQUENCE {  …  }  Same applied to spCellConfig as well. No extension markers for this IE. | Done |
| C018 | Add condition | 2 | rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF LCH-Config OPTIONAL, --need M  rlc-BearerToReleaseList SEQUENCE (SIZE(1..maxLCH)) OF LogicalChannelIdentity OPTIONAL, --need N | Covered by other item |
| C019 | Agreement: RLM configuration and RLF related timers and constants are located as part of the SpCell configuration information (therefore a separate configuration from RRM. FFS Value range for T310/T313  From the agreement, I understand that, the rlf-TimersAndConstants should be contained in the structure of the spCellConfig  As for the LCH-config should be algin to the definition of RLC bearer. | 2 | CellGroupConfig ::= SEQUENCE {  cellGroupId CellGroupId,  -- Logical Channel configuration and association with radio bearers:  rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF ~~LCH~~RlcBearer-Config OPTIONAL,  rlc-BearerToReleaseList SEQUENCE (SIZE(1..maxLCH)) OF LogicalChannelIdentity OPTIONAL,  -- Parameters applicable for the entire cell group:  mac-CellGroupConfig MAC-CellGroupConfig OPTIONAL, -- Need M  ~~rlf-TimersAndConstants RLF-TimersAndConstants OPTIONAL, -- Need M~~  physical-CellGroupConfig PhysicalCellGroupConfig OPTIONAL, -- Need M  -- Serving Cell specific parameters (PCell and SCells)  spCellConfig SpCellConfig OPTIONAL, -- Need M  sCellToAddModList SCellToAddModList OPTIONAL, -- Need M  sCellToReleaseList SCellToReleaseList OPTIONAL -- Need M  }  SpCellConfig ::= SEQUENCE {  -- Parameters for the synchronous reconfiguration to the target SpCell:  reconfigurationWithSync SEQUENCE {  spCellConfigCommon ServingCellConfigCommon,  newUE-Identity RNTI-Value,  t304 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000-v1310},  rach-ConfigDedicated RACH-ConfigDedicated OPTIONAL -- Need M  } OPTIONAL, -- Cond SpCellChange  spCellConfigDedicated ServingCellConfigDedicated  OPTIONAL -- Need M  rlf-TimersAndConstants RLF-TimersAndConstants OPTIONAL, -- Need M  }  [Samsung] We think the proposal is not illustrated correctly i.e. intention is that the line of rlf-TimersAndConstants in SpCellConfig IE should be  underlined.  [Ericsson3] See CR R2-1801206  Rap: Strikethrugh removed above. | Done |
| M026 | The cell group Id should be started with value 0 to conver the MCG configuration. | 1 | CellGroupId ::= INTEGER (~~1~~0.. maxSCellGroups) | Covered by other item |
| C020 | Unified naming rule and format. Algin to the definition of RLC bearer | 2 | ~~LCH~~RlcBearer-Config ::= SEQUENCE {  logicalChannelIdentity LogicalChannelIdentity,  -- Associate the logical channel with an SRB or a DRB:  servedRadioBearer INTEGER (1..32) OPTIONAL, -- Cond LCH-SetupOnly  reestablishRLC ENUMERATED {true} OPTIONAL, -- Need N  rlc-Config RLC-Config OPTIONAL, -- Cond LCH-Setup  mac-LogicalChannelConfig LogicalChannelConfig OPTIONAL -- Cond LCH-Setup  } | Done |
| M027 | In the enum of IE t304. It is not necessary to use ms10000-v1310, ms10000 is enough. | 1 | SpCellConfig ::= SEQUENCE {  -- Parameters for the synchronous reconfiguration to the target SpCell:  reconfigurationWithSync SEQUENCE {  spCellConfigCommon ServingCellConfigCommon,  newUE-Identity RNTI-Value,  t304 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000~~-v1310~~},  rach-ConfigDedicated RACH-ConfigDedicated OPTIONAL -- Need M  } OPTIONAL, -- Cond SpCellChange  spCellConfigDedicated ServingCellConfigDedicated OPTIONAL -- Need M  } | Covered by other item |
| M028 | UE does not maintain the “rach-ConfigDedicated” configuration while this IE is not present. The need code of this IE should be “Need S”. | 1 | SpCellConfig ::= SEQUENCE {  -- Parameters for the synchronous reconfiguration to the target SpCell:  reconfigurationWithSync SEQUENCE {  spCellConfigCommon ServingCellConfigCommon,  newUE-Identity RNTI-Value,  t304 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000-v1310},  rach-ConfigDedicated RACH-ConfigDedicated OPTIONAL -- Need ~~M~~S  } OPTIONAL, -- Cond SpCellChange  spCellConfigDedicated ServingCellConfigDedicated OPTIONAL -- Need M  }  **[Ericsson]** The action upon absence isn't specified. Hence, it should rather be ”N” as proposed in C021.  => Change to need N | Done |
| C021 | rach-ConfigDedicated is used for the reconfiguration with sync which containing the resources allocated for UE for CFRA, if not present ,UE should do nothing which should not be maitained. | 2 | SpCellConfig ::= SEQUENCE {  -- Parameters for the synchronous reconfiguration to the target SpCell:  reconfigurationWithSync SEQUENCE {  spCellConfigCommon ServingCellConfigCommon,  newUE-Identity RNTI-Value,  t304 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000-v1310},  rach-ConfigDedicated RACH-ConfigDedicated OPTIONAL -- Need ~~M~~N  } OPTIONAL, -- Cond SpCellChange  spCellConfigDedicated ServingCellConfigDedicated OPTIONAL -- Need M  } | Covered by other item |
| C022 | In 5.3.5.5.1 “CellGroupConfig with cellGroupId 0 is used for the MCG” so the range of the CellGroupId should be 0 to maxSCellGroups  And the restriction should be described in the present condtion or in the field descrption part | 2 | maxSecCellGroups)   |  | | --- | | CellGroupConfig field descriptions | | **logicalChannelIdentity**  The logical channel identity for both UL and DL. | | **cellGroupId**  The ID of the cell group,value 0 is only used for the MCG |   **[Ericsson]** We agree to add a field description. But we prefer to keep the parameter name ”maxSCellGroups” or to rename it to ” maxSecondaryCellGroups”. | Done |
| C023 | For SRB, rlc-Config and mac-LogicalChannelConfig may not be present if the corresonding LCH is being set up. | 2 | |  |  | | --- | --- | | LCH-Setup | The field is mandatory present if the corresponding LCH is being set up for DRB; otherwise it is optionally present, need M. | | Done |
| C024 | We agreed in RAN2#100:  Capture in the conditions the network restrictions that when security key change is performed, PDCP re-establishment as well as synchronised reconfiguration need to be triggered.  For security key change without SpCell change, it also need mandatory present. | 2 | |  |  | | --- | --- | | SpCellChange | The field is mandatory present in case of ~~SpCell change and~~ security key change; otherwise it is optionally present, need M. |   => Change is agreed. Also change the name of the condition to something reflecting the security key change. Also check if it is related to the offline discussion on security related conditions. | Condition not changed: The original text was correct, i.e., the reconfigurationWithSync is mandatory upon SpCell change. |
| C025 | As the UE can be configured with multi-BWPs, it is not clear which BWP is associtated with the rach –ConfigDedicated resources, a discussion should be raised up to make agreement about the BWP selection for UE during handover/PSCell change and clarified the association of the rach –ConfigDedicated and the selected BWP | 4 | SpCellConfig ::= SEQUENCE {  -- Parameters for the synchronous reconfiguration to the target SpCell:  reconfigurationWithSync SEQUENCE {  spCellConfigCommon ServingCellConfigCommon,  newUE-Identity RNTI-Value,  t304 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000-v1310},  rach-ConfigDedicated RACH-ConfigDedicated OPTIONAL -- Need M  } OPTIONAL, -- Cond SpCellChange  spCellConfigDedicated ServingCellConfigDedicated OPTIONAL -- Need M  }  **[Ericsson]** See corresponding discussion in IE ”BandwidthPart-Config”: This should be resolved by H023.  **[Samsung]** We think that a DL/UL BWP for RA during HO shoud be configured, however we discuss the name of the DL/UL BWP for example whether they are initial DL/UL BWP of the target cell. It is also discussed in our contribution R2-1801465. | FFS postponed to next meeting |
| H035 | The value range of CellGroupId should be (0..maxSCellGroups), since cellGroupId 0 is used for the MCG. | 2 | CellGroupId ::= INTEGER (~~1~~0.. maxSCellGroups) | Covered by other item |
| H036 | LCH-Config inlcudes rlc configuration and mac configuration. This IE actually is used for RLC bearer configuraion. So the IE name can be changed accordingly. | 2 | rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF ~~LCH-Config~~RLC-BearerConfig  ~~LCH-Config~~RLC-BearerConfig ::= SEQUENCE { | Covered by other item |
| H037 | The condition for sCellConfigCommon and sCellConfigDedicated looks confusion. ‘SCellAddMod’ looks like the IE is mandatory when scell is added or modified. | 2 | SCellConfig ::= SEQUENCE {  sCellIndex SCellIndex,  sCellConfigCommon ServingCellConfigCommon OPTIONAL, -- Cond SCellAddOnly  sCellConfigDedicated ServingCellConfigDedicated OPTIONAL, -- Cond SCellAdd~~Mod~~  }  And the conditional presence also needs to be updated accordingly.  => No change is needed | No Change |
| H038 | Allocation of CFRA resources on SUL for reconfiguration with sync is missing | 2 | Add within a CHOICE  SpCellConfig ::=                     SEQUENCE {      -- Parameters for the synchronous reconfiguration to the target SpCell:      reconfigurationWithSync          SEQUENCE {         spCellConfigCommon               ServingCellConfigCommon,         newUE-Identity                   RNTI-Value,         t304                             ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000-v1310},         rach-ConfigDedicated             CHOICE {             rach-ConfigDedicatedUL               RACH-ConfigDedicated,             rach-ConfigDedicatedSUL              RACH-ConfigDedicated         }                                                                                              OPTIONAL   -- Need M      }                                                                                                 OPTIONAL,  -- Cond SpCellChange      spCellConfigDedicated            ServingCellConfigDedicated                                            OPTIONAL   -- Need M  }  RAN2 AH: Discussed [R2-1800749](file:///C:\Data\3GPP\Extracts\R2-1800749%20CR%20on%2038.331%20for%20support%20of%20SUL%20(ASN.1%20H017,%20H018,%20H021,%20H038,%20H208%20).doc) (CR on 38.331 for support of SUL (ASN.1 H017, H018, H021, H038, H208 ) )  => Covered by discussion document | Covered in R2-1801591 |
| D011 | If D005 is approved, it should be used CHOICE structure for servedRadioBearer. | 2 | -- Configuration of one logical channel:  LCH-Config ::= SEQUENCE {  logicalChannelIdentity LogicalChannelIdentity,  -- Associate the logical channel with an SRB or a DRB:  servedRadioBearer CHOICE {~~INTEGER (1..32)~~  srb-Identity SRB-Identity,  drb-Identity DRB-Identity  } OPTIONAL, -- Cond LCH-SetupOnly  reestablishRLC ENUMERATED {true} OPTIONAL, -- Need N  rlc-Config RLC-Config OPTIONAL, -- Cond LCH-Setup  mac-LogicalChannelConfig LogicalChannelConfig OPTIONAL -- Cond LCH-Setup  }  => Change is agreed. | Done |
| L017 | In order to indicate MCG, Cell Grould ID should start from 0. | 2 | CellGroupId ::= INTEGER (~~1~~0.. maxSCellGroups) | Covered by other item |
| N070 | Shouldn't the CellGroupId start from zero to allow referring to MCG as well (e.g. UL assignment for split bearers needs that)? | 2 | Change to use zero as minimum value for CellGroupId, or introduce "SCellGroupId" separately. | Covered by other item |
| S006 | Field rlf-TimersAndConstants is misplaced i.e. should be specified as part of SpCellConfig IE | 2 | We agreed RLM config and RLF parameters are put in Spcell config. So, for RLF parameters, based on current 38.331 ASN.1 structure, we have to move rlf-TimersAndConstants IE from CellGroupConfig IE down to SpCellConfig IE.  -- Configuration of one Cell-Group:  CellGroupConfig ::= SEQUENCE {  cellGroupId CellGroupId,  -- Logical Channel configuration and association with radio bearers:  rlc-BearerToAddModList SEQUENCE (SIZE(1..maxLCH)) OF LCH-Config OPTIONAL,  rlc-BearerToReleaseList SEQUENCE (SIZE(1..maxLCH)) OF LogicalChannelIdentity OPTIONAL,  -- Parameters applicable for the entire cell group:  mac-CellGroupConfig MAC-CellGroupConfig OPTIONAL, -- Need M  ~~rlf-TimersAndConstants RLF-TimersAndConstants~~ OPTIONAL, -- Need M  physical-CellGroupConfig PhysicalCellGroupConfig OPTIONAL, -- Need M  -- Serving Cell specific parameters (PCell and SCells)  spCellConfig SpCellConfig OPTIONAL, -- Need M  sCellToAddModList SCellToAddModList OPTIONAL, -- Need M  sCellToReleaseList SCellToReleaseList OPTIONAL -- Need M  }  -- Serving cell specific MAC and PHY parameters for a SpCell:  SpCellConfig ::= SEQUENCE {  -- Parameters for the synchronous reconfiguration to the target SpCell:  reconfigurationWithSync SEQUENCE {  spCellConfigCommon ServingCellConfigCommon,  newUE-Identity RNTI-Value,  t304 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000-v1310},  rach-ConfigDedicated RACH-ConfigDedicated OPTIONAL -- Need M  } OPTIONAL, -- Cond SpCellChange  rlf-TimersAndConstants RLF-TimersAndConstants  spCellConfigDedicated ServingCellConfigDedicated OPTIONAL -- Need M  } | Covered by other item |
| S007 | The RLM configuration is missing and should be added in SpCellConfig IE | 4 | RLM configuration should be added in the same position as RLF parameters in SpCellConfig. This would cover thresholds for detecting ‘in sync’ and ‘out of sync’ as well as the RS configuration  **[Ericsson]** Yes, we forgot those since it wasn't entirely clear in the table whether they belong to Beam- or Cell-RLM. Furthermore, it needs to be seen whether/how the UE performs RLM/RLF prior to the initial configuration of these parameters. Is there a default configuration? Are there other timers?  [Samsung] At least, RAN1 agreed that the RLM-RS are to be provided using UE dedicated RRC signaling. And there was the default configuration only for BLER threshold indication in RAN1. We have a paper in R2-1801489, which could be a basis for the further discussion. | See Tdoc R2-1801489  **related TDoc not treated!?** |
| S008 | It should not be conditionally mandatory to provide RACH-ConfigDedicated upon change of SPCell | 2 | Condition to be updated to reflect that it is optional for network to provide dedicated RACH resources  **[Ericsson]** I assume you ended up in the wrong row. ”rach-ConfigDedicated” is currently optional with ” -- Need M”. As others said, it should be changed to ”Need N”. | Covered by other item |
| S009 | We think that upon change of SPCell, the current SPCell should be included in SCellToReleaseList (as in LTE) | 2 | The value range for the cells to be released as can be signalled in SCellToReleaseList should cover SPCell e.g. by using value 0 to indicate the SPCell  **[Ericsson]** First of all we should add the cell index in the SpCellConfig since RAN2 agreed last meeting that the cells of all cell groups should use a common number space. In that context we should also change the SCellIndex to ServCellIndex since it is not only used for SCells now:  -- Serving cell specific MAC and PHY parameters for a PCell or PSCell:  PCellConfig ::= SEQUENCE {  -- The serving cell ID for PCells of an SCG (the PCell of the Master Cell Group uses ID=0)  servCellIndex ServCellIndex OPTIONAL, -- Cond SCG  -- Parameters for the synchronous reconfiguration to the target PCell/PSCell:  synchronousReconfiguration SEQUENCE {  pCellConfigCommon ServingCellConfigCommon,  newUE-Identity C-RNTI,  t304 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000-v1310},  rach-ConfigDedicated RACH-ConfigDedicated OPTIONAL, -- Need N  } OPTIONAL, -- Cond HO  pCellConfigDedicated ServingCellConfigDedicated OPTIONAL, -- Need M  }  SCellToReleaseList ::= SEQUENCE (SIZE (1..maxNrofSCells)) OF ServCellIndex  SCellToAddModList ::= SEQUENCE (SIZE (1..maxNrofSCells)) OF SCellConfig  SCellConfig ::= SEQUENCE {  servCellIndex ServCellIndex,  sCellConfigCommon ServingCellConfigCommon OPTIONAL, -- Cond SCellAdd  sCellConfigDedicated ServingCellConfigDedicated OPTIONAL, -- Cond SCellAddMod  }  **[Ericsson]** But we don't necessarily see the benefit to allow removing the of the SpCell by listing its ID in the ”SCellToReleaseList”. One could argue that this allows chaning the SpCell to another cell. But it would also allow to mistakenly release the SpCell without creating a new one. Therefore, we think that the ID of the SpCell should only be chosen upon CellGroupCreation. Subsequently, the SpCellConfig can be changed (with sync) but its ID shall remain the same. | Added servCellIndex to SpCellConfig (as agreed at RAN2-100) but did not allow releasing the SPCell |
| E123 | Maximum LogicalChannelIdentity  See “TP for L2 parameter contents (email discussion [99bis#18][NR] L2 parameters in RRC)”, R2-1712578. | 2 | In CellGroupConfig, following change is done:  LogicalChannelIdentity ::= INTEGER (1..~~FFS~~maxLC-ID) | Done |
| S031 | SpCellConfig sub-field spCellConfigCommon is mandatory so needs to be provided whenever chaning a dedicated configuration parameter | 2 | Make the field optional or conditional i.e. provided at SPCell addition/ chanage  -- Serving cell specific MAC and PHY parameters for a SpCell:  SpCellConfig ::=                                SEQUENCE {        -- Parameters for the synchronous reconfiguration to the target SpCell:        reconfigurationWithSync                   SEQUENCE {              spCellConfigCommon                              ServingCellConfigCommon             OPTIONAL,   -- Cond SpCellChange              newUE-Identity                                  RNTI-Value,              t304                                            ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000-v1310},              rach-ConfigDedicated                      RACH-ConfigDedicated                                                                        OPTIONAL    -- Need M        }                                                                                                                                                                 OPTIONAL,   -- Cond SpCellChange        spCellConfigDedicated                     ServingCellConfigDedicated                                                                        OPTIONAL    -- Need M  } | Not needed: The entire reconfigurationWithSync is already conditioned! |
| S031 | SpCellConfig sub-field spCellConfigCommon is mandatory so needs to be provided whenever chaning a dedicated configuration parameter | 2 | Make the field optional or conditional i.e. provided at SPCell addition/ chanage  -- Serving cell specific MAC and PHY parameters for a SpCell:  SpCellConfig ::=                                SEQUENCE {        -- Parameters for the synchronous reconfiguration to the target SpCell:        reconfigurationWithSync                   SEQUENCE {              spCellConfigCommon                              ServingCellConfigCommon             OPTIONAL,   -- Cond SpCellChange              newUE-Identity                                  RNTI-Value,              t304                                            ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000-v1310},              rach-ConfigDedicated                      RACH-ConfigDedicated                                                                        OPTIONAL    -- Need M        }                                                                                                                                                                 OPTIONAL,   -- Cond SpCellChange        spCellConfigDedicated                     ServingCellConfigDedicated                                                                        OPTIONAL    -- Need M  } | Not needed: The entire reconfigurationWithSync is already conditioned! |
| S033 | Among RLM related parameters, only BLER threshold pair index can be locaated in SpCellConfig IE. | 3 | RLM-RS is configured per-BWP basis. Therefore, we had better split the RLM paramters into SpCell specific and BWP specific. The only parameter which is per SpCell is BLER threshold pair index. And the other BWP specific parameters should be located in BWP specific configuration IE for reducing redundancy. As for the BWP specific IE, we propose BeamFailureDetectionConfig IE. And We put S034 in that RIL item. Former S007 issue is partially covered in this new item. | See Tdoc R2-1802483 |

#### – CellIndexList

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – ControlResourceIndex

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#### – CrossCarrierSchedulingConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – CSI-MeasConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z012 | For the “resourceMapping” IE in CSI-IMResourceConfig, according to L1 parameter, two separate IEs could be introduced, and in our view, the value range [0..9] of subcarrier location is still open in RAN1 discussion, so we suggest to keep it FFS. | 2 | CSI-IM-Resource ::= SEQUENCE {  csi-IM-ResourceId CSI-IM-ResourceId,  -- The resource element pattern for the CSI-IM resource  -- Corresponds to L1 parameter 'CSI-IM-RE-pattern' (see 38.214, section 5.2.2.3.4)  csi-IM-ResourceElementPattern ENUMERATED {pattern2-2, pattern4-1},    -- OFDM symbol and subcarrier occupancy of the CSI-IM resource within a slot  -- Corresponds to L1 parameter 'CSI-IM-ResourceMapping' (see 38.214, section 5.2.2.3.4)  -- FFS\_Values: RAN1 indicated “symbol locations: [0..13] and subcarrier locations: [0..9]” 🡺 Should this be a bitmap of 9x13? Or two separate?  resourceMapping ~~ENUMERATED {ffsTypeAndValue}~~SEQUENCE {  symbolLocation INTEGER (0..13),  subcarrierLocation ENUMERATED {ffsTypeAndValue}  } OPTIONAL,  -- Frequency-occupancy of CSI-IM. Corresponds to L1 parameter 'CSI-IM-FreqBand' (see 38.214, section 5.2.2.3.2)  freqBand FFS\_Value OPTIONAL} | No change  (replaced by new L1 table entry) |
| Z013 | The value “ssb-RSRP” is missing in the value range of reportQuantity, and to be more concise, we suggest to modify the IE type and use an conditional IE for pdsch-BundleSizeForCSI. | 2 | -- Configuration of a CSI-Report sent on L1 (e.g. PUCCH) (see 38.214, section 5.2.1)  CSI-ReportConfig ::= SEQUENCE {  reportConfigId CSI-ReportConfigId,  ... ...  -- The CSI related quanities to report (see 38.214, section REF)  reportQuantity  ~~CHOICE {~~  ~~none NULL,~~  ~~cri-RI-PMI-CQI NULL,~~  ~~cri-RI-i1 NULL,~~  ~~cri-RI-i1-CQI SEQUENCE {~~  ~~-- PRB bundling size to assume for CQI calcuation when reportQuantity is CRI/RI/i1/CQI~~  ~~-- Corresponds to L1 parameter 'PDSCH-bundle-size-for-CSI' (see 38.214, section FFS\_Section)~~  ~~pdsch-BundleSizeForCSI ENUMERATED {n2, n4} OPTIONAL~~  ~~},~~  ~~cri-RI-CQI NULL,~~  ~~cri NULL,~~  ~~cri-RSRP NULL,~~    cri-RI-LI-PMI-CQI NULL  ~~}~~ENUMERATED {none, cri-RI-PMI-CQI, cri-RI-i1, cri-RI-i1-CQI, cri-RI-CQI, cri, cri-RSRP, ssb-RSRP, cri-RI-LI-PMI-CQI},  pdsch-BundleSizeForCSI ENUMERATED {n2, n4} OPTIONAL, --Cond CRI-RI-I1-CQI  ... ... | Missing value added.  Kept CHOICE for now. ENUMERATED can be considered if there are indeed no further parameters for the other cases. But no difference in signalling anyway. |
| Z014 | The value range of frequencyDomainAllocation in RAN1 L1 excel is “Starting subcarrier:  X = 1 port: no restriction  Y = 2: constrained to be one among even subcarriers in an RB  Y = 4: constrained to be one among subcarriers 0, 4, 8 in an RB”, it didn’t mean to use bitmap in ASN.1, , so we sugget to use the same coding method as firstOFDMSymbolTimeDomain. | 2 | -- OFDM symbol location(s) in a slot and subcarrier occupancy in a PRB of the CSI-RS resource  -- Corresponds to L1 parameter 'CSI-RS-ResourceMapping' (see 38.214, section 5.2.2.3.1)  resourceMapping SEQUENCE {  -- Frequency domain allocation within a physical resource block in accordance with 38.211, table 7.4.1.5.2-1.  -- The number of bits that may be set to one depend on the chosen row in that table.  frequencyDomainAllocation CHOICE {  row1 ~~BIT STRING (SIZE (4))~~INTEGER (0..15),  row2 ~~BIT STRING (SIZE (12))~~INTEGER (0..4095),  row4 ~~BIT STRING (SIZE (3))~~INTEGER (0..7),  other ~~BIT STRING (SIZE (6))~~INTEGER (0..63)  },  -- Time domain allocation within a physical resource block. The field indicates the first OFDM symbol in the PRB used for CSI-RS.  -- Value 2 is supported only when DL-DMRS-typeA-pos equals 3.  firstOFDMSymbolInTimeDomain INTEGER (0..13)  },  => Change is not needed | No change |
| Z015 | In 38.214 section 5.2.1.2 :“with each Resource Set consisting of CSI-RS resources (higher layer parameters NZP-CSI-RS-ResourceConfigList and CSI-IM-ResourceConfigList) and SS/PBCH Block resources used for L1-RSRP computation (higher layer parameter resource-config-SS-list).” It seems no restriction that ssbResouces can only be configured with NZPResouceSets, so the Cond should be removed. | 2 | CSI-ResourceConfig ::= SEQUENCE {  -- FFS: Where is the CSI-ResourceConfigId used?  csi-ResourceConfigId CSI-ResourceConfigId,  -- Contains up to maxNrofCSI-ResourceSets resource CSI-ReosurceSets if ResourceConfigType is 'aperiodic' and maxNrofCSI-ResourceSets otherwise.  -- Corresponds to L1 parameter 'ResourceSetConfigList' (see 38.214, section 5.2.1.3.1)  csi-RS-ResourceSets CHOICE {  nzp-CSI-RS-ResourceSets SEQUENCE (SIZE (1..maxNrofCSI-ResourceSets)) OF NZP-CSI-RS-ResourceSet,  csi-IM-ResourceSets SEQUENCE (SIZE (1..maxNrofCSI-ResourceSets)) OF CSI-IM-ResourceSet  },  -- List of SSB resources used for beam measurement and reporting in a resource set  -- Corresponds to L1 parameter 'SSBResourceMeasList' (see 38,214, section FFS\_Section)  ssb-Resources SEQUENCE (SIZE (1..maxNrofSSB-Resources-1)) OF CSI-SSB-Resource OPTIONAL, ~~--Cond OnlyWithNZPResourceSets~~  -- The DL BWP which the CSI-RS assocaited with this CSI-ResourceConfig are located in.  -- Corresponds to L1 parameter 'BWP-Info' (see 38.214, section FFS\_Section)  bandwidthPartId BandwidthPartId,  -- Time domain behavior of resource configuration. Corresponds to L1 parameter 'ResourceConfigType' (see 38.214, section 5.2.2.3.5)  resourceType CHOICE {  aperiodic NULL,  semiPersistent NULL,  periodic SEQUENCE {  -- For a target periodic CSI-RS, contains a reference to one TCI-RS-Set in TCI-States for providing the QCL source and  -- QCL type. For periodic CSI-RS, the source can be SSB or another periodic-CSI-RS.  -- Corresponds to L1 parameter 'QCL-Info-PeriodicCSI-RS' (see 38.214, section FFS\_Section)  qcl-InfoPeriodicCSI-RS TCI-RS-SetId OPTIONAL  }  }, | Not changed yet  (this is indeed wrong but the structure needs to be revised beyond this change) |
| Z016 | According to the description in 38.214 section 5.2.1.2: “Each Resource setting is located in the BWP identified by the higher layer parameter BWP-info, and all linked Resource Settings of a CSI Report Setting have the same BWP.” Which means a CSI-ReportConfig should be linked to one BWP, and the intention of BWPInfo in reportConfig is to represent the linked DL BWP, in this case, the explicit bandwidthPartId indication is not needed any more, UE can derive the associated BWP by the bandwidthPartId included in the linked CSI-ResourceConfig. | 2 | -- Configuration of a CSI-Report sent on L1 (e.g. PUCCH) (see 38.214, section 5.2.1)  CSI-ReportConfig ::= SEQUENCE {  reportConfigId CSI-ReportConfigId,  ... ...  -- Port indication for RI/CQI calculation. For each CSI-RS resource in the linked ResourceConfig for channel measurement,  -- a port indication for each rank R, indicating which R ports to use. Applicable only for non-PMI feedback.  -- Corresponds to L1 parameter 'Non-PMI-PortIndication' (see 38.214, section FFS\_Section)  non-PMI-PortIndication FFS\_Value OPTIONAL~~,~~  ~~-- Which DL BWP the CSI-ReportConfig is associated with. (see 38.214, section FFS\_Section)~~  ~~-- FFS\_CHECK: Should it be possible to link a report to several BWPs? If not, shouldn’t the report configuration be in the BWP?~~  ~~-- FFS\_CHECK: Should it be possible to link a report to the initial BWP? If so, which ID does that have?~~  ~~bandwidthPartId BandwidthPartId~~  OPTIONAL  } | No Change yet  (with the same reasoning one could also include the DL BWP-Id in the ReportConfig and save even more overhead) |
| Z017 | The CSI-ResourceConfigId is used in the configuration of CSI-MeasIdToAddMod. So the FFS(-- FFS: Where is the CSI-ResourceConfigId used?) can be deleted. | 1 | CSI-ResourceConfig ::= SEQUENCE {  ~~-- FFS: Where is the CSI-ResourceConfigId used?~~  csi-ResourceConfigId CSI-ResourceConfigId,  -- Contains up to maxNrofCSI-ResourceSets resource CSI-ReosurceSets if ResourceConfigType is 'aperiodic' and maxNrofCSI-ResourceSets otherwise.  -- Corresponds to L1 parameter 'ResourceSetConfigList' (see 38.214, section 5.2.1.3.1)  csi-RS-ResourceSets CHOICE {  nzp-CSI-RS-ResourceSets SEQUENCE (SIZE (1..maxNrofCSI-ResourceSets)) OF NZP-CSI-RS-ResourceSet,  csi-IM-ResourceSets SEQUENCE (SIZE (1..maxNrofCSI-ResourceSets)) OF CSI-IM-ResourceSet  }, | Covered in class 1 draft CR |
| Z018 | The CSI-ResourceSetId is referred at a couple of times, so the FFS (-- FFS: Where is the CSI-ResourceSetId used?) should be deleted | 1 | NZP-CSI-RS-ResourceSet ::= SEQUENCE {  ~~-- FFS: Where is the CSI-ResourceSetId used?~~  csi-ResourceSetId CSI-ResourceSetId, -- NZP-CSI-RS-Resources assocaited with this NZP-CSI-RS resource set.  -- Corresponds to L1 parameter 'CSI-RS-ResourceConfigList' (see 38.214, section 5.2)  -- FFS: Better make the csi-rs-Resources a common pool on CSI-MeasConfig level?  nzp-csi-rs-Resources SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-Resource,  -- Indicates whether repetition is on/off. Repetition on (off), means that The UE can (cannot) assume that  -- the network maintains a fixed TX beam over the resources in the set.  -- Corresponds to L1 parameter 'ResourceRep' (see 38.214, section FFS\_Section)  repetition BOOLEAN,  -- Offset X between the slot containing the DCI that triggers a set of aperiodic NZP CSI-RS resources and the slot in which the  -- CSI-RS resource set is transmitted. When the field is absent the UE applies the value 0.  -- Corresponds to L1 parameter 'Aperiodic-NZP-CSI-RS-TriggeringOffset' (see 38,214, section FFS\_Section)  -- FFS\_CHECK: Is this field at the correct place? Or should it be in the trigger configuration instead?  aperiodicTriggeringOffset FFS\_Value OPTIONAL  } | Covered in class 1 draft CR |
| M029 | SSBResourceMeasList (38.331) is not aligned with resource-config-SS-list (38.214). | 1 | -- List of SSB resources used for beam measurement and reporting in a resource set  -- Corresponds to L1 parameter '~~SSBResourceMeasList~~resource-config-SS-list' (see 38,214, section FFS\_Section)  ssb-Resources SEQUENCE (SIZE (1..maxNrofSSB-Resources-1)) OF CSI-SSB-Resource OPTIONAL, --Cond OnlyWithNZPResourceSets | Done |
| Z019 | 1. Per RAN1’s input, up to maximum 128 reportTrigger can be configured. So a list of reportTrigger should be defined.  2. Per RAN1’s most updated input, for aperiodic trigger, each ReportConfig in each trigger state is linked to one or two or three P/SP/AP CSI-RS resource setting(s). If a resource setting linked to a ReportConfig has multiple aperiodic resource sets and only a subset of the aperiodic resource sets is associated with the trigger state, a bitmap (with the bitwidth Nbit =number of resource sets in a resource setting. Number of one(s) in the bitmap None = 1 (FFS on 2) for CSI acquisition) is RRC configured per trigger state per resource setting to select CSI-IM/NZP CSI-RS resource set(s) from the resource setting.  The current aperiodic type in reportTrigger doesn’t reveal the above features correctly, including the following aspects:   1. . Each ReportConfig should be linked to up to 3 resource settings instead of linked to resource set directly. 2. . The associated ResourceSets (corresponding to L1 parameter 'ResourceSetBitmap') for each linked resource setting for each resource setting is a bitmap with bitwidth 16.   Two possible approaches are provided.  3. With the modification of the bullet1 above, the qcl-Info-aPeriodicReportingTrigger (corresponding to RAN1 parameter QCL-Info-aPeriodicReportingTrigger: For a trigger state within aperiodicReportTrigger that triggers a ap-CSI-RS resource set, contains a list of references to TCI-RS-SetConfig's in TCI-States for providing the QCL source and QCL type for each ap-CSI-RS resource within the triggered set of ap-CSI-RS resources. The length of the list is equal to the number of ap-CSI-RS resources in the set (CSI-RS-ResourceSetConfig)) is configured per resource set, so the place of the IE should be changed correspondingly, i.e. to be associated to each resource set.  4. aperiodicTriggeringOffset (corresponding to RAN1 parameter Aperiodic-NZP-CSI-RS-TriggeringOffset: Offset X between the slot containing the DCI that triggers a set of aperiodic NZP CSI-RS resources and the slot in which the CSI-RS resource set is transmitted.): the IE is applied only for AP CSI-RS resource. Considering that the IE is used only if an AP CSI-RS resource is included in the report trigger, we think it can be moved into to the aperiodic configure of the reportTrigger.  A paper will be prepared by ZTE on this aspect. | 3 | Approach 1:  reportTriggers SEQUENCE(SIZE(1..maxNrofreportTriggers)) OF reportTrigger  reportTrigger SEQUENCE {  aperiodic SEQUENCE {  -- The CSI-ReportCongig (their IDs) assocaited with this reportTrigger  associatedReportConfigs SEQUENCE (SIZE (1..maxNrofReportConfigIdsPerTrigger)) OF CSI-ReportConfigId,  --the associated ResourceConfigs for each ReportConfig  associatedResourceConfigs SEQUENCE(SIZE (1..maxNrofReportConfigIdsPerTrigger)) OF associatedResourceConfig  --each ReportConfig is linked to one or two or three P/S/AP CSI-RS resource settings.  associatedResourceConfig SEQUENCE(SIZE (1..3)) OF associatedResourceInfor  associatedResourceInfor SEQUENCE{  csi-ResourceConfigId CSI-ResourceConfigId,  --bitmap with the bitwidth Nbit =number of resource sets (max number Nbit =16)  --in a linked resource setting per report trigger state.  -- Number of one(s) in the bitmap None = 1 for CSI acquisition and beam management  AssociatedResourceset BIT STRING (SIZE (16))  -- For a trigger state within aperiodicReportTrigger that triggers a ap-CSI-RS  --resource set, contains a list of  -- references to TCI-RS-SetConfig's in TCI-States for providing the QCL source and  --QCL type for each ap-CSI-RS  -- resource within the triggered set of ap-CSI-RS resources. The length of the  --list is equal to the number of  -- aperiodic CSI-RS resources in the set (CSI-RS-ResourceSet). For a target  --aperiodic CSI-RS assoicated with each  -- triggering state, contains a reference to one TCI-RS-Set in TCI-States for  --providing the QCL source and QCL type.  -- Corresponds to L1 parameter 'QCL-Info-aPeriodicReportingTrigger' (see 38.214, section FFS\_Section)  qcl-Info-aPeriodicReportingTrigger SEQUENCE (SIZE(1..ffsValue)) OF TCI-RS-SetId OPTIONAL  -- Offset X between the slot containing the DCI that triggers a set of aperiodic --NZP CSI-RS resources and the slot in which the  -- CSI-RS resource set is transmitted. When the field is absent the UE applies  --the value 0.  aperiodicTriggeringOffset FFS\_Value OPTIONAL    ~~-- bitmap with the bitwidth Nbit =number of resource sets (max number Nbit = 64) in a linked resource setting per report trigger tate.~~  ~~-- Number of one(s) in the bitmap None = 1 for CSI acquisition (FFS 1<= None <= 64 for beam management).~~  ~~-- FFS: To enforce the number of linked resources, the linking information should instead be in the report that uses the resource~~  ~~-- Corresponds to L1 parameter 'ResourceSetBitmap' (see 38.214, section FFS\_Section)~~  ~~-- FFS\_FIXME: The following list assumes that all NZP- and IM resource sets use a common ID space. But that is not ensured~~  ~~-- due to having separate lists of sets.~~  ~~associatedResourceSets SEQUENCE (SIZE (1..64)) OF CSI-ResourceSetId~~ OPTIONAL,  ~~-- For a trigger state within aperiodicReportTrigger that triggers a ap-CSI-RS resource set, contains a list of~~  ~~-- references to TCI-RS-SetConfig's in TCI-States for providing the QCL source and QCL type for each ap-CSI-RS~~  ~~-- resource within the triggered set of ap-CSI-RS resources. The length of the list is equal to the number of~~  ~~-- aperiodic CSI-RS resources in the set (CSI-RS-ResourceSet). For a target aperiodic CSI-RS assoicated with each~~  ~~-- triggering state, contains a reference to one TCI-RS-Set in TCI-States for providing the QCL source and QCL type.~~  ~~-- Corres~~ponds to L1 parameter 'QCL-Info-aPeriodicReportingTrigger' (see 38.214, section FFS\_Section)  ~~qcl-Info-aPeriodicReportingTrigger SEQUENCE (SIZE(1..ffsValue)) OF TCI-RS-SetId OPTIONAL~~  },  semiPersistentOnPUSCH SEQUENCE {  associatedReportConfig CSI-ReportConfigId  }  }  Approach 2:  reportTriggers SEQUENCE(SIZE(1..maxNrofreportTriggers)) OF reportTrigger  reportTrigger SEQUENCE {  aperiodic SEQUENCE {  -- The CSI-ReportConfig associated with this reportTrigger  associatedReportConfigs SEQUENCE (SIZE (1..maxNrofReportConfigIdsPerTrigger)) OF associatedReportConfig  associatedReportConfig SEQUENCE{  csi-ResourceConfigId CSI-ResourceConfigId,  associatedResourceConfigs SEQUENCE(SIZE (1..3)) OF associatedResourceConfig  associatedResourceConfig SEQUENCE{  csi-ResourceConfigId CSI-ResourceConfigId,  --bitmap with the bitwidth Nbit =number of resource sets (max number Nbit =16)  --in a linked resource setting per report trigger state.  -- Number of one(s) in the bitmap None = 1 for CSI acquisition and beam management  AssociatedResourceset BIT STRING (SIZE (16))    -- For a trigger state within aperiodicReportTrigger that triggers a ap-CSI-RS  --resource set, contains a list of  -- references to TCI-RS-SetConfig's in TCI-States for providing the QCL source and  --QCL type for each ap-CSI-RS  -- resource within the triggered set of ap-CSI-RS resources. The length of the  --list is equal to the number of  -- aperiodic CSI-RS resources in the set (CSI-RS-ResourceSet). For a target  --aperiodic CSI-RS assoicated with each  -- triggering state, contains a reference to one TCI-RS-Set in TCI-States for  --providing the QCL source and QCL type.  -- Corresponds to L1 parameter 'QCL-Info-aPeriodicReportingTrigger' (see 38.214, section FFS\_Section)  qcl-Info-aPeriodicReportingTrigger SEQUENCE (SIZE(1..ffsValue)) OF TCI-RS-SetId OPTIONAL  -- Offset X between the slot containing the DCI that triggers a set of aperiodic --NZP CSI-RS resources and the slot in which the  -- CSI-RS resource set is transmitted. When the field is absent the UE applies  --the value 0.  aperiodicTriggeringOffset FFS\_Value OPTIONAL  }    }  ~~-- The CSI-ReportCongig (their IDs) assocaited with this reportTrigger~~  ~~associatedReportConfigs SEQUENCE (SIZE (1..maxNrofReportConfigIdsPerTrigger)) OF CSI-ReportConfigId,~~  ~~-- bitmap with the bitwidth Nbit =number of resource sets (max number Nbit = 64) in a linked resource setting per report trigger tate.~~  ~~-- Number of one(s) in the bitmap None = 1 for CSI acquisition (FFS 1<= None <= 64 for beam management).~~  ~~-- FFS: To enforce the number of linked resources, the linking information should instead be in the report that uses the resource~~  ~~-- Corresponds to L1 parameter 'ResourceSetBitmap' (see 38.214, section FFS\_Section)~~  ~~-- FFS\_FIXME: The following list assumes that all NZP- and IM resource sets use a common ID space. But that is not ensured~~  ~~-- due to having separate lists of sets.~~  ~~associatedResourceSets SEQUENCE (SIZE (1..64)) OF CSI-ResourceSetId OPTIONAL,~~  ~~-- For a trigger state within aperiodicReportTrigger that triggers a ap-CSI-RS resource set, contains a list of~~  ~~-- references to TCI-RS-SetConfig's in TCI-States for providing the QCL source and QCL type for each ap-CSI-RS~~  ~~-- resource within the triggered set of ap-CSI-RS resources. The length of the list is equal to the number of~~  ~~-- aperiodic CSI-RS resources in the set (CSI-RS-ResourceSet). For a target aperiodic CSI-RS assoicated with each~~  ~~-- triggering state, contains a reference to one TCI-RS-Set in TCI-States for providing the QCL source and QCL type.~~  ~~-- Corresponds to L1 parameter 'QCL-Info-aPeriodicReportingTrigger' (see 38.214, section FFS\_Section)~~  ~~qcl-Info-aPeriodicReportingTrigger SEQUENCE (SIZE(1..ffsValue)) OF TCI-RS-SetId~~  OPTIONAL  },  semiPersistentOnPUSCH SEQUENCE {  associatedReportConfig CSI-ReportConfigId  }  }  [**Ericsson4**] Having a 3-level structure of resources and parallel 3-level structure for reportTriggers and another list of the meas-links makes this very difficult to follow and extend. We suggested in the email discussion to incorporatee the report triggers into the report configuration. | See TDoc R2-1800439  See TDoc R2-1800440  To be discussed as part of the restructuring |
| I057 | Only aperodic CSI can be used which is mandatory in reportTrigger?  reportTrigger SEQUENCE {  aperiodic | 2 | Shall periodic to be supported  => Field will not exist in proposed new structure | T  ToDisc  No change for now |
| Z020 | Per RAN1’s input, the value of the semiPersistentOnPUSCH is a  list of up to 2^ reportTriggerSize CSI-ReportConfigId values. | 2 | semiPersistentOnPUSCH SEQUENCE ~~{~~SIZE (1..maxNrofCSI-ReportConfigIDs))  ~~associatedReportConfig~~ CSI-ReportConfigId  ~~}~~ |  |
| Z021 | The preambleReceivedTargetPower for beam failure recovery has the same value range as IA. So it’s better to define a PreambleReceivedTargetPower structure which can be referred by the IA and BFR | 2 | -- Use of PRACH or/and PUSCH for beam in some combination, details FFS.  -- FFS\_CHECK: Can be removed since beam recovery is only supported with RA?!  linkReconfigurationRequest FFS\_Value OPTIONAL,  -- A RACH configuration which the UE may uses for beam recovery upon beam failure detection  -- FFS: If this field is absent, the UE uses the RACH-ConfigCommon configuration appliable for this serving cell??  -- FFS: Compare with the parameters in RACH-ConfigCommon and try align/re-use.  rach-ConfigCommon SEQUENCE {  -- PRACH root sequence index for beam failure recovery  -- Corresponds to L1 parameter 'RootSequenceIndex-BFR' (see 38.211, section 6.3.3.1)  rootSequenceIndex INTEGER (0..137) OPTIONAL,    -- N-CS configuration for beam falure recovery, see Table 6.3.3.1-3 in 38.211  -- Corresponds to L1 parameter 'ZeroCorrelationZoneConfig-BFR' (see 38.211, section 6.3.3.1)  zeroCorrelationZoneConfig INTEGER (0..15) OPTIONAL,    -- Received target power for beam failure request for PRACH  -- Corresponds to L1 parameter 'PreambleInitialReceivedTargetPower-BFR' (see 38.213, section 7.4)  preambleReceivedTargetPower ~~FFS\_Value~~PreambleReceivedTargetPower OPTIONAL,    -- Maximum number of beam failure request transmissions  -- Corresponds to L1 parameter 'PreambleTransMax-BFR' (see 38.321?, section FFS\_Section)  preambleTransMax FFS\_Value OPTIONAL,    -- Power ramping steps for beam failure request via PRACH  -- Corresponds to L1 parameter 'powerRampingStep-BFR' (see 38.321?, section FFS\_Section)  powerRampingStep ENUMERATED {dB0, dB2,dB4, dB6} OPTIONAL,  -- RAR-Response Window for beamfailure recovery  -- FFS\_Value: Use same value range as for normal RAR window?!  -- Corresponds to L1 parameter 'Beam-failure-recovery-request-window' (see 38.213, section 6)  beamFailureRecoveryRequestWindow ENUMERATED {ffsTypeAndValue} OPTIONAL  },  PreambleReceivedTargetPower ::= ENUMERATED {  dBm-120, dBm-118, dBm-116, dBm-114, dBm-112, dBm-110, dBm-108, dBm-106, dBm-104, dBm-102, dBm-100,  dBm-98, dBm-96, dBm-94,dBm-92, dBm-90, dBm-88, dBm-86, dBm-84,dBm-82, dBm-80, dBm-78, dBm-76,  dBm-74, dBm-72, dBm-70, dBm-68, dBm-66, dBm-64, dBm-62, dBm-60, dBm-58, dBm-56, dBm-54, dBm-52, dBm-50, dBm-48, dBm-46, dBm-44, dBm-42, dBm-40, dBm-38, dBm-36, dBm-34, dBm-32, dBm-30, dBm-28, dBm-26, dBm-24, dBm-22, dBm-20, dBm-18, dBm-16, dBm-14, dBm-12, dBm-10, dBm-8, dBm-6, dBm-4, dBm-2, dBm-0, dBm2, dBm4, dBm6 } OPTIONAL, | No Change (RA and BFR revised by other CRs during RAN2-100-AH) |
| I058 | move “rach-ConfigCommon” in this field under rach-ConfigCommon | 2 | move “rach-ConfigCommon” in this field under rach-ConfigCommon | No Change (RA and BFR revised by other CRs during RAN2-100-AH) |
| Z022 | In RAN1’s specification 38.213, beam failure related procedure is described as link reconfiguration. Besides,’BeamManagement’ is quite a general terminology. So from these point of view, it’s better to align the terminology between RAN2 and RAN1. For instance, ’BeamManagement’ can be revised as ‘LinkReconfiguration’.  Lots of the IEs are indicated as OPTIONAL, it should be clarified the actual meaning when the IEs are absent.  Per RAN1’ latest input, the preambleTransMax has the same value range as for IA. | 2 | ’BeamManagement’ can be revised as ‘LinkReconfiguration’ to align with the terminology with RAN1.  All the OPTIONAL IEs should be clarified the meaning when they are absent.  ~~BeamManagement~~LinkReconfiguration ::= SEQUENCE {  .....  }  preambleTransMax ~~FFS\_Value~~ENUMERATED {n3, n4, n5, n6, n7, n8, n10, n20, n50, n100, n200}, | No Change (RA and BFR revised by other CRs during RAN2-100-AH) |
| Z023 | Per RAN1’s agreement, beam recovery can only be achieved via RA, so the linkReconfigurationRequest can be deleted | 2 | ~~-- Use of PRACH or/and PUSCH for beam in some combination, details FFS.~~  ~~-- FFS\_CHECK: Can be removed since beam recovery is only supported with RA?!~~  ~~linkReconfigurationRequest FFS\_Value OPTIONAL,~~ | No Change (RA and BFR revised by other CRs during RAN2-100-AH) |
| I059 | Same comment on rach-ConfigDedicated move “rach-ConfigDedicated” in this field under rach-ConfigDedicated | 2 | move “rach-ConfigDedicated” in this field under rach-ConfigDedicated | No Change (RA and BFR revised by other CRs during RAN2-100-AH) |
| H039 | Split into BWPs? | 3 | Each CSI-ReportConfig and each CSI-ResourceConfig is associated with a single BWP.  Could a measID link two such itesm associated with different BWP? Probably no, it is associated with a single BWP.  What remains is the list of trigger states. Can a trigger state be associated with CSI-ReportConfig associated to different BWPs?  Check with RAN1. | No change for now.  For the report its is two-fold: The report is sent on a PUCCH resource which can be assocaited with an UL BWP (added now based on recent RAN1 agreement).  For the DL, all resource setings must be long to one BWP. This could either be indicated in the setting, in the report or in the trigger. |
| H040 | In CSI-MeasConfig, reportTrigger contains a list of parameters for one trigger state but the description copied from RAN1 specifications says there is a list of trigger states | 2 | According to RAN1 conculsion, there can be up to 128 report trigger states (which can also be seen in LS R1-1721661).  Proposal is to include a list in CSI-MeasConfig:  reportTriggerList SEQUENCE (SIZE (1.. maxNrofTriggerStates)) OF ReportTrigger OPTIONAL  With  ReportTrigger ::= SEQUENCE {  aperiodic SEQUENCE {  -- The CSI-ReportCongig (their IDs) associated with this reportTrigger  associatedReportConfigs SEQUENCE (SIZE (1..maxNrofReportConfigIdsPerTrigger)) OF CSI-ReportConfigId,  -- bitmap with the bitwidth Nbit =number of resource sets (max number Nbit = 64) in a linked resource setting per report trigger tate.  -- Number of one(s) in the bitmap None = 1 for CSI acquisition (FFS 1<= None <= 64 for beam management).  -- FFS: To enforce the number of linked resources, the linking information should instead be in the report that uses the resource  -- Corresponds to L1 parameter 'ResourceSetBitmap' (see 38.214, section FFS\_Section)  -- FFS\_FIXME: The following list assumes that all NZP- and IM resource sets use a common ID space. But that is not ensured  -- due to having separate lists of sets.  associatedResourceSets SEQUENCE (SIZE (1..64)) OF CSI-ResourceSetId OPTIONAL,  -- For a trigger state within aperiodicReportTrigger that triggers a ap-CSI-RS resource set, contains a list of  -- references to TCI-RS-SetConfig's in TCI-States for providing the QCL source and QCL type for each ap-CSI-RS  -- resource within the triggered set of ap-CSI-RS resources. The length of the list is equal to the number of  -- aperiodic CSI-RS resources in the set (CSI-RS-ResourceSet). For a target aperiodic CSI-RS assoicated with each  -- triggering state, contains a reference to one TCI-RS-Set in TCI-States for providing the QCL source and QCL type.  -- Corresponds to L1 parameter 'QCL-Info-aPeriodicReportingTrigger' (see 38.214, section 5.2.1.5.1)  qcl-Info-aPeriodicReportingTrigger SEQUENCE (SIZE(1..ffsValue)) OF TCI-RS-SetId OPTIONAL  },  semiPersistentOnPUSCH SEQUENCE {  associatedReportConfig CSI-ReportConfigId  }  }  (Note that there are corrections on the contents discussed below)  And define;    maxNrofTriggerStates INTEGER ::= 128 -- Maximum number of report trigger states | No change yet  (to be done based on updated structure, i.e., trigger states inside report-config) |
| H041 | In CSI-MeasConfig, in reportTrigger, there is associatedResourceSets which is list of CSI resource set IDs does not match with RAN1 sheet/specifications. | 2 | The definition of the parameter is is:  For a UE configured with the higher layer parameter AperiodicReportTrigger, if a resource setting linked to a ReportConfig has multiple aperiodic resource sets and only a subset of the aperiodic resource sets is associated with the trigger state, a higher layer configured bitmap ResourceSetBitmap is configured per trigger state per resource setting to select the CSI-IM/NZP CSI-RS resource set(s) from the resource setting.  So the parameter is a bitmap and, for each trigger state, there is one bitmap per resource config in a link (measID) to an associated ReportConfig.  According to 5.2.1.4.1:  Each trigger state configured using the higher layer parameter ReportTrigger is associated one or multiple ReportConfig where each ReportConfig is linked to periodic, or semi-persistent, or aperiodic resource setting(s):  - When one resource setting is configured, the resource setting is for channel measurement for L1-RSRP computation.  - When two resource settings are configured, the first one resource setting is for channel measurement and the second one is for interference measurement performed on CSI-IM or on non-zero power CSI-RS.  - When three resource settings are configured, the first one resource setting is for channel measurement, the second one is for CSI-IM based interference measurement and the third one is for non-zero power CSI-RS based interference measurement.  So there can be 1, 2 or 3 link to a CSI-ReportConfig.  We can reflect this with the following changes:  ReportTrigger ::= SEQUENCE {  aperiodic SEQUENCE {    associatedReportConfigs SEQUENCE (SIZE (1..maxNrofReportConfigIdsPerTrigger)) OF SEQUENCE { reportConfigId CSI-ReportConfigId,  resourceSetBitmaps SEQUENCE (SIZE (1..3)) OF SEQUENCE {  resourceConfigId CSI-ResourceConfigId,  resourceSetBitmap BIT STRING (SIZE (ffs\_value))  }    ~~associatedResourceSets SEQUENCE (SIZE (1..64)) OF CSI-ResourceSetId OPTIONAL,~~ | No change yet  (to be done based on updated structure, i.e., trigger states inside report-config) |
| H042 | In CSI-ResourceConfig, it is not clear what "CC-info" is useful for. | 3 | Confirm with RAN1. | No change yet  It is supposed to indicate which carrier this resource/set/ting belongs to. But one could of course also configure the resource inside the serving cell that it applies. To. In fact, that target serving cell configuration may also require the same CSI-Resource configuration for other purposes (e.g. TCI state). |
| H043 | Before NZP-CSI-RS-ResourceSet, there is a comment "-- Corresponds to L1 parameter 'ResourceSetConfig''NZP-CSI-RS-ResourceSetConfigList' (see 38.214, section 5.2) " but there is no such parameter in 38.214 | 2 | Remove the comment  -- A set of Non-Zero-Power (NZP) CSI-RS resources (their IDs) and set-specific parameters.  ~~-- Corresponds to L1 parameter 'NZP-CSI-RS-ResourceSetConfigList' (see 38.214, section 5.2)~~  NZP-CSI-RS-ResourceSet ::= SEQUENCE { | Done |
| H044 | In NZP-CSI-RS-ResourceSet, parameter repetition is BOOLEAN but in 38.214 sections 5.2.2.3.1 and 5.1.6.1.2 it is ON or OFF | 2 | Change description in comment to align with RAN1:  -- Indicates whether repetition is on/off.  Change definition to ENUMERATED {on, off},  -- A set of Non-Zero-Power (NZP) CSI-RS resources (their IDs) and set-specific parameters.  -- Corresponds to L1 parameter 'NZP-CSI-RS-ResourceSetConfigList' (see 38.214, section 5.2)  NZP-CSI-RS-ResourceSet ::= SEQUENCE {  -- FFS: Where is the CSI-ResourceSetId used?  csi-ResourceSetId CSI-ResourceSetId, -- NZP-CSI-RS-Resources assocaited with this NZP-CSI-RS resource set.  -- Corresponds to L1 parameter 'CSI-RS-ResourceConfigList' (see 38.214, section 5.2)  -- FFS: Better make the csi-rs-Resources a common pool on CSI-MeasConfig level?  nzp-csi-rs-Resources SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-Resource,  -- Indicates whether repetition is on/off. ~~Repetition on (off), means that The UE can (cannot) assume that~~  ~~-- the network maintains a fixed TX beam over the resources in the set.~~ off means that the UE may not assume that the CSI-RS resources within the resource set are transmitted with the same downlink spatial domain transmission filter and with same NrofPorts in every symbol.  -- Corresponds to L1 parameter 'ResourceRep' (see 38.214, section FFS\_Section)  repetition ~~BOOLEAN~~ENUMERATED { on, off }, | Done |
| H045 | In NZP-CSI-RS-Resource, it is not clear whether aperiodicTriggeringOffset should be there. | 3 | Confirm with RAN1 whether it should be per trigger state, per ReportConfig, per resource set or per NZP CSI resource.  Then move it to right place (either in the trigger state list, or in the ReportConfig list within trigger state list, or in resource set or in NZP CSI resource). | No change yet. |
| H046 | In NZP-CSI-RS-Resource, parameter CSI-RS-Resource map from 38.211 section 7.4.1.5.3 is incorrectly implemented. | 2 | To determine allocation in a slot, it is necessary to know the row number of table 7.4.1.5.2-1 which is missing. Also, the parameter "starting position of a CSI-RS in a slot" proposed in ASN.1 does not exist, there are one or multiple positions determined according to 5th column of the table (parameter k with a bar) which are calculated based on the k0, k1, etc, derived from the contents of the bitmap.  Besides, there is no need to signal separately parameters such as nrOfPorts and cdmType which are fully determined by the row. With respect to density, it has either 1 value only per row, or 2 values only.  Proposal:  - have the row number as parameter, make it a CHOICE including the bitmap with corresponding length - for each row number, include nrofPorts, cdmType and density with the only allowed values   See changes below  -- A CSI-RS (reference signal) resource which the UE may be configured to measure on (see 38.214, section 5.2.2~~1~~.3.1)  NZP-CSI-RS-Resource ::= SEQUENCE {  nzp-csi-rs-ResourceId NZP-CSI-RS-ResourceId,  ~~-- Number of ports (see 38.214, section 5.2.2.3.1)~~  ~~nrofPorts ENUMERATED {p1,p2,p4,p8,p12,p16,p24,p32},~~  ~~-- OFDM symbol location(s) in a slot and subcarrier occupancy in a PRB of the CSI-RS resource~~  ~~-- Corresponds to L1 parameter 'CSI-RS-ResourceMapping' (see 38.214, section 5.2.2.3.1)~~  ~~resourceMapping SEQUENCE {~~  ~~-- Frequency domain allocation within a physical resource block in accordance with 38.211, table 7.4.1.5.2-1.~~  ~~-- The number of bits that may be set to one depend on the chosen row in that table.~~  ~~frequencyDomainAllocation CHOICE {~~  ~~row1 BIT STRING (SIZE (4)),~~  ~~row2 BIT STRING (SIZE (12)),~~  ~~row4 BIT STRING (SIZE (3)),~~  ~~other BIT STRING (SIZE (6))~~  ~~},~~  ~~-- Time domain allocation within a physical resource block. The field indicates the first OFDM symbol in the PRB used for CSI-RS.~~  ~~-- Value 2 is supported only when DL-DMRS-typeA-pos equals 3.~~  ~~firstOFDMSymbolInTimeDomain INTEGER (0..13)~~  ~~},~~  ~~-- CDM type (see 38.214, section 5.2.2.3.1)~~  ~~cdm-Type ENUMERATED {noCDM, fd-CDM2, cdm4-FD2-TD2, cdm8-FD2-TD4},~~  ~~-- Density of CSI-RS resource measured in RE/port/PRB. Corresponds to L1 parameter 'CSI-RS-Density' (see 38.214, section 5.2.2.3.1)~~  ~~-- Values 0.5 (dot5), 1 (one) and 3 (three) are allowed for X=1,~~  ~~-- values 0.5 (dot5) and 1 (one) are allowed for X=2, 16, 24 and 32,~~  ~~-- value 1 (one) is allowed for X=4, 8, 12.~~  ~~-- For density = 1/2, includes 1 bit indication for RB level comb offset indicating whether odd or even RBs are occupied by CSI-RS~~  ~~density CHOICE {~~  ~~dot5 ENUMERATED {evenPRBs, oddPRBs},~~  ~~one NULL,~~  ~~three NULL,~~  ~~spare NULL~~  ~~},~~      -- Frequency domain allocation within a physical resource block in accordance with 38.211 section 7.4.1.5.3, table 7.4.1.5.2-1.      -- The number of bits that may be set to one depend on the chosen row in that table.      csi-RS-LocationWithinSlot            CHOICE {         row1                                 SEQUENCE {      -- Number of ports (see 38.214, section 5.2.2.3.1)             nrofPorts                            ENUMERATED {p1},      -- CDM type (see 38.211 section 7.4.1.5.3)             cdm-Type                             ENUMERATED {noCDM},      -- Density of CSI-RS resource measured in RE/port/PRB. Corresponds to L1 parameter 'CSI-RS-Density'  (see 38.214, section 5.2.2.3.1)      -- For density = 1/2, includes 1 bit indication for RB level comb offset indicating  whether odd or even RBs are occupied by CSI-RS             density                              ENUMERATED {three},             csi-RS-ResourceMapping                   BIT STRING (SIZE (4))         },         row2                                 SEQUENCE {             nrofPorts                            ENUMERATED {p1},             cdm-Type                             ENUMERATED {noCDM},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (12))         },         row3                                 SEQUENCE {             nrofPorts                            ENUMERATED {p2},             cdm-Type                             ENUMERATED {fd-CDM2},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row4                                 SEQUENCE {             nrofPorts                            ENUMERATED {p4},             cdm-Type                             ENUMERATED {fd-CDM2},             density                              ENUMERATED {one},             csi-RS-ResourceMapping                  BIT STRING (SIZE (3))         }         row5                                 SEQUENCE {             nrofPorts                            ENUMERATED {p8},             cdm-Type                             ENUMERATED {fd-CDM2},             density                              ENUMERATED {one},             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row7                                 SEQUENCE {             nrofPorts                            ENUMERATED {p8},             cdm-Type                             ENUMERATED {fd-CDM2},             density                              ENUMERATED {one},             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))           },         row8                                 SEQUENCE {             nrofPorts                            ENUMERATED {p8},             cdm-Type                             ENUMERATED {fd-CDM2},             density                              ENUMERATED {one},             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))           },         row9                             SEQUENCE {             nrofPorts                            ENUMERATED {p8},             cdm-Type                             ENUMERATED {cdm4-FD2-TD2},             density                              ENUMERATED {one},             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))           },         row10                            SEQUENCE {             nrofPorts                            ENUMERATED {p12},             cdm-Type                             ENUMERATED {fd-CDM2},             density                              ENUMERATED {one},             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row11                            SEQUENCE {             nrofPorts                            ENUMERATED {p12},             cdm-Type                             ENUMERATED {cdm4-FD2-TD2},             density                              ENUMERATED {one},             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row12                            SEQUENCE {             nrofPorts                            ENUMERATED {p16},             cdm-Type                             ENUMERATED {fd-CDM2},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row13                            SEQUENCE {             nrofPorts                            ENUMERATED {p16},             cdm-Type                             ENUMERATED {cdm4-FD2-TD2},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row14                            SEQUENCE {             nrofPorts                            ENUMERATED {p24},             cdm-Type                             ENUMERATED {fd-CDM2},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row15                            SEQUENCE {             nrofPorts                            ENUMERATED {p24},             cdm-Type                             ENUMERATED {cdm4-FD2-TD2},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row16                            SEQUENCE {             nrofPorts                            ENUMERATED {p24},             cdm-Type                             ENUMERATED {cdm8-FD2-TD4},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row17                            SEQUENCE {             nrofPorts                            ENUMERATED {p32},             cdm-Type                             ENUMERATED {fd-CDM2},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row18                            SEQUENCE {             nrofPorts                            ENUMERATED {p32},             cdm-Type                             ENUMERATED {cdm4-FD2-TD2},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         },         row19                            SEQUENCE {             nrofPorts                            ENUMERATED {p32},             cdm-Type                             ENUMERATED {cdm8-FD2-TD4},             density                              CHOICE {                 one                                  NULL,                 dot5                                 ENUMERATED {evenPRBs, oddPRBs}             },             csi-RS-ResourceMapping                  BIT STRING (SIZE (6))         }      }  -- Wideband or partial band CSI-RS. Corresponds to L1 parameter 'CSI-RS-FreqBand' (see 38.214, section 5.2.2.3.1)  freqBand SEQUENCE {  -- PRB where this NZP-CSI-RS-Resource starts in relation to PRB 0 of the associated BWP. Only multiples of 4 are allowed (0, 4, ...)  startingRB INTEGER (0..maxNrofPhysicalResourceBlocks-1),  -- Number of PRBs across which this NZP-CSI-RS-Resource spans. Only multiples of 4 are allowed. The smallest configurable  -- number is the minimum of 24 and the width of the associated BWP.  nrofRBs INTEGER (24..maxNrofPhysicalResourceBlocks)  },  -- Power offset of NZP CSI-RS RE to PDSCH RE. Value in dB. Corresponds to L1 parameter Pc (see 38.214, section 5.2.2.3.1)  powerControlOffset INTEGER(-8..15),  -- Power offset of NZP CSI-RS RE to SS RE. Value in dB. Corresponds to L1 parameter 'Pc\_SS' (see 38.214, section FFS\_Section)  powerControlOffsetSS ENUMERATED{db-3, db0, db3, db6} OPTIONAL,  -- Scrambling ID (see 38.214, section 5.2.2.3.1)  scramblingID ScramblingId,  -- Periodicity and slot offset in number of slots. Corresponds to L1 parameter 'CSI-RS-timeConfig' (see 38.214, section 5.2.2.3.1)  periodicityAndOffset CHOICE {  sl5 INTEGER (0..4),  sl10 INTEGER (0..9),  sl20 INTEGER (0..19),  sl40 INTEGER (0..39),  sl80 INTEGER (0..79),  sl160 INTEGER (0..159),  sl320 INTEGER (0..319),  sl640 INTEGER (0..639)  },  -- Indicates whether or not the antenna ports of NZP CSI-RS resources in the CSI-RS resource set is same  -- Corresponds to L1 parameter 'TRS-Info' (see 38.214, section 5.2.2.3.1)  trs-Info ENUMERATED {true} OPTIONAL  } | Adopted the choice structure for the frequency domain row. Without the explicit row number at least rows 7 and 8 could otherwise not be distinguished.  Kept the firstOFDMSymbolInTimeDomain since 38.211 says ” relative to the start of a slot with the starting positions of a CSI-RS in a slot configured by the higher-layer parameter CSI-RS-ResourceMapping”. And the L1 table says accordingly ” OFDM symbol locations:  {0,1,2,3,4,5,6,7,8,9,10,11,12,13}, where 2 is supported only when DL-DMRS-typeA-pos equals 3”  Did not include all the fields that have just one possible value anyway. Those are found in the table in 38.211.  Did not pull the other fields into the CHOICE structure since we would then have to add a suffix to them to make them unique. The table in 38.211 defines which combiantions are allowed. This may actually make the implementation more difficult since the same parameter occurs then several times. |
| H047 | In NZP-CSI-RS-Resource, startingRB and nrofRBs are with granularity one RB while RAN1 excel sheet says it should be 4. | 2 | Change the value from 0/24 to 68 (68 \* 4 = 272) and indicate that the number of RBs is 4 times the signalled value.  [**Ericsson**] As Huawei mentioned in a similar case, this change reduces readability. We therefore prefer slightly the current structure.  -- A CSI-RS (reference signal) resource which the UE may be configured to measure on (see 38.214, section 5.2.1.3.1)  NZP-CSI-RS-Resource ::= SEQUENCE {  nzp-csi-rs-ResourceId NZP-CSI-RS-ResourceId,  -- Number of ports (see 38.214, section 5.2.2.3.1)  nrofPorts ENUMERATED {p1,p2,p4,p8,p12,p16,p24,p32},  -- OFDM symbol location(s) in a slot and subcarrier occupancy in a PRB of the CSI-RS resource  -- Corresponds to L1 parameter 'CSI-RS-ResourceMapping' (see 38.214, section 5.2.2.3.1)  resourceMapping SEQUENCE {  -- Frequency domain allocation within a physical resource block in accordance with 38.211, table 7.4.1.5.2-1.  -- The number of bits that may be set to one depend on the chosen row in that table.  frequencyDomainAllocation CHOICE {  row1 BIT STRING (SIZE (4)),  row2 BIT STRING (SIZE (12)),  row4 BIT STRING (SIZE (3)),  other BIT STRING (SIZE (6))  },  -- Time domain allocation within a physical resource block. The field indicates the first OFDM symbol in the PRB used for CSI-RS.  -- Value 2 is supported only when DL-DMRS-typeA-pos equals 3.  firstOFDMSymbolInTimeDomain INTEGER (0..13)  },  -- CDM type (see 38.214, section 5.2.2.3.1)  cdm-Type ENUMERATED {noCDM, fd-CDM2, cdm4-FD2-TD2, cdm8-FD2-TD4},  -- Density of CSI-RS resource measured in RE/port/PRB. Corresponds to L1 parameter 'CSI-RS-Density' (see 38.214, section 5.2.2.3.1)  -- Values 0.5 (dot5), 1 (one) and 3 (three) are allowed for X=1,  -- values 0.5 (dot5) and 1 (one) are allowed for X=2, 16, 24 and 32,  -- value 1 (one) is allowed for X=4, 8, 12.  -- For density = 1/2, includes 1 bit indication for RB level comb offset indicating whether odd or even RBs are occupied by CSI-RS  density CHOICE {  dot5 ENUMERATED {evenPRBs, oddPRBs},  one NULL,  three NULL,  spare NULL  },  -- Wideband or partial band CSI-RS. Corresponds to L1 parameter 'CSI-RS-FreqBand' (see 38.214, section 5.2.2.3.1)  freqBand SEQUENCE {  -- PRB where this NZP-CSI-RS-Resource starts in relation to PRB 0 of the associated BWP. ~~Only multiples of 4 are allowed (0, 4, ...)~~The actual value is 4\*signalled value.  startingRB INTEGER (0..~~maxNrofPhysicalResourceBlocks-1~~68),  -- Number of PRBs across which this NZP-CSI-RS-Resource spans. ~~Only multiples of 4 are allowed.~~ The smallest configurable  -- number is the minimum of 24 and the width of the associated BWP.  -- The actual value is 4\*signalled value.  nrofRBs INTEGER (24..~~maxNrofPhysicalResourceBlocks~~68)  }, | Not adopted since it reduces readability |
| H048 | In NZP-CSI-RS-Resource, periodicityAndOffset contain a period and an offset but the corresponding parameter in RAN1 specification already indicates the encoding from a single number. |  | In 38.211, there is  Table 7.4.1.5.2-6: Slots containing CSI-RS.   |  |  |  | | --- | --- | --- | | CSI-RS-timeConfig | Slot offset | Periodicity | | 0 – 4 |  | 5 | | 5 – 14 |  | 10 | | 15 – 34 |  | 20 | | 35 – 74 |  | 40 | | 75 – 154 |  | 80 | | 155 – 314 |  | 160 | | 315 – 634 |  | 320 | | 635 – 1274 |  | 640 |   Inform RAN1 that the table should be removed.  [**Ericsson**] We agree. Our RAN1 colleagues suggested to clarify the field description of the periodictyAndOffset field a bit:  -- Periodicity and slot offset ~~in number of slots~~. sl1 corresponds to a periodicity of 1 slot, sl2 to a periodicity of two slots, and so on. The corresponding offset is also given in number of slots. Corresponds to L1 parameter 'CSI-RS-timeConfig' (see 38.214, section 5.2.2.3.1)  periodicityAndOffset CHOICE {  sl5 INTEGER (0..4),  sl10 INTEGER (0..9),  sl20 INTEGER (0..19),  sl40 INTEGER (0..39),  sl80 INTEGER (0..79),  sl160 INTEGER (0..159),  sl320 INTEGER (0..319),  sl640 INTEGER (0..639)  }, | Done |
| H049 | In CSI-IM-Resource, should resourceMapping and freqBand really be OPTIONAL? | 2 | Remove OPTIONAL for both  [**Ericsson**] For the purpose of delta signallnig it may still be desriable to have it optional. We suggest to wait until the content (size) of the fields is clear.  CSI-IM-Resource ::= SEQUENCE {  csi-IM-ResourceId CSI-IM-ResourceId,  -- The resource element pattern for the CSI-IM resource  -- Corresponds to L1 parameter 'CSI-IM-RE-pattern' (see 38.214, section 5.2.2.3.4)  csi-IM-ResourceElementPattern ENUMERATED {pattern2-2, pattern4-1},    -- OFDM symbol and subcarrier occupancy of the CSI-IM resource within a slot  -- Corresponds to L1 parameter 'CSI-IM-ResourceMapping' (see 38.214, section 5.2.2.3.4)  -- FFS\_Values: RAN1 indicated “symbol locations: [0..13] and subcarrier locations: [0..9]” 🡺 Should this be a bitmap of 9x13? Or two separate?  resourceMapping ENUMERATED {ffsTypeAndValue} ~~OPTIONAL~~,  -- Frequency-occupancy of CSI-IM. Corresponds to L1 parameter 'CSI-IM-FreqBand' (see 38.214, section 5.2.2.3.2)  freqBand FFS\_Value ~~OPTIONAL~~} | Marked ”Need M” according to the general guideline. But we are open to remove the OPTIONAL if others prefer that. |
| H050 | In CSI-IM-Resource, periodicityAndOffset is in excel sheet but not in ASN.1 | 2 | Add  periodicityAndOffset CHOICE {  sl5 INTEGER (0..4),  sl10 INTEGER (0..9),  sl20 INTEGER (0..19),  sl40 INTEGER (0..39),  sl80 INTEGER (0..79),  sl160 INTEGER (0..159),  sl320 INTEGER (0..319),  sl640 INTEGER (0..639)  }  Inform RAN1 because it is in their excel sheet but not in their specifications  Rap:Curretnly in Class 1 CR. Notify RAN1, see abive. | Done |
| H051 | In CSI-ReportConfig, there is p0alpha (index) which is in RAN1 excel sheet but not in RAN1 specifications. | 2 | This is in the RAN1 spreadsheet but UL power control is specified in 38.213 and there is no indication, neither in 38.213 nor in 38.214 that there is a particular set configured for CSI transmission on PUSCH.  Contact RAN1 to check. | Not done yet |
| H052 | In CSI-ReportConfig, according to RAN1 specifications, groupBasedBeamReporting is only for the case where the report quantity is CSI/RSRP | 2 | In reportQuantity, change all CHOICE values as SEQUENCE and move nrofBeamsToReport to CSI/RSRP and nrofReportedRS to other CHOICE values. Also, nrofReportedRS need not be OPTIONAL. | Not yet done even though it sounds reasonable. We start wondering whether it is really a good idea to move things into the CHOICE if that requires a suffix. Seems to complicate the code in the end. |
| H053 | In CSI-ReportConfig, values of parameter cqi-Table don't match with RAN1 specification | 2 | Use table number (tableX, tableY, etc) corresponding to table numbers in 38.214 section 5.2.2.1  -- Which CQI table to use for CQI calculation. Corresponds to L1 parameter 'CQI-Table' (see 38.214, section FFS\_Section)  -- FFS: Whether URLLC2 should be added as one option  cqi-Table ENUMERATED {~~qam64, qam256, urllc1, urllc2~~table1, table2, spare2, spare1} OPTIONAL, | Done |
| H054 | In CSI-ReportConfig, values of parameter cqi-Table is OPTIONAL but isn't the presence fully determined by reportQuantity? | 2 | Confirm with RAN1 and move the parameter to the relevant CHOICEs of report quantity | OK to discuss. But remember the new rule regarding duplicate fields in CHOICE structures. |
| H055 | In CSI-ReportConfig, bler-Target is OPTIONAL but it seems the presence is only for 1 of the cqi table option. | 2 | Create a CHOICE for cqi-Table and move bler-Target to the relevant CHOICE (and no need for OPTIONAL).  -- Which CQI table to use for CQI calculation. Corresponds to L1 parameter 'CQI-Table' (see 38.214, section FFS\_Section)  -- FFS: Whether URLLC2 should be added as one option  cqi-Table ~~ENUMERATED~~CHOICE {  table1 NULL,  -- BLER target that the UE shall be assume in its CQI calculation.  -- Corresponds to L1 parameter 'BLER-Target' (see 38.214, section FFS\_Section)  -- FFS\_Values (now filled with spares)  table2 ENUMERATED {zerodot1, spare3, spare2, spare1},  spare2 NULL,  spare1 NULL  ~~qam64, qam256, urllc1, urllc2~~} OPTIONAL,  -- Indicates one out of two possible BWP-dependent values for the subband size  -- Corresponds to L1 parameter 'SubbandSize' (see 38.214, section FFS\_Section)  -- FFS\_Value: Clarify what value1 and value2 mean.  subbandSize ENUMERATED {value1, value2},  ~~-- BLER target that the UE shall be assume in its CQI calculation.~~  ~~-- Corresponds to L1 parameter 'BLER-Target' (see 38.214, section FFS\_Section)~~  ~~-- FFS\_Values (now filled with spares)~~  ~~bler-Target ENUMERATED {zerodot1, spare3, space2, spare1} OPTIONAL,~~ | OK to discuss. But remember the new rule regarding duplicate fields in CHOICE structures. |
| H056 | In CSI-ReportConfig, non-PMI-PortIndication seems to apply to resources, not to ReportConfig. | 3 | Confirm with RAN1 whether it belongs there or should be move to resource configuration. | Not done yet. |
| H057 | In CodeBookConfig, many parameters are signalled fully separately although they are largely dependent on each other | 2 | This seems to allow 32 combinations of (N1,N2) but according to 36.214 section 5.2.2.2 and subsections:  - for typeI-SinglePanel/typeII, there are 13 combinations possible  - for typeI-MultiPanel, there are 8 combinations including numberOfPanels  - For typeII-PortSelection, there doesn't seem to be such parameters but instead the number of CSI-RS ports (which needs not be indicated for other types as it is 2xN1xN2xNg where Ng is the number of panels for typeI-MultiPanel) which is missing here.  - for the parameter singlePanel, the size is uniquely determined by (N1,N2)  Besides, parameter singlePanel2Tx, which is put as mandatory for Type 1, is only for the case when N1=N2=1.  Proposal:  - change subTypes to CHOICE, move all parameters there (especially the subType-specific parameters, see conditions)  - change N1 and N2 to a single parameter with allowed combinations, place them in the CHOICE of subType, and make them CHOICE as well  - move singlePanel, singlePanel2Tx and codebookSubsetRestrictionType2 to the CHOICE of N1,N2  - inform RAN1  Propose to replace CodebookConfig as follows:  -- Codebook configuration for Type-I and Type-II (see 38.214, section 5.2.2.2)  CodebookConfig ::=                      SEQUENCE {      -- Number of antenna ports in first dimension      -- CodebookType including possibly sub-types and the corresponding parameters for each. Corresponds to L1 parameter 'CodebookType'      -- (see 38.214, section 5.2.2.2)      codebookType                         CHOICE {         type1                                SEQUENCE {             subType                              CHOICE {                 typeI-SinglePanel                    SEQUENCE {                    nrOfAntennaPorts                     CHOICE {                        two                                  SEQUENCE {                            -- Codebook subset restriction for 2TX codebook                            -- Corresponds to L1 parameter ' TypeI-SinglePanel-2Tx-CodebookSubsetRestriction' (see 38.214 section 5.2.2.2.1)                            twoTX-CodebookSubsetRestriction         BIT STRING (SIZE (6))                        },                        moreThanTwo                             SEQUENCE {                            -- Number of antenna ports in first (n1) and second (n2) dimension and codebook subset restriction                            -- Corresponds to L1 parameters 'CodebookConfig-N1', 'CodebookConfig-N2'                            n1-n2                                CHOICE {                               two-one                              SEQUENCE {                                   -- Corresponds to L1 parameter 'TypeI-SinglePanel-CodebookSubsetRestriction ' (see 38.214 section 5.2.2.2.1)                                   codebookSubsetRestriction            BIT STRING (SIZE (8))                               },                               two-two                              SEQUENCE {                                   codebookSubsetRestriction               BIT STRING (SIZE (64)),                                   -- i2 codebook subset restriction for Type I Single-panel codebook used when reportQuantity is CRI/Ri/i1/CQI                                   -- Corresponds to L1 parameter 'TypeI-SinglePanel-CodebookSubsetRestriction-i2' (see 38.214 section 5.2.2.2.1)                                   codebookSubsetRestriction-i2         BIT STRING (SIZE (16))    OPTIONAL                               },                               four-one                             SEQUENCE {                                   codebookSubsetRestriction            BIT STRING (SIZE (16))                               },                               three-two                            SEQUENCE {                                   codebookSubsetRestriction               BIT STRING (SIZE (96)),                                   codebookSubsetRestriction-i2         BIT STRING (SIZE (16))    OPTIONAL                               },                               six-one                              SEQUENCE {                                   codebookSubsetRestriction            BIT STRING (SIZE (24))                               },                               four-two                             SEQUENCE {                                   codebookSubsetRestriction               BIT STRING (SIZE (128)),                                   codebookSubsetRestriction-i2         BIT STRING (SIZE (16))    OPTIONAL                               },                               eight-one                            SEQUENCE {                                   codebookSubsetRestriction            BIT STRING (SIZE (32))                               },                               four-three                           SEQUENCE {                                   codebookSubsetRestriction               BIT STRING (SIZE (192)),                                   codebookSubsetRestriction-i2         BIT STRING (SIZE (16))    OPTIONAL                               },                               six-two                              SEQUENCE {                                   codebookSubsetRestriction               BIT STRING (SIZE (192)),                                   codebookSubsetRestriction-i2         BIT STRING (SIZE (16))    OPTIONAL                               },                               twelve-one                           SEQUENCE {                                   codebookSubsetRestriction            BIT STRING (SIZE (48))                               },                               four-four                            SEQUENCE {                                   codebookSubsetRestriction               BIT STRING (SIZE (256)),                                   codebookSubsetRestriction-i2         BIT STRING (SIZE (16))    OPTIONAL                               },                               eight-two                            SEQUENCE {                                   codebookSubsetRestriction               BIT STRING (SIZE (256)),                                   codebookSubsetRestriction-i2         BIT STRING (SIZE (16))    OPTIONAL                               },                               sixteen-one                             SEQUENCE {                                   codebookSubsetRestriction            BIT STRING (SIZE (64))                               },                            },                            -- Restriction for RI for TypeI-SinglePanel-RI-Restriction                            -- Corresponds to L1 parameter 'TypeI-SinglePanel-RI-Restriction' (see 38.214, section 5.2.2.2.1)                           ri-Restriction                       BIT STRING (SIZE (8))                        }                    },                    -- CodebookMode as specified in 38.214 section 5.2.2.2.1                    codebookMode                     INTEGER (1..2)                 },                 typeI-MultiPanel                 SEQUENCE {                    ng-n1-n2                         CHOICE {                        two-two-one                         SEQUENCE {                            -- CodebookMode as specified in 38.214 section 5.2.2.2.2                            codebookMode                     INTEGER (1..2),                            -- Codebook subset restriction for Type I Multi-panel codebook                            -- Corresponds to L1 parameter 'TypeI-MultiPanel-CodebookSubsetRestriction' (see 38.214, section 5.2.2.2.2)                            codebookSubsetRestriction        BIT STRING (SIZE (8))                        },                        two-four-one                     SEQUENCE {                            codebookMode                     INTEGER (1..2),                            codebookSubsetRestriction        BIT STRING (SIZE (32))                        },                        four-two-one                     SEQUENCE {                            codebookMode                     INTEGER (1),                            codebookSubsetRestriction        BIT STRING (SIZE (32))                        },                        two-two-two                          SEQUENCE {                            codebookMode                     INTEGER (1..2),                            codebookSubsetRestriction        BIT STRING (SIZE (128))                        },                        two-eight-one                    SEQUENCE {                            codebookMode                     INTEGER (1..2),                            codebookSubsetRestriction        BIT STRING (SIZE (64))                        },                        four-four-one                    SEQUENCE {                            codebookMode                     INTEGER (1),                            codebookSubsetRestriction        BIT STRING (SIZE (64))                        },                        two-four-two                     SEQUENCE {                            codebookMode                     INTEGER (1..2),                            codebookSubsetRestriction        BIT STRING (SIZE (256))                        },                        four-two-two                     SEQUENCE {                            codebookMode                     INTEGER (1),                            codebookSubsetRestriction        BIT STRING (SIZE (256))                        }                    },                    -- Restriction for RI for TypeI-MultiPanel-RI-Restriction                    -- Corresponds to L1 parameter 'TypeI-MultiPanel-RI-Restriction' (see 38.214, section 5.2.2.2.2)                    ri-Restriction                       BIT STRING (SIZE (4))                 }             }         },         type2                                SEQUENCE {             subType                              CHOICE {                 typeII                               SEQUENCE {                    -- Number of antenna ports in first (n1) and second (n2) dimension and codebook subset restriction                    -- Corresponds to L1 parameters 'CodebookConfig-N1', 'CodebookConfig-N2'                    -- The CHOICE name indicates the value of n1 and n2, the CHOICE contents is the codebook subset restriction bitmap                    -- Corresponds to L1 parameter ' TypeII-CodebookSubsetRestriction' (see 38.214 section 5.2.2.2.3)                    -- Number of bits for codebook subset restriction is ceil(log2(nchoosek(O1\*O2,4)))+8\*n1\*n2 where nchoosek(a,b) = a!/(b!(a-b)!)                    n1-n2-codebookSubsetRestriction         CHOICE {                        two-one                              BIT STRING (SIZE (17)),                        two-two                              BIT STRING (SIZE (139)),                        four-one                             BIT STRING (SIZE (33))                        three-two                            BIT STRING (SIZE (59)),                        six-one                              BIT STRING (SIZE (49)),                        four-two                             BIT STRING (SIZE (75)),                        eight-one                            BIT STRING (SIZE (65))                        four-three                           BIT STRING (SIZE (107)),                        six-two                              BIT STRING (SIZE (107)),                        twelve-one                           BIT STRING (SIZE (129)),                        four-four                            BIT STRING (SIZE (139)),                        eight-two                            BIT STRING (SIZE (139)),                        sixteen-one                             BIT STRING (SIZE (129))                    },                    -- Restriction for RI for TypeII-RI-Restriction                    -- Corresponds to L1 parameter 'TypeII-RI-Restriction' (see 38.214, section 5.2.2.2.3)                    typeII-RI-Restriction                BIT STRING (SIZE (2)),                 },                 typeII-PortSelection                 SEQUENCE {                    -- The size of the port selection codebook (parameter d)                    portSelectionSamplingSize            ENUMERATED {n1, n2, n3, n4},                -- Restriction for RI for TypeII-PortSelection-RI-Restriction                    -- Corresponds to L1 parameter 'TypeII-PortSelection-RI-Restriction' (see 38.214, section 5.2.2.4)                    typeII-PortSelectionRI-Restriction      BIT STRING (SIZE (2))                 }             },             -- The size of the PSK alphabet, QPSK or 8-PSK             phaseAlphabetSize                    ENUMERATED {n4, n8},             -- If subband amplitude reporting is activated (true)             subbandAmplitude                     BOOLEAN,             -- Number of beams, L,  used for linear combination             numberOfBeams                        ENUMERATED {two, three, four}             }         }      }  } | OK to discuss. But remember the new rule regarding duplicate fields in CHOICE structures.  Furthermore, not unlikely that RAN1 anyway allows additional combiantions. So, maybe leave more generic? |
| H058 | In CodeBookConfig, where in 38.214 is singlePanelCodebookSubsetRestriction-i2 described? | 2 | Check with RAN1 which CHOICE this would belong to with the above change. | Not done yet |
| H059 | Where should BeamManagement be? | 3 | In BWP? In CSI? In RLF/RLM? | Already Done  (based on BF and RA CRs) |
| H060 | In BeamManagement, should failureDetectionResources be a list of NZP-CSI-RS-Resource? | 2 | Check with RAN1 | Not done yet |
| H061 | In BeamManagement, all parameters are OPTIONAL while there seem no option in RAN1 specifications/excel sheet to actually omit them. | 2 | Check with RAN1 | Not done yet |
| H062 | In BeamManagmenent, parameter ra-PreambleIndexConfig-BFR is missing | 2 | Add the parameter (0 to 255).  BeamManagement ::= SEQUENCE {  beamFailureDetection SEQUENCE {  -- List of CSI-RS resouces used for beam failure detection  -- FFS: How does this relate to the beam indicates in MAC CE?  -- Corresponds to L1 parameter 'Beam-Failure-Detection-RS-ResourceConfig' (see 38.213, section 6)  failureDetectionResources FFS\_Value OPTIONAL,  -- Number of beam failure instances before the UE declares beam failure  -- Corresponds to L1 parameter 'Beam-Failure-Instance-MaxCount' (see 38.321, section FFS\_Section)  beamFailureInstanceMaxCount FFS\_Value OPTIONAL,  -- Details on UE behaviour related to the timer is FFS. (Is this like T310, i.e., the timer to monitor whether the actual  -- beams come back? Or is it like T304, i.e., to monitor whether the recovery towards candidate beams succeeds?)  -- FFS: Rename to beamFailureDetectionTimer?  -- Corresponds to L1 parameter 'Beam-failure-recovery-Timer' (see 38.321?, section FFS\_Section)  beamFailurerRecoveryTimer FFS\_Value OPTIONAL  },  beamFailureRecovery SEQUENCE {  -- Use of PRACH or/and PUSCH for beam in some combination, details FFS.  -- FFS\_CHECK: Can be removed since beam recovery is only supported with RA?!  linkReconfigurationRequest FFS\_Value OPTIONAL,  -- A RACH configuration which the UE may uses for beam recovery upon beam failure detection  -- FFS: If this field is absent, the UE uses the RACH-ConfigCommon configuration appliable for this serving cell??  -- FFS: Compare with the parameters in RACH-ConfigCommon and try align/re-use.  rach-ConfigCommon SEQUENCE {  -- PRACH root sequence index for beam failure recovery  -- Corresponds to L1 parameter 'RootSequenceIndex-BFR' (see 38.211, section 6.3.3.1)  rootSequenceIndex INTEGER (0..137) OPTIONAL,  -- RA preamble index for beam failure recovery  -- Corresponds to L1 parameter 'ra-PreambleIndexConfig-BFR' (see 38.211, section 6.3.3.2)  ra-PreambleIndexConfigBFR INTEGER (0..255),  -- N-CS configuration for beam falure recovery, see Table 6.3.3.1-3 in 38.211  -- Corresponds to L1 parameter 'ZeroCorrelationZoneConfig-BFR' (see 38.211, section 6.3.3.1)  zeroCorrelationZoneConfig INTEGER (0..15) OPTIONAL,    -- Received target power for beam failure request for PRACH  -- Corresponds to L1 parameter 'PreambleInitialReceivedTargetPower-BFR' (see 38.213, section 7.4)  preambleReceivedTargetPower FFS\_Value OPTIONAL,    -- Maximum number of beam failure request transmissions  -- Corresponds to L1 parameter 'PreambleTransMax-BFR' (see 38.321?, section FFS\_Section)  preambleTransMax FFS\_Value OPTIONAL,    -- Power ramping steps for beam failure request via PRACH  -- Corresponds to L1 parameter 'powerRampingStep-BFR' (see 38.321?, section FFS\_Section)  powerRampingStep ENUMERATED {dB0, dB2,dB4, dB6} OPTIONAL,  -- RAR-Response Window for beamfailure recovery  -- FFS\_Value: Use same value range as for normal RAR window?!  -- Corresponds to L1 parameter 'Beam-failure-recovery-request-window' (see 38.213, section 6)  beamFailureRecoveryRequestWindow ENUMERATED {ffsTypeAndValue} OPTIONAL  },  -- FFS: A set of specific candidate beams of this cell and associated dedicated RA preambles which the UE may use to recover  -- FFS: If this field is absent or if the UE does not detect any of these candidate beams, it may recover towards any other  -- suitable beam of its serving cell using CB-RA.  rach-ConfigDedicated SEQUENCE {  -- The candidate beam can be considered identified when metric X (FFS) of candidate beam is higher than a threshold"  -- Corresponds to L1 parameter 'Beam-failure-candidate-beam-threshold' (see 38.213, section 6)  -- FFS: Can this ever be different than the cell suitability criteria? If it is higher, the UE may declare cell-RLF even though  -- there was actually a suitable beam. And if it is lower, the UE cannot camp/stay on this cell anyway.  beamFailureCandidateBeamThreshold ENUMERATED {ffsTypeAndValue} OPTIONAL,  -- List of candidate beam identification RSs and corresponding RA resources  -- FFS: Compare to and align with rach-ConfigDedicated. Re-use the association of CSI/SSB resources to RA preambles defined there.  -- FFS: Make this a AddMod/Release list?  -- Corresponds to L1 parameter 'Candidate-Beam-RS-List' (see 38.213?, section 6)  candidateBeams SEQUENCE (SIZE(1..maxNrofCandidateBeams)) OF SEQUENCE {  -- Reference signal used to identify candidate beam  -- Corresponds to L1 parameter 'Candidate-Beam-RS-Identification-Resource' (see 38.213, section 6)  -- FFS: Confirm that this is meant to be a choice of SSB or CSI-RS  beamFailureCandidateBeamResource CHOICE {  ssbId SSB-Index,  csi-RS-Id NZP-CSI-RS-ResourceId  },    -- Preamble index used to select one from a sequence pool  -- Corresponds to L1 parameter 'ra-PreambleIndex-BFR' (see 38.211?, section FFS\_Section)  ra-PreambleIndex FFS\_Value OPTIONAL,    -- Same meaning as in initial access  -- Corresponds to L1 parameter 'prach-FreqOffset-BFR' (see 38.211?, section FFS\_Section)  -- Is this really meant to be configured per CF preamble? Or does it belong in COMMON?  prach-FreqOffset FFS\_Value OPTIONAL,    -- Time domain mask.  -- Corresponds to L1 parameter 'RACH-resource-mask-BFR' (see 38.211?, section FFS\_Section)  -- Is this really meant to be configured per CF preamble? Or does it belong in COMMON?  rach-resourceMask FFS\_Value OPTIONAL  } OPTIONAL,    -- ID of the CORESET in which the UE receives the Beam Failure Recovery Response.  -- Corresponds to L1 parameter 'Beam-Failure-Recovery-Response-CORESET' (see 38.213, section 6)  -- When the field is absent the UE applies the value FFS\_DefaultValue  recoveryControlResourceSetId ControlResourceSetId OPTIONAL  } OPTIONAL  }  } | Taken care of in BFR CR agreed in Vancouver: PRACH-ResourceDedicatedBFR => ra-PreambleIndex |
| H063 | The value of scramblingID can be confirmed as per RAN1 agreement | 2 | As per RAN1 agreements below, the scramblingID included in CSI-MeasConfig has a 10-bit length and should be with the value range of 0 to 2^10-1; also, it has no default value.  **Agreement:**  For NR CSI-RS sequence,  CSI-RS scrambling ID has a length of 10 bits  There is no default value for the scrambling ID  **Agreement**  For NR CSI-RS sequence initialization,    Similar to LTE, the sequence initialization values should be different for all OFDM symbols within a frame (10ms)  cid:image001.png@01D38566.5B24C090,  where denotes slot index within a radio frame, and is OFDM symbol index within a slot and is UE specifically configured scrambling ID  The scramblingID actually refers to the IE ScramblingId below. The current ScramblingId has already captured the above RAN1 agreement and thus shouldn’t be replaced by ‘PhysCellId’ (since the value range is differnt), so the FFS can be removed.  – ScramblingId  The IE ScramblingID is used for scrambling channels and reference signals.  -- ASN1START  -- TAG-SCRAMBLING-ID-START  ~~-- FFS: Replace by type PhysCellId?~~  ScramblingId ::= BIT STRING (SIZE (10))  -- TAG-SCRAMBLING-ID-STOP  -- ASN1STOP | Done |
| H064 | Regarding csi-ResourceConfigs, a field description may be needed to limit the total ammount of CSI-RS resources in all the resource sets as per RAN1 agreement. | 2 | There seems to be related RAN1 agreement saying that “For the beam management use case, support configuration of up to S=16 CSI-RS resources sets per resource setting, and Ks=1~64 CSI-RS resources per resource set. The total number of CSI-RS resources in all sets cannot be more than 128”.  So perhaps a field description may be needed to capture such RAN1 restriction, perhaps as follows  **csi-ResourceConfigs**  The resource setting(s) for CSI-RS measurement. For each resource setting configured, there can be up to S=16 CSI-RS resource sets, and Ks=1~64 CSI-RS resources per resource set. The totaol number of CSI-RS resources in all sets cannot be more than 128. | To be discussed based on general restructuring |
| H065 | The value of maxNrofCSI-Reports should be changed from ‘ffs\_value’ to ‘16’. | 2 | There is an agreement from RAN1 saying that “A list of ReportConfigIDs per report trigger state (max number of ReportConfigIDs = 16)”. From this point, it can be seen that at most maxNrofCSI-Reports=16 CSI-ReportConfig can be configured, and thus the following change is proposed.  maxNrofCSI-Reports INTEGER ::= ~~ffsValue~~16 -- Maximum number of report configurations | To be checked further.  That agreement seems to refer only to aperiodic reports (trigger state...). |
| H066 | Not clear how qcl-Info-aPeriodicReportingTrigger in reportTrigger works. | 3 | It seems that the current specification place a list of TCI-RS-SetId in order to hold a one-to-one mapping with the list of CSI-ResourceSetId. Unfortunately, there is no such agreement so far in RAN1. Also, it is not clear whether this TCI-RS-SetID needs to be further linked to the resource settings corresponding to the same CSI-ReportConfig, and if yes, how.  So there might be potential problem for this current field, and it is suggested to wait for further RAN1 confirmation on how to deal with the TCI states included in each report trigger state. Or perhaps the rapporteur can clarify how this field works? | To be discussed based on general restructuring |
| H067 | The filed semiPersistentOnPUSCH is not well defined. | 2 | As now there is only one filed included in the SEQUENCE, maybe the following structure is better? Also, do we need a list of SP PUSCH reporting configurations, or do we need just one?  ~~semiPersistentOnPUSCH SEQUENCE {~~  ~~associatedReportConfig CSI-ReportConfigId~~  ~~}~~  semiPersistentOnPUSCH SEQUENCE (SIZE (1..ffs\_value)) OF CSI-ReportConfigId OPTIONAL, | To be done based on general restructuring |
| H068 | The naming of csi-ResourceSetId is not proper. | 2 | From wording perspective, it is better to change the name of csi-ResourceSetId into nzp-csi-rs-ResourceSetId for more accuracy. Note that there are also zp CSI-RS resources, so a common name as the original one may lead to ambiguity.  NZP-CSI-RS-ResourceSet ::= SEQUENCE {  nzp-~~csi~~CSI-ResourceSetId CSI-ResourceSetId,  nzp-csi-rs-Resources SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-Resource,  repetition BOOLEAN,  aperiodicTriggeringOffset FFS\_Value OPTIONAL  } | Done |
| H069 | One parameter, CSI-IM-timeConfig, in TS 38.214is now missing, and should be added. | 2 | In the CSI-IM resource configuration (i.e. CSI-IM-Resource), the paremeter CSI-IM-timeConfig, which is defined as follows in TS 38.214, 5.2.4.4, is now missing. So RAN2 needs to discuss how to add this CSI-IM-timeConfig as per the definition in TS 38.214 or related RAN1 agreement.  ‘CSI-IM-timeConfig defines the CSI-IM periodicity and slot offset for periodic/semi-persistent CSI-IM according to the Subclause TBD of [4, TS 38.211].’ | already added based on other RIL item |
| H070 | Not Clear why the periodicity and offset of semiPersistentPUCCH and those of semiPersistentPUSCH have different IE format. | 2 | Compared between semiPersistentPUCCH and semiPersistentPUSCH, why does the former have a joint periodicity and slot offset configurations, but the later has only the periodicity configuration, as in corresponding reportSlotConfig?  Perhaps, the the reportSlotConfig of semiPersistentPUSCH can be changed to the same as that in semiPersistentPUCCH, if regarded as needed. | Could be checked with RAN1 |
| H071 | In reportQuantity, a parameter, which is needed for the value of **SSBRI/RSRP** as per TS 38.214, is now missing. Also, it is unclear what the existing field cri means, and it should be removed. | 2 | A parameter, ssbri-RSRP, is needed to configure the value of ‘SSBRI/RSRP’ according to TS 38.214, subclause 5.2.3: ‘When the higher layer parameter ReportQuantity is configured with one of the values ‘CRI/RSRP’ or ‘SSBRI/RSRP’, the CSI feedback consists of a single part.’ Also, it seems to make no sense to have a ‘cri’ field, with other fields already being there.  reportQuantity CHOICE {  none NULL,  cri-RI-PMI-CQI NULL,  cri-RI-i1 NULL,  cri-RI-i1-CQI SEQUENCE {  pdsch-BundleSizeForCSI ENUMERATED {n2, n4} OPTIONAL  },  cri-RI-CQI NULL,  ~~cri NULL,~~  cri-RSRP NULL,  ssbri-RSRP NULL,  cri-RI-LI-PMI-CQI NULL  },  Confirm with RAN1. | New value added based on other RIL issue.  Other value removed |
| H072 | The measRestrictionTimeForChannel and measRestrictionTimeForInterference should be removed, since there is no agreement for them and they are not in TS 38.214 (as in the comment) either. | 2 | We are not sure what measRestrictionTimeForChannel and measRestrictionTimeForInterference actually refer to. As far as we know, there has not been any agreement supporting them; neither do they appear in any subclause in TS 38.214. if this is the case, then they should be removed form the Spec.  reportFreqConfiguration SEQUENCE {  cqi-FormatIndicator ENUMERATED { widebandCQI, subbandCQI },  pmi-FormatIndicator ENUMERATED { widebandPMI, subbandPMI },  csi-ReportingBand BIT STRING (SIZE (ffsValue))  },  ~~measRestrictionTimeForChannel ENUMERATED {ffsTypeAndValue},~~  ~~measRestrictionTimeForInterference ENUMERATED {ffsTypeAndValue},~~  codebookConfig CodebookConfig,  nrofCQIsPerReport ENUMERATED {n1, n2},  Rap: Existence of measRestrictionTimeForChannel and measRestrictionTimeForInterference in CSI-MeasConfig need to be verified with RAN1. IEs are proposed to be renamed in CR. | No change.  They correspond to these two fields from L1 table. RAN1 provided value ranges. 38.331 updated accordingly. |
| H073 | The naming of failureDetectionResources is not proper. | 2 | To be more specific and more accurate, it is better to change the name of this field into beamFailureDetectionResources. | Done in BFR CR |
| H074 | The field beamFailurerRecoveryTimer is not in a right place.  The field beamFailureCandidateBeamThreshold may not be in a right place either. | 2 | We think that this timer should be moved into the below beamFailureRecovery field, because it is more related to beam failure **recovery**, than beam failure **detection**.  Also, it seems that the beamFailureCandidateBeamThreshold which is a threhold for the beam selection in case of BFR ought to be a common one, instead of a beam specific one. If this is the case, then it should be moved to rach-ConfigCommon.  Perhaps the following example helps:  beamFailureDetection SEQUENCE {  failureDetectionResources FFS\_Value OPTIONAL,  beamFailureInstanceMaxCount FFS\_Value OPTIONAL,  ~~beamFailurerRecoveryTimer FFS\_Value OPTIONAL~~  },  beamFailureRecovery SEQUENCE {  linkReconfigurationRequest FFS\_Value OPTIONAL,  beamFailureRecoveryTimer FFS\_Value OPTIONAL,  beamFailureCandidateBeamThreshold ENUMERATED {ffsTypeAndValue} OPTIONAL,  rach-ConfigCommon SEQUENCE {  rootSequenceIndex INTEGER (0..137) OPTIONAL,  zeroCorrelationZoneConfig INTEGER (0..15) OPTIONAL,  preambleReceivedTargetPower FFS\_Value OPTIONAL,  preambleTransMax FFS\_Value OPTIONAL,  powerRampingStep ENUMERATED {dB0, dB2,dB4, dB6} OPTIONAL,  beamFailureRecoveryRequestWindow ENUMERATED {ffsTypeAndValue} OPTIONAL  },  rach-ConfigDedicated SEQUENCE {  ~~beamFailureCandidateBeamThreshold ENUMERATED {ffsTypeAndValue} OPTIONAL,~~  candidateBeams SEQUENCE (SIZE(1..maxNrofCandidateBeams)) OF SEQUENCE {  beamFailureCandidateBeamResource CHOICE {  ssbId SSB-Index,  csi-RS-Id NZP-CSI-RS-ResourceId  },  ra-PreambleIndex FFS\_Value OPTIONAL,  prach-FreqOffset FFS\_Value OPTIONAL,  rach-resourceMask FFS\_Value OPTIONAL  } OPTIONAL,  recoveryControlResourceSetId ControlResourceSetId OPTIONAL  } OPTIONAL  } | Done in BFR CR |
| H075 | The naming of beamFailureRecoveryRequestWindow is not appropriate, and should be changed to a more proper one. | 2 | Similar to the ra-ResponseWindow, we suggest to change the current name beamFailureRecoveryRequestWindow to beamFailureRecoveryResponseWindow”. Note that this is also in line with the naming in **38.321** (i.e. bfr-ResponseWindow)  beamFailureRecovery~~Request~~ResponseWindow ENUMERATED {ffsTypeAndValue} OPTIONAL | BFR handled in BFR CR?! |
| H076 | The value of scramblingID can be confirmed as per RAN1 agreement | 2 | As per RAN1 agreements below, the scramblingID included in CSI-MeasConfig has a 10-bit length and should be with the value range of 0 to 2^10-1; also, it has no default value.  **Agreement:**  For NR CSI-RS sequence,  CSI-RS scrambling ID has a length of 10 bits  There is no default value for the scrambling ID  **Agreement**  For NR CSI-RS sequence initialization,    Similar to LTE, the sequence initialization values should be different for all OFDM symbols within a frame (10ms)  cid:image001.png@01D38566.5B24C090,  where denotes slot index within a radio frame, and is OFDM symbol index within a slot and is UE specifically configured scrambling ID  The scramblingID actually refers to the IE ScramblingId below. The current ScramblingId has already captured the above RAN1 agreement and thus shouldn’t be replaced by ‘PhysCellId’ (since the value range is differnt), so the FFS can be removed.  – ScramblingId  The IE ScramblingID is used for scrambling channels and reference signals.  -- ASN1START  -- TAG-SCRAMBLING-ID-START  ~~-- FFS: Replace by type PhysCellId?~~  ScramblingId ::= BIT STRING (SIZE (10))  -- TAG-SCRAMBLING-ID-STOP  -- ASN1STOP | Duplicate |
| Q006 | RACH-ConfigDedicated is defined as a separate IE, as well an IE in beamFailureRecovery.  Similar issue is present for other IEs e.g., RACH-ConfigCommon. | 2 | Decide whether to rename the IEs to make them distinct. While this is not necessarily an error in ASN.1, it is better to avoid such cases to facilitate easy searching of the RRC spec.  Proposed solution: avoid reuse of IE names for two separate purposes, rename one of the IEs to make them distinct according to purpose, e.g., RACH-ConfigDedicatedBM  Rap: Modification by Qualcomm:  Proposed solution: avoid reuse of IE names for two separate purposes, rename one of the IEs to make them distinct according to purpose, e.g., RACH-ConfigDedicatedBM | BFR handled in BFR CR?! |
| N076 | Where does the "other" come in NZP-CSI-RS-Resource::resourceMapping::frequencyDomainAllocation? | 2 | The table referred to in the comments seems not correct (for one thing, the table has ~20 entries, but has 4 separate 1-4 bit bitmaps, allowing for BIT STRINGs of 1-4 length. This seems to be coming from the RAN1 parameter CSI-RS-ResourceMapping, which has the following description: "Starting subcarrier: X = 1 port: no restriction Y = 2: constrained to be one among even subcarriers in an RB Y = 4: constrained to be one among subcarriers 0, 4, 8 in an RB  OFDM symbol locations: {0,1,2,3,4,5,6,7,8,9,10,11,12,13}, where 2 is supported only when DL-DMRS-typeA-pos equals 3" --> Should this be "port1", "port2", "port4" only? Or something else entirely? | Solved above by other RIL issue |
| N079 | Most need codes are missing - impossible to see which fields should be releasable and which not. | 4 | This may require RAN1 clarifications - which fields are subject to delta signalling? Simple way could be to just assume Need M for all and see if we can still release everything.  Nokia will provide a contribution on need codes. | See TDoc R2-1800833  Partly done. Requires more work |
| S010 | Field beamFailureRecoveryRequestWindow should be part of rach-ConfigDedicated instead of rach-ConfigCommon | 2 | If UE uses contention based RA for beam recovery, UE will monitor RAR using RAR window size configured in common RACH configuration. UE can not use beamFailureRecoveryRequestWindow for monitoring RAR. beamFailureRecoveryRequestWindow is used only for beam recovery using CF rach resources.  beamFailureRecovery SEQUENCE {  -- Use of PRACH or/and PUSCH for beam in some combination, details FFS.  -- FFS\_CHECK: Can be removed since beam recovery is only supported with RA?!  linkReconfigurationRequest FFS\_Value OPTIONAL,  -- A RACH configuration which the UE may uses for beam recovery upon beam failure detection  -- FFS: If this field is absent, the UE uses the RACH-ConfigCommon configuration appliable for this serving cell??  -- FFS: Compare with the parameters in RACH-ConfigCommon and try align/re-use.  rach-ConfigCommon SEQUENCE {  -- PRACH root sequence index for beam failure recovery  -- Corresponds to L1 parameter 'RootSequenceIndex-BFR' (see 38.211, section 6.3.3.1)  rootSequenceIndex INTEGER (0..137) OPTIONAL,  -- N-CS configuration for beam falure recovery, see Table 6.3.3.1-3 in 38.211  -- Corresponds to L1 parameter 'ZeroCorrelationZoneConfig-BFR' (see 38.211, section 6.3.3.1)  zeroCorrelationZoneConfig INTEGER (0..15) OPTIONAL,  -- Received target power for beam failure request for PRACH  -- Corresponds to L1 parameter 'PreambleInitialReceivedTargetPower-BFR' (see 38.213, section 7.4)  preambleReceivedTargetPower FFS\_Value OPTIONAL,  -- Maximum number of beam failure request transmissions  -- Corresponds to L1 parameter 'PreambleTransMax-BFR' (see 38.321?, section FFS\_Section)  preambleTransMax FFS\_Value OPTIONAL,  -- Power ramping steps for beam failure request via PRACH  -- Corresponds to L1 parameter 'powerRampingStep-BFR' (see 38.321?, section FFS\_Section)  powerRampingStep ENUMERATED {dB0, dB2,dB4, dB6} OPTIONAL,  -- RAR-Response Window for beamfailure recovery  -- FFS\_Value: Use same value range as for normal RAR window?!  -- Corresponds to L1 parameter 'Beam-failure-recovery-request-window' (see 38.213, section 6)  ~~beamFailureRecoveryRequestWindow ENUMERATED {ffsTypeAndValue} OPTIONAL~~  },  rach-ConfigDedicated SEQUENCE {  beamFailureCandidateBeamThreshold ENUMERATED {ffsTypeAndValue} OPTIONAL,  beamFailureRecoveryRequestWindow ENUMERATED {ffsTypeAndValue} OPTIONAL,  candidateBeams SEQUENCE (SIZE(1..maxNrofCandidateBeams)) OF SEQUENCE {  beamFailureCandidateBeamResource CHOICE {  ssbId SSB-Index,  csi-RS-Id NZP-CSI-RS-ResourceId  },  ra-PreambleIndex FFS\_Value OPTIONAL,  prach-FreqOffset FFS\_Value OPTIONAL,  rach-resourceMask FFS\_Value OPTIONAL  } OPTIONAL,  recoveryControlResourceSetId ControlResourceSetId OPTIONAL  } OPTIONAL  } | BFR handled in BFR CR?! |
| S011 | Field beamFailureCandidateBeamThreshold should be mandatory as it is needed for identifying candidate beam for beam recovery | 2 | beamFailureRecovery SEQUENCE {  -- Use of PRACH or/and PUSCH for beam in some combination, details FFS.  -- FFS\_CHECK: Can be removed since beam recovery is only supported with RA?!  linkReconfigurationRequest FFS\_Value OPTIONAL,  -- A RACH configuration which the UE may uses for beam recovery upon beam failure detection  -- FFS: If this field is absent, the UE uses the RACH-ConfigCommon configuration appliable for this serving cell??  -- FFS: Compare with the parameters in RACH-ConfigCommon and try align/re-use.  rach-ConfigCommon SEQUENCE {  -- PRACH root sequence index for beam failure recovery  -- Corresponds to L1 parameter 'RootSequenceIndex-BFR' (see 38.211, section 6.3.3.1)  rootSequenceIndex INTEGER (0..137) OPTIONAL,    -- N-CS configuration for beam falure recovery, see Table 6.3.3.1-3 in 38.211  -- Corresponds to L1 parameter 'ZeroCorrelationZoneConfig-BFR' (see 38.211, section 6.3.3.1)  zeroCorrelationZoneConfig INTEGER (0..15) OPTIONAL,    -- Received target power for beam failure request for PRACH  -- Corresponds to L1 parameter 'PreambleInitialReceivedTargetPower-BFR' (see 38.213, section 7.4)  preambleReceivedTargetPower FFS\_Value OPTIONAL,    -- Maximum number of beam failure request transmissions  -- Corresponds to L1 parameter 'PreambleTransMax-BFR' (see 38.321?, section FFS\_Section)  preambleTransMax FFS\_Value OPTIONAL,    -- Power ramping steps for beam failure request via PRACH  -- Corresponds to L1 parameter 'powerRampingStep-BFR' (see 38.321?, section FFS\_Section)  powerRampingStep ENUMERATED {dB0, dB2,dB4, dB6} OPTIONAL,  -- RAR-Response Window for beamfailure recovery  -- FFS\_Value: Use same value range as for normal RAR window?!  -- Corresponds to L1 parameter 'Beam-failure-recovery-request-window' (see 38.213, section 6)  beamFailureCandidateBeamThreshold ENUMERATED {ffsTypeAndValue} ,    },    rach-ConfigDedicated SEQUENCE {    ~~beamFailureCandidateBeamThreshold ENUMERATED {ffsTypeAndValue} OPTIONAL,~~    candidateBeams SEQUENCE (SIZE(1..maxNrofCandidateBeams)) OF SEQUENCE {    beamFailureCandidateBeamResource CHOICE {  ssbId SSB-Index,  csi-RS-Id NZP-CSI-RS-ResourceId  },      ra-PreambleIndex FFS\_Value OPTIONAL,      prach-FreqOffset FFS\_Value OPTIONAL,      rach-resourceMask FFS\_Value OPTIONAL  } OPTIONAL,      recoveryControlResourceSetId ControlResourceSetId OPTIONAL  } OPTIONAL  } | BFR handled in BFR CR?! |
| S012 | Remove two unknown IEs in BeamManagement IE | 2 | In CSI-MeasConfig IE, there are two parameters "linkReconfigurationRequest" and "beamFailureInstanceMaxCount" in BeamManagement IE definition, which don't have clear definition or explanation in any of related TS (i.e., TS 38.321 and TS 38.213) even though they are in L1 parameter list. All the other parameters in BeamManagement IE are shown in both TS 38.213 and L1 parameter list.  **[Ericsson]** Apparently RAN1 still discusses the parmameters for Beam Management and they will probably provide further updates. We suggest to keep the parameters for now and to ask for additional input. Since the values are marked as FFS (value, seciton, ...) there is no risk that they are overlooked.  BeamManagement ::= SEQUENCE {  beamFailureDetection SEQUENCE {  -- List of CSI-RS resouces used for beam failure detection  -- FFS: How does this relate to the beam indicates in MAC CE?  -- Corresponds to L1 parameter 'Beam-Failure-Detection-RS-ResourceConfig' (see 38.213, section 6)  failureDetectionResources FFS\_Value OPTIONAL,  -- Number of beam failure instances before the UE declares beam failure  -- Corresponds to L1 parameter 'Beam-Failure-Instance-MaxCount' (see 38.321, section FFS\_Section)  ~~beamFailureInstanceMaxCount FFS\_Value~~  OPTIONAL,  -- Details on UE behaviour related to the timer is FFS. (Is this like T310, i.e., the timer to monitor whether the actual  -- beams come back? Or is it like T304, i.e., to monitor whether the recovery towards candidate beams succeeds?)  -- FFS: Rename to beamFailureDetectionTimer?  -- Corresponds to L1 parameter 'Beam-failure-recovery-Timer' (see 38.321?, section FFS\_Section)  beamFailurerRecoveryTimer FFS\_Value OPTIONAL  },  beamFailureRecovery SEQUENCE {  -- Use of PRACH or/and PUSCH for beam in some combination, details FFS.  -- FFS\_CHECK: Can be removed since beam recovery is only supported with RA?!  ~~linkReconfigurationRequest FFS\_Value~~  OPTIONAL,  -- A RACH configuration which the UE may uses for beam recovery upon beam failure detection  -- FFS: If this field is absent, the UE uses the RACH-ConfigCommon configuration appliable for this serving cell??  -- FFS: Compare with the parameters in RACH-ConfigCommon and try align/re-use.  rach-ConfigCommon SEQUENCE {  -- PRACH root sequence index for beam failure recovery  -- Corresponds to L1 parameter 'RootSequenceIndex-BFR' (see 38.211, section 6.3.3.1)  rootSequenceIndex INTEGER (0..137) OPTIONAL,    -- N-CS configuration for beam falure recovery, see Table 6.3.3.1-3 in 38.211  -- Corresponds to L1 parameter 'ZeroCorrelationZoneConfig-BFR' (see 38.211, section 6.3.3.1)  zeroCorrelationZoneConfig INTEGER (0..15) OPTIONAL,    -- Received target power for beam failure request for PRACH  -- Corresponds to L1 parameter 'PreambleInitialReceivedTargetPower-BFR' (see 38.213, section 7.4)  preambleReceivedTargetPower FFS\_Value OPTIONAL,    -- Maximum number of beam failure request transmissions  -- Corresponds to L1 parameter 'PreambleTransMax-BFR' (see 38.321?, section FFS\_Section)  preambleTransMax FFS\_Value OPTIONAL,    -- Power ramping steps for beam failure request via PRACH  -- Corresponds to L1 parameter 'powerRampingStep-BFR' (see 38.321?, section FFS\_Section)  powerRampingStep ENUMERATED {dB0, dB2,dB4, dB6} OPTIONAL,  -- RAR-Response Window for beamfailure recovery  -- FFS\_Value: Use same value range as for normal RAR window?!  -- Corresponds to L1 parameter 'Beam-failure-recovery-request-window' (see 38.213, section 6)  beamFailureRecoveryRequestWindow ENUMERATED {ffsTypeAndValue} OPTIONAL  },  -- FFS: A set of specific candidate beams of this cell and associated dedicated RA preambles which the UE may use to recover  -- FFS: If this field is absent or if the UE does not detect any of these candidate beams, it may recover towards any other  -- suitable beam of its serving cell using CB-RA.  rach-ConfigDedicated SEQUENCE {  -- The candidate beam can be considered identified when metric X (FFS) of candidate beam is higher than a threshold"  -- Corresponds to L1 parameter 'Beam-failure-candidate-beam-threshold' (see 38.213, section 6)  -- FFS: Can this ever be different than the cell suitability criteria? If it is higher, the UE may declare cell-RLF even though  -- there was actually a suitable beam. And if it is lower, the UE cannot camp/stay on this cell anyway.  beamFailureCandidateBeamThreshold ENUMERATED {ffsTypeAndValue} OPTIONAL,  -- List of candidate beam identification RSs and corresponding RA resources  -- FFS: Compare to and align with rach-ConfigDedicated. Re-use the association of CSI/SSB resources to RA preambles defined there.  -- FFS: Make this a AddMod/Release list?  -- Corresponds to L1 parameter 'Candidate-Beam-RS-List' (see 38.213?, section 6)  candidateBeams SEQUENCE (SIZE(1..maxNrofCandidateBeams)) OF SEQUENCE {  -- Reference signal used to identify candidate beam  -- Corresponds to L1 parameter 'Candidate-Beam-RS-Identification-Resource' (see 38.213, section 6)  -- FFS: Confirm that this is meant to be a choice of SSB or CSI-RS  beamFailureCandidateBeamResource CHOICE {  ssbId SSB-Index,  csi-RS-Id NZP-CSI-RS-ResourceId  },    -- Preamble index used to select one from a sequence pool  -- Corresponds to L1 parameter 'ra-PreambleIndex-BFR' (see 38.211?, section FFS\_Section)  ra-PreambleIndex FFS\_Value OPTIONAL,    -- Same meaning as in initial access  -- Corresponds to L1 parameter 'prach-FreqOffset-BFR' (see 38.211?, section FFS\_Section)  -- Is this really meant to be configured per CF preamble? Or does it belong in COMMON?  prach-FreqOffset FFS\_Value OPTIONAL,    -- Time domain mask.  -- Corresponds to L1 parameter 'RACH-resource-mask-BFR' (see 38.211?, section FFS\_Section)  -- Is this really meant to be configured per CF preamble? Or does it belong in COMMON?  rach-resourceMask FFS\_Value OPTIONAL  } OPTIONAL,    -- ID of the CORESET in which the UE receives the Beam Failure Recovery Response.  -- Corresponds to L1 parameter 'Beam-Failure-Recovery-Response-CORESET' (see 38.213, section 6)  -- When the field is absent the UE applies the value FFS\_DefaultValue  recoveryControlResourceSetId ControlResourceSetId OPTIONAL  } OPTIONAL  }  }  -- TAG-CSI-MEAS-CONFIG-STOP  -- ASN1STOP | ToDisc  BFR handled in BFR CR?! |
| N275 | None of the main list entries can be released – just added or modified. | 2 | Discuss if we need ToReleaseList for each of the entries (likely we do) | To be done in general restructuring |
| N277 | Why is the reportTrigger not inside CSI-ReportConfigs? Is it because it is for CSI reporting and not for beam management? | 2 | Discuss whether reportTrigger could be moved | To be done in general restructuring |
| N278 | csi-ResourceConfigs and csi-ReportConfigs should be csi-ResourceConfigList and csi-ReportConfigList instead, to unify naming o The csi-RS-ResourceSets should csi-RS-ResourceSetList (like with previous) o Several other examples also exist within the same IE group | 2 | Unify the naming (there are also examples within the specification elsewhere!) | To be done in general restructuring |
| N279 | Is there a reason why NZP-CSI-RS-Resource::periodicityAndOffset allows 640ms periodicity (compared to CSI-IM-Resource:: reportSlotConfig which don't)? | 2 | Discuss if the value range is correct | Has been aligned based on RAN1 input |
| N297 | associatedResourceSets   SEQUENCE (SIZE (1..64)) OF CSI-ResourceSetId According to RAN1 parameters list this should be a bitmap of size 16. | 2 | It is good to disucss that one. Although RAN1 has a bitmap type, they also indicated that: "Number of one(s) in the bitmap None = 1 for CSI acquisition and beam management)." (in the updated MIMO related L1 parameters list). Therefore, it will simply indicate one of the maximum 16 configured resource sets. It could simply be defined as folows: associatedResourceSets CSI-ResourceSetId  Does that also mean that ResourceSetMax (L1 parameters list) / maxNrofCSI-ResourceSets (RRC) should be qual to 16? | To be done in general restructuring |
| N286 | ssb-Resources      SEQUENCE (SIZE (1..maxNrofSSB-Resources-1)) OF CSI-SSB-Resource  OPTIONAL Sequence size is wrong (maximum should be 64) | 2 | Remove "-1" from below: ssb-Resources      SEQUENCE (SIZE (1..maxNrofSSB-Resources-1)) OF CSI-SSB-Resource  OPTIONAL | Done |
| N287 | bandwidthPartId field is optional in ReportConfig IE. What happens if this is not available? Is it then applicable to all BWPs? | 2 | Optionality is either removed or field description will have to contain explanation of what absence of this field means. | To be done in general restructuring  Note that there is one BWP field associated to the PUCCH resource. That is now mandatory.  Then, there is another field identifying the DL BWP. That may not be needed depending on where the Resoruce(set(ings)) are defined and whether they identify a BWP. |
| N288 | Considering aperiodicTriggeringOffset, there is an FFS: -- FFS\_CHECK: Is this field at the correct place? Or should it be in the trigger configuration instead? According to the description in L1 parameters list this should be per resource set, so it is in right place | 2 | Remove FFS | To be done in general restructuring  Current plan is to move the triggers into the ReportConfig |
| N289 | -- PRB where this NZP-CSI-RS-Resource starts in relation to PRB 0 of the associated BWP. Only multiples of 4 are allowed (0, 4, ...)   startingRB        INTEGER (0..maxNrofPhysicalResourceBlocks-1),  If only multiples of 4 are allowed, the value range could be 4 times lower. | 2 | Change the value range to maxNrofPhysicalResourceBlocks/4 and explain in the field description how to calculate the start PRB | Kept unchanged  Would become less readable |
| N290 | CSI-IM-Resource does not contain CSI-IM-timeConfig as specified in L1 parameters list | 2 | Add structure similar to that from NZP CSI resources, i.e.: periodicityAndOffset     CHOICE {   sl5          INTEGER (0..4),    sl10         INTEGER (0..9),    sl20         INTEGER (0..19),    sl40         INTEGER (0..39),    sl80         INTEGER (0..79),    sl160         INTEGER (0..159),    sl320         INTEGER (0..319),    sl640         INTEGER (0..639) } Alternatively, IE could be defined and used in both places. | Done based on L1 table update. |
| N291 | nrofBeamsToReport      ENUMERATED {ffsTypeAndValue}  It seems at least values 1 and 2 are already agreed. | 2 | Add type ENUMERATED {one, two} | Waiting for final value range from RAN1 |
| N292 | BeamManagement Given the recent agreements in RAN2 (CBRA support for beam failure recovry) and RAN1 (LS in R1-1721346) the whole part requires significant modificaitons and divergence from L1 parameters list. | 4 | Contribution should be submitted to AI 10.4.1.4.1 Corrections to RRM for EN-DC (seems to fit best) |  |
| H285 | candidateBeams is structured as a SEQUENCE OF SEQUENCE | 2 | BeamManagement ::=                      SEQUENCE {      beamFailureDetection                 SEQUENCE {         -- List of CSI-RS resouces used for beam failure detection         -- FFS: How does this relate to the beam indicates in MAC CE?         -- Corresponds to L1 parameter 'Beam-Failure-Detection-RS-ResourceConfig' (see 38.213, section 6)         failureDetectionResources            FFS\_Value                                                 OPTIONAL,         -- Number of beam failure instances before the UE declares beam failure         -- Corresponds to L1 parameter 'Beam-Failure-Instance-MaxCount' (see 38.321, section FFS\_Section)         beamFailureInstanceMaxCount             FFS\_Value                                                  OPTIONAL,         -- Details on UE behaviour related to the timer is FFS. (Is this like T310, i.e., the timer to monitor whether the actual         -- beams come back? Or is it like T304, i.e., to monitor whether the recovery towards candidate beams succeeds?)         -- FFS: Rename to beamFailureDetectionTimer?         -- Corresponds to L1 parameter 'Beam-failure-recovery-Timer' (see 38.321?, section FFS\_Section)         beamFailurerRecoveryTimer            FFS\_Value                                                 OPTIONAL      },      beamFailureRecovery                     SEQUENCE {         -- Use of PRACH or/and PUSCH for beam in some combination, details FFS.         -- FFS\_CHECK: Can be removed since beam recovery is only supported with RA?!         linkReconfigurationRequest              FFS\_Value                                                  OPTIONAL,         -- A RACH configuration which the UE may uses for beam recovery upon beam failure detection         -- FFS: If this field is absent, the UE uses the RACH-ConfigCommon configuration appliable for this serving cell??         -- FFS: Compare with the parameters in RACH-ConfigCommon and try align/re-use.         rach-ConfigCommon                    SEQUENCE {             -- PRACH root sequence index for beam failure recovery             -- Corresponds to L1 parameter 'RootSequenceIndex-BFR' (see 38.211, section 6.3.3.1)             rootSequenceIndex                    INTEGER (0..137)                                        OPTIONAL,               -- N-CS configuration for beam falure recovery, see Table 6.3.3.1-3 in 38.211             -- Corresponds to L1 parameter 'ZeroCorrelationZoneConfig-BFR' (see 38.211, section 6.3.3.1)             zeroCorrelationZoneConfig            INTEGER (0..15)                                         OPTIONAL,               -- Received target power for beam failure request for PRACH             -- Corresponds to L1 parameter 'PreambleInitialReceivedTargetPower-BFR' (see 38.213, section 7.4)             preambleReceivedTargetPower             FFS\_Value                                              OPTIONAL,               -- Maximum number of beam failure request transmissions             -- Corresponds to L1 parameter 'PreambleTransMax-BFR' (see 38.321?, section FFS\_Section)             preambleTransMax                     FFS\_Value                                              OPTIONAL,               -- Power ramping steps for beam failure request via PRACH             -- Corresponds to L1 parameter 'powerRampingStep-BFR' (see 38.321?, section FFS\_Section)             powerRampingStep                    ENUMERATED {dB0, dB2,dB4, dB6}                             OPTIONAL,             -- RAR-Response Window for beamfailure recovery             -- FFS\_Value: Use same value range as for normal RAR window?!             -- Corresponds to L1 parameter 'Beam-failure-recovery-request-window' (see 38.213, section 6)             beamFailureRecoveryRequestWindow     ENUMERATED {ffsTypeAndValue}                           OPTIONAL         },         -- FFS: A set of specific candidate beams of this cell and associated dedicated RA preambles which the UE may use to recover         -- FFS: If this field is absent or if the UE does not detect any of these candidate beams, it may recover towards any other         -- suitable beam of its serving cell using CB-RA.         rach-ConfigDedicated                 SEQUENCE {             -- The candidate beam can be considered identified when metric X (FFS) of candidate beam is higher than a threshold"             -- Corresponds to L1 parameter 'Beam-failure-candidate-beam-threshold' (see 38.213, section 6)             -- FFS: Can this ever be different than the cell suitability criteria? If it is higher, the UE may declare cell-RLF even though             -- there was actually a suitable beam. And if it is lower, the UE cannot camp/stay on this cell anyway.             beamFailureCandidateBeamThreshold       ENUMERATED {ffsTypeAndValue}                                             OPTIONAL,             -- List of candidate beam identification RSs and corresponding RA resources             -- FFS: Compare to and align with rach-ConfigDedicated. Re-use the association of CSI/SSB resources to RA preambles defined there.             -- FFS: Make this a AddMod/Release list?             -- Corresponds to L1 parameter 'Candidate-Beam-RS-List' (see 38.213?, section 6)             candidateBeams                       SEQUENCE (SIZE(1..maxNrofCandidateBeams)) OF CandidateBeam~~SEQUENCE {~~                 -- Reference signal used to identify candidate beam                 -- Corresponds to L1 parameter 'Candidate-Beam-RS-Identification-Resource' (see 38.213, section 6)                 -- FFS: Confirm that this is meant to be a choice of SSB or CSI-RS                 beamFailureCandidateBeamResource     CHOICE {                    ssbId                                SSB-Index,                    csi-RS-Id                            NZP-CSI-RS-ResourceId                 },                   -- Preamble index used to select one from a sequence pool                 -- Corresponds to L1 parameter 'ra-PreambleIndex-BFR' (see 38.211?, section FFS\_Section)                 ra-PreambleIndex                        FFS\_Value                                       OPTIONAL,                   -- Same meaning as in initial access                 -- Corresponds to L1 parameter 'prach-FreqOffset-BFR' (see 38.211?, section FFS\_Section)                 -- Is this really meant to be configured per CF preamble? Or does it belong in COMMON?                 prach-FreqOffset                       FFS\_Value                                       OPTIONAL,                   -- Time domain mask.                 -- Corresponds to L1 parameter 'RACH-resource-mask-BFR' (see 38.211?, section FFS\_Section)                 -- Is this really meant to be configured per CF preamble? Or does it belong in COMMON?                 rach-resourceMask                         FFS\_Value                                       OPTIONAL  ~~}~~                                                                                          OPTIONAL,               -- ID of the CORESET in which the UE receives the Beam Failure Recovery Response.             -- Corresponds to L1 parameter 'Beam-Failure-Recovery-Response-CORESET' (see 38.213, section 6)             -- When the field is absent the UE applies the value FFS\_DefaultValue             recoveryControlResourceSetId         ControlResourceSetId                                   OPTIONAL         }                                                                                              OPTIONAL      }  }  CandidateBeam ::= SEQUENCE {      -- Reference signal used to identify candidate beam      -- Corresponds to L1 parameter 'Candidate-Beam-RS-Identification-Resource' (see 38.213, section 6)      -- FFS: Confirm that this is meant to be a choice of SSB or CSI-RS      beamFailureCandidateBeamResource     CHOICE {         ssbId                                SSB-Index,         csi-RS-Id                            NZP-CSI-RS-ResourceId      },        -- Preamble index used to select one from a sequence pool      -- Corresponds to L1 parameter 'ra-PreambleIndex-BFR' (see 38.211?, section FFS\_Section)      ra-PreambleIndex                        FFS\_Value                                       OPTIONAL,        -- Same meaning as in initial access      -- Corresponds to L1 parameter 'prach-FreqOffset-BFR' (see 38.211?, section FFS\_Section)      -- Is this really meant to be configured per CF preamble? Or does it belong in COMMON?      prach-FreqOffset                       FFS\_Value                                       OPTIONAL,        -- Time domain mask.      -- Corresponds to L1 parameter 'RACH-resource-mask-BFR' (see 38.211?, section FFS\_Section)      -- Is this really meant to be configured per CF preamble? Or does it belong in COMMON?      rach-resourceMask                         FFS\_Value                                       OPTIONAL  } |  |
| H288 | LS was sent to RAN2 (R1-1721700), requesting to add configurations for some parameters for beam failure recovery (BFR) | 3 | see separate contribution in R2-1801198.  RAN2 AH: R2-1801198 for OFFLINE | See Tdoc R2-1801198  BFR handled in BFR CR? |
| Z155 | Currently, the whole configuration of each individual CSI-RS resource is included in each CSI-RS resource set. For instance, for a particular nzp-CSI-RS-Resource set, the whole configuraiton of each CSI-RS resource contained in the set are included in the resource as following:  nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-Resource  This is not signalling overhead friendly. It’s better to define all the CSI-RS resources with a global CSI-RS resource ID in the very beginning and when define the CSI-RS resource set, only the corresponding CSI-RS resource IDs need to be included. | 3 | **Define all the resources with a global resource ID in CSI-MeasConfig:**  CSI-MeasConfig ::= SEQUENCE {  CSI-Resources SEQUENCE{  nzp-csi-rs-Resources SEQUENCE (SIZE (1..maxNrofCSI-RS-Resources)) OF NZP-CSI-RS-Resource OPTIONAL;  csi-IM-Resources SEQUENCE (SIZE (1..maxNrofCSI-Resources)) OF CSI-IM-Resource OPTIONAL,  }  csi-ResourceConfigs SEQUENCE (SIZE (1..maxNrofCSI-ResrouceConfigurations)) OF CSI-ResourceConfig OPTIONAL,  csi-ReportConfigs SEQUENCE (SIZE (1..maxNrofCSI-Reports)) OF CSI-ReportConfig OPTIONAL,  csi-MeasIdToAddModList SEQUENCE (SIZE (1..maxNrofCSI-MeasId)) OF CSI-MeasIdToAddMod OPTIONAL,  -- Size of CSI request field in DCI (bits). Corresponds to L1 parameter 'ReportTriggerSize' (see 38.214, section 5.2)  reportTriggerSize INTEGER (0..6) OPTIONAL,  **Add a resource ID for each NZP-CSI-RS-Resource, CSI-IM-Resource (already have ID in the current version):**  *NZP-CSI-RS-Resource* information element  -- ASN1START  -- TAG-NZP-CSI-RS-RESOURCE-START  NZP-CSI-RS-Resource ::= SEQUENCE {  nzp-CSI-RS-ResourceId NZP-CSI-RS-ResourceId,  -- Frequency domain allocation within a physical resource block in accordance with 38.211, section 7.4.1.5.3 including table 7.4.1.5.2-1.  -- The number of bits that may be set to one depend on the chosen row in that table.  frequencyDomainAllocation CHOICE {  row1 BIT STRING (SIZE (4)),  row2 BIT STRING (SIZE (12)),  row3 BIT STRING (SIZE (6)),  row4 BIT STRING (SIZE (3)),  row5 BIT STRING (SIZE (6)),  row7 BIT STRING (SIZE (6)),  row8 BIT STRING (SIZE (6)),  row9 BIT STRING (SIZE (6)),  row10 BIT STRING (SIZE (6)),  row11 BIT STRING (SIZE (6)),  row12 BIT STRING (SIZE (6)),  row13 BIT STRING (SIZE (6)),  row14 BIT STRING (SIZE (6)),  row15 BIT STRING (SIZE (6)),  row16 BIT STRING (SIZE (6)),  row17 BIT STRING (SIZE (6)),  row18 BIT STRING (SIZE (6)),  row19 BIT STRING (SIZE (6))  },  **Just include the resource IDs in the resource set:**  *NZP-CSI-RS-ResourceSet* information element  -- ASN1START  -- TAG-NZP-CSI-RS-RESOURCESET-START  NZP-CSI-RS-ResourceSet ::= SEQUENCE {  nzp-CSI-ResourceSetId NZP-CSI-ResourceSetId,  -- NZP-CSI-RS-Resources assocaited with this NZP-CSI-RS resource set.  -- Corresponds to L1 parameter 'CSI-RS-ResourceConfigList' (see 38.214, section 5.2)  -- FFS: Better make the csi-rs-Resources a common pool on CSI-MeasConfig level?  nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-ResourceId,  -- TAG-CSI-IM-RESOURCESET-START  CSI-IM-ResourceSet ::= SEQUENCE {  -- FFS: Where is the csi-im-ResourceSetId used?  csi-IM-ResourceSetId CSI-IM-ResourceSetId,  -- CSI-IM-Resources associated with this CSI-IM-ResourceSet  -- Corresponds to L1 parameter 'CSI-IM-ResourceConfigList' (see 38.214, section 5.2)  csi-IM-Resources SEQUENCE (SIZE(1..maxNrofCSI-IM-ResourcesPerSet)) OF CSI-IM-ResourceId  } |  |
| Z157 | The value of non-PMI-PortIndication is still marked FFS. However, the value range and the configuration of this indication has been explicitly defined both in the RRC parameter sheet from RAN1 and in 38.214. So the value should be clearly added. | 3 | **The value range is descriped as following in the RRC parameter sheet:**  List of CSI-RS antenna port indexes with maximum range of the configured CSI-RS resources.  **The further explanation in the description column in the RRC parameter sheet:**  For each CSI-RS resource in the linked ResourceConfig for channel measurement, port indications are configured in the layer ordering for each rank R, indicating which R ports to use.  **Description specified in 38.214:**  the UE is configured with higher layer parameter *Non-PMI-PortIndication* contained in a *ReportConfig,* where *r* ports are indicated in the order of layer ordering for rank *r* and each CSI-RS resource in the CSI resource setting is linked to the *ReportConfig* in a *MeasLinkConfig*, based on the order of the associated *NZP-CSI-RS-ResourceConfigID* in the linked CSI resource setting linked for channel measurement.  **The value range of the non-PMI-PortIndication added as following:**  *CSI-ReportConfig* information element  -- ASN1START  -- TAG-CSI-REPORTCONFIG-START  -- Configuration of a CSI-Report sent on L1 (e.g. PUCCH) (see 38.214, section 5.2.1)  CSI-ReportConfig ::= SEQUENCE {  **UNAFFECTED IEs omitted**  -- Port indication for RI/CQI calculation. For each CSI-RS resource in the linked ResourceConfig for channel measurement,  -- a port indication for each rank R, indicating which R ports to use. Applicable only for non-PMI feedback.  -- Corresponds to L1 parameter 'Non-PMI-PortIndication' (see 38.214, section FFS\_Section)  -- Each rankperCSI-RSresource in the sequence is in the same order as the CSI-RS resources configured in the linked CSI-ResourceConfig, starting from the very first CSI-RS resource configured in the first nzp-CSI-RS-ResourceSet.  non-PMI-PortIndication ~~FFS\_Value~~SEQUENCE(SIZE(1..maxNrofRanks)) OF rankperCSI-RSresource OPTIONAL,  rankperCSI-RSresource SEQUENCE{  rank1 PortIndex;  rank2 SEQUENCE(SIZE(1..2)) OF PortIndex;  rank3 SEQUENCE(SIZE(1..3)) OF PortIndex;  rank4 SEQUENCE(SIZE(1..4)) OF PortIndex;  rank5 SEQUENCE(SIZE(1..5)) OF PortIndex;  rank6 SEQUENCE(SIZE(1..6)) OF PortIndex;  rank7 SEQUENCE(SIZE(1..7)) OF PortIndex;  rank8 SEQUENCE(SIZE(1..8)) OF PortIndex;  }  PortIndex INTEGER (0..31)  -- Indicates whether or not the antenna ports of NZP CSI-RS resources in the CSI-RS resource set is same  -- Corresponds to L1 parameter 'TRS-Info' (see 38.214, section 5.2.2.3.1)  trs-Info ENUMERATED {true} OPTIONAL  }  The maxNrofRanks should be defined in section “Multiplicity and type constraint definitions” as maxNrofCSI-ResourceSets\*maxNrofCSI-RS-ResourcesPerSet = 16\*8:  maxNrofRanks INTEGER ::= 128 -- Maximum number of ranks per ReportConfig for the non-PMIPortIndication |  |
| Z158 | The trs-Info should be configured per resource set instead of per resource. | 3 | In 38.214: 5.1.6.1.1 CSI-RS for tracking A UE in RRC connected mode is expected to receive the higher layer UE specific configuration of a CSI-RS resource set for tracking, and receive the higher layer parameter TRS-INFO set as ‘ON’.  *NZP-CSI-RS-Resource* information element  -- ASN1START  -- TAG-NZP-CSI-RS-RESOURCE-START  NZP-CSI-RS-Resource ::= SEQUENCE {  -- Frequency domain allocation within a physical resource block in accordance with 38.211, section 7.4.1.5.3 including table 7.4.1.5.2-1.  -- The number of bits that may be set to one depend on the chosen row in that table.  frequencyDomainAllocation CHOICE {  row1 BIT STRING (SIZE (4)),  row2 BIT STRING (SIZE (12)),  row3 BIT STRING (SIZE (6)),  row4 BIT STRING (SIZE (3)),  row5 BIT STRING (SIZE (6)),  row7 BIT STRING (SIZE (6)),  row8 BIT STRING (SIZE (6)),  row9 BIT STRING (SIZE (6)),  row10 BIT STRING (SIZE (6)),  row11 BIT STRING (SIZE (6)),  row12 BIT STRING (SIZE (6)),  row13 BIT STRING (SIZE (6)),  row14 BIT STRING (SIZE (6)),  row15 BIT STRING (SIZE (6)),  row16 BIT STRING (SIZE (6)),  row17 BIT STRING (SIZE (6)),  row18 BIT STRING (SIZE (6)),  row19 BIT STRING (SIZE (6))  },  -- Time domain allocation within a physical resource block. The field indicates the first OFDM symbol in the PRB used for CSI-RS.  -- Value 2 is supported only when DL-DMRS-typeA-pos equals 3.  firstOFDMSymbolInTimeDomain INTEGER (0..13),  -- CDM type (see 38.214, section 5.2.2.3.1)  cdm-Type ENUMERATED {noCDM, fd-CDM2, cdm4-FD2-TD2, cdm8-FD2-TD4},  -- Density of CSI-RS resource measured in RE/port/PRB. Corresponds to L1 parameter 'CSI-RS-Density' (see 38.211, section 7.4.1.5.3)  -- Values 0.5 (dot5), 1 (one) and 3 (three) are allowed for X=1,  -- values 0.5 (dot5) and 1 (one) are allowed for X=2, 16, 24 and 32,  -- value 1 (one) is allowed for X=4, 8, 12.  -- For density = 1/2, includes 1 bit indication for RB level comb offset indicating whether odd or even RBs are occupied by CSI-RS  density CHOICE {  dot5 ENUMERATED {evenPRBs, oddPRBs},  one NULL,  three NULL,  spare NULL  },  -- Wideband or partial band CSI-RS. Corresponds to L1 parameter 'CSI-RS-FreqBand' (see 38.214, section 5.2.2.3.1)  freqBand CSI-FrequencyOccupation,  -- Power offset of NZP CSI-RS RE to PDSCH RE. Value in dB. Corresponds to L1 parameter Pc (see 38.214, sections 5.2.2.3.1 and 4.1)  powerControlOffset INTEGER(-8..15),  -- Power offset of NZP CSI-RS RE to SS RE. Value in dB. Corresponds to L1 parameter 'Pc\_SS' (see 38.214, section FFS\_Section)  powerControlOffsetSS ENUMERATED{db-3, db0, db3, db6} OPTIONAL,  -- Scrambling ID (see 38.214, section 5.2.2.3.1)  scramblingID ScramblingId,  -- Periodicity and slot offset sl1 corresponds to a periodicity of 1 slot, sl2 to a periodicity of two slots, and so on.  -- The corresponding offset is also given in number of slots. Corresponds to L1 parameter 'CSI-RS-timeConfig' (see 38.214, section 5.2.2.3.1)  periodicityAndOffset CHOICE {  sl4 INTEGER (0..3),  sl5 INTEGER (0..4),  sl8 INTEGER (0..7),  sl10 INTEGER (0..9),  sl16 INTEGER (0..15),  sl20 INTEGER (0..19),  sl32 INTEGER (0..31),  sl40 INTEGER (0..39),  sl64 INTEGER (0..63),  sl80 INTEGER (0..79),  sl160 INTEGER (0..159),  sl320 INTEGER (0..319),  sl640 INTEGER (0..639)  },  ~~-- Indicates whether or not the antenna ports of NZP CSI-RS resources in the CSI-RS resource set is same~~  ~~-- Corresponds to L1 parameter 'TRS-Info' (see 38.214, section 5.2.2.3.1)~~  ~~trs-Info ENUMERATED {true}~~  OPTIONAL  }  -- TAG-NZP-CSI-RS-RESOURCE-STOP  -- ASN1STOP  *NZP-CSI-RS-ResourceSet* information element  -- ASN1START  -- TAG-NZP-CSI-RS-RESOURCESET-START  NZP-CSI-RS-ResourceSet ::= SEQUENCE {  nzp-CSI-ResourceSetId NZP-CSI-ResourceSetId,  -- NZP-CSI-RS-Resources assocaited with this NZP-CSI-RS resource set.  -- Corresponds to L1 parameter 'CSI-RS-ResourceConfigList' (see 38.214, section 5.2)  -- FFS: Better make the csi-rs-Resources a common pool on CSI-MeasConfig level?  nzp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesPerSet)) OF NZP-CSI-RS-Resource,  -- Indicates whether repetition is on/off. If set to set to 'OFF', the UE may not assume that the  -- NZP-CSI-RS resources within the resource set are transmitted with the same downlink spatial domain transmission filter  -- and with same NrofPorts in every symbol.  -- Corresponds to L1 parameter 'CSI-RS-ResourceRep' (see 38.214, sections 5.2.2.3.1 and 5.1.6.1.2)  repetition ENUMERATED { on, off },  -- Offset X between the slot containing the DCI that triggers a set of aperiodic NZP CSI-RS resources and the slot in which the  -- CSI-RS resource set is transmitted. When the field is absent the UE applies the value 0.  -- Corresponds to L1 parameter 'Aperiodic-NZP-CSI-RS-TriggeringOffset' (see 38,214, section FFS\_Section)  -- FFS\_CHECK: Is this field at the correct place? Or should it be in the trigger configuration instead?  aperiodicTriggeringOffset FFS\_Value OPTIONAL -- Need S  -- Indicates whether or not the antenna ports of NZP CSI-RS resources in the CSI-RS resource set is same  -- Corresponds to L1 parameter 'TRS-Info' (see 38.214, section 5.2.2.3.1)  trs-Info ENUMERATED {true} OPTIONAL  }  -- TAG-NZP-CSI-RS-RESOURCESET-STOP  -- ASN1STOP |  |
| Z159 | qcl-InfoPeriodicCSI-RS is now configured per resource setting, i.e. in CSI-ResourceConfig. However, according to RAN1, the parameter should be configured per NZP-CSI-RS-Resource. | 3 | **Description of the corresponding QCL-Info-PeriodicCSI-RS in the RRC parameter sheet from RAN1:**  For a target periodic CSI-RS, contains a reference to one TCI-RS-SetConfig in TCI-States for providing the QCL source and QCL type. For periodic CSI-RS, the source can be SSB or another periodic-CSI-RS.  **Description in 38.214:**  The following parameters for which the UE shall assume non-zero transmission power for CSI-RS resource are configured via higher layer parameter *NZP-CSI-RS-ResourceConfig* for each CSI-RS resource configuration:  - *NZP-CSI-RS-ResourceConfigId* determines CSI-RS resource configuration identity.  …  …  - QCL-*InfoPeriodicCSI-RS* – *CSI-ResourceConfig* The IE *CSI-ResourceConfig* comprises of one or more NZP-CSI-RS-ResourceSets, CSI-IM-ResourceSet and/or CSI-SSB-Resource  *CSI-ResourceConfig* information element  -- ASN1START  -- TAG-CSI-RESOURCECONFIG-START  -- One CSI resource configuration comprising of one or more resource sets  CSI-ResourceConfig ::= SEQUENCE {  csi-ResourceConfigId CSI-ResourceConfigId,  -- Contains up to maxNrofCSI-ResourceSets resource CSI-ReosurceSets if ResourceConfigType is 'aperiodic' and 1 otherwise.  -- Corresponds to L1 parameter 'ResourceSetConfigList' (see 38.214, section 5.2.1.3.1)  csi-RS-ResourceSets CHOICE {  nzp-CSI-RS-ResourceSets SEQUENCE (SIZE (1..maxNrofCSI-ResourceSets)) OF NZP-CSI-RS-ResourceSet,  csi-IM-ResourceSets SEQUENCE (SIZE (1..maxNrofCSI-ResourceSets)) OF CSI-IM-ResourceSet  },  -- List of SSB resources used for beam measurement and reporting in a resource set  -- Corresponds to L1 parameter 'resource-config-SS-list' (see 38,214, section FFS\_Section)  ssb-Resources SEQUENCE (SIZE (1..maxNrofSSB-Resources)) OF CSI-SSB-Resource OPTIONAL, --Cond OnlyWithNZPResourceSets  -- The DL BWP which the CSI-RS assocaited with this CSI-ResourceConfig are located in.  -- Corresponds to L1 parameter 'BWP-Info' (see 38.214, section FFS\_Section)  bwp-Id BWP-Id,  -- Time domain behavior of resource configuration. Corresponds to L1 parameter 'ResourceConfigType' (see 38.214, section 5.2.2.3.5)  resourceType CHOICE {  aperiodic NULL,  semiPersistent NULL,  periodic ~~SEQUENCE {~~  ~~-- For a target periodic CSI-RS, contains a reference to one TCI-State in TCI-States for providing the QCL source and~~  ~~-- QCL type. For periodic CSI-RS, the source can be SSB or another periodic-CSI-RS.~~  ~~-- Corresponds to L1 parameter 'QCL-Info-PeriodicCSI-RS' (see 38.214, section FFS\_Section)~~  ~~qcl-InfoPeriodicCSI-RS TCI-StateId OPTIONAL~~  ~~}~~  NULL,  },  *NZP-CSI-RS-Resource* information element  -- ASN1START  -- TAG-NZP-CSI-RS-RESOURCE-START  NZP-CSI-RS-Resource ::= SEQUENCE {  -- Frequency domain allocation within a physical resource block in accordance with 38.211, section 7.4.1.5.3 including table 7.4.1.5.2-1.  -- The number of bits that may be set to one depend on the chosen row in that table.  frequencyDomainAllocation CHOICE {  row1 BIT STRING (SIZE (4)),  row2 BIT STRING (SIZE (12)),  row3 BIT STRING (SIZE (6)),  row4 BIT STRING (SIZE (3)),  row5 BIT STRING (SIZE (6)),  row7 BIT STRING (SIZE (6)),  row8 BIT STRING (SIZE (6)),  row9 BIT STRING (SIZE (6)),  row10 BIT STRING (SIZE (6)),  row11 BIT STRING (SIZE (6)),  row12 BIT STRING (SIZE (6)),  row13 BIT STRING (SIZE (6)),  row14 BIT STRING (SIZE (6)),  row15 BIT STRING (SIZE (6)),  row16 BIT STRING (SIZE (6)),  row17 BIT STRING (SIZE (6)),  row18 BIT STRING (SIZE (6)),  row19 BIT STRING (SIZE (6))  },  -- Time domain allocation within a physical resource block. The field indicates the first OFDM symbol in the PRB used for CSI-RS.  -- Value 2 is supported only when DL-DMRS-typeA-pos equals 3.  firstOFDMSymbolInTimeDomain INTEGER (0..13),  -- CDM type (see 38.214, section 5.2.2.3.1)  cdm-Type ENUMERATED {noCDM, fd-CDM2, cdm4-FD2-TD2, cdm8-FD2-TD4},  -- Density of CSI-RS resource measured in RE/port/PRB. Corresponds to L1 parameter 'CSI-RS-Density' (see 38.211, section 7.4.1.5.3)  -- Values 0.5 (dot5), 1 (one) and 3 (three) are allowed for X=1,  -- values 0.5 (dot5) and 1 (one) are allowed for X=2, 16, 24 and 32,  -- value 1 (one) is allowed for X=4, 8, 12.  -- For density = 1/2, includes 1 bit indication for RB level comb offset indicating whether odd or even RBs are occupied by CSI-RS  density CHOICE {  dot5 ENUMERATED {evenPRBs, oddPRBs},  one NULL,  three NULL,  spare NULL  },  -- Wideband or partial band CSI-RS. Corresponds to L1 parameter 'CSI-RS-FreqBand' (see 38.214, section 5.2.2.3.1)  freqBand CSI-FrequencyOccupation,  -- Power offset of NZP CSI-RS RE to PDSCH RE. Value in dB. Corresponds to L1 parameter Pc (see 38.214, sections 5.2.2.3.1 and 4.1)  powerControlOffset INTEGER(-8..15),  -- Power offset of NZP CSI-RS RE to SS RE. Value in dB. Corresponds to L1 parameter 'Pc\_SS' (see 38.214, section FFS\_Section)  powerControlOffsetSS ENUMERATED{db-3, db0, db3, db6} OPTIONAL,  -- Scrambling ID (see 38.214, section 5.2.2.3.1)  scramblingID ScramblingId,  -- Periodicity and slot offset sl1 corresponds to a periodicity of 1 slot, sl2 to a periodicity of two slots, and so on.  -- The corresponding offset is also given in number of slots. Corresponds to L1 parameter 'CSI-RS-timeConfig' (see 38.214, section 5.2.2.3.1)  periodicityAndOffset CHOICE {  sl4 INTEGER (0..3),  sl5 INTEGER (0..4),  sl8 INTEGER (0..7),  sl10 INTEGER (0..9),  sl16 INTEGER (0..15),  sl20 INTEGER (0..19),  sl32 INTEGER (0..31),  sl40 INTEGER (0..39),  sl64 INTEGER (0..63),  sl80 INTEGER (0..79),  sl160 INTEGER (0..159),  sl320 INTEGER (0..319),  sl640 INTEGER (0..639)  },  -- Indicates whether or not the antenna ports of NZP CSI-RS resources in the CSI-RS resource set is same  -- Corresponds to L1 parameter 'TRS-Info' (see 38.214, section 5.2.2.3.1)  trs-Info ENUMERATED {true}  -- For a target periodic CSI-RS, contains a reference to one TCI-State in TCI-States for providing the QCL source and  -- QCL type. For periodic CSI-RS, the source can be SSB or another periodic-CSI-RS.  -- Corresponds to L1 parameter 'QCL-Info-PeriodicCSI-RS' (see 38.214, section FFS\_Section)  qcl-InfoPeriodicCSI-RS TCI-StateId -Cond OnlyForPeriodicCSI-RS OPTIONAL  }  -- TAG-NZP-CSI-RS-RESOURCE-STOP  -- ASN1STOP |  |
| S035 | For simplification of CSI-MeasConfig architecture, there was no e-mail discussion so we provide discussion paper for discussion. | 4 | Please see R2-1802458 and DIscuss and decide among the below two alternatives:    Alt. 1: Keep the current architecutre in TS 38.331    Alt. 2: Modify the current architecture to have a unified structure | R2-1802458 |

#### – FailureReportSCGtoOtherRAT

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I060 | In LTE, the SCG failure message contains a NR container for NR RRC mesurement result.  **measResultSCG**  The field contains **available results of measurements on NR frequencies, set in accordance with** **TS** 38.331 **[X2].**  However, in **38.331, NR will provide “**FailureReportSCG-ToOtherRAT**” to LTE containing failure type, serving cell results, Neighbor cell results,**  **It is unclear what should be contained in LTE container, the “**FailureReportSCG-ToOtherRAT**” or only measurement results?** | 2 | Joint issue with NR spec, to be simple, the LTE should just contain what NR provides, i.e. **“**FailureReportSCG-ToOtherRAT**”. It will be good to clarify this.**  **Suggest**  **measResultSCG**  The field contains **~~available results of measurements on NR frequencies~~** FailureReportSCG-ToOtherRAT**, set in accordance with** **TS** 38.331 **[X2].**  Samsung: Failure type IE is currently included within both 36.331 and 38.331 (i.e. duplication of information). Since, we only discussed support of failure type IE within 36.331 (i.e LTE spec), we think the IE should be removed from 38.331 as shown below  -- ASN1START  -- TAG-FAILURE-REPORT-SCG-TO-OTHER-RAT-START  ~~-- FFS if failureType is needed~~  FailureReportSCG-ToOtherRAT ::=                 SEQUENCE {  ~~failureType                                                   ENUMERATED { t313-Expiry, randomAccessProblem,~~  ~~rlc-MaxNumRetx, maxUL-TimingDiff,~~  ~~scg-ChangeFailure, scg-reconfigFailure,~~  ~~srb3-IntegrityFailure},~~         measResultServingFreqList                              MeasResultServFreqList2NR,         measResultNeighCells                                   MeasResultList2NR,         ...,  }  => The failureType is removed from the FailureReportSCG-ToOtherRAT and the corresponding procedure text relating to setting the failureType (not the prcoedure for determination of failure type), |  |
| L018 | Serving cell results may not be available so that measResultServingCell should be optional. This is aligned with LTE.  In addition, measurement results for neighbor cells may not be available as well so that the relevant field should be optional. | 2 | FailureReportSCG-ToOtherRAT ::= SEQUENCE {  failureType ENUMERATED { t313-Expiry, randomAccessProblem,  rlc-MaxNumRetx, maxUL-TimingDiff,  scg-ChangeFailure, scg-reconfigFailure,  srb3-IntegrityFailure},  measResultServingFreqList MeasResultServFreqList2NR OPTIONAL,  measResultNeighCells MeasResultList2NR OPTIONAL,  ...  }  MeasResultServFreq2NR ::= SEQUENCE {  carrierFreq ARFCN-ValueNR,  measResultServingCell MeasResultNR OPTIONAL,  measResultBestNeighServingCell MeasResultNR OPTIONAL  }  Rap: Not implemented yet. |  |
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#### – FrequencyInfoDL

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z024 | The field ssb-subcarrier-offset is called ssb-subcarrierOffset in MIB. We should use the same name.  The value range of ssb-subcarrierOffset in MIB is {0..15} . the value range in in this IE is wrong it seems. We should align these. | 1 | -- ASN1START  -- TAG-FREQUENCY-INFO-DL-START  FrequencyInfoDL ::= SEQUENCE {  -- Frequency of the SSB to be used for this serving cell.  -- FFS: How to handle carriers without SSB, i.e., when a carrier uses the SSB of another carrier? Does this ARFCN point to that SSB  -- and a larger offset points to the Point A?  absoluteFrequencyDL ARFCN-ValueNR,  -- The frequency domain offset between SSB and the overall resource block grid in number of subcarriers.  -- Absence of the field indicates that no offset if applied (offset = 0). See 38.211, section 7.4.3.1)  ssb-subcarrier~~-o~~Offset INTEGER (1..15~~1~~) OPTIONAL, | Covered in draft class1 CR |
| H077 | ssb-SubcarrierOffset wrong range | 2 | The range of the subcarrier offset here doesn’t match the one in the MIB. In our reading of the RAN1 list the ranges should be the same. Propose to change the range to 0..15  -- The frequency domain offset between SSB and the overall resource block grid in number of subcarriers.  -- Absence of the field indicates that no offset if applied (offset = 0). See 38.211, section 7.4.3.1)  ssb-subcarrier-offset INTEGER (0~~1~~..1~~1~~5) OPTIONAL,  Rap: Current value is 1..15, absence of the field indicates that no offset is applied (offset = 0 | Covered already elsewhere |
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#### – FrequencyInfoUL

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I061 | Can sub carrier space related parameters to be contained in this field?  For instance  subcarrierSpacingCommon and subcarrierSpacingSSB, etc. as ssb-subcarrier-offset? It would be good to group them together. | 2 | Group them together if possible. | Comment unclear. Does not seem applicable as there is just one SCS. |
| N280 | It would be better to create a dedicated IE definition for SCS-SpecificVirtualCarrier since it's used also by FrequencyInfoUL | 1 | Create a dedicated IE entry for SCS-SpecificVirtualCarrier | Done |
| N281 | The common parts of UL/DL frequency information (ARFCN, offsetToPointA, scs-SpecificCarriers) could be extracted to a common IE instead of being repeated in both. | 1 | Create a "FrequencyInfoCommon" to contain information common to UL and DL and use that within the candidate entries | Not really needed due to RAN2's decision to use absolute value for PointA => Only two fields in common. |
| N282 | offsetToVirtualCarrier: Why is this parameter optional? Shouldn't it be mandatory since otherwise we need to define UE behaviour in absence of it (meaning, it can be set to zero to signify no offset)? | 2 | Discuss what to do with the parameter | Done |
| N299 | Why do we need multiple SCS-SpecificVirtualCarriers at all? | 4 | We thought one carrier only advertises one numerology, and UE can be configured with maximum of one numerology / BWP at a time.  Delegates should discuss with RAN1 colleagues on what these are used for – in our understanding, only one virtual carrier may be needed, but this needs confirmation from RAN1. | Discussed at RAN2-AH1. Assumed to be OK?! |
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#### – LogicalChannelConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M030 | We suggest to add extension marker “…” in the IE “LogicalChannelConfig” so that it is easier be extended in the future. | 1 | LogicalChannelConfig ::= SEQUENCE {  ul-SpecificParameters SEQUENCE {  priority INTEGER (1..16),  prioritisedBitRate ENUMERATED {kBps0, kBps8, kBps16, kBps32, kBps64, kBps128, kBps256, kBps512,kBps1024, kBps2048, kBps4096, kBps8192, kBps16384, kBps32768, kBps65536, infinity},  bucketSizeDuration ENUMERATED {ms50, ms100, ms150, ms300, ms500, ms1000, spare2, spare1},  -- FFS: Detailed handling of restrictions (UP email discussion)  -- Defined in L1 parameters but the value range must be checked.  allowedSubCarrierSpacing SubcarrierSpacing OPTIONAL,  allowedTiming ENUMERATED {ffsTypeAndValue} OPTIONAL,  logicalChannelGroup INTEGER (0..maxLCid) OPTIONAL,  logicalChannelSR-Mask BOOLEAN,  logicalChannelSR-DelayTimerApplied BOOLEAN  } OPTIONAL -- Cond UL  -- other parameters  ...,  } | Covered already |
| M031 | LCP restriction for carrier and configured grant is not yet added. | 1 | Add the followin two parameters (as already specified in TS 38.321)  - lcp-configuredGrantType1Allowed which sets whether a Configured Grant Type 1 can be used for transmission;  - lcp-allowedServingCells | Done |
| M032 | SchedulingRequestId is missing in LogicalChannelConfig | 1 | Inlcude SchedulingRequestId in “LogicalChannelConfig” as “optional”  [Mediatek]:  LogicalChannelConfig ::=          SEQUENCE {         ul-SpecificParameters                    SEQUENCE {                priority                                        INTEGER (1..16),                prioritisedBitRate                       ENUMERATED {kBps0, kBps8, kBps16, kBps32, kBps64, kBps128, kBps256, kBps512,                                                                             kBps1024, kBps2048, kBps4096, kBps8192, kBps16384, kBps32768, kBps65536, infinity},                bucketSizeDuration                       ENUMERATED {ms50, ms100, ms150, ms300, ms500, ms1000, spare2, spare1},                -- FFS: Detailed handling of restrictions (UP email discussion)                -- Defined in L1 parameters but the value range must be checked.                allowedSubCarrierSpacing          SubcarrierSpacing                                                                                                   OPTIONAL,                allowedTiming                            ENUMERATED {ffsTypeAndValue}                                                                                                                    OPTIONAL,                logicalChannelGroup                      INTEGER (0..maxLCG-ID)                                                                                              OPTIONAL,                logicalChannelSR-Mask                    BOOLEAN,                logicalChannelSR-DelayTimerApplied BOOLEAN,  schedulingRequestID                             SchedulingRequestId                                                                                          OPTIONAL         }                                                                                                                                                                                               OPTIONAL      -- Cond UL         -- other parameters         ...  }  Rap: Also reported in E019. H078 introduces a list of SchedulingRequestId. See also H081 | Done |
| X001 | To control logicalChannelSR-DelayTimer, TS 38.331 uses the term logicalChannelSR-DelayTimerApplied, while TS 38.321 uses the term logicalChannelSR-Delay. |  | Use the same term in MAC and RRC spec | **Requires cleanup in MAC** |
| Z025 | ul-SpecificParametersSEQUENCE {  ....  } OPTIONAL-- Cond UL.  Considering the use of default value for SRB, the ul-SpecificParameters should be optional for SRB. | 2 | ul-SpecificParameters SEQUENCE {  ....  }OPTIONAL-- Cond UL  Conditional Presence Explanation  UL The field is mandatory present for a logical channel with uplink for DRB, optional present for SRB, and not present for the other cases (i.e. DRB with DL only).~~, otherwise it is not present..~~ For SRB, the absence~~t~~ of this IE means the default values defined in section 9.2.1 should be used. | Done |
| Z027 | “lcp-configuredGrantType1Allowed” (whether a Configured Grant Type 1 can be used for transmission;) is missing in the ASN.1 | 2 | Add the “lcp-configuredGrantType1Allowed” based on the description in 38.321 | Covered already |
| Z028 | “lcp-allowedServingCells” (the allowed cell(s) for transmission) is missing in the ASN.1 | 2 | Add the “lcp-allowedServingCells” based on the description in 38.321 | Covered already |
| E016 | Typo in “maxLCid”. As this corresponds to “logical channel group ID” it should be “maxLCGid”.  logicalChannelGroup INTEGER (0..maxLCid) OPTIONAL, | 2 | Change to “maxLCGid”.  See also E017. | Covered already |
| E019 | SchedulingRequestID is missing. RAN2 agreed that each LCH can be associated with at most one Scheduling request configuration. It seems this link is missing. | 2 | Add a field schedulingRequestID to LogicalChannelConfig. It should be OPTIONAL Need M.  Rap: Same as M032. | Covered already |
| Q008 | The following parameters are missing.   * lcp-maxPUSCH-Duration * lcp-configuredGrantType1Allowed * lcp-allowedServingCells | 3 | These parameters are needed according to TS 38.321 section 5.4.3.1.1.   |  | | --- | | RRC additionally controls the LCP procedure by configuring mapping restrictions for each logical channel:  - lcp-allowedSCS which sets the allowed Subcarrier Spacing(s) for transmission;  - lcp-maxPUSCH-Duration which sets the maximum PUSCH duration allowed for transmission;  - lcp-configuredGrantType1Allowed which sets whether a Configured Grant Type 1 can be used for transmission;  - lcp-allowedServingCells which sets the allowed cell(s) for transmission. |   Our understanding is   * allowedSubCarrierSpacing in current ASN.1 corresponds to lcp-allowedSCS in 38.321. * allowedTiming in ASN.1 corresponds to lcp-maxPUSCH-Duration in 38.321. * Other missing IEs to be added.   Additionally, LCP restriction related paramters (shown above in the box) should be grouped together, such that the parent IE can be OPTIONAL.  Additionally, the IEs in ul-SpecificParameters can be rearranged alphabetically (not shown).  Proposed solution: Update as follows:  LogicalChannelConfig ::= SEQUENCE {  ul-SpecificParameters SEQUENCE {  priority INTEGER (1..16),  prioritisedBitRate ENUMERATED {kBps0, kBps8, kBps16, kBps32, kBps64, kBps128, kBps256, kBps512,  kBps1024, kBps2048, kBps4096, kBps8192, kBps16384, kBps32768, kBps65536, infinity},  bucketSizeDuration ENUMERATED {ms50, ms100, ms150, ms300, ms500, ms1000, spare2, spare1},  -- FFS: Detailed handling of restrictions (UP email discussion)  -- Defined in L1 parameters but the value range must be checked.  ~~allowedSubCarrierSpacing SubcarrierSpacing OPTIONAL,~~  ~~allowedTiming ENUMERATED {ffsTypeAndValue} OPTIONAL,~~  logicalChannelGroup INTEGER (0..maxLCid) OPTIONAL,  logicalChannelSR-Mask BOOLEAN,  logicalChannelSR-DelayTimerApplied BOOLEAN,  lcp-restrictionParameters LCP-restrictionParameters OPTIONAL  } OPTIONAL -- Cond UL  -- other parameters  }  LCP-restrictionParameters ::= SEQUENCE {  lcp-AllowedSCS SubcarrierSpacing,  lcp-AllowedServingCells SEQUENCE (SIZE (1.. maxNrofServingCells)) OF ServCellIndex,  lcp-ConfiguredGrantType1Allowed BOOLEAN,  lcp-MaxPUSCH-Duration ENUMERATED {ffsTypeAndValue}  } | Covered already  (except for grouping since it does not really seem to be necessary and not applied to all fields anyway) |
| H078 | Names of some IEs are not aligned with TS 38.321. In addition, Some parameters also needed to be considered when performing LCH selection are not included in the LogicalChannelConfig. Scheduling request ID is missed in the structure. | 2 | -- ASN1START  -- TAG-LOGICAL-CHANNEL-CONFIG-START  LogicalChannelConfig ::= SEQUENCE {  ul-SpecificParameters SEQUENCE {  priority INTEGER (1..16),  prioritisedBitRate ENUMERATED {kBps0, kBps8, kBps16, kBps32, kBps64, kBps128, kBps256, kBps512,  kBps1024, kBps2048, kBps4096, kBps8192, kBps16384, kBps32768, kBps65536, infinity},  bucketSizeDuration ENUMERATED {ms50, ms100, ms150, ms300, ms500, ms1000, spare2, spare1},  -- FFS: Detailed handling of restrictions (UP email discussion)  -- Defined in L1 parameters but the value range must be checked.  ~~allowedSubCarrierSpacing~~ lcp-allowedSCS SubcarrierSpacing OPTIONAL,  ~~allowedTiming~~ lcp-MaxPUSCH-Duration ENUMERATED {ffsTypeAndValue} OPTIONAL,  lcp-ConfiguredGrantType1Allowed BOOLEAN OPTIONAL,  lcp-AllowedServingCells BIT STRING (SIZE(0.. maxNrofSCells+1)) OPTIONAL, -- Cond CA-duplication    logicalChannelGroup INTEGER (0..maxLCid) OPTIONAL,  logicalChannelSR-Mask BOOLEAN,  schedulingRequestIDList SEQUENCE (SIZE (1..maxNrofSR-ConfigPerCellGroup)) OF SchedulingRequestId OPTIONAL,  logicalChannelSR-DelayTimerApplied BOOLEAN  } OPTIONAL -- Cond UL  -- other parameters  }  -- TAG-LOGICAL-CHANNEL-CONFIG-STOP  -- ASN1STOP  => Check offline with UP experts whether the schedulingRequestIDList is meant to be a list or just a single entry. | ToDisc  Covered already |
| H079 | The field description of this IE is not clear and the name is not aligned with TS 38.321 as mentioned above. | 2 | **~~allowedTiming~~ lcp-maxPUSCH-Duration**  If present, ~~UL MAC PDUs from this logical channel can only be transmitted in the indicated timing~~ indicates the maximum PUSCH transmission duration allowed for transmission for UL MAC PDUs from this logical as specified in TS 38.321 [3]. | Covered already |
| H080 | Add the field description of the missing IE in LogicalChannelConfig | 2 | **lcp-AllowedServingCells**  If present, UL MAC PDUs from this logical channel can only be mapped to the indicated cells as specified in TS 38.321 [3]. | Covered already |
| H081 | Add the field description of the missing IE lcp-ConfiguredGrantType1Allowed in LogicalChannelConfig | 2 | **lcp-ConfiguredGrantType1Allowed**  If present, UL MAC PDUs from this logical channel is allowed to be transmitted on a configured grant type 1 as specified in TS 38.321 [3].  **schedulingRequestIDList**  If present, indicates the list of schedulingRequestId of the associated scheduling request configuration.  RAN2 AH: Discussed [R2-1800480](file:///C:\Data\3GPP\Extracts\R2-1800480.doc). | Covered already |
| H082 | Add the explanation of condition “CA duplication” | 2 | **CA duplication**  This field is mandatory present upon RRC reconfiguration with setup of a radio bearer associated with this logical channel and with another logical channel of the same cell group and upon RRC reconfiguration with addition of a logical channel of the same cell group like this logical channel and associated to the same radio bearer. Upon RRC reconfiguration when a logical channel of the same cell group like this logical channel is associated to the same radio bearer, this field is optionally present need M. Otherwise, tis field is absent and previously stored value is released.  => The some clarification needs to be added to make it clear which configuration (e.g. CA duplication, and maybe others) are not applicable to be used in this version of the spec. | No impact on LCH config |
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#### – MAC-CellGroupConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z031 | Since the DRX-Config has a release branch within it, the need code for DRX-Config should be Need M instead Need R. | 2 | MAC-CellGroupConfig ::= SEQUENCE {  drx-Config DRX-Config OPTIONAL, -- Need M~~R~~  schedulingRequestConfig SchedulingRequestConfig OPTIONAL,  bsr-Config BSR-Configuration OPTIONAL, -- Need N  tag-Config TAG-Configuration OPTIONAL, -- Need N  phr-Config PHR-Config OPTIONAL, -- Need N  sCellDeactivationTimer ENUMERATED {  ms20, ms40, ms80, ms160, ms200, ms240, ms320, ms400, ms480, ms520, ms640, ms720, ms840, ms1280, spare2,  spare1} OPTIONAL, -- Cond ServingCellWithoutPUCCH  -- FFS : configurable per SCell?  skipUplinkTxDynamic BOOLEAN  } | Done |
| I062 | Do we support mTAG? Looks not. Since RACh parameters are not included in SCell configuration.  tag-Config TAG-Configuration | 2 | Remove it for now.  => Change is not needed | No change |
| H083 | The description of drx-HARQ-RTT-TimerDL is wrong according to endorsed TP of L2 parameters | 2 | drx-HARQ-RTT-TimerDL  Value in multiple integers of 1ms. ms0 corresponds to 0, ms1 corresponds to 1ms, ms2 corresponds to 2ms, and so on.  Value in number of symbols. | Done |
| H084 | The description of drx-Inactivity Timer is wrong according to endorsed TP of L2 parameters | 2 | drx-InactivityTimer  Value in number of symbols.  Value in multiple integers of 1ms. ms0 corresponds to 0, ms1 corresponds to 1ms, ms2 corresponds to 2ms, and so on. | Done |
| E001 | tag-id for SpCell  Why does tag-Id has to be 0 for SpCell? Furthermore, tag-id is mandatory present in ServingCellConfigDedicated. This means at least one TAG need always be configured by the network. If this is not the intention, more changes are needed. | 2 | **timeAlignmentTimer**  Value in ms of the timeAlignmentTimerfor TAG ~~with ID 0 (SpCell) or~~ with ID tag-Id, as specified in TS 38.321 [3]. | Done |
| E115 | drx-HARQ-RTT-TimerDL  drx-HARQ-RTT-TimerUL | 2 | Field descriptions are not aligned with ASN.1.  drx-HARQ-RTT-TimerDL INTEGER (0..56),  drx-HARQ-RTT-TimerUL INTEGER (0..56),  drx-HARQ-RTT-TimerDL  Value in multiple integers of 1ms. ms0 corresponds to 0, ms1 corresponds to 1ms, ms2 corresponds to 2ms, and so on.  drx-HARQ-RTT-TimerUL  Value in number of symbols. | Covered already |
| E122 | FFS on drx-RetransmissionTimerUL/DL  Was submitted as E115 in original RIL 38331 E. | 2 | The FFS on drx-RetransmissionTimerUL/DL seem to be invalid, i.e. it should be deleted.  ~~-- FFS units and dependency on numerology for DL and UL retransmission timers~~ | Done |
| E020 | DRX-config does not use the SetupRelease construct. | 2 | Modify DRX-config such that is uses the SetupRelease construct.  DRX-Config ::= SetupRelease { SEQUENCE {  ~~CHOICE {~~  ~~release NULL,~~  ~~setup SEQUENCE {~~  drx-onDurationTimer ENUMERATED {  ms1-32, ms2-32, ms3-32, ms4-32, ms5-32, ms6-32, ms7-32, ms8-32, ms9-32, ms10-32, ms11-32,  ms12-32, ms13-32, ms14-32, ms15-32, ms16-32, ms17-32, ms18-32, ms19-32, ms-20-32, ms21-32,  ms22-32, ms23-32, ms24-32, ms25-32, ms26-32, ms27-32, ms28-32, ms29-32, ms30-32, ms31-32,  ms1, ms2, ms3, ms4, ms5, ms6, ms8, ms10, ms20, ms30, ms40, ms50, ms60,  ms80, ms100, ms200, ms300, ms400, ms500, ms600, ms800, ms1000, ms1200,  ms1600, spare9, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1 },  drx-InactivityTimer ENUMERATED {  ms0, ms1, ms2, ms3, ms4, ms5, ms6, ms8, ms10, ms20, ms30, ms40, ms50, ms60, ms80,  ms100, ms200, ms300, ms500, ms750, ms1280, ms1920, ms2560, spare9, spare8,  spare7, spare6, spare5, spare4, spare3, spare2, spare1},  drx-HARQ-RTT-TimerDL INTEGER (0..56),  drx-HARQ-RTT-TimerUL INTEGER (0..56),  drx-RetransmissionTimerDL ENUMERATED {  sl0, sl1, sl2, sl4, sl6, sl8, sl16, sl24, sl33, sl40, sl64, sl80, sl96, sl112, sl128,  sl160, sl320, spare15, spare14, spare13, spare12, spare11, spare10, spare9,  spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1},  drx-RetransmissionTimerUL ENUMERATED {  sl0, sl1, sl2, sl4, sl6, sl8, sl16, sl24, sl33, sl40, sl64, sl80, sl96, sl112, sl128,  sl160, sl320, spare15, spare14, spare13, spare12, spare11, spare10, spare9,  spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1 },  -- FFS units and dependency on numerology for DL and UL retransmission timers  drx-LongCycleStartOffset CHOICE {  ms10 INTEGER(0..9),  ms20 INTEGER(0..19),  ms32 INTEGER(0..31),  ms40 INTEGER(0..39),  ms60 INTEGER(0..59),  ms64 INTEGER(0..63),  ms70 INTEGER(0..69),  ms80 INTEGER(0..79),  ms128 INTEGER(0..127),  ms160 INTEGER(0..159),  ms256 INTEGER(0..255),  ms320 INTEGER(0..319),  ms512 INTEGER(0..511),  ms640 INTEGER(0..639),  ms1024 INTEGER(0..1023),  ms1280 INTEGER(0..1279),  ms2048 INTEGER(0..2047),  ms2560 INTEGER(0..2559),  ms5120 INTEGER(0..5119),  ms10240 INTEGER(0..10239)  },  -- FFS need for finer offset granulary  -- FFS need for shorter values for long and short cycles  shortDRX SEQUENCE {  drx-ShortCycle ENUMERATED {  ms2, ms3, ms4, ms5, ms6, ms7, ms8, ms10, ms14, ms16, ms20, ms30, ms32,  ms35, ms40, ms64, ms80, ms128, ms160, ms256, ms320, ms512, ms640, spare9,  spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1 },  drx-ShortCycleTimer INTEGER (1..16)  } OPTIONAL, -- Need R  drx-SlotOffset ENUMERATED {  ms0, ms1-32,ms2-32, ms3-32, ms4-32, ms5-32, ms6-32, ms7-32, ms8-32, ms9-32, ms10-32, ms11-32,  ms12-32, ms13-32, ms14-32, ms15-32, ms16-32, ms17-32, ms18-32, ms19-32, ms-20-32, ms21-32,  ms22-32, ms23-32, ms24-32, ms25-32, ms26-32, ms27-32, ms28-32, ms29-32, ms30-32, ms31-32 } }  } | Done |
| E021 | PHR-config does not use the SetupRelease construct. | 2 | Modify PHR-config such that it uses the SetupRelease construct.  PHR-Config ::= SetupRelease { SEQUENCE {  ~~CHOICE {~~  ~~release NULL,~~  ~~setup SEQUENCE {~~  phr-PeriodicTimer ENUMERATED {sf10, sf20, sf50, sf100, sf200,sf500, sf1000, infinity},  phr-ProhibitTimer ENUMERATED {sf0, sf10, sf20, sf50, sf100,sf200, sf500, sf1000},  phr-Tx-PowerFactorChange ENUMERATED {dB1, dB3, dB6, infinity},  multiplePHR BOOLEAN,  phr-Type2PCell BOOLEAN,  phr-Type2OtherCell BOOLEAN,  phr-ModeOtherCG ENUMERATED {real, virtual}  }  } | Done |
| N093 | Unnecessarily complex value names in drx-SlotOffset: We could just remove -32 from all values and use 0..31 as INTEGER while noting these are all multiples of 1/32 ms Related to N095 | 2 | We could simply use the following definition:  drx-SlotOffset INTEGER (0..31)  with field description stating this is in multiples of 1/32 ms: drx-SlotOffset Value in 1/32 ms. Value 0 corresponds to 0ms, value 1 corresponds to 1/32ms, value 2 corresponds to 2/32ms, and so on.  => Change is agreed | Done |
| N094 | DRX-Config should use SetupRelease – wrapper | 2 | Correct to use the parameterized type SetupRelease | Covered already |
| N095 | The definition of drx-onDurationTimer is unnecessarily complex: We could split it in two to allow shorter names. Related to N093 | 2 | Use e.g. the following:  drx-onDurationTimer CHOICE {  subMilliSeconds INTEGER (1..32),  milliSeconds ENUMERATED {ms1, ms2, ms3, ms4, ms5, ms6, ms8, ms10, ms20, ms30, ms40, ms50, ms60,   ms80, ms100, ms200, ms300, ms400, ms500, ms600, ms800, ms1000, ms1200, ms1600 }  } with field description: drx-onDurationTimer Value given as multiple of 1/32ms (subMilliSeconds) or 1 ms (milliSeconds).  => Change is agreed | Done |
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#### – MeasConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I063 | Genearl question, likely in Rel-16, measurement on other RAT will be introduced, how to extend it in Rel-16, so far seems the only way is in RRCReconfiguration. Do we want to add sub level NCE? | 2 | Confirm in reconfiguration level is ok. | I think this might require discussion? |
| Q009 | For the following “editor notes”:  Editor’s Note: FFS How to support allowInterruptions in NR (RAN4 input needed) in Rel-15.  It sounds as if RAN2 has agreed to introduce allowInterruption in NR, and the only FFS is how to support. But based on latest agreement (RAN2#99b), our understanding is whether to support it is still FFS:  FFS AllowInterruptions.  FFS speed-based TTT scaling (to be discussed after December)  FFS alternativeTimeToTrigger (to be discussed after December) | 2 | Modify as follows  Editor’s Note: FFS whether~~how~~ to support allowInterruptions in NR (RAN4 input needed) in Rel-15. | Seriously? This is a useless comment. Do we have to implement? |
| H085 | RLM parameters missing | 2 | There is an FFS on where to capture the RLM parameters. This affects L1 parameters RLM-IS-OOS-thresholdConfig, RLM-RS, RLM-RS-List, RLM-SSB, RLM-CSIRS. All these parameters are indicated as “UE specific” in the spreadsheet and could be included in MeasConfig.  MeasConfig ::= SEQUENCE {  -- Measurement objects  measObjectToRemoveList MeasObjectToRemoveList OPTIONAL,  measObjectToAddModList MeasObjectToAddModList OPTIONAL,  -- Reporting configurations  reportConfigToRemoveList ReportConfigToRemoveList OPTIONAL,  reportConfigToAddModList ReportConfigToAddModList OPTIONAL,  -- Measurement identities  measIdToRemoveList MeasIdToRemoveList OPTIONAL,  measIdToAddModList MeasIdToAddModList OPTIONAL,  -- Other parameters  -- s-Measure config  s-MeasureConfig CHOICE {  ssb-rsrp RSRP-Range,  csi-rsrp RSRP-Range  } OPTIONAL,  quantityConfig QuantityConfig OPTIONAL,  -- Placehold for measGapConfig  measGapConfig MeasGapConfig OPTIONAL,  rlm-IS-OOS-ThresholdConfig ENUMERATED { t0, t1 } OPTIONAL,  rlm-RS-List SEQUENCE (SIZE (1..8)) OF RLM-RS,  }  RLM-RS ::= CHOICE {  rlm-SSB INTEGER (0..63),  rlm-CSI-RS INTEGER (0..NZP-CSI-RS-ResourceMax-1)  }  **[Ericsson]** We disagree. In principle these could ether be in measConfig or spCellConfig. However, the following has been agreed in Reno RAN2#100:  1 RLM configuration and RLF related timers and constants are located as part of the SpCell configuration information (therefore a separate configuration from RRM)  Based on that agreement we can also remove the following FFS:  ~~Editor’s Note: FFS where to add RLM related parameters: rlm-ResourceConfigCSI-RS, rlm-ResourceConfigSS~~  => Change is not needed in this location.  => The additional parameters should be included in the appropriate location | We should not implement these cahnges yet. IT is unclear whether there are orthogonal resources compared to the ones defined for beam failure detection. In the last meeting we have agreed on an IE called *BeamFailureRecoveryConfig*  . Hence, I don’t think we should add both, but have a discussion paper + comment in ASN.1 reivew. |
| N096 | Need codes are missing entirely | 2 | Add Need codes to all fields (One shot for add/remove lists and M for gap/s-measureConfig.) | See TDoc R2-1800833 |
| E129 | ASN.1 for RSRP-range, RSRQ-Range and SINR-Range were missing. | 3 | We have provided a CR in R2-1801326. | See TDoc R2-1801326 |
| E135 | In RAN2#100, it has been agreeed how to encode QuantityConfig:  Agreements  1 Different MOs can operate with different filter coefficients  2 Up to 2 filter coefficient sets are configured within the measConfig  3 Add a reference in the MO to the filter coefficient configuration that is to be used  That has also already been added in the latest TS version. Hence, we can remove the following FFS Editor’s Note: FFS Whether quantityConfig is configured per MeasConfig or MeasObject. | 2 | ~~Editor’s Note: FFS Whether quantityConfig is configured per MeasConfig or MeasObject.~~ |  |

#### – MeasId

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M033 | Naming convention: For IDs, the infix of “Nrof” is not needed. We should simply use maxMeasId, as in LTE. | 1 | MeasId ::= INTEGER (1..max~~Nrof~~MeasId) |  |
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#### – MeasIdToAddModList

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| N098 | No room to extend this IE | 2 | Discuss if we need to add appropriate extension mechanism | Needs discussion. |
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#### – MeasObjectEUTRA

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – MeasObjectId

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M034 | Naming convention: For IDs, the infix of “Nrof” is not needed. We should simply use maxObjectId, as in LTE. | 2 | MeasObjectId ::= INTEGER (1..max~~Nrof~~ObjectId) |  |
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#### – MeasObjectNR

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| I-No | Description | Class | | Details (proposed solution/ discussion) | | | Status/ ref | |
| M035 | Definition of maxQuantityConfigId is unclear | | 3 | | In measObjectNR, we have  quantityConfigIndex INTEGER (1..maxQuantityConfigId),  In QualityConfig, however, we have  QuantityConfigNR-List::= SEQUENCE (SIZE (1..maxNroQuantityConfig)) OF QuantityConfigNR  seems that maxQuantityConfigId and maxNroQuantityConfig are the same thing? The naming should be aligned.  [Ericsson] We agree this needs to be corrected. In our view what needs to be done is:   * Define the parameter quantityConfigIndex as the n-th element of quantityConfigNR-list provided in measConfig; * Define maxNroQuantityConfig as the maximum number of filtering configurations that can be set per UE.   => Solution described by Ericsson is agreed. |  | |
| M036 | (typo) Description of absThreshSS-BlocksConsolidation and absThreshCSI-RS-Consolidation | | 1 | | **absThreshCSI-RS-Consolidation**  Absolute threshold for the consolidation of measurement results per CSI-RS resource(s) from L1 filter(s). The values above the threshold are used as input to the derivation of cell measurement results as described in 5.3.x and the L3 filter(s) per CSI-RS resource as described in 5.5.3.2.  **absThreshSS-BlocksConsolidation**  Absolute threshold for the consolidation of measurement results per SS/PBCH block(s) from L1 filter(s). The values above the threshold are used as input to the derivation of cell measurement results as described in 5.3.x and the L3 filter(s) per SS/PBCH block index as described in 5.5.3.2. | This was already correct. I used the chance to coprrect the reference to the section 5.5.3.3 instead of 5.3.x. | |
| M037 | (typo) MeasObjectNR field descriptions | | 1 | | **nrofCSI-RS-ResourcesToAverage**  **nrofSS-BlocksToAverage** |  | |
| M038 | ReferenceSignalConfig should be mandatory | | 2 | | referenceSignalConfig ReferenceSignalConfig ~~OPTIONAL~~,  [Ericsson] This is a relevant topic disucssion. We suggest to take that once we finalize the singalling for MO for carriers with SSB, without SSB and carirers with both SSB and CSI-RS. Then, one needs to see whether some fundamental parameters might still be within ReferenceSignal to then decide whether that is OPTIONAL or not.  => Will be discussed based on contributions in RRM AI. | It iscurrently ,mandatory. Then, inside there could be optional fields. | |
| Z034 | The description of csi-rs-measurementBW should only contain the start PRB and number of PRBs?? It is a bit unclear why the other parameters are included. These should be deleted from the csi-rs-measurementBW.  According to RAN1 L1 parameter description, the associated-SSB and QCLed-SSB can be configured per CSI-RS resource, so these two parameters should be removed into CSI-RS-Resource-Mobility.  Per agreement at RAN2#100: In case that more than one MO with CSI-RS resources for measurement is associated to the same SSB location in frequency the UE is indicated which MO corresponds to the serving carrier. So the isServingCellMO should be removed out of the csi-rs-MeasurementBW to form a separate IE in the CSI-RS-ResourceConfig-Mobility.  Also, per RAN1’s input the IE should be optional | | 2 | | CSI-RS-ResourceConfig-Mobility ::= SEQUENCE {  -- MO specific values  csi-rs-MeasurementBW SEQUENCE {  -- Size of the measurement BW in PRBs  -- Corresponds to L1 parameter 'CSI-RS-measurementBW-size' (see FFS\_Spec, section FFS\_Section)  nrofPRBs ENUMERATED { size24, size48, size96, size192, size268},  -- Starting PRB index of the measurement bandwidth  -- Corresponds to L1 parameter 'CSI-RS-measurement-BW-start' (see FFS\_Spec, section FFS\_Section)  -- FFS\_Value: Upper edge of value range unclear in RAN1  startPRB INTEGER(0..251),  ~~-- Each CSI-RS resource may be associated with one SSB. If such SSB is indicated, the NW also indicates whether the UE may assume~~  ~~-- quasi-colocation of this SSB with this CSI-RS reosurce.~~  ~~-- Corresponds to L1 parameter 'Associated-SSB' (see FFS\_Spec, section FFS\_Section)~~  ~~-- FFS: What does the UE do if it there is no such SSB-Index?~~  ~~associatedSSB SEQUENCE {~~  ~~-- FFS\_Value: Check the value range~~  ~~ssb-Index SSB-Index OPTIONAL,~~  ~~-- The CSI-RS resource is either QCL’ed not QCL’ed with the associated SSB in spatial parameters~~  ~~-- Corresponds to L1 parameter 'QCLed-SSB' (see FFS\_Spec, section FFS\_Section)~~  ~~isQuasiColocated BOOLEAN~~  ~~},~~  ~~isServingCellMO BOOLEAN~~  },  -- subcarrier spacing of CSI-RS. It can take the same values available also for the data channels and for SSB  subcarrierSpacing SubcarrierSpacing,  -- FFS\_Description.  -- FFS\_CHECK: Should this be in the resource-config (here) or in the resource (below)?  -- Corresponds to L1 parameter 'Common-PRB-Grid-offset' (see FFS\_Spec, section FFS\_Section)  prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4)  OPTIONAL,  isServingCellMO BOOLEAN  -- List of resources  csi-rs-ResourceList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesRRM)) OF CSI-RS-Resource-Mobility  }  CSI-RS-Resource-Mobility ::= SEQUENCE {  csi-rs-ResourceId-RRM CSI-RS-ResourceId-RRM,  cellId PhysicalCellId,  -- FFS\_CHECK whether the following fields are supposed to be per resource (here) or in the resource config (above)  -- Contains periodicity and slot offset for periodic/semi-persistent CSI-RS (see 38.211, section x.x.x.x)FFS\_Ref  slotConfig CHOICE {  ms5 INTEGER (0..4),  ms10 INTEGER (0..9),  ms20 INTEGER (0..19),  ms40 INTEGER (0..39)  },  -- Resource Element mapping pattern for CSI-RS (see 38.211, section x.x.x.x) FFS\_Ref  resourceElementMappingPattern ENUMERATED {ffsTypeAndValue},  -- Sequence generation parameter for CSI-RS (see 38.211, section x.x.x.x) FFS\_Ref  sequenceGenerationConfig INTEGER (0..1023),  -- Frequency domain density for the 1-port CSI-RS for L3 mobility  -- Corresponds to L1 parameter 'Density' (see FFS\_Spec, section FFS\_Section)  density ENUMERATED {d1,d3} OPTIONAL,  -- Each CSI-RS resource may be associated with one SSB. If such SSB is indicated, the NW also indicates whether the UE may assume  -- quasi-colocation of this SSB with this CSI-RS reosurce.  -- Corresponds to L1 parameter 'Associated-SSB' (see FFS\_Spec, section FFS\_Section)  -- FFS: What does the UE do if it there is no such SSB-Index?  associatedSSB SEQUENCE {  -- FFS\_Value: Check the value range  ssb-Index SSB-Index OPTIONAL,  -- The CSI-RS resource is either QCL’ed not QCL’ed with the associated SSB in spatial parameters  -- Corresponds to L1 parameter 'QCLed-SSB' (see FFS\_Spec, section FFS\_Section)  isQuasiColocated BOOLEAN  }, OPTIONAL  ...  } | Duplicate of S013 and following (additional aspects)  This was solved by the agreed CR from Samsung, already implemented: R2-1801412. | |
| Z035 | The duration field should contain values {1:5} per the latest RAN1 input. | | 1 | | -- A measurement timing configuration  SSB-MeasurementTimingConfiguration ::= SEQUENCE {  -- Primary measurement timing configuration. Applicable for intra- and inter-frequency measurements.  smtc1 SEQUENCE {  -- Periodicity and offset of the measurement window in which to receive SS/PBCH blocks.  -- Periodicity and offset are given in number of subframes.  -- FFS\_FIXME: This does not match the L1 parameter table! They seem to intend an index to a hidden table in L1 specs.  -- (see 38.213, section REF):  periodicityAndOffset CHOICE {  sf5 INTEGER (0..4),  sf10 INTEGER (0..9),  sf20 INTEGER (0..19),  sf40 INTEGER (0..39),  sf80 INTEGER (0..79),  sf160 INTEGER (0..159)  },  -- Duration of the measurement window in which to receive SS/PBCH blocks. It is given in number of subframes  -- (see 38.213, section 4.1)  -- FFS: RAN1 discusses additional allowed durations:  duration ENUMERATED { sf1, sf2, sf3, sf4, sf5 },  -- The set of SS blocks to be measured within the SMTC measurement duration.  -- Corresponds to L1 parameter 'SSB-measured' (see FFS\_Spec, section FFS\_Section)  -- When the field is absent the UE measures on all SS-blocks  -- FFS\_CHECK: Is this IE placed correctly.  ssb-ToMeasure SetupRelease {  CHOICE {  -- bitmap for sub 3 GHz  shortBitmap BIT STRING (SIZE (4)),  -- bitmap for 3-6 GHz  mediumBitmap BIT STRING (SIZE (8)),  -- bitmap for above 6 GHz  longBitmap BIT STRING (SIZE (64))  }  } OPTIONAL -- Need M  }, | Covered in the draft CR | |
| Z036 | Per the latest RAN1 input, the value range of the sub-carrier spacing for CSI-RS is {15kHz,30kHz,60kHz} for sub6, {60kHz,120kHz,240kHz} for over6. However, the value of the subcarrierSpacing in the CSI-RS-ResourceConfig-Mobility is now referred to a common structure SubcarrierSpacing with the value range of {15kHz,30kHz} for sub6, {60kHz,120kHz} for over6. | | 2 | | Like SubcarrierSpacingSSB, a new IE subcarrierSpacingCsiRs is defined for CSI-RS. The value of the subcarrierSpacingCsiRs is SubcarrierSpacingCSIRS which is defined in the SubcarrierSpacing information element.  CSI-RS-ResourceConfig-Mobility ::= SEQUENCE {  -- MO specific values  csi-rs-MeasurementBW SEQUENCE {  -- Size of the measurement BW in PRBs  -- Corresponds to L1 parameter 'CSI-RS-measurementBW-size' (see FFS\_Spec, section FFS\_Section)  nrofPRBs ENUMERATED { size24, size48, size96, size192, size268},  -- Starting PRB index of the measurement bandwidth  -- Corresponds to L1 parameter 'CSI-RS-measurement-BW-start' (see FFS\_Spec, section FFS\_Section)  -- FFS\_Value: Upper edge of value range unclear in RAN1  startPRB INTEGER(0..251),  -- Each CSI-RS resource may be associated with one SSB. If such SSB is indicated, the NW also indicates whether the UE may assume  -- quasi-colocation of this SSB with this CSI-RS reosurce.  -- Corresponds to L1 parameter 'Associated-SSB' (see FFS\_Spec, section FFS\_Section)  -- FFS: What does the UE do if it there is no such SSB-Index?  associatedSSB SEQUENCE {  -- FFS\_Value: Check the value range  ssb-Index SSB-Index OPTIONAL,  -- The CSI-RS resource is either QCL’ed not QCL’ed with the associated SSB in spatial parameters  -- Corresponds to L1 parameter 'QCLed-SSB' (see FFS\_Spec, section FFS\_Section)  isQuasiColocated BOOLEAN  },  isServingCellMO BOOLEAN  },  -- subcarrier spacing of CSI-RS. It can take the same values available also for the data channels and for SSB  subcarrierSpacingCsiRs SubcarrierSpacingCSIRS,  -- FFS\_Description.  -- FFS\_CHECK: Should this be in the resource-config (here) or in the resource (below)?  -- Corresponds to L1 parameter 'Common-PRB-Grid-offset' (see FFS\_Spec, section FFS\_Section)  prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4) OPTIONAL,  -- List of resources  csi-rs-ResourceList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesRRM)) OF CSI-RS-Resource-Mobility  } | Done  But updated with latest RAN1 parameter... which seems to imply that we can/should revert to normal type SubcarrierSpacing.  [ | |
| Z037 | The subcarrierSpacing for SSB (when SSB is present) should refer to the value range structure subcarrierSpacingSSB instead of the common subcarrierSpacing. | | 2 | | ReferenceSignalConfig::= SEQUENCE {  ssb-MeasurementTimingConfiguration SSB-MeasurementTimingConfiguration OPTIONAL,  ssbPresence CHOICE {  present SEQUENCE {  frequencyOffset ENUMERATED {ffsTypeAndValue},  subcarrierSpacing SubcarrierSpacingSSB  },  notPresent SEQUENCE {  -- FFS: How to inform the UE where else to find the SSB. FFS whether to indicate here a carrier or a cell ID or multiple cell IDs  }  }, | Done | |
| Z038 | RAN4 has defined the NR-ARFCN range as [0.. 3279167]. So the ARFCN-ValueEUTRA should be defined as an integer in the range [0.. 3279167] instead of a ENUMERATED type. | | 2 | | ARFCN-ValueNR ::= ~~ENUMERATED~~INTEGER {~~ffsTypeAndValue~~0..3279167} | No change  covered already | |
| Z039 | The offsetFreq can be applied to event A3/A4/A5, i.e. used in the Entering condition/leaving condition of A3/A4/A5 event. So the restriction of only for events A3,A6 is not correct. The restriction can be deleted or if keeping it, it should be revised to A3,A4, and A5. | | 2 | | --Frequency-specific offsets ~~(only for events A3, A6)~~  offsetFreq Q-OffsetRangeList,  [Ericsson] Agree. The event definiiton is correct, so we suggest to simply delete the comment. |  | |
| Z041 | According to the latest RAN1 Reno agreement, for the slotConfig in CSI-RS-Resource-Mobility, the parameter description has been revised as :“Periodicity: {5, 10, 20, 40} msec ; Offset: 0, 1, …, P-1 slots, where periodicity P is in terms of slots in the CSI-RS numerology”, so the value range of slotoffset could be various upon different SCS, and RAN1 confirms the slotConfig is configured per resources.  However, since the SCS is configured in CSI-RS-ResourceConfig-Mobility, and applies for all CSI-RS resources, so we suggest to give the maximum value range of each periodicity with more detail IE descriptions. | | 2 | | CSI-RS-Resource-Mobility ::= SEQUENCE {  csi-rs-ResourceId-RRM CSI-RS-ResourceId-RRM,  cellId PhysicalCellId,  ~~-- FFS\_CHECK whether the following fields are supposed to be per resource (here) or in the resource config (above)~~  -- Contains periodicity and slot offset for periodic/semi-persistent CSI-RS (see 38.211, section x.x.x.x)FFS\_Ref  -- When SubcarrierSpacingCsiRs is set to 15kHZ, the maximum value for periodicities ms5/ms10/ms20/ms40 are 4/9/19/39; When SubcarrierSpacingCsiRs is set to 30kHZ, the maximum value for periodicities ms5/ms10/ms20/ms40 are 9/19/39/79; When SubcarrierSpacingCsiRs is set to 60kHZ, the maximum value for periodicities ms5/ms10/ms20/ms40 are 19/39/79/159; When SubcarrierSpacingCsiRs is set 120kHZ, the maximum value for periodicities ms5/ms10/ms20/ms40 are 39/79/159/319; When SubcarrierSpacingCsiRs is set 240kHZ, the maximum value for periodicities ms5/ms10/ms20/ms40 are 79/159/319/639;  slotConfig CHOICE {  ms5 INTEGER (0..~~4~~79),  ms10 INTEGER (0..~~9~~159),  ms20 INTEGER (0..~~19~~319),  ms40 INTEGER (0..~~39~~639),  },  -- Resource Element mapping pattern for CSI-RS (see 38.211, section x.x.x.x) FFS\_Ref  resourceElementMappingPattern ENUMERATED {ffsTypeAndValue},  -- Sequence generation parameter for CSI-RS (see 38.211, section x.x.x.x) FFS\_Ref  sequenceGenerationConfig INTEGER (0..1023),  -- Frequency domain density for the 1-port CSI-RS for L3 mobility  -- Corresponds to L1 parameter 'Density' (see FFS\_Spec, section FFS\_Section)  density ENUMERATED {d1,d3} OPTIONAL,  ...  }  [**Ericsson**] We are OK to convert the periodicity to ”slots”. But the description requires some cleanup since it mixes now ms and slots. Also, the choice options start with ”ms” which should become ”sl” |  | |
| I064 | So far, the ASN.1 structure provides the full flexible for  RS-ConfigSSB-NR-r15 ::= SEQUENCE {  measTimingConfig-r15 MTC-SSB-NR-r15 OPTIONAL, -- Need OR  offsetCenterFreq-r15 FreqOffsetNR-r15 OPTIONAL, -- Need OR  subcarrierSpacingSSB-r15 ENUMERATED {kHz15, kHz30, kHz120, kHz240} OPTIONAL, -- Need OR  ...  It can be removed simultaneously, can be removed separaetly. Do we need such flexible?  In NR RRC, offset and subcarrierspace are linked together. Which one is correct?  At least, we need to align with each other. | | 2 | | Align with LTE | I think we need to discuss again the encoding of SubcarrierSpacing. In my view, the simplest way is to have a plain list of SCS values and, in field description explain what is allowed or not under wchich cases. | |
| I065 | PhysicalCellId, used here should be PhysCellId> | | 2 | | Change PhysicalCellId to PhysCellId | Solved by Z072. | |
| H086 | subcarrierSpacing wrong type (in CSI-RS-ResourceConfig-Mobility) | | 2 | | Subcarrier spacing range should be { 15, 30, 60 } for sub6, { 60, 120, 240 } for >6. The type SubcarrierSpacing doesn’t have 240, which is correct for its other uses e.g. for the L1 parameter ref-SCS. Unfortunately it seems we need to add a new type for SubcarrierSpacingCSI-RS.  -- subcarrier spacing of CSI-RS. It can take the same values available also for the data channels and for SSB  subcarrierSpacing SubcarrierSpacingCSI-RS,  […]  SubcarrierSpacingCSI-RS ::= ENUMERATED { kHz15, kHz30, kHz60, kHz120, kHz240 } | Solved previously. | |
| H087 | Duration field wrong range (in SSB-MeasurementTimingConfiguration) | | 2 | | The duration field has range { sf1, sf5 } when it should be { 1, 2, 3, 4, 5 } according to the spreadsheet. Could change to { sf1, sf2, sf3, sf4, sf5 } or INTEGER (1..5).  -- Duration of the measurement window in which to receive SS/PBCH blocks. It is given in number of subframes  -- (see 38.213, section 4.1)  -- FFS: RAN1 discusses additional allowed durations:  duration ~~ENUMERATED { sf1, sf5 }~~INTEGER (1..5),  [**Ericsson**] We should probably **also remove the FFS given that RAN1 updated the range**. |  | |
| H088 | associatedSSB should be OPTIONAL (in CSI-RS-ResourceConfig-Mobility) | | 2 | | Currently ssb-Index is OPTIONAL inside associatedSSB. It seems that the correct semantics are for associatedSSB to be OPTIONAL and ssb-Index to be mandatory within the structure.  CSI-RS-ResourceConfig-Mobility ::= SEQUENCE {  -- MO specific values  csi-rs-MeasurementBW SEQUENCE {  -- Size of the measurement BW in PRBs  -- Corresponds to L1 parameter 'CSI-RS-measurementBW-size' (see FFS\_Spec, section FFS\_Section)  nrofPRBs ENUMERATED { size24, size48, size96, size192, size268},  -- Starting PRB index of the measurement bandwidth  -- Corresponds to L1 parameter 'CSI-RS-measurement-BW-start' (see FFS\_Spec, section FFS\_Section)  -- FFS\_Value: Upper edge of value range unclear in RAN1  startPRB INTEGER(0..251),  -- Each CSI-RS resource may be associated with one SSB. If such SSB is indicated, the NW also indicates whether the UE may assume  -- quasi-colocation of this SSB with this CSI-RS reosurce.  -- Corresponds to L1 parameter 'Associated-SSB' (see FFS\_Spec, section FFS\_Section)  -- FFS: What does the UE do if it there is no such SSB-Index?  associatedSSB SEQUENCE {  -- FFS\_Value: Check the value range  ssb-Index SSB-Index ~~OPTIONAL~~,  -- The CSI-RS resource is either QCL’ed not QCL’ed with the associated SSB in spatial parameters  -- Corresponds to L1 parameter 'QCLed-SSB' (see FFS\_Spec, section FFS\_Section)  isQuasiColocated BOOLEAN  } OPTIONAL,  isServingCellMO BOOLEAN  },  -- subcarrier spacing of CSI-RS. It can take the same values available also for the data channels and for SSB  subcarrierSpacing SubcarrierSpacing,  -- FFS\_Description.  -- FFS\_CHECK: Should this be in the resource-config (here) or in the resource (below)?  -- Corresponds to L1 parameter 'Common-PRB-Grid-offset' (see FFS\_Spec, section FFS\_Section)  prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4) OPTIONAL,  -- List of resources  csi-rs-ResourceList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesRRM)) OF CSI-RS-Resource-Mobility  } |  | |
| H089 | SS-RSSI-MeasurementConfig is missing | | 2 | | Missing L1 parameter ‘SS-RSSI-MeasurementConfig’. Propose to add it inside SSB-MeasurementTimingConfiguration as follows:  -- A measurement timing configuration  SSB-MeasurementTimingConfiguration ::= SEQUENCE {  -- Primary measurement timing configuration. Applicable for intra- and inter-frequency measurements.  smtc1 SEQUENCE {  -- Periodicity and offset of the measurement window in which to receive SS/PBCH blocks.  -- Periodicity and offset are given in number of subframes.  -- FFS\_FIXME: This does not match the L1 parameter table! They seem to intend an index to a hidden table in L1 specs.  -- (see 38.213, section REF):  periodicityAndOffset CHOICE {  sf5 INTEGER (0..4),  sf10 INTEGER (0..9),  sf20 INTEGER (0..19),  sf40 INTEGER (0..39),  sf80 INTEGER (0..79),  sf160 INTEGER (0..159)  },  -- Duration of the measurement window in which to receive SS/PBCH blocks. It is given in number of subframes  -- (see 38.213, section 4.1)  -- FFS: RAN1 discusses additional allowed durations:  duration ENUMERATED { sf1, sf5 },  -- L1 parameter 'SS-RSSI-MeasurementConfig'  ss-RSSI-MeasurementConfig SEQUENCE {  ss-RSSI-MeasurementSlotConfig BIT STRING (SIZE (160)), -- Number of slots in the SMTC window: maximum duration 5 ms,  -- maximum 32 slots per ms  ss-RSSI-MeasurementSymbolConfig INTEGER (0..3)  } | No change  New but still unclear parameters received from RAN1. They seem to suggest a different structure, though. | |
| H090 | frequencyOffset needs a type (inside ReferenceSignalConfig) | | 3 | | Contribution to be provided  RAN2 AH: More documents than R2-1800478 cover this. CCBB. | See TDoc R2-1800478  Resolved by signaling the nominal SSB frequency and the ARFCN of pointA. | |
| H091 | ssb-ToMeasure should be outside SMTC structure | | 2 | | The ssb-ToMeasure field should be outside the SMTC1 and SMTC2 structures since it applies to both of them. Move to the top level of SSB-MeasurementTimingConfiguration.  -- A measurement timing configuration  SSB-MeasurementTimingConfiguration ::= SEQUENCE {  -- The set of SS blocks to be measured within the SMTC measurement duration.  -- Corresponds to L1 parameter 'SSB-measured' (see FFS\_Spec, section FFS\_Section)  -- When the field is absent the UE measures on all SS-blocks  ssb-ToMeasure SetupRelease {  CHOICE {  -- bitmap for sub 3 GHz  shortBitmap BIT STRING (SIZE (4)),  -- bitmap for 3-6 GHz  mediumBitmap BIT STRING (SIZE (8)),  -- bitmap for above 6 GHz  longBitmap BIT STRING (SIZE (64))  }  } OPTIONAL -- Need M  -- Primary measurement timing configuration. Applicable for intra- and inter-frequency measurements.  smtc1 SEQUENCE {  -- Periodicity and offset of the measurement window in which to receive SS/PBCH blocks.  -- Periodicity and offset are given in number of subframes.  -- FFS\_FIXME: This does not match the L1 parameter table! They seem to intend an index to a hidden table in L1 specs.  -- (see 38.213, section REF):  periodicityAndOffset CHOICE {  sf5 INTEGER (0..4),  sf10 INTEGER (0..9),  sf20 INTEGER (0..19),  sf40 INTEGER (0..39),  sf80 INTEGER (0..79),  sf160 INTEGER (0..159)  },  -- Duration of the measurement window in which to receive SS/PBCH blocks. It is given in number of subframes  -- (see 38.213, section 4.1)  -- FFS: RAN1 discusses additional allowed durations:  duration ENUMERATED { sf1, sf5 },  ~~-- The set of SS blocks to be measured within the SMTC measurement duration.~~  ~~-- Corresponds to L1 parameter 'SSB-measured' (see FFS\_Spec, section FFS\_Section)~~  ~~-- When the field is absent the UE measures on all SS-blocks~~  ~~-- FFS\_CHECK: Is this IE placed correctly.~~  ~~ssb-ToMeasure SetupRelease {~~  ~~CHOICE {~~  ~~-- bitmap for sub 3 GHz~~  ~~shortBitmap BIT STRING (SIZE (4)),~~  ~~-- bitmap for 3-6 GHz~~  ~~mediumBitmap BIT STRING (SIZE (8)),~~  ~~-- bitmap for above 6 GHz~~  ~~longBitmap BIT STRING (SIZE (64))~~  ~~}~~  ~~} OPTIONAL -- Need M~~  },  -- Secondary measurement timing confguration for explicitly signalled PCIs. It uses the offset and duration from smtc1.  -- It is supported only for intra-frequency measurements in RRC CONNECTED.  smtc2 SEQUENCE {  -- PCIs that are known to follow this SMTC.  pci-List SEQUENCE (SIZE (1..maxNrofPCIsPerSMTC)) OF PhysicalCellId OPTIONAL,  -- Periodicity for the given PCIs. Timing offset and Duration as provided in smtc1.  periodicty ENUMERATED {ffsTypeAndValue}  } OPTIONAL -- Cond IntraFreqConnected  }  [Ericsson] As that is not a timing property, we suggest to discuss whether that should be actually outside that, i.e., wihtin th e MO main structure or RS configuration. |  | |
| H092 | resourceElementMappingPattern needs a type (in CSI-RS-Resource-Mobility | | 2 | | RAN1 have agreed the RE mapping pattern for RRM reuses the parameters from beam management. However, it isn’t clear from the spreadsheet what the equivalent parameters from beam management are; RAN1 input is needed.  CSI-RS-Resource-Mobility ::= SEQUENCE {  csi-rs-ResourceId-RRM CSI-RS-ResourceId-RRM,  cellId PhysicalCellId,  -- FFS\_CHECK whether the following fields are supposed to be per resource (here) or in the resource config (above)  -- Contains periodicity and slot offset for periodic/semi-persistent CSI-RS (see 38.211, section x.x.x.x)FFS\_Ref  slotConfig CHOICE {  ms5 INTEGER (0..4),  ms10 INTEGER (0..9),  ms20 INTEGER (0..19),  ms40 INTEGER (0..39)  },  -- Resource Element mapping pattern for CSI-RS (see 38.211, section x.x.x.x) FFS\_Ref  resourceElementMappingPattern ENUMERATED {ffsTypeAndValue},  -- Sequence generation parameter for CSI-RS (see 38.211, section x.x.x.x) FFS\_Ref  sequenceGenerationConfig INTEGER (0..1023),  -- Frequency domain density for the 1-port CSI-RS for L3 mobility  -- Corresponds to L1 parameter 'Density' (see FFS\_Spec, section FFS\_Section)  density ENUMERATED {d1,d3} OPTIONAL,  ...  } | No change (no change suggested) | |
| H093 | Inconsistant field names between procedure description and ASN.1: nroSS-BlocksToAverage vs nrofSS-BlocksToAverage, nroCSI-RS-ResourcesToAverage vs nrofCSI-RS-ResourcesToAverage | | 2 | | MeasObjectNR ::= SEQUENCE {  carrierFreq ARFCN-ValueNR,  --RS configuration (e.g. SMTC window, CSI-RS resource, etc.)  referenceSignalConfig ReferenceSignalConfig OPTIONAL,  --Consolidation of L1 measurements per RS index  absThreshSS-BlocksConsolidation ThresholdNR OPTIONAL,  absThreshCSI-RS-Consolidation ThresholdNR OPTIONAL,    --Config for cell measurement derivation  nro~~f~~SS-BlocksToAverage INTEGER (2..maxNrofSS-BlocksToAverage) OPTIONAL,  nro~~f~~CSI-RS-ResourcesToAverage INTEGER (2..maxNrofCSI-RS-ResourcesToAverage) OPTIONAL,    -- Filter coefficients applicable to this measurement object  quantityConfigIndex INTEGER (1..maxQuantityConfigId),  --Frequency-specific offsets (only for events A3, A6)  offsetFreq Q-OffsetRangeList, | Done | |
| Q010 | Based on latest RAN1 agreement, the duration value of SMTC1 should be updated:   * SMTC window duration:   + Both for inter-/intra- frequency measurements, the candidate values are {1,2,3,4,5} msec | | 2 | | Add following values:  duration ENUMERATED { sf1, sf2, sf3, sf4, sf5 }, | Solved by anohter RIL issue. | |
| Q011 | Based on latest RAN1 agreement, SMTC1 and SMTC2 share the same periodicity value range:   * SMTC periodicity:   + Both for inter-/intra-frequency measurements, the candidate values are {5, 10, 20, 40, 80, 160} msec   The periodicity of SMTC2 value list should be updated | | 2 | | Modify as follows  smtc2 SEQUENCE {  -- PCIs that are known to follow this SMTC.  pci-List SEQUENCE (SIZE (1..maxNrofPCIsPerSMTC)) OF PhysicalCellId OPTIONAL,  -- Periodicity for the given PCIs. Timing offset and Duration as provided in smtc1.  periodicty ENUMERATED {~~ffsTypeAndValue~~sf5, sf10, sf20, sf40, sf80, sf160} | solved in class 1 CR to Vancouver meeting. | |
| Q012 | Based on latest RAN1 agreement, the following parameters for CSI-RS are missing:   * Common-PRB-Grid-offset * Numerology | | 2 | | Add following fields:   * Common-PRB-Grid-offset TYPE\_FFS!, * Numerology ENUMERATED { 15or60, 30or120, 60or240}   Rap: Need further work, also related to the new structure of the MO |  | |
| E113 | Agreement:on SMTC window duration:  Both for inter-/intra- frequency measurements, the candidate values are {1,2,3,4,5} msec | | 1 | | smtc1 SEQUENCE {  -- Periodicity and offset of the measurement window in which to receive SS/PBCH blocks.  -- Periodicity and offset are given in number of subframes.  -- FFS\_FIXME: This does not match the L1 parameter table! They seem to intend an index to a hidden table in L1 specs.  -- (see 38.213, section REF):  periodicityAndOffset CHOICE {  sf5 INTEGER (0..4),  sf10 INTEGER (0..9),  sf20 INTEGER (0..19),  sf40 INTEGER (0..39),  sf80 INTEGER (0..79),  sf160 INTEGER (0..159)  },  -- Duration of the measurement window in which to receive SS/PBCH blocks. It is given in number of subframes  -- (see 38.213, section 4.1)  -- FFS: RAN1 discusses additional allowed durations:  duration ENUMERATED { sf1, sf2, sf3, sf4, sf5 }, |  | |
| D012 | Duration of SMTC (SSB-MeasurementTimingConfiguration) | | 2 | | sf2, sf3 and sf4 should be included in accordance with the latest L1 parameter list (R1-1721581). |  | |
| D013 | Missing L1 parameters on RLM and RSSI measurements | | 2 | | The RLM and RSSI measurement related parameters are missing (Row 255, 267, 270 to 275 in R1-1721581  Rap: RLM parametrers left out. Still to be discussed whether they are different or the same as defined for beam failure monitoring. |  | |
| D014 | quantityConfigIndex in MeasObjectNR is referenced but not defined anywhere | | 2 | | If the intention is to refer which of the quantity config list included in the measConfig, then quantityConfigIndex needs to be included defined in the quantityConfig. |  | |
| N099 | Need codes are missing entirely | | 2 | | Add Need codes to all fields (some field may need Need R here) | See TDoc R2-1800833 | |
| N100 | In MeasObjectNR separation between CSI and SSB specific IEs not followed | | 3 | | grouping of IEs for CSI and SSB categories could be followed for easier maintainability |  | |
| N101 | In MeasObjectNR IE offsetFreq could be renamed | | 2 | | freqSpecificQOffset could be a replacement term for this IE which is even difficult to understand coming from LTE  Rap: Remains for further discussion |  | |
| S013 | According to R1-[1721581](file:///C:\Users\merias\Documents\ETSI\RANWG1\TSGR1_91-USA\R1-1721587.zip), the field associatedSSB shall be optional and configured 'per CSI-RS resource’, not under the ’csi-rs-MeasurementBW’ | | 2 | | CSI-RS-ResourceConfig-Mobility ::= SEQUENCE {  -- MO specific values  csi-rs-MeasurementBW SEQUENCE {  -- Size of the measurement BW in PRBs  -- Corresponds to L1 parameter 'CSI-RS-measurementBW-size' (see FFS\_Spec, section FFS\_Section)  nrofPRBs ENUMERATED { size24, size48, size96, size192, size268},  -- Starting PRB index of the measurement bandwidth  -- Corresponds to L1 parameter 'CSI-RS-measurement-BW-start' (see FFS\_Spec, section FFS\_Section)  -- FFS\_Value: Upper edge of value range unclear in RAN1  startPRB INTEGER(0..251),  -- Each CSI-RS resource may be associated with one SSB. If such SSB is indicated, the NW also indicates whether the UE may assume  -- quasi-colocation of this SSB with this CSI-RS reosurce.  -- Corresponds to L1 parameter 'Associated-SSB' (see FFS\_Spec, section FFS\_Section)  -- FFS: What does the UE do if it there is no such SSB-Index?  ~~associatedSSB SEQUENCE {~~  ~~-- FFS\_Value: Check the value range~~  ~~ssb-Index SSB-Index OPTIONAL,~~  ~~-- The CSI-RS resource is either QCL’ed not QCL’ed with the associated SSB in spatial parameters~~  ~~-- Corresponds to L1 parameter 'QCLed-SSB' (see FFS\_Spec, section FFS\_Section)~~  ~~isQuasiColocated BOOLEAN~~  ~~},~~  isServingCellMO BOOLEAN  },    ...  -- List of resources  csi-rs-ResourceList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesRRM)) OF CSI-RS-Resource-Mobility  }  CSI-RS-Resource-Mobility ::= SEQUENCE {  csi-rs-ResourceId-RRM CSI-RS-ResourceId-RRM,  cellId PhysicalCellId,  -- FFS\_CHECK whether the following fields are supposed to be per resource (here) or in the resource config (above)  -- Contains periodicity and slot offset for periodic/semi-persistent CSI-RS (see 38.211, section x.x.x.x)FFS\_Ref  slotConfig CHOICE {  ms5 INTEGER (0..4),  ms10 INTEGER (0..9),  ms20 INTEGER (0..19),  ms40 INTEGER (0..39)  },  associatedSSB SEQUENCE {  - FFS\_Value: Check the value range  ssb-Index SSB-Index OPTIONAL,  -- The CSI-RS resource is either QCL’ed not QCL’ed with the associated SSB in spatial parameters  -- Corresponds to L1 parameter 'QCLed-SSB' (see FFS\_Spec, section FFS\_Section)  isQuasiColocated BOOLEAN  } OPTIONAL,  ...  } |  | |
| S014 | According to R1-[1721581](file:///C:\Users\merias\Documents\ETSI\RANWG1\TSGR1_91-USA\R1-1721587.zip), the field prb-GridOffset shall be optional and configured 'per CSI-RS resource’, not under the ’csi-rs-ResourceConfig-Mobility’ | | 2 | | CSI-RS-ResourceConfig-Mobility ::= SEQUENCE {  -- MO specific values  csi-rs-MeasurementBW SEQUENCE {  ...  ~~prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4) OPTIONAL,~~  -- List of resources  csi-rs-ResourceList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesRRM)) OF CSI-RS-Resource-Mobility  }  CSI-RS-Resource-Mobility ::= SEQUENCE {  csi-rs-ResourceId-RRM CSI-RS-ResourceId-RRM,  cellId PhysicalCellId,  -- FFS\_CHECK whether the following fields are supposed to be per resource (here) or in the resource config (above)  -- Contains periodicity and slot offset for periodic/semi-persistent CSI-RS (see 38.211, section x.x.x.x)FFS\_Ref  slotConfig CHOICE {  ms5 INTEGER (0..4),  ms10 INTEGER (0..9),  ms20 INTEGER (0..19),  ms40 INTEGER (0..39)  },  prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4)   OPTIONAL,  ...  }  Rap: Need further discusion. | [ | |
| S015 | According to R1-[1721581](file:///C:\Users\merias\Documents\ETSI\RANWG1\TSGR1_91-USA\R1-1721587.zip), the field density and cellId shall be configured 'per cell, not per ’csi-rs resource’ | | 3 | | CSI-RS-ResourceConfig-Mobility ::= SEQUENCE {  -- MO specific values  ...  -- List of cells  CSI-rs-CellList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-CellsRRM)) OF CSI-RS-Cell-Mobility  }    CSI-RS-Cell-Mobility ::= SEQUENCE {      -- Cell common values  cellId PhysicalCellId,  -- Frequency domain density for the 1-port CSI-RS for L3 mobility  -- Corresponds to L1 parameter 'Density' (see FFS\_Spec, section FFS\_Section)  density ENUMERATED {d1,d3} OPTIONAL,  -- List of resources  csi-rs-ResourceList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesRRM)) OF CSI-RS-Resource-Mobility  }  CSI-RS-Resource-Mobility ::= SEQUENCE {  csi-rs-ResourceId-RRM CSI-RS-ResourceId-RRM,  ~~cellId PhysicalCellId,~~  -- FFS\_CHECK whether the following fields are supposed to be per resource (here) or in the resource config (above)  -- Contains periodicity and slot offset for periodic/semi-persistent CSI-RS (see 38.211, section x.x.x.x)FFS\_Ref  slotConfig CHOICE {  ms5 INTEGER (0..4),  ms10 INTEGER (0..9),  ms20 INTEGER (0..19),  ms40 INTEGER (0..39)  },  associatedSSB SEQUENCE {  - FFS\_Value: Check the value range  ssb-Index SSB-Index OPTIONAL,  -- The CSI-RS resource is either QCL’ed not QCL’ed with the associated SSB in spatial parameters  -- Corresponds to L1 parameter 'QCLed-SSB' (see FFS\_Spec, section FFS\_Section)  isQuasiColocated BOOLEAN  } OPTIONAL,,  prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4)   OPTIONAL,  ...  ~~-- Frequency domain density for the 1-port CSI-RS for L3 mobility~~  ~~-- Corresponds to L1 parameter 'Density' (see FFS\_Spec, section FFS\_Section)~~  ~~density ENUMERATED {d1,d3} OPTIONAL,~~  ...  }  Rap (Samsung): TDoc Sam (R2-1801411, R2-1801412) | See TDoc R2-1801411  See TDoc R2-1801412  [implemented. | |
| S016 | Misalgnment of RAN1 parameter that may need additional LS from RAN1:  The measurement-BW is configured per cell in the agreements(Draft Report of 3GPP TSG RAN WG1 #91 v0.2.0), per carrier in the excel list(R1-[1721581](file:///C:\Users\merias\Documents\ETSI\RANWG1\TSGR1_91-USA\R1-1721587.zip)) | | 4 | | CSI-RS-ResourceConfig-Mobility ::= SEQUENCE {  -- MO specific values  ~~csi-rs-MeasurementBW SEQUENCE {~~  ~~-- Size of the measurement BW in PRBs~~  ~~-- Corresponds to L1 parameter 'CSI-RS-measurementBW-size' (see FFS\_Spec, section FFS\_Section)~~  ~~nrofPRBs ENUMERATED { size24, size48, size96, size192, size268},~~  ~~-- Starting PRB index of the measurement bandwidth~~  ~~-- Corresponds to L1 parameter 'CSI-RS-measurement-BW-start' (see FFS\_Spec, section FFS\_Section)~~  ~~-- FFS\_Value: Upper edge of value range unclear in RAN1~~  ~~startPRB INTEGER(0..251),~~  ~~-- Each CSI-RS resource may be associated with one SSB. If such SSB is indicated, the NW also indicates whether the UE may assume~~  ~~-- quasi-colocation of this SSB with this CSI-RS reosurce.~~  ~~-- Corresponds to L1 parameter 'Associated-SSB' (see FFS\_Spec, section FFS\_Section)~~  ~~-- FFS: What does the UE do if it there is no such SSB-Index?~~  isServingCellMO BOOLEAN  ~~},~~  -- subcarrier spacing of CSI-RS. It can take the same values available also for the data channels and for SSB  subcarrierSpacing SubcarrierSpacing,  -- FFS\_Description.  -- FFS\_CHECK: Should this be in the resource-config (here) or in the resource (below)?  -- Corresponds to L1 parameter 'Common-PRB-Grid-offset' (see FFS\_Spec, section FFS\_Section)  prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4) OPTIONAL,  ...  -- List of cells  CSI-rs-CellList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-CellsRRM)) OF CSI-RS-Cell-Mobility  }    CSI-RS-Cell-Mobility ::= SEQUENCE {      -- Cell common values  cellId PhysicalCellId,  -- Frequency domain density for the 1-port CSI-RS for L3 mobility  -- Corresponds to L1 parameter 'Density' (see FFS\_Spec, section FFS\_Section)  density ENUMERATED {d1,d3} OPTIONAL,  csi-rs-MeasurementBW SEQUENCE {  -- Size of the measurement BW in PRBs  -- Corresponds to L1 parameter 'CSI-RS-measurementBW-size' (see FFS\_Spec, section FFS\_Section)  nrofPRBs ENUMERATED { size24, size48, size96, size192, size268},  -- Starting PRB index of the measurement bandwidth  -- Corresponds to L1 parameter 'CSI-RS-measurement-BW-start' (see FFS\_Spec, section FFS\_Section)  -- FFS\_Value: Upper edge of value range unclear in RAN1  startPRB INTEGER(0..251),  -- Each CSI-RS resource may be associated with one SSB. If such SSB is indicated, the NW also indicates whether the UE may assume  -- quasi-colocation of this SSB with this CSI-RS reosurce.  -- Corresponds to L1 parameter 'Associated-SSB' (see FFS\_Spec, section FFS\_Section)  -- FFS: What does the UE do if it there is no such SSB-Index?  },  -- List of resources  csi-rs-ResourceList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesRRM)) OF CSI-RS-Resource-Mobility  }  CSI-RS-Resource-Mobility ::= SEQUENCE {  csi-rs-ResourceId-RRM CSI-RS-ResourceId-RRM,  -- FFS\_CHECK whether the following fields are supposed to be per resource (here) or in the resource config (above)  -- Contains periodicity and slot offset for periodic/semi-persistent CSI-RS (see 38.211, section x.x.x.x)FFS\_Ref  slotConfig CHOICE {  ms5 INTEGER (0..4),  ms10 INTEGER (0..9),  ms20 INTEGER (0..19),  ms40 INTEGER (0..39)  },  associatedSSB SEQUENCE {  - FFS\_Value: Check the value range  ssb-Index SSB-Index OPTIONAL,  -- The CSI-RS resource is either QCL’ed not QCL’ed with the associated SSB in spatial parameters  -- Corresponds to L1 parameter 'QCLed-SSB' (see FFS\_Spec, section FFS\_Section)  isQuasiColocated BOOLEAN  } OPTIONAL,,  prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4)   OPTIONAL,  ...  }  Rap (Samsung): TDoc Sam (R2-1801411, R2-1801412) | See TDoc R2-1801411  See TDoc R2-1801412  [ | |
| S017 | Misalgnment of RAN1 parameter that may need additional LS from RAN1:  The Common-PRB-Grid-offset is configured per cell in the agreements(Draft Report of 3GPP TSG RAN WG1 #91 v0.2.0), per resource in the excel list(R1-[1721581](file:///C:\Users\merias\Documents\ETSI\RANWG1\TSGR1_91-USA\R1-1721587.zip)) | | 4 | | CSI-RS-ResourceConfig-Mobility ::= SEQUENCE {  -- MO specific values  isServingCellMO BOOLEAN  -- subcarrier spacing of CSI-RS. It can take the same values available also for the data channels and for SSB  subcarrierSpacing SubcarrierSpacing,  -- FFS\_Description.  ~~-- FFS\_CHECK: Should this be in the resource-config (here) or in the resource (below)?~~  ~~-- Corresponds to L1 parameter 'Common-PRB-Grid-offset' (see FFS\_Spec, section FFS\_Section)~~  ~~prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4)~~ OPTIONAL,  ...  -- List of cells  CSI-rs-CellList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-CellsRRM)) OF CSI-RS-Cell-Mobility  }   Rap (Samsung): TDoc Sam (R2-1801411, R2-1801412)  CSI-RS-Cell-Mobility ::= SEQUENCE {      -- Cell common values  cellId PhysicalCellId,  -- Frequency domain density for the 1-port CSI-RS for L3 mobility  -- Corresponds to L1 parameter 'Density' (see FFS\_Spec, section FFS\_Section)  density ENUMERATED {d1,d3} OPTIONAL,  csi-rs-MeasurementBW SEQUENCE {  -- Size of the measurement BW in PRBs  -- Corresponds to L1 parameter 'CSI-RS-measurementBW-size' (see FFS\_Spec, section FFS\_Section)  nrofPRBs ENUMERATED { size24, size48, size96, size192, size268},  -- Starting PRB index of the measurement bandwidth  -- Corresponds to L1 parameter 'CSI-RS-measurement-BW-start' (see FFS\_Spec, section FFS\_Section)  -- FFS\_Value: Upper edge of value range unclear in RAN1  startPRB INTEGER(0..251),  -- Each CSI-RS resource may be associated with one SSB. If such SSB is indicated, the NW also indicates whether the UE may assume  -- quasi-colocation of this SSB with this CSI-RS reosurce.  -- Corresponds to L1 parameter 'Associated-SSB' (see FFS\_Spec, section FFS\_Section)  -- FFS: What does the UE do if it there is no such SSB-Index?  },  -- FFS\_CHECK: Should this be in the resource-config (here) or in the resource (below)?  -- Corresponds to L1 parameter 'Common-PRB-Grid-offset' (see FFS\_Spec, section FFS\_Section)  prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4)  -- List of resources  csi-rs-ResourceList-Mobility SEQUENCE (SIZE (1..maxNrofCSI-RS-ResourcesRRM)) OF CSI-RS-Resource-Mobility  }  CSI-RS-Resource-Mobility ::= SEQUENCE {  csi-rs-ResourceId-RRM CSI-RS-ResourceId-RRM,  -- FFS\_CHECK whether the following fields are supposed to be per resource (here) or in the resource config (above)  -- Contains periodicity and slot offset for periodic/semi-persistent CSI-RS (see 38.211, section x.x.x.x)FFS\_Ref  slotConfig CHOICE {  ms5 INTEGER (0..4),  ms10 INTEGER (0..9),  ms20 INTEGER (0..19),  ms40 INTEGER (0..39)  },  associatedSSB SEQUENCE {  - FFS\_Value: Check the value range  ssb-Index SSB-Index OPTIONAL,  -- The CSI-RS resource is either QCL’ed not QCL’ed with the associated SSB in spatial parameters  -- Corresponds to L1 parameter 'QCLed-SSB' (see FFS\_Spec, section FFS\_Section)  isQuasiColocated BOOLEAN  } OPTIONAL,,  prb-GridOffset INTEGER (maxNrofPhysicalResourceBlocksTimes4)   OPTIONAL,  ...  }  Rao:  Parameter not needed anylonger as we have now the nominal location of point A. However, there is still a problem as point A is now signalled per MO i.e. for all cells. | See TDoc R2-1801411  See TDoc R2-1801412 | |
| E131 | In previous discussions it has been suggested to define parameters for cell quality derivation as mandatory. As parameters might not always be needed, we would like to confirm that these parameters remain optional. | | 2 | | We should keep the current version where parameters defined per RS type are optional e.g. for CSI-RS:  - absThreshSS-BlocksConsolidation  - absThreshCSI-RS-Consolidation  We have provided a paper in R2-1800595 if discussion are needed. | See Tdoc R2-1800595 | |
| E130 | Signalling of RS configuration in MeasObjectNR not consistent with all RAN1 agreement. | | 3 | | We have provided a discussion paper in R2-1801319 (Remaining details for MO) and a CR in R2-1801320. | See Tdoc R2-1801319  See Tdoc R2-1801320 | | |

#### – MeasObjectToAddModList

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z042 | The MeasObjectEUTRA doesn't need to be defined for March version of the RRC | 2 | No need to keep EUTRA measObject for March version of RRC, so use this: MeasObjectToAddMod ::= SEQUENCE {  measObjectId MeasObjectId,  measObject CHOICE {  measObjectNR MeasObjectNR~~,  measObjectEUTRA MeasObjectEUTRA~~  ...  } } | Covered in the draft class 1 CR |
| N102 | The MeasObjectEUTRA doesn't need to be defined for March version of the RRC | 2 | No need to keep EUTRA measObject for March version of RRC, so use this: MeasObjectToAddMod ::= SEQUENCE {  measObjectId MeasObjectId,  measObject CHOICE {  measObjectNR MeasObjectNR~~,  measObjectEUTRA MeasObjectEUTRA~~  ...  } } |  |
|  |  |  |  |  |
|  |  |  |  |  |

#### – MeasResults

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M040 | Naming convention for csi-rsIndex | 2 | In ResultsPerCSI-RSIndex, we have  csi-rsIndex CSI-RSIndex,  Like other fields (e.g., csi-rs-Cellrsrp), there should be a ‘-‘ between “rs” and “Index”, i.e.,  csi-rs-Index CSI-RS-Index, |  |
| Z043 | The cgi-Info IE should be optional. | 1 | MeasResultNR ::= SEQUENCE {  physCellId PhysCellId OPTIONAL,  --FFS: Details of cgi info  cgi-Info ENUMERATED {ffsTypeAndValue}~~,~~ OPTIONAL,  measResult SEQUENCE {  cellResults SEQUENCE{  resultsSSBCell ResultsSSBCell OPTIONAL,  resultsCSI-RSCell ResultsCSI-RSCell OPTIONAL  },  rsIndexResults SEQUENCE{  resultsSSB-Indexes ResultsPerSSB-IndexList OPTIONAL,  resultsCSI-RSIndexes ResultsPerCSI-RSIndexList OPTIONAL  } OPTIONAL  }  } | Covered in the draft class 1 CR |
| I066 | MeasResultListEUTRA is missing. | 2 | Need to add or remove it for now  Rap: IE removed for now, consistend with Z043. |  |
| D015 | The extension marker is missing.  It is proposed to include non critical extension marker (ellipsis). | 2 | At least, the extension marker is necessary in MeasResults.  MeasResults ::= SEQUENCE {  measId MeasId,  measResultServingFreqList MeasResultServFreqList,  measResultNeighCells CHOICE {  measResultListNR MeasResultListNR,  measResultListEUTRA MeasResultListEUTRA,  ...  } OPTIONAL,  ...  }  Moreover, it may be necessary in MeasResultServFreq and MeasResultNR for the future extension.  MeasResultServFreq ::= SEQUENCE {  servFreqId ServCellIndex OPTIONAL,  measResultServingCell MeasResultNR,  measResultBestNeighCell MeasResultNR,  ...  }  MeasResultNR ::= SEQUENCE {  physCellId PhysCellId OPTIONAL,  --FFS: Details of cgi info  cgi-Info ENUMERATED {ffsTypeAndValue},  measResult SEQUENCE {  cellResults SEQUENCE{  resultsSSBCell ResultsSSBCell OPTIONAL,  resultsCSI-RSCell ResultsCSI-RSCell OPTIONAL  },  rsIndexResults SEQUENCE{  resultsSSB-Indexes ResultsPerSSB-IndexList OPTIONAL,  resultsCSI-RSIndexes ResultsPerCSI-RSIndexList OPTIONAL  } OPTIONAL  },  ...  } |  |
| N105 | Within IE measResult, rsIndexResults should have at least one mandatory measurement reported otherwise the IE is empty | 3 | Shouldn't we have at least resultsSSB-Indexes mandatory reported and leave resultsCSI-RSIndexes optional  Rap: Need further RAN2 discussion. |  |
| N106 | Extremely difficult to understand QuantityConfig | 3 | QuantityConfig IE needs more description |  |

#### – PDCCH-Config

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| H094 | OSI search space should have type SearchSpace  [Note: we propose elsewhere to change this name to SearchSpaceSet] | 2 | The spreadsheet indicates the value range as search-space-config which corresponds to the ASN.1 type SearchSpace.  PDCCH-ConfigCommon ::= SEQUENCE {  -- Search space for other system information, i.e., SIB2 and beyond. Corresponds to L1 parameter 'osi-SearchSpace' (see 38.213, section 10)  -- FFS: Must indicate the CORESET(s) that it is associated with. Must indicate the RNTI(s) to use (note that RAN2 intends to allow  -- several in order to be able to send several SI messages in a the same slot. Is it limited to certain CORESETs and or BWPs?  -- (e.g. on the initial CSS or on a CSS configured in the dedicated BWP?). Is the field optional? What does the UE do if it is not present?  searchSpaceOtherSystemInformation ~~FFS\_Value~~SearchSpace OPTIONAL,    -- Search space for paging. Corresponds to L1 parameter 'paging-SearchSpace' (see 38.213, section 10)  -- FFS: Which BWP and CORESET to assume?  -- FFS: Need to configure P-RNTI? Or is it specified? Can one just instantiate a common search space?  pagingSearchSpace FFS\_Value OPTIONAL  } | Rap: Not applied since general re-structuring of SearchSpace configuration needed. |
| H095 | Paging search space should have type SearchSpace  [Note: we propose elsewhere to change this name to SearchSpaceSet] | 2 | The spreadsheet indicates the value range as search-space-config which corresponds to the ASN.1 type SearchSpace.  PDCCH-ConfigCommon ::= SEQUENCE {  -- Search space for other system information, i.e., SIB2 and beyond. Corresponds to L1 parameter 'osi-SearchSpace' (see 38.213, section 10)  -- FFS: Must indicate the CORESET(s) that it is associated with. Must indicate the RNTI(s) to use (note that RAN2 intends to allow  -- several in order to be able to send several SI messages in a the same slot. Is it limited to certain CORESETs and or BWPs?  -- (e.g. on the initial CSS or on a CSS configured in the dedicated BWP?). Is the field optional? What does the UE do if it is not present?  searchSpaceOtherSystemInformation FFS\_Value OPTIONAL,    -- Search space for paging. Corresponds to L1 parameter 'paging-SearchSpace' (see 38.213, section 10)  -- FFS: Which BWP and CORESET to assume?  -- FFS: Need to configure P-RNTI? Or is it specified? Can one just instantiate a common search space?  pagingSearchSpace ~~FFS\_Value~~SearchSpace OPTIONAL  } | Not applied since general re-structuring of SearchSpace configuration needed. |
| H096 | L1 parameter list indicates searchSpace is a CHOICE between CORESET and CSS.  It isn’t clear, how this should work - the other parameters according to L1 parameters are child IEs of SlotFormatIndicatorSFI (SFI-PDCCH) and not part of this SearchSpace field, are they only used when search space is CSS, or are parameters are always there outside of this choice and SearchSpace is just an enumerated selection between CORESET and CSS as L1 parameters list suggests? RAN1 should clarify. | 3 | -- Configuration of monitoring a Group-Common-PDCCH for Slot-Format-Indicators (SFI)  SlotFormatIndicatorSFI ::= SEQUENCE {  searchSpace CHOICE~~SEQUENCE~~ {  ~~-- FFS: RAN1 indicates that the UE uses the ”CSS” if no CORESET is provided. But a CSS is not the same as a CORESET?!?!!~~  controlResourceSetId ControlResourceSetId ,  css SEQUENCE {  ~~OPTIONAL~~,  ~~-- RNTI used for SFI on the given cell~~  ~~-- Corresponds to L1 parameter 'SFI-RNTI' (see 38.213, section FFS\_Section)~~  ~~sfi-RNTI RNTI-Value OPTIONAL,~~  -- Monitoring periodicity of SFI PDCCH in slots.  -- o For 15KHz SCS (slots based on 15kHz): 1, 2, 5, 10, 20  -- o For 30KHz SCS (slots based on 30kHz): 1, 2, 4, 5, 10, 20  -- o For 60KHz SCS (slots based on 60kHz): 1, 2, 4, 5, 8, 10, 20  -- o For 120KHz SCS (slots based on 120kHz): 1, 2, 4, 5, 10, 20  -- Corresponds to L1 parameter 'SFI-monitoring-periodicity' (see 38.213, section FFS\_Section)  monitoringPeriodicity ENUMERATED {sl1, sl2, sl4, sl5, sl8, sl10, sl20, spare1} OPTIONAL,  -- The number of PDCCH candidates for the configured aggregation level.  -- Corresponds to L1 parameter 'SFI-Num-PDCCH-cand' (see 38.213, section FFS\_Section)  nrofCandidates ENUMERATED {n1, n2},  -- The aggregation level for the SFI-PDCCH. Corresponds to L1 parameter 'SFI-Aggregation-Level' (see 38.213, section FFS\_Section)  aggregationLevel ENUMERATED {n1, n2, n4, n8, n16}  }  },  -- RNTI used for SFI on the given cell  -- Corresponds to L1 parameter 'SFI-RNTI' (see 38.213, section FFS\_Section)  sfi-RNTI RNTI-Value OPTIONAL,  -- Total length of the DCI payload scrambled with SFI-RNTI.  -- Corresponds to L1 parameter 'SFI-DCI-payload-length' (see 38.213, section FFS\_Section)  dci-PayloadSize INTEGER (1..maxSFI-DCI-PayloadSize) OPTIONAL,  -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SFI-cell-to-SFI' (see 38.213, section FFS\_Section)  slotFormatConfigurations SEQUENCE (SIZE(1..maxNrofAggregatedCellsPerCellGroup)) OF SlotFormatCombinationsPerCell OPTIONAL,  ...  } | ToDisc  Not applied since general re-structuring of SearchSpace configuration needed. |
| H097 | maxNrofAggregatedCellsPerCellGroup is FFS – needs RAN1 feedback | 2 | -- Configuration of monitoring a Group-Common-PDCCH for Slot-Format-Indicators (SFI)  SlotFormatIndicatorSFI ::= SEQUENCE {  searchSpace SEQUENCE {  -- FFS: RAN1 indicates that the UE uses the ”CSS” if no CORESET is provided. But a CSS is not the same as a CORESET?!?!!  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for SFI on the given cell  -- Corresponds to L1 parameter 'SFI-RNTI' (see 38.213, section FFS\_Section)  sfi-RNTI RNTI-Value OPTIONAL,  -- Monitoring periodicity of SFI PDCCH in slots.  -- o For 15KHz SCS (slots based on 15kHz): 1, 2, 5, 10, 20  -- o For 30KHz SCS (slots based on 30kHz): 1, 2, 4, 5, 10, 20  -- o For 60KHz SCS (slots based on 60kHz): 1, 2, 4, 5, 8, 10, 20  -- o For 120KHz SCS (slots based on 120kHz): 1, 2, 4, 5, 10, 20  -- Corresponds to L1 parameter 'SFI-monitoring-periodicity' (see 38.213, section FFS\_Section)  monitoringPeriodicity ENUMERATED {sl1, sl2, sl4, sl5, sl8, sl10, sl20, spare1} OPTIONAL,  -- The number of PDCCH candidates for the configured aggregation level.  -- Corresponds to L1 parameter 'SFI-Num-PDCCH-cand' (see 38.213, section FFS\_Section)  nrofCandidates ENUMERATED {n1, n2},  -- The aggregation level for the SFI-PDCCH. Corresponds to L1 parameter 'SFI-Aggregation-Level' (see 38.213, section FFS\_Section)  aggregationLevel ENUMERATED {n1, n2, n4, n8, n16}  },  -- Total length of the DCI payload scrambled with SFI-RNTI.  -- Corresponds to L1 parameter 'SFI-DCI-payload-length' (see 38.213, section FFS\_Section)  dci-PayloadSize INTEGER (1..maxSFI-DCI-PayloadSize) OPTIONAL,  -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SFI-cell-to-SFI' (see 38.213, section FFS\_Section)  slotFormatConfigurations SEQUENCE (SIZE(1..maxNrofAggregatedCellsPerCellGroup)) OF SlotFormatCombinationsPerCell OPTIONAL,  ...  } | No change proposed |
| H098 | No default value for dci-PayloadSize. Value range is FFS in RAN1 | 2 | -- Configuration of monitoring a Group-Common-PDCCH for Slot-Format-Indicators (SFI)  SlotFormatIndicatorSFI ::= SEQUENCE {  searchSpace SEQUENCE {  -- FFS: RAN1 indicates that the UE uses the ”CSS” if no CORESET is provided. But a CSS is not the same as a CORESET?!?!!  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for SFI on the given cell  -- Corresponds to L1 parameter 'SFI-RNTI' (see 38.213, section FFS\_Section)  sfi-RNTI RNTI-Value OPTIONAL,  -- Monitoring periodicity of SFI PDCCH in slots.  -- o For 15KHz SCS (slots based on 15kHz): 1, 2, 5, 10, 20  -- o For 30KHz SCS (slots based on 30kHz): 1, 2, 4, 5, 10, 20  -- o For 60KHz SCS (slots based on 60kHz): 1, 2, 4, 5, 8, 10, 20  -- o For 120KHz SCS (slots based on 120kHz): 1, 2, 4, 5, 10, 20  -- Corresponds to L1 parameter 'SFI-monitoring-periodicity' (see 38.213, section FFS\_Section)  monitoringPeriodicity ENUMERATED {sl1, sl2, sl4, sl5, sl8, sl10, sl20, spare1} OPTIONAL,  -- The number of PDCCH candidates for the configured aggregation level.  -- Corresponds to L1 parameter 'SFI-Num-PDCCH-cand' (see 38.213, section FFS\_Section)  nrofCandidates ENUMERATED {n1, n2},  -- The aggregation level for the SFI-PDCCH. Corresponds to L1 parameter 'SFI-Aggregation-Level' (see 38.213, section FFS\_Section)  aggregationLevel ENUMERATED {n1, n2, n4, n8, n16}  },  -- Total length of the DCI payload scrambled with SFI-RNTI.  -- Corresponds to L1 parameter 'SFI-DCI-payload-length' (see 38.213, section FFS\_Section)  dci-PayloadSize INTEGER (1..maxSFI-DCI-PayloadSize) ~~OPTIONAL~~,  -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SFI-cell-to-SFI' (see 38.213, section FFS\_Section)  slotFormatConfigurations SEQUENCE (SIZE(1..maxNrofAggregatedCellsPerCellGroup)) OF SlotFormatCombinationsPerCell OPTIONAL,  ...  } | Done |
| H099 | No default value for monitoringPeriodicity | 2 | SlotFormatIndicatorSFI ::= SEQUENCE {  searchSpace SEQUENCE {  -- FFS: RAN1 indicates that the UE uses the ”CSS” if no CORESET is provided. But a CSS is not the same as a CORESET?!?!!  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for SFI on the given cell  -- Corresponds to L1 parameter 'SFI-RNTI' (see 38.213, section FFS\_Section)  sfi-RNTI RNTI-Value OPTIONAL,  -- Monitoring periodicity of SFI PDCCH in slots.  -- o For 15KHz SCS (slots based on 15kHz): 1, 2, 5, 10, 20  -- o For 30KHz SCS (slots based on 30kHz): 1, 2, 4, 5, 10, 20  -- o For 60KHz SCS (slots based on 60kHz): 1, 2, 4, 5, 8, 10, 20  -- o For 120KHz SCS (slots based on 120kHz): 1, 2, 4, 5, 10, 20  -- Corresponds to L1 parameter 'SFI-monitoring-periodicity' (see 38.213, section FFS\_Section)  monitoringPeriodicity ENUMERATED {sl1, sl2, sl4, sl5, sl8, sl10, sl20, spare1} ~~OPTIONAL~~,  -- The number of PDCCH candidates for the configured aggregation level.  -- Corresponds to L1 parameter 'SFI-Num-PDCCH-cand' (see 38.213, section FFS\_Section)  nrofCandidates ENUMERATED {n1, n2},  -- The aggregation level for the SFI-PDCCH. Corresponds to L1 parameter 'SFI-Aggregation-Level' (see 38.213, section FFS\_Section)  aggregationLevel ENUMERATED {n1, n2, n4, n8, n16}  },  -- Total length of the DCI payload scrambled with SFI-RNTI.  -- Corresponds to L1 parameter 'SFI-DCI-payload-length' (see 38.213, section FFS\_Section)  dci-PayloadSize INTEGER (1..maxSFI-DCI-PayloadSize) OPTIONAL,  -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SFI-cell-to-SFI' (see 38.213, section FFS\_Section)  slotFormatConfigurations SEQUENCE (SIZE(1..maxNrofAggregatedCellsPerCellGroup)) OF SlotFormatCombinationsPerCell OPTIONAL,  ...  } | Done |
| H100 | SlotFormatIndicatorSFI is defined but not referenced anywhere – should be in PDCCH-Config? L1 parameters list states “common (search space)”, however it is indicated as UE specific and different mapping may exist for different UE?  SRS-Config (SRS-CarrierSwitching) references FFS type of CellToSFI so should the whole thing be moved to SRS-Config? | 2 | FFS | No change proposed |
| H101 | maxNrofAggregatedCellsPerCellGroup is FFS | 2 | -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SFI-cell-to-SFI' (see 38.213, section FFS\_Section)  slotFormatConfigurations SEQUENCE (SIZE(1..maxNrofAggregatedCellsPerCellGroup)) OF SlotFormatCombinationsPerCell OPTIONAL,  ...  } | No change proposed |
| H102 | maxNrofSlotFormatCombinationsPerSet is FFS | 2 | -- Mapping for a given cell to SFI value within DCI message. Corresponds to L1 parameter 'cell-to-SFI' (see 38.213, section FFS\_Section)  SlotFormatCombinationsPerCell ::= SEQUENCE {  -- The ID of the serving cell for which the slotFormatCombinations are applicable  servingCellId ServCellIndex,  -- A list with SlotFormatCombinations. Each SlotFormatCombination comprises of one or more SlotFormats (see 38.211, section 4.3.2)  -- FFS\_CHECK: RAN1 indicates that the combinations could be of two different types... but they don't specify the second  slotFormatCombinations SEQUENCE (SIZE (1..maxNrofSlotFormatCombinationsPerSet)) OF SlotFormatCombination OPTIONAL,  -- The (starting) position (bit) of the slotFormatCombinationId (SFI-Index) for this serving cell (servingCellId) within the DCI payload.  -- Corresponds to L1 parameter 'SFI-values' (see 38.213, section FFS\_Section)  positionInDCI INTEGER(0..maxSFI-DCI-PayloadSize-1) OPTIONAL  } | No change proposed |
| H103 | Also the L1 parameter list specifies 2 types of slotformatcombination, but the second is undefined. | 2 | -- Mapping for a given cell to SFI value within DCI message. Corresponds to L1 parameter 'cell-to-SFI' (see 38.213, section FFS\_Section)  SlotFormatCombinationsPerCell ::= SEQUENCE {  -- The ID of the serving cell for which the slotFormatCombinations are applicable  servingCellId ServCellIndex,  -- A list with SlotFormatCombinations. Each SlotFormatCombination comprises of one or more SlotFormats (see 38.211, section 4.3.2)  -- FFS\_CHECK: RAN1 indicates that the combinations could be of two different types... but they don't specify the second  slotFormatCombinations SEQUENCE (SIZE (1..maxNrofSlotFormatCombinationsPerSet)) OF SlotFormatCombination OPTIONAL,  -- The (starting) position (bit) of the slotFormatCombinationId (SFI-Index) for this serving cell (servingCellId) within the DCI payload.  -- Corresponds to L1 parameter 'SFI-values' (see 38.213, section FFS\_Section)  positionInDCI INTEGER(0..maxSFI-DCI-PayloadSize-1) OPTIONAL  } | No change proposed |
| H104 | maxNrofSlotFormatsPerCombination is FFS | 2 | SlotFormatCombination ::= SEQUENCE {  -- This ID is used in the payload to dynamically select this SlotFormatCombination.  -- Corresponds to L1 parameter 'SFI-index' (see 38.213, section FFS\_Section)  slotFormatCombinationId SlotFormatCombinationId,  -- Slot formats that occur in consecutive slots in time domain order as listed here. The the slot formats are  -- defined in 38.211, table 4.3.2-3 and numbered with 0..255.  slotFormats SEQUENCE (SIZE (1.. maxNrofSlotFormatsPerCombination)) OF INTEGER (0..255)  } | No change proposed |
| H105 | mappingType, index have no default so should be mandatory  TO discuss: is index referring to 38.214?  the Time-domain PDSCH resources field of the DCI provides a row index of an RRC configured table [pdsch-symbolAllocation],  In this case it is not an RRC parameter. RAN1 may need to clarify. | 3 | -- FFS: Is there a default timing (to be used at least until first reconfiguration). Are the fields optionally present?  timing SEQUENCE {  -- Configuration value of DL assignment to DL data timing  dl-assignment-to-DL-data SEQUENCE {  -- FFS\_Description. Corresponds to L1 parameter 'K0' (see 38.214, section FFS\_Section)  -- When the field is absent the UE applies the value 0  k0 INTEGER (0..3) OPTIONAL,  -- FFS\_Description. Isn't this the delay from UL-Grant to UL-Data? If so, why is it in this group?  -- Corresponds to L1 parameter 'K2' (see 38.214, section FFS\_Section)  -- When the field is absent the UE applies the value 0  k2 INTEGER (0..7) OPTIONAL,  -- PDSCH mapping type. Corresponds to L1 parameter 'Mapping-type' (see 38.214, section FFS\_Section)  mappingType ENUMERATED {typeA, typeB} ~~OPTIONAL~~,  -- An index into a table/equation in RAN1 specs capturing valid combinations of start symbol and length (jointly encoded)  -- Corresponds to L1 parameter 'Index-start-len' (see 38.214, section FFS\_Section)  startSymbolAndLength BIT STRING (SIZE (6)),  -- FFS\_Description. (see 38.214, section FFS\_Section)  index INTEGER (0..15) ~~OPTIONAL~~  },  RAN2 AH: Any impact from R2-1800479. | Done |
| H106 | startSymbolAndLength should be defined properly by RAN1 | 2 | -- FFS: Is there a default timing (to be used at least until first reconfiguration). Are the fields optionally present?  timing SEQUENCE {  -- Configuration value of DL assignment to DL data timing  dl-assignment-to-DL-data SEQUENCE {  -- FFS\_Description. Corresponds to L1 parameter 'K0' (see 38.214, section FFS\_Section)  -- When the field is absent the UE applies the value 0  k0 INTEGER (0..3) OPTIONAL,  -- FFS\_Description. Isn't this the delay from UL-Grant to UL-Data? If so, why is it in this group?  -- Corresponds to L1 parameter 'K2' (see 38.214, section FFS\_Section)  -- When the field is absent the UE applies the value 0  k2 INTEGER (0..7) OPTIONAL,  -- PDSCH mapping type. Corresponds to L1 parameter 'Mapping-type' (see 38.214, section FFS\_Section)  mappingType ENUMERATED {typeA, typeB} OPTIONAL,  -- An index into a table/equation in RAN1 specs capturing valid combinations of start symbol and length (jointly encoded)  -- Corresponds to L1 parameter 'Index-start-len' (see 38.214, section FFS\_Section)  startSymbolAndLength BIT STRING (SIZE (6)),  -- FFS\_Description. (see 38.214, section FFS\_Section)  index INTEGER (0..15) OPTIONAL  },  Huawei: After further review, considered that the definition is adequate to implement in ASN.1. Propose to reject H106 | No change proposed |
| H107 | In ControlResourceSet, reg-BundleSize, precoderGranularity, interleaverSize (this is the name used in specifications, not interleaverRows) and shiftIndex are always provided while, according to 38.211 section 7.3.2.2, they are only for the case when cce-reg-MappingType is "interleaved" | 2 | Make cc-reg-MappingType a CHOICE with the listed parameter within a SEQUENCE for the value interleaved.  ~~-- Resource Element Groups (REGs) can be bundled to create REG bundles. This parameter defines the size of such bundles.~~  ~~-- (see 38.211, section 7.3.2.2)~~  ~~reg-BundleSize ENUMERATED {n2, n3, n6},~~  -- Mapping of Control Channel Elements (CCE) to Resource Element Groups (REG). (see 38.211, 38.213, FFS\_REF)  cce-reg-MappingType ~~ENUMERATED~~CHOICE {  interleaved ~~, nonInterleaved },~~SEQUENCE {  -- Resource Element Groups (REGs) can be bundled to create REG bundles. This parameter defines the size of such bundles.  -- (see 38.211, section 7.3.2.2)  reg-BundleSize ENUMERATED {n2, n3, n6},  -- Precoder granularity in frequency domain (see 38.21~~3~~1, section ~~FFS\_REF~~7.3.2.2 and 7.4.1.3.2)  precoderGranularity ENUMERATED {~~ffsTypeAndValue~~ sameAsREG-Bundle, allContiguousRBs },  -- Corresponds to L1 parameter 'CORESET-interleaver-~~rows~~size' (see 38.211, 38.213, section FFS\_Section)  interleaver~~Rows~~Size ENUMERATED {n2, n3, n6} OPTIONAL,  -- Corresponds to L1 parameter 'CORESET-shift-index' (see 38.211, 38.213, section ~~FFS\_Section~~7.3.2.2)  shiftIndex INTEGER(0..maxNrofPhysicalResourceBlocks-1) OPTIONAL~~,~~  },  nonInterleaved NULL  } | Done |
| H108 | ControlResourceSet=>tci-PresentInDCI | 2 | The name should be changed to tci-PresenceDCI to align with sfi and pi  -- A time/frequency control resource set (CORESET) in which to search for downlink control information (see 38.213, section x.x.x.x)FFS\_Ref  ControlResourceSet ::= SEQUENCE {  controlResourceSetId ControlResourceSetId,  -- Frequency domain resources for the CORESET. The network ensures that the CORESET is within the BWP configured for a UE. (see 38.213, REF)  frequencyDomainResources ENUMERATED {ffsTypeAndValue},  -- Contiguouse time duration of the CORESET in number of symbols see 38.213, section x.x.x.x)FFS\_Ref  duration INTEGER (1..maxCoReSetDuration),  -- Resource Element Groups (REGs) can be bundled to create REG bundles. This parameter defines the size of such bundles.  -- (see 38.211, section 7.3.2.2)  reg-BundleSize ENUMERATED {n2, n3, n6},  -- Mapping of Control Channel Elements (CCE) to Resource Element Groups (REG). (see 38.211, 38.213, FFS\_REF)  cce-reg-MappingType ENUMERATED { interleaved, nonInterleaved },  -- Precoder granularity in frequency domain (see 38.213, section FFS\_REF)  precoderGranularity ENUMERATED {ffsTypeAndValue},  -- Corresponds to L1 parameter 'CORESET-interleaver-rows' (see 38.211, 38.213, section FFS\_Section)  interleaverRows ENUMERATED {n2, n3, n6} OPTIONAL,  -- Corresponds to L1 parameter 'CORESET-shift-index' (see 38.211, 38.213, section FFS\_Section)  shiftIndex INTEGER(0..maxNrofPhysicalResourceBlocks-1) OPTIONAL,  -- A subset of the TCI states defined in TCI-States used for providing QCL relationships between the DL RS(s) in one RS Set  -- (TCI-RS-Set) and the PDCCH DMRS ports. Corresponds to L1 parameter 'TCI-StatesPDCCH' (see 38.214, section FFS\_Section)  -- FFS\_Description: Explains what the UE does with each TCI-RS-SetConfig.  -- FFS\_Value: Shouldn’t this be just a list of indexes? I.e., aren’t the set-configs provided elsewhere?  tci-StatesPDCCH SEQUENCE(SIZE (1..maxNrofTCI-StatesPDCCH)) OF TCI-RS-SetId OPTIONAL,  -- If at least spatial QCL is configured/indicated, this field indicates if TCI field is present or not present in DL-related DCI.  -- When the field is absent the UE considers the TCI to be absent/disabled.  -- Corresponds to L1 parameter 'TCI-PresentInDCI' (see 38,213, section 5.1.5)  tci-Presence~~tIn~~DCI ENUMERATED {enabled} OPTIONAL,  -- PDCCH DMRS scrambling initalization. Corresponds to L1 parameter 'PDCCH-DMRS-Scrambling-ID' (see 38.214, section 5.1)  -- When the field is absent the UE applies the value '0'.  pdcch-DMRS-ScramblingID BIT STRING (SIZE (16)) OPTIONAL  } | ToDisc  Current name matches RAN1 name and seems descriptive => Not changed |
| H109 | ControlResourceSet=>tci-StatesPDCCH | 2 | tci-StateRefId  -- FFS\_Description: Explains what the UE does with each TCI-RS-SetConfig.  Not clear if PDSCH-Config contains one list of TCI states (with some structure) and PDCCH-Config only has a list of IDs, or if PDCCH-Config also has definitions of the TCI states. RAN1 to confirm. | No change proposed  But removed FFSs since current structure seems to be correct. |
| H110 | DownlinkPreemption | 3 | The configuraiton of downlink preemption should be per BWP, as indicated in the following RAN 1 agreement:  Configuration of UE monitoring of preemption indication is per DL BWP  Needs to be discussed in general how per BWP parameters will be structured. | Entire PDCCH-Config if per BWP 🡺 No change needed. |
| H111 | DownlinkPreemption | 2 | The parameter Preemp-DL, as given in R1-1721581, is missing. The function of this parameter is to turn on or off the monitoring of DL preemption DCI. This can be inferred from the presence/absence of monitoringPeriodicity so it may only be necessary to document the parameter in a comment.  -- Configuration of downlink preemption indication on PDCCH  -- FFS: How does it relate to a BWP? How is it linked to one (or several) CORESETs?  DownlinkPreemption ::= SEQUENCE {  searchSpace SEQUENCE {  -- FFS: Need to indicate the CORESET(s) on which to apply the INT-RNTI SearchSpace!?  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for indication pre-emption in DL. Also connected to monitoring of a Type2-PDCCH common search space.  -- (see 38.213, section 10)  -- FFS: What does the abbreviation stand for? Add a better description  int-RNTI RNTI-Value,  -- Set selection for DL-preemption indication. Corresponds to L1 parameter 'int-TF-unit' (see 38.213, section 10.1)  -- FFS: Clarify description. Clarify what TF means. Clarify field name.  timeFrequencySet ENUMERATED {set0, set1},  -- Monitoring periodicity of DCI with INT-RNTI in number of slots. sl1 corresponds to ”every slot”, s2 corresponds to ”every second slot”.  -- Corresponds to L1 parameter 'INT-monitoring-periodicity' (see 38.213, section 11.2)  -- Presence flag corresponds to L1 parameter 'Preemp-DL' (see 38.214, section 11.2)  monitoringPeriodicity ENUMERATED {sl1, sl2, spare2, spare1} OPTIONAL  },  -- Total length of the DCI payload scrambled with INT-RNTI. The value must be an integer multiple of 14 bit.  -- Corresponds to L1 parameter 'INT-DCI-payload-length' (see 38.213, section 11.2)  dci-PayloadSize INTEGER (0..maxINT-DCI-PayloadSize) OPTIONAL,  -- Indicates (per serving cell) the position of the 14 bit INT values inside the DCI payload.  -- Corresponds to L1 parameter 'INT-cell-to-INT' and 'cell-to-INT' (see 38.213, section 11.2)  int-ConfigurationPerServingCell SEQUENCE (SIZE (1..maxNrofServingCells)) OF SEQUENCE {  servingCellId ServCellIndex,  -- Starting position (in number of bit) of the 14 bit INT value applicable for this serving cell (servingCellId) within the DCI  -- payload. Must be multiples of 14 (bit). Corresponds to L1 parameter 'INT-values' (see 38.213, section 11.2)  positionInDCI INTEGER (0..maxINT-DCI-PayloadSize-1)  } OPTIONAL  }  => The field that references DownlinkPreemption should include the comment that its presence flag corresponds to L1 parameter 'Preemp-DL' (see 38.214, section 11.2). Note that this whole structure may change based on changes within RAN1. | Done |
| H112 | DownlinkPreemption=> DLpreemption=> timeFrequencySet | 2 | FFS: Clarify description. Clarify what TF means. Clarify field name. Also, this parameter should not be within the search space configuration of DownlinkPreemption  A description is given in R1-1721581: “Set selection for DL-preemption indication, the set indication two different manners the DL preemption DCI is interpreteded by the UE.”  -- Configuration of downlink preemption indication on PDCCH  -- FFS: How does it relate to a BWP? How is it linked to one (or several) CORESETs?  DownlinkPreemption ::= SEQUENCE {  searchSpace SEQUENCE {  -- FFS: Need to indicate the CORESET(s) on which to apply the INT-RNTI SearchSpace!?  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for indication pre-emption in DL. Also connected to monitoring of a Type2-PDCCH common search space.  -- (see 38.213, section 10)  -- FFS: What does the abbreviation stand for? Add a better description  int-RNTI RNTI-Value,  ~~-- Set selection for DL-preemption indication. Corresponds to L1 parameter 'int-TF-unit' (see 38.213, section 10.1)~~  ~~-- FFS: Clarify description. Clarify what TF means. Clarify field name.~~  ~~timeFrequencySet ENUMERATED {set0, set1},~~  -- Monitoring periodicity of DCI with INT-RNTI in number of slots. sl1 corresponds to ”every slot”, s2 corresponds to ”every second slot”.  -- Corresponds to L1 parameter 'INT-monitoring-periodicity' (see 38.213, section 11.2)  monitoringPeriodicity ENUMERATED {sl1, sl2, spare2, spare1} OPTIONAL  },  -- Set selection for DL-preemption indication. Corresponds to L1 parameter 'int-TF-unit' (see 38.213, section 10.1)  -- The set indicates two different manners the DL preemption DCI is interpreteded by the UE.  timeFrequencySet ENUMERATED {set0, set1},  -- Total length of the DCI payload scrambled with INT-RNTI. The value must be an integer multiple of 14 bit.  -- Corresponds to L1 parameter 'INT-DCI-payload-length' (see 38.213, section 11.2)  dci-PayloadSize INTEGER (0..maxINT-DCI-PayloadSize) OPTIONAL,  -- Indicates (per serving cell) the position of the 14 bit INT values inside the DCI payload.  -- Corresponds to L1 parameter 'INT-cell-to-INT' and 'cell-to-INT' (see 38.213, section 11.2)  int-ConfigurationPerServingCell SEQUENCE (SIZE (1..maxNrofServingCells)) OF SEQUENCE {  servingCellId ServCellIndex,  -- Starting position (in number of bit) of the 14 bit INT value applicable for this serving cell (servingCellId) within the DCI  -- payload. Must be multiples of 14 (bit). Corresponds to L1 parameter 'INT-values' (see 38.213, section 11.2)  positionInDCI INTEGER (0..maxINT-DCI-PayloadSize-1)  } OPTIONAL  } | Done |
| H113 | DownlinkPreemption=> DLpreemption=>int-RNTI | 2 | The abbreviation stands for interruption-RNTI, which is a possible description for this parameter.  -- Configuration of downlink preemption indication on PDCCH  -- FFS: How does it relate to a BWP? How is it linked to one (or several) CORESETs?  DownlinkPreemption ::= SEQUENCE {  searchSpace SEQUENCE {  -- FFS: Need to indicate the CORESET(s) on which to apply the INT-RNTI SearchSpace!?  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for indication pre-emption in DL. Also connected to monitoring of a Type2-PDCCH common search space.  -- (see 38.213, section 10)  -- ~~FFS: What does the abbreviation stand for? Add a better description~~The abbreviation stands for interruption-RNTI.  int-RNTI RNTI-Value, | Done |
| H114 | DownlinkPreemption=>dci-PayloadSize | 2 | Suggest to change the name to int-DCI-PayloadSize as there is also a dci-payloadsize for sfi  -- Configuration of downlink preemption indication on PDCCH  -- FFS: How does it relate to a BWP? How is it linked to one (or several) CORESETs?  DownlinkPreemption ::= SEQUENCE {  searchSpace SEQUENCE {  -- FFS: Need to indicate the CORESET(s) on which to apply the INT-RNTI SearchSpace!?  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for indication pre-emption in DL. Also connected to monitoring of a Type2-PDCCH common search space.  -- (see 38.213, section 10)  -- FFS: What does the abbreviation stand for? Add a better description  int-RNTI RNTI-Value,  -- Set selection for DL-preemption indication. Corresponds to L1 parameter 'int-TF-unit' (see 38.213, section 10.1)  -- FFS: Clarify description. Clarify what TF means. Clarify field name.  timeFrequencySet ENUMERATED {set0, set1},  -- Monitoring periodicity of DCI with INT-RNTI in number of slots. sl1 corresponds to ”every slot”, s2 corresponds to ”every second slot”.  -- Corresponds to L1 parameter 'INT-monitoring-periodicity' (see 38.213, section 11.2)  monitoringPeriodicity ENUMERATED {sl1, sl2, spare2, spare1} OPTIONAL  },  -- Total length of the DCI payload scrambled with INT-RNTI. The value must be an integer multiple of 14 bit.  -- Corresponds to L1 parameter 'INT-DCI-payload-length' (see 38.213, section 11.2)  int-DCI~~dci~~-PayloadSize INTEGER (0..maxINT-DCI-PayloadSize) OPTIONAL, | Change not necessary. Field name is unique in IE. |
| H115 | DownlinkPreemption=>searchSpace | 2 | Similar as above. The name should be changed to downlinkPreemptionSearchSpaceSet  -- Configuration of downlink preemption indication on PDCCH  -- FFS: How does it relate to a BWP? How is it linked to one (or several) CORESETs?  DownlinkPreemption ::= SEQUENCE {  downlinkPreemptionS~~s~~earchSpaceSet SEQUENCE {  -- FFS: Need to indicate the CORESET(s) on which to apply the INT-RNTI SearchSpace!?  => Can be considered later after update from RAN1 | Not applied since general re-structuring of SearchSpace configuration needed. |
| H116 | pdcch-ConfigCommon | 2 | A common search space for RAR needs to be added  PDCCH-ConfigCommon ::= SEQUENCE {  -- Search space for other system information, i.e., SIB2 and beyond. Corresponds to L1 parameter 'osi-SearchSpace' (see 38.213, section 10)  -- FFS: Must indicate the CORESET(s) that it is associated with. Must indicate the RNTI(s) to use (note that RAN2 intends to allow  -- several in order to be able to send several SI messages in a the same slot. Is it limited to certain CORESETs and or BWPs?  -- (e.g. on the initial CSS or on a CSS configured in the dedicated BWP?). Is the field optional? What does the UE do if it is not present?  searchSpaceOtherSystemInformation FFS\_Value OPTIONAL,    -- Search space for random access procedure. Corresponds to L1 parameter 'ra-SearchSpace' (see 38.214?, section FFS\_Section)  ra-SearchSpace SearchSpace OPTIONAL, | Done |
| H117 | pdcch-ConfigCommon =>pagingSearchSpace | 2 | FFS: which BWP and CORESET to assume?Can one just instantiate a common search space?  In clause 10.1 of 38.213, the following specification was made:  For Type0A-PDCCH common search space or for Type-2 PDCCH common search space, the control resource set is same as the control resource set for Type0-PDCCH common search space. A UE is provided a configuration for Type0A-PDCCH common search space by higher layer parameter osi-SearchSpace. A UE is provided a configuration for Type2-PDCCHcommon search space by higher layer parameter paging-SearchSpace.  ……  If a UE is configured for downlink bandwidth part (BWP) operation, as described in Subclause 12, the above configurations for the common search spaces apply for the initial active DL BWP. The UE can be additionally configured a control resource set for Type0-PDCCH common search space, Type0A-PDCCH common search space, Type1-PDCCH common search space, or Type2-PDCCH common search space for each configured DL BWP on the primary cell, other than the initial active DL BWP, as described in Subclause 12.  Based on the above specifications, we think that the BWP for paging can be the initial BWP part. In addition, the BWP can also be additionaly configured. The CORESET for paging is the same as the CORESET for type0-PDCCH common search space.  Furthermore, based on the configuration given in R1-1721581 for paging-SearchSpace, the value range is searchSpace-config. Hence, here the value and type can be SearchSpaceSet (currently SearchSpace; we propose to change the name, see below).  PDCCH-ConfigCommon ::= SEQUENCE {  -- Search space for other system information, i.e., SIB2 and beyond. Corresponds to L1 parameter 'osi-SearchSpace' (see 38.213, section 10)  -- FFS: Must indicate the CORESET(s) that it is associated with. Must indicate the RNTI(s) to use (note that RAN2 intends to allow  -- several in order to be able to send several SI messages in a the same slot. Is it limited to certain CORESETs and or BWPs?  -- (e.g. on the initial CSS or on a CSS configured in the dedicated BWP?). Is the field optional? What does the UE do if it is not present?  searchSpaceOtherSystemInformation FFS\_Value OPTIONAL,    -- Search space for paging. Corresponds to L1 parameter 'paging-SearchSpace' (see 38.213, section 10)  ~~-- FFS: Which BWP and CORESET to assume?~~  ~~-- FFS: Need to configure P-RNTI? Or is it specified? Can one just instantiate a common search space?~~  pagingSearchSpace ~~FFS\_Value~~SearchSpaceSet OPTIONAL  }  => Can be considered later after update from RAN1 | ToDisc  Not applied since general re-structuring of SearchSpace configuration needed. |
| H118 | pdcch-ConfigCommon=> searchSpaceOtherSystemInformation  pdcch-ConfigCommon=>pagingSearchSpace | 2 | We suggest to chanage the name to otherSystemInformationSearchSpaceSet to be aligned with the name for paging pagingSearchSpace. We also suggest to change pagingSearchSpace to pagingSearchSpaceSet  PDCCH-ConfigCommon ::= SEQUENCE {  -- Search space for other system information, i.e., SIB2 and beyond. Corresponds to L1 parameter 'osi-SearchSpace' (see 38.213, section 10)  -- FFS: Must indicate the CORESET(s) that it is associated with. Must indicate the RNTI(s) to use (note that RAN2 intends to allow  -- several in order to be able to send several SI messages in a the same slot. Is it limited to certain CORESETs and or BWPs?  -- (e.g. on the initial CSS or on a CSS configured in the dedicated BWP?). Is the field optional? What does the UE do if it is not present?  ~~searchSpaceO~~otherSystemInformationSearchSpaceSet FFS\_Value OPTIONAL,    -- Search space for paging. Corresponds to L1 parameter 'paging-SearchSpace' (see 38.213, section 10)  -- FFS: Which BWP and CORESET to assume?  -- FFS: Need to configure P-RNTI? Or is it specified? Can one just instantiate a common search space?  pagingSearchSpaceSet FFS\_Value OPTIONAL  } | To be done after general restructuring of SearchSpace configuration |
| H119 | searchSpace | 2 | Based on agreement in RAN1 #91 meeting, it will be better to change “Search space” to “Search space set”, “search space ” is usually defined as set of PDCCH candidate per AL, “Search space set” should be set of search space over all ALs within one CORESET, corresponding to one-or more RNTI, to be confirmed or clarified in next meeting  RAN 1 agreement in #91   * Introduce a linkage between search space set and CORESET via an index to the CORESET configuration   + CORESET is removed from the search space configuration * In Rel-15, the max no. of CORESETs configurable for a BWP in a cell for a UE is [3]   In Rel-15, the max no. of search space sets configurable for a BWP in a cell for a UE is [10]  -- A search space defines how/where to search for PDCCH candidates. A search space is associated with one Control Resource Set  SearchSpaceSet ::= SEQUENCE {  searchSpaceId SearchSpaceId,  [Note: if agreed, this would require also to change the places the type is used, but we haven’t included all of them in the table.] |  |
| H120 | searchSpace=>searchSpaceId | 2 | -- FFS: Value 0 identifies the common CORESET configured in MIB and in ServingCellConfigCommon?  -- FFS: Values 1..maxNrofControlResourceSets-1 identify CORESETs configured by dedicated signalling?  Rap: The indexing should be discussed in next RAN1# meeting. | No change proposed |
| H121 | searchSpace=>searchSpaceType | 2 | -- FFS: How many CSSs can the NW configure? And can a CSS only be in the common CORESET?  Working assumption in RAN 1 is CCS+USS=10 per BWP  Rap:Needs final agreement from RAN1 | No change proposed |
| H122 | searchSpaceId | 2 | maxNrofSearchSpaces to be confirmed in next meeting but the working assumption is 10, as can be seen in the following agreement in RAN 1  Agrrement in RAN1#91 meeting:  In Rel-15, the max no. of search space sets configurable for a BWP in a cell for a UE is [10]  Rap: Needs final agreement in RAN1 | No change proposed |
| H123 | SlotFormatCombinationsPerCell=> positionInDCI | 2 | This parameter should be in SlotFormatIndicatorSFI, not inside SlotFormatCombinationsPerCell. This is specified in R1-1721581 in the parent field of the parameter sfi-PositionInDCI. We suggest to change the name of the field to sfi-PositionInDCI, as we also have the positionInDCI parameter for DL preemption  -- Configuration of monitoring a Group-Common-PDCCH for Slot-Format-Indicators (SFI)  SlotFormatIndicatorSFI ::= SEQUENCE {  searchSpace SEQUENCE {  -- FFS: RAN1 indicates that the UE uses the ”CSS” if no CORESET is provided. But a CSS is not the same as a CORESET?!?!!  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for SFI on the given cell  -- Corresponds to L1 parameter 'SFI-RNTI' (see 38.213, section FFS\_Section)  sfi-RNTI RNTI-Value OPTIONAL,  -- Monitoring periodicity of SFI PDCCH in slots.  -- o For 15KHz SCS (slots based on 15kHz): 1, 2, 5, 10, 20  -- o For 30KHz SCS (slots based on 30kHz): 1, 2, 4, 5, 10, 20  -- o For 60KHz SCS (slots based on 60kHz): 1, 2, 4, 5, 8, 10, 20  -- o For 120KHz SCS (slots based on 120kHz): 1, 2, 4, 5, 10, 20  -- Corresponds to L1 parameter 'SFI-monitoring-periodicity' (see 38.213, section FFS\_Section)  monitoringPeriodicity ENUMERATED {sl1, sl2, sl4, sl5, sl8, sl10, sl20, spare1} OPTIONAL,  -- The number of PDCCH candidates for the configured aggregation level.  -- Corresponds to L1 parameter 'SFI-Num-PDCCH-cand' (see 38.213, section FFS\_Section)  nrofCandidates ENUMERATED {n1, n2},  -- The aggregation level for the SFI-PDCCH. Corresponds to L1 parameter 'SFI-Aggregation-Level' (see 38.213, section FFS\_Section)  aggregationLevel ENUMERATED {n1, n2, n4, n8, n16}  },  -- Total length of the DCI payload scrambled with SFI-RNTI.  -- Corresponds to L1 parameter 'SFI-DCI-payload-length' (see 38.213, section FFS\_Section)  dci-PayloadSize INTEGER (1..maxSFI-DCI-PayloadSize) OPTIONAL,  -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SFI-cell-to-SFI' (see 38.213, section FFS\_Section)  slotFormatConfigurations SEQUENCE (SIZE(1..maxNrofAggregatedCellsPerCellGroup)) OF SlotFormatCombinationsPerCell OPTIONAL,  -- The (starting) position (bit) of the slotFormatCombinationId (SFI-Index) for this serving cell (servingCellId) within the DCI payload.  -- Corresponds to L1 parameter 'SFI-values' (see 38.213, section FFS\_Section)  sfi-PositionInDCI INTEGER(0..maxSFI-DCI-PayloadSize-1) OPTIONAL  ...  }  -- Mapping for a given cell to SFI value within DCI message. Corresponds to L1 parameter 'cell-to-SFI' (see 38.213, section FFS\_Section)  SlotFormatCombinationsPerCell ::= SEQUENCE {  -- The ID of the serving cell for which the slotFormatCombinations are applicable  servingCellId ServCellIndex,  -- A list with SlotFormatCombinations. Each SlotFormatCombination comprises of one or more SlotFormats (see 38.211, section 4.3.2)  -- FFS\_CHECK: RAN1 indicates that the combinations could be of two different types... but they don't specify the second  slotFormatCombinations SEQUENCE (SIZE (1..maxNrofSlotFormatCombinationsPerSet)) OF SlotFormatCombination OPTIONAL~~,~~  ~~-- The (starting) position (bit) of the slotFormatCombinationId (SFI-Index) for this serving cell (servingCellId) within the DCI payload.~~  ~~-- Corresponds to L1 parameter 'SFI-values' (see 38.213, section FFS\_Section)~~  ~~positionInDCI INTEGER(0..maxSFI-DCI-PayloadSize-1) OPTIONAL~~  }  Rap: assumes that current structure is correct. If not, also the description would need to be changed. |  |
| H124 | SlotFormatIndicatorSFI | 3 | SlotFormatIndicatorSFI should be configured per cell, as given in the following RAN1 agreement:  UE can be configured to monitor SFI in group common PDCCH for a Scell on a different cell. For cross cell GC-PDCCH monitoring, support by RRC configuration for a UE the following: \* The same SFI can be applicable to more than one cell \* Different SFI fields in one GC-PDCCH can be applied to different cells \* FFS interaction with multiple BWP configuration per cell  PDCCH-ConfigCommon ::= SEQUENCE {  -- Search space for other system information, i.e., SIB2 and beyond. Corresponds to L1 parameter 'osi-SearchSpace' (see 38.213, section 10)  -- FFS: Must indicate the CORESET(s) that it is associated with. Must indicate the RNTI(s) to use (note that RAN2 intends to allow  -- several in order to be able to send several SI messages in a the same slot. Is it limited to certain CORESETs and or BWPs?  -- (e.g. on the initial CSS or on a CSS configured in the dedicated BWP?). Is the field optional? What does the UE do if it is not present?  searchSpaceOtherSystemInformation FFS\_Value OPTIONAL,    -- Search space for paging. Corresponds to L1 parameter 'paging-SearchSpace' (see 38.213, section 10)  -- FFS: Which BWP and CORESET to assume?  -- FFS: Need to configure P-RNTI? Or is it specified? Can one just instantiate a common search space?  pagingSearchSpace FFS\_Value OPTIONAL,  slotFormatIndicatorSFI SlotFormatIndicatorSFI  }  => Can be considered later after update from RAN1 | ToDisc  Done |
| H126 | SlotFormatIndicatorSFI=>dci-PayloadSize | 2 | Suggest to change the name to sfi-DCI-PayloadSize, to avoid the duplication with the dci-payloadsize defined in DL pre-emption  -- Configuration of monitoring a Group-Common-PDCCH for Slot-Format-Indicators (SFI)  SlotFormatIndicatorSFI ::= SEQUENCE {  searchSpace SEQUENCE {  -- FFS: RAN1 indicates that the UE uses the ”CSS” if no CORESET is provided. But a CSS is not the same as a CORESET?!?!!  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for SFI on the given cell  -- Corresponds to L1 parameter 'SFI-RNTI' (see 38.213, section FFS\_Section)  sfi-RNTI RNTI-Value OPTIONAL,  -- Monitoring periodicity of SFI PDCCH in slots.  -- o For 15KHz SCS (slots based on 15kHz): 1, 2, 5, 10, 20  -- o For 30KHz SCS (slots based on 30kHz): 1, 2, 4, 5, 10, 20  -- o For 60KHz SCS (slots based on 60kHz): 1, 2, 4, 5, 8, 10, 20  -- o For 120KHz SCS (slots based on 120kHz): 1, 2, 4, 5, 10, 20  -- Corresponds to L1 parameter 'SFI-monitoring-periodicity' (see 38.213, section FFS\_Section)  monitoringPeriodicity ENUMERATED {sl1, sl2, sl4, sl5, sl8, sl10, sl20, spare1} OPTIONAL,  -- The number of PDCCH candidates for the configured aggregation level.  -- Corresponds to L1 parameter 'SFI-Num-PDCCH-cand' (see 38.213, section FFS\_Section)  nrofCandidates ENUMERATED {n1, n2},  -- The aggregation level for the SFI-PDCCH. Corresponds to L1 parameter 'SFI-Aggregation-Level' (see 38.213, section FFS\_Section)  aggregationLevel ENUMERATED {n1, n2, n4, n8, n16}  },  -- Total length of the DCI payload scrambled with SFI-RNTI.  -- Corresponds to L1 parameter 'SFI-DCI-payload-length' (see 38.213, section FFS\_Section)  sfi-DCI~~dci~~-PayloadSize INTEGER (1..maxSFI-DCI-PayloadSize) OPTIONAL,  -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SFI-cell-to-SFI' (see 38.213, section FFS\_Section)  slotFormatConfigurations SEQUENCE (SIZE(1..maxNrofAggregatedCellsPerCellGroup)) OF SlotFormatCombinationsPerCell OPTIONAL,  ...  }  => Change is not needed | Change not necessary. Field name is unique in IE. |
| H127 | SlotFormatIndicatorSFI=>searchSpace | 2 | The name should be modified as the name searchSpace is already defined. We suggest that the name to be changed to sfi-SearchSpaceSet  -- Configuration of monitoring a Group-Common-PDCCH for Slot-Format-Indicators (SFI)  SlotFormatIndicatorSFI ::= SEQUENCE {  sfi-S~~s~~earchSpaceSet SEQUENCE {  -- FFS: RAN1 indicates that the UE uses the ”CSS” if no CORESET is provided. But a CSS is not the same as a CORESET?!?!!  controlResourceSetId ControlResourceSetId OPTIONAL,  -- RNTI used for SFI on the given cell  -- Corresponds to L1 parameter 'SFI-RNTI' (see 38.213, section FFS\_Section)  sfi-RNTI RNTI-Value OPTIONAL,  -- Monitoring periodicity of SFI PDCCH in slots.  -- o For 15KHz SCS (slots based on 15kHz): 1, 2, 5, 10, 20  -- o For 30KHz SCS (slots based on 30kHz): 1, 2, 4, 5, 10, 20  -- o For 60KHz SCS (slots based on 60kHz): 1, 2, 4, 5, 8, 10, 20  -- o For 120KHz SCS (slots based on 120kHz): 1, 2, 4, 5, 10, 20  -- Corresponds to L1 parameter 'SFI-monitoring-periodicity' (see 38.213, section FFS\_Section)  monitoringPeriodicity ENUMERATED {sl1, sl2, sl4, sl5, sl8, sl10, sl20, spare1} OPTIONAL,  -- The number of PDCCH candidates for the configured aggregation level.  -- Corresponds to L1 parameter 'SFI-Num-PDCCH-cand' (see 38.213, section FFS\_Section)  nrofCandidates ENUMERATED {n1, n2},  -- The aggregation level for the SFI-PDCCH. Corresponds to L1 parameter 'SFI-Aggregation-Level' (see 38.213, section FFS\_Section)  aggregationLevel ENUMERATED {n1, n2, n4, n8, n16}  },  -- Total length of the DCI payload scrambled with SFI-RNTI.  -- Corresponds to L1 parameter 'SFI-DCI-payload-length' (see 38.213, section FFS\_Section)  dci-PayloadSize INTEGER (1..maxSFI-DCI-PayloadSize) OPTIONAL,  -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SFI-cell-to-SFI' (see 38.213, section FFS\_Section)  slotFormatConfigurations SEQUENCE (SIZE(1..maxNrofAggregatedCellsPerCellGroup)) OF SlotFormatCombinationsPerCell OPTIONAL,  ...  }  => Can be considered later after update from RAN1 | Can be considered after general restructuring of SearchSpace configuration |
| H128 | SlotFormatIndicatorSFI=>searchSpace=>controlResourceId | 3 | -- FFS: RAN1 indicates that the UE uses the ”CSS” if no CORESET is provided. But a CSS is not the same as a CORESET?!?!!  It will not be possible that there is no associated CORESET.  Needs RAN1 clarification  Huawei: Addressed by contribution related to H130 and H131, doesn’t need to be treated as a separate issue.Proposed to be rejected. | No change proposed |
| H129 | timing | 2 | A more suitable name may be timeDomainResourceAllocation, more aligned with 214 clause 5.1.2.1 titled with “resource allocation in time domain”.  PDCCH-Config ::= SEQUENCE {  -- List of Control Resource Sets (CORESETs) to be used by the UE  controlResourceSetToAddModList SEQUENCE(SIZE (1..maxNrofControlResourceSets)) OF ControlResourceSet OPTIONAL,  controlResourceSetToReleaseList SEQUENCE(SIZE (1..maxNrofControlResourceSets)) OF ControlResourceSetId OPTIONAL,  -- FFS: RAN1 decided to model each RNTI which the UE monitors on PDCCH as a separate Search Space. Many of those are configured  -- in the respective feature/channel configurations (e.g. CSI-RNTI, TPC-PUSCH-RNTI, TPC-PUCCH-RNTI, SPS-RNTI). Others are configured  -- below (SFI-RNTI, INT-RNTI). ==> Aim to find a common generic structure.  searchSpacesToAddModList SEQUENCE(SIZE (1..maxNrofSearchSpaces)) OF SearchSpace OPTIONAL,  searchSpacesToReleaseList SEQUENCE(SIZE (1..maxNrofSearchSpaces)) OF SearchSpaceId OPTIONAL,  -- Configuration of downlink preemtption indications to be monitored in this cell  -- FFS: Can there be just one or multiple such configurations within a PDCCH-Config? How does it relate to BWP, CORESET(s)?  downlinkPreemption DownlinkPreemption OPTIONAL,  -- Configuration of Slot-Format-Indicators to be monitored in this cell  -- FFS: Can there be just one or multiple such configurations within a PDCCH-Config? How does it relate to BWP, CORESET(s)?  slotFormatIndicator SlotFormatIndicator OPTIONAL,  -- FFS: Is this timing information applicable to the entire PDCCH or could it be different per CORESET?  -- FFS: Is there a default timing (to be used at least until first reconfiguration). Are the fields optionally present?  ~~timing~~timeDomainResourceAllocation SEQUENCE {  -- Configuration value of DL assignment to DL data timing  dl-assignment-to-DL-data SEQUENCE { | Done |
| H130 | timing | 3 | The current structure of configuration under timing is a bit confusing. We suggest to organize the UL, DL time resource allocation and K1 inside timing under “PUSCH-TimeDomain-Resource-Allocation”, “PDSCH-TimeDomain-Resource-Allocation” and “dl-data-to-UL-ACK”, respectively:  RAN2 AH: RAN2 agreed to adopt the ASN.1 structure for the IE *timing* as shown in Section 2.3 in R2-1800479. | See Tdoc R2-1800479  No change proposed (see separately agreed document) |
| H131 | timing | 3 | The following agreement was made in the previous meeting in RAN 1:   * One table for UL, one table for DL configured by RRC in R-15   + Each table is up to 16 rows * In each table, each row is configured by RRC with   + K0 with 2 bits( for DL table), K2 with 3 bits ( for UL table)   + An index (6 bits) into a table/equation in RAN 1 specs capturing valid combinations of start symbol and length (jointly decoded)   + PDSCH mapping type A or B * The reference point for starting OFDM symbol   + No RRC impact (e.g., slot boundary, start of CORESET where the PDCCH was found, or part of the table/equation in RAN 1 specs. FFS details) * Aggregation factor (1,2,4,8 for DL or UL) is semi-stattically configured separtely (i.e., not part of table)   + No addtional RRC impact how to use the aggregation factor along with tables   In clause 5.1.2.1, the time domian resource allocation for the downlink if specified as follows:  When the UE is scheduled to receive PDSCH by a DCI, the Time-domain PDSCH resources field of the DCI provides a row index of an RRC configured table [pdsch-symbolAllocation], where the indexed row defines the slot offset K0, the start and length indicator SLIV, and the PDSCH mapping type to be assumed in the PDSCH reception.  Similarly, in clause 6.1.2.1, time domian resource allocation for the uplink:  When the UE is scheduled to transmit PUSCH by a DCI, the Time-domain PUSCH resources field of the DCI provides a row index of an RRC configured table [pusch-symbolAllocation], where the indexed row defines the slot offset K2, the start and length indicator SLIV, and the PUSCH mapping type to be applied in the PUSCH reception.  The current configuration is unable to reflect such agreements, both in the DL and UL.  RAN2 AH: RAN2 agreed to adopt the ASN.1 structure for the IE *timing* as shown in Section 2.3 in R2-1800479. | See Tdoc R2-1800479  No change proposed (see sparately agreed document) |
| E023 | Some field names in “timing” are not according to convention.   * dl-assignment-to-DL-data * ul-assignment-to-UL-data   dl-data-to-DL-ack | 2 | Change to   * dlAssignmentToDlData * ulGrantToUlData (Note the additional change from “assignment“ to “grant“.) * dlDataToDlAck   timing SEQUENCE {  -- Configuration value of DL assignment to DL data timing  dlAssignmentToDlDatadl-assignment-to-DL-data SEQUENCE {  -- FFS\_Description. Corresponds to L1 parameter 'K0' (see 38.214, section FFS\_Section)  -- When the field is absent the UE applies the value 0  k0 INTEGER (0..3) OPTIONAL,  -- FFS\_Description. Isn't this the delay from UL-Grant to UL-Data? If so, why is it in this group?  -- Corresponds to L1 parameter 'K2' (see 38.214, section FFS\_Section)  -- When the field is absent the UE applies the value 0  k2 INTEGER (0..7) OPTIONAL,  -- PDSCH mapping type. Corresponds to L1 parameter 'Mapping-type' (see 38.214, section FFS\_Section)  mappingType ENUMERATED {typeA, typeB} OPTIONAL,  -- An index into a table/equation in RAN1 specs capturing valid combinations of start symbol and length (jointly encoded)  -- Corresponds to L1 parameter 'Index-start-len' (see 38.214, section FFS\_Section)  startSymbolAndLength BIT STRING (SIZE (6)),  -- FFS\_Description. (see 38.214, section FFS\_Section)  index INTEGER (0..15) OPTIONAL  },  -- Configuration value of UL assignment to UL data timing  ulGrantToUlDataul-assignment-to-UL-data SEQUENCE {  -- FFS\_Description. Corresponds to L1 parameter 'K2' (see 38.214, section FFS\_Section)  -- When the field is absent the UE applies the value 0  k2 INTEGER (0..7) OPTIONAL,  -- Number of repetitions for data. Corresponds to L1 parameter 'aggregation-factor-DL' (see 38.214, section FFS\_Section)  -- When the field is absent the UE applies the value 1  aggregationFactorDL ENUMERATED {n1, n2, n4, n8} OPTIONAL,  -- Number of repetition for data. Corresponds to L1 parameter 'aggregation-factor-UL' (see 38.214, section FFS\_Section)  -- When the field is absent the UE applies the value 1  aggregationFactorUL ENUMERATED {n1, n2, n4, n8} OPTIONAL  },  -- Configuration value of DL assignment to DL acknowledgement  dlDataToUlAckdl-data-to-UL-ACK SEQUENCE (SIZE (8)) OF SEQUENCE {  -- Timiing for given PDSCH to the DL ACK  -- Corresponds to L1 parameter 'Slot-timing-value-K1' (see 38.213, section FFS\_Section)  slotTimingValueK1 INTEGER (0..15) OPTIONAL  }  } OPTIONAL | No change proposed |
| N273 | The IE PDCCH-Config is not included anywhere, should it be part of BWP or CellGroupConfig? | 3 | Discuss where the PDCCH-Config should be included and used  [Qualcomm]: We think this should be included in DL BWP parameters per BWP and ServiceCellConfigDedicated, both OPTIONAL. See Q024 and Q027. | Already done |
| H286 | In DownlinkPreemption, int-ConfigurationPerServingCell is structured as a SEQUENCE OF SEQUENCE | 2 | DownlinkPreemption ::=                      SEQUENCE {      searchSpace                                 SEQUENCE {         -- FFS: Need to indicate the CORESET(s) on which to apply the INT-RNTI SearchSpace!?         controlResourceSetId                 ControlResourceSetId                                                     OPTIONAL,         -- RNTI used for indication pre-emption in DL. Also connected to monitoring of a Type2-PDCCH common search space.         -- (see 38.213, section 10)         -- FFS: What does the abbreviation stand for? Add a better description         int-RNTI                             RNTI-Value,         -- Set selection for DL-preemption indication. Corresponds to L1 parameter 'int-TF-unit' (see 38.213, section 10.1)         -- FFS: Clarify description. Clarify what TF means. Clarify field name.         timeFrequencySet                     ENUMERATED {set0, set1},         -- Monitoring periodicity of DCI with INT-RNTI in number of slots. sl1 corresponds to ”every slot”, s2 corresponds to ”every second slot”.         -- Corresponds to L1 parameter 'INT-monitoring-periodicity' (see 38.213, section 11.2)         monitoringPeriodicity                ENUMERATED {sl1, sl2, spare2, spare1}    OPTIONAL      },      -- Total length of the DCI payload scrambled with INT-RNTI. The value must be an integer multiple of 14 bit.      -- Corresponds to L1 parameter 'INT-DCI-payload-length' (see 38.213, section 11.2)      dci-PayloadSize                             INTEGER (0..maxINT-DCI-PayloadSize)                                           OPTIONAL,      -- Indicates (per serving cell) the position of the 14 bit INT values inside the DCI payload.      -- Corresponds to L1 parameter 'INT-cell-to-INT' and 'cell-to-INT' (see 38.213, section 11.2)      int-ConfigurationPerServingCell         SEQUENCE (SIZE (1..maxNrofServingCells)) OF INT-CellConfiguration~~SEQUENCE {~~         servingCellId                        ServCellIndex,         -- Starting position (in number of bit) of the 14 bit INT value applicable for this serving cell (servingCellId) within the DCI         -- payload. Must be multiples of 14 (bit). Corresponds to L1 parameter 'INT-values' (see 38.213, section 11.2)         positionInDCI                        INTEGER (0..maxINT-DCI-PayloadSize-1)  ~~}~~                                                                                                                OPTIONAL  }  INT-CellConfiguration ::= SEQUENCE {      servingCellId                        ServCellIndex,      -- Starting position (in number of bit) of the 14 bit INT value applicable for this serving cell (servingCellId) within the DCI      -- payload. Must be multiples of 14 (bit). Corresponds to L1 parameter 'INT-values' (see 38.213, section 11.2)      positionInDCI                        INTEGER (0..maxINT-DCI-PayloadSize-1)  } | Done |
| Q024 | PDCCH-Config IE is defined but never used | 2 | PDCCH-Config is per BWP and should be included in DownlinkBandwidthPart  DownlinkBandwidthPart ::=                  SEQUENCE {         genericParameters                                BandwidthPart,         pdcch-ConfigCommon                                PDCCH-ConfigCommon                                                                                OPTIONAL,         pdcch-Config                                     PDCCH-Config   OPTIONAL  } | Not needed due to R2-1801591 |
| Q027 | PDCCH-Config and PDCCH-ConfigCommon should also be included in ServingCellConfigDedicated and ServingCellConfigCommon respectively | 2 | DL BWP parameters can be included in SIB1 for initial access, and in BandwidthPart-Config.  Currently, PDCCH-Config is missing and Q024 proposes to add PDCCP-Config OPTIONAL.  What should be the UE behavior when this is omitted/not included as part of BandwidthPart-Config? For that case, these should be included in ServingCellConfigDedicated and ServingCellConfigCommon (i.e., outside DL BWP parameters), respectively, also as OPTIONAL. If the parameters are omitted under a DL BWP, then the one in ServingCellConfigDedicated/ServingCellConfigCommon is applicable. If the parameters are missing in both places, that’s an error situation which the E-UTRAN should avoid. | Not needed due to R2-1801591 |
| Q030 | PDCCH-Config->timing | 3 | According to RAN1 LS:   * dl-assignment-to-DL-data should not include k2. * ul-data-time-domain should also include Index-start-len and index. * Default values should be captured in ASN.1 instead of stating on the comments only, but it seems RAN1 has not decided on these default values.       timing                           SEQUENCE {         -- Configuration value of DL assignment to DL data timing         dl-assignment-to-DL-data           SEQUENCE {             -- FFS\_Description. Corresponds to L1 parameter 'K0' (see 38.214, section FFS\_Section)             -- When the field is absent the UE applies the value 0             k0                               INTEGER (0..3)                                                        OPTIONAL,             -- FFS\_Description. Isn't this the delay from UL-Grant to UL-Data? If so, why is it in this group?  ~~-- Corresponds to L1 parameter 'K2' (see 38.214, section FFS\_Section)~~  ~~-- When the field is absent the UE applies the value 0~~  ~~k2                               INTEGER (0..7)                                                        OPTIONAL,~~             -- PDSCH mapping type. Corresponds to L1 parameter 'Mapping-type' (see 38.214, section FFS\_Section)             mappingType                       ENUMERATED {typeA, typeB}                                              OPTIONAL,             -- An index into a table/equation in RAN1 specs capturing valid combinations of start symbol and length (jointly encoded)             -- Corresponds to L1 parameter 'Index-start-len' (see 38.214, section FFS\_Section)             startSymbolAndLength               BIT STRING (SIZE (6)),             -- FFS\_Description. (see 38.214, section FFS\_Section)             index                            INTEGER (0..15)                                                        OPTIONAL         },         -- Configuration value of UL assignment to UL data timing         ul-assignment-to-UL-data           SEQUENCE {             -- FFS\_Description. Corresponds to L1 parameter 'K2' (see 38.214, section FFS\_Section)             -- When the field is absent the UE applies the value 0             k2                               INTEGER (0..7)                                                        OPTIONAL,             -- An index into a table/equation in RAN1 specs capturing valid combinations of start symbol and length (jointly encoded)             -- Corresponds to L1 parameter 'Index-start-len' (see 38.214, section FFS\_Section)             startSymbolAndLength               BIT STRING (SIZE (6)),             -- FFS\_Description. (see 38.214, section FFS\_Section)             index                            INTEGER (0..15)                                                        OPTIONAL             -- Number of repetitions for data. Corresponds to L1 parameter 'aggregation-factor-DL' (see 38.214, section FFS\_Section)             -- When the field is absent the UE applies the value 1             aggregationFactorDL               ENUMERATED {n1, n2, n4, n8}                                             OPTIONAL,             -- Number of repetition for data. Corresponds to L1 parameter 'aggregation-factor-UL' (see 38.214, section FFS\_Section)             -- When the field is absent the UE applies the value 1             aggregationFactorUL               ENUMERATED {n1, n2, n4, n8}                                             OPTIONAL         },         -- Configuration value of DL assignment to DL acknowledgement         dl-data-to-UL-ACK                 SEQUENCE (SIZE (8)) OF SEQUENCE {             -- Timiing for given PDSCH to the DL ACK             -- Corresponds to L1 parameter 'Slot-timing-value-K1' (see 38.213, section FFS\_Section)             slotTimingValueK1              INTEGER (0..15)                                                        OPTIONAL         }      }                                                                                                          OPTIONAL | Covered by agreed R2-1800479 |

#### – PDCP-Config

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M041 | RAN2 agreed that out-of-order delivery does not apply to SRB. So, we suggest to put IE “” inside DRB configuration. | 1 | PDCP-Config ::= SEQUENCE {  drb SEQUENCE {  -- Note that some IE are skips here  integrityProtection BOOLEAN,  statusReportRequired BOOLEAN, OPTIONAL -- Cond Rlc-AM  outOfOrderDelivery BOOLEAN  } OPTIONAL, -- Cond DRB  -- Note that some IE are skips here  ~~outOfOrderDelivery BOOLEAN~~,  ...  } | Done |
| Z044 | The uplinkOnlyROHC should be either OPTIONAL.or a choice. | 2 | drb SEQUENCE {  discardTimer ENUMERATED {ms10, ms20, ms30, ms40, ms50, ms60, ms75, ms100, ms150, ms200, ms250, ms300, ms500, ms750, ms1500, infinity} OPTIONAL, -- Cond Setup  pdcp-SN-Size-UL ENUMERATED {len12bits, len18bits},  pdcp-SN-Size-DL ENUMERATED {len12bits, len18bits},  headerCompression CHOICE {  notUsed NULL,  rohc SEQUENCE {  maxCID INTEGER (1..16383) DEFAULT 15,  profiles SEQUENCE {  profile0x0001 BOOLEAN,  profile0x0002 BOOLEAN,  profile0x0003 BOOLEAN,  profile0x0004 BOOLEAN,  profile0x0006 BOOLEAN,  profile0x0101 BOOLEAN,  profile0x0102 BOOLEAN,  profile0x0103 BOOLEAN,  profile0x0104 BOOLEAN  }~~,~~  },  uplinkOnlyROHC SEQUENCE {  maxCID INTEGER (1..16383) DEFAULT 15,  profiles SEQUENCE {  profile0x0006 BOOLEAN  }  },  ...  }  },  integrityProtection BOOLEAN,  statusReportRequired BOOLEAN OPTIONAL -- Cond Rlc-AM  } | Done. There are now three options in the choice structure: notUsed, rohc or uplinkOnlyROHC |
| Z045 | Since the UE need to store the value of discard timer, the need N should be revised to need M. | 1 | Setup The field is mandatory present in case of radio bearer setup. Otherwise the field is optionally present, need ~~N~~M. | Done. Covered in the draft class 1 CR |
| Z046 | CellGroupId ::= INTEGER (1.. maxSCellGroups)  In order to indicate MCG, the range of CellGroupId should be revised to INTEGER (0.. maxSCellGroups) | 2 | moreThanOneRLC SEQUENCE {  primaryPath SEQUENCE {  cellGroup CellGroupId  logicalChannel LogicalChannelIdentity  },  ul-DataSplitThreshold CHOICE {  release NULL,  setup ENUMERATED {  b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800,  b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400,  b6553600, infinity, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}  },  ul-Duplication BOOLEAN  } | Done |
| Z047 | The IE moreThanOneRLC should support both the CA based duplication and DC based duplication.The ul-DataSplitThreshold and ul-Duplication within “moreThanOneRLC” are only applicable for DC case, and should be marked as optional or grouped into a choice. | 2 | moreThanOneRLC CHOICE ~~SEQUENCE~~ {  dual-connectivity SEQUENCE {  primaryPath SEQUENCE {  cellGroup CellGroupId,  logicalChannel LogicalChannelIdentity  },  ul-DataSplitThreshold CHOICE {  release NULL,  setup ENUMERATED { b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800, b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400, b6553600, infinity, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}  },  ul-Duplication BOOLEAN  },  ca-duplication SEQUENCE {  logicalChannel LogicalChannelIdentity  }  }  [Qualcomm]:  We agree that this IE should support both CA and DC based duplication. So, we are ok with the CHOICE structure as suggested above.  However, we have additional comments:     1. For DC, LogicalChannelIdentity is not needed in primaryPath, but for CA case, CellGroupID is required. 2. Release is not needed for ul-DataSplitThreshold (as suggested by Q018 and H134) 3. Ul-Duplication should be included in CA case as well, see comment in Q018.   So, propose the following by merging comments from Q018 to Z047.  **Combined/Merged proposal:**      -- FFS / TODO: Handle more than two secondary cell groups      moreThanOneRLC         CHOICE ~~SEQUENCE~~{         ca-duplication  SEQUENCE {             primaryPath            SEQUENCE {                 cellGroup              CellGroupId,                 logicalChannel         LogicalChannelIdentity             },             pdcp-Duplication           BOOLEAN         },         dual-connectivity SEQUENCE {             cellGroup       CellGroupId,             ul-DataSplit    CHOICE {                 ul-DataSplitThreshold   ~~CHOICE {~~  ~~release                   NULL,~~  ~~setup~~ ENUMERATED {                                          b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800,                                          b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400,                                          b6553600, infinity, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}  ~~}~~,                 pdcp-Duplication       BOOLEAN             }   OPTIONAL  }  => Change as proposed is not needed  => Add extension marker.  => Condition to be added to state that UL duplication is not configured in this version of the spec. | ToDisc  Done. Extension marker and condition added. |
| H132 | PDCP-Config=>t-reordering | 2 | FFS: whether ms0 is the same like outOfOrderDelivery  FFS: new values for t-Reordering  Ms0 in the configuration of t-Reordering is not the same as out-of-order delivery. As we have discussed in the meeting, by setting t-reordering to zero, the packets could have been received will be lost, as in R2-1707252  There is no current discussion on the new values for t-reordering  The first FFS can be removed. | Done. FFS removed |
| H133 | PDCP-Config=>moreThanOneRLC=> ul-DataSplitThreshold | 2 | This IE should only be present in case of split bearer. Hence, Cond should be added.  moreThanOneRLC SEQUENCE {  primaryPath SEQUENCE {  cellGroup CellGroupId,  logicalChannel LogicalChannelIdentity  },  ul-DataSplitThreshold CHOICE {  release NULL,  setup ENUMERATED {  b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800,  b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400,  b6553600, infinity, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}  } OPTIONAL, -- Cond SplitBearer  ul-Duplication BOOLEAN  } OPTIONAL, -- Cond MoreThanOneRLC  => Change is agreed  => Clarify that the SplitBearer condition is for more than one RLC mapped to different cell groups. | Done. |
| H134 | PDCP-Config=>moreThanOneRLC=> ul-DataSplitThreshold | 2 | Release is not necessary here. For the link switching, we have made the agreement that the mode of link switching for UL split bearer shall be enabled by setting the threshold to infinity.  moreThanOneRLC SEQUENCE {  primaryPath SEQUENCE {  cellGroup CellGroupId,  logicalChannel LogicalChannelIdentity  },  ul-DataSplitThreshold ~~CHOICE {~~  ~~release NULL,~~  ~~setup~~ ENUMERATED {  b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800,  b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400,  b6553600, infinity, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}  ~~}~~,  ul-Duplication BOOLEAN  } OPTIONAL, -- Cond MoreThanOneRLC  => Change as proposed is not needed  => Change to the short form of setup/release (to be checked it works for enumerated case)  => Check with UP experts whether the inifinity value is required | Done |
| H135 | PDCP-Config=>drb=>headerCompression | 2 | For the field description, the two FFSs are:  FFS: restrictions for split bearers  FFS: restrictions on reconfigurations (e.g. only at reconfiguration involving PDCP re-establishment)  RoHC should be configured for UM split bearer. ROHC should be configured at reconfiguration involving PDCP re-establsihment if the RB is previously configured with ROHC  **headerCompression**  If rohc is configured, the UE shall apply the configured ROHC profile(s) in both uplink and downlink. If uplinkOnlyROHC is configured, the UE shall apply the configure ROHC profile(s) in uplink (there is no header compression in downlink). ROHC should be configured for UM split bearer. ROHC should be configured at reconfiguration involving PDCP re-establishment if the RB is previously configured with ROHC.  ~~FFS: restrictions for split bearers~~  ~~FFS: restrictions on reconfigurations (e.g. only at reconfiguration involving PDCP re-establishment)~~ | Done. Changed first sentence so that ROHC can be configured for any bearer type, based on UP agreements. See also S027. |
| H136 | outOfOrderDelivery  This parameter is only applicable for DRB | 1 | Conditional presence should be added for this parameter  outOfOrderDelivery BOOLEAN OPTIONAL, -- Cond DRB | Same as M041 |
| Q015 | ms0 is not the same as outOfOrderDelivery. is independent parameter and has corresponding procedure in 38.323. | 2 | Delete the FFS  ~~-- FFS: whether ms0 is the same like outOfOrderDelivery~~ | Same as H132 |
| Q016 | The parameter name ul-Duplication does not match 38.323 pdcpDuplication | 2 | Either update 38.323 or 38.331 as follows:  Note: 38.323 will still need update to add hyphen in pdcp-Duplication.  moreThanOneRLC SEQUENCE {  primaryPath SEQUENCE {  cellGroup CellGroupId,  logicalChannel LogicalChannelIdentity  },  ul-DataSplitThreshold CHOICE {  release NULL,  setup ENUMERATED {  b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800,  b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400,  b6553600, infinity, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}  },  ~~ul~~pdcp-Duplication BOOLEAN  } | Done. Changed to pdcpDuplication, i.e. same as in 38.323 to avoid change also there. |
| Q017 | drb-ContinueROHC is not available in 38.331. | 2 | In 36.331 it is included in MobilityControlInfo. Cound be done in the same way. | Done |
| Q018 | PDCP duplication configuration/activation is not clear from current structure.  PDCP duplication can be configured/not configured, and once configured can be activated/not activated by RRC (or MAC CE). According to 38.323, when duplication is configured the ul-splitThreshold is not used for transmission. From existing structure, this is not clear. We should signal whether pdcp-duplication is configured and splitThreshold should be required only if pdcp-duplication is not configured, Since duplication is not expected to be used at the same time as ul-DataSplitThreshold, they may be organized as CHOICE. Since PDCP duplication is not yet finalized, this could be FFS but it seems like a structural issue here. | 3 | An example solution is illustrated below. Another possibility is to make ul-DataSplit and pdcp-Duplication both optional instead of grouped in CHOICE but it seems more error-prone as further conditions to clarify conditional presence are needed.  The example below assumes pdcp-Duplication (renamed from ul-Duplication) configures duplication. Whether duplication is activated is determined by the BOOLEAN value of pdcp-duplication, and ul-DataSplit is a CHOICE, either either configures ul-DataSplitThreshold (for split, switch operation) or pdcp-Duplication (for duplication). Per previous agreement “For split bearers, use infinity value of ul-DataSplitThreshold to realize UL path restriction”, the release/setup is removed from ul-DataSplitThreshold.  moreThanOneRLC SEQUENCE {  primaryPath SEQUENCE {  cellGroup CellGroupId,  logicalChannel LogicalChannelIdentity  },  ul-DataSplit CHOICE {  ul-DataSplitThreshold ~~CHOICE {~~  ~~release NULL,~~  ~~setup~~ ENUMERATED {  b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800,  b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400,  b6553600, infinity, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1~~}~~  },  pdcp-Duplication BOOLEAN  } OPTIONAL  }  [Qualcomm]: See comments in Z047. We propose a merged/combined solution capturing this in Z047.  => Covered by previous discussion |  |
| E024 | Field “ul-DataSplitThreshold” does not use the SetupRelease construct. | 2 | Modify “ul-DataSplitThreshold” to use SetupRelease construct.  ul-DataSplitThreshold SetupRelease { ENUMERATED {  ~~CHOICE {~~  ~~release NULL,~~  ~~setup ENUMERATED {~~  b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800,  b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400,  b6553600, infinity, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1}  }, | Done |
| E114 | Field “primaryPath” includes both cellGroup and logicalChannel. |  | Modify “primaryPath” to include only one of cellGroup and logicalChannel, to avoid ambiguity.  primaryPath SEQUENCE {  cellGroup CellGroupId,  logicalChannel LogicalChannelIdentity  },  Ericsson: After further consideration we concluded LogicalChannelIdentity is actually needed, to cover the case of CA duplication (with deactivation on MAC). In that case, UE need to know know which logical channel to use for UL packets. So we propose to reject the issue and close E114.  => No change needed |  |
| E125 | headerCompression should have choice of notUsecd, rohc and uplinkOnlyROHC.  Currently. uplinkOnlyROHC is misplaced.  See “TP for L2 parameter contents (email discussion [99bis#18][NR] L2 parameters in RRC)”, R2-1712578. | 2 | EXISTING  PDCP-Config ::= SEQUENCE {  drb SEQUENCE {  discardTimer ENUMERATED {ms10, ms20, ms30, ms40, ms50, ms60, ms75, ms100, ms150, ms200, ms250, ms300, ms500, ms750, ms1500, infinity} OPTIONAL, -- Cond Setup  pdcp-SN-Size-UL ENUMERATED {len12bits, len18bits},  pdcp-SN-Size-DL ENUMERATED {len12bits, len18bits},  headerCompression CHOICE {  notUsed NULL,  rohc SEQUENCE {  maxCID INTEGER (1..16383) DEFAULT 15,  profiles SEQUENCE {  profile0x0001 BOOLEAN,  profile0x0002 BOOLEAN,  profile0x0003 BOOLEAN,  profile0x0004 BOOLEAN,  profile0x0006 BOOLEAN,  profile0x0101 BOOLEAN,  profile0x0102 BOOLEAN,  profile0x0103 BOOLEAN,  profile0x0104 BOOLEAN  },  uplinkOnlyROHC SEQUENCE {  maxCID INTEGER (1..16383) DEFAULT 15,  profiles SEQUENCE {  profile0x0006 BOOLEAN  }  },  ...  }  },  integrityProtection BOOLEAN,  <cut>  PROPOSAL  PDCP-Config ::= SEQUENCE {  drb SEQUENCE {  discardTimer ENUMERATED {ms10, ms20, ms30, ms40, ms50, ms60, ms75, ms100, ms150, ms200, ms250, ms300, ms500, ms750, ms1500, infinity} OPTIONAL, -- Cond Setup  pdcp-SN-Size-UL ENUMERATED {len12bits, len18bits},  pdcp-SN-Size-DL ENUMERATED {len12bits, len18bits},  headerCompression CHOICE {  notUsed NULL,  rohc SEQUENCE {  maxCID INTEGER (1..16383) DEFAULT 15,  profiles SEQUENCE {  profile0x0001 BOOLEAN,  profile0x0002 BOOLEAN,  profile0x0003 BOOLEAN,  profile0x0004 BOOLEAN,  profile0x0006 BOOLEAN,  profile0x0101 BOOLEAN,  profile0x0102 BOOLEAN,  profile0x0103 BOOLEAN,  profile0x0104 BOOLEAN  }  },  uplinkOnlyROHC SEQUENCE {  maxCID INTEGER (1..16383) DEFAULT 15,  profiles SEQUENCE {  profile0x0006 BOOLEAN  }  },  ...  },  integrityProtection BOOLEAN,  <cut> | Same as Z044 |
| Q022 | t-reordering: smaller values need to be added as HARQ RTT can be smaller in NR | 2 | t-Reordering                ENUMERATED {                                      ms0, ms1, ms2, ms4, ms5, ms8, ms10, ms15, ms20, ms30, ms40, ms50, ms60, ms80, ms100, ms120, ms140, ms160, ms180, ms200, ms220,                                      ms240, ms260, ms280, ms300, ms500, ms750, ms1000, ms1250, ms1500, ms1750, ms2000, ms2250, ms2500, ms2750,                                      ms3000}     OPTIONAL, -- Need R | Done. Also removed the FFS regarding new values |
| S027 | ROHC in split bearer should be specified. | 4 | It is not concluded whether split bearer supports ROHC. It should be discussed in user plane session first. Since NR supports UM split bearer, UL switching, short TTI, and PDCP duplication, we think ROHC could be beneficial for split bearer.  < Suggested Change >  headerCompression  If rohc is configured, the UE shall apply the configured ROHC profile(s) in both uplink and downlink. If uplinkOnlyROHC is configured, the UE shall apply the configure ROHC profile(s) in uplink (there is no header compression in downlink). ROHC can be configured for any type of DRB.  FFS: restrictions for split bearers  FFS: restrictions on reconfigurations (e.g. only at reconfiguration involving PDCP re-establishment) | Same as H135 |
| H321 | LogicalChannelIdentity should only be present for the case of CA duplication and CellGroup should only be present in case of DC | 3 | moreThanOneRLC SEQUENCE {  primaryPath SEQUENCE {  cellGroup CellGroupId~~,~~ OPTIONAL, -–Cond DC  logicalChannel LogicalChannelIdentity OPTIONAL -–Cond CA\_Dup  }, |  |
| H322 | SetupRelease is uncessary for ul-DataSplitTreshold | 3 | ul-DataSplitThreshold ~~SetupRelease {~~ ENUMERATED {  b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800,  b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400,  b6553600, infinity, spare8, spare7, spare6, spare5, spare4, spare3, spare2, spare1} ~~}~~ OPTIONAL, -- Cond SplitBearer |  |
|  |  |  |  |  |

#### – PDSCH-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z048 | Based on the description in 38.214, We suggest to rename TCI-RS-Set to TCI-State, and the TCI-RS-SetId should be renamed to TCI-StateId accordingly, because even more than one RS sets within one TCI-State has been down prioritized in RAN decision, it might be supported in the future. And we add the parent IE “tci-RS-SetConfig” which described in 38.214. | 2 | PDSCH-Config ::= SEQUENCE {  ... ...  -- Contains Transmission Configuration Indicator (TCI) states for dynamically indicating (over DCI) a transmission configuration  -- which includes QCL-relationships between the DL RSs in one RS set and the PDSCH DMRS ports  -- (see 38.214, section 5.1.4)  tci-States SEQUENCE (SIZE(1..~~maxNrof-TCI-RS-Sets~~maxNrof-TCI-RS-States)) OF TCI-~~RS-Set~~State,  ...  }  -- Associates one or two DL reference signals with a corresponding quasi-colocation (QCL) type.  -- FFS: Rename TCI-RS-Set to TCI-State? Would feel more in line with the name of the list: tci-States.  TCI-~~RS-Set~~State ::= SEQUENCE {  tci-RS-~~Set~~StateId TCI-RS-~~Set~~StateId,  tci-RS-SetConfig SEQUENCE {  -- For a specific tci-RS-SetConfig, the qcl-Types corresponding to the selected reference RS within one TCI-RS-Set shall not be the same.  qcl-Type1 SEQUENCE {  referenceSignal CHOICE {  csi-rs NZP-CSI-RS-ResourceConfigId,  ssb SSB-Id,  -- A TRS (Tracking Reference Signal) configuration represented as a set of CSI-RS-Resources in a CSI-ResourceSetId  trs CSI-ResourceSetId  },  qcl-Type ENUMERATED {typeA, typeB, typeC, typeD}  },  qcl-Type2 SEQUENCE {  referenceSignal CHOICE {  csi-rs NZP-CSI-RS-ResourceConfigId,  ssb SSB-Id,  -- A TRS (Tracking Reference Signal) configuration represented as a set of CSI-RS-Resources in a CSI-ResourceSetId  trs CSI-ResourceSetId  },  qcl-Type ENUMERATED {typeA, typeB, typeC, typeD}  } OPTIONAL  }  }  TCI-RS-~~Set~~StateId ::= INTEGER (0..ffsValue)  **[Ericsson]** We agree to rename TCI-RS-Set to TCI-State since the list tci-States comprises of these IEs. But we don't see a need to create an additional level with TCI-RS-Config elements within such a TCI-State.  => Do not add the tci-RS-SetConfig  => Change to name of TCI-RS-Set is agreed | Done |
| Z049 | Multiple DMRS groups has been down prioritized by RAN, currently only one group is used in RAN1 , and all assigned DM-RS port via DM-RS group indicator in DCI belong to single group, so we suggest to delete these parameters in current version. | 2 | PDSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.213, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission BOOLEAN,  -- Maximum number of code-block-groups (CBGs) per TB. In case of multiple CW the maximum CBG is 4 (see 38.213, section 9.1.1)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  -- Indicates whether CBGFI for CBG based (re)transmission in DL is enabled (true). (see FFS\_Specification, section FFS\_Section)  codeBlockGroupFlushIndicator BOOLEAN,  dmrs-Downlink SEQUENCE {  -- Selection of the DMRS type to be used for DL (see 38.211, section 7.4.1.1.1)  dmrs-Type ENUMERATED {type1, type2} OPTIONAL, -- Need R  -- Position for additional DM-RS in DL, see Table 7.4.1.1.2-4 in 38.211.  -- The four values represent the cases of 1+0, 1+1, 1+1+1. 1+1+1+1 non-adjacent OFDM symbols for DL.  -- CHECK: Listed in RAN1 table. But should this really be in dedicated signalling?  dmrs-AdditionalPosition ENUMERATED {pos0, pos1, pos2, pos3} OPTIONAL, -- Need R  ~~-- DM-RS groups that are QCL:ed, i.e. group 1 (see 38.214, section 5.1)~~  ~~-- FFS CHECK: Clarify how to configure the DMRS groups and the relation to TCI.~~  ~~-- FFS\_Value: Check whether these are really meant to be these few intergers~~  ~~dmrs-group1 INTEGER (1000..1011),~~  ~~-- DM-RS groups that are QCL:ed, i.e. group 2 (see 38.214, section 5.1)~~  ~~-- FFS\_Value: Check whether these are really meant to be these few intergers~~  ~~dmrs-group2 INTEGER (1000..1012),~~  -- The maximum number of OFDM symbols for DL front loaded DMRS  -- Corresponds to L1 parameter 'DL-DMRS-max-len' (see 38.214, section 5.1)  maxLength ENUMERATED {len1, len2},  -- DL DMRS scrambling initalization  -- Corresponds to L1 parameter 'DL-DMRS-Scrambling-ID' (see 38.214, section 5.1)  -- When the field is absent the UE applies the value "Physical cell ID + 6 fixed bits (e.g. 000000)"  -- FFS: Clarify default value: Are the 6 bits zeros (says e.g.). Are they the MSBs or LSBs?  -- FFS\_CHECK: Is it really 16 bit whereas all other scrambling IDs are just 10 bit? If this is also 10, replace by type ScramblingId  scramblingID BIT STRING (SIZE (16)) OPTIONAL  },  **[Ericsson]** It seems that the intended change is not visible. Anyway, if/since RAN1 has not removed any parameters we should be careful with such change.  => No change until RAN1 inform us of a change | No change |
| Z050 | The value range of frequencyDomainAllocation in RAN1 L1 excel is “Starting subcarrier:  X = 1 port: no restriction  Y = 2: constrained to be one among even subcarriers in an RB  Y = 4: constrained to be one among subcarriers 0, 4, 8 in an RB”, it didn’t mean to use bitmap in ASN.1,, so we sugget to use the same coding method as firstOFDMSymbolTimeDomain. | 2 | -- OFDM symbol and subcarrier occupancy of the ZP-CSI-RS resource within a slot  -- Corresponds to L1 parameter 'ZP-CSI-RS-ResourceMapping' (see 38.214, section FFS\_Section)  resourceMapping SEQUENCE {  -- Frequency domain allocation within a physical resource block in accordance with 38.211, table 7.4.1.5.2-1. FFS: Table correct?  -- The number of bits that may be set to one depend on the chosen row in that table.  frequencyDomainAllocation CHOICE {  row1 ~~BIT STRING (SIZE (4))~~INTEGER (0..15),  row2 ~~BIT STRING (SIZE (12))~~INTEGER (0..4095),  row4 ~~BIT STRING (SIZE (3))~~INTEGER (0..7),  other ~~BIT STRING (SIZE (6))~~INTEGER (0..63)  },  -- Time domain allocation within a physical resource block. The field indicates the first OFDM symbol in the PRB used for CSI-RS.  firstOFDMSymbolInTimeDomain INTEGER (0..13)  }  **[Ericsson]** Based on the LS ([R1-1721734](http://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_91/Docs/R1-1721734.zip)) we assumed that the frequencyDomainAllocation is not only the starting symbol but also the subsequent symbols in frequency domain.  => Already discussed | No change |
| H137 | TCI-RS-SetId needs a value range | 2 | Per spreadsheet, it appears that the range should be (1..2)  TCI-RS-SetId ::= INTEGER (~~0..ffsValue~~1..2)  **[Ericsson]** We don't think this is the intention. In the current CR the TCI-RS-Set is an IE which represents one TCI-State. It makes therefore sense to rename it to TCI-State (see Z048). And to our understanding there may be (much) more such TCI-States.  The number of reference signals and QCL information **within** a TCI-State is however limited to 2.  => Change is not needed (value raneg remains FFS) | No change |
| H138 | rateMatchPatterns needs dynamic/semi-static selection | 2 | Per spreadsheet under ‘Resource-set-cell’, the rateMatchPattern structure should always be accompanied by a selection between dynamic and semi-static (the spreadsheet indicates it as a CHOICE but it appears sufficient to have an enumeration). The most expedient approach seems to be to include this field in RateMatchPattern. Alternative would be to define a new type for { RateMatchPattern, dynamic/semistatic }.  RateMatchPattern ::= SEQUENCE {  rateMatchPatternId RateMatchPatternId,  patternType CHOICE {  bitmaps SEQUENCE {  -- A resource block level bitmap in the frequency domain. It indicates the PRBs to which the symbolsInResourceBlock bitmap applies.  -- Corresponds to L1 parameter 'rate-match-PDSCH-bitmap1' (see 38.214, section FFS\_Section)  -- FFS\_ASN1: Consider multiple options with different number of bits (for narrower carriers)  resourceBlocks BIT STRING (SIZE (275)),  -- A symbol level bitmap in time domain. It indicates (FFS: with a bit set to true) the symbols which the UE shall rate match around.  -- This pattern recurs (in time domain) with the configured periodicityAndOffset.  -- Corresponds to L1 parameter 'rate-match-PDSCH-bitmap2' (see 38.214, section FFS\_Section)  -- FFS: Why not split it into two BIT STRINGs of 14 bit each?  symbolsInResourceBlock CHOICE {  oneSlot BIT STRING (SIZE (14)),  twoSlots BIT STRING (SIZE (28))  },  -- A time domain repetition pattern. It determines the periodicity (FFS: And offset???) at which the symbolsInResourceBlock  -- pattern recurs. Absence of this field indicates the value n1, i.e., the symbolsInResourceBlock recurs every 14 symbols.  -- Corresponds to L1 parameter 'rate-match-PDSCH-bitmap3' (see 38.214, section FFS\_Section)  -- FFS: Doesn’t one require also an offset to configure from where the repetitions start?  periodicityAndOffset CHOICE {  n5 INTEGER (0..4),  n10 INTEGER (0..9),  n20 INTEGER (0..19),  n40 INTEGER (0..39)  } OPTIONAL -- Need R  },  -- This ControlResourceSet us used as a PDSCH rate matching pattern, i.e., PDSCH reception rate matches around it.  controlResourceSet ControlResourceSetId  },  mode ENUMERATED { dynamic, semiStatic }  } | Done |
| H139 | Type of xOverhead can be populated | 2 | RAN1 agreement is for { 0, 0.5, 1, 1.5 } \* 12  -- Accounts for overhead from CSI-RS, CORESET, etc. FFS: Clarify value range and description.  -- Corresponds to L1 parameter 'Xoh-PDSCH' (see 38.214, section 5.1.3.2)  xOverhead ~~FFS\_Value~~ENUMERATED { xOh0, xOh6, xOh12, xOh18 } OPTIONAL, | Done |
| H140 | nrofHARQ-ProcessesForPDSCH should have range 1..16 | 2 | RAN1 agreement that the maximum value is 16  -- The number of HARQ processes to be used on the PDSCH of a serving cell.  -- Corresponds to L1 parameter 'number-HARQ-process-PDSCH' (see 38.214, section REF)  nrofHARQ-processesForPDSCH ~~ENUMERATED {ffsTypeAndValue}~~INTEGER (1..16), | Done |
| H141 | epre-Ratio in Downlink-PTRS-Config needs its type | 2 | RAN1 agreement is 2 bits  -- Parameters for configuration of downlink PTRS (see 38.211 section 7.4.1.2.2)  Downlink-PTRS-Config ::= SEQUENCE {  -- Presence and frequency density of DL PT-RS as a function of Scheduled BW  -- Corresponds to L1 parameter 'DL-PTRS-frequency-density-table' (see 38.214, section 5.1)  -- FFS: To be Configured per BWP according to RAN1  frequencyDensity ENUMERATED {ffsTypeAndValue},  -- Presence and time density of DL PT-RS as a function of MCS  -- Corresponds to L1 parameter 'DL-PTRS-time-density-table' (see 38.214, section 5.1)  -- FFS: To be Configured per BWP according to RAN1.  timeDensity ENUMERATED {ffsTypeAndValue},  -- Indicates the number of DL PTRS ports. This is equal or smaller than the number of DMRS groups (related to PDSCH parameters  -- dmrs-group1 and dmrs-group2). Corresponds to L1 parameter 'DL-PTRS-ports' (see 38.214, section 5.1)  nrofPorts ENUMERATED {n1, n2},  -- EPRE ratio between PTRS and PDSCH. Corresponds to L1 parameter 'DL-PTRS-EPRE-ratio' (see 38.214, section 5.1)  -- FFS: Whether there is one EPRE value per port (a comment in the L1 parameters hints that)  epre-Ratio ~~FFS\_Value~~INTEGER (0..3) OPTIONAL,  -- Indicates the subcarrier offset for DL PTRS. Corresponds to L1 parameter 'DL-PTRS-RE-offset' (see 38.214, section 5.1)  resourceElementOffset FFS\_Value OPTIONAL  }  **[Ericsson]** Clarify in the field description that ”Value 0 correspond to the codepoint ”00” in table 4.1-2. Value 1 corresponds to codepoint ”01”. And so on." Or use ENUMERATED with the 4 codepoints ”00”, ”01”, ...  This seems to be in section 4.1 now? Correct reference.  Remove the L1 parameter reference since 38.214 adopted apparently the RRC parameter name. | Done |
| H142 | resourceElementOffset in Downlink-PTRS-Config needs its type | 2 | RAN1 agreement is 2 bits  -- Parameters for configuration of downlink PTRS (see 38.211 section 7.4.1.2.2)  Downlink-PTRS-Config ::= SEQUENCE {  -- Presence and frequency density of DL PT-RS as a function of Scheduled BW  -- Corresponds to L1 parameter 'DL-PTRS-frequency-density-table' (see 38.214, section 5.1)  -- FFS: To be Configured per BWP according to RAN1  frequencyDensity ENUMERATED {ffsTypeAndValue},  -- Presence and time density of DL PT-RS as a function of MCS  -- Corresponds to L1 parameter 'DL-PTRS-time-density-table' (see 38.214, section 5.1)  -- FFS: To be Configured per BWP according to RAN1.  timeDensity ENUMERATED {ffsTypeAndValue},  -- Indicates the number of DL PTRS ports. This is equal or smaller than the number of DMRS groups (related to PDSCH parameters  -- dmrs-group1 and dmrs-group2). Corresponds to L1 parameter 'DL-PTRS-ports' (see 38.214, section 5.1)  nrofPorts ENUMERATED {n1, n2},  -- EPRE ratio between PTRS and PDSCH. Corresponds to L1 parameter 'DL-PTRS-EPRE-ratio' (see 38.214, section 5.1)  -- FFS: Whether there is one EPRE value per port (a comment in the L1 parameters hints that)  epre-Ratio FFS\_Value OPTIONAL,  -- Indicates the subcarrier offset for DL PTRS. Corresponds to L1 parameter 'DL-PTRS-RE-offset' (see 38.214, section 5.1)  resourceElementOffset ~~FFS\_Value~~ ENUMERATED { offset00, offset01, offset10, offset11 } OPTIONAL  } | Done |
| H143 | codeBlockGroupTransmission is not needed, and maxCodeBlockGroupsPerTransportBlock should be OPTIONAL | 2 | codeBlockGroupTransmission can be replaced by implicit indication from the presence of maxCodeBlockGroupsPerTransportBlock as indicated in the comments. The latter should be OPTIONAL.  PDSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.213, section x.x.x.x) FFS\_Ref  ~~-- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?~~  ~~codeBlockGroupTransmission BOOLEAN,~~  -- Maximum number of code-block-groups (CBGs) per TB. In case of multiple CW the maximum CBG is 4 (see 38.213, section 9.1.1)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8} OPTIONAL,  -- Indicates whether CBGFI for CBG based (re)transmission in DL is enabled (true). (see FFS\_Specification, section FFS\_Section)  codeBlockGroupFlushIndicator BOOLEAN,  **[Ericsson]** We suggest using a SetupRelease structure to group the CBG parameters. With that, ” maxCodeBlockGroupsPerTransportBlock” does not need to be OPTIONAL.  -- ~~Indicates whether to use~~ Enables and configures code-block-group (CBG) based transmission (see 38.213, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission SetupRelease { SEQUENCE { ~~BOOLEAN,~~  -- Maximum number of code-block-groups (CBGs) per TB. In case of multiple CW the maximum CBG is 4 (see 38.213, section 9.1.1)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  -- Indicates whether CBGFI for CBG based (re)transmission in DL is enabled (true). (see FFS\_Specification, section FFS\_Section)  codeBlockGroupFlushIndicator BOOLEAN~~,~~  } } OPTIONAL, | Done |
| H144 | dmrs-Group2 has wrong range | 2 | Range should be (1000..1011) instead of (1000..1012)  -- DM-RS groups that are QCL:ed, i.e. group 1 (see 38.214, section 5.1)  -- FFS CHECK: Clarify how to configure the DMRS groups and the relation to TCI.  -- FFS\_Value: Check whether these are really meant to be these few intergers  dmrs-group1 INTEGER (1000..1011),  -- DM-RS groups that are QCL:ed, i.e. group 2 (see 38.214, section 5.1)  -- FFS\_Value: Check whether these are really meant to be these few intergers  dmrs-group2 INTEGER (1000..101~~2~~1),  => Value range to be checked with RAN1 | Done (after checking with RAN1) |
| H145 | 16 bits is correct for scramblingId (and it needs a need code) | 2 | Per RAN1 agreements, 16 bits is correct for this scramblingId and the FFS can be removed.  -- DL DMRS scrambling initalization  -- Corresponds to L1 parameter 'DL-DMRS-Scrambling-ID' (see 38.214, section 5.1)  -- When the field is absent the UE applies the value "Physical cell ID + 6 fixed bits (e.g. 000000)"  -- FFS: Clarify default value: Are the 6 bits zeros (says e.g.). Are they the MSBs or LSBs?  ~~-- FFS\_CHECK: Is it really 16 bit whereas all other scrambling IDs are just 10 bit? If this is also 10, replace by type ScramblingId~~  scramblingID BIT STRING (SIZE (16)) OPTIONAL -- Need S |  |
| H146 | resourceAllocation can be replaced by an enum type | 2 | Per RAN1 agreements, we understand the current structure is correct i.e. the CHOICE can be replaced by an enum.  -- Configuration of resource allocation type 0 and resource allocation type 1 for non-fallback DCI  -- Corresponds to L1 parameter 'Resouce-allocation-config' (see 38.214, section 5.1.2)  -- FFS\_Value: Are these values just 3 flags (ENUMERATED) or the actual configurations? If the latter, where are they defined?  resourceAllocation ~~CHOICE {~~  ~~resourceAllocationType0 NULL,~~  ~~resourceAllocationType1 NULL,~~  ~~dynamicSwitch NULL~~  ~~}~~ENUMERATED { resourceAllocationType0, resourceAllocationType1, dynamicSwitch } OPTIONAL, | Done (there is no further update to this parameter in L1 table) |
| H147 | rbg-Size | 2 | This parameter is per BWP and can be moved into DownlinkBandwidthPart. The excerpt below shows how this could be done for this field only, but it may be preferable to have the whole PDSCH-Config provided per BWP. Needs to be discussed as a general issue.  PDSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.213, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission BOOLEAN,  -- Maximum number of code-block-groups (CBGs) per TB. In case of multiple CW the maximum CBG is 4 (see 38.213, section 9.1.1)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  -- Indicates whether CBGFI for CBG based (re)transmission in DL is enabled (true). (see FFS\_Specification, section FFS\_Section)  codeBlockGroupFlushIndicator BOOLEAN,  dmrs-Downlink SEQUENCE {  -- Selection of the DMRS type to be used for DL (see 38.211, section 7.4.1.1.1)  dmrs-Type ENUMERATED {type1, type2} OPTIONAL, -- Need R  -- Position for additional DM-RS in DL, see Table 7.4.1.1.2-4 in 38.211.  -- The four values represent the cases of 1+0, 1+1, 1+1+1. 1+1+1+1 non-adjacent OFDM symbols for DL.  -- CHECK: Listed in RAN1 table. But should this really be in dedicated signalling?  dmrs-AdditionalPosition ENUMERATED {pos0, pos1, pos2, pos3} OPTIONAL, -- Need R  -- DM-RS groups that are QCL:ed, i.e. group 1 (see 38.214, section 5.1)  -- FFS CHECK: Clarify how to configure the DMRS groups and the relation to TCI.  -- FFS\_Value: Check whether these are really meant to be these few intergers  dmrs-group1 INTEGER (1000..1011),  -- DM-RS groups that are QCL:ed, i.e. group 2 (see 38.214, section 5.1)  -- FFS\_Value: Check whether these are really meant to be these few intergers  dmrs-group2 INTEGER (1000..1012),  -- The maximum number of OFDM symbols for DL front loaded DMRS  -- Corresponds to L1 parameter 'DL-DMRS-max-len' (see 38.214, section 5.1)  maxLength ENUMERATED {len1, len2},  -- DL DMRS scrambling initalization  -- Corresponds to L1 parameter 'DL-DMRS-Scrambling-ID' (see 38.214, section 5.1)  -- When the field is absent the UE applies the value "Physical cell ID + 6 fixed bits (e.g. 000000)"  -- FFS: Clarify default value: Are the 6 bits zeros (says e.g.). Are they the MSBs or LSBs?  -- FFS\_CHECK: Is it really 16 bit whereas all other scrambling IDs are just 10 bit? If this is also 10, replace by type ScramblingId  scramblingID BIT STRING (SIZE (16)) OPTIONAL  },  -- Configures downlink PTRS .  -- If absent of released, the UE assumes that downlink PTRS are not present. See 38.211 section 7.4.1.2.2  phaseTracking-RS SetupRelease { Downlink-PTRS-Config } OPTIONAL, -- Need M  -- Contains Transmission Configuration Indicator (TCI) states for dynamically indicating (over DCI) a transmission configuration  -- which includes QCL-relationships between the DL RSs in one RS set and the PDSCH DMRS ports  -- (see 38.214, section 5.1.4)  tci-States SEQUENCE (SIZE(1..maxNrof-TCI-RS-Sets)) OF TCI-RS-Set,  -- Accounts for overhead from CSI-RS, CORESET, etc. FFS: Clarify value range and description.  -- Corresponds to L1 parameter 'Xoh-PDSCH' (see 38.214, section 5.1.3.2)  xOverhead FFS\_Value OPTIONAL,  -- Interleaving unit configurable between 2 and 4 PRBs  -- Corresponds to L1 parameter 'VRB-to-PRB-interleaver' (see 38.211, section FFS\_Section)  vrb-to-PRB-Interleaver ENUMERATED {n2, n4} OPTIONAL,  -- Configuration of resource allocation type 0 and resource allocation type 1 for non-fallback DCI  -- Corresponds to L1 parameter 'Resouce-allocation-config' (see 38.214, section 5.1.2)  -- FFS\_Value: Are these values just 3 flags (ENUMERATED) or the actual configurations? If the latter, where are they defined?  resourceAllocation CHOICE {  resourceAllocationType0 NULL,  resourceAllocationType1 NULL,  dynamicSwitch NULL  } OPTIONAL,  -- Indexes to possible symbol allcoations (the indexes point to entries in a UE specific table)  -- Corresponds to L1 parameter 'PDSCH-symbol-allocation' (see 38.214, section 5.1.2.1)  pdsch-symbolAllocation FFS\_Value OPTIONAL,  -- Resources that the UE should rate match PDSCH around.  rateMatchResourcesPDSCH SEQUENCE {  -- Resources patterns which the UE should rate match PDSCH around. The UE rate matches around the union of all resources  -- indicated in the nexted bitmaps. Corresponds to L1 parameter 'rate-match-PDSCH-resource-set' (see 38.214, section 5.1.2.2.3)  -- FFS\_ASN1: Consider replacing by AddMod/Release lists  -- FFS: RAN1 indicates that there should be a set of patterns per cell and one per BWP => Having both seems unnecessary.  -- So far it is unclear whether or not the entire PDSCH-Config moves into the BWP configuration.  rateMatchPatterns SetupRelease {  SEQUENCE (SIZE (1..maxNrofRateMatchPatterns)) OF RateMatchPattern  } OPTIONAL, -- Need M  lte-CRS-ToMatchAround SetupRelease {  SEQUENCE {  -- Center of the LTE carrier. Corresponds to L1 parameter 'center-subcarrier-location' (see 38.214, section 5.1.4)  carrierFreqDL INTEGER (0..maxEARFCN),  -- BW of the LTE carrier in numbewr of PRBs. Corresponds to L1 parameter 'BW' (see 38.214, section 5.1.4)  carrierBandwidthDL ENUMERATED {n6, n15, n25, n50, n75, n100, spare1},  -- LTE MBSFN subframe configuration. Corresponds to L1 parameter 'MBSFN-subframconfig' (see 38.214, section 5.1.4)  -- FFS\_ASN1: Import the LTE MBSFN-SubframeConfigList  mbsfn-SubframeConfigList OCTET STRING (CONTAINING MBSFN-SubframeConfigList) OPTIONAL,  -- Number of LTE CRS antenna port to rate-match around.  -- Corresponds to L1 parameter 'rate-match-resources-numb-LTE-CRS-antenna-port' (see 38.214, section 5.1.4)  nrofCRS-Ports ENUMERATED {n1, n2, n4},  -- Shifting value v-shift in LTE to rate match around LTE CRS  -- Corresponds to L1 parameter 'rate-match-resources-LTE-CRS-v-shift' (see 38.214, section 5.1.4)  v-Shift ENUMERATED {n0, n1, n2, n3, n4, n5} }  } OPTIONAL -- Need M  },  ~~-- Selection between config 1 and config 2 for RBG size for PDSCH. Corresponds to L1 parameter 'RBG-size-PDSCH' (see 38.214, section 5.1.2.2.1)~~  ~~rbg-Size ENUMERATED {config1, config2},~~  -- Indicates which MCS table the UE shall use for PDSCH. Corresponds to L1 parameter 'MCS-Table-PDSCH' (see 38.214, section 5.1.3.1).  mcs-Table ENUMERATED {qam64, qam256},  -- Maximum number of code words that a single DCI may schedule. This changes the number of MCS/RV/NDI bits in the DCI message from 1 to 2.  maxNrofCodeWordsScheduledByDCI ENUMERATED {n1, n2} OPTIONAL, -- Need R  -- The number of HARQ processes to be used on the PDSCH of a serving cell.  -- Corresponds to L1 parameter 'number-HARQ-process-PDSCH' (see 38.214, section REF)  nrofHARQ-processesForPDSCH ENUMERATED {ffsTypeAndValue},  -- HARQ-ACK codebook is configured to be either semi-static of dynamic. This is applicable to both CA and none CA operation  -- Corresponds to L1 parameter 'HARQ-ACK-codebook' (see 38.213, section FFS\_Section)  harq-ACK-Codebook ENUMERATED {semiStatic, dynamic},  -- Bundle size the UE may assume. Corresponds to L1 paramter 'PDSCH-bundle-size' (see 38.211, section 7.3.1.5).  -- If the field is absent, the UE assumes value n2.  -- FFS: Better description  pdsch-BundleSize ENUMERATED {n2, n4, wideband} OPTIONAL,  -- If set to true, the network indicates the PRB bundle size dynamically via DCI. Corresponds to L1 parameter 'PRB\_bundling'  -- (see 38.214, section 5.1.2.3)  prbBundlingEnabled BOOLEAN,  -- A list of Zero-Power (ZP) CSI-RS resources.  -- Corresponds to L1 parameter 'ZP-CSI-RS-ResourceConfigList' (see 38.214, section FFS\_Section)  zp-CSI-RS-Resources SEQUENCE (SIZE (1..maxNrofZP-CSI-RS-Resources)) OF ZP-CSI-RS-Resource OPTIONAL,  ...  }  [...]  DownlinkBandwidthPart ::= SEQUENCE {  genericParameters BandwidthPart,  pdcch-ConfigCommon PDCCH-ConfigCommon OPTIONAL,  -- Selection between config 1 and config 2 for RBG size for PDSCH. Corresponds to L1 parameter 'RBG-size-PDSCH' (see 38.214, section 5.1.2.2.1)  rbg-Size ENUMERATED {config1, config2}  }  => No change needed | No change |
| H148 | ZP-CSI-RS parameters should not be OPTIONAL | 2 | The ZP-CSI-RS-Resources list itself is OPTIONAL inside PDSCH-Config, but if it is present, the parameters freqBand, density, resourceType, and qcl-Type should always be present.  -- A Zero-Power (ZP) CSI-RS resource configuration. Corresponds to L1 parameter 'ZP-CSI-RS-ResourceConfig' (see 38.214, section FFS\_Section)  ZP-CSI-RS-Resource ::= SEQUENCE {  -- ZP CSI-RS resource configuration ID  -- Corresponds to L1 parameter 'ZP-CSI-RS-ResourceConfigId' (see 38.214, section FFS\_Section)  zp-CSI-RS-ResourceId ZP-CSI-RS-ResourceId,  -- OFDM symbol and subcarrier occupancy of the ZP-CSI-RS resource within a slot  -- Corresponds to L1 parameter 'ZP-CSI-RS-ResourceMapping' (see 38.214, section FFS\_Section)  resourceMapping SEQUENCE {  -- Frequency domain allocation within a physical resource block in accordance with 38.211, table 7.4.1.5.2-1. FFS: Table correct?  -- The number of bits that may be set to one depend on the chosen row in that table.  frequencyDomainAllocation CHOICE {  row1 BIT STRING (SIZE (4)),  row2 BIT STRING (SIZE (12)),  row4 BIT STRING (SIZE (3)),  other BIT STRING (SIZE (6))  },  -- Time domain allocation within a physical resource block. The field indicates the first OFDM symbol in the PRB used for CSI-RS.  firstOFDMSymbolInTimeDomain INTEGER (0..13)  } OPTIONAL,  -- Periodicity and slot offset for periodic/semi-persistent ZP-CSI-RS  -- Corresponds to L1 parameter 'ZP-CSI-RS-timeConfig' (see 38.214, section FFS\_Section)  periodicityAndOffset CHOICE {  sl5 INTEGER (0..4),  sl10 INTEGER (0..9),  sl20 INTEGER (0..19),  sl40 INTEGER (0..39),  sl80 INTEGER (0..79),  sl160 INTEGER (0..159),  sl320 INTEGER (0..319),  sl640 INTEGER (0..639)  } OPTIONAL,  -- Includes parameters to enbale configuration of frequency-occupancy of ZP-CSI)RS  -- Corresponds to L1 parameter 'ZP-CSI-RS-FreqBand' (see 38.214, section FFS\_Section)  freqBand SEQUENCE {  -- PRB where this NZP-CSI-RS-Resource starts in relation to PRB 0 of the associated BWP. Only multiples of 4 are allowed (0, 4, ...)  startingRB INTEGER (0..maxNrofPhysicalResourceBlocks-1),  -- Number of PRBs across which this NZP-CSI-RS-Resource spans. Only multiples of 4 are allowed. The smallest configurable  -- number is the minimum of 24 and the width of the associated BWP.  nrofRBs INTEGER (24..maxNrofPhysicalResourceBlocks)  } ~~OPTIONAL~~,  -- Density of ZP-CSI-RS resource measured in RE/port/PRB.  -- Values 0.5 (dot5), 1 (one) and 3 (three) are allowed for X=1,  -- values 0.5 (dot5) and 1 (one) are allowed for X=2, 16, 24 and 32,  -- value 1 (one) is allowed for X=4, 8, 12.  -- For density = 1/2, includes 1 bit indication for RB level comb offset indicating whether odd or even RBs are occupied by CSI-RS  -- Corresponds to L1 parameter 'ZP-CSI-RS-Density' (see 38.214, section FFS\_Section)  density CHOICE {  dot5 ENUMERATED {evenPRBs, oddPRBs},  one NULL,  three NULL,  spare NULL  } ~~OPTIONAL~~,  -- Time domain behavior of ZP-CSI-RS resource configuration.  -- Corresponds to L1 parameter 'ZP-CSI-RS-ResourceConfigType' (see 38.214, section FFS\_Section)  resourceType ENUMERATED {aperiodic, periodic} ~~OPTIONAL~~,  -- QCL type for source RS ==> target RS association. Corresponds to L1 parameter 'QCL-Type' (see 38.214, section FFS\_Section)  qcl-Type ENUMERATED {typeA, typeB, typeC, typeD} ~~OPTIONAL~~  }  => Change is agreed | Done |
| H149 | The checkpoint “CHECK: Listed in RAN1 table. But should this really be in dedicated signalling?” is confirmed. The configuration should be dedicated signaling. | 2 | Remove this checkpoint.  PDSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.213, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission BOOLEAN,  -- Maximum number of code-block-groups (CBGs) per TB. In case of multiple CW the maximum CBG is 4 (see 38.213, section 9.1.1)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  -- Indicates whether CBGFI for CBG based (re)transmission in DL is enabled (true). (see FFS\_Specification, section FFS\_Section)  codeBlockGroupFlushIndicator BOOLEAN,  dmrs-Downlink SEQUENCE {  -- Selection of the DMRS type to be used for DL (see 38.211, section 7.4.1.1.1)  dmrs-Type ENUMERATED {type1, type2} OPTIONAL, -- Need R  -- Position for additional DM-RS in DL, see Table 7.4.1.1.2-4 in 38.211.  -- The four values represent the cases of 1+0, 1+1, 1+1+1. 1+1+1+1 non-adjacent OFDM symbols for DL.  ~~-- CHECK: Listed in RAN1 table. But should this really be in dedicated signalling?~~  dmrs-AdditionalPosition ENUMERATED {pos0, pos1, pos2, pos3} OPTIONAL, -- Need R | Done |
| H150 | For the check point “FFS CHECK: Clarify how to configure the DMRS groups and the relation to TCI”, DMRS can be included in TCI-RS-Set similar to CSI-RS and SSB. | 2 | Remove the check note, and update TCI-RS-Set as below:  RAN1 input needed. It’s not clear from the description what fields need to be included in TCI-RS-Set (I can’t find where DMRS is included for CSI-RS and SSB as the description indicates).  TCI-RS-Set ::= SEQUENCE {  tci-RS-SetId TCI-RS-SetId,  qcl-Type1 SEQUENCE {  referenceSignal CHOICE {  csi-rs NZP-CSI-RS-ResourceConfigId,  ssb SSB-Id,  -- A TRS (Tracking Reference Signal) configuration represented as a set of CSI-RS-Resources in a CSI-ResourceSetId  trs CSI-ResourceSetId  },  qcl-Type ENUMERATED {typeA, typeB, typeC, typeD}  },  qcl-Type2 SEQUENCE {  referenceSignal CHOICE {  csi-rs NZP-CSI-RS-ResourceConfigId,  ssb SSB-Id,  -- A TRS (Tracking Reference Signal) configuration represented as a set of CSI-RS-Resources in a CSI-ResourceSetId  trs CSI-ResourceSetId  },  qcl-Type ENUMERATED {typeA, typeB, typeC, typeD}  } OPTIONAL  }  **[Ericsson]** The highlighted note does not seem to be in v1.0.1. And the structure of TCI-RS-Set is as in v1.0.1. Hence, no change needed? Note that TCI-RS-Set should be renamed to TCI-State as discussed in previous rows. | No change |
| H151 | The check point “FFS\_Value: Check whether these are really meant to be these few intergers” is confirmed. They are really meant to be integers with these ranges as indicated by the RAN1 spreadsheet. | 2 | Remove this checkpoint.  PDSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.213, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission BOOLEAN,  -- Maximum number of code-block-groups (CBGs) per TB. In case of multiple CW the maximum CBG is 4 (see 38.213, section 9.1.1)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  -- Indicates whether CBGFI for CBG based (re)transmission in DL is enabled (true). (see FFS\_Specification, section FFS\_Section)  codeBlockGroupFlushIndicator BOOLEAN,  dmrs-Downlink SEQUENCE {  -- Selection of the DMRS type to be used for DL (see 38.211, section 7.4.1.1.1)  dmrs-Type ENUMERATED {type1, type2} OPTIONAL, -- Need R  -- Position for additional DM-RS in DL, see Table 7.4.1.1.2-4 in 38.211.  -- The four values represent the cases of 1+0, 1+1, 1+1+1. 1+1+1+1 non-adjacent OFDM symbols for DL.  -- CHECK: Listed in RAN1 table. But should this really be in dedicated signalling?  dmrs-AdditionalPosition ENUMERATED {pos0, pos1, pos2, pos3} OPTIONAL, -- Need R  -- DM-RS groups that are QCL:ed, i.e. group 1 (see 38.214, section 5.1)  -- FFS CHECK: Clarify how to configure the DMRS groups and the relation to TCI.  ~~-- FFS\_Value: Check whether these are really meant to be these few intergers~~  dmrs-group1 INTEGER (1000..1011),  -- DM-RS groups that are QCL:ed, i.e. group 2 (see 38.214, section 5.1)  ~~-- FFS\_Value: Check whether these are really meant to be these few intergers~~  dmrs-group2 INTEGER (1000..1012), | Already changed |
| H152 | For DL DMRS scrambling, two scrambing IDs should be configured. (Based on our consultation with RAN1 colleagues, this was the intention of the spreadsheet description “Two ids are possible to configure”, which was mistakenly attached to the PDSCH and PUSCH scrambling ID parameters instead.) | 2 | -- DL DMRS scrambling initalization  -- Corresponds to L1 parameter 'DL-DMRS-Scrambling-ID' (see 38.214, section 5.1)  -- When the field is absent the UE applies the value "Physical cell ID + 6 fixed bits (e.g. 000000)"  -- FFS: Clarify default value: Are the 6 bits zeros (says e.g.). Are they the MSBs or LSBs?  ~~-- FFS\_CHECK: Is it really 16 bit whereas all other scrambling IDs are just 10 bit? If this is also 10, replace by type ScramblingId~~  scramblingID1 BIT STRING (SIZE (16)) OPTIONAL,  scramblingID2 BIT STRING (SIZE (16)) OPTIONAL -- Need S | Done |
| H153 | For “-- Corresponds to L1 parameter 'VRB-to-PRB-interleaver' (see 38.211, section FFS\_Section)”, the FFS\_Section should be Section 6.3.1.6. | 2 | -- Interleaving unit configurable between 2 and 4 PRBs  -- Corresponds to L1 parameter 'VRB-to-PRB-interleaver' (see 38.211, section ~~FFS\_Section~~6.3.1.6)  vrb-to-PRB-Interleaver ENUMERATED {n2, n4} OPTIONAL, | Done |
| H154 | For “FFS: RAN1 indicates that there should be a set of patterns per cell and one per BWP => Having both seems unnecessary”, as per RAN1 agreements, there should be up to 4 patterns per BWP plus 4 patterns per cell. | 3 | Discuss together with the issue which parameters in PDSCH-config should be per BWP, and how to split the configuration. | No change  (entire PDSCH is in BWP) |
| H155 | Not clear why the field zp-CSI-RS-Resources is configured under PDSCH-Config. | 2 | Remove the field zp-CSI-RS-Resources.  RAN1 input needed. If this is removed, the ZP-CSI-RS-Resources will not be used anywhere; if we propose to remove it, we need to propose where to put it instead!  => Check with RAN1 | TO CHECK |
| H156 | The configuration in TCI-RS-Set should include a ID, two DL RSs and a QCL type.  Furthermore, DMRS should be included as a DL RS. | 2 | RAN1 input needed to confirm that this is correct  Change the definition of TCI-RS-Set from  TCI-RS-Set ::= SEQUENCE {  tci-RS-SetId TCI-RS-SetId,  ~~qcl-Type1 SEQUENCE {~~  referenceSignal1 CHOICE {  csi-rs NZP-CSI-RS-ResourceConfigId,  ssb SSB-Id,  -- A TRS (Tracking Reference Signal) configuration represented as a set of CSI-RS-Resources in a CSI-ResourceSetId  trs CSI-ResourceSetId,  dmrs FFS-Type  },  ~~qcl-Type ENUMERATED {typeA, typeB, typeC, typeD}~~  ~~},~~  ~~qcl-Type2 SEQUENCE {~~  referenceSignal2 CHOICE {  csi-rs NZP-CSI-RS-ResourceConfigId,  ssb SSB-Id,  -- A TRS (Tracking Reference Signal) configuration represented as a set of CSI-RS-Resources in a CSI-ResourceSetId  trs CSI-ResourceSetId,  dmrs FFS-Type  },  qcl-Type ENUMERATED {typeA, typeB, typeC, typeD}  ~~} OPTIONAL~~  }  => No change is needed | No change |
| H157 | In the description “Parameters for configuration of downlink PTRS (see 38.211 section 7.4.1.2.2)”, it is better to refer 38.214: section 5.1.6.3 | 2 | Change to (see 38.214 section 5.1.6.3).  -- Parameters for configuration of downlink PTRS (see 38.21~~1~~4 section ~~7.4.1.2.2~~5.1.6.3)  Downlink-PTRS-Config ::= SEQUENCE { | Done |
| H158 | For the following two FFS  -- FFS: To be Configured per BWP according to RAN1  frequencyDensity ENUMERATED {ffsTypeAndValue}  -- FFS: To be Configured per BWP according to RAN1.  timeDensity ENUMERATED {ffsTypeAndValue},  it is confirmed that they should be configured per BWP. | 3 | Discuss together with the issue which parameters in PDSCH-config should be per BWP, and how to split the configuration. | No change  (entire PDSCH is in BWP) |
| H159 | Regarding “FFS: Whether there is one EPRE value per port (a comment in the L1 parameters hints that)”, one EPRE value per port is confirmed. | 2 | Confirm that it is one EPRE value per port.  Downlink-PTRS-Config ::= SEQUENCE {  -- Presence and frequency density of DL PT-RS as a function of Scheduled BW  -- Corresponds to L1 parameter 'DL-PTRS-frequency-density-table' (see 38.214, section 5.1)  -- FFS: To be Configured per BWP according to RAN1  frequencyDensity ENUMERATED {ffsTypeAndValue},  -- Presence and time density of DL PT-RS as a function of MCS  -- Corresponds to L1 parameter 'DL-PTRS-time-density-table' (see 38.214, section 5.1)  -- FFS: To be Configured per BWP according to RAN1.  timeDensity ENUMERATED {ffsTypeAndValue},  -- Indicates the number of DL PTRS ports. This is equal or smaller than the number of DMRS groups (related to PDSCH parameters  -- dmrs-group1 and dmrs-group2). Corresponds to L1 parameter 'DL-PTRS-ports' (see 38.214, section 5.1)  nrofPorts ENUMERATED {n1, n2},  -- EPRE ratio between PTRS and PDSCH. Corresponds to L1 parameter 'DL-PTRS-EPRE-ratio' (see 38.214, section 5.1)  ~~-- FFS: Whether there is one EPRE value per port (a comment in the L1 parameters hints that)~~  epre-Ratio FFS\_Value OPTIONAL,  -- Indicates the subcarrier offset for DL PTRS. Corresponds to L1 parameter 'DL-PTRS-RE-offset' (see 38.214, section 5.1)  resourceElementOffset FFS\_Value OPTIONAL  }  => No change needed for now. Check with RAN1. | Done (after checking RAN1 spec) |
| Z082 | The TCI-RS-Set can support up to 128 relevant RS configurations, from RAN1’s point of view, RRC should support delta configuration; (e.g: initially, the network configures 10 sets of configurations via RRCReconfiguration, while later, the network wants to modify the configuration with ID=5, but without including all the configurations).  In addition, considering the associated CSI-RS resources may be updated by RRC signaling, the IE structure should be revised as “toAddModList” and “toReleaseList”. | 2 | In order to enable the delta signalling, an add/mod/release list should be used instead for the TCI-RS-Set | Done |
| N267 | We should create a type for QCL definitions within TCI-RS-Set – they are exactly the same for type1 and type2 QCL | 1 | Create an IE and use it | Done (created also separate IE for TCI-State since it is used in several places) |
| N268 | What is the SearchSpace inside SlotFormatIndicatorSFI IE? It doesn't follow other SearchSpace definitions, so how should it be understood? | 4 | Discuss whether this should be unified with other SearchSpaces | No change (Search-Space to be discussed in general) |
| N272 | Do we need PDSCH-ConfigCommon outside BWP? If not, should it be named PDSCH-ConfigBWP instead? | 2 | Discuss what to do with the name | Addressed by agreed BWP CR. |
| H323 | There are both BWP specific and UE specific parameters in PDSCH-Config and PUSCH-Config. | 3 | UE specific values could be made OPTIONAL to allow delta signalling, or left as mandatory (or OPTIONAL with default value) forcing the value to be updated every time the IE is received. In the latter case there should be some guidance that the fields are UE-specific. We have a related contribution |  |
|  |  |  |  |  |

#### – PhysCellId

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I067 | There is PhysicalCellId, what is relationship between PhysicalCellId and PhysCellId> | 2 | Only keep PhysCellId | Done |
|  |  |  |  |  |

#### – PUCCH-Config

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
|  |  |  |  |  |
| H160 | nrOfSymbols should be in PUCCH format specific structures | 2 | Currently nrOfSymbols appears in PUCCH-Resource with a range of 1..2. This is correct for formats 0 and 2, but formats 1, 3, and 4 have a different range 4..14. Need to break this field out into PUCCH-format0/1/2/3/4 with the appropriate ranges in each place.  Changes combined with the issue below | Handled in H161 |
| H161 | startingSymbol should be in PUCCH format specific structures | 2 | Currently startingSymbol appears in PUCCH-Resource with a range of 0..13. This is correct for formats 0 and 2, but formats 1, 3, and 4 have a different range 0..10. Need to break this field out into PUCCH-format0/1/2/3/4 with the appropriate ranges in each place.  PUCCH-Resource ::= SEQUENCE {  pucch-ResourceId PUCCH-ResourceId,  startingPRB PRB-Id,  ~~startingSymbolIndex INTEGER(0..13),~~  ~~nrofSymbols ENUMERATED {n1, n2},~~  -- Index of starting PRB for second hop of PUCCH in case of FH. This value is appliable for intra-slot frequency hopping.  -- Corresponds to L1 parameter 'PUCCH-2nd-hop-PRB' (see 38.213, section 9.2)  secondHopPRB PRB-Id OPTIONAL,  -- Selection of the PUCCH format and format-specific parameters  format CHOICE {  format0 PUCCH-format0, -- Cond InFirstSetOnly  format1 PUCCH-format1, -- Cond InFirstSetOnly  format2 PUCCH-format2, -- Cond NotInFirstSet  format3 PUCCH-format3, -- Cond NotInFirstSet  format4 PUCCH-format4 -- Cond NotInFirstSet  }  }  PUCCH-ResourceId ::= INTEGER (0..maxNrofPUCCH-ResourcesPerSet-1)  -- A PUCCH Format 0 resource configuration (see 38.213, section 9.2)  -- Corresponds to L1 parameter 'PUCCH-F0-resource-config' (see 38.213, section 9.2)  PUCCH-format0 ::= SEQUENCE {  intraSlotfrequencyHopping BOOLEAN,  initialCyclicShift INTEGER(0..11),  startingSymbolIndex INTEGER (0..13),  nrOfSymbols INTEGER (1..2)  }  -- A PUCCH Format 1 resource configuration (see 38.213, section 9.2)  -- Corresponds to L1 parameter 'PUCCH-F1-resource-config' (see 38.213, section 9.2)  PUCCH-format1 ::= SEQUENCE {  intraSlotfrequencyHopping BOOLEAN,  initialCyclicShift INTEGER(0..11),  timeDomainOCC INTEGER(0..6) ,  startingSymbolIndex INTEGER (0..10),  nrOfSymbols INTEGER (4..14)  }  -- A PUCCH Format 2 resource configuration (see 38.213, section 9.2)  -- Corresponds to L1 parameter 'PUCCH-F2-resource-config' (see 38.213, section 9.2)  PUCCH-format2 ::= SEQUENCE {  nrofPRBs INTEGER (1..16),  intraSlotfrequencyHopping BOOLEAN,  startingSymbolIndex INTEGER(0..13),  nrOfSymbols INTEGER (1..2)  }  -- A PUCCH Format 3 resource configuration(see 38.213, section 9.2)  -- Corresponds to L1 parameter 'PUCCH-F3-resource-config' (see 38.213, section 9.2)  PUCCH-format3 ::= SEQUENCE {  nrofPRBs INTEGER (1..16),  intraSlotfrequencyHopping BOOLEAN,  startingSymbolIndex INTEGER(0..10),  nrOfSymbols INTEGER (4..14)  }  -- A PUCCH Format 4 resource configuration (see 38.213, section 9.2)  -- Corresponds to L1 parameter 'PUCCH-F4-resource-config' (see 38.213, section 9.2)  PUCCH-format4 ::= SEQUENCE {  frequencyHopping BOOLEAN,  occ-Length ENUMERATED {n2,n4},  occ-Index ENUMERATED {n0,n1,n2,n3},  startingSymbolIndex INTEGER(0..10),  nrOfSymbols INTEGER (4..14)  } | Done |
| H162 | Repeated enumeration for max code rates | 2 | In format2, format3, and format4, maxCodeRate uses the same enumeration. Suggest breaking it out into a separate type.  PUCCH-Config ::= SEQUENCE {  -- PUCCH resource sets (see 38.213 9.2)  resourceSets SEQUENCE (SIZE (1..maxNrofPUCCH-ResourceSets)) OF PUCCH-ResourceSet OPTIONAL,  format1 SetupRelease { SEQUENCE {  -- Enabling inter-slot frequency hopping when PUCCH Format 1 is repetead over multiple slots.  interslotFrequencyHopping ENUMERATED {enabled} OPTIONAL,  -- Number of slots with the same PUCCH F1. When the field is absent the UE applies the value n1.  -- Corresponds to L1 parameter 'PUCCH-F1-number-of-slots' (see 38.213, section 9.2)  -- FFS\_Value: Undefined values y1-y3 in range!  nrofSlots ENUMERATED {n1,ny1,y2,y3} OPTIONAL  } } OPTIONAL, -- Need M  format2 SetupRelease { SEQUENCE {  -- Maximum coding rate to determine how to feedback UCI on PUCCH Format 2.  -- Corresponds to L1 parameter 'PUCCH-F2-maximum-coderate' (see 38.213, section 9.2)  maxCodeRate ~~ENUMERATED {zeroDot08, zeroDot15, zeroDot25, zeroDot35, zeroDot45, zeroDot60, zeroDot80}~~MaxCodeRatePUCCH OPTIONAL,  -- Enabling simultaneous transmission of CSI and HARQ-ACK feedback with or without SR with PUCCH Format2  -- Corresponds to L1 parameter 'PUCCH-F2-Simultaneous-HARQ-ACK-CSI' (see 38.213, section 9.2)  -- When the field is absent the UE applies the value OFF  simultaneousHARQ-ACK-CSI ENUMERATED {true} OPTIONAL -- Need R  } } OPTIONAL, -- Need M  format3 SetupRelease { SEQUENCE {  -- Enabling inter-slot frequency hopping when PUCCH Format 3 is repetead over multiple slots.  interslotFrequencyHopping ENUMERATED {enabled} OPTIONAL,  -- Enabling 2 DMRS symbols per hop of a PUCCH Format 3 if both hops are more than X symbols when FH is enabled (X=4).  -- Enabling 4 DMRS sybmols for a PUCCH Format 3 with more than 2X+1 symbols when FH is disabled (X=4).  -- Corresponds to L1 parameter 'PUCCH-F3-F4-additional-DMRS' (see 38.21X, section FFS\_Section)  additionalDMRS ENUMERATED {true} OPTIONAL, -- Need R  -- Max coding rate to determine how to feedback UCI on PUCCH Format 3  -- Corresponds to L1 parameter 'PUCCH-F3-maximum-coderate' (see 38.213, section 9.2)  maxCodeRate ~~ENUMERATED {zeroDot08, zeroDot15, zeroDot25, zeroDot35, zeroDot45, zeroDot60, zeroDot80}~~MaxCodeRatePUCCH OPTIONAL,  -- Number of slots with the same PUCCH F3. When the field is absent the UE applies the value n1.  -- Corresponds to L1 parameter 'PUCCH-F3-number-of-slots' (see 38.213, section 9.2)  -- FFS\_Value: Undefined values y1-y3 in range!  nrofSlots ENUMERATED {n1,y1,y2,y3} OPTIONAL,  -- Enabling pi/2 BPSK for UCI symbols instead of QPSK for PUCCH.  -- Corresponds to L1 parameter 'PUCCH-PF3-PF4-pi/2PBSK' (see 38.21X, section FFS\_Section)  pi2PBSK ENUMERATED {enabled} OPTIONAL,  -- Enabling simultaneous transmission of CSI and HARQ-ACK feedback with or without SR with PUCCH Format3  -- Corresponds to L1 parameter 'PUCCH-F3-Simultaneous-HARQ-ACK-CSI' (see 38.213, section 9.2)  -- When the field is absent the UE applies the value OFF  simultaneousHARQ-ACK-CSI ENUMERATED {true} OPTIONAL -- Need R  } } OPTIONAL, -- Need M  format4 SetupRelease { SEQUENCE {  -- Enabling inter-slot frequency hopping when PUCCH Format 4 is repetead over multiple slots.  interslotFrequencyHopping ENUMERATED {enabled} OPTIONAL,  -- Enabling 2 DMRS symbols per hop of a PUCCH Format 4 if both hops are more than X symbols when FH is enabled (X=4).  -- Enabling 4 DMRS sybmols for a PUCCH Format 4 with more than 2X+1 symbols when FH is disabled (X=4).  -- Corresponds to L1 parameter 'PUCCH-F3-F4-additional-DMRS' (see 38.21X, section FFS\_Section)  additionalDMRS ENUMERATED {true} OPTIONAL, -- Need R  -- Max coding rate to determine how to feedback UCI on PUCCH Format 4  -- Corresponds to L1 parameter 'PUCCH-F4-maximum-coderate' (see 38.213, section 9.2)  maxCodeRate ~~ENUMERATED {zeroDot08, zeroDot15, zeroDot25, zeroDot35, zeroDot45, zeroDot60, zeroDot80}~~MaxCodeRatePUCCH OPTIONAL,  -- Number of slots with the same PUCCH F4. When the field is absent the UE applies the value n1.  -- Corresponds to L1 parameter 'PUCCH-F4-number-of-slots' (see 38.213, section 9.2)  -- FFS\_Value: Undefined values y1-y3 in range!  nrofSlots ENUMERATED {n1,y1,y2,y3} OPTIONAL,  -- Enabling pi/2 BPSK for UCI symbols instead of QPSK for PUCCH.  -- Corresponds to L1 parameter 'PUCCH-PF3-PF4-pi/2PBSK' (see 38.21X, section FFS\_Section)  pi2PBSK ENUMERATED {enabled} OPTIONAL,  -- Enabling simultaneous transmission of CSI and HARQ-ACK feedback with or without SR with PUCCH Format4  -- Corresponds to L1 parameter 'PUCCH-F4-Simultaneous-HARQ-ACK-CSI' (see 38.213, section 9.2)  -- When the field is absent the UE applies the value OFF  simultaneousHARQ-ACK-CSI ENUMERATED {true} OPTIONAL -- Need R  } } OPTIONAL, -- Need M  [...]  MaxCodeRatePUCCH ::= ENUMERATED {zeroDot08, zeroDot15, zeroDot25, zeroDot35, zeroDot45, zeroDot60, zeroDot80} | Done |
| H163 | In PUCCH-format3, nrofPRBs has a non-ideal range | 2 | The type is INTEGER (1..16) when it could be ENUMERATED { n1, n2, n3, n4, n5, n6, n8, n9, n10, n12, n15, n16 }.  -- A PUCCH Format 3 resource configuration(see 38.213, section 9.2)  -- Corresponds to L1 parameter 'PUCCH-F3-resource-config' (see 38.213, section 9.2)  PUCCH-format3 ::= SEQUENCE {  nrofPRBs ~~INTEGER (1..16)~~ENUMERATED { n1, n2, n3, n4, n5, n6, n8, n9, n10, n12, n15, n16 },  intraSlotfrequencyHopping BOOLEAN  } | Kept and integer but clarified in fied description which values are allowed. |
| H164 | PUCCH formats 3 and 4 are missing their sequence hopping indication | 2 | RAN1 agreements are that slot-level base sequence hopping is supported for PUCCH formats 0, 1, 3, and 4. The corresponding flag is present for formats 0 and 1 but not for 3 and 4.  PUCCH-ConfigCommon ::= SEQUENCE {  -- PUCCH resource configuration for HARQ-ACK before RRC connection setup  -- Corresponds to L1 parameter 'PUCCH-resource-common' (see 38.213, section 9.2)  -- FFS\_Value: RAN1 to provide more details on the value range  pucch-ResourceCommon BIT STRING (SIZE (4)) OPTIONAL,  -- Enables hopping of base sequence of PUCCH Format 0 when transmitted in different slots.  -- Corresponds to L1 parameter 'PUCCH-F0-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format0-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Enabling hopping of base sequence of PUCCH Format 1 when transmitted in different slots  -- Corresponds to L1 parameter 'PUCCH-F1-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format1-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Enabling hopping of base sequence of PUCCH Format 3 when transmitted in different slots  -- Corresponds to L1 parameter 'PUCCH-F3-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format3-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Enabling hopping of base sequence of PUCCH Format 4 when transmitted in different slots  -- Corresponds to L1 parameter 'PUCCH-F4-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format4-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Cell-Specific scrambling ID for Group hoppping and sequence hopping if enabled.  -- Corresponds to L1 parameter 'ScramblingID' (see 38.211, section 6.4.1.3)  sequenceHoppingId BIT STRING (SIZE (10)) OPTIONAL,  -- Power control parameter P0 for PUCCH transmissions. Value in dBm. Only even values (step size 2) allowed.  -- Corresponds to L1 parameter 'p0-nominal-pucch' (see 38.213, section 7.2)  p0-nominal INTEGER (-202..24) OPTIONAL,  -- deltaF for PUCCH format 0 (see 38.213, section 7.2)  deltaF-pucch-f0 FFS\_Value OPTIONAL,  -- deltaF for PUCCH format 1 (see 38.213, section 7.2)  deltaF-pucch-f1 FFS\_Value OPTIONAL,  -- deltaF for PUCCH format 2 (see 38.213, section 7.2)  deltaF-pucch-f2 FFS\_Value OPTIONAL,  -- deltaF for PUCCH format 3 (see 38.213, section 7.2)  deltaF-pucch-f3 FFS\_Value OPTIONAL,  -- deltaF for PUCCH format 4 (see 38.213, section 7.2)  deltaF-pucch-f4 FFS\_Value OPTIONAL  }  => Update based on latest RAN1 agreements | Not needed due to recent RAN1 agreement to have just one field ” pucch-GroupHopping” |
| H165 | The Configurable ID for cyclic shift hopping is now missing. | 2 | Now there is only sequenceHoppingId in the current PUCCH-Config. In addition to that, however, it was also agreed in RAN1 that there should also be the Cyclic Shift hopping ID, for all of the PUCCH formats 0, 1, 3 and 4, as follows. So perhaps a cyclicShiftHoppingId should be added as per the following RAN1 agreement:   * For PUCCH format 0 & PUCCH format 1, symbol-level cyclic shift hopping as in LTE is reused   + FFS details especially regarding symbol indexing and slot indexing considering the difference between NR and LTE   + Symbol-level cyclic shift hopping is a function at least based on a configurable ID     - Note that: the configurable ID is already agreed for PUCCH base sequence hopping * For PUCCH format 3 & PUCCH format 4, symbol-level cyclic shift hopping as in LTE is reused   + FFS details especially regarding symbol indexing and slot indexing considering the difference between NR and LTE   + Symbol-level cyclic shift hopping is a function at least based on a configurable ID     - Note that the configurable ID that is already agreed for PUCCH base sequence hopping is reused.   PUCCH-ConfigCommon ::= SEQUENCE {  -- PUCCH resource configuration for HARQ-ACK before RRC connection setup  -- Corresponds to L1 parameter 'PUCCH-resource-common' (see 38.213, section 9.2)  -- FFS\_Value: RAN1 to provide more details on the value range  pucch-ResourceCommon BIT STRING (SIZE (4)) OPTIONAL,  -- Enables hopping of base sequence of PUCCH Format 0 when transmitted in different slots.  -- Corresponds to L1 parameter 'PUCCH-F0-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format0-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Enabling hopping of base sequence of PUCCH Format 1 when transmitted in different slots  -- Corresponds to L1 parameter 'PUCCH-F1-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format1-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Corresponds to L1 parameter 'ScramblingID' (see 38.211, section 6.4.1.3)  sequenceHoppingId BIT STRING (SIZE (10)) OPTIONAL,  cyclicShiftHoppingId BIT STRING (SIZE (10)) OPTIONAL,  -- Power control parameter P0 for PUCCH transmissions. Value in dBm. Only even values (step size 2) allowed.  -- Corresponds to L1 parameter 'p0-nominal-pucch' (see 38.213, section 7.2)  p0-nominal INTEGER (-202..24) OPTIONAL,  -- deltaF for PUCCH format 0 (see 38.213, section 7.2)  deltaF-pucch-f0 FFS\_Value OPTIONAL,  -- deltaF for PUCCH format 1 (see 38.213, section 7.2)  deltaF-pucch-f1 FFS\_Value OPTIONAL,  -- deltaF for PUCCH format 2 (see 38.213, section 7.2)  deltaF-pucch-f2 FFS\_Value OPTIONAL,  -- deltaF for PUCCH format 3 (see 38.213, section 7.2)  deltaF-pucch-f3 FFS\_Value OPTIONAL,  -- deltaF for PUCCH format 4 (see 38.213, section 7.2)  deltaF-pucch-f4 FFS\_Value OPTIONAL  }  => Check with RAN1 | Do be checked. |
| H166 | The enable/disable of base sequence hopping for PUCCH format 3/4 are missing. | 2 | As per RAN1 agreement below, the enable/disable of base sequence hopping should not only be applied to PUCCH formats 0 and 1, but also be applied to PUCCH formats 3 and 4. However, those for formats 3 and 4 are now missing, and should be added similar to formats 0 and 1.   * For PUCCH formats 0, 1, 3 & 4, slot-level base sequence hopping as in LTE is reused   + FFS details especially regarding slot indexing considering the difference between NR and LTE   + Slot-level base sequence hopping for PUCCH format 3 and 4 is a function at least based on a configurable ID, similarly as agreed for PUCCH format 0 and 1.     - Note that: the configurable ID is already agreed for PUCCH base sequence hopping   + FFS: whether and how to support symbol-level base sequence hopping   An exemplary change is as follows:  PUCCH-ConfigCommon ::= SEQUENCE {  -- PUCCH resource configuration for HARQ-ACK before RRC connection setup  -- Corresponds to L1 parameter 'PUCCH-resource-common' (see 38.213, section 9.2)  -- FFS\_Value: RAN1 to provide more details on the value range  pucch-ResourceCommon BIT STRING (SIZE (4)) OPTIONAL,  -- Enables hopping of base sequence of PUCCH Format 0 when transmitted in different slots.  -- Corresponds to L1 parameter 'PUCCH-F0-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format0-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Enabling hopping of base sequence of PUCCH Format 1 when transmitted in different slots  -- Corresponds to L1 parameter 'PUCCH-F1-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format1-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  pucch-Format3-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  pucch-Format4-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Cell-Specific scrambling ID for Group hoppping and sequence hopping if enabled.  -- Corresponds to L1 parameter 'ScramblingID' (see 38.211, section 6.4.1.3)  sequenceHoppingId BIT STRING (SIZE (10)) OPTIONAL,  […]  } | Duplicate of H164!!! |
| D021 | UL power control related parameters | 3 | Some parametes related to Power Control are common to PUSCH and SRS, e.g. pathlossReferenceRSs, PowerControlAdjustmentStates, P0, etc. A common IE related to Power Control could be considered so that PUCH/PUCCH/SRS-Config can refer to the PC common IE.  **[Ericsson]** They have some fields in common but at least equally many seem to differ. It appears OK to keep as is.  => No change needed | No change |
| Z083 | for spatialRelationInfo in PUCCH config, considering the associated CSI-RS or SRS resources may be modified by RRC signalling, we should modify the IE structure of spatialRelationInfo into “toAddModList” and “toReleaseList”.  (In current 331, there is another spatialRelationInfo in SRS configuration, but our understanding is that it is different with this one, and we only need to modify this one) | 2 | Modify the spatialRelationInfo to a toAddModList and add the toReleaseList to enable delta signalling | Done |
| Z084 | the maxNrofPUCCH-PathlossReferenceRS equals 4. For pathlossReferenceRSs, it can configured up to 4 PUCCH-PathlossReference-RS, but, this can be used in PUCCH power control, and our understanding is that there are scenarios to modify one of them. so the IE structure should be revised to “toAddModList” and “toReleaseList”.  Meanwhile, the entire structure of PUCCH-PowerControl should be modified to “toAddModList” and “toReleaseList” as well. | 2 | Modify the PUCCH-PowerControl to a toAddModList and add the toReleaseList to enable delta signalling  **[Ericsson]** The benefit is questionable. The list has only up to four elements and each is only a reference ID. Probably simpler and equally resource efficient to keep the list as is and to remove the ” pucch-PathlossReference-RS-Id”  **[Ericsson]** Why should ” PUCCH-PowerControl” become a list? RAN1 has not indicated this and it seems not necessary to have here a list of Power Control parameters. Is maybe the suggestion to add ”SetupRelease {”?  => No change needed | No change |
| Z086 | According to RAN1 spec 38.211 section 6.3.2.2.1, the “sequenceHoppingId” is used in both group hopping and sequence hopping, so the IE name should be revised as “sequenceGroupId” to avoid misunderstanding. | 2 | PUCCH-ConfigCommon ::= SEQUENCE {  -- PUCCH resource configuration for HARQ-ACK before RRC connection setup  -- Corresponds to L1 parameter 'PUCCH-resource-common' (see 38.213, section 9.2)  -- FFS\_Value: RAN1 to provide more details on the value range  pucch-ResourceCommon BIT STRING (SIZE (4)) OPTIONAL,  -- Enables hopping of base sequence of PUCCH Format 0 when transmitted in different slots.  -- Corresponds to L1 parameter 'PUCCH-F0-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format0-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Enabling hopping of base sequence of PUCCH Format 1 when transmitted in different slots  -- Corresponds to L1 parameter 'PUCCH-F1-Base-sequence-hopping' (see 38.211, section 6.4.1.3)  pucch-Format1-BaseSequenceHopping ENUMERATED {true} OPTIONAL,  -- Cell-Specific scrambling ID for Group hoppping and sequence hopping if enabled.  -- Corresponds to L1 parameter 'ScramblingID' (see 38.211, section ~~6.4.1.3~~6.3.2.2.1)  sequence~~Hopping~~GroupId BIT STRING (SIZE (10)) OPTIONAL,  **[Ericsson]** We agree that the name is misleading. But better just call it **hoppingId**. | Done |
| N271 | The structure of format3 and format4 is exactly the same – create an IE unifying them. | 1 | Define IE for the format3 and format4, e.g. as PUCCH-Format34 | Not done.  Would become really confusing with the format-specific IEs that allow configuration per resource (whereas format3 and format4 exist only once per format) |
| Z052 | The IE name is wrong. | 1 | PUCCH-PowerControl ::= SEQUENCE {  -- RNTI used for PUCCH TPC. Corresponds to L1 parameter 'TPC-PUCCH-RNTI' (see 38.213, section 10).  -- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity  -- and other PDCCH parameters (if any)  tpc-PUCCH-RNTI RNTI-Value OPTIONAL,  -- A set with dedicated P0 values for PUCCH, i.e., {P01, P02,... }. Corresponds to L1 parameter 'p0-pucch-set' (see 38.213, section 7.2)  p0-Set SEQUENCE (SIZE (1..maxNrofPUCCH-P0-PerSet)) OF P0-PUCCH OPTIONAL,  -- A set of Refernce Signals (e.g. a CSI-RS config or a SSblock) to be used for PUCCH pathloss estimation.  -- Up to maxNrofPUCCH-PathlossReference-RSs may be configured  -- FFS\_CHECK: Is it possible not to configure it at all? What does the UE use then? Any SSB?  -- Corresponds to L1 parameter 'pucch-pathlossReference-rs-config' (see 38.213, section 7.2)  pathlossReferenceRSs SEQUENCE (SIZE (1..maxNrofPUCCH-PathlossReference-RSs)) OF PUCCH-PathlossReference-RS OPTIONAL,  -- Number of PUCCH power control adjustment states maintained by the UE (i.e., g(i)). If the field is present (n2) the UE maintains  -- two power control states (i.e., g(i,0) and g(i,1)). Otherwise, it applies one (i.e., g(i,0)).  -- Corresponds to L1 parameter 'num-pucch-pcadjustment-states' (see 38.213, section 7.2)  twoPU~~S~~CCH-PC-AdjustmentStates ENUMERATED {twoStates} OPTIONAL, -- Need R  ...  } | Covered in the class1 draft CR  Done |
| I068 | Extension marker missing | 2 | PUCCH-ConfigCommon ::= SEQUENCE {  …  } | Done |
| I069 | PUCCH-ConfigCommon is used not only for pre-RRCConnectionSetup | 2 | PUCCH-ConfigCommon ::= SEQUENCE {  -- PUCCH resource configuration for HARQ-ACK before RRC connection setup  -- Corresponds to L1 parameter 'PUCCH-resource-common' (see 38.213, section 9.2)  -- FFS\_Value: RAN1 to provide more details on the value range  pucch-ResourceCommon BIT STRING (SIZE (4)) | Done |
| Q025 | PUCCH-Config and PUCCH-ConfigCommon in Uplink BWP should be made OPTIONAL and also included in ServingCellConfigDedicated and ServingCellConfigCommon respectively | 2 | UL BWP parameters can be included in SIB1 for initial access, and in BandwidthPart-Config.  Currently, PUCCH-Config and PUCCH-ConfigCommon in Uplink BWP are mandatory. In the draft CR capturing class-1 issues, these are made optional. We are ok to have these values as optional in UL BWP.  What should be the UE behavior when this is omitted/not included as part of BandwidthPart-Config? For that case, these should be included in ServingCellConfigDedicated and ServingCellConfigCommon (i.e., outside UL BWP parameters), respectively, also as OPTIONAL (note this is similar to what is currently done for pusch-Config which is also included in ServingCellConfigDedicated). If the parameters are omitted under a UL BWP, then the one in ServingCellConfigDedicated/ServingCellConfigCommon is applicable. If the parameters are missing in both places, that’s an error situation which the E-UTRAN should avoid. | Addressed by agreed BWP CR |

#### – PUSCH-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z051 | In our view, RAN1 has not agreed to introduce a cel-specific parameter to enable/disable the sequence group hopping for UE, and it has already been supported via the UE specific parameter: Disable-sequence-group-hopping-Transform-precoding, so we suggest to delete the groupHoppingEnabledTransformPrecoding from PUSCH-ConfigCommon. | 2 | PUSCH-ConfigCommon ::= SEQUENCE {  ~~-- Sequence-group hopping can be enabled or disabled by means of this cell-specific parameter.~~  ~~-- Corresponds to L1 parameter 'Group-hopping-enabled-Transform-precoding' (see 38.211, section FFS\_Section)~~  ~~-- This field is Cell specific~~  ~~groupHoppingEnabledTransformPrecoding ENUMERATED {enabled} OPTIONAL,~~  -- ------------------------  -- Power control parameters  -- Power offset between msg3 and RACH preamble transmission. Corresponds to L1 parameter 'Delta-preamble-msg3' (see 38.213, section 7.1)  msg3-DeltaPreamble FFS\_Value OPTIONAL,  -- P0 value for PUSCH with grant (except msg3). Value in dBm. Only even values (step size 2) allowed.  -- Corresponds to L1 parameter 'p0-nominal-pusch-withgrant' (see 38.213, section 7.1)  -- This field is cell specific  p0-NominalWithGrant INTEGER (-202..24) OPTIONAL,  ...  }  **[Ericsson]** The L1 table has an entry:  Group-hopping-enabled-Transform-precoding: ”Sequence-group hopping can be enabled or disabled by means of this cell-specific parameter. For DFT-s-OFDM DMRS”; Boolean; Cell specific 38.331”  => Check with RAN1 | No change  (parameter still in latest L1 table) |
| H167 | srs-MappingNonCodebook has a misplaced close brace | 2 | The brace mistakenly appears further down, after dft-S-OFDM. Delete one of the three close braces after dft-S-OFDM and use it to close srs-MappingNonCodebook.  Uplink-PTRS-Config ::= SEQUENCE {  -- The PTRS port index for each configured SRS resource/resource set for non-codebook based UL MIMO, with at most UL-PTRS-ports port indices  -- Corresponds to L1 parameter 'UL-PTRS-SRS-mapping-non-CB' (see 38.214, section 6.1)  -- FFS\_CHECK: Is this only for CP-OFDM or also for DFT-S-OFDM  -- FFS\_CHECK: Is it correct that the port index can only be 1 or 2? And if so, is the value further restricted by the parameter nrofPorts?  -- And if so, should this structure be conditional to the nrofPorts being set to n2?  srs-MappingNonCodebook SEQUENCE {  srs CHOICE {  resource SRS-ResourceId,  resourceSet SRS-ResourceSetId  },  ptrs-PortIndex ENUMERATED {n1, n2} OPTIONAL,  }  -- Configuration of UL PTRS for CP-OFDM  cp-OFDM SetupRelease { SEQUENCE {  -- Presence and frequency density of UL PT-RS for CP-OFDM waveform as a function of scheduled BW  -- Corresponds to L1 parameter 'UL-PTRS-frequency-density-table' (see 38.214, section 6.1)  -- FFS: Configuration is supposed to be per BWP according to RAN1  frequencyDensity ENUMERATED {ffsTypeAndValue},  -- Presence and time density of UL PT-RS for CP-OFDM waveform as a function of MCS  -- Corresponds to L1 parameter 'UL-PTRS-time-density-table' (see 38.214, section 6.1)  -- FFS: Configuration is supposed to be per BWP according to RAN1  timeDensity ENUMERATED {ffsTypeAndValue},  -- Indicator related to the number of UL PTRS ports for CP-OFDM. Details to be further decided.  -- Corresponds to L1 parameter 'UL-PTRS-ports' (see 38.214, section 6.1)  nrofPorts ENUMERATED {n1, n2},  -- Indicates the subcarrier offset for UL PTRS for CP-OFDM. Corresponds to L1 parameter 'UL-PTRS-RE-offset' (see 38.214, section 6.1)  resourceElementOffset FFS\_Value OPTIONAL,  -- UL PTRS power boosting factor per PTRS port. Corresponds to L1 parameter 'UL-PTRS-power' (see 38.214, section 6.1)  ptrs-Power ENUMERATED {f1, f2, f3, f4}  }  } OPTIONAL, -- Cond M  -- Configuration of UL PTRS for DFT-S-OFDM.  dft-S-OFDM SetupRelease { SEQUENCE {  -- Sample density of PT-RS for DFT-s-OFDM, pre-DFT, indicating a set of thresholds T={NRBn,n=0,1,2,3,4},  -- that indicates dependency between presence of PT-RS and scheduled BW and the values of X and K the UE should  -- use depending on the scheduled BW according to the table in 38.214 FFS\_Section.  -- FFS: Configuration is supposed to be per BWP according to RAN1  -- Corresponds to L1 parameter 'UL-PTRS-pre-DFT-density' (see 38.214, section 6.1)  sampleDensity FFS\_Value OPTIONAL,  -- Time density (OFDM symbol level) of PT-RS for DFT-s-OFDM  -- Corresponds to L1 parameter 'UL-PTRS-time-density-transform-precoding' (see 38.214, section 6.1)  timeDensity ENUMERATED {d1, d2} OPTIONAL  } }  ~~}~~ OPTIONAL -- Cond M  } | Done |
| H168 | p0-NominalWithoutGrant | 2 | In the RRC parameters list in R1-1721581, p0-NominalWithoutGrant is UE-specific. However according to RAN1 agreement in RAN1#90BIS:”  • Value of P\_0 is composed by cell specific component and UE specific component;  • At least three cell specific component values of P\_0 can be configured”.  The p0-NominalWithoutGrant should be cell specific parameter (i.e. the description on p0-NominalWithoutGrant in RRC parameter list is incorrect.), and needs to be moved from PUSCH-PowerControl to PUSCH-ConfigCommon.  PUSCH-ConfigCommon ::= SEQUENCE {  -- Sequence-group hopping can be enabled or disabled by means of this cell-specific parameter.  -- Corresponds to L1 parameter 'Group-hopping-enabled-Transform-precoding' (see 38.211, section FFS\_Section)  -- This field is Cell specific  groupHoppingEnabledTransformPrecoding ENUMERATED {enabled} OPTIONAL,  -- ------------------------  -- Power control parameters  -- Power offset between msg3 and RACH preamble transmission. Corresponds to L1 parameter 'Delta-preamble-msg3' (see 38.213, section 7.1)  msg3-DeltaPreamble FFS\_Value OPTIONAL,  -- P0 value for PUSCH with grant (except msg3). Value in dBm. Only even values (step size 2) allowed.  -- Corresponds to L1 parameter 'p0-nominal-pusch-withgrant' (see 38.213, section 7.1)  -- This field is cell specific  p0-NominalWithGrant INTEGER (-202..24) OPTIONAL,  -- P0 value for UL grant-free/SPS based PUSCH. Value in dBm. Only even values (step size 2) allowed.  -- Corresponds to L1 parameter 'p0-nominal-pusch-withoutgrant' (see 38.213, section 7.1)  p0-NominalWithoutGrant INTEGER (-202..24) OPTIONAL,  ...  }  [...]  PUSCH-PowerControl ::= SEQUENCE {  -- RNTI used for PUSCH TPC. Corresponds to L1 parameter 'TPC-PUSCH-RNTI' (see 38.213, section 10)  -- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity  -- and other PDCCH parameters (if any)  tpc-PUSCH-RNTI RNTI-Value OPTIONAL,  -- If enabled, UE applies TPC commands via accumulation. If not enabled, UE applies the TPC command without accumulation  -- Corresponds to L1 parameter 'Accumulation-enabled' (see 38.213, section 7.1)  tpcAccumulation ENUMERATED { enabled } OPTIONAL, -- Need R  -- Dedicated alpha value for msg3 PUSCH. Corresponds to L1 parameter 'alpha-ue-pusch-msg3' (see 38.213, section 7.1)  -- When the field is absent the UE applies the value 1.  msg3-Alpha Alpha OPTIONAL,  ~~-- P0 value for UL grant-free/SPS based PUSCH. Value in dBm. Only even values (step size 2) allowed.~~  ~~-- Corresponds to L1 parameter 'p0-nominal-pusch-withoutgrant' (see 38.213, section 7.1)~~  ~~p0-NominalWithoutGrant INTEGER (-202..24) OPTIONAL,~~  -- configuration {p0-pusch,alpha} sets for PUSCH (except msg3), i.e., { {p0,alpha,index1}, {p0,alpha,index2},…}.  -- Corresponds to L1 parameter 'p0-push-alpha-setconfig' (see 38,213, section 7.1)  p0-AlphaSets SEQUENCE (SIZE (1..maxNrofP0-PUSCH-AlphaSets)) OF P0-PUSCH-AlphaSet OPTIONAL,  -- A set of Refernce Signals (e.g. a CSI-RS config or a SSblock) to be used for PUSCH path loss estimation.  -- Up to maxNrofPUSCH-PathlossReference-RSs may be configured when 'PUSCH beam indication' is present (FFS: in DCI???).  -- Otherwise, there may be only one entry. FFS\_CHECK: Is it possible not to configure it at all? What does the UE use then? Any SSB?  -- Corresponds to L1 parameter 'pusch-pathlossReference-rs-config' (see 38.213, section 7.1)  pathlossReferenceRSs SEQUENCE (SIZE (1..maxNrofPUSCH-PathlossReference-RSs)) OF PUSCH-PathlossReference-RS OPTIONAL,  -- Number of PUSCH power control adjustment states maintained by the UE (i.e., fc(i)). If the field is present (n2) the UE maintains  -- two power control states (i.e., fc(i,1) and fc(i,2)). Otherwise, it applies one (i.e., fc(i,1)).  -- Corresponds to L1 parameter 'num-pusch-pcadjustment-states' (see 38.213, section 7.1)  twoPUSCH-PC-AdjustmentStates ENUMERATED {twoStates} OPTIONAL, -- Need R  -- Indicates whether to apply dela MCS. When the field is absent, the UE applies Ks = 0 in delta\_TFC formula for PUSCH.  -- Corresponds to L1 parameter 'deltaMCS-Enabled' (see 38.213, section 7.1)  deltaMCS ENUMERATED {enabled} OPTIONAL -- Need R  } | Not done.  Configured grant is only configured by dedicated scheduling and hence also the power control value can/should be sent there. IDLE UEs dopn't need it. |
| H169 | maxCodeBlockGroupsPerTransportBlock | 2 | In RAN1, there is one limitation i.e. for 2 code words, the value can only be {2, 4}, which needs to be added in the field description when the field description is added. Suggest capturing in the comments now.  PUSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.214, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission ENUMERATED {true} OPTIONAL, -- Need R  -- Maximum number of code-block-groups (CBGs) per TB (see 38.xxx, section x.x.x, FFS\_Ref)  -- For 2 codewords, only the values { n2, n4 } are valid  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  **[Ericsson]** We are OK with the change. Furthermore, as in the PDSCH-Config, we suggest making this a SetupRelease structure so that the CBG can be disabled and to clarify that the other parameter is only applicable if it is configured.  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.214, section x.x.x.x) FFS\_Ref  ~~-- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?~~  codeBlockGroupTransmission SetupRelease { SEQUENCE {~~ENUMERATED {true} OPTIONAL, -- Need R~~  -- Maximum number of code-block-groups (CBGs) per TB (see 38.xxx, section x.x.x, FFS\_Ref)  -- For 2 codewords, only the values { n2, n4 } are valid  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8}  } } OPTIONAL, -- Need M | Done |
| H170 | dmrs-Type | 2 | It should not be optional since there is no default values in RAN1. There is only a fixed pattern “Type-1 with 2 additional DMRS” before RRC connection setup, but it is not a default values after RRC connection setup. In RAN1 RRC parameter list, the default value for this IE is “TBD”, so the DMRS type should be configured.  PUSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.214, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission ENUMERATED {true} OPTIONAL, -- Need R  -- Maximum number of code-block-groups (CBGs) per TB (see 38.xxx, section x.x.x, FFS\_Ref)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  dmrs-Uplink SEQUENCE {  -- Selection of the DMRS type to be used for UL (see section 38.211, section 6.4.1.1.2)  dmrs-Type ENUMERATED {type1, type2}, ~~OPTIONAL, -- Need R~~ | Done |
| H171 | dmrs-AdditionalPosition | 2 | The note above this IE is incorrect. This is for PUSCH configuration, so this should be UL and corresponds to L1 paramenter ‘UL-DMRS-add-pos’.  PUSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.214, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission ENUMERATED {true} OPTIONAL, -- Need R  -- Maximum number of code-block-groups (CBGs) per TB (see 38.xxx, section x.x.x, FFS\_Ref)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  dmrs-Uplink SEQUENCE {  -- Selection of the DMRS type to be used for UL (see section 38.211, section 6.4.1.1.2)  dmrs-Type ENUMERATED {type1, type2} OPTIONAL, -- Need R  -- Position for additional DM-RS in ~~DL~~UL, see Table 7.4.1.1.2-4 in 38.211.  -- The four values represent the cases of 1+0, 1+1, 1+1+1. 1+1+1+1 non-adjacent OFDM symbols for ~~DL~~UL. Corresponds to L1 parameter 'UL-DMRS-add-pos'..  dmrs-AdditionalPosition ENUMERATED {pos0, pos1, pos2, pos3} OPTIONAL, -- Need R | Done |
| H172 | cp-OFDM and dft-S-OFDM in dmrs-Uplink | 2 | The cp-OFDM and dft-S-OFDM cannot be configured simultaneously, so we think a choice structure can be considered to cover both of these two cases.  PUSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.214, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission ENUMERATED {true} OPTIONAL, -- Need R  -- Maximum number of code-block-groups (CBGs) per TB (see 38.xxx, section x.x.x, FFS\_Ref)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  dmrs-Uplink SEQUENCE {  -- Selection of the DMRS type to be used for UL (see section 38.211, section 6.4.1.1.2)  dmrs-Type ENUMERATED {type1, type2} OPTIONAL, -- Need R  -- Position for additional DM-RS in DL, see Table 7.4.1.1.2-4 in 38.211.  -- The four values represent the cases of 1+0, 1+1, 1+1+1. 1+1+1+1 non-adjacent OFDM symbols for DL.  dmrs-AdditionalPosition ENUMERATED {pos0, pos1, pos2, pos3} OPTIONAL, -- Need R  -- Configures uplink PTRS (see 38.211, section x.x.x.x) FFS\_Ref  phaseTracking-RS SetupRelease { Uplink-PTRS-Config } OPTIONAL, -- Need M  -- The maximum number of OFDM symbols for UL front loaded DMRS.  -- Corresponds to L1 parameter 'UL-DMRS-max-len' (see 38.214, section 6.4.1.1.2)  maxLength ENUMERATED {len1, len2} OPTIONAL,  ~~-- FFS: If CP-OFDM and DFT-S-OFDM cannot be configured simultaneously, make the two blocks below a CHOICE~~  cp-OrDFT-S-OFDM CHOICE {  -- DMRS related parameters for Cyclic Prefix OFDM  cp-OFDM SEQUENCE {  -- UL DMRS scrambling initalization for CP-OFDM  -- Corresponds to L1 parameter 'UL-DMRS-Scrambling-ID' (see 38.214, section 6.4.1.1.2)  -- When the field is absent the UE applies the value Physical cell ID + 6 fixed bits (e.g. 000000)  -- FFS: Clarify default value: Are the 6 bits zeros (says e.g.). Are they the MSBs or LSBs?  -- FFS: Is this parameter also needed for cell specific signallign  scramblingID BIT STRING (SIZE (16)) OPTIONAL  },  -- DMRS related parameters for DFT-s-OFDM (Transform Precoding)  dft-S-OFDM SEQUENCE {  -- Parameter: N\_ID^(csh\_DMRS) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'nDMRS-CSH-Identity-Transform-precoding' (see 38.211, section FFS\_Section)  -- FFS: Should we reaplace this explicit type by the type ScramblingId?  nDMRS-CSH-Identity INTEGER(0..1007) OPTIONAL,  -- Parameter: N\_ID^(PUSCH) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'nPUSCH-Identity-Transform precoding' (see 38.211, section FFS\_Section)  -- FFS: Should we reaplace this explicit type by the type ScramblingId?  nPUSCH-Identity INTEGER(0..1007) OPTIONAL,  -- Sequence-group hopping for PUSCH can be disabled for a certain UE despite being enabled on a cell basis. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'Disable-sequence-group-hopping-Transform-precoding' (see 38.211, section FFS\_Section)  disableSequenceGroupHopping ENUMERATED {disabled} OPTIONAL,  -- Determines if sequence hopping is enabled or not. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'Sequence-hopping-enabled-Transform-precoding' (see 38.211, section FFS\_Section)  sequenceHoppingEnabled ENUMERATED {enabled} OPTIONAL,  -- Orthogonal Cover Code (OCC) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'Activate-DMRS-with OCC-Transform-precoding' (see 38.211, section FFS\_Section)  activateDMRS-WithOCC ENUMERATED {enabled} OPTIONAL,  -- CS for the ZC sequence. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'CyclicShift-Transform-precoding' (see 38.211, section FFS\_Section)  cyclicShift INTEGER (0..7) OPTIONAL,  -- Parameter: Delta\_ss for sequence shift pattern. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'groupAssignmentPUSCH-Transform-precoding' (see 38.211, section FFS\_Section)  -- When the field is absent the UE applies the value 'CellID mod 30'  -- FFS: Is the CellID meant to be the PCI? Or the entire CellID?  groupAssignmentPUSCH INTEGER (0..29) OPTIONAL  }  }  }, | Done |
| H173 | disableSequenceGroupHopping, sequenceHoppingEnabled, activateDMRS-WithOCC, cyclicShift, groupAssignmentPUSCH | 2 | There is no any agreement in PUSCH for sequence hopping and group hopping. The sequece hoppiong and group hopping are used for PUCCH. The description in RRC parameter list is incorrect.  So, these parameters needs to be removed from PUSCH part. The corresponding PUCCH parameters are already there.  PUSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.214, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission ENUMERATED {true} OPTIONAL, -- Need R  -- Maximum number of code-block-groups (CBGs) per TB (see 38.xxx, section x.x.x, FFS\_Ref)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  dmrs-Uplink SEQUENCE {  -- Selection of the DMRS type to be used for UL (see section 38.211, section 6.4.1.1.2)  dmrs-Type ENUMERATED {type1, type2} OPTIONAL, -- Need R  -- Position for additional DM-RS in DL, see Table 7.4.1.1.2-4 in 38.211.  -- The four values represent the cases of 1+0, 1+1, 1+1+1. 1+1+1+1 non-adjacent OFDM symbols for DL.  dmrs-AdditionalPosition ENUMERATED {pos0, pos1, pos2, pos3} OPTIONAL, -- Need R  -- Configures uplink PTRS (see 38.211, section x.x.x.x) FFS\_Ref  phaseTracking-RS SetupRelease { Uplink-PTRS-Config } OPTIONAL, -- Need M  -- The maximum number of OFDM symbols for UL front loaded DMRS.  -- Corresponds to L1 parameter 'UL-DMRS-max-len' (see 38.214, section 6.4.1.1.2)  maxLength ENUMERATED {len1, len2} OPTIONAL,  -- FFS: If CP-OFDM and DFT-S-OFDM cannot be configured simultaneously, make the two blocks below a CHOICE  -- DMRS related parameters for Cyclic Prefix OFDM  cp-OFDM SEQUENCE {  -- UL DMRS scrambling initalization for CP-OFDM  -- Corresponds to L1 parameter 'UL-DMRS-Scrambling-ID' (see 38.214, section 6.4.1.1.2)  -- When the field is absent the UE applies the value Physical cell ID + 6 fixed bits (e.g. 000000)  -- FFS: Clarify default value: Are the 6 bits zeros (says e.g.). Are they the MSBs or LSBs?  -- FFS: Is this parameter also needed for cell specific signallign  scramblingID BIT STRING (SIZE (16)) OPTIONAL  },  -- DMRS related parameters for DFT-s-OFDM (Transform Precoding)  dft-S-OFDM SEQUENCE {  -- Parameter: N\_ID^(csh\_DMRS) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'nDMRS-CSH-Identity-Transform-precoding' (see 38.211, section FFS\_Section)  -- FFS: Should we reaplace this explicit type by the type ScramblingId?  nDMRS-CSH-Identity INTEGER(0..1007) OPTIONAL,  -- Parameter: N\_ID^(PUSCH) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'nPUSCH-Identity-Transform precoding' (see 38.211, section FFS\_Section)  -- FFS: Should we reaplace this explicit type by the type ScramblingId?  nPUSCH-Identity INTEGER(0..1007) OPTIONAL~~,~~  ~~-- Sequence-group hopping for PUSCH can be disabled for a certain UE despite being enabled on a cell basis. For DFT-s-OFDM DMRS~~  ~~-- Corresponds to L1 parameter 'Disable-sequence-group-hopping-Transform-precoding' (see 38.211, section FFS\_Section)~~  ~~disableSequenceGroupHopping ENUMERATED {disabled} OPTIONAL,~~  ~~-- Determines if sequence hopping is enabled or not. For DFT-s-OFDM DMRS~~  ~~-- Corresponds to L1 parameter 'Sequence-hopping-enabled-Transform-precoding' (see 38.211, section FFS\_Section)~~  ~~sequenceHoppingEnabled ENUMERATED {enabled} OPTIONAL,~~  ~~-- Orthogonal Cover Code (OCC) for DFT-s-OFDM DMRS~~  ~~-- Corresponds to L1 parameter 'Activate-DMRS-with OCC-Transform-precoding' (see 38.211, section FFS\_Section)~~  ~~activateDMRS-WithOCC ENUMERATED {enabled} OPTIONAL,~~  ~~-- CS for the ZC sequence. For DFT-s-OFDM DMRS~~  ~~-- Corresponds to L1 parameter 'CyclicShift-Transform-precoding' (see 38.211, section FFS\_Section)~~  ~~cyclicShift INTEGER (0..7) OPTIONAL,~~  ~~-- Parameter: Delta\_ss for sequence shift pattern. For DFT-s-OFDM DMRS~~  ~~-- Corresponds to L1 parameter 'groupAssignmentPUSCH-Transform-precoding' (see 38.211, section FFS\_Section)~~  ~~-- When the field is absent the UE applies the value 'CellID mod 30'~~  ~~-- FFS: Is the CellID meant to be the PCI? Or the entire CellID?~~  ~~groupAssignmentPUSCH INTEGER (0..29) OPTIONAL~~  }  },  => Check with RAN1 | No change  RAN1 agreed to have these variants. Latest RAN1 parameters to be updated based on L1 table. |
| H174 | cp-OFDM and dft-S-OFDM in Uplink-PTRS-Config | 2 | The cp-OFDM and dft-S-OFDM cannot be configured simultaneously, so we think a choice structure can be considered to cover both of these two cases.  -- Configuration of Uplink Phase-Tracking-Reference-Signals (PTRS)  -- FFS: Is it possible to configure PTRS for CP-OFDM and DFT-S OFDM simultaneously or just one. If the latter, replace below by a CHOICE.  -- FFS: Some but not all of these parameters are supposed to be per BWP. Can we anyway just move all of them into BWP?  Uplink-PTRS-Config ::= SEQUENCE {  -- The PTRS port index for each configured SRS resource/resource set for non-codebook based UL MIMO, with at most UL-PTRS-ports port indices  -- Corresponds to L1 parameter 'UL-PTRS-SRS-mapping-non-CB' (see 38.214, section 6.1)  -- FFS\_CHECK: Is this only for CP-OFDM or also for DFT-S-OFDM  -- FFS\_CHECK: Is it correct that the port index can only be 1 or 2? And if so, is the value further restricted by the parameter nrofPorts?  -- And if so, should this structure be conditional to the nrofPorts being set to n2?  srs-MappingNonCodebook SEQUENCE {  srs CHOICE {  resource SRS-ResourceId,  resourceSet SRS-ResourceSetId  },  ptrs-PortIndex ENUMERATED {n1, n2} OPTIONAL,  cpOrDFT-S-OFDM CHOICE {  -- Configuration of UL PTRS for CP-OFDM  cp-OFDM SetupRelease { SEQUENCE {  -- Presence and frequency density of UL PT-RS for CP-OFDM waveform as a function of scheduled BW  -- Corresponds to L1 parameter 'UL-PTRS-frequency-density-table' (see 38.214, section 6.1)  -- FFS: Configuration is supposed to be per BWP according to RAN1  frequencyDensity ENUMERATED {ffsTypeAndValue},  -- Presence and time density of UL PT-RS for CP-OFDM waveform as a function of MCS  -- Corresponds to L1 parameter 'UL-PTRS-time-density-table' (see 38.214, section 6.1)  -- FFS: Configuration is supposed to be per BWP according to RAN1  timeDensity ENUMERATED {ffsTypeAndValue},  -- Indicator related to the number of UL PTRS ports for CP-OFDM. Details to be further decided.  -- Corresponds to L1 parameter 'UL-PTRS-ports' (see 38.214, section 6.1)  nrofPorts ENUMERATED {n1, n2},  -- Indicates the subcarrier offset for UL PTRS for CP-OFDM. Corresponds to L1 parameter 'UL-PTRS-RE-offset' (see 38.214, section 6.1)  resourceElementOffset FFS\_Value OPTIONAL,  -- UL PTRS power boosting factor per PTRS port. Corresponds to L1 parameter 'UL-PTRS-power' (see 38.214, section 6.1)  ptrs-Power ENUMERATED {f1, f2, f3, f4}  }  }, ~~OPTIONAL, -- Cond M~~  -- Configuration of UL PTRS for DFT-S-OFDM.  dft-S-OFDM SetupRelease { SEQUENCE {  -- Sample density of PT-RS for DFT-s-OFDM, pre-DFT, indicating a set of thresholds T={NRBn,n=0,1,2,3,4},  -- that indicates dependency between presence of PT-RS and scheduled BW and the values of X and K the UE should  -- use depending on the scheduled BW according to the table in 38.214 FFS\_Section.  -- FFS: Configuration is supposed to be per BWP according to RAN1  -- Corresponds to L1 parameter 'UL-PTRS-pre-DFT-density' (see 38.214, section 6.1)  sampleDensity FFS\_Value OPTIONAL,  -- Time density (OFDM symbol level) of PT-RS for DFT-s-OFDM  -- Corresponds to L1 parameter 'UL-PTRS-time-density-transform-precoding' (see 38.214, section 6.1)  timeDensity ENUMERATED {d1, d2} OPTIONAL  } }  }  } ~~OPTIONAL -- Cond M~~  } | Done |
| H175 | srs-MappingNonCodebook | 2 | The description in RRC parameter list is incorrect. Based on the RAN1 agreements, the PTRS port index is only for each SRS resource as below:  Agreement:  • For non-codebook based UL transmission, the UL PTRS port index is associated to each SRS resource.  So the ‘resourceSet’ in srs-MappingNonCodebook is not needed, and corresponding descripion in the note about this IE needs to be updated.  In addition, the port index can be port 0 and port 1 as agreed in RAN1.  Uplink-PTRS-Config ::= SEQUENCE {  -- The PTRS port index for each configured SRS resource/resource set for non-codebook based UL MIMO, with at most UL-PTRS-ports port indices  -- Corresponds to L1 parameter 'UL-PTRS-SRS-mapping-non-CB' (see 38.214, section 6.1)  -- FFS\_CHECK: Is this only for CP-OFDM or also for DFT-S-OFDM  -- FFS\_CHECK: Is it correct that the port index can only be 1 or 2? And if so, is the value further restricted by the parameter nrofPorts?  -- And if so, should this structure be conditional to the nrofPorts being set to n2?  srs-MappingNonCodebook ~~SEQUENCE {~~  ~~srs CHOICE {~~  ~~resource~~ SRS-ResourceId,  ~~resourceSet SRS-ResourceSetId~~  ~~},~~  ptrs-PortIndex ENUMERATED {~~n1, n2~~n0, n1} OPTIONAL, | Done |
| H176 | frequencyDensity  timeDensity  rbg-Size | 2 | This parameter is per BWP, so the FFS above the IE can be removed and this IE needs to be put under BWP.  **[Ericsson]** We agree that we have to verify this with respect to per-BWP configruation. but according the L1 table **there are more fields in Uplink-PTRS-Config that are supposed to be per-BWP**. (highlighted in yellow). And possibly the **easisest is to have the entire PUSCH-Config per BWP**.  PUSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.214, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission ENUMERATED {true} OPTIONAL, -- Need R  -- Maximum number of code-block-groups (CBGs) per TB (see 38.xxx, section x.x.x, FFS\_Ref)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  dmrs-Uplink SEQUENCE {  -- Selection of the DMRS type to be used for UL (see section 38.211, section 6.4.1.1.2)  dmrs-Type ENUMERATED {type1, type2} OPTIONAL, -- Need R  -- Position for additional DM-RS in DL, see Table 7.4.1.1.2-4 in 38.211.  -- The four values represent the cases of 1+0, 1+1, 1+1+1. 1+1+1+1 non-adjacent OFDM symbols for DL.  dmrs-AdditionalPosition ENUMERATED {pos0, pos1, pos2, pos3} OPTIONAL, -- Need R  -- Configures uplink PTRS (see 38.211, section x.x.x.x) FFS\_Ref  phaseTracking-RS SetupRelease { Uplink-PTRS-Config } OPTIONAL, -- Need M  -- The maximum number of OFDM symbols for UL front loaded DMRS.  -- Corresponds to L1 parameter 'UL-DMRS-max-len' (see 38.214, section 6.4.1.1.2)  maxLength ENUMERATED {len1, len2} OPTIONAL,  -- FFS: If CP-OFDM and DFT-S-OFDM cannot be configured simultaneously, make the two blocks below a CHOICE  -- DMRS related parameters for Cyclic Prefix OFDM  cp-OFDM SEQUENCE {  -- UL DMRS scrambling initalization for CP-OFDM  -- Corresponds to L1 parameter 'UL-DMRS-Scrambling-ID' (see 38.214, section 6.4.1.1.2)  -- When the field is absent the UE applies the value Physical cell ID + 6 fixed bits (e.g. 000000)  -- FFS: Clarify default value: Are the 6 bits zeros (says e.g.). Are they the MSBs or LSBs?  -- FFS: Is this parameter also needed for cell specific signallign  scramblingID BIT STRING (SIZE (16)) OPTIONAL  },  -- DMRS related parameters for DFT-s-OFDM (Transform Precoding)  dft-S-OFDM SEQUENCE {  -- Parameter: N\_ID^(csh\_DMRS) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'nDMRS-CSH-Identity-Transform-precoding' (see 38.211, section FFS\_Section)  -- FFS: Should we reaplace this explicit type by the type ScramblingId?  nDMRS-CSH-Identity INTEGER(0..1007) OPTIONAL,  -- Parameter: N\_ID^(PUSCH) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'nPUSCH-Identity-Transform precoding' (see 38.211, section FFS\_Section)  -- FFS: Should we reaplace this explicit type by the type ScramblingId?  nPUSCH-Identity INTEGER(0..1007) OPTIONAL,  -- Sequence-group hopping for PUSCH can be disabled for a certain UE despite being enabled on a cell basis. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'Disable-sequence-group-hopping-Transform-precoding' (see 38.211, section FFS\_Section)  disableSequenceGroupHopping ENUMERATED {disabled} OPTIONAL,  -- Determines if sequence hopping is enabled or not. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'Sequence-hopping-enabled-Transform-precoding' (see 38.211, section FFS\_Section)  sequenceHoppingEnabled ENUMERATED {enabled} OPTIONAL,  -- Orthogonal Cover Code (OCC) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'Activate-DMRS-with OCC-Transform-precoding' (see 38.211, section FFS\_Section)  activateDMRS-WithOCC ENUMERATED {enabled} OPTIONAL,  -- CS for the ZC sequence. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'CyclicShift-Transform-precoding' (see 38.211, section FFS\_Section)  cyclicShift INTEGER (0..7) OPTIONAL,  -- Parameter: Delta\_ss for sequence shift pattern. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'groupAssignmentPUSCH-Transform-precoding' (see 38.211, section FFS\_Section)  -- When the field is absent the UE applies the value 'CellID mod 30'  -- FFS: Is the CellID meant to be the PCI? Or the entire CellID?  groupAssignmentPUSCH INTEGER (0..29) OPTIONAL  }  },  pusch-PowerControl PUSCH-PowerControl OPTIONAL, -- Need M  -- Configured one of two supported frequency hopping mode. If not configured frequency hopping is not configured  -- Corresponds to L1 parameter 'Frequency-hopping-PUSCH' (see 38.214, section 6)  -- When the field is absent the UE applies the value Not configured  frequencyHopping ENUMERATED {mode1, mode2},  -- Configure either LBRM or FBRM for PUSCH. FBRM = Full buffer rate-matchingLBRM = Limited buffer rate-matching  -- Corresponds to L1 parameter 'LBRM-FBRM-selection' (see 38.212, section 5.4.2)  rateMatching ENUMERATED {fullBufferRM, limitedBufferRM},  -- Configuration of resource allocation type 0 and resource allocation type 1 for non-fallback DCI  -- Corresponds to L1 parameter 'Resouce-allocation-config' (see 38.214, section 6.1.2)  -- FFS\_Value: Are these values just 3 flags (ENUMERATED) or the actual configurations? If the latter, where are they defined?  resourceAllocation CHOICE {  resourceAllocationType0 NULL,  resourceAllocationType1 NULL,  dynamicSwitch NULL  } OPTIONAL,  -- Indicates which MCS table the UE shall use for PUSCH without transform precoder  -- Corresponds to L1 parameter 'MCS-Table-PUSCH' (see 38.214, section 6.1.4)  -- When the field is absent the UE applies the value 64QAM  mcs-Table ENUMERATED {qam64, qam256},  -- Indicates which MCS table the UE shall use for PUSCH with transform precoding  -- Corresponds to L1 parameter 'MCS-Table-PUSCH-transform-precoding' (see 38.214, section 6.1.4)  -- When the field is absent the UE applies the value 64QAM  mcs-TableTransformPrecoder ENUMERATED {qam64, qam256},  -- The UE specific selection of transformer precoder for PUSCH. When the field is absent the UE applies the value msg3-tp.  -- Corresponds to L1 parameter 'PUSCH-tp' (see 38.211, section 6.3.1.4)  transformPrecoder ENUMERATED {enabled} OPTIONAL,  ~~-- Selection between config 1 and config 2 for RBG size for PUSCH. Corresponds to L1 parameter 'RBG-size-PUSCH' (see 38.214, section 6.1.2.2.1)~~  ~~rbg-Size ENUMERATED {config1, config2},~~  -- Selection between and configuration of dynamic and semi-static beta-offset  -- Corresponds to L1 parameter 'UCI-on-PUSCH' (see 38.214, section 9.3)  uci-on-PUSCH SetupRelease { CHOICE {  dynamic SEQUENCE (SIZE (1..4)) OF BetaOffsets,  semiStatic BetaOffsets  } } OPTIONAL, -- Need M  -- Accounts for overhead from CSI-RS, CORESET, etc. FFS: Clarify value range and description.  -- Corresponds to L1 parameter 'Xoh-PDSCH' (see 38.214, section 5.1.3.2)  xOverhead FFS\_Value OPTIONAL,  -- Set of frequency hopping offsets used when frequency hopping is enabled for granted transmission (not msg3) and type 2  -- Corresponds to L1 parameter 'Frequency-hopping-offsets-set' (see 38.214, section 6.1.4)  frequencyHoppingOffsets SEQUENCE (SIZE (1..4)) OF FFS\_Value OPTIONAL,  ...  }  [...]  -- Configuration of Uplink Phase-Tracking-Reference-Signals (PTRS)  -- FFS: Is it possible to configure PTRS for CP-OFDM and DFT-S OFDM simultaneously or just one. If the latter, replace below by a CHOICE.  -- FFS: Some but not all of these parameters are supposed to be per BWP. Can we anyway just move all of them into BWP?  Uplink-PTRS-Config ::= SEQUENCE {  -- The PTRS port index for each configured SRS resource/resource set for non-codebook based UL MIMO, with at most UL-PTRS-ports port indices  -- Corresponds to L1 parameter 'UL-PTRS-SRS-mapping-non-CB' (see 38.214, section 6.1)  -- FFS\_CHECK: Is this only for CP-OFDM or also for DFT-S-OFDM  -- FFS\_CHECK: Is it correct that the port index can only be 1 or 2? And if so, is the value further restricted by the parameter nrofPorts?  -- And if so, should this structure be conditional to the nrofPorts being set to n2?  srs-MappingNonCodebook SEQUENCE {  srs CHOICE {  resource SRS-ResourceId,  resourceSet SRS-ResourceSetId  },  ptrs-PortIndex ENUMERATED {n1, n2} OPTIONAL,  -- Configuration of UL PTRS for CP-OFDM  cp-OFDM SetupRelease { SEQUENCE {  -- Presence and frequency density of UL PT-RS for CP-OFDM waveform as a function of scheduled BW  -- Corresponds to L1 parameter 'UL-PTRS-frequency-density-table' (see 38.214, section 6.1)  ~~-- FFS: Configuration is supposed to be per BWP according to RAN1~~  ~~frequencyDensity ENUMERATED {ffsTypeAndValue},~~  ~~-- Presence and time density of UL PT-RS for CP-OFDM waveform as a function of MCS~~  ~~-- Corresponds to L1 parameter 'UL-PTRS-time-density-table' (see 38.214, section 6.1)~~  ~~-- FFS: Configuration is supposed to be per BWP according to RAN1~~  ~~timeDensity ENUMERATED {ffsTypeAndValue},~~  -- Indicator related to the number of UL PTRS ports for CP-OFDM. Details to be further decided.  -- Corresponds to L1 parameter 'UL-PTRS-ports' (see 38.214, section 6.1)  nrofPorts ENUMERATED {n1, n2},  -- Indicates the subcarrier offset for UL PTRS for CP-OFDM. Corresponds to L1 parameter 'UL-PTRS-RE-offset' (see 38.214, section 6.1)  resourceElementOffset FFS\_Value OPTIONAL,  -- UL PTRS power boosting factor per PTRS port. Corresponds to L1 parameter 'UL-PTRS-power' (see 38.214, section 6.1)  ptrs-Power ENUMERATED {f1, f2, f3, f4}  }  } OPTIONAL, -- Cond M  -- Configuration of UL PTRS for DFT-S-OFDM.  dft-S-OFDM SetupRelease { SEQUENCE {  -- Sample density of PT-RS for DFT-s-OFDM, pre-DFT, indicating a set of thresholds T={NRBn,n=0,1,2,3,4},  -- that indicates dependency between presence of PT-RS and scheduled BW and the values of X and K the UE should  -- use depending on the scheduled BW according to the table in 38.214 FFS\_Section.  -- FFS: Configuration is supposed to be per BWP according to RAN1  -- Corresponds to L1 parameter 'UL-PTRS-pre-DFT-density' (see 38.214, section 6.1)  sampleDensity FFS\_Value OPTIONAL,  -- Time density (OFDM symbol level) of PT-RS for DFT-s-OFDM  -- Corresponds to L1 parameter 'UL-PTRS-time-density-transform-precoding' (see 38.214, section 6.1)  timeDensity ENUMERATED {d1, d2} OPTIONAL  } }  } OPTIONAL -- Cond M  }  [...]  UplinkBandwidthPart ::= SEQUENCE {  genericParameters BandwidthPart, -- Frequency location of the uplink "direct current" frequency.  -- Corresponds to L1 parameter 'UL-BWP-DC'. (see 38.211, section FFS\_Section)  directCurrentLocation INTEGER (0..3299) OPTIONAL,  -- FFS\_CHECK: Several (UE specific) BWPs may be configured with RACH resources. Hence, they must be provided with  -- the information in RACH-ConfigCommon... even though it is in this case strictly speaking not a cell-specific parameter.  -- OK to keep or re-structure the RACH config?  rach-ConfigCommon RACH-ConfigCommon,  pusch-ConfigCommon PUSCH-ConfigCommon,  pusch-ConfigPerBWP ~~PUSCH-Config, -- FFS: Is the PUSCH also BWP-specific??~~SEQUENCE {  -- Presence and frequency density of UL PT-RS for CP-OFDM waveform as a function of scheduled BW  -- Corresponds to L1 parameter 'UL-PTRS-frequency-density-table' (see 38.214, section 6.1)  frequencyDensityUL-PTRS ENUMERATED {ffsTypeAndValue},  -- Presence and time density of UL PT-RS for CP-OFDM waveform as a function of MCS  -- Corresponds to L1 parameter 'UL-PTRS-time-density-table' (see 38.214, section 6.1)  timeDensityUL\_PTRS ENUMERATED {ffsTypeAndValue},  -- Selection between config 1 and config 2 for RBG size for PUSCH. Corresponds to L1 parameter 'RBG-size-PUSCH' (see 38.214, section 6.1.2.2.1)  rbg-Size ENUMERATED {config1, config2},  }  pucch-ConfigCommon PUCCH-ConfigCommon,  pucch-Config PUCCH-Config  }  => Already covered by earlier discussion | No change needed (entire PUSCH-Config is per BWP) |
| H177 | resourceElementOffset | 2 | RAN1 has agreed “PTRS-RE-Offset” consists 2bits with values 00, 01, 10, and 11. Therefore the ‘FFS value’ can be updated accordingly, e.g. ENUMERATED {value00, value01, value10, value11}.  Uplink-PTRS-Config ::= SEQUENCE {  -- The PTRS port index for each configured SRS resource/resource set for non-codebook based UL MIMO, with at most UL-PTRS-ports port indices  -- Corresponds to L1 parameter 'UL-PTRS-SRS-mapping-non-CB' (see 38.214, section 6.1)  -- FFS\_CHECK: Is this only for CP-OFDM or also for DFT-S-OFDM  -- FFS\_CHECK: Is it correct that the port index can only be 1 or 2? And if so, is the value further restricted by the parameter nrofPorts?  -- And if so, should this structure be conditional to the nrofPorts being set to n2?  srs-MappingNonCodebook SEQUENCE {  srs CHOICE {  resource SRS-ResourceId,  resourceSet SRS-ResourceSetId  },  ptrs-PortIndex ENUMERATED {n1, n2} OPTIONAL,  -- Configuration of UL PTRS for CP-OFDM  cp-OFDM SetupRelease { SEQUENCE {  -- Presence and frequency density of UL PT-RS for CP-OFDM waveform as a function of scheduled BW  -- Corresponds to L1 parameter 'UL-PTRS-frequency-density-table' (see 38.214, section 6.1)  -- FFS: Configuration is supposed to be per BWP according to RAN1  frequencyDensity ENUMERATED {ffsTypeAndValue},  -- Presence and time density of UL PT-RS for CP-OFDM waveform as a function of MCS  -- Corresponds to L1 parameter 'UL-PTRS-time-density-table' (see 38.214, section 6.1)  -- FFS: Configuration is supposed to be per BWP according to RAN1  timeDensity ENUMERATED {ffsTypeAndValue},  -- Indicator related to the number of UL PTRS ports for CP-OFDM. Details to be further decided.  -- Corresponds to L1 parameter 'UL-PTRS-ports' (see 38.214, section 6.1)  nrofPorts ENUMERATED {n1, n2},  -- Indicates the subcarrier offset for UL PTRS for CP-OFDM. Corresponds to L1 parameter 'UL-PTRS-RE-offset' (see 38.214, section 6.1)  resourceElementOffset ~~FFS\_Value~~ENUMERATED { offset00, offset01, offset10, offset11 } OPTIONAL,  -- UL PTRS power boosting factor per PTRS port. Corresponds to L1 parameter 'UL-PTRS-power' (see 38.214, section 6.1)  ptrs-Power ENUMERATED {f1, f2, f3, f4}  }  } OPTIONAL, -- Cond M | Done |
| H178 | tpc-PUSCH-RNTI | 2 | The RNTIs in PDCCH are not needed here. For now there is no detailed agreement, it is most likely to be included in the DL configuration. Therefore the FFS in the note above this IE can be removed.  PUSCH-PowerControl ::= SEQUENCE {  -- RNTI used for PUSCH TPC. Corresponds to L1 parameter 'TPC-PUSCH-RNTI' (see 38.213, section 10)  ~~-- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity~~  ~~-- and other PDCCH parameters (if any)~~  tpc-PUSCH-RNTI RNTI-Value OPTIONAL,  **[Ericsson]** We should at least check whether, as for other DCI commands, the UE must be configured with a corresponding search space. The FFS should be kept and serve as checkpoint. | No change |
| H179 | resourceAllocation can be changed to enum, assuming FFS is that these have no type.  -- FFS\_Value: Are these values just 3 flags (ENUMERATED) or the actual configurations? If the latter, where are they defined? | 2 | -- Configuration of resource allocation type 0 and resource allocation type 1 for non-fallback DCI  -- Corresponds to L1 parameter 'Resouce-allocation-config' (see 38.214, section 6.1.2)  ~~-- FFS\_Value: Are these values just 3 flags (ENUMERATED) or the actual configurations? If the latter, where are they defined?~~  resourceAllocation ENUMERATED~~CHOICE~~ {resourceAllocationType0 ~~NULL~~, resourceAllocationType1 ~~NULL~~, dynamicSwitch ~~NULL~~}  **[Ericsson]** Since RAN1 is just in the middle of defining their parameters, we could keep this until next meeting. | Done |
| H180 | frequencyHopping should be optional because default is “not configured” | 2 | -- Configured one of two supported frequency hopping mode. If not configured frequency hopping is not configured  -- Corresponds to L1 parameter 'Frequency-hopping-PUSCH' (see 38.214, section 6)  -- When the field is absent the UE applies the value Not configured  frequencyHopping ENUMERATED {mode1, mode2} OPTIONAL,  **[Ericsson]** We should also set the Need code **to ”Need -R”** so that this field can be released | Done |
| H181 | rateMatching should be optional because default is full buffer rate matching | 2 | -- Configure either LBRM or FBRM for PUSCH. FBRM = Full buffer rate-matchingLBRM = Limited buffer rate-matching  -- Corresponds to L1 parameter 'LBRM-FBRM-selection' (see 38.212, section 5.4.2)  -- When the field is absent the UE applies the value fullBufferRM  rateMatching ENUMERATED {fullBufferRM, limitedBufferRM} OPTIONAL,  **[Ericsson]** The following seems more correct:  -- Configure either LBRM or FBRM for PUSCH. FBRM = Full buffer rate-matchingLBRM = Limited buffer rate-matching  -- Corresponds to L1 parameter 'LBRM-FBRM-selection' (see 38.212, section 5.4.2)  -- When the field is absent the UE applies the value fullBufferRM  rateMatching ENUMERATED {~~fullBufferRM,~~ limitedBufferRM} OPTIONAL, -- Need R | Done |
| H182 | mcs-Table should be optional because default is 64QAM | 2 | -- Indicates which MCS table the UE shall use for PUSCH without transform precoder  -- Corresponds to L1 parameter 'MCS-Table-PUSCH' (see 38.214, section 6.1.4)  -- When the field is absent the UE applies the value 64QAM  mcs-Table ENUMERATED {qam64, qam256} OPTIONAL,  **[Ericsson]** Then better change to  mcs-Table ENUMERATED {~~qam64,~~ qam256} OPTIONAL, -- Need R | Done |
| H183 | mcs-TableTransformPrecoder should be optional because default is 64QAM | 2 | -- Indicates which MCS table the UE shall use for PUSCH with transform precoding  -- Corresponds to L1 parameter 'MCS-Table-PUSCH-transform-precoding' (see 38.214, section 6.1.4)  -- When the field is absent the UE applies the value 64QAM  mcs-TableTransformPrecoder ENUMERATED {qam64, qam256} OPTIONAL,  **[Ericsson]** Then better change to  mcs-TableTransformPrecoder ENUMERATED {~~qam64,~~ qam256} OPTIONAL, -- Need R | Done |
| H184 | transformPrecoder should have both enable and disable options. The default is the same as Msg3 | 2 | -- The UE specific selection of transformer precoder for PUSCH. When the field is absent the UE applies the value msg3-tp.  -- Corresponds to L1 parameter 'PUSCH-tp' (see 38.211, section 6.3.1.4)  transformPrecoder ENUMERATED {enabled, disabled} OPTIONAL,  **[Ericsson]** We agree. But the need code ”Need R” is necessary. | Done |
| H185 | rbg-Size default value is config1 | 2 | -- Selection between config 1 and config 2 for RBG size for PUSCH. Corresponds to L1 parameter 'RBG-size-PUSCH' (see 38.214, section 6.1.2.2.1)  -- When the field is absent the UE applies the value config1  rbg-Size ENUMERATED {~~config1,~~ config2} OPTIONAL,  **[Ericsson]** We agree. But the need code ”Need R” is necessary. | Done |
| H186 | Dynamic choice in uci-on\_PUSCH is a set of 4 according to L1 parameter list.  The description in RRC parameter list is not exact. The reference should be 38.213 instead of 38.214, thus the corresponding note above this IE needs to be updated. | 2 | -- Selection between and configuration of dynamic and semi-static beta-offset  -- Corresponds to L1 parameter 'UCI-on-PUSCH' (see 38.21~~4~~3, section 9.3)  uci-on-PUSCH SetupRelease { CHOICE {  dynamic SEQUENCE (SIZE (~~1..~~4)) OF BetaOffsets,  semiStatic BetaOffsets  } } OPTIONAL, -- Need M  **[Ericsson]** We agree. Furthermore, the L1 table indicated that ” semi-static” is the default value. We should clarify this in the field description and consider adding this and the BetaOffsets to section 9.x.x (default configurations)  -- Selection between and configuration of dynamic and semi-static beta-offset  -- If the field is absent or released, the UE applies the value 'semiStatic' and the BetaOffsets according to FFS [BetaOffsets and/or section 9.x.x).  -- Corresponds to L1 parameter 'UCI-on-PUSCH' (see 38.21~~4~~3, section 9.3) | Done |
| H187 | xOverhead no value range specified in L1 parameter list  RAN1  Agreements**:**   * The set of possible Xoh values are [0 0.5 1 1.5]\*12   Default value is 0 (for both UL and DL)  In PUSCH, this parameter should corresponds to L1 parameter ‘Xoh-PUSCH’ instead of ‘Xoh-PDSCH’, and the note above this IE needs to be updated accordingly | 2 | -- Accounts for overhead from CSI-RS, CORESET, etc. FFS: Clarify value range and description.  -- Corresponds to L1 parameter ~~'Xoh-PDSCH'~~ 'Xoh-PUSCH' (see 38.214, section 5.1.3.2)  -- When the field is absent the UE applies the value 0  xOverhead ENUMERATED {xoh0, xoh6, xoh12, xoh18} ~~FFS\_Value~~ OPTIONAL, | Done |
| H188 | frequencyHoppingOffsets is a set of 4 according to L1 parameter list.  The description in RRC parameter list is not exact. The reference should be section 6.3 instead of 6.1.4, thus the corresponding note above this IE needs to be updated.  No RAN1 agreement on the FFS, RAN1 update needed. | 2 | -- Set of frequency hopping offsets used when frequency hopping is enabled for granted transmission (not msg3) and type 2  -- Corresponds to L1 parameter 'Frequency-hopping-offsets-set' (see 38.214, section 6.3 ~~6.1.4~~)  frequencyHoppingOffsets SEQUENCE (SIZE (~~1..~~4)) OF FFS\_Value OPTIONAL, | No change suggested |
| H189 | tpcAccumulation default value is enabled so enumerated value should be “disable” | 2 | PUSCH-PowerControl ::= SEQUENCE {  -- RNTI used for PUSCH TPC. Corresponds to L1 parameter 'TPC-PUSCH-RNTI' (see 38.213, section 10)  -- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity  -- and other PDCCH parameters (if any)  tpc-PUSCH-RNTI RNTI-Value OPTIONAL,  -- If enabled, UE applies TPC commands via accumulation. If not enabled, UE applies the TPC command without accumulation  -- Corresponds to L1 parameter 'Accumulation-enabled' (see 38.213, section 7.1)  -- If absent TPC accumulation is enabled  tpcAccumulation ENUMERATED { disabled~~enabled~~ } OPTIONAL, ~~-- Need R~~  -- Dedicated alpha value for msg3 PUSCH. Corresponds to L1 parameter 'alpha-ue-pusch-msg3' (see 38.213, section 7.1)  -- When the field is absent the UE applies the value 1.  msg3-Alpha Alpha OPTIONAL,  **[Ericsson]** We agree that the enumerated should be ”disabled”. But ”Need R” is necessary to be able to release this configuration. | Done |
| H190 | Msg3-DeltaPreamble needs to be specified by RAN1 | 2 | PUSCH-ConfigCommon ::= SEQUENCE {  -- Sequence-group hopping can be enabled or disabled by means of this cell-specific parameter.  -- Corresponds to L1 parameter 'Group-hopping-enabled-Transform-precoding' (see 38.211, section FFS\_Section)  -- This field is Cell specific  groupHoppingEnabledTransformPrecoding ENUMERATED {enabled} OPTIONAL,  -- ------------------------  -- Power control parameters  -- Power offset between msg3 and RACH preamble transmission. Corresponds to L1 parameter 'Delta-preamble-msg3' (see 38.213, section 7.1)  msg3-DeltaPreamble FFS\_Value OPTIONAL,  -- P0 value for PUSCH with grant (except msg3). Value in dBm. Only even values (step size 2) allowed.  -- Corresponds to L1 parameter 'p0-nominal-pusch-withgrant' (see 38.213, section 7.1)  -- This field is cell specific  p0-NominalWithGrant INTEGER (-202..24) OPTIONAL,  ...  } | No change suggested |
| H191 | p0-nominal-pusch-withgrant, p0-nominal-pusch-withoutgrant, p0-nominal-pucch, p0-srs – step size 2 not enforced  could use smaller range and convert, similar to e.g. RSRP-RangeSL4 in 36.331  to discuss whether such optimisation is necessary (maybe it is less clear) | 2 | -- P0 value for PUSCH with grant (except msg3). Range is -202 to +24dBM with step size 2. Value 0 means -202dBm, value 1 means -200dBM, value 2 mens -198dBm and so on up to value 113 means +24dBM.  -- Corresponds to L1 parameter 'p0-nominal-pusch-withgrant' (see 38.213, section 7.1)  -- This field is cell specific  p0-NominalWithGrant INTEGER (0..113~~-202..24~~) OPTIONAL,  **[Ericsson]** As you mention, it appears less clear than the full value range. Therefore, we prefer the original version. | No change |
| H192 | RAN1 need to define the values | 2 | -- A set of p0-pusch and alpha used for PUSCH with grant. 'PUSCH beam indication' (if present) gives the index of the set to  -- be used for a particular PUSCH transmission.  -- FFS\_CHECK: Is the ”PUSCH beam indication” in DCI which schedules the PUSCH? If so, clarify in field description  -- Corresponds to L1 parameter 'p0-pusch-alpha-set' (see 38.213, section 7.1)  P0-PUSCH-AlphaSet ::= SEQUENCE {  p0-PUSCH-AlphaSetId P0-PUSCH-AlphaSetId,  -- P0 value for PUSCH with grant (except msg3). Corresponds to L1 parameter 'p0-pusch' (see 38,213, section 7.1)  p0 FFS\_Value OPTIONAL,  -- alpha value for PUSCH with grant (except msg3) (see 38.213, section 7.1)  -- When the field is absent the UE applies the value 1  alpha Alpha OPTIONAL  } | No change suggested |
| H193 | PUSCH-PathlossReference-RS default is 1, and it is unclear how pathloss can be estimated without these. | 2 | We understand that pathlossReferenceRSs should be mandatory, and the “default” value refers to the case that ‘PUSCH beam indication’ is absent and the sequence contains only one entry.  PUSCH-PowerControl ::= SEQUENCE {  -- RNTI used for PUSCH TPC. Corresponds to L1 parameter 'TPC-PUSCH-RNTI' (see 38.213, section 10)  -- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity  -- and other PDCCH parameters (if any)  tpc-PUSCH-RNTI RNTI-Value OPTIONAL,  -- If enabled, UE applies TPC commands via accumulation. If not enabled, UE applies the TPC command without accumulation  -- Corresponds to L1 parameter 'Accumulation-enabled' (see 38.213, section 7.1)  tpcAccumulation ENUMERATED { enabled } OPTIONAL, -- Need R  -- Dedicated alpha value for msg3 PUSCH. Corresponds to L1 parameter 'alpha-ue-pusch-msg3' (see 38.213, section 7.1)  -- When the field is absent the UE applies the value 1.  msg3-Alpha Alpha OPTIONAL,  -- P0 value for UL grant-free/SPS based PUSCH. Value in dBm. Only even values (step size 2) allowed.  -- Corresponds to L1 parameter 'p0-nominal-pusch-withoutgrant' (see 38.213, section 7.1)  p0-NominalWithoutGrant INTEGER (-202..24) OPTIONAL,  -- configuration {p0-pusch,alpha} sets for PUSCH (except msg3), i.e., { {p0,alpha,index1}, {p0,alpha,index2},…}.  -- Corresponds to L1 parameter 'p0-push-alpha-setconfig' (see 38,213, section 7.1)  p0-AlphaSets SEQUENCE (SIZE (1..maxNrofP0-PUSCH-AlphaSets)) OF P0-PUSCH-AlphaSet OPTIONAL,  -- A set of Refernce Signals (e.g. a CSI-RS config or a SSblock) to be used for PUSCH path loss estimation.  -- Up to maxNrofPUSCH-PathlossReference-RSs may be configured when 'PUSCH beam indication' is present (FFS: in DCI???).  -- Otherwise, there may be only one entry. ~~FFS\_CHECK: Is it possible not to configure it at all? What does the UE use then? Any SSB?~~  -- Corresponds to L1 parameter 'pusch-pathlossReference-rs-config' (see 38.213, section 7.1)  pathlossReferenceRSs SEQUENCE (SIZE (1..maxNrofPUSCH-PathlossReference-RSs)) OF PUSCH-PathlossReference-RS ~~OPTIONAL~~,  -- Number of PUSCH power control adjustment states maintained by the UE (i.e., fc(i)). If the field is present (n2) the UE maintains  -- two power control states (i.e., fc(i,1) and fc(i,2)). Otherwise, it applies one (i.e., fc(i,1)).  -- Corresponds to L1 parameter 'num-pusch-pcadjustment-states' (see 38.213, section 7.1)  twoPUSCH-PC-AdjustmentStates ENUMERATED {twoStates} OPTIONAL, -- Need R  -- Indicates whether to apply dela MCS. When the field is absent, the UE applies Ks = 0 in delta\_TFC formula for PUSCH.  -- Corresponds to L1 parameter 'deltaMCS-Enabled' (see 38.213, section 7.1)  deltaMCS ENUMERATED {enabled} OPTIONAL -- Need R  } | Done  Added also ”Need M” to allow delta signalling |
| H194 | maxNrofPUCCH-P0-PerSet has value 8 should it be 7? RAN1 range is 0-7 in “num-p0-pucch” so 0 would be absent, and 7 the max? Or is RAN1 list wrong? | 2 | PUCCH-PowerControl ::= SEQUENCE {  -- RNTI used for PUCCH TPC. Corresponds to L1 parameter 'TPC-PUCCH-RNTI' (see 38.213, section 10).  -- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity  -- and other PDCCH parameters (if any)  tpc-PUCCH-RNTI RNTI-Value OPTIONAL,  -- A set with dedicated P0 values for PUCCH, i.e., {P01, P02,... }. Corresponds to L1 parameter 'p0-pucch-set' (see 38.213, section 7.2)  p0-Set SEQUENCE (SIZE (~~1~~0..maxNrofPUCCH-P0-PerSet)) OF P0-PUCCH OPTIONAL,  -- A set of Refernce Signals (e.g. a CSI-RS config or a SSblock) to be used for PUCCH pathloss estimation.  -- Up to maxNrofPUCCH-PathlossReference-RSs may be configured  -- FFS\_CHECK: Is it possible not to configure it at all? What does the UE use then? Any SSB?  -- Corresponds to L1 parameter 'pucch-pathlossReference-rs-config' (see 38.213, section 7.2)  pathlossReferenceRSs SEQUENCE (SIZE (1..maxNrofPUCCH-PathlossReference-RSs)) OF PUCCH-PathlossReference-RS OPTIONAL,  -- Number of PUCCH power control adjustment states maintained by the UE (i.e., g(i)). If the field is present (n2) the UE maintains  -- two power control states (i.e., g(i,0) and g(i,1)). Otherwise, it applies one (i.e., g(i,0)).  -- Corresponds to L1 parameter 'num-pucch-pcadjustment-states' (see 38.213, section 7.2)  twoPUSCH-PC-AdjustmentStates ENUMERATED {twoStates} OPTIONAL, -- Need R  ...  }  maxNrofPUCCH-P0-PerSet INTEGER ::= 7~~8~~ -- Maximum number of P0-pucch present in a p0-pucch set  **[Ericsson]** We agree that the L1 table seems to say that there can be 0 to 7 entries. If that is the case, we have to correct maxNrofPUCCH-P0-PerSet to 7 as suggested. But we should keep the list starting from 1. If the list has 0 elements it can be just absent. Need codes must be corrected and the SetupRelease could be configured. | No change: RAN1 said: The maximum number of open-loop parameter value sets is 8 per cell for PUCCH. |
| H195 | RAN1 to define | 2 | -- P0 value for PUCCH. Corresponds to L1 parameter 'p0-pucch' (see 3,213, section 7.2)  P0-PUCCH ::= FFS\_Value | No change suggested |
| H196 | deltaF-pucch-f0, deltaF-pucch-f1, deltaF-pucch-f2, deltaF-pucch-f3, deltaF-pucch-f4 value needs to be defined by RAN1 | 2 | RAN1 input needed | No change suggested |
| H197 | Group-hopping-enabled-Transform-precoding is missing (this is not the same like Sequence-hopping-enabled-Transform-precoding) | 2 | Add the parameter BOOLEAN.  **[Ericsson]** **Disagree**. That parameter is already in PUSCH-ConfigCommon since RAN1 indicated in their table that it is cell specific.  PUSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.214, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission ENUMERATED {true} OPTIONAL, -- Need R  -- Maximum number of code-block-groups (CBGs) per TB (see 38.xxx, section x.x.x, FFS\_Ref)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  dmrs-Uplink SEQUENCE {  -- Selection of the DMRS type to be used for UL (see section 38.211, section 6.4.1.1.2)  dmrs-Type ENUMERATED {type1, type2} OPTIONAL, -- Need R  -- Position for additional DM-RS in DL, see Table 7.4.1.1.2-4 in 38.211.  -- The four values represent the cases of 1+0, 1+1, 1+1+1. 1+1+1+1 non-adjacent OFDM symbols for DL.  dmrs-AdditionalPosition ENUMERATED {pos0, pos1, pos2, pos3} OPTIONAL, -- Need R  -- Configures uplink PTRS (see 38.211, section x.x.x.x) FFS\_Ref  phaseTracking-RS SetupRelease { Uplink-PTRS-Config } OPTIONAL, -- Need M  -- The maximum number of OFDM symbols for UL front loaded DMRS.  -- Corresponds to L1 parameter 'UL-DMRS-max-len' (see 38.214, section 6.4.1.1.2)  maxLength ENUMERATED {len1, len2} OPTIONAL,  -- FFS: If CP-OFDM and DFT-S-OFDM cannot be configured simultaneously, make the two blocks below a CHOICE  -- DMRS related parameters for Cyclic Prefix OFDM  cp-OFDM SEQUENCE {  -- UL DMRS scrambling initalization for CP-OFDM  -- Corresponds to L1 parameter 'UL-DMRS-Scrambling-ID' (see 38.214, section 6.4.1.1.2)  -- When the field is absent the UE applies the value Physical cell ID + 6 fixed bits (e.g. 000000)  -- FFS: Clarify default value: Are the 6 bits zeros (says e.g.). Are they the MSBs or LSBs?  -- FFS: Is this parameter also needed for cell specific signallign  scramblingID BIT STRING (SIZE (16)) OPTIONAL  },  -- DMRS related parameters for DFT-s-OFDM (Transform Precoding)  dft-S-OFDM SEQUENCE {  -- Parameter: N\_ID^(csh\_DMRS) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'nDMRS-CSH-Identity-Transform-precoding' (see 38.211, section FFS\_Section)  -- FFS: Should we reaplace this explicit type by the type ScramblingId?  nDMRS-CSH-Identity INTEGER(0..1007) OPTIONAL,  -- Parameter: N\_ID^(PUSCH) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'nPUSCH-Identity-Transform precoding' (see 38.211, section FFS\_Section)  -- FFS: Should we reaplace this explicit type by the type ScramblingId?  nPUSCH-Identity INTEGER(0..1007) OPTIONAL,  -- Per-cell enabling/disabling of sequence group hopping.  -- Corresponds to L1 parameter 'Group-hopping-enabled-transform-precoding’ (see 38.211, section FFS\_Section)  groupHoppingEnabledTransformPrecoding ENUMERATED {enabled) OPTIONAL,  -- Sequence-group hopping for PUSCH can be disabled for a certain UE despite being enabled on a cell basis. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'Disable-sequence-group-hopping-Transform-precoding' (see 38.211, section FFS\_Section)  disableSequenceGroupHopping ENUMERATED {disabled} OPTIONAL,  -- Determines if sequence hopping is enabled or not. For DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'Sequence-hopping-enabled-Transform-precoding' (see 38.211, section FFS\_Section)  sequenceHoppingEnabled ENUMERATED {enabled} OPTIONAL,  -- Orthogonal Cover Code (OCC) for DFT-s-OFDM DMRS  -- Corresponds to L1 parameter 'Activate-DMRS-with OCC-Transform-precoding' (see 38.211, section FFS\_Section)  ... | No change |
| D022 | UL power control related parameters | 3 | Same as D021.  **[Ericsson]** As said for D021, by far not all power control parameters have the same ranges and not all fields are applicable everywhere. Therefore, possibilities for a common IE seem limited. | No change |
| Z085 | similar with PUCCH (see Z083 and Z084), both PUSCH-PathlossReference-RS and the entire PUSCH-PowerControl should be modified into “toAddModList” and “toReleaseList”, in order to support delta configuration. | 2 | Modify both PUSCH-PathlossReference-RS and the PUSCH-PowerControl to use the “toAddModList” and “toReleaseList” to enable delta configuration. | Done |
| N269 | This IE is included in BWP-Config and ServingCellConfigDedicated. How do those differ, and why are both needed? | 2 | Discuss if the PUSCH-Config is needed in both places, and if they are, whether we need the same parameters in both places. | Covered already by agreed BWP CR |
| N270 | Since PUSCH-ConfigCommon is only used in BWP, perhaps it should be PUSCH-ConfigBWP instead? | 2 | Discuss what is the intent with the PUSCH-ConfigCommon  **[Ericsson]** We think that IEs should have the suffix ”common” if they may be conveyed in system information and, in those cases, must have the same value sent via dedicated signalling, But due to the introduction of BWPs this became pretty messy.  We tried to address it in contribution E127. | Covered already by agreed BWP CR |
| Q026 | PUSCH-Config and PUSCH-ConfigCommon in Uplink BWP should be made OPTIONAL.  PUSCH-ConfigCommon should also be included in ServingCellConfigCommon | 2 | UL BWP parameters can be included in SIB1 for initial access, and in BandwidthPart-Config.  Currently, PUCCH-Config and PUCCH-ConfigCommon in Uplink BWP are mandatory. In the draft CR capturing class-1 issues, these are made optional. We are ok to have these values as optional in UL BWP.  What should be the UE behavior when this is omitted/not included as part of BandwidthPart-Config? Currently, pusch-Config is included in ServingCellConfigDedicated. Similarly, pusch-ConfigCommon should be included in ServingCellConfigCommon (i.e., outside UL BWP parameters) also as OPTIONAL. If the parameters are omitted under a UL BWP, then the one in ServingCellConfigDedicated/ServingCellConfigCommon is applicable. If the parameters are missing in both places, that’s an error situation which the E-UTRAN should avoid. | Covered already by agreed BWP CR |
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#### – Q-OffsetRange

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – QuantityConfig

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M042 | QuantityConfig: should be either (1) CHOICE, or (2) simply a list of QualityConfigNR. It should not be a SEQUENCE | 3 | (1)  QuantityConfig ::= CHOICE {  quantityConfigNR QuantityConfigNR OPTIONAL,  quantityConfigNR-list QuantityConfigNR-List OPTIONAL  }  (2)  QuantityConfig::= SEQUENCE (SIZE (1..maxNroQuantityConfig)) OF QuantityConfigNR  => quantityConfigNR to be removed (List remains) and extension marker added. |  |
| M043 | Naming convention for maxNroQuantityConfig | 2 | In QualityConfig, we have  QuantityConfigNR-List::= SEQUENCE (SIZE (1..maxNroQuantityConfig)) OF QuantityConfigNR  In measObjectNR, however, we have  quantityConfigIndex INTEGER (1..maxQuantityConfigId),  It seems that maxNroQuantityConfig and maxQuantityConfigId are the same thing? The naming should be aligned. Also, if we adopt the “Nr” naming, it should be maxNrofQuantityConfig |  |
| Z053 | Typo? The first IE could be renamed as quantityConfigEUTRA for inter-RAT measurement. | 2 | QuantityConfig ::= SEQUENCE {  quantityConfig~~NR~~EUTRA QuantityConfig~~NR~~EUTRA OPTIONAL,  quantityConfigNR-list QuantityConfigNR-List OPTIONAL  }  QuantityConfigEUTRA ::= SEQUENCE{ffsTypeAndValue}  => Covered by M042 |  |
| H198 | Editorial error? |  | QuantityConfig ::= SEQUENCE {  quantityConfig~~NR~~EUTRA QuantityConfig~~NR~~EUTRA OPTIONAL,  quantityConfigNR-list QuantityConfigNR-List OPTIONAL  }  => Covered by M042 |  |
| D016 | Since the quantityConfigNR is included in the quantityConfigNR-List, the first IE would be typo of quantityConfigEUTRA. | 2 | QuantityConfig ::= SEQUENCE {  quantityConfig~~NR~~EUTRA QuantityConfig~~NR~~EUTRA OPTIONAL,  quantityConfigNR-list QuantityConfigNR-List OPTIONAL,  ...  }  QuantityConfigEUTRA ::= ENUMERATED {ffsTypeAndValue}  => Covered by M042 | See previous. |
| D017 | The extension marker is missing. | 2 | Included in the ASN.1 proposed in D016. |  |
| N111 | Unknown parameter and redundant parenthesis:  quantityConfigRSindex QuantityConfigRS OPTIONAL } | 2/3 | It looks a bit as if something has been unintentionally cut from this ASN.1 section. Something preceding the line quoted in the description is missing. Why the parameter which has the "index" excerpt in its name is of QuantityConfigRS which is a SEQUENCE of multiple filterCoefficients? |  |
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#### – RACH-Config (general <new>)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| S018 | The common RACH parameters (RACH-ConfigCommon) are part of UL bandwidth config while the dedicated RACH parameters are in SpCellConfig. I.e. placement is not really aligned. | 3 | Also within BeamManagement there are some common and dedicated RACH parameters. It seems good to investigate ways to improve/ align | See Tdoc R2-1801472  See Tdoc R2-1801473  No change => Should be OK with the RACH related CRs and with the agreed BWP CR |
| H318 | A number of FFSs remain in BeamFailureRecovery and BeamFailureDetection | 3 | We will have a separate contribution on this. |  |
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#### – RACH-ConfigCommon

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M062 | For contention RACH, R1 has agreed that SCS for Msg 2 is the same as the numerology of RMSI. So, there is no need to signal msg2 SCS, | 1 | ~~msg2-SubcarrierSpacing~~ ~~SubcarrierSpacing~~,  Rap: Already captured in CR. |  |
| M063 | RAN1 and RAN2 has agreed separate SSB and preamble association. Need to find a way to align the behavior. | 4 | RAN1 association  -- Corresponds to L1 parameter 'CB-preambles-per-SSB' (see 38.211?, section FFS\_Section)  -- FFS\_CHECK: Relation to (old) RAN2 CBRA-SSB-ResourceList handling the CB-RA preambles/resources per beam.  -- FFS\_Value: RAN1 indicated ”4 bit” but there should be actual values here... and not hidden in a table.  cb-preamblesPerSSB FFS\_Value OPTIONAL,  -- Number of SSBs per RACH occasion. By multiplying with cb-preamblesPerSSB, the UE determines the total number of CB preambles.  -- Corresponds to L1 parameter 'SSB-per-rach-occasion' (see 38.211?, section FFS\_Section)  -- FFS\_CHECK: Relation to (old) RAN2 CBRA-SSB-ResourceList handling the CB-RA preambles/resources per beam.  -- FFS\_Value: RAN1 indicated ”3 bit” but there should be actual values here... and not hidden in a table.  ssb-perRACH-Occasion FFS\_Value OPTIONAL,  RAN2 association  CBRA-SSB-ResourceList ::= SEQUENCE (SIZE(1..maxRAssbResources)) OF CBRA-SSB-Resource  CBRA-SSB-Resource ::= SEQUENCE {  ssb SSB-Id,  startIndexRA-PreambleGroupA PreambleStartIndex,  numberofRA-PreamblesGroupA NumberOfRA-Preambles,  numberOfRA-Preambles NumberOfRA-Preambles,  -- PRACH configuration for SSB configuration (i.e. time and frequency location)  -- FFS / TODO: Type Definition for RA-Resources.  ra-Resources RA-Resources  }  [**Ericsson2**] Should be discussed based on contributions. E.g. R2-1800979 and others  [NTT DOCOMO] We understand that RAN1 has agreed that the association between SSB and RACH is done implicitly. To do this, the following L1 parameters are enough, which has already been implemented in RACH-ConfigCommon:  1) SSB-transmitted(-SIB1)  2) PRACHConfigurationIndex  3) prach-FDM  4) CB-preambles-per-SSB  5) SSB-per-rach-occasion  Therefore, CBRA-SSB-Resourcelist is not needed and so can be removed.  RAN2 AH: Disscussed and agrements based on R2-1800401 (ZTE), R2-1800979 (Ericsson), R2-1800979 (Ericsson) | See Tdoc R2-1801472  See Tdoc R2-1800979 |
| H199 | UL and DL are in a single IE, while L1 parameters lists separately.  Also RACH parameters are (re)defined in the IE BeamManagement – should refer to this IE? | 3 | Consider to break the UL and DL fields out into separate structures.  -- ASN1START  -- TAG-RACH-CONFIG-COMMON-START  RACH-ConfigCommon ::= SEQUENCE {  -- FFS: whether any of the parameter(s) in the L1 TP should be within CBRA-SSB-ResourceList  groupBconfigured SEQUENCE {  -- FFS: ra-Msg3SizeGroupA values  ra-Msg3SizeGroupA ENUMERATED {b56, b144, b208, b256, b282, b480, b640, b800, b1000, spare7, spare6, spare5,  spare4, spare3, spare2, spare1},  -- FFS: Need and definition of messagePowerOffsetGroupB  messagePowerOffsetGroupB ENUMERATED { minusinfinity, dB0, dB5, dB8, dB10, dB12, dB15, dB18}  } OPTIONAL,  cbra-SSB-ResourceList CBRA-SSB-ResourceList,  ra-ContentionResolutionTimer ENUMERATED { sf8, sf16, sf24, sf32, sf40, sf48, sf56, sf64},  -- Msg1 (RA preamble):  -- UE may select the SS block and corresponding PRACH resource for path-loss estimation and (re)transmission  -- based on SS blocks that satisfy the threshold (see 38.213, section REF)  ssb-Threshold RSRP-Range OPTIONAL,  -- FFS: Provide proper description  -- Corresponds to L1 parameter 'SUL-RSRP-Threshold' (see FFS\_Spec, section FFS\_Section)  sul-RSRP-Threshold RSRP-Range OPTIONAL,  -- PRACH configuration index. Corresponds to L1 parameter 'PRACHConfigurationIndex' (see 38.211, section 6.3.3.2)  prach-ConfigurationIndex INTEGER (0..255) OPTIONAL,  -- PRACH root sequence index. Corresponds to L1 parameter 'PRACHRootSequenceIndex' (see 38.211, section 6.3.3.1).  -- The value range depends on whether L=839 or L=139  prach-RootSequenceIndex CHOICE {  l839 INTEGER (0..837),  l139 INTEGER (0..137)  } OPTIONAL,  -- N-CS configuration, see Table 6.3.3.1-3 in 38.211  zeroCorrelationZoneConfig INTEGER(0..15),  -- Subcarrier spacing of PRACH. Corresponds to L1 parameter 'prach-Msg1SubcarrierSpacing' (see 38.211, section FFS\_Section)  -- FFS\_DefaultValue: Same as DL SCS?  msg1-SubcarrierSpacing SubcarrierSpacing OPTIONAL,  -- The number of PRACH transmission occasions FDMed in one time instance.  -- Corresponds to L1 parameter 'prach-FDM' (see 38,211, section FFS\_Section)  -- FFS\_DefaultValue?  msg1-FDM BIT STRING (SIZE (2)),  -- Offset of lowest PRACH transmission occasion in frequency domain with respective to PRB 0 of initial active UL BWP(s)  -- Corresponds to L1 parameter 'prach-frequency-start' (see 38,211, section FFS\_Section)  -- FFS\_FIXME: Clarify whether it is ”initial” or ”firstActive” UL BWP, i.e., whether this is meant for SpCell and/or SCell  -- FFS\_FIXME: What is PRB 0 or a BWP? PRB 0 defines the lower edge of the carrier.  msg1-FrequencyStart INTEGER (0..maxNrofPhysicalResourceBlocks-1) OPTIONAL,  -- Configuration of restricted sets, see 38.211 6.3.3.1  -- FFS\_CHECK: RAN1 value said "restrictedTypeA". Does it mean "restrictedToTypeA"? If not, what else?  restrictedSetConfig ENUMERATED {unrestricted, restrictedToTypeA, restrictedToTypeB},  -- (see 38.213, section 7.4)  preambleReceivedTargetPower ENUMERATED {  dBm-120, dBm-118, dBm-116, dBm-114, dBm-112, dBm-110, dBm-108, dBm-106, dBm-104, dBm-102, dBm-100,  dBm-98, dBm-96, dBm-94,dBm-92, dBm-90, dBm-88, dBm-86, dBm-84,dBm-82, dBm-80, dBm-78, dBm-76,  dBm-74, dBm-72, dBm-70, dBm-68, dBm-66, dBm-64, dBm-62, dBm-60, dBm-58, dBm-56, dBm-54, dBm-52, dBm-50, dBm-48, dBm-46, dBm-44, dBm-42, dBm-40, dBm-38, dBm-36, dBm-34, dBm-32, dBm-30, dBm-28, dBm-26, dBm-24, dBm-22, dBm-20, dBm-18, dBm-16, dBm-14, dBm-12, dBm-10, dBm-8, dBm-6, dBm-4, dBm-2, dBm-0, dBm2, dBm4, dBm6 } OPTIONAL,  -- Power ramping steps for PRACH (see 38.321, FFS\_section)  powerRampingStep ENUMERATED {dB0, dB2, dB4, dB6} OPTIONAL, -- Need R  -- FFS\_CHECK: PreambleTransMax parameter usage (parameter was not provided by RAN1 and not yet discussed in RAN2)  preambleTransMax ENUMERATED {n3, n4, n5, n6, n7, n8, n10, n20, n50, n100, n200},  -- Corresponds to L1 parameter 'CB-preambles-per-SSB' (see 38.211?, section FFS\_Section)  -- FFS\_CHECK: Relation to (old) RAN2 CBRA-SSB-ResourceList handling the CB-RA preambles/resources per beam.  -- FFS\_Value: RAN1 indicated ”4 bit” but there should be actual values here... and not hidden in a table.  cb-preamblesPerSSB FFS\_Value OPTIONAL,  -- Number of SSBs per RACH occasion. By multiplying with cb-preamblesPerSSB, the UE determines the total number of CB preambles.  -- Corresponds to L1 parameter 'SSB-per-rach-occasion' (see 38.211?, section FFS\_Section)  -- FFS\_CHECK: Relation to (old) RAN2 CBRA-SSB-ResourceList handling the CB-RA preambles/resources per beam.  -- FFS\_Value: RAN1 indicated ”3 bit” but there should be actual values here... and not hidden in a table.  ssb-perRACH-Occasion FFS\_Value OPTIONAL,  -- Msg2 (RAR) window length. Corresponds to L1 parameter 'msg2-scs' (see 38.213, section 8.1)  -- FFS\_Value: To be decided by RAN2  ra-ResponseWindow ENUMERATED {ffsTypeAndValue},  -- Subcarrier spacing for msg2 for contention-free RA procedure for handover.  -- Corresponds to L1 parameter 'msg2-scs' (see 38.321?, section FFS\_Section)  msg2-SubcarrierSpacing SubcarrierSpacing,  -- CORESET configured for random access. When the field is absent the UE uses the CORESET according to pdcchConfigSIB1  -- Corresponds to L1 parameter 'rach-coreset-configuration' (see 38.211?, section FFS\_Section)  ra-ControlResourceSet ControlResourceSetId OPTIONAL,  -- Search space for random access procedure. Corresponds to L1 parameter 'ra-SearchSpace' (see 38.214?, section FFS\_Section)  -- FFS: If the field is absent the UE uses the SearchSpace according to pdcchConfigSIB1  ra-SearchSpace SearchSpace OPTIONAL,  -- Subcarrier spacing for Msg3. Corresponds to L1 parameter 'msg3-scs' (see 38.213, section 8.1)  msg3-SubcarrierSpacing SubcarrierSpacing,  -- Indicates to a UE whether transform precoding is enabled for Msg3 transmission.  -- Corresponds to L1 parameter 'msg3-tp' (see 38.213, section 8.1)  msg3-transformPrecoding ENUMERATED {true} OPTIONAL -- Need R  } | See Tdoc R2-1801473 |
| H200 | In L1 parameters list there’s no default for msg3-transformPrecoding so should be mandatory with enable/disable | 2 | -- Indicates to a UE whether transform precoding is enabled for Msg3 transmission.  -- Corresponds to L1 parameter 'msg3-tp' (see 38.213, section 8.1)  msg3-transformPrecoding ENUMERATED {~~true~~enabled, disabled} ~~OPTIONAL -- Need R~~  => Change to OPTIONAl ENUMERATED {enabled} Need R |  |
| H201 | powerRampingStep has no default and it is not clear what would happen if this was absent with need R. | 2 | -- Power ramping steps for PRACH (see 38.321, FFS\_section)  powerRampingStep ENUMERATED {dB0, dB2, dB4, dB6}  ~~OPTIONAL~~, ~~-- Need R~~ |  |
| H202 | No default specified for prach-ConfigurationIndex and not clear what would happen is not present – PRACH configuration needs an index. | 2 | -- PRACH configuration index. Corresponds to L1 parameter 'PRACHConfigurationIndex' (see 38.211, section 6.3.3.2)  prach-ConfigurationIndex INTEGER (0..255) ~~OPTIONAL~~, |  |
| H203 | No default specified for prach-RootSequenceIndex  What is L? Do both values need to be provided – is it possible for both L to be supported for one PRACH? | 2 | -- PRACH root sequence index. Corresponds to L1 parameter 'PRACHRootSequenceIndex' (see 38.211, section 6.3.3.1).  -- The value range depends on whether L=839 or L=139  prach-RootSequenceIndex CHOICE {  l839 INTEGER (0..837),  l139 INTEGER (0..137)  } ~~OPTIONAL~~, |  |
| H204 | preambleReceivedTargetPower range needs to be checked by RAN1. L1 parameters list just states 6 bits and it is not clear from RAN1 spec (to me)  No default specified | 2 | -- (see 38.213, section 7.4)  preambleReceivedTargetPower ENUMERATED {  dBm-120, dBm-118, dBm-116, dBm-114, dBm-112, dBm-110, dBm-108, dBm-106, dBm-104, dBm-102, dBm-100,  dBm-98, dBm-96, dBm-94,dBm-92, dBm-90, dBm-88, dBm-86, dBm-84,dBm-82, dBm-80, dBm-78, dBm-76,  dBm-74, dBm-72, dBm-70, dBm-68, dBm-66, dBm-64, dBm-62, dBm-60, dBm-58, dBm-56, dBm-54, dBm-52, dBm-50, dBm-48, dBm-46, dBm-44, dBm-42, dBm-40, dBm-38, dBm-36, dBm-34, dBm-32, dBm-30, dBm-28, dBm-26, dBm-24, dBm-22, dBm-20, dBm-18, dBm-16, dBm-14, dBm-12, dBm-10, dBm-8, dBm-6, dBm-4, dBm-2, dBm-0, dBm2, dBm4, dBm6 } ~~OPTIONAL~~, |  |
| H205 | FFS – needs to be decided in RAN2  preambleTransMax | 2 | -- FFS\_CHECK: PreambleTransMax parameter usage (parameter was not provided by RAN1 and not yet discussed in RAN2)  preambleTransMax ENUMERATED {n3, n4, n5, n6, n7, n8, n10, n20, n50, n100, n200}, |  |
| H206 | ra-ResponseWindow to be decided in RAN2. | 2 | -- Msg2 (RAR) window length. Corresponds to L1 parameter 'msg2-scs' (see 38.213, section 8.1)  -- FFS\_Value: To be decided by RAN2  ra-ResponseWindow ENUMERATED {ffsTypeAndValue}, |  |
| H207 | Should just use RAN1 suggested values for restrictedSetConfig, we can check offline.  -- FFS\_CHECK: RAN1 value said "restrictedTypeA". Does it mean "restrictedToTypeA"? If not, what else? | 2 | -- Configuration of restricted sets, see 38.211 6.3.3.1  ~~-- FFS\_CHECK: RAN1 value said "restrictedTypeA". Does it mean "restrictedToTypeA"? If not, what else?~~  restrictedSetConfig ENUMERATED {unrestricted, restricted~~To~~TypeA, restricted~~To~~TypeB}, |  |
| H208 | For SUL, according to the RAN2 agreement:  “For contention based RA, if the network does not explicitly tell the UE which carrier to use, the UE shall perform UL selection based on the RSRP threshold as initial access”,  there should be an option to explicitly indicate the uplink carrier. The MAC spec has already captured this condition as below.  1> if the carrier to use for the Random Access procedure is explicitly signalled:  2> select the signalled carrier for performing Random Access procedure; | 2 | -- FFS: Provide proper description  -- Corresponds to L1 parameter 'SUL-RSRP-Threshold' (see FFS\_Spec, section FFS\_Section)  cbra-ul-carrier CHOICE {  explicit ENUMERATED {normal, sul},  sul-RSRP-Threshold RSRP-Range  } OPTIONAL,  OPTIONAL,  **[Ericsson]** We think the proposed addition does not capture the agreement correctly. Our opinion is that the explicit indication only applies to the CFRA. That said it could be good to discuss this, as some agreements may be incomplete. Also, we think the explicit indication is carried by the PDCCH order.  RAN2 AH: Discussed [R2-1800749](file:///C:\Data\3GPP\Extracts\R2-1800749%20CR%20on%2038.331%20for%20support%20of%20SUL%20(ASN.1%20H017,%20H018,%20H021,%20H038,%20H208%20).doc) (CR on 38.331 for support of SUL (ASN.1 H017, H018, H021, H038, H208 ) )  Dies this tdoc covers H208? | See Tdoc R2-1800749 |
| H209 | No default specified for prach-Msg1SubcarrierSpacing but the suggestion is to have default “same as DL SCS”. RAN1 to check – if no agreement then IE should be mandatory.  Section number to be updated | 2 | -- Subcarrier spacing of PRACH. Corresponds to L1 parameter 'prach-Msg1SubcarrierSpacing' (see 38.211, section FFS\_Section)  -- FFS\_DefaultValue: Same as DL SCS?  msg1-SubcarrierSpacing SubcarrierSpacing ~~OPTIONAL~~, |  |
| H210 | msg1-FDM should probably have values specified instead of just “2 bits”. RAN1 FFS. | 2 | -- The number of PRACH transmission occasions FDMed in one time instance.  -- Corresponds to L1 parameter 'prach-FDM' (see 38,211, section FFS\_Section)  -- FFS\_DefaultValue?  msg1-FDM BIT STRING (SIZE (2)), |  |
| H211 | -- section to be updated  -- FFS\_FIXME: Clarify whether it is ”initial” or ”firstActive” UL BWP, i.e., whether this is meant for SpCell and/or SCell  -- FFS\_FIXME: What is PRB 0 or a BWP? PRB 0 defines the lower edge of the carrier.  -- no default specified | 2 | -- Offset of lowest PRACH transmission occasion in frequency domain with respective to PRB 0 of initial active UL BWP(s)  -- Corresponds to L1 parameter 'prach-frequency-start' (see 38,211, section FFS\_Section)  -- FFS\_FIXME: Clarify whether it is ”initial” or ”firstActive” UL BWP, i.e., whether this is meant for SpCell and/or SCell  -- FFS\_FIXME: What is PRB 0 or a BWP? PRB 0 defines the lower edge of the carrier.  msg1-FrequencyStart INTEGER (0..maxNrofPhysicalResourceBlocks-1) ~~OPTIONAL~~, |  |
| H212 | searchSpace for RAR probably should be defined in PDCCH-ConfigCommon. RACH-config is for the configuration of msg1 transmission. SO ra-SearchSpace and Ra-CORESET should not be defined here. | 2 | ~~-- Search space for random access procedure. Corresponds to L1 parameter 'ra-SearchSpace' (see 38.214?, section FFS\_Section)~~  ~~-- FFS: If the field is absent the UE uses the SearchSpace according to pdcchConfigSIB1~~  ~~ra-SearchSpace SearchSpace OPTIONAL~~, |  |
| H213 | CSI-RS-threshold is defined as a cell specific parameter (with ?) in the L1 list. This is missing from the common config asn1. There is a parameter in dedicated config for CFRA. If the threshold is used only for CFRA and not CBRA then it may be OK as it is. | 2 | TBD if needed in common config |  |
| H214 | cb-preamblesPerSSB | 2 | A better name should be cb-preamblePerSSBPerRO  -- Corresponds to L1 parameter 'CB-preambles-per-SSB' (see 38.211?, section FFS\_Section)  ~~-- FFS\_CHECK: Relation to (old) RAN2 CBRA-SSB-ResourceList handling the CB-RA preambles/resources per beam.~~  -- FFS\_Value: RAN1 indicated ”4 bit” but there should be actual values here... and not hidden in a table.  cb-preamblesPerSSBPerRO FFS\_Value OPTIONAL,  Rap: No proposal presented |  |
| H215 | ssb-perRACH-Occasion | 2 | This parameter is contradictory to CBRA-SSB-resource or RA resource  -- FFS\_CHECK: Relation to (old) RAN2 CBRA-SSB-ResourceList handling the CB-RA preambles/resources per beam.  -- FFS\_Value: RAN1 indicated ”3 bit” but there should be actual values here... and not hidden in a table.   * Number of CBRA preambles per SSB per RACH transmission occasion   + Maximum size for the range of values: 4 bits * Number of SSBs per RACH occasion   + Maximum size for the range of values: 3 bits   R1-1709612  ~~-- Number of SSBs per RACH occasion. By multiplying with cb-preamblesPerSSB, the UE determines the total number of CB preambles.~~  ~~-- Corresponds to L1 parameter 'SSB-per-rach-occasion' (see 38.211?, section FFS\_Section)~~  ~~-- FFS\_CHECK: Relation to (old) RAN2 CBRA-SSB-ResourceList handling the CB-RA preambles/resources per beam.~~  ~~-- FFS\_Value: RAN1 indicated ”3 bit” but there should be actual values here... and not hidden in a table.~~  ~~ssb-perRACH-Occasion FFS\_Value OPTIONAL,~~  => Covered by offline on RACH configuration |  |
| H216 | RACH-ConfigCommon =>msg2-subcarrierSpacing | 2 | This parameter is not needed in CFRA  [**Ericsson2**] This parameter is listed in the L1 table. According to that table it is supposed to be in RACH-ConfigCommon but its description says that it is the ”Subcarrier spacing for msg2 for contention-free RA procedure for handover”. Unless RAN1 told us differently in the meantime we should be careful removing it.  -- Msg2 (RAR) window length. Corresponds to L1 parameter 'msg2-scs' (see 38.213, section 8.1)  -- FFS\_Value: To be decided by RAN2  ra-ResponseWindow ENUMERATED {ffsTypeAndValue},  ~~-- Subcarrier spacing for msg2 for contention-free RA procedure for handover.~~  ~~-- Corresponds to L1 parameter 'msg2-scs' (see 38.321?, section FFS\_Section)~~  ~~msg2-SubcarrierSpacing SubcarrierSpacing,~~  -- CORESET configured for random access. When the field is absent the UE uses the CORESET according to pdcchConfigSIB1  -- Corresponds to L1 parameter 'rach-coreset-configuration' (see 38.211?, section FFS\_Section)  ra-ControlResourceSet ControlResourceSetId OPTIONAL,  -- Search space for random access procedure. Corresponds to L1 parameter 'ra-SearchSpace' (see 38.214?, section FFS\_Section)  -- FFS: If the field is absent the UE uses the SearchSpace according to pdcchConfigSIB1  ra-SearchSpace SearchSpace |  |
| H217 | RACH-ConfigCommon =>msg1-subcarrierSpacing | 2 | Possible to be configured in the BandwidthPart-Config  The following agreement was made in RAN1 90b  The numerology of the initial active UL BWP is the same as the numerology of Msg3 PUSCH configured in RMSI.  [**Ericsson2**] The parameter is in the L1 table and since it is there marked as ”Cell specific” we put it into ”RACH-ConfigCommon”. It is true that the RACH-ConfigCommon can now be configured per BWP. The agreement above seems to say that it should be common for the cell (as signalled in SIB). Then, we might have to split the RACH-ConfigCommon into RACH-ConfigCommon and RACH-ConfigCommonPerBWP.  Or is your suggestion to keep it configurable per BWP (in contrariction to the RAN1 agreement) but to use the value in the BandwidthPart? Then, also the field description of the SCS in the BandwidthPart would need to be upadted.  -- N-CS configuration, see Table 6.3.3.1-3 in 38.211  zeroCorrelationZoneConfig INTEGER(0..15),  ~~-- Subcarrier spacing of PRACH. Corresponds to L1 parameter 'prach-Msg1SubcarrierSpacing' (see 38.211, section FFS\_Section)~~  ~~-- FFS\_DefaultValue: Same as DL SCS?~~  ~~msg1-SubcarrierSpacing SubcarrierSpacing OPTIONAL,~~  -- The number of PRACH transmission occasions FDMed in one time instance.  -- Corresponds to L1 parameter 'prach-FDM' (see 38,211, section FFS\_Section)  -- FFS\_DefaultValue?  msg1-FDM BIT STRING (SIZE (2)),  -- Offset of lowest PRACH transmission occasion in frequency domain with respective to PRB 0 of initial active UL BWP(s)  -- Corresponds to L1 parameter 'prach-frequency-start' (see 38,211, section FFS\_Section)  -- FFS\_FIXME: Clarify whether it is ”initial” or ”firstActive” UL BWP, i.e., whether this is meant for SpCell and/or SCell  -- FFS\_FIXME: What is PRB 0 or a BWP? PRB 0 defines the lower edge of the carrier. |  |
| H218 | RACH-ConfigCommon =>msg1-FrequencyStart | 3 | The range of the value is wrong; RAN 1 has made the following agreement:  • Relative frequency offset of Msg1 o Note: This defines the offset of lowest PRACH transmission occasion in frequency domain with respective to PRB 0 of initial active UL BWP(s) o Value: {0,1,…,Bandwidth of initial active UL BWP in terms of PRBs – Bandwidth of the RACH occasion in terms of PRBs}  The range of the values is INTEGER (0..maxNrofPhysicalResourceBlocks-1). However, the agreement in RAN 1 says the range should be {0,1,…,Bandwidth of initial active UL BWP in terms of PRBs – Bandwidth of the RACH occasion in terms of PRBs}.  The difference is that the # of BWP RBs should be smaller than that of the whole bandwidth.  msg1-FrequencyStart INTEGER (0..maxNrofPhysicalResourceBlocks-  [**Ericsson2**] This constraint could be captured in a field description but not in the ASN.1 value range. That is because the range of this ASN.1 field cannot depend on the value of other ASN.1 fields. We could reduce the maximum value here by the minimum size of the width of the RACH occasion but that seems pretty unnecessary.  So, if really considered necessary, we could change this as follows:  -- Offset of lowest PRACH transmission occasion in frequency domain with respective to PRB 0 of initial active UL BWP(s).  -- The value is configured so that the corresponding RACH resource is entirely within the bandwidth of initial active UL BWP.  -- Corresponds to L1 parameter 'prach-frequency-start' (see 38,211, section FFS\_Section)  -- FFS\_FIXME: Clarify whether it is ”initial” or ”firstActive” UL BWP, i.e., whether this is meant for SpCell and/or SCell  ~~-- FFS\_FIXME: What is PRB 0 or a BWP? PRB 0 defines the lower edge of the carrier.~~  msg1-FrequencyStart INTEGER (0..maxNrofPhysicalResourceBlocks-1) OPTIONAL, |  |
| H219 | CBRA-SSB-ResourceList  RACH-ConfigCommon =>cb-preamblesPerSSB | 3 | -- FFS\_CHECK: Relation to (old) RAN2 CBRA-SSB-ResourceList handling the CB-RA preambles/resources per beam.  This configuration has not been agreed in RAN 1 and should be removed  The RAN 1 agreements are given as follows and they are the reason why the two parameters cb-preamblesPerSSB(PerRO) and  ssb-perRACH-Occasion are added  90b  For contention based RACH, support the same number of PRACH preambles for all actually transmitted SS blocks. • FFS: Same/different number of PRACH preambles for SS blocks in CFRA.  91   * gNB configures in RMSI the following:   + Number of CBRA preambles per SSB per RACH transmission occasion   + Number of SSBs per RACH occasion   However, one of the main issues with the current configuration is that there is redundancy in  groupBconfigured and CBRA-SSB-ResourceList. Rapporteur also showed his concern by a FFS  --  FFS: whether any of the parameter(s) in the L1 TP should be within CBRA-SSB-ResourceList      groupBconfigured                SEQUENCE {          -- FFS: ra-Msg3SizeGroupA values          ra-Msg3SizeGroupA               ENUMERATED {b56, b144, b208, b256, b282, b480, b640, b800, b1000, spare7, spare6, spare5,                                              spare4, spare3, spare2, spare1},          -- FFS: Need and definition of messagePowerOffsetGroupB          messagePowerOffsetGroupB        ENUMERATED { minusinfinity, dB0, dB5, dB8, dB10, dB12, dB15, dB18}      } OPTIONAL,  Hence, we may consider to have a further discussion on this in the future meetings.  [**Ericsson2**] Yes. This should be discussed based on contributions. E.g. R2-1800979.  [NTT DOCOMO] See comment to M063.  Rap: Implemented as R2-1800587 | See Tdoc R2-1801174  See Tdoc R2-1801472  See Tdoc R2-1800979 (Ericsson) |
| H220 | RACH-ConfigCommon =>groupBConfigured=>messagePowerOffsetGroupB |  | -- FFS: Need and definition of messagePowerOffsetGroupB  Definition: already in LTE. As in 36.331 and can be reused:  Threshold for preamble selection in TS 36.321 [6]. Value in dB. Value minusinfinity corresponds to –infinity. Value dB0 corresponds to 0 dB, dB5 corresponds to 5 dB and so on  RACH-ConfigCommon ::= SEQUENCE {  -- FFS: whether any of the parameter(s) in the L1 TP should be within CBRA-SSB-ResourceList  groupBconfigured SEQUENCE {  -- FFS: ra-Msg3SizeGroupA values  ra-Msg3SizeGroupA ENUMERATED {b56, b144, b208, b256, b282, b480, b640, b800, b1000, spare7, spare6, spare5,  spare4, spare3, spare2, spare1},  -- ~~FFS: Need and definition of messagePowerOffsetGroupB~~Threshold for preamble selection. Value in dB. Value minusinfinity corresponds to –infinity. Value dB0 corresponds to 0 dB, dB5 corresponds to 5 dB and so on.  messagePowerOffsetGroupB ENUMERATED { minusinfinity, dB0, dB5, dB8, dB10, dB12, dB15, dB18}  } OPTIONAL,  Rap: Implemented as R2-1801587 |  |
| H221 | RACH-ConfigCommon =>cb-preamblesPerSSB |  | -- FFS\_Value: RAN1 indicated ”4 bit” but there should be actual values here... and not hidden in a table  The following agreement was made in the previous RAN 1 meeting:  Support following values for the configuration of the number of PRACH preambles for CBRA per SSB:   * 4 \* N (where 1 <= N <= 16)   + FFS: 0, 1, 2, 3, 5, 6, 7, 10, 14, 18, 22, 26, 30, values greater than 64   FFS: different granularity for different number of PRACH preambles for CBRA and CFRA per SSB  RAN1 decision needed |  |
| H222 | Consider using the same SSB threshold name as RAN1 and the latest MAC spec 38.321. Or make a note to explain the link of this threshold with the rsrp-ThresholdSSB. | 2 | ra-ContentionResolutionTimer ENUMERATED { sf8, sf16, sf24, sf32, sf40, sf48, sf56, sf64},  -- Msg1 (RA preamble):  -- UE may select the SS block and corresponding PRACH resource for path-loss estimation and (re)transmission  -- based on SS blocks that satisfy the threshold (see 38.213, section REF)  ~~ssb-Threshold~~rsrp-ThresholdSSB TYPE\_FFS! OPTIONAL,  -- FFS: Provide proper description  -- Corresponds to L1 parameter 'SUL-RSRP-Threshold' (see FFS\_Spec, section FFS\_Section)  sul-RSRP Threshold FFS\_Value OPTIONAL,  [**Ericsson2**] Based on the L1 table the RAN1 name is ”SSB-threshold”. In 38.213 section 8 neither the term ”threshold” nor the term ”RSRP” occurs. Maybe we should first find the section in RAN1 specs and then correct the reference/name. |  |
| E025 | It seems “msg1-FDM” is a number, but it is encoded as a 2-bit bitstring instead of INTEGER, or ENUMERATED.  -- The number of PRACH transmission occasions FDMed in one time instance.  -- Corresponds to L1 parameter 'prach-FDM' (see 38,211, section FFS\_Section)  -- FFS\_DefaultValue?  msg1-FDM BIT STRING (SIZE (2)), | 2 | Change type to INTEGER or ENUMERATED. |  |
| S019 | The following parameters are always needed for random access operation. However these are marked as optional.  prach-ConfigurationIndex,  prach-RootSequenceIndex,  msg1-FrequencyStart,  preambleReceivedTargetPower,  powerRampingStep | 2 | Make these parameters prach-ConfigurationIndex, prach-RootSequenceIndex, msg1-FrequencyStart, preambleReceivedTargetPower and powerRampingStep mandatory in RACH-ConfigCommon |  |
| S020 | msg2-SubcarrierSpacing is for contention based random access. So it is not needed here. It is needed only in RACH-ConfigDedicated | 2 | Delete msg2-SubcarrierSpacing from RACH-ConfigCommon |  |
| S021 | There are 64 preambles in NR. So   1. Range for startIndexRA-PreambleGroupA should be 0 to 63 2. Range for numberofRA-PreamblesGroupA should be 1 to 64   numberofRA-Preambles should be 1 to 64 | 2 | CBRA-SSB-ResourceList ::= SEQUENCE (SIZE(1..maxRAssbResources)) OF CBRA-SSB-Resource  CBRA-SSB-Resource ::= SEQUENCE {  ssb SSB-Id,  startIndexRA-PreambleGroupA INTEGER (0..63)~~PreambleStartIndex~~,  numberofRA-PreamblesGroupA INTEGER (0..64)~~NumberOfRA-Preambles~~,  numberOfRA-Preambles INTEGER (0..64)~~NumberOfRA-Preambles~~,  -- PRACH configuration for SSB configuration (i.e. time and frequency location)  -- FFS / TODO: Type Definition for RA-Resources.  ra-Resources RA-Resources  }  [**Ericsson2**] In the ASN.1 the second and third range start incorrectly at ”0” even though the description says ”1”.  [NTT DOCOMO] See comment to M063.  Rap: Implemented as R2-1801587 |  |
| S022 | msg1-FDM is defined as a bit map. This is not correct. Our understanding is that RAN1 wants to define four values and hence two bits are sufficient. | 2 | -- The number of PRACH transmission occasions FDMed in one time instance.  -- Corresponds to L1 parameter 'prach-FDM' (see 38,211, section FFS\_Section)  -- FFS\_DefaultValue?  msg1-FDM ~~BIT STRING (SIZE (2))~~FFS\_Value, | Duplicate of E025 |
| S023 | RAN1 has not yet defined values for preambleReceivedTargetPower.  RAN1 91 Agreements**:**   * Support the following for the already agreed parameters.   + RSRP-ThresholdSSBlock     - Same as possible RSRP range of values   + RSRP-ThresholdSUL     - Same as possible RSRP range of values   + RACHReceiviedTargetPower     - 6 bits     - Details values FFS | 2 | Detailed values should be marked as FFS  preambleReceivedTargetPower ENUMERATED { FFS\_Value  ~~dBm-120, dBm-118, dBm-116, dBm-114, dBm-112, dBm-110, dBm-108, dBm-106, dBm-104, dBm-102, dBm-100,~~  ~~dBm-98, dBm-96, dBm-94,dBm-92, dBm-90, dBm-88, dBm-86, dBm-84,dBm-82, dBm-80, dBm-78, dBm-76,~~  ~~dBm-74, dBm-72, dBm-70, dBm-68, dBm-66, dBm-64, dBm-62, dBm-60, dBm-58, dBm-56, dBm-54, dBm-52, dBm-50, dBm-48, dBm-46, dBm-44, dBm-42, dBm-40, dBm-38, dBm-36, dBm-34, dBm-32, dBm-30, dBm-28, dBm-26, dBm-24, dBm-22, dBm-20, dBm-18, dBm-16, dBm-14, dBm-12, dBm-10, dBm-8, dBm-6, dBm-4, dBm-2, dBm-0, dBm2, dBm4, dBm6 } OPTIONAL,~~  Rap: To be updated based on input from RAN4 (see first LS R2-1800004 from RAN1) . |  |
| S024 | The range of ra-ResponseWindow is FFS | 2 | RAN2 #100 Agreement: RAR window size is up to 10ms.  RAN1 #91 Agreement:   * RAR window is defined in terms of slot length with respect to Msg2 SCS.   + Note: Exact duration of RAR window is decided in RAN2   Msg2 SCS can be 15, 30, 60 or 120 KHZ and corresponding number of slots in 10ms duration are 10, 20, 40 and 80 slots.  So we can define ra-ResponseWindow as follows:  ra-ResponseWindow               CHOICE {          rar-SCS15                                   INTEGER (1..10),          rar-SCS30                                   INTEGER (1..20),          rar-SCS60                                   INTEGER (1..40),          rar-SCS120                                  INTEGER (1..80)  }  [**Ericsson2**] The granularity for the higher SCSs seems unnecessarily fine-grained. Isn't it sufficient to give the window length in number of ms (= number of slots in 15 kHz SCS)?  Rap: Implemented as agreed in UP session |  |

#### – RACH-ConfigDedicated

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z054 | The cfra-csirs-Threshold should not be included in CFRA-Resources as a choice. Instead of that, the cfra-csirs-Threshold should be moved to RACH-ConfigDedicated. | 2 | RACH-ConfigDedicated ::= SEQUENCE {  -- Resources for handover to the cell  cfra-Resources CFRA-Resources,  -- The threshold used in the SSB/CSI-RS selection in CFRA procedure.  cfra-csirs-Threshold RSRP-Range  -- Subcarrier spacing for msg2 for contention-free RA procedure for handover  rar-SubcarrierSpacing SubcarrierSpacing  }  -- FFS\_CHECK: Isn't it sufficient to have just one list and the CHOICE inside the list element (around the ssb/csirs)?  CFRA-Resources ::= CHOICE {  cfra-ssb-ResourceList SEQUENCE (SIZE(1..maxRAssbResources)) OF CFRA-SSB-Resource,  cfra-csirs-ResourceList SEQUENCE (SIZE(1..maxRAcsirsResources)) OF CFRA-CSIRS-Resource  ~~cfra-csirs-Threshold RSRP-Range~~}  [**Ericsson**] If the threshold is applicable to CSI-RS and SSB, it should be renamed to e.g. cfra-RSRP-Treshold.  [DOCOMO]  Proposing new IE definition for CFRA-Resources IE to cover discussion in Z054, Q019, H223, H231, H232   * CFRA Resources IE is made as SEQUENCE with the ssb resoucelist, csirs resource list and their setting threshold * Several list shares common threshold * The threshold IE is made conditional mandatory to the relevant resource   CFRA-Resources ::=               ~~CHOICE~~SEQUENCE {      cfra-ssb-ResourceList        SEQUENCE (SIZE(1..maxRAssbResources)) OF CFRA-SSB-Resource       OPTIONAL,  -- Need M      cfra-csirs-ResourceList          SEQUENCE (SIZE(1..maxRAcsirsResources)) OF CFRA-CSIRS-Resource  OPTIONAL, -- Need M      cfra-ssb-Threshold           RSRP-Range  OPTIONAL, –- Cond ssbResource      cfra-csirs-Threshold         RSRP-Range  OPTIONAL  -- Cond csirsResource  }  => Covered by offline on RACH configuration |  |
| Q019 | The following agreements in RAN2#100 on threshold for beam selection are not captured:   * ssb-Threshold signalled in handover command (for both common and dedicated RACH) | 2 | Add following field:  ssb-Threshold RSRP-Range  CFRA-SSB-Resource ::= SEQUENCE {  ssb SSB-Id,  ssb-Threshold RSRP-Range,  ra-PreambleIndex INTEGER (0..63),  -- PRACH configuration for SSB configuration (i.e. time and frequency location)  ra-Resources RA-Resources -- Definition FFS  }  [DOCOMO] See comment in Z054  => Covered by offline on RACH configuration |  |
| H223 | Cfra-csirs-Threshold should be outside of the CHOICE | 2 | -- FFS: resources for msg1-based on-demand SI request  -- FFS: resources for beam failure recovery request  RACH-ConfigDedicated ::= SEQUENCE {  -- Resources for handover to the cell  cfra-Resources CFRA-Resources,  cfra-csirs-Threshold RSRP-Range,  -- Subcarrier spacing for msg2 for contention-free RA procedure for handover  rar-SubcarrierSpacing SubcarrierSpacing  }  -- FFS\_CHECK: Isn’t it sufficient to have just one list and the CHOICE inside the list element (around the ssb/csirs)?  CFRA-Resources ::= CHOICE {  cfra-ssb-ResourceList SEQUENCE (SIZE(1..maxRAssbResources)) OF CFRA-SSB-Resource,  cfra-csirs-ResourceList SEQUENCE (SIZE(1..maxRAcsirsResources)) OF CFRA-CSIRS-Resource~~,~~  ~~cfra-csirs-Threshold RSRP-Range~~  }  [DOCOMO] See comment in Z054 | Duplicate of Z054 |
| H224 | The length of each list maay be different, depending on the FFS range. In any case it may be better to keep as it is in case one list changes/extends and the other not..propose just to remove FFS | 2 | ~~-- FFS\_CHECK: Isn’t it sufficient to have just one list and the CHOICE inside the list element (around the ssb/csirs)?~~  CFRA-Resources ::= CHOICE {  cfra-ssb-ResourceList SEQUENCE (SIZE(1..maxRAssbResources)) OF CFRA-SSB-Resource,  cfra-csirs-ResourceList SEQUENCE (SIZE(1..maxRAcsirsResources)) OF CFRA-CSIRS-Resource,  cfra-csirs-Threshold RSRP-Range  }  => Covered by offline on RACH configuration |  |
| H225 | FFS | 2 | -- FFS: resources for msg1-based on-demand SI request  Rap: Unclear proposal |  |
| H226 | FFS | 2 | -- FFS: resources for beam failure recovery request  Rap: Unclear proposal |  |
| H227 | FFS | 2 | CFRA-SSB-Resource ::= SEQUENCE {  ssb SSB-Id,  ra-PreambleIndex INTEGER (0..63),  -- PRACH configuration for SSB configuration (i.e. time and frequency location)  ra-Resources RA-Resources -- Definition FFS  }  CFRA-CSIRS-Resource ::= SEQUENCE {  csirs NZP-CSI-RS-ResourceId, -- FFS where the CSI-RS are defined (e.g. MO)  ra-PreambleIndex INTEGER (0..63),  -- PRACH configuration for CSIRS configuration (i.e. time and frequency location)  ra-Resources RA-Resources -- Definition FFS  }  Rap: Unclear proposal |  |
| H228 | FFS | 2 | CFRA-SSB-Resource ::= SEQUENCE {  ssb SSB-Id,  ra-PreambleIndex INTEGER (0..63),  -- PRACH configuration for SSB configuration (i.e. time and frequency location)  ra-Resources RA-Resources -- Definition FFS  }  CFRA-CSIRS-Resource ::= SEQUENCE {  csirs NZP-CSI-RS-ResourceId, -- FFS where the CSI-RS are defined (e.g. MO)  ra-PreambleIndex INTEGER (0..63),  -- PRACH configuration for CSIRS configuration (i.e. time and frequency location)  ra-Resources RA-Resources -- Definition FFS  }  Rap: Unclear proposal |  |
| H229 | RACH-ConfigDedicated =>rar-SubcarrierSpacing |  | A better name would be be cfra-msg2-SubcarrierSpacing  RACH-ConfigDedicated ::= SEQUENCE {  -- Resources for handover to the cell  cfra-Resources CFRA-Resources,  -- Subcarrier spacing for msg2 for contention-free RA procedure for handover  cfra-msg2-~~rar-~~SubcarrierSpacing SubcarrierSpacing  } |  |
| H230 | RACH-ConfigDedicated  In the previous meeting, the following agreement was made on the scs for RA procedure for CBRA and CFRA, respectively.  For contention-based NR 4-step RA procedure  • SCS for Msg 1  • configured in the RACH configuration  • SCS for Msg 2  • the same as the numerology of RMSI  • SCS for Msg 3  • configured in the RACH configuration separately from SCS for Msg1  • SCS for Msg 4  • the same as in Msg2  For contention-free RA procedure for handover, the SCS for Msg1 and the SCS for Msg2 are provided in the handover command  While the configuration for msg2 is given by rar-SubcarrierSpacing, there is no SCS configuration for msg 1 |  | RACH-ConfigDedicated ::= SEQUENCE {  -- Resources for handover to the cell  cfra-Resources CFRA-Resources,  -- Subcarrier spacing for msg1 for contention-free RA procedure for handover  cfra-msg1-SubcarrierSpacing SubcarrierSpacing,  -- Subcarrier spacing for msg2 for contention-free RA procedure for handover  cfra-msg2-~~rar-~~SubcarrierSpacing SubcarrierSpacing  } |  |
| H231 | In Reno meeting RAN2 reached following agreements on HO access:  1. ssb-Threshold signalled in handover command (for both common and dedicated RACH).  2. csirs-dedicatedRACH-Threshold signalled in handover command.  The ssb-Threshold is already specified in RACH-ConfigCommon. Only the threshold for CSI-RS should be captured here. | 2 | …  CFRA-CSIRS-Resource ::=               SEQUENCE {          csirs                                                CSIRS-ID, -- FFS where the CSI-RS are defined (e.g. MO)          ra-PreambleIndex                             INTEGER (0..FFS\_XX),          --      PRACH configuration for CSIRS configuration (i.e. time and frequency location)          ra-Resources                                 RA-Resources, -- Definition FFS  -- CSI-RS quality threshold for selection of beams with dedicated RACH resources for HO access. Subject to RAN1 agreement.  csi-rs-DedicatedRACH-Threshold FFS\_Value OPTIONAL  }  -- TAG-RACH-CONFIG-DEDICATED-STOP  -- ASN1STOP  [**Ericsson2**] Here you suggest to put the treshold into the CSI-RS resource whereas in H223 you suggest to put it into RACH-ConfigDedciated.  [DOCOMO] See comment in Z054 | See Tdoc R2-1801174  Covered by Z054 and H223? |
| H232 | In Reno meeting RAN2 reached following agreement on beam recovery:  1: For beam recovery purposes RRC signalling allows the case of configuring both SSB + CSI-RS (i.e. simultaneously) for new candidate beam identification. The case where only one of SSB or CSI-RS resource is configured is also covered – i.e. this is network configuration.  Currently CHOICE is used in RACH-configDedicated information element. It is customized for HO access requirement. But it does not support the latest agreement for beam recovery which allows configuring ssb and csirs with dedicated RACH at the same time. To support both HO and beam recovery cases, a simple solution is changing “CHOICE” to “SEQUENCE”. | 2 | …  RACH-ConfigDedicated ::=              SEQUENCE {          -- Resources for handover to the cell          cfra-Resources                               CFRA-Resources,          -- Subcarrier spacing for msg2 for contention-free RA procedure for handover          rar-SubcarrierSpacing                 SubcarrierSpacing  }  ~~-- CHECK: Isn’t it sufficient to have just one list and the CHOICE inside the list element (around the ssb/csirs)?~~  CFRA-Resources ::= SEQUENCE~~CHOICE~~ {  cfra-ssb-ResourceList SEQUENCE (SIZE(1..maxRAssbResources) OF CFRA-SSB-Resource OPTIONAL,  cfra-csirs-ResourceList SEQUENCE (SIZE(1..maxRAcsirsResources)OF CFRA-CSIRS-Resource OPTIONAL  }  …  [DOCOMO] See comment in Z054 | See Tdoc R2-1801174 |
| S025 | cfra-csirs-Threshold is needed when cfra-csirs-ResourceList is included. | 1 | RACH-ConfigDedicated ::= SEQUENCE {  -- Resources for handover to the cell  cfra-Resources CFRA-Resources,  -- Subcarrier spacing for msg2 for contention-free RA procedure for handover  rar-SubcarrierSpacing SubcarrierSpacing,  cfra-csirs-Threshold RSRP-Range OPTIONAL,  }  -- FFS\_CHECK: Isn’t it sufficient to have just one list and the CHOICE inside the list element (around the ssb/csirs)?  CFRA-Resources ::= CHOICE {  cfra-ssb-ResourceList SEQUENCE (SIZE(1..maxRAssbResources)) OF CFRA-SSB-Resource,  cfra-csirs-ResourceList SEQUENCE (SIZE(1..maxRAcsirsResources)) OF CFRA-CSIRS-Resource  ~~cfra-csirs-Threshold RSRP-Range~~  } | Duplicate of Z054 |
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#### – RadioBearerConfig

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z055 | “srb-ToReleaseList” is not a list. Since only SRB 3 can be released, the “srb-ToReleaseList” can be replaced by “srb3-ToReleaseIndication” | 2 | srb3~~-ToReleaseList~~ToReleaseInd ENUMERATED{true}~~INTEGER (3)~~ OPTIONAL, -- Need ~~M~~N  [Ericsson3] We should also be able to release NR PDPC config for SRB1. So we need to correct this.  Rap: Based on offline#43, it was concluded that NR PDPC entity is released implicitly by new field in LTE PDCP-Config  So the change is OK. |  |
| C026 | No need to maitain the release DRB/SRBlist , if it not present, NO action for UE | 2 | RadioBearerConfig ::= SEQUENCE {  srb-ToAddModList SRB-ToAddModList OPTIONAL, -- Need M  srb-ToReleaseList INTEGER (3) OPTIONAL, -- Need ~~M~~N  drb-ToAddModList DRB-ToAddModList OPTIONAL, -- Need M  drb-ToReleaseList DRB-ToReleaseList OPTIONAL, -- Need ~~M~~N  securityConfig SecurityConfig OPTIONAL -- Cond KeyChange  } |  |
| C027 | The notes (“-- may only be set if the cell groups of all linked logical channels are reset or released”) and condition (““KeyChange The field is mandatory present in case of with key change, otherwise the field is not present””) for the IE “reestablishPDCP” seems not aligned.  Since only duplication is supported for split SRB, I guess the notes should be removed. In addition, the condition “KeyChange” indicate that the only case for the SRB PDCP reestablish is the key change, I guess if the condition is correct, then the IE is not needed. and we can simply capture this in text part. The descrption for condition of PDCP just makes some restriction for DRB, for SRB, the pdcp-config just optional present there is no mandatory present case. | 2 | SRB-ToAddMod ::= SEQUENCE {  srb-Identity SRB-Identity,  ~~-- may only be set if the cell groups of all linked logical channels are reset or released~~  ~~reestablishPDCP ENUMERATED{true} OPTIONAL, -- Cond KeyChange~~  pdcp-Config PDCP-Config OPTIONAL, -- Need MCond PDCP  ...  }  ~~Conditional Presence Explanation~~  ~~KeyChange The field is mandatory present in case of with key change, otherwise the field is not present~~  [Ericsson3] See also R2-1801157  Rap: covered by [R2-1801638](file:///C:\Data\3GPP\Extracts\R2-1801638-offline-13-security-RBConfig-v2.docx) which is agreed. |  |
| M044 | There is no Cond HO in the Conditional Presence table. It should be Cond KeyChange. | 1 | DRB-ToAddMod ::= SEQUENCE {  cnAssociation CHOICE {  -- The EPS bearer ID determines the EPS bearer when NR connects to EPC using EN-DC  eps-BearerIdentity INTEGER (0..15), -- EPS-DRB-Setup  -- The SDAP configuration determines how to map QoS flows to DRBs when NR connects to the 5GC  sdap-Config SDAP-Config -- NGC  },  drb-Identity DRB-Identity,  -- may only be set if the cell groups of all linked logical channels are reset or released  reestablishPDCP ENUMERATED{true} OPTIONAL, -- Cond ~~HO~~KeyChange  recoverPDCP ENUMERATED{true} OPTIONAL, -- Need N  pdcp-Config PDCP-Config OPTIONAL, -- Cond PDCP  ...  }  Rap: covered by [R2-1801638](file:///C:\Data\3GPP\Extracts\R2-1801638-offline-13-security-RBConfig-v2.docx) which is agreed. |  |
| Z056 | The description for the “-- Cond HO” for IE reestablishPDCP within DRB-ToAddMod is missing.  It’s not clear why we need this condition, and it seems it can be replaced by “Need N” directly.  Since the IE “reestablishPDCP” and “recoverPDCP” can not be set to ture simultaneously, we think it can be merged into one IE (e.g. pdcpBehaviour ENUMERATED(reestablish, recovery) OPTIONAL, --Need N). |  | DRB-ToAddMod ::= SEQUENCE {  cnAssociation CHOICE {  -- The EPS bearer ID determines the EPS bearer when NR connects to EPC using EN-DC  eps-BearerIdentity INTEGER (0..15), -- EPS-DRB-Setup  -- The SDAP configuration determines how to map QoS flows to DRBs when NR connects to the 5GC  sdap-Config SDAP-Config -- NGC  },  drb-Identity DRB-Identity,  -- may only be set if the cell groups of all linked logical channels are reset or released  reestablishPDCP ENUMERATED{true} OPTIONAL, -- ~~Cond HO~~Need N  recoverPDCP ENUMERATED{true} OPTIONAL, -- Need N  pdcp-Config PDCP-Config OPTIONAL, -- Cond PDCP  ...  }  [Ericsson3] Duplicate with M044. We consider that it should be captured somewhere that reestablishPDCP is included key change. Thus we prefer solution closer to M044.  Rap: covered by [R2-1801638](file:///C:\Data\3GPP\Extracts\R2-1801638-offline-13-security-RBConfig-v2.docx) which is agreed. |  |
| Z057 | The “cnAssociation” should be optional (Need M), and it is not needed in case the “cnAssociation” is not changed.  CONDITIONAL | 2 | DRB-ToAddMod ::= SEQUENCE {  cnAssociation CHOICE {  -- The EPS bearer ID determines the EPS bearer when NR connects to EPC using EN-DC  eps-BearerIdentity INTEGER (0..15), -- EPS-DRB-Setup  -- The SDAP configuration determines how to map QoS flows to DRBs when NR connects to the 5GC  sdap-Config SDAP-Config -- NGC  } OPTIONAL, -- Need M  drb-Identity DRB-Identity,  -- may only be set if the cell groups of all linked logical channels are reset or released  reestablishPDCP ENUMERATED{true} OPTIONAL, -- Cond HO  recoverPDCP ENUMERATED{true} OPTIONAL, -- Need N  pdcp-Config PDCP-Config OPTIONAL, -- Cond PDCP  ...  }  => Add a condition that cnAssosiation is mandatory to include for DRB setup otherwise OPTIONAL with need M. |  |
| M045 | The description of “Cond PDCP” should apply both SRB and DRB. In NR, it SRB could also configured with PDCP-config. | 1 | The field is mandatory present if the corresponding ~~D~~RB is being setup or reconfigured with NR PDCP; otherwise the field is optionally present, need M |  |
| M064 | We suggest to add extension marker “…” in the IE “RadioBearerConfig” so that it is easier be extended in the future. | 1 | RadioBearerConfig ::=      SEQUENCE {      srb-ToAddModList       SRB-ToAddModList    OPTIONAL, -- Need M      srb-ToReleaseList      INTEGER (3)         OPTIONAL, -- Need M      drb-ToAddModList       DRB-ToAddModList    OPTIONAL, -- Need M      drb-ToReleaseList      DRB-ToReleaseList   OPTIONAL, -- Need M      securityConfig         SecurityConfig      OPTIONAL  -- Cond KeyChange      ...  } |  |
| Z058 | The “-- Cond PDCP” is used for IE pdcp-Config in both “SRB-ToAddMod” and “DRB-ToAddMod”, but the description for condition only mentioned the DRB part.  In addition, we think it will be more clear to revise the “reconfigured with NR PDCP” to “reconfigured from LTE PDCP to NR PDCP”. | 2 | SRB-ToAddMod ::= SEQUENCE {  srb-Identity SRB-Identity,  -- may only be set if the cell groups of all linked logical channels are reset or released  reestablishPDCP ENUMERATED{true} OPTIONAL, -- Cond KeyChange  pdcp-Config PDCP-Config OPTIONAL, -- Cond PDCP  ...  }  DRB-ToAddMod ::= SEQUENCE {  cnAssociation CHOICE {  -- The EPS bearer ID determines the EPS bearer when NR connects to EPC using EN-DC  eps-BearerIdentity INTEGER (0..15), -- EPS-DRB-Setup  -- The SDAP configuration determines how to map QoS flows to DRBs when NR connects to the 5GC  sdap-Config SDAP-Config -- NGC  },  drb-Identity DRB-Identity,  -- may only be set if the cell groups of all linked logical channels are reset or released  reestablishPDCP ENUMERATED{true} OPTIONAL, -- Cond HO  recoverPDCP ENUMERATED{true} OPTIONAL, -- Need N  pdcp-Config PDCP-Config OPTIONAL, -- Cond PDCP  ...  }  Conditional Presence Explanation  KeyChange The field is mandatory present in case of with key change, otherwise the field is not present  PDCP The field is mandatory present if the corresponding SRB or DRB is being setup or reconfigured ~~with~~ from LTE PDCP to NR PDCP; otherwise the field is optionally present, need M  [Ericsson3] Duplicate with M045 |  |
| I070 | KeyChange The field is mandatory present in case of with key change, otherwise the field is not present  Does key change cover the initial configuration case? Or PDCP version change from LTE to NR?  Intel v02: The comments is for SecurityConfig IE. The KeyChange condition is not only used for SecurityConfig IE but also for re-establishPDCP IE.  For the re-establishPDCP IE, the original condition is ok. For the SecurityConfig IE, the new condition is needed. | 2 | For PDCP version chagne from LTE to NR, security capability, if it is optional present, then do we need to mention the algorith handling in 5.3.5.6.3?  For initial configuration, the security must be present.  Suggest  The field is mandatory present in case of with key change or upon setup of a radio bearer, otherwise the field is not present  Rap: covered by [R2-1801638](file:///C:\Data\3GPP\Extracts\R2-1801638-offline-13-security-RBConfig-v2.docx) which is agreed. | See Tdoc R2-1800936 |
| I071 | srb-ToReleaseList INTEGER (3) OPTIONAL, -- Need M  So SRBs can only be removed one by one? | 2 | Change it to lists instead of INTEGER  srb-ToReleaseList ~~INTEGER (3)~~  SRB-ToReleaseList  SRB-ToReleaseList ::= SEQUENCE (SIZE (1..3)) OF SRB-Identity  Rap: See Z055 |  |
| C028 | The field of cnAssociation should be optional, it should be mandatory present when the DRB setup, otherwise optional. | 2 | DRB-ToAddMod ::= SEQUENCE {  cnAssociation CHOICE {  -- The EPS bearer ID determines the EPS bearer when NR connects to EPC using EN-DC  eps-BearerIdentity INTEGER (0..15), -- EPS-DRB-Setup  -- The SDAP configuration determines how to map QoS flows to DRBs when NR connects to the 5GC  sdap-Config SDAP-Config -- NGC  } OPTIONAL, --Cond DRB-Setup  drb-Identity DRB-Identity,  -- may only be set if the cell groups of all linked logical channels are reset or released  reestablishPDCP ENUMERATED{true} OPTIONAL, -- Cond HO  recoverPDCP ENUMERATED{true} OPTIONAL, -- Need N  pdcp-Config PDCP-Config OPTIONAL, -- Cond PDCP  ...  }   |  |  | | --- | --- | | Conditional Presence | Explanation | | DRB-Setup | The field is mandatory present if the corresponding DRB is being setup; otherwise the field is optionally present, need M | |  |  | |  |
| C029 | only SRB3 is allowed to release. Not a list. | 2 | srb-ToRelease~~List~~  INTEGER (3) OPTIONAL, -- Need M  Ericsson3] Duplicate to I070. In our understanding, in En-DC, SRB3 can be released as well as NR PDCP entity of SRB1. Should discuss this and decide final signlaiing  Rap: See Z055. |  |
| C030 | We agreed in RAN2#98:  5: SCG-SRB establishment and release can be done at SCG addition and SN change  6 SCG-SRB reconfiguration can be done at SCG modification procedure.  we need to add some restrictions for SRB3 addition and release | 2 | |  | | --- | | **srb-Identity**  Value 1 is applicable for SRB1 only.  Value 2 is applicable for SRB2 only.  Value 3 is applicable for SRB3 only. SRB3 establishment can only be done at SCG addition and SN change. | | **srb-ToRelease**  Release SRB3. SRB3 release can only be done at SCG release and SN change. |   Rap: SN change is not clear. Propose to have reconfiguration with sync. |  |
| L019 | pdcp-Config can be configured in DRB as well as SRB. | 1 | PDCP  The field is mandatory present if the corresponding ~~DRB~~RB is being setup or reconfigured with NR PDCP; otherwise the field is optionally present, need M  [Ericsson3] Duplicate with M045 |  |
| L020 | Need to describe the condition of “NGC”. | 2 | Rap: it is not condition, only comment. Changed to 5GC. |  |

#### – ReportConfigId

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M046 | Naming convention: For IDs, the infix of “Nrof” is not needed. We should simply use maxReportConfigId, as in LTE. | 2 | ReportConfigId ::= INTEGER (1..max~~Nrof~~ReportConfigId)  Rap: Proposal not implemented, several similar examples exist. |  |
| N112 | Need codes missing | 2 | M seems to be appropriate for all | See Tdoc R2-1800833 |
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#### – ReportConfigNR

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M047 | Remove “Editor’s Note: FFS Whether MeasTriggerQuantityOffset should be a CHOICE instead of a SEQUENCE e.g. in case multiple trigger quantities are supported.” | 2 | Each event should be triggered by one type of measurement quantity, so MeasTriggerQuantityOffset (also MeasTriggerQuantity) should be a CHOICE. The ASN.1 is correct and we can remove the FFS. | [ |
| M048 | Definition of maxNrofIndexesToReport is confusing | 2 | In EventTriggerConfig, the maxNrofIndexesToReport is defined as  maxNrofIndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL,  The naming is confusing. This can be resolved by using the naming as in PeriodicalReportConfig, i.e.,  maxNrofRsIndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL, |  |
| Z059 | The reportAddNeighMeas is to enable/disable the best neighbour cell reporting, so we can reuse the IE design as in LTE. | 1 | -- If configured the UE includes the best neighbour cells per serving frequency  reportAddNeighMeas ~~ENUMERATED {ffsTypeAndValue}~~ENUMERATED {setup} OPTIONAL -- Need R | Covered in draft class 1 CR |
| I072 | reportCGI, it would be good to clarify, reportCGI is not configured in this version of specification. | 2 | reportCGI, it would be good to clarify, reportCGI is not configured in this version of specification. |  |
| Z060 | useWhiteCellList  can be mandatory present, and UE will not use whiteCellList while it is set to FALSE. | 1 | eventA3 SEQUENCE {  a3-Offset MeasTriggerQuantityOffset,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger,  useWhiteCellList BOOLEAN ~~OPTIONAL~~  },  eventA4 SEQUENCE {  a4-Threshold MeasTriggerQuantity,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger,  useWhiteCellList BOOLEAN ~~OPTIONAL~~  },  eventA5 SEQUENCE {  a5-Threshold1 MeasTriggerQuantity,  a5-Threshold2 MeasTriggerQuantity,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger,  useWhiteCellList BOOLEAN ~~OPTIONAL~~  },  eventA6 SEQUENCE {  a6-Offset MeasTriggerQuantityOffset,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger,  useWhiteCellList BOOLEAN ~~OPTIONAL~~  } |  |
| H233 | In 5.5.5.2, for beam reporting, there is a FFS for the ordering of reported beam:  Editor’s Note: FFS which quantity to use for ordering beam measurement results.  We suggest to indicate the quantity for beams sort by the network for both event and periodical MR, |  | To clarify the beam ordering criteria for beams report, one possible change is to sort the beams by the quantity triggered by the event, but it is still unclear on how to sort beams for periodical MR. another options is to indicate the quantity for beams sort explicitly by the network for event and periodical MR, in that case an additional configuration is needed to indicate the quantity for beam sort in MR.  EventTriggerConfig::= SEQUENCE {  eventId CHOICE {  eventA1 SEQUENCE {  a1-Threshold MeasTriggerQuantity,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger  },  eventA2 SEQUENCE {  a2-Threshold MeasTriggerQuantity,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger  },  eventA3 SEQUENCE {  a3-Offset MeasTriggerQuantityOffset,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger,  useWhiteCellList BOOLEAN OPTIONAL  },  eventA4 SEQUENCE {  a4-Threshold MeasTriggerQuantity,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger,  useWhiteCellList BOOLEAN OPTIONAL  },  eventA5 SEQUENCE {  a5-Threshold1 MeasTriggerQuantity,  a5-Threshold2 MeasTriggerQuantity,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger,  useWhiteCellList BOOLEAN OPTIONAL  },  eventA6 SEQUENCE {  a6-Offset MeasTriggerQuantityOffset,  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger,  useWhiteCellList BOOLEAN OPTIONAL  }  },  rsType ENUMERATED {ss, csi-rs},  -- Common reporting config (at least to periodical and eventTriggered)  reportInterval ReportInterval,  reportAmount ENUMERATED {ffsTypeAndValue},  rankQuantity RankQuantity OPTIONAL,  -- Cell reporting configuration  reportQuantityCell MeasReportQuantity,  maxReportCells INTEGER (1..maxCellReport),  -- RS index reporting configuration  reportQuantityRsIndexes MeasReportQuantity OPTIONAL,    maxNrofIndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL,  onlyReportBeamIds BOOLEAN OPTIONAL,  -- If configured the UE includes the best neighbour cells per serving frequency  reportAddNeighMeas ENUMERATED {ffsTypeAndValue}  }  PeriodicalReportConfig ::= SEQUENCE {  rsType ENUMERATED {ssb, csi-rs},  -- Common reporting config (at least to periodical and eventTriggered)  reportInterval ReportInterval,  reportAmount ENUMERATED {ffsTypeAndValue},  -- Cell reporting configuration  reportQuantityCell MeasReportQuantity,  maxReportCells INTEGER (1..maxCellReport),  -- RS index reporting configuration  reportQuantityRsIndexes MeasReportQuantity OPTIONAL,  maxNrofRsIndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL,  onlyReportBeamIds BOOLEAN,  rankQuantity RankQuantity OPTIONAL OPTIONAL  }  RankQuantity::= ENUMERATED {rsrp, rsrq, sinr}  [Ericsson] We have provided a discussion paper on that. In our view that may not be necessary and a simple rule could be defined e.g. based on RSRP.  => Covered by earlier discussion | See Tdoc R2-1800843  See Tdoc R2-1800844 |
| D018 | Structure Optimization.  Since each event has the same parameters, they can be moved outside of the CHOICE structure.  Since EventTriggerConfig and PeriodicalReportConfig have the same parameters, they can be defined in a common configuration. | 2 | EventTriggerConfig::= SEQUENCE {  eventId CHOICE {  eventA1 SEQUENCE {  a1-Threshold MeasTriggerQuantity,  ~~reportOnLeave BOOLEAN,~~  ~~hysteresis Hysteresis,~~  ~~timeToTrigger TimeToTrigger~~  },  eventA2 SEQUENCE {  a2-Threshold MeasTriggerQuantity,  ~~reportOnLeave BOOLEAN,~~  ~~hysteresis Hysteresis,~~  ~~timeToTrigger TimeToTrigger~~  },  eventA3 SEQUENCE {  a3-Offset MeasTriggerQuantityOffset,  ~~reportOnLeave BOOLEAN,~~  ~~hysteresis Hysteresis,~~  ~~timeToTrigger TimeToTrigger,~~  useWhiteCellList BOOLEAN OPTIONAL  },  eventA4 SEQUENCE {  a4-Threshold MeasTriggerQuantity,  ~~reportOnLeave BOOLEAN,~~  ~~hysteresis Hysteresis,~~  ~~timeToTrigger TimeToTrigger,~~  useWhiteCellList BOOLEAN OPTIONAL  },  eventA5 SEQUENCE {  a5-Threshold1 MeasTriggerQuantity,  a5-Threshold2 MeasTriggerQuantity,  ~~reportOnLeave BOOLEAN,~~  ~~hysteresis Hysteresis,~~  ~~timeToTrigger TimeToTrigger,~~  useWhiteCellList BOOLEAN OPTIONAL  },  eventA6 SEQUENCE {  a6-Offset MeasTriggerQuantityOffset,  ~~reportOnLeave BOOLEAN,~~  ~~hysteresis Hysteresis,~~  ~~timeToTrigger TimeToTrigger,~~  useWhiteCellList BOOLEAN OPTIONAL  }  },  reportOnLeave BOOLEAN,  hysteresis Hysteresis,  timeToTrigger TimeToTrigger,  ~~rsType ENUMERATED {ss, csi-rs},~~  ~~-- Common reporting config (at least to periodical and eventTriggered)~~  ~~reportInterval ReportInterval,~~  ~~reportAmount ENUMERATED {ffsTypeAndValue},~~  ~~-- Cell reporting configuration~~  ~~reportQuantityCell MeasReportQuantity,~~  ~~maxReportCells INTEGER (1..maxCellReport),~~  ~~-- RS index reporting configuration~~  ~~reportQuantityRsIndexes MeasReportQuantity OPTIONAL,~~  ~~maxNrofIndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL,~~  ~~onlyReportBeamIds BOOLEAN OPTIONAL,~~  commonReportConfig CommonReportConfig,  -- If configured the UE includes the best neighbour cells per serving frequency  reportAddNeighMeas ENUMERATED {ffsTypeAndValue},  ...  }  PeriodicalReportConfig ::= SEQUENCE {  ~~rsType ENUMERATED {ssb, csi-rs},~~  ~~-- Common reporting config (at least to periodical and eventTriggered)~~  ~~reportInterval ReportInterval,~~  ~~reportAmount ENUMERATED {ffsTypeAndValue},~~  ~~-- Cell reporting configuration~~  ~~reportQuantityCell MeasReportQuantity,~~  ~~maxReportCells INTEGER (1..maxCellReport),~~  ~~-- RS index reporting configuration~~  ~~reportQuantityRsIndexes MeasReportQuantity OPTIONAL,~~  ~~maxNrofRsIndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL,~~  ~~onlyReportBeamIds BOOLEAN OPTIONAL~~  commonReportConfig CommonReportConfig,  ...  }  -- Common reporting config (at least to periodical and eventTriggered)  CommonReportConfig ::= SEQUENCE {  rsType ENUMERATED {ssb, csi-rs},  reportInterval ReportInterval,  reportAmount ENUMERATED {ffsTypeAndValue},  -- Cell reporting configuration  reportQuantityCell MeasReportQuantity,  maxReportCells INTEGER (1..maxCellReport),  -- RS index reporting configuration  reportQuantityRsIndexes MeasReportQuantity OPTIONAL,  maxNrofRsIndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL,  onlyReportBeamIds BOOLEAN OPTIONAL,  ...  }  [Ericsson] That is correct in Rel-15. On the other hand, as it happened in LTE, events will likley abe added in the future and these paramters will not be “commmon” any longer. The intneiton of the encoding was to improve readability of ASN.1.  => Change is not needed |  |
| D019 | The extension marker is missing. | 2 | Included in the ASN.1 proposed in D018. |  |
| S026 | Field onlyReportBeamIds is redundant and hence related ASN.1 should be removed (as commented several times) | 2 | -- FFS / TODO: Consider separating trgger configuration (trigger, periodic, …) from report congiguration.  -- Current structure allows easier definiton of new events and new report types e.g. CGI, etc.  EventTriggerConfig::= SEQUENCE {  ...  -- RS index reporting configuration  reportQuantityRsIndexes MeasReportQuantity OPTIONAL,  maxNrofIndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL~~,~~  ~~onlyReportBeamIds BOOLEAN OPTIONAL,~~  -- If configured the UE includes the best neighbour cells per serving frequency  reportAddNeighMeas ENUMERATED {ffsTypeAndValue}  }  PeriodicalReportConfig ::= SEQUENCE {  rsType ENUMERATED {ssb, csi-rs},  -- Common reporting config (at least to periodical and eventTriggered)  reportInterval ReportInterval,  reportAmount ENUMERATED {ffsTypeAndValue},  -- Cell reporting configuration  reportQuantityCell MeasReportQuantity,  maxReportCells INTEGER (1..maxCellReport),  -- RS index reporting configuration  reportQuantityRsIndexes MeasReportQuantity OPTIONAL,  maxNrofRsIndexesToReport INTEGER (1..maxNrofIndexesToReport) OPTIONAL,  ~~onlyReportBeamIds BOOLEAN OPTIONAL~~  }  [Ericsson] We disagree. We have provided a comment and discussion paper about that. In principle one could say that setting all flags to FALSE means report only IDS, however, one would need to define which wuanitty is used to derive the beam IDs. One could argue to use the trigger quantity to sort beam information, but that would not work for periodical reports, where there is no trigger quanitty.  => Already covered |  |
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#### – ReportConfigToAddModList

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – RLC-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z061 | The “ssize” should be size | 1 | sn-FieldLength  Indicates the RLC SN field size, see TS 38.322 [4], in bits. Value ~~s~~size6 means 6 bits, size12 means 12 bits, size18 means 18 bits. |  |
| H234 | For the FFS in the field description of t-Reassembly “If is FFS whether ms1600 is supported in this version of the specification”, it is fine to us to add this value, given that there is still a spare value left and the length of t-Reassembly needs to be extended in NR compared to LTE. |  | T-Reassembly ::= ENUMERATED {  ms0, ms5, ms10, ms15, ms20, ms25, ms30, ms35,  ms40, ms45, ms50, ms55, ms60, ms65, ms70,  ms75, ms80, ms85, ms90, ms95, ms100, ms110,  ms120, ms130, ms140, ms150, ms160, ms170,  ms180, ms190, ms200, ~~spare1~~, ms1600}  Remove “If is FFS whether ms1600 is supported in this version of the specification.” From the field description for T-Reassembly. | Rap: Not changed: Should be discussed in UP sessionl |
| Q023 | RLC timers: Smaller values need to be added for various timers as HARQ RTT can be smaller in NR | 2 | T-PollRetransmit ::=                ENUMERATED {                                          ms1, ms2, ms4, ms5, ms10, ms15, ms20, ms25, ms30, ms35,                                          ms40, ms45, ms50, ms55, ms60, ms65, ms70,                                          ms75, ms80, ms85, ms90, ms95, ms100, ms105,                                          ms110, ms115, ms120, ms125, ms130, ms135,                                          ms140, ms145, ms150, ms155, ms160, ms165,                                          ms170, ms175, ms180, ms185, ms190, ms195,                                          ms200, ms205, ms210, ms215, ms220, ms225,                                          ms230, ms235, ms240, ms245, ms250, ms300,                                          ms350, ms400, ms450, ms500, ms800, ms1000,                                          ms2000, ms4000, spare5, spare4, spare3,                                          spare2, spare1}  <<skip>>  T-Reassembly ::=                    ENUMERATED {                                          ms0, ms1, ms2, ms4, ms5, ms10, ms15, ms20, ms25, ms30, ms35,                                          ms40, ms45, ms50, ms55, ms60, ms65, ms70,                                          ms75, ms80, ms85, ms90, ms95, ms100, ms110,                                          ms120, ms130, ms140, ms150, ms160, ms170,                                          ms180, ms190, ms200, spare1}  T-StatusProhibit ::=                ENUMERATED {                                          ms0, ms1, ms2, ms4, ms5, ms10, ms15, ms20, ms25, ms30, ms35,                                          ms40, ms45, ms50, ms55, ms60, ms65, ms70,                                          ms75, ms80, ms85, ms90, ms95, ms100, ms105,                                          ms110, ms115, ms120, ms125, ms130, ms135,                                          ms140, ms145, ms150, ms155, ms160, ms165,                                          ms170, ms175, ms180, ms185, ms190, ms195,                                          ms200, ms205, ms210, ms215, ms220, ms225,                                          ms230, ms235, ms240, ms245, ms250, ms300,                                          ms350, ms400, ms450, ms500, ms800, ms1000,                                          ms1200, ms1600, ms2000, ms2400, spare2, spare1} | RAP: Not changed: Should be discussed in UP sessionl |
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#### – RLF-TimersAndConstants

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z062 | The RLM related L1 parameters have not been captured in current ASN.1 | 2 | Such as the following parameters in R1-1721581:  RLM-IS-OOS-thresholdConfig, RLM-RS, RLM-RS-List, RLM-SSB, RLM-CSIRS..etc |  |
| Q002 | The RLF related timer value table is still empty | 3 | The value range can’t reuse LTE since different RS (NR-SS and CSI-RS) are used for NR. New value range needs to be analysed and calculated  Rap: Covered by papers |  |
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#### – SCellIndex

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SchedulingRequest-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SchedulingRequestResource-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| H236 | Add schedulingRequestID into each SchedulingReqeustResource-Config, as per previous agreement. | 2 | There was a UP agreement that ‘An SR configuration consists of a collection of sets of PUCCH resources across different BWPs and cells’. To achieve this, it was further agreed in the L2 parameter email discussion that a scheduling request ID is used to associate the PUCCH resources for SR with corresonding SR configurations, and this is already captured in a comment in the current TS 38.331, as below (in SchedulingRequest-Config):  -- FFS\_TODO: provide resources for each SchedulingRequestID in ServingCellConfigDedicated (TBD whether directly, in PUCCH-Config, in each BWP)  Now the SchedulingReqeustResource-Config is included in PUCCH-Config, which is configured per BWP in corresponding serving cell.; this means the PCCUH resource for SR defined in each ScehdulingReqeustResource-Config has already been configured per BWP per celd. So, to acehive the above FFS, what we need to do is just to add schedulingRequestID into each SchedulingRequestResource-Config, as follows:  SchedulingRequestResource-Config ::= SEQUENCE {  schedulingRequestID SchedulingRequestId,  periodicityAndOffset CHOICE {  sym2 NULL,  sym7 NULL,  sl1 NULL, sl2 INTEGER (0..1),  sl5 INTEGER (0..4),  sl10 INTEGER (0..9),  sl20 INTEGER (0..19),  sl40 INTEGER (0..39),  sl80 INTEGER (0..79),  sl160 INTEGER (0..159),  sl320 INTEGER (0..319),  sl640 INTEGER (0..639)  } OPTIONAL,  resource CHOICE {  format0 PUCCH-format0,  format1 PUCCH-format1  } OPTIONAL  }  In this way, it can be realized that each SR configuration includes a collection of PUCCH SR resources across different BWPs and Cells. | Done |
| M049 | The association between SR configuration and the corresponding appliable SR resource is not specified | 1 | In SchedulingRequestResource-Config, add **schedulingRequestId** | Duplicate of H236 |
| H235 | Wrong values in periodicity range | 2 | The spreadsheet shows the periodicity parameter with range { sym2, sym7, ms0p125, ms0p25, ms0p5, ms1, ms2, ms5, ms10, ms20, ms40, ms80 } only, but the CHOICE includes 160, 320, and 640. Also the units are described as slots although the spreadsheet says ms.  SchedulingRequestResource-Config ::= SEQUENCE {  -- SR periodicity. Corresponds to L1 parameter 'SR-periodicity' and 'SR-offset' (see 38.213, section 9.2.2)  -- FFS\_Value: Check whether value ranges are implemented correctly for higher SCSs.  periodicityAndOffset CHOICE {  -- FFS\_RAN1: Need to signal an offset or is it known from PUCCH format configuration?  sym2 NULL,  -- FFS\_RAN1: Need to signal an offset or is it known from PUCCH format configuration?  sym7 NULL,  ms0p125 NULL,  ms0p25 NULL,  ms0p5 NULL,  ms~~l~~1 NULL, -- Recurs in every slot  ms~~l~~2 INTEGER (0..1),  ms~~l~~5 INTEGER (0..4),  ms~~l~~10 INTEGER (0..9),  ms~~l~~20 INTEGER (0..19),  ms~~l~~40 INTEGER (0..39),  ms~~l~~80 INTEGER (0..79)~~,~~  sl160 INTEGER (0..159), -- Only for 30, 60 and 120 Khz Subcarrier Spacing  sl320 INTEGER (0..319), -- Only for 60 and 120 Khz Subcarrier Spacing  sl640 INTEGER (0..639) -- Only for 120 Khz Subcarrier Spacing  } OPTIONAL,  -- Format, length, ... of this SR reosurce. Corresponds to L1 parameter 'SR-resource' (see 38.213, section 9.2.2)  -- FFS\_CHECK: Is the implementation as intended by RAN1? Or were these supposed to be just IDs pointing to a resource configured elsewhere?  resource CHOICE {  format0 PUCCH-format0,  format1 PUCCH-format1  } OPTIONAL  }  **[Ericsson]** Defining this in slots was intentional. If we would configure the values in ms as suggested by Huawei, one could also configure offsets only with a granularity of ms whereas it is supposd to be in slots. Therefore, we converted the allowed values in [ms] into the corresponding values in [slots] for each numerology. Unfortunately, the ”field descriptions” with the restrictions got a bit messed up. We suggest correcting it as shown below.  We also understand that the two FFSs on sym2 and sym7 can be removed and it should be clarified that the offset 0 slots applies.  SchedulingRequestResource-Config ::= SEQUENCE {  -- SR periodicity. Corresponds to L1 parameter 'SR-periodicity' and 'SR-offset' (see 38.213, section 9.2.2)  ~~-- FFS\_Value: Check whether value ranges are implemented correctly for higher SCSs.~~  -- The following periodicities may be configured depending on the chosen subcarrier spacing:  -- SCS = 15 kHz: 2sym, 7sym, 1sl, 2sl, 5sl, 10sl, 20sl, 40sl, 80sl  -- SCS = 30 kHz: 2sym, 7sym, 1sl, 2sl, 4sl, 10sl, 20sl, 40sl, 80sl, 160sl  -- SCS = 60 kHz: 2sym, 7sym/6sym, 1sl, 2sl, 4sl, 8sl, 20sl, 40sl, 80sl, 160sl, 320sl  -- SCS = 120 kHz: 2sym, 7sym, 1sl, 2sl, 4sl, 8sl, 16sl, 40sl, 80sl, 160sl, 320sl, sl640  -- A periodicity of 6 symbols may only be configured for extended cyclic prefix which is only supported on 60 kHz.  -- For periodicities sym2, sym7 and sl1 the UE assumes an offset of 0 slots.  periodicityAndOffset CHOICE {  ~~-- FFS\_RAN1: Need to signal an offset or is it known from PUCCH format configuration?~~  sym2 NULL,  sym6 NULL,  ~~-- FFS\_RAN1: Need to signal an offset or is it known from PUCCH format configuration?~~  sym7 NULL,  sl1 NULL, -- Recurs in every slot  sl2 INTEGER (0..1),  sl4 INTEGER (0..3),  sl5 INTEGER (0..4),  sl8 INTEGER (0..7),  sl10 INTEGER (0..9),  sl16 INTEGER (0..15),  sl20 INTEGER (0..19),  sl40 INTEGER (0..39),  sl80 INTEGER (0..79),  sl160 INTEGER (0..159), ~~-- Only for 30, 60 and 120 Khz Subcarrier Spacing~~  sl320 INTEGER (0..319), ~~-- Only for 60 and 120 Khz Subcarrier Spacing~~  sl640 INTEGER (0..639) ~~-- Only for 120 Khz Subcarrier Spacing~~  } OPTIONAL,  -- Format, length, ... of this SR reosurce. Corresponds to L1 parameter 'SR-resource' (see 38.213, section 9.2.2)  -- FFS\_CHECK: Is the implementation as intended by RAN1? Or were these supposed to be just IDs pointing to a resource configured elsewhere?  resource CHOICE {  format0 PUCCH-format0,  format1 PUCCH-format1  } OPTIONAL  }  => Change as proposed by Ericsson is agreed. | Done |
| Q021 | SchedulingRequestResource-Config  6 symbol periodicity for ECP is not captured |  | In RAN LS, the values are as follows:  Subcarrier spacing (kHz) 15 kHz  2 symbols, 7 symbols, 1 ms,2 ms,5 ms,10 ms,20 ms,40 ms,80 ms  Subcarrier spacing (kHz) 30 kHz  2 symbols, 7 symbols, 0.5 ms,1 ms,2 ms,5 ms,10 ms,20 ms,40 ms,80 ms  Subcarrier spacing (kHz) 60 kHz  2 symbols, 7 symbols (6 symbols for ECP), 0.25 ms,0.5 ms,1 ms,2 ms,5 ms,10 ms,20 ms,40 ms,80 ms  Subcarrier spacing (kHz) 120 kHz  2 symbols, 7 symbols (6 symbols for ECP), 0.125 ms, 0.25 ms,0.5 ms,1 ms,2 ms,5 ms,10 ms,20 ms,40 ms,80 ms  Proposed Solution:  Add sym6 and describe in field description that the value sm6 is applicable only when ECP is used and only for 60 and 120 kHz.  [**Ericsson**] The simplest may be to define that sym7 means ”6 symbols” in case of extended cyclic prefix. But we are also fine to introduce another code point. We did this in our proposed modification in H235.  To our understanding E-CP is only configurable for 60 kHz, right?  SchedulingRequestResource-Config ::=           SEQUENCE {      -- SR periodicity. Corresponds to L1 parameter 'SR-periodicity' and 'SR-offset' (see 38.213, section 9.2.2)      -- FFS\_Value: Check whether value ranges are implemented correctly for higher SCSs.      periodicityAndOffset                          CHOICE {         -- FFS\_RAN1: Need to signal an offset or is it known from PUCCH format configuration?         sym2                                        NULL,         -- FFS\_RAN1: Need to signal an offset or is it known from PUCCH format configuration?         sym6                                        NULL,         sym7                                        NULL,         sl1                                         NULL,                     -- Recurs in every slot         sl2                                         INTEGER (0..1),         sl5                                         INTEGER (0..4),         sl10                                        INTEGER (0..9),         sl20                                        INTEGER (0..19),         sl40                                        INTEGER (0..39),         sl80                                        INTEGER (0..79),         sl160                                       INTEGER (0..159),          -- Only for 30, 60 and 120 Khz Subcarrier Spacing         sl320                                       INTEGER (0..319),          -- Only for 60 and 120 Khz Subcarrier Spacing         sl640                                       INTEGER (0..639)           -- Only for 120 Khz Subcarrier Spacing      }                                                                                                             OPTIONAL,      -- Format, length, ... of this SR reosurce. Corresponds to L1 parameter 'SR-resource' (see 38.213, section 9.2.2)      -- FFS\_CHECK: Is the implementation as intended by RAN1? Or were these supposed to be just IDs pointing to a resource configured elsewhere?      resource                                     CHOICE {         format0                                     PUCCH-format0,         format1                                     PUCCH-format1      }                                                                                               OPTIONAL  }  => Change sym7 to sym7-6 and add field description how to interpret the field as 6 or 7 symbols | Done |
| E134 | PUCCH resource configuration for D-SR | 2 | The PUCCH resource configuration for D-R is wrong: The IE PUCCH-format0 and PUCCH-format1 cannot be instantiated directly. Instead, the IE PUCCH-Resource (see PUCCH-Config) must be configured with a format0 or format1 (the format is a choice within the PUCCH-Resource).  With that, also the FFS may be removed.      -- Format, length, ... of this SR reosurce. The network configures a PUCCH-Resource of PUCCH-format0 or PUCCH-format1 (other formats not supported). Corresponds to L1 parameter 'SR-resource' (see 38.213, section 9.2.2)  ~~-- FFS\_CHECK: Is the implementation as intended by RAN1? Or were these supposed to be just IDs pointing to a resource configured elsewhere?~~      resource                                     ~~CHOICE {~~  ~~format0                                     PUCCH-format0,~~  ~~format1                                     PUCCH-format1~~  ~~}~~  PUCCH-Resource                                                          OPTIONAL | Done |
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#### – SDAP-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z064 | mappedQoSflows SEQUENCE (SIZE (0..maxNrofQFIs)) OF QFI OPTIONAL, -- Need N  In order to enable the delta signalling, an add/mod/release list should be used instead. | 2 | In order to enable the delta signalling, an add/mod/release list should be used instead. | Done |
| Q003 | Reflective QoS (reflectiveQoS) | 3 | It is not clear how the reflective QoS parameter is used here and was not discussed before. It is marked FFS but it seems better removed to avoid confusion as the description is not clear.  SDAP-Config ::= SEQUENCE {  -- FFS / TODO: Definition of PDUsessionID to be added  pduSession PDUsessionID,  -- FFS: separate configuration for UL and DL  sdap-Header-DL ENUMERATED {present, absent},  sdap-Header-UL ENUMERATED {present, absent},  defaultDRB BOOLEAN,  ~~reflectiveQoS BOOLEAN, -- It is FFS whether this field is needed~~  -- FFS: Is the simple list sufficient? Replace by add/mod/release list? Or bitmap?  mappedQoSflows SEQUENCE (SIZE (0..maxNrofQFIs)) OF QFI OPTIONAL, -- Need N  ...  } | No change (but added FFS to CR) |
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#### – SecurityAlgorithmConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z065 | It is not necessary for the SN to provide this information (even in case the SRB3 is not established - note that IPC for DRB is not supported in EN-DC).  It seems the IE “integrityProtAlgorithm” can be optional, Need R. | 2 | SecurityAlgorithmConfig ::= SEQUENCE {  cipheringAlgorithm CipheringAlgorithm,  integrityProtAlgorithm IntegrityProtAlgorithm OPTIONAL, -- Need R  }  Rapperteur: Adopted |  |
| Z066 | Whether the modification of IE “keyToUse” can be supported without DRB addition/release in this release? And what’s the expected behaivour in X2 interface?  A paper will be prepared by ZTE on this aspect. | 4 | SecurityConfig ::= SEQUENCE {  securityAlgorithmConfig SecurityAlgorithmConfig OPTIONAL, -- Need M  keyToUse ENUMERATED{keNB, s-KgNB} OPTIONAL, -- Need M  ...  }  [Ericsson3] In our understanding, key change changed for a bearer.  RAN2 AH: Discussed [R2-1801497](file:///C:\Data\3GPP\Extracts\R2-1801497%20Discussion%20on%20the%20configuration%20of%20IE%20keyToUse%20(RILNo%20Z066).docx), already covered by other paper. | See Tdoc R2-1801497 |
| I073 | The IE SecurityAlgorithmConfig is used to configure AS integrity protection algorithm (SRBs)  Is it the intention to add intergrity protection for DRB in June? | 2 | Ask for common understanding;  Ericsson: Yes, UP for DRBs can be added in June. |  |
| I074 | **cipheringAlgorithm**  Indicates the ciphering algorithm to be used for SRBs and DRBs, as specified in TS 33.501 [11]. The algorithms nea0-nea3 are identical to the LTE algorithms eea0-3. For EN-DC, the algorithms configured for bearers using KeNB shall be the same as for all bearers using KeNB.  Looks like for KgNB, the algorithm can be different for different DRB, is it the intention? | 2 | **cipheringAlgorithm**  Indicates the ciphering algorithm to be used for SRBs and DRBs, as specified in TS 33.501 [11]. The algorithms nea0-nea3 are identical to the LTE algorithms eea0-3. For EN-DC, the algorithms configured for bearers using KeNB shall be the same as for all bearers using KeNB and the algorithms configured for bearers using KgNB shall be the same as for all bearers using KgNB.  Ericsson: This is OK, even thought main reason to add KeNB limitation is that this can be configured with LTE and NR configuration. |  |
| C031 | SecurityAlgorithmConfig field descriptions, IP for DRB can be supported by configuration | 2 | **IntegrityProtAlgorithm**  For EN-DC, this IE indicates the integrity protection algorithm to be used for SRBs and DRBs that configured with integrity protection, as specified in TS 33.501 [11]. The algorithms nia0-nia3 is identical to the LTE algorithms eia0-3. For EN-DC, the algorithms configured for SRBs using KeNB shall be the same as for all SRBs using KeNB.  [Ericsson3] IP for DRBs need to be checked separately (not needed for EN-DC). |  |
| C032 | IP for DRB can be supported by configuration | 2 | The IE SecurityAlgorithmConfig is used to configure AS integrity protection algorithm (SRBs and DRBs if configured with integrity protection) and AS ciphering algorithm (SRBs and DRBs). |  |
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#### – ServCellIndex

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – ServingCellConfigCommon

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M050 | Initial UL BWP | 1 | Add one IE initial-UL-BWP for initial UL BWP configuration. | Better explained in H238 |
| Z067 | Spare values should be added in ssb-periodicityServingCell |  | ssb-periodicityServingCell ENUMERATED { ms5, ms10, ms20, ms40, ms80, ms160, spare2, spare1 } OPTIONAL, | Done |
| I075 | ServingCellConfigDedicated BandwidthPart-Config  and  ServingCellConfigCommon containes  DownlinkBandwidthPart ::= SEQUENCE {  genericParameters BandwidthPart,  pdcch-ConfigCommon PDCCH-ConfigCommon OPTIONAL  }  Do we need to specify that dedicated configuration will replace the one in common? | 2 | To clarify dedicated configuration will replace the one in common if configured.  [**Ericsson2**] This is a very valid question that is probably more a class 4 issue. Generally, the IEs with suffix ”Common” contain fields that are common for several UEs or that depend on the settings for other UEs. One can replace values received in a common IE (or in SIB) by a corresponding value received in a dedicated IE (as done e.g. for RLF-TimersAndConstants in LTE). But if it is not necessary it is certainly easier if the UE follows the cell specific (common) value. Due to BWPs we have now an odd mix of dedicated and common parameters on different levels. | resolved by R2-1801591 |
| H237 | Definition of the IE ServingCellConfigCommon |  | 1) For a cell with mutliple SSB, SSB parameters are not the same for all UEs in the cell so this is not a "cell specific parameter". Besides, this information is not really useful -> remove first sentence  2) Which parameter derived from SSB or MIB would be included in dedicated signalling? If none, remove "SSB, MIB or"  3) Remove "typically" |  |
| H238 | UplinkConfigCommon uses UplinkBandwidthPart where some parameters may be absent (e.g. PUCCH-ConfigCommon) for dedicated case. Since this parameter is used for SIB1, it is better to optimize its size, using another type. |  | Change type used, define:  InitialUplinkBandwidthPart ::= SEQUENCE {  genericParameters BandwidthPart, -- Frequency location of the uplink "direct current" frequency.  directCurrentLocation INTEGER (0..3299),  rach-ConfigCommon RACH-ConfigCommon,  pucch-ConfigCommon PUCCH-ConfigCommon,  pusch-ConfigCommon PUSCH-ConfigCommon  }  (type change)  UplinkConfigCommon ::=               SEQUENCE {      -- Absolute uplink frequency configuration and subcarrier specific virtual carriers.      frequencyInfoUL                      FrequencyInfoUL                                        OPTIONAL, -- Cond InterFreqHOAndUplinkSCellAdd      -- The initial uplink BWP configuration for a SpCell (PCell of MCG or SCG). Corresponds to L1 parameter 'initial-UL-BWP'.      -- (see 38.331, section FFS\_Section).      initialUplinkBandwidthPart           InitialUplinkBandwidthPart                                    OPTIONAL -- Cond FDD-SpCell  }  [**Ericsson**] Should we change it to UplinkBandwidthPartCommon? | resolved by R2-1801591  Conditions to be discussed next meeting (FFS) |
| Q004 | According to RAN1 provided list (R1-1721581), initial UL BWP is conditional on paired spectrum and SUL of PCell or PSCell. But in current ASN.1, the condition on SUL is missing | 2 | Modify as follows  UplinkConfigCommon ::= SEQUENCE {  -- Absolute uplink frequency configuration and subcarrier specific virtual carriers.  frequencyInfoUL FrequencyInfoUL OPTIONAL, -- Cond InterFreqHOAndUplinkSCellAdd  -- The initial uplink BWP configuration for a SpCell (PCell of MCG or SCG). Corresponds to L1 parameter 'initial-UL-BWP'.  -- (see 38.331, section FFS\_Section).  initialUplinkBandwidthPart UplinkBandwidthPart OPTIONAL -- Cond FDD-SUL-PCell  } | resolved by R2-1801591  (an initial UL BWP configuration is needed in any case (if UL is configured for a cell) |
| D020 | tdd-UL-DL-configurationCommon2 | 2 | It is better to describe in the field description how the TDD UL/DL configuration looks like together with tdd-UL-DL-configurationCommon. In our understanding, these two configurations are alternated.  [**Ericsson**] Could you give a concrete example? | No change for now since no example given. |
| L021 | Condition description for ‘HOAndSCellAdd’ and ‘InterFreqHOAndSCellAdd’ are missing, and we prefer not to use HO even though it is shorter. |  |  | Added condition table.  ”HO” seems correct since it is not needed for sync reconfiguration within a cell. |
| S028 | ServingCellConfigCommon includes UplinkConfigCommon only for InterFreqHOAndUplinkSCellAdd.  Why is this not needed for intra frequency HO? | 2 | Change condition of field uplinkConfigCommon from InterFreqHOxx to HOxx. | Addressed in R2-1801591 |
| S030 | initialUplinkBandwidthPart is included in UplinkConfigCommon only for PCell. Don’t we also need this for PSCell in case of SCG addition | 2 | Change condition of field initialUplinkBandwidthPart from Cond FDD-PCell to FDD-SPCell | No Change.  Marked FFS whether it also applies for SCells. |
| Q028 | From RAN1 LS, following are missing:  PRB-index-DL-common  PRB-index-UL-common  PRB-index-SUL-common | 2 | 38.211 uses following Cell-specific parameters which are missing from 38.331:   |  |  | | --- | --- | | **Parameter name in text** | **Value range** | | PRB-index-DL-common | offset-ref-low-scs-ref-PRB, offset-pointA-set | | PRB-index-DL-Dedicated | offset-ref-low-scs-ref-PRB, offset-pointA-set | | PRB-index-UL-common | offset-ref-low-scs-ref-PRB, offset-pointA-set | | PRB-index-SUL-common | offset-ref-low-scs-ref-PRB, offset-pointA-set |   Suggest to capture in ServingCellConfigCommon.  => No change needed  => Mapping between RAN1 and RAN2 parameters to be clarified so that RAN1 can update accordingly. | No change  (will check offline with 38.211 rapporteur) |
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#### – ServingCellConfigDedicated

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| H239 | dataScramblingIdentity fields should have a common type | 2 | dataScramblingIdentityPDSCH and dataScramblingIdentityPUSCH use 1007 as a “magic number” in the range. Propose to introduce a type DataScramblingIdentityPDSCH-PUSCH ::= INTEGER (0..1007). Note this is different from the existing ScramblingIdentity which has the full 10-bit range.  ServingCellConfigDedicated ::= SEQUENCE {  -- L1 parameters:  tdd-UL-DL-configurationDedicated TDD-UL-DL-Config OPTIONAL, -- Cond TDD  bandwidthParts BandwidthPart-Config OPTIONAL,  -- Identifer used to initalite data scrambling (c\_init) for both PDSCH.  -- Corresponds to L1 parameter 'Data-scrambling-Identity' (see 38,214, section FFS\_Section)  ~~-- FFS:\_Replace by tye ScramblingId used in other places?~~  dataScramblingIdentityPDSCH ~~INTEGER (0..1007)~~ DataScramblingIdentityPDSCH-PUSCH OPTIONAL,  -- Identifer used to initalite data scrambling (c\_init) for both PUSCH.  -- Corresponds to L1 parameter 'Data-scrambling-Identity' (see 38,214, section FFS\_Section)  ~~-- FFS: Replace by tye ScramblingId used in other places?~~  dataScramblingIdentityPUSCH ~~INTEGER (0..1007)~~DataScramblingIdentityPDSCH-PUSCH OPTIONAL,  […]  DataScramblingIdentityPDSCH-PUSCH ::= INTEGER (0..1007) | No change  The question (FFS) was whether one could use the same value range as e.g. for PUCCH scrambling (10 bit bitstring) |
| H240 | dataScramblingIdentityPDSCH and dataScramblingIdentityPUSCH could be moved to PDSCH-Config and PUSCH-Config respectively | 2 | These two fields are specific to the respective channels and could be moved to the corresponding “-Config” IEs.  ServingCellConfigDedicated ::= SEQUENCE {  -- L1 parameters:  tdd-UL-DL-configurationDedicated TDD-UL-DL-Config OPTIONAL, -- Cond TDD  bandwidthParts BandwidthPart-Config OPTIONAL,  ~~-- Identifer used to initalite data scrambling (c\_init) for both PDSCH.~~  ~~-- Corresponds to L1 parameter 'Data-scrambling-Identity' (see 38,214, section FFS\_Section)~~  ~~-- FFS:\_Replace by tye ScramblingId used in other places?~~  ~~dataScramblingIdentityPDSCH INTEGER (0..1007) OPTIONAL,~~  ~~-- Identifer used to initalite data scrambling (c\_init) for both PUSCH.~~  ~~-- Corresponds to L1 parameter 'Data-scrambling-Identity' (see 38,214, section FFS\_Section)~~  ~~-- FFS: Replace by tye ScramblingId used in other places?~~  ~~dataScramblingIdentityPUSCH INTEGER (0..1007)~~ OPTIONAL,  [...]  PDSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.213, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission BOOLEAN,  -- Maximum number of code-block-groups (CBGs) per TB. In case of multiple CW the maximum CBG is 4 (see 38.213, section 9.1.1)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  -- Indicates whether CBGFI for CBG based (re)transmission in DL is enabled (true). (see FFS\_Specification, section FFS\_Section)  codeBlockGroupFlushIndicator BOOLEAN,  dataScramblingIdentityPDSCH INTEGER (0..1007),  [...]  PUSCH-Config ::= SEQUENCE {  -- Indicates whether to use code-block-group (CBG) based transmission (see 38.214, section x.x.x.x) FFS\_Ref  -- FFS: Is this BOOLEAN parameter needed or can it be derived from the presence of the codeBlockGroupsPerTransportBlock?  codeBlockGroupTransmission ENUMERATED {true} OPTIONAL, -- Need R  -- Maximum number of code-block-groups (CBGs) per TB (see 38.xxx, section x.x.x, FFS\_Ref)  maxCodeBlockGroupsPerTransportBlock ENUMERATED {n2, n4, n6, n8},  dataScramblingIdentityPUSCH INTEGER (0..1007),  => Send LS to RAN1 to ask which configruations can be different per BWP and which are cell specific. (H240) (Offline discussion #24, Huawei) R2-1801609 | Done |
| H241 | RAN2#100 agreed that SPS can be configured per BWP per serving cell. | 2 | 1. “SPS may be configured on the PCell as well as SCells,” shall be revised to “SPS can be configured per DL BWP on the PCell as well as on the SCells”.  2. The SPS-config IE can be configured per BWP per serving cell and therefore it shall be moved to the field of DownlinkBandwidthPart IE from ServingCellConfigDedicated IE.  DownlinkBandwidthPart ::=           SEQUENCE {      genericParameters                   BandwidthPart,  pdcch-ConfigCommon                  PDCCH-ConfigCommon                                              OPTIONAL,  sps-Config                          SPS-Config                                                  OPTIONAL    }  <skip>  ServingCellConfigDedicated information element  -- ASN1START  -- TAG-SERVING-CELL-CONFIG-DEDICATED-START  ServingCellConfigDedicated ::= SEQUENCE {  -- L1 parameters:  tdd-UL-DL-configurationDedicated TDD-UL-DL-Config OPTIONAL, -- Cond TDD  bandwidthParts BandwidthPart-Config OPTIONAL,  -- Identifer used to initalite data scrambling (c\_init) for both PDSCH.  -- Corresponds to L1 parameter 'Data-scrambling-Identity' (see 38,214, section FFS\_Section)  -- FFS:\_Replace by tye ScramblingId used in other places?  dataScramblingIdentityPDSCH INTEGER (0..1007) OPTIONAL,  -- Identifer used to initalite data scrambling (c\_init) for both PUSCH.  -- Corresponds to L1 parameter 'Data-scrambling-Identity' (see 38,214, section FFS\_Section)  -- FFS: Replace by tye ScramblingId used in other places?  dataScramblingIdentityPUSCH INTEGER (0..1007) OPTIONAL,  -- FFS: Is the PDSCH-Config BWP-specific? If so, move into DownlinkBandwidthPart  pdsch-Config PDSCH-Config OPTIONAL,  -- FFS in RAN1: Tracking Reference Signals configuration: TRS-Config?  csi-MeasConfig CSI-MeasConfig OPTIONAL,    -- FFS: Is the PUSCH-Config BWP-specific? If so, move into UplinkBandwidthPart  pusch-Config PUSCH-Config OPTIONAL,  srs-Config SRS-Config OPTIONAL,  ~~-- MAC parameters:~~  ~~-- FFS: Is SPS-Config per BWP? If so, split it in UL and DL and move it to the respective UL- and DL BWP)~~  ~~sps-Config SPS-Config OPTIONAL,~~ | Covered by CR in R2-1801591 |
| H242 | RAN2#100 agreed to use a common cs-RNTI for both SPS (DL) and Configured grant type 1 and 2 (UL) for the UE. | 2 | Rapporteur: Original proposal.  **ServingCellConfigDedicated information element**  -- ASN1START  -- TAG-SERVING-CELL-CONFIG-DEDICATED-START  ServingCellConfigDedicated ::=      SEQUENCE {      -- L1 parameters:      tdd-UL-DL-configurationDedicated    TDD-UL-DL-Config                                                            OPTIONAL, -- Cond TDD      bandwidthParts                      BandwidthPart-Config                                                        OPTIONAL,      csi-MeasConfig                      CSI-MeasConfig                                                                  OPTIONAL,        -- FFS: Is the PUSCH-Config BWP-specific? If so, move into UplinkBandwidthPart      pusch-Config                        PUSCH-Config                                                                    OPTIONAL,      srs-Config                          SRS-Config                                                                      OPTIONAL,  ~~-- MAC parameters:~~  ~~-- FFS: Is SPS-Config per BWP? If so, split it in UL and DL and move it to the respective UL- and DL BWP)~~  ~~sps-Config                          SPS-Config                                                                      OPTIONAL,~~  cs-RNTI                             RNTI-Value                                                                      OPTIONAL     }  -- TAG-SERVING-CELL-CONFIG-DEDICATED-STOP  -- ASN1STOP  Rapporteur: Modified proposal by Huawei:   1. sps-RNTI should be revised to cs-RNTI. 2. cs-RNTI should be moved to the field of MAC-CellGroupConfig from SPS-config IE   -- SPS may be configured on the PCell as well as on SCells. But it shall not be configured for more than  -- one serving cell of a cell group at once.  SPS-Config ::=                          SEQUENCE {      downlink                             SEQUENCE {  ~~-- FFS: Discuss in RAN2 whether for UL and DL use same SPS-RNTI (like in LTE)? See also naming FFS above.~~  ~~-- RNTI for DL SPS. Corresponds to L1 parameter 'SPS C-RNTI' (see 38.214, section FFS\_Section)~~  ~~-- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity~~  ~~-- and other PDCCH parameters (if any)~~  ~~sps-RNTI                             RNTI-Value                                                                OPTIONAL,~~         -- Periodicity for DL SPS         -- Corresponds to L1 parameter 'semiPersistSchedIntervalDL' (see 38.214 and 38.321, section FFS\_Section)         -- FFS\_Value: Support also shorter periodicities for DL?         periodicity                             ENUMERATED {ms10, ms20, ms32, ms40, ms64, ms80, ms128, ms160, ms320, ms640,                                                         spare6, spare5, spare4, spare3, spare2, spare1}                      OPTIONAL,         -- Number of configured HARQ processes for SPS DL. Corresponds to L1 parameter 'numberOfConfSPS-Processes' (see 38.214, section FFS\_Section)         nrofHARQ-Processes                   INTEGER (1..8)                                                            OPTIONAL,         -- HARQ resource for PUCCH for DL SPS. (see 38.214, section FFS\_Section)         -- FFS\_Value: Is this supposed to be the actual configuration or just an ENUMERATED (configuration eslewhere)?         n1PUCCH-AN                              CHOICE {             format0                                 PUCCH-resource-config-PF0,  -- FFS: Is this supposed to be PUCCH-format0?             format1                                 PUCCH-resource-config-PF1   -- FFS: Is this supposed to be PUCCH-format1?         }                                                                                                             OPTIONAL      },  **[…]**  MAC-CellGroupConfig ::=          SEQUENCE {      drx-Config                       DRX-Config                                                                      OPTIONAL, -- Need R      schedulingRequestConfig              SchedulingRequestConfig                                                          OPTIONAL,      bsr-Config                       BSR-Configuration                                                            OPTIONAL,  -- Need N      tag-Config                       TAG-Configuration                                                            OPTIONAL,  -- Need N      phr-Config                       PHR-Config                                                                   OPTIONAL,  -- Need N      sCellDeactivationTimer               ENUMERATED {                                          ms20, ms40, ms80, ms160, ms200, ms240, ms320, ms400, ms480, ms520, ms640, ms720, ms840, ms1280, spare2,                                          spare1}               OPTIONAL,  -- Cond ServingCellWithoutPUCCH      cs-RNTI                             RNTI-Value                                                                      OPTIONAL,      -- FFS : configurable per SCell?      skipUplinkTxDynamic                  BOOLEAN  } |  |
| E124 | The IE sCellDeactivationTimer has been moved from MAC-CellGroupConfig to ServingCellConfigDedicated since it is per SCell configuration.  See “TP for L2 parameter contents (email discussion [99bis#18][NR] L2 parameters in RRC)”, R2-1712578. | 2 | MAC-CellGroupConfig ::= SEQUENCE {  drx-Config DRX-Config OPTIONAL, -- Need R  schedulingRequestConfig SchedulingRequestConfig OPTIONAL,  bsr-Config BSR-Configuration OPTIONAL, -- Need N  tag-Config TAG-Configuration OPTIONAL, -- Need N  phr-Config PHR-Config OPTIONAL, -- Need N  ~~sCellDeactivationTimer ENUMERATED {~~  ~~ms20, ms40, ms80, ms160, ms200, ms240, ms320,~~ ms400, ms480, ms520, ms640, ms720, ms840, ms1280, spare2,  spare1} OPTIONAL, -- Cond ServingCellWithoutPUCCH  -- FFS : configurable per SCell?  skipUplinkTxDynamic BOOLEAN  }  -- ASN1START  -- TAG-SERVING-CELL-CONFIG-DEDICATED-START  ServingCellConfigDedicated ::= SEQUENCE {  -- L1 parameters:  bandwidthParts SEQUENCE (SIZE (1..maxNrofBandwidthParts)) OF BandwidthPart OPTIONAL,  pdcch-Config PDCCH-Config OPTIONAL,  pdsch-Config PDSCH-Config OPTIONAL,  -- FFS in RAN1: Tracking Reference Signals configuration: TRS-Config?  csi-MeasConfig CSI-MeasConfig OPTIONAL,    pucch-Config PUCCH-Config OPTIONAL,  pusch-Config PUSCH-Config OPTIONAL,  srs-Config SRS-Config OPTIONAL,  -- MAC parameters:  sps-Config SPS-Config OPTIONAL,  sCellDeactivationTimer ENUMERATED {  ms20, ms40, ms80, ms160, ms200, ms240, ms320, ms400, ms480, ms520, ms640, ms720, ms840, ms1280, spare2,  spare1} OPTIONAL, -- Need N  Rap: Covered in Class 1 CR. Can be closed as Agreed. | Done already |
| Q029 | From RAN1 LS, following are missing:  PRB-index-DL-Dedicated  PRB-index-UL-Dedicated | 2 | 38.211 uses following UE-specific parameters which are missing from 38.331:   |  |  | | --- | --- | | **Parameter name in text** | **Value range** | | PRB-index-DL-Dedicated | offset-ref-low-scs-ref-PRB, offset-pointA-set | | PRB-index-UL-Dedicated | offset-ref-low-scs-ref-PRB, offset-pointA-set |   Suggest to capture in ServingCellConfigDedicated.  => Already covered | No change  (will check offline with 38.211 rapporteur) |

#### – SRB-Identity

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – SPS-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| M051 | TS 38.331 still uses sps-RNTI, while MAC has chaged the usage and term to be cs-RNTI |  | Change the usage of sps-RNTI throughout TS 38.331 |  |
| H243 | RAN2#100 agreed to use a common cs-RNTI for both SPS (DL) and Configured grant type 1 and 2 (UL) for the UE.  + terminology of sps- RNTI is not aligned with 38.321. | 2 | 1. sps-RNTI should be revised to cs-RNTI. 2. cs-RNTI should be moved to the field of ServingCellConfigDedicated from SPS-config IE   -- SPS may be configured on the PCell as well as on SCells. But it shall not be configured for more than  -- one serving cell of a cell group at once.  SPS-Config ::= SEQUENCE {  downlink SEQUENCE {  ~~-- FFS: Discuss in RAN2 whether for UL and DL use same SPS-RNTI (like in LTE)? See also naming FFS above.~~  ~~-- RNTI for DL SPS. Corresponds to L1 parameter 'SPS C-RNTI' (see 38.214, section FFS\_Section)~~  ~~-- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity~~  ~~-- and other PDCCH parameters (if any)~~  ~~sps-RNTI RNTI-Value OPTIONAL,~~  -- Periodicity for DL SPS  -- Corresponds to L1 parameter 'semiPersistSchedIntervalDL' (see 38.214 and 38.321, section FFS\_Section)  -- FFS\_Value: Support also shorter periodicities for DL?  periodicity ENUMERATED {ms10, ms20, ms32, ms40, ms64, ms80, ms128, ms160, ms320, ms640,  spare6, spare5, spare4, spare3, spare2, spare1} OPTIONAL,  -- Number of configured HARQ processes for SPS DL. Corresponds to L1 parameter 'numberOfConfSPS-Processes' (see 38.214, section FFS\_Section)  nrofHARQ-Processes INTEGER (1..8) OPTIONAL,  -- HARQ resource for PUCCH for DL SPS. (see 38.214, section FFS\_Section)  -- FFS\_Value: Is this supposed to be the actual configuration or just an ENUMERATED (configuration eslewhere)?  n1PUCCH-AN CHOICE {  format0 PUCCH-resource-config-PF0, -- FFS: Is this supposed to be PUCCH-format0?  format1 PUCCH-resource-config-PF1 -- FFS: Is this supposed to be PUCCH-format1?  } OPTIONAL  },  RAN2 AH: Discussed [R2-1800480](file:///C:\Data\3GPP\Extracts\R2-1800480.doc). | Covered in agreed pCR. |
| H244 | RAN2#100 made agreement on separate naming of DL and UL, and SPS is for downlink transmission only.  The description and parameters of SPS-config IE are not correct, which should only include DL configurations. | 2 | 1. The SPS-Config IE is used to configure transmission without dynamic grant for the downlink.  2. The SPS-Config IE should only include parameters for the downlink and therefore parameters for the uplink shall be removed. (Note that cs-RNTI shall be removed as well because it should be added in the field of ServingCellConfigDedicated IE)  3. The parameters of “periodicity” and “nrofHARQ-Processes” in SPS-Config IE should not be optional as in LTE.  –  SPS-Config  The SPS-Config IE is used to configure semi-persistent transmission for the downlink ~~according to two possible schemes~~ .  **SPS-Config information element**  -- ASN1START  -- TAG-SPS-CONFIG-START  ~~-- SPS may be configured on the PCell as well as on SCells. But it shall not be configured for more than~~  SPS can be configured per DL BWP on the PCell as well as on SCells  ~~-- one serving cell of a cell group at once.~~  SPS-Config ::=                          SEQUENCE {      downlink                                SEQUENCE {          -- FFS: Discuss in RAN2 whether for UL and DL use same SPS-RNTI (like in LTE)? See also naming FFS above.          -- RNTI for DL SPS. Corresponds to L1 parameter 'SPS C-RNTI' (see 38.214, section FFS\_Section)          -- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity          -- and other PDCCH parameters (if any)  ~~sps-RNTI                                RNTI-Value                                                                      OPTIONAL,~~          -- Periodicity for DL SPS          -- Corresponds to L1 parameter 'semiPersistSchedIntervalDL' (see 38.214 and 38.321, section FFS\_Section)          -- FFS\_Value: Support also shorter periodicities for DL?          periodicity                             ENUMERATED {ms10, ms20, ms32, ms40, ms64, ms80, ms128, ms160, ms320, ms640,                                                             spare6, spare5, spare4, spare3, spare2, spare1}                        ~~OPTIONAL,~~          -- Number of configured HARQ processes for SPS DL. Corresponds to L1 parameter 'numberOfConfSPS-Processes' (see 38.214, section FFS\_Section)          nrofHARQ-Processes                      INTEGER (1..8)                                                                  ~~OPTIONAL,~~          -- HARQ resource for PUCCH for DL SPS. (see 38.214, section FFS\_Section)          -- FFS\_Value: Is this supposed to be the actual configuration or just an ENUMERATED (configuration eslewhere)?          n1PUCCH-AN                                  CHOICE {              format0                                     PUCCH-resource-config-PF0,  -- FFS: Is this supposed to be PUCCH-format0?              format1                                     PUCCH-resource-config-PF1   -- FFS: Is this supposed to be PUCCH-format1?          }                                                                                                                       OPTIONAL      },  }  RAN2 AH: Discussed [R2-1800480](file:///C:\Data\3GPP\Extracts\R2-1800480.doc).  => Covered by previous discussions | Covered in agreed pCR. |
| H245 | The descriptions of parameters in SPS-Config IE are not aligned with RAN1 agreements and common understanding. | 2 | 1. The parameters of “periodicity”, “nroHARQ-processes” in proposed ConfiguredGrant-Config IE should not be optional as in LTE.          -- FFS\_Value: Support also shorter periodicities for DL?          periodicity                             ENUMERATED {ms10, ms20, ms32, ms40, ms64, ms80, ms128, ms160, ms320, ms640,                                                             spare6, spare5, spare4, spare3, spare2, spare1}                        ~~OPTIONAL,~~          -- Number of configured HARQ processes for SPS DL. Corresponds to L1 parameter 'numberOfConfSPS-Processes' (see 38.214, section FFS\_Section)          nrofHARQ-Processes                      INTEGER (1..8)                                                                  ~~OPTIONAL,~~          -- HARQ resource for PUCCH for DL SPS. (see 38.214, section FFS\_Section)  RAN2 AH: Discussed [R2-1800480](file:///C:\Data\3GPP\Extracts\R2-1800480.doc). | Covered in agreed pCR. |
| H246 | Regarding the EN: FFS, Relation between (UL-)SPS and “ULtransmissionWithoutGrant”, RAN2#100 agreed SPS is for downlink only and for the uplink, Configured grant Type 1 and Type 2 are used.  As there are no detailed agreements about the type and values of many parameters from RAN1, many of them are still ffs. Here we provide some suggested values based our own understanding.  No agreements on the exact range of these parameters. For GB or Type-2 GF transmission, these parameters are indicated with DCI, thus we can just follow the way of DCI indication here. For some parameters, the range is suggested based on the maximum bitwidth from RAN1 spec. For other parameters, the range is still uncertain from current spec or agreements. | 2 | 1. Add a separate ConfiguredGrant-Config IE for the uplink transmission according to RAN2#100 agreements. 2. The ConfigureGrant-Config IE is used to configure transmission without dynamic grant for the uplink according to Configured grant Type 1 and Type 2.  3. “UL-SPS” shall be revised to “Configured grant” in corresponding descriptions and “sps-RNTI” shall be revised to “cs-RNTI”.  4. RAN1 agreed to introduce both timeDomainOffset and timeDomainAllocation to determine the occasions of configured grant so “FFS: Merge the following two into one. Possibly don’t use periodicity for rrcConfiguredUplinkGrant ” shall be removed. Add “Offset related to SFN=0” and “Allocate Time-domain PUSCH resources (see 38.214, Section 6.1.2)” to above two parameters respectively.  –  ConfiguredGrant-Config  The Configuredgrant-Config IE is used to configure uplink transmission without dynamic grant according to Configured Grant Type1 and Configured Grant Type 2.  **ConfiguredGrant-Config information element**    ConfiguredGrant-Config ::=                          SEQUENCE {  uplink                                  SEQUENCE {         -- Closed control loop to apply. Corresponds to L1 parameter 'PUSCH-closed-loop-index' (see 38.213, section FFS\_Section)          powerControlLoopToUse                   ENUMERATED {n0, n1},          -- Index of the P0-PUSCH-AlphaSet to be used for this configuration          p0-PUSCH-Alpha                          P0-PUSCH-AlphaSetId,          -- Enable transformer precoder for type1 and type2. Absence indicates that it is disabled.          -- Corresponds to L1 parameter 'UL-TWG-tp' (see 38.214, section FFS\_Section)          transformPrecoder                       ENUMERATED {enabled}                                                            OPTIONAL,          -- The number of HARQ processes configured. It applies for both Type 1 and Type 2          -- Corresponds to L1 parameter 'UL-TWG-numbHARQproc' (see 38.214, section FFS\_Section)          nrofHARQ-processes                      INTEGER(1..ffsValue)                                                            ~~OPTIONAL,~~          -- The number or repetitions of K:        -- Closed control loop to apply. Corresponds to L1 parameter 'PUSCH-closed-loop-index' (see 38.213, section FFS\_Section)          powerControlLoopToUse                   ENUMERATED {n0, n1},          -- Index of the P0-PUSCH-AlphaSet to be used for this configuration          p0-PUSCH-Alpha                          P0-PUSCH-AlphaSetId,          -- Enable transformer precoder for type1 and type2. Absence indicates that it is disabled.          -- Corresponds to L1 parameter 'UL-TWG-tp' (see 38.214, section 6.1.3~~FFS\_Section~~)          transformPrecoder                       ENUMERATED {enabled}                                                            OPTIONAL,          -- The number of HARQ processes configured. It applies for both Type 1 and Type 2          -- Corresponds to L1 parameter 'UL-TWG-numbHARQproc' (see 38.321~~214~~, section 5.8.2~~FFS\_Section~~)          nrofHARQ-processes                      INTEGER(1..16~~ffsValue~~)                                                            ~~OPTIONAL~~,          -- The number or repetitions of K:          repK                                    ENUMERATED {n1, n2, n4, n8},          -- If repetitions is used, this field indicates the redundancy version (RV) sequence to use.          -- Corresponds to L1 parameter 'UL-TWG-RV-rep' (see 38.214, section 6.1.2~~FFS\_Section~~)          repK-RV                                 ENUMERATED {s1-0231, s2-0303, s3-0000}                                          ~~OPTIONAL~~,          -- Periodicity for UL transmission without UL grant for type 1 and type 2          -- Corresponds to L1 parameter 'UL-TWG-periodicity' (see 38.321, section 5.8.2~~FFS\_Section~~)          -- The following periodicities are supported depending on the configured subcarrier spacing [ms]:          --  15kHz: 2 symbols, 7 symbols, 1, 2, 5, 10, 20, 32, 40, 64, 80, 128, 160, 320, 640          --  30kHz: 2 symbols, 7 symbols, 0.5, 1, 2, 5, 10, 20, 32, 40, 64, 80, 128, 160, 320, 640          -- 60kHz: 2 symbols, 7 symbols (6 symbols for ECP), 0.25,0.5,1,2,5,10,20,32, 40, 64, 80, 128, 160, 320, 640          --  120kHz: 2 symbols, 7 symbols, 0.125,0.25,0.5,1,2,5,10,20, 32, 40, 64, 80, 128, 160, 320, 640    OPTIONAL,          periodicity                             ENUMERATED {sym2, sym7, ms0dot125, ms0dot25, ms0dot5, ms1, ms2, ms5, ms10, ms20,                                                                  ms32, ms40, ms64, ms80, ms128, ms160, ms320, ms640}               ~~OPTIONAL,~~  ConfiguredGrantTimer FFS\_Value          -- ~~UL-SPS~~ Configured grant transmission with fully RRC-configured UL grant (Type1) (see 38.214, section 6.1.2~~x.x.x.x~~). ~~FFS\_Ref~~          -- If not provided or set to release, use ~~UL-SPS~~ Configured grant transmission with UL grant configured by DCI addressed to ~~SPS~~cs-RNTI (Type2).          rrcConfiguredUplinkGrant                CHOICE {              setup                                   SEQUENCE {                  -- Offset related to SFN=0~~FFS: Merge the following two into one. Possibly don’t use “periodicity” for rrcConfiguredUplinkGrant~~                  timeDomainOffset                        INTEGER(0..ffsValue) ~~ENUMERATED {ffsTypeAndValue}~~,                                       -- Allocate Time-domain PUSCH resources (see 38.214, Section 6.1.2)                  timeDomainAllocation                    INTEGER(0..ffsValue) ~~ENUMERATED {ffsTypeAndValue}~~, -- RAN1 indicated just "Mapping-type,Index-start-len"                                       -- Determine the resource block assignment in frequency domain (see 38.214, Section 6.1.2)                  frequencyDomainAllocation               INTEGER(0..ffsValue) ~~ENUMERATED {ffsTypeAndValue}~~,                  -- UE-specific DMRS configuration: (see 38.214, Section 6.1.2)                  dmrs                                    INTEGER(0..ffsValue) ~~ENUMERATED {ffsTypeAndValue}~~,                                     -- Determine the modulation order, target code rate and TB size (see 38.214, Section 6.1.2)                  mcsAndTBS                               INTEGER (0..31),                  -- Enables intra-slot frequency hopping with the given frequency hopping offset                  -- Corresponds to L1 parameter 'UL-TWG-hopping' (see 38.214, section FFS\_Section)                  frequencyHopping                        SetupRelease { SEQUENCE { ffs FFS\_Value } }                             OPTIONAL -- Need M              },              release                         NULL          }                                                                           OPTIONAL  -- Need M      }                                                                               OPTIONAL  -- Need M  }  RAN2 AH: Discussed [R2-1800480](file:///C:\Data\3GPP\Extracts\R2-1800480.doc). | Covered in agreed pCR. |
| H247 | RAN2#100 agreed to introduce ConfiguredGrantTimer for both Type 1 and 2, which is also captured into 38.321. However, it was missing in ASN.1. | 2 | 1.Add ConfiguredGrantTimer to ConfiguredGrant-Config IE and values can be FFS pending to RAN2 discussions.  –  ConfiguredGrant-Config  The Configuredgrant-Config IE is used to configure uplink transmission without dynamic grant according to Configured Grant Type1 and Configured Grant Type 2.  **ConfiguredGrant-Config information element**    ConfiguredGrant-Config ::=                          SEQUENCE {  uplink                                  SEQUENCE {         -- Closed control loop to apply. Corresponds to L1 parameter 'PUSCH-closed-loop-index' (see 38.213, section FFS\_Section)          powerControlLoopToUse                   ENUMERATED {n0, n1},          -- Index of the P0-PUSCH-AlphaSet to be used for this configuration          p0-PUSCH-Alpha                          P0-PUSCH-AlphaSetId,          -- Enable transformer precoder for type1 and type2. Absence indicates that it is disabled.          -- Corresponds to L1 parameter 'UL-TWG-tp' (see 38.214, section FFS\_Section)          transformPrecoder                       ENUMERATED {enabled}                                                            OPTIONAL,          -- The number of HARQ processes configured. It applies for both Type 1 and Type 2          -- Corresponds to L1 parameter 'UL-TWG-numbHARQproc' (see 38.214, section FFS\_Section)          nrofHARQ-processes                      INTEGER(1..ffsValue),          -- The number or repetitions of K:        -- Closed control loop to apply. Corresponds to L1 parameter 'PUSCH-closed-loop-index' (see 38.213, section FFS\_Section)          powerControlLoopToUse                   ENUMERATED {n0, n1},          -- Index of the P0-PUSCH-AlphaSet to be used for this configuration          p0-PUSCH-Alpha                          P0-PUSCH-AlphaSetId,          -- Enable transformer precoder for type1 and type2. Absence indicates that it is disabled.          -- Corresponds to L1 parameter 'UL-TWG-tp' (see 38.214, section 6.1.2)          transformPrecoder                       ENUMERATED {enabled}                                                            OPTIONAL,          -- The number of HARQ processes configured. It applies for both Type 1 and Type 2          -- Corresponds to L1 parameter 'UL-TWG-numbHARQproc' (see 38.321, section 5.8.2)          nrofHARQ-processes                      INTEGER(1..16)                                                           ,          -- The number or repetitions of K:          repK                                    ENUMERATED {n1, n2, n4, n8},          -- If repetitions is used, this field indicates the redundancy version (RV) sequence to use.          -- Corresponds to L1 parameter 'UL-TWG-RV-rep' (see 38.214, section 6.1.2)          repK-RV                                 ENUMERATED {s1-0231, s2-0303, s3-0000},          -- Periodicity for UL transmission without UL grant for type 1 and type 2          -- Corresponds to L1 parameter 'UL-TWG-periodicity' (see 38.321, section 5.8.2)          -- The following periodicities are supported depending on the configured subcarrier spacing [ms]:          --  15kHz: 2 symbols, 7 symbols, 1, 2, 5, 10, 20, 32, 40, 64, 80, 128, 160, 320, 640          --  30kHz: 2 symbols, 7 symbols, 0.5, 1, 2, 5, 10, 20, 32, 40, 64, 80, 128, 160, 320, 640          -- 60kHz: 2 symbols, 7 symbols (6 symbols for ECP), 0.25,0.5,1,2,5,10,20,32, 40, 64, 80, 128, 160, 320, 640          --  120kHz: 2 symbols, 7 symbols, 0.125,0.25,0.5,1,2,5,10,20, 32, 40, 64, 80, 128, 160, 320, 640    OPTIONAL,          periodicity                             ENUMERATED {sym2, sym7, ms0dot125, ms0dot25, ms0dot5, ms1, ms2, ms5, ms10, ms20,                                                                  ms32, ms40, ms64, ms80, ms128, ms160, ms320, ms640},  ConfiguredGrantTimer FFS\_Value  RAN2 AH: Discussed [R2-1800480](file:///C:\Data\3GPP\Extracts\R2-1800480.doc). | Covered in agreed pCR. |
| H248 | RAN2#100 agreed that Configred grant Type 1 and 2 can be configured per BWP per serving cell. | 2 | 1. The proposed ConfiguredGrant-Config onfig can be configured per BWP per serving cell and therefore it shall be moved to the field of UplinkBandwidthPart IE from ServingCellConfigDedicated IE.  UplinkBandwidthPart ::=             SEQUENCE {      genericParameters                   BandwidthPart,  -- Frequency location of the uplink "direct current" frequency.      -- Corresponds to L1 parameter 'UL-BWP-DC'. (see 38.211, section FFS\_Section)      directCurrentLocation           INTEGER (0..3299)                                                           OPTIONAL,      -- FFS\_CHECK: Several (UE specific) BWPs may be configured with RACH resources. Hence, they must be provided with      -- the information in RACH-ConfigCommon... even though it is in this case strictly speaking not a cell-specific parameter.      -- OK to keep or re-structure the RACH config?      rach-ConfigCommon                   RACH-ConfigCommon,      pusch-ConfigCommon                  PUSCH-ConfigCommon,      pusch-Config                        PUSCH-Config,              -- FFS: Is the PUSCH also BWP-specific??        pucch-ConfigCommon                  PUCCH-ConfigCommon,      pucch-Config                        PUCCH-Config,      configuredgrant-Config              ConfiguredGrant-Config   OPTIONAL – Need R  }  Samsung: We think SPS can similarly be configured per BWP per serving cell and hence it should similarly be provided within bandwidth configuration as shown below  DownlinkBandwidthPart ::=                SEQUENCE {         genericParameters                               BandwidthPart,         pdcch-ConfigCommon                              PDCCH-ConfigCommon                                                                              OPTIONAL,      sps-Config                       SPS-Config  }  RAN2 AH: Discussed [R2-1800480](file:///C:\Data\3GPP\Extracts\R2-1800480.doc). | Covered in agreed pCR. |
| H249 | RAN2 agreed Configured grant and SPS can be released by RRC, which has been reflected in 38.321  1. SPS and Configured Grant (both Type 1 and 2) can be released by RRC | 2 | ~~-- FFS CHECK: Add possibility to release UL SPS~~  Already rrcConfiguredUplinkGrant can be set to “release”.  For the change to UplinkBandwidthPart the IE ConfiguredGrant-Config is OPTIONAL need R.  [Samsung]: For the case of Type-2 grant and SPS, it is not possible to release the particular part of the configuration. We think it would be good to introduce a release option specifically for these configuration parts  RAN2 AH: Discussed [R2-1800480](file:///C:\Data\3GPP\Extracts\R2-1800480.doc). | Covered in agreed pCR. |
| H250 | frequencyHopping : The exact meaning of this parameter is to be confirmed. In corresponding DCI, it can be 0 or 1 bit depending on the resource allocation type.  Frequency-hopping-offset is FFS in RAN1.  The freq hopping part is still missing in RAN1 spec, and it is supposed in Section 6.3 or 6.1.2.3 | 2 | -- Enables intra-slot frequency hopping with the given frequency hopping offset  -- Corresponds to L1 parameter 'UL-TWG-hopping' (see 38.214, section FFS\_Section)  frequencyHopping SetupRelease { SEQUENCE { ffs FFS\_Value } } OPTIONAL -- Need M | No change proposed |

#### – SRS-Config

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z068 | The “associatedCSI-RS” is only applicable when “usage” is set to nonCodebook, so we should add an condition on this IE. | 1 | SRS-ResourceSet ::= SEQUENCE {  srs-ResourceSetId SRS-ResourceSetId,  srs-ResourcesIds SEQUENCE (SIZE(1..maxNrofSRS-ResourcesPerSet)) OF SRS-ResourceId,  -- The DCI "code point" upon which the UE shall transmit SRS according to this SRS resource set configuration.  -- FFS: Verify definition and usage.  -- Corresponds to L1 parameter 'AperiodicSRS-ResourceTrigger' (see 38.214, section FFS\_Section)  aperiodicSRS-ResourceTriggers SEQUENCE (SIZE (1..maxNrofSRSTriggerStates)) OF FFS\_Value OPTIONAL,  -- ID of CSI-RS resource associated with SRS resource set in non-codebook based operation  -- Corresponds to L1 parameter 'SRS-AssocCSIRS' (see 38.214, section 6.2.1)  associatedCSI-RS NZP-CSI-RS-ResourceId OPTIONAL,  OPTIONAL, -- Cond nonCodebook  -- Indicates if the SRS resource set is used for beam management vs. used for either codebook based or non-codebook based transmission.  -- Corresponds to L1 parameter 'SRS-SetUse' (see 38.214, section 6.2.1)  -- FFS\_CHECK: Isn't codebook/noncodebook already known from the ulTxConfig in the SRS-Config? If so, isn't the only distinction  -- in the set between BeamManagement, AtennaSwitching and "Other”? Or what happens if SRS-Config=Codebook but a Set=NonCodebook?  usage ENUMERATED {beamManagement, codebook, nonCodebook, antennaSwitching} OPTIONAL,  ... ... | Covered in the draft class 1 CR |
| Z069 | 1. The value of carrierSwitching in SRS-Resource should be replaced by SRS-CarrierSwitching which defined below;  2. The relavant FFSs can be deleted; | 2 | SRS-Resource ::= SEQUENCE {  ... ...  -- Includes parameters for configuration of carrier based SRS switching  -- Corresponds to L1 parameter 'SRS-CarrierSwitching' (see 38,214, section FFS\_Section)  carrierSwitching ~~FFS\_Value~~SRS-CarrierSwitching OPTIONAL,  ... ...  -- Subset of PMIs addressed by TRIs from 1 to ULmaxRank. Corresponds to L1 parameter 'ULmaxRank' (see 38.211, section 6.3.1.5)  maxRank ENUMERATED {port1, ports2, ports4} OPTIONAL  }  SRS-ResourceId ::= INTEGER (0..maxNrofSRS-Resources-1)  ~~-- FFS\_FIXME: This configuration is not used anywhere.~~  ~~-- FFS\_CHECK: Is this placed correctly?~~  SRS-CarrierSwitching ::= SEQUENCE {  ...  } | Moved instead to SRS-Config (based on further discussions during the meteing) |
| Z070 | The moitoringCells within SRS-CarrierSwitching should indicate a list of serving cells, and we could use the servingCellIndex as a reference. | 2 | SRS-CarrierSwitching ::= SEQUENCE {  ... ...  -- A set of serving cells for monitoring PDCCH conveying SRS DCI format with CRC scrambled by TPC-SRS-RNTI  -- Corresponds to L1 parameter 'SRS-monitoring-cells' (see 38.212, 38.213, section 7.3.1, 11.3)  ~~-- FFS\_CHECK: "Could this be on several serving cells? If so, it should be a list, right?~~  -- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity  -- and other PDCCH parameters (if any)  moitoringCells ~~INTEGER (0.. 31)~~SEQUENCE (SIZE(1..maxNrofServingCells)) OF ServCellIndex OPTIONAL  }  [**Ericsson2**] We should then also remove the FFS highighted in yellow | Done |
| Z071 | For the maxRank in SRS-Resource, the value range in RAN1 excel is “1 … NrofSRS-Ports”, so “ports3” is a valid value when nrofSRS-Ports is set to ports4. | 2 | SRS-Resource ::= SEQUENCE {  srs-ResourceId SRS-ResourceId,  ... ...  -- Subset of PMIs addressed by TRIs from 1 to ULmaxRank. Corresponds to L1 parameter 'ULmaxRank' (see 38.211, section 6.3.1.5)  maxRank ENUMERATED {port1, ports2, ports3, ports4} OPTIONAL  } | Done |
| Z072 | According to L1 parameters excel , the value range of aperiodicSRS-ResourceTriggers should be “INTEGER (1..maxNrofSRSTriggerStates-1)”, and when the field is absent the UE applies the value 0. | 2 | SRS-ResourceSet ::= SEQUENCE {  srs-ResourceSetId SRS-ResourceSetId,  srs-ResourcesIds SEQUENCE (SIZE(1..maxNrofSRS-ResourcesPerSet)) OF SRS-ResourceId,  -- The DCI "code point" upon which the UE shall transmit SRS according to this SRS resource set configuration.  -- FFS: Verify definition and usage.  -- Corresponds to L1 parameter 'AperiodicSRS-ResourceTrigger' (see 38.214, section FFS\_Section)  aperiodicSRS-ResourceTrigger~~s~~ INTEGER (1..maxNrofSRSTriggerStates-1)~~SEQUENCE (SIZE (1..maxNrofSRSTriggerStates)) OF FFS\_Value~~ OPTIONAL,  -- ID of CSI-RS resource associated with SRS resource set in non-codebook based operation  -- Corresponds to L1 parameter 'SRS-AssocCSIRS' (see 38.214, section 6.2.1)  [**Ericsson2**] OK. We should then also remove the ”s” from the field name as highlighted in yellow. | Done |
| Z073 | The comb offset should be defined in transmissionComb structure, and is mandatory present. | 2 | -- FFS: What is the “offset”?  transmissionComb CHOICE {  n2 SEQUENCE {  -- Cyclic shift configuration. Corresponds to L1 parameter 'SRS-CyclicShiftConfig' (see 38.214, section 6.2.1)  cyclicShift INTEGER (0..7) OPTIONAL,  combOffset INTEGER (0..1)  },  n4 SEQUENCE {  -- Cyclic shift configuration. Corresponds to L1 parameter 'SRS-CyclicShiftConfig' (see 38.214, section 6.2.1)  cyclicShift INTEGER (0..11) OPTIONAL,  combOffset INTEGER (0..3)  }  },  [**Ericsson2**] Where does this combOffset come from? **If we agree to this, we should also remove the ” -- FFS: What is the “offset”?” above the ASN.1**.  => Change is agreed  => FFS can be removed | Done |
| H251 | removal of tpc-SRS-RNTI  The tpc-SRS-RNTI is included in the specific IE and therefore is not necessary to be duplicated here. | 2 | -- SRS configuration allowing to add and remove sets of SRS resources  SRS-Config ::= SEQUENCE {  srs-ResourceSetToReleaseList SEQUENCE (SIZE(0..maxNrofSRS-ResourceSets)) OF SRS-ResourceSetId OPTIONAL, -- Need M  srs-ResourceSetToAddModList  SEQUENCE (SIZE(0..maxNrofSRS-ResourceSets)) OF SRS-ResourceSet OPTIONAL, -- Need M  srs-ResourceToReleaseList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SRS-ResourceId OPTIONAL, -- Need M  srs-ResourceToAddModList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SRS-Resource OPTIONAL, -- Need M  ~~-- RNTI used for SRS TPC. Corresponds to L1 parameter 'TPC-SRS-RNTI' (see 38.213, section 10)~~  ~~-- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity~~  ~~-- and other PDCCH parameters (if any)~~  ~~tpc-SRS-RNTI RNTI-Value OPTIONAL~~,  -- If enabled or absent, UE applies TPC commands via accumulation. If not enabled, UE applies the TPC command without accumulation  -- (this applies to SRS when a separate closed loop is configured for SRS)  -- Corresponds to L1 parameter 'Accumulation-enabled-srs' (see 38,213, section 7.3)  tpcAccumulation ENUMERATED {disabled} OPTIONAL, -- Need R  -- Whether UE uses codebook based or non-codebook based transmission. Corresponds to L1 parameter 'ulTxConfig' (see 38.214, section 6.1.1)  txConfig ENUMERATED {codebook, nonCodebook}  }  [**Ericsson**] We assume you refer to ” SRS-TPC-PDCCH-Config”. But that is only used from within the SRS-CarrierSwitching whereas this field was by RAN1 listed for regular SRS. Hence, it should not be removed without checking with RAN1.  => No change needed | No change  In fact the RNTI in the SRS-CarrierSwitching was removed according to L1 table. |
| H252 | None of the fields in SRS-CarrierSwitching have a default value specified in the L1 parameters list | 2 | SRS-CarrierSwitching ::= SEQUENCE {  -- Indicates the serving cell whose UL transmission may be interrupted during SRS transmission on a PUSCH-less cell.  -- During SRS transmission on a PUSCH-less cell, the UE may temporarily suspend the UL transmission on a serving cell with PUSCH  -- in the same CG to allow the PUSCH-less cell to transmit SRS. (see 38.214, section 6.2.1.3)  srs-SwitchFromServCellIndex INTEGER (0..31) ~~OPTIONAL~~,  -- Network configures the UE with either typeA-SRS-TPC-PDCCH-Group or typeB-SRS-TPC-PDCCH-Group, if any.  srs-TPC-PDCCH-Group CHOICE {  -- Type A trigger configuration for SRS transmission on a PUSCH-less SCell.  -- Corresponds to L1 parameter 'typeA-SRS-TPC-PDCCH-Group' (see 38.212, 38.213, section 7.3.1, 11.3)  typeA SEQUENCE (SIZE (1..32)) OF SRS-TPC-PDCCH-Config,  -- Type B trigger configuration for SRS transmission on a PUSCH-less SCell.  -- Corresponds to L1 parameter 'typeB-SRS-TPC-PDCCH-Config' (see 38.212, 38.213, section 7.3.1, 11.3)  typeB SRS-TPC-PDCCH-Config  } ~~OPTIONAL~~,  -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SRS-cell-to-SFI' (see 38.212, 38.213, section 7.3.1, 11.3)  srs-CellToSFI SEQUENCE (SIZE (1..maxNrofServingCells)) OF CellToSFI ~~OPTIONAL~~,    -- Monitoring periodicity of SRS PDCCH in number of slots.  -- Corresponds to L1 parameter 'SRS-monitoring-periodicity' (see 38.212, 38.213, section 7.3.1, 11.3)  monitoringPeriodicity ENUMERATED {n1, n2, n5, n10, n20, spare3, spare2, spare1} ~~OPTIONAL~~,  -- The number of PDCCH candidates for the configured aggregation level.  -- Corresponds to L1 parameter 'SRS-Num-PDCCH-cand' (see 38.212, 38.213, section 7.3.1, 11.3)  nrofPDCCH-Candidates ENUMERATED {n1, n2} ~~OPTIONAL~~,    -- A set of serving cells for monitoring PDCCH conveying SRS DCI format with CRC scrambled by TPC-SRS-RNTI  -- Corresponds to L1 parameter 'SRS-monitoring-cells' (see 38.212, 38.213, section 7.3.1, 11.3)  -- FFS\_CHECK: "Could this be on several serving cells? If so, it should be a list, right?  -- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity  -- and other PDCCH parameters (if any)  moitoringCells INTEGER (0.. 31) ~~OPTIONAL~~  }  => Keep parameters as OPTIONAL with condition that they are mandatory at initial setup and optional need M otherwise. | Done |
| H253 | CellToSFI is not defined, however in PDCCH-Config there is SlotFormatCombinationsPerCell so should update reference and move the definition of SlotFormatCombinationsPerCell | 2 | SRS-CarrierSwitching ::= SEQUENCE {  -- Indicates the serving cell whose UL transmission may be interrupted during SRS transmission on a PUSCH-less cell.  -- During SRS transmission on a PUSCH-less cell, the UE may temporarily suspend the UL transmission on a serving cell with PUSCH  -- in the same CG to allow the PUSCH-less cell to transmit SRS. (see 38.214, section 6.2.1.3)  srs-SwitchFromServCellIndex INTEGER (0..31) OPTIONAL,  -- Network configures the UE with either typeA-SRS-TPC-PDCCH-Group or typeB-SRS-TPC-PDCCH-Group, if any.  srs-TPC-PDCCH-Group CHOICE {  -- Type A trigger configuration for SRS transmission on a PUSCH-less SCell.  -- Corresponds to L1 parameter 'typeA-SRS-TPC-PDCCH-Group' (see 38.212, 38.213, section 7.3.1, 11.3)  typeA SEQUENCE (SIZE (1..32)) OF SRS-TPC-PDCCH-Config,  -- Type B trigger configuration for SRS transmission on a PUSCH-less SCell.  -- Corresponds to L1 parameter 'typeB-SRS-TPC-PDCCH-Config' (see 38.212, 38.213, section 7.3.1, 11.3)  typeB SRS-TPC-PDCCH-Config  } OPTIONAL,  -- Maps a specific cell to a given SFI value within the DCI message  -- Corresponds to L1 parameter 'SRS-cell-to-SFI' (see 38.212, 38.213, section 7.3.1, 11.3)  srs-CellToSFI SEQUENCE (SIZE (1..maxNrofServingCells)) OF ~~CellToSFI~~ SlotFormatCombinationsPerCell OPTIONAL,    -- Monitoring periodicity of SRS PDCCH in number of slots.  -- Corresponds to L1 parameter 'SRS-monitoring-periodicity' (see 38.212, 38.213, section 7.3.1, 11.3)  monitoringPeriodicity ENUMERATED {n1, n2, n5, n10, n20, spare3, spare2, spare1} OPTIONAL,  -- The number of PDCCH candidates for the configured aggregation level.  -- Corresponds to L1 parameter 'SRS-Num-PDCCH-cand' (see 38.212, 38.213, section 7.3.1, 11.3)  nrofPDCCH-Candidates ENUMERATED {n1, n2} OPTIONAL,    -- A set of serving cells for monitoring PDCCH conveying SRS DCI format with CRC scrambled by TPC-SRS-RNTI  -- Corresponds to L1 parameter 'SRS-monitoring-cells' (see 38.212, 38.213, section 7.3.1, 11.3)  -- FFS\_CHECK: "Could this be on several serving cells? If so, it should be a list, right?  -- FFS: RAN1 models different RNTIs (on PDCCH) as different Search Spaces. Do the same here? Group e.g. with monitoring periodicity  -- and other PDCCH parameters (if any)  moitoringCells INTEGER (0.. 31) OPTIONAL  } | Done |
| H254 | No default values specified for fields in SRS-TPC-PDCCH-Config | 2 | SRS-TPC-PDCCH-Config ::= SEQUENCE {  -- RNTI for SRS trigger and power control using DCI format X (see 38.212, 38.213, section 7.3.1, 11.3)  srs-TPC-RNTI RNTI-Value ~~OPTIONAL~~,  -- The starting bit position of a block within the group DCI with SRS request fields (optional) and TPC commands  -- for a PUSCH-less SCell. (see 38.212, 38.213, section 7.3.1, 11.3)  startingBitOfFormatX INTEGER (1..31) ~~OPTIONAL~~,  -- The type of a field within the group DCI with SRS request fields (optional) and TPC commands for a PUSCH-less SCell,  -- which indicates how many bits in the field are for SRS request (0 or 1/2) and how many bits in the field are for TPC  -- (1 or 2). Note that for Type A, there is a common SRS request field for all SCells in the set, but each SCell has its  -- own TPC command bits. See TS 38.212. Network configures this field with the same value for all PUSCH-less SCells.  -- (see 38.212, 38.213, section 7.3.1, 11.3)  fieldTypeFormatX INTEGER (1..4) ~~OPTIONAL~~,  -- A list of paris of [cc-SetIndex; cc-IndexInOneCC-Set] (see 38.212, 38.213, section 7.3.1, 11.3)  -- FFS: Improve description. What is a “CC”? Where is a CC-Set defined? ...  srs-CC-SetIndexlist SEQUENCE (SIZE(1..4)) OF SEQUENCE {  -- Indicates the CC set index for Type A associated (see 38.212, 38.213, section 7.3.1, 11.3)  cc-SetIndex INTEGER (0..3) ~~OPTIONAL,~~  -- Indicates the CC index in one CC set for Type A (see 38.212, 38.213, section 7.3.1, 11.3)  cc-IndexInOneCC-Set INTEGER (0..7) ~~OPTIONAL~~  }  }  **[Ericsson]** Note that optionality bits enable delta configuration. => Discuss whether delta signalling is desirable on this level.  => Keep parameters as OPTIONAL with condition that they are mandatory at initial setup and optional need M otherwise. | Done |
| H255 | srs-CC-SetIndexlist SEQUENCE OF SEQUENCE asn1 crime.  should use a similar example to that in 36.331 A.3.7 and split this up (define separate IE for SRS-CC-SetIndex) | 2 | SRS-TPC-PDCCH-Config ::= SEQUENCE {  -- RNTI for SRS trigger and power control using DCI format X (see 38.212, 38.213, section 7.3.1, 11.3)  srs-TPC-RNTI RNTI-Value OPTIONAL,  -- The starting bit position of a block within the group DCI with SRS request fields (optional) and TPC commands  -- for a PUSCH-less SCell. (see 38.212, 38.213, section 7.3.1, 11.3)  startingBitOfFormatX INTEGER (1..31) OPTIONAL,  -- The type of a field within the group DCI with SRS request fields (optional) and TPC commands for a PUSCH-less SCell,  -- which indicates how many bits in the field are for SRS request (0 or 1/2) and how many bits in the field are for TPC  -- (1 or 2). Note that for Type A, there is a common SRS request field for all SCells in the set, but each SCell has its  -- own TPC command bits. See TS 38.212. Network configures this field with the same value for all PUSCH-less SCells.  -- (see 38.212, 38.213, section 7.3.1, 11.3)  fieldTypeFormatX INTEGER (1..4) OPTIONAL,  -- A list of paris of [cc-SetIndex; cc-IndexInOneCC-Set] (see 38.212, 38.213, section 7.3.1, 11.3)  -- FFS: Improve description. What is a “CC”? Where is a CC-Set defined? ...  srs-CC-SetIndexlist SEQUENCE (SIZE(1..4)) OF SRS-CC-SetIndex ~~SEQUENCE {~~  ~~-- Indicates the CC set index for Type A associated (see 38.212, 38.213, section 7.3.1, 11.3)~~  ~~cc-SetIndex INTEGER (0..3) OPTIONAL,~~  ~~-- Indicates the CC index in one CC set for Type A (see 38.212, 38.213, section 7.3.1, 11.3)~~  ~~cc-IndexInOneCC-Set INTEGER (0..7) OPTIONAL~~  ~~}~~  }  SRS-CC-SetIndex ::= SEQUENCE {  -- Indicates the CC set index for Type A associated (see 38.212, 38.213, section 7.3.1, 11.3)  cc-SetIndex INTEGER (0..3),  -- Indicates the CC index in one CC set for Type A (see 38.212, 38.213, section 7.3.1, 11.3)  cc-IndexInOneCC-Set INTEGER (0..7)  } | Done |
| H256 | SRS-Resource should refer to SRS-CarrierSwitching of course | 2 | SRS-Resource ::= SEQUENCE {  <skip>  -- Includes parameters for configuration of carrier based SRS switching  -- Corresponds to L1 parameter 'SRS-CarrierSwitching' (see 38,214, section FFS\_Section)  carrierSwitching SRS-CarrierSwitching~~FFS\_Value~~ OPTIONAL,  <skip>  OPTIONAL  } | Covered by Z069 |
| H257 | aperiodicSRS-ResourceTriggers should be inside SRS-Resource according to L1 parameters list, however is it just missing from SRS-Resource, but needed here too? Or an error in L1 parameter list? | 2 | May need to confirm with RAN1 what is the intended location of this parameter. It seems wrong to have it included inside SRS-ResourceSet.  **[Ericsson]** We thought that one resource trigger (i.e., one particular DCI codepoint) trigger a set of SRS-resources. This would be in line with how a DCI code point for CSI-RS reporting triggers reporting based on a CSI resource set and not just based on a single resource.  -- A set of SRS resources  SRS-ResourceSet ::= SEQUENCE {  srs-ResourceSetId SRS-ResourceSetId,  srs-ResourcesIds SEQUENCE (SIZE(1..maxNrofSRS-ResourcesPerSet)) OF SRS-ResourceId,  -- The DCI "code point" upon which the UE shall transmit SRS according to this SRS resource set configuration.  -- FFS: Verify definition and usage.  -- Corresponds to L1 parameter 'AperiodicSRS-ResourceTrigger' (see 38.214, section FFS\_Section)  aperiodicSRS-ResourceTriggers SEQUENCE (SIZE (1..maxNrofSRSTriggerStates)) OF FFS\_Value OPTIONAL,  -- ID of CSI-RS resource associated with SRS resource set in non-codebook based operation  -- Corresponds to L1 parameter 'SRS-AssocCSIRS' (see 38.214, section 6.2.1)  associatedCSI-RS NZP-CSI-RS-ResourceId OPTIONAL,  -- Indicates if the SRS resource set is used for beam management vs. used for either codebook based or non-codebook based transmission.  -- Corresponds to L1 parameter 'SRS-SetUse' (see 38.214, section 6.2.1)  -- FFS\_CHECK: Isn't codebook/noncodebook already known from the ulTxConfig in the SRS-Config? If so, isn't the only distinction  -- in the set between BeamManagement, AtennaSwitching and "Other”? Or what happens if SRS-Config=Codebook but a Set=NonCodebook?  usage ENUMERATED {beamManagement, codebook, nonCodebook, antennaSwitching} OPTIONAL,  -- alpha value for SRS power control. Corresponds to L1 parameter 'alpha-srs' (see 38.213, section 7.3)  -- When the field is absent the UE applies the value 1  alpha Alpha OPTIONAL, -- Need M  -- P0 value for SRS power control. The value is in dBm. Only even values (step size 2) are allowed.  -- Corresponds to L1 parameter 'p0-srs' (see 38.213, section 7.3)  p0 INTEGER (-202..24) OPTIONAL, -- Need M  -- A reference signal (e.g. a CSI-RS config or a SSblock) to be used for SRS path loss estimation.  -- Corresponds to L1 parameter 'srs-pathlossReference-rs-config' (see 38.213, section 7.3)  pathlossReferenceRS CHOICE {  ssb-Index SSB-Index,  csirsIndex NZP-CSI-RS-ResourceId  } OPTIONAL, -- Need m  -- Indicates whether hsrs,c(i) = fc(i,1) or hsrs,c(i) = fc(i,2) (if twoPUSCH-PC-AdjustmentStates are configured)  -- or serarate close loop is configured for SRS. This parameter is applicable only for ULs on which UE also transmits PUSCH.  -- Corresponds to L1 parameter 'srs-pcadjustment-state-config' (see 38.213, section 7.3)  srs-PowerControlAdjustmentStates ENUMERATED {sameAs-Fci1, sameAs-Fci2, separateClosedLoop} OPTIONAL, -- Need M  ...  }  => Check with RAN1 | No change  Latest RAN1 table clarifies that it is per set. |
| H258 | No defaults defined for cyclicShift value, needs to be mandaory. | 2 | SRS-Resource ::= SEQUENCE {  srs-ResourceId SRS-ResourceId,  nrofSRS-Ports ENUMERATED {port1, ports2, ports4},  -- Comb value (2 or 4) and comb offset. Corresponds to L1 parameter 'SRS-TransmissionComb' (see 38.214, section 6.2.1)  -- FFS: What is the “offset”?  transmissionComb CHOICE {  n2 SEQUENCE {  -- Cyclic shift configuration. Corresponds to L1 parameter 'SRS-CyclicShiftConfig' (see 38.214, section 6.2.1)  cyclicShift INTEGER (0..7) ~~OPTIONAL~~  },  n4 SEQUENCE {  -- Cyclic shift configuration. Corresponds to L1 parameter 'SRS-CyclicShiftConfig' (see 38.214, section 6.2.1)  cyclicShift INTEGER (0..11) ~~OPTIONAL~~  }  **[Ericsson]** OPTIONAL fields are also for delta signalling. But agree that in this case the OPTIONAL can be removed.  => Keep parameters as OPTIONAL with condition that they are mandatory at initial setup and optional need M otherwise. | Done |
| H259 | resourceType can be replaced by enum | 2 | -- FFS: Add configuration parameters for the different SRS resource types?  resourceType ENUMERATED { aperiodic, semi-persistent, periodic} ~~CHOICE {~~  ~~aperiodic SEQUENCE {~~  ~~},~~  ~~semi-persistent SEQUENCE {~~  ~~},~~  ~~periodic SEQUENCE {~~  ~~}~~  ~~}~~  **[Ericsson]** If RAN1 does not provide additional parameters for the different types, we agree of course. In that case, we should also remove the FFS comment. | Done  (moved instead the periodicityAndOffset into the SP- and periodic- branch. |
| H260 | The resourceMapping is not correctly reflecting the joint coding from RAN1. RAN1’s conclusion is that the value of each paramater has associations with each other, an example is shown as below:  For nrofSymbols=1, the number of possible values for {startPosition , repetitionFactor}={6,1}.  For nrofSymbols=2, the number of possible values for {startPosition , repetitionFactor}={5,2}.  For nrofSymbols=4, the number of possible values for {startPosition , repetitionFactor}={3,3}.  Therefore, the value range of resourceMapping should be a range to index RAN1’s different combinations and we propose as below:  resourceMapping INTEGER (0…24) | 2 | ~~resourceMapping SEQUENCE {~~  ~~startPosition INTEGER (0..5),~~  ~~nrofSymbols ENUMERATED {n1, n2, n4},~~  ~~repetitionFactor ENUMERATED {n1, n2, n4}~~  ~~},~~  resourceMapping INTEGER (0…24)  -- each value indicates a specific combination of the above three parameters defined in RAN1  **[Ericsson]** A proper comment (field description) should be added to the new resourceMapping. E.g. ...  -- Indes to table FFS\_REF in 38.211 based on which the UE determines the start position, the number of symbols and the repetition factor. | No change  38.211 v15.0.0 uses the explicit values. |
| H261 | spatialRelationInfo structure can be confirmed | 2 | In our understanding the structure matches RAN1 intention and the FFS can be removed.  ~~-- FFS\_Value: Check whether the CHOICE below is correct (L1 table was pretty vague). Can an SRS really be an RS for an SRS?~~  spatialRelationInfo CHOICE {  ssb-Index SSB-Index,  csi-RS NZP-CSI-RS-ResourceId,  srs SRS-ResourceId  } | Done |
| H262 | Max rank Specified as a range 1 … NrofSRS-Ports in L1 table. | 2 | Note that the value 3 is meaningful, because two parameters “maxRank” and “codebooksubset” together as whole will determine the size of TPMI in DCI, as a condidate set of UL precoder. 3 means all precoders from rank 1 to rank 3.  maxRank INTEGER (1..4) ~~ENUMERATED {port1, ports2, ports4}~~  OPTIONAL | Done |
| H263 | Default is 1, however it may make more sense to uuse need M if value does not change often. | 2 | Consider change as follows if it is preferred to follow the default value from the L1 spreadsheet:  -- Corresponds to L1 parameter 'srs-pcadjustment-state-config' (see 38.213, section 7.3)  -- If absent, the UE applies the value sameAs-Fci1  srs-PowerControlAdjustmentStates ENUMERATED {sameAs-Fci1, sameAs-Fci2, separateClosedLoop} OPTIONAL, -- Need ~~M~~S | Done  But changed to Need R since there is no procedural text. Removed value sameAs-FCi1 from the enum. |
| H264 | SRS configuration should be per BWP | 3 | The SRS-Config is BWP dependent and therefore should discuss further whether SRS configuration should be included under BWP configuration, or to be a separate IE with some paraters referenced to different BWPs.  As far as we understand, SRS numerology,  SRS-FreqDomainPosition periodicityAndOffset may be configured per UL BWP, since different numerology has different slot length. | No change  Entire SRS-Config is now in the BWP |
| H265 | Position of txConfig  The UL configuration for codebook and non-codebook is a generic transmission mode for PUSCH and therefore seems not appropriate to be included here.this seems better to be included in PUSCH configuration. | 2 | SRS-Config ::= SEQUENCE {  srs-ResourceSetToReleaseList SEQUENCE (SIZE(0..maxNrofSRS-ResourceSets)) OF SRS-ResourceSetId OPTIONAL, -- Need M  srs-ResourceSetToAddModList SEQUENCE (SIZE(0..maxNrofSRS-ResourceSets)) OF SRS-ResourceSet OPTIONAL, -- Need M  srs-ResourceToReleaseList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SRS-ResourceId OPTIONAL, -- Need M  srs-ResourceToAddModList SEQUENCE (SIZE(1..maxNrofSRS-Resources)) OF SRS-Resource OPTIONAL, -- Need M  tpc-SRS-RNTI RNTI-Value OPTIONAL,  -- If enabled or absent, UE applies TPC commands via accumulation. If not enabled, UE applies the TPC command without accumulation  -- (this applies to SRS when a separate closed loop is configured for SRS)  -- Corresponds to L1 parameter 'Accumulation-enabled-srs' (see 38,213, section 7.3)  tpcAccumulation ENUMERATED {disabled} OPTIONAL, -- Need R  ~~-- Whether UE uses codebook based or non-codebook based transmission. Corresponds to L1 parameter 'ulTxConfig' (see 38.214, section 6.1.1)~~  ~~txConfig ENUMERATED {codebook, nonCodebook}~~  }  => To be updated based on expected RAN1 | Done  I**NFORM RAN1** |
| H266 | The pathlossReferenceRS might be different for different UL BWP and therefore this part needs to consider per UL BWP configuration. | 3 | SRS-ResourceSet ::= SEQUENCE {  srs-ResourceSetId SRS-ResourceSetId,  BWP ID  srs-ResourcesIds SEQUENCE (SIZE(1..maxNrofSRS-ResourcesPerSet)) OF SRS-ResourceId,  -- The DCI "code point" upon which the UE shall transmit SRS according to this SRS resource set configuration.  -- FFS: Verify definition and usage.  -- Corresponds to L1 parameter 'AperiodicSRS-ResourceTrigger' (see 38.214, section FFS\_Section)  aperiodicSRS-ResourceTriggers SEQUENCE (SIZE (1..maxNrofSRSTriggerStates)) OF FFS\_Value OPTIONAL,  -- ID of CSI-RS resource associated with SRS resource set in non-codebook based operation  -- Corresponds to L1 parameter 'SRS-AssocCSIRS' (see 38.214, section 6.2.1)  associatedCSI-RS NZP-CSI-RS-ResourceId OPTIONAL,  -- Indicates if the SRS resource set is used for beam management vs. used for either codebook based or non-codebook based transmission.  -- Corresponds to L1 parameter 'SRS-SetUse' (see 38.214, section 6.2.1)  -- FFS\_CHECK: Isn't codebook/noncodebook already known from the ulTxConfig in the SRS-Config? If so, isn't the only distinction  -- in the set between BeamManagement, AtennaSwitching and "Other”? Or what happens if SRS-Config=Codebook but a Set=NonCodebook?  usage ENUMERATED {beamManagement, codebook, nonCodebook, antennaSwitching} OPTIONAL,  -- alpha value for SRS power control. Corresponds to L1 parameter 'alpha-srs' (see 38.213, section 7.3)  -- When the field is absent the UE applies the value 1  alpha Alpha OPTIONAL, -- Need M  -- P0 value for SRS power control. The value is in dBm. Only even values (step size 2) are allowed.  -- Corresponds to L1 parameter 'p0-srs' (see 38.213, section 7.3)  p0 INTEGER (-202..24) OPTIONAL, -- Need M  -- A reference signal (e.g. a CSI-RS config or a SSblock) to be used for SRS path loss estimation.  -- Corresponds to L1 parameter 'srs-pathlossReference-rs-config' (see 38.213, section 7.3)  pathlossReferenceRS CHOICE {  ssb-Index SSB-Index,  csirsIndex NZP-CSI-RS-ResourceId  } OPTIONAL, -- Need m  -- Indicates whether hsrs,c(i) = fc(i,1) or hsrs,c(i) = fc(i,2) (if twoPUSCH-PC-AdjustmentStates are configured)  -- or serarate close loop is configured for SRS. This parameter is applicable only for ULs on which UE also transmits PUSCH.  -- Corresponds to L1 parameter 'srs-pcadjustment-state-config' (see 38.213, section 7.3)  srs-PowerControlAdjustmentStates ENUMERATED {sameAs-Fci1, sameAs-Fci2, separateClosedLoop} OPTIONAL, -- Need M  ...  => No change needed | No change  Entire SRS-Config is now in the BWP |
| H267 | The offset definition is clear in RAN1 and the FFS can be removed.  They are used to determine the starting position of SRS resource at frequency domain with Comb 2/4. In 38.211, “The transmission comb offset  is contained in the higher layer parameter SRS-TransmissionComb and  is a frequency position index.” | 2 | SRS-Resource ::= SEQUENCE {  srs-ResourceId SRS-ResourceId,  nrofSRS-Ports ENUMERATED {port1, ports2, ports4},  -- Comb value (2 or 4) and comb offset. Corresponds to L1 parameter 'SRS-TransmissionComb' (see 38.214, section 6.2.1)  ~~-- FFS: What is the “offset”?~~  transmissionComb CHOICE {  n2 SEQUENCE {  -- Cyclic shift configuration. Corresponds to L1 parameter 'SRS-CyclicShiftConfig' (see 38.214, section 6.2.1)  cyclicShift INTEGER (0..7) OPTIONAL  },  n4 SEQUENCE {  -- Cyclic shift configuration. Corresponds to L1 parameter 'SRS-CyclicShiftConfig' (see 38.214, section 6.2.1)  cyclicShift INTEGER (0..11) OPTIONAL  }  },  => Covered by earlier discussion | Covered already |
| H268 | periodicityAndOffset  Similar comment as the resourceMapping, 38.211 has already defined Table 6.4.1.4.4-1 where periodicity and slot offset are jointly coded, with a range from 0~5077.  Therefore in our understanding this should be a value range to reference to the RAN1 table. | 2 | ~~periodicityAndOffset CHOICE {~~  ~~sl1 NULL,~~  ~~sl2 INTEGER(0..1),~~  ~~sl5 INTEGER(0..4),~~  ~~sl10 INTEGER(0..9),~~  ~~sl20 INTEGER(0..19),~~  ~~sl40 INTEGER(0..39),~~  ~~sl80 INTEGER(0..79),~~  ~~sl160 INTEGER(0..159),~~  ~~sl320 INTEGER(0..319),~~  ~~sl640 INTEGER(0..639),~~  ~~sl1280 INTEGER(0..1279),~~  ~~sl2560 INTEGER(0..2559)~~  ~~},~~  periodicityAndOffset INTEGER (0…5077)  **[Ericsson]** In our understanding RAN1 currently adjusts their soec to the explicitly signalled values (as in 38.331). Hence, we prefer the origianl structure (which is quite common in RAN2) and to clarify the field description as follows:  -- Periodicity and slot offset for periodic/semi-persistent SRS. ~~All values in "number of slots"~~  -- sl1 corresponds to a periodicity of 1 slot, value sl2 corresponds to a periodicity of 2 slots, and so on.  -- For each periodicity the corresponding offset is given in number of slots. For periodicity sl1 the offset is 0 slots.  -- Corresponds to L1 parameter 'SRS-SlotConfig' (see 38.214, section 6.2.1)  => Check with RAN1 for final decision.  => Proposed change from Huawei is not needed.  => Update field deescription as proposed by Ericsson. | Done |
| H269 | downlinkRefernceSignal | 2 | This IE seems redundant, as we already have associatedCSI-RS which includes the same thing. So this IE can be removed.  SRS-Resource ::= SEQUENCE {  srs-ResourceId SRS-ResourceId,  nrofSRS-Ports ENUMERATED {port1, ports2, ports4},  -- Comb value (2 or 4) and comb offset. Corresponds to L1 parameter 'SRS-TransmissionComb' (see 38.214, section 6.2.1)  -- FFS: What is the “offset”?  transmissionComb CHOICE {  n2 SEQUENCE {  -- Cyclic shift configuration. Corresponds to L1 parameter 'SRS-CyclicShiftConfig' (see 38.214, section 6.2.1)  cyclicShift INTEGER (0..7) OPTIONAL  },  n4 SEQUENCE {  -- Cyclic shift configuration. Corresponds to L1 parameter 'SRS-CyclicShiftConfig' (see 38.214, section 6.2.1)  cyclicShift INTEGER (0..11) OPTIONAL  }  },  -- OFDM symbol location of the SRS resource within a slot including number of OFDM symbols (N = 1, 2 or 4 per SRS resource),  -- startPosition (SRSSymbolStartPosition = 0..5; "0" refers to the last symbol, "1" refers to the second last symbol) and  -- RepetitionFactor (r = 1, 2 or 4).  -- Corresponds to L1 parameter 'SRS-ResourceMapping' (see 38.214, section 6.2.1).  -- FFS: Apparently, RAN1 considers replacing these three fields by a table in RAN1 specs and a corresponding index in ASN.1?!  resourceMapping SEQUENCE {  startPosition INTEGER (0..5),  nrofSymbols ENUMERATED {n1, n2, n4},  repetitionFactor ENUMERATED {n1, n2, n4}  },  -- Parameter(s) defining frequency domain position and configurable shift to align SRS allocation to 4 PRB grid.  -- Corresponds to L1 parameter 'SRS-FreqDomainPosition' (see 38.214, section 6.2.1)  freqDomainPosition INTEGER (0..67) OPTIONAL,  freqDomainShift INTEGER (0..268) OPTIONAL,  -- Includes parameters capturing SRS frequency hopping  -- Corresponds to L1 parameter 'SRS-FreqHopping' (see 38.214, section 6.2.1)  freqHopping SetupRelease { SEQUENCE {  c\_SRS INTEGER (0..63),  b\_SRS INTEGER (0..3),  b\_hop INTEGER (0..3)  } } OPTIONAL, -- Need M  -- Parameter(s) for configuring group or sequence hopping  -- Corresponds to L1 parameter 'SRS-GroupSequenceHopping' (see 38.211, section FFS\_Section)  groupOrSequenceHopping ENUMERATED { neither, groupHopping, sequenceHopping } OPTIONAL,  -- Time domain behavior of SRS resource configuration  -- Corresponds to L1 parameter 'SRS-ResourceConfigType' (see 38.214, section 6.2.1)  -- FFS: Add configuration parameters for the different SRS resource types?  resourceType CHOICE {  aperiodic SEQUENCE {  },  semi-persistent SEQUENCE {  },  periodic SEQUENCE {  }  } OPTIONAL, -- Need M  -- Periodicity and slot offset for periodic/semi-persistent SRS. All values in "number of slots"  -- Corresponds to L1 parameter 'SRS-SlotConfig' (see 38.214, section 6.2.1)  periodicityAndOffset CHOICE {  sl1 NULL,  sl2 INTEGER(0..1),  sl5 INTEGER(0..4),  sl10 INTEGER(0..9),  sl20 INTEGER(0..19),  sl40 INTEGER(0..39),  sl80 INTEGER(0..79),  sl160 INTEGER(0..159),  sl320 INTEGER(0..319),  sl640 INTEGER(0..639),  sl1280 INTEGER(0..1279),  sl2560 INTEGER(0..2559)  },  -- Sequence ID used to initialize psedo random group and sequence hopping.  -- Corresponds to L1 parameter 'SRS-SequenceId' (see 38.214, section 6.2.1)  sequenceId BIT STRING (SIZE (10)),  -- Includes parameters for configuration of carrier based SRS switching  -- Corresponds to L1 parameter 'SRS-CarrierSwitching' (see 38,214, section FFS\_Section)  carrierSwitching FFS\_Value OPTIONAL,  ~~-- Reference to a CSI-RS for UE to to calculate UL candidate precoders for precoded periodic/sem-persistent SRS~~  ~~-- FFS\_CHECK: Is this parameter meant to be here? It was listed under CSI/BeamManagement.~~  ~~-- FFS\_Value: Is it correct that this can only be a CSI-RS resource? The spatialRelationInfo below says that it could be SSB, too?!~~  ~~-- Corresponds to L1 parameter 'DlMeasRSRef' (see 38.213, section FFS\_Section)~~  ~~downlinkRefernceSignal NZP-CSI-RS-ResourceId OPTIONAL,~~  => Check with RAN1 | Done  after checking with RAN1 |
| H270 | Csi-RS  It is a bit unclear whether the SRS ID and NZP ID is a global ID, if not we may need set ID+NZP ID+SRS ID to uniquely identify it. Confirmation needed with RAN1. | 3 | csi-RS NZP-CSI-RS-ResourceId,  **[Ericsson]** We agree with the observation but we suggest in email discussion 30 to make it a unique list. If RAN2 agrees to that, this section should be OK as is | No change  (it is a global pool now) |
| H272 | Range of startingBitOfFormat2\_3 to be confirmed with RAN1 | 2 | We are unsure what is the source of this range. RAN1 input needed  -- The starting bit position of a block within the group DCI with SRS request fields (optional) and TPC commands  -- for a PUSCH-less SCell. (see 38.212, 38.213, section 7.3.1, 11.3)  startingBitOfFormat2\_3 INTEGER (1.. 31) | No change  (value from L1 table) |
| D023 | UL power control related parameters | 3 | Same as D021.  **[Ericsson]** As said for D021, by far not all power control parameters have the same ranges and not all fields are applicable everywhere. Therefore, possibilities for a common IE seem limited. | No change |
| N293 | carrierSwitching      FFS\_Value                 OPTIONAL,  Tye is FFS, although SRS-CarrierSwitching IE is already defined below. | 2 | Update the type:  carrierSwitching      SRS-CarrierSwitching                 OPTIONAL, | No change  Covered above |
| N294 | In SRS-ResourceSet aperiodicSRS-ResourceTriggers   SEQUENCE (SIZE (1..maxNrofSRSTriggerStates)) OF FFS\_Value     OPTIONAL,  RAN1 has provided update value range for this field, which is 0…3), so this should be updated. | 2 | Update to:  aperiodicSRS-ResourceTriggers   INTEGER (0..3)     OPTIONAL, | No change  Covered above |
| N295 | In SRS-ResourceSet usage         ENUMERATED {beamManagement, codebook, nonCodebook, antennaSwitching}  OPTIONAL,  According to to RAN1 parameters list this should be CHOICE structure | 2 | ENUMERATED seems relevant here, but optionaiity should be removed. |  |
| H284 | fieldTypeFormatX in NR takes value of 0 or 1, not 4 values. See TS 38.213 11.3: “ The SRS request field is not present if a value of higher layer parameter fieldTypeFormat2\_3 is 0; otherwise, the SRS request field is present in DCI format 2\_3.”  This reflects RAN1 agreements made after the spreadsheet was delivered.  Now, only 2-bit TPC commands are supported, so there is no need for the second bit of the field.  The name can also be changed to fieldTypeFormat2-3 to align with RAN1 terminology. | 2 | SRS-TPC-PDCCH-Config ::=             SEQUENCE {      -- RNTI for SRS trigger and power control using DCI format X (see 38.212, 38.213, section 7.3.1, 11.3)      srs-TPC-RNTI                         RNTI-Value                                                             OPTIONAL,      -- The starting bit position of a block within the group DCI with SRS request fields (optional) and TPC commands      -- for a PUSCH-less SCell. (see 38.212, 38.213, section 7.3.1, 11.3)      startingBitOfFormatX                 INTEGER (1..31)                                                       OPTIONAL,      -- The type of a field within the group DCI with SRS request fields (optional) ~~and TPC commands~~ for a PUSCH-less SCell,      -- which indicates how many bits in the field are for SRS request (0 or 1/2). ~~and how many bits in the field are for TPC~~      -- ~~(1 or 2).~~ Note that for Type A, there is a common SRS request field for all SCells in the set, but each SCell has its      -- own TPC command bits. See TS 38.212. Network configures this field with the same value for all PUSCH-less SCells.      -- (see 38.212, 38.213, section 7.3.1, 11.3)      fieldTypeFormat~~X~~2-3                     INTEGER (~~1..4~~0..1)                                                        OPTIONAL,      -- A list of paris of [cc-SetIndex; cc-IndexInOneCC-Set] (see 38.212, 38.213, section 7.3.1, 11.3)      -- FFS: Improve description. What is a “CC”? Where is a CC-Set defined? ...      srs-CC-SetIndexlist                     SEQUENCE (SIZE(1..4)) OF SEQUENCE {         -- Indicates the CC set index for Type A associated (see 38.212, 38.213, section 7.3.1, 11.3)         cc-SetIndex                             INTEGER (0..3)                                                     OPTIONAL,         -- Indicates the CC index in one CC set for Type A (see 38.212, 38.213, section 7.3.1, 11.3)         cc-IndexInOneCC-Set                     INTEGER (0..7)                                                     OPTIONAL      }  } | Done |
|  |  |  |  |  |

#### – SubcarrierSpacing

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z074 | Subcarrier spacing for SSB should be 1 bit (and the value should be interpreted based on the frequency) | 1 | – SubcarrierSpacing The SubcarrierSpacing IE determines the subcarrier spacing.  SubcarrierSpacing information element  -- ASN1START  -- TAG-SUBCARRIER-SPACING-START  -- Check value range! Currently used for subcarrierSpacingCommon (SIB1, Msg2, Msg4  -- FFS: Replace this 2-bit field by a 1-bit field: ENUMERATED {sc1, sc2}. Then define that sc1 = 15 kHz and sc2 = 30 kHz  -- when carrier frequency < 6 GHz and sc1 = 60 kHz and sc2 = 120 kHz when carrier frequency is > 6GHz?  SubcarrierSpacing ::= ENUMERATED {kHz15, kHz30, kHz60, kHz120}  -- 15 or 30 kHz (<6GHz), 120 and 240 kHz (>6GHz).  SubcarrierSpacingSSB ::= ENUMERATED {scs15or120, scs30or240~~kHz15, kHz30, kHz120, kHz240~~}  -- FFS\_CHECK: Can probably be removed since PRACH Msg1 uses the SubcarrierSpacing values above.  SubcarrierSpacingRACH ::= ENUMERATED {ffsTypeAndValue}  -- TAG-SUBCARRIER-SPACING-STOP  -- ASN1STOP | Covered in the draft class 1 CR  Reverted since the short format is ambiguous in cases where not a single frequency range can be associated. |
| Z075 | Msg2-SubcarrierSpacing can also be coded using 1 bit using the same logic as above. This refers to the SubcarrierSpacing IE (which is 2 bits for now). It seems we can redefine the IE SubcarrierSpacing (which is also referred to by msg3-SCS) to 1 bit format | 1 | SubcarrierSpacing information element  -- ASN1START  -- TAG-SUBCARRIER-SPACING-START  -- Check value range! Currently used for subcarrierSpacingCommon (SIB1, Msg2, Msg4  -- FFS: Replace this 2-bit field by a 1-bit field: ENUMERATED {sc1, sc2}. Then define that sc1 = 15 kHz and sc2 = 30 kHz  -- when carrier frequency < 6 GHz and sc1 = 60 kHz and sc2 = 120 kHz when carrier frequency is > 6GHz?  SubcarrierSpacing ::= ENUMERATED {scs15or60, scs30or120~~kHz15, kHz30, kHz60, kHz120~~}  -- 15 or 30 kHz (<6GHz), 120 and 240 kHz (>6GHz).  SubcarrierSpacingSSB ::= ENUMERATED {kHz15, kHz30, kHz120, kHz240}  -- FFS\_CHECK: Can probably be removed since PRACH Msg1 uses the SubcarrierSpacing values above.  SubcarrierSpacingRACH ::= ENUMERATED {ffsTypeAndValue}  -- TAG-SUBCARRIER-SPACING-STOP  -- ASN1STOP | Covered in the draft class 1 CR  Reverted since the short format is ambiguous in cases where not a single frequency range can be associated. |
| Z076 | Like SubcarrierSpacingSSB, introduce a new definition of SubcarrierSpacingCSIRS to facilitate the more efficient reference when needed, e.g. refer to the definition of SubcarrierSpacingCSIRS when needed in CSI-RS-ResourceConfig-Mobility.  Besides, the subcarrier spacing for csi-rs contains more code points compared to other signals such as SSB or data. This can be compressed into 2 bits (using similar logic as the one for SSB etc) | 2 | – SubcarrierSpacing The SubcarrierSpacing IE determines the subcarrier spacing.  SubcarrierSpacing information element  -- ASN1START  -- TAG-SUBCARRIER-SPACING-START  -- Check value range! Currently used for subcarrierSpacingCommon (SIB1, Msg2, Msg4  -- FFS: Replace this 2-bit field by a 1-bit field: ENUMERATED {sc1, sc2}. Then define that sc1 = 15 kHz and sc2 = 30 kHz  -- when carrier frequency < 6 GHz and sc1 = 60 kHz and sc2 = 120 kHz when carrier frequency is > 6GHz?  SubcarrierSpacing ::= ENUMERATED {kHz15, kHz30, kHz60, kHz120}  -- 15 or 30 kHz (<6GHz), 120 and 240 kHz (>6GHz).  SubcarrierSpacingSSB ::= ENUMERATED {kHz15, kHz30, kHz120, kHz240)  -- {15kHz,30kHz,60kHz} for sub6, {60kHz,120kHz,240kHz} for over6  SubcarrierSpacingCSIRS ::= ENUMERATED {scs15or60, scs30or120, scs60or240)  SubcarrierSpacingRACH ::= TYPE\_FFS!  -- TAG-SUBCARRIER-SPACING-STOP  -- ASN1STOP | Done  Updated also based on latest L1 table.  Did not adopt yOrY style since that is only needed in MIB and error prone otherwise. |

#### – TDD-UL-DL-Config

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| I076 | nrofUplinkSymbols INTEGER (0..maxSymbolIndex) OPTIONAL  } OPTIONAL -- Need M  The only field in TDD-UL-DL-Config is slotSpecificConfigurations, why should it be optional? | 2 | Remove sencond optional  nrofUplinkSymbols INTEGER (0..maxSymbolIndex) OPTIONAL  } ~~OPTIONAL -- Need M~~ | No change  Adopted instead an AddMod/Release structure for this potentially large list. |
| H273 | Wrong range for nrofDownlinkSymbols | 2 | Range goes to maxSymbolIndex=13, should go to maxSymbolIndex+1=14.  TDD-UL-DL-ConfigCommon ::= SEQUENCE {  -- Reference SCS used to determine the time domain boundaries in the UL-DL pattern which must be common across all subcarrier specific  -- virutal carriers, i.e., independent of the actual subcarrier spacing using for data transmission.  -- Corresponds to L1 parameter 'reference-SCS' (see 38.211, section FFS\_Section)  referenceSubcarrierSpacing SubcarrierSpacing OPTIONAL,  -- Periodicity of the DL-UL pattern. Corresponds to L1 parameter 'DL-UL-transmission-periodicity' (see 38.211, section FFS\_Section)  dl-UL-TransmissionPeriodicity ENUMERATED {ms0p5, ms0p625, ms1, ms1p25, ms2, ms2p5, ms5, ms10} OPTIONAL,  -- Number of consecutive full DL slots at the beginning of each DL-UL pattern.  -- Corresponds to L1 parameter 'number-of-DL-slots' (see 38.211, section FFS\_Section)  -- FFS\_Value: Verify that 160 is correct (maximum number of slots within the longest period (10 ms) and the largest subcarrier spacing.  nrofDownlinkSlots INTEGER (0..160) OPTIONAL,  -- Number of consecutive DL symbols in the beginning of the slot following the last full DL slot (as derived from nrofDownlinkSlots).  -- Corresponds to L1 parameter 'number-of-DL-symbols-common' (see 38.211, section FFS\_Section).  nrofDownlinkSymbols INTEGER (0..maxSymbolIndexPlus1) OPTIONAL,    -- Number of consecutive full UL slots at the end of each DL-UL pattern.  -- Corresponds to L1 parameter 'number-of-UL-slots' (see 38.211, section FFS\_Section)  -- FFS\_Value: Verify that 160 is correct (maximum number of slots within the longest period (10 ms) and the largest subcarrier spacing.  nrofUplinkSlots INTEGER (0..160) OPTIONAL,    -- Number of consecutive UL symbols in the end of the slot preceding the first full UL slot (as derived from nrofUplinkSlots).  -- Corresponds to L1 parameter 'number-of-UL-symbols-common' (see 38.211, section FFS\_Section)  nrofUplinkSymbols INTEGER (0..maxSymbolIndex) OPTIONAL  }  [...] – Multiplicity and type constraint definitions -- ASN1START  -- TAG-MULTIPLICITY-AND-TYPE-CONSTRAINT-DEFINITIONS-START  maxBandComb INTEGER ::= ffsValue -- Maximum number of DL band combinations  maxBasebandProcComb INTEGER ::= ffsValue -- Maximum number of base band processing combinations  maxNrofServingCells INTEGER ::= 16 -- Max number of serving serving cells (SpCell + SCells) per cell group  maxNrofSCells INTEGER ::= 15 -- Max number of secondary serving cells per cell group  maxNrofCellMeas INTEGER ::= ffsValue -- Maximum number of entries in each of the cell lists in a measurement object  maxNrofSS-BlocksToAverage INTEGER ::= ffsValue -- Max number for the (max) number of SS blocks to average to determine cell measurement  maxNrofCSI-RS-ResourcesToAverage INTEGER ::= ffsValue -- Max number for the (max) number of CSI-RS to average to determine cell measurement  maxNrofSR-ConfigPerCellGroup INTEGER ::= 8 -- Maximum number of SR configurations per cell group  maxLCG-ID INTEGER ::= 7 -- Maximum value of LCG ID  macLC-ID INTEGER ::= ffsValue -- Maximum value of Logical Channel ID  maxNrofTAGs INTEGER ::= 4 -- Maximum number of Timing Advance Groups  maxNrofTAGs-1 INTEGER ::= 3 -- Maximum number of Timing Advance Groups minus 1  maxNrofBandwidthParts INTEGER ::= 4 -- Maximum number of BWPs per serving cell  maxNrofBandwidthParts-1 INTEGER ::= 3 -- Maximum number of BWPs per serving cell minus 1  maxSymbolIndex INTEGER ::= 13 -- Maximum index identifying a symbol within a slot (14 symbols, indexed from 0..13)  maxSymbolIndexPlus1 INTEGER ::= 14 -- Maximum index identifying a symbol within a slot plus 1  **[Huawei]:**  This change is misplaced, should go in TDD-UL-DL-Config[Dedicated], not in TDD-UL-DL-ConfigCommon.  TDD-UL-DL-Config ::=                 SEQUENCE {      -- The slotSpecificConfiguration allows overriding UL/DL allocations provided in tdd-UL-DL-configurationCommon.      -- FFS\_ASN1: Consider making this an AddMod/Release list      -- FFS\_ASN1: Replace absolute numbers by variables... once RAN1 confirms.      -- FFS\_CHECK: This list will grow very large if used for many slots.      slotSpecificConfigurations           SEQUENCE (SIZE (0..160)) OF         SEQUENCE {             -- Identifies a slot within a dl-UL-TransmissionPeriodicity (given in tdd-UL-DL-configurationCommon)             slotIndex                        INTEGER (0..160),               -- FFS\_ASN1: Consider a choice structure with options [allDownlink, allUplink, explicit] where the following two fields are provided             -- only in case of “explicit”.             -- Number of consecutive DL symbols in the beginning of the slot identified by slotIndex             -- Corresponds to L1 parameter 'number-of-DL-symbols-dedicated' (see 38.211, section FFS\_Section)             nrofDownlinkSymbols                  INTEGER (0..maxSymbolIndexPlus1)                                             OPTIONAL,               -- Number of consecutive UL symbols in the end of the slot identified by slotIndex             -- Corresponds to L1 parameter 'number-of-UL-symbols-dedicated' (see 38.211, section FFS\_Section)             nrofUplinkSymbols                INTEGER (0..maxSymbolIndex)                                               OPTIONAL         }                                                                                                         OPTIONAL -- Need M  }  [...]  maxSymbolIndex                       INTEGER ::= 13    -- Maximum index identifying a symbol within a slot (14 symbols, indexed from 0..13)  maxSymbolIndexPlus1                     INTEGER ::= 14    -- Maximum index identifying a symbol within a slot plus 1 | The range up to 13 was correct: If all symbols were DL, this field would be absent (and nrofDownlinkSlots would be one larger)  Clarified field description. |
| H274 | Wrong range for nrofUplinkSymbols | 2 | Range goes to maxSymbolIndex=13, should go to maxSymbolIndex+1=14.  TDD-UL-DL-ConfigCommon ::= SEQUENCE {  -- Reference SCS used to determine the time domain boundaries in the UL-DL pattern which must be common across all subcarrier specific  -- virutal carriers, i.e., independent of the actual subcarrier spacing using for data transmission.  -- Corresponds to L1 parameter 'reference-SCS' (see 38.211, section FFS\_Section)  referenceSubcarrierSpacing SubcarrierSpacing OPTIONAL,  -- Periodicity of the DL-UL pattern. Corresponds to L1 parameter 'DL-UL-transmission-periodicity' (see 38.211, section FFS\_Section)  dl-UL-TransmissionPeriodicity ENUMERATED {ms0p5, ms0p625, ms1, ms1p25, ms2, ms2p5, ms5, ms10} OPTIONAL,  -- Number of consecutive full DL slots at the beginning of each DL-UL pattern.  -- Corresponds to L1 parameter 'number-of-DL-slots' (see 38.211, section FFS\_Section)  -- FFS\_Value: Verify that 160 is correct (maximum number of slots within the longest period (10 ms) and the largest subcarrier spacing.  nrofDownlinkSlots INTEGER (0..160) OPTIONAL,  -- Number of consecutive DL symbols in the beginning of the slot following the last full DL slot (as derived from nrofDownlinkSlots).  -- Corresponds to L1 parameter 'number-of-DL-symbols-common' (see 38.211, section FFS\_Section).  nrofDownlinkSymbols INTEGER (0..maxSymbolIndex) OPTIONAL,    -- Number of consecutive full UL slots at the end of each DL-UL pattern.  -- Corresponds to L1 parameter 'number-of-UL-slots' (see 38.211, section FFS\_Section)  -- FFS\_Value: Verify that 160 is correct (maximum number of slots within the longest period (10 ms) and the largest subcarrier spacing.  nrofUplinkSlots INTEGER (0..160) OPTIONAL,    -- Number of consecutive UL symbols in the end of the slot preceding the first full UL slot (as derived from nrofUplinkSlots).  -- Corresponds to L1 parameter 'number-of-UL-symbols-common' (see 38.211, section FFS\_Section)  nrofUplinkSymbols INTEGER (0..maxSymbolIndexPlus1) OPTIONAL  }  **[Huawei]:**  This change is misplaced, should go in TDD-UL-DL-Config[Dedicated], not in TDD-UL-DL-ConfigCommon.  TDD-UL-DL-Config ::=                 SEQUENCE {      -- The slotSpecificConfiguration allows overriding UL/DL allocations provided in tdd-UL-DL-configurationCommon.      -- FFS\_ASN1: Consider making this an AddMod/Release list      -- FFS\_ASN1: Replace absolute numbers by variables... once RAN1 confirms.      -- FFS\_CHECK: This list will grow very large if used for many slots.      slotSpecificConfigurations           SEQUENCE (SIZE (0..160)) OF         SEQUENCE {             -- Identifies a slot within a dl-UL-TransmissionPeriodicity (given in tdd-UL-DL-configurationCommon)             slotIndex                        INTEGER (0..160),               -- FFS\_ASN1: Consider a choice structure with options [allDownlink, allUplink, explicit] where the following two fields are provided             -- only in case of “explicit”.             -- Number of consecutive DL symbols in the beginning of the slot identified by slotIndex             -- Corresponds to L1 parameter 'number-of-DL-symbols-dedicated' (see 38.211, section FFS\_Section)             nrofDownlinkSymbols                  INTEGER (0..maxSymbolIndex)                                               OPTIONAL,               -- Number of consecutive UL symbols in the end of the slot identified by slotIndex             -- Corresponds to L1 parameter 'number-of-UL-symbols-dedicated' (see 38.211, section FFS\_Section)             nrofUplinkSymbols                INTEGER (0..maxSymbolIndexPlus1)                                             OPTIONAL         }                                                                                                         OPTIONAL -- Need M  } | The range up to 13 was correct: If all symbols were UL, this field would be absent (and nrofUplinkSlots would be one larger)  Clarified field description. |
| H275 | Wrong range for nrofDownlinkSlots | 2 | Range goes to 160, should go to maximum number of slots per frame=320 (per Table 4.3.2-1 of 38.211)  TDD-UL-DL-ConfigCommon ::= SEQUENCE {  -- Reference SCS used to determine the time domain boundaries in the UL-DL pattern which must be common across all subcarrier specific  -- virutal carriers, i.e., independent of the actual subcarrier spacing using for data transmission.  -- Corresponds to L1 parameter 'reference-SCS' (see 38.211, section FFS\_Section)  refereceSubcarrierSpacing SubcarrierSpacing OPTIONAL,  -- Periodicity of the DL-UL pattern. Corresponds to L1 parameter 'DL-UL-transmission-periodicity' (see 38.211, section FFS\_Section)  dl-UL-TransmissionPeriodicity ENUMERATED {ms0p5, ms0p625, ms1, ms1p25, ms2, ms2p5, ms5, ms10} OPTIONAL,  -- Number of consecutive full DL slots at the beginning of each DL-UL pattern.  -- Corresponds to L1 parameter 'number-of-DL-slots' (see 38.211, section FFS\_Section)  ~~-- FFS\_Value: Verify that 160 is correct (maximum number of slots within the longest period (10 ms) and the largest subcarrier spacing.~~  nrofDownlinkSlots INTEGER (0..~~160~~320) OPTIONAL,  -- Number of consecutive DL symbols in the beginning of the slot following the last full DL slot (as derived from nrofDownlinkSlots).  -- Corresponds to L1 parameter 'number-of-DL-symbols-common' (see 38.211, section FFS\_Section).  nrofDownlinkSymbols INTEGER (0..maxSymbolIndex) OPTIONAL,    -- Number of consecutive full UL slots at the end of each DL-UL pattern.  -- Corresponds to L1 parameter 'number-of-UL-slots' (see 38.211, section FFS\_Section)  -- FFS\_Value: Verify that 160 is correct (maximum number of slots within the longest period (10 ms) and the largest subcarrier spacing.  nrofUplinkSlots INTEGER (0..160) OPTIONAL,    -- Number of consecutive UL symbols in the end of the slot preceding the first full UL slot (as derived from nrofUplinkSlots).  -- Corresponds to L1 parameter 'number-of-UL-symbols-common' (see 38.211, section FFS\_Section)  nrofUplinkSymbols INTEGER (0..maxSymbolIndex) OPTIONAL  } | Done |
| H276 | Wrong range for nrofUplinkSlots | 2 | Range goes to 160, should go to maximum number of slots per frame=320 (per Table 4.3.2-1 of 38.211)  TDD-UL-DL-ConfigCommon ::= SEQUENCE {  -- Reference SCS used to determine the time domain boundaries in the UL-DL pattern which must be common across all subcarrier specific  -- virutal carriers, i.e., independent of the actual subcarrier spacing using for data transmission.  -- Corresponds to L1 parameter 'reference-SCS' (see 38.211, section FFS\_Section)  refereceSubcarrierSpacing SubcarrierSpacing OPTIONAL,  -- Periodicity of the DL-UL pattern. Corresponds to L1 parameter 'DL-UL-transmission-periodicity' (see 38.211, section FFS\_Section)  dl-UL-TransmissionPeriodicity ENUMERATED {ms0p5, ms0p625, ms1, ms1p25, ms2, ms2p5, ms5, ms10} OPTIONAL,  -- Number of consecutive full DL slots at the beginning of each DL-UL pattern.  -- Corresponds to L1 parameter 'number-of-DL-slots' (see 38.211, section FFS\_Section)  -- FFS\_Value: Verify that 160 is correct (maximum number of slots within the longest period (10 ms) and the largest subcarrier spacing.  nrofDownlinkSlots INTEGER (0..160) OPTIONAL,  -- Number of consecutive DL symbols in the beginning of the slot following the last full DL slot (as derived from nrofDownlinkSlots).  -- Corresponds to L1 parameter 'number-of-DL-symbols-common' (see 38.211, section FFS\_Section).  nrofDownlinkSymbols INTEGER (0..maxSymbolIndex) OPTIONAL,    -- Number of consecutive full UL slots at the end of each DL-UL pattern.  -- Corresponds to L1 parameter 'number-of-UL-slots' (see 38.211, section FFS\_Section)  ~~-- FFS\_Value: Verify that 160 is correct (maximum number of slots within the longest period (10 ms) and the largest subcarrier spacing.~~  nrofUplinkSlots INTEGER (0..~~160~~320) OPTIONAL,    -- Number of consecutive UL symbols in the end of the slot preceding the first full UL slot (as derived from nrofUplinkSlots).  -- Corresponds to L1 parameter 'number-of-UL-symbols-common' (see 38.211, section FFS\_Section)  nrofUplinkSymbols INTEGER (0..maxSymbolIndex) OPTIONAL  } | Done  changed also additional occurrences. And intoduced a constant. |
|  |  |  |  |  |

#### 6.3.3 UE capability information elements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C033 | In 36.331, there is a requestedFreqBandsNR-MRDC-r15 IE in UECapabilityEnquiry message.  **requestedFreqBandsNR-MRDC**  Includes the NR FreqBandList IE as specified in TS 38.331 [X2]. It concerns a list of NR and/ or E-UTRA frequency bands for which the UE is requested to provide its supported NR CA and/or MR-DC band combinations (i.e. within the UE capability containers for NR and MR-DC, as requested by E-UTRAN).  However, no FreqBandList IE is specified in TS 38.331. | 2 | Add FreqBandList IE in 6.3.3–     FreqBandList The IE FreqBandList contains a list of NR and/ or E-UTRA frequency bands for which the UE is requested to provide its supported NR CA and/or MR-DC band combinations (i.e. within the UE capability containers for NR and MR-DC, as requested by E-UTRAN).  FreqBandList information element  -- ASN1START  -- TAG-FREQ-BAND-LIST-START  FreqBandList ::=  SEQUENCE (SIZE (1.. maxSimultaneousBands)) OF FreqBandInformation  FreqBandInformation::= CHOICE {           bandEUTRA             FreqBandIndicatorEUTRA,      bandNR                FreqBandIndicatorNR  }  -- TAG-FREQ-BAND-LIST-STOP  -- ASN1STOP  => General principle was already discussed.  => Proposal is agreed to address the agreed principle but with desciption text updated so that it is specific to EN-DC.  => FreqBandIndicatorEUTRA,FreqBandIndicatorNR to be defined (if not already defined)  => Change maxSimultaneousBands to maxRequestedBands |  |
| Z077 | Add the “eutra” to the “RAT type” to keep it consistent with the description of UE-CapabilityRAT-ContainerList field:  Furthermore, we suggest to take the same RAT-Type definition as in the LTE, then the same “UE Radio Capability ”definition as in 36.413[9.2.1.27] can be reused by the N2 interface. When the UE moved between the LTE and NR, the GNB/Enb can use the stored UE capability(from the core network) directly without any conversion. | 2 | RAT-Type information element  -- ASN1START  -- TAG-RAT-TYPE-START  -- Eutra shall be added to Rat Type  RAT-Type ::= ENUMERATED {nr, mrdc, spare1, ...} |  |
| M052 | For MR-DC, which basebandProcessingCombinationIndex, basebandProcessingCombinationLinkedIndex is link to NR (or LTE)? was the intention to describe in field description? | 2 | LinkedBasebandProcessingCombination ::= SEQUENCE {  basebandProcessingCombinationIndex-EUTRAN BasebandProcessingCombinationIndex,  basebandProcessingCombinationLinkedIndex-NR SEQUENCE (SIZE (1..maxBasebandProcComb)) OF BasebandProcessingCombinationIndex  }  => Change is agreed with EUTRAN changed to MN and NR changed to SN  => The field that refers to this IE is EN-DC specific (in future for NE-DC then a spearate field will be needed)  => Can be reviewed after discussion of BPC coordination whether the field stays in MRDC container or is moved to LTE capabilities. |  |
| M053 | Do we still need NR band list? | 3 | ~~SupportedBandListNR ::= SEQUENCE (SIZE (1..maxBands)) OF BandNR~~ |  |
| M054 | maxNrofSCells, SCell is confusing | 1 | Rename maxNrofCC  => Change is agreed. |  |
| M055 | CA-bandwidthClass is sufficient to describle supported BW | 2 | Remove BW-PerCC  => To be discussed based on papers in UE capability AI |  |
| M056 | UL and DL support the same modulationOrder? | 3 | Decouple UL/DL modulationOrder,  modulationOrder ModulationOrder,  modulationOrder-UL ModulationOrder optional, |  |
| M057 | UL and DL support the same SubCarrierSpacing? | 3 | Decouple UL/DL SubCarrierSpacing  subCarrierSpacing SubCarrierSpacing subCarrierSpacing-UL SubCarrierSpacing optional, |  |
| Z078 | Delete definition of “SubCarrierSpacing” in UE-NR-Capability for that it has been defined separately in chapter 6.3.2 | 2 | UE-NR-Capability The IE UE-NR-Capability is used to convey the NR UE Radio Access Capability Parameters, see TS 38.306 [yy].  UE-NR-Capability information element  ....  CA-BandwidthClass ::= ENUMERATED {a, b, c, d, e, f, ...}  MIMO-Capability ::= SEQUENCE {  -- FFS on the parameters  }  ModulationOrder ::= SEQUENCE {  -- FFS on the parameters  }  ~~SubCarrierSpacing ::= SEQUENCE {~~  ~~-- FFS on the parameters~~  ~~}~~  ..... => Change SubCarrierSpacing to SupportedSubCarrierSpacingList |  |
| M058 | numberOfSR-Configurations is optional with fixed number | 3 | numberOfSR-Configurations ENUMERATED {supported} OPTIONAL, -- The number is 8 if supported |  |
| M059 | Value range for numberOfConfiguredGrantConfigurations | 3 | numberOfConfiguredGrantConfigurations ENUMERATED {n1, n2, n4, spar0} OPTIONAL |  |
| M060 | Spare value numbering start from spare1 or spare0? | 1 | Either one |  |
| M061 | RAN does not need to signal the capability of DRB IP. This is for June version, so can be removed for now. | 3 | Remove dataRateDRB-IP |  |
| I078 | NR PDCP capability: dataRateDRB-IP  The agreement was:  UE capability signalling will also support values above 64 kbit/s up to the maximum supported bit rate of the UE.  This agreement meant we assign a code point already for “max supported bit rate” in:                  dataRateDRB-IP                                ENUMERATED {kbps64, spare6, spare5, spare4, spare3, spare2, spare1, spare0}                 OPTIONAL,  Then Why is this optional?  What does the “absent” mean here? “fuall data rate”? or “not supported” (e.g. for EN-DC)? | 2 | Suggest:  Clarify optional means “not supported” if the intention is to say for EN-DC the UE may not support it, and added code point indicate “max supported bit rate of the UE”  => Change agreed  => Spare values shoud be FFS values  => Whether dataRateDRB-IP is kept in AS will be discussed based on contribution in security AI. |  |
| I079 | NR PDCP capablity: Voice. What’s the meaning of it? We assume in NR it means the UE pass the test. But should not it be out of PDCP capability? | 2 | To have common understanding. |  |
| I080 | BandCombinationList is still missing, which is important for the completion of EN-DC | 4 | We would like to provide details on it. |  |
| I081 | UE-NR-Capability ::= SEQUENCE {  pdcp-Parameters PDCP-Parameters,  rlc-Parameters RLC-Parameters, -- FFS OPTIONAL  mac-Parameters MAC-Parameters, -- FFS OPTIONAL  phyLayerParameters PhyLayerParameters,  rf-Parameters RF-Parameters,  nonCriticalExtension SEQUENCE {} OPTIONAL  }  PhyLayerParameters ::= SEQUENCE {  supportedBasebandProcessingCombination SupportedBasebandProcessingCombination  Only one set of NR BPC capaiblity in NR SA capability. However in our view, likely the NR BPC for MR-DC is different from NR BPC for SA NR. How can the network know this? | 3 | Prefer to distinguish NR BPC for SA NR and NR BPC for MR-DC | See Tdoc R2-1800949  See Tdoc R2-1801534 |
| H277 | RAT-type doesn’t need both a spare value and an extension marker. | 2 | RAT-Type ::= ENUMERATED {nr, mrdc, ~~spare1,~~ ...}  => No change is needed. (E029 is not needed)  => Field description to be updated to remove E-UTRA |  |
| H278 | RetuningTimeInfo is missing from asn1. | 2 | The UE capability needs to be added (similar to RetuningTimeInfo in LTE) but since it is a per-band-pair capability it is not yet obvious how to add it. One possibility would be to capture it as a per-band capability with a list of entries, so that the structure in LTE signalling can be re-used.  BandNR ::= SEQUENCE {  bandNR FreqBandIndicatorNR,  supportedMIMO-CapabilityDL MIMO-Capability OPTIONAL,  supportedMIMO-CapabilityUL MIMO-Capability OPTIONAL,  retuningTimeInfoBandList          SEQUENCE (SIZE (1..maxSimultaneousBands)) OF                       RetuningTimeInfo     OPTIONAL  -- FFS on other parameters  }  RetuningTimeInfo ::= SEQUENCE {         retuningInfo                      SEQUENCE {                rf-RetuningTimeDL                 ENUMERATED {n0, n0dot5, n1, n1dot5, n2, n2dot5, n3,                                                                                           n3dot5, n4, n4dot5, n5, n5dot5, n6, n6dot5,                                                                                           n7, spare1}          OPTIONAL,                rf-RetuningTimeUL                 ENUMERATED {n0, n0dot5, n1, n1dot5, n2, n2dot5, n3,                                                                                           n3dot5, n4, n4dot5, n5, n5dot5, n6, n6dot5,                                                                                           n7, spare1}          OPTIONAL         }  }  => To be discussed based on contribution |  |
| E002 | Max size of basebandParametersPerCC should be maxNrofServingCells.  maxNrofServingCells INTEGER ::= 16 -- Max number of serving serving cells (SpCell + SCells) per cell group  maxNrofSCells INTEGER ::= 15 -- Max number of secondary serving cells per cell group | 2 | BasebandParametersPerBand ::= SEQUENCE {  ca-BandwidthClassDL CA-BandwidthClass,  ca-BandwidthClassUL CA-BandwidthClass,  basebandParametersPerCC SEQUENCE (SIZE (1..~~maxNrofSCells~~maxNrofServingCells)) OF BasebandParametersPerCC,  supportedBW-PerCC BW-PerCC  -- FFS on the need (e.g. if ca-BandwidthClass is sufficient to cover BW-PerCC)  -- FFS on other parameters  }  => Already covered |  |
| E029 | The code point for E-UTRA is missing in the IE RAT-Type. It is not used at this phase but it is already referred to in the field description for ueCapabilityRAT-Container.  “RAT-Type ::= ENUMERATED {nr, mrdc, spare1, ...}”  **“ueCapabilityRAT-Container**  Container for the UE capabilities of the indicated RAT. The encoding is defined in the specification of each RAT:  For NR: the encoding of UE capabilities is defined in UE-NR-Capability.  For MRDC: the encoding of UE capabilities is defined in UE-MRDC-Capability  For E UTRA: the octet string contains the UE-EUTRA-Capability as defined in TS 36.331 [xx].” | 2 | For consistency, include E-UTRA as code point in the definition of RAT Type.  RAT-Type ::= ENUMERATED {nr, mrdc, eutra, spare1, ...} |  |
| E030 | The IE “SupportedBandCombination” (in UE-NR-Capability definition) is defined but not used anywhere. Instead BandCombinationList, which has the same definition/content, is used at several places. | 2 | Remove the “SupportedBandCombination” IE. |  |
| N113 | For UE-MRDC-Capability, corresponding procedural text is missing for field MeasParameters-MRDC | 4 | Add the procedural text |  |
| N114 | For UE-MRDC-Capability, corresponding procedural text is missing for field RF-Parameters-MRDC | 4 | Add the procedural text |  |
| N115 | For UE-MRDC-Capability, we haven't agreed to include PhyLayerParameters-MRDC which is supposed to contain shared BPC | 2 | Add FFS for now and resolve this after current email discussion is over |  |
| N116 | RAT-Type IE defines new RAT type:mrdc, which is misleading in terms of stage 2 definitions and overall conept of a RAT | 2 | RAT type should not refer to mode of operation, i.e. DC. Align to 36.331, where RAT type is defined as: 'eutra-nr' in a way that it does not refer to DC, e.g. MR, Multi-RAT, nr-eutra?? |  |
| N117 | ueCapabilityRAT-Container field description should not refer to MRDC RAT Type Related to MT\_9 | 2 | Change 'For MRDC': to 'For Multi-RAT', accordingly to fix to MT9 |  |
| N118 | The SUO (=1Tx) capabilities are missing entirely (as also noted in comments) | 3 | It needs to be discussed where we add the SUO cabilities - the BandCombinationList seems like a possible candidate  Nokia will provide a contribution on 1Tx UE capabilities. | See Tdoc R2-1800834 |
| I082 | rename some IEs with too long name  supportedBandCombination -> supportedBC, BandCombinationList -> BC-List, supportedBasebandProcessingCombination-MRDC -> supportedBPC-MRDC, supportedBasebandProcessingCombination -> supportedBPC, BasebandProcessingCombination-MRDC -> BPC-MRDC, BasebandProcessingCombination -> BPC, LinkedBasebandProcessingCombination -> Linked-BPC, BasebandProcessingCombinationIndex -> BPC-Index, BasebandProcessingCombinationLinkedIndex -> BPC-LinkedIndex | 2 | rename some IEs with too long name  supportedBandCombination -> supportedBC, BandCombinationList -> BC-List, supportedBasebandProcessingCombination-MRDC -> supportedBPC-MRDC, supportedBasebandProcessingCombination -> supportedBPC, BasebandProcessingCombination-MRDC -> BPC-MRDC, BasebandProcessingCombination -> BPC, LinkedBasebandProcessingCombination -> Linked-BPC, BasebandProcessingCombinationIndex -> BPC-Index, BasebandProcessingCombinationLinkedIndex -> BPC-LinkedIndex |  |
| I083 | The following information needs to be removed from UE-NR-Capability           SupportedBandCombination ::= SEQUENCE (SIZE (1..maxBandComb)) OF BandCombination | 1 | The following information needs to be removed from UE-NR-Capability           SupportedBandCombination ::= SEQUENCE (SIZE (1..maxBandComb)) OF BandCombination |  |
| I084 | The following information needs to be separate in DL and UL      modulationOrder                  ModulationOrder,  ->           modulationOrderDL                        ModulationOrder                  modulationOrderUL                       ModulationOrder | 2 | The following information needs to be separate in DL and UL      modulationOrder                  ModulationOrder,  ->           modulationOrderDL                        ModulationOrder                  modulationOrderUL                       ModulationOrder |  |
| I085 | The following information needs to be separate in DL and UL      subCarrierSpacing            SubCarrierSpacing,   ->           subCarrierSpacingDL                       SubCarrierSpacing                  subCarrierSpacingUL                      SubCarrierSpacing | 2/3 | The following information needs to be separate in DL and UL      subCarrierSpacing            SubCarrierSpacing,   ->           subCarrierSpacingDL                       SubCarrierSpacing                  subCarrierSpacingUL                      SubCarrierSpacing |  |
| I086 | To remove the following “— FFS OPTIONAL”      rlc-Parameters               RLC-Parameters,                      -- FFS OPTIONAL      mac-Parameters               MAC-Parameters,                     -- FFS OPTIONAL | 2 | To remove the following “— FFS OPTIONAL”      rlc-Parameters               RLC-Parameters,                      -- FFS OPTIONAL      mac-Parameters               MAC-Parameters,                     -- FFS OPTIONAL |  |
| I087 | The following information to be implemented in the proper place                  singleTx will be included per band combination                  scalingFactor will be included per band per band combination | 3 | singleTx will be included per band combination                  scalingFactor will be included per band per band combination  We would like to provide more details on it. | See Tdoc R2-1800927 |
| I088 | Following FFSs need to be solved                  FFS How to decouple DL and UL -> wait for email discussion (by Qualcomm)                  FFS How to address NC CA in relation to carrier separation -> wait for email discussion (by Qualcomm)                  FFS on other parameters on rf-parameters-MRDC, rf-parameters, phyLayerParameters-MRDC, phyLayerParameters -> In general for any L1 parameters, wait for RAN1/4 inputs,                  FFS if supportedBasebandProcessingCombination-MRDC is included here or BandCombinationList -> wait for email discussion (by Qualcomm) | 4 | we would like to provide details once we get more inputs from RAN1/4 and email discussion | See Tdoc R2-1800927 |
| I089 | to complete L2/3 capability parameters (i.e. the need of capability signaling, the need of FDD/TDD split, etc) | 4 | To consider how to progress on them | See Tdoc R2-1800927 |
| I090 | Following FFSs needs to be resolved.                  intraBandSimultaneousTxRx will be added with FFS (per UE or per band combination)                  multipleTimingAdvance will be added with FFS (per UE or per band combination)  FFS Whether intraBandAsyncFDD is included per UE or per band combination                  FFS on the need of supportedBWPerCC                  FFS if modulationOrder and subCarrierSpacing are included per Band or per CC | 4 | To consider how to progress on them | See Tdoc R2- 1800927 |
| I091 | To set value ranges for the following IEs. -> according to the number of configuration value ranges      numberOfSR-Configurations    ENUMERATED {n2, n3, n4,…} OPTIONAL, -- FFS value range      numberOfConfiguredGrantConfigurations   ENUMERATED {n2, n3, n4,…} OPTIONAL -- FFS value range | 2 | Ask company opinion about the value, and then FFS can be removed |  |
| H324 | The capability for eutra-BasedTDM has an interdependency with dynamicPowerSharing, and we consider that it should be visible to the SgNB. | 3 | Propose to bring the eutra-BasedTDM capability into 38.306/38.331 and merge it with dynamicPowerSharing in a single field. We will have a related contribution. |  |
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#### 6.3.4 Other information elements

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 6.4 RRC multiplicity and type constraint values

#### – Multiplicity and type constraint definitions

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| Z079 | At RAN2#100, we have the following agreements:  Agreements  1 Different MOs can operate with different filter coefficients  2 Up to 2 filter coefficient sets are configured within the measConfig  3 Add a reference in the MO to the filter coefficient configuration that is to be used  The maxNroQuantityConfig(used in quantityConfigNR-list to limit the number of quantity configure) is defined as 2. However, the maxQuantityConfigId (used in MO to refer to the quantity configuration configured in the quantityConfigNR-list) is still ffs. | 1 | Define the maxQuantityConfigId to 2.  maxQuantityConfigId INTEGER ::= ~~ffsValue~~2 | Covered in class 1 draft CR |
| Z080 | RAN1 has agreed the value of maxNrofNZP-CSI-RS-Resources is 128. | 2 | maxNrofNZP-CSI-RS-Resources INTEGER ::= ~~ffsValue~~128 -- Maximum number of Non-Zero-Power (NZP) CSI-RS resources  maxNrofNZP-CSI-RS-Resources-1 INTEGER ::= ~~ffsValue~~127 -- Maximum number of Non-Zero-Power (NZP) CSI-RS resources minus 1 |  |
| H279 | ARFCN-ValueNR can be populated | 2 | RAN4 have now agreed the ARFCN has a range of 0..3279167. The IE can be populated and should be moved to a permanent location.  ARFCN-ValueNR ::= ~~ENUMERATED {ffsTypeAndValue}~~INTEGER (0..3279167) |  |
| E017 | Typo in “maxLCid”. This field represents the maximum logical channel group ID, so the name should be “maxLCGid”.  maxLCid INTEGER ::= ffsValue | 2 | Change the name to “maxLCGid”.  See also E016. |  |
| E018 | RAN2 has decided to support a maximum of 8 LCGs. LCGs are indexed from 0 to 7, so the maximum LCG ID is 7. The corresponding ffsvalue can be replaced.  maxLCid INTEGER ::= ffsValue | 2 | Change the ffsvalue for “maxLCid” to 7.  See also E017. |  |
| N119 | There are two almost the same parameters/multiplicities defined: "maxNrofCSI-RS-ResourcesRRM" and "maxNrofCSI-RS-ResourcesRRM-1". Is it necessary to keep both or perhaps it is enough to subtract 1 wherever this MAX decreased by one is used? | 2 | Remove "maxNrofCSI-RS-ResourcesRRM-1" and rely on "maxNrofCSI-RS-ResourcesRRM"  Rap: Not implemented yet |  |

#### 7 Variables and constants

#### 7.1 Timers

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C034 | T304 should cover PSCell and PCell | 2 | | Timer | Start | Stop | At expiry | | --- | --- | --- | --- | | T304 | Reception of ~~RRCConnectionReconfiguration~~ RRCReconfiguration message including ~~MobilityControlInfoSCG~~ reconfigurationWithSync | Successful completion of random access on the ~~PSCell~~ corresponding SpCell, If the T304 located in SCG upon initiating re-establishment and upon SCG release | If the T304 located in SCG, Inform E-UTRAN/NR about the ~~SCG change~~ SCG reconfiguration with sync failure by initiating the SCG failure information procedure as specified in 5.7.3.  If the T304 located in MCG, initiate the RRC connection re-establishment procedure | |  |  |  |  | |  |  |  |  | |  |  |  |  | | See TGdoc : R2-1801206 (Ericsson) |
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#### 7.1.1 Timers (Informative)

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7.1.2 Timer handling

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7.2 Counters

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7.3 Constants

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 7.4 UE variables

#### – VarMeasConfig

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – VarMeasReportList

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#### 8 Protocol data unit abstract syntax

#### 8.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 8.2 Structure of encoded RRC messages

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#### 8.3 Basic production

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 8.4 Extension

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 8.5 Padding

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 9 Specified and default radio configurations

#### 9.1 Specified configurations

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| H280 | The logicalChannelIdentity in SRB configurations is fixed and should be included in specified configurations. | 2 | Add SRB configurations subsection:  9.1.1 SRB configurations  9.1.1.1 SRB1/SRB1S  Parameters   | **Name** | **Value** | **Semantics description** | **Ver** | | --- | --- | --- | --- | | RLC configuration |  |  |  | | logicalChannelIdentity | 1 |  |  |   9.1.1.2 SRB2/SRB2S  Parameters   | **Name** | **Value** | **Semantics description** | **Ver** | | --- | --- | --- | --- | | RLC configuration |  |  |  | | logicalChannelIdentity | 2 |  |  |   9.1.1.3 SRB3  Parameters   | **Name** | **Value** | **Semantics description** | **Ver** | | --- | --- | --- | --- | | RLC configuration |  |  |  | | logicalChannelIdentity | 3 |  |  | | RAN2 AN: Changes in Tdoc R2-1801525 agreed. |  |  |  | | See Tdoc R2- 1800736  See Tdoc R2-1801525 (Vivo) |
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#### 9.2 Default radio configurations

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| H281 | The logicalChannelIdentity of SRBs are captured as default configurations, which means the logical channel IDs can be changed. However, the logical channel IDs of the SRBs are fixed and should not be changed.  Related to the above comment. | 2 | Remove the logical channel ID configurations of SRBs in 9.2.2:  ~~9.2.2 SRB configurations~~  ~~9.2.2.1 SRB1/SRB1S~~  ~~Parameters~~   | **~~Name~~** | **~~Value~~** | **~~Semantics description~~** | **~~Ver~~** | | --- | --- | --- | --- | | ~~RLC configuration~~ |  |  |  | | ~~logicalChannelIdentity~~ | ~~1~~ |  |  |   ~~9.2.2.2 SRB2/SRB2S~~  ~~Parameters~~   | **~~Name~~** | **~~Value~~** | **~~Semantics description~~** | **~~Ver~~** | | --- | --- | --- | --- | | ~~RLC configuration~~ |  |  |  | | ~~logicalChannelIdentity~~ | ~~2~~ |  |  |   ~~9.2.2.3 SRB3~~  ~~Parameters~~   | **~~Name~~** | **~~Value~~** | **~~Semantics description~~** | **~~Ver~~** | | --- | --- | --- | --- | | ~~RLC configuration~~ |  |  |  | | ~~logicalChannelIdentity~~ | ~~3~~ |  |  | | See Tdoc R2- 1800736  See Tdoc R2-1801525 (Vivo) |
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#### 9.2.1 SRB configurations

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C035 | The ASN.1 of AM RLC config as following:  UL-AM-RLC ::= SEQUENCE {  sn-FieldLength SN-FieldLength-AM,  t-PollRetransmit T-PollRetransmit,  pollPDU PollPDU,  pollByte PollByte,  maxRetxThreshold ENUMERATED { t1, t2, t3, t4, t6, t8, t16, t32 }  }  DL-AM-RLC ::= SEQUENCE {  sn-FieldLength SN-FieldLength-AM,  t-Reassembly T-Reassembly,  t-StatusProhibit T-StatusProhibit  }  The highlight fileds are not defined in the default configuration which should be added.  And the default configuration as following highlight part are not defined in ASN.1 which should be deleted.  dl-RLC-Config  >t-Reordering  >t-StatusProhibit  >enableStatusReportSN-Gap  The ASN.1 of logical channel config inculding the following IEs:  The highlight fileds are not defined in the default configuration which should be added.  And the default configuration as following highlight part are not defined in ASN.1 which should be deleted.  Logical channel configuration > priority  > prioritisedBitRate  > bucketSizeDuration  > LogicalChannelGroup  > logicalChannelSR-Prohibit  But the value should be FFS.  This modification should be applied to SRB1/SRB1S SRB2/SRB2S SRB3. | 2 | | Name | Value | Semantics description | Ver | | --- | --- | --- | --- | | RLC configuration CHOICE | am |  |  | | ul-RLC-Config  > sn-FieldLength  >t-PollRetransmit  >pollPDU  >pollByte  >maxRetxThreshold | size12  ms45  infinity  infinity  t4 |  |  | | dl-RLC-Config  ~~>t-Reordering~~  > sn-FieldLength  >t-Reassembly  >t-StatusProhibit  ~~>enableStatusReportSN-Gap~~ | ~~ms35~~  size12  ms25  ms0  ~~N/A~~ |  |  | | Logical channel configuration |  |  |  | | priority | 1 | Highest priority |  | | prioritisedBitRate | infinity |  |  | | bucketSizeDuration | N/A |  |  | | allowedSubCarrierSpacing |  |  |  | | allowedTiming |  |  |  | | logicalChannelGroup | 0 |  |  | | logicalChannelSR-Mask |  |  |  | | logicalChannelSR-DelayTimerApplied |  |  |  | | ~~logicalChannelSR-Prohibit~~ | ~~N/A~~ |  |  | |  |

#### 9.2.1.1 SRB1/SRB1S

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C036 | Modification as 9.2.1 mentioned | 2 |  |  |
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#### 9.2.1.2 SRB2/SRB2S

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C037 | Modification as 9.2.1 mentioned | 2 |  |  |
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#### 9.2.1.3 SRB3

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C038 | Modification as 9.2.1 mentioned | 2 |  |  |
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#### 9.2.2 SRB configurations

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C039 | The LCH ID of SRB is specfied configuration, should located in 9.1 | 2 | This section should Move to 9.1.1 |  |
| v029 | Used the wrong subclause num. Should be move to 9.1 Specified configurations. Highlight as follows.  9.2.2 SRB configurations | 1 | With conformity with 36.331 we add new subclause 9.1.1 Logical channel configurations then move subclause 9.2.2 to 9.1 as 9.1.2 SRB configurations | See Tdoc R2- 1801525 |
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#### 9.2.2.1 SRB1/SRB1S

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C040 | The LCH ID of SRB is specfied configuration, should located in 9.1 | 2 | This section should Move to 9.1.1.1 |  |
| v030 | Used the wrong subclause num. Should be move to 9.1 Specified configurations. Highlight as follows.  9.2.2.1 SRB1/SRB1S | 1 | 9.1.2.1 SRB1/SRB1S  See 9.2.2 | See Tdoc R2- 1801525 |
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#### 9.2.2.2 SRB2/SRB2S

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C041 | The LCH ID of SRB is specfied configuration, should located in 9.1 | 2 | This section should Move to 9.1.1.2 |  |
| v031 | Used the wrong subclause num. Should be move to 9.1 Specified configurations. Highlight as follows.  9.2.2.2 SRB2/SRB2S | 1 | 9.1.2.2 SRB2/SRB2S  See 9.2.2 | See Tdoc R2- 1801525 |
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#### 9.2.2.3 SRB3

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| --- | --- | --- | --- | --- |
| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| C042 | The LCH ID of SRB is specfied configuration, should located in 9.1 | 2 | This section should Move to 9.1.1.3 |  |
| v032 | Used the wrong subclause num. Should be move to 9.1 Specified configurations. Highlight as follows.  9.2.2.3 SRB3 |  | 9.1.2.3 SRB3  See 9.2.2 | See Tdoc R2- 1801525 |
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#### 10 Generic error handling

#### 10.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 10.2 ASN.1 violation or encoding error

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#### 10.3 Field set to a not comprehended value

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#### 10.4 Mandatory field missing

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#### 10.5 Not comprehended field

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 11 Radio information related interactions between network nodes

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 11.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### 11.2 Inter-node RRC messages

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#### 11.2.1 General

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| v033 | The description just mentions Xn and NG interfaces as follows:  ……. RRC messages that are sent either across the Xn- or the NG-interface, either…….  . But in case of EN-DC the inter-node RRC message are sent on X2. So X2 should also be in the description. | 2 | Add X2 in the general description as follows:  ……. RRC messages that are sent either across the Xn/ X2- or the NG-interface, either…….  RAN2 AH: Discussed R2- 1801526. Noted. | See Tdoc R2- 1801526 |
|  |  |  | RAN2 discussed [R2-1801464](file:///C:\Data\3GPP\Extracts\38331_CR0004_(Rel-15)_R2-1801464_Corrections%20to%20INM%20messages.doc), Corrections to INM messages |  |
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#### 11.2.2 Message definitions

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| v034 | in case HO with NG core, TS38.423 use “source NG-RAN node” and “target NG-RAN node.”  TS38.331 uses “gNB” instead of “NG-RAN node” as follows: ….– HandoverCommand This message is used to transfer the handover command as generated by the target gNB.  Direction: target gNB to source gNB/ source RAN  ……   |  | | --- | | HandoverCommand field descriptions | | **handoverCommandMessage**  Contains the RRCConnectionReconfiguration message used to perform handover within NR or handover to NR, as generated (entirely) by the target gNB. |   ……  It is better to align TS38.331 with TS38.423. | 2 | Replaces “gNB” by “NG-RAN node”  …..  This message is used to transfer the handover command as generated by the target ~~gNB~~NG-RAN node.  Direction: target ~~gNB~~ NG-RAN node to source gNB/ source RAN  …..   |  | | --- | | HandoverCommand field descriptions | | **handoverCommandMessage**  Contains the RRCConnectionReconfiguration message used to perform handover within NR or handover to NR, as generated (entirely) by the target ~~gNB~~NG-RAN node. |   ……  RAN2 AH: Discussed R2- 1801526. Noted.  Rap: R2- 1801526 noted, no change | See Tdoc R2- 1801526 |
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#### – HandoverCommand

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#### – HandoverPreparationInformation

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| v035 | The “source RAN” part can be captured in 36..331  ……  This message is used to transfer the NR RRC information used by the target gNB during handover preparation, including UE capability information.  Direction: source gNB/ source RAN to target gNB  …..  ….. | 2 | Propose to cancel “source RAN” in 38.331 and capture in 36.331  ….  This message is used to transfer the NR RRC information used by the target gNB during handover preparation, including UE capability information.  Direction: source gNB source RAN to target gNB  ….  …..  RAN2 AH: Discussed R2- 1801526. Noted.  Rap: R2- 1801526 noted, no change | See Tdoc R2- 1801526 |
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| H282 | Inconsistent IE name. |  | AS-Context ::= SEQUENCE {  reestablishmentInfo SEQUENCE {  sourcePhysCellId PhysCellId,  targetCellShortMAC-I ShortMAC-I,  additionalReestabInfoList AdditionalReestabInfoList OPTIONAL  } OPTIONAL,  -- FFS Whether to change e.g. move all re-establishment info to Xx  configRestrictInfo ConfigRestrictInfoSCG OPTIONAL,  ...  }  ~~ReestabNCellInfoList~~AdditionalReestabInfoList ::= SEQUENCE ( SIZE (1..maxCellPrep) ) OF ReestabNCellInfo  ReestabNCellInfo::= SEQUENCE{  cellIdentity CellIdentity,  key-gNodeB-Star BIT STRING (SIZE (256)),  shortMAC-I ShortMAC-I  } |  |
| N122 | The IE ReestabNCellInfoList is not used anywhere, was it meant to be used as a replacement name for AdditionalReestabInfoList, perhaps? | 2 | Replace AdditionalReestabInfoList with ReestabNCellInfoList |  |
| N123 | In LTE RRC, the ReestabNCellInfoList has a separate IE description. Was it intentionally added as part of HandoverPreparationInformation in NR RRC? | 2 | Discuss whether to create separate IE description for ReestabNCellInfoList  Rap: No change implemented. |  |
| N124 | In LTE RRC, the AS-Context has a separate IE description. Was it intentionally added as part of HandoverPreparationInformation in NR RRC? | 3 | Discuss whether to create separate IE description for AS-Context  Rap: not changed, can be considered. |  |
| N125 | In HandoverPreparationInformation, no field description for ue-InactiveTime | 2 | please add description  Rap: not changed, can be considered.: |  |

#### – SCG-Config

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| v036 | TS38.423 use “M-NG-RAN node” and “S-NG-RAN node”for “Master eNB or gNB” and “secondary gNB” in case of NG core.  M-NG-RAN node for Master NG-RAN node  S-NG-RAN node for Secondary NG-RAN node  And in case of EN-DC SgNB is refered to en-gNB in 36.423 baseline CR.  The SCG-config description is as follows:  …….  This message is used to transfer the SCG radio configuration as generated by the SgNB.  Direction: Secondary gNB to master gNB or eNB  ……  Propose to align with TS38.423  And add abbreviations for | 2 | Add abbteviations and make the correcct replacements.  M-NG-RAN node Master NG-RAN node  S-NG-RAN node Secondary NG-RAN node  ……  This message is used to transfer the SCG radio configuration as generated by the SgNB.  Direction: S-NG-RAN node or en-gNB to M-NG-RAN node or master eNB  …….  …..  RAN2 AH: Discussed R2- 1801526. Noted. | See Tdoc R2- 1801526 |
| E121 | Agreements from RAN2 #100  1 Introduce the following inter-node signalling for coordination of EN-BC dependencies:  d) SCG-Config (SN to MN for the case that the SN wants to request to use a different EN-BC): SN indicates which NR BC the SN wants to use by field **requestedBandCombinationNR** that indicates a list of indices of all the EN-BC in the MR DC capability container that includes the NR BC it wants to use.  Was submitted as E115 in original RIL 38331 E. | 2 | ConfigRestrictModReqSCG ::= SEQUENCE {  ~~requestedBC-List-NR SEQUENCE OF INTEGER OPTIONAL,~~  requestedBandCombination-NR SEQUENCE OF INTEGER OPTIONAL,  requestedBPC-List-NR SEQUENCE OF INTEGER OPTIONAL,  -- FFS Signalling details of BC and BPC restrictions requested by SgNB to be alleviated  ...  }  Rap: implemented according to R2-1801595. |  |
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#### – SCG-ConfigInfo

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
| v037 | Same as v019 | 2 | ….  This message is used by master eNB or M-NG-RAN node~~gNB~~ to request the S-NG-RAN nod~~eSgNB~~ or en-gNB to perform certain actions e.g. to establish, modify or release an SCG. The message may include additional information e.g. to assist the S-NG-RAN node or en-gNB~~SgNB~~ to set the SCG configuration.  Direction: Master eNB or M-NG-RAN node~~gNB~~ to S-NG-RAN node~~secondary gNB~~ or en-gNB  ……  RAN2 AH: Discussed R2- 1801526. Noted.  Rap: No change implemented | See Tdoc R2- 1801526 |
| E116 | Agreements  1 Introduce the following inter-node signalling for coordination of EN-BC dependencies:  c) SCG-ConfigInfo (MN to SN): MN indicates which NR BCs the SN can select by field **allowedBandCombinationNR** that indicates a list of indices of all the EN-BCs in the MR DC capability container that includes the LTE BC it selected | 2 | ConfigRestrictInfoSCG ::= SEQUENCE {  ~~restrictedBandCombinationNR INTEGER OPTIONAL,~~  restrictedBasebandCombinationNR-NR SEQUENCE OF INTEGER OPTIONAL,  allowedBandCombinationNR SEQUENCE OF INTEGER OPTIONAL,  -- FFS Signalling details of BC and BPC restrictions to be observed by SgNB  -- FFS Signalling details regarding power coordination  maxMeasFreqsSCG-NR-r15 INTEGER OPTIONAL,  ...  }  According to agreement in RAN2#100, restrictedBandCombinationNR should be replaced by allowedBandCombinationNR  Rap: implemented according to R2-1801595. |  |
| E117 | Related to the issue E116 we need to add the new field also in the field description. | 2 | SCG-ConfigInfo field descriptions  allowedBandCombinationNR  Indicates a list of all the allowed NR-BCs that be configured by the SN.  candidateCellInfoList  Contains information regarding cells that the source suggests the target gNB to consider configuring.  mcg-RB-Config  Contains the IE RadioBearerConfig of the MN, used to support delta configuration for bearer type change between MN terminated to SN terminated bearer and SN change.  p-maxFR1  Indicates the maximum power for FR1 (see TS 38.104 [12]) the UE can use in NR SCG.  sourceConfigSCGIncludes the current dedicated SCG configuration in the same format as SCG-Config, i.e. not only CellGroupConfig but also e.g. rb-Config, measConfig.  ConfigRestrictInfo  Includes fields for which SgNB is explictly indicated to observe a configuration restriction.  ~~restrictedBandCombinationNR~~  ~~Indicates restrictions regarding the NR BCs the SN can configure by signalling the LTE BC selected by MN. The SN may configure any EN-BC including the indicated LTE BC selected by MN.~~  restrictedBasebandCombinationNR  Indicates restrictions regarding the NR BPCs the SN can/ cannot configure i.e. by signalling the list of NR BPC the SN may configure. |  |
| N127 | Same as in LTE, the name is not very clear, and we try to avoid using "Info" in NR RRC. Better could be e.g. SCG-ConfigRequest, since that clearly indicates this contains a request for SCG (re)configuration | 2 | Change name to SCG-ConfigRequest (instead of SCG-ConfigInfo)  Rap: Not implemented. | See Tdoc R2- 1800835 |
| N131 | In SCG-ConfigInfo, IE configRestrictInfo usage of "restricted" | 2 | as discussed during RAN2#100 meeting, rename to supportedBandCombinationNR and supportedBasebandCombinationNR-NR. Also update the field description  Rap: implemented according to R2-1801595. | See Tdoc R2- 1800835 |
| N132 | In SCG-ConfigInfo, IE eutra-CapabilityInfo should be Conditional-Mandatory for SN addition always | 3 | add the conditional aspect | See Tdoc R2- 1800835 |
| N133 | In SCG-ConfigInfo, IE CandidateRS-IndexInfoList is not defined | 2 | please change name of CandidateBeamInfoList to CandidateRS-IndexInfoList | See Tdoc R2- 1800835 |
| E126 | RadioBearerConfiguration should be RadioBearerConfig  u  RadioBearerConfig ::= SEQUENCE {  srb-ToAddModList SRB-ToAddModList OPTIONAL, -- Need M  srb-ToReleaseList INTEGER (3) OPTIONAL, -- Need M  drb-ToAddModList DRB-ToAddModList OPTIONAL, -- Need M  drb-ToReleaseList DRB-ToReleaseList OPTIONAL, -- Need M  securityConfig SecurityConfig OPTIONAL -- Cond KeyChange  } |  | NR-InterNodeDefinitions DEFINITIONS AUTOMATIC TAGS ::=  BEGIN  IMPORTS  AdditionalReestabInfoList,  ARFCN-ValueNR,  CandidateRS-IndexInfoList,  CellIdentity,  maxCellPrep,  maxCellSCG,  maxRS-IndexReport,  MeasResultSSTD,  P-Max,  PhysCellId,  RadioBearerConfig~~uration~~,  RRCReconfiguration,  RSRP-Range,  RSRQ-Range,  SSB-Index,  ShortMAC-I,  UECapabilityInformation,  UE-CapabilityRAT-ContainerList  FROM NR-RRC-Definitions;  …  SCG-ConfigInfo-r15-IEs ::= SEQUENCE {  eutra-CapabilityInfo OCTET STRING (CONTAINING UECapabilityInformation) OPTIONAL,  candidateCellInfoList CandidateCellInfoList OPTIONAL,  measResultSSTD MeasResultSSTD OPTIONAL,  configRestrictInfo ConfigRestrictInfoSCG OPTIONAL,  drx-InfoMCG DRX-Info OPTIONAL,  sourceConfigSCG OCTET STRING (CONTAINING RRCReconfiguration) OPTIONAL,  p-maxFR1 P-Max OPTIONAL,  mcg-RB-Config OCTET STRING (CONTAINING RadioBearerConfig~~uration~~) OPTIONAL,  nonCriticalExtension SEQUENCE {} OPTIONAL  }  …  ~~RadioBearerConfiguration ::= ENUMERATED {ffsTypeAndValue}~~ |  |
| C043 | when MN decides to configure UE using full configuration, because UE release SN configuration upon receiving full configuration, so the S-SCG configuration has been released, so the T-SN can’t use the sourceConfigSCG to make delta configuration for UE SCG configuration, so this IE sourceConfigSCG should not  to be sent to target SN. But the other IEs related with such as capability and the measurements should be sent to T-SN to configure UE and decide the PSCell.  The agreement last meeting made “In case the target eNB doesn’t understand the MCG part of the configuration but the target SgNB does understand the SCG part, 1.MN sets the LTE fullconfig flag in the LTE RRCConnectionReconfiguration message, and this will release both MCG and SCG configuration 2. MN doesn’t include the scg-configInfo in the sgNB addition request (if an SN is added)” should also be clarified. | 3 | – SCG-ConfigInfo This message is used by master eNB or gNB to request the SgNB to perform certain actions e.g. to establish, modify or release an SCG. The message may include additional information e.g. to assist the SgNB to set the SCG configuration. When MN decides to configure UE with full configuration, MN doesn’t include the sourceConfigSCG in the sgNB addition request (if an SN is added).  Direction: Master eNB or gNB to secondary gNB  Ericsson: This should rather be captured in ASN.1 as conditional presence of the IE sourceConfigSCG.  RAN2 AH: Proposal in R2- 1800148 for OFFLINE | See Tdoc R2- 1800148 |
| D024 | According to the following agreement in RAN2#100, SCG-ConfigInfo needs to include the following 2 containers: “radioBearerContainer” and “nr-SecondaryCellGroupConfig”   |  | | --- | | Agreements  1                To support delta configuration for bearer type change between MCG (split) DRB and SCG (split) DRB and SN change, the ‘SCGConfigInfo’ and ‘SCGConfig’ INMs should include both radioBearerConfig containers and nr-secondaryCellGroupConfig container. |   If two containers are not included then part of the RRCReconfiguration of the sourceConfigSCG has to be constructed by the MN. | 2 | The following is proposed:  SCG-ConfigInfo-r15-IEs ::=           SEQUENCE {      eutra-CapabilityInfo         OCTET STRING (CONTAINING UECapabilityInformation)    OPTIONAL,      candidateCellInfoList        CandidateCellInfoList                           OPTIONAL,      measResultSSTD               MeasResultSSTD                                  OPTIONAL,      configRestrictInfo           ConfigRestrictInfoSCG                           OPTIONAL,      drx-InfoMCG                      DRX-Info                                        OPTIONAL,      sourceConfigSCG              OCTET STRING (CONTAINING RRCReconfiguration)        OPTIONAL,      scg-RB-Config             OCTET STRING (CONTAINING RRCReconfiguration)        OPTIONAL,      p-maxFR1                     P-Max                                           OPTIONAL,      mcg-RB-Config                OCTET STRING (CONTAINING RadioBearerConfiguration)    OPTIONAL,      nonCriticalExtension         SEQUENCE {}                          OPTIONAL  }  ***sourceConfigSCG*** Includes the current dedicated SCG configuration in the same format as SCG-Config, i.e. not only CellGroupConfig but also e.g. ~~rb-Config~~, measConfig. **scg-RB-Config**  Includes the current Radio Bearer Configuration of the SCG => Add scg-RB-Config OCTET STRING (CONTAINING radioBearerConfig) OPTIONAL, |  |

#### 11.3 Inter-node RRC information element definitions

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| I-No | Description | Class | Details (proposed solution/ discussion) | Status/ ref |
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#### – CandidateCellInfoList

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#### 11.4 Inter-node RRC multiplicity and type constraint values

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#### 12 Processing delay requirements for RRC procedures

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#### Annex A (informative): Guidelines, mainly on use of ASN.1

#### A.3.8 Guidelines on use of parameterised SetupRelease type

#### – ParentIE-WithEM

#### – ChildIE1-WithoutEM

#### – ChildIE2-WithoutEM

#### A.6 Guidelines regarding use of need codes

#### Annex <X> (informative): Change history

# Sections not part of the review (for information)

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# List of last I-No (Issue Number)

Companies indicate their last used I-No, to avoid duplication.

|  |  |
| --- | --- |
| **Company** | **Last used I-No** |
| ZTEl | Z086 |
| Intel | I081 |
| CATT | C043 |
| Qualcomm | Q020 |
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