3GPP TSG-RAN WG2 #119-e R2-2208937

Electronic Meeting, Aug 17th – 29th, 2022

Agenda Item: 6.0.2

Source: Ericsson

Title: [AT119-e][013][NR17] RRC I (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

The following document summarizes the following email discussion:

* [AT119-e][013][NR17] RRC I (Ericsson)

Scope: Treat [R2-2207776](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207776.zip), [R2-2208654](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2208654.zip), [R2-2207267](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207267.zip), [R2-2207002](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207002.zip), [R2-2207006](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207006.zip), [R2-2207013](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207013.zip), [R2-2208141](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2208141.zip) (if available), and [R2-2208133](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2208133.zip) (MINT in [6.24.3])

Determine agreeable parts, For agreeable parts, agree CRs.

Intended outcome: Report, Agreed CRs, LS out if applicable

Deadline: Schedule 1

A **first round** with **Deadline for comments W1 Friday Aug 19th 1400 UTC** to settle scope what is agreeable etc.

A Final round with **Final deadline W2 Thursday Aug 25th 1200 UTC** to settle details / agree CRs etc.

Companies are invited to fill in contact details.

|  |  |
| --- | --- |
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# 3 Discussion, First round

## 3.1 UE handling of cell-specific parameters provided in dedicated signalling

[R2-2207776](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207776.zip) UE handling of cell-specific parameters provided in dedicated signalling Huawei, HiSilicon discussion Rel-17 TEI17, NR\_MBS\_enh-Core

**Q1. Do companies agree with the intention of the propsal and TP of the document above?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Samsung | No | From our understanding, ServingCellConfig is definetly confiugred per UE after checking the UE capabilities. In that sense, BWP-DownlinkCommon and/or BWP-UplinkCommon configured in ServingCellConfig are not the exceptional case of ”inability to comply with RRCReconfiguration” what specified for ServingCellConfigCommon. |
| Huawei, HiSilicon | Yes | Proponent |
| Qualcomm Incorporated | No | We are not convinced by the MBS use case explained in the document. |
| ZTE | Yes | Our understanding is that the parameters in the ServingCellConfigCommon,BWP-DownlinkCommon and/or BWP-UplinkCommon are all belong to the cell specific parameters, so the same principle can be adopted. |
| MediaTek | TBD | The change is not just impact Rel-17 behavior but also legacy handling of the two IEs. We think more time is needed to evaluate the impact. |
| Nokia | Yes | We had decided earlier to extend this on a case by case basis. If the MBS use case is valid one, we support the clarification. |
| CATT | TBD | It is a MBS specific issue that need to be firstly clarified in the context of R17 MBS WI. |
| Ericsson | Yes |  |
| vivo | No | Agree with Samsung and Qualcomm. The mentioned case for MBS is intended for the broadcast reception on a Scell, which requires UE capability reporting in advance. |
| Apple | TBD | The MBS specific issue should be clarified first. |
| OPPO | No | Agree with Samsung and Qualcomm. |

## 3.2 Correction on UERadioPagingInformation and UERadioPagingInfo container

[R2-2208654](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2208654.zip) Correction on UERadioPagingInformation and UERadioPagingInfo container Ericsson CR Rel-17 38.331 17.1.0 3460 - F NR\_newRAT-Core, NR\_redcap-Core

**Q2. Do companies agree with the intent of the CR above?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Samsung | Yes | This change is NBC, but we think it is needed. |
| Huawei, HiSilicon | No | This CR seems not correct, if it changes the UE radio capabilty singaling.  It should be discussed/reviewed by RedCap session at least.  The way of changing is NBC for inter-node message.  The IEs in UERadioPagingInformation-v1700-IEs are not UE’s paging capability signaling. It is for the inter-node message, which includes the assist information about UE capability. gNB gets this information so that gNB can do optimized paging based on the UE paging capability information.      numberOfRxRedCap-r17                   ENUMERATED {one, two}                                OPTIONAL,      hd-FDDRedCap-r17                       ENUMERATED {supported}                               OPTIONAL,  The related UE radio capability were already captured in the spec as maxNumberMIMO-LayersPDSCH and halfDuplexFDD-TypeA-RedCap-r17. |
| Qualcomm Incorporated | No | At least we do not see the current specification is broken. Too late to do this type of cleanup after ASN.1 freeze. |
| MediaTek | No | The IE UE-RadioPagingInfo-r17 is also used in UE capabiltiy reporting. So, the proposed change is ASN.1 NBC in **both** UE Radio Capability Reporting and inter-node. The change also implies that the UE will send duplciate infromation on halfDuplexFDD-TypeA-RedCap capability reporting. We don’t really know the motivation for moving those capabities to a container.  However, it would be okay to have the following two chagnes  2. Change the RedCap half-duplex indication to per band  3. Align the naming of the half-duplex capability with the already existing UE parameter/capability: halfDuplexFDD-TypeA-RedCap-r17  Something like below  UERadioPagingInformation-v1700-IEs ::= SEQUENCE {  ue-RadioPagingInfo-r17 OCTET STRING (CONTAINING UE-RadioPagingInfo-r17) OPTIONAL,  inactiveStatePO-Determination-r17 ENUMERATED {supported} OPTIONAL,  numberOfRxRedCap-r17 ENUMERATED {one, two} OPTIONAL,  ~~hd-FDDRedCap-r17 ENUMERATED {supported} OPTIONAL,~~  halfDuplexFDD-TypeA-RedCap-r17 SEQUENCE (SIZE (1..maxBands)) OF FreqBandIndicatorNR OPTIONAL,  nonCriticalExtension SEQUENCE {} OPTIONAL  } |
| Nokia | No | Agree with the companies earlier |
| CATT | No | It is not necesary to do this update at this stage. |
| Ericsson | Yes | Proponent. The CR is NBC, we agree. Still, we consider this was a mistake (misalignment between work items) that not all Rel-17 paging capabilities where introduced in the container when it was introduced in v17.1.0. And even more it was a mistake we did not introduce the capability container already in NR Rel-15, to have the same feature as already present in LTE. It allows a ”legacy gNB” to forward the container for storage in AMF without knowing/supporting the contained fields. We think this motivates NBC change.  Note that there are multiple changes in the CR, it is not just a cleanup:   1. To move the signaling to a container, which was missed earlier (alignment issue) and should be fixed now to have a consistent spec. Note that inactiveStatePO-Determination is also included in the change—there have been no comments on this. 2. Changes to HD-FDD signaling for RedCap. This cannot be considered as a ”cleanup”. 3. Naming alignment, especially if 2) is agreed, as the information for inter-node is the same as UE radio capabilities |
| vivo | No | In our memory, the Redcap UE doesn’t need to report its capability on RX branches. This CR correction is not correct. |
| Apple | No strong view |  |
| OPPO | No |  |
| ZTE | No | Same comments as MediaTek. |

## 3.3 Unified TCI state with deactivated SCG

[~~R2-2207002~~](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207002.zip) ~~Corrections to initiation upon reception of RAN paging and T380 Expiry Samsung Electronics Co., Ltd draftCR Rel-17 38.331 17.1.0 NR\_newRAT-Core, NR\_SmallData\_INACTIVE-Core~~

[R2-2207267](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207267.zip) Unified TCI state with deactivated SCG Nokia, Nokia Shanghai Bell discussion Rel-17 LTE\_NR\_DC\_enh2-Core, NR\_FeMIMO-Core

**Q3. Do companies agree with the intent of the CR above?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Samsung | Yes, but | From our understanding, unified TCI state with SCG deactivation could be configured together because there has no restrictions what RAN1/RAN2 made. If this is true, we tend to agree the proposals to correct the tci-info.  For the detail ASN.1 changes proposed in this draft CR, NBC corrections in terms of ASN.1 are proposed. We agree this is cleaner approach but it requires more RAN2 concensus. |
| Huawei, HiSilicon | Yes/No | NBC proposal (ASN.1 NBC change). The proposed changes to the field description are ok but don't see the need for any ASN.1 change, the network can provide the MAC CE for UL TCI states after SCG activation. Otherwise, it should be a new UE capability and added in a BC way. |
| Qualcomm Incorporated | No | The CR presents one possible way to implement the unified TCI state in the tci-info framework (and some details need to be looked at), but there can be other ways to do this, e.g. not having ”indicated TCI state” in RRC configuration, but rely on DCI after SCell/PSCell activation.  To us, it is too late to discuss all the details for release-17. We propose to leave the feature combination unsupported in release-17. |
| MediaTek | Yes/No | There are two alternative and we are open for both options.  Alt-1- Support comination of unified TCI and SCG deactivation  Alt-2- Not support comination of joint TCI and SCG deactivation  For Alt-1, we are fine with the proposal from Nokia. It is ASN.1 NBC but it is cleaner.  For Alt-2, not sure if we need further SPEC change for this. |
| CATT | No | It is ASN.1 NBC change. We agree with Huawei and Qualcomm, one BC way should be taken into consideration or the feature combination unsupported in R17. |
| Ericsson | No | First we need to agree whether ICBM should be supported for deactivated SCG or not. There are other contributions on this in 6.2. We agreed last meeting not to optimize the case of two BFD-RS sets for deactivated SCG. So the easy solution is to say it is not supported. This needs to be clarified in the specifications, since current MAC specification only covers deactivated SCG for single BFD-RS set.  Note that if RAN2 would have agreed with our proposal to use encapsulated MAC CE in tci-Info instead of RRC fields, we would not need to have this discussion. |
| vivo | Comments | We agree with the intention and are supportive of P1. However, we are fine to keep the texts as they were, considering the NBC change concerns. |
| Apple | Comments | We are fine to leave the feature combination unsupported in release-17. |
| ZTE | See comment | In our understanding, even without any change, the TCI-state indicated for PDSCH can also be the TCI from unified TCI configuration. But for UL TCI state, like HW commented, it can be done via MAC CE if the CR is not approved.  Update the field into list could be better (can be considerred as an optimization for SCG/SCell activation), but we can also live with the current specification. |

## 3.4 Corrections to initiation upon reception of RAN paging and T380 Expiry

[R2-2207002](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207002.zip) Corrections to initiation upon reception of RAN paging and T380 Expiry Samsung Electronics Co., Ltd draftCR Rel-17 38.331 17.1.0 NR\_newRAT-Core, NR\_SmallData\_INACTIVE-Core

**Q4. Do companies agree with the intent of the CR above?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Samsung | Yes (Proponent) | Scenario: RRC initiate resumption procedure in RRC\_INACTIVE. While the resumption is ongoing, T380 expires.  Case 1: resumption is initiated for SDT   * Normative text is added in specification to prohibit initiating the second resumption procedure while the first one is ongoing.   Case 2: resumption is not initiated for SDT   * No text (neither normative text nor NOTE) is added in specification to prohibit initiating the second resumption procedure while the first one is ongoing * RAN2#113bis Agreement: The UE should not start the 2nd RRC resumption procedure when there is a RRC resumption procedure ongoing (no spec change required)   In our understanding, in both the cases, second resumption procedure should not be initiated while the first one is ongoing. The specification should be consistent in handling both the cases. Specifying normative text in one case and not in another is misleading. Its gives an impression that only in case 1, second resumption is prohibited while the first one is ongoing. |
| Huawei, HiSilicon | No | This was discussed during RAN2#113 meeting and it was agreed that the UE does not initiate second resume procedure during an ongoing one but we also agreed not to capture this. Then, it was dioscussed also for SDT and the agreement was confirmed while it was decided to capture this for SDT explicitly as SDT procedure is expected to last longer than „normal“ resume. |
| Qualcomm Incorporated | Yes | While we are aware of the previous RAN2 decision, we think it makes sense to have the specification aligned between SDT case and non-SDT case. Otherwise readers may misunderstand that different behaviours are expected. |
| ZTE | Yes | The same views as Qualcomm. Can be merged to rapporteur CR. |
| MediaTek | No strong view | Ok to include in Rapp’s CR. |
| Nokia | No strong view | Fine to go with consensus view |
| CATT | Yes | We agree with Qualcomm, the CR makes sense to reader. |
| Ericsson | Yes | We agree with Qualcomm and others. Ok to include in 38331 Rapp CR. |
| vivo | Yes | We are fine to implement the change in RRC Rapp CR. |
| Apple | Yes |  |
| OPPO | No strong view | Ok to include in Rapp’s CR. |

## 3.5 MsgA PUSCH resource release upon T304 expiry for SCG

[R2-2207006](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207006.zip) MsgA PUSCH resource release upon T304 expiry for SCG Samsung Electronics Co., Ltd draftCR Rel-17 38.331 17.1.0 NR\_newRAT-Core

**Q5. Do companies agree with the intent of the CR above?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Samsung | Yes (Proponent) | Upon T304 expiry of MCG, RRC (section 5.3.5.8.3) releases dedicated msgA PUSCH resources provided in rach-ConfigDedicated if configured. The same operation should also be performed uponT304 expiry of SCG, as the according to MAC and RRC R17 spec *cfra-TwoStep* is supported for reconfigurationWithSync of both MCG and SCG. |
| Huawei, HiSilicon | Yes | Seems this change addresses an omission. Coversheet should be improved, to make it a real CR to be approved. |
| ZTE | Yes |  |
| Qualcomm Incorporated | Yes |  |
| MediaTek | Yes with comment | We wondering if the work item code (NR\_newRAT-Core) is correct. Is it for Rel-16 two-step RACH feature ? Should we fix the bug from Rel-16 ? |
| Nokia | Yes | sounds correct to release the resources also for the SCG side |
| CATT | Yes |  |
| Ericsson | Yes |  |
| vivo | No | CFRA with 2-step RA type is only supported for handover. We think the correction is not the case. |
| Apple | Yes |  |
| OPPO | Yes |  |

## 3.6 Corrections to MBS paging monitoring during the SDT procedure

[R2-2207013](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207013.zip) Corrections to MBS paging monitoring during the SDT procedure Samsung Electronics Co., Ltd draftCR Rel-17 38.331 17.1.0 NR\_SmallData\_INACTIVE-Core, NR\_MBS-Core

**Q6. Do companies agree with the intent of the CR above?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Samsung | Yes (Proponent) | In the SDT WI it was agreed that UE does not monitor paging message while the SDT procedure is ongoing. UE only monitors SI update/emergency notifications.  According to current spec, in RRC\_INACTIVE, for MBS multicast reception, UE monitors a Paging channel for paging using TMGI. TMGIs are included in paging message. So this basically means that UE monitors paging message in RRC\_INACTIVE.  Considering that SDT procedure can be initiated by UE which is also supports MBS, it should be clarified that  While SDT procedure is not ongoing, UE in RRC\_INACTIVE monitors a Paging channel for paging using TMGI for multicast reception. |
| Huawei, HiSilicon | Yes | This has already been in the MBS RRC rapporteur CR. Suggest to discuss in MBS session directly. |
| ZTE | Yes | Can be merged with MS RRC CR if necessary |
| Qualcomm Incorporated | Yes | Should avoid duplicated discussion in multiple sessions/email discussions. |
| MediaTek | Yes | Seems quite small change. Could merge in MBS RRC CR. |
| Nokia | Yes | This is an artificial restriction to not allow the UE to read paging in SDT anyway (it was discussed in the context of dedicated BWP for SDT which was not agreed in the end). For unicast, the NW can bring the UE to connected mode during SDT, a bit different for MBS? |
| CATT | Yes | UE anyway will need to move to RRC\_Connected mode for MBS, it is possible to let network make UE to RRC\_Connected mode in SDT, so SDT without monitoring paging is feasible for MBS. CR is fine to us. |
| Ericsson | Yes | For legacy Paging in Inactive there is a similar requirement, i.e. due to the SDT agreement we also need to accept this for group Paging. It does require extra effort in the network, if the NW did not intend to transit the UE to connected, and to check if there is (group) Paging ongoing.  And Huawei is correct that this is already included in the MBS CR and does not need to be discussed further here:  [R2-2207590](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2207590.zip) Rapporteur corrections on RRC  Take the above rapporteur CRs as baseline for further updates and discussion |
| vivo | Yes | We are fine to implement the change in RRC Rapp CR. |
| Apple | Yes |  |
|  |  |  |

## 3.7 Miscellaneous non-controversial corrections Set XV

[R2-2208141](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2208141.zip) Miscellaneous non-controversial corrections Set XV Ericsson CR Rel-17 38.331 17.1.0 3362 - F NR\_newRAT-Core Late

**Q7. Do companies agree with the intent of the CR above?**

(Companies are invited to indicate further typos etc. We are also all aware that many editorials are taken care of in WI CRs.)

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Samsung | Yes |  |
| Huawei, HiSilicon |  | There is a NBC change, by removing the extentsion marker in IE RedCap-ConfigCommonSIB-r17.  We don’t agree to introduce this NBC change for no good reason. |
| Qualcomm Incorporated | No | We do not support ASN.1 NBC without sufficiently good reason. It is unfortunate NBC was hidden in misc. correction type CR. |
| ZTE | Yes,but | ASN.1 NBC change is not expected. |
| Lenovo | Yes | Referring to chairman’s guidance, ASN.1 NBC changes are not precluded as long as there are agreements on them. And in RAN2#118-e RAN2 agreed to remove extension markers from IEs which are used in broadcast signaling to avoid potential overhead in the future.  The following minor issues should be fixed as well:   * IE RadioLinkMonitoringConfig: field name should start with lowercase letter.   [[  Beamfailure-r17 BeamFailureDetection-r17 OPTIONAL -- Need R  ]]   * In IE BandNR: in field name parrallelPRS-MeasRRC-Inactive-r17 the redundant “r” should be removed. * MeasAndMobParametersCommon IE: Add suffix “-r17” for the capabilities nr-NeedForGapNCSG-reporting and eutra-NeedForGapNCSG-reporting.   [[  -- R4 19-2 Concurrent measurement gaps  concurrentMeasGap-r17 CHOICE {  concurrentPerUE-OnlyMeasGap-r17 ENUMERATED {supported},  concurrentPerUE-PerFRCombMeasGap-r17 ENUMERATED {supported}  } OPTIONAL,  -- R4 19-1 Network controlled small gap (NCSG)  nr-NeedForGapNCSG-reporting ENUMERATED {supported} OPTIONAL,  eutra-NeedForGapNCSG-reporting ENUMERATED {supported} OPTIONAL,  -- R4 19-1-1 per FR Network controlled small gap (NCSG)  ncsg-MeasGapPerFR-r17 ENUMERATED {supported} OPTIONAL, |
| MediaTek | Yes | Although ASN.1 NBC is not preferred. The change on RedCap-ConfigCommonSIB-r17 is accetable to us. However, probably we will need a separate CR for that. |
| Nokia | Yes |  |
| CATT | No |  |
| Ericsson | Yes | Proponent |
| vivo | Yes |  |
| Apple | Yes |  |
| OPPO |  | We don’t support removing the extentsion marker in IE RedCap-ConfigCommonSIB-r17. Others are ok to us. |

## 3.8 Correction to MINT – applicableDisasterInfoList

[R2-2208133](http://www.3gpp.org/ftp//tsg_ran/WG2_RL2/TSGR2_119-e/Docs//R2-2208133.zip) Correction to MINT - applicableDisasterInfoList Ericsson CR Rel-17 38.331 17.1.0 3359 - F TEI17

**Q8. Do companies agree with the intent of the CR above?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments** |
| Ericsson | Yes | This was a mistake when implementing MINT. |
| Samsung | Yes | We agree with the proposed change. |
| Huawei, HiSilicon |  | Editorial, can be merged into the rapportuer CR. |
| Qualcomm Incorporated | Yes |  |
| ZTE | Yes |  |
| Lenovo | Yes but | The following CR cover page issues should be fixed:   * CR title: add tag “[MINT]”. * Reason for change: the number of the third entry should be “3”.   Entry 1 of plmn-IdentityInfoList: plmn-IdentityInfoList{PLMN A; PLMN B}  Entry 2 of plmn-IdentityInfoList: plmn-IdentityInfoList{PLMN C}  Entry 2 of plmn-IdentityInfoList: plmn-IdentityInfoList{PLMN D, PLMN E}  In the sentence below typos should be fixed, i.e. it should say “sharing the”.  Disaster information is indicated as a list, the intention was that the network should be able to signal different disaster information for the different networks that share the cell, similar to how different networks sharin ghte cell could have different cell identity, tracking area code, etc.  The sentence below is incomplete. We suggest to add the text in red color.  This error makes it impossible to provide disaster information for the scenario shown above as it is unclear for which of the (more than one) *plmn-IdentityList* the disaster roaming information applies. |
| Nokia | Yes |  |
| CATT | Yes | The change just related to the field description, hence it is not one NBC change. With this change, it can be further handle the case that there are more than one entry in plmn-IdentityInfoList or more than one entry in npn-IdentifyInfoList-r16. We are fine with this CR. |
| Ericsson | Yes | Proponent. This was a mistake when introducing MINT in 38331. |
| vivo | Yes |  |
| Apple | Yes |  |
| OPPO | Yes |  |

# 5 Conclusion

To be added.