**3GPP TSG-RAN WG1 #110bis-e R1-22xxxxx**

**e-Meeting, Oct 10 - 29, 2022**

**Source: Moderator (Ericsson)**

**Title: Summary#2 of Email discussion [110bis-e-R17-DSS-01]**

**Agenda item:** **8.13**

**Document for:** **Discussion and Decision**

# 1 Introduction

This document summarizes discussions for RAN1#110bis-e for Rel17 NR DSS WI considering below documents [1]-[7] submitted for A.I. 8.13

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Ref#** | **TDoc** | **Title** | **Source** | **Agenda item** |
| 1 | [R1-2208621](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2208621.zip) | Corrections on Scell scheduling Pcell | vivo | 8.13 |
| 2 | [R1-2209036](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209036.zip) | Correction on different SCSs between P(S)Cell and sSCell | Intel Corporation | 8.13 |
| 3 | [R1-2209037](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209037.zip) | Discussion on different SCSs between P(S)Cell and sSCell | Intel Corporation | 8.13 |
| 4 | [R1-2209450](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209450.zip) | Discussion on simultaneous PDCCH monitoring between USS set on sSCell and CSS set on PCell | LG Electronics | 8.13 |
| 5 | [R1-2209469](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209469.zip) | Draft CR for Rel-17 DSS | ZTE | 8.13 |
| 6 | [R1-2209851](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209851.zip) | Correction for DCI size alignment for Rel-17 DSS | Huawei, HiSilicon | 8.13 |
| 7 | [R1-2209962](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209962.zip) | Discussion on clarification for cross-carrier scheduling from SCell to P(S)Cell | Qualcomm Incorporated | 8.13 |
|  | [R1-2210191](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2210191.zip) | Disabling EN-DC power split when SCG is deactivated | Nokia, Nokia Shanghai Bell | 8.13 |

# 2. Topics for Discussion

Following topics for DSS WI were discussed in the tdocs

1. Alignment of capability parameter names for FG 34-3 and FG 34-4 – [1],[5]
2. Clarification related to P(S)Cell SCS > sSCell SCS case – [2],[3]
3. Additional clarification on simultaneous PDCCH monitoring between sSCell USS sets and P(S)Cell CSS sets – [4]
4. Clarification related to *monitoringCapabilityConfig* - [5]
5. Further clarifications on DCI size alignment – [6]
6. Clarification related to *CSI-MeasConfig* when SCell to PCell scheduling is used [ 7]

Companies are requested to provide comments (if any) on the topics to consider for discussion in RAN1#110bis-e in the Table below.

|  |  |
| --- | --- |
| Company Name | Comments |
| Moderator Notes1 | Topic 1 - can request editor reflect correct parameter names for FG 34-3 and FG 34-4 in 38.213 editor’s alignment CR.  Topic 2 – was also discussed in RAN1#110 but no agreement.  Topic 3 – is there need for additional clarification(s) considering what is already captured for FG 34-1 and 34-1a?  Topics 4, 5, 6 – suggest discussing these in this meeting. |
| OPPO | Topic 1: This should be a category-D change per editorial. Agree with moderator to leave this modification to editor.  Topic 2: As mentioned by moderator, this was already discussed in RAN1 #110 with no consensus. From our view, it was not a RAN1 agreement or study in Rel-17 that the comparison of SCS between PCell and sSCell can invalidate or turn over the overall configuration of sSCell scheduling PCell.  We are ok to discuss Topics {3,4,5,6} |
| Qualcomm | Agree with OPPO. |
| LG Electronics | Agree with OPPO. |
| ZTE | Agree with moderator, i.e., “ Topics 4, 5, 6 – suggest discussing these in this meeting“. |
| Intel | For Topic 2, if majority companies think dynamic switching between BWPs with and BWPs with is not supported in Rel-17 DSS, we prefer to make a conclusion on it.  For other topics, agree with Moderator’s views. |
| Huawei | Generally OK with moderator suggestions. For Intel’s conclusion, also acceptable. |
| vivo | OK with moderator suggestions and fine with Intel’s conclusion. |
| Samsung | Agree with suggestion by Moderator/OPPO.  For Topic 2, the issue was already settled as follows. We don’t see a need for additional conclusion.  **Agreement (RAN1#106bis-e)**  Option A is supported in Rel-17   * … * When P(S)Cell SCS () is larger than sSCell SCS (), for CCS from sSCell to P(S)Cell and, it is not supported Rel-17 DSS. |
| Spreadtrum | OK with moderator suggestions and Intel’s conclusion. |
| Moderator Notes1\_2 | Topic 2,3,4,5,6 selected for further discussion in [110bis-e-R17-DSS-01] thread. |

# 3. Discussion

### 2.1 Topic 2 - Handling of P(S)Cell SCS > sSCell SCS

Please provide your input to below questions Q1-Q2 on this topic.

#### Question 1

Q1. Is it OK to agree to draft CR for 38.213 in [R1-2209036](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209036.zip)

Companies are requested to indicate their view about the above question in the Table below.

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (Topic 2, Q1)** |
| Samsung | No | As mentioned in the initial round, the issue was addressed by the following. There is also no specification text or UE features supporting operation with P(S)Cell SCS > sSCell SCS. That would be a gNB misconfiguration and, in any case, the UE behaviour will be undefined.  **Agreement (RAN1#106bis-e)**  Option A is supported in Rel-17   * … * When P(S)Cell SCS () is larger than sSCell SCS (), for CCS from sSCell to P(S)Cell and, it is not supported Rel-17 DSS. |
| Qualcomm | No | We are OK to have a conclusion as suggested by Intel in the first round. |
| ZTE | Yes | We think this CR is something good to have for clarity. We are also ok to have a conclusion. |
| Intel |  | We prefer the CR for better flexibility. However, according to the companies in the preparation phase, we are also fine to make a conclusion dynamic switching between BWPs with and BWPs with is not supported in Rel-17 DSS.  To Samsung: The agreement is not exactly for the issue we discussed. It doesn’t consider dynamic BWP switching. As a result, some BWP on PCell/sSCell have while others have |
| LG Electronics |  | We are OK to have a conclusion on this issue. |
| vivo | No | We are OK to have a conclusion |
| Spreadtrum | No | We are OK to have a conclusion. |
| OPPO | No | We are OK to have a conclusion. |
| Ericsson1 | No |  |

#### Question 2

Q2. If CR is not OK, is there need to make any additional conclusion? (Please also suggest text for the conclusion if needed).

Companies are requested to indicate their view about the above question in the Table below.

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (Topic 2, Q2)** |
| Samsung | No | There is already an agreement from RAN1#106bis. |
| Qualcomm | Yes | OK to have the conclusion. |
| Intel |  | Fine with a conclusion |
| LG Electronics |  | We are OK to have a conclusion on this issue. |
| Vivo | Yes |  |
| Spreadtrum | Yes |  |
| OPPO |  | Either way (Yes vs. No) is fine. The current spec gives no hint that should lead to invalidate of configuration of SCell scheduling PCell – it is just a restriction when SCell scheduling PCell is configured. So in our view the spec is already clear and the issue mentioned above seems to come nowhere. But we are ok to draw a conclusion to put this issue behind us. |
| Ericsson1 | No | As also commented by Samsung and Oppo, the spec is already clear on this and we do not see need for conclusion. |
| Huawei |  | Fine with conclusion |
| Samsung2 |  | @Intel/all: The agreement is generic and is clearly applicable for the active DL BWPs – whether or not there is dynamic BWP switching is irrelevant as long as the active DL BWPs satisfy the agreement. No conclusion is needed when there is already an agreement.  **Agreement (RAN1#106bis-e)**  Option A is supported in Rel-17   * …   When P(S)Cell SCS () is larger than sSCell SCS (), for CCS from sSCell to P(S)Cell and, it is not supported Rel-17 DSS.  @OPPO/all: TS 38.306 captures the supported SCS combinations. |
| Intel2 |  | @Samsung: for the case under discussion (dynamic switching between BWPs with and BWPs with ), our understanding is the cited agreement only enforces Rel-17 DSS is not applicable to BWPs with . In other words, the agreement doesn’t exclude the possibility for UE to fallback to legacy PDCCH monitoring. This is the reason why we think a conclusion is helpful. |

### 2.2 Topic 3 – Simultaneous monitoring between sSCell USS and P(S)Cell CSS

Please provide your input to below question Q1 on this topic.

#### Question 1

Q1. Do you see need for changes proposed in [R1-2209450](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209450.zip)? If yes, should the clarification be included in 38.213 (Alt1 in [R1-2209450](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209450.zip)) or 38.306 (Alt2 in [R1-2209450](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209450.zip))

Companies are requested to indicate their view about the above question in the Table below.

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (Topic 3, Q1)** |
| Samsung | OK with the intention | It should be captured as part of UE capability in 38.306 (Alt-2) together with the other characteristics of Type-A UEs.  The text can be simpler and briefer as “*Type 0/0A/1/2/CSS sets on P(S)Cell for DCI formats with CRC scrambled by C-RNTI/MCS-C-RNTI/CS-RNTI”* under “Search space restrictions” field as additional restriction in the FG for Type-A UEs. |
| Qualcomm | Yes | We believe the agreement is valid and effective, no matter whether it is captured in the spec. Considering the visibility for readers who did not join the session, it is beneficial to capture the agreement in the spec correctly.  We are open to either Alt.1 or Alt.2, with a slight preference on Alt.2. UE feature list actually captured this. Theoretically, it should be correctly captured in the corresponding RAN2 spec (38.306). |
| ZTE |  | We also think this CR something good (but not necessary) to have considering the there is already some description in the UE feature.  If something is needed, we prefer to include it in 38.213. |
| Intel | Yes | We slightly prefer Alt 2 too since it is related to UE capability |
| LG Electronics | Yes | We are fine with either Alt 1 or Alt 2. Alt 2 could be a straight-forward way since other components (except for this one) of FG 34-1 are currently captured in 38.306 specification. |
| Vivo | Yes | We prefer Alt 2 to capture it in 38.306 |
| Spreadtrum | Yes | We prefer Alt 2 |
| OPPO | Yes | We agree to capture the agreements in the spec. We prefer to use Alt 2 to define the restriction for Type A UE directly in 38.306. |
| Ericsson1 |  | The agreement under discussion is included in UE feature list sent from RAN1 to RAN2 (latest version R1-2207923). There is no need for further RAN1 action. Issue can be resolved directly in RAN2 by updating 38.306 to reflect the RAN1 agreed capability description. |

### 2.3 Topic 4 - Clarification for *monitoringCapabilityConfig*

Please provide your input to question Q1 below

#### Question 1

Q1. Is it OK to agree to below change to 38.213 sub-clause 10.1.1 proposed in [R1-2209469](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209469.zip)?

#### 10.1.1 Self-carrier and cross-carrier scheduling on the primary cell

A UE can be configured for scheduling on the primary cell from the primary cell and from a secondary cell [12, TS 38.331]. The UE is either not provided *monitoringCapabilityConfig* for the primary cell or for the secondary cell, or the UE is provided only *monitoringCapabilityConfig* = *r15monitoringcapability* for the primary cell and for the secondary cell. The UE is not provided *coresetPoolIndex* on the primary cell or on the secondary cell.

The SCS configuration for the active DL BWP on the primary cell is smaller than or equal to the SCS configuration for the active DL BWP on the secondary cell.

**<Unchanged parts are omitted>**

Companies are requested to indicate their view about the above question in the Table below.

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (Topic 4, Q1)** |
| Samsung | OK - editorial | This is an editorial change and can be captured in the editor’s alignment CR. |
| Qualcomm | Yes | OK to reflect the agreement. |
| ZTE | Yes | Without this clarification, it is not clear about the following parts.   1. Whether *monitoringCapabilityConfig* is allowed to be configured on one of (but not both of) the PCell and sSCell. 2. Whether monitoringCapabilityConfig is allowed to be configured on SCells other than sSCell. |
| Intel | Yes |  |
| LG Electronics | Yes |  |
| vivo | Yes |  |
| Spreadtrum | Yes |  |
| OPPO | Yes |  |

### 2.4 Topic 5 - DCI size alignment

Please provide your input to question Q1 below.

#### Question 1

Q1. Is it OK to agree to draft CR to 38.212 proposed in [R1-2209851](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209851.zip)?

Companies are requested to indicate their view about the above question in the Table below.

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (Topic 5, Q1)** |
| Samsung |  | The case “*firstActiveDownlinkBWP-Id is set to dormant BWP*” does not seem valid as the DL BWP provided with *firstActiveDownlinkBWP-Id* is not expected to be a dormant BWP - e.g., *firstActiveDownlinkBWP-Id* is used in TS 38.213 Clause 10.1 as a reference BWP for PDCCH monitoring limits.  The case “*the DCI indication for SCell dormancy was received outside active time*” can be further considered. However, if DCP-Config (for DCI format 2\_6) is not configured, *firstOutsideActiveTimeBWP-Id* may not be configured – as described in TS 38.331. It should be OK to consider *firstOutsideActiveTimeBWP-Id* if *firstWithinActiveTimeBWP*-Id is not configured.  ***outsideActiveTimeConfig***  This field contains the configuration to be used for SCell dormancy outside active time, as specified in TS 38.213 [13]. The field can only be configured when the cell group the SCell belongs to is configured with *dcp-Config*.  ***dormantBWP-Id***  This field contains the ID of the downlink bandwidth part to be used as dormant BWP. If this field is configured, its value is different from *defaultDownlinkBWP-Id*, and at least one of the *withinActiveTimeConfig* and *outsideActiveTimeConfig* should be configured.  Considering the above, the text of the proposed CR can be simplified as follows for DCI format 0\_1 (similar for other DCI formats):   * If the SCell is deactivated ~~and~~ *~~firstActiveDownlinkBWP-Id~~* ~~is not set to dormant BWP~~, the UE determines the number of information bits in DCI format 0\_1 carried by PDCCH on the primary cell based on a DL BWP provided by *firstActiveDownlinkBWP-Id* for the SCell. ~~If the SCell is deactivated and~~ *~~firstActiveDownlinkBWP-Id~~* ~~is set to dormant BWP, the UE determines the number of information bits in DCI format 0\_1 carried by PDCCH on the primary cell based on a DL BWP provided by~~ *~~firstWithinActiveTimeBWP-Id~~* ~~for the SCell if~~ *~~firstWithinActiveTimeBWP-Id~~* ~~is configured~~*~~,~~* ~~or based on a DL BWP provided by~~ *~~firstOutsideActiveTimeBWP-Id~~* ~~for the SCell if~~ *~~firstWithinActiveTimeBWP-Id~~* ~~is not configured.~~ If the active DL BWP of the SCell is a dormant DL BWP ~~and the DCI indication for SCell dormancy was received within active time~~, the UE determines the number of information bits in DCI format 0\_1 carried by PDCCH on the primary cell based on a DL BWP provided by *firstWithinActiveTimeBWP-Id* for the SCell if provided; otherwise, ~~. If the active DL BWP of the SCell is a dormant DL BWP and the DCI indication for SCell dormancy was received outside active time, the UE determines the number of information bits in DCI format 0\_1 carried by PDCCH on the primary cell~~ based on a DL BWP provided by *firstOutsideActiveTimeBWP-Id* for the SCell. |
| Qualcomm | No | We are OK to address the issue.  However, we think the case where the active DL BWP of the SCell is a dormant DL BWP can be simpler and can be consistent with the case where the SCell is deactivated as follows.  When the SCell is deactivated:   * When *firstActiveDownlinkBWP-Id* is set to dormant BWP and *firstWithinActiveTimeBWP-Id* is configured, DCI size alignment based on *firstWithinActiveTimeBWP-Id* is used. * When *firstActiveDownlinkBWP-Id* is set to dormant BWP and *firstWithinActiveTimeBWP-Id* is not configured, DCI size alignment based on *firstOutsideActiveTimeBWP-Id* is used.   When the active DL BWP of the SCell is a dormant DL BWP:   * ~~If the DCI indication for SCell dormancy was received within active time,~~ When *firstWithinActiveTimeBWP-Id* is configured, DCI size alignment based on *firstWithinActiveTimeBWP-Id* is used. * ~~If the DCI indication for SCell dormancy was received outside active time,~~ When *firstWithinActiveTimeBWP-Id* is not configured, DCI size alignment based on *firstOutsideActiveTimeBWP-Id* is used. |
| ZTE | No | The current CR introduces too complicated rules for determining the DCI size. We would prefer something simpler, for example the following.   * If the SCell is deactivated or if the active DL BWP of the SCell is a dormant DL BWP, the UE determines the number of information bits in DCI format 0\_1 carried by PDCCH on the primary cell based on a DL BWP provided by smallest *BWP-Id*, which is not configured as dormant DL BWP. *f* |
| Intel |  | We are OK for an update in principle. As commented by Samsung, considering *firstActiveDownlinkBWP-Id* used in TS 38.213 Clause 10.1, we slightly prefer Samsung’s version. |
| vivo |  | We are OK to address the issue and prefer Samsung’s version. |
| Spreadtrum |  | We prefer Samsung’s version. |
| Huawei, HiSi |  | We understand that company prefer simpler texts.  Samsung commented that *“firstActiveDownlinkBWP-Id is set to dormant BWP” may not be valid* – however, as checked the spec it is not clearly restricted and kind of unclear whether gNB can properly handle that, since in typical cases there are two BWPs in total and the cases that gNB can avoid such configuration is rather restricted. |
| Ericsson1 |  | We are OK to address this issue. |
| Huawei, HiSi2 |  | After further check, the case- Samsung mentioned which might not be valid – is valid and concerned, according to the below from 321:  3> if *firstActiveDownlinkBWP-Id* is not set to dormant BWP:  4> activate the SCell according to the timing defined in TS 38.213 [6] for MAC CE activation and according to the timing defined in TS 38.133 [11] for direct SCell activation; i.e. apply normal SCell operation including:  5> SRS transmissions on the SCell;  5> CSI reporting for the SCell;  5> PDCCH monitoring on the SCell;  5> PDCCH monitoring for the SCell;  5> PUCCH transmissions on the SCell, if configured.  3> else (i.e. *firstActiveDownlinkBWP-Id* is set to dormant BWP):  4> stop the *bwp-InactivityTimer* of this Serving Cell, if running.  We are open to simplify the texts as Samsung suggested, however the scenario is preferred to be addressed. |
| Samsung2 |  | @Huawei: Thanks for sharing the spec text – we just noticed the same text as well. We agree that *“firstActiveDownlinkBWP-Id is set to dormant BWP”* is not precluded by the specs. However, we think actual deployment, in general, and for the sSCell in particular will not set the *firstActiveDownlinkBWP* to be a dormant BWP because that is the BWP after SCell activation – it does not make sense to have additional RRC delay to switch it from dormant to another BWP. Even if there are two BWPs in total and one is a dormant BWP, there is no reason for a NW to not set the *firstActiveDownlinkBWP* to the non-dormant BWP – there is no restriction to the gNB.  Our intention is to avoid over-complicating/over-optimizing the specs for cases that will not occur in reality for the sSCell and that the gNB can easily avoid without any penalty. |

### 2.5 Topic 6 - *CSI-MeasConfig* when SCell to PCell scheduling is used

Please provide your input to question Q1 below

#### Question 1

Q1. Do you see need for additional clarification related to *CSI-MeasConfig* when SCell to PCell scheduling is used as discussed in [R1-2209962](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209962.zip). If yes, please indicate your preferred option for clarification also considering Opt.1,2,3 discussed in [R1-2209962](https://www.3gpp.org/ftp/TSG_RAN/WG1_RL1/TSGR1_110b-e/Docs/R1-2209962.zip)

Companies are requested to indicate their view about the above question in the Table below.

|  |  |  |
| --- | --- | --- |
| **Company Name** | **Yes/No** | **Comments (Topic 6, Q1)** |
| Samsung |  | Unclear why a different procedure than the Rel-17 one is needed for CSI reporting for a cross-carrier scheduled cell. Also, it would be good for QC to provide TP(s) for preferred option(s). |
| Qualcomm | Yes | We think clarification is necessary. We are OK with either Opt.1 or Opt.2, with a slight preference on Opt.1.  In either case, there is no RAN1 specification impact. This is why it is proposed to make a conclusion for the clarification.  RAN2 may need to consider whether they clarify in the field description of *CSI-MeasConfig*. |
| ZTE | Yes | We understand the intention of this contribution and ok to clarity this issue.  We tend to agree with Samsung that if a TP can be prepared, it would help the discussion here. Currently, we tend to go with Opt.1. |
| Intel | Yes | We agree with QC to make a conclusion in RAN1. |
| vivo | Yes | We are OK to address this issue. We slightly prefer option 1. |
| Spreadtrum | Yes | We are OK with either Opt.1 or Opt.2. |
| OPPO |  | We agree to make a conclusion to clarify this issue. Opt.1 is preferred. |
| Ericsson1 |  | If companies think clarification is necessary for this issue, our preference is Opt.2.  On spec impact, our understanding is this can be handled by adding below text as a component in the capability description in 38.306 for Type A and Type B UEs.  “*parameters in CSI-MeasConfig of P(S)Cell and sSCell are configured such that joint set of these parameters across P(S)Cell and sSCell does not result in exceeding any of the UE’s capabilities for A-/SP-CSI reporting on PUSCH on P(S)Cell*” |

# 3 Conclusions

TBU

# 4 References

[1] R1-2208621 Corrections on Scell scheduling Pcell, vivo, RAN1#110bis-e, Oct 2022.

[2] R1-2209036 Correction on different SCSs between P(S)Cell and sSCell, Intel Corporation, RAN1#110bis-e, Oct 2022.

[3] R1-2209037 Discussion on different SCSs between P(S)Cell and sSCell, Intel Corporation, RAN1#110bis-e, Oct 2022.

[4] R1-2209450 Discussion on simultaneous PDCCH monitoring between USS set on sSCell and CSS set on PCell, LG Electronics, RAN1#110bis-e, Oct 2022.

[5] R1-2209469 Draft CR for Rel-17 DSS, ZTE, RAN1#110bis-e, Oct 2022.

[6] R1-2209851 Correction for DCI size alignment for Rel-17 DSS, Huawei, HiSilicon, RAN1#110bis-e, Oct 2022.

[7] R1-2209962 Discussion on clarification for cross-carrier scheduling from SCell to P(S)Cell, Qualcomm Incorporated, RAN1#110bis-e, Oct 2022.

[1] R1-22xxxxx Summary#1 of Email discussion [110bis-e-R17-DSS-01], Moderator (Ericsson), RAN1#110bis-e, Oct 2022.