**3GPP T****SG-RAN WG2 Meeting #117-e R2-2203342**

**E-meeting, 25 February – 03 March 2022**

**Agenda item:** 8.1.1.3

**Source:** Huawei, HiSilicon

**Title:** Rapporteur handled issues for RRC CR of NR MBS

**WID:** NR\_MBS-Core

**Document for:** Information

# 1 Introduction

This document aims at summarizing the resolutions proposed by the rapporteur for rapporteur handled open issues of RRC CR for NR MBS, as captured in [1] using the green highlight. Furthermore, some Editor’s notes from running RRC CR which are not captured in [1], are also addressed.

# 2 List of RRC open issues

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|  | **Issue** | **Relevant section in TS 38.331** | **Proposed resolution** |
| 1 | The definitions/acronyms of radio bearers related to MBS need to be agreed and aligned between TS 38.331 and TS 38.300. | Definitions and abbreviations in sections 3.1. and 3.2, but also terms are used throughout the document. | Some missing acronyms were added in the update. The definitions and abbreviations are aligned. The note can be removed. |
| 2 | FFS what physical layer configuration parameters are included in the *mbs-SessionInfoList,* if any. | 5.x.3.3 and potentially other places in the CR. | All L1 parameters provided by RAN1 have been implemented. The note can be removed. |
| 3 | USD/SAI terms to be aligned with SA2 specifications, once updated. | 5.x.4.3 | SA2 is discussing this during their ongoing meeting. To be addressed once the conclusions are reached. |
| 4 | An ID (e.g. SAI) of MBS services is provided in SIB and USD, as LTE SC-PTM. The details of the ID is pending for the feedbacks of other WGs. | 6.3.1 (SIBx1 definition) | SA2 is discussing this during their ongoing meeting. To be addressed once the conclusions are reached. |
| 5 | The detailed ID and mapping is pending the feedbacks of other WGs. | 6.3.1 (mbs-SAI-InterFreqList field description) | SA2 is discussing this during their ongoing meeting. To be addressed once the conclusions are reached. |
| 6 | FFS whether “HARQFeedback” condition has to be removed (to be verified based on RAN1 conclusions on HARQ feedback configuration) | 6.3.x (DRX-Config-PTM) | How to handle DRX for various HARQ feedback settings is discussed as part of UP issues. This will be updated based on the outcome of this discussion. |
| 7 | FFS whether TMGI definition from LTE is reused. | 6.3.x (MBS-SessionInfoList) | For NR MBS, TMGI definition is captured in TS 23.002 and is the same as for LTE. Please see TS 23.247, section 6.5.2. The note can be removed. |
| ***8*** | ***pdcch-ConfigMTCH***  Provides parameters for acquiring the PDCCH for MTCH. The UE shall use parameters in *pdcch-ConfigMCCH* also for PDCCH of MTCH when this field is absent.  Editor’s note: Considering that searchSpaceMTCH is configured within PDCCH-ConfigCommon, it is FFS (pending further RAN1 input) whether this field is needed | 6.2.2 | There are only two parameters for PDCCH:  1) searchSpaceBroadcast  • (already included in PDCCH-ConfigCommon)  2) pdcch-DMRS-ScramblingID-Broadcast  • this field is included in the CORESET associated to the searchspce for MCCH/MTCH (i.e. the existing field pdcch-DMRS-ScramblingID in { ControlResourceSet }  Hence, PDCC-ConfigBroadcast / pdcch-ConfigMTCH is not needed. |
| ***9*** | ***pdsch-AggregationFactor***  Number of repetitions for data (see TS 38.214 [19], clause 5.1.2.1). When the field is absent the UE applies the value 1. For MBS multicast, this field indicates the number of repetitions for multicast SPS PDSCH.  Editor’s Note: When the field is absent, whether the UE applies PDSCH aggregation factor of PDSCH-Config-Multicast, PDSCH-Config, or fixed as 1 will be FFS. | 6.3.2 | Default value is the same as for unicast as per updated feature list from RAN1. Hence, the note can be removed. |
| ***10*** | ***pdsch-AggregationFactor***  Number of repetitions for SPS PDSCH (see TS 38.214 [19], clause 5.1.2.1). When the field is absent, the UE applies PDSCH aggregation factor of PDSCH-Config.  Editor’s note: For multicast SPS PDSCH, when the field is absent, whether the UE applies PDSCH aggregation factor of PDSCH-Config-Multicast, PDSCH-Config, or fixed as 1 is FFS (in RAN1) | 6.3.2 | This was marked as to be handled based on companies contributions. However, this change was wrongly put here in relation to SPS. This field’s description remains as for unicast, so no need to change anything. |
| 11 | Editor’s note: FFS whether multicast can only be configured on PCell and not SCell (pending final conclusion from RAN1). | 6.3.2 | RAN1 is expected to discuss this aspect further in the current meeting. This will be updated accordingly when they reach a decision. |
| 12 | Editor’s note: FFS whether G-CS-RNTI and G-RNTI configuration need to be rearranged, e.g. configure both in PhysicalCellGroupConfig or both in MAC-CellGroupConfig. | 6.3.2 | The intention is to place both G-RNTI and G-CS-RTNI in one place. Other than PhysicalCellGroupConfig or MAC-CellGroupConfig, it would be possible to place it under ServingCellConfig. This may be related to the issue above, i.e. whether multicast reception is allowed on Scell and under which conditions. Suggestion is to wait for RAN1 conclusion before updating this. |
| 13 | Editor’s note: FFS whether some restructuring or parameters renaming is needed for CFR-ConfigMCCH-MTCH and/or its fields. | 6.3.x | This depends on RAN1 reply to R2-2201830. To be updated once the reply is received. |
| 14 | Editor’s note: It is assumed that a similar logic as for Paging/SI reception in RRC\_CONNECTED mode applies also for MCCH reception in RRC\_CONNECTED mode. | 5.x.2 | RAN2 agreed that MCCH/MTCH search space configuration is included as part of PDCCH-ConfigCommon. The note can be removed. |
| 15 | Editor’s note: It is assumed that for MTCH reception in RRC\_CONNECTED mode, a similar logic as for Paging/SI reception in RRC\_CONNECTED mode applies. | 5.x.3 | RAN2 agreed that MCCH/MTCH search space configuration is included as part of PDCCH-ConfigCommon. The note can be removed. |

# References

1. R2-2202025, Updated Open issues list for NR MBS, Huawei, HiSilicon

# 3 Companies’ comments

**Question: Do you have any comments on the solutions proposed by the CR rapporteur?**

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| --- | --- | --- | --- |
| **Company name** | **Issue No** | **Comments on the resolutions** | **Reply from CR rapporteur** |
| Qualcomm |  | Looks good |  |
| OPPO |  | Agree rapporteur’s suggestions. |  |
| Samsung |  | Agree with rapporteur’s proposed resolutions |  |
| CATT | 3，4 | Agree rapporteur’s solutions. and a comment on issue 3,4  SA2 LS(R2-2203727) has concluded on the term “SAI”, but we are wondering how to determine the term “USD”, it seems SA2 is not discussing it. | USD is also used in SA2 spec TS 23.247. Should be no problem to reuse it. |
| Lenovo | 11, 12 | Although RAN1 is still discussing the multicast reception in SCell, we would prefer to allow multicast reception in SCell from signalling point of view. Regardless RAN1’s agreement, RAN2’s spec should be future proof e.g. to provide G-RNTI configuration per serving cell. | According to RAN1 agreements, multicast reception in SCell should be supported, and signalling should be already in the CR, as the CFR configuration is included in BWP which are also used for SCell.  Regarding G-RNTI and G-CS-RNTI configuration, it is better to put them in one place, e.g. in MAC-CellGroupConfig. It is not good to put it per serving cell as DRX and other configurations are associated with the G-RNTI and G-CS-RNTI configuration, which should be configured per MAC entity.  On the other hand, as agreed by RAN1, the UE can only be configured with one serving cell (PCell or SCell) for multicast reception in this release. In case there is a need to extend this in future, Cell information can be included in the G-RNTI and G-CS-RNTI configuration.  We can endorse the updated CR as it is, and update the CR later. |
| Kyocera |  | We agree with the proposed resolutions, while we just wonder if "MBS Frequency Selection Area (FSA) ID" in R2-2203727 (LS from SA2) may be used to resolve Issues 3, 4 and 5. | Can be considered during the CR discussion. |
| Intel |  | Agree with rapporteur’s proposals. |  |
| Xiaomi |  | Agree with rapporteur’s suggestions. |  |
| vivo |  | We are also fine with all the proposed resolutions. |  |
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# 3 Summary

Based on comments received, rapporteur think we can endorse the CR in R2-2203341 which has already implemented the rapporteur suggestions, and further changes based on RAN1 and RAN2 agreements can be discussed based on the endorsed CR.

**Proposal: Endorse the CR in R2-2203341, and further changes based on the new RAN1 and RAN2 agreements made in this meeting can be discussed based on the endorsed CR.**