Companies please share their inputs on the excel spreadsheet in ‘/tsg\_ran/WG1\_RL1/TSGR1\_106-e/Inbox/drafts/8.12.3/RRC Parameters/’.

## Inputs on version-000

Please share your inputs, if any, in the following table

|  |  |
| --- | --- |
| **Company** | **Input** |
| Qualcomm | For locationAndBandwidth-Broadcast,The parameter is configured in a CFR for broadcast. It should be per CFR instead of per cell. For pdsch-ConfigCommon-Broadcast,We think it should be *pdsch-Config-Broadcast*, aligned with *pdsch-Config-Multicast* in a *CFR-Config-Multicast*. The parameters in *pdsch-Config-Broadcast* can be FFS. It is misleading to use *pdsch-ConfigCommon* with TDRA only for broadcast GC-PDSCH.The parameter is configured in a CFR for broadcast. It should be per CFR instead of per cell.For pcsch-ConfigCommon-Broadcast,We think it should be *pdcch-Config-Broadcast*, aligned with *pdcch-Config-Multicast* in a *CFR-Config-Multicast*. The parameters in *pdcch-Config-Broadcast* can be FFS. It is misleading to use *pdcch-ConfigCommon* with CORESET/SS of RA/paging/SIB1 for broadcast GC-PDCCH.The parameter is configured in a CFR for broadcast. It should be per CFR instead of per cell.For searchSpaceBroadcast,The parameter is configured in a CFR for broadcast. It should be per CFR instead of per cell.  |
| MediaTek | Regarding the parameters cfr-Config-MCCH and cfr-Config-MTCH in *Post\_RAN1#106-e\_Rel-17\_RRC\_MBS\_Broadcast.xlsx* file, We don’t support the two separate parameters for MCCH and MTCH. From our understanding, if there are two separate CFR parameter for MCCH and MTCH, it is nature to support two CFRs for broadcast reception. However, whether support different CFR for MCCH and MTCH is still FFS, at least, at current stage, the same CFR is for MCCH/MTCH broadcast reception was agreed as the following agreement reached in RAN1#106-e meeting:

|  |
| --- |
| Agreement:For broadcast reception, RRC\_IDLE/RRC\_INACTIVE UEs can use the same bandwidth configurations for the CFR of GC-PDCCH/PDSCH carrying MCCH and the CFR of GC-PDCCH/PDSCH carrying MTCH.* FFS: use of different bandwidth configurations for the CFR of GC-PDCCH/PDSCH carrying MCCH and the CFR of GC-PDCCH/PDSCH carrying MTCH
 |

We suggest a common frequency parameter “cfr-Config-broadcast” instead of separate “cfr-Config-MCCH” and “cfr-Config-MTCH” is used for MCCH and MTCH configuration.For remaining parameter listed in excel file, we agreed with QC’s view that these parameters should be defined/configured per CFR instead of per cell. |
| Apple | We share the similar view as MedidaTek on parameter of CFR-Config-MCCH or CFR-Config-MTCH. According to the agreements reached by now, the parameter cfr-Config-Boradcast seems more aligned with the agreements. We don’t see the reasons to define two CFRs for MCCH and MTCH, it’s contradictory with RAN1#104 agreement that one CFR can be defined/configured. And with RAN1#106 agreement, same bandwidth configurations for CFR for MCCH and MTCH also means one CFR is enough.RAN1#104 Agreement:For RRC\_IDLE/RRC\_INACTIVE UEs, one common frequency resource for group-common PDCCH/PDSCH can be defined/configured.* FFS: whether to define/configure more than one common frequency resources

RAN1#106 AgreementOnly one CFR can be configured for group-common PDCCH/PDSCH carrying MCCH for broadcast reception with UEs in RRC\_IDLE/INACTIVE state.RAN1#106 Agreement:For broadcast reception, RRC\_IDLE/RRC\_INACTIVE UEs can use the same bandwidth configurations for the CFR of GC-PDCCH/PDSCH carrying MCCH and the CFR of GC-PDCCH/PDSCH carrying MTCH.* FFS: use of different bandwidth configurations for the CFR of GC-PDCCH/PDSCH carrying MCCH and the CFR of GC-PDCCH/PDSCH carrying MTCH
 |
| ZTE | 1st comment:It seems we need to add one parameter to configure G-RNTI for UE for broadcast. It probably will be a list if UE can be configured with multiple G-RNTIs.2nd comment:It seems we also need to add a CORESET configuration for broadcast. Per previous agreements, a dedicated CORESET can be configured for MBS. |
| FL’s response | @QC, Likewise to pucch-Config-ACK/NACK-Multicast which is separate from pucch-Config for unicast, pdsch-ConfigCommon-Broadcast/ pdcch-ConfigCommon-Broadcast is separate from *pdsch-ConfigCommon/ pdcch-ConfigCommon,* so TDRA and CORESET/SS can be separately configured to broadcast GC-PDSCH/GC-PDCCH from that for RA/paging/SIB1. The only difference of using pdsch-ConfigCommon-Broadcast and *pdsch-Config-Broadcast* is for the former adding more parameters and for the latter reducing some unnecessary parameters. It is just naming difference at this moment. I would prefer to keep it as is and revisit later when necessary. @QC, MediaTek Regarding the parameters are per CFR or per Cell. We only have agreed only one CFR for MCCH and open for MTCH. If more than one CFR is supported, the per cell is going to be per CFR. One note is added accordingly. *Agreement:**Only one CFR can be configured for group-common PDCCH/PDSCH carrying MCCH for broadcast reception with UEs in RRC\_IDLE/INACTIVE state.*@MediaTek, AppleRegarding the cfr-Config-MCCH and cfr-Config-MCCH, now I merged the two into a single cfr-Config-MCCH-MTCH with a note added saying this parameter can be split if MCCH and MTCH can be configured within different CFRs.@ZTE,One row for G-RNTI is added as suggested. Regarding the comment of adding a CORESET configuration for broadcast, not sure if you are referring to the following agreement. If it is, the CORESET configured for broadcast will point to one existing parameter, so it is absent in this RRC list. *Agreement:**For Rel-17, for broadcast reception, RRC\_IDLE/RRC\_INACTIVE UEs do not exceed the maximum number of CORESETs mandatorily (in the minimum capability) supported for Rel-15/Rel-16 UEs, i.e., 2 CORESETs.* * *If the CFR has the same frequency range as the initial BWP, where the initial BWP has the same frequency resources as CORESET0 or where the initial BWP has the frequency resources configured by SIB1, RRC\_IDLE/RRC\_INACTIVE UEs can be configured with the following options:*
	+ *CORESET#0 (default option if CFR is the initial BWP and CORESET is not configured); or*
	+ *CORESET configured by commonControlResourceSet; or*
	+ *CORESET#0 and CORESET configured by commonControlResourceSet.*
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## Inputs on version-001

Please share your inputs, if any, in the following table

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| --- | --- |
| **Company** | **Input** |
| **Qualcomm** | Concept-wise, we think the parameters **configured in a CFR** should be marked as per CFR, aligned with RAN1 agreement. Whether we have only one or multiple CFRs is a separate issue, which will be discussed further. For multicast, the parameters in a CFR is marked as per CFR instead of per BWP, although we agree to have max one CFR per BWP. Therefore, the following parameters for broadcast CFR should be ‘per CFR’ instead of ‘per cell’:* + - locationAndBandwidth-Broadcast
		- pdsch-Config~~Common~~-Broadcast
		- pdcch-Config~~Common~~-Broadcast
			* searchSpaceBroadcast

Regarding the name of pdsch-Config-Broadcast or pdcch-Config-Broadcast, we don’t think the parameters in pdsch-ConfigCommon (TDRA only) and pdcch-ConfigCommon (dedicated CORESET/SS for RA/paging/SIB1) should be taken as a baseline for broadcast CFR. For broadcast CFR, the starting PRB is using the same approach as that of multicast CFR, according to the RAN1 agreement below. Similarly, we can take the pdsch-Config and pdcch-Config as baseline for broadcast.Agreement:From RAN1 perspective, the CFR for broadcast reception of RRC\_IDLE/INACTIVE UEs, includes at least the following configurations:• One set of parameters configured for PDSCH for broadcast reception with GC-PDSCH• One set of parameters configured for PDCCH for broadcast reception with GC-PDCCH• FFS: whether some parameters configured for PDSCH/PDCCH are optional/needed for the supported cases of CFR.• FFS: If necessary, depending on the cases supported, starting PRB and the number of PRBs o The reference for starting PRB is Point A. (Following the same approach to determine reference for starting PRB as that defined in AI8.12.1.) Regarding the newly added ‘G-RNTI’, it is not UE-specific for broadcast. The RNTI for MCCH will be broadcasted in SIB and the RNTI(s) for MTCH can be configured in MCCH. But the details of the configuration can be up to RAN2.  |
| **ZTE** | Thanks for the FL’s response.My previous comment was referring to the following comment. As the yellow highlighted part shown below, a CORESET can be configured within the CFR for group-common PDCCH/PDSCH. Our understanding is that, the following agreements are applicable to both the cases 1) when CFR is not the same as the initial BWP and 2) when CFR is the same as the initial BWP. Is this the common understanding among companies?*Agreements: For RRC\_IDLE/RRC\_INACTIVE UEs, a CORESET can be configured within the common frequency resource for group-common PDCCH/PDSCH. CORESET0 is used by default if the common frequency resource for group-common PDCCH/PDSCH is the initial BWP and the CORESET is not configured.** *FFS: configuration details of the CORESET for group-common PDCCH/PDSCH*
 |
| **FL’s response** | @QC,Thanks for more explanation. My understanding some parameters are per CFR for AI 8.12.1 was because UE may be configured with more than one BWP so more than one CFR for multicast. However, broadcast so far supports a single CFR. As responded, they will be equivalent if only supports a single CFR eventually. I can change it to per CFR if you feel more comfortable. Regarding the pdsch-Config-Broadcast or pdcch-Config-Broadcast or pdsch-ConfigCommon (TDRA only) and pdcch-ConfigCommon (dedicated CORESET/SS for RA/paging/SIB1) issue, it does not make too much difference to me because it does not preclude anything we are going to discuss if they will be discussed anyway, so I can take the name you preferred. Regarding the G-RNTI for broadcast, I changed it FFS for column M and up to RAN2 for column N. @ZTE, Not sure which case you are referring to by case 1) when CFR is not the same as the initial BWP. Even though for the case of CORESET0 as the initial BWP, the other CORESET can be configured in addition to CORESET0. However, a new RRC parameter for CORESET may still not be needed at this moment because the *searchSpaceBroadcast* in PDCCH-Config-Broadcast is just an index pointing to one existing common search space I assume no new search space is introduced for broadcast scheduling. Also, the common search space configuration will associate with one existing CORESET ID as well, so no new CORESET so far is introduced according to the following agreement:*Agreement:**For Rel-17, for broadcast reception, RRC\_IDLE/RRC\_INACTIVE UEs do not exceed the maximum number of CORESETs mandatorily (in the minimum capability) supported for Rel-15/Rel-16 UEs, i.e., 2 CORESETs.* * *If the CFR has the same frequency range as the initial BWP, where the initial BWP has the same frequency resources as CORESET0 or where the initial BWP has the frequency resources configured by SIB1, RRC\_IDLE/RRC\_INACTIVE UEs can be configured with the following options:*
	+ *CORESET#0 (default option if CFR is the initial BWP and CORESET is not configured); or*
	+ *CORESET configured by commonControlResourceSet; or*
	+ *CORESET#0 and CORESET configured by commonControlResourceSet.*
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## Inputs on version-002

Please share your inputs, if any, in the following table

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| --- | --- |
| **Company** | **Input** |
| Ericsson | G-RNTI: OK. But multiple values need to be supported. MCCH is likely to include mapping between multiple TMGI/G-RNTI pairs.cfr-Config-MCCH-MTCH: OK.locationAndBandwidth-Broadcast: OK. pdsch-Config-Broadcast: OKpdcch-Config-Broadcast: OKsearchSpaceBroadcast: OK  |
| TD Tech, Chengdu TD Tech | We think the granularity of each parameter for broadcast over Uu for NR MBS needs to be studied clearly. The parameters can be classified into three classes:1. For some parameters (for example, G-RNTI/G-CS-RNTI) , the granularity can be:
* per MBS session per cell:

The related parameter can be configured independently in each cell. The different MBS sessions in a cell usually have different parameter values. * per MBS session per area or per MBS session per cell group

The related parameter is configured for each MBS session of the area or cell group. The cells in the area or cell group have the same parameter value for the same MBS session.For example, the area or cell group can consist of the cells under the control of the same gNB-DU. An MBS session is transmitted in the area or cell group with same G-RNTI/G-CS-RNTI.* per MBS session group per cell

The related parameter can be configured independently for each MBS session group in each cell. The different MBS sessions in an MBS session group in a cell have same parameter value.For example, a group of MBS sessions are sent to a same group of RRC\_CONNECTED UEs. If the one-to-one mapping between G-RNTI/G-CS-RNTI and MBS session group is supported, the unit of G-RNTI/G-CS-RNTI is per MBS session group per cell.* per MBS session group per area or per MBS session group per cell group

The related parameter can be configured for each MBS session group of the area or cell group. The cells in the area or cell group have the same parameter value for the same MBS session group. For example, a group of MBS sessions are transmitted to a same group of RRC\_CONNECTED UEs in the area or cell group. If the one-to-one mapping between G-RNTI/G-CS-RNTI and MBS session group is supported, the unit of G-RNTI/G-CS-RNTI can be per MBS session group per cell.1. For some parameters (for example, CFR), the granularity can be:
* per cell
* per area or per cell group

CFR has many configuration scenarios, therefore CFR per cell is too crude to indicate each feasible scenario.We suggest to consider the following scenarios for CFR:Scenario 1: CFR per cellScenario 1 is the most common scenario, which means that the CFR is configured for each cell. The different cells have the independent CFR configuration.Scenario 2: CFR per area or CFR per cell groupScenario 2 is a feasible scenario, which means that the same CFR is applied in each cell of the area or in each cell of the cell group. That is, the different cells in the area or the cell group have the same CFR.1. For some parameters (for example, starting position, bandwidth, CORESET/SS and PDCCH/PDSCH configuration of CFR), the granularity can be
* per CFR

We suggest to update the unit of each parameter in the RRC parameter list based on the above classes.For example, the granularity of cfr-Config-MCCH-MTCH is * per cell
* FFS: per area/cell group

The granularity of G-RNTI is * per MBS session per cell
* FFS: per MBS session per area/cell group, per MBS session group per cell or per MBS session group per area/cell group.

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