3GPP TSG-RAN WG1 Meeting #108-e Tdoc R1- 2202543

E-meeting, February 21st – March 3rd, 2022

Agenda Item: 8

Source: Moderator (Ericsson)

Title: Summary of Email discussion on Rel-17 RRC parameters for LS to RAN2

Document for: Discussion, Decision

# 1 Introduction

This document summarizes the discussions in input contributions and during RAN1#108-e under the following email thread assigned by RAN1 Chair:

[108-e-R17-RRC] LS to RAN2 on updated Rel-17 RRC parameters – Sorour (Ericsson)

* First LS to be finalized by February 25
* If necessary, second LS on any remaining issues to be finalized by March 4

The LS [1][2][3] with Rel-17 consolidated higher layer parameters were sent to RAN2/RAN3 since post RAN1#106bis-e meeting. The discussions on RRC parameters in RAN1#107bis-e were conducted only for the six WIs, namely as 60 GHz, IIoT&URLLC, Power saving, Coverage enh., Sidelink and MBS. In this meeting, the corresponding discussions on RRC parameters involve all WIs under [108-e-R17-RRC].

The Chair has provided the following guidelines when conducting the discussions:

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| RAN1 Chair: With regards to the RRC email threads that we have under each Rel-17 work item, I would like to clarify one thing.Although there are RRC parameter email threads under each Rel-17 work item, it is only to complete any leftover RRC parameter related discussions. Especially for the WIs that we treated in RAN1#107bis-e, the bar for making changes to RAN2 or RAN3 specs should be much higher. The principle should be no change unless essential from **maintenance point of view**. Having said this, I understand that there are still some open issues on RRC parameters (such as range of values and a few yellow colored fields). RAN1 will focus on such aspect. |

Similar to the previous meetings, aiming for a consistent and efficient approach for preparing RRC parameters in RAN1, the set of recommendations and guidelines in [4] is used.

The coordination between RRC email discussions per WI and this email discussion is considered as the following:

* The Moderator of each WI RRC email discussion [108-e-R17-RRC-WI] has provided the “WI input RRC list”. These lists are collected in an Excel sheet by the Moderator of [108-e-R17-RRC].
* The collective Excel sheet is reviewed under [108-e-R17-RRC] email discussion using section 2.1 below.
* Each WI input RRC list includes a column at the end for “Status” to identify most importantly the “stable” rows in the list. Please note that this column is for RAN1 information only and will not be included in the LS to RAN2.

Please note that similarly to the previous meetings, the content of a row, including its status, would be subject to potential change on demand basis. Otherwise, no change would be applied.

Companies are encouraged to consider the discussion in the following section and provide their input, if any.

# 2 Discussion

## 2.1 RRC parameter lists of Rel-17 WIs

The sub-sections below are organized for collection of comments on RRC parameters per WI. Please provide your comments, if any, for the input RRC list of a WI in the corresponding sub-section using the **latest version of Excel sheet** available at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx).

### 2.1.1 feNR-MIMO (WI code: NR\_FeMIMO)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
| Moderator | **@All:** For feMIMO, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v009)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review. |
| Moderator | **@All:** For feMIMO, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v011)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.* Row 58, 63, 64: Status changed to ”stable”.
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### 2.1.2 60GHz (WI code: NR\_ext\_to\_71GHz)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | The updated list is not ready for review and discussion in this thread. Moderator will announce when the list is ready to be reviewed and discussed in this email thread. |
| Moderator | **@All:** For 60 GHz, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v002)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review. Changes are the following:* **Row 9 and Row 10:** updated to remove 16 from the list of Q supported
* **Row 11:** Removed (spare not needed to indicate Q)
* **Row 44:** Added (CGB transmission configuration)
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| LG Electronics | **Row 9** seems to need further modification, considering that ‘spare’ bit cannot be used for indicating N\_SSB^QCL parameter. To be specific, **column J** can be updated as follows (with green texts):For FR2-2, only same SCS for SSB and coreset 0 is supported~~together with 'spare' the two bits~~ This parameter will indicate {~~reserve, 16,~~ 32, 64} for N\_SSB^QCL parameter |
| Ericsson | Agree with LGE that Row 9 needs updating. The relevant agreement (working assumption) is shown below. To be consistent with the agreement we prefer the following update to Column J to also capture that this is for shared spectrum channel access as clarified in the agreement:For FR2-2, only same SCS for SSB and coreset 0 is supported.~~together with 'spare' the two bits will~~ For operation with shared spectrum channel access, the field indicates {~~reserve, 16,~~ 32, 64} for N\_SSB^QCL parameter.Working assumption* Use 1 bit for Q in MIB
	+ SubcarrierSpacingCommon field will be used to convey value of {32, 64} for operation with shared spectrum channel access

* + Note that this is revising the working assumption made in RAN1#107-e on “use 2 bits for Q, {SubcarrierSpacingCommon, spare bit in MIB}”
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| Moderator | **@All:** For 60 Ghz, in the last version **(i.e. v007)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx), the following changes are applied:* **Row 9:** Column (J) is updated based on LG and Ericsson comment, with Ericsson’s additions, i.e.

For FR2-2, only same SCS for SSB and coreset 0 is supported.~~together with 'spare' the two bits will~~ For operation with shared spectrum channel access, the field indicates {~~reserve, 16,~~ 32, 64} for N\_SSB^QCL parameter. |
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| Huawei, Hisilicon | **Row 10, Column N:**[A similar comment was provided in 8.2 RRC parameter list discussion after our Rappatuer provided his input to 8 RRC parameter list discussion]:* Technically, similar to “SSB-PositionQCL-Relation-r16”, “SSB-PositionQCL-Relation-r17” is not “Cell-specific and UE-specific”. It is “Frequency-specific and Cell-specific”.
	+ in SIB2, it is Frequency specific,
	+ in SIB3 it is Cell specific,
	+ in SIB4 it has two occurrences: one cell-specific and one frequency specific,
	+ in ServingCellConfigCommon it is cell-specific,
	+ in MeasObjectNR it has two occurrences: one cell-specific and one frequency specific (however, since MeasObjectNR is a dedicated RRC parameter, by convention, we may denote it UE-specific).

 Suggest to change column N accordingly.**Rows 18, 19, 20, Column R/S:**[A similar comment was provided in 8.2 RRC parameter list discussion after our Rappatuer provided his input to 8 RRC parameter list discussion]:Technically, Similar to Row 19, Rows 18 and 20 should also be marked as unstable as both monitoringPeriodicityAndOffset-r17 in Row 18 and monitoringSlotsWithinSlotGroup-r17 in Row 20 are the active subject of discussion. Also, the definition of duration-r17 in Row 19 is also subject of discussion and is likely to change. The following proposal pertaining Rows 18, 19, 20 is provided in the last version of Chairman Notes for 8.2 (v02):

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| **Proposal A2-1.1c:**Revise the RAN1#107bis-e agreement to the following:For search space set configuration of multi-slot PDCCH monitoring:* *monitoringSlotPeriodicityAndOffset* and *duration* are appended with "-r17", and
	+ *For monitoringPeriodicityAndOffset-r17*
		- The values represent slots
		- Add periodicity values {32,64,128,5120,10240,20480} to the existing values in *monitoringSlotPeriodicityAndOffset*
			* Note: Total list of supported periodicity values for SCS 480kHz and 960kHz: {~~1,2,~~4,~~5,~~8,~~10,~~16,20,32,40,64,80,128,160,320,640,1280,2560,5120,10240,20480}, at least in the case of configuring a search space for group 1 SSs
		- For each periodicity value Xp
			* The value range for the offset O is ~~{0 .. Xp-1}~~{0, 4, 8, …, $4\left⌊\frac{(X\_{p}-1)}{4}\right⌋$} slots, at least in the case of configuring a search space for group 1 SSs
			* Note: There may be no need to introduce the term "Xp" in the specifications
		- The configured periodicity at least for Group (1) SSs is restricted to be an integer multiple of L slots
		- The configured offset at least for Group (1) SSs is restricted to be an integer multiple of L slots
		- ~~FFS: details of offset~~
	+ For *duration-r17*
		- The values represent slots
		- The value range is {8, 12, …, 20476} at least for Group (1) SSs
			* If *duration-r17* is absent, the UE assumes the duration in slots is equal to the length of the bitmap *monitoringSlotsWithinSlotGroup*, except for DCI format 2\_0.
		- The configured duration is restricted to be an integer multiple of L slots at least for Group (1) SSs
		- ~~This field indicates the number of consecutive slots where a~~ *~~SearchSpace~~* ~~exists.~~
		- ~~FFS: need to revise the definition of~~ *~~duration~~*
		- *duration-r17* is the total number of slots in consecutive groups of $X\_{s}$ L slots in which a Search Space can exist in every occasion as given by *monitoringPeriodicityAndOffset-r17*
* *monitoringSymbolsWithinSlot* applies to each slot in a slot group configured for multi-slot PDCCH monitoring
	+ Note: This parameter can be directly re-used from earlier releases.
* Introduce new parameter *monitoringSlotsWithinSlotGroup-r17*
	+ ~~Working assumption:~~
		- ~~The size is 8 bits~~
		- Two sizes (L) are supported for this parameter: 4 bits and 8 bits
		- Each bit in *monitoringSlotsWithinSlotGroup-r17* represents a slot in a slot group
		- The parameter *monitoringSlotsWithinSlotGroup-r17* is applied in each of the L slot as determined by the *monitoringSlotPeriodicityAndOffset-r17* and *duration-r17*.
		- A slot in the slot group is configured for multi-slot PDCCH monitoring if the corresponding bit in the slot group is set to '1'
			* Note: Further configuration of the monitoring symbols in such a slot is done by *monitoringSymbolsWithinSlot*
		- The slots indicated in the bitmap should be consecutive per group of L slots ~~at least~~ for Group (1) SSs
		- The number of 1s in *monitoringSlotsWithinSlotGroup-r17* should be no larger than $Y\_{s}$ ~~at least~~ for Group (1) SSs
* For Group (2) SS: Continue discussion based on the following options
	+ Option 1
		- The configured periodicity is restricted to be an integer multiple of Xs slots
		- The configured offset is restricted to be an integer multiple of Xs slots
		- The slots indicated in *monitoringSlotsWithinSlotGroup-r17* are not restricted to be consecutive for Group (2) SSs
		- The number of 1s in *monitoringSlotsWithinSlotGroup-r17* can be up to $X\_{s}$ for Group (2) SSs
	+ Option 2
		- Restrictions for Group (2) SS are as for Group (1) SS~~FFS: Applicable value if this field is absent~~
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**Row 52, column P:**Add the following Emial agreement from 8.2.6 to column P:**Agreement**Support 480 kHz and 960 kHz as reference SCS/CP for L3-RSSI.**New row for RRC parameter:**[A similar comment was provided in 8.2 RRC parameter list discussion after our Rappatuer provided his input to 8 RRC parameter list discussion]:Add a row for TCI state configuration in RMTC-ConfigAgreement (RAN1 108-e)For the QCL Type-D of L3-RSSI measurement for unlicensed operation in FR2-2, if explicit TCI state is configured, use the TCI state. * Use the QCL type-D of the latest PDSCH reception or latest CORESET monitoring for RSSI measurement, if the explicit TCI state is not configured.
* A dynamic update mechanism for TCI-State in RMTC-Config is not further considered in Rel.17
* The explicit TCI state is configured at least in RMTC-Config
* Note: For inter-frequency L3-RSSI measurement, the TCI state configured is with respect to the target frequency TCI state
* Note2: For a given L3-RSSI measurement occasion, the UE needs to identify the last PDSCH reception or last configured CORESET monitoring (which ever is later) before the L3-RSSI measurement occasion, and use the QCL Type-D of that for L3-RSSI monitoring

**New row for RRC parameter:**Icrease CO-Duration-r16 value range to up to 4480 to reflect the following E-mail agreement in AI 8.2.6**Agreement*** CO-Duration maximum value is increased to 4480 to support 5ms maximum COT under 960 kHz.
* Support using 120 kHz, 480 kHz, and 960 kHz as the reference SCS for CO-Duration definition
	+ Note this may not have any additional spec impact
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| vivo | **Need a new row** to capture values of cg-minDFI-Delay for SCS 120/480/960 kHz per the following agreement.**Agreement**Support the following values for cg-minDFI-DelaySCS 120 kHz: 7, m\*14, SCS 480 kHz: 7\*4, m\*14\*4, SCS 960 kHz: 7\*8, m\*14\*8, where m = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32} |
| Moderator | **@All:** For 60 GHz, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v014)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review. Changes are the following:* Row 18/19/20, changed to unstable
* Row 10 column N, I am not sure how to change. HW is asking to add “frequency-specific”. Is it a choice?
* 18J, Levono provided some red text, but I think though it is stable, it is not approved yet. Let’s wait till I have the confirmation
* Row 45 added for cg-minDFI-Delay
* Row 53 added for RMTC-Config-r16
* Row 54: added for CO-Duration-r16
* 52P added an agreement
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| Ericsson | Comment #1 (Row 9):We reiterate our previous comment since the update made by the moderator seems to have been lost in v014 of the RRC parameter spreadsheet.Also, it seems this row can be marked as "stable" now due to the below RAN1 agreement.Agree with LGE that Row 9 needs updating. The relevant agreement (working assumption) is shown below. To be consistent with the agreement we prefer the following update to Column J to also capture that this is for shared spectrum channel access as clarified in the agreement:For FR2-2, only same SCS for SSB and coreset 0 is supported.~~together with 'spare' the two bits will~~ For operation with shared spectrum channel access, the field indicates {~~reserve, 16,~~ 32, 64} for N\_SSB^QCL parameter.Working assumption* Use 1 bit for Q in MIB
	+ SubcarrierSpacingCommon field will be used to convey value of {32, 64} for operation with shared spectrum channel access

* + Note that this is revising the working assumption made in RAN1#107-e on “use 2 bits for Q, {SubcarrierSpacingCommon, spare bit in MIB}”

Comment #2 (Row 10):It seems this row can be marked as "stable" now due to the following RAN1 conclusion in the chairman notes:**Conclusion**Update the ssb-PositionQCL in RRC to {32, 64} values. * For reference, the following are list of RRC IEs that references ssb-PositionQCL in release 16.
	+ SIB2:: ssb-PositionQCL-Common-r16
	+ SIB3:: ssb-PositionQCL-r16
	+ SIB4:: ssb-PositionQCL-Common-r16
	+ SIB4:: ssb-PositionQCL-r16
	+ MeasObjectNR:: ssb-PositionQCL-Common-r16
	+ MeasObjectNR:: ssb-PositionQCL-r16
	+ ServingCellConfigCommon:: ssb-PositionQCL-r16

In contrast to Huawei's comments, we don't think it is necessary to fine tune on frequency specific vs. cell-specific since this parameter already existed in Rel-16, and RAN1 is not proposing to alter the structure of how it is configured in SIB2, SIB3, SIB4, MeasObjectNR, ServingCellConfiguCommon, other then to use a new value range for Rel-17 as {32,64}.Comment #3 (Row 11):It seems this row can be marked stable now since RAN2 sent RAN1 an LS saying that the 'spare' bit cannot be used, and RAN1 has agreed not to use it (see agreement in Comment #1 above).Comment #4 (Row 20):It seems this row should be marked as "unstable" as mentioned by the moderator above?Changes are the following:* Row 18/19/20, changed to unstable
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### 2.1.3 IIoT&URLLC (WI code: NR\_IIOT\_URLLC\_enh)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
| Moderator | **@All:** For IIoT & URLLC, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v013)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.FL has provided the following clarification:* One new RRC parameter (row 37) added (no comments since Monday, need for a RRC parameter backed by a dedicated RAN1 agreement from yesterday)
* Two earlier stable rows (60 & 61) are to be removed: there needs to be a change of signaling structure overall compared to what we indicated to RAN2 earlier. So better to remove these (not have them in the first RRC version) and really build the correct structure later. I hope we can have this clarified by the end of RAN1#108-e.
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### 2.1.4 NR-NTN (WI code: NR\_NTN\_solutions)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
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### 2.1.5 Positioning (WI code: NR\_pos\_enh)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | **@All:** For Positioning, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v001)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review. |
| Moderator | **@All:** For Positioning, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v008)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review. |
| Samsung  | Sorry that for Row 120, one comment in below:We think the state contents are actual different for different opions, e.g., state 2 means differently for option 1, 2; i.e., state 2 option 1 are actually means state 3 in option 2;• Option 1: − State 2: PRS is lower priority than all PDCCH/PDSCH/CSI-RS• Option 2: UE may indicate support of three priority states− State 2: PRS is lower priority than PDCCH and URLLC PDSCH and higher priority than other PDSCH/CSI-RSSince a UE could only implement option 1, such UE without URLLC feature, it cannot tell state 2 meaning. Thus, we suggest a clean indication:

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| **Value range** | **Default value aspect** |
| (state 1, state 2) for option 1;(state 2, state 3) for option 2; | state 1 |

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| Moderator | **@All:** For Positioning, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v011)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.* New added row 24 is removed (it was unstabled).

**@All:** Moderator will implement the suggestion by Samsung if no concern is raised. |
| CATT | For Samsung’s comments:In our view, both UE and the network know which option is in use, and thus UE should know what it means by the indicated states. There seems no ambiguity. |
| Samsung2 | To CATT and also HW in another thread, our intention is not say the current one will create ambiguity. We are saying **the unified indication will require all UE even a UE only support only one of the options to implement all the explaination**, e.g., for UE supports only option1, it only needs to implement the binary explaination, but now it is forced to implement the explanation for all states which it never supports and used. This is unnecessary requirement for a UE as we see it. This is the same reason we supported option 1 with single priority state, which UE could choose whatever priority option sololy without mixing things together.  |
| Nokia/NSB | We think the change suggested by Samsung is not needed and in fact sends the wrong message. We don’t support it.  |
| vivo | 1. For the description of row 22, there is a typo for UE Rx-Tx measurementsThe parameter is used by a LMF to request a UE to measure the same DL PRS with different UE RxTX TEGs with the same UE Tx TEG for UX Rx-Tx measurements2. we wonder { RxTx TEG ID, Rx TEG ID, Tx TEG ID }can be removed since both options are supported based on the QC listing agreement.3. For row 105, the maximum number of PRS subset is INTEGER(0..63), the value is weird for us, firstly, the subset is defined for the adjacent beam, we don’t think the maximum number can be 64, in addition, we don’t think the value has been discussed in RAN1, So we prefer to modify as FFS |
| CATT (Moderator of [108-e-R17-RRC-NR-ePos]) | For Samsung’s comment:We could change the value of Row 120 Column K back to “FFS” if Samsung still has the concern.For vivo’s comments:2) The issue of whether to removing the FFS : { RxTx TEG ID, Rx TEG ID, Tx TEG ID } of Row 7 and Row 30 was discussed in [108-e-R17-RRC-NR-ePos], where most of the feedbacks were to remove them. We would suggest removing them for now to minimize the number of „FFS“ in the RRC parameter list. We could add them late if we make the aggreement to support them.3) For Row 105, the value ranges was proposed by the moderator for [108-e-R17-RRC-NR-ePos] when the email discussion started w/o comments. If vivo has he concern, we would suggest change it back to „FFS“ for further discussion in in [108-e-R17-RRC-NR-ePos]. |
| vivo | Thanks for the reply.For Row 105, sorry for missing the previous discussion, we agree to change it back to „FFS“ For Row 7 and Row 30, we don’t know whether revising the agreement in the RRC discussion is reasonable |
| CATT (Moderator of [108-e-R17-RRC-NR-ePos]) | Thanks fort he further discussion.For vivo’s comment for Row 7 and Row 30, our understanding is that no company suggsts revising the previous agreement. There are just different understandings on the RAN1’s agreement, that is why it has FFS for { RxTx TEG ID, Rx TEG ID, Tx TEG ID } in previous RRC parameter list. Our sugggestion is to have further discussion on reporting { RxTx TEG ID, Rx TEG ID, Tx TEG ID } in 108-e-R17-RRC-NR-ePos] to resolve the difference. |
| Moderator | **@All:** For Positioning, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v014)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.* Row 22: Typo fixed as indentified by vivo.
* Others rows remained unchanges as based of the discussions and clairifcations provided by companies including the FL, there is no consensu to change.
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### 2.1.6 RedCap (WI code: NR\_redcap)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
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### 2.1.7 Power saving (WI code: NR\_UE\_pow\_sav\_enh)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
| Moderator | **@All:** For Power saving, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v005)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.FL has provided following clarifications:* **Row 9:** Columns J and K: The last sentence in Column J is moved to replace the TBD in Column K.
* **Row 10:** Column M: “per ~~TRS-ResourceSet~~ TRS resource set”
 |
| Moderator | **@All:** For Power saving, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v014)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.FL has provided following clarifications:As per the following agreement from David’s email approval, as quoted below, we further update the candidate values of R17 SSSG switching timer and PDCCH skipping duration for 480 kHz SCS and 960 kHz SCS.

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| there has been no comment nor concern expressed by the deadline provided for proposal A2-8.1b, so it is agreed:**Agreement**In unit of slots, the supported values for searchSpaceSwitchTimer-r17 and PDCCHSkippingDuration for 480 kHz and 960 kHz are respectively 4x and 8x of their supported values for 120 kHz.Best regards, David |

The following updates are implemented accordingly:* **Row 24:**
	+ Column K: Included values for 480 kHz SCS and 960 kHz SCS
	+ Column P: Included 3 related agreements in RAN1#108-e, replacing the working assumption in RAN1#107bis-e
* **Row 26:**
	+ Column K: Included values for 480 kHz SCS and 960 kHz SCS
	+ Column P: Included 3 related agreements in RAN1#108-e, replacing the working assumption in RAN1#107bis-e
 |

### 2.1.8 Coverage (WI code: NR\_cov\_enh)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
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### 2.1.9 UL Tx switching (WI code: NR\_RF\_FR1\_enh-Core)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | The updated list is not ready for review and discussion in this thread. Moderator will announce when the list is ready to be reviewed and discussed in this email thread. |
| Moderator | **@All:** For UL Tx Switching, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v003)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.FL has provided following clarifications:* **Row 2:** For the square brackets in row 2 and Columm l, as RAN2 has already discussed the range value and default value in the running CR, no further update is needed from RAN1 perspective.
* **Row 3:** Updated and stable now.
 |
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### 2.1.10 Small data (WI code:NR\_SmallData\_INACTIVE-Core)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
| Intel | It is not clear to us whether “New Stable” means stable or further discussion is needed. If this means “stable”, based on the agreements, some parameters need further discussion, which include repK, repK-RV, pusch-RepTypeIndicator-r16, frequencyHoppingPUSCH-RepTypeB-r16, uci-OnPUSCH. We suggest to put this into “unstable”**Updated Proposal 2.2**For CG-SDT, RAN1 cannot reach consensus on whether to support repetition or not, it’s up to RAN2 to decide on it.**Updated Proposal 2.8**- It’s up to RAN2 to decide on whether to support uci-OnPUSCH for CG-SDT.- phy-PriorityIndex-r16 in ConfiguredGrantConfig is not applicable to CG-SDT. |
| Moderator | **@Intel:** “Stable” means that RAN1 provides enough information to RAN2/RAN3 that they would have a clear picture how to proceed the work. May some information is missing, hence “stable” could be “incomplete”as well. Please check the guidelines in [4] for more information. **Can you please indicate the Row numbers in the list that you prefer to be marked as “unstable”?*** In a stable Row is sent via an LS but RAN1 decided in the next meeting to remove the Row (unstable), the Row will be sent again to RAN2 but strikedthoguht to inform RAN2 about the change. If for the next meeting after removal of the row, the row is still unstable, naturally we don’t include that row in the LS, until it is stable.
* So, consider the main principal: For first inclusion in LS, the row should be stable. When it is stable, it is sent. If the status is changed to unstable (often removl of a row happens), we inform RAN2. After that, we don’t send until it is stabalied. The whole idea is not to create unnecessary work for RAN2 when RAN1 at the first place, doesn’t have mature information. When RAN1 sends something, it can happen that changes its mind. We inform RAN2 about the change and then follow the same principle to send only information that they can work with.

**@All:** Please review Intel comment. If no concern is raised, Moderator will adopt the suggestion by Intel. |
| Moderator | **@All:** For small Data, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v012)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.FL has provided the following clarification:* This version includes changes on all the unstable rows and stable rows with FFS as summarized in the following table. Besides, we also introduce 2 new parameters in Row 65 and 66. All these updated rows(13 rows) are based on agreements we made in this meeting, so I change the status to "New stable" in RAN1#108-e.

|  |  |  |
| --- | --- | --- |
| **WI** | **Unstable Rows** | **Stable Rows but with FFS, TBD, []** |
| Small data | 10, 11, 12, 13, 14, 16, 17, 24, 33, 37 | Col(K): 7 |

 |
| ZTE(FL) | Thanks for Moderator’s clarification, which is in line with our understanding. Regarding Intel’s comment, they refer to Row 10, 11, 16, 17, 24, which have never been sent to RAN2 before. In this meeting, we have discussed these parameters for several rounds and finally made agreements to leave them to RAN2 to make decision. The agreements copied by Intel clearly give some valuable information to RAN2, when they see the agreements in Column P, they could know how to deal with these parameter. If these rows are marked as unstable, the consequence would be that they will not be sent to RAN2 in this LS.It would be good if Intel could clarify whether this is their intention. |
| Intel | Yes, these parameters refer to row 10, 11, 16, 17, 24. Our understanding is that “New stable” in RAN1 means that RAN1 has clearly reached agreement that these parameters are supported. However, this is not the case. Please note that the agreement quoted below clearly mentioned that it is up to RAN2 to decide whether repetitions and UCI multiplexing on PUSCH are supported. If this is still pending RAN2 discussion, it is not clear to us how we can put these in the “Stable”. In addition, even if RAN2 agrees to support repetition, RAN1 will continue to discuss whether repetition type B would be supported for CG-SDT. We do not think we would give the impression to RAN2 that these parameters will not be discussed in RAN1.**Updated Proposal 2.2**For CG-SDT, RAN1 cannot reach consensus on whether to support repetition or not, it’s up to RAN2 to decide on it.**Updated Proposal 2.8**- It’s up to RAN2 to decide on whether to support uci-OnPUSCH for CG-SDT.- phy-PriorityIndex-r16 in ConfiguredGrantConfig is not applicable to CG-SDT. |

### 2.1.11 NB-IoT&eMTC (WI code: NB\_IOTenh4\_LTE\_eMTC6)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
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### 2.1.12 eIAB (WI code: NR\_IAB\_enh)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
| Moderator | **@All:** For eIAB, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v011)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.As FL has indicated above, the follwong changes are made:* **All parameters removed and only RRC ones are kept.**
* FL clarified that based on a discussion with the Chairman the plan for eIAB is to include solely RRC parameters as part of this effort. Hence FL removed everything but 1 parameter, in accordance with the thread [108-e-R17-RRC-eIAB].
 |
| Moderator | **@All:** For eIAB, based on the discussion with Rapporteure, it seems to be sueful to add in the LS a text explaining the follwing to RAN2/RAN3:The plan for eIAB is to send to RAN2/RAN3 a separate LS that consolidates all upper layers parameters, including RRC, MAC-CE, F1AP. The RRC portion will be the same in both places.**@All:** Please review the draft LS and povide comments, if any, in section 2.2. |

### 2.1.13 Sidelink (WI code: NR\_SL\_enh)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
| Moderator | **@All:** For Sidelink, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v010)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.As FL has indicated above, the follwong changes are made:* **Row 6:** The lower bound value is updated based on the agreement made in this meeting.
* **Row 7**: Removed because IE of minNumCandidateSlotsAperiodic is duplicated in Row 7 and 13.
* **Row 11**: The square bracket of lower bound value is removed considering that the chairman already confirmed in Thursday’s GTW session that removing the square bracket of lower bound value is allowed based on the current working assumption.
* **Row 35:** The value range including its granularity is updated based on the agreement made in this meeting.
 |
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### 2.1.14 MBS (WI code: NR\_MBS)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
| CMCC (FL) | * In Row 23, default value of *dl-DataToUL-ACK-MulticastDciFormat4\_1* is updated to {1, 2, 3, 4, 5, 6, 7, 8} based on the following agreement.

|  |
| --- |
| **Agreement**A list of up to 8 k1 values can be configured by higher layer parameter *dl-DataToUL-ACK-MulticastDciFormat1\_0* to be applied to multicast DCI format 1\_0 for RRC\_CONNECTED UEs. If the higher layer parameter *dl-DataToUL-ACK-MulticastDciFormat1\_0* is not provided, k1 list {1, 2, 3, 4, 5, 6, 7, 8} is applied to multicast DCI format 1\_0.* The size of ‘PDSCH-to-HARQ\_feedback timing indicator’ field of multicast DCI format 1\_0 is fixed at 3 bits.
 |

* In Rows 62 and 63, *rateMatchPatternLTE-CRS* and *mbsControlResourceSet* are added to reflect the following agreements:

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| **Agreement***RateMatchPatternLTE-CRS* can be configured in PDSCH-Config-MCCH or PDSCH-Config-MTCH for RRC\_IDLE/RRC\_INACTIVE UEs*.***Agreement**For broadcast reception, if the frequency resources of the CFR for broadcast is larger than CORESET0, a CORESET larger than CORESET0 can be configured in the CFR when no CORESET is configured by c*ommonControlResourceSet.* |

 |
|  |  |
| Moderator | **@All:** For MBS, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v004)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review.As FL has indicated above, the follwong changes are made:* **Row 23**: Default value of *dl-DataToUL-ACK-MulticastDciFormat4\_1* is updated to {1, 2, 3, 4, 5, 6, 7, 8}.
* **Rows 62 and 63**: *rateMatchPatternLTE-CRS* and *mbsControlResourceSet* are added.
 |
| CMCC(FL) | @Moderator, the following agreements for MBS has RRC impact, please include them in the LS to inform RAN2 about them.**Agreement**Send an LS to inform RAN2 that the following parameters are NOT needed for PDCCH-Config-Multicast:* + downlinkPreemption
	+ tpc-PUCCH
	+ tpc-PUSCH
	+ tpc-SRS
	+ uplinkCancellation-r16
	+ monitoringCapabilityConfig-r16 (the default is *R15monitoringcapablity*)
	+ searchSpaceSwitchConfig-r16

**Agreement**Send an LS to inform RAN2 that the following parameters are NOT needed for PDSCH-Config-Multicast:* *minimumSchedulingOffsetK0-r16*
* *antennaPortsFieldPresenceDCI-1-2-r16, aperiodicZP-CSI-RS-ResourceSetsToAddModListDCI-1-2-r16, aperiodicZP-CSI-RS-ResourceSetsToReleaseListDCI-1-2-r16, dmrs-DownlinkForPDSCH-MappingTypeA-DCI-1-2-r16, dmrs-DownlinkForPDSCH-MappingTypeB-DCI-1-2-r16, dmrs-SequenceInitializationDCI-1-2-r16, harq-ProcessNumberSizeDCI-1-2-r16, mcs-TableDCI-1-2-r16, numberOfBitsForRV-DCI-1-2-r16, pdsch-TimeDomainAllocationListDCI-1-2-r16, prb-BundlingTypeDCI-1-2-r16, priorityIndicatorDCI-1-2-r16, rateMatchPatternGroup1DCI-1-2-r16, rateMatchPatternGroup2DCI-1-2-r16, resourceAllocationType1GranularityDCI-1-2-r16, vrb-ToPRB-InterleaverDCI-1-2-r16, referenceOfSLIVDCI-1-2-r16, resourceAllocationDCI-1-2-r16,*
* *dataScramblingIdentityPDSCH2-r16*
* *repetitionSchemeConfig-r16, repetitionSchemeConfig-v1630*
 |
| Moderator | **@All:** The agreements above are included in draft LS. Please review section 2.2 and comment, if any additional update is needed. |
| ZTE | Thanks for the discussion. We are fine to add the two agreements provided by CMCC (FL) above. In addition to that, we propose to add the following new agreements just reached in AI8.12.1. RAN2 may need to update their signaling design to support multicast on SCell.**Agreement**If UE supports carrier aggregation for unicast, multicast reception on an activated SCell with self-scheduling is supported subject to UE capability in Rel-17.* UE is not expected to be configured simultaneously with more than one component carrier for multicast reception.
* Cross-carrier scheduling for multicast reception is not supported in Rel-17.
* The capability of supporting MBS multicast on SCell is a separate capability from the CA capability for unicast.
	+ The granularity of UE reporting the capability of supporting MBS multicast reception is per FSPC
 |
| Moderator | **@All:** Please review the comment by ZTE. If ther eis no concern, the above agreement would be added to the draft LS. |
| Moderator | **@ZTE:** Moderator suggestion is that not to include the agreement. The agreements that are currently included in the LS, explicitly indicate that should be sent as LS to RAN2. |

### 2.1.15 DSS (WI code: NR\_DSS)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
| Moderator | **@All:** For DSS, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v010)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review. |
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### 2.1.16 MR-DCs Scell Act (WI code: LTE\_NR\_DC\_enh2)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
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### 2.1.17 IoT NTN (WI code: LTE\_NBIOT\_eMTC\_NTN)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
| Moderator | **@All:** For IoT NTN, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v006)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review. |
| Moderator | **@All:** For IoT NTN, the corresponding RRC parameters are updated by FL and available now in the last version **(i.e. v014)** at folder [Collection of RRC parameters](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Collection%20of%20RRC%20parameters/R1-22xxxxx%20Collection%20of%20updated%20higher%20layers%20parameter%20list%20-%20v000.xlsx) for review. |

### 2.1.18 5G-Broadcast (WI code: LTE\_terr\_bcast\_bands\_part1)

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| **If you have any comment for a row in the Sheet corresponding to this WI, please provide your comment below by indicating the Row number.**  |
| **Company** | **Comment** |
| Moderator | No update as compared to the list in the previous LS. Moderator will announce when/if the list is updated. |
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## 2.2 Draft LS to RAN2 on RRC parameters

A draft for LS to RAN2 is provided and available at folder [Draft LS](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_108-e/Inbox/drafts/8/%5B108-e-R17-RRC%5D/Draft%20LS/R1-22XXXXX%20DRAFT%20LS%20on%20Re-17%20NR%20higher-layers%20parameter%20list%20%E2%80%93%20v000.docx). Please provide your comments, if any, on the **latest version of draft LS**.

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| **Company** | **Comment** |
| Moderator | **@All:** In the latest version of draft LS (i.e. **v001**), Moderator has made the following change with the view of be more accurate and avoid unnecessary information.* In addition, RAN1 may see the need for additional update of the higher layer parameters. RAN1 will continue working on consolidating them and will share the corresponding updates with RAN2 and RAN3 in the next ~~week~~ LS if needed.
 |
| Moderator | **@All:** In the latest version of draft LS (i.e. **v002**), Moderator has included the agreements made for NR MBS as requested by FL in section 2.1.14. |
| Moderator | **@All:** Please review comment by ZTE in section 2.1.14 (MBS) regarding adding additional agreement to the draft LS.* Moderator suggestion is that not to include the agreement. The agreements that are currently included in the LS, explicitly indicate that should be sent as LS to RAN2.
 |
| Moderator | **@All:** In the latest version of draft LS (i.e. **v003**), Moderator has made the following changes:* **eIAB:** A text added to explain the current list include only RRC.
* **Positioning:** Agreement added in the LS.
 |

## 2.3 Improve RRC parameters preparation activity

The document in [4] is an attempt to address our challenges in RAN1 for the task of RRC parameters preparation based on our previous experiences. Please consider this section to share your questions, comments and suggestions that could help to further improve our WoW within RAN1, as well as inter-action with RAN2 with respect to RRC parameter preparation. The more we know, the more we can improve. Thank You!

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| **Company** | **Comment** |
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# 3 Conclusion

TBD

# 4 References

1. R1-2110575 LS on Re-17 LTE and NR higher-layers parameter list; RAN1
2. R1-2112977 LS on updated Rel-17 LTE and NR higher-layers parameter list; RAN1
3. R1-2200700 LS on updated Rel-17 NR higher-layers parameter list; RAN1
4. R1-2111193 Recommendations for RAN1 RRC Parameter Preparation; Moderator (Ericsson)