**3GPP TSG-RAN WG4 Meeting # 108 R4-23XXXXX**

**Toulouse, France, August 21 – August 25, 2023**

**Agenda item:** 5.4

**Source:** Moderator (Nokia, Nokia Shanghai Bell)

**Title:** Topic summary for [108][317] Demod\_Maintenance

**Document for:** Information

# Introduction

*Briefly introduce background, the scope of this email discussion (e.g., list of treated agenda items) and provide some guidelines for email discussion if necessary.*

The scope of this topic summary for demod maintenance is

4 Up to Rel-16 maintenance for LTE and NR

**4.5 Demodulation and CSI requirements [WI code]**

5 Rel-17 maintenance for LTE and NR

5.2 Rel-17 non-spectrum related WI maintenance

**5.2.4 Demodulation and CSI requirements [WI code]**

5.2.6 Extending current NR operation to 71GHz [NR\_ext\_to\_71GHz]

**5.2.6.5 Demodulation and CSI requirements [NR\_ext\_to\_71GHz-Core/Perf]**

Including additionally:

- R4-2312220 (R&S) move to AI 5.2.4 from AI 4.2.

- R4-2312270 (R&S) move to AI 5.2.4 from AI 4.2.

- (TBA) R4-2311973 (R&S) move to AI 5.2.4 from AI 4.2.

- (TBA) R4-2312001 (R&S) move to AI 5.2.4 from AI 4.2.

[- (TBC) R4-2313582 (Huawei) move to AI 5.2.6.5 from AI 5.1.3.]

[- (TBC) R4-2313583 (Huawei) move to AI 5.2.6.5 from AI 5.1.3.]

# Topic #1: Up to Rel-16 maintenance for LTE and NR (4.5)

*Main technical topic overview. The structure can be done based on sub-agenda basis.*

## Companies’ contributions summary

Moderator’s note: Withdrawn CRs are not listed, unless there are non-withdrawn corresponding Cat-As.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title** | **Change / Moderator remark** | **Related WI** |
| [**R4-2311202**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2311202.zip) | Anritsu Corporation, Nokia, Nokia Shanghai Bell | [NR\_newRAT-Perf] Report quantity parameter setting for CQI reporting with 1Tx | Discussion Tdoc and LS (RAN1) proposal. Discussion on the definition of the test parameter reportQuantity for CQI test with 1Tx.  **Observation 1**: PMI specification in a case of the 1 antenna port is not defined in TS 38.214 cl.5.2.2.2.1.  **Observation 2**: The configuration “cri-RI-QCI” is optional and there is no guarantee that UEs support this configuration.  **Observation 3**: According to TS 38.212 cl. 6.3.1.1.2, there is a chance that we configure the report quantity as legacy one ’ cri-RI-PMI-CQI’ and UE will not report the PMI. However, inconsistencies between PUSCH/PUCCH UCI, and the existence of the “csi-ReportWithoutPMI” UE capability, raise doubts on the understanding of the RAN1 intention of PMI feedback based on single port CSI.  **Observation 4**: The codebookConfig IE has no definition for one CSI/antenna port. But since codebook IE is optional, under 1Tx scenario where no precoder is applied, gNB may be able to omit the codebookconfig field.  **Observation 5**: According to the description of TS 38.212 6.3.1.1.2, at least for PUSCH part, codebook type will be undefined if CodebookConfig is not signalled.  **Proposal 1: Send an LS to RAN1 to clarify/align these CQI report quantity issues.**  Moderator: Created subtopic 1-1 to discuss.  The 1Tx CQI requirements were introduced in Rel-16 (via [R4-2103891] for table 3 in NR\_L1\_URLLC\_enh-Perf, and via [R4-2100886] for CA CQI in NR\_perf\_enh), so the chosen related WI may be wrong. | [NR\_newRAT-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2313678**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313678.zip) | Huawei, HiSilicon | [NR\_newRAT-Perf] CR on correction of FRC definition (TS38.101-4, Rel-15) | Cat-F: FRC updates in A.3.2. | [NR\_newRAT-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2313679**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313679.zip) | Huawei, HiSilicon | [NR\_newRAT-Perf] CR on correction of FRC definition (TS38.101-4, Rel-16) | Cat-F: FRC updates in A.3.2.  Moderator: Exact same changes as in R4-2313678. Should this be Cat-A? | [NR\_newRAT-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2313680**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313680.zip) | Huawei, HiSilicon | [NR\_newRAT-Perf] CR on correction of FRC definition (TS38.101-4, Rel-17) | Cat-F: FRC updates in A.3.2.  Moderator: Exact same changes as in R4-2313678. Should this be Cat-A? | [NR\_newRAT-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2313681**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313681.zip) | Huawei, HiSilicon | [NR\_newRAT-Perf] CR on correction of FRC definition (TS38.101-4, Rel-18) | Cat-F: FRC updates in A.3.2.  Moderator: Exact same changes as in R4-2313678. Should this be Cat-A? | [NR\_newRAT-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2312346**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312346.zip) | Samsung | [NR\_newRAT-Perf] CR on 38.101-4 general applicablity of demodulation performance requirements (Rel-16) | Cat-F: Updates in 5.1.1.1. Adding clause 5.1.1.9 to list of non-mandatory test cases.  Moderator: The same change seems to be applicable to Rel-17 and Rel-19. Are Cat-As missing? | [NR\_newRAT-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2311300**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2311300.zip) | MediaTek inc. | [NR\_L1enh\_URLLC-Perf] CR to TS38.101-4 Corrections to CQI Reporting tests with 1TX (Rel-16) | Withdrawn. | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2313571**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313571.zip) | MediaTek | CR to TS38.101-4: Corrections to CQI Reporting tests with 1TX (Rel-16) | Cat-F: Updates in 6.2.2.1.1.2, 6.2.2.2.1.2, 6.2.3.1.1.2, 6.2.3.2.1.2 to use reportQuantity ‘cri-RI-PMI-CQI’ in 1Tx CQI tests.  Moderator: Related to the 1TX CQI issue. Undoes changes from RAN4#107. | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2311301 | MediaTek inc. | [NR\_L1enh\_URLLC-Perf] CR to TS38.101-4 Corrections to CQI Reporting tests with 1TX (Rel-17) | Cat-A of R4-2313571. | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2311302 | MediaTek inc. | [NR\_L1enh\_URLLC-Perf] CR to TS38.101-4 Corrections to CQI Reporting tests with 1TX (Rel-18) | Cat-A of R4-2313571. | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2312057**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312057.zip) | Ericsson, Nokia, Nokia Shanghai Bell | [NR\_L1enh\_URLLC-Perf] CR for adding optional statement for URLLC demodulation requirements | Cat-F: Update sections 4.6, 8.1.2 in 38.141-1 to add manufacturer declarations and applicability rules for PUSCH 0.001% BLER and PUSCH repetition type A. | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2312058 | Ericsson | CR for TS38.141-1 add declaration and applicability rule for URLLC requirements | Cat-A | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2312059 | Ericsson | CR for TS38.141-1 add declaration and applicability rule for URLLC requirements | Cat-A | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2312060**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312060.zip) | Ericsson, Nokia, Nokia Shanghai Bell | [NR\_L1enh\_URLLC-Perf] CR for adding optional statement for URLLC demodulation requirements | Cat-F: Update sections 4.6, 8.1.2 in 38.141-2 to add manufacturer declarations and applicability rules for PUSCH 0.001% BLER and PUSCH repetition type A. | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2312061 | Ericsson | CR for TS38.141-2 add declaration and applicability rule for URLLC requirements | Cat-A | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2312062 | Ericsson | CR for TS38.141-2 add declaration and applicability rule for URLLC requirements | Cat-A | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2312444**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312444.zip) | Keysight Technologies UK Ltd | [NR\_L1enh\_URLLC-Perf] CR to 38.141-1: Correction on BLER test requirement R16 | Cat-F: Correct FRC for one test case in 8.2.6.5. | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2312445**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312445.zip) | Keysight Technologies UK Ltd | [NR\_L1enh\_URLLC-Perf] CR to 38.141-1: Correction on BLER test requirement R17 | Withdrawn (cat-A uploaded). | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2312446**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312446.zip) | Keysight Technologies UK Ltd | [NR\_L1enh\_URLLC-Perf] CR to 38.141-1: Correction on BLER test requirement R18 | Withdrawn (cat-A uploaded). | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2313556 | Keysight Technologies UK Ltd | [NR\_L1enh\_URLLC-Perf] CR to 38.141-1: Correction on BLER test requirement R17 | Cat-A of R4-2312444. | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2313557 | Keysight Technologies UK Ltd | [NR\_L1enh\_URLLC-Perf] CR to 38.141-1: Correction on BLER test requirement R18 | Cat-A of R4-2312444. | [NR\_L1enh\_URLLC-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2311784**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2311784.zip) | Qualcomm Inc. | [NR\_HST] HST-SFN and HST-DPS model clarification | Cat-F: Update to HST-DPS coverage area formulas in B.3.3.  Moderator: Metadata in cover sheet not matching text. Check with MCC if revision is needed. | [NR\_HST](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=840092) |
| R4-2311785 | Qualcomm, Inc. | [NR\_HST]HST demod test correction R17 mirror | Cat-A | [NR\_HST](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=840092) |
| R4-2311786 | Qualcomm, Inc. | [NR\_HST]HST demod test correction R18 mirror | Cat-A | [NR\_HST](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=840092) |
| [**R4-2312500**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312500.zip) | Qualcomm Incorporated | [NR\_unlic-Perf] Add clarification to simulation parameters for SSB Q Factor (Rel.16 - Cat. F) | Cat-F: Addition in 5.2.2.2.15, 5.2.3.2.15 to add reference note to the 38.213 specification to clarify which spec parameter for NR Unlicensed needs to be configured when setting SSB Q factor.  Moderator: in table 5.2.2.2.15-2 a new empty row has been added and Note 2 is not followed by tab. | [NR\_unlic-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820267) |
| R4-2312501 | Qualcomm Incorporated | [NR\_unlic-Perf] Add clarification to simulation parameters for SSB Q Factor (Rel.17 - Cat. A) | Cat-A | [NR\_unlic-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820267) |
| R4-2312502 | Qualcomm Incorporated | [NR\_unlic-Perf] Add clarification to simulation parameters for SSB Q Factor (Rel.18 - Cat. A) | Cat-A | [NR\_unlic-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820267) |
| [**R4-2312799**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312799.zip) | Nokia, Nokia Shanghai Bell | [NR\_IAB-Perf] CR for TS 38.174 FRC Correction in PDCCH Table (NR\_IAB, Rel-16, CAT F) | Cat-F: Change in 8.2.2.2 to correct FRCs in test cases.  Moderator: This CR is fully included in []. Possible to merge this CR with []? | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| R4-2312800 | Nokia, Nokia Shanghai Bell | [NR\_IAB-Perf] CR for TS 38.174 FRC Correction in PDCCH Table (NR\_IAB, Rel-17, CAT A) | Cat-A | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| R4-2312801 | Nokia, Nokia Shanghai Bell | [NR\_IAB-Perf] CR for TS 38.174 FRC Correction in PDCCH Table (NR\_IAB, Rel-18, CAT A) | Cat-A | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| [**R4-2313668**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313668.zip) | Huawei, HiSilicon | [NR\_IAB-Perf] CR on NR IAB performance requirements (TS36.174, Rel-16) | Cat-F: Update in 8.2.2.2.2 (fix wrong FRC), 11.2.3 (fixing various CSI reporting parameters).  Moderator: Typo in title (36-series) but correct in system. | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| R4-2313669 | Huawei, HiSilicon | [NR\_IAB-Perf] CR on NR IAB performance requirements (TS38.174, Rel-17) | Cat-A | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| R4-2313670 | Huawei, HiSilicon | [NR\_IAB-Perf] CR on NR IAB performance requirements (TS38.174, Rel-18) | Cat-A | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| [**R4-2313671**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313671.zip) | Huawei, HiSilicon | [NR\_IAB-Perf] CR on NR IAB performance requirements (TS36.176-1, Rel-16) | Cat-F: Update in 4.1.2.4 (inclusion of TT and MU).  Moderator: Typo in title (36-series) but correct in system. | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| R4-2313672 | Huawei, HiSilicon | [NR\_IAB-Perf] CR on NR IAB performance requirements (TS38.176-1, Rel-17) | Cat-A | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| R4-2313673 | Huawei, HiSilicon | [NR\_IAB-Perf] CR on NR IAB performance requirements (TS38.176-1, Rel-18) | Cat-A | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| [**R4-2313674**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313674.zip) | Huawei, HiSilicon | [NR\_IAB-Perf] CR on NR IAB performance requirements (TS36.176-2, Rel-16) | Cat-F: Update in 4.1.2.4 (inclusion of TT and MU), 8.2.2.3.5.1 (FRC fix), 8.2.3 (fixing various CSI reporting and configuration parameters)  Moderator: Typo in title (36-series) but correct in system. | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| R4-2313675 | Huawei, HiSilicon | [NR\_IAB-Perf] CR on NR IAB performance requirements (TS38.176-2, Rel-17) | Cat-A | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| R4-2313676 | Huawei, HiSilicon | [NR\_IAB-Perf] CR on NR IAB performance requirements (TS38.176-2, Rel-18) | Cat-A | [NR\_IAB-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |

## Open issues summary

*Before Meeting, moderators shall summarize list of open issues, candidate options and possible WF (if applicable) based on companies’ contributions.*

### Sub-topic 1-1: Report quantity parameter setting for CQI reporting with 1Tx

*Sub-topic description:*

In RAN4#107 a CR was agreed [R4-2309881] that removed the reportQuantity configuration from the 1Tx CQI tests.

In RAN4#108 a CR has been submitted [R4-2313571] that undoes this change.

Furthermore, a discussion tdoc was submitted [R4-2311202], that collects statements made by various companies concerning potential issues with CQI reporting configurations for 1Tx, during an offline email exchange between RAN4#107 and RAN4#108.   
The tdoc also includes an LS proposal to ask RAN1 clarifications about the raised potential issues and RAN1 intent for PMI reporting in 1Tx.

The 1Tx CQI requirements were introduced in Rel-16 (via [R4-2103891] for table 3 in NR\_L1\_URLLC\_enh-Perf, and via [R4-2100886] for CA CQI in NR\_perf\_enh).

*Open issues and candidate options before meeting:*

**Issue 1-1: Whether to send an LS to RAN1**

* Proposals
  + Option 1 (Anritsu, Nokia): Send an LS to RAN1 to clarify/align these CQI report quantity issues
  + Option 2: TBA
* Recommended WF
  + Discuss.

**Issue 1-2: Agree further specification changes in RAN4#108**

* Proposals
  + Option 1 (Mediatek): Yes. Undo RAN4#107 changes and agree corresponding CR.
  + Option 2: TBA
* Recommended WF
  + Discuss.

# Topic #2: Rel-17 maintenance for LTE and NR (5.2.4, selected 4.2)

*Main technical topic overview. The structure can be done based on sub-agenda basis.*

## Companies’ contributions summary

Moderator’s note: Withdrawn CRs are not listed, unless there are non-withdrawn corresponding Cat-As.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title** | **Change / Moderator remark** | **Related WI** |
| [**R4-2311087**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2311087.zip) | MediaTek | CR to 38.101-4: Corrections to channel model parameters for FR1 (Rel-17) | Cat-F: Update B.2.2 to re-introduce TDLD, which was lost in Rel-17 due to CR conflict | [NR\_DL1024QAM\_FR1-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890256) |
| R4-2311088 | MediaTek inc. | [NR\_DL1024QAM\_FR1-Perf] CR to 38.101-4: Corrections to channel model parameters for FR1 (Rel-18) | Cat-A. | [NR\_DL1024QAM\_FR1-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890256) |
| [**R4-2311298**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2311298.zip) | MediaTek inc. | [NR\_NTN\_solutions-Perf] CR to TS38.101-5: Corrections to NR-NTN requirements (Rel-17) | Withdrawn | [NR\_NTN\_solutions-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860246) |
| [**R4-2313572**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313572.zip) | MediaTek | CR to TS38.101-5: Corrections to NR-NTN requirements (Rel-17) | Cat-F: Changes in section 2 (adding references), 8.2.1.1.2 (typos, refs, and add a note in the requirements applicability table).  Moderator: Corresponding cat-A seems to be missing. | [NR\_NTN\_solutions-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860246) |
| R4-2311299 | MediaTek inc. | [NR\_NTN\_solutions-Perf] CR to TS38.101-5: Corrections to NR-NTN requirements (Rel-18) | Cat-A.  Moderator: Is this intended as cat-A for R4-2313572? The titles do not perfectly match. | [NR\_NTN\_solutions-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860246) |
| [**R4-2312056**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312056.zip) | Ericsson | [NR\_NTN\_solutions-Perf] CR for channel model description in SAN PRACH demodulation requirement | Cat-F: Addition in clause 8.4.2 to complete doppler shift value in channel model.  Moderator: 38.108 does not have Rel-18, so lack of cat-A is fine. Cover sheet lacks clauses affected, and meta data does not match text. | [NR\_NTN\_solutions-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860246) |
| [**R4-2313677**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313677.zip) | Huawei, HiSilicon | [NR\_NTN\_solutions-Perf] CR on NTN SAN performance requirements (TS38.181, Rel-17) | Withdrawn | [NR\_NTN\_solutions-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860246) |
| [**R4-2313837**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313837.zip) | Huawei, HiSilicon | [NR\_NTN\_solutions-Perf] CR on NTN SAN performance requirements (TS38.181, Rel-17) | Cat-F: Adding TT MU in 4.1.2.4.  Moderator: 38.181 does not have Rel-18, so lack of cat-A is fine. | [NR\_NTN\_solutions-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860246) |
| [**R4-2312052**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312052.zip) | Ericsson | [ CR for configuration of FR1 PUSCH TBoMS demodulation requirement | Cat-F: In 38.104 section 8.2.12 change the available number of TBoMS slots for FDD from 8 to 4.  Moderator: Cover sheet lacks clauses affected. | [NR\_cov\_enh-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900261) |
| R4-2312053 | Ericsson | CR for TS38.104 correction for TBoMS configuration | Cat-A. | [NR\_cov\_enh-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900261) |
| [**R4-2312054**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312054.zip) | Ericsson | [NR\_cov\_enh-Perf] CR for configuration of FR1 PUSCH TBoMS demodulation requirement | Cat-F: In 38.141-1 section 8.2.12 change the available number of TBoMS slots for FDD from 8 to 4.  Moderator: Cover sheet lacks clauses affected. | [NR\_cov\_enh-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900261) |
| R4-2312055 | Ericsson | CR for TS38.141-1 correction for TBoMS configuration | Cat-A. | [NR\_cov\_enh-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900261) |
| [**R4-2311973**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2311973.zip) | ROHDE & SCHWARZ | Update to Test Case 8.2.13 (FDD case, PUSCH Aggregation Factor 8), Rel17, 38.141-1 | Cat-F: Addition of aggregation factor in 8.2.13 to match 38.104. | NR\_cov\_enh-Perf |
| R4-2312001 | ROHDE & SCHWARZ | Update to Test Case 8.2.13 (FDD case, PUSCH Aggregation Factor 8), Rel18, 38.141-1 | Initially submitted to 4.2. |  |
| [**R4-2312220**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312220.zip) | ROHDE & SCHWARZ | Update to Test Case 8.2.13 (FDD case, PUSCH Aggregation Factor 8), Rel17, 38.141-2 | Cat-F: Addition of aggregation factor in 8.2.13 to match 38.104.  Initially submitted to 4.2. | [NR\_cov\_enh-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900261) |
| R4-2312270 | ROHDE & SCHWARZ | Update to Test Case 8.2.13 (FDD case, PUSCH Aggregation Factor 8), Rel18, 38.141-2 | Cat-A.  Initially submitted to 4.2. | [NR\_cov\_enh-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900261) |
| [**R4-2313666**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313666.zip) | Huawei, HiSilicon | [NR\_HST\_FR1\_enh-Perf] CR on HST-SFN CA UE capability (TS38.101-4, Rel-17) | Cat-F: Addition of test applicability for HST-SFN CA test cases (5.1.1.7.4), typos (5.2A.2.4, 5.2A.3.4) | [NR\_HST\_FR1\_enh-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890258) |
| R4-2313667 | Huawei, HiSilicon | [NR\_HST\_FR1\_enh-Perf] CR on HST-SFN CA UE capability (TS38.101-4, Rel-18) | Cat-A. | [NR\_HST\_FR1\_enh-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890258) |
| [**R4-2312215**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312215.zip) | Samsung | Correction CR on Rel-17 FR2 HST test setup and FRC | Cat-F: Corrections in 7.2.2.2.4 (first OFDM symbol in the PRB used for CSI-RS) and A.3.2.2.5 (FRCs).  Moderator: Corresponding discussion tdoc is [R4-2312217].  Overlap with R4-2312786. Can R4-2312786 be merged into R4-2312215? | [NR\_HST\_FR2-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890260) |
| R4-2312216 | Samsung | Correction CR on Rel-17 FR2 HST test setup and FRC | Cat-A.  Idem. | [NR\_HST\_FR2-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890260) |
| [**R4-2312217**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312217.zip) | Samsung | FRC and simulation assumption correction for Rel-17 FR2 HST | Discussion tdoc.  **Observation 1**: CSI-RS and DM-RS are configured on the same resource elements.  **Proposal 1: Change the first OFDM symbol in the PRB used for CSI-RS from {5, 9} to {1,5}.**  **Proposal 2: Update the FRC for Rel-17 FR2 HST UE demodulation in Table A.3.2.2.5-12.**  Moderator: Corresponding issues 2-1 and 2-2 have been created below. | [NR\_HST\_FR2-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890260) |
| [**R4-2312786**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312786.zip) | Ericsson, Anritsu | [NR\_HST\_FR2-Perf] CR: Correction of FRC for FR2 HST-DPS UE demodulation requirements | Cat-F: Changes in section A.3.2.2.5 (FRC)  Overlap with R4-2312215. Can R4-2312786 be merged into R4-2312215? | [NR\_HST\_FR2-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890260) |
| R4-2312787 | Ericsson, Anritsu | [NR\_HST\_FR2-Perf] CR: Correction of FRC for FR2 HST-DPS UE demodulation requirements | Cat-A.  Idem. | [NR\_HST\_FR2-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890260) |
| [**R4-2312347**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312347.zip) | Samsung | [NR\_redcap-Perf] CR on 38.101-4 general applicablity of demodulation performance requirements (Rel-17) | Cat-F: In clause 5.1.1.1, add clauses 5.1.1.9, 5.1.1.10 and 5.1.1.11 to list of non-mandatory test cases. | [NR\_redcap-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900262) |
| R4-2312348 | Samsung | [NR\_redcap-Perf] CR on 38.101-4 general applicablity of demodulation performance requirements (Rel-18) | Cat-A. | [NR\_redcap-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900262) |
| [**R4-2312503**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312503.zip) | Qualcomm Incorporated | [NR\_redcap-Perf] Align Measurement channel to test rank in CQI Redcap tests (Rel.17 - Cat F) | Cat-F: In 6.2.2.1.2.4 change measurement channel in Table 6.2.2.1.2.4.  Moderator: Cover sheet lacks clauses affected. | [NR\_redcap-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900262) |
| R4-2312504 | Qualcomm Incorporated | [NR\_redcap-Perf] Align Measurement channel to test rank in CQI Redcap tests (Rel.18 - Cat A) | Cat-A. | [NR\_redcap-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900262) |
| [**R4-2311207**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2311207.zip) | Anritsu Corporation | [NR\_demod\_enh2-Perf, NR\_redcap-Perf] CR to PDSCH requirements and RMCs for SCS 30kHz FR1 | Cat-F: Corrections to resolve RMC table number inconsistencies (5.2.2.2.20, 5.2.3.2.19, A.3.2.2.2) | NR\_demod\_enh2-Perf, NR\_redcap-Perf |
| R4-2311208 | Anritsu Corporation | [NR\_demod\_enh2-Perf, NR\_redcap-Perf] CR to PDSCH requirements and RMCs for SCS 30kHz FR1 | Cat-A. | NR\_demod\_enh2-Perf, NR\_redcap-Perf |

## Open issues summary

*Before Meeting, moderators shall summarize list of open issues, candidate options and possible WF (if applicable) based on companies’ contributions.*

### Sub-topic 2-1: NR\_HST\_FR2 FRC and simulation assumption correction

*Sub-topic description:*

Please see [**R4-2312217**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2312217.zip) for the background provided by one company.

*Open issues and candidate options before meeting:*

**Issue 2-1: CSI-RS configuration**

* Proposals
  + Option 1 (Samsung): Change the first OFDM symbol in the PRB used for CSI-RS from {5, 9} to {1,5}.
  + Option 2: TBA
* Recommended WF
  + Discuss, if this change is required.

**Issue 2-2: FRC table**

* Proposals
  + Option 1 (Samsung): Update the FRC for Rel-17 FR2 HST UE demodulation in Table A.3.2.2.5-12, as outlined in [R4-2312217].
  + Option 2: TBA
* Recommended WF
  + Discuss.

# Topic #2: Demodulation and CSI requirements for NR\_ext\_to\_71GHz (5.2.6.5)

*Main technical topic overview. The structure can be done based on sub-agenda basis.*

## Companies’ contributions summary

Moderator’s note: Withdrawn CRs are not listed, unless there are non-withdrawn corresponding Cat-As.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title** | **Change / Moderator remark** | **Related WI** |
| [**R4-2313275**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313275.zip) | Huawei,HiSilicon | [NR\_ext\_to\_71GHz-Perf] CR on 38.104: Clean up the brackets for FR2-2 PUSCH requirements | Removal of square brackets. | [NR\_ext\_to\_71GHz-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| R4-2313276 | Huawei,HiSilicon | [NR\_ext\_to\_71GHz-Perf] CR on 38.104 Clean up the brackets for FR2-2 PUSCH requirements (Rel-18) | Cat A. | [NR\_ext\_to\_71GHz-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| [**R4-2313277**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313277.zip) | Huawei,HiSilicon | [NR\_ext\_to\_71GHz-Perf] CR on 38.101-4 Update TDD UL-DL configuration for FR2-2 480kHz SCS (Rel-17) | In A.1.3, added the number of slots between PDSCH and corresponding HARQ-ACK information based on the agreement in R4-22106.  Moderators note: Not all meta data matches the text on the cover sheet. | [NR\_ext\_to\_71GHz-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| R4-2313278 | Huawei,HiSilicon | [NR\_ext\_to\_71GHz-Perf] CR on 38.101-4 Update TDD UL-DL configuration for FR2-2 480kHz SCS (Rel-18) | Cat A. | [NR\_ext\_to\_71GHz-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| [**R4-2313407**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313407.zip) | Nokia, Nokia Shanghai Bell | NR\_ext\_to\_71GHz CR 38.104 demodulation requirements | Removal of square brackets. | [NR\_ext\_to\_71GHz-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| R4-2313408 | Nokia, Nokia Shanghai Bell | NR\_ext\_to\_71GHz CR 38.104 demodulation requirements | Cat A. | [NR\_ext\_to\_71GHz-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| [R4-2313582](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_108/Docs/R4-2313582.zip) | Huawei, HiSilicon | [NR\_ext\_to\_71GHz-Perf] CR to TS 38.141-2: propagation conditions annex J reference corrections, Rel-17 | In various sections, editorial correction, reference corrections, FR201 information correction in J.2.  Moderator: Initially submitted to 5.1.3.  Moving TBC. | [NR\_ext\_to\_71GHz-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| R4-2313583 | Huawei, HiSilicon | [NR\_ext\_to\_71GHz-Perf] CR to TS 38.141-2: propagation conditions annex J reference corrections, Rel-18 | Cat A.  Moderator: Initially submitted to 5.1.3.  Moving TBC. | [NR\_ext\_to\_71GHz-Perf](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |

## Open issues summary

N/A.