**3GPP TSG-RAN WG4 Meeting # 109 draftR4-2318207**

**Chicago, USA, November 13 – November 17, 2023**

**Agenda item:** 5.4

**Source:** Moderator (Nokia)

**Title:** Topic summary for [109][315] 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**

5 Rel-17 maintenance for LTE and NR

5.2 Rel-17 non-spectrum related WI maintenance

**5.2.4 Demodulation and CSI requirements**

Including additionally the following tdocs:

- R4-2320867, CR to 38.101-4 Correction to report quantity for 1Tx CQI tests (Rel 18 - Cat A), Qualcomm India Pvt Ltd, AI 6.

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# 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Moderator’s note: Withdrawn CRs are not listed, unless there are non-withdrawn corresponding Cat-As.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** | **Proposals, Observations, Moderator remarks** | **Related WI** |
| R4-2318082 | MediaTek inc. | [NR\_L1enh\_URLLC-Perf] CR to TS38.101-4 Corrections to CQI Reporting tests with 1TX (Rel-17) | Cat-A  Moderator remark: Corresponding Cat-F is R4-2320655. | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2318083 | MediaTek inc. | [NR\_L1enh\_URLLC-Perf] CR to TS38.101-4 Corrections to CQI Reporting tests with 1TX (Rel-18) | Cat-A  Moderator remark: Corresponding Cat-F is R4-2320655. | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2318085 | MediaTek inc. | [NR\_newRAT-Perf] CR to TS38.101-4 Corrections to test parameters for CSI test cases (Rel-17) | Cat-A  Moderator remark: Corresponding Cat-F is R4-2320656. | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| R4-2318086 | MediaTek inc. | [NR\_newRAT-Perf] CR to TS38.101-4 Corrections to test parameters for CSI test cases (Rel-18) | Cat-A  Moderator remark: Corresponding Cat-F is R4-2320656. | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2318091**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2318091.zip) | Nokia, Nokia Shanghai Bell | [NR\_unlic] CR for 38.104: Removal of applicability rule (Rel-16, Cat F) |  | [**NR\_unlic-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820267) |
| R4-2318092 | Nokia, Nokia Shanghai Bell | [NR\_unlic] CR for 38.104: Removal of applicability rule (Rel-17, Cat A) | Cat-A | [**NR\_unlic-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820267) |
| R4-2318093 | Nokia, Nokia Shanghai Bell | [NR\_unlic] CR for 38.104: Removal of applicability rule (Rel-18, Cat A) | Cat-A | [**NR\_unlic-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820267) |
| [**R4-2318738**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2318738.zip) | Qualcomm Inc | CR to 38.101-4 Correction to report quantity for 1Tx CQI tests | Moderator remarks: The modified section was introduced in Rel-16, by NR\_L1enh\_URLLC-Perf, which should be the related WI.  The corresponding Rel-17 Cat-A is R4-2318740, but was initially submitted to AI 5.2.4, the corresponding Rel-18 Cat-A is R4-2320867 but was initially submitted to AI 6.  It is chair guidance to add the WI code in front of maintenance CR titles.  Conflict between R4-2318738, R4-2319124, and R4-2320655. Discussion in sub-topic 1-1. | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| R4-2318740 | Qualcomm India Pvt Ltd | CR to 38.101-4 Correction to report quantity for 1Tx CQI tests (Rel 17 - Cat A) | Cat-A  Moderator remark: Was moved to AI 4.5 from AI 5.2.4. | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| R4-2320867 | Qualcomm India Pvt Ltd | CR to 38.101-4 Correction to report quantity for 1Tx CQI tests (Rel 18 - Cat A) | Cat-A  Moderator remark: Was moved to AI 4.5 from AI 6. | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2318797**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2318797.zip) | Nokia, Nokia Shanghai Bell | [NR\_newRAT-Perf] CR for 38.101-4 on correction of wrong table number (Rel-15, Cat F) |  | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| R4-2318798 | Nokia, Nokia Shanghai Bell | [NR\_newRAT-Perf] CR for 38.101-4 on correction of wrong table number (Rel-16, Cat A) | Cat-A | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| R4-2318799 | Nokia, Nokia Shanghai Bell | [NR\_newRAT-Perf] CR for 38.101-4 on correction of wrong table number (Rel-17, Cat A) | Cat-A | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| R4-2318800 | Nokia, Nokia Shanghai Bell | [NR\_newRAT-Perf] CR for 38.101-4 on correction of wrong table number (Rel-18, Cat A) | Cat-A | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2318941**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2318941.zip) | Qualcomm Inc. | [NR\_HST] HST-SFN and HST-DPS model clarification | Moderator remark: WI should be NR\_HST-Perf. | [**NR\_HST**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=840092) |
| R4-2318942 | Qualcomm, Inc. | [NR\_HST] HST-SFN and HST-DPS model clarification-R17mirror | Cat-A  Moderator remark: WI should be NR\_HST-Perf. | [**NR\_HST**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=840092) |
| R4-2318943 | Qualcomm, Inc. | [NR\_HST] HST-SFN and HST-DPS model clarification-R18mirror | Cat-A  Moderator remark: WI should be NR\_HST-Perf. | [**NR\_HST**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=840092) |
| [**R4-2319123**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319123.zip) | Anritsu Corporation | [NR\_L1enh\_URLLC-Perf] Report quantity parameter setting for CQI reporting with 1Tx | **Observation 1**: RAN1 confirmed that bitwidth of PMI is 0 for UCI on PUCCH according to the current RAN1 specification when 1-port CSI-RS is configured as channel measurement resource.  **Observation 2**: It is still not clearly mentioned on how the reportQuantity parameter should be configured in the test parameters tables for CQI reporting test under 1Tx scenario.  **Observation 3**: It is preferable that we avoid getting a different test result depending on the different implementation of each TE vendor.  **Proposal 1: Specify the type of report quantity with “cri-RI-PMI-CQI”.** | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2319124**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319124.zip) | Anritsu Corporation | [NR\_L1enh\_URLLC-Perf] CR to Report quantity for CQI Reporting tests with 1Tx | Moderator remark: Conflict between R4-2318738, R4-2319124, and R4-2320655. Discussion in sub-topic 1-1. | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2319125 | Anritsu Corporation | [NR\_L1enh\_URLLC-Perf] CR to Report quantity for CQI Reporting tests with 1Tx | Cat-A | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2319126 | Anritsu Corporation | [NR\_L1enh\_URLLC-Perf] CR to Report quantity for CQI Reporting tests with 1Tx | Cat-A | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2319261**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319261.zip) | LG Electronics | Sidelink demodulation typo fixed | Cat-D (Editorial).  Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles.  Moderator question: Are Rel-17/Rel-18 Cat-As missing? | [**5G\_V2X\_NRSL-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830278) |
| [**R4-2319325**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319325.zip) | Samsung | [NR\_newRAT-Perf, NR\_redcap-Perf] CR on 38.101-4 general applicablity of requirements (Rel-16) | Moderator remark: The corresponding Cat-As are R4-2319326 and R4-2319327, but they were initially submitted to AI 5.2.4. | NR\_newRAT-Perf, NR\_redcap-Perf |
| [**R4-2319326**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319326.zip) | Samsung | [NR\_newRAT-Perf, NR\_redcap-Perf] CR on 38.101-4 general applicablity of requirements (Rel-17) | Cat-A.  Moderator remark: Moved to AI 4.5 from AI 5.2.4. Please do not upload Cat-A before Cat-F agreed. | NR\_newRAT-Perf, NR\_redcap-Perf |
| [**R4-2319327**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319327.zip) | Samsung | [NR\_newRAT-Perf, NR\_redcap-Perf] CR on 38.101-4 general applicablity of requirements (Rel-18) | Cat-A.  Moderator remark: Moved to AI 4.5 from AI 5.2.4. Please do not upload Cat-A before Cat-F agreed. | NR\_newRAT-Perf, NR\_redcap-Perf |
| [**R4-2319815**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319815.zip) | Nokia, Nokia Shanghai Bell | [NR\_IAB-Perf] CR for 38.176-1: Removal of Square Brackets in IAB-MT Performance Requirements (Rel-17, Cat F) | Moderator remark: Rel-16 WI. Rel-16 specification contains change already. Rel-17/18 currently missing same change. | [**NR\_IAB-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| R4-2319816 | Nokia, Nokia Shanghai Bell | [NR\_IAB-Perf] CR for 38.176-1: Removal of Square Brackets in IAB-MT Performance Requirements (Rel-18, Cat A) | Cat-A | [**NR\_IAB-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820270) |
| [**R4-2320201**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320201.zip) | Huawei,HiSilicon | Corrections on test parameters for PDSCH test | Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| R4-2320202 | Huawei,HiSilicon | CR on 38.101-4 Correction on "HARQ ACK/NACK bundling" for PDSCH test (Rel-16) | Cat-A  Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| R4-2320203 | Huawei,HiSilicon | CR on 38.101-4 Correction on "HARQ ACK/NACK bundling" for PDSCH test (Rel-17) | Cat-A  Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| R4-2320204 | Huawei,HiSilicon | CR on 38.101-4 Correction on "HARQ ACK/NACK bundling" for PDSCH test (Rel-18) | Cat-A  Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |
| [**R4-2320208**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320208.zip) | Huawei,HiSilicon | CR on 38.141: Correction on applicability rules for different bandwidth for PRACH with LRA=1151 and 571 (Rel-16) | Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_unlic-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820267) |
| R4-2320209 | Huawei,HiSilicon | CR on 38.141: Correction on applicability rules for different bandwidth for PRACH with LRA=1151 and 571 (Rel-17) | Cat-A  Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_unlic-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820267) |
| R4-2320210 | Huawei,HiSilicon | CR on 38.141: Correction on applicability rules for different bandwidth for PRACH with LRA=1151 and 571 (Rel-18) | Cat-A  Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_unlic-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=820267) |
| [**R4-2320211**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320211.zip) | Huawei,HiSilicon | CR on 38.101-4 Correcting applicability for FR2 multi-slot repetition test case (Rel-16) | Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2320212 | Huawei,HiSilicon | CR on 38.101-4 Correcting applicability for FR2 multi-slot repetition test case (Rel-17) | Cat-A  Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| R4-2320213 | Huawei,HiSilicon | CR on 38.101-4 Correcting applicability for FR2 multi-slot repetition test case (Rel-18) | Cat-A  Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2320655**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320655.zip) | MediaTek inc. | [NR\_L1enh\_URLLC-Perf] CR to TS38.101-4 Corrections to CQI Reporting tests with 1TX (Rel-16) | Moderator remark: Conflict between R4-2318738, R4-2319124, and R4-2320655. Discussion in sub-topic 1-1. | [**NR\_L1enh\_URLLC-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=830274) |
| [**R4-2320656**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320656.zip) | MediaTek inc. | [NR\_newRAT-Perf] CR to TS38.101-4 Corrections to test parameters for CSI test cases (Rel-16) |  | [**NR\_newRAT-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=750267) |

## 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:*

At RAN4 #108 in August, RAN4 discussed a paper which raised an issue with a report quantity for CQI reporting test under 1 Tx scenario [R4-2311202], with the report quantity parameter being removed by a CR agreed at the #107 meeting in May [R4-2309881]. RAN4 sent an LS to RAN1 and RAN2 [R4-2313998] to clarify the behaviour of the corresponding UE when the specific report quantity is configured by the system.

During the RAN1 #114bis meeting in October, RAN1 discussed the LS from RAN4 and the reply LS was sent [R4-2318015 (R1-2310649)].

*Open issues and candidate options before meeting:*

**Issue 1-1-1: Capturing of reportQuantity in CQI reporting test parameters**

* Proposals
  + Option 1 (Anritsu, QC, MTEK): Yes. Specify the report quantity as “cri-RI-PMI-CQI”.
  + Option 2: No.
* Recommended WF
  + Unless further proposals are received, use option 1.
  + Consider merging of R4-2318738, R4-2319124, and R4-2320655, into R4-2318738.

**Issue 1-1-2: Capturing of Codebook configuration in CQI reporting test parameters**

* Proposals
  + Option 1 (Anritsu, QC, MTEK): Yes. Codebook configuration = Not configured.
  + Option 2: No.
* Recommended WF
  + Unless further proposals are received, use option 1.
  + Consider merging of R4-2318738, R4-2319124, and R4-2320655, into R4-2318738.

**Issue 1-1-3: Capturing of additional information in CQI reporting test parameters**

* Proposals
  + Option 1 (Anritsu): Yes. Note 1: A bitwidth of PMI is 0 for UCI on PUCCH in a case 1-port CSI-RS is configured as channel measurement resource.
  + Option 2 (QC): Yes. Add PMI delay again, where removed before.
  + Option 3: No.
* Recommended WF
  + Discuss at the beginning of meeting.
  + This additional information is the only distinguishing factor between R4-2318738, R4-2319124, and R4-2320655, so please align before a possible merging.

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

*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** | **Proposals, Observations, Moderator remarks** | **Related WI** |
| [**R4-2319220**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319220.zip) | Ericsson | CR to 38.101-5: Correction on the reference measurement channel for NTN PDSCH requirement |  | [**NR\_NTN\_solutions-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860246) |
| R4-2319221 | Ericsson | CR to 38.101-5: Correction on the reference measurement channel for NTN PDSCH requirement | Cat-A | [**NR\_NTN\_solutions-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860246) |
| [**R4-2319328**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319328.zip) | Samsung | [NR\_ext\_to\_71GHz-Perf] CR on 38.101-4 general applicablity of requirements (Rel-17) |  | [**NR\_ext\_to\_71GHz-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| [**R4-2319329**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319329.zip) | Samsung | [NR\_ext\_to\_71GHz-Perf] CR on 38.101-4 general applicablity of requirements (Rel-18) | Cat-A.  Moderator remark: Do not upload Cat-A before Cat-F agreed. | [**NR\_ext\_to\_71GHz-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| [**R4-2319708**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319708.zip) | Keysight Technologies UK Ltd | [NR\_ext\_to\_71GHz-Perf] CR to 38.141-2: 71 GHz Extension BS performance test PRACH offset correction R17 |  | [**NR\_ext\_to\_71GHz-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| R4-2319709 | Keysight Technologies UK Ltd | [NR\_ext\_to\_71GHz-Perf] CR to 38.141-2: 71 GHz Extension BS performance test PRACH offset correction R18 | Cat-A | [**NR\_ext\_to\_71GHz-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| [**R4-2319737**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2319737.zip) | Ericsson | Correction of CSI FR1 RMC table foramt for CQI table 1 | Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_redcap-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900262) |
| R4-2319738 | Ericsson | Correction of CSI FR1 RMC table foramt for CQI table 1 | Cat-A | [**NR\_redcap-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900262) |
| [**R4-2320205**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320205.zip) | Huawei,HiSilicon | Maintenance on test parameters on FR2-2 PDSCH tests | Observation 1: The configuration k0=0 in existing specification implicitly configure single TB scheduling, which is not aligned with the agreed scheduling pattern in R4-2210665.  Observation 2: The scheduling pattern with 480 kHz in R4-2210665 is not demonstrated in the existing parameters table.  Proposal 1: Change the k0 value to following:   * For 120kHz SCS: 0 * For 480kHz SCS:   + for DCI transmitted in slot i={1}:{0,1,2}   + for DCI transmitted in slot i={322} : {0,1}   + for DCI transmitted in slot mod(i,40)=12:{0,1,2,8}   + for DCI transmitted in slot mod(i,40)={0,4,8,21,25,29}:{0,1,2,3}   + where i is slot index per 2 frames   Observation 3: Existing spec specifies that PDSCH start symbol is 1 and no OCGN is transmitted on unused REs for FR2-2, which causes empty OFDM symbol for some slots with 480kHz SCS because PDCCH is not transmitted in some slots.  Proposal 2: RAN4 to discuss whether to transmit OCGN in first symbol for slot without PDCCH for 480kHz SCS to ensure the constant power in one slot and follow the tradition of RAN4 test setup. | [**NR\_ext\_to\_71GHz-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| [**R4-2320206**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320206.zip) | Huawei,HiSilicon | CR on 38.101-4 Correction on test paramters for FR2-2 PDSCH test with 480kHz | Moderator remark: It is chair guidance to add the WI code in front of maintenance CR titles. | [**NR\_ext\_to\_71GHz-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| R4-2320207 | Huawei,HiSilicon | CR on 38.101-4 Correction on some parameters for FR2-2 UE test (Rel-18) | Cat-A | [**NR\_ext\_to\_71GHz-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860241) |
| R4-2320785 | Qualcomm Inc. | CR to align Rank on TDD Redcap CQI Tests - [Rel.17 Cat.F] | Moderator remark: File not initially available, added by MCC later.  CR number and revision number issue. | [**NR\_redcap-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900262) |
| R4-2320786 | Qualcomm Inc. | CR to align Rank on TDD Redcap CQI Tests - [Rel.18 Cat.A] | Cat-A | [**NR\_redcap-Perf**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=900262) |
| [**~~R4-2320878~~**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320878.zip) | ~~Qualcomm Inc~~ | ~~[NR\_NTN\_solutions-Perf] CR to 38.101-5 Clarify test condition for NR NTN~~ | Moderator remark: CR has been moved to AI 12.1, which is treated in [337]. | [**~~NR\_NTN\_solutions-Perf~~**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=860246) |
| R4-2320883 | QUALCOMM Europe Inc. - Spain | [NR\_HST\_FR1\_enh] HST-DPS model clarification (CA) | Cat-A  Moderator remark: Corresponding Cat-F is R4-2320950. WI should be NR\_HST\_FR1\_enh-Perf. | [**NR\_HST\_FR1\_enh**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890058) |
| [**~~R4-2320890~~**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320890.zip) | ~~Qualcomm Inc~~ | ~~[LTE\_NBIoT\_eMTC\_NTN\_req] CR to 36.102 Clarify test condition for IoT NTN~~ | Moderator remark: CR has been moved to AI 12.1, which is treated in [337]. | [**~~LTE\_NBIOT\_eMTC\_NTN\_req~~**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=950074) |
| [**R4-2320950**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_109/Docs/R4-2320950.zip) | Qualcomm Inc. | [NR\_HST\_FR1\_enh] HST-DPS model clarification (CA) | Moderator remark: WI should be NR\_HST\_FR1\_enh-Perf. | [**NR\_HST\_FR1\_enh**](https://portal.3gpp.org/desktopmodules/WorkItem/WorkItemDetails.aspx?workitemId=890058) |

## 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 Test parameters on FR2-2 tests with 480kHz SCS

*Sub-topic description:*

One company has highlighted a number of potential issues with FR2-2 test parameters [R4-2320205].

*Open issues and candidate options before meeting:*

**Issue 2-1-1: K0 value**

* Proposals
  + Option 1 (Huawei): Change the k0 value to following:
    - For 120kHz SCS: 0
    - For 480kHz SCS:
      * - for DCI transmitted in slot i={1}:{0,1,2}
      * - for DCI transmitted in slot i={322} : {0,1}
      * - for DCI transmitted in slot mod(i,40)=12:{0,1,2,8}
      * - for DCI transmitted in slot mod(i,40)={0,4,8,21,25,29}:{0,1,2,3}
      * - where i is slot index per 2 frames
  + Option 2: TBD.
* Recommended WF
  + Unless further proposals are received, use option 1.

**Issue 2-1-2: OCNG transmission**

* Proposals
  + Option 1 (Huawei): Transmit OCGN in first symbol for slot without PDCCH for 480kHz SCS to ensure the constant power in one slot and follow the tradition of RAN4 test setup.
  + Option 2: Do not transmit OCGN.
* Recommended WF
  + Discuss.