**3GPP TSG-RAN WG4 Meeting # 107 R4-23xxxxx**

**Incheon, Republic of Korea, 22nd –26th May, 2023**

**Agenda item:** 6.6

**Source:** Moderator (Meta Ireland)

**Title:** Topic summary for [107][104] R18\_spectrum\_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.*

In the [106][104] R18\_spectrum\_maintanance, we treat the related CRs for LTE TDD band in 1670 -1675 MHz and Maintenance issues for LTE and NR technical specification issues.

Candidate target is listed as follows.

* Topic #1: Maintenance of LTE specifications
  + Sub-Topic 1-1: Remove the duplicate row for Additional spurious emission levels in TS36.104
  + Sub-Topic 1-2: Introduce 5G Broadcast UHF bands (e.g., band 106 and band 107) in TS36.101
  + Sub-Topic 1-3: Correction of the protected bands in UE coexistence in TS36.101
* Topic #2: Maintenance of NR specifications
  + Sub-Topic 2-1: Correction of the protected bands in UE coexistence in TS38.101-1 and TS38.101-3
  + Sub-Topic 2-2: Update for FR2-2 test model in TS38.141-2

# Topic #1: Maintenance of LTE specifications

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [R4-2307062](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_107/Docs/R4-2307062.zip) | Ligado Networks Nokia, Nokia Shanghai Bell | This is a Cat. F CR for TS36.104 in Rel-18  Proposal: The CR proposes to remove of a duplicate row in Table 6.6.4.3.1-1 for LTE Band 54 in TS36.104 Rel-18. |
| [R4-2309065](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_107/Docs/R4-2309065.zip) | Apple | This is a Cat. F CR for TS36.101 in Rel-18  Proposal: The CR proposes to introduce the missing harmonic exceptions to protect band 54 for Band 5, 26 and CA\_5 and correct certain errors in the UE coexistence tables in TS36.101 Rel-18. |
| [R4-2309500](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_107/Docs/R4-2309500.zip) | Qualcomm | This is a Cat. B CR for TS36.101 in Rel-18  Proposal: The CR proposes to introduce System parameters for 5G broadcast in bands 107 and 108. Suffix H is added for LTE based 5G terrestrial broadcast in TS36.101 Rel-18. |

## 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

*Sub-topic description:*

*Open issues and candidate options before meeting:*

**Issue 1-1:** Remove the duplicate row for Additional spurious emission levels of band 54 in TS36.104

* Proposals
  + Option 1: Based on the CRs (R4-2307062), RAN4 update the additional spurious emission Tables in TS36.104 Rel-18.
  + Option 2: TBA
* Recommended WF
  + Option 1. The CR(R4-2307062) is agreeable.

### Sub-topic 1-2

*Sub-topic description*

*Open issues and candidate options before meeting:*

**Issue 1-2:** Introduce 5G Broadcast UHF bands (e.g., band 106 and band 107) in TS36.101

* Proposals
  + Option 1: To support LTE based 5G terrestrial broad cast, RAN4 introduce new suffix H and specified the system parameters and corresponding Tx/Rx requirements in TS36.101 Rel-18.
  + Option 2: Need further check the detail RF requirements in suffix H from interested companies to support LTE based 5G terrestrial broad cast.
* Recommended WF
  + Option 2. The CR is for Cat. B to introduce LTE based 5G broadcast service. It can further check the detail system parameters and RF requirements in suffix H from interested companies. Then, the CR can treat in 2nd round.

### Sub-topic 1-3

*Sub-topic description*

*Open issues and candidate options before meeting:*

**Issue 1-3:** Correction of the protected bands in UE coexistence in TS36.101

* Proposals
  + Option 1: Based on CR(R4-2309065), RAN4 update the missing harmonic exceptions to protect band 54 for Band 5, 26 and CA\_5 in the UE coexistence tables in TS36.101 Rel-18.
  + Option 2: TBA
* Recommended WF
  + Option 1. The CR(R4-2309065) is agreeable.

# Topic #2: Maintenance of NR specifications

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [R4-2309066](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_107/Docs/R4-2309066.zip) | Apple | This is a Cat. F CR for TS38.101-1 in Rel-18  Proposal:   1. The CR proposes to update the missing harmonic exceptions to protect band 54 for Band n5, n26 and CA\_n2-n5, CA\_n5-n7, CA\_n5-n12, CA\_n5-n14, CA\_n5-n25, CA\_n5-n30, CA\_n5-n48, CA\_n5-n77, CA\_n26-n70 and CA\_n26-n77 2. Remove n43 with Note 2 for n101 band since there was no harmonic missing problems. 3. Remove n77 in the protected band for CA\_n46-n48 in the UE coexistence tables since the n48 Tx is overlapped n77 in TS38.101-1 Rel-18. |
| [R4-2309067](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_107/Docs/R4-2309067.zip) | Apple | This is a Cat. F CR for TS38.101-3 in Rel-18  Proposal:   1. The CR proposes to update the missing harmonic exceptions to protect band 54 for DC\_2\_n5, DC\_5\_n2, DC\_5\_n12, DC\_5\_n25, DC\_5\_n30, DC\_5\_n41, DC\_5\_n48, DC\_5\_n71, DC\_5\_n77, DC\_12\_n5, DC\_13\_n5, DC\_14\_n5, DC\_26\_n25, DC\_26\_n41, DC\_26\_n77, DC\_30\_n5, DC\_48\_n5 and DC\_71\_n5 |
| [R4-2309701](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_107/Docs/R4-2309701.zip) | Rohde & Schwarz | This is draft CR for TS38.141-2 in Rel-17.  Proposal:   1. Add the NR FR2-2 test models with 160 slots itself. The first 160 slots of a frame are identically repeated for FR2-2 test including DMRS and PTRS.   - In Clause 4.9.2.2, following contents was proposed  For FR2-1, duration is 2 radio frames for TDD (20 ms). For FR2-2, duration is twice of 80 slots in time length (160 slots time length). The test model repeats itself every 160 slots.  - In Clause 4.9.2.3.1 for PDCCH, following contents was proposed  For FR2-2, the PN sequence generator is initialized with a starting seed of "all ones" in the first allocated slot of each 160 slots time period of test model length.  - In Clause 4.9.2.3.2 for PDSCH, following contents was proposed  For FR2-2, the PN sequence generator is initialized with a starting seed of "all ones" in the first allocated slot of each 160 slots time period of test model length |

## 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

*Sub-topic description:* CRs to correct the UE coexistence requirements to in TS38.101-1, TS38.101-3

*Open issues and candidate options before meeting:*

**Issue 2-1:** Correction of the protected bands in UE coexistence in TS38.101-1 and TS38.101-3

* Proposals
  + Option 1: Based on CR (R4-2309066 & R4-2309067), RAN4 update the missing harmonic exceptions to protect band 54 for the listed single carrier and CA/DC Band combinations in the UE coexistence tables in TS38.101-1 & TS38.101-3 Rel-18.
  + Option 2: TBA
* Recommended WF
  + Option 1. Those two CRs (R4-2309066 & R4-2309067) can be agreeable.

### Sub-topic 2-2

*Sub-topic description:* CR for update FR2-2 test model in TS38.141-2

*Open issues and candidate options before meeting:*

**Issue 2-2:** Update for FR2-2 test model in TS38.141-2

* Proposals
  + Option 1: Based on R&S draft CR (R4-2309701), RAN4 can update the FR2-2 conformance test models in TS38.141-2 Rel-18. But need to update the CR cover page which was incorrect information of the spec. current version and release information of TS38.141.2. Also, CR category information was missed.
  + Option 2: Need further input from the Test equipment vendor view on the revision in TS38.141-2. Also, the proponent needs to update the CR cover page which was incorrect information of the spec. current version and release information of TS38.141.2. Also, CR category information was missed.
* Recommended WF
  + Option 2. The content will be further check from the TE vendors. Even though the contents are fine with the interested companies, then the proponent need to update the CR cover page as follow

1. Update current version information from 17.8.0 to 18.1.0
2. Add CR Category with Cat. F
3. Update Release information from Rel-17 to Rel-18.
4. All existing contents shall be captured from the TS38.141 v18.1.0
5. If need, add the affected other specs information in cover sheet.

…