**3GPP TSG-RAN WG4 Meeting # 98-bis-e R4-200XXXX**

**Electronic Meeting, 12 April – 20 April, 2021**

**Agenda item:** 5.1.1

**Source:** Moderator (ZTE Corporation)

**Title:** Email discussion summary for [98bise][301] NR\_unlic\_BS\_Conformance

**Document for:** Information

# Introduction

*Briefly introduce background, the scope of this email discussion and provide some guidelines for email discussion if necessary.*

*List of candidate target of email discussion for 1st round and 2nd round*

* 1st round:
* NR-U performance testing
* 2nd round: TBA

# Topic #1: NR-U BS conformance testing

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

## Companies’ contributions summary

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| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2106320 | Nokia, Nokia Shanghai Bell | On NR-U MUs and TTs for band n46 and n96  ***Proposal 1: It proposed to reuse LAA measurements uncertainties for band n46.***  ***Proposal 2: It proposed to apply LAA measurements uncertainties for band n96.***  ***Proposal 3. It is proposed to introduce to NR-U test specification references of Maximum Test System Uncertainty with direct reference to bands n46 and n96.***  ***Proposal 4. It is proposed to introduce to specification values as presented in tables above.*** |
| R4-2106474 | Keysight Technologies UK Ltd | NR-U measurement uncertainty for BS  Observation:   * Test equipment specification value is different below and above 6 GHz for Signal Generator   Proposal   * We, as TE vender, support Option 2, reuse LAA MU requirements for n46 and n96, (R4-2101566 [3]) from previous RAN4 discussion |
| R4-2106477 | Huawei, HiSilicon | MU for unlicensed band n46 and n96  **Proposal: It is proposed to reuse LAA MU requirements for n46 and n96** |
| [R4-2106308](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2106308.zip) | Nokia, Nokia Shanghai Bell | Discussion on test configurations for wideband NR-U operation  ***Observation 1: Specific emission masks are specified in the RAN4 core specifications TS 38.104 for BS and TS 38.101-1 for UE, for one and two non-transmitted channels, as well as the masks are dependent on configured transmission bandwidth***  ***Observation 2: The introduction of non-transmitted channels and an adaptive emission mask means new test requirements need to be defined.***  ***Observation 3: The new requirements specified in the core specifications for NR-U including those related to the non-transmitted channels has to be verified during the conformance testing.***  ***Observation 4: The adaptive OBUE masks require new test cases for the BS and UE to be covered in the conformance specifications.***  ***Proposal: It is proposed to define modified TC for band n46 and n96 for NRTC1 and NRTC3 where the one 40 MHz transmitted sub-block is placed at one edge of the NR-U BS channel bandwidth, and the one 40 MHz transmitted sub-block is placed at another edge, in order to provide a more demanding TC for the Operating Band Unwanted Emission tests.*** |

## Open issues summary

*Before e-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 e-meeting:*

**Issue 1-1: MU and TT for n46 and n96**

* Proposals
  + Option 1: reuse LAA MU requirements for n46 and n96; [Nokia, Keysight, Huawei, ZTE]
  + Option 2: other
* Recommended WF
  + Option 1: reuse LAA MU requirements for n46 and n96;

**Issue 1-2: test configuration for NR-U wideband operation**

* Proposals
  + Option 1: to define modified TC for band n46 and n96 for NRTC1 and NRTC3 where the one 40 MHz transmitted sub-block is placed at one edge of the NR-U BS channel bandwidth, and the one 40 MHz transmitted sub-block is placed at another edge, in order to provide a more demanding TC for the Operating Band Unwanted Emission tests.
  + Option 2: other
* Recommended WF

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 2-1:  Sub topic 2-2:  ….  Others: |
| Nokia | Issue 1-1: We support recommended WF.  Issue 1-2: We support option 1. We see need to test OBUE mask for wideband operation for NR-U, where non-transmitted channels may happen. With proposed modification, the worst case scenario will be needed to test only, that ensure that BS will pass all other cases. It is proposed to add clarifications for NRTC1/NRTC3 similarly as was done before for NB-IoT, to avoid creation a new separate TC.  General comment on submitted draft CR: there is missing and not submitted draft CR to 37.141-1 according work plan and working split agreed in R4-2017464. |
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### CRs/TPs comments collection

*Major close to finalize WIs and Rel-15 maintenance, comments collections can be arranged for TPs and CRs. For Rel-16 on-going WIs, suggest to focus on open issues discussion on 1st round.*

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| --- | --- |
| **CR/TP number** | **Comments collection for draft CR to TS 38.141-1** |
| [**R4-2106605**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2106605.zip)  **ZTE** | Nokia:  Editorial errors to be corrected:   * Table 4.1.2.3-1: row 7.5.5.1 Out-of-band blocking (General requirements) formatting needed for finterferer to finterferer * Table 6.6.5.5.1.1-2: Note 5 instead of Note 3 in new added row * Clause 7.2.5: Description of new added table should be added (like in core spec) * Clause 7.3.5: Description of new added table should be added (like in core spec) * Table 7.4.2.5-1b: There is single NOTE, thus NOTE 1 numbering is not needed * Table 7.7.5-1a: There is single NOTE, thus NOTE 1 numbering is not needed |
| Company B |
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| [**R4-2106478**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2106478.zip)  **Huawei** | Nokia: draft CR looks OK, content is already in draft CR 6605. |
| Company B |
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| [**R4-2106479**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2106479.zip)  **Huawei** | Nokia: draft CR looks OK, content is already in draft CR 6605. |
| Company B |
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| [**R4-2106311**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2106311.zip)  **Nokia** | Company A |
| Company B |
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| **CR/TP number** | **Comments collection for draft CR to TS 38.141-2** |
| [**R4-2104653**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2104653.zip)  **Ericsson** | Company A |
| Company B |
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| [**R4-2106312**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2106312.zip)  **Nokia** | Company A |
| Company B |
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| **CR/TP number** | **Comments collection for draft CR to TS 37.141** |
| [**R4-2107037**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2107037.zip)  **Nokia** | Company A |
| Company B |
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| **CR/TP number** | **Comments collection for draft CR to TS 36.141** |
| [**R4-2106606**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2106606.zip)  **ZTE** | Company A |
| Company B |
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| **CR/TP number** | **Comments collection for draft CR to TS 37.107** |
| [**R4-2106310**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2106310.zip)  **Nokia** | Company A |
| Company B |
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| **CR/TP number** | **Comments collection for draft CR to TS 37.145-2** |
| [**R4-2104652**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2104652.zip)  **Ericsson** | Nokia: This draft CR should be merge with draft CR below R4-2104652 and not submitted separately, as according our understanding this is against Tdoc cap rules (i.e. 1 per spec / AI / company). |
| Company B |
|  |
| [**R4-2104654**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_98bis_e/Docs/R4-2104654.zip)  **Ericsson** | Company A Nokia: This draft CR should be merge with draft CR above R4-2104654 and not submitted separately, as according our understanding this is against Tdoc cap rules (i.e. 1 per spec / AI / company). |
| Company B |
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## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

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| --- | --- |
|  | **Status summary** |
| #1 |  |

*Suggestion on WF/LS assignment*

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| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

*Moderator tries to summarize discussion status for 1st round and provided recommendation on CRs/TPs Status update suggestion*

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| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| XXX | *Based on 1st round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |

## Discussion on 2nd round (if applicable)

## Summary on 2nd round (if applicable)

*Moderator tries to summarize discussion status for 2nd round and provided recommendation on CRs/TPs/WFs/LSs Status update suggestion*

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| --- | --- |
| **CR/TP/LS/WF number** | **T-doc Status update recommendation** |
| XXX | *Based on 2nd round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |