3GPP TSG-RAN WG4 Meeting #98-e Draft R4-2103766

Electronic Meeting, 25 January – 5 February 2021

**Agenda item:** 9.25.4.2, 9.25.4.3, 9.24.4

**Source:** Moderator (Ericsson)

**Title:** Email discussion summary for [98e][327] NR\_R17\_SpectrumWI\_Demod

**Document for:** Information

# Introduction

This email discussion targets to discuss the UE/BS demodulation requirements for Rel-17 spectrum WIs.

Candidate targets of email discussion is listed as follows:

* 1st round:
  + Discuss the impact to UE/BS demodulation requirements for 47GHz (n262).
  + Discuss the CR for UE demodulation requirements of PC5 UE in n257/n258.
* 2nd round:
  + Discuss the way forward if necessary.

# Topic #1: UE demodulation on FR2 FWA UE with maximum TRP of 23dBm for band n257 and n258 (9.24.4)

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2101423 | Ericsson, SoftBank | Rel-17 CR to add Noc value PC5 for n257/n258. |

## Open issues summary

N/A

## Companies views’ collection for 1st round

Please provide comment in 1.3.1.

### CRs/TPs comments collection

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| R4-2101423 | Company A |
| Company B |
|  |

## 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.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations 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 provides recommendation on CRs/TPs Status update*

|  |  |
| --- | --- |
| **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*

|  |  |
| --- | --- |
| **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”* |

# Topic #2: UE demodulation on NR 47 GHz band (9.25.4.2)

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2102933 | HUAWEI TECHNOLOGIES Co. Ltd. | **Proposal 1: Further evaluations are needed to confirm if the existing UE demodulation requirements applicable for 47GHz band or not.**  **Proposal 2: Take the REFSENS agreement for Noc power level calculation for 47GHz band.** |
| R4-2102100 | Ericsson | Text proposal to TR 38.847 |
| R4-2102100 | Ericsson | Rel-17 CR:   * Add Noc value added for n262. * Revise the frequency range for performance requirements extended from 40000 to 48200 MHz. |
| R4-2100565 | Nokia, Nokia Shanghai Bell | *Comments by moderator: This Tdoc also discusses UE demodulation requirements.*  **Proposal 1: Existing demodulation minimum performance requirements are reusable for 47GHz band.**  **Observation 1: In our understanding of the UE demodulation SNR range calculation tools, the maximum allowable BB SNR is reduced from the previously estimated 20dB to 13.4dB.**  **Proposal 2: RAN4 to continue discussing the OTA demodulation performance testing limitations for the 47GHz band during RAN4#98.** |

## Open issues summary

### Sub-topic 2-1

**Issue 2-1: Whether the existing UE demodulation requirements applicable for 47GHz band or not.**

* Proposals
  + Option 1: The existing UE demodulation requirements are applicable for 47GHz (n262) also.
  + Option 2: Need further evaluation.
    - Need evaluation with MCS18 Rank1 (i.e. Test 1-3 in Table 7.2.2.2.1-3 of TS 38.101-4) and MCS17 Rank2 (i.e. Test 2-6 in Table 7.2.2.2.1-4) with the phase model captured in TR 38.803.
  + Option 3: Need further evaluation.
    - Limit the CBW to 50MHz or limiting the testable SNR to 13.4dB.
* Recommended WF
  + Collect companies view.

**Issue 2-2: Noc power level**

* Proposals
  + Option 1: Take the REFSENS agreement for Noc power level calculation for 47GHz band
* Recommended WF
  + Set Noc level for n262 in TS38.101-4 Table 4.5.3.2-1 based on REFSENS.

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Issue 2-1:  Issue 2-2:  ….  Others: |

### CRs/TPs comments collection

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| R4-2102100 (CR to TS 38.101-4, Ericsson) | Company A |
| Company B |
|  |
| R4-2102101 (pCR to TR38.847, Ericsson) | Company A |
| Company B |
|  |

## 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** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*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*

|  |  |
| --- | --- |
| **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*

|  |  |
| --- | --- |
| **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”* |

# Topic #3: BS demodulation on NR 47 GHz band (9.25.4.3)

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2102102 | Ericsson | Text proposal to TR 38.847 |
| R4-2102935 | HUAWEI TECHNOLOGIES Co. Ltd. | **Observation 1: If MU and TT, ΔOTAREFSENS, EISREFSENS\_50M and ΔFR2\_REFSENS values for 47GHz band are updated, corresponding requirements in TS 38.141-2 need to be updated.**  **Proposal 1: Further evaluations can be conducted to confirm if the existing BS performance requirements applicable for 47GHz band or not.** |
| R4-2100565 | Nokia, Nokia Shanghai Bell | **Proposal 1: Existing demodulation minimum performance requirements are reusable for 47GHz band.**  **Observation 1: In our understanding of the UE demodulation SNR range calculation tools, the maximum allowable BB SNR is reduced from the previously estimated 20dB to 13.4dB.**  **Proposal 2: RAN4 to continue discussing the OTA demodulation performance testing limitations for the 47GHz band during RAN4#98.** |

## Open issues summary

### Sub-topic 3-1

**Issue 3-1: Whether if the existing BS performance requirements applicable for 47GHz band or not.**

* Proposals
  + Option 1: The existing BS demodulation requirements are applicable for 47GHz (n262) also.
  + Option 2: Need further study of the phase noise and carrier frequency for higher MCS.
* Recommended WF
  + Collect companies view

**Issue 3-2: Update TS38.141-2.**

* Proposals
  + Option 1: Update TS38.141-2 if MU and TT, ΔOTAREFSENS, EISREFSENS\_50M andΔFR2\_REFSENS values for 47GHz band are updated
* Recommended WF
  + Agree with Option 1.

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Issue 3-1:  Issue 3-2:  ….  Others: |

### CRs/TPs comments collection

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| R4-2102102 (pCR to TR38.847, Ericsson) | Company A |
| Company B |
|  |

## 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** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*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*

|  |  |
| --- | --- |
| **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”* |