**3GPP TSG-RAN WG4 Meeting #97-e R4-20XXXXX**

**Electronic Meeting, 2nd – 13th November, 2020**

**Agenda item:** 10.26, 10.27

**Source:** Moderator (CMCC)

**Title:** Email discussion summary for [97e] [129] NR\_SUL\_bands

**Document for:** Information

# Introduction

WID on introduction of 1880-1920MHz SUL band (RP-201363) and 2300-2400MHz SUL band (RP-201364) for NR were approved in RAN#88-e meeting.

This email discussion includes contributions in agenda 10.26 and 10.27, the targets of email discussion based on companies’ contributions submitted in this e-meeting are as below:

* 1st round:
	+ How to introduce the clarification note to indicate that there is no co-existence issue.
* 2nd round:
	+ Strive to approve CRs.

# Topic #1: Introduction of 1880-1920MHz SUL band for NR

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [**R4-2015290**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2015290.zip) | Huawei, HiSilicon | **Proposal 1: Introduce the new SUL band for 1880 – 1920MHz as band n98.****Proposal 2: Specify UE RF requirements for the new SUL band n98 following band n39.** |
| [**R4-2015291**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2015291.zip) | Huawei, HiSilicon | **Proposal 1: Proposal: Specify BS spurious emissions requirements for the new SUL band n98 in all the BS specs such as TS 38.104, 38.141-1/-2, 36.104, 36.141, 37.104, 37.141, 37.105, 37.145-1/-2, whenever necessary.** |
| [**R4-2014330**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014330.zip) | CMCC | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 38.101-1** |
| [**R4-2014331**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014331.zip) | CMCC | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 38.104** |
| [**R4-2014332**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | CMCC, Huawei, HiSilicon | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 36.104** |
| [**R4-2014333**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014333.zip) | CMCC, Huawei, HiSilicon | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 36.141** |
| [**R4-2014334**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014334.zip) | CMCC, Huawei, HiSilicon | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 37.104** |
| [**R4-2014335**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014335.zip) | CMCC, Huawei, HiSilicon | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 37.105** |
| [**R4-2014336**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014336.zip) | CMCC, Huawei, HiSilicon | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 37.141** |
| [**R4-2014337**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014337.zip) | CMCC, Huawei, HiSilicon | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 37.145-1** |
| [**R4-2014338**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014338.zip) | CMCC, Huawei, HiSilicon | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 37.145-2** |
| [**R4-2014339**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014339.zip) | CMCC, Huawei, HiSilicon | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 38.141-1** |
| [**R4-2014340**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014340.zip) | CMCC, Huawei, HiSilicon | **Introduction of 1880-1920MHz SUL band into Rel-17 TS 38.141-2** |

## 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 Band definition

**Issue 1-1: How to introduce the clarification note to indicate that there is no co-existence issue with Band 39.**

* Proposals
	+ Note：The requirements for this band are applicable only where no other NR or E-UTRA TDD operating band(s) are used within the frequency range of this band in the same geographical area. For scenarios where other NR or E-UTRA TDD operating band(s) are used within the frequency range of this band in the same geographical area, special co-existence requirements may apply that are not covered by the 3GPP specifications.
* Recommended WF
	+ TBA. Collect companies’ view in 1st round

## Companies views’ collection for 1st round

### Open issues

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

### 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.*

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| [**R4-2014330**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014330.zip) | Company A |
| Company B |
|  |
| [**R4-2014331**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014331.zip) | Company A |
| Company B |
|  |
| [**R4-2014332**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | Company A |
| Company B |
|  |
| [**R4-2014333**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | Company A |
| Company B |
|  |
| [**R4-2014334**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | Company A |
| Company B |
|  |
| [**R4-2014335**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | Company A |
| Company B |
|  |
| [**R4-2014336**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | Company A |
| Company B |
|  |
| [**R4-2014336**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | Company A |
| Company B |
|  |
| [**R4-2014338**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | Company A |
| Company B |
|  |
| [**R4-2014339**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | Company A |
| Company B |
|  |
| [**R4-2014340**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014332.zip) | 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*

|  |  |  |
| --- | --- | --- |
|  | **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: Introduction of 2300-2400MHz SUL band for NR

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [**R4-2015288**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2015288.zip) | Huawei, HiSilicon | **Proposal 1: Introduce the new SUL band for 2300 – 2400MHz as band n97.****Proposal 2: Specify UE RF requirements for the new SUL band n97 following band n40.** |
| [**R4-2015289**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2015289.zip) | Huawei, HiSilicon | **Proposal: Specify BS spurious emissions requirements for the new SUL band n97 in all the BS specs such as TS 38.104, 38.141-1/-2, 36.104, 36.141, 37.104, 37.141, 37.105, 37.145-1/-2, whenever necessary.** |
| [**R4-2014341**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | CMCC | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 38.101-1** |
| [**R4-2014342**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014342.zip) | CMCC | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 38.104** |
| [**R4-2014343**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014343.zip) | CMCC, Huawei, HiSilicon | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 36.104** |
| [**R4-2014344**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014344.zip) | CMCC, Huawei, HiSilicon | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 36.141** |
| [**R4-2014345**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014345.zip) | CMCC, Huawei, HiSilicon | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 37.104** |
| [**R4-2014346**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014346.zip) | CMCC, Huawei, HiSilicon | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 37.105** |
| [**R4-2014347**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014347.zip) | CMCC, Huawei, HiSilicon | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 37.141** |
| [**R4-2014348**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014348.zip) | CMCC, Huawei, HiSilicon | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 37.145-1** |
| [**R4-2014349**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014349.zip) | CMCC, Huawei, HiSilicon | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 37.145-2** |
| [**R4-2014350**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014350.zip) | CMCC, Huawei, HiSilicon | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 38.141-1** |
| [**R4-2014355**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014355.zip) | CCMCC, Huawei, HiSilicon | **Introduction of 2300-2400MHz SUL band into Rel-17 TS 38.141-2** |

## 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 2-1 Band definition

**Issue 2-1: How to introduce the clarification note to indicate that there is no co-existence issue with Band 40.**

* Proposals
	+ Note：The requirements for this band are applicable only where no other NR or E-UTRA TDD operating band(s) are used within the frequency range of this band in the same geographical area. For scenarios where other NR or E-UTRA TDD operating band(s) are used within the frequency range of this band in the same geographical area, special co-existence requirements may apply that are not covered by the 3GPP specifications.
* Recommended WF
	+ TBA. Collect companies’ view in 1st round

## Companies views’ collection for 1st round

### Open issues

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

### 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.*

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| [**R4-2014341**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014342**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014343**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014344**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014345**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014346**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014347**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014348**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014349**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014350**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | Company A |
| Company B |
|  |
| [**R4-2014355**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_97_e/Docs/R4-2014341.zip) | 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*

|  |  |  |
| --- | --- | --- |
|  | **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”* |