**3GPP TSG-RAN WG4 Meeting #98-e *R4-210xxxx***

Electronic meeting, January 25th – February 5th, 2021

**Agenda item:** 10.1

**Source:** Moderator (Ericsson)

**Title:** Email discussion summary for [98e][134] FS\_6425\_10500MHz \_NR

**Document for:** Information

# Introduction

ITU-R WP5D has sent LS to request parameters in a set of frequency ranges.

For frequency ranges below 6GHz, the LS reply has already be sent in last RAN4#95-e meeting and no contribution has been submitted in this meeting for this topic.

For 6.425-7.025GHz, 7.025-7.125 and 10.0-10.5 GHz, the request will be addressed via a new SI (RP-200513) to agree on associated parameters:

* Topic#1 is covering the last version of TR 38.921, plus some TPs to fix or clarify some issues in the last version.
* Topic#2 is covering the coexistence simulation results and the UE parameters challenged in last RAN4#96-e.
* Topic#3 is covering discussion on the BS and UE parameters which were not yet agreed.
* Topic#4 is covering discussion on additional information relevant for the sharing and compatibility studies.

The proposal is to:

* 1st round:
  + Comment the proposed TPs to TR.
  + Discuss and align on first the simulation results, and then corresponding UE/BS ACLR/ACS.
  + Align on indoor scenario consideration.
  + Discuss and possibly agree on the remaining parameters (BS and UE)
  + Discuss on the relevance of the additional information and decide on their inclusion in the LS reply
* 2nd round:
  + If not done, agree on the UE/BS ACLR/ACS limits and any other not yet agreed limits.

# Topic #1: Simulations results – Remaining BS and UE requirements

This topic is focusing on the coexistence simulation results and the remaining BS/UE RF requirements.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| **DL simulations** | | |
| R4-2100490 | CATT |  |
| R4-2101497 | Huawei | **Observation 1: Since the DL ACIR for 6.425-7.125 GHz can be set as less than 25.9dB which is less than the agreed value 30.9dB in last meeting, indoor hotspot is not the restricted scenario for 6.425-7.125 GHz.**  **Observation 2: Since the DL ACIR for 10.0-10.5 GHz can be set as less than 25.9dB which is less than the agreed value 29.6dB in last meeting, indoor hotspot is not the restricted scenario for 10.0-10.5 GHz.**  **Proposal: There is no need to change the agreed targeted DL ACIR in last meeting, based on the simulation results of indoor hotspot scenario.** |
| R4-2101794 | Nokia |  |
| R4-2101951 | ZTE | **Proposal 1: reuse the ACLR/ACS requirements of urban macro for that of indoor case.** |
| R4-2102154 | Ericsson |  |
| R4-2105498 | Qualcomm | **Observation 1: For 7GHz and 10GHz with AAS BS, the required DL ACIR is 18dB.**  **Observation 2: For 7GHz and 10GHz with Omni BS, the required DL ACIR is 16dB.**  **Observation 3: The agreed BS ACLR and UE ACS in Urban Marco can be applied for indoor scenario.** |
| **UL simulations** | | |
| R4-2100491 | CATT |  |
| R4-2101498 | Huawei | **Observation 1: Since the UL ACIR for 6.425-7.125 GHz can be set as less than 23.9dB which is less than the agreed value 26dB in last meeting, indoor hotspot is not the restricted scenario for 6.425-7.125 GHz**  **Observation 2: Since the UL ACIR for 10.0-10.5 GHz can be set as less than 23.9dB which is less than the agreed value 24.1dB in last meeting, indoor hotspot is not the restricted scenario for 10.0-10.5 GHz.**  **Proposal: There is no need to change the agreed targeted UL ACIR in last meeting, based on the simulation results of indoor hotspot scenario.** |
| R4-2101795 | Nokia |  |
| R4-2101952 | ZTE | **Proposal 1: reuse the ACLR/ACS requirements of urban macro for that of indoor case.** |
| R4-2102155 | Ericsson |  |
| R4-2102499 | Qualcomm | **Observation 1: For 7GHz and 10GHz with AAS BS, the required UL ACIR is 15dB.**  **Observation 2: For 7GHz and 10GHz with Omni BS, the required UL ACIR is 17dB.**  **Observation 3: The agreed UE ACLR and BS ACS in Urban Marco can be applied for indoor scenario.** |
| **BS parameters** | | |
| R4-2100489 | CATT | **Proposal 1: The ACLR/ACS value in Table 2-1 can be confirmed for 6.425-7.025GHz, 7.025-7.125GHz and 10.0-10.5GHz bands.**  **Proposal 2: It is proposed to adopt the UEM in Table 2-2 for 6.425-7.025GHz, 7.025-7.125GHz and 10.0-10.5GHz bands.**  **Proposal 3: it is proposed to define ΔfOBUE as 100MHz.**  **Proposal4: It is proposed to define the in-band blocking in the range of [-44~-52dB].**  **Proposal5: It is proposed to reuse -15dBm CW interfering signal but reconsider the ΔfOOB.** |
| R4-2100823 | CMCC | **Observation 1: the minimum value of basic limit in the monotone decreasing first step should be modified to equal to the value in second step in OBUE mask.**  **Proposal 1: As ACLR requirement for 6425-7125MHz is relaxed to 38dB, both the stop points of frequency offset in OBUE mask and fOBUE should be modified to higher value.**  **Proposal 2: For wide area BS, the basic limit of first step in OBUE mask should be changed from**  **to ,**  **where the equals to the first stop point of frequency offset of the measurement filter 3dB point.**  **Observation 2: the characteristics of 6425-7125MHz is much more similar to FR1 although larger fundamental channel bandwidth is expected with 700MHz-width operating bands.**  **Proposal 3: It is suggested to define OBUE mask for 6425-7125MHz of wide area/medium range category B(option 1) with following parameters:**   * **The first stop point of frequency offset equals to 10MHz;** * **The second stop point of frequency offset equals to 50MHz;**   **Proposal 4: fOBUE for 6425-7125MHz is suggested as [80-100]MHz.** |
| R4-2101496 | Huawei |  |
| R4-2101792 | Nokia | **1) To apply the BS ACLR agreed in the WF [9] to the Small cell indoor/Indoor urban scenario, i.e. 38dB and 37dB for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz, respectively.**  **2) To apply the BS ACS agreed in the WF [9] to the Small cell indoor/Indoor urban scenario, i.e. 42dB and 40dB for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz, respectively.**  **3) To specify 20MHz as the Frequency offset step size of the BS Spectral mask for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz.**  **4) To keep the currently specified FR1 BS (general) in-band blocking requirements for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz.**  **5) Whether the currently specified BS in-band narrowband blocking requirements below 6GHz should be kept for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz should be decided according to the coexisting systems in each operating band.**  **6) To apply the following BS out of band blocking requirements for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz:**  **• -15 dBm CW interferer applies from 1MHz to FUL,low – 500MHz and from FUL,high + 500MHz up to 12750 MHz**  **• -35 dBm CW interferer applies from FUL,low – 500MHz to FUL,low – 70MHz and from FUL,high + 70MHz up to FUL,high + 500MHz**  **7) To specify ΔfOBUE of 50 MHz for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz.** |
| R4-2101949 | ZTE | **Proposal 1: to adopt the UEM proposed in Table 1/1a/1b/1c for 6425-7125MHz;**  **Proposal 2: to adopt the UEM proposed in Table 2/2a/2b/2c for 10-10.5GHz;**  **Proposal 3: to adopt the ACS requirements proposed in Table 3.2 for 6425-7125MHz;**  **Proposal 4: to adopt the IBB requirements in Table 3.3 for 10-10.5GHz;**  **Proposal 5: to adopt the ΔfOBUE requirements proposed in Table 4.1 for 6425-7125MHz and 10-10.5GHz;**  **Proposal 6: to adopt the ΔfOOB requirements proposed in Table 4.2 for 6425-7125MHz and 10-10.5GHz** |
| R4-2102156 | Ericsson | **Proposal 1: Specify BS OBUE as specified in the updated table 6.6.4.2.1-2 (with 50 and 100 MHz offsets instead of current 5 and 10 MHz in TS 38.104) for 6.425-7.125 GHz and 10.0-10.5 GHz frequency ranges.**  **Proposal 2: Keep same lower interfering signal mean power specified in clauses 7.4.2.2 and 10.5.2.2 of TS 38.104 for 6.425-7.125 GHz and 10.0-10.5 GHz frequency ranges**  **Proposal 3: Specify ΔfOOB value with 100 MHz for 6.425-7.125 GHz and 10.0-10.5 GHz frequency ranges**  **Proposal 4: Specify ΔfOBUE value with 100 MHz for 6.425-7.125 GHz and 10.0-10.5 GHz frequency ranges**  **Proposal 5: No specific BS ACLR and ACS values will be introduced for indoor BS and for 6.425-7.125 GHz frequency range.**  **Proposal 6: No specific BS ACLR and ACS values will be introduced for indoor BS and for 10.0-10.5 GHz frequency range.** |
| **UE parameters** | | |
| R4-2100488 | CATT | **Proposal 1: The ACLR/ACS value in Table 2-1 can be confirmed for 6.425-7.025GHz, 7.025-7.125GHz and 10.0-10.5GHz bands.**  **Proposal 2: reuse the out of band emission in TS 38.101-1 for 6.425-7.125 GHz and 10.0-10.5 GHz bands.** |
| R4-2101495 | Huawei |  |
| R4-2101791 | Nokia | **1) To apply the UE ACS agreed in the WF to the Small cell indoor/Indoor urban scenario, i.e. 32dB and 31dB for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz, respectively.**  **2) To apply the UE ACLR agreed in the WF to the Small cell indoor/Indoor urban scenario, i.e. 26dB and 24dB for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz, respectively.**  **3) To apply the General NR spectrum emission mask specified in clause 6.5.2.2 of TS 38.101-1 for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz** **if no other alternative can be agreed in RAN4#98-e.** |
| R4-2101948 | ZTE | **Proposal 1: certain relaxation for UE SEM requirement could be allowed based on the approved ACLR requirements.**  **Proposal 2: to define ACS requirements for 6425-7125MHz and 10-10.5GHz.** |
| R4-2102157 | Ericsson | **Proposal 1: UE SEM for 6.425-7.125 GHz and 10.0-10.5 GHz frequency range shall be the same one defined in TS 36.101-1 clause 6.5.2.**  **Proposal 2: No specific UE ACLR and ACS values will be introduced for indoor scenario, for 6.425-7.125 GHz frequency range and for 10.0-10.5 GHz frequency range.** |
| R4-2102501 | Qualcomm |  |

## Open issues summary

### Sub-topic 1-1

Sub-topic description: UL and DL simulations results for indoor. Results here after summarize companies results. Values in [] are moderator’s understanding based on the provided results. Conclusion on BS and UE ACLR/ACS is also mentioned.

**Issue 1-1: DL-UL simulations results – BS/UE ACLR/ACS for indoor**

* Based on simulation results, the DL and UL ACIR for indoor scenario (with omni antenna or AAS) are always lower than the agreed DL and UL ACIR for macro urban scenario, and this for both 6.425-7.125GHz and 10.0-10.5GHz. Every company has proposed to keep agreed BS and UE ACLR/ACS for indoor.
  + Option 1: Agree
  + Option 2: Disagree
* Recommended WF
  + Agree to keep agreed BS/UE ACLR/ACS for indoor and for both frequency ranges.

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| --- | --- | --- | --- | --- | --- |
| **DL simulations** | | | | | |
|  | **ACIR (dB) for Indoor** | | | | **Can we keep agreed BS ACLR (38-37) and UE ACS (32-31) for indoor?** |
|  | **6.425-7.125GHz** | | **10.0-10.5GHz** | |
| **ACIR for macro BS** | **31.0** | | **30.0** | |
|  | **Omni** | **AAS** | **Omni** | **AAS** |
| CATT | [18] | [20] | [18] | [19] | Yes |
| Huawei |  | <25.9 |  | <25.9 | Yes |
| Nokia | <ACIR -5 | <ACIR -5 | <ACIR -5 | <ACIR -5 | Yes |
| ZTE | <ACIR -5 | <ACIR -5 | <ACIR -5 | <ACIR -5 | Yes |
| Ericsson | 17 |  | 17 |  | Yes |
| Qualcomm | 16 | 18 | 16 | 18 | Yes |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **UL simulations** | | | | | |
|  | **ACIR (dB) for Indoor** | | | | **Can we keep agreed UE ACLR (26-24) and BS ACS (42-40) for indoor?** |
|  | **6.425-7.125GHz** | | **10.0-10.5GHz** | |
| **Macro urban** | **25.9** | | **23.9** | |
|  | **Omni** | **AAS** | **Omni** | **AAS** |
| CATT | [17] | [13] | [17] | [13] | Yes |
| Huawei |  | <23.9 |  | <23.9 | Yes |
| Nokia | <ACIR -5 | <ACIR -5 | <ACIR -5 | <ACIR -5 | Yes |
| ZTE | <ACIR -5 | <ACIR -5 | <ACIR -5 | <ACIR -5 | Yes |
| Ericsson | 17 |  | 17 |  | Yes |
| Qualcomm | 17 | 15 | 17 | 15 | Yes |

### Sub-topic 1-2

Sub-topic description: Several proposals have been made to change the BS OBUE mask, updating the frequency offset edges and some other updating the basic limits.

**Issue 1-2: BS Spectral mask**

* Proposal 1: Foffset edge
  + Option 1a: Min. BW=50MHz, Foffset step size=50MHz (CATT, Huawei, Ericsson)
  + Option 1b: Min. BW=20MHz, Foffset step size (Nokia, ZTE)
  + Option 1c: Min. BW=10MHz, 1st Foffset step size =10MHz, 2nd Foffset step size =20MHz (CMCC).
* Proposal 2: Basic limit for the 1st frequency interval - linear decrease
  + Option 2a: Same as TS 38.104 (CATT, Huawei, Ericsson)

,

* + Option 2b: Updated with 1st Foffset edge (CMCC, ZTE, Nokia)
* Proposal 3: Update of the basic limits
  + Option 3a: No update, keep same ones TS 38.104 table 6.6.4.2.2.1-2 for cat B (CATT, CMCC, Huawei, Ericsson, Nokia)
  + Options 3b: Update basic limits for 10.0-10.5 GHz according:

|  |  |
| --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | *Basic limits* (Note 1, 2) |
| 0 MHz ≤ Δf < 20MHz |  |
| 20 MHz ≤ Δf <  min(40 MHz, Δfmax) | -13dBm |
| 40 MHz ≤ Δf ≤ Δfmax | -14 dBm |

Moderator’s note: It’s proposed to focus on the WA mask first. The others BS classes’ ones should be derived from the WA one and could be discussed later.

* Recommended WF
  + Proposal 1: should be further discussed, indicate which of the 3 options (1a, 1b and 1c) would be acceptable.
  + Proposal 2: The linear decrease for the basic limit in the 1st interval should most likely be updated as proposed by CMCC and ZTE, based on the frequency offset edge.
* Option 2b should be agreeable.
  + Proposal 3: Only one company proposed to relax the basic limits with 0.5dBm for 10.0-10.5GHz, this might not be absolutely necessary.
* Option 3a should be agreeable.

### Sub-topic 1-3

Sub-topic description: Several proposals have been made to update **ΔfOBUE** values.

**Issue 1-3:** **ΔfOBUE**

* Proposals
  + Option 1: 100 MHz (CATT, Ericsson)
  + Option 2: [80-100]MHz (CMCC)
  + Option 3: 80MHz (Huawei)
  + Option 4: 50 MHz (Nokia)
  + Option 5: 40 MHz (ZTE)
* Recommended WF
  + This is somehow related to the previous sub-topic 1-2. To ease the selection, it’s proposed to down-select the different options, and the suggestion is to choose between 100MHz and 50MHz.

### Sub-topic 1-4

Sub-topic description: IBB limits was left open in last meeting, several proposals have been made.

**Issue 1-4: BS in band blocking**

* Proposals
  + Option 1: [-44~-52dB] (CATT)
  + Option 2: -43dBm FR1 (Nokia, Ericsson)
  + Option 3: -40dBm for 6.425-7.125GHz and -41dBm for 10.0-10.5GHz. (ZTE)
  + Option 4: -47dBm for 6.425-7.125GHz and -49dBm for 10.0-10.5GHz (Huawei)
* Recommended WF
  + Indicate which values might be acceptable.

### Sub-topic 1-5

Sub-topic description: It was proposed to update OOB limits.

**Issue 1-5: Out of band blocking**

* Proposals
  + Option 1: Reuse -15dBm CW interfering signal (CATT)
  + Option 2: (Huawei)
    - -15 dBm CW interfering signal applies

from 1 MHz to FUL,low – 200MHz and from FUL,high + 200MHz up to 12750 MHz

* + Option 3: (Nokia)
    - -15 dBm CW interferer applies

from 1MHz to FUL,low – 500MHz and from FUL,high + 500MHz up to 12750 MHz

* + - -35 dBm CW interferer applies

from FUL,low – 500MHz to FUL,low – 70MHz and from FUL,high + 70MHz up to FUL,high + 500MHz

* Recommended WF
  + Indicate which option(s) would be acceptable.

### Sub-topic 1-6

Sub-topic description: Several proposals have been made to update **ΔfOOB** values.

**Issue 1-6: ΔfOOB**

* Proposals
  + Option 1: Reconsider the ΔfOOB (CATT)
  + Option 2: 100 MHz (Huawei, Ericsson)
  + Option 3: 60MHz (ZTE)
  + Option 4: 70MHz, same as n96 (Nokia)
* Recommended WF
  + .
  + Indicate which upper/lower value would be acceptable. Also, indicate if you would agree aligning ΔfOOB andΔfOBUE values.

### Sub-topic 1-7

Sub-topic description: ACS values have been agreed for 6.425-7.125GHz and 10.0-10.5GHz

**Issue 1-7: ACS**

* Proposals
  + Option 1: Interferer for WA BS (ZTE)
    - -49dBm/20MHz for 6.425-7.125GHz
    - -50 dBm/20MHz for10.0-10.5GHz
* Moderator’s note: It’s proposed to focus on the WA first. The others BS classes’ values should be derived from the WA one and could be discussed later.
* Recommended WF
  + Indicate if option 1 is acceptable or not.

### Sub-topic 1-8

Sub-topic description: UE ACLR has been agreed for 6.425-7.125GHz and 10.0-10.5GHz, SEM was left for further study.

**Issue 1-8: UE Spectral mask**

* Proposals
  + Option 1: Out of band emission in clause 6.5.2.2 of TS 38.101-1 for 6.425-7.125 GHz and 10.0-10.5 GHz (CATT, Nokia, Ericsson).
  + Option 2: Relax by 4dB for 6.425-7.125 GHz and by 6dB for 10.0-10.5 GHz. (Huawei)
  + Option 3: Some relaxation added (ZTE)
  + Option 4: relaxed at the FOOB edge ± 0-1 by at least 3dB (-13dBm/1% BW to -10dBm/1% BW) (Qualcomm)
* Recommended WF
  + To be further discussed

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 1-1:  Sub topic 1-2:  Proposal 1:  Proposal 2:  Proposal 3:  Sub topic 1-3:  Sub topic 1-4:  Sub topic 1-5:  Sub topic 1-6:  Sub topic 1-7:  Sub topic 1-8:  Others: |
| Huawei | Sub topic 1-1: Option 1  Sub topic 1-2:  Proposal 1: Option 1a. We think small channel bandwidth is less attractive.  Proposal 2: Option 2b.  Proposal 3: open to discuss  Sub topic 1-3: we agree with 80-100 MHz. The major considerations are wide transmission bandwidth and large number of antenna arrays.  Sub topic 1-4: -43 dBm~-47 dBm is acceptable.  Sub topic 1-5: Option2. It is also related to sub topic 1-6.  Sub topic 1-6: 80-100 MHz is acceptable  Sub topic 1-7: proposal -49dBm/20MHz is higher than existing requirements. We can consider to reuse existing -52 dBm for all channel bandwidth.  Sub topic 1-8: Option 2. It is straight forward to relax the SEM as ACLR did.  Others: |

### CRs/TPs comments collection

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
|  | *NA* |
|  |
|  |

## 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:* |

*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: LS Reply and relevant information for the sharing and compatibility studies

This topic is collecting any relevant information for the sharing and compatibility studies.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2101797 | Nokia | It is proposed to recommend ITU-R WP5D (in next RAN4 reply LS) to consider the following information for the sharing and compatibility studies between terrestrial and non-terrestrial systems:  1) Horizontal coverage range (deg.) and vertical coverage range (deg.) of AAS BS in RAN4 reply LSs;  2) Spatial emission and interference mitigation for AAS BS in TR 38.921. |
| R4-2101500 | Huawei | Reply LS |
| R4-2102840 | Ericsson | LS reply |

## Open issues summary

### Sub-topic 2-1

**Issue 2-1: Additional information to be mentioned in the ITU-R LS reply**

* Recommend in ITU-R LS reply to consider spatial emission and interference mitigation from TR 39.921
  + Option 1: Agree
  + Option 2: Disagree
* Recommended WF
  + Select one of the 2 options.

### Sub-topic 2-2

**Issue 2-2: Antenna and other parameters for indoor scenario**

* In the simulations, we considered both type of BS antenna, omni and AAS. Should we then consider that BS for indoor scenarios might have both omni and AAS type of antenna. Should we provide parameters for both BS types in the LS Reply to ITU-R?
  + Option 1: Only AAS BS type, even for indoor.
  + Option 2: Both omni and AAS BS type for indoor.
* Recommended WF
  + Select one of the 2 options.

### Sub-topic 2-3

Sub-topic description:

**Issue 2-3: LS Reply**

* Recommended WF

Provide any early comment to both LS Reply. It’s proposed anyway to finalize the LS in the 2nd round.

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 2-1:  Sub topic 2-2:  Sub topic 2-3:  Others: |
| XXX | Sub topic 2-1: Option 1  Sub topic 2-2: prefer to Option 1 with single type.  Sub topic 2-3:  Others: |
|  |  |

### CRs/TPs comments collection

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| R4-2101500 | *LS reply* |
| Company A |
| Company B |
| R4-2102840 | *LS reply* |
| Huawei: as discussed in Sub topic 2-1 and R4-2101500, it is proposed to consider spatial emission and interference mitigation from TR 39.921 in reply LS. |
| 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 #3: TR 39.921 v0.3.0

This topic is related to the received LS from ITU-R WP5D

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| **TR** | | |
| R4-2101494 | Huawei | TR v 0.3.0 |
| **TP to TR (UE)** | | |
| R4-2101495 | Huawei |  |
| R4-2101948 | ZTE |  |
| **TP to TR (BS)** | | |
| R4-2101496 | Huawei |  |
| R4-2101949 | ZTE |  |
| **TP to TR (Simulations)** | | |
| R4-2101499 | Huawei |  |
| R4-2101950 | ZTE |  |
| R4-2101793 | Nokia |  |
| R4-2101953 | ZTE |  |
| R4-2102500 | Qualcomm |  |
| **TP to TR (antenna)** | | |
| R4-2101182 | Ericsson |  |
| R4-2101796 | Nokia |  |
| R4-2101954 | ZTE |  |

## Open issues summary

### Sub-topic 3-1

Sub-topic description: A new revision of TR 38.921 is proposed to capture all agreements made

**Issue 3-1: TR 38.921 v0.3.0**

* Proposals
  + Option 1: Approve
  + Option 2: Not approve
* Recommended WF
  + If no comment, approve v0.3.0 as submitted

### Sub-topic 3-2

Sub-topic description: Several TPs to TR 38.921 have been submitted.

**Issue 3-2: TPs to TR 38.921 v0.3.0**

* Recommended WF
  + Please comment the TPs in below tables.

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 3-1:  Others: |
| Huawei | Sub topic 3-2: we can focus on the discussion of remaining issues firstly and then work on the merged TP based on the agreements. |

### CRs/TPs comments collection

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| R4-2101494 | *TR v0.3.0* |
| Company A |
| Company B |
| R4-2101495 | *TP to TR 38.921: UE remaining parameters* |
| Company A |
| Company B |
| R4-2101948 | *TP to TR 38.921: UE remaining parameters* |
| Company A |
| Company B |
| R4-2101496 | *TP to TR 38.921: BS remaining parameters* |
| Company A |
| Company B |
| R4-2101949 | *TP to TR 38.921 BS requirements* |
| Company A |
| Company B |
| R4-2101499 | *TP for Clause 4.3 co-existence simulation results* |
| Company A |
| Company B |
| R4-2101950 | *TP to TR 38.921 summary of simulation results* |
| Company A |
| Company B |
| R4-2101793 | *TP to TR 38.921: Clarification of BS maximum transmit power on system level simulation assumptions for study on IMT parameters for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz* |
| Company A |
| Company B |
| R4-2101953 | *TP to TR 38.921 Maintenance for simulation assumption* |
| Company A |
| Company B |
| R4-2102500 | *TP to TR 38.921: Clarification of beamforming pattern modelling for multiple UL schedued UEs* |
| Company A |
| Company B |
| R4-2101182 | *TP to TR 38.921: Addition of in-door antenna parameters and correction to model in subclause 8.1* |
| Company A |
| Company B |
| R4-2101796 | *TP to TR 38.921: Proposals of Indoor BS Antenna Characteristics for Frequency Ranges 6.425-7.125GHz and 10.0-10.5GHz* |
| Company A |
| Company B |
| R4-2101954 | *TP to TR 38.921 Antenna configurations* |
| 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”* |