**3GPP TSG-RAN WG4 Meeting # 98-bis-e R4-2115607**

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

**Agenda item:** 8.4.3, 8.5.3

**Source:** Moderator (Huawei)

**Title:** Email discussion summary for [100-e][317] RAIL\_900\_1900MHz\_BSRF

**Document for:** Information

# Introduction

This summary covers 8.4.3 and 8.5.3 agenda items for BS RF aspects of the RMR work items.

Please note proposals from R4-2113752 are considered both in [111] and [317] topics, which require coordination.

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

* 1st round: Collect comments and check if any of the proposals is agreeable. Where needed, continue discussion also during second round.

2nd round: TBA

# Topic #1: BS Tx requirements for RMR900

In this topic we focus on the BS Tx requirements for RMR900 WI.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2113749 | Ericsson | Proposal 1: Convert CEPT EIRP limits in RAN4 conducted ones considering one antenna with 15 dBi antenna gain.  Moderator’s note: there is mismatch in R4-2113749, as the same Proposal 1 once states 17 dBi, while conclusion section of R4-2113749 states 15 dBi. Proponents are asked to clarify this ambiguity.  Proposal 2: Capture in TS 38.104 that for BS operating in [900MHz RMR band], for uncoordinated deployment, the BS rated output power Prated,c,AC shall not exceed: 47.5dBm/5MHz + (fDL-922.1) x 40/3 dB (considering a 17 dBi antenna gain, and with fDL being the centre frequency in MHz).  Proposal 3: Capture the following OBUE category B option 2 requirement for band [900MHz RMR] in TS 38.104:   |  |  |  |  | | --- | --- | --- | --- | | Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limits* (Note 1) | *Measurement bandwidth* | | 0 MHz ≤ Δf < 0.2 MHz | 0.1 MHz ≤ f\_offset < 0.3 MHz | 15.5 dBm | 200 kHz | | 0.2 MHz ≤ Δf <  1 MHz | 0.6MHz ≤ f\_offset <  1.4 MHz | -3 dBm | 800 kHz | | 1 MHz ≤ Δf ≤ 10 MHz | 1.5 MHz ≤ f\_offset < 10.5 | -12 dBm | 1 MHz | | NOTE 1: Assuming a 17 dBi antenna gain | | | |   Proposal4: Capture the following additional requirement (most likely as an additional spurious limit) for band [900 MHz RMR] in TS 38.104:   |  |  |  | | --- | --- | --- | | Spurious frequency range | *Basic limit* | *Measurement bandwidth* | | 880 MHz – 918 MHz | -66 dBm (NOTE) | 5 MHz | | NOTE: considering a 17 dBi antenna gain | | | |
| R4-2114368 | Nokia, Nokia Shanghai Bell | Proposal 1: Since additional ECC BS transmitter requirements are not conducted, it is proposed to define them as 3GPP BS declarations. |

## Open issues summary

### Sub-topic 1-1: EIRP requirements conversion to conducted requirements

* Proposals
  + Option 1: Convert CEPT EIRP limits in RAN4 conducted ones considering one antenna with [17] dBi antenna gain (R4-2113749, Ericsson)

Moderator’s note: there is mismatch in R4-2113749, as the same Proposal 1 once states 17 dBi, while conclusion section of R4-2113749 states 15 dBi. Proponents are asked to clarify this ambiguity.

* + Option 2: Since additional ECC BS transmitter requirements are not conducted, it is proposed to define them as 3GPP BS declarations (R4-2114368, Nokia, Nokia Shanghai Bell).
  + Option 3: Other
* Recommended WF
  + Considering the ETSI TFES rules, it is suggested to take Option 1 as the baseline for further discussion, with the antenna gain value to be further studied.

### Sub-topic 1-2: BS rated output power

* Proposals
  + Option 1: For BS operating in [900MHz RMR band], for uncoordinated deployment, the BS rated output power Prated,c,AC shall not exceed: 47.5dBm/5MHz + (fDL-922.1) x 40/3 dB (considering a 17 dBi antenna gain, and with fDL being the centre frequency in MHz) (R4-2113749, Ericsson)
  + Option 2: Other
* Recommended WF: before proceeding with the requirements, refer to the Issue 5-2 (Consideration of coordnated/uncoordianted deployments).

### Sub-topic 1-3: OBUE category B option 2 requirement

Referring to the WF in R4-2108609, the following was agreed:

|  |
| --- |
| *Clarify that for RMR900 and RMR1900 operation in Europe, OBUE Cat B Option 2 regulatory emission requirements defined for WA BS shall be considered as the baseline.* |

* Proposals
  + Option 1:

|  |  |  |  |
| --- | --- | --- | --- |
| Frequency offset of measurement filter ‑3dB point, Δf | Frequency offset of measurement filter centre frequency, f\_offset | *Basic limits* (Note 1) | *Measurement bandwidth* |
| 0 MHz ≤ Δf < 0.2 MHz | 0.1 MHz ≤ f\_offset < 0.3 MHz | 15.5 dBm | 200 kHz |
| 0.2 MHz ≤ Δf <  1 MHz | 0.6MHz ≤ f\_offset <  1.4 MHz | -3 dBm | 800 kHz |
| 1 MHz ≤ Δf ≤ 10 MHz | 1.5 MHz ≤ f\_offset < 10.5 | -12 dBm | 1 MHz |
| NOTE 1: Assuming a 17 dBi antenna gain | | | |

* + Option 2: Other
* Recommended WF: before proceeding with the requirements, sub-topic 1-1 to be concluded first. Any agreeable requirements motivation to be captured in the TR.

### Sub-topic 1-4: additional spurious limit requirements

* Proposals
  + Option 1: Capture the following additional requirement (most likely as an additional spurious limit) for band [900 MHz RMR] in TS 38.104 (R4-2113749, Ericsson):

|  |  |  |
| --- | --- | --- |
| Spurious frequency range | *Basic limit* | *Measurement bandwidth* |
| 880 MHz – 918 MHz | -66 dBm (NOTE) | 5 MHz |
| NOTE: considering a 17 dBi antenna gain | | |

Moderator’s note: the above note should probably say “assuming”, as in issue 1-3.

* + Option 2: Other
* Recommended WF:
  + Before proceeding with this requirement, it is suggested to clarify that on the RMR-specific requirements consideration in the specification (e.g. whether those shall be considered as regional requirements, etc.). In relation to the antenna gain assumption, Issue 1-1 to be concluded first.

## Companies views’ collection for 1st round

### Open issues

Sub topic 1-1: EIRP requirements conversion to conducted requirements

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Nokia | Option 2. Since ECC requirements are radiated, the best option is to introduce relevant 3GPP declarations. Defining conducted requirements on certain assumptions (e.g. specific antenna gain) would limit the number of deployment flexibility. 3GPP declarations are widely used in 3GPP specification which allow operator to accommodate deployment plans while fulfilling relevant required requirements at the same time. |
| Ericsson | Option 1: RAN4 used to convert CEPT EIRP requirement in manufacturer declaration requirement and refer to an Annex to explain how CEPT limit should checked with such declaration.  But, in the scope of RE-D and writing Harmonized Standards, the European Commission doesn’t accept anymore any requirement based on manufacturer declaration, all requirements shall be fixed limit (concrete number). Considering this band is an European band, using declarations would be acceptable in 3GPP, but in the scope of ETSI Harmonized Standard drafting.  So, instead of moving the resolution of this issue to ETSI, we propose to solve it directly in 3GPP.  Also, the antenna gain which is assumed to set the limit will be clearly mentioned in the note (the proposed wording could be improved). With this, BS manufacturer could still certify a BS supporting a higher conducted output power (than this limit), claiming it shall be used with a lower antenna gain. Operator will still have full flexibility to deploy any (BS + antenna) compliant with CEPT limit. |

Sub topic 1-2: BS rated output power

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Nokia | See sub-topic 1-1 |
| Ericsson | Option 1, see sub-topic 1-1 |

Sub topic 1-3: OBUE category B option 2 requirement

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Nokia | See sub-topic 1-1 |
| Ericsson | Option 1, see sub-topic 1-1 |

Sub topic 1-4: Additional spurious limit requirements

|  |  |
| --- | --- |
| **Company** | **Comments** |
| UIC | RMR 900 allocation is limited to ITU region 1. Hence context to region is already given. No need to add this again. The understanding is that ECC Decision (20)02 defines RMR 900 band specific spurious limits which is the target of R4-2113749. |
| Nokia | See sub-topic 1-1 |
| Ericsson | Option 1, see sub-topic 1-1  Regarding moderator’s WF, this band is for Europe (CEPT countries) so it could already be considered as a “regional” band. We don’t think we need so to mention that any requirement related to that band is a regional requirement. |

### CRs/TPs comments collection

## 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:* |

### CRs/TPs

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

*Note: The tdoc decisions shall be provided in Section 3 and this table is optional in case moderators would like to provide additional information.*

|  |  |
| --- | --- |
| **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)

# Topic #2: BS Rx requirements for RMR900

In this topic we focus on the BS Rx requirements for RMR900 WI.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2113749 | Ericsson | Proposal 5: Capture the following additional BS blocking requirement for band [900 MHz RMR] in TS 38.104 and further study the interferer’s characteristics:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | *BS channel bandwidth* of the *lowest/highest carrier* received (MHz) | Wanted signal mean power (dBm)  (Note 1) | Interfering signal mean power (dBm) | Center Frequency of Interfering Signal (MHz)  (Note 2) | Type of interfering signal | | 5 | PREFSENS + 3 dB | Wide Area BS: -34 | TBD | TBD | | NOTE 1: PREFSENS depends on the RAT. For NR, PREFSENS depends also on the *BS channel bandwidth* as specified in tables 7.2.2-1, 7.2.2-2 and 7.2.2-3.  NOTE 2: Considering a 200kHz interferer. | | | | | |
| R4-2114368 | Nokia, Nokia Shanghai Bell | Proposal 2: It is proposed to consider new blocking requirement (conducted) for 900MHz RMR band. |

## Open issues summary

### Sub-topic 2-1: additional BS blocking requirement

Referring to the WF in R4-2108609, the following was agreed:

|  |
| --- |
| *Consider option 1 as baseline:*  *Option 1: consider new blocking requirement for RMR band, as per EC 20(02) requirements.* |

* Proposals
  + Option 1: Capture the following additional BS blocking requirement for band [900 MHz RMR] in TS 38.104 and further study the interferer’s characteristics (R4-2113749, Ericsson):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *BS channel bandwidth* of the *lowest/highest carrier* received (MHz) | Wanted signal mean power (dBm)  (Note 1) | Interfering signal mean power (dBm) | Center Frequency of Interfering Signal (MHz)  (Note 2) | Type of interfering signal |
| 5 | PREFSENS + 3 dB | Wide Area BS: -34 | TBD | TBD |
| NOTE 1: PREFSENS depends on the RAT. For NR, PREFSENS depends also on the *BS channel bandwidth* as specified in tables 7.2.2-1, 7.2.2-2 and 7.2.2-3.  NOTE 2: Considering a 200kHz interferer. | | | | |

* + Option 2: Other
* Recommended WF
  + Consider Option 1 as baseline for further discussion on conducted requirement.

## Companies views’ collection for 1st round

### Open issues

Sub topic 2-1: additional BS blocking requirement

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Ericsson | Option 1 |

### CRs/TPs comments collection

## 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:* |

### CRs/TPs

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

*Note: The tdoc decisions shall be provided in Section 3 and this table is optional in case moderators would like to provide additional information.*

|  |  |
| --- | --- |
| **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)

# Topic #3: BS Tx requirements for RMR1900

In this topic we focus on the BS Tx requirements for RMR1900 WI.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2113752 | Ericsson | Proposal 1: Convert CEPT EIRP limits in RAN4 conducted ones considering one antenna with 18 dBi antenna gain.  Proposal 3: Capture in TS 38.104 that for BS operating in [1900MHz RMR band], for uncoordinated deployment, the BS rated output power Prated,c,AC shall not exceed 47 dBm/10MHz (considering a 18 dBi antenna gain).  Proposal 4: Capture the following additional requirement (most likely as an additional spurious limit)for band [1900 MHz RMR] in TS 38.104:   |  |  |  | | --- | --- | --- | | Spurious frequency range | *Basic limit* | *Measurement bandwidth* | | 1920 MHz – 1980 MHz | -61 dBm (NOTE) | 5 MHz | | NOTE: considering a 18 dBi antenna gain | | | |
| R4-2114371 | Nokia, Nokia Shanghai Bell | Proposal 1: Since additional ECC BS transmitter requirements are not conducted, it is proposed to define them as 3GPP BS declarations. |

## Open issues summary

### Sub-topic 3-1: EIRP requirements conversion to conducted requirements

* Proposals
  + Option 1: Convert CEPT EIRP limits in RAN4 conducted ones considering one antenna with [17] dBi antenna gain (R4-2113752, Ericsson)
  + Option 2: Since additional ECC BS transmitter requirements are not conducted, it is proposed to define them as 3GPP BS declarations (R4-2114371, Nokia, Nokia Shanghai Bell).
  + Option 3: Other
* Recommended WF
  + Considering the ETSI TFES rules, it is suggested to take Option 1 as the baseline for further discussion, with the antenna gain value to be further studied.

### Sub-topic 3-2: BS rated output power

* Proposals
  + Option 1: Capture in TS 38.104 that for BS operating in [1900MHz RMR band], for uncoordinated deployment, the BS rated output power Prated,c,AC shall not exceed 47 dBm/10MHz (considering a 18 dBi antenna gain) (R4-2113752, Ericsson)
  + Option 2: Other
* Recommended WF: before proceeding with the requirements, refer to the Issue 5-2 (Consideration of coordnated/uncoordianted deployments).

### Sub-topic 3-3: additional spurious limit requirements

* Proposals
  + Option 1: Capture the following additional requirement (most likely as an additional spurious limit)for band [1900 MHz RMR] in TS 38.104 (R4-2113752, Ericsson):

|  |  |  |
| --- | --- | --- |
| Spurious frequency range | *Basic limit* | *Measurement bandwidth* |
| 1920 MHz – 1980 MHz | -61 dBm (NOTE) | 5 MHz |
| NOTE: considering a 18 dBi antenna gain | | |

Moderator’s note: the above note should probably say “assuming”, as in issue 1-3.

* + Option 2: Other
* Recommended WF:
  + Before proceeding with this requirement, it is suggested to clarify that on the RMR-specific requirements consideration in the specification (e.g. whether those shall be considered as regional requirements, etc.). In relation to the antenna gain assumption, Issue 3-1 to be concluded first.

## Companies views’ collection for 1st round

### Open issues

Sub topic 3-1: EIRP requirements conversion to conducted requirements

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Nokia | Option 2. Since ECC requirements are radiated, the best option is to introduce relevant 3GPP declarations. Defining conducted requirements on certain assumptions (e.g. specific antenna gain) would limit the number of deployment flexibility. 3GPP declarations are widely used in 3GPP specification which allow operator to accommodate deployment plans while fulfilling relevant required requirements at the same time. |
| Ericsson | Option 1: RAN4 used to convert CEPT EIRP requirement in manufacturer declaration requirement and refer to an Annex to explain how CEPT limit should checked with such declaration.  But, in the scope of RE-D and writing Harmonized Standards, the European Commission doesn’t accept anymore any requirement based on manufacturer declaration, all requirements shall be fixed limit (concrete number). Considering this band is an European band, using declarations would be acceptable in 3GPP, but in the scope of ETSI Harmonized Standard drafting.  So, instead of moving the resolution of this issue to ETSI, we propose to solve it directly in 3GPP.  Also, the antenna gain which is assumed to set the limit will be clearly mentioned in the note (the proposed wording could be improved). With this, BS manufacturer could still certify a BS supporting a higher conducted output power (than this limit), claiming it shall be used with a lower antenna gain. Operator will still have full flexibility to deploy any (BS + antenna) compliant with CEPT limit. |

Sub topic 3-2: BS rated output power

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Nokia | See sub-topic 3-1 |
| Ericsson | Option 1, see sub-topic 3-1 |

Sub topic 3-3: Additional spurious limit requirements

|  |  |
| --- | --- |
| **Company** | **Comments** |
| UIC | RMR 1900 allocation is limited to ITU region 1. Hence context to region is already given. No need to add this again. The understanding is that ECC Decision (20)02 defines RMR 900 band specific spurious limits which is the target of R4-2113752. |
| Nokia | See sub-topic 3-1 |
| Ericsson | Option 1, see sub-topic 3-1  Regarding moderator’s WF, this band is for Europe (CEPT countries) so it could already be considered as a “regional” band. We don’t think we need so to mention that any requirement related to that band is a regional requirement. |

### CRs/TPs comments collection

## 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:* |

### CRs/TPs

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

*Note: The tdoc decisions shall be provided in Section 3 and this table is optional in case moderators would like to provide additional information.*

|  |  |
| --- | --- |
| **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)

# Topic #4: BS Rx requirements for RMR1900

In this topic we focus on the BS Rx requirements for RMR1900 WI.

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2113752 | Ericsson | Proposal 2: RAN4 will not specify any requirement to capture the BS enhanced selectivity (band n1) assumption. A note should be added in TS 38.104 and/or in 1900MHz band TR to highlight this.  Proposal 5: Capture the following additional BS blocking requirement for band [1900 MHz RMR] in TS 38.104:   |  |  |  |  |  | | --- | --- | --- | --- | --- | | *BS channel bandwidth* of the *lowest/highest carrier* received (MHz) | Wanted signal mean power (dBm) | Interfering signal mean power (dBm) | Centre Frequency of Interfering Signal [MHz] | Type of interfering signal | | [5], 10 | PREFSENS + 3 dB | Wide Area BS: -20 | 1807.5 MHz to 1877.5 MHz | 5 MHz NR signal | | NOTE: PREFSENS depends on the RAT. For NR, PREFSENS depends also on the *BS channel bandwidth* as specified in tables 7.2.2-1, 7.2.2-2 and 7.2.2-3. | | | | | |
| R4-2114371 | Nokia, Nokia Shanghai Bell | Proposal 2: It is proposed to consider new blocking requirement (conducted) for 1900MHz RMR band. |

|  |  |  |
| --- | --- | --- |
| R4-2114368 | Nokia, Nokia Shanghai Bell | Proposal 2: It is proposed to consider new blocking requirement (conducted) for 900MHz RMR band. |

## Open issues summary

### Sub-topic 4-1: additional BS blocking requirement

Referring to the WF in R4-2108609, the following was agreed:

|  |
| --- |
| *Consider option 1 as baseline:*  *Option 1: consider new blocking requirement for RMR band, as per EC 20(02) requirements.* |

* Proposals
  + Option 1: Capture the following additional BS blocking requirement for band [1900 MHz RMR] in TS 38.104 (R4-2113752, Ericsson):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *BS channel bandwidth* of the *lowest/highest carrier* received (MHz) | Wanted signal mean power (dBm) | Interfering signal mean power (dBm) | Centre Frequency of Interfering Signal [MHz] | Type of interfering signal |
| [5], 10 | PREFSENS + 3 dB | Wide Area BS: -20 | 1807.5 MHz to 1877.5 MHz | 5 MHz NR signal |
| NOTE: PREFSENS depends on the RAT. For NR, PREFSENS depends also on the *BS channel bandwidth* as specified in tables 7.2.2-1, 7.2.2-2 and 7.2.2-3. | | | | |

* + Option 2: Other
* Recommended WF
  + Consider Option 1 as baseline for further discussion on conducted requirement.

### Sub-topic 4-2: consideration of BS enhanced selectivity for band n1

* Proposals
  + Option 1: RAN4 will not specify any requirement to capture the BS enhanced selectivity (band n1) assumption. A note should be added in TS 38.104 and/or in 1900MHz band TR to highlight this (R4-2113752, Ericsson)
  + Option 2: Other
* Recommended WF
  + Consider Option 1 as baseline for further discussion. Further discuss on the envisioned implemented of related Note (and possibly its text) in TS and/or TR.

## Companies views’ collection for 1st round

### Open issues

Sub topic 4-1: additional BS blocking requirement

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Nokia | Not sure why 5MHz NR interfering signal is proposed? |
| Ericsson | To Nokia: CEPT specified requirement using a 5 MHz LTE signal. The proposal to use a 5 MHz NR signal (same characteristics) is aligned with NR in-band blocking, not out of band blocking that’s true.  This could be further discussed, considering CEPT requirement as iput. |

Sub topic 4-2: consideration of BS enhanced selectivity for band n1

|  |  |
| --- | --- |
| **Company** | **Comments** |
| Ericsson | Option 1 |

### CRs/TPs comments collection

## 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:* |

### CRs/TPs

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

*Note: The tdoc decisions shall be provided in Section 3 and this table is optional in case moderators would like to provide additional information.*

|  |  |
| --- | --- |
| **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)

# Topic #5: Other (to be coordinated with [111])

In this topic we focus on remaining aspects related to the General RMR discussion in [111].

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| R4-2113752 | Ericsson | Proposal 6: Further investigate impacts of the introduction of 5 MHz channel BW in 1900 MHz RMR band.  Proposal 7: RMR BSs are not expected to be co-located with MFCN BSs. |
| R4-2113749 | Ericsson | Proposal 2: Capture in TS 38.104 that for BS operating in [900MHz RMR band], for uncoordinated deployment, the BS rated output power Prated,c,AC shall not exceed: 47.5dBm/5MHz + (fDL-922.1) x 40/3 dB (considering a 17 dBi antenna gain, and with fDL being the centre frequency in MHz). |

## Open issues summary

### Sub-topic 5-1: consideration of 5 MHz channel BW for RMR 1900

Referring to the WF in R4-2108609, the following was agreed:

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| --- |
| *For RMR1900 and consideration of the 5MHz channel bandwidth: provide further discussion and analyses on the possible implications of the CEPT studies which were made on 10MHz channel BW only.* |

* Proposals
  + Option 1: Further investigate impacts of the introduction of 5 MHz channel BW in 1900 MHz RMR band.
  + Option 2: Other
* Recommended WF
  + Consider Option 1 as baseline during BS RF requirements discussion, with the potential impact of the 10 MHz channel studies in CEPT.

### Sub-topic 5-2: consideration of coordinated/uncoordinated deployments

* Proposals
  + Option 1: Capture in TS 38.104 that for BS operating in [900MHz RMR band], for uncoordinated deployment, the BS rated output power Prated,c,AC shall not exceed: 47.5dBm/5MHz + (fDL-922.1) x 40/3 dB (considering a 17 dBi antenna gain, and with fDL being the centre frequency in MHz) (R4-2113749, Ericsson)
  + Option 2: Other
* Recommended WF
  + It is proposed to collect companies’ views on the envisioned approach to consider coordinated and/or uncoordinated RMR deployments in RAN4 specifications. RAN4 understanding is proposed to be captured in both RMR900 and RMR1900 TR (if consensus could be reached this meeting).

### Sub-topic 5-3: consideration of RMR co-location with MFCN BSs

Referring to the WF in R4-2108609, the following was agreed:

|  |
| --- |
| Way forward on Tx spurious emissions For Tx spur co-locations, further discuss and verify if the expected RMR deployments motivate introduction of Tx spur colocation requirements, i.e. It shall be further clarified by the proponents if RMR BS is expected to be co-sited /co-located with MFCN systems. If yes, we need co-location requirements. If not, such requirement is not expected to be required. |

* Proposals
  + Option 1: RMR BSs are not expected to be co-located with MFCN BSs (R4-2113752, Ericsson).

Moderator’s note: the above “expected” wording may not be clear. More discussion is needed on the expected TS implementation of such potential agreement.

* + Option 2: Other
* Recommended WF
  + Collect companies’ views before proceeding with Option 1.

## Companies views’ collection for 1st round

### Open issues

Sub topic 5-1: consideration of 5 MHz channel BW for RMR 1900

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX |  |

Sub topic 5-2: Consideration of coordinated/uncoordinated deployments

|  |  |
| --- | --- |
| **Company** | **Comments** |
| UIC | UIC agrees in general with the proposal. A coordinated deployment is a national matter and is subject to national regulation. Furthermore, the RMR900/1900 are only applicable to ITU region 1 and may not require global applicable standardization in 3GPP. |
| Ericsson | Our understanding is that each country could decide to use on th deployment mode, coordinated or not. But the ECC Decision is assuming un-coordinated deployment and the specifed limits specified are assuming such deployment. |

Sub topic 5-3: consideration of RMR co-location with MFCN BSs

|  |  |
| --- | --- |
| **Company** | **Comments** |
| UIC | UIC understands the WF in RF-2108609 as coordinated approach where ECC Decision (20)02 provides some clarification in clause 3 bullet “m” and bullet “k”. |
| Ericsson | Option 1: Our understanding is that RMR BSs would not be co-located with other IMT BSs. |

### CRs/TPs comments collection

## 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:* |

### CRs/TPs

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

*Note: The tdoc decisions shall be provided in Section 3 and this table is optional in case moderators would like to provide additional information.*

|  |  |
| --- | --- |
| **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)

# Annex

Contact information

|  |  |  |
| --- | --- | --- |
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| Ericsson | Dominique Everaere | dominique.everaere@ericsson.com |

Note:

1. Please add your contact information in above table once you make comments on this email thread.
2. If multiple delegates from the same company make comments on single email thread, please add you name as suffix after company name when make comments i.e. Company A (XX, XX)