**3GPP TSG-RAN WG4 Meeting # 104-bis-e R4-22XXXXX**

**Electronic Meeting, 10– 19 October 2022**

**Agenda item:** 5.1 Issues arising from basket WIs but not subject to block approval

**Source:** Dominique Brunel (Skyworks Solutions Inc.)

**Title:** InitialEmail discussion summary for [104-bis-e][105] NR\_Baskets\_Part\_1

**Document for:** Information

# Introduction

*Briefly introduce background, the scope of this email discussion (e.g. list of treated agenda items) and provide some guidelines for email discussion if necessary.*

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

* 1st round: Discuss MSD test points and values amongst experts
	+ Topic 1: Triple Beat MSDs
	+ Topic 2: Resolution of flags from RAN4#104-e
	+ Topic 3: To be confirmed: flags from RAN4#104-bis-e
* 2nd round: finalize TPs, CRS, WFs

It is appreciated that the delegates for this topic put their contact information in the table below.

Contact information

|  |  |  |
| --- | --- | --- |
| **Company** | **Name** | **Email address** |
| Skyworks Solutions Inc. | Dominique Brunel | dominique.brunel@skyworksinc.com |
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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)

# Topic #1: Triple beat MSDs

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [**R4-2215347**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215347.zip) DC\_3C\_n28A Triple Beat MSD | Murata Manufacturing Co Ltd. | **Proposal 1**: Consider MSD test point as shown in Table 2.3-2.

|  |  |
| --- | --- |
| Band / Channel bandwidth / NRB / Duplex mode | Source of IMD |
| ENDC band combination | NR/LTE band | UL Fc (MHz) | UL/DL BW (MHz) | UL LCRB | DL Fc (MHz) | MSD (dB) | Duplex mode |  |
|  | n28 | 715.5 | 25 | 25(RBSTART=108) | 770.5 | [9.7] | FDD | 1st order triple beat α (TX22TX1)i.e. IMD3 |
| DC\_3C\_n28A | 3 | 1720 | 20 | 1 (RBSTART=0) | 1815 | N/A | FDD | N/A |
|  |  | 1739.8 | 20 | 1 (RBSTART=99) | 1834.8 |  |  |  |

 |
| [**R4-2215528**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215528.zip) Triple beat MSD for DC\_3C\_n28A | Skyworks Solutions Inc. | **Proposal:** For DC\_3C\_n28A, adopt the band n28 25MHz CBW triple beat MSD captured in Table 1.

|  |  |
| --- | --- |
| Band / Channel bandwidth / NRB / Duplex mode | Source of IMD |
| ENDC band combination | NR/LTE band | UL Fc (MHz) | UL/DL BW (MHz) | UL LCRB | DL Fc (MHz) | MSD (dB) | Duplex mode |  |
|  | n28 | 715.5 | 25 | 25(RBSTART=108) | 770.5 | 12.7 | FDD | IMD3 |
| DC\_3C\_n28A | 3 | 1720 | 20 | 1 (RBSTART=0) | 1815 | N/A | FDD | N/A |
|  |  | 1739.8 | 20 | 1 (RBSTART=99) | 1834.8 |  |  |  |

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| [**R4-2216054**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216054.zip) TP and discussion on triple beat MSD of UL DC\_3C\_n28A | Huawei, HiSilicon | Table 6.1.X.4-1: MSD test points for PCell due to dual uplink operation for PC3 EN-DC in NR FR1 (two bands)

|  |  |
| --- | --- |
| Band / Channel bandwidth / NRB / Duplex mode | Source of IMD |
| ENDC band combination | NR/LTE band | UL Fc (MHz) | UL/DL BW (MHz) | UL LCRB | DL Fc (MHz) | MSD (dB) | Duplex mode |  |
|  | n28 | 715.5 | 25 | 25(RBSTART=108) | 770.5 | 8.2 | FDD | 1st order triple beat α (TX22TX1)i.e. IMD3 |
| DC\_3C\_n28A | 3 | 1720 | 20 | 1 (RBSTART=0) | 1815 | N/A | FDD | N/A |
|  |  | 1739.8 | 20 | 1 (RBSTART=99) | 1834.8 |  |  |  |

 |
| [**R4-2215525**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215525.zip) Triple beat MSD for DC\_3A\_n41C | Skyworks Solutions Inc. | **Observation 1:** For DC\_3A\_n41C, we observe that at 60dB PCB isolation, the B3 MSD is equally driven by the PA forward contribution and the LNA contribution. At PCB isolations greater than or equal to 70dB, the MSD becomes dominated by the LNA contribution. The contribution of reverse IMD is ignored for this PC3 analysis. However, it was shown in [1] that for PC2 operation, the PA reverse IMD contribution may dominate over the forward when PCB isolations are greater than 70dB.**Observation 2:** In our analysis, the composite B3 5MHz CBW MSD for DC\_3A-n41C is 15.2dB, a level similar to the 12.7 dB previously analysed in [2]. We observe that in [2] the MSD is dominated by the LNA. In our analysis, the PA and LNA contributions are similar at low PCB isolation. At higher PCB isolations, all contributions need to be accounted for: PA forward, PA reverse, and LNA. We observe that the triple-beat MSD analysis strongly depends on the choice of RF-FE assumptions.**Proposal:** NR-CA or EN-DC combinations eligible to triple beat MSD shall not be treated in the automatic basket approval process. Instead, the MSD analysis should be discussed on a case-by-case basis. |
| [**R4-2215343**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215343.zip) On Triple Beat Detection Equation for Intra-band Contiguous 2 CCs | Murata Manufacturing Co Ltd. | **Proposal 1**: Modify the existing TB Detection Equation as Equation (3) for Intra-band Contiguous 2 CC case.$\left|Duplex Offset\right|<ULCA\_{MBW}+\frac{TX\_{MBW}}{2} +\frac{RXBW}{2}$Moderator comment: equation could be further developed to include triple beat MSD in third band. |

## 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 DC\_3C\_n28A triple beat MSD

*Sub-topic description: 3 companies avec used the same triple beat MSD test point and evaluated it*

*Open issues and candidate options before e-meeting: agree on MSD value*

**Issue 1-1: DC\_3C\_n28A triple beat MSD**

* Proposals
	+ Option 1: Murata MSD 9.7dB
	+ Option 2: Skyworks MSD 12.7dB
	+ Option 2: Huawei MSD 8.2dB
* Recommended WF: Discus MSD values and findings (dominating contributor, HW hypothesis) and agree on one value. Possibly using averaging.

### Sub-topic 1-2 triple beat MSD contribution for R17 example: DC\_3A\_n41C

*Sub-topic description Assessment of different contributors to triple beat MSD for R17 example combination.*

*Open issues and candidate options before e-meeting: Agree on how to handle triple beat MSD in R18*

**Issue 1-2: Handling of triple beat MSD in R18**

* Proposals: NR-CA or EN-DC combinations eligible to triple beat MSD shall not be treated in the automatic basket approval process. Instead, the MSD analysis should be discussed on a case-by-case basis.
* Recommended WF: Discuss proposal and confirm if triple beat MSD should be treated in this agenda for R18

### Sub-topic 1-3 Triple beat detection equations

*Sub-topic description making triple beat MSD detection equations more universal*

*Open issues and candidate options before e-meeting: agree on equations*

**Issue 1-3: Triple beat detection equations**

* Proposals: Modify the existing TB Detection Equation to:$\left|Duplex Offset\right|<ULCA\_{MBW}+\frac{TX\_{MBW}}{2} +\frac{RXBW}{2}$
* Recommended WF: Agree equation, and moderator suggest that equation is also adapted (or added to cover third band MSD when applicable)

## Companies views’ collection for 1st round

### Open issues

Sub topic 1-1 DC\_3C\_n28A triple beat MSD

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

Sub topic 1-2 Handling of triple beat MSD in R18

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

Sub topic 1-3 Triple beat detection equations

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

### CRs/TPs comments collection

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

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| [**R4-2216054**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216054.zip) TP and discussion on triple beat MSD of UL DC\_3C\_n28A | Moderator: comment on TP here except MSD value discussed in topic 1-1 |
| 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:* |

### 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: Resolution of flags from RAN4#104-e

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [**R4-2215516**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215516.zip) MSD for CA\_n7A-n26A | Skyworks Solutions Inc. | **Proposal: For CA\_n7A-n26A, adopt the n26 UL1/DL3 Rx harmonic mixing MSD test point from**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **UL band** | **DL band** | **UL BW** | **SCS of UL band** | **UL RB Allocation** | **DL BW** | **MSD** | **UL/DL fc condition** | **UL/DL harmonic order** |
| **(MHz)** | **(kHz)** | **LCRB** | **(MHz)** | **(dB)** |
| n7 | n26 | 25 | 15 | 25 (RBstart=104) | 5 | 2.0 | NOTE X | UL1/DL3near-miss |
| NOTE X: The requirements should be verified for the lowest EARFCN or NR ARFCN of the affected DL (lower) band, and for the highest EARFCN or NR ARFCN of the UL (higher) band. |

 |
| [**R4-2216088**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216088.zip) TP for TR 38.718-02-01 to update CA\_n7-n26 | Ericsson, Skyworks, Telstra | Moderator: TPs can be reviewed directly in the CR/TP section |
| [**R4-2215521**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215521.zip) MSD for DC\_(n)3AA\_n8A | Skyworks Solutions Inc. | **Proposal: For DC\_(n)3AA-n8A, adopt the MSD test point from**

| NR or E-UTRA Band / Channel bandwidth / NRB / MSD |
| --- |
| EN-DC Configuration | EUTRA / NR band | UL Fc (MHz) | UL/DL BW (MHz) | ULLCRB | DL Fc (MHz) | MSD (dB) | IMD order |
| DC\_(n)3AA**-**n8A | n8 | 897.5 | 5 | 25 | 942.5 | N/A | N/A |
| 3 | N/A | 5 | N/A | 1835 | **4.5** | IMD5 |
| n3 | 1747.5 | 10 | 50 | 1842.5 | **6.4** | IMD5 |

 |
| [**R4-2215523**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215523.zip) MSD for DC\_3A\_(n)7AA | Skyworks Solutions Inc. | **Proposal: For DC\_3\_(n)7, adopt the MSD test point from**

| NR or E-UTRA Band / Channel bandwidth / NRB / MSD |
| --- |
| EN-DC Configuration | EUTRA / NR band | UL Fc (MHz) | UL/DL BW (MHz) | ULLCRB | DL Fc (MHz) | MSD (dB) | IMD order |
| DC\_3A-(n)7AADC\_3C-(n)7AA | 3 | 1730 | 5 | 25 | 1825 | N/A | N/A |
| 7 | N/A | 5 | N/A | 2647.5 | **6.9** | IMD4 |
| n7 | 2535 | 10 | 50 | 2655 | **10.2** | IMD4 |

 |
| [**R4-2216086**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216086.zip) TP for TR 37 718-21-11 to update DC\_3-(n)7 | Ericsson, Skyworks, MediaTek, Telstra | Moderator: TPs can be reviewed directly in the CR/TP section |
| [**R4-2216087**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216087.zip) TP for TR 38.718-02-01 to update CA\_n3-n26 | Ericsson, Skyworks, Telstra | Moderator: TPs can be reviewed directly in the CR/TP section |

## Open issues summary

*Before e-Meeting, moderators shall summarize list of open issues, candidate options and possible WF (if applicable) based on companies’ contributions.*

*Moderator: discussion papers are part of the open issues, the TP can be reviewed and commented in the CR/TP section*

### Sub-topic 2-1 CA\_n7A-n26A near miss UL1/DL3 MSD

*Sub-topic description:*

*Open issues and candidate options before e-meeting:*

**Issue 2-1: CA\_n7A-n26A near miss UL1/DL3 MSD**

* Proposals: Adopt following MSD test point and value below

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **UL band** | **DL band** | **UL BW** | **SCS of UL band** | **UL RB Allocation** | **DL BW** | **MSD** | **UL/DL fc condition** | **UL/DL harmonic order** |
| **(MHz)** | **(kHz)** | **LCRB** | **(MHz)** | **(dB)** |
| n7 | n26 | 25 | 15 | 25 (RBstart=104) | 5 | 2.0 | NOTE X | UL1/DL3near-miss |
| NOTE X: The requirements should be verified for the lowest EARFCN or NR ARFCN of the affected DL (lower) band, and for the highest EARFCN or NR ARFCN of the UL (higher) band. |

* Recommended WF: Agree proposed MSD and associated TP

### Sub-topic 2-2 MSD for DC\_(n)3AA\_n8A

*Sub-topic description*

*Open issues and candidate options before e-meeting:*

**Issue 2-2:** **MSD for DC\_(n)3AA\_n8A**

* Proposals: Adopt following MSD test point and value below

| NR or E-UTRA Band / Channel bandwidth / NRB / MSD |
| --- |
| EN-DC Configuration | EUTRA / NR band | UL Fc (MHz) | UL/DL BW (MHz) | ULLCRB | DL Fc (MHz) | MSD (dB) | IMD order |
| DC\_(n)3AA**-**n8A | n8 | 897.5 | 5 | 25 | 942.5 | N/A | N/A |
| 3 | N/A | 5 | N/A | 1835 | **4.5** | IMD5 |
| n3 | 1747.5 | 10 | 50 | 1842.5 | **6.4** | IMD5 |

* Recommended WF: Agree proposed MSD and possibly provide TP

### Sub-topic 2-3 MSD for DC\_3A\_(n)7AA

*Sub-topic description*

*Open issues and candidate options before e-meeting:*

**Issue 2-3: MSD for DC\_3A\_(n)7AA**

* Proposals: Adopt following MSD test point and value below

| NR or E-UTRA Band / Channel bandwidth / NRB / MSD |
| --- |
| EN-DC Configuration | EUTRA / NR band | UL Fc (MHz) | UL/DL BW (MHz) | ULLCRB | DL Fc (MHz) | MSD (dB) | IMD order |
| DC\_3A-(n)7AADC\_3C-(n)7AA | 3 | 1730 | 5 | 25 | 1825 | N/A | N/A |
| 7 | N/A | 5 | N/A | 2647.5 | **6.9** | IMD4 |
| n7 | 2535 | 10 | 50 | 2655 | **10.2** | IMD4 |

* Recommended WF: Agree proposed MSD and associated TP

## Companies views’ collection for 1st round

### Open issues

Sub topic 2-1 CA\_n7A-n26A near miss UL1/DL3 MSD

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

Sub topic 2-2 MSD for DC\_(n)3AA\_n8A

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

Sub topic 2-3 MSD for DC\_3A\_(n)7AA

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

### 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** |
| [**R4-2216088**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216088.zip) TP for TR 38.718-02-01 to update CA\_n7-n26 | Company A |
| Company B |
|  |
| [**R4-2216086**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216086.zip) TP for TR 37 718-21-11 to update DC\_3-(n)7 | Company A |
| Company B |
|  |
| [**R4-2216087**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216087.zip) TP for TR 38.718-02-01 to update CA\_n3-n26 | 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:* |

### 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)

*Moderator can provide summary of 2nd round here. Note that recommended decisions on tdocs should be provided in the section titled ”Recommendations for Tdocs”.*

# Recommendations for Tdocs

## 1st round

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **New Tdoc number** | **Title** | **Source** | **Comments** |
|  | WF on … | YYY |  |
|  | LS on … | ZZZ | To: RAN\_X; Cc: RAN\_Y |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Tdoc number** | **Revised to** | **Title** | **Source** | **Recommendation**  | **Comments** |
| [**R4-2215347**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215347.zip) |  | DC\_3C\_n28A Triple Beat MSD | Murata Manufacturing Co Ltd. | Agreeable, Revised, Merged, Postponed, Not Pursued |  |
| [**R4-2215528**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215528.zip) |  | Triple beat MSD for DC\_3C\_n28A | Skyworks Solutions Inc. |  |  |
| [**R4-2216054**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216054.zip) |  | TP and discussion on triple beat MSD of UL DC\_3C\_n28A | Huawei, HiSilicon |  |  |
| [**R4-2215525**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215525.zip) |  | Triple beat MSD for DC\_3A\_n41C | Skyworks Solutions Inc. |  |  |
| [**R4-2215343**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215343.zip) |  | On Triple Beat Detection Equation for Intra-band Contiguous 2 CCs | Murata Manufacturing Co Ltd. |  |  |
| [**R4-2215516**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215516.zip) |  | MSD for CA\_n7A-n26A | Skyworks Solutions Inc. |  |  |
| [**R4-2216088**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216088.zip) |  | TP for TR 38.718-02-01 to update CA\_n7-n26 | Ericsson, Skyworks, Telstra |  |  |
| [**R4-2215521**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215521.zip) |  | MSD for DC\_(n)3AA\_n8A | Skyworks Solutions Inc. |  |  |
| [**R4-2215523**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215523.zip) |  | MSD for DC\_3A\_(n)7AA | Skyworks Solutions Inc. |  |  |
| [**R4-2216086**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216086.zip) |  | TP for TR 37 718-21-11 to update DC\_3-(n)7 | Ericsson, Skyworks, MediaTek, Telstra |  |  |
| [**R4-2216087**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2216087.zip) |  | TP for TR 38.718-02-01 to update CA\_n3-n26 | Ericsson, Skyworks, Telstra |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Notes:

1. Please include the summary of recommendations for all tdocs across all sub-topics incl. existing and new tdocs.
2. For the Recommendation column please include one of the following:
	1. CRs/TPs: Agreeable, Revised, Merged, Postponed, Not Pursued
	2. Other documents: Agreeable, Revised, Noted
3. For new LS documents, please include information on To/Cc WGs in the comments column
4. Do not include hyper-links in the documents

## 2nd round

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Tdoc number** | **Revised to** | **Title** | **Source** | **Recommendation**  | **Comments** |
| R4-22xxxxx |  | CR on … | XXX | Agreeable, Revised, Merged, Postponed, Not Pursued |  |
| R4-22xxxxx |  | WF on … | YYY | Agreeable, Revised, Noted |  |
| R4-22xxxxx |  | LS on … | ZZZ | Agreeable, Revised, Noted |  |
|  |  |  |  |  |  |

Notes:

1. Please include the summary of recommendations for all tdocs across all sub-topics.
2. For the Recommendation column please include one of the following:
	1. CRs/TPs: Agreeable, Revised, Merged, Postponed, Not Pursued
	2. Other documents: Agreeable, Revised, Noted
3. Do not include hyper-links in the documents