**3GPP TSG-RAN WG4 Meeting #102-e R4-2206417**

**Electronic Meeting, 21 February – 03 March 2022**

**Agenda item:** 9.31

**Source:** Moderator (Ericsson)

**Title:** Email discussion summary for [117] NR\_PC2\_EN-DC

**Document for:** Information

# Introduction

This email discussion is for ENDC\_UE\_PC2\_R17\_NR\_TDD in agenda item 9.31 and ENDC\_PC2\_R17\_xLTE\_yNR in agenda item 9.33.

# Topic #1: General

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Title** | **Company** |
| **[R4-2204025](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2204025.zip)** | DraftCR 38.101-3 Addition of PC2 EN-DC Combinations | AT&T |
| [**R4-2204219**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2204219.zip) | PC2 MSD ENDC xLTE yNR for TR 37.827 | Qualcomm Incorporated |
| [**R4-2205714**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205714.zip) | TP for TR 37.826 to add DC\_28\_n78 | Ericsson, Telstra |
| [**R4-2205715**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205715.zip) | TP for TR 37.827 to add DC\_3-7\_n78 | Ericsson, Telstra |
| [**R4-2205716**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205716.zip) | TP for TR 37.827 to add DC\_3-28\_n78 | Ericsson, Telstra |
| [**R4-2205717**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205717.zip) | TP for TR 37.827 to add DC\_7-28\_n78 | Ericsson, Telstra |
| [**R4-2205718**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205718.zip) | draft CR 38.101-3 to add DC\_3-7-28\_n78 PC2 | Ericsson, Telstra |
| [**R4-2205719**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205719.zip) | TP for TR 37.827 to add DC\_3\_n5-n78 | Ericsson, Telstra |
| [**R4-2205720**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205720.zip) | TP for TR 37.827 to add DC\_7\_n5-n78 | Ericsson, Telstra |
| [**R4-2205721**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205721.zip) | draft CR 38.101-3 to add DC\_3-7\_n5-n78 PC2 | Ericsson, Telstra |
| [**R4-2205722**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205722.zip) | TP for TR 37.827 to add DC\_3\_n28-n78 | Ericsson, Telstra |
| [**R4-2205723**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205723.zip) | TP for TR 37.827 to add DC\_7\_n28-n78 | Ericsson, Telstra |
| [**R4-2205724**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205724.zip) | draft CR 38.101-3 to add DC\_3-7\_n28-n78 PC2 | Ericsson, Telstra |

## Open issues summary

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

## Companies views’ collection for 1st round

### Open issues

### CRs/TPs comments collection

Please provide feedback comments in table below on whether the TP’s, draft CR’s or the discussion paper need to be revised. If not commented they are to be captured in TR and in a big CR for email approval after the meeting.

|  |  |  |  |
| --- | --- | --- | --- |
| **T-doc number** | **Title** | **Company** | **Comment** |
| [**R4-2204025**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2204025.zip) | DraftCR 38.101-3 Addition of PC2 EN-DC Combinations | Company A |  |
| Company B |  |
|  |  |
| [**R4-2204219**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2204219.zip) | PC2 MSD ENDC xLTE yNR for TR 37.827 | Company A |  |
| Company B |  |
|  |  |
| [**R4-2205714**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205714.zip) | TP for TR 37.826 to add DC\_28\_n78 | Skyworks | Is there a reason to choose different test points for IMD5 than the already existing PC3 test points? UL-DL separation in band 28 is not correct (should be DL=UL+55) |
| Ericsson | We have now aligned the test points for IMD5 with the existing PC3 test points.  We have also corrected the MSD value. It was previously from PC3 DC\_28\_n78 but is now instead same as for PC2 DC\_14\_n77.  [revision of R4-2205714 TP for TR 37.826 to add DC\_28\_n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205714%20TP%20for%20TR%2037.826%20to%20add%20DC_28_n78.docx) |
|  |  |
| [**R4-2205715**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205715.zip) | TP for TR 37.827 to add DC\_3-7\_n78 | Huawei | Do we need both IMD3 and IMD4 test points for band 3? |
| Ericsson | We agree only IMD3 is needed.  Please find update in: [revision of R4-2205715 TP for TR 37.827 to add DC\_3-7\_n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205715%20TP%20for%20TR%2037.827%20to%20add%20DC_3-7_n78.docx) |
|  |  |
| [**R4-2205716**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205716.zip) | TP for TR 37.827 to add DC\_3-28\_n78 | Company A |  |
| Company B |  |
|  |  |
| [**R4-2205717**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205717.zip) | TP for TR 37.827 to add DC\_7-28\_n78 | Huawei | Do we need both IMD2 and IMD5 test points for band 28? |
| Ericsson | We agree only IMD2 is needed.  Please find update in: [revision of R4-2205717 TP for TR 37.827 to add DC\_7-28\_n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205717%20TP%20for%20TR%2037.827%20to%20add%20DC_7-28_n78.docx) |
|  |  |
| [**R4-2205718**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205718.zip) | draft CR 38.101-3 to add DC\_3-7-28\_n78 PC2 | Company A |  |
| Company B |  |
|  |  |
| [**R4-2205719**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205719.zip) | TP for TR 37.827 to add DC\_3\_n5-n78 | Huawei | For similar reason as for 5720, the IMD3 test point for band 3 seems not needed. |
| Ericsson | We agree IMD3 test points are not needed.  Please find update in: [revision of R4-2205719 TP for TR 37.827 to add DC\_3\_n5-n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205719%20TP%20for%20TR%2037.827%20to%20add%20DC_3_n5-n78.docx) |
|  |  |
| [**R4-2205720**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205720.zip) | TP for TR 37.827 to add DC\_7\_n5-n78 | Huawei | DC\_7\_n5 is not defined in the Uplink EN-DC configuration. So the MSD test point for n78 (IMD2) is redundant? Please check other TPs for similar issues.  Please find updated TP: [revision of R4-2205720 TP for TR 37.827 to add DC\_7\_n5-n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205720%20TP%20for%20TR%2037.827%20to%20add%20DC_7_n5-n78.docx)  The revision looks good. |
| Company B |  |
|  |  |
| [**R4-2205721**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205721.zip) | draft CR 38.101-3 to add DC\_3-7\_n5-n78 PC2 | Company A |  |
| Company B |  |
|  |  |
| [**R4-2205722**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205722.zip) | TP for TR 37.827 to add DC\_3\_n28-n78 | Huawei | For similar reason as for 5720, the IMD5 test point for n78 seems not needed. |
| Ericsson | We agree IMD5 test points are not needed.  Please find update in: [revision of R4-2205722 TP for TR 37.827 to add DC\_3\_n28-n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205722%20TP%20for%20TR%2037.827%20to%20add%20DC_3_n28-n78.docx) |
|  |  |
| [**R4-2205723**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205723.zip) | TP for TR 37.827 to add DC\_7\_n28-n78 | Huawei | For similar reason as for 5720, the IMD2 test point for n78 seems not needed. |
| Ericsson | We agree IMD2 test points for n78 are not needed.  Please find update in: [revision of R4-2205723 TP for TR 37.827 to add DC\_7\_n28-n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205723%20TP%20for%20TR%2037.827%20to%20add%20DC_7_n28-n78.docx) |
|  |  |
| [**R4-2205724**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205724.zip) | draft CR 38.101-3 to add DC\_3-7\_n28-n78 PC2 | 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** | **Name** | **CRs/TPs Status update recommendation** |
| [**R4-2204025**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2204025.zip) | DraftCR 38.101-3 Addition of PC2 EN-DC Combinations | Recommended to be endorsed |
| [**R4-2204219**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2204219.zip) | PC2 MSD ENDC xLTE yNR for TR 37.827 | Recommended for approval |
| [**R4-2205714**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205714.zip) | TP for TR 37.826 to add DC\_28\_n78 | New TDOC needed for the available revision |
| [**R4-2205715**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205715.zip) | TP for TR 37.827 to add DC\_3-7\_n78 | New TDOC needed for the available revision |
| [**R4-2205716**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205716.zip) | TP for TR 37.827 to add DC\_3-28\_n78 | Recommended for approval |
| [**R4-2205717**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205717.zip) | TP for TR 37.827 to add DC\_7-28\_n78 | New TDOC needed for the available revision |
| [**R4-2205718**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205718.zip) | draft CR 38.101-3 to add DC\_3-7-28\_n78 PC2 | Recommended to be endorsed |
| [**R4-2205719**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205719.zip) | TP for TR 37.827 to add DC\_3\_n5-n78 | New TDOC needed for the available revision |
| [**R4-2205720**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205720.zip) | TP for TR 37.827 to add DC\_7\_n5-n78 | Revision recommended to be approved. New tdoc number to use R4-2206276 |
| [**R4-2205721**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205721.zip) | draft CR 38.101-3 to add DC\_3-7\_n5-n78 PC2 | Recommended to be endorsed |
| [**R4-2205722**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205722.zip) | TP for TR 37.827 to add DC\_3\_n28-n78 | New TDOC needed for the available revision |
| [**R4-2205723**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205723.zip) | TP for TR 37.827 to add DC\_7\_n28-n78 | New TDOC needed for the available revision |
| [**R4-2205724**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205724.zip) | draft CR 38.101-3 to add DC\_3-7\_n28-n78 PC2 | Recommended to be endorsed |

## Discussion on 2nd round (if applicable)

Please provide feedback comments in table below on whether the TP’s need to be revised. If not commented they are to be captured in TR and in a big CR for email approval after the meeting.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **T-doc number** | **Title** | **Available revision** | **Company** | **Comment** |
| [**R4-2205714**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205714.zip) | TP for TR 37.826 to add DC\_28\_n78 | [revision of R4-2205714 TP for TR 37.826 to add DC\_28\_n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205714%20TP%20for%20TR%2037.826%20to%20add%20DC_28_n78.docx) | Moderator | New tdoc number to use R4-2206272 |
| Company A |  |
| Company B |  |
| [**R4-2205715**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205715.zip) | TP for TR 37.827 to add DC\_3-7\_n78 | [revision of R4-2205715 TP for TR 37.827 to add DC\_3-7\_n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205715%20TP%20for%20TR%2037.827%20to%20add%20DC_3-7_n78.docx) | Moderator | New tdoc number to use R4-2206273 |
| Company A |  |
| Company B |  |
| [**R4-2205717**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205717.zip) | TP for TR 37.827 to add DC\_7-28\_n78 | [revision of R4-2205717 TP for TR 37.827 to add DC\_7-28\_n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205717%20TP%20for%20TR%2037.827%20to%20add%20DC_7-28_n78.docx) | Moderator | New tdoc number to use R4-2206274 |
| Company A |  |
| Company B |  |
| [**R4-2205719**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205719.zip) | TP for TR 37.827 to add DC\_3\_n5-n78 | [revision of R4-2205719 TP for TR 37.827 to add DC\_3\_n5-n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205719%20TP%20for%20TR%2037.827%20to%20add%20DC_3_n5-n78.docx) | Moderator | New tdoc number to use R4-2206275 |
| Company A |  |
| Company B |  |
| [**R4-2205722**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205722.zip) | TP for TR 37.827 to add DC\_3\_n28-n78 | [revision of R4-2205722 TP for TR 37.827 to add DC\_3\_n28-n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205722%20TP%20for%20TR%2037.827%20to%20add%20DC_3_n28-n78.docx) | Moderator | New tdoc number to use R4-2206277 |
| Company A |  |
| Company B |  |
| [**R4-2205723**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205723.zip) | TP for TR 37.827 to add DC\_7\_n28-n78 | [revision of R4-2205723 TP for TR 37.827 to add DC\_7\_n28-n78](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_102-e/Inbox/Drafts/%5B102-e%5D%5B117%5D%20NR_PC2_EN-DC/Round%201/revision%20of%20R4-2205723%20TP%20for%20TR%2037.827%20to%20add%20DC_7_n28-n78.docx) | Moderator | New tdoc number to use R4-2206278 |
| Company A |  |
| Company B |  |

## 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 number** | **Name** | **Revised to** | **Recommendation** | **Available inbox** |
| [R4-2205714](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205714.zip) | TP for TR 37.826 to add DC\_28\_n78 | R4-2206272 | to be Approved | Yes |
| [R4-2205715](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205715.zip) | TP for TR 37.827 to add DC\_3-7\_n78 | R4-2206273 | to be Approved | Yes |
| [R4-2205717](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205717.zip) | TP for TR 37.827 to add DC\_7-28\_n78 | R4-2206274 | to be Approved | Yes |
| [R4-2205719](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205719.zip) | TP for TR 37.827 to add DC\_3\_n5-n78 | R4-2206275 | to be Approved | Yes |
| [R4-2205720](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205720.zip) | TP for TR 37.827 to add DC\_7\_n5-n78 | R4-2206276 | to be Approved | Yes |
| [R4-2205722](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205722.zip) | TP for TR 37.827 to add DC\_3\_n28-n78 | R4-2206277 | to be Approved | Yes |
| [R4-2205723](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205723.zip) | TP for TR 37.827 to add DC\_7\_n28-n78 | R4-2206278 | to be Approved | Yes |