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

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

**Agenda item:** 5.17

**Source:** Moderator (Ericsson)

**Title:** Email discussion summary for [104-bis-e][113] HPUE\_Basket\_EN-DC

**Document for:** Information

# Introduction

Thread [113] includes the following topics:

1. Topic #1 Issues for Agenda 5.17

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. | laurent noel | laurent.noel@skyworksinc.com |
| Meta | Suhwan Lim | suhlim@meta.com |
| ZTE | Wubin Zhou | zhou.wubin@zte.com.cn |
| AT&T | Ron Borsato | ronald.borsato@att.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)

# Topic #1: HPUE for EN-DC

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

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Name** |
| [**R4-2215554**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215554.zip) | AT&T | DraftCR 38.101-3 Addition of PC2 EN-DC Combinations |

## Open issues summary

### 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** |
| [**R4-2215554**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215554.zip) | DraftCR 38.101-3 Addition of PC2 EN-DC Combinations | Skyworks  Meta  ZTE | Editorial: cover sheet indicates this is a R17.7.0 draftCR.  Technical: It seems some additional MSD test points need to be updated for some PC2 requests. For example, the B2 MSD due to Rx harmonic mixing for the PC2 DC\_2A\_n77A fall-back is not specified in 17.7.0. This example could be solved by copying the test point from NR-CA, however we did not have time to review the whole list of required corrections. How shall we proceed? |
| We are support this CR. The harmonic mixing issue can be evaluated in Rel-18 since RAN4 did not specify MSD requirements due to harmonic mixing in Rel-17. |
| The NOTEs(NOTE 21 or NOTE 14) is for UL EN-DC configuration, however, in this draft CR, both DL(first column) and UL (second column )are marked with NOTE 21 or NOTE 14.  *NOTE 21: PC3 or PC2 Uplink EN-DC configuration is applicable to EN-DC configurations.*  *NOTE 14: PC3 or PC2 Uplink EN-DC configuration is applicable to EN-DC configurations.*  So shouldn’t only UL be marked with NOTE 21 or NOTE 14 if support PC2?  To SKWS: i am not sure if you are aware of the table formats for ENDC is not align with NR CA. For example, band classes are included (like DC\_ XA-nYA) for ENDC, however, no band classes are included in NR CA (in NR CA table, it is CA\_nX-nY). Should we keep consistency for the format between ENDC and NR CA? |
| AT&T:  To Skyworks: For the editorial issue on the cover sheet, I think that this is not an issue since the latest spec is 17.7.0. The way to indicate that it is a Rel-18 draft CR is in the Release field which shows “Rel-18”.  Thanks for noticing the missing MSD test points. This seems to be a general Rel-17 issue with the big CR not incorporating all of the information from the original TP for the DC\_2\_n77 case in the PC2 TR 37.826. DC\_2\_77 did have a clause for MSD due to receiver harmonic mixing that was never implemented in the specification. It appears that this was missed in the big CR at RAN4 #98e in R4-2100082 (this issue has existed for a year and a half).  Since this time, there have been many other higher-order EN-DC cases that include the DC\_2A\_n77A UL case that were specified for PC2 operation in the Rel-17 specification. In my opinion, the PC2 EN-DC combinations that I am introducing in my Rel-18 draft CR are no different since they are higher-order cases. In this case, I think that we can endorse the Rel-18 draft CR at this meeting with the understanding that RAN4 needs to fix the missing MSD in the specification with a Rel-17 maintenance CR and corresponding Rel-18 draft CR at the November meeting since Rel-17 maintenance CRs were not allowed at this meeting. This will fix the underlying issue which affects many more combinations than the ones in my Rel-18 draft CR at this meeting.  Is this an acceptable way forward?  To ZTE: I followed the approach used in 38.101-3 in my draft CR to add the note to both DL and UL columns to be consistent. In addition, since we can only complete the higher-order DL combinations with PC2 UL after the corresponding DL combinations with PC3 UL have been completed. We will always have cases where some of the DL configurations should not be marked as supporting PC2 UL since we have to complete PC3 UL first before the PC2 request based on the agreed guidelines. I am open to future discussions on specification alignment. It seems that for now, we should follow the approach used to date until RAN4 confirms a way forward on the general approach. |
| Skyworks | To AT&T: Thank you the detailed explanations. We are fine with the proposed WF.  To ZTE: We assume you are referring to the way REFSENS exception test points are specified, in which case we share your observation, even though some EN-DC test points are captured without band class. So there is inconsistency that could be addressed in thread for BCsim. Example of combinations without band-class: test point for DC\_1\_n3 and CA\_n1-n3 are without band class. Example of differences between ENDC/NRCA: test point for DC\_1A\_n8A is with band class, while NR CA\_n1-n8 is without. |

## 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.*



|  |  |  |
| --- | --- | --- |
| **CR/TP number** | **Name** | **CRs/TPs Status update recommendation** |
| **[R4-2215554](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_104bis-e/Docs/R4-2215554.zip)** | DraftCR 38.101-3 Addition of PC2 EN-DC Combinations | Recommended to be endorsed |

## Discussion on 2nd round (if applicable)

There is no need for further discussion in the 2nd round of this meeting.

# 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** |
| R4-22xxxxx |  | CR on … | XXX | Agreeable, Revised, Merged, Postponed, Not Pursued |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

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