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**Third Generation Partnership Project (3GPP™)**

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## 1 Opening of the E-meeting

The Chairman Xizeng Dai (Huawei) opened the meeting on RAN4 reflector on 16/08/2021.

Intellectual Property Rights Declaration Policy

The attention of the delegates to the meeting of this Technical Specification Group was drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.

The delegates were asked to take note that they were thereby invited:

- to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP.

- to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Information Statement and the Licensing declaration forms.

Statement regarding competition law

The attention of the delegates to the meeting was drawn to the fact that 3GPP activities were subject to all applicable antitrust and competition laws and that compliance with said laws was therefore required by any participant of the meeting, including the Chairman and Vice-Chairmen and were invited to seek any clarification needed with their legal counsel. The leadership would conduct the present meeting with impartiality and in the interests of 3GPP. Delegates were reminded that timely submission of work items in advance of TSG/WG meetings was important to allow for full and fair consideration of such matters.

Meeting arrangements

The meeting was conducted on three parallel sessions; Main session, RRM session and BS RF Test Demod session. The Main session was chaired by RAN4 Chair Xizeng Dai (Huawei), RRM session was chaired by RAN4 Vice Chair Andrey Chervyakov (Intel) and BS RF Test Demod session was chaired by RAN4 ViceChair Haijie Qiu (Samsung). The sessions were further broken down into separate email threads to address specific technical topics lead by assigned discussion moderators. Webinar sessions were used to summarize progress, resolve controversial issues and decide way forward.

It have been requested that the following statement is read at the beginning of RAN4#100-e meeting:

“The FCC’s quiet period for Auction 110 (the 3.45 GHz spectrum) is currently in effect. Accordingly, no discussions or questions relating to the auction, bids, bidding strategy, or post-auction market structure will be invited or permitted today or at any time until the quiet period has ended.”

## 2 Approval of the agenda

[**R4-2111700**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111700.zip) **RAN4#99-e Meeting Report**

*Type: report For: Approval  
 Source: ETSI MCC*

**Decision: Approved.**

[**R4-2111701**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111701.zip) **Agenda for RAN4#100-e**

*Type: agenda For: Approval  
 Source: RAN4 Chair (Huawei)*

**Decision: Approved.**

[**R4-2111702**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111702.zip) **RAN4#100-e E-Meeting Arrangements and Guidelines**

*Type: other For: Approval  
 Source: RAN4 Chair (Huawei)*

**Decision: Approved.**

[**R4-2114691**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114691.zip) **RAN4 Meeting Efficiency Improvements**

*Type: other For: Approval  
 Source: RAN4 Chair (Huawei)*

**Decision: Approved.**

## 3 Election for RAN4 vice chairs

**RAN4 Vice Chair candidates:**

|  |  |
| --- | --- |
| **Name** | **Company / Partner** |
| [Mr. Andrey Chervyakov](https://www.3gpp.org/ftp/webExtensions/elections/RAN/RAN4/Election_August_2021/RAN4_CHERVYAKOV_VC.pdf) | Intel / ATIS |
| [Mr. Haijie Qiu](https://www.3gpp.org/ftp/webExtensions/elections/RAN/RAN4/Election_August_2021/RAN4_QIU_VC.pdf) | Samsung Electronics Co., Ltd / TTA |

No ballot for RAN4 vice chairs election was carried out.

Haijie Qiu and Andrey Chervyakov were re-elected as RAN4 Vice Chairs for the second term with applause at RAN4#100-e meeting.

**1st RAN4 Vice Chair position:**

- Mr. Haijie Qiu, Samsung Electronics Co., Ltd / TTA

**2nd RAN4 Vice Chair position:**

- Mr. Andrey Chervyakov, Intel / ATIS

## 4 Letters / reports from other groups / meetings

[R4-2111703](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111703.zip) LS on 5 GHz channel access mechanism ETSI TC BRAN

[R4-2111704](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111704.zip) Reply LS on fallback applicability for FeatureSetDownLinkPerCC capability fields RAN1

[R4-2111705](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111705.zip) LS on PRS processing samples RAN1

[R4-2111706](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111706.zip) LS on joint channel estimation for PUSCH and PUCCH RAN1

[R4-2111707](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111707.zip) Reply LS on RSS based RSRQ for LTE-MTC RAN1

[R4-2111708](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111708.zip) LS on how to introduce the 52.6-71GHz frequency range RAN1

[R4-2111709](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111709.zip) LS on Beam correspondence with Small Data Transmission in Inactive State RAN1

[R4-2111710](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111710.zip) LS on updated Rel-16 RAN1 UE features lists for NR after RAN1#105-e RAN1

[R4-2111711](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111711.zip) Reply LS on RACH procedure for HO with PSCell RAN2

[R4-2111712](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111712.zip) LS to RAN4 on power class and P-max for IAB-MT cell selection RAN2

[R4-2111713](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111713.zip) LS Reply on TCI State Update for L1/L2-Centric Inter-Cell Mobility RAN2

[R4-2111714](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111714.zip) Reply LS to RAN1 LS on TCI State Update for L1/L2-Centric Inter-Cell Mobility RAN3

[R4-2111715](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111715.zip) LS on Inter-donor migration RAN3

[R4-2111716](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111716.zip) LS on FR2 Extreme temperature conditions clarifications RAN5

[R4-2111717](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111717.zip) LS on FR2 relative power tolerance RAN5

[R4-2111718](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111718.zip) Liaison Statement on CCSA progress on UE EMC CCSA TC9 WG1

[R4-2111719](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111719.zip) New blocking requirement for Band 1 BSs for protection from RMR in 1900-1910 ETSI MSG TFES

[R4-2111720](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111720.zip) LS to 3GPP on the editorial issues of 5G-NR UE specifications in TSG RAN5 & TSG RAN4 ETSI MSG TFES

[**R4-2111703**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111703.zip) **LS on 5 GHz channel access mechanism (ETSI TC BRAN)**

*Type: LS in For: Information  
 Original outgoing LS: BRAN(21)110048r2, to IEEE 802.11 WG, RAN, RAN1, RAN4, GSMA, cc -***Decision: Noted.**

[**R4-2111704**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111704.zip) **Reply LS on fallback applicability for FeatureSetDownLinkPerCC capability fields (RAN1)**

*Type: LS in For: Information  
 Original outgoing LS: R1-2106133, to RAN2, cc RAN4***Decision: Noted.**

[**R4-2111705**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111705.zip) **LS on PRS processing samples (RAN1)**

*Type: LS in For: Information  
 Original outgoing LS: R102106185, to RAN4, cc -***Decision: Noted.**

[**R4-2111706**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111706.zip) **LS on joint channel estimation for PUSCH and PUCCH (RAN1)**

*Type: LS in For: Information  
 Original outgoing LS: R1-2106212, to RAN4, cc -***Decision: Noted.**

[**R4-2111707**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111707.zip) **Reply LS on RSS based RSRQ for LTE-MTC (RAN1)**

*Type: LS in For: Information  
 Original outgoing LS: R1-2106215, to RAN4, cc RAN2***Decision: Noted.**

[**R4-2111708**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111708.zip) **LS on how to introduce the 52.6-71GHz frequency range (RAN1)**

*Type: LS in For: Information  
 Original outgoing LS: -, to RAN, cc RAN2, RAN4***Decision: Noted.**

[**R4-2111709**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111709.zip) **LS on Beam correspondence with Small Data Transmission in Inactive State (RAN1)**

*Type: LS in For: Information  
 Original outgoing LS: R1-2106309, to RAN4, cc -***Decision: Noted.**

[**R4-2111710**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111710.zip) **LS on updated Rel-16 RAN1 UE features lists for NR after RAN1#105-e (RAN1)**

*Type: LS in For: Information  
 Original outgoing LS: R1-2106345, to RAN2, RAN4, cc -***Decision: Noted.**

[**R4-2111711**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111711.zip) **Reply LS on RACH procedure for HO with PSCell (RAN2)**

*Type: LS in For: Information  
 Original outgoing LS: R2-2106674, to RAN4, cc RAN3***Decision: Noted.**

[**R4-2111712**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111712.zip) **LS to RAN4 on power class and P-max for IAB-MT cell selection (RAN2)**

*Type: LS in For: Information  
 Original outgoing LS: R2-2106726, to RAN4, cc -***Decision: Noted.**

[**R4-2111713**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111713.zip) **LS Reply on TCI State Update for L1/L2-Centric Inter-Cell Mobility (RAN2)**

*Type: LS in For: Information  
 Original outgoing LS: R2-2106787, to RAN1, cc RAN, RAN2, RAN4***Decision: Noted.**

[**R4-2111714**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111714.zip) **Reply LS to RAN1 LS on TCI State Update for L1/L2-Centric Inter-Cell Mobility (RAN3)**

*Type: LS in For: Information  
 Original outgoing LS: R3-212879, to RAN1, RAN2, RAN4, cc RAN***Decision: Noted.**

[**R4-2111715**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111715.zip) **LS on Inter-donor migration (RAN3)**

*Type: LS in For: Information  
 Original outgoing LS: R3-212981, to RAN1, RAN2, RAN4, cc -***Decision: Noted.**

[**R4-2111716**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111716.zip) **LS on FR2 Extreme temperature conditions clarifications (RAN5)**

*Type: LS in For: Information  
 Original outgoing LS: R5-213821, to RAN4, cc -***Decision: Noted.**

[**R4-2111717**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111717.zip) **LS on FR2 relative power tolerance (RAN5)**

*Type: LS in For: Information  
 Original outgoing LS: R5-214106, to RAN4, cc -***Decision: Noted.**

[**R4-2111718**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111718.zip) **Liaison Statement on CCSA progress on UE EMC (CCSA TC9 WG1)**

*Type: LS in For: Information  
 Original outgoing LS: TC9WG157\_019, to RAN4, cc -***Decision: Noted.**

[**R4-2111719**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111719.zip) **New blocking requirement for Band 1 BSs for protection from RMR in 1900-1910 (ETSI MSG TFES)**

*Type: LS in For: Information  
 Original outgoing LS: TFES(21)000058r1, to RAN4, cc ETSI TC RT***Decision: Noted.**

[**R4-2111720**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111720.zip) **LS to 3GPP on the editorial issues of 5G-NR UE specifications in TSG RAN WG5 & TSG RAN WG4 (ETSI MSG TFES)**

Type: LS in For: Information  
 Original outgoing LS: TFES(21)069022r1, to RAN, RAN4, RAN5, cc TC ERM

**Decision: Noted.**

## 5 Rel-15 and previous release maintenance

### 5.1 Rel-15 New radio access technology

#### 5.1.1 System Parameters Maintenance

#### 5.1.2 UE RF requirements maintenance

**Email discussion summary of [100-e][101] NR\_Maintenance\_R15\_Part\_1, AI 5.1.2, AI 5.1.2.1 – Aijun Cao**

[**R4-2114701**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114701.zip) **Email discussion summary for [100-e][101] NR\_Maintenance\_R15\_Part\_1**

*Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2115001 (from R4-2114701).**

[**R4-2115001**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114701.zip) **Email discussion summary for [100-e][101] NR\_Maintenance\_R15\_Part\_1**

*Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114871  Revised from [**R4-2111762**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2111762.zip)  Mirror CR:  R4-2114872  R4-2114873 | Generalization of band edge relaxation for UL band configurations | Nokia, Nokia Shanghai Bell | Endorsed |  |
| R4-2114874  Revised from [**R4-2112518**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112518.zip)  Related CRs  R4-2114875  R4-2114876 | Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R15, R16, R17) | SoftBank Corp. | Endorsed | Sync with the revision of 2580/2581/2585 in Thread[#102] |
| R4-2114877  Revised from [**R4-2112905**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112905.zip)  Mirror CRs:  R4-2112906  R4-2112907 | Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including single carrier UL configuration. | ZTE Corporation | Endorsed |  |
| R4-2114878  Revised from  [**R4-2112909**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112905.zip)  R4-2114889 | Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including intra-band contiguous CA UL configuration (Rel-16) | ZTE Corporation | Endorsed |  |
| [**R4-2111906**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2111906.zip)  Mirror CRs:  R4-2111907  R4-2111908 | dCR to 38.101-1: UL MIMO requirements update | Qualcomm Incorporated, Lenovo, Motorola Mobility | Endorsed | Chair: Please capture the agreements under R4-2111909:  Agreements:  Define EVM requirements for UL-MIMO on a per-layer basis. |
| [**R4-2112776**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112776.zip) | Reply LS on ambiguity in deciding TL,C | Nokia, Nokia Shanghai Bell | Return-to |  |
| [**R4-2112777**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112777.zip)  Mirror CRs:  R4-2112778  R4-2112779 | CR on ambiguity in deciding TL,C R15 CATF | Nokia, Nokia Shanghai Bell, Qualcomm Incorporated | Return-to |  |
| [**R4-2113399**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113399.zip)  Mirror CRs:  R4-2113400  R4-2113401 | Draft CR for 38.101-1 clarification on the lower limit of Pumax(Rel-15) | Huawei, HiSilicon | Return-to |  |
| **R4-2115098**  Revised from  [**R4-2112897**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113398.zip)  Mirror CRs:  R4-2112898  R4-2112899 | CR to TS 38.307 on the definition of the duplex-mode for the band configurations | ZTE Corporation, CHTTL | Endorsed |  |
| [**R4-2113417**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113398.zip)  Mirror CRs:  R4-2113418  R4-2113419 | CR for 38.307 to modify information "duplex mode" for band combinations(Rel-15) | Huawei, HiSilicon | Noted |  |
| R4-2114880  Revised from  [**R4-2111736**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2111736.zip)  Mirror CR:  R4-2111737  R4-2111738 | CR CatF n74 NS\_39 Coexistence | Qualcomm Incorporated | Not pursued |  |
| R4-2114881  Revised from [**R4-2113180**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113180.zip)  Mirror CRs:  R4-2113181  R4-2113182 | draftCR to TS38.101-1 for the corrections on configured power requirement for SRS antenna switching | Samsung | Endorsed. |  |

##### 5.1.2.1 [FR1] Maintenance for 38.101-1

[**R4-2112589**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112589.zip) **Views on** [**R4-2109437**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2109437.zip)**- 2UL CA/DC additional requirements**

*Type: other For: Approval  
 Source: SoftBank Corp.*

**Abstract:**

Further views of a contribution last time [R4-2109437](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2109437.zip)) are shown.

**Decision: Noted.**

[**R4-2111723**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111723.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2111724**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111724.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: CR For: Agreement  
 38.101-1 v15.14.0 CR-0876 rev Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **withdrawn**.

[**R4-2111725**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111725.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: CR For: Agreement  
 38.101-1 v16.8.0 CR-0877 rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **withdrawn**.

[**R4-2111726**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111726.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0878 rev Cat: F (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **withdrawn**.

[**R4-2111736**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111736.zip) **CR CatF n74 NS\_39 Coexistence**

*Type: CR For: Agreement  
 38.101-1 v15.14.0 CR-0881 rev Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision: Revised to R4-2114880 (from R4-2111736).**

[**R4-2114880**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111736.zip) **CR CatF n74 NS\_39 Coexistence**

*Type: CR For: Agreement  
 38.101-1 v15.14.0 CR-0881 rev Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision: Not pursued.**

[**R4-2111737**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111737.zip) **CR CatA n74 NS\_39 Coexistence**

*Type: CR For: Agreement  
 38.101-1 v16.8.0 CR-0882 rev Cat: A (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Decision: Withdrawn.**

[**R4-2111738**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111738.zip) **CR CatA n74 NS\_39 Coexistence**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0883 rev Cat: A (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Decision: Withdrawn.**

[**R4-2111739**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111739.zip) **n74 NS\_39 Coexistence Issue**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2111762**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111762.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Revised to R4-2114871 (from R4-2111762).**

[**R4-2114871**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111762.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Endorsed.**

[**R4-2111763**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111763.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR for Rel-16 is a kind of a Category A CR of [R4-2111762](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111762.zip) for Rel-15, but some details are different between them so that this CR is submitted as Category F CR in this AI.

**Decision: Revised to R4-2114872 (from R4-2111763).**

[**R4-2114872**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111763.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR for Rel-16 is a kind of a Category A CR of [R4-2111762](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111762.zip) for Rel-15, but some details are different between them so that this CR is submitted as Category F CR in this AI.

**Decision: Endorsed.**

[**R4-2111764**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111764.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR for Rel-17 is a kind of a Category A CR of [R4-2111762](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111762.zip) for Rel-15, but some details are different between them so that this CR is submitted as Category F CR in this AI.

**Decision: Revised to R4-2114873 (from R4-2111764).**

[**R4-2114873**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111764.zip) **Generalization of band edge relaxation for UL band configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR for Rel-17 is a kind of a Category A CR of [R4-2111762](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111762.zip) for Rel-15, but some details are different between them so that this CR is submitted as Category F CR in this AI.

**Decision: Endorsed.**

[**R4-2111767**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111767.zip) **Clarification on delta\_TRxSRS to Configured transmitted power**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2111906**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111906.zip) **dCR to 38.101-1: UL MIMO requirements update**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated, Lenovo, Motorola Mobility*

**Abstract:**

Make 2L EVM requirement consistent with RAN1 design and TxDiv

**Decision: Endorsed.**

[**R4-2111907**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111907.zip) **dCR to 38.101-1: UL MIMO requirements update**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Qualcomm Incorporated, Lenovo, Motorola Mobility*

**Abstract:**

Make 2L EVM requirement consistent with RAN1 design and TxDiv

**Decision: Endorsed.**

[**R4-2111908**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111908.zip) **dCR to 38.101-1: UL MIMO requirements update**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Qualcomm Incorporated, Lenovo, Motorola Mobility*

**Abstract:**

Make 2L EVM requirement consistent with RAN1 design and TxDiv

**Decision: Endorsed.**

[**R4-2111909**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111909.zip) **On the FR1 UE's EVM requirement for 2L UL**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

the ‘per connector’ EVM specification for 2L UL curtails the same design freedom that enable Tx diversity, and therefore not consistent

Agreements: Define EVM requirements for UL-MIMO on a per-layer basis.

**Decision: Noted.**

[**R4-2112220**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112220.zip) **Evaluation of FR1 UL MIMO EVM measurement method**

*Type: discussion For: Approval  
 Source: Rohde & Schwarz*

**Decision: Noted.**

[**R4-2112253**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112253.zip) **FR1 UL MIMO EVM**

*Type: discussion For: Approval  
 Source: Anritsu Limited*

**Decision: Noted.**

[**R4-2112329**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112329.zip) **Draft CR on TS 38.101-1 on Asymmetric channel bandwidth**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: ZTE Wistron Telecom AB*

**Decision: Not pursued.**

[**R4-2112330**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112330.zip) **Draft CR on TS 38.101-1 on Asymmetric channel bandwidth**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: ZTE Wistron Telecom AB*

**Decision: Withdrawn.**

[**R4-2112331**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112331.zip) **Draft CR on TS 38.101-1 on Asymmetric channel bandwidth**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Wistron Telecom AB*

**Decision: Withdrawn.**

[**R4-2112351**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112351.zip) **On additional emission requirement issues for CA/DC**

*Type: discussion For: Decision  
 Source: Apple*

**Decision: Noted.**

[**R4-2112518**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112518.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R15)**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: SoftBank Corp.*

**Abstract:**

Applicability of additional UE co-ex requirements for 2 band CA/DC is clarified.

**Decision: Revised to R4-2114874 (from R4-2112518).**

[**R4-2114874**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112518.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R15)**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: SoftBank Corp.*

**Abstract:**

Applicability of additional UE co-ex requirements for 2 band CA/DC is clarified.

**Decision: Endorsed.**

[**R4-2112571**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112571.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R16)**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: SoftBank Corp.*

**Abstract:**

Basically the same content as R15 but new combos were added. (Cat.F)

**Decision: Endorsed.**

[**R4-2114875**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112571.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R16)**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: SoftBank Corp.*

**Abstract:**

Basically the same content as R15 but new combos were added. (Cat.F)

**Decision: Endorsed.**

[**R4-2112578**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112578.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R17)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: SoftBank Corp.*

**Abstract:**

Basically the same content as R15 but new combos were added.(Cat.F)

**Decision: Revised to R4-2114876 (from R4-2112578).**

[**R4-2114876**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112578.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R17)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: SoftBank Corp.*

**Abstract:**

Basically the same content as R15 but new combos were added.(Cat.F)

**Decision: Endorsed.**

[**R4-2112776**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112776.zip) **Reply LS on ambiguity in deciding TL,C**

*Type: LS out For: Approval  
 to RAN5  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Return to.**

[**R4-2112777**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112777.zip) **CR on ambiguity in deciding TL,C R15 CATF**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell, Qualcomm Incorporated*

**Decision: Return to.**

[**R4-2112778**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112778.zip) **CR on ambiguity in deciding TL,C R16 CATA**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell, Qualcomm Incorporated*

**Decision: Return to.**

[**R4-2112779**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112779.zip) **CR on ambiguity in deciding TL,C R17 CATA**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell, Qualcomm Incorporated*

**Decision: Return to.**

[**R4-2112897**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112897.zip) **CR to TS 38.307 on the definition of the duplex-mode for the band configurations**

*Type: CR For: Agreement  
 38.307 v15.8.0 CR-0069 rev Cat: F (Rel-15)  
  
 Source: ZTE Corporation, CHTTL*

**Decision: Revised to R4-2115098 (from R4-2112897).**

[**R4-2115098**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112897.zip) **CR to TS 38.307 on the definition of the duplex-mode for the band configurations**

*Type: CR For: Agreement  
 38.307 v15.8.0 CR-0069 rev Cat: F (Rel-15)  
  
 Source: ZTE Corporation, CHTTL*

**Decision: Agreed.**

[**R4-2112898**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112898.zip) **CR to TS 38.307 on the definition of the duplex-mode for the band configurations**

*Type: CR For: Agreement  
 38.307 v16.7.0 CR-0070 rev Cat: A (Rel-16)  
  
 Source: ZTE Corporation, CHTTL*

**Decision: Agreed.**

[**R4-2112899**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112899.zip) **CR to TS 38.307 on the definition of the duplex-mode for the band configurations**

*Type: CR For: Agreement  
 38.307 v17.2.0 CR-0071 rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation, CHTTL*

**Decision: Agreed.**

[**R4-2112904**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112904.zip) **Discussion on inter-band CA Tx RF requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2112905**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112905.zip) **Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including single carrier UL configuration.**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2114877 (from R4-2112905).**

[**R4-2114877**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112905.zip) **Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including single carrier UL configuration.**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

[**R4-2112906**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112906.zip) **Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including single carrier UL configuration.**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

[**R4-2112907**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112907.zip) **Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including single carrier UL configuration.**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

[**R4-2113021**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113021.zip) **Correction on hanging paragraph for Output power dynamics for CA for Rel-15**

*Type: draftCR For: Approval  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: vivo*

**Decision: Merged (with R4-2112905).**

[**R4-2113022**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113022.zip) **Correction on hanging paragraph and missing title for Output power dynamics for CA for Rel-16**

*Type: draftCR For: Approval  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: vivo*

**Decision: Merged (with R4-2112906).**

[**R4-2113023**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113023.zip) **Correction on hanging paragraph and missing title for Output power dynamics for CA for Rel-17**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: vivo*

**Decision: Withdrawn.**

[**R4-2113179**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113179.zip) **Correction on SRS antenna switching requirement in TS38.101-1**

*Type: discussion For: Approval  
 Source: Samsung*

**Decision: Noted.**

[**R4-2113180**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113180.zip) **draftCR to TS38.101-1 for the corrections on configured power requirement for SRS antenna switching**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Samsung*

**Decision: Revised to** **R4-2114881 (from R4-2113180).**

[**R4-2114881**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113180.zip) **draftCR to TS38.101-1 for the corrections on configured power requirement for SRS antenna switching**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Samsung*

**Decision: Endorsed.**

[**R4-2113181**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113181.zip) **draftCR to TS38.101-1 for the corrections on configured power requirement for SRS antenna switching**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Samsung*

**Decision: Endorsed.**

[**R4-2113182**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113182.zip) **draftCR to TS38.101-1 for the corrections on configured power requirement for SRS antenna switching**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Samsung*

**Decision: Endorsed.**

[**R4-2113298**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113298.zip) **Draft CR for 38.101-1 Rel15 corrections on power tolerance and UE additional maximum output power reduction**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Xiaomi*

**Abstract:**

1.Revise the UE power class lower tolerance in Table 6.2.1-1 from ±2/-2.5 to +2/-2.5 dB for Band n83.

2.Adding NS\_10 for n82 in the section of UE additional maximum output power reduction

**Decision: Endorsed.**

[**R4-2113299**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113299.zip) **Draft CR for 38.101-1 Rel15 corrections on power tolerance and UE additional maximum output power reduction**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Xiaomi*

**Abstract:**

1.Revise the UE power class lower tolerance in Table 6.2.1-1 from ±2/-2.5 to +2/-2.5 dB for Band n83.

2.Adding NS\_10 for n82 in the section of UE additional maximum output power reduction

**Decision: Endorsed.**

[**R4-2113300**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113300.zip) **Draft CR for 38.101-1 Rel15 corrections on power tolerance and UE additional maximum output power reduction**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Xiaomi*

**Abstract:**

1.Revise the UE power class lower tolerance in Table 6.2.1-1 from ±2/-2.5 to +2/-2.5 dB for Band n83.

2.Adding NS\_10 for n82 in the section of UE additional maximum output power reduction

**Decision: Endorsed.**

[**R4-2113398**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113398.zip) **Discussion and draft Reply LS on ambiguity in deciding TL,C**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2113399**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113399.zip) **Draft CR for 38.101-1 clarification on the lower limit of Pumax(Rel-15)**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2113400**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113400.zip) **Draft CR for 38.101-1 clarification on the lower limit of Pumax(Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2113401**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113401.zip) **Draft CR for 38.101-1 clarification on the lower limit of Pumax(Rel-17)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2113417**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113417.zip) **CR for 38.307 to modify information "duplex mode" for band combinations(Rel-15)**

*Type: CR For: Agreement  
 38.307 v15.8.0 CR-0072 rev Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2113418**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113418.zip) **CR for 38.307 to modify information "duplex mode" for band combinations(Rel-16)**

*Type: CR For: Agreement  
 38.307 v16.7.0 CR-0073 rev Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2113419**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113419.zip) **CR for 38.307 to modify information "duplex mode" for band combinations(Rel-17)**

*Type: CR For: Agreement  
 38.307 v17.2.0 CR-0074 rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2114497**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114497.zip) **On UL MIMO Tx EVM requirement**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

##### 5.1.2.2 [FR2] Maintenance for 38.101-2

**Email discussion summary of [100-e][102] NR\_Maintenance\_R15\_Part\_2, AI 5.1.2.2, AI 5.1.2.3 –Hisashi Onozawa**

[**R4-2114702**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114702.zip) **Email discussion summary for [100-e][102] NR\_Maintenance\_R15\_Part\_2**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115002 (from R4-2114702).**

[**R4-2115002**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114702.zip) **Email discussion summary for [100-e][102] NR\_Maintenance\_R15\_Part\_2**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114890 WF on intraBandENDC-support**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

This contribution provides WF.

**Discussion:**

**Decision: Approved.**

**R4-2115092 Correction to band combinations for intra-band EN-DC**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Ericsson, Nokia*

**Abstract:**

This contribution provides the CR.

**Discussion:**

**Decision: Endorsed.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114890 WF on intraBandENDC-support | Nokia | Approved |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2112140  Mirror CRs:  R4-2112141  R4-2112142 | Correction of FR2 UE configured transmitted power | Apple | Endorsed |  |
| R4-2114892  Revised from R4-2112216  Mirror CRs:  R4-2112217  R4-2112218 | Update of FR2 UL MIMO transmit signal quality requirements | Rohde & Schwarz | Endorsed |  |
| R4-2114891 revised from  R4-2112582  Mirror CRs:  R4-2112583  R4-2112584 | CR to 38.101-2: P\_min requirements update | Qualcomm Incorporated, Apple Inc. | Endorsed |  |
| R4-2115093 revised from  R4-2112580  Related CRs:  R4-2115094 R4-2115095 | Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R15, R16, R17) | SoftBank Corp. | Endorsed |  |
| R4-2115079 revised from  R4-2113018  R4-2115082  R4-2115083 | Correction on scaling number for EN-DC MPR and A-MPR | vivo | Endorsed |  |
| R4-2114893 revised from  R4-2113431  R4-2113432  R4-2113433 | Draft CR for 38.101-3 to correct the MSD due to PA non-linearities interference in 1st and 2nd adjacent channel of UL band (Rel-15) | Huawei, HiSilicon | Not pursued |  |
| R4-2114894 revised from  R4-2114390  Related CRs:  R4-2114391  R4-2114392 | Draft CR on Spurious co-existence corrections for Dual connectivity including band n28 | Keysight Technologies UK Ltd, Orange | Endorsed |  |
| R4-2112374  Related CRs:  R4-2112375  R4-2112376 | Draft CR for TS 38.101-3: Corrections for intra-band EN-DC configurations | Apple | Not pursued. |  |
| R4-2112820  Mirror CRs:  R4-2112821 | Correction to band combinations for intra-band EN-DC | Ericsson | Not pursued. |  |
| R4-2115092 | Correction to band combinations for intra-band EN-DC | Ericsson, Nokia | Endorsed | No Cat A |

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[**R4-2111816**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111816.zip) **draft CR for EESS protection for FR2 NR bands in TR 38.817-01**

*Type: draftCR For: Endorsement  
 38.817-01 v15.6.0 CR- rev Cat: F (Rel-15)  
  
 Source: NTT DOCOMO INC.*

**Decision: Endorsed.**

[**R4-2112731**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112731.zip) **draft CR for EESS protection for FR2 NR bands in TR 38.817-01**

*Type: draftCR For: Endorsement  
 38.817-01 v16.2.0 CR- rev Cat: A (Rel-16)  
  
 Source: NTT DOCOMO INC.*

**Decision: Endorsed.**

[**R4-2112025**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112025.zip) **CR to 38.101-2 on handling of fallbacks for FR2 CA**

*Type: CR For: Agreement  
 38.101-2 v15.14.0 CR-0311 rev 3 Cat: F (Rel-15)  
  
 Source: Apple, Qualcomm Incorporated, Ericsson*

(Replaces RP-202915)

**Decision: Agreed.**

[**R4-2112026**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112026.zip) **CR to 38.101-2 on handling of fallbacks for FR2 CA**

*Type: CR For: Agreement  
 38.101-2 v16.8.0 CR-0312 rev 3 Cat: A (Rel-16)  
  
 Source: Apple, Qualcomm Incorporated, Ericsson*

(Replaces RP-202916)

**Decision: Agreed.**

[**R4-2112027**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112027.zip) **CR to 38.101-2 on handling of fallbacks for FR2 CA**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0410 rev Cat: A (Rel-17)  
  
 Source: Apple, Qualcomm Incorporated, Ericsson*

**Decision: Agreed.**

[**R4-2112139**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112139.zip) **Clarification of FR2 UE configured transmitted power**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2112140**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112140.zip) **Correction of FR2 UE configured transmitted power**

*Type: draftCR For: Endorsement  
 38.101-2 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112141**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112141.zip) **Correction of FR2 UE configured transmitted power**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112142**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112142.zip) **Correction of FR2 UE configured transmitted power**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112216**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112216.zip) **Update of FR2 UL MIMO transmit signal quality requirements**

*Type: draftCR For: Endorsement  
 38.101-2 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

**Decision: Revised to R4-2114892 (from R4-2112216).**

[**R4-2114892**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112216.zip) **Update of FR2 UL MIMO transmit signal quality requirements**

*Type: draftCR For: Endorsement  
 38.101-2 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

**Decision: Endorsed.**

[**R4-2112217**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112217.zip) **Update of FR2 UL MIMO transmit signal quality requirements**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

**Decision: Endorsed.**

[**R4-2112218**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112218.zip) **Update of FR2 UL MIMO transmit signal quality requirements**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Rohde & Schwarz*

**Decision: Endorsed.**

[**R4-2112219**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112219.zip) **Discussion on FR2 transmit signal quality for UL MIMO**

*Type: discussion For: Approval  
 Source: Rohde & Schwarz*

**Decision: Noted.**

[**R4-2112366**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112366.zip) **draftCR to 38.101-2 on side conditions for beam correspondence based on SSB and CSI-RS for n257, n258, n260, n261**

*Type: draftCR For: Endorsement  
 38.101-2 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112367**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112367.zip) **draftCR to 38.101-2 on side conditions for beam correspondence based on SSB and CSI-RS for n257, n258, n260, n261**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112368**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112368.zip) **draftCR to 38.101-2 on side conditions for beam correspondence based on SSB and CSI-RS for n257, n258, n260, n261**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

**Decision: Endorsed.**

**[R4-2112582](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112582.zip) CR to 38.101-2: P\_min requirements update**

*Type: CR For: Agreement  
 38.101-2 v15.14.0 CR-0411 rev Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated, Apple Inc.*

**Abstract:**

Make 2L EVM requirement consistent with RAN1

**Decision: Revised to R4-2114891 (from R4-2112582).**

[**R4-2114891**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112582.zip) **CR to 38.101-2: P\_min requirements update**

*Type: CR For: Agreement  
 38.101-2 v15.14.0 CR-0411 rev Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated, Apple Inc.*

**Abstract:**

Make 2L EVM requirement consistent with RAN1

**Decision: Endorsed.**

**[R4-2112583](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112583.zip) CR to 38.101-2: P\_min requirements update**

*Type: CR For: Agreement  
 38.101-2 v16.8.0 CR-0412 rev Cat: A (Rel-16)  
  
 Source: Qualcomm Incorporated, Apple Inc.*

**Abstract:**

Make 2L EVM requirement consistent with RAN1

**Decision: Endorsed.**

[**R4-2112584**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112584.zip) **CR to 38.101-2: P\_min requirements update**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0413 rev Cat: A (Rel-17)  
  
 Source: Qualcomm Incorporated, Apple Inc.*

**Abstract:**

Make 2L EVM requirement consistent with RAN1

**Decision: Endorsed.**

[**R4-2112734**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112734.zip) **Discussion on EESS protection requirements after 2024/2027**

*Type: other For: Approval  
 Source: NTT DOCOMO INC.*

**Decision: Noted.**

[**R4-2112968**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112968.zip) **CR to TR 38.815: Adding n261 to TR scope**

*Type: CR For: Agreement  
 38.815 v15.0.0 CR-0001 rev Cat: F (Rel-15)  
  
 Source: Samsung, Verizon*

**Decision: Agreed.**

[**R4-2113103**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113103.zip) **Draft CR for Rel-15 38.101-2 to replace SMBS with Delta MBS,n in section 6.6.4.3.1 of side conditions for beam correspondence**

*Type: draftCR For: Endorsement  
 38.101-2 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Xiaomi*

**Decision: Endorsed.**

[**R4-2113104**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113104.zip) **Draft CR for Rel-16 38.101-2 to replace SMBS with Delta MBS,n in section 6.6.4.3.1 of side conditions for beam correspondence**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Xiaomi*

**Decision: Endorsed.**

[**R4-2113105**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113105.zip) **Draft CR for Rel-17 38.101-2 to replace SMBS with Delta MBS,n in section 6.6.4.3.1 of side conditions for beam correspondence**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Xiaomi*

**Decision: Endorsed.**

[**R4-2114387**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114387.zip) **Draft CR on Minor correction on UL additional reference channels parameters for TDD 60kHz SCS**

*Type: draftCR For: Endorsement  
 38.101-2 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Keysight Technologies UK Ltd, Qualcomm Incorporated*

**Abstract:**

Missing nrofUplinkSymbols for UL-DL configuration required for SCS=60kHz in table A.2.3-1 while Special Slot Configuration indicates S=4D+6G+4U.

**Decision:** The document was **withdrawn**.

[**R4-2114473**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114473.zip) **Draft CR on Minor correction on UL additional reference channels parameters for TDD 60kHz SCS**

*Type: draftCR For: Endorsement  
 38.101-2 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Keysight Technologies UK Ltd, Qualcomm Incorporated*

**Abstract:**

Missing nrofUplinkSymbols for UL-DL configuration required for SCS=60kHz in table A.2.3-1 while Special Slot Configuration indicates S=4D+6G+4U.

**Decision: Endorsed.**

[**R4-2114388**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114388.zip) **Draft CR on Minor correction on UL additional reference channels parameters for TDD 60kHz SCS**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Keysight Technologies UK Ltd, Qualcomm Incorporated*

**Abstract:**

There is an inconsistency in table A.2.3-1 regarding UL-DL configuration for UL Reference Measurement Channel for SCS=60kHz: while nrofUplinkSymbols is configured to 0, Special Slot Configuration indicates S=4D+6G+4U.

**Decision: Endorsed.**

[**R4-2114389**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114389.zip) **Draft CR on Minor correction on UL additional reference channels parameters for TDD 60kHz SCS**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Keysight Technologies UK Ltd, Qualcomm Incorporated*

**Abstract:**

There is an inconsistency in table A.2.3-1 regarding UL-DL configuration for UL Reference Measurement Channel for SCS=60kHz: while nrofUplinkSymbols is configured to 0, Special Slot Configuration indicates S=4D+6G+4U.

**Decision: Endorsed.**

##### 5.1.2.3 Maintenance for 38.101-3

[**R4-2112028**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112028.zip) **CR to 38.101-3 on handling of fallbacks for FR2 CA**

*Type: CR For: Agreement  
 38.101-3 v15.14.0 CR-0430 rev 3 Cat: F (Rel-15)  
  
 Source: Apple, Qualcomm Incorporated, Ericsson*

(Replaces RP-202917)

**Decision: Agreed.**

[**R4-2112029**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112029.zip) **CR to 38.101-3 on handling of fallbacks for FR2 CA**

*Type: CR For: Agreement  
 38.101-3 v16.8.0 CR-0431 rev 3 Cat: A (Rel-16)  
  
 Source: Apple, Qualcomm Incorporated, Ericsson*

(Replaces RP-202918)

**Decision: Agreed.**

[**R4-2112030**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112030.zip) **CR to 38.101-3 on handling of fallbacks for FR2 CA**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0613 rev Cat: A (Rel-17)  
  
 Source: Apple, Qualcomm Incorporated, Ericsson*

**Decision: Agreed.**

[**R4-2112373**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112373.zip) **Clarifications on intra-band EN-DC combinations**

*Type: other For: Approval  
 38.101-3 v CR- rev Cat: (Rel-15)  
  
 Source: Apple*

**Decision: Noted.**

[**R4-2112374**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112374.zip) **Draft CR for TS 38.101-3: Corrections for intra-band EN-DC configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Apple*

**Decision: Not pursued.**

[**R4-2112375**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112375.zip) **Draft CR for TS 38.101-3: Corrections for intra-band EN-DC configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

**Decision: Not pursued.**

[**R4-2112376**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112376.zip) **Draft CR for TS 38.101-3: Corrections for intra-band EN-DC configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

**Decision: Withdrawn.**

[**R4-2112580**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112580.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R15)**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: SoftBank Corp.*

**Abstract:**

Applicability of additional emission requirements for 2 band CA/DC is clarified.

**Decision: Revised to R4-2115093 (from R4-2112580).**

[**R4-2115093**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112580.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R15)**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: SoftBank Corp., NTT DOCOMO, INC, Apple*

**Abstract:**

Applicability of additional emission requirements for 2 band CA/DC is clarified.

**Decision: Endorsed.**

[**R4-2112581**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112581.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R16)**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: SoftBank Corp.*

**Abstract:**

Basically the same content as R15 but new combos were added. (Cat.F)

**Decision: Revised to R4-2115094 (from R4-2112581).**

[**R4-2115094**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112581.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R16)**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: SoftBank Corp., NTT DOCOMO, INC, Apple*

**Abstract:**

Basically the same content as R15 but new combos were added. (Cat.F)

**Decision: Endorsed.**

[**R4-2112585**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112585.zip) **Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R17)**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: SoftBank Corp.*

**Abstract:**

Basically the same content as R15 but new combos were added. (Cat.F)

**Decision: Revised to R4-2115095 (from R4-2112585).**

**[R4-2115095](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112585.zip) Clarifications on additional UE co-ex requirements for 2 Band UL CA/DC for Japan(R17)**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: SoftBank Corp., NTT DOCOMO, INC, Apple*

**Abstract:**

Basically the same content as R15 but new combos were added. (Cat.F)

**Decision: Endorsed.**

[**R4-2113018**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113018.zip) **Correction on scaling number for EN-DC MPR and A-MPR**

*Type: draftCR For: Approval  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: vivo*

**Decision: Revised to R4-2115079 (from R4-2113018).**

[**R4-2115079**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113018.zip) **Correction on scaling number for EN-DC MPR and A-MPR**

*Type: draftCR For: Approval  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: vivo*

**Decision: Endorsed.**

[**R4-2113019**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113019.zip) **Correction on scaling number for EN-DC MPR and A-MPR**

*Type: draftCR For: Approval  
 38.101-3 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: vivo*

**Decision: Revised to R4-2115082 (from R4-2113019).**

[**R4-2115082**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113019.zip) **Correction on scaling number for EN-DC MPR and A-MPR**

*Type: draftCR For: Approval  
 38.101-3 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: vivo*

**Decision: Endorsed.**

[**R4-2113020**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113020.zip) **Correction on scaling number for EN-DC MPR and A-MPR**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: vivo*

**Decision: Revised to R4-2115083 (from R4-2113020).**

**[R4-2115083](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113020.zip) Correction on scaling number for EN-DC MPR and A-MPR**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: vivo*

**Decision: Endorsed.**

[**R4-2113431**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113431.zip) **Draft CR for 38.101-3 to correct the MSD due to PA non-linearities interference in 1st and 2nd adjacent channel of UL band (Rel-15)**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114893 (from R4-2113431).**

[**R4-2114893**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113431.zip) **Draft CR for 38.101-3 to correct the MSD due to PA non-linearities interference in 1st and 2nd adjacent channel of UL band (Rel-15)**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Decision: Not pursued.**

[**R4-2113432**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113432.zip) **Draft CR for 38.101-3 to correct the MSD due to Tx non-linearities interference in 1st and 2nd adjacent channel of UL band (Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Withdrawn.**

[**R4-2113433**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113433.zip) **Draft CR for 38.101-3 to correct the MSD due to Tx non-linearities interference in 1st and 2nd adjacent channel of UL band (Rel-17)**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Withdrawn.**

[**R4-2113436**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113436.zip) **Draft CR for 38.101-3 to correct the MSD test points(Rel-15)**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113437**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113437.zip) **Draft CR for 38.101-3 to correct the MSD test points(Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113438**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113438.zip) **Draft CR for 38.101-3 to correct the MSD test points(Rel-17)**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2114062**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114062.zip) **Clarification of intra-bandENDC-Support**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2114390**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114390.zip) **Draft CR on Spurious co-existence corrections for Dual connectivity including band n28**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Keysight Technologies UK Ltd, Orange*

**Abstract:**

NOTES 9, 14 and 17 are applicable to some band combos including band n28 but for such band combos referred frequencies in those notes belong to NR carrier

**Decision: Revised to R4-2114894 (from R4-2114390).**

[**R4-2114894**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114390.zip) **Draft CR on Spurious co-existence corrections for Dual connectivity including band n28**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Keysight Technologies UK Ltd, Orange*

**Abstract:**

NOTES 9, 14 and 17 are applicable to some band combos including band n28 but for such band combos referred frequencies in those notes belong to NR carrier

**Decision: Endorsed.**

[**R4-2114391**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114391.zip) **Draft CR on Spurious co-existence corrections for Dual connectivity including band n28**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Keysight Technologies UK Ltd, Orange*

**Abstract:**

NOTES 9, 14 and 17 are applicable to some band combos including band n28 but for such band combos referred frequencies in those notes belong to NR carrier.

**Decision: Endorsed.**

[**R4-2114392**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114392.zip) **Draft CR on Spurious co-existence corrections for Dual connectivity including band n28**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Keysight Technologies UK Ltd, Orange*

**Abstract:**

NOTES 9, 14 and 17 are applicable to some band combos including band n28 but for such band combos referred frequencies in those notes belong to NR carrier.

**Decision: Endorsed.**

[**R4-2114495**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114495.zip) **on intrabandENDC-support IE**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114539**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114539.zip) **Discussion on Intra-Band EN-DC support**

*Type: discussion For: Approval  
 Source: Google Inc.*

**Decision: Noted.**

[**R4-2112820**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112820.zip) **Correction to band combinations for intra-band EN-DC**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to correct UL configurations of intra-band EN-DC not compatible with the fallback specification in 38.306 and account for possible configurations using intraBandENDC-support indication\

Moved from email thread [104] after 1srt round.

**Decision: Not pursued.**

[**R4-2112821**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112821.zip) **Correction to band combinations for intra-band EN-DC**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to correct UL configurations of intra-band EN-DC not compatible with the fallback specification in 38.306 and account for possible configurations using intraBandENDC-support indication

Moved from email thread [104] after 1st round.

**Decision: Withdrawn.**

#### 5.1.3 UE EMC requirements maintenance

#### 5.1.4 BS RF requirements maintenance

##### 5.1.4.1 General

##### 5.1.4.2 TX/RX requirements maintenance (38.104)

##### 5.1.4.3 MSR specifications maintenance

#### 5.1.5 BS conformance testing Maintenance

##### 5.1.5.1 General

##### 5.1.5.2 Conducted conformance testing (38.141-1)

##### 5.1.5.3 Radiated conformance testing (38.141-2)

##### 5.1.5.4 eAAS specifications maintenance

#### 5.1.6 BS EMC requirements Maintenance

#### 5.1.7 RRM core requirements maintenance (38.133/36.133)

#### 5.1.8 RRM performance requirements maintenance (38.133/36.133)

#### 5.1.9 Demodulation and CSI requirements maintenance (38.101-4/38.104)

##### 5.1.9.1 UE demodulation requirements

##### 5.1.9.2 CSI requirements

##### 5.1.9.3 BS demodulation requirements

#### 5.1.10 Positioning specs maintenance (36.171, 37.171 and 38.171)

##### 5.1.10.1 Frequency Bands for testing of A-GNSS Sensitivity

##### 5.1.10.2 Other

#### 5.1.11 Testability Maintenance (38.810)

### 5.2 LTE maintenance (up to Rel-15)

#### 5.2.1 Even further mobility enhancement

##### 5.2.1.1 RRM core requirements

##### 5.2.1.2 RRM performance requirements

#### 5.2.2 Other WIs or R16 TEI

##### 5.2.2.1 BS RF requirements

##### 5.2.2.2 UE RF requirements

**Refer to email discussion summary of [100-e][106] LTE\_Maintenance\_R15\_16, AI 5.2.2.2, AI 6.2.2 – Sanjun Feng**

[**R4-2112241**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112241.zip) **Draft CR for 36.101: Correction on operating bands for NB-IoT in the USA (Rel-14)**

*Type: draftCR For: Endorsement  
 36.101 v14.19.0 CR- rev Cat: F (Rel-14)  
  
 Source: Qualcomm Incorporated, T-Mobile USA*

**Decision: Revised to R4-2114896 (from R4-2112241).**

[**R4-2114896**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112241.zip) **Draft CR for 36.101: Correction on operating bands for NB-IoT in the USA (Rel-14)**

*Type: draftCR For: Endorsement  
 36.101 v14.19.0 CR- rev Cat: F (Rel-14)  
  
 Source: Qualcomm Incorporated, T-Mobile USA*

**Decision: Endorsed.**

[**R4-2112242**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112242.zip) **Mirror draft CR for 36.101: Correction on operating bands for NB-IoT in the USA (Rel-15)**

*Type: draftCR For: Endorsement  
 36.101 v15.15.0 CR- rev Cat: A (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Decision: Endorsed.**

[**R4-2112243**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112243.zip) **Mirror draft CR for 36.101: Correction on operating bands for NB-IoT in the USA (Rel-16)**

*Type: draftCR For: Endorsement  
 36.101 v16.10.0 CR- rev Cat: A (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Decision: Endorsed.**

[**R4-2112244**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112244.zip) **Mirror draft CR for 36.101: Correction on operating bands for NB-IoT in the USA (Rel-17)**

*Type: draftCR For: Endorsement  
 36.101 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Decision: Endorsed.**

[**R4-2112354**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112354.zip) **draftCR for TS 36-101 Rel-15: Correction for CA\_66 coexistence**

*Type: draftCR For: Endorsement  
 36.101 v15.15.0 CR- rev Cat: F (Rel-15)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112355**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112355.zip) **draftCR for TS 36-101 Rel-16: Correction for CA\_66 coexistence**

*Type: draftCR For: Endorsement  
 36.101 v16.10.0 CR- rev Cat: A (Rel-16)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112356**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112356.zip) **draftCR for TS 36-101 Rel-17: Correction for CA\_66 coexistence**

*Type: draftCR For: Endorsement  
 36.101 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112386**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112386.zip) **draftCR to 36.101 on removal of BCS1 for CA\_5B**

*Type: draftCR For: Endorsement  
 36.101 v14.19.0 CR- rev Cat: F (Rel-14)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112387**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112387.zip) **draftCR to 36.101 on removal of BCS1 for CA\_5B**

*Type: draftCR For: Endorsement  
 36.101 v15.15.0 CR- rev Cat: A (Rel-15)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112388**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112388.zip) **draftCR to 36.101 on removal of BCS1 for CA\_5B**

*Type: draftCR For: Endorsement  
 36.101 v16.10.0 CR- rev Cat: A (Rel-16)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112389**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112389.zip) **draftCR to 36.101 on removal of BCS1 for CA\_5B**

*Type: draftCR For: Endorsement  
 36.101 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112629**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112629.zip) **draft CR to TS36.101[R13] Addition of UE co-existence requirements for Band 40**

*Type: draftCR For: Endorsement  
 36.101 v13.21.0 CR- rev Cat: F (Rel-13)  
  
 Source: NTT DOCOMO, INC.*

**Abstract:**

R13 CAT-F CR to resubmit because part of the already agreed CR is not reflected in the spec.

**Decision: Endorsed.**

[**R4-2112630**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112630.zip) **draft CR to TS 36.101[R14]: Addition of UE co-existence requirements for band 40**

*Type: draftCR For: Endorsement  
 36.101 v14.19.0 CR- rev Cat: F (Rel-14)  
  
 Source: NTT DOCOMO, INC.*

**Abstract:**

R14 CAT-F CR to resubmit because part of the already agreed CR is not reflected in the spec.

**Decision: Endorsed.**

[**R4-2112631**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112631.zip) **draft CR to TS 36.101[R15]: Addition of UE co-existence requirements for band 40**

*Type: draftCR For: Endorsement  
 36.101 v15.15.0 CR- rev Cat: F (Rel-15)  
  
 Source: NTT DOCOMO, INC.*

**Abstract:**

R15 CAT-F CR to resubmit because part of the already agreed CR is not reflected in the spec.

**Decision: Endorsed.**

[**R4-2114237**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114237.zip) **Draft LS to RAN5, PTCRB and CPWG on NB-IoT testing**

*Type: LS out For: Approval  
 to RAN5, PTCRB, CPWG  
 Source: T-Mobile USA*

**Decision: Revised to R4-2115077 (from R4-2114237).**

**[R4-2115077](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114237.zip) Draft LS to RAN5, PTCRB and CPWG on NB-IoT testing**

*Type: LS out For: Approval  
 to RAN5, PTCRB, CPWG  
 Source: T-Mobile USA*

**Decision: Return to.**

##### 5.2.2.3 RRM requirements

###### 5.2.2.3.1 RRM core requirements

###### 5.2.2.3.2 RRM performance requirements

##### 5.2.2.4 Demodulation and CSI requirements

###### 5.2.2.4.1 UE demodulation requirements

###### 5.2.2.4.2 CSI requirements

###### 5.2.2.4.3 BS demodulation requirements

## 6 Rel-16 maintenance for both NR and LTE

### 6.1 NR maintenance

**Email discussion summary of [100-e][103] NR\_Maintenance\_R16\_Part\_1, AI 6.1.1.1, AI 6.1.1.2, AI 6.1.10.2 –Gene Fong**

[**R4-2114703**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114703.zip) **Email discussion summary for [100-e][103] NR\_Maintenance\_R16\_Part\_1**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115003 (from R4-2114703).**

[**R4-2115003**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114703.zip) **Email discussion summary for [100-e][103] NR\_Maintenance\_R16\_Part\_1**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2115071  Revised of  [R4-2111839](http://ftp.3gpp.org/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2111839.zip)  Mirror CR:  R4-2111840 | Delete CA configurations with n46E | Charter Communications, Inc | Endorsed |  |
| R4-2115072  Revised from  [R4-2112727](http://ftp.3gpp.org/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112727.zip)  Mirror CR:  [R4-2112728](http://ftp.3gpp.org/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112728.zip) | Draft CR to TS 38.101-1 on corrections to symbols and abbreviations (Rel-16) | ZTE Corporation | Endorsed |  |
| R4-2115073  revised from  R4-2112222 | add combinations with n46 and n48 | Charter Communications | Withdrawn.  R4-212222 noted | This was moved from thread 114. |

#### 6.1.1 NR-based access to unlicensed spectrum

##### 6.1.1.1 System parameter

[**R4-2113434**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113434.zip) **Draft CR for 38.101-1 to clarify fallback group for bandwidth class(Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113435**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113435.zip) **Draft CR for 38.101-1 to clarify fallback group for bandwidth class(Rel-17)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

##### 6.1.1.2 UE RF requirement

[**R4-2111839**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111839.zip) **Delete CA configurations with n46E**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Charter Communications, Inc*

**Abstract:**

Delete CA configurations with n46E

**Decision: Revised to R4-2115071 (from R4-2111839).**

[**R4-2115071**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111839.zip) **Delete CA configurations with n46E**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Charter Communications, Inc*

**Abstract:**

Delete CA configurations with n46E

**Decision: Endorsed.**

[**R4-2111840**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111840.zip) **Delete CA configurations with n46E**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Charter Communications, Inc*

**Abstract:**

Delete CA configurations CA\_n46E-n48A, CA\_n46E-n48B, CA\_n46E-n48C

**Decision: Endorsed.**

[**R4-2111841**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111841.zip) **Add n96 to Table 6.5.3.2-1**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Charter Communications, Inc*

**Abstract:**

Add n96 to Table 6.5.3.2-1

**Decision: Not pursued.**

[**R4-2111842**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111842.zip) **Add n96 to Table 6.5.3.2-1**

*Type: draftCR For: Approval  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Charter Communications, Inc*

**Abstract:**

Add n96 to Table 6.5.3.2-1: Requirements for spurious emissions for UE co-existence

**Decision: Withdrawn.**

[**R4-2112222**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112222.zip) **add CA combinations with n46 & n48**

*Type: draftCR For: Approval  
 38.101-1 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Charter Communications, Inc*

**Decision: Noted.**

**[R4-2115073](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112222.zip) add CA combinations with n46 & n48**

*Type: draftCR For: Approval  
 38.101-1 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Charter Communications, Inc*

**Decision: Withdrawn.**

##### 6.1.1.3 BS RF requirement

##### 6.1.1.4 BS conformance testing

###### 6.1.1.4.1 Non-contiguous transmission testing

###### 6.1.1.4.2 Others

##### 6.1.1.5 RRM core requirements (38.133)

###### 6.1.1.5.1 General

###### 6.1.1.5.2 RRC connection mobility control

###### 6.1.1.5.3 SCell activation/deactivation (delay and interruption)

###### 6.1.1.5.4 Timing

###### 6.1.1.5.5 Other requirements

##### 6.1.1.6 RRM performance requirements (38.133)

###### 6.1.1.6.1 General

###### 6.1.1.6.2 Measurement accuracy requirements

###### 6.1.1.6.3 Test cases

6.1.1.6.3.1 General

6.1.1.6.3.2 RRC IDLE cell re-selection

6.1.1.6.3.3 HO (delay and interruptions)

6.1.1.6.3.4 RRC Re-establishment

6.1.1.6.3.5 RRC Connection Release with Redirection

6.1.1.6.3.6 Random access

6.1.1.6.3.7 Timing (transmit timing and TA)

6.1.1.6.3.8 BWP switching delay and interruptions

6.1.1.6.3.9 PSCell addition/release (delay and interruption)

6.1.1.6.3.10 SCell activation/deactivation (delay and interruption)

6.1.1.6.3.11 Other interruptions

6.1.1.6.3.12 RLM

6.1.1.6.3.13 Beam management (BFD and link recovery)

6.1.1.6.3.14 SS-RSRP/SS-RSRQ/SS-SINR/L1-RSRP measurement procedure (intra-frequency, inter-frequency, inter-RAT)

6.1.1.6.3.15 RSSI/CO measurement procedure (intra-frequency, inter-frequency, inter-RAT)

6.1.1.6.3.16 SFTD measurement procedure

6.1.1.6.3.17 SS-RSRP/SS-RSRQ/SS-SINR/L1-RSRP measurement accuracy (intra-frequency, inter-frequency, inter-RAT)

6.1.1.6.3.18 RSSI/CO measurement accuracy (intra-frequency, inter-frequency, inter-RAT)

6.1.1.6.3.19 SFTD measurement accuracy

6.1.1.6.3.20 Other

##### 6.1.1.7 Demodulation and CSI requirements (38.101-4/38.104)

###### 6.1.1.7.1 General

###### 6.1.1.7.2 UE demodulation requirements

###### 6.1.1.7.3 CSI requirements

###### 6.1.1.7.4 BS demodulation requirements

#### 6.1.2 Integrated Access and Backhaul for NR

##### 6.1.2.1 RF requirements

##### 6.1.2.2 RF conformance testing

###### 6.1.2.2.1 General

###### 6.1.2.2.2 Common test issues for conducted and radiated conformance testing

6.1.2.2.2.1 Test Model with High PSD and narrow RBs allocation

6.1.2.2.2.2 MU clean-up

6.1.2.2.2.3 Others

###### 6.1.2.2.3 Conducted conformance testing

###### 6.1.2.2.4 Radiated conformance testing

##### 6.1.2.3 RRM core requirements

##### 6.1.2.4 RRM performance requirements

##### 6.1.2.5 EMC performance requirements

##### 6.1.2.6 Demodulation and CSI requirements

###### 6.1.2.6.1 General

###### 6.1.2.6.2 IAB-DU performance requirements

###### 6.1.2.6.3 IAB-MT performance requirements

#### 6.1.3 5G V2X with NR sidelink

##### 6.1.3.1 RF core requirements

**Refer to email discussion summary of [100-e][134] NRSL\_enh\_Part\_1, AI 9.15.1, 9.15.2, 9.15.3, 9.15.4, 9.15.7, 6.1.3.1 – Suhwan Lim**

[**R4-2112843**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112843.zip) **Consideration on A-SEM requirements by NS\_52 based on FCC regulation**

*Type: discussion For: Approval  
 Source: LG Electronics France*

**Abstract:**

Discuss on the existing FCC requirements for ITS spectrum. they only support 30MHz CBW in US.

**Decision: Noted.**

[**R4-2112888**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112888.zip) **Draft CR for correction of 5G V2X UE RF requirements in Rel-16**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: LG Electronics France*

**Abstract:**

CR is to update the editorial correction for 5G V2X UE in TS38.101-1

**Decision: Endorsed.**

[**R4-2112892**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112892.zip) **Draft CR for correction of 5G V2X UE RF requirements in Rel-17**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

Cat.A CR for correction of 5G V2X UE RF requirements in TS38.101-1 Rel-17

**Decision: Endorsed.**

[**R4-2113411**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113411.zip) **Draft CR for 38.101-1 to remove the ASE requirements for NS\_52 (Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

[**R4-2113412**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113412.zip) **Draft CR for 38.101-1 to remove the ASE requirements for NS\_52 (Rel-17)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

##### 6.1.3.2 RRM requirements (38.133)

##### 6.1.3.3 Demodulation requirements (38.101-4)

###### 6.1.3.3.1 General

###### 6.1.3.3.2 Single link test

###### 6.1.3.3.3 Multiple link test

#### 6.1.4 Multi-RAT Dual-Connectivity and Carrier Aggregation enhancements

##### 6.1.4.1 UE RF requirement (38.101-1)

##### 6.1.4.2 RRM core requirement (38.133/36.133)

###### 6.1.4.2.1 Early Measurement reporting

###### 6.1.4.2.2 Efficient and low latency serving cell configuration, activation and setup

##### 6.1.4.3 RRM performance requirements (38.133)

###### 6.1.4.3.1 Early Measurement reporting

###### 6.1.4.3.2 Efficient and low latency serving cell configuration, activation and setup

#### 6.1.5 Enhancements on MIMO for NR

##### 6.1.5.1 RRM requirements (38.133)

###### 6.1.5.1.1 Applicability of MRTD/MTTD requirements for multi-TRxP

###### 6.1.5.1.2 Test case for pathloss RS activation delay

###### 6.1.5.1.3 Others

##### 6.1.5.2 Others

#### 6.1.6 NR Positioning Support

##### 6.1.6.1 RRM core requirement (38.133)

###### 6.1.6.1.1 PRS-RSTD measurement requirements

###### 6.1.6.1.2 PRS-RSRP measurement requirements

###### 6.1.6.1.3 UE Rx-Tx time difference measurement requirements

###### 6.1.6.1.4 Other requirements

##### 6.1.6.2 RRM performance requirements (38.133)

###### 6.1.6.2.1 General

###### 6.1.6.2.2 UE requirements and test cases

6.1.6.2.2.1 General

6.1.6.2.2.2 Measurement accuracy requirements

6.1.6.2.2.3 Test cases

6.1.6.2.2.2.1 PRS RSTD

6.1.6.2.2.4 Other

6.1.6.2.2.2.2 PRS RSRP

6.1.6.2.2.3.1 General

6.1.6.2.2.2.2 PRS RSRP

6.1.6.2.2.3.1 General

6.1.6.2.2.2.3 UE Rx-Tx time difference

6.1.6.2.2.3.2 Measurement requirements

6.1.6.2.2.2.3 UE Rx-Tx time difference

6.1.6.2.2.3.2 Measurement requirements

6.1.6.2.2.2.3 UE Rx-Tx time difference

6.1.6.2.2.3.2 Measurement requirements

6.1.6.2.2.2.3 UE Rx-Tx time difference

6.1.6.2.2.3.3 Accuracy requirements

###### 6.1.6.2.3 gNB requirements

6.1.6.2.3.1 General

6.1.6.2.3.2 SRS-RSRP requirements

6.1.6.2.3.3 gNB Rx-Tx time difference requirements

#### 6.1.7 NR RRM requirement enhancement

##### 6.1.7.1 RRM core requirements

##### 6.1.7.2 RRM performance requirements

#### 6.1.8 NR RRM requirements for CSI-RS based L3 measurement

##### 6.1.8.1 RRM core requirements (38.133)

##### 6.1.8.2 RRM performance requirements (38.133)

###### 6.1.8.2.1 General

###### 6.1.8.2.2 Measurement accuracy requirements

6.1.8.2.2.1 CSI-RSRP requirements

6.1.8.2.2.2 CSI-RSRQ requirements

6.1.8.2.2.3 CSI-SINR requirements

###### 6.1.8.2.3 Test cases

6.1.8.2.3.1 General

6.1.8.2.3.2 Intra-frequency measurement

6.1.8.2.3.3 Inter-frequency measurement

6.1.8.2.3.4 Measurement performance

#### 6.1.9 Maintenance for other WIs

##### 6.1.9.1 BS RF requirements

##### 6.1.9.2 UE RF requirements

**Email discussion summary of [100-e][104] NR\_Maintenance\_R16\_Part\_2, AI 6.1.9.2 – Jinqiang Xing**

[**R4-2114704**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114704.zip) **Email discussion summary for [100-e][104] NR\_Maintenance\_R16\_Part\_2**

*Type: other For: Information  
 Source: Moderator (OPPO)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115004 (from R4-2114704).**

[**R4-2115004**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114704.zip) **Email discussion summary for [100-e][104] NR\_Maintenance\_R16\_Part\_2**

*Type: other For: Information  
 Source: Moderator (OPPO)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114905 WF on Type 2 UE RX Imbalance Requirement**

*Type: other For: Approval  
 Source: Huawei*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114906 WF on Transient Period Capability**

*Type: other For: Approval  
 Source: Qualcomm*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2115084 WF on introduction of A-MPR for NS\_21 with 5MHz CBW**

*Type: other For: Approval  
 Source: Apple*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114905 WF on Type 2 UE RX Imbalance Requirement | HW | Approved |  |
| R4-2114906 WF on Transient Period Capability | QC | Approved |  |
| R4-2115084 WF on introduction of A-MPR for NS\_21 with 5MHz CBW | Apple | Approved |  |

**Existing tdocs for 38.101-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2111734  R4-2111735 | CR CatF n65 NS\_24 AMPR | Qualcomm | Endorsed | Return to in 2nd round together with issue 2-2. |
| R4-2114907 revised from  R4-2114484  Mirror CR:  R4-2114485 | draft CR on shorter transient requirement for TS 38.101-1 | Huawei, HiSilicon | Not pursued |  |
| R4-2112349  R4-2112350 | draftCR: Rel-16 Additional requirements and A-MPR for NS\_21 and n30 | Apple | Not pursued | Return to in 2nd round together with issue 2-4-1 |
| R4-2114908  Revised from  R4-2112357 | draftCR for TS 38.101-1 Rel-16: Applying n40 and n41 spurious emissions on CA | Apple | Endorsed | Use this CR as baseline and merge with R4-2112632 and revise the CR based on the comments in 1st round and continue discuss in 2nd round. Further discuss whether 90/100MHz should be introduced for CA. |
| R4-2112438  R4-2112439 | R16 draft CR for 38.101-1 to correct errors and make up missing values in Reference sensitivity due to UL harmonic table(CAT F) | Samsung | Endorsed | necessary justifications is needed |
| R4-2112725  R4-2112726 | Draft CR to TS 38.101-1 on corrections to network signalling (Rel-16) | ZTE | Endorsed | Return to in 2nd round on this editorial change. |
| R4-2115074 revised from  R4-2112870  Mirror CR:  R4-2112874 | draft CR for mandatory simultaneous Rx/Tx capability for FR1 NR-DC | CHTTL, SoftBank Corp., NTT DOCOMO, INC. | 5074 withdrawn  2870 and 2874 endorsed | only cover the band combinations which the CA combinations already specified mandatory. Continue discuss in 2nd round. |
| R4-2114909 revised from  R4-2113569 | Rel-16 draft CR 38.101-1-g80, band combination corrections | Ericsson | Endorsed | suggest the author to contact with R4-2111839 and keep changes for CA\_n46E-n48A in only one CR |
| R4-2115078 revised from R4-2113571 | Rel-17 draft mirror CR 38101-1-h20 Rel-16 corrections of CA combinations | Ericsson | Endorsed |  |

**Existing tdocs for 38.101-1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114910 revised from  R4-2112818  Mirror CR:  R4-2112819 | Correction to modified MPR behaviour | Ericsson | Not pursued | correct the coverage page for Rel-16 rather than Rel-15. And further align the understanding of mandated modified MPR behavior whether they are introduced in Rel-15 or Rel-16 later version. |
| R4-2113660 | DRAFT CR update of relative power control requirements for FR2 |  | Postponed | RAN5 LS related change, discussed in thread [149], check the conclusion there |

**Existing tdocs for 38.101-3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114911 revised from  R4-2112359  Mirror CR:  R4-2112360 | draftCR for TS 38.101-3 Rel-16: Applying n40 and n41 spurious emissions on DC | Apple | Endorsed | discuss whether it is needed to list n41 separately and also Note 22 |
| R4-2114912 revised from  R4-2112895  Mirror CR:  R4-2112954 | draft CR for mandatory simultaneous Rx/Tx capability for FR1+FR2 NR-DC combinations | CHTTL, SoftBank Corp., NTT DOCOMO, INC. | 4912 withdrawn  2895 and 2954 endorsed | only cover the band combinations which the CA combinations already specified mandatory. Continue discuss in 2nd round. |
| R4-2114913 revised from  R4-2112959  Mirror CR:  R4-2112965 | Draft CR for correction of PC1.5 EN-DC UE in TS38.101-3 Rel-16 | LGE | Endorsed |  |

**Existing tdocs for TR37.716**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114034 | Addition of missing lower order fallbacks |  | Approved |  |

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[**R4-2112780**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112780.zip) **draft CR Correction of common UE RF requirement 38.307 Annex tables R16**

*Type: draftCR For: Endorsement  
 38.307 v16.7.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Endorsed.**

[**R4-2112781**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112781.zip) **draft CR Correction of common UE RF requirement 38.307 Annex tables R17**

*Type: draftCR For: Endorsement  
 38.307 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Endorsed.**

###### 6.1.9.2.1 [FR1] Maintenance for 38.101-1

[**R4-2111732**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111732.zip) **Imbalance Requirement for Type 2 UE RX**

*Type: other For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2111733**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111733.zip) **n65 NS\_24 AMPR**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2111734**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111734.zip) **CR CatF n65 NS\_24 AMPR**

*Type: CR For: Agreement  
 38.101-1 v16.8.0 CR-0879 rev Cat: F (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Decision: Endorsed.**

[**R4-2111735**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111735.zip) **CR CatA N65 NS\_24 AMPR**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0880 rev Cat: A (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Decision: Endorsed.**

[**R4-2112232**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112232.zip) **Short Transient Period**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2112254**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112254.zip) **FFT window starting point values for EVM measurements for transient period capability**

*Type: discussion For: Approval  
 Source: Anritsu Limited*

**Decision: Noted.**

[**R4-2112348**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112348.zip) **Additional requirements and A-MPR for NS\_21 and n30**

*Type: discussion For: Decision  
 Source: Apple*

**Decision: Noted.**

[**R4-2112349**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112349.zip) **draftCR: Rel-16 Additional requirements and A-MPR for NS\_21 and n30**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

**Decision: Not pursued.**

[**R4-2112350**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112350.zip) **draftCR: Rel1-6 Additional requirements and A-MPR for NS\_21 and n30**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

**Decision: Withdrawn.**

[**R4-2112357**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112357.zip) **draftCR for TS 38.101-1 Rel-16: Applying n40 and n41 spurious emissions on CA**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

**Decision: Revised to R4-2114908 (from R4-2112357).**

[**R4-2114908**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112357.zip) **draftCR for TS 38.101-1 Rel-16: Applying n40 and n41 spurious emissions on CA**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112377**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112377.zip) **Draft CR for TS 38.101-1: Corrections for CA MPR table referencing**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112378**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112378.zip) **Draft CR for TS 38.101-1: Corrections for CA MPR table referencing**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112438**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112438.zip) **R16 draft CR for 38.101-1 to correct errors and make up missing values in Reference sensitivity due to UL harmonic table(CAT F)**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Samsung*

**Decision: Endorsed.**

[**R4-2112439**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112439.zip) **R17 mirror draft CR for 38.101-1 to correct errors and make up missing values in Reference sensitivity due to UL harmonic table (CAT A)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Samsung*

**Decision: Endorsed.**

[**R4-2112632**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112632.zip) **draft CR to TS38.101-1[R16] Addition of UE co-existence requirements between n40 and n41**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: NTT DOCOMO, INC.*

**Abstract:**

R16 CAT-F CR to add co-existence requirements between n40 and n41.

**Decision: Not pursued.**

[**R4-2112633**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112633.zip) **draft CR to TS38.101-1[R17] Addition of UE co-existence requirements between n40 and n41**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: NTT DOCOMO, INC.*

**Abstract:**

CAT-A CR for R17

**Decision: Withdrawn.**

[**R4-2112725**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112725.zip) **Draft CR to TS 38.101-1 on corrections to network signalling (Rel-16)**

*Type: draftCR For: Approval  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

This draft CR is to unify the denotation for “network signalling” (NS).

**Decision: Endorsed.**

[**R4-2112726**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112726.zip) **Draft CR to TS 38.101-1 on corrections to network signalling (Rel-17)**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This draft CR is to unify the denotation for “network signalling” (NS).

**Decision: Endorsed.**

[**R4-2112809**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112809.zip) **Support of asymmetric BW for CA**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to clarify the relation between the BCS and use of asymmetric BW for CA

**Decision: Endorsed.**

[**R4-2112810**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112810.zip) **Support of asymmetric BW for CA**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to clarify the relation between the BCS and use of asymmetric BW for CA

**Decision: Endorsed.**

[**R4-2112814**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112814.zip) **Modification of Pcmax for UL CA with uplink Tx switching capability**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Draft CR implementing the CR endorsed by RAN#91-e in the latest version of the specification

**Decision: Not pursued.**

[**R4-2112815**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112815.zip) **Modification of Pcmax for UL CA with uplink Tx switching capability**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR implementing the CR endorsed by RAN#91-e in the latest version of the specification

**Decision: Withdrawn.**

[**R4-2112870**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112870.zip) **draft CR for mandatory simultaneous Rx/Tx capability for FR1 NR-DC**

*Type: draftCR For: Approval  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CHTTL, SoftBank Corp., NTT DOCOMO, INC.*

**Decision: Endorsed.**

[**R4-2115074**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112870.zip) **draft CR for mandatory simultaneous Rx/Tx capability for FR1 NR-DC**

*Type: draftCR For: Approval  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CHTTL, SoftBank Corp., NTT DOCOMO, INC.*

**Decision: Withdrawn.**

[**R4-2112874**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112874.zip) **draft CR for mandatory simultaneous Rx/Tx capability for FR1 NR-DC combinations**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CHTTL, SoftBank Corp., NTT DOCOMO, INC.*

**Decision: Endorsed.**

[**R4-2112908**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112908.zip) **Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including intra-band contiguous CA UL configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Decision: Withdrawn.**

[**R4-2112909**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112909.zip) **Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including intra-band contiguous CA UL configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2114878 (from R4-2112909).**

[**R4-2114878**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112909.zip) **Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including intra-band contiguous CA UL configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

[**R4-2114889**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112908.zip) **Draft CR to TS38.101-1: Inter-band NR CA Tx requirement including intra-band contiguous CA UL configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

[**R4-2113403**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113403.zip) **Discussion on type 2 UE requirements**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2113413**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113413.zip) **DraftCR for 38.101-3 to specify type 2 UE requirements(Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Not pursued.**

[**R4-2113414**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113414.zip) **DraftCR for 38.101-3 to specify type 2 UE requirements(Rel-17)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Withdrawn.**

[**R4-2113415**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113415.zip) **DraftCR for 38.101-1 to correct the configurations for intra-band CA (Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113416**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113416.zip) **DraftCR for 38.101-1 to correct the configurations for intra-band CA (Rel-17)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113569**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113569.zip) **Rel-16 draft CR 38.101-1-g80, band combination corrections**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Rel-16 draft CR 38.101-1, band combination corrections

**Decision: Revised to R4-2114909 (from R4-2113569).**

[**R4-2114909**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113569.zip) **Rel-16 draft CR 38.101-1-g80, band combination corrections**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Rel-16 draft CR 38.101-1, band combination corrections

**Decision: Endorsed.**

**[R4-2113571](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113571.zip) Rel-17 draft mirror CR 38101-1-h20 Rel-16 corrections of CA combinations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

mirror CR to Rel-16 changes

**Decision: Revised to R4-2115078 (from R4-2113571).**

[**R4-2115078**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113571.zip) **Rel-17 draft mirror CR 38101-1-h20 Rel-16 corrections of CA combinations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

mirror CR to Rel-16 changes

**Decision: Endorsed.**

**[R4-2114475](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114475.zip) draft CR on intra-band UL CA Pcmax**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2114483**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114483.zip) **draft CR on intra-band UL CA Pcmax**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2114484**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114484.zip) **draft CR on shorter transient requirement for TS 38.101-1**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Not pursued.**

[**R4-2114907**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114484.zip) **draft CR on shorter transient requirement for TS 38.101-1**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Withdrawn.**

[**R4-2114485**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114485.zip) **draft CR on shorter transient requirement for TS 38.101-1**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Not pursued.**

[**R4-2114501**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114501.zip) **draft CR for 38.101-1 to correct the Power control for CA**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2114502**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114502.zip) **CR for 38.101-1 to correct the Power control for CA**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2114532**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114532.zip) **draft CR for 38.101-1 to correct IE and UE capability for half Pi BPSK (Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2114533**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114533.zip) **draft CR for 38.101-1 to correct IE and UE capability for half Pi BPSK (Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2114583**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114583.zip) **Corrections for Transient Period Capability**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

This document proposes corrections to EVM FFT window definition and to tpstart values for the shorter transient period capability feature.

**Decision: Noted.**

###### 6.1.9.2.2 [FR2] Maintenance for 38.101-2

[**R4-2112379**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112379.zip) **Draft CR for TS 38.101-2: FR2 inter-band DL CA requirements clarification**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

**Decision: Return to.**

[**R4-2112380**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112380.zip) **Draft CR for TS 38.101-2: FR2 inter-band DL CA requirements clarification**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

**Decision: Return to.**

[**R4-2112818**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112818.zip) **Correction to modified MPR behaviour**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to correct modified MPR behaviour (bits shall be set if the bit is introduced in an earlier release)

**Decision: Revised to R4-2114910 (from R4-2112818).**

[**R4-2114910**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112818.zip) **Correction to modified MPR behaviour**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to correct modified MPR behaviour (bits shall be set if the bit is introduced in an earlier release)

**Decision: Not pursued.**

[**R4-2112819**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112819.zip) **Correction to modified MPR behaviour**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to correct modified MPR behaviour (bits shall be set if the bit is introduced in an earlier release)

**Decision: Withdrawn.**

[**R4-2113106**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113106.zip) **Draft CR Rel-16 for 38.101-2 to replace SMBS with Delta MBS,n in section 6.6.4.3.3 of side conditions for beam correspondence**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Xiaomi*

**Decision: Endorsed.**

[**R4-2113107**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113107.zip) **Draft CR Rel-17 for 38.101-2 to replace SMBS with Delta MBS,n in section 6.6.4.3.3 of side conditions for beam correspondence**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Xiaomi*

**Decision: Endorsed.**

[**R4-2113570**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113570.zip) **Rel-16 draft CR 38.101-2-g80, band combination corrections**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Rel-16 draft CR 38.101-2, band combination corrections

**Decision: Endorsed.**

[**R4-2113572**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113572.zip) **Rel-17 draft mirror CR 38101-2-h20 Rel-16 corrections of CA combinations**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

mirror CR to Rel-16 changes

**Decision: Endorsed.**

[**R4-2113660**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113660.zip) **DRAFT CR update of relative power control requirements for FR2.**

*Type: draftCR For: Endorsement  
 38.101-2 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

Update of the relative pwr control requirements for FR2 to mandate testability in RAN5

**Decision: Postponed.**

###### 6.1.9.2.3 Maintenance for 38.101-3

[**R4-2112359**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112359.zip) **draftCR for TS 38.101-3 Rel-16: Applying n40 and n41 spurious emissions on DC**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

**Decision: Revised to R4-2114911 (from R4-2112359).**

[**R4-2114911**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112359.zip) **draftCR for TS 38.101-3 Rel-16: Applying n40 and n41 spurious emissions on DC**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112360**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112360.zip) **draftCR for TS 38.101-3 Rel-17: Applying n40 and n41 spurious emissions on DC**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

**Decision: Endorsed.**

[**R4-2112579**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112579.zip) **draft CR for correction on completed combinations with remove errors**

*Type: draftCR For: Approval  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CHTTL, SK Telecom*

**Decision: Endorsed.**

[**R4-2112586**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112586.zip) **draft CR for correction on completed combinations with remove errors**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CHTTL, SK Telecom*

**Decision: Endorsed.**

[**R4-2112895**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112895.zip) **draft CR for mandatory simultaneous Rx/Tx capability for FR1+FR2 NR-DC combinations**

*Type: draftCR For: Approval  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CHTTL, SoftBank Corp., NTT DOCOMO, INC.*

**Decision: Endorsed.**

[**R4-2114912**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112895.zip) **draft CR for mandatory simultaneous Rx/Tx capability for FR1+FR2 NR-DC combinations**

*Type: draftCR For: Approval  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CHTTL, SoftBank Corp., NTT DOCOMO, INC.*

**Decision: Withdrawn.**

[**R4-2112954**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112954.zip) **draft CR for mandatory simultaneous Rx/Tx capability for FR1+FR2 NR-DC combinations**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CHTTL, SoftBank Corp., NTT DOCOMO, INC.*

**Decision: Endorsed.**

[**R4-2112917**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112917.zip) **draft CR to TS38.101-3 missing MSD due to cross band for DC\_3-n34**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

[**R4-2112918**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112918.zip) **draft CR to TS38.101-3 missing MSD due to cross band for DC\_3-n34**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

[**R4-2112959**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112959.zip) **Draft CR for correction of PC1.5 EN-DC UE in TS38.101-3 Rel-16**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: LG Electronics France*

**Abstract:**

The specification is not clear to support PC1.5 DC UE for DC\_(n)41AA and DC\_41A\_n41A in section 6.2B.3 for A-MPR requirements.

**Decision: Revised to R4-2114913 (from R4-2112959).**

[**R4-2114913**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112959.zip) **Draft CR for correction of PC1.5 EN-DC UE in TS38.101-3 Rel-16**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: LG Electronics France*

**Abstract:**

The specification is not clear to support PC1.5 DC UE for DC\_(n)41AA and DC\_41A\_n41A in section 6.2B.3 for A-MPR requirements.

**Decision: Endorsed.**

[**R4-2112965**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112965.zip) **Draft CR for correction of PC1.5 EN-DC UE in TS38.101-3 Rel-17**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

Cat. A CR for correction of PC1.5 EN-DC UE A-MPR requirements in TS38.101-3 in Rel-17

**Decision: Endorsed.**

[**R4-2113439**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113439.zip) **Draft CR for 38.101-3 correct the MSD test table and remove UL configuration (Rel-16)**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113440**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113440.zip) **Draft CR for 38.101-3 to correct the RB allocation in MSD test table(Rel-17)**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2114028**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114028.zip) **TS 38.101-3: Addition of missing lower order fallbacks**

*Type: draftCR For: Approval  
 38.101-3 v16.8.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon, BT*

**Decision: Endorsed.**

[**R4-2114034**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114034.zip) **TR 37.716-21-21: Addition of missing lower order fallbacks**

*Type: draftCR For: Approval  
 37.716-21-21 v16.0.0 CR- rev Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon, BT*

**Decision: Endorsed.**

##### 6.1.9.3 RRM requirements

###### 6.1.9.3.1 RRM core

###### 6.1.9.3.2 RRM performance

##### 6.1.9.4 Demodulation and CSI requirements

###### 6.1.9.4.1 UE demodulation requirements

###### 6.1.9.4.2 CSI requirements

###### 6.1.9.4.3 BS demodulation requirements

##### 6.1.9.5 NR MIMO OTA test methods (38.827)

#### 6.1.10 R16 TEI

##### 6.1.10.1 BS RF requirements

##### 6.1.10.2 UE RF requirements

**Refer to email discussion summary of [100-e][103] NR\_Maintenance\_R16\_Part\_1, AI 6.1.1.1, AI 6.1.1.2, AI 6.1.10.2 –Gene Fong**

[**R4-2112727**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112727.zip) **Draft CR to TS 38.101-1 on corrections to symbols and abbreviations (Rel-16)**

*Type: draftCR For: Approval  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

This draft CR is to correct the symbols and abbreviations.

**Decision: Revised to R4-2115072 (from R4-2112727).**

[**R4-2115072**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112727.zip) **Draft CR to TS 38.101-1 on corrections to symbols and abbreviations (Rel-16)**

*Type: draftCR For: Approval  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

This draft CR is to correct the symbols and abbreviations.

**Decision: Endorsed.**

[**R4-2112728**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112728.zip) **Draft CR to TS 38.101-1 on corrections to symbols and abbreviations (Rel-17)**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This draft CR is to correct the symbols and abbreviations.

**Decision: Endorsed.**

##### 6.1.10.3 RRM requirements

##### 6.1.10.4 Demodulation and CSI requirements

##### 6.1.10.5 US band n77 (update of requirements)

**Email discussion summary of [100-e][105] US\_n77, AI 6.1.10.5 – James Wang**

[**R4-2114705**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114705.zip) **Email discussion summary for [100-e][105] US\_n77**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115005 (from R4-2114705).**

[**R4-2115005**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114705.zip) **Email discussion summary for [100-e][105] US\_n77**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2115080 WF on Enabling US 3.45 – 3.55GHz in Band n77**

*Type: other For: Approval  
 Source: T-Mobile USA*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2115080 WF on Enabling US 3.45 – 3.55GHz in Band n77 | T-Mobile USA | Return to |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2112049  Mirror CR:  R4-2112050 | CR for addition of 3.45-3.55 GHz in Band n77 for the US -r16/r17 | Mediatek | Return to |  |

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[**R4-2112048**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112048.zip) **Discussion of addition of 3.45-3.55 GHz in Band n77 for the US**

*Type: discussion For: Approval  
 Source: Mediatek India Technology Pvt.*

**Decision: Noted.**

[**R4-2112049**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112049.zip) **CR for addition of 3.45-3.55 GHz in Band n77 for the US -r16**

*Type: CR For: Agreement  
 38.101-1 v16.8.0 CR-0886 rev Cat: F (Rel-16)  
  
 Source: Mediatek India Technology Pvt.*

**Decision: Return to.**

[**R4-2112050**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112050.zip) **CR for addition of 3.45-3.55 GHz in Band n77 for the US -r17**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0887 rev Cat: A (Rel-17)  
  
 Source: Mediatek India Technology Pvt.*

**Decision: Return to.**

[**R4-2112271**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112271.zip) **Draft CR to TS 38.104: Addition of FCC emission limits on US 3.45-3.55 GHz band**

*Type: draftCR For: Endorsement  
 38.104 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Clarify that the power boosted NB-IoT RB shall be placed at the lower and upper edges of the BS RF bandwidth.

**Decision: Endorsed.**

[**R4-2112272**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112272.zip) **Draft CR to TS 38.104: Addition of FCC emission limits on US 3.45-3.55 GHz band**

*Type: draftCR For: Endorsement  
 38.104 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Specify the FCC emission limits in US 3.45-3.55 GHz band as additional regional operating band unwanted emissions requirements for Band n77.

**Decision: Endorsed.**

[**R4-2112273**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112273.zip) **Draft CR to TS 38.141-1: Addition of FCC emission limits on US 3.45-3.55 GHz band**

*Type: draftCR For: Endorsement  
 38.141-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Specify the FCC emission limits in US 3.45-3.55 GHz band as additional regional operating band unwanted emissions requirements for Band n77.

**Decision: Endorsed.**

[**R4-2112274**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112274.zip) **Draft CR to TS 38.141-1: Addition of FCC emission limits on US 3.45-3.55 GHz band**

*Type: draftCR For: Endorsement  
 38.141-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Specify the FCC emission limits in US 3.45-3.55 GHz band as additional regional operating band unwanted emissions requirements for Band n77.

**Decision: Endorsed.**

[**R4-2112822**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112822.zip) **Band n77 issues in the US**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution we present solutions to the problem of devices restricted to 3700-3980 MHz in the US. RAN2 aspects are also included (the same contribution is submitted to RAN2#115-e)

**Decision: Noted.**

### 6.2 LTE maintenance and TEI

#### 6.2.1 BS RF requirements

#### 6.2.2 UE RF requirements

**Email discussion summary of [100-e][106] LTE\_Maintenance\_R15\_16, AI 5.2.2.2, AI 6.2.2 – Sanjun Feng**

[**R4-2114706**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114706.zip) **Email discussion summary for [100-e][106] LTE\_Maintenance\_R15\_16**

*Type: other For: Information  
 Source: Moderator (VIVO)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115006 (from R4-2114706).**

[**R4-2115006**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114706.zip) **Email discussion summary for [100-e][106] LTE\_Maintenance\_R15\_16**

*Type: other For: Information  
 Source: Moderator (VIVO)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114895 LS on NB-IoT testing issues**

*Type: LS out For: Approval  
 Source: RAN WG4*

**Abstract:**

This contribution provides the LS.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114895 LS on NB-IoT testing issues | RAN WG4 | Approved | To: RAN WG5, PTCRB, CTIA CPWG  Cc: |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114896  Revised of  [**R4-2112241**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112241.zip)  Mirror CRs:  R4-2112242  R4-2112243  R4-2112244 | Draft CR for 36.101: Correction on operating bands for NB-IoT in the USA (Rel-14) | Qualcomm Incorporated, T-Mobile USA | Endorsed | Cat F  Cat A is pending for 2nd round |
| R4-2115077  Revised from  R4-2114237 | Draft LS to RAN5, PTCRB and CPWG on NB-IoT testing | T-Mobile USA | Return to |  |

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[**R4-2114091**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114091.zip) **Draft CR MPR and AMPR for LTE CA 256QAM PC2**

*Type: draftCR For: Approval  
 36.101 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2114524**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114524.zip) **draft CR for TS 36.101 correction of Pcmax for LTE V2X (Rel-14)**

*Type: draftCR For: Endorsement  
 36.101 v14.19.0 CR- rev Cat: F (Rel-14)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

[**R4-2114525**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114525.zip) **draft CR for TS 36.101 correction of Pcmax for LTE V2X (Rel-15)**

*Type: draftCR For: Endorsement  
 36.101 v15.15.0 CR- rev Cat: A (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Decision: Withdrawn.**

[**R4-2114526**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114526.zip) **draft CR for TS 36.101 correction of Pcmax for LTE V2X (Rel-16)**

*Type: draftCR For: Endorsement  
 36.101 v16.10.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Withdrawn.**

[**R4-2114527**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114527.zip) **draft CR for TS 36.101 correction of Pcmax for LTE V2X (Rel-17)**

*Type: draftCR For: Endorsement  
 36.101 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Withdrawn.**

#### 6.2.3 RRM requirements

##### 6.2.3.1 RRM core requirements

##### 6.2.3.2 RRM performance requirements

#### 6.2.4 Demodulation and CSI requirements

##### 6.2.4.1 UE demodulation requirements

##### 6.2.4.2 CSI requirements

##### 6.2.4.3 BS demodulation requirements

### 6.3 Rel-16 UE feature list maintenance

### 6.4 LS response for WP5D (RP-210747) on recommendations ITU-R M.2070 and ITU -R M.2071 on Unwanted Emissions of IMT-Advanced

## 7 Rel-17 maintenance for both NR and LTE

**Email discussion summary of [100-e][107] NR\_LTE\_Maintenance\_R17, AI 7.2.1, 7.2.2, 7.3.1, 7.3.2, 7.4.1, 7.4.2, 7.5.1, 7.5.2, 7.6.1, 7.6.2 – Dominique Evereare**

[**R4-2114707**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114707.zip) **Email discussion summary for [100-e][107] NR\_LTE\_Maintenance\_R17**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115007 (from R4-2114707).**

[**R4-2115007**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114707.zip) **Email discussion summary for [100-e][107] NR\_LTE\_Maintenance\_R17**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114882 revised from  R4-2112303 | CR for updates related to NR Band n24 | Ligado Networks | Agreeable |  |

The email thread [107] can be closed.

### 7.1 Introduction of FR2 FWA UE with maximum TRP of 23dBm for n257 and n258

### 7.2 Introduction of NR band n67

#### 7.2.1 UE RF requirements (38.101-1)

#### 7.2.2 BS RF requirements (38.104)

#### 7.2.3 RRM requirements (38.133)

### 7.3 Introduction of NR band n85

#### 7.3.1 UE RF requirements (38.101-1)

#### 7.3.2 BS RF requirements (38.104)

#### 7.3.3 RRM requirements (38.133)

### 7.4 Introduction of NR band n24

#### 7.4.1 UE RF requirements (38.101-1)

[**R4-2112303**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112303.zip) **CR for updates related to NR Band n24**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0888 rev Cat: F (Rel-17)  
  
 Source: Ligado Networks*

**Decision: Revised to R4-2114882 (from R4-2112303).**

**[R4-2114882](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112303.zip) CR for updates related to NR Band n24**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0888 rev Cat: F (Rel-17)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

#### 7.4.2 BS RF requirements (38.104)

#### 7.4.3 RRM requirements (38.133)

### 7.5 High power UE (power class 2) for NR band n34

#### 7.5.1 General

#### 7.5.2 UE RF requirements

### 7.6 Modification of LTE Band 24 specifications to comply with updated regulatory emission limits

#### 7.6.1 UE RF requirements

[**R4-2112307**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112307.zip) **CR for updates related to LTE band 24 in 36.101 (Rel-10)**

*Type: CR For: Agreement  
 36.101 v10.30.0 CR-5801 rev Cat: F (Rel-10)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

[**R4-2112308**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112308.zip) **CR for updates related to LTE band 24 in 36.101 (Rel-11)**

*Type: CR For: Agreement  
 36.101 v11.27.0 CR-5802 rev Cat: A (Rel-11)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

[**R4-2112309**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112309.zip) **CR for updates related to LTE band 24 in 36.101 (Rel-12)**

*Type: CR For: Agreement  
 36.101 v12.27.0 CR-5803 rev Cat: A (Rel-12)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

[**R4-2112310**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112310.zip) **CR for updates related to LTE band 24 in 36.101 (Rel-13)**

*Type: CR For: Agreement  
 36.101 v13.21.0 CR-5804 rev Cat: A (Rel-13)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

[**R4-2112311**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112311.zip) **CR for updates related to LTE band 24 in 36.101 (Rel-14)**

*Type: CR For: Agreement  
 36.101 v14.19.0 CR-5805 rev Cat: A (Rel-14)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

[**R4-2112312**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112312.zip) **CR for updates related to LTE band 24 in 36.101 (Rel-15)**

*Type: CR For: Agreement  
 36.101 v15.15.0 CR-5806 rev Cat: A (Rel-15)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

[**R4-2112313**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112313.zip) **CR for updates related to LTE band 24 in 36.101 (Rel-16)**

*Type: CR For: Agreement  
 36.101 v16.10.0 CR-5807 rev Cat: A (Rel-16)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

[**R4-2112314**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112314.zip) **CR for updates related to LTE band 24 in 36.101 (Rel-17)**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5808 rev Cat: A (Rel-17)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

#### 7.6.2 BS RF requirements

[**R4-2112305**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112305.zip) **CR to 36.104: Correction to Band 24 requirements**

*Type: CR For: Agreement  
 36.104 v17.2.0 CR-4941 rev Cat: F (Rel-17)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

#### 7.6.3 RRM requirements

## 8 Rel-17 spectrum related Work Items for NR

### 8.1 Introduction of lower 6GHz NR unlicensed operation for Europe

**Email discussion summary of [100-e][108] NR\_6GHz\_unlic\_EU, AI 8.1 – Johannes Hejselbaek**

[**R4-2114708**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114708.zip) **Email discussion summary for [100-e][108] NR\_6GHz\_unlic\_EU**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115008 (from R4-2114708).**

[**R4-2115008**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114708.zip) **Email discussion summary for [100-e][108] NR\_6GHz\_unlic\_EU**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**GTW in 1st round:**

**Issue 1-1: New band or reuse n96**

* Proposals
  + **Option 1:** Re-using already defined band n96, for the frequency range 5945 MHz to 6425 MHz
    - FFS if additional notes and/or clarifications are needed. Regional specific requirements to be included in relevant specifications.
  + **Option 2:** Defining a new band n[xx], for the frequency range 5945 MHz to 6425 MHz
    - On top of specific requirements provided by ECC, the new band shall reuse requirements already defined for n96, where possible.

*Note that selecting any of the options above shall not in any way interfere with regulatory activities and timelines for the 6 GHz range. (As per RAN agreement)*

**Agreement:**

* The same hardware of UE as for n96 may be reused on the frequency range 5945MHz to 6425MHz no matter whether to define a new band or define new NS for the existing n96.
* Nokia will provide draft LS and the group will come back to draft LS on Thursday (August 19) GTW.

**Issue 2-1: Outdoor UEs connecting to the indoor LPI base stations:**

* Proposals
  + **Option 1:** No solution is needed to meet the regulatory requirements.
  + **Option 2:** Consider NW and UE controlled approaches to ensure that a UE (configured with LPI) UL transmission is compliant to the local regulations when it is outdoors

**Discussion:**

Qualcomm: this is something that regulation has recognized. It would be ambiguous regarding indoor and outdoor.

Ericsson: all the co-existence study has been carried out. Some accident outdoor has been counted. We prefer to Option1.

Microsoft: Agree with Ericsson. 2% comes from ITU.

**Agreement:** For outdoor UEs connecting to the indoor LPI base stations, no solution is needed to meet the regulatory requirements in Rel-17.

**Conclusions after 1st round**

**R4-2114752 Draft LS on lower 6GHz NR unlicensed operation for Europe**

*Type: LS out For: Approval  
 Source: Nokia*

**Abstract:**

This contribution provides the LS.

**Discussion:**

**GTW on August 19**

Comments were received on 7.6F blocking characteristics for UE and that re-wording is needed for items with “NOTE” solution in BS table.

**GTW on August 26**

Discussion point: Specify 6GHz spectrum for UE operating in Europe band by following both Option 1 and Option2.

**Decision: Return to.**

**R4-2114883 TP to TR 38.849 on A-MPR for VLP**

*Type: pCR For: Approval  
 38.849 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm*

**Abstract:**

This contribution provides TP.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114752 LS on lower 6GHz NR unlicensed operation for Europe | Nokia | Return to | To: RAN |
| R4-2114883 TP to TR 38.849 on A-MPR for VLP | Qualcomm | Return to |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2113692 | draft TR 38.849 v0.4.0 | Nokia, Nokia Shanghai Bell | To be Email approved |  |

#### 8.1.1 General

[**R4-2113692**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113692.zip) **draft TR 38.849 v0.4.0**

*Type: draft TR For: Agreement  
 38.849 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Inclusion of agreements and TPs provided at RAN4#99

**Decision:** The document was **for email approval**.

[**R4-2113693**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113693.zip) **On system parameters for the lower 6GHz NR unlicensed operation**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

#### 8.1.2 Comparison of reusing n96 and defining a new band

[**R4-2112342**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112342.zip) **Band plan for lower 6GHz NR unlicensed operation in EU/CEPT**

*Type: discussion For: Decision  
 Source: Apple, Facebook, Hewlett Packard Enterprise, Skyworks Solutions Inc., Microsoft*

**Decision: Noted.**

[**R4-2113934**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113934.zip) **Comparison of reusing n96 and defining a new band**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2114219**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114219.zip) **NR-U 6 GHz band for Europe from a UE perspective**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2114231**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114231.zip) **6GHz unliscenced band numbering**

*Type: discussion For: Discussion  
 Source: Huawei*

**Abstract:**

Once again go over outr oprion and reasoning on the 2 options for the EU band.

**Decision: Noted.**

[**R4-2114476**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114476.zip) **Band plan for unlicensed operation in 6GHz in Europe**

*Type: discussion For: (not specified)  
 Source: Ericsson GmbH, Eurolab*

**Decision: Noted.**

#### 8.1.3 UE RF requirements

[**R4-2112823**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112823.zip) **RF requirements for a UE supporting a dedicated EU band implemented with a 5925-7125 MHz RF filter**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution we propose RF requirements for UEs implementing the 5945-6425 MHz band with a 5925-7125 MHz filter (baseline)

**Decision: Noted.**

[**R4-2113694**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113694.zip) **On UE RF aspects for the lower 6GHz NR unlicensed operation**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

#### 8.1.4 BS RF requirements

[**R4-2113695**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113695.zip) **On BS RF aspects for the lower 6GHz NR unlicensed operation**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2113935**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113935.zip) **Discussion on BS RF requirements for Europe unlicensed 6GHz**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2113936**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113936.zip) **draft CR for introduction of Europe unlicensed 6GHz.**

*Type: other For: Endorsement  
 Source: ZTE Corporation*

**Decision: Not pursued.**

#### 8.1.5 Others

[**R4-2114375**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114375.zip) **On LPI and VLP modes for mixed indoor/outdoor scenarios**

*Type: discussion For: Decision  
 Source: Apple*

**Abstract:**

The paper is submitted to the EU/CEPT 6GHz WI, but the considered scenario can occur in other regions.

**Decision: Noted.**

### 8.2 Introduction of operation in full unlicensed band 5925-7125MHz for NR

**Email discussion summary of [100-e][109] NR\_6GHz\_unlic\_full, AI 8.2 –Alexander Sayenko**

[**R4-2114709**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114709.zip) **Email discussion summary for [100-e][109] NR\_6GHz\_unlic\_full**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115009 (from R4-2114709).**

[**R4-2115009**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114709.zip) **Email discussion summary for [100-e][109] NR\_6GHz\_unlic\_full**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114884 WF on introduction of the full unlicensed band**

*Type: other For: Approval  
 Source: Apple*

**Abstract:**

This contribution provides WF for 6GHz unlicensed band.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114884 WF on introduction of the full unlicensed band | Apple Inc. | Approved |  |

#### 8.2.1 General

[**R4-2112343**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112343.zip) **Work plan for introduction of operation in full unlicensed band 5925-7125MHz for NR**

*Type: Work Plan For: Approval  
 Source: Apple*

**Decision: Approved.**

[**R4-2113065**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113065.zip) **On introduction of operation in full unlicensed band 5925-7125MHz**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 8.2.2 Regulatory requirements and feasibility of re-using existing NS

[**R4-2112344**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112344.zip) **Overview of the 6GHz unlicensed band system and regulatory requirements in Region 2 and Region 3 countries**

*Type: discussion For: Decision  
 Source: Apple*

**Decision: Noted.**

[**R4-2112972**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112972.zip) **Considerations on South Korea’s regulatory requirements in 5925 - 7125 MHz**

*Type: discussion For: Approval  
 Source: LG Electronics Inc.*

**Abstract:**

In this contribution, based on the approved New WI [1], South Korea’s regulatory requirements [2] have been analyzed, and there are some proposals.

**Decision: Noted.**

[**R4-2113066**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113066.zip) **Regulatory requirements for full unlicensed band 5925-7125MHz**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 8.2.3 UE RF requirements

[**R4-2112345**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112345.zip) **A-MPR for the 6GHz unlicensed band in Region 2 and Region 3 countries**

*Type: discussion For: Decision  
 Source: Apple*

**Decision: Noted.**

[**R4-2114220**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114220.zip) **A-MPR for NR-U VLP in 6 GHz for Europe**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

#### 8.2.4 BS RF requirements

### 8.3 Introduction of NR 47 GHz band

#### 8.3.1 UE RF requirements maintenance (38.101-2)

**Email discussion summary of [100-e][110] NR\_47GHz\_Band\_NWM, AI 8.3.1 – Hisashi Onozawa**

[**R4-2114710**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114710.zip) **Email discussion summary for [100-e][110] NR\_47GHz\_Band\_NWM**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Noted.**

The email thread was closed after the first round.

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[**R4-2113733**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113733.zip) **TR 38.847 Introduction of NR Band n262 (47GHz band)**

*Type: draft TR For: Agreement  
 38.847 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Updated TR to capture the work done when specifying the new NR FR2 47GHz band

**Decision:** The document was **for email approval**.

[**R4-2113735**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113735.zip) **TP to TR 38.847 - UE agreements**

*Type: pCR For: Approval  
 38.847 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This TP captures the latest UE RF agreement

**Decision: Approved.**

[**R4-2114056**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114056.zip) **Corrections of n262 UE RF requirements**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0419 rev Cat: F (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Agreed.**

#### 8.3.2 BS RF requirements maintenance (38.104)

#### 8.3.3 BS conformance (38.141)

#### 8.3.4 RRM requirements maintenance (38.133)

#### 8.3.5 Demodulation and CSI requirements

##### 8.3.5.1 UE demodulation (38.101-4)

##### 8.3.5.2 BS demodulation (38.104)

### 8.4 Introduction of 900 MHz spectrum to 5G NR applicable for Rail Mobile Radio

#### 8.4.1 General

**Email discussion summary of [100-e][111] RAIL\_900\_1900MHz, AI 8.4.1, 8.4.2, 8.4.4, 8.5, 8.5.1, 8.5.2, 8.5.4 –Ingo Wendler**

[**R4-2114711**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114711.zip) **Email discussion summary for [100-e][111] RAIL\_900\_1900MHz**

*Type: other For: Information  
 Source: Moderator (Union Inter. Chemins de Fer)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115011 (from R4-2114711).**

[**R4-2115011**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114711.zip) **Email discussion summary for [100-e][111] RAIL\_900\_1900MHz**

*Type: other For: Information  
 Source: Moderator (Union Inter. Chemins de Fer)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114885 WF on System parameters, UE RF requirements for the RMR 900 and RMR 1900 WI**

*Type: other For: Approval  
 Source: UIC*

**Abstract:**

This contribution provides the way forward.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114885 WF on System parameters, UE RF requirements for the RMR 900 and RMR 1900 WI (R4-2114885) | UIC | Approved | Capture all system parameters and UE RF related agreements and topics to be further discussed. |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2113751 | RMR 1900 MHz - General | Ericsson | Approved | For 2nd round |
| R4-2114886 Revised from  R4-2114373 | TP to 38.852 on 1900MHz RMR RAN4 system parameters | Nokia, Nokia Shanghai Bell | Approved | Correction of typo |
| R4-2113753 | RMR 1900 MHz - UE RF | Ericsson | Approved | For 2nd round |
| R4-2114955 revised from R4-2114372 | On 1900MHz RMR RAN4 UE RF requirements impact due to ECC Decision (20) | Nokia, Nokia Shanghai Bell | Approved. | For 2nd round |

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[**R4-2112184**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112184.zip) **Skeleton TR 38.853 Introduction of 900MHz NR band for Europe for Rail Mobile Radio (RMR)**

*Type: pCR For: Approval  
 38.853 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: Union Inter. Chemins de Fer*

**Decision: Agreed.**

[**R4-2113748**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113748.zip) **RMR 900 MHz - General**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution discusses general aspects of the new RMR 900MHz band

**Decision: Approved.**

[**R4-2114370**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114370.zip) **TP to 38.853 on 900MHz RMR RAN4 system parameters**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Approved.**

#### 8.4.2 UE RF requirements

[**R4-2113750**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113750.zip) **RMR 900 MHz - UE RF**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution discusses UE RF requirements aspects when introducing the new RMR 900MHz band

**Decision: Approved.**

[**R4-2114030**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114030.zip) **Text proposals for RMR 900MHz band**

*Type: discussion For: Approval  
 Source: Huawei Tech.(UK) Co.. Ltd*

**Decision: Noted.**

[**R4-2114369**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114369.zip) **On 900MHz RMR RAN4 UE RF requirements impact due to ECC Decision (20)**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Approved.**

#### 8.4.3 BS RF requirements

#### 8.4.4 Others

[**R4-2114409**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114409.zip) **Further discussion on channel arrangement aspects for RMR 900 WI**

*Type: discussion For: Discussion  
 Source: Huawei*

**Abstract:**

In this contribution provide analysis of the channel arrangement aspects of the RMR900 topic, and related NR-ARFCN implications.

**Decision: Noted.**

### 8.5 Introduction of 1900 MHz spectrum to 5G NR applicable for Rail Mobile Radio

#### 8.5.1 General

**Refer to email discussion summary of [100-e][111] RAIL\_900\_1900MHz, AI 8.4.1, 8.4.2, 8.4.4, 8.5, 8.5.1, 8.5.2, 8.5.4 –Ingo Wendler**

[**R4-2112183**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112183.zip) **Skeleton TR 38.853 Introduction of 900MHz NR band for Europe for Rail Mobile Radio (RMR)**

*Type: pCR For: Approval  
 38.852 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: Union Inter. Chemins de Fer*

**Decision: Agreed.**

[**R4-2113751**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113751.zip) **RMR 1900 MHz - General**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution discusses general aspects of the new RMR 1900MHz band

**Decision: Approved.**

**[R4-2114373](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114373.zip) TP to 38.852 on 1900MHz RMR RAN4 system parameters**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Revised to R4-2114886 (from R4-2114373).**

**[R4-2114886](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114373.zip) TP to 38.852 on 1900MHz RMR RAN4 system parameters**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Approved.**

#### 8.5.2 UE RF requirements

[**R4-2113753**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113753.zip) **RMR 1900 MHz - UE RF**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution discusses UE RF requirements aspects when introducing the new RMR 1900MHz band

**Decision: Approved.**

[**R4-2114372**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114372.zip) **On 1900MHz RMR RAN4 UE RF requirements impact due to ECC Decision (20)**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Revised to R4-2114955 (from R4-2114372).**

**R4-2114955 On 1900MHz RMR RAN4 UE RF requirements impact due to ECC Decision (20)**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Approved.**

#### 8.5.3 BS RF requirements

#### 8.5.4 Others

### 8.6 Issues arising from basket WIs but not subject to block approval

**Email discussion summary of [100-e][112] NR\_Baskets\_Part\_1, AI 8.6 –Dominique Brunel**

[**R4-2114712**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114712.zip) **Email discussion summary for [100-e][112] NR\_Baskets\_Part\_1**

*Type: other For: Information  
 Source: Moderator (Skyworks)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115012 (from R4-2114712).**

[**R4-2115012**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114712.zip) **Email discussion summary for [100-e][112] NR\_Baskets\_Part\_1**

*Type: other For: Information  
 Source: Moderator (Skyworks)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114897 WF on REFSENS assumptions for DC\_20-38\_n8**

*Type: other For: Approval  
 Source: Vodafone*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Withdrawn.**

**R4-2114898 CR to R17 38.101-1 to capture IMD5 MSD for CA\_n41C-n66A**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR-xxxx rev Cat: F (Rel-17)  
  
 Source: Mediatek*

**Abstract:**

This contribution provides the draft CR.

**Discussion:**

**Decision: Endorsed.**

**R4-2114899 WF on NRU ULCA cases and evaluation assumptions**

*Type: other For: Approval  
 Source: Skyworks Solutions*

**Abstract:**

This contribution provides WF.

**Discussion:**

**Decision: Approved.**

**R4-2114900 WF on n5B 25MHz aggregated BW MSD**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc., Qualcomm*

**Abstract:**

This contribution provides WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114897 WF on REFSENS assumptions for DC\_20-38\_n8 | Vodafone | Withdrawn | Capture REFSENS assumptions for contributions by interested companies next meeting |
| R4-2114898 CR to R17 38.101-1 to capture IMD5 MSD for CA\_n41C-n66A | MediaTek Inc. | Endorsed | CR to modify MSD value to 32.5dB |
| R4-2114899 WF on NRU ULCA cases and evaluation assumptions | Skyworks Solutions Inc., […] | Approved | Capture agreements on cases restrictions and prioritization. Capture evaluation assumptions for next meetings |
| R4-2114900 WF on n5B 25MHz aggregated BW MSD | Skyworks Solutions Inc., Qualcomm | Approved | Capture agreements on test points and channel configurations for n5B MSD. may result in CR to capture tentative agreement |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| LB-LB-LB and LB-LB combinations | | | | |
| R4-2114901  Revised from  [**R4-2113405**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113405.zip) | TP for TR 37.717-21-11: DC\_8A-20A\_n28A | Huawei, HiSilicon | Approved | Capture consensus on MSD and agreements in Rd2 about form factor restrictions. |
| Band combinations corrections for FR1 and FR2 | | | | |
| **R4-2114879** revised from  [**R4-2112910**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112910.zip) | CR to TS38.101-1: Inter-band NR CA Tx requirement including intra-band non-contiguous CA and combinations of intra-band and inter-band CA UL configuration | ZTE Corporation | Endorsed | Companies requested more time to check => review in Rd2 |
| [**R4-2112724**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112724.zip) | CR to TS 38.101-1 on corrections to configuration for SUL bands | ZTE Corporation | Postponed | Further discussion needed in RD2 may need to revise |
| [**R4-2113573**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113573.zip) | Rel-17 draft CR 38.101-1, band combination corrections | Ericsson | Endorsed | No comment should be agreeable but better to leave time in Rd2 for review |
| [**R4-2113574**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113574.zip) | Rel-17 draft CR 38.101-2, band combination corrections | Ericsson | Endorsed | No comment should be agreeable but better to leave time in Rd2 for review |
| [**R4-2113575**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113575.zip) | Rel-17 draft CR 38.101-3, band combination corrections | Ericsson | Endorsed | No comment should be agreeable but better to leave time in Rd2 for review |
| [**R4-2112722**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112722.zip) | CR to TS 38.101-2 on corrections to intra-band non-contiguous CA | ZTE Corporation | Agreed | No comment should be agreeable but better to leave time in Rd2 for review |
| [**R4-2112352**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112352.zip) | CR for TS 38.101-1: Correcting CA frequency setup for 2UL interband reference sensitivity | Apple | Agreed | No comment should be agreeable but better to leave time in Rd2 for review |
| [**R4-2112353**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112353.zip) | CR for TS 38.101-3: Correcting DC frequency setup for 2UL interband reference sensitivity | Apple | Agreed | No comment should be agreeable but better to leave time in Rd2 for review |
| **R4-2114902**  Revised from  [**R4-2112358**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112358.zip) | CR for TS 38.101-1 Rel-17: Applying n40 and n41 spurious emissions on CA | Apple | Agreed | Revision needed because of R16 discussion, this revision needs to address comments in this thread. |

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[**R4-2112352**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112352.zip) **CR for TS 38.101-1: Correcting CA frequency setup for 2UL interband reference sensitivity**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0907 rev Cat: F (Rel-17)  
  
 Source: Apple*

**Decision: Agreed.**

[**R4-2112353**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112353.zip) **CR for TS 38.101-3: Correcting DC frequency setup for 2UL interband reference sensitivity**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0635 rev Cat: F (Rel-17)  
  
 Source: Apple*

**Decision: Agreed.**

#### 8.6.1 UE RF requirements

[**R4-2111731**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111731.zip) **DC\_8A\_20A\_n28A MSD**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2112017**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112017.zip) **Further discussion on MSD due to IMD5 for CA\_n41C-n66A**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: MediaTek Inc.*

**Decision: Noted.**

[**R4-2112018**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112018.zip) **Further discussion on MSD due to UL IMD for DC\_8A-20A\_n28A**

*Type: discussion For: Approval  
 38.101-3 v CR- rev Cat: (Rel-17)  
  
 Source: MediaTek Inc.*

**Decision: Noted.**

[**R4-2112358**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112358.zip) **CR for TS 38.101-1 Rel-17: Applying n40 and n41 spurious emissions on CA**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0908 rev Cat: F (Rel-17)  
  
 Source: Apple*

**Decision: Revised to R4-2114902 (from R4-2112358).**

[**R4-2114902**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112358.zip) **CR for TS 38.101-1 Rel-17: Applying n40 and n41 spurious emissions on CA**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0908 rev Cat: F (Rel-17)  
  
 Source: Apple*

**Decision: Agreed.**

[**R4-2112721**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112721.zip) **Optimization to NR FR2 configurations for intra-band non-contiguous CA**

*Type: discussion For: Approval  
 Source: ZTE Corporation*

**Abstract:**

In this paper, we’d like to share our views on possible optimization for intra-band non-contiguous CA.

**Decision: Noted.**

[**R4-2112722**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112722.zip) **CR to TS 38.101-2 on corrections to intra-band non-contiguous CA**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0414 rev Cat: F (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This CR is to remove the sub-block columns for the configuration table for intra-band non-contiguous CA.

**Decision: Agreed.**

[**R4-2112723**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112723.zip) **On configurations for SUL band combination with inter-band CA**

*Type: discussion For: Approval  
 Source: ZTE Corporation*

**Abstract:**

In this paper, we discuss the possible optimization to the configuration for SUL band combination with inter-band CA.

**Decision: Noted.**

[**R4-2112724**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112724.zip) **CR to TS 38.101-1 on corrections to configuration for SUL bands**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0895 rev Cat: F (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This CR is to correct the configurations for SUL bands

**Decision: Postponed.**

[**R4-2112910**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112910.zip) **CR to TS38.101-1: Inter-band NR CA Tx requirement including intra-band non-contiguous CA and combinations of intra-band and inter-band CA UL configuration**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0897 rev Cat: F (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2114879 (from R4-2112910).**

[**R4-2114879**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112910.zip) **CR to TS38.101-1: Inter-band NR CA Tx requirement including intra-band non-contiguous CA and combinations of intra-band and inter-band CA UL configuration**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0897 rev Cat: F (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

[**R4-2113344**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113344.zip) **Discussion on UE RF requirements for DC\_20-38\_n8**

*Type: discussion For: (not specified)  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a draft text proposal for TR 37.717-21-11 to include DC\_20-38\_n8. Since this is a combination with two low bands and IMD3 issues, discussion is required to determine the appropriate UE RF requirements.

**Decision: Noted.**

[**R4-2113404**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113404.zip) **Discussion on DC\_8A-20A\_n28A**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2113405**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113405.zip) **TP for TR 37.717-21-11: DC\_8A-20A\_n28A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114901 (from R4-2113405).**

[**R4-2114901**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113405.zip) **TP for TR 37.717-21-11: DC\_8A-20A\_n28A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113573**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113573.zip) **Rel-17 draft CR 38.101-1, band combination corrections**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Changes not applicable to Rel-16

**Decision: Endorsed.**

[**R4-2113574**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113574.zip) **Rel-17 draft CR 38.101-2, band combination corrections**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Changes not applicable to Rel-16

**Decision: Endorsed.**

[**R4-2113575**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113575.zip) **Rel-17 draft CR 38.101-3, band combination corrections**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Changes not applicable to Rel-16

**Decision: Endorsed.**

[**R4-2114579**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114579.zip) **CA\_n5B MSD Measurements**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

This document proposed MSD levels for CA\_n5B dual uplink and single UL operation.

**Decision: Noted.**

[**R4-2114582**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114582.zip) **DC\_8-20\_n28 and other LB-LB-LB RF-FE challenges**

*Type: discussion For: Approval  
 38.101-3 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

This document summarizes RF-FE challenges associated with LB-LB-LB combinations and proposes to restrict such combinations to large form factor devices only, such as FWA.

**Decision: Noted.**

[**R4-2112304**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112304.zip) **NRU ULCA including wideband operation**

*Type: discussion For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution we discuss the need to reduce the number of NRU UL CA cases to make theMPR/ A-MPR cases manageable

**Decision: Noted.**

#### 8.6.2 Feasibility study of defining “low MSD” for CA and DC

[**R4-2112381**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112381.zip) **Views on defining “low MSD” for CA and DC**

*Type: other For: Approval  
 Source: Apple*

**Decision: Revised to** [**R4-2114700**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114700.zip) **(from** [**R4-2112381**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112381.zip)**).**

[**R4-2114700**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114700.zip) **Views on defining “low MSD” for CA and DC**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2112572**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112572.zip) **Discussion on low MSD feasibility**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2112587**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112587.zip) **Views on Low MSD indicator for IMD**

*Type: discussion For: Discussion  
 Source: SoftBank Corp.*

**Abstract:**

Consideration of Low MSD, comparing with MSD assumption, is shown.

**Decision: Noted.**

[**R4-2113015**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113015.zip) **Discussion on "Low MSD" for CA and DC**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113906**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113906.zip) **R17 MSD improvement**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114223**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114223.zip) **Signaling low MSD for CA and DC combinations**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2114567**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114567.zip) **Discussion on the feasibility of MSD improvement**

*Type: discussion For: Agreement  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114570**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114570.zip) **Discussion on defining ”low MSD” for NR CA and DC band combinations**

*Type: discussion For: (not specified)  
 Source: CHTTL*

**Decision: Noted.**

[**R4-2114578**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114578.zip) **Selection Criteria for CA/DC candidates eligible to improved MSD**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

This document proposes criteria to select CA/DC combinations eligible to re-visiting MSD levels.

**Decision: Noted.**

#### 8.6.3 Others

### 8.7 NR intra band Carrier Aggregation for xCC DL/yCC UL including contiguous and non-contiguous spectrum (x>=y)

**Email discussion summary of [100-e][113] NR\_Baskets\_Part\_2, AI 8.7, 8.14, 8.15, 8.16, 8.17, 8.18 –Iwo Angelow**

[**R4-2114713**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114713.zip) **Email discussion summary for [100-e][113] NR\_Baskets\_Part\_2**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Noted.**

#### 8.7.1 Rapporteur Input (WID/TR/CR)

[**R4-2113552**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113552.zip) **Revised WID NR Intra-band Rel-17**

*Type: WID revised For: Endorsement  
 Source: Ericsson*

**Abstract:**

Revised WID NR Intra-band Rel-17

**Decision:** The document was **for email approval**.

[**R4-2113556**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113556.zip) **CR 38.101-1 new combinations Rel-17 NR Intra-band**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0903 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR 38.101-1 new combinations Rel-17 NR Intra-band

**Decision:** The document was **for email approval**.

[**R4-2113557**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113557.zip) **CR 38.101-2 new combinations Rel-17 NR Intra-band**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0418 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR 38.101-2 new combinations Rel-17 NR Intra-band

**Decision:** The document was **for email approval**.

[**R4-2113562**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113562.zip) **TR 38.717-01-01 v0.6.0 Rel-17 NR Intra-band**

*Type: draft TR For: Endorsement  
 38.717-01-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

TR 38.717-01-01 v0.6.0 Rel-17 NR Intra-band

**Decision:** The document was **for email approval**.

#### 8.7.2 UE RF requirements for FR1

[**R4-2112790**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112790.zip) **Addition of missing CA Band and removal of bracket for CA\_n71(2A)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Dish*

**Decision: Endorsed.**

**[R4-2114812](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112790.zip) Addition of missing CA Band and removal of bracket for CA\_n71(2A)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Dish*

**Decision: Withdrawn.**

#### 8.7.3 UE RF requirements for FR2

[**R4-2112795**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112795.zip) **DraftCR 38.101-2: Addition of uplink CA for CA\_n258 configurations**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, T-Mobile USA*

**Decision: Endorsed.**

### 8.8 NR inter-band Carrier Aggregation/Dual Connectivity for 2 bands DL with x bands UL (x=1, 2)

**Email discussion summary of [100-e][114] NR\_Baskets\_Part\_3, AI 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.19, 8.20, 8.21, 8.22, 8.23, 8.24 – Johannes Hejselbaek**

[**R4-2114714**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114714.zip) **Email discussion summary for [100-e][114] NR\_Baskets\_Part\_3**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Noted.**

#### 8.8.1 Rapporteur Input (WID/TR/CR)

[**R4-2112940**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112940.zip) **Revised WID on Rel-17 NR Inter-band CA\_DC xUL\_2DL (x=1,2)**

*Type: WID revised For: Approval  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2112941**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112941.zip) **Big CR to reflect the completed NR inter band CA DC combinations for 2 bands DL with up to 2 bands UL into TS 38.101-1**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0898 rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2112942**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112942.zip) **Big CR to reflect the completed NR inter band CA DC combinations for 2 bands DL with up to 2 bands UL into TS 38.101-2**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0416 rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2112943**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112943.zip) **Big CR to reflect the completed NR inter band CA DC combinations for 2 bands DL with up to 2 bands UL into TS 38.101-3**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0621 rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2114089**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114089.zip) **TR 38.717-02-01 v0.6.0**

*Type: draft TR For: Discussion  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Wistron Telecom AB*

**Decision:** The document was **for email approval.**

#### 8.8.2 NR inter band CA requirements without any FR2 band(s)

[**R4-2111773**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111773.zip) **DraftCR 38.101-1: Addition of CA\_n2(2A)-n14A, CA\_n14A-n66(2A), and CA\_n14A-n66(3A)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Revised to R4-2114825 (from R4-2111773).**

[**R4-2114825**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111773.zip) **DraftCR 38.101-1: Addition of CA\_n2(2A)-n14A, CA\_n14A-n66(2A), and CA\_n14A-n66(3A)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Endorsed.**

[**R4-2111794**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111794.zip) **DraftCR 38.101-1: Addition of DC\_n12-n77 and n71-n77**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, US Cellular Corporation*

**Decision: Endorsed.**

[**R4-2111795**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111795.zip) **TP to TR 38.717-02-01: CA\_n12-n25**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, US Cellular Corporation*

**Decision: Approved.**

[**R4-2111796**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111796.zip) **TP to TR 38.717-02-01: CA\_n12-n48**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, US Cellular Corporation*

**Decision: Revised to R4-2114829 (from R4-2111796).**

[**R4-2114829**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111796.zip) **TP to TR 38.717-02-01: CA\_n12-n48**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, US Cellular Corporation*

**Decision: Approved.**

[**R4-2111797**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111797.zip) **TP to TR 38.717-02-01: CA\_n12-n66 BCS1**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, US Cellular Corporation*

**Decision: Approved.**

[**R4-2111798**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111798.zip) **TP to TR 38.717-02-01: CA\_n12-n71**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, US Cellular Corporation*

**Decision: Revised to R4-2114830 (from R4-2111798).**

[**R4-2114830**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111798.zip) **TP to TR 38.717-02-01: CA\_n12-n71**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, US Cellular Corporation*

**Decision: Approved.**

[**R4-2111799**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111799.zip) **DraftCR 38.101-1: Addition of DC\_n1-n3**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2111800**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111800.zip) **DraftCR 38.101-1: Addition of CA\_n3-n7 BCS 1**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2111801**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111801.zip) **DraftCR 38.101-1: Addition of CA\_n3-n28 BCS 1**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2111802**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111802.zip) **DraftCR 38.101-1: Addition of CA\_n3-n78(2A) BCS 1**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2111836**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111836.zip) **TP to TR 38.717.02-01 for CA\_n48-n96 and DC\_n48-n96**

*Type: Work Plan For: Approval  
 Source: Charter Communications, Inc*

**Decision: Revised to R4-2114834 (from R4-2111836).**

[**R4-2114834**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111836.zip) **TP to TR 38.717.02-01 for CA\_n48-n96 and DC\_n48-n96**

*Type: Work Plan For: Approval  
 Source: Charter Communications, Inc*

**Decision: Noted.**

[**R4-2112032**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112032.zip) **TP to TR 38.717-02-01: CA\_n48-n71 and DC\_n48-n71**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: CableLabs*

**Decision: Revised to R4-2114835 (from R4-2112032).**

[**R4-2114835**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112032.zip) **TP to TR 38.717-02-01: CA\_n48-n71 and DC\_n48-n71**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: CableLabs*

**Decision: Approved.**

[**R4-2112054**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112054.zip) **Draft CR for TS 38.101-1: Addition of the missing note for DC\_n77-n79 and the maximum output power for some DC conigurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Endorsed.**

[**R4-2112154**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112154.zip) **Draft CR for 38.101-1 CA\_n1A-n77(2A)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Endorsed.**

[**R4-2112159**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112159.zip) **TP for TR 38.717-02-01 CA\_n8A-n77A and CA\_n8A-n77(2A)**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Revised to R4-2114841 (from R4-2112159).**

[**R4-2114841**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112159.zip) **TP for TR 38.717-02-01 CA\_n8A-n77A and CA\_n8A-n77(2A)**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112306**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112306.zip) **Draft CR to 38.101-1 Correction to Reference Sensitivity Exceptions for CA**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: AT&T, Verizon*

**Decision: Endorsed.**

[**R4-2112440**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112440.zip) **R17 draft CR for 38.101-1 to correct some errors for 2 bands NR CA (CAT F)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Samsung*

**Decision: Endorsed.**

[**R4-2112442**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112442.zip) **Draft CR for 38.101-1 to introduce new configurations of CA\_n3-n77, CA\_n28-n77,CA\_n41-n77**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung,KDDI*

**Decision: Endorsed.**

[**R4-2112463**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112463.zip) **Draft CR for 38.101-1 to introduce BCS1 for CA\_n2A-n78A, CA\_n2A-n78(2A), CA\_n5A-n77(2A),CA\_n5A-n77C, CA\_n5A-n78C**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, Telus, Bell mobility*

**Decision: Endorsed.**

[**R4-2112652**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112652.zip) **DraftCR for NRCA 2BDL-xBULcombinations**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Verizon, Samsung*

**Decision: Endorsed.**

[**R4-2112655**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112655.zip) **TP for TR 38.717-02-01 for CA\_n48-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Revised to R4-2114842 (from R4-2112655).**

[**R4-2114842**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112655.zip) **TP for TR 38.717-02-01 for CA\_n48-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112741**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112741.zip) **TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n1-n5**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n1-n5

**Decision: Revised to R4-2114844 (from R4-2112741).**

[**R4-2114844**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112741.zip) **TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n1-n5**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n1-n5

**Decision: Approved.**

[**R4-2112742**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112742.zip) **draft CR 38.101-1 to include CA\_n1A-n7B configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

draft CR 38.101-1 to include CA\_n1A-n7B configurations

**Decision: Endorsed.**

[**R4-2112743**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112743.zip) **TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n3-n5**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n3-n5

**Decision: Revised to R4-2114845 (from R4-2112743).**

[**R4-2114845**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112743.zip) **TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n3-n5**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n3-n5

**Decision: Approved.**

[**R4-2112758**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112758.zip) **draft CR 38.101-1 to include CA\_n25-n71B CA\_n66A-n71B CA\_n41C-n71(2A) CA\_n41(2A)-n71(2A) configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, T-Mobile USA*

**Abstract:**

draft CR 38.101-1 to include CA\_n25-n71B CA\_n66A-n71B CA\_n41C-n71(2A) CA\_n41(2A)-n71(2A) configurations

**Decision: Endorsed.**

[**R4-2112860**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112860.zip) **Draft CR to TS38.101-1[R17] Introduction of CA\_n28A-n41C**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Endorsed.**

[**R4-2113054**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113054.zip) **DraftCR for 38.101-1: CA\_n38A-n66(2A) and CA\_n38A-n78A BCS1**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Revised to R4-2114848 (from R4-2113054).**

[**R4-2114848**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113054.zip) **DraftCR for 38.101-1: CA\_n38A-n66(2A) and CA\_n38A-n78A BCS1**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Endorsed.**

[**R4-2113577**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113577.zip) **draft CR 38.101-1 to include new 2DL CA configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

draft CR 38.101-1 to include new 2DL CA configurations

**Decision: Endorsed.**

[**R4-2113578**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113578.zip) **TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n5-n7**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n5-n7

**Decision: Revised to R4-2114851 (from R4-2113578).**

[**R4-2114851**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113578.zip) **TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n5-n7**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-02-01 to include new DL and UL configurations for CA\_n5-n7

**Decision: Approved.**

[**R4-2113594**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113594.zip) **draft CR 38.101-1 to include new 2DL CA and DC configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, BT plc*

**Abstract:**

draft CR 38.101-1 to include new 2DL CA and DC configurations

**Decision: Revised to R4-2114856 (from R4-2113594).**

[**R4-2114856**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113594.zip) **draft CR 38.101-1 to include new 2DL CA and DC configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, BT plc*

**Abstract:**

draft CR 38.101-1 to include new 2DL CA and DC configurations

**Decision: Endorsed.**

[**R4-2113696**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113696.zip) **draftCR to introduce 40B to 2 bands combinations already in 38.101-1**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

[**R4-2113713**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113713.zip) **TP to TR 38.717-02-01 Addition of CA\_n26-n66**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Revised to R4-2114860 (from R4-2113713).**

[**R4-2114860**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113713.zip) **TP to TR 38.717-02-01 Addition of CA\_n26-n66**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113714**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113714.zip) **TP to TR 38.717-02-01 Addition of CA\_n26-n70**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Revised to R4-2114861 (from R4-2113714).**

[**R4-2114861**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113714.zip) **TP to TR 38.717-02-01 Addition of CA\_n26-n70**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113715**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113715.zip) **TP to TR 38.717-02-01 Addition of CA\_n48-n66**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Revised to R4-2114862 (from R4-2113715).**

[**R4-2114862**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113715.zip) **TP to TR 38.717-02-01 Addition of CA\_n48-n66**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113716**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113716.zip) **TP to TR 38.717-02-01 Addition of CA\_n48-n70**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Revised to R4-2114863 (from R4-2113716).**

[**R4-2114863**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113716.zip) **TP to TR 38.717-02-01 Addition of CA\_n48-n70**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113717**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113717.zip) **TP to TR 38.717-02-01 Addition of CA\_n48-n71**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Noted.**

[**R4-2113718**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113718.zip) **TP to TR 38.717-02-01 Addition of CA\_n70-n712A**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113719**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113719.zip) **TP to TR 38.717-02-01 Addition of CA\_n662A-n712A**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113720**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113720.zip) **TP to TR 38.717-02-01 Addition of DC\_n48-n66**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Noted.**

[**R4-2113721**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113721.zip) **TP to TR 38.717-02-01 Addition of DC\_n48-n70**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Noted.**

[**R4-2113722**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113722.zip) **TP to TR 38.717-02-01 Addition of DC\_n48-n71**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Noted.**

[**R4-2114007**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114007.zip) **TP to TR 38.717-02-01 for CA\_n46-n78 and DC\_n46-n78**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, BT*

**Decision: Revised to R4-2114868 (from R4-2114007).**

[**R4-2114868**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114007.zip) **TP to TR 38.717-02-01 for CA\_n46-n78 and DC\_n46-n78**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, BT*

**Decision: Approved.**

[**R4-2114008**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114008.zip) **TP to TR 38.717-02-01 for CA\_n28-n46 and DC\_n28-n46**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, BT*

**Decision: Revised to** **R4-2114869 (from R4-2114008).**

**[R4-2114869](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114008.zip) TP to TR 38.717-02-01 for CA\_n28-n46 and DC\_n28-n46**

*Type: pCR For: Approval  
 38.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, BT*

**Decision: Approved.**

#### 8.8.3 NR inter band CA requirements with at least one FR2 band

[**R4-2112157**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112157.zip) **Draft CR for 38.101-3 CA\_n3A-n257JKLM**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Endorsed.**

[**R4-2112158**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112158.zip) **Draft CR for 38.101-3 CA\_n8A-n257GHIJKLMA**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Endorsed.**

[**R4-2112443**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112443.zip) **Draft CR for 38.101-3 to introduce new configurations of CA\_n78-n257**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung,KDDI*

**Decision: Endorsed.**

[**R4-2112462**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112462.zip) **Draft CR for 38.101-3 to introduce new configurations of DC\_n77-n257**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, SKT*

**Decision: Endorsed.**

[**R4-2112636**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112636.zip) **draft CR for DC\_n1A-n257J/K/L/M with uplink DC support up to DC\_n1A-n257K**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CHTTL*

**Decision: Endorsed.**

[**R4-2112757**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112757.zip) **draft CR 38.101-3 to include new UL CA configurations DC\_n78A-n258GHI**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

draft CR 38.101-3 to include new UL CA configurations DC\_n78A-n258GHI

**Decision: Endorsed.**

[**R4-2112796**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112796.zip) **DraftCR 38.101-3: Addition of CA\_n25-n258 configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, T-Mobile USA*

**Decision: Endorsed.**

[**R4-2112797**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112797.zip) **DraftCR 38.101-3: Addition of CA\_n41-n258 configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, T-Mobile USA*

**Decision: Endorsed.**

[**R4-2112798**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112798.zip) **DraftCR 38.101-3: Addition of CA\_n66-n258 configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, T-Mobile USA*

**Decision: Endorsed.**

[**R4-2112799**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112799.zip) **DraftCR 38.101-3: Addition of DC\_n25-n258 configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, T-Mobile USA*

**Decision: Endorsed.**

[**R4-2112800**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112800.zip) **DraftCR 38.101-3: Addition of DC\_n41-n258 configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, T-Mobile USA*

**Decision: Endorsed.**

[**R4-2112801**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112801.zip) **DraftCR 38.101-3: Addition of DC\_n66-n258 configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, T-Mobile USA*

**Decision: Endorsed.**

[**R4-2112920**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112920.zip) **Draft CR to TS38.101-3 Introduction of CA/DC\_n79-n258**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

### 8.9 NR Inter-band Carrier Aggregation for 3 bands DL with 1 band UL

#### 8.9.1 Rapporteur Input (WID/TR/CR)

#### 8.9.2 UE RF requirements

[**R4-2111774**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111774.zip) **TP to TR 38.717-03-01: Addition of CA\_n2-n14-n30**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Revised to R4-2114826 (from R4-2111774).**

[**R4-2114826**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111774.zip) **TP to TR 38.717-03-01: Addition of CA\_n2-n14-n30**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111775**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111775.zip) **TP to TR 38.717-03-01: Addition of CA\_n2-n14-n66**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Revised to R4-2114827 (from R4-2111775).**

[**R4-2114827**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111775.zip) **TP to TR 38.717-03-01: Addition of CA\_n2-n14-n66**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111776**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111776.zip) **TP to TR 38.717-03-01: Addition of CA\_n14-n30-n66**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Revised to R4-2114828 (from R4-2111776).**

[**R4-2114828**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111776.zip) **TP to TR 38.717-03-01: Addition of CA\_n14-n30-n66**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2112155**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112155.zip) **Draft CR for 38.101-3 CA\_n1A-n77-n257JKLM and CA\_n1A-n77(2A)-n257GHIJKLMA**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Endorsed.**

[**R4-2112156**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112156.zip) **Draft CR for 38.101-3 CA\_n3A-n77-n257JKLM and CA\_n3A-n77(2A)-n257JKLM**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Endorsed.**

[**R4-2112160**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112160.zip) **TP for TR 38.717-03-01 CA\_n1A-n3A-n8A**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112161**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112161.zip) **TP for TR 38.717-03-01 CA\_n1A-n3A-n77A and CA\_n1A-n3A-n77(2A)**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112162**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112162.zip) **TP for TR 38.717-03-01 CA\_n1A-n3A-n257GHIJKLMA**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112163**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112163.zip) **TP for TR 38.717-03-01 CA\_n1A-n8A-n77A and CA\_n1A-n8A-n77(2A)**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112164**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112164.zip) **TP for TR 38.717-03-01 CA\_n1A-n8A-n257GHIJKLMA**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112165**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112165.zip) **TP for TR 38.717-03-01 CA\_n3A-n8A-n77A and CA\_n3A-n8A-n77(2A)**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112166**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112166.zip) **TP for TR 38.717-03-01 CA\_n3A-n8A-n257GHIJKLMA**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112167**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112167.zip) **TP for TR 38.717-03-01 CA\_n8A-n77A-n257GHIJKLMA and CA\_n8A-n77(2A)-n257GHIJKLMA**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112464**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112464.zip) **Draft CR for 38.101-1 to introduce new configurations to CA\_n41-n66-n71 and CA\_n41-n71-n77 with 1UL**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, Telus, Bell mobility*

**Decision: Endorsed.**

[**R4-2112468**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112468.zip) **TP for TR 38.717-03-01 CA\_n41-n71-n78**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Telus, Bell mobility*

**Decision:** The document was **withdrawn**.

[**R4-2112661**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112661.zip) **TP for TR 38.717-03-01 for CA\_n48-n66-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112662**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112662.zip) **TP for TR 38.717-03-01 for CA\_n5-n48-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112663**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112663.zip) **TP for TR 38.717-03-01 for CA\_n5-n48-n66**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112664**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112664.zip) **TP for TR 38.717-03-01 for CA\_n2-n48-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112665**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112665.zip) **TP for TR 38.717-03-01 for CA\_n2-n48-n66**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112666**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112666.zip) **TP for TR 38.717-03-01 for CA\_n2A-n5A-n66A**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112667**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112667.zip) **TP for TR 38.717-03-01 for CA\_n2-n5-n48**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112744**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112744.zip) **TP for TR 38.717-03-01 to include CA\_n1-n3-n5**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-01 to include CA\_n1-n3-n5

**Decision: Approved.**

[**R4-2112745**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112745.zip) **TP for TR 38.717-03-01 to include CA\_n1-n5-n7**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-01 to include CA\_n1-n5-n7

**Decision: Revised to R4-2114846 (from R4-2112745).**

[**R4-2114846**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112745.zip) **TP for TR 38.717-03-01 to include CA\_n1-n5-n7**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-01 to include CA\_n1-n5-n7

**Decision: Approved.**

[**R4-2112746**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112746.zip) **TP for TR 38.717-03-01 to include CA\_n1-n5-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-01 to include CA\_n1-n5-n78

**Decision: Approved.**

[**R4-2112858**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112858.zip) **TP for TR38.717-03-01\_CA\_n28A-n41A-n79A**

*Type: pCR For: Approval  
 38.717-03-01 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112938**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112938.zip) **TP for TR38.717-03-01\_CA\_n40A-n41A-n258A**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2113058**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113058.zip) **TP for TR 38.717-03-01: CA\_n25-n38-n66**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Approved.**

[**R4-2113059**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113059.zip) **TP for TR 38.717-03-01: CA\_n66A-n77A-n260A**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Approved.**

[**R4-2113167**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113167.zip) **TP for TR 38.717-03-01 CA\_n41-n71-n78**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Ericsson,Telus, Bell mobility*

**Decision: Approved.**

[**R4-2113580**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113580.zip) **TP for TR 38.717-03-01 to include CA\_n3-n5-n78**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-01 to include CA\_n3-n5-n78

**Decision: Approved.**

[**R4-2113601**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113601.zip) **TP for TR 38.717-03-01 to include CA\_n25-n41-n78**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Bell Mobility*

**Abstract:**

TP for TR 38.717-03-01 to include CA\_n25-n41-n78

**Decision: Approved.**

[**R4-2113604**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113604.zip) **TP for TR 38.717-03-01 to include CA\_n41-n66-n78**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Bell Mobility*

**Abstract:**

TP for TR 38.717-03-01 to include CA\_n41-n66-n78

**Decision: Approved.**

[**R4-2113697**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113697.zip) **draftCR to introduce 40B to 3 bands combinations already in 38.101-1**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

[**R4-2113698**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113698.zip) **TP to TR 38.717-03-01 Addition of CA\_n1A-n28A-n40**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Approved.**

[**R4-2113723**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113723.zip) **TP to TR 38.717-03-01 Addition of CA\_n26\_n66\_n70**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113724**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113724.zip) **TP to TR 38.717-03-01 Addition of CA\_n48\_n66\_n70**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113725**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113725.zip) **TP to TR 38.717-03-01 Addition of CA\_n48\_n66\_n71**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113726**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113726.zip) **TP to TR 38.717-03-01 Addition of CA\_n48-n70-n71**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113727**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113727.zip) **TP to TR 38.717-03-01 Addition of CA\_n66-n70-n71**

*Type: pCR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

### 8.10 NR Inter-band Carrier Aggregation for 4 bands DL with 1 band UL

#### 8.10.1 Rapporteur Input (WID/TR/CR)

[**R4-2113554**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113554.zip) **Revised WID 4 bands NR CA Rel-17**

*Type: WID revised For: Endorsement  
 Source: Ericsson*

**Abstract:**

Revised WID 4 bands NR CA Rel-17

**Decision:** The document was **for email approval**.

[**R4-2113559**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113559.zip) **CR 38.101-1 new combinations NR Inter-band 4 bands CA**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0904 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR 38.101-1 new combinations NR Inter-band 4 bands CA

**Decision:** The document was **for email approval**.

[**R4-2113560**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113560.zip) **CR 38.101-3 new combinations NR Inter-band 4 bands CA**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0628 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR 38.101-3 new combinations NR Inter-band 4 bands CA

**Decision:** The document was **for email approval**

[**R4-2113564**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113564.zip) **TR 38.717-04-01 v0.6.0 Rel-17 NR Inter-band 4 bands CA**

*Type: draft TR For: Endorsement  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

TR 38.717-04-01 v0.6.0 Rel-17 NR Inter-band 4 bands CA

**Decision:** The document was **for email approval**.

#### 8.10.2 UE RF requirements

[**R4-2111780**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111780.zip) **TP to TR 38.717-04-01: Addition of CA\_n2-n5-n30-n66**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111781**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111781.zip) **TP to TR 38.717-04-01: Addition of CA\_n2-n14-n30-n66**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2112062**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112062.zip) **TP for TR 38.717-04-01: NR CA\_n3-n28-n77-n79**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112063**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112063.zip) **TP for TR 38.717-04-01: NR CA\_n3-n28-n79-n257**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112064**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112064.zip) **TP for TR 38.717-04-01: NR CA\_n3-n77-n79-n257**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112065**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112065.zip) **TP for TR 38.717-04-01: NR CA\_n28-n77-n79-n257**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112168**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112168.zip) **TP for TR 38.717-04-01 CA\_n1A-n3A-n8A-n77A and CA\_n1A-n3A-n8A-n77(2A)**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112169**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112169.zip) **TP for TR 38.717-04-01 CA\_n1A-n3A-n8A-n257GHIJKLMA**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112170**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112170.zip) **TP for TR 38.717-04-01 CA\_n1A-n3A-n77A-n257GHIJKLMA and CA\_n1A-n3A-n77(2A)-n257GHIJKLMA**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112171**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112171.zip) **TP for TR 38.717-04-01 CA\_n1A-n8A-n77A-n257GHIJKLMA and CA\_n1A-n8A-n77(2A)-n257GHIJKLMA**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112172**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112172.zip) **TP for TR 38.717-04-01 CA\_n3A-n8A-n77A-n257GHIJKLMA and CA\_n3A-n8A-n77(2A)-n257GHIJKLMA**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

[**R4-2112466**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112466.zip) **Draft CR for 38.101-1 to introduce new configurations to CA\_n41-n66-n71-n77 with 1UL**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, Telus, Bell mobility*

**Decision: Endorsed.**

[**R4-2112469**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112469.zip) **TP for TR 38.717-04-01 CA\_n41-n66-n71-n78**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Telus, Bell mobility*

**Decision:** The document was **withdrawn**.

[**R4-2113168**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113168.zip) **TP for TR 38.717-04-01 CA\_n41-n66-n71-n78**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Ericsson,Telus, Bell mobility*

**Decision: Approved.**

[**R4-2113588**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113588.zip) **TP for TR 38.717-04-01 to include CA\_n1-n3-n5-n78**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-01 to include CA\_n1-n3-n5-n78

**Decision: Approved.**

[**R4-2113590**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113590.zip) **TP for TR 38.717-04-01 to include CA\_n1-n5-n7-n78**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-01 to include CA\_n1-n5-n7-n78

**Decision: Approved.**

[**R4-2113597**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113597.zip) **TP for TR 38.717-04-01 to include CA\_n1-n7-n28-n78**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, BT plc*

**Abstract:**

TP for TR 38.717-04-01 to include CA\_n1-n7-n28-n78

**Decision: Approved.**

[**R4-2113607**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113607.zip) **TP for TR 38.717-04-01 to include CA\_n25-n41-n66-n78**

*Type: pCR For: Approval  
 38.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Bell Mobility*

**Abstract:**

TP for TR 38.717-04-01 to include CA\_n25-n41-n66-n78

**Decision: Approved.**

### 8.11 NR Inter-band Carrier Aggregation/Dual connectivity for 3 bands DL with 2 bands UL

#### 8.11.1 Rapporteur Input (WID/TR/CR)

[**R4-2112944**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112944.zip) **Revised WID on Rel-17 NR Inter-band Carrier AggregationDual Connectivity for 3 bands DL with 2 bands UL**

*Type: WID revised For: Approval  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2112945**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112945.zip) **Big CR to reflect the completed NR inter band CA DC combinations for 3 bands DL with 2 bands UL into TS 38.101-1**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0899 rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2112946**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112946.zip) **Big CR to reflect the completed NR inter band CA DC combinations for 3 bands DL with 2 bands UL into TS 38.101-3**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0622 rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2114090**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114090.zip) **TR 38.717-03-02 v0.6.0**

*Type: draft TR For: Discussion  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Wistron Telecom AB*

**Decision:** The document was **for email approval**.

#### 8.11.2 UE RF requirements

[**R4-2111777**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111777.zip) **TP to TR 38.717-03-02: Addition of CA\_n2-n14-n30**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111778**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111778.zip) **TP to TR 38.717-03-02: Addition of CA\_n2-n14-n66**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111779**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111779.zip) **TP to TR 38.717-03-02: Addition of CA\_n14-n30-n66**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111803**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111803.zip) **TP to TR 38.717-03-02: Addition of CA\_n1-n3-n7**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Revised to R4-2114831 (from R4-2111803).**

[**R4-2114831**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111803.zip) **TP to TR 38.717-03-02: Addition of CA\_n1-n3-n7**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Approved.**

[**R4-2111804**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111804.zip) **TP to TR 38.717-03-02: Addition of CA\_n1-n3-n28**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Revised to R4-2114832 (from R4-2111804).**

[**R4-2114832**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111804.zip) **TP to TR 38.717-03-02: Addition of CA\_n1-n3-n28**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Approved.**

[**R4-2111805**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111805.zip) **DraftCR 38.101-1: Addition of CA\_n1-n3-n78 BCS configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2111806**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111806.zip) **DraftCR 38.101-1: Addition of DC\_n1-n3-n78**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2111807**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111807.zip) **TP to TR 38.717-03-02: Addition of CA\_n3-n7-n28**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Revised to R4-2114833 (from R4-2111807).**

[**R4-2114833**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111807.zip) **TP to TR 38.717-03-02: Addition of CA\_n3-n7-n28**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Approved.**

[**R4-2111808**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111808.zip) **TP to TR 38.717-03-02: Addition of CA\_n3-n7-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Noted.**

[**R4-2111809**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111809.zip) **DraftCR 38.101-1: Addition of CA\_n3-n28-n78 BCS configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Noted.**

[**R4-2112060**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112060.zip) **TP for TR 38.717-03-02: CA\_n3-n77-n79**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112061**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112061.zip) **Draft CR for TS 38.101-1: Support of DC\_n3-n28-n79 and DC\_n28-n77-n79**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Endorsed.**

[**R4-2112066**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112066.zip) **Draft CR for TS 38.101-3: Support of DC\_n3-n79-n257 and DC\_n77-n79-n257**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Endorsed.**

[**R4-2112441**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112441.zip) **R17 draft CR for 38.101-1 to correct some errors for 3 bands NR CA (CAT F)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Samsung*

**Decision: Endorsed.**

[**R4-2112444**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112444.zip) **Draft CR for 38.101-1 to introduce new BCS to CA\_n3A-n28A-n78A and CA\_n3A-n28A-n78(2A)**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung,KDDI*

**Decision: Endorsed.**

[**R4-2112465**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112465.zip) **Draft CR for 38.101-1 to introduce new configurations to CA\_n41-n66-n71 and CA\_n41-n71-n77 with 2UL**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, Telus, Bell mobility*

**Decision: Endorsed.**

[**R4-2112747**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112747.zip) **draft CR 38.101-1 to include CA\_n1A-n7B-n78A and CA\_n1A-n7B-n28A configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

draft CR 38.101-1 to include CA\_n1A-n7B-n78A and CA\_n1A-n7B-n28A configurations

**Decision: Endorsed.**

[**R4-2112748**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112748.zip) **TP for TR 38.717-03-02 to include CA\_n1A-n3A-n28A**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n1A-n3A-n28A

**Decision: Noted.**

[**R4-2112749**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112749.zip) **TP for TR 38.717-03-02 to include CA\_n1A-n5A-n78A**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n1A-n5A-n78A

**Decision: Approved.**

[**R4-2112750**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112750.zip) **TP for TR 38.717-03-02 to include CA\_n1A-n28A-n78A**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n1A-n28A-n78A

**Decision: Noted.**

[**R4-2112751**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112751.zip) **TP for TR 38.717-03-02 to include CA\_n1-n3-n5**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n1-n3-n5

**Decision: Approved.**

[**R4-2112752**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112752.zip) **TP for TR 38.717-03-02 to include CA\_n1-n3-n7**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n1-n3-n7

**Decision: Noted.**

[**R4-2112753**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112753.zip) **TP for TR 38.717-03-02 to include CA\_n1-n5-n7**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n1-n5-n7

**Decision: Approved.**

[**R4-2112803**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112803.zip) **TP to TR 38.717-03-02: CA\_n1-n28-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Telefonica*

**Decision: Noted.**

[**R4-2112859**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112859.zip) **TP for TR38.717-03-02\_CA\_n28A-n41A-n79A**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112919**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112919.zip) **Draft CR to TS38.101-1 add missing configurations of CA\_n25A-n41(2A)-n71A**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: ZTE Corporation, T-Mobile USA*

**Decision: Endorsed.**

[**R4-2112939**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112939.zip) **TP for TR38.717-03-02\_CA\_n40A-n41A-n258A**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2113055**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113055.zip) **DraftCR for 38.101-1 to add additional combinations for CA\_n7-n66-n78**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Endorsed.**

[**R4-2113056**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113056.zip) **DraftCR for 38.101-1: CA\_n66-n71-n77**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Endorsed.**

[**R4-2113057**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113057.zip) **TP for TR 38.717-03-02: CA\_n25-n38-n66**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Approved.**

[**R4-2113576**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113576.zip) **draft CR 38.101-3 to include new configurations for CA\_n7-n78-n258**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

draft CR 38.101-3 to include new configurations for CA\_n7-n78-n258

**Decision: Endorsed.**

[**R4-2113579**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113579.zip) **TP for TR 38.717-03-02 to include UL for CA\_n3-n5-n7**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include UL for CA\_n3-n5-n7

**Decision: Approved.**

[**R4-2113581**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113581.zip) **TP for TR 38.717-03-02 to include CA\_n3-n5-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n3-n5-n78

**Decision: Approved.**

[**R4-2113582**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113582.zip) **TP for TR 38.717-03-02 to include CA\_n3-n7-n28**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n3-n7-n28

**Decision: Noted.**

[**R4-2113583**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113583.zip) **TP for TR 38.717-03-02 to include UL for CA\_n3-n7-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include UL for CA\_n3-n7-n78

**Decision: Revised to R4-2114852 (from R4-2113583).**

[**R4-2114852**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113583.zip) **TP for TR 38.717-03-02 to include UL for CA\_n3-n7-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include UL for CA\_n3-n7-n78

**Decision: Approved.**

[**R4-2113584**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113584.zip) **draft CR to add n3-n28 as UL and to add BCS1 for CA\_n3A-n28A-n78A**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

draft CR to add n3-n28 as UL and to add BCS1 for CA\_n3A-n28A-n78A

**Decision: Revised to R4-2114853 (from R4-2113584).**

[**R4-2114853**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113584.zip) **draft CR to add n3-n28 as UL and to add BCS1 for CA\_n3A-n28A-n78A**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

draft CR to add n3-n28 as UL and to add BCS1 for CA\_n3A-n28A-n78A

**Decision: Endorsed.**

[**R4-2113585**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113585.zip) **TP for TR 38.717-03-02 to include UL for CA\_n5-n7-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include UL for CA\_n5-n7-n78

**Decision: Approved.**

[**R4-2113586**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113586.zip) **TP for TR 38.717-03-02 to include CA\_n7-n28-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n7-n28-n78

**Decision: Approved.**

[**R4-2113595**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113595.zip) **draft CR 38.101-1 to include new BCS's for CA\_n1-n7-n78**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, BT plc*

**Abstract:**

draft CR 38.101-1 to include new BCS's for CA\_n1-n7-n78

**Decision: Endorsed.**

[**R4-2113599**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113599.zip) **TP for TR 38.717-03-02 to include UL and a new configuration for CA\_n1-n28-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, BT plc*

**Abstract:**

TP for TR 38.717-03-02 to include UL and a new configuration for CA\_n1-n28-n78

**Decision: Revised to R4-2114857 (from R4-2113599).**

[**R4-2114857**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113599.zip) **TP for TR 38.717-03-02 to include UL and a new configuration for CA\_n1-n28-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, BT plc*

**Abstract:**

TP for TR 38.717-03-02 to include UL and a new configuration for CA\_n1-n28-n78

**Decision: Approved.**

[**R4-2113600**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113600.zip) **TP for TR 38.717-03-02 to include UL for CA\_n7-n28-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, BT plc*

**Abstract:**

TP for TR 38.717-03-02 to include UL for CA\_n7-n28-n78

**Decision: Noted.**

[**R4-2113602**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113602.zip) **TP for TR 38.717-03-02 to include CA\_n25-n41-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Bell Mobility*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n25-n41-n78

**Decision: Approved.**

[**R4-2113603**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113603.zip) **TP for TR 38.717-03-02 to include CA\_n41-n71-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Bell Mobility*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n41-n71-n78

**Decision: Approved.**

[**R4-2113605**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113605.zip) **TP for TR 38.717-03-02 to include CA\_n41-n66-n78**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Bell Mobility*

**Abstract:**

TP for TR 38.717-03-02 to include CA\_n41-n66-n78

**Decision: Approved.**

[**R4-2113606**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113606.zip) **draft CR 38.101-1 to include new 3DL CA BCS's**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, Bell Mobility*

**Abstract:**

draft CR 38.101-1 to include new 3DL CA BCS's

**Decision: Endorsed.**

[**R4-2113728**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113728.zip) **TP to TR 38.717-03-02 Addition of CA\_n26\_n66\_n70**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113729**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113729.zip) **TP to TR 38.717-03-02 Addition of CA\_n48\_n66\_n70**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Revised to R4-2114864 (from R4-2113729).**

[**R4-2114864**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113729.zip) **TP to TR 38.717-03-02 Addition of CA\_n48\_n66\_n70**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113730**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113730.zip) **TP to TR 38.717-03-02 Addition of CA\_n48\_n66\_n71**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Revised to R4-2114865 (from R4-2113730).**

[**R4-2114865**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113730.zip) **TP to TR 38.717-03-02 Addition of CA\_n48\_n66\_n71**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113731**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113731.zip) **TP to TR 38.717-03-02 Addition of CA\_n48\_n70\_n71**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Revised to R4-2114866 (from R4-2113731).**

[**R4-2114866**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113731.zip) **TP to TR 38.717-03-02 Addition of CA\_n48\_n70\_n71**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2113732**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113732.zip) **TP to TR 38.717-03-02 Addition of CA\_n66\_n70\_n71**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Revised to R4-2114867 (from R4-2113732).**

[**R4-2114867**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113732.zip) **TP to TR 38.717-03-02 Addition of CA\_n66\_n70\_n71**

*Type: pCR For: Approval  
 38.717-03-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, DISH Network*

**Decision: Approved.**

[**R4-2114055**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114055.zip) **DraftCR 38.101-1: Addition of n41-n66-n77 and n66-n71-n77 BCS**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Bell Mobility, TELUS*

**Decision: Endorsed.**

### 8.12 NR inter-band Carrier Aggregation and Dual connectivity for DL 4 bands and 2UL bands

[**R4-2113591**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113591.zip) **TP for TR 38.717-04-02 to include CA\_n1-n5-n7-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n1-n5-n7-n78

**Decision: Approved.**

#### 8.12.1 Rapporteur Input (WID/TR/CR)

[**R4-2112410**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112410.zip) **TR 38.717-04-02 update version 0.6.0**

*Type: draft TR For: Agreement  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung*

**Decision:** The document was **for email approval**.

[**R4-2112429**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112429.zip) **Big CR on introduction of completed NR CA/DC combs with 4DL/2UL within FR1**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0889 rev Cat: B (Rel-17)  
  
 Source: Samsung*

**Abstract:**

big CR

**Decision:** The document was **for email approval**.

[**R4-2112430**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112430.zip) **Big CR on introduction of completed NR CA/DC combs with 4DL/2UL including FR2**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0614 rev Cat: B (Rel-17)  
  
 Source: Samsung*

**Abstract:**

big CR

**Decision:** The document was **for email approval**.

[**R4-2112431**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112431.zip) **Revised WID on NR CA/DC with 4DL/2UL**

*Type: WID revised For: Information  
 Source: Samsung*

**Decision:** The document was **for email approval**.

#### 8.12.2 UE RF requirements

[**R4-2111782**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111782.zip) **TP to TR 38.717-04-02: Addition of CA\_n2-n5-n30-n66 and CA\_n2-n14-n30-n66**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111810**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111810.zip) **DraftCR 38.101-1: Addition of CA\_n1-n3-n7-n28 BCS configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2111811**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111811.zip) **DraftCR 38.101-1: Addition of CA\_n1-n3-n7-n78 BCS configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2111812**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111812.zip) **DraftCR 38.101-1: Addition of CA\_n1-n3-n28-n78 BCS configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2111813**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111813.zip) **DraftCR 38.101-1: Addition of CA\_n3-n7-n28-n78 BCS configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2112067**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112067.zip) **TP update for TR 38.717-04-02: NR CA\_n3-n28-n77-n257**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Revised to R4-2114840 (from R4-2112067).**

[**R4-2114840**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112067.zip) **TP update for TR 38.717-04-02: NR CA\_n3-n28-n77-n257**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112068**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112068.zip) **Draft CR for TS 38.101-3: Support of n77(2A) for DC\_n3-n28-n77-n257**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Endorsed.**

[**R4-2112445**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112445.zip) **Draft CR for 38.101-1 to introduce new configurations to CA\_n3-n28-n41-n77 and CA\_n3-n28-n41-n78**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung,KDDI*

**Decision: Endorsed.**

[**R4-2112467**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112467.zip) **Draft CR for 38.101-1 to introduce new configurations to CA\_n41-n66-n71-n77 with 2UL**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, Telus, Bell mobility*

**Decision: Endorsed.**

[**R4-2112754**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112754.zip) **TP for TR 38.717-04-02 to include CA\_n1-n3-n7-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n1-n3-n7-n78

**Decision: Approved.**

[**R4-2112755**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112755.zip) **TP for TR 38.717-04-02 to include CA\_n1-n3-n28-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n1-n3-n28-n78

**Decision: Approved.**

[**R4-2112756**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112756.zip) **TP for TR 38.717-04-02 to include CA\_n3-n5-n7-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n3-n5-n7-n78

**Decision: Revised to R4-2114847 (from R4-2112756).**

[**R4-2114847**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112756.zip) **TP for TR 38.717-04-02 to include CA\_n3-n5-n7-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n3-n5-n7-n78

**Decision: Approved.**

[**R4-2113587**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113587.zip) **TP for TR 38.717-04-02 to include CA\_n3-n7-n28-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n3-n7-n28-n78

**Decision: Revised to R4-2114854 (from R4-2113587).**

[**R4-2114854**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113587.zip) **TP for TR 38.717-04-02 to include CA\_n3-n7-n28-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n3-n7-n28-n78

**Decision: Approved.**

[**R4-2113589**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113589.zip) **TP for TR 38.717-04-02 to include CA\_n1-n3-n5-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n1-n3-n5-n78

**Decision: Approved.**

[**R4-2113598**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113598.zip) **TP for TR 38.717-04-02 to include CA\_n1-n7-n28-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, BT plc*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n1-n7-n28-n78

**Decision: Approved.**

[**R4-2113608**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113608.zip) **TP for TR 38.717-04-02 to include CA\_n25-n41-n66-n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Bell Mobility*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n25-n41-n66-n78

**Decision: Approved.**

[**R4-2113609**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113609.zip) **TP for TR 38.717-04-02 to include CA\_n41-n66-n71.n78**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, Bell Mobility*

**Abstract:**

TP for TR 38.717-04-02 to include CA\_n41-n66-n71.n78

**Decision: Approved.**

[**R4-2113699**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113699.zip) **TP to TR 38.717-04-02 Addition of CA\_n1A-n28A-n40-n78A**

*Type: pCR For: Approval  
 38.717-04-02 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Noted.**

[**R4-2113712**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113712.zip) **draftCR to correct CA\_n25A-n41A\_n66A-n71A UL in 38.101-1**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

### 8.13 NR inter-band CA for 5 bands DL with x bands UL (x=1, 2)

#### 8.13.1 Rapporteur Input (WID/TR/CR)

[**R4-2112594**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112594.zip) **Revised WID on NR inter-band CA for 5 bands DL with x bands UL (x=1, 2)**

*Type: WID revised For: Endorsement  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

[**R4-2112595**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112595.zip) **TR 38.717-05-01 v0.3.0**

*Type: draft TR For: Approval  
 38.717-05-01 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Abstract:**

To capture the approved TPs in this meeting

**Decision:** The document was **for email approval**.

[**R4-2112596**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112596.zip) **CR on Introduction of completed 5 bands inter-band CA into TS 38.101-1**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0894 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

[**R4-2112597**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112597.zip) **CR on Introduction of completed 5 bands inter-band CA into TS 38.101-3**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0619 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

#### 8.13.2 UE RF requirements

[**R4-2111814**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111814.zip) **DraftCR 38.101-1: Correction of CA\_n1-n3-n7-n28-n78 BCS configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, BT plc*

**Decision: Endorsed.**

[**R4-2112173**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112173.zip) **TP for TR 38.717-05-01 CA\_n1A-n3A-n8A-n77A-n257GHIJKLMA and CA\_n1A-n3A-n8A-n77(2A)-n257GHIJKLMA**

*Type: pCR For: Approval  
 38.717-05-01 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Abstract:**

KT's new band combination

**Decision: Approved.**

### 8.14 DC of 1 LTE band and 1 NR band

#### 8.14.1 Rapporteur Input (WID/TR/CR)

[**R4-2112489**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112489.zip) **Big CR for Rel-17 Dual Connectivity (DC) of 1 LTE band (1DL/1UL) and 1 NR band (1DL/1UL)**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0618 rev Cat: B (Rel-17)  
  
 Source: CHTTL*

**Decision:** The document was **for email approval**.

[**R4-2112497**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112497.zip) **Revised WID for Rel-17 Dual Connectivity (DC) of 1 LTE band (1DL/1UL) and 1 NR band (1DL/1UL)**

*Type: WID revised For: Endorsement  
 Source: CHTTL*

**Decision:** The document was **for email approval**.

[**R4-2112520**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112520.zip) **TR 37.717-11-11 v0.5.0 Rel-17 Dual Connectivity (DC) of 1 LTE band (1DL/1UL) and 1 NR band (1DL/1UL)**

*Type: draft TR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CHTTL*

**Decision:** The document was **for email approval**.

#### 8.14.2 EN-DC requirements without FR2 band

[**R4-2111783**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111783.zip) **DraftCR 38.101-3: Addition of DC\_2-2\_n30 and DC\_66-66\_n30**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Revised to R4-2114805 (from R4-2111783).**

[**R4-2114805**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111783.zip) **DraftCR 38.101-3: Addition of DC\_2-2\_n30 and DC\_66-66\_n30**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Endorsed.**

[**R4-2112287**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112287.zip) **Draft CR to 38.101-3 Correction to Reference Sensitivity Exceptions for DC**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: AT&T*

**Decision: Withdrawn.**

[**R4-2112454**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112454.zip) **Draft CR for 38.101-3 to introduce new configuration for DC\_5\_n77**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, SKT*

**Decision: Endorsed.**

[**R4-2112654**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112654.zip) **TP for TR 37.717-11-11 for DC\_48\_n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Revised to R4-2114810 (from R4-2112654).**

[**R4-2114810**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112654.zip) **TP for TR 37.717-11-11 for DC\_48\_n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112848**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112848.zip) **TP for TR 37.717-11-11\_DC\_n28A\_3A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112849**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112849.zip) **TP for TR 37.717-11-11\_DC\_n28A\_8A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112850**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112850.zip) **TP for TR 37.717-11-11\_DC\_n28A\_34A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Revised to R4-2114813 (from R4-2112850).**

[**R4-2114813**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112850.zip) **TP for TR 37.717-11-11\_DC\_n28A\_34A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Return to.**

[**R4-2112851**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112851.zip) **TP for TR 37.717-11-11\_DC\_n28A\_39A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Revised to R4-2114814 (from R4-2112851).**

[**R4-2114814**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112851.zip) **TP for TR 37.717-11-11\_DC\_n28A\_39A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Return to.**

[**R4-2112852**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112852.zip) **TP for TR 37.717-11-11\_DC\_n28A\_40A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Revised to R4-2114815 (from R4-2112852).**

[**R4-2114815**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112852.zip) **TP for TR 37.717-11-11\_DC\_n28A\_40A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112853**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112853.zip) **TP for TR 37.717-11-11\_DC\_n41A\_3A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112854**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112854.zip) **TP for TR 37.717-11-11\_DC\_n41A\_8A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Revised to R4-2114816 (from R4-2112854).**

[**R4-2114816**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112854.zip) **TP for TR 37.717-11-11\_DC\_n41A\_8A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112855**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112855.zip) **TP for TR 37.717-11-11\_DC\_n41A\_34A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Revised to R4-2114817 (from R4-2112855).**

[**R4-2114817**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112855.zip) **TP for TR 37.717-11-11\_DC\_n41A\_34A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112856**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112856.zip) **TP for TR 37.717-11-11\_DC\_n41A\_39A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112857**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112857.zip) **TP for TR 37.717-11-11\_DC\_n41A\_40A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC, ZTE Corporation*

**Decision: Approved.**

[**R4-2112928**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112928.zip) **TP for TR 37.717-11-11\_DC\_38A-n3A**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2113063**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113063.zip) **TP for TR 37.717-11-11: DC\_(n)66AA**

*Type: pCR For: Approval  
 37.717-11-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Approved.**

[**R4-2113345**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113345.zip) **TP for TR 37.717-11-11: DC\_38\_n1**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_38\_n1.

**Decision: Revised to R4-2114818 (from R4-2113345).**

[**R4-2114818**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113345.zip) **TP for TR 37.717-11-11: DC\_38\_n1**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_38\_n1.

**Decision: Approved.**

[**R4-2113346**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113346.zip) **TP for TR 37.717-11-11: DC\_38\_n8**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_38\_n8.

**Decision: Revised to R4-2114819 (from R4-2113346).**

[**R4-2114819**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113346.zip) **TP for TR 37.717-11-11: DC\_38\_n8**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_38\_n8.

**Decision: Approved.**

[**R4-2113372**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113372.zip) **Draft CR for 38.101-3 to add the configuration DC\_n28A\_20A**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113373**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113373.zip) **Draft CR for 38.101-3 to add the configuration DC\_n28A\_3A**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

#### 8.14.3 EN-DC requirements with FR2 band

[**R4-2112650**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112650.zip) **TP for TR 37.717-11-11: addition of uplink configurations for DC\_3-3\_n257, DC\_7\_n257, DC\_7-7\_n257**

*Type: pCR For: Approval  
 37.717-11-11 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CHTTL*

**Decision: Approved.**

[**R4-2112922**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112922.zip) **Draft CR to TS38.101-3 Introduction of DC\_39-n258 and DC\_40-n258**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

### 8.15 DC of 2 LTE band and 1 NR band

#### 8.15.1 Rapporteur Input (WID/TR/CR)

[**R4-2113051**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113051.zip) **TR 37.717-21-11 V0.6.0 for DC of 2 LTE band and 1 NR band**

*Type: draft TR For: Approval  
 37.717-21-11 v0.6.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

[**R4-2113052**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113052.zip) **Revised WID: Dual Connectivity (DC) of 2 bands LTE inter-band CA (2DL/1UL) and 1 NR band (1DL/1UL)**

*Type: WID revised For: Endorsement  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

[**R4-2113053**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113053.zip) **CR on introduction of completed EN-DC of 2 bands LTE and 1 band NR from RAN4#100-e into TS 38.101-3**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0625 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

#### 8.15.2 EN-DC requirements without FR2 band

[**R4-2111750**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111750.zip) **TP for TR 37.717-21-11 Addition of DC\_2-12\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114794 (from R4-2111750).**

[**R4-2114794**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111750.zip) **TP for TR 37.717-21-11 Addition of DC\_2-12\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111751**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111751.zip) **TP for TR 37.717-21-11 Addition of DC\_2-14\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114795 (from R4-2111751).**

[**R4-2114795**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111751.zip) **TP for TR 37.717-21-11 Addition of DC\_2-14\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111752**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111752.zip) **TP for TR 37.717-21-11 Addition of DC\_2-29\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114796 (from R4-2111752).**

[**R4-2114796**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111752.zip) **TP for TR 37.717-21-11 Addition of DC\_2-29\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111753**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111753.zip) **TP for TR 37.717-21-11 Addition of DC\_2-30\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114797 (from R4-2111753).**

[**R4-2114797**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111753.zip) **TP for TR 37.717-21-11 Addition of DC\_2-30\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111754**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111754.zip) **TP for TR 37.717-21-11 Addition of DC\_5-30\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114798 (from R4-2111754).**

[**R4-2114798**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111754.zip) **TP for TR 37.717-21-11 Addition of DC\_5-30\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111755**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111755.zip) **TP for TR 37.717-21-11 Addition of DC\_12-30\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111756**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111756.zip) **TP for TR 37.717-21-11 Addition of DC\_12-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114799 (from R4-2111756).**

[**R4-2114799**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111756.zip) **TP for TR 37.717-21-11 Addition of DC\_12-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111757**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111757.zip) **TP for TR 37.717-21-11 Addition of DC\_14-30\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114800 (from R4-2111757).**

[**R4-2114800**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111757.zip) **TP for TR 37.717-21-11 Addition of DC\_14-30\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111758**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111758.zip) **TP for TR 37.717-21-11 Addition of DC\_14-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114801 (from R4-2111758).**

[**R4-2114801**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111758.zip) **TP for TR 37.717-21-11 Addition of DC\_14-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111759**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111759.zip) **TP for TR 37.717-21-11 Addition of DC\_29-30\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114802 (from R4-2111759).**

[**R4-2114802**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111759.zip) **TP for TR 37.717-21-11 Addition of DC\_29-30\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111760**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111760.zip) **TP for TR 37.717-21-11 Addition of DC\_29-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114803 (from R4-2111760).**

[**R4-2114803**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111760.zip) **TP for TR 37.717-21-11 Addition of DC\_29-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111761**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111761.zip) **TP for TR 37.717-21-11 Addition of DC\_30-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114804 (from R4-2111761).**

[**R4-2114804**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111761.zip) **TP for TR 37.717-21-11 Addition of DC\_30-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111784**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111784.zip) **TP to TR 37.717-21-11 DC\_2-5\_n30**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111785**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111785.zip) **TP to TR 37.717-21-11 DC\_2-12\_n30**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111786**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111786.zip) **TP to TR 37.717-21-11 DC\_2-14\_n30**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111787**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111787.zip) **TP to TR 37.717-21-11 DC\_2-29\_n30**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111788**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111788.zip) **TP to TR 37.717-21-11 DC\_2-66\_n30**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111789**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111789.zip) **TP to TR 37.717-21-11 DC\_5-66\_n30**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111790**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111790.zip) **TP to TR 37.717-21-11 DC\_12-66\_n30**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111791**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111791.zip) **TP to TR 37.717-21-11 DC\_14-66\_n30**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2111792**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111792.zip) **TP to TR 37.717-21-11 DC\_29-66\_n30**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Approved.**

[**R4-2112446**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112446.zip) **TP for TR 37.717-21-11 DC\_2-46\_n2**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Revised to R4-2114806 (from R4-2112446).**

[**R4-2114806**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112446.zip) **TP for TR 37.717-21-11 DC\_2-46\_n2**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Approved.**

[**R4-2112447**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112447.zip) **TP for TR 37.717-21-11 DC\_2-48\_n2**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Approved.**

[**R4-2112448**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112448.zip) **TP for TR 37.717-21-11 DC\_13-46\_n2**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Revised to R4-2114807 (from R4-2112448).**

[**R4-2114807**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112448.zip) **TP for TR 37.717-21-11 DC\_13-46\_n2**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Approved.**

[**R4-2112449**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112449.zip) **TP for TR 37.717-21-11 DC\_13-48\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Revised to R4-2114808 (from R4-2112449).**

[**R4-2114808**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112449.zip) **TP for TR 37.717-21-11 DC\_13-48\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Approved.**

[**R4-2112450**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112450.zip) **TP for TR 37.717-21-11 DC\_48-66\_n2**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Approved.**

[**R4-2112451**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112451.zip) **TP for TR 37.717-21-11 DC\_48-66\_n66**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Approved.**

[**R4-2112452**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112452.zip) **TP for TR 37.717-21-11 DC\_48-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Revised to R4-2114809 (from R4-2112452).**

[**R4-2114809**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112452.zip) **TP for TR 37.717-21-11 DC\_48-66\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Approved.**

[**R4-2112453**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112453.zip) **Draft CR for 38.101-3 to introduce new configurations for DC of 2 bands LTE and 1 NR band**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, Verizon*

**Decision: Endorsed.**

[**R4-2112733**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112733.zip) **TP for TR 37.717-21-11 DC\_1-5\_n77, DC\_1-7\_n77, DC\_3-5\_n77, DC\_3-7\_n77 and DC\_5-7\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics, SK Telecom, LG Uplus, Ericsson*

**Abstract:**

Provide TP to add DC operating bands and coexistence issues and MSD for DC\_1-5\_n77(2A), DC\_1-7\_n77(2A), DC\_3-5\_n77(2A), DC\_3-7\_n77(2A) and DC\_5-7\_n77(2A).

**Decision: Revised to R4-2114811 (from R4-2112733).**

[**R4-2114811**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112733.zip) **TP for TR 37.717-21-11 DC\_1-5\_n77, DC\_1-7\_n77, DC\_3-5\_n77, DC\_3-7\_n77 and DC\_5-7\_n77**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics, SK Telecom, LG Uplus, Ericsson*

**Abstract:**

Provide TP to add DC operating bands and coexistence issues and MSD for DC\_1-5\_n77(2A), DC\_1-7\_n77(2A), DC\_3-5\_n77(2A), DC\_3-7\_n77(2A) and DC\_5-7\_n77(2A).

**Decision: Approved.**

[**R4-2112759**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112759.zip) **TP for TR 37.717-21-11 to include DC\_2-(n)66**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson, T-Mobile USA*

**Abstract:**

TP for TR 37.717-21-11 to include DC\_2-(n)66

**Decision: Approved.**

[**R4-2112929**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112929.zip) **TP for TR 37.717-21-11\_DC\_1A-7A\_n3A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2112930**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112930.zip) **TP for TR 37.717-21-11\_DC\_1A-38A\_n3A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2112931**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112931.zip) **TP for TR 37.717-21-11\_DC\_7A-38A\_n3A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2112932**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112932.zip) **TP for TR 37.717-21-11\_DC\_20A-38A\_n3A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2113347**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113347.zip) **TP for TR 37.717-21-11: DC\_1-32\_n8**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_1-32\_n8.

**Decision: Approved.**

[**R4-2113348**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113348.zip) **TP for TR 37.717-21-11: DC\_1-38\_n8**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_1-38\_n8.

**Decision: Approved.**

[**R4-2113371**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113371.zip) **TP for TR 37.717-21-11: DC\_7-32\_n3**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_7-32\_n3.

**Decision: Approved.**

[**R4-2113374**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113374.zip) **TP for TR 37.717-21-11: DC\_3A-32A\_n28A and DC\_3C-32A\_n28A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114820 (from R4-2113374).**

[**R4-2114820**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113374.zip) **TP for TR 37.717-21-11: DC\_3A-32A\_n28A and DC\_3C-32A\_n28A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113375**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113375.zip) **TP for TR 37.717-21-11: DC\_28A-32A\_n1A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114821 (from R4-2113375).**

[**R4-2114821**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113375.zip) **TP for TR 37.717-21-11: DC\_28A-32A\_n1A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113376**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113376.zip) **TP for TR 37.717-21-11: DC\_28A-32A\_n3A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114822 (from R4-2113376).**

[**R4-2114822**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113376.zip) **TP for TR 37.717-21-11: DC\_28A-32A\_n3A**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113377**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113377.zip) **Draft CR for 38.101-3 to add the configuration DC\_3C-32A\_n1A**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113378**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113378.zip) **Draft CR for 38.101-3 to add the configuration DC\_1A-3C\_n78A**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113379**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113379.zip) **Draft CR for 38.101-3 to add the configuration DC\_3C-32A\_n78A**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114823 (from R4-2113379).**

[**R4-2114823**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113379.zip) **Draft CR for 38.101-3 to add the configuration DC\_3C-32A\_n78A**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2113393**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113393.zip) **TP for TR 37.717-21-11: DC\_7-32\_n8**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_7-32\_n8.

**Decision: Approved.**

[**R4-2113395**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113395.zip) **TP for TR 37.717-21-11: DC\_20-32\_n8**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_20-32\_n8.

**Decision: Approved.**

[**R4-2113396**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113396.zip) **TP for TR 37.717-21-11: DC\_20-38\_n1**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_20-38\_n1.

**Decision: Approved.**

[**R4-2113397**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113397.zip) **Draft CR for 38.101-3 to introduce new configurations for DC\_1-5\_n78(2A), DC\_1-7-7\_n78(2A), DC\_3-5\_n78(2A), DC\_3-7-7\_n78(2A), DC\_5-7\_n78(2A), DC\_5-7-7\_n78(2A)**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: SK Telecom, LG Electronics, LG Uplus*

**Abstract:**

Adding new configurations for 2 LTE bands + 1 NR band DC combinations about n78(2A)

**Decision: Endorsed.**

[**R4-2113442**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113442.zip) **TP for TR 37.717-21-11: DC\_28-32\_n1**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_28-32\_n1.

**Decision: Approved.**

[**R4-2113481**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113481.zip) **TP for TR 37.717-21-11: DC\_28-32\_n3**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_28-32\_n3.

**Decision: Revised to R4-2114824 (from R4-2113481).**

[**R4-2114824**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113481.zip) **TP for TR 37.717-21-11: DC\_28-32\_n3**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_28-32\_n3.

**Decision: Noted.**

[**R4-2113482**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113482.zip) **TP for TR 37.717-21-11: DC\_32-38\_n1**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-21-11 to include DC\_32-38\_n1.

**Decision: Approved.**

[**R4-2114151**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114151.zip) **TP to TR 37.717-21-11 for DC\_7-7-28-n1**

*Type: pCR For: Approval  
 37.717-21-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

#### 8.15.3 DMEN-DC requirements with FR2 band

[**R4-2112677**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112677.zip) **draft CR for addition of uplink configuratios for DC\_3-7\_n257, DC\_3-3-7\_n257, DC\_3-7-7\_n257, DC\_3-3-7-7\_n257**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: CHTTL*

**Decision: Endorsed.**

[**R4-2113704**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113704.zip) **draftCR to introduce DC\_1A-7A\_n258 to 38.101-3**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

[**R4-2113705**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113705.zip) **draftCR to introduce DC\_1A-3A\_n258 to 38.101-3**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

[**R4-2113706**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113706.zip) **draftCR to add UL configurations to DC\_3A-7A\_n258 in 38.101-3**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

### 8.16 DC of 3 LTE band and 1 NR band

#### 8.16.1 Rapporteur Input (WID/TR/CR)

[**R4-2113553**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113553.zip) **Revised WID LTE 3DL and one NR band Rel-17**

*Type: WID revised For: Endorsement  
 Source: Ericsson*

**Abstract:**

Revised WID LTE 3DL and one NR band Rel-17

**Decision:** The document was **for email approval**.

[**R4-2113558**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113558.zip) **CR 38.101-3 new combinations LTE 3DL and one NR band**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0627 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR 38.101-3 new combinations LTE 3DL and one NR band

**Decision:** The document was **for email approval**.

[**R4-2113563**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113563.zip) **TR 37.717-31-11 v0.6.0 Rel-17 DC combinations LTE 3DL and one NR band**

*Type: draft TR For: Endorsement  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

TR 37.717-31-11 v0.6.0 Rel-17 DC combinations LTE 3DL and one NR band

**Decision:** The document was **for email approval**.

#### 8.16.2 EN-DC requirements without FR2 band

[**R4-2111793**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111793.zip) **DraftCR 38.101-3: Addition of DC\_2-14-66\_n30 DC\_2-5-66\_n30 DC\_2-12-66\_n30 DC\_2-29-66\_n30**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, AT&T*

**Decision: Endorsed.**

[**R4-2112455**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112455.zip) **Draft CR for 38.101-3 to introduce new configurations for DC\_1-3-5\_n78,DC\_1-3-7\_n78,DC\_1-5-7\_n78, DC\_3-5-7\_n78**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, SKT*

**Decision: Endorsed.**

[**R4-2112456**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112456.zip) **TP for TR 37.717-31-11 DC\_1-3-5\_n77**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, SKT*

**Decision: Approved.**

[**R4-2112457**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112457.zip) **TP for TR 37.717-31-11 DC\_1-3-7\_n77**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, SKT*

**Decision: Approved.**

[**R4-2112458**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112458.zip) **TP for TR 37.717-31-11 DC\_1-5-7\_n77**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, SKT*

**Decision: Approved.**

[**R4-2112459**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112459.zip) **TP for TR 37.717-31-11 DC\_3-5-7\_n77**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, SKT*

**Decision: Approved.**

[**R4-2112933**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112933.zip) **TP for TR 37.717-31-11: DC\_1A-7A-38A\_n3A**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2112934**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112934.zip) **TP for TR 37.717-31-11: DC\_1A-20A-38A\_n3A**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2112935**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112935.zip) **TP for TR 37.717-31-11: DC\_7A-20A-38A\_n3A**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2113064**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113064.zip) **TP for TR 37.717-31-11: DC\_7A-29A-66A\_n78A**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Approved.**

[**R4-2113484**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113484.zip) **TP for TR 37.717-31-11: DC\_1-7-32\_n3**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_1-7-32\_n3.

**Decision: Approved.**

[**R4-2113485**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113485.zip) **TP for TR 37.717-31-11: DC\_1-7-32\_n8**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_1-7-32\_n8.

**Decision: Approved.**

[**R4-2113486**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113486.zip) **TP for TR 37.717-31-11: DC\_1-7-38\_n8**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_1-7-38\_n8.

**Decision: Approved.**

[**R4-2113505**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113505.zip) **TP for TR 37.717-31-11: DC\_1-20-28\_n3**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_1-20-28\_n3.

**Decision: Approved.**

[**R4-2113506**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113506.zip) **TP for TR 37.717-31-11: DC\_1-20-32\_n8**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_1-20-32\_n8.

**Decision: Approved.**

[**R4-2113525**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113525.zip) **TP for TR 37.717-31-11: DC\_1-20-38\_n8**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_1-20-38\_n8.

return to once fallback is approved in [112]

**Decision: Return to.**

[**R4-2113526**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113526.zip) **TP for TR 37.717-31-11: DC\_1-28-32\_n3**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_1-28-32\_n3.

**Decision: Approved.**

[**R4-2113527**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113527.zip) **TP for TR 37.717-31-11: DC\_3-7-32\_n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_3-7-32\_n1.

**Decision: Approved.**

[**R4-2113529**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113529.zip) **TP for TR 37.717-31-11: DC\_3-8-20\_n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_3-8-20\_n1. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

[**R4-2113531**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113531.zip) **TP for TR 37.717-31-11: DC\_7-8-20\_n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-8-20\_n1. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

[**R4-2113533**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113533.zip) **TP for TR 37.717-31-11: DC\_7-8-20\_n3**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-8-20\_n3. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

[**R4-2113534**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113534.zip) **TP for TR 37.717-31-11: DC\_7-20-28\_n3**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-20-28\_n3.

**Decision: Approved.**

[**R4-2113535**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113535.zip) **TP for TR 37.717-31-11: DC\_7-20-32\_n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-20-32\_n1. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

[**R4-2113536**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113536.zip) **TP for TR 37.717-31-11: DC\_7-20-32\_n3**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-20-32\_n3.

**Decision: Approved.**

[**R4-2113544**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113544.zip) **TP for TR 37.717-31-11: DC\_7-20-32\_n8**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-20-32\_n8.

**Decision: Approved.**

[**R4-2113545**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113545.zip) **TP for TR 37.717-31-11: DC\_7-20-38\_n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-20-38\_n1.

**Decision: Approved.**

[**R4-2113546**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113546.zip) **TP for TR 37.717-31-11: DC\_7-20-38\_n8**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-20-38\_n8.

return to once fallback is approved in [112]

**Decision: Return to.**

[**R4-2113548**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113548.zip) **TP for TR 37.717-31-11: DC\_7-28-32\_n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-28-32\_n1.

**Decision: Approved.**

[**R4-2113549**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113549.zip) **TP for TR 37.717-31-11: DC\_7-28-32\_n3**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_7-28-32\_n3.

**Decision: Approved.**

[**R4-2113551**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113551.zip) **TP for TR 37.717-31-11: DC\_8-20-32\_n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_8-20-32\_n1. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

[**R4-2113610**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113610.zip) **TP for TR 37.717-31-11: DC\_20-28-32\_n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_20-28-32\_n1.

**Decision: Approved.**

[**R4-2113611**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113611.zip) **TP for TR 37.717-31-11: DC\_20-28-32\_n3**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_20-28-32\_n3.

**Decision: Approved.**

[**R4-2113612**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113612.zip) **TP for TR 37.717-31-11: DC\_20-32-38\_n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-31-11 to include DC\_20-32-38\_n1.

**Decision: Approved.**

[**R4-2114160**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114160.zip) **TP to TR 37.717-31-11 for DC\_3-7-7-28-n1**

*Type: pCR For: Approval  
 37.717-31-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

#### 8.16.3 EN-DC requirements with FR2 band

[**R4-2113707**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113707.zip) **draftCR to introduce DC\_1A-3A-7A\_n258 to 38.101-3**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

### 8.17 DC of 4 LTE band and 1 NR band

#### 8.17.1 Rapporteur Input (WID/TR/CR)

[**R4-2113683**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113683.zip) **draft TR 37.717-41-11-060**

*Type: draft TR For: Agreement  
 37.717-41-11 v0.6.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Inclusion of TPs provided at RAN4#100

**Decision:** The document was **for email approval**.

[**R4-2113684**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113684.zip) **Revised Rel-17 WID on DC of 4 bands LTE inter-band CA (4DL1UL) and 1 NR band (1DL1UL)**

*Type: WID revised For: Endorsement  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Inclusion of requests provided at RAN4#100

**Decision:** The document was **for email approval**.

[**R4-2113685**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113685.zip) **Big CR to introduce new combinations of LTE 4band + NR 1band for TS 38.101-3**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0630 rev Cat: B (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Inclusion of approved combinations provided at RAN4#100

**Decision:** The document was **for email approval**.

#### 8.17.2 EN-DC requirements without FR2 band

[**R4-2112460**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112460.zip) **TP for TR 37.717-41-11 DC\_1-3-5-7\_n77**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung, SKT*

**Decision: Approved.**

[**R4-2112461**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112461.zip) **Draft CR for 38.101-3 to introduce new configurations for DC\_1-3-5-7\_n78**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung, SKT*

**Decision: Endorsed.**

[**R4-2112921**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112921.zip) **Draft CR to TS38.101-3 Introduction of DC\_1A-3A-7A-20A\_n78(2A)**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

[**R4-2112937**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112937.zip) **TP for TR 37.717-41-11: DC\_1A-7A-20A-38A\_n3A**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2113613**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113613.zip) **TP for TR 37.717-41-11: DC\_1-7-8-20\_n3**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_1-7-8-20\_n3. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

[**R4-2113614**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113614.zip) **TP for TR 37.717-41-11: DC\_1-7-20-28\_n3**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_1-7-20-28\_n3.

**Decision: Approved.**

[**R4-2113615**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113615.zip) **TP for TR 37.717-41-11: DC\_1-7-20-32\_n3**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_1-7-20-32\_n3.

**Decision: Approved.**

[**R4-2113616**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113616.zip) **TP for TR 37.717-41-11: DC\_1-7-20-32\_n8**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_1-7-20-32\_n8.

**Decision: Approved.**

[**R4-2113617**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113617.zip) **TP for TR 37.717-41-11: DC\_1-7-20-38\_n8**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_1-7-20-38\_n8.

return to once fallback is approved in [112]

**Decision: Return to.**

[**R4-2113618**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113618.zip) **TP for TR 37.717-41-11: DC\_1-7-28-32\_n3**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_1-7-28-32\_n3.

**Decision: Approved.**

[**R4-2113619**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113619.zip) **TP for TR 37.717-41-11: DC\_1-20-28-32\_n3**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_1-20-28-32\_n3.

**Decision: Approved.**

[**R4-2113627**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113627.zip) **TP for TR 37.717-41-11: DC\_3-7-8-20\_n1**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_3-7-8-20\_n1. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

[**R4-2113645**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113645.zip) **TP for TR 37.717-41-11: DC\_3-7-20-32\_n1**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_3-7-20-32\_n1. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

[**R4-2113646**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113646.zip) **TP for TR 37.717-41-11: DC\_7-8-20-32\_n1**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_7-8-20-32\_n1. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

[**R4-2113647**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113647.zip) **TP for TR 37.717-41-11: DC\_7-20-28-32\_n1**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_7-20-28-32\_n1.

**Decision: Approved.**

[**R4-2113648**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113648.zip) **TP for TR 37.717-41-11: DC\_7-20-28-32\_n3**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_7-20-28-32\_n3.

**Decision: Approved.**

[**R4-2113649**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113649.zip) **TP for TR 37.717-41-11: DC\_7-20-32-38\_n1**

*Type: pCR For: Approval  
 37.717-41-11 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution is a text proposal for TR 37.717-41-11 to include DC\_7-20-32-38\_n1. It is a resubmission (originally submitted at RAN4#98-e) following the approval of the required fallbacks.

**Decision: Approved.**

#### 8.17.3 EN-DC requirements with FR2 band

### 8.18 DC of 5 bands LTE inter-band CA (5DL/1L) and 1 NR band (1DL/1UL)

#### 8.18.1 Rapporteur Input (WID/TR/CR)

[**R4-2112411**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112411.zip) **TR 37.717-51-11 update version 0.2.0**

*Type: draft TR For: Agreement  
 37.717-51-11 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung*

**Decision:** The document was **for email approval**.

[**R4-2112432**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112432.zip) **Big CR introduction completed band combinations for Dual Connectivity (DC) of 5 bands LTE inter-band CA (5DL/1UL) and 1 NR band (1DL/1UL)**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0615 rev Cat: B (Rel-17)  
  
 Source: Samsung*

**Abstract:**

big CR

**Decision:** The document was **for email approval**.

[**R4-2112433**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112433.zip) **Revised WID on Dual Connectivity (DC) of 5 bands LTE inter-band CA (5DL/1UL) and 1 NR band (1DL/1UL)**

*Type: WID revised For: Information  
 Source: Samsung*

**Decision:** The document was **for email approval**.

#### 8.18.2 UE RF requirements

### 8.19 DC of x bands (x=1,2, 3, 4) LTE inter-band CA and 2 bands NR inter-band CA

#### 8.19.1 Rapporteur Input (WID/TR/CR)

[**R4-2112735**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112735.zip) **TR 37.717-11-21 v0.6.0 TR update: LTE(xDL/1UL)+ NR(2DL/1UL) DC in Rel-17**

*Type: draft TR For: Agreement  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

Provide draft TR to capture the approved TPs for NR DC x band DL/1UL LTE (x=1,2,3,4) and 2 band DL/1UL NR basket WI.

**Decision:** The document was **for email approval**.

[**R4-2112736**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112736.zip) **Revised WID on LTE (xDL/UL x=1.2,3,4) with NR 2 bands (2DL/1UL) DC in Rel-17**

*Type: WID revised For: Endorsement  
 Source: LG Electronics France*

**Abstract:**

Provide revised WID to update each DC band status and add new DC band combinations in this meeting

**Decision:** The document was **for email approval**.

[**R4-2112738**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112738.zip) **Introduction CR on new NR DC LTE(xDL/1UL)+ NR(2DL/1UL) band combinations in Rel-17**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0620 rev Cat: B (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

provide CR to add new NR DC band combinations in TS 38.101-3

**Decision:** The document was **for email approval**.

#### 8.19.2 EN-DC requirements including NR inter CA without FR2 band

[**R4-2112055**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112055.zip) **TP for TR 37.717-11-21: EN-DC\_1\_n3-n79**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Revised to R4-2114836 (from R4-2112055).**

[**R4-2114836**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112055.zip) **TP for TR 37.717-11-21: EN-DC\_1\_n3-n79**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112056**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112056.zip) **TP for TR 37.717-11-21: EN-DC\_8\_n3-n79**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Revised to R4-2114837 (from R4-2112056).**

[**R4-2114837**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112056.zip) **TP for TR 37.717-11-21: EN-DC\_8\_n3-n79**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112057**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112057.zip) **TP for TR 37.717-11-21: EN-DC\_8\_n28-n79**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Revised to R4-2114838 (from R4-2112057).**

[**R4-2114838**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112057.zip) **TP for TR 37.717-11-21: EN-DC\_8\_n28-n79**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112058**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112058.zip) **TP for TR 37.717-11-21: EN-DC\_8\_n77-n79**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Revised to R4-2114839 (from R4-2112058).**

[**R4-2114839**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112058.zip) **TP for TR 37.717-11-21: EN-DC\_8\_n77-n79**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2112656**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112656.zip) **TP for TR 37.717-11-21 for DC\_13\_n5-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Revised to R4-2114843 (from R4-2112656).**

[**R4-2114843**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112656.zip) **TP for TR 37.717-11-21 for DC\_13\_n5-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112657**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112657.zip) **TP for 37.717-11-21 for DC\_5\_n66-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112658**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112658.zip) **TP for TR 37.717-11-21 for DC\_5\_n5-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112659**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112659.zip) **TP for TR 37.717-11-21for DC\_5\_n2-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112660**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112660.zip) **TP for TR 37.717-11-21 for DC\_2\_n2-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112689**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112689.zip) **TP for TR 37.717-11-21: UE requirements for DC\_3-7\_n8-n78, DC\_3-3-7\_n8-n78, DC\_3-7-7\_n8-n78, DC\_3-3-7-7\_n8-n78**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: CHTTL*

**Decision: Approved.**

[**R4-2112690**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112690.zip) **TP for TR 37.717-11-21: UE requirements for DC\_3-3\_n8-n78, DC\_7-7\_n8-n78**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: CHTTL*

**Decision: Approved.**

[**R4-2112760**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112760.zip) **TP on summary of self-interference analysis for new NR DC LTE(xDL/1UL)+ NR(2DL/1UL) DC in Rel-17**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

Provide self-interference analysis results in TR 37.717-11-21 for NR DC Basket WI in Rel-17.

**Decision: Approved.**

[**R4-2112762**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112762.zip) **MSD anlaysis results for new DC band combinations**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

Provide MSD results for NR DC band combinations with self interference problems.

**Decision: Approved.**

[**R4-2113060**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113060.zip) **TP for TR 37.717-11-21: DC\_12\_n66-n78**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Revised to R4-2114849 (from R4-2113060).**

[**R4-2114849**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113060.zip) **TP for TR 37.717-11-21: DC\_12\_n66-n78**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Approved.**

[**R4-2113061**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113061.zip) **TP for TR 37.717-11-21: DC\_13A\_n7A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Revised to R4-2114850 (from R4-2113061).**

[**R4-2114850**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113061.zip) **TP for TR 37.717-11-21: DC\_13A\_n7A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Approved.**

[**R4-2113062**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113062.zip) **TP for TR 37.717-11-21: DC\_7\_n66-n77**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon, Bell Mobility, Telus*

**Decision: Approved.**

[**R4-2113380**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113380.zip) **TP for TR 37.717-11-21: DC\_20A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113381**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113381.zip) **TP for TR 37.717-11-21: DC\_1A-3A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113382**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113382.zip) **TP for TR 37.717-11-21: DC\_1A-7A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113383**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113383.zip) **TP for TR 37.717-11-21: DC\_1A-20A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113384**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113384.zip) **TP for TR 37.717-11-21: DC\_3A-7A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113385**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113385.zip) **TP for TR 37.717-11-21: DC\_3A-20A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113386**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113386.zip) **TP for TR 37.717-11-21: DC\_7A-20A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113387**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113387.zip) **TP for TR 37.717-11-21: DC\_1A-3A-7A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113388**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113388.zip) **TP for TR 37.717-11-21: DC\_1A-3A-20A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113389**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113389.zip) **TP for TR 37.717-11-21: DC\_1A-7A-20A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113390**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113390.zip) **TP for TR 37.717-11-21: DC\_3A-7A-20A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113391**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113391.zip) **TP for TR 37.717-11-21: DC\_1A-3A-7A-20A\_n8A-n78A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113592**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113592.zip) **TP for TR 37.717-11-21 to include DC\_3\_n1-n38**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

TP for TR 37.717-11-21 to include DC\_3\_n1-n38

**Decision: Approved.**

[**R4-2113593**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113593.zip) **TP for TR 37.717-11-21 to include DC\_3\_n1-n41**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

TP for TR 37.717-11-21 to include DC\_3\_n1-n41

**Decision: Revised to R4-2114855 (from R4-2113593).**

[**R4-2114855**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113593.zip) **TP for TR 37.717-11-21 to include DC\_3\_n1-n41**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

TP for TR 37.717-11-21 to include DC\_3\_n1-n41

**Decision: Approved.**

[**R4-2113596**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113596.zip) **draft CR 38.101-3 to include new new UL's to EN-DC configurations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson, BT plc*

**Abstract:**

draft CR 38.101-3 to include new new UL's to EN-DC configurations

**Decision: Endorsed.**

[**R4-2113700**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113700.zip) **TP for 37.717-11-21 to introduce DC\_8A\_n1A-n40A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Revised to R4-2114858 (from R4-2113700).**

[**R4-2114858**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113700.zip) **TP for 37.717-11-21 to introduce DC\_8A\_n1A-n40A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Approved.**

[**R4-2113701**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113701.zip) **TP for 37.717-11-21 to introduce DC\_3A-8A\_n1A-n40A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Revised to R4-2114859 (from R4-2113701).**

[**R4-2114859**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113701.zip) **TP for 37.717-11-21 to introduce DC\_3A-8A\_n1A-n40A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Approved.**

[**R4-2113702**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113702.zip) **TP for 37.717-11-21 to introduce DC\_7A-8A\_n1A-n40A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Approved.**

[**R4-2113703**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113703.zip) **TP for 37.717-11-21 to introduce DC\_3A-7A-8A\_n1A-n40A**

*Type: pCR For: Approval  
 37.717-11-21 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Approved.**

#### 8.19.3 EN-DC requirements including NR inter CA with FR2 band

[**R4-2112059**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112059.zip) **Draft CR for TS 38.101-3: Support of UL configurations including FR2 intra-band UL CA in DC\_1-8-11\_n77-n257 and related EN-DC combinations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision: Endorsed.**

[**R4-2113708**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113708.zip) **draftCR to introduce DC\_1A-3A\_n78-n258 to 38.101-3**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

[**R4-2113709**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113709.zip) **draftCR to introduce DC\_1A-7A\_n78-n258 to 38.101-3**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

[**R4-2113710**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113710.zip) **draftCR to introduce DC\_3A-7A\_n78-n258 to 38.101-3**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

[**R4-2113711**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113711.zip) **draftCR to introduce DC\_1A-3A-7A\_n78-n258 to 38.101-3**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia*

**Decision: Endorsed.**

### 8.20 DC of x bands (x=1,2) LTE inter-band CA (xDL/xUL) and y bands (y=3-x) NR inter-band CA

#### 8.20.1 Rapporteur Input (WID/TR/CR)

[**R4-2112947**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112947.zip) **Revised WID on Rel-17 Dual Connectivity (DC) x bands (x=1,2) LTE inter-band CA (xDL/xUL) and y bands (y=3-x) NR inter-band CA**

*Type: WID revised For: Approval  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2112948**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112948.zip) **Big CR to reflect the completed ENDC combinations for 3 bands DL with 3 bands UL into TS 38.101-3**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0623 rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**

[**R4-2112949**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112949.zip) **TR 37.717-33 v0.5.0**

*Type: draft TR For: Approval  
 37.717-33 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**

#### 8.20.2 UE RF requirements

[**R4-2112936**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112936.zip) **TP for TR 37.717-33\_DC\_8A\_n40A-n258A**

*Type: pCR For: Approval  
 37.717-33 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

### 8.21 DC of x bands (x=1,2,3) LTE inter-band CA (xDL/1UL) and 3 bands NR inter-band CA (3DL/1UL)

#### 8.21.1 Rapporteur Input (WID/TR/CR)

[**R4-2112950**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112950.zip) **Revised WID on Rel-17 Dual Connectivity (DC) of x bands (x=1,2,3) LTE inter-band CA (xDL1UL) and 3 bands NR inter-band CA (3DL1UL)**

*Type: WID revised For: Approval  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**

[**R4-2112951**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112951.zip) **Big CR to reflect the completed DC of x bands (x=1,2,3) LTE inter-band CA (xDL1UL) and 3 bands NR inter-band CA (3DL1UL) into TS 38.101-3**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0624 rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**

[**R4-2112952**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112952.zip) **TR 37.717-11-31 v0.5.0**

*Type: draft TR For: Approval  
 37.717-11-31 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**

#### 8.21.2 UE RF requirements

[**R4-2112927**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112927.zip) **TP for 37.717-11-31\_DC\_3A\_n41A-n79A-n258A**

*Type: pCR For: Approval  
 37.717-11-31 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

### 8.22 DC of x bands (x=2,3,4) LTE inter-band CA (xDL/1UL) and 1 NR FR1 band (1DL/1UL) and 1 NR FR2 band (1DL/1UL)

#### 8.22.1 Rapporteur Input (WID/TR/CR)

[**R4-2112412**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112412.zip) **TR 37.717-21-22 update version 0.2.0**

*Type: draft TR For: Agreement  
 37.717-21-22 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Samsung*

**Decision:** The document was **for email approval**

[**R4-2112434**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112434.zip) **Big CR introduction completed band combinations for Dual Connectivity (DC) of x bands (x=2,3,4) LTE inter-band CA (xDL/1UL) and 1 NR FR1 band (1DL/1UL) and 1 NR FR2 band (1DL/1UL)**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0616 rev Cat: B (Rel-17)  
  
 Source: Samsung*

**Abstract:**

big CR

**Decision:** The document was **for email approval**

[**R4-2112435**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112435.zip) **Revised WID on Dual Connectivity (DC) of x bands (x=2,3,4) LTE inter-band CA (xDL/1UL) and 1 NR FR1 band (1DL/1UL) and 1 NR FR2 band (1DL/1UL)**

*Type: WID revised For: Information  
 Source: Samsung*

**Decision:** The document was **for email approval**

#### 8.22.2 UE RF requirements

### 8.23 DC of x bands (x=1,2,3) LTE inter-band CA (xDL/1UL) and 4 bands NR inter-band CA (4DL/1UL)

#### 8.23.1 Rapporteur Input (WID/TR/CR)

[**R4-2112174**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112174.zip) **Revised WID on Rel-17 Dual Connectivity (DC) of x bands (x=1,2) LTE inter-band CA (xDL1UL) and 4 bands NR inter-band CA (4DL1UL)**

*Type: WID revised For: Endorsement  
 Source: Huawei,HiSilicon*

**Decision: Endorsed.**

[**R4-2112175**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112175.zip) **Draft TR skeleton 37.717-11-41\_v0.0.1**

*Type: other For: Approval  
 Source: Huawei,HiSilicon*

**Decision: Endorsed.**

#### 8.23.2 UE RF requirements

### 8.24 Band combinations for SA NR supplementary uplink (SUL) NSA NR SUL, NSA NR SUL with UL sharing from the UE perspective (ULSUP)

#### 8.24.1 Rapporteur Input (WID/TR/CR)

[**R4-2112591**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112591.zip) **Revised WID on Band combinations for SA NR Supplementary uplink (SUL), NSA NR SUL, NSA NR SUL with UL sharing from the UE perspective (ULSUP)**

*Type: WID revised For: Endorsement  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**

[**R4-2112592**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112592.zip) **TR 37.717-00-00 v0.6.0**

*Type: draft TR For: Approval  
 37.717-00-00 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Abstract:**

To capture the approved TPs in this meeting

**Decision:** The document was **for email approval**

[**R4-2112593**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112593.zip) **CR on Introduction of completed SUL band combinations into TS 38.101-1**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0893 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**

#### 8.24.2 UE RF requirements

[**R4-2113392**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113392.zip) **Draft CR for 38.101-1 to add the configuration SUL\_n79C-n83A and SUL\_n78C-n80A**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

### 8.25 Band combinations for Uu and V2X con-current operation

**Email discussion summary of [100-e][115] NR\_LTE\_V2X\_PC5\_combos, AI 8.25 –Yuan Gao**

[**R4-2114715**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114715.zip) **Email discussion summary for [100-e][115] NR\_LTE\_V2X\_PC5\_combos**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115015 (from R4-2114715).**

[**R4-2115015**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114715.zip) **Email discussion summary for [100-e][115] NR\_LTE\_V2X\_PC5\_combos**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114903 WF on general issues of V2X band combinations**

*Type: other For: Approval  
 Source: CATT*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114903 WF on general issues of V2X band combinations | CATT | Approved |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2111950 | TR 37.875, Band combinations for V2X con-current operation | CATT | For email approval |  |
| R4-2114904  Revised from  R4-2112285 | Calculation of MSD for n79 for V2X\_n79A-n47A and V2X\_n79A-47A and accompanying TP | Qualcomm Incorporated | Noted |  |

#### 8.25.1 General and Rapporteur Input (WID/TR/CR)

[**R4-2111947**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111947.zip) **On notation for V2X band combinations**

*Type: discussion For: Approval  
 Source: CATT*

**Decision: Noted.**

[**R4-2111949**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111949.zip) **CR for TS 38.101-3, Introduce new band combination of V2X\_3A\_n47A**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0611 rev Cat: B (Rel-17)  
  
 Source: CATT*

**Decision: Agreed.**

[**R4-2111950**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111950.zip) **TR 37.875, Band combinations for V2X con-current operation**

*Type: draft TR For: Approval  
 37.875 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CATT*

**Decision:** The document was **for email approval**.

#### 8.25.2 UE RF requirement for concurrent operation between NR Uu band and NR PC5 band

[**R4-2112285**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112285.zip) **Calculation of MSD for n79 for V2X\_n79A-n47A and V2X\_n79A-47A and accompanying TP**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Outlines MSD for n79 for V2X\_n79A-n47A and V2X\_n79A-47A

**Decision: Revised to R4-2114904 (from R4-2112285).**

[**R4-2114904**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112285.zip) **Calculation of MSD for n79 for V2X\_n79A-n47A and V2X\_n79A-47A and accompanying TP**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Outlines MSD for n79 for V2X\_n79A-n47A and V2X\_n79A-47A

**Decision: Noted.**

[**R4-2113420**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113420.zip) **Discussion and TP for TR 37.875 on MSD for V2X\_n79A-n47A and V2X\_n79A\_47A**

*Type: pCR For: Approval  
 37.875 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 8.25.3 UE RF requirement for concurrent operation between LTE Uu band and NR PC5 band

[**R4-2111948**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111948.zip) **TP on V2X\_3A\_n47A coexistence study and band combos notation correction**

*Type: pCR For: Approval  
 37.875 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: CATT*

**Decision: Approved.**

#### 8.25.4 UE RF requirement for concurrent operation between NR Uu band and LTE PC5 band

#### 8.25.5 UE RF requirement for concurrent operation of LTE/NR CA/DC band combinations + PC5 V2X

### 8.26 Adding channel bandwidth support to existing NR bands

**Email discussion summary of [99-e][116] NR\_bands\_R17\_BWs, AI 8.26 – Dominique Evereare**

[**R4-2114716**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114716.zip) **Email discussion summary for [100-e][116] NR\_bands\_R17\_BWs**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115016 (from R4-2114716).**

[**R4-2115016**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114716.zip) **Email discussion summary for [100-e][116] NR\_bands\_R17\_BWs**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114914 WF on adding 25 and 30 MHz channel BW in NR band n71**

*Type: other For: Approval  
 Source: T-Mobile USA*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114915 WF on adding 100 MHz channel BW in NR-U bands n46 and n96.**

*Type: other For: Information  
 Source: Qualcomm*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114914 WF on adding 25 and 30 MHz channel BW in NR band n71 | T-Mobile USA | Approved |  |
| R4-2114915 WF on adding 100 MHz channel BW in NR-U bands n46 and n96. | Qualcomm | Return to |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| General | | | | |
| R4-2113737 | Revised Basket WID on adding channel bandwidth support to existing NR bands | Ericsson | Endorsed | Wait for 2nd round |
| R4-2113738 | Big CR to TS 38.104: Adding channel BW support in existing NR bands | Ericsson | For email approval | For e-mail approval |
| R4-2113739 | Big CR to TS 38.101-1: Adding channel BW support in existing NR bands | Ericsson | For email approval | For e-mail approval |
| Band n5 – 25 MHz | | | | |
| R4-2114916 revised from  R4-2111746 | Draft CR to 38.101-1 Introduction of 25MHz CBW for Band n5 | AT&T | Endorsed |  |
| R4-2111748 | Draft CR to 38.104 Introduction of 25MHz CBW for Band n5 | AT&T | Endorsed | Could be endorsed but wait for revision of R4-2111746 |

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[**R4-2112474**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112474.zip) **The status of 5G local network spectrum for vertical service in the Republic of Korea**

*Type: other For: Information  
 Source: TTA*

**Abstract:**

The Ministry of Science and ICT (MSIT) in the Republic of Korea announced the plan for 5G local network spectrum for vertical services on June 30, 2021. In order to provide the motivation of adding channel bandwidths to n79, this contribution shares the i

**Decision:** The document was **not treated**.

#### 8.26.1 General and Rapporteur Input (WID/TR/CR)

[**R4-2113737**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113737.zip) **Revised Basket WID on adding channel bandwidth support to existing NR bands**

*Type: WID revised For: Endorsement  
 Source: Ericsson*

**Abstract:**

This contribution is the revision of the basket WI to include the new requests received before RAN4#99-e meeting and update status of previous requests

**Decision: Endorsed.**

[**R4-2113738**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113738.zip) **Big CR to TS 38.104: Adding channel BW support in existing NR bands**

*Type: CR For: Agreement  
 38.104 v17.2.0 CR-0343 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This big CR will capture all draft CRs endorsed in RAN4#99-e meeting

**Decision:** The document was **for email approval**.

[**R4-2113739**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113739.zip) **Big CR to TS 38.101-1: Adding channel BW support in existing NR bands**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0905 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This big CR will capture all draft CRs endorsed in RAN4#99-e meeting

**Decision:** The document was **for email approval**.

#### 8.26.2 UE RF requirements

[**R4-2114584**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114584.zip) **Adding 25MHz CBW to Band n5**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

This document makes several proposal to introduce n5 25MHz channel bandwidth.

**Decision: Noted.**

##### 8.26.2.1 Addition of bandwidth and Tx/Rx requirements

[**R4-2111745**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111745.zip) **Draft CR to 38.101-1 Introduction of Additional CBWs for Band n2**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: AT&T*

**Decision: Endorsed.**

[**R4-2111746**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111746.zip) **Draft CR to 38.101-1 Introduction of 25MHz CBW for Band n5**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114916 (from R4-2111746).**

[**R4-2114916**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111746.zip) **Draft CR to 38.101-1 Introduction of 25MHz CBW for Band n5**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: AT&T*

**Decision: Endorsed.**

[**R4-2112737**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112737.zip) **REFSENS of n71 for 25MHz and 30MHz channel bandwidth**

*Type: discussion For: Approval  
 Source: Murata Manufacturing Co Ltd.*

**Decision: Noted.**

##### 8.26.2.2 NR-U 100MHz bandwidth

[**R4-2111835**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111835.zip) **Co-existence challenges with NR-U 100MHz channel bandwidth and other technologies in 5 GHz (n46) and 6 GHz (n96)**

*Type: Work Plan For: Approval  
 Source: Charter Communications, Inc*

**Decision: Noted.**

[**R4-2112031**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112031.zip) **NR-U Punctured Channel SEM for 100 MHz Bandwidth**

*Type: discussion For: Approval  
 Source: CableLabs*

**Decision: Noted.**

[**R4-2112301**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112301.zip) **NRU 100MHz SEM mask including wideband operation**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution, we discuss how to derive the SEM mask for wideband operation for 100MHz channels

**Decision: Noted.**

[**R4-2112302**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112302.zip) **NRU 100MHz channelization**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution we discuss channelization rules to derive the channel raster positions for 100MHz channels in bands n46 and n96 that are also valid for the European unlicensed band range of 5945-76425MHz

**Decision: Noted.**

[**R4-2113067**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113067.zip) **100 MHz channel bandwidth for NR-U**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2113664**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113664.zip) **Discussion of ACS requirement for NR-U CBW of 100MHz**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Mediatek India Technology Pvt.*

**Decision: Noted.**

[**R4-2113937**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113937.zip) **Further discussion on the introduction of 100MHz for NR-U**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2114202**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114202.zip) **Introducing NR-U 100 MHz carrier bandwidth in bands n46 and n96**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

#### 8.26.3 BS RF requirements

[**R4-2111747**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111747.zip) **Draft CR to 38.104 Introduction of Additional CBWs for Band n2**

*Type: draftCR For: Endorsement  
 38.104 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: AT&T*

**Decision: Endorsed.**

[**R4-2111748**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111748.zip) **Draft CR to 38.104 Introduction of 25MHz CBW for Band n5**

*Type: draftCR For: Endorsement  
 38.104 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: AT&T*

**Decision: Endorsed.**

### 8.27 Introduction of channel bandwidths 35MHz and 45MHz for NR

#### 8.27.1 General and Rapporteur Input (WID/TR/CR)

**Email discussion summary of [100-e][117] NR\_FR1\_35MHz\_45MHz\_BW, AI 8.27.1, 8.27.2, 8.27.3 – Liehai Liu**

[**R4-2114717**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114717.zip) **Email discussion summary for [100-e][117] NR\_FR1\_35MHz\_45MHz\_BW**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115017 (from R4-2114717).**

[**R4-2115017**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114717.zip) **Email discussion summary for [100-e][117] NR\_FR1\_35MHz\_45MHz\_BW**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2115101  revised from R4-2114917  R4-2112023 | bigCR to TS 38.101-1 - Introduction of 35MHz and 45MHz channel bandwidth | Skyworks Solutions Inc. | Agreed |  |
| R4-2114918  Revised from  R4-2113042 | CR for TS 38.104: introduction of channel bandwidths 35MHz and 45MHz | Huawei, HiSilicon | Agreed |  |

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[**R4-2112023**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112023.zip) **bigCR to TS 38.101-1 - Introduction of 35MHz and 45MHz channel bandwidth**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0885 rev Cat: B (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Revised to R4-2114917 (from R4-2112023).**

**[R4-2114917](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112023.zip) bigCR to TS 38.101-1 - Introduction of 35MHz and 45MHz channel bandwidth**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0885 rev Cat: B (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Revised to R4-2115101 (from R4-2114917).**

[**R4-2115101**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112023.zip) **bigCR to TS 38.101-1 - Introduction of 35MHz and 45MHz channel bandwidth**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0885 rev Cat: B (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Agreed.**

#### 8.27.2 UE RF requirements

[**R4-2111837**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111837.zip) **Draft CR to 38.101-1 Introduction of 35MHz CBW for Band n2**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: AT&T*

**Decision: Merged.**

[**R4-2112024**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112024.zip) **Introduction of 35-45MHz CBW**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

This document is a companion discussion paper that captures the proposed changes in "[R4-2112023](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112023.zip)- bigCR to TS 38.101-1 - Introduction of 35MHz and 45MHz channel bandwidth".

**Decision: Noted.**

[**R4-2112321**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112321.zip) **Unified REFSENS equation for all FR1 bands**

*Type: discussion For: Approval  
 Source: ZTE Wistron Telecom AB*

**Decision: Noted.**

[**R4-2112322**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112322.zip) **Draft CR for specifying REFSENS based on the unified equation method**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Wistron Telecom AB*

**Decision: Not pursued.**

[**R4-2112323**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112323.zip) **Draft CR for specifying REFSENS based on the unified equation method**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: ZTE Wistron Telecom AB*

**Decision: Not pursued.**

[**R4-2113040**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113040.zip) **REFSENS for asymmetric Uplink /Downlink**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2113041**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113041.zip) **On REFSENS Table split and simplification**

*Type: discussion For: Decision  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 8.27.3 BS RF requirements

[**R4-2111838**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111838.zip) **Draft CR to 38.104 Introduction of 35MHz CBW for Band n2**

*Type: draftCR For: Endorsement  
 38.104 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: AT&T*

**Decision: Merged (with R4-21xxxxx).**

[**R4-2113042**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113042.zip) **CR for TS 38.104: introduction of channel bandwidths 35MHz and 45MHz**

*Type: CR For: Agreement  
 38.104 v17.2.0 CR-0341 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114918 (from R4-2113043).**

**R4-2114918 CR for TS 38.104: introduction of channel bandwidths 35MHz and 45MHz**

*Type: CR For: Agreement  
 38.104 v17.2.0 CR-0341 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Agreed.**

[**R4-2113043**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113043.zip) **CR for TS 37.141: introduction of channel bandwidths 35MHz and 45MHz**

*Type: CR For: Agreement  
 37.141 v17.2.0 CR-0990 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Agreed.**

[**R4-2113044**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113044.zip) **CR for TS 37.145-2: introduction of channel bandwidths 35MHz and 45MHz**

*Type: CR For: Agreement  
 37.145-2 v17.2.0 CR-0314 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Agreed.**

[**R4-2113650**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113650.zip) **CR to TS 37.105: Introduction of 35 MHz and 45 MHz**

*Type: CR For: Agreement  
 37.105 v17.2.0 CR-0239 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Adding 35 and 45 MHz BW to TS 37.105

**Decision: Agreed.**

[**R4-2113651**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113651.zip) **CR to TS 38.141-1: Introduction of CBWs 35 MHz and 45 MHz**

*Type: CR For: Agreement  
 38.141-1 v17.2.0 CR-0241 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Adding 35 and 45 MHz BW to TS 38.141-1

**Decision: Agreed.**

[**R4-2113919**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113919.zip) **CR to TS 38.141-2: Introduction of 35MHz and 45MHz**

*Type: CR For: Agreement  
 38.141-2 v17.2.0 CR-0365 rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Agreed.**

[**R4-2113920**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113920.zip) **CR to TS 37.145-1: introduction of 35MHz and 45MHz**

*Type: CR For: Agreement  
 37.145-1 v17.2.0 CR-0271 rev Cat: B (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Agreed.**

[**R4-2114374**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114374.zip) **CR to 37.104: Introduction of requirements for 35 and 45MHz channel bandwidths**

*Type: CR For: Agreement  
 37.104 v17.2.0 CR-0949 rev Cat: B (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Agreed.**

#### 8.27.4 RRM requirements

#### 8.27.5 UE demodulation and CSI requirements

### 8.28 Introduction of bandwidth combination set 4 (BCS4) for NR

**Email discussion summary of [100-e][118] NR\_BCS4\_MSD\_Inter\_Band\_ENDC, AI 8.28, 8.29 – Peng Zhang**

[**R4-2114718**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114718.zip) **Email discussion summary for [100-e][118] NR\_BCS4\_MSD\_Inter\_Band\_ENDC**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115018 (from R4-2114718).**

[**R4-2115018**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114718.zip) **Email discussion summary for [100-e][118] NR\_BCS4\_MSD\_Inter\_Band\_ENDC**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114919 WF on BCS4 for general part**

*Type: other For: Approval  
 Source: T-Mobile USA*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114920 WF on MSD improvement**

*Type: other For: Information  
 Source: Huawei, HiSilicon*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round:**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114919 WF on BCS4 for general part | T-Mobile USA | Approved |  |
| R4-2114920 WF on MSD improvement | Huawei, HiSilicon, Skyworks | Approved |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114921 revised from R4-2113423 | Draft CR for 38.101-1 to simplify the MSD | Huawei, HiSilicon | 4921 Withdrawn  3423 postponed. |  |
| R4-2114922  Revised from  R4-2114243 | CR for 38.101-1: Introduction of BCS4 and BCS5 | T-Mobile USA | Agreed |  |
| R4-2114923 revised from R4-2114244 | CR for 38.101-2: Introduction of BCS4 and BCS5 | T-Mobile USA | Withdrawn |  |
| R4-2114924 revised from  R4-2114245 | CR for 38.101-3: Introduction of BCS4 and BCS5 | T-Mobile USA | Agreed |  |
| R4-2114925 revised from R4-2114246 | CR for 38.307: Release independence of BCS4 and BCS5 | T-Mobile USA | 4246 postponed.  4925 withdrawn. |  |

#### 8.28.1 General and Rapporteur Input (WID/TR/CR)

[**R4-2112246**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112246.zip) **Proposals on BCS4 and BCS5**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2113095**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113095.zip) **BCS4 for SUL and intra-band NR-CA**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2113422**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113422.zip) **General discussion on introduction of BCS4**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 8.28.2 UE RF requirements

[**R4-2111765**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111765.zip) **Clarification of BCS4/5 scope**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2114243**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114243.zip) **CR for 38.101-1: Introduction of BCS4 and BCS5**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0906 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Revised to R4-2114922 (from R4-2114243).**

[**R4-2114922**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114243.zip) **CR for 38.101-1: Introduction of BCS4 and BCS5**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0906 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Agreed.**

[**R4-2114244**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114244.zip) **CR for 38.101-2: Introduction of BCS4 and BCS5**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0420 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Withdrawn.**

[**R4-2114923**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114244.zip) **CR for 38.101-2: Introduction of BCS4 and BCS5**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0420 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Withdrawn.**

[**R4-2114245**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114245.zip) **CR for 38.101-3: Introduction of BCS4 and BCS5**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0634 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Revised to R4-2114924 (from R4-2114245).**

[**R4-2114924**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114245.zip) **CR for 38.101-3: Introduction of BCS4 and BCS5**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0634 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Agreed.**

[**R4-2114246**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114246.zip) **CR for 38.307: Release independence of BCS4 and BCS5**

*Type: CR For: Agreement  
 38.307 v17.2.0 CR-0075 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Postponed.**

[**R4-2114925**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114246.zip) **CR for 38.307: Release independence of BCS4 and BCS5**

*Type: CR For: Agreement  
 38.307 v17.2.0 CR-0075 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Withdrawn.**

[**R4-2114247**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114247.zip) **BCS4 and BCS5 Discussion**

*Type: discussion For: Approval  
 Source: T-Mobile USA*

**Decision: Noted.**

##### 8.28.2.1 MSD

[**R4-2111727**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111727.zip) **BCS4 MSD**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2113421**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113421.zip) **Discussion on MSD due to Tx non-linearities interference in 1st and 2nd adjacent channel of UL band**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2113423**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113423.zip) **Draft CR for 38.101-1 to simplify the MSD**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

[**R4-2114921**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113423.zip) **Draft CR for 38.101-1 to simplify the MSD**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Withdrawn.**

[**R4-2114581**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114581.zip) **BCS4 - Improvements to MSD Tables**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

This document proposes capturing MSD due harmonic interference and due to cross-band isolation in a new format. This proposal could significantly reduce the number of specified MSD test points.

**Decision: Noted.**

##### 8.28.2.2 Others (in case MPR/A-MPR is needed)

[**R4-2112914**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112914.zip) **Templates on BCS4/5**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

### 8.29 Addition of MSD (Maximum Sensitivity Degradation) for inter-band EN-DC combinations (1 band LTE+1 band NR FR1) due to added channel bandwidths

**Refer to email discussion summary of [100-e][118] NR\_BCS4\_MSD\_Inter\_Band\_ENDC, AI 8.28, 8.29 – Peng Zhang**

#### 8.29.1 General and Rapporteur Input (WID/TR/CR)

#### 8.29.2 UE RF requirements

[**R4-2113808**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113808.zip) **CR for 38.101-3 to introduce the missing MSD requirements (Rel-16)**

*Type: CR For: Agreement  
 38.101-3 v16.8.0 CR-0631 rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision: Agreed.**

[**R4-2113809**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113809.zip) **CR for 38.101-3 to introduce the missing MSD requirements mirrorCR**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0632 rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Agreed.**

[**R4-2113810**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113810.zip) **CR for 38.101-3 to specify the MSD requirements for ENDC combinations (Rel-17)**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0633 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Agreed.**

#### 8.29.3 Others

### 8.30 High-power UE operation for use cases in Band n77 and n78

**Email discussion summary of [100-e][119] NR\_HPUE\_PC1\_5\_PC2, AI 8.30, 8.31, 8.32 – Gene Fong**

[**R4-2114719**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114719.zip) **Email discussion summary for [100-e][119] NR\_HPUE\_PC1\_5\_PC2**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115019 (from R4-2114719).**

[**R4-2115019**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114719.zip) **Email discussion summary for [100-e][119] NR\_HPUE\_PC1\_5\_PC2**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**GTW in 1st round**

**Sub-topic 1-1 Smartphone MPR**

* From last meeting, tentative MPR for Inner Waveforms was agreed as an example. Further data *if provided* should be considered.
* This meeting, further inputs from Huawei, LGE, T-Mobile and Qorvo, Skyworks. Data is averaged with together with previous proposals.
* Moderator proposal: Adopt the average value for inner MPR
  + Company objections because ET may require more backoff. But no data was provided. (Previous data set used in averaging already includes ET data)
* Moderator proposal: Adopt the average value for outer and edge MPR. Adjust the edge allocation to 4 RB’s.

**Discussions:**

Skyworks: Generally we are OK with averaged value to provide combined view. Some values need more checking to ensure the values can be met by all the architectures. If taking edge allocation we propose the extension of edge.

Huawei: We can see good progress from our side. We analyze the input from last meeting. We confirm the improvement. And we have good convergence on edge side MPR. Our main concern is the over-optimization. We have detailed comments in the email thread. The key point is that for PC1.5 dual Tx we do not define requirements implementation for single PA case. Any PC2 compliant UE should meet PC1.5 requirement of MPR.

Apple: Elaborate on ET comment. The reason is most companies provide values based on APT measurement. We found different performance between ET and APT in our measurement. If now using APT data, and taking average, the average value is not suitable for ET. We need some margin at the end.

LGE: for edge, we are quite aligned. We can accept inner and edge. But we need more time for outer.

Ericsson: we may need consider the impact on the network performance. We may include some implemtation which leads to degraded performance. RAN4 worse case method may not be good in terms of performance.

Verizon: we need close the work timely. We should not debate whether to use average method or not. At this time, we need continue to use this one as compromise. We can have further improvement in future.

**Agreement:**

* Use the average values as the starting point to derive inner and edge MPR values
  + Check each value to ensure the values can be met by all possible architectures
    - It does not mean to use average values for final requirement
    - Consider the impact on network performance
  + FFS for outer MPR values
  + Consider additional margin to accommodate ET implementation, if needed.
* Adjust the edge allocation to 4 PRBs

**Sub-topic 1-2 FWA MPR**

* One company provided measurements for FWA MPR (thank you!)
* Moderator proposal: Adopt the MPR table according to the provided measurements and their associated proposals. Adjust the edge allocation to 4RB’s.

**Discussions:**

Huawei: it is better to wait for the conclusion for smartphone. 0.5dB difference is small and even smaller when ET is used. We should consider how much improvement we can achieve. It is not necessary to define the additional values.

Skyworks: The feedback is FWA MPR is adjusted based on what smartphone averaged value. From our measurement, we did not see too much difference. But there is difference. FWA case, we can remove some factor. At least I support FWA MPR as tentative to finalize the work item.

Verizon: we fully agree with skyworks as package. We cannot wait for finalization of smart phone. We need finalize the whole package. We are not satisfied with all the data. We need conclusion as soon as possible.

Qualcomm: We should not wait for smartphone. We need finish all those.

Huawei: we have good progress on both MPRs. Sharing the same value between FWA and smartphone is the alternative way. If we need separate table for FWA, we need consider how much gain we can achieve. 0.5dB improvement.

Verzion: Enhancement is always allowed. In future, we can improve further.

Observation: Huawei have concern on the agreement.

**Agreement:**

* Define the separate MPR table for FWA
  + Adopt the MPR values with [ ] for FWA table, and companies are invited to check the values in this meeting.
* Adjust the edge allocation to 4PRBs
* RAN4 aims to complete the work for FWA in this meeting.

**Sub-topic 2-1 Device type signalling**

* Views expressed
  + Option 1: Dedicated device type signaling (type A, type B, etc) (Oppo if it can be used by the network, Apple, Skyworks, CMCC but limit to 2 types, Xiaomi, Verizon, AT&T, Qualcomm) – 8 companies
  + Option 2: Implicit signaling by a separate MPE duty cycle capability, if developed (Nokia, Samsung) – 2 company
  + Option 3: New power class to indicate FWA (Ericsson, LGE) – 2 company
  + Option 4: No signaling necessary, separate requirement for FWA is not needed (Huawei, vivo) – 2 companies
* Moderator proposal: Option 1 favored by majority of companies

**Discussions:**

Ericsson: We have concern on introduction of type is more complicated than introducing the new power class. RAN2 would have to implement the new device type. New power class is more simple.

Huawei: we do not see the necessity to define the new type. The previous agreement is that Option 1 is starting point and we also need take MPR evaluation into account. MPR requirements difference is small. What is the benefit to have the signaling for network? Network cannot know what exact the power UE transmit.

Skyworks: It is not our preference to define the new power class. We discuss the requirements based on form factor. We are not favor to define a lot of new UE type. If UE can indicate the form factor, it would be useful.

Nokia: We do not agree with option 3. Regarding option 1, if we limit to two, we do not see the necessity to introduce the new type capability.

OPPO: for option 1, Type A is smartphone and Type B is FWA? Whether the smartphone is included here? It is not necessary to only apply to FWA. It can be applied for CPE. We need clarification on the Type A and Type B.

Samsung: support Option 2. We are not sure which device will be introduced future. Given the progress on MPR, it is more feasible of Option 2.

Qualcomm: Support CMCC comments. We need focus on the parameters for signaling and send LS to RAN2.

Ericsson: favor option 3. It is easiest way to difference MPR tables.

T-Mobile: We can support Option1, we are fine with Option 3. Refer to regulation of MPE. It makes sense to use new power class.

LGE: In option 1, why do we need deferentiate smartphone and FWA. We do not need specific signaling for smartphone. Option 3 is right approach.

Huawei: Question for companies who support signaling: what do we want to signal? If the signaling is to separate smartphone and FWA, we can use the other method like SIM card. Network has other approach to differentiate the different devices. We do not see the need to define the signaling.

Ericsson: SIM card solution is more complicated than setting 1 bit signaling.

Apple: LGE proposal is interesting. Maybe we need two types.

**Sub-topic 3-1 FWA duty cycle capability**

* Option 1: Adopt the FR1 *maxUplinkDutyCycle-PC2-FR1* (SAR-based duty cycle) vivo
* Option 3: Adopt the hybrid *maxUplinkDutyCycle-FWA-FR1* (new signaling) Nokia, OPPO, Xiaomi, Huawei with added default value, Verizon, AT&T
* Moderator proposal: Option 3 new signaling favored by majority of companies

**Discussions:**

T-Mobile: I do not think it is needed.

Skyworks: It is important to check if duty cycle is associated with signaling of device type.

Huawei: we are not ready to agree on the word on the screen. We are OK with Option 3 but need some modification.

Vivo: support Option 3.

Ericsson: we do not support introducing signaling.

Samsung: we can further discussion details for option 3.

Apple: support Option 3. It can be combined with UE type signaling.

**Conclusions after 1st round:**

**R4-2114926 WF on remaining topics for PC 1.5 for smartphone and FWA**

*Type: other For: Approval  
 Source: Verizon*

**Abstract:**

This contribution provides the WF..

**Discussion:**

**Decision: Return to.**

**R4-2114927 Draft CR to 38.101-1: Introduction of PC1.5 in Bands n77 and n78**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR-xxxx rev Cat: B (Rel-17)  
  
 Source: Qualcomm*

**Abstract:**

This contribution provides the draft CR..

**Discussion:**

**Decision: Return to.**

**R4-2114887 Draft CR to 38.101-1: Introduction of PC1.5 in Band n79**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR-xxxx rev Cat: B (Rel-17)  
  
 Source: Qualcomm*

**Abstract:**

This contribution provides the draft CR..

**Discussion:**

**Decision: Return to.**

**R4-2114888 Draft CR to 38.101-1: PC1.5 MPR for Band n41**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR-xxxx rev Cat: F (Rel-17)  
  
 Source: Qualcomm*

**Abstract:**

This contribution provides the draft CR..

**Discussion:**

**Decision: Return to.**

**R4-2114928 WF on NS\_50 and A-MPR for Band n39**

*Type: other For: Approval  
 Source: Huawei*

**Abstract:**

This contribution provides the WF..

**Discussion:**

**Decision: Return to.**

[**R4-2114222**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114222.zip) **LS on signaling for power class 1.5**

*Type: LS out For: Approval  
 to RAN2  
 Source: Qualcomm Incorporated, Verizon*

**Decision: Revised to R4-2114929 (from R4-2114222).**

[**R4-2114929**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114222.zip) **LS on signaling for power class 1.5**

*Type: LS out For: Approval  
 to RAN2  
 Source: Qualcomm Incorporated, Verizon*

**Decision: Return to.**

**Conclusions after 2nd round:**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114926 WF on remaining topics for PC 1.5 for smartphone and FWA | Verizon | Return to | Smarphone MPR, FWA MPR, device type signaling, and MPE duty cycle signling |
| R4-2114927 Draft CR to 38.101-1: Introduction of PC1.5 in Bands n77 and n78 | Qualcomm Incorporated | Return to |  |
| R4-2114887 Draft CR to 38.101-1: Introduction of PC1.5 in Band n79 | Qualcomm Incorporated | Return to |  |
| R4-2114888 Draft CR to 38.101-1: PC1.5 MPR for Band n41 | Qualcomm Incorporated | Return to |  |
| R4-2114928 WF on NS\_50 and A-MPR for Band n39 | Huawei | Return to |  |
| R4-2114929 LS on signaling for power class 1.5 | Qualcomm, Verizon | Return to |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114930 revised from  [R4-2114207](http://ftp.3gpp.org/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114207.zip) | Draft CR to TS 38.101-1: Addition of PC2 A-MPR for NS\_50 | Huawei, HiSilicon, CMCC | Return to |  |
| R4-2114929  Revised from  [**R4-2114222**](http://ftp.3gpp.org/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114222.zip) | LS on signaling for power class 1.5 | Qualcomm Incorporated, Verizon | Return to | *To RAN2*  Placeholder in case it’s needed |

#### 8.30.1 General

[**R4-2112649**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112649.zip) **PC1.5 FWA device requirement**

*Type: discussion For: Approval  
 Source: Verizon Denmark*

**Decision: Noted.**

[**R4-2113663**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113663.zip) **Introduction of new power class for FR1 FWA HPUE**

*Type: discussion For: Decision  
 Source: Ericsson*

**Abstract:**

suggestion to introduce a new PC for FR1 FWA HPUEs

**Decision: Noted.**

#### 8.30.2 PC1.5 UE RF requirements

[**R4-2113424**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113424.zip) **CR for 38.101-3 to introduce the missing MSD requirements (Rel-16)**

*Type: CR For: Agreement  
 38.101-1 v16.8.0 CR-0901 rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **withdrawn**.

[**R4-2113425**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113425.zip) **CR for 38.101-3 to introduce the missing MSD requirements mirrorCR**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0902 rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **withdrawn**.

[**R4-2113426**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113426.zip) **CR for 38.101-3 to specify the MSD requirements for ENDC combinations (Rel-17)**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0626 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **withdrawn**.

##### 8.30.2.1 MPR and A-MPR

[**R4-2112334**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112334.zip) **Measurements for PC1.5 MPR**

*Type: discussion For: Approval  
 Source: T-Mobile USA*

**Decision:** The document was **revised to** [**R4-2114421**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114421.zip).

[**R4-2112961**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112961.zip) **Analysis MPR for inner region and EVM based on reverse IMD for PC1.5**

*Type: discussion For: Approval  
 Source: LG Electronics Inc.*

**Abstract:**

Provide our EVM Re-measurement results and propose new Inner MPR values for PC1.5.

**Decision: Noted.**

[**R4-2114161**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114161.zip) **MPR for PC1.5 mobile UEs**

*Type: discussion For: Agreement  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114421**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114421.zip) **Measurements for PC1.5 MPR**

*Type: discussion For: Approval  
 Source: T-Mobile USA, Qorvo*

(Replaces [R4-2112334](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112334.zip))

**Decision: Noted.**

[**R4-2114556**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114556.zip) **PC1.5 MPR evaluation for FWA**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution we present further measurements and discuss which aspects shall be considered carefully in optimizing the PC1.5 MPR.

**Decision: Noted.**

##### 8.30.2.2 Device type signaling

[**R4-2112034**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112034.zip) **A way to distinguish FWA and smartphone with the same PC**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2112372**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112372.zip) **Considerations on device type signalling for PC1.5**

*Type: discussion For: Decision  
 Source: Apple*

**Decision: Noted.**

[**R4-2114162**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114162.zip) **Discussion on PC1.5 FWA device type signalling**

*Type: discussion For: Agreement  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114221**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114221.zip) **Remaining open items for PC1.5 other than MPR**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated, Verizon*

**Decision: Noted.**

##### 8.30.2.3 FWA MPE handling

[**R4-2112969**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112969.zip) **MPE handling for FR1 high power FWA UE**

*Type: discussion For: Approval  
 Source: Samsung*

**Decision: Noted.**

[**R4-2113000**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113000.zip) **Discussion on FWA MPE handling**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2113907**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113907.zip) **R17 on PC1.5 FWA SAR**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

### 8.31 High power UE (power class 1.5) for NR band n79

#### 8.31.1 General

#### 8.31.2 UE RF requirements

##### 8.31.2.1 MPR

### 8.32 High power UE (power class 2) for NR band n39

**Refer to email discussion summary of [100-e][119] NR\_HPUE\_PC1\_5\_PC2, AI 8.30, 8.31, 8.32 – Gene Fong**

#### 8.32.1 General

#### 8.32.2 UE RF requirements

[**R4-2111769**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111769.zip) **Backward compatibility of an NS for n39 A-MPR for CBW < 25 MHz**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

##### 8.32.2.1 A-MPR

[**R4-2111741**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111741.zip) **PC2 A-MPR for NS\_50 on n39**

*Type: other For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

PC2 A-MPR for NS\_50 on n39

**Decision: Revised to** [**R4-2114696**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114696.zip) **(from** [**R4-2111741**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111741.zip)**).**

[**R4-2114696**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114696.zip) **PC2 A-MPR for NS\_50 on n39**

*Type: other For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

PC2 A-MPR for NS\_50 on n39

**Decision: Noted.**

[**R4-2111768**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111768.zip) **n39 PC2 A-MPR for NS\_50**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2112361**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112361.zip) **Considerations and A-MPR results for PC2 n39**

*Type: discussion For: Decision  
 Source: Apple*

**Decision: Noted.**

[**R4-2114181**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114181.zip) **A-MPR for n39 NS\_50 PC2**

*Type: discussion For: Agreement  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114207**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114207.zip) **Draft CR to TS 38.101-1: Addition of PC2 A-MPR for NS\_50**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon, CMCC*

**Decision: Revised to R4-2114930 (from R4-2114207).**

**[R4-2114930](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114207.zip) Draft CR to TS 38.101-1: Addition of PC2 A-MPR for NS\_50**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon, CMCC*

**Decision: Return to.**

### 8.33 High-power UE operation for fixed-wireless/vehicle-mounted use cases in Band 12, Band 5, Band 13, Band n5, Band n13, and Band n71

**Email discussion summary of [100-e][120] LTE\_NR\_HPUE\_FWVM, AI 8.33 – Man Hung Ng**

[**R4-2114720**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114720.zip) **Email discussion summary for [100-e][120] LTE\_NR\_HPUE\_FWVM**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115020 (from R4-2114720).**

[**R4-2115020**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114720.zip) **Email discussion summary for [100-e][120] LTE\_NR\_HPUE\_FWVM**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2115075 revised from  R4-2112794 | FWA revised WID | Nokia | Endorsed |  |
| R4-2115076 revised from  R4-2114236 | Cr for 37.880: n71 filter data | T-Mobile USA | Agreed |  |

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[**R4-2112794**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112794.zip) **FWA revised WID**

*Type: WID revised For: Information  
 Source: Nokia*

**Decision: Revised to R4-2115075 (from R4-2112794).**

**[R4-2115075](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112794.zip) FWA revised WID**

*Type: WID revised For: Information  
 Source: Nokia*

**Decision: Endorsed.**

#### 8.33.1 General

#### 8.33.2 Feasibility study

##### 8.33.2.1 Coexistence study between B5 and adjacent bands

[**R4-2113853**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113853.zip) **Coexistence study between aggressor HPUE in B5 and Public Safety UE**

*Type: discussion For: Discussion  
 Source: Huawei Technologies France*

**Decision: Withdrawn.**

##### 8.33.2.2 Coexistence study between B13/n13 and adjacent bands

[**R4-2112276**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112276.zip) **Proposal on coexistence study for High-power UE Vs NB-IoT operation for fixed-wireless/vehicle-mounted use cases in Band 13 and Band n13**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell, Verizon*

**Abstract:**

This contribution provides some discussion and a proposal on the coexistence study for High-power UE Vs NB-IoT operation for fixed-wireless/vehicle-mounted use cases in Band 13 and Band n13.

**Decision: Approved.**

##### 8.33.2.3 Filter with smaller duplex for B13, n13 and n71

[**R4-2114236**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114236.zip) **Cr for 37.880: n71 filter data**

*Type: CR For: Agreement  
 37.880 v17.0.0 CR-0001 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Revised to R4-2115076 (from R4-2114236).**

**[R4-2115076](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114236.zip) Cr for 37.880: n71 filter data**

*Type: CR For: Agreement  
 37.880 v17.0.0 CR-0001 rev Cat: B (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Agreed.**

##### 8.33.2.4 PA related to MPR and A-MPR for B13, n13, and n71

#### 8.33.3 UE RF requirements

##### 8.33.3.1 UE REFSENS

##### 8.33.3.2 UE Tx requirements (MOP, MPR, A-MPR, and ACLR)

### 8.34 SAR schemes for UE power class 2 (PC2) for NR inter-band Carrier Aggregation and supplemental uplink (SUL) configurations with 2 bands UL

**Email discussion summary of [100-e][121] NR\_PC2\_SUL\_CA, AI 8.34, 8.35, 8.37 – Bo Liu**

[**R4-2114721**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114721.zip) **Email discussion summary for [100-e][121] NR\_PC2\_SUL\_CA**

*Type: other For: Information  
 Source: Moderator (China Telecom)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115021 (from R4-2114721).**

[**R4-2115021**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114721.zip) **Email discussion summary for [100-e][121] NR\_PC2\_SUL\_CA**

*Type: other For: Information  
 Source: Moderator (China Telecom)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114931 WF on UE PC2 dutycycle SAR solutions and UE maximum power**

*Type: other For: Approval  
 Source: China Telecom*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**GTW on August 26**

**Discussions:**

Ericsson: we have concern on duty cycle. What is the fall-back behaviour of UE if there is no duty cycle reported, or if the network does not account? It should be clearly specified in the spec. This is release-17 work item. We have time to ensure that the issue is properly addressed.

CTC: Regarding the feasibility of reporting, option 2 has cover your concern, because option 2 says if the duty cycle is absent then other solution applies. Regarding WI target date, we have extended WI by two quarters. We expected no further extension.

Verizon: we share the comment as Ericsson. This is issue that we need consider.

OPPO: Ericsson pointed out the issue what UE should do if it does not report capability. There is difference between Option 2 and Option 4. We propose Option 2.

Huawei: we have concern on option 2. The current solution has already assumed 50%. If we choose option 2, it will create the consistency problem. Option 2 and option 4 are acceptable.

Nokia: we have similar view as Huawei. Option 2 is confusing. We do not see the different between 100% reported and absent. Option 4 is clear. We do not see the reason to go with Option 2.

OPPO: it is new UE capability which does not cause NBC issue. From network perspective they would be same but for UE there are difference. The main issue of Option 4 is that UE only rely on PMRP if there is no reporting and then 50% is restriction.

Ericsson: We agree with OPPO. We would like not to accept 50%.

InterDigital: want to ask question if device reports duty cycle, it preclude P-MPR. How does network know how to react to capability? It is scheduler issue. For any option suggesting reporting, do those options preclude P-MPR?

CTC: we think all duty cycle solutions do not preclude P-MPR.

VIVO: PC2 for CA/SUL is not aligned with EN-DC case.

InterDigital: does the signalling have impact on the test.

OPPO: it has been solved in Rel-16 when we discuss the single carrier case. We consider it by DL-UL configuration. It will impact GCF.

**Agreement**: for duty cycle capability reporting,

* The values and range is listed as below
  + {50%, 60%, 70%, 80%, 90%,100%}.
* From network perspective, PC2 is supported without duty cycle restriction when the duty cycle signalling is absent.
* From UE perspective,
  + UE does not falls back to PC3 when the duty cycle signalling is absent
  + UE will use P-MPR to meet SAR requirement when the duty cycle signalling is absent

**Discussions:**

Huawei: it seems that this issue will be discussed in the new WI or SI. Most options can be explored in future. We prefer Option 2. We are open to discuss is further.

Skyworks: it is important to make it superset of PC1.5 and PC2. We should make clear what duty cycle is supported.

OPPO: Neither options are easy agreement. Option 2 would be feasible solution now. Option 1 cannot be applied to UE. Option 2 is not easy task. We are not sure if the current requirement will be adjusted. This issue is not included in WID. We can address it in the next release.

Ericsson: new power exists for PC1.5. That can be reported by UE for band combination. The UE will indicate and report capability per band. PC1.5 has already exist. The missing is between 23+26, which could be called as PC1.75. We recognize the issue replying on duty cycle.

Nokia: support option 1. I understand concern from companies and discuss the potential issue. We would like to avoid the situation to discuss what options we like. It is better to list the issue to be addressed and help we identify the issue to be discussed in furture meeting.

Apple: the idea is to increase the maximum power. We should maximize the power for each band. The combined power is not important. The power class per band is important. UE needs to refer to per band power class. My idea is to define the new power class, which is not related to particular value rather refereeing to power class per band.

Qualcomm: we support comment made by Nokia. We repeat the argument. We do not see the effort to find solution. For option 1, we do not fully understand. To Oppo comment about Huawei paper, I think that could be solved by not applying sum to PcmaxL rather to PcmaxH.

Vivo: UE maximum power for inter-band CA should be based on band combination.

Apple: We can use the existing solution. For this type of operation, each band is maximized, which is similar to case of FR1+FR2.

**Decision: Return to.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114931 WF on UE PC2 dutycycle SAR solutions and UE maximum power | China Telecom | Return to |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114932 revised from  [R4-2112491](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112491.zip) | CR to 38.101-1 Introduce SAR solution for UE power class 2 NR inter-band CA and SUL configurations | China Telecom | Agreed |  |
| R4-2114933 revised from R4-2112492 | LS on UE capability for UE power class 2 NR inter-band CA and SUL configurations | China Telecom | Approved |  |
| R4-2112493 | Draft TR 38.841 v0.5.0: High power UE for NR inter-band Carrier Aggregation with 2 bands downlink and x bands uplink (x =1,2) | China Telecom | For email approval |  |
| [R4-2112494](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112494.zip) | Revised WID: High power UE for NR inter-band Carrier Aggregation with 2 bands downlink and x bands uplink (x =1,2) | China Telecom | For email approval |  |
| [R4-2112495](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112495.zip) | CR to 38.101-1 Introduce RF requirements for HPUE CA with 2 bands downlink and x bands uplink (x =1,2) | China Telecom | For email approval |  |
| R4-2114934 revised from  [R4-2111820](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111820.zip) | TP for TR 38.841 Addition of CA\_n12-n77 | AT&T | Approved |  |
| R4-2114935 revised from [R4-2112019](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112019.zip) | TP to 38.841 MSD requirement due to harmonic mixing for PC2 CA\_n3A-n78A with up to 2 uplink | MediaTek | Approved |  |
| R4-2114936 revised from [R4-2114241](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114241.zip) | Draft CR for 38.101-1 PC2 CA combinations | T-Mobile USA | Endorsed |  |
| R4-2114937 revised from [R4-2114242](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114242.zip) | TP for 38.841 DL CA combinations with single band uplink PC1.5 | T-Mobile USA | Approved |  |
| [R4-2114215](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114215.zip) | Revised WID on Rel-17 Power Class 2 UE for NR inter-band CA/DC with and without SUL configurations with x (6>=x>2) bands DL and y (y=1, 2) bands UL | Huawei, HiSilicon, China Unicom | For email approval |  |

#### 8.34.1 General and Rapporteur Input (WID/TR/CR)

[**R4-2112491**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112491.zip) **CR to 38.101-1 Introduce SAR solution for UE power class 2 NR inter-band CA and SUL configurations**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0890 rev Cat: B (Rel-17)  
  
 Source: China Telecom*

**Abstract:**

It is the last RAN4 meeting for this WI. The CR is to introduce dutycycle based SAR solution for CA and SUL

**Decision: Revised to R4-2114932 (from R4-2112491).**

[**R4-2114932**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112491.zip) **CR to 38.101-1 Introduce SAR solution for UE power class 2 NR inter-band CA and SUL configurations**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0890 rev Cat: B (Rel-17)  
  
 Source: China Telecom*

**Abstract:**

It is the last RAN4 meeting for this WI. The CR is to introduce dutycycle based SAR solution for CA and SUL

**Decision: Agreed.**

[**R4-2112492**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112492.zip) **LS on UE capability for UE power class 2 NR inter-band CA and SUL configurations**

*Type: LS out For: Approval  
 to RAN2  
 Source: China Telecom*

**Abstract:**

Send LS to RAN2 to add the dutycycle related UE capabilities.

**Decision: Revised to R4-2114933 (from R4-2112492).**

**[R4-2114933](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112492.zip) LS on UE capability for UE power class 2 NR inter-band CA and SUL configurations**

*Type: LS out For: Approval  
 to RAN2  
 Source: China Telecom*

**Abstract:**

Send LS to RAN2 to add the dutycycle related UE capabilities.

**Decision: Approved.**

#### 8.34.2 PC2 SAR solution

[**R4-2112490**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112490.zip) **Discussion on how to introduce SAR schemes for UE power class 2 NR inter-band CA and SUL configurations**

*Type: other For: Approval  
 Source: China Telecom*

**Abstract:**

It is the last RAN4 meeting for this WI. The CR is to introduce dutycycle based SAR solution for CA and SUL

**Decision: Noted.**

[**R4-2112998**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112998.zip) **Further discussion on the dutycycle threshold calculation for HPUE with 2UL inter-band CA**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2113904**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113904.zip) **R17 Inter band CA HPUE SAR**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

#### 8.34.3 UE maximum power

[**R4-2111766**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111766.zip) **A way to increase UE maximum power for NR uplink inter band CA**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2112047**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112047.zip) **Discussion on increasing maximum output power for UE PC2 CA**

*Type: discussion For: Approval  
 Source: Mediatek India Technology Pvt.*

**Decision: Noted.**

[**R4-2112382**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112382.zip) **Clarifications on NR FR1 inter-band UL CA power class**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

**Decision: Noted.**

[**R4-2113305**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113305.zip) **Discussion on increasing UE maximum power high limit**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2113903**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113903.zip) **R17 Discussion on UE power class high limit**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114209**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114209.zip) **Further Discussion on Higher UE Power Limits for Inter-band CA/DC**

*Type: discussion For: Agreement  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 8.34.4 Others

### 8.35 High power UE (power class 2) for NR inter-band Carrier Aggregation with 2 bands downlink and 2 bands uplink

**Refer to email discussion summary of [100-e][121] NR\_PC2\_SUL\_CA, AI 8.34, 8.35, 8.37 – Bo Liu**

#### 8.35.1 Rapporteur Input (WID/TR/CR)

[**R4-2112493**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112493.zip) **Draft TR 38.841 v0.5.0: High power UE for NR inter-band Carrier Aggregation with 2 bands downlink and x bands uplink (x =1,2)**

*Type: draft TR For: Agreement  
 38.841 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: China Telecom*

**Abstract:**

draft TR for email approval

**Decision:** The document was **for email approval**.

[**R4-2112494**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112494.zip) **Revised WID: High power UE for NR inter-band Carrier Aggregation with 2 bands downlink and x bands uplink (x =1,2)**

*Type: WID revised For: Endorsement  
 Source: China Telecom*

**Abstract:**

revised basket WID for email approval

**Decision:** The document was **for email approval**.

[**R4-2112495**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112495.zip) **CR to 38.101-1 Introduce RF requirements for HPUE CA with 2 bands downlink and x bands uplink (x =1,2)**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0891 rev Cat: B (Rel-17)  
  
 Source: China Telecom*

**Abstract:**

big CR for email approval

**Decision:** The document was **for email approval**.

#### 8.35.2 UE RF requirements

[**R4-2111729**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111729.zip) **MSD for CA\_n12-n77, CA\_n14-n77, and CA\_n30-n77**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2111820**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111820.zip) **TP for TR 38.841 Addition of CA\_n12-n77**

*Type: pCR For: Approval  
 38.841 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114934 (from R4-2111820).**

[**R4-2114934**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111820.zip) **TP for TR 38.841 Addition of CA\_n12-n77**

*Type: pCR For: Approval  
 38.841 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111821**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111821.zip) **TP for TR 38.841 Addition of CA\_n14-n77**

*Type: pCR For: Approval  
 38.841 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111822**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111822.zip) **TP for TR 38.841 Addition of CA\_n30-n77**

*Type: pCR For: Approval  
 38.841 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2112019**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112019.zip) **TP to 38.841 MSD requirement due to harmonic mixing for PC2 CA\_n3A-n78A with up to 2 uplink**

*Type: pCR For: Approval  
 38.841 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: MediaTek Inc.*

**Decision: Revised to R4-2114935 (from R4-2112019).**

[**R4-2114935**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112019.zip) **TP to 38.841 MSD requirement due to harmonic mixing for PC2 CA\_n3A-n78A with up to 2 uplink**

*Type: pCR For: Approval  
 38.841 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: MediaTek Inc.*

**Decision: Approved.**

[**R4-2112896**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112896.zip) **CR to TS 38.101-1: Correction on PC2 1UL\_2DL table 6.2A.1.3-2**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0896 rev Cat: F (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Agreed.**

[**R4-2114241**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114241.zip) **Draft CR for 38.101-1 PC2 CA combinations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Revised to R4-2114936 (from R4-2114241).**

[**R4-2114936**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114241.zip) **Draft CR for 38.101-1 PC2 CA combinations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Endorsed.**

[**R4-2114242**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114242.zip) **TP for 38.841 DL CA combinations with single band uplink PC1.5**

*Type: pCR For: Approval  
 38.841 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Revised to R4-2114937 (from R4-2114242).**

**[R4-2114937](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114242.zip) TP for 38.841 DL CA combinations with single band uplink PC1.5**

*Type: pCR For: Approval  
 38.841 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Approved.**

### 8.36 High power UE (power class 2) for EN-DC with 1 LTE band + 1 NR TDD band

**Email discussion summary of [100-e][122] NR\_PC2\_EN-DC, AI 8.36, 8.38 – Per Lindell**

[**R4-2114722**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114722.zip) **Email discussion summary for [100-e][122] NR\_PC2\_EN-DC**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115022 (from R4-2114722).**

[**R4-2115022**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114722.zip) **Email discussion summary for [100-e][122] NR\_PC2\_EN-DC**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

|  |  |  |
| --- | --- | --- |
| **CR/TP/LS/WF number** | **T-doc Status update** | **Status** |
| R4-2111730 | MSD for DC\_12\_n77, DC\_14\_n77, and DC\_30\_n77.. | Noted |
| R4-2114938 | Revision of R4-2111730. | Withdrawn |
| R4-2114939 | revision of [**R4-2111817**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2111817.zip)**,** TP for TR 37.826 Addition of DC\_12A\_n77A, | Approved |
| R4-2114940 | revision of [**R4-2112674**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112674.zip)**,** TP for TR 37.827 for DC\_5\_n5-n77. | Approved |
| R4-2114941 | revision of [**R4-2112676**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112676.zip)**,** TP for TR 37.827 for DC\_5\_n2-n77. | Approved |
| R4-2114942 | revision of [**R4-2112684**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112684.zip)**,** TP for TR 37.827 for DC\_2\_n2-n77. | Approved |
| [**R4-2113565**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113565.zip) | TR 37.827 v0.1.0 ENDC\_PC2\_R17\_xLTE\_yNR | Approved |
| R4-2113566 | TR 37.827 v0.2.0 ENDC\_PC2\_R17\_xLTE\_yNR | Email approval |
| R4-2113555 | Revised WID EN-DC PC2 | Email approval |
| R4-2113561 | CR 38.101-3 EN-DC PC2 | Email approval |
| R4-2112472 | TR 37.826 v0.4.0 ENDC\_UE\_PC2\_R17\_NR\_TDD | Email approval |
| R4-2112471 | Revised WID on High power UE (power class 2) for EN-DC with 1 LTE band + 1 NR TDD band | Email approval |
| R4-2112473 | Big CR on introduction of completed PC2 for EN-DC with 1 LTE band + 1 NR TDD band | Email approval |

Email thread can be closed.

#### 8.36.1 Rapporteur Input (WID/TR/CR)

[**R4-2112471**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112471.zip) **Revised WID on High power UE (power class 2) for EN-DC with 1 LTE band + 1 NR TDD band**

*Type: WID revised For: Endorsement  
 Source: China Unicom*

**Decision:** The document was **for email approval**.

[**R4-2112472**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112472.zip) **TR 37.826 v0.4.0 ENDC\_UE\_PC2\_R17\_NR\_TDD**

*Type: draft TR For: Approval  
 37.826 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: China Unicom*

**Decision:** The document was **for email approval**.

[**R4-2112473**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112473.zip) **Big CR on introduction of completed PC2 for EN-DC with 1 LTE band + 1 NR TDD band**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0617 rev Cat: B (Rel-17)  
  
 Source: China Unicom*

**Decision:** The document was **for email approval**.

#### 8.36.2 UE RF requirements

[**R4-2111730**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111730.zip) **MSD for DC\_12\_n77, DC\_14\_n77, and DC\_30\_n77**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2114938**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111730.zip) **MSD for DC\_12\_n77, DC\_14\_n77, and DC\_30\_n77**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Withdrawn.**

[**R4-2111817**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111817.zip) **TP for TR 37.826 Addition of DC\_12A\_n77A**

*Type: pCR For: Approval  
 37.826 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Revised to R4-2114939 (from R4-2111817).**

[**R4-2114939**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111817.zip) **TP for TR 37.826 Addition of DC\_12A\_n77A**

*Type: pCR For: Approval  
 37.826 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111818**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111818.zip) **TP for TR 37.826 Addition of DC\_14A\_n77A**

*Type: pCR For: Approval  
 37.826 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

[**R4-2111819**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111819.zip) **TP for TR 37.826 Addition of DC\_30A\_n77A**

*Type: pCR For: Approval  
 37.826 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision: Approved.**

### 8.37 Power Class 2 UE for NR inter-band CA and SUL configurations with x (x>2) bands DL and y (y=1, 2) bands UL

**Refer to email discussion summary of [100-e][121] NR\_PC2\_SUL\_CA, AI 8.34, 8.35, 8.37 – Bo Liu**

#### 8.37.1 Rapporteur Input (WID/TR/CR)

[**R4-2114215**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114215.zip) **Revised WID on Rel-17 Power Class 2 UE for NR inter-band CA/DC with and without SUL configurations with x (6>=x>2) bands DL and y (y=1, 2) bands UL**

*Type: WID revised For: Endorsement  
 Source: Huawei, HiSilicon, China Unicom*

**Decision:** The document was **for email approval**.

#### 8.37.2 UE RF requirements

[**R4-2111823**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111823.zip) **TP for TR 38.842 Addition of CA\_n2-n5-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111824**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111824.zip) **TP for TR 38.842 Addition of CA\_n2-n12-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111825**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111825.zip) **TP for TR 38.842 Addition of CA\_n2-n14-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111826**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111826.zip) **TP for TR 38.842 Addition of CA\_n2-n30-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111827**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111827.zip) **TP for TR 38.842 Addition of CA\_n5-n12-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111828**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111828.zip) **TP for TR 38.842 Addition of CA\_n5-n14-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111829**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111829.zip) **TP for TR 38.842 Addition of CA\_n5-n30-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111830**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111830.zip) **TP for TR 38.842 Addition of CA\_n12-n30-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111831**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111831.zip) **TP for TR 38.842 Addition of CA\_n12-n66-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111832**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111832.zip) **TP for TR 38.842 Addition of CA\_n14-n30-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111833**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111833.zip) **TP for TR 38.842 Addition of CA\_n14-n66-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

[**R4-2111834**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111834.zip) **TP for TR 38.842 Addition of CA\_n30-n66-n77**

*Type: pCR For: Approval  
 38.842 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: AT&T*

**Decision:** The document was **withdrawn**.

### 8.38 Power Class 2 for EN-DC with xLTE band + yNR DL with 1LTE+1(TDD) NR UL band (x= 2, 3, 4, y=1; x=1, 2, y=2)

**Refer to email discussion summary of [100-e][122] NR\_PC2\_EN-DC, AI 8.36, 8.38 – Per Lindell**

#### 8.38.1 Rapporteur Input (WID/TR/CR)

[**R4-2113555**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113555.zip) **Revised WID EN-DC PC2**

*Type: WID revised For: Endorsement  
 Source: Ericsson*

**Abstract:**

Revised WID EN-DC PC2

**Decision:** The document was **for email approval**.

[**R4-2113561**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113561.zip) **CR 38.101-3 EN-DC PC2**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0629 rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR 38.101-3 EN-DC PC2

**Decision:** The document was **for email approval**.

[**R4-2113565**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113565.zip) **TR 37.827 v0.1.0 ENDC\_PC2\_R17\_xLTE\_yNR**

*Type: draft TR For: Endorsement  
 37.827 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Version 0.1.0 including the updates from previous RAN4 meeting

**Decision: Approved.**

[**R4-2113566**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113566.zip) **TR 37.827 v0.2.0 ENDC\_PC2\_R17\_xLTE\_yNR**

*Type: draft TR For: Endorsement  
 37.827 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Version 0.2.0 including updates from this meeting

**Decision:** The document was **for email approval**.

#### 8.38.2 UE RF requirements

[**R4-2112651**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112651.zip) **DraftCR for adding PC2 configurations**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Verizon, AT&T, Samsung*

**Decision: Endorsed.**

[**R4-2112669**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112669.zip) **TP for TR 37.827 for DC\_66\_n66-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112670**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112670.zip) **TP to TR 37.717-21-11 for DC\_48-66\_n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112672**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112672.zip) **TP for TR 37.827 for DC\_13\_n5-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112673**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112673.zip) **TP for TR 37.827 for DC\_5\_n66-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112674**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112674.zip) **TP for TR 37.827 for DC\_5\_n5-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Revised to R4-2114940 (from R4-2112674).**

[**R4-2114940**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112674.zip) **TP for TR 37.827 for DC\_5\_n5-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112676**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112676.zip) **TP for TR 37.827 for DC\_5\_n2-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Revised to R4-2114941 (from R4-2112676).**

[**R4-2114941**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112676.zip) **TP for TR 37.827 for DC\_5\_n2-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112679**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112679.zip) **TP for TR 37.827 for DC\_2\_n66-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112681**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112681.zip) **TP for TR 37.827 for DC\_2-48\_n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2112684**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112684.zip) **TP for TR 37.827 for DC\_2\_n2-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Revised to R4-2114942 (from R4-2112684).**

[**R4-2114942**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112684.zip) **TP for TR 37.827 for DC\_2\_n2-n77**

*Type: discussion For: Approval  
 Source: Verizon, Samsung*

**Decision: Approved.**

[**R4-2114043**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114043.zip) **Text proposal for TR 37.827 to include DC\_1A-5A\_n78A**

*Type: discussion For: Approval  
 Source: Huawei Tech.(UK) Co.. Ltd*

**Decision: Approved.**

[**R4-2114054**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114054.zip) **Text proposal for TR 37.827 to include DC\_1A-n7A\_n78A**

*Type: discussion For: Approval  
 Source: Huawei Tech.(UK) Co.. Ltd*

**Decision: Approved.**

### 8.39 High power UE for NR TDD intra-band carrier aggregation in frequency range FR1

#### 8.39.1 General and Rapporteur Input (WID/TR/CR)

#### 8.39.2 UE RF requirements

### 8.40 Introduction of FR2 FWA UE with maximum TRP of 23dBm for band n259

#### 8.40.1 UE RF requirements

**Email discussion summary of [100-e][126] NR\_FR2\_FWA\_Bn259\_Bn257\_Bn258, AI 8.40.1 – Sumant Iyer**

[**R4-2114726**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114726.zip) **Email discussion summary for [100-e][126] NR\_FR2\_FWA\_Bn259\_Bn257\_Bn258**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115026 (from R4-2114726).**

[**R4-2115026**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114726.zip) **Email discussion summary for [100-e][126] NR\_FR2\_FWA\_Bn259\_Bn257\_Bn258**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2111905 | dCR to 38.101-2: PC5 requirements in n259 | Qualcomm Incorporated | Endorsed | Draft CR to capture agreements |

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[**R4-2111905**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111905.zip) **dCR to 38.101-2: PC5 requirements in n259**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

PC5 n259 RF requirements

**Decision: Endorsed.**

[**R4-2112871**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112871.zip) **Remaining core part requirement for FWA**

*Type: other For: Approval  
 Source: Sony, Ericsson*

**Decision: Noted.**

[**R4-2112970**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112970.zip) **FR2 PC5 requirements for n259**

*Type: discussion For: Approval  
 Source: Samsung*

**Decision: Noted.**

[**R4-2112974**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112974.zip) **Proposal on n259 PC5 min Peak EIRP, REFSENS, and beam correspondence**

*Type: discussion For: Approval  
 Source: MediaTek Beijing Inc.*

**Abstract:**

Proposal1: min peak EIRP of PC5 n259 is 26.7 dBm.

Observation2: Based on scaling concept, REFSENS of PC5 n259 shall be -89 dBm (CBW=50MHz, -1 dB SNR).

Proposal2: REFSENS of PC5 n259 shall be -89.2 dBm (CBW=50MHz, -1 dB SNR).

Proposal3: Introduce n259 PC5

**Decision: Noted.**

[**R4-2113897**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113897.zip) **R17 n259 FWA**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114248**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114248.zip) **Power class 5 requirements for band n259**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

#### 8.40.2 RRM performance requirements

#### 8.40.3 Others

### 8.41 Additional NR bands for UL-MIMO

#### 8.41.1 General and Rapporteur Input (WID/TR/CR)

#### 8.41.2 MPR/A-MPR requirements

**Refer to email discussion summary of [100-e][127] NR\_RF\_FR1\_enh\_Part\_1\_HPUE\_ULMIMO, AI 9.3.1, 9.3.2.1, 9.3.2.4, 9.3.2.5, 9.3.2.6, 9.3.2.7.2, 8.39, 8.41 – Qian Zhang**

[**R4-2114523**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114523.zip) **On A-MPR requirements for UL MIMO bands**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

*Can this be approved?*

**Decision: Return to.**

#### 8.41.3 Others

### 8.42 Downlink interruption for band combinations to conduct dynamic Tx Switching

**Email discussion summary of [100-e][123] LTE\_NR\_Other\_basket, AI 8.42, AI 11.8 – Jin Wang**

[**R4-2114723**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114723.zip) **Email discussion summary for [100-e][123] LTE\_NR\_Other\_basket**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115023 (from R4-2114723).**

[**R4-2115023**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114723.zip) **Email discussion summary for [100-e][123] LTE\_NR\_Other\_basket**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114943 WF on BS and RF requirements in support of NB-IoT 16QAM**

*Type: other For: Approval  
 Source: Huawei, HiSilicon, Nokia, Nokia Shanghai Bell, Ericsson*

**Abstract:**

This contribution provides WF.

**Discussion:**

**Decision: Approved.**

**R4-2114944 WF on max power reduction for PRACH, PUCCH, and full-PRB PUSCH**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Noted.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114943 | WF on BS and RF requirements in support of NB-IoT 16QAM | Huawei, HiSilicon, Nokia, Nokia Shanghai Bell, Ericsson | Approved | <to chair> please update the source list of the tdoc. |
| R4-2114944 | WF on max power reduction for PRACH, PUCCH, and full-PRB PUSCH | Ericsson | Noted |  |
| R4-2112317 | CR for adding A-MPR for LTE Band 24 for UE categories M1 and M2 | Ligado Networks | Postponed |  |

#### 8.42.1 General and Rapporteur Input (WID/TR/CR)

[**R4-2111924**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111924.zip) **TR 37.867 v0.4.0**

*Type: draft TR For: Approval  
 37.867 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: CATT*

**Decision: Withdrawn.**

[**R4-2112496**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112496.zip) **CR to 38.101-1 Introduce DL interruption clarification for CA conduting Tx Switching**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0892 rev Cat: B (Rel-17)  
  
 Source: China Telecom*

**Abstract:**

big CR for email approval

**Decision: Withdrawn.**

#### 8.42.2 Determination of inter-band uplink CA and EN-DC combinations for which DL interruption is not allowed

#### 8.42.3 Others

### 8.43 Simultaneous Rx/Tx band combinations for CA, SUL, MR-DC and NR-DC

**Email discussion summary of [100-e][125] Simultaneous\_RxTx, AI 8.43 – Ye Liu**

[**R4-2114725**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114725.zip) **Email discussion summary for [100-e][125] Simultaneous\_RxTx**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115025 (from R4-2114725).**

[**R4-2115025**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114725.zip) **Email discussion summary for [100-e][125] Simultaneous\_RxTx**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114946 WF on Simultaneous Rx-Tx**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114946 | WF on Simultaneous Rx/Tx | Huawei, HiSilicon | Approved |  |
| R4-2114947 | draft CR for updating the note of mandatory simultaneous Rx/Tx capability for Rel.17 FR1 EN-DC combinations | CHTTL, SoftBank Corp., NTT DOCOMO, INC. | Endorsed |  |

#### 8.43.1 General and Rapporteur Input (WID/TR/CR)

#### 8.43.2 Applicability rule and criteria of simultaneous RX/TX

[**R4-2112833**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112833.zip) **Further suggestion on general principle for simultaneous Rx/Tx band combinations**

*Type: discussion For: (not specified)  
 Source: CHTTL*

**Decision: Noted.**

[**R4-2112913**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112913.zip) **Further discussion on Simultaneous RxTx**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2113304**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113304.zip) **Discussion on principle for simultaneous Rx Tx band combinations for CA, SUL, MR-DC and NR-DC**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2113895**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113895.zip) **R17 Simultaneous RxTx and NW condition**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2113896**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113896.zip) **R17 simultaneous RxTx**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114515**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114515.zip) **On principles for deciding simultaneous RxTx capability**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114516**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114516.zip) **TP for TR 38.839: Principles for simultaneous RxTx capability**

*Type: pCR For: Approval  
 38.839 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

#### 8.43.3 Identification of simultaneous Rx/Tx capability for band combinations

[**R4-2112886**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112886.zip) **draft CR for updating the note of mandatory simultaneous Rx/Tx capability for Rel.17 FR1 EN-DC combinations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **withdrawn**.

[**R4-2112960**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112960.zip) **draft CR for updating the note of mandatory simultaneous Rx/Tx capability for Rel.17 FR1 NR-CA combinations**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: CHTTL, SoftBank Corp., NTT DOCOMO, INC.*

**Decision: Endorsed.**

[**R4-2112962**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112962.zip) **draft CR for updating the note of mandatory simultaneous Rx/Tx capability for Rel.17 FR1 EN-DC combinations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: SoftBank Corp., NTT DOCOMO, INC., CHTTL*

**Decision: Revised to R4-2114947 (from R4-2112962).**

[**R4-2114947**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112962.zip) **draft CR for updating the note of mandatory simultaneous Rx/Tx capability for Rel.17 FR1 EN-DC combinations**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: SoftBank Corp., NTT DOCOMO, INC., CHTTL*

**Decision: Endorsed.**

[**R4-2112963**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112963.zip) **draft CR for updating the note of mandatory simultaneous Rx/Tx capability for Rel.17 FR1+FR2 NR CA and EN-DC combinations**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: CHTTL, SoftBank Corp., NTT DOCOMO, INC.*

**Decision: Withdrawn.**

[**R4-2112964**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112964.zip) **draft CR for updating the note of mandatory simultaneous Rx/Tx capability for Rel.17 FR1+FR2 NR CA and EN-DC combinations**

*Type: draftCR For: Approval  
 38.101-3 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: CHTTL, SoftBank Corp., NTT DOCOMO, INC.*

**Decision: Endorsed.**

### 8.44 LTE/NR spectrum sharing in Band 34/n34 and Band 39/n39

**Email discussion summary of [100-e][124] NR\_DSS\_34\_39, AI 8.44 – Shao Zhe**

[**R4-2114724**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114724.zip) **Email discussion summary for [100-e][124] NR\_DSS\_34\_39**

*Type: other For: Information  
 Source: Moderator (CMCC)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115024 (from R4-2114724).**

[**R4-2115024**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114724.zip) **Email discussion summary for [100-e][124] NR\_DSS\_34\_39**

*Type: other For: Information  
 Source: Moderator (CMCC)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114945 WF on DSS for n34 and n39**

*Type: other For: Approval  
 Source: CMCC*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2115089 Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39 in 38.104 R15**

*Type: draftCR For: Endorsementl  
 38.104 v ?.?.? CR- rev Cat-B (Rel-15)  
  
 Source: CMCC*

**Abstract:**

This contribution provides the CR.

**Discussion:**

**Decision: Endorsed.**

**R4-2115090 Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39 in 38.104 R16**

*Type: draftCR For: Endorsement  
 38.104 v ?.?.? CR- rev Cat-B (Rel-16)  
  
 Source: CMCC*

**Abstract:**

This contribution provides the CR.

**Discussion:**

**Decision: Endorsed.**

**R4-2115091 Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39 in 38.104 R17**

*Type: draftCR For: Endorsement  
 38.104 v ?.?.? CR- rev Cat-B (Rel-17)  
  
 Source: CMCC*

**Abstract:**

This contribution provides the CR.

**Discussion:**

**Decision: Endorsed.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114945 | WF on DSS for n34 and n39 | CMCC | Approved |  |
| R4-2115097 revised from [R4-2114376](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114376.zip) | Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39 | Apple | Agreed |  |
| [R4-2112193](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112193.zip) | Draft CR to TS 38.101-1 on introduction of UL 7.5KHz frequency shift for n34 and n39 | CMCC | Not Pursued |  |
| [R4-2112194](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112194.zip) | Draft CR to TS 38.104 on introduction of UL 7.5KHz frequency shift for n34 and n39 | CMCC | Not Pursued |  |
| [R4-2112195](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112195.zip) | Draft CR to TS38.307 on introduction of UL 7.5KHz frequency shift for n34 and n39 | CMCC | Not Pursued |  |
| R4-2115089 | Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39 in 38.104 R15 | CMCC | Endorsed |  |
| R4-2115090 | Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39 in 38.104 R16 | CMCC | Endorsed |  |
| R4-2115091 | Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39 in 38.104 R17 | CMCC | Endorsed |  |
| [R4-2115087](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114377.zip) (From R4-2114377) | Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39（R16 CR） | Apple | Agreed |  |
| [R4-2115088](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114378.zip) (From R4-2114378) | Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39 (R17 CR) | Apple | Agreed |  |

#### 8.44.1 General

#### 8.44.2 Introduction of uplink 7.5KHz frequency shift

[**R4-2112192**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112192.zip) **Introduction of uplink 7.5KHz frequency shift for n34 and n39**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2112193**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112193.zip) **Draft CR to TS 38.101-1 on introduction of UL 7.5KHz frequency shift for n34 and n39**

*Type: draftCR For: Approval  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC*

**Decision: Not pursued.**

[**R4-2112194**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112194.zip) **Draft CR to TS 38.104 on introduction of UL 7.5KHz frequency shift for n34 and n39**

*Type: draftCR For: Approval  
 38.104 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC*

**Decision: Not pursued.**

[**R4-2112195**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112195.zip) **Draft CR to TS38.307 on introduction of UL 7.5KHz frequency shift for n34 and n39**

*Type: draftCR For: Approval  
 38.307 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC*

**Decision: Not pursued.**

[**R4-2112346**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112346.zip) **UL 7.5kHz shift for spectrum sharing in band 34/n34 and band 39/n39**

*Type: discussion For: Decision  
 Source: Apple*

**Decision: Noted.**

[**R4-2114376**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114376.zip) **Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39**

*Type: CR For: Agreement  
 38.101-1 v15.14.0 CR-0909 rev Cat: B (Rel-15)  
  
 Source: Apple*

**Decision: Revised to R4-2115097 (from R4-2114376).**

[**R4-2115097**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114376.zip) **Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39**

*Type: CR For: Agreement  
 38.101-1 v15.14.0 CR-0909 rev Cat: B (Rel-15)  
  
 Source: Apple*

**Decision: Agreed.**

[**R4-2114377**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114377.zip) **Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39**

*Type: CR For: Agreement  
 38.101-1 v16.8.0 CR-0910 rev Cat: B (Rel-16)  
  
 Source: Apple*

**Decision: Revised to R4-2115087 (from R4-2114377).**

[**R4-2115087**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114377.zip) **Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39**

*Type: CR For: Agreement  
 38.101-1 v16.8.0 CR-0910 rev Cat: B (Rel-16)  
  
 Source: Apple*

**Decision: Agreed.**

[**R4-2114378**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114378.zip) **Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0911 rev Cat: B (Rel-17)  
  
 Source: Apple*

**Decision: Revised to R4-2115088 (from R4-2114378).**

**[R4-2115088](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114378.zip) Introduction of the UL 7.5kHz shift for NR TDD band n34 and n39**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0911 rev Cat: B (Rel-17)  
  
 Source: Apple*

**Decision: Agreed.**

## 9 Rel-17 non-spectrum related work items for NR

### 9.1 Multiple Input Multiple Output (MIMO) Over-the-Air (OTA) requirements for NR UEs

#### 9.1.1 General

#### 9.1.2 Performance requirements

##### 9.1.2.1 Performance Requirements for FR1

##### 9.1.2.2 Performance Requirements for FR2

#### 9.1.3 Testing methodologies

##### 9.1.3.1 Testing parameters for Performance

##### 9.1.3.2 Optimization of test methodologies

##### 9.1.3.3 Channel model validation

### 9.2 Introduction of UE TRP (Total Radiated Power) and TRS (Total Radiated Sensitivity) requirements and test methodologies for FR1 (NR SA and EN-DC)

#### 9.2.1 General and work plan

#### 9.2.2 SA test methodology

#### 9.2.3 EN-DC test methodology

#### 9.2.4 UE with multiple antennas test methodology

#### 9.2.5 Others

### 9.3 RF requirements enhancement for NR frequency range 1 (FR1)

#### 9.3.1 General

**Email discussion summary of [100-e][127] NR\_RF\_FR1\_enh\_Part\_1\_HPUE\_ULMIMO, AI 9.3.1, 9.3.2.1, 9.3.2.4, 9.3.2.5, 9.3.2.6, 9.3.2.7.2, 8.39, 8.41 – Qian Zhang**

[**R4-2114727**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114727.zip) **Email discussion summary for [100-e]****[127] NR\_RF\_FR1\_enh\_Part\_1\_HPUE\_ULMIMO**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115027 (from R4-2114727).**

[**R4-2115027**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114727.zip) **Email discussion summary for [100-e][127] NR\_RF\_FR1\_enh\_Part\_1\_HPUE\_ULMIMO**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**GTW in 1st round**

**Sub topic 2-1: MPR comparison among architecture options**

**Issue 2-1-2: whether MPR requirements are separate defined for different architecture?**

* Option 1: (2 companies)
  + Architecture #2 and #3 will use separate MPR values in the specification (table or delta) and address both TxD and UL MIMO modes.
  + For architecture #1 and #4, General MPR table is based on the 2LO 2xPC2 PA architecture and a 1.5dB additional MPR allowed for 2LO PC3+PC2 architecture
* Option 2: (1 company)
  + RAN4 will specify the one MPR Table to support the PC2 simultaneous UL CA + UL MIMO with 2 transmit for 1 LO RF architecture.
  + RAN4 will specify the one MPR Table to support the PC2 intra-band NC-CA UE for 2 Los RF architecture based on the #4 RF architecture.
* Option 3: (2 companies)
  + Define one set of MPR across 4 architectures, use the worst case value across architectures to define MPR for non-contiguous CA
* Option 4(1 company, during discussion):
  + MPR can be different based on dualPA and dualPA is coupled with number of LO’s.

*Moderator note: it means one set MPR for arch #1 and #4, and one set MPR for arch#2 and arch#3.*

* + Architecture #2 and #3 should have same MPR table.
  + For MPR set of arch#1 and #4, arch #1 should be baseline.
  + CA+UL MIMO should be handled in the part for UL CA + MIMO

**Discussions:**

Skyworks: we should take average values rather min values. We do not agree that the same MPR will be applied to arch#1 and #4.

Apple: we prefer one set. Need some clarification on the bandwidth.

LGE: we prefer to define one set of MPR values regardless of arch. As compromise, we can accept two sets of MPR requirements. As mentioned by skyworks, arch #1 and arch #4, 0.5 difference is quite small. It is possible to consider one set of requirements for arch #1 and #4.

Skyworks: to Apple, the reason for arch #2 and #3 is mainly to support ul-mimo. So we suggest the same MPR considering UL MIMO. Is it the common understanding that arch #2 and #3 mainly target to supporting ul-mimio and UL NC CA?

Huawei: we prefer to separate discussion between UL-MIMO and UL CA.

Nokia: NC UL CA should be based on #1 and #4.

Moderator: propose to define two sets of MPR values.

Skyworks: whether the requirement of first set for arch #2 and #3 is applicable to CA+ULMIMO.

Nokia: we prefer first set for arch#1 and arch#4.

Qualcomm: Agree with Nokia on LO assumption. There is issue for arch#4 with switching time.

Apple: Suggest the separate discussion for UL CA without UL-MIMO and UL CA with UL-MIMO.

LGE: support Nokia and Apple comment. We should focus on Arch#1 and #4. Arch #2 and #3 is difficult to support wider CBW.

**Agreement**: For intra-band UL NC CA, have further discussion of MPR values assuming two sets of MPR values

* Discuss Set #1 considering arch #1 and #4
* Discuss Set #2 considering arch #2 and #3
* Decide how to specify the final MPR table after stabilizing the values for Set #1 and Set #2.

**Sub-topic 2-2: Other requirements related to different Architectures**

**Issue 2-2-1: For 1x26dBm PA + 1LO with 200MHz BW and 2x23dBm PA + 1LO with 200MHz BW, how to handle in-gap requirement when LO or image fall inside?**

* Option 1: (4 companies)
  + No OOBE exception requirement for architecture #2 and #3, use moderate MPR to reach the in-gap requirement
    - Assume IQ suppression>=32dBc, LO leakage>=35dBc
* Option 2: (3 companies)
  + In-gap exceptions are only allowed for CC configurations where the gap bandwidth is less or equal than the two CC aggregated bandwidth thus SEM is -13dBm/MHz in gap and shall be met
  + 3dB ACLR in gap relaxation is allowed and assumes
  + In-gap exceptions are only allowed for UEs also supporting UL MIMO or TxD together with NC UL CA

**Discussions:**

Skyworks: the gap is smaller than bandwidth, in that case, we do not need to look into any exception. For Option1 with 3dBc, you can meet the requirement. Two options are very close. In Option 2, we restrict configuration. Only exception is 3dB ACLR.

Huawei: this is issue how the MPR is moderate enough. 14dB MPR can solve the problem.

Qualcomm: for PC3 we have exception. Do you mean keeping it for PC3 while removing exception for PC2.

Huawei: we want to remove exception for both PC3 and PC2.

LGE: we need further checking suppression and LO leakage, whether they can be supported.

Nokia: We simulate according skyworks option1. Other case was not studied.

Skyworks: 35dBc only works when 14dB in the middle. What if happen LO leakage and suppression degrade. We should look into masks.

Huawei: worst case is -27. The current simulations are not enough. 40dBc would be needed.

**Agreement:** For 1x26dBm PA + 1LO with 200MHz BW and 2x23dBm PA + 1LO with 200MHz BW, to handle in-gap requirement when LO or image fall inside

* No exception requirement is allowed assuming
* SEM for in-gap is -13dBm/MHz and in-gap is less or equal to aggregated bandwidth
* Applicable for PC3 and PC2
* Further checking is needed
* Further study whether IQ suppression >=32dBc is feasible.
* Further check the case where spurious emission is lower than -13dBm/MHz
* If IQ suppression >=32dBc is not feasible, we need further discussion whether there is no exception allowed
* Further check the case when in-gap is larger than the aggregated bandwidth

**Sub topic 3-1: RF requirements**

**Issue 3-1-1: MPR requirement for PC3 UL contiguous CA +MIMO with 2 PC3 PA+1LO**

* Proposals
  + Option 1: Adding 0.5dB delta MPR on outer allocation(outer1 and outer2 for NC allocation, outer for C allocation) based on the MPR defined for PC3 contiguous CA. (3 companies)
  + Option 2: Reuse the MPR for PC3 contiguous CA with 1Tx (4 companies)
* Potential WF: Reuse the MPR for PC3 contiguous CA with 1Tx as a starting line.

**Discussions:**

Skyworks: OK to reuse MPR requirements for PC3.

**Agreement**: Reuse the MPR for PC3 contiguous CA with 1Tx.

**Issue 3-1-2: MPR requirement for PC2 UL contiguous CA +MIMO with 2 PC2 PA+1LO or 2 PC3 PA+1LO**

* Proposals
  + Option 1: Adding 0.5dB delta MPR on outer1 and outer2 allocation based on the MPR defined for PC2 contiguous CA with 1PA.(3 companies)
  + Option 2: an additional 0.5 to 1dB MPR can be anticipated for PC2 contiguous UL CA realized with 1LO+2xPC3 PA compared to agreed MPR for 1LO/1PA PC2 case(for all allocations) (1 company)
  + Option 3(during discussion): No additional MPR compared with 1Tx PC2 contiguous CA is needed (1 company)

**Discussions:**

Skyworks: we need delta MPR for PC2.

Apple: can we focus on 1CC case first. 1CC with 2Tx UL-MIMO for PC2. Defer the discussion for CA+MIMO+PC2.

Skyworks: Delta MPR applies for the case when there are two PC3 PAs.

**Agreement:**

* Additional delta MPR is needed for UL contiguous CA+MIMO with 2 PC3 PA+1LO compared to 1Tx PC2
* Additional 0.5dB MPR is needed for outer allocation
* FFS for inner PRB allocation
* Re-check the agreement above after finalizing the work for 1CC with 2Tx UL-MIMO for PC2

**Sub topic 3-2: signalling**

**Issue 3-3-1: Signaling problems**

* 1: In currently capability definition, if UL-MIMO support were reported in the CCs for CA, theoretically CA and UL-MIMO should be supported simultaneously unless stated otherwise.

For better understanding, copy more from vivo contribution who raise this problem:

***Observation 3:*** *There exists some architecture, though not necessarily typical, can support CA and UL-MIMO respectively but not simultaneously. These implementations are somewhat contradicting with current signalling scheme.*

***Observation 4:*** *Keep current signalling unchanged may preclude some implementations which is not typical.*

* 2: There is only one ca-BandwidthClassUL-NR capability reported for each BC entry, and RAN2 NW is not required to derive UE capability based on multiple band combination entries.
* 3: Reporting different aggregated CBW in two band combinations for CA only and CA+UL MIMO is not feasible.

**Discussions:**

OPPO: it is related to case to support large bandwidth when UE has one PA. Maybe there is some UE which can support CA with 100Mhz but support CA+UL-MIMO with less bandwidth.

Skyworks: what we need to make sure whether UE can cover all the bandwidth classes if UE has two PC3 PAs.

VIVO: We also analyze the same scenario. During the email discussion, Huawei clarify that for the situation described UE can support multi-layer in single CC and support 1-layer in multiple CCs. But UE cannot support two cases simultaneously.

Huawei: the key issue is how gNB account according to RAN2. This RAN2 agreement is specific for how gNB to account the current bandwidth capability from fallback band capability. For the same band combination, UE can report two entries.

OPPO: we analyze the multiple entries in our paper. For a band combination, all the information should be included in one entry. We need to confirm with RAN2 for one band combination with two capabilities whether it is OK.

ZTE: our view is aligned with OPPO that RAN2 signaling does not support it.

China Telecom: potential issue mentioned by OPPO is for UE which does not support bandwidth class C. Do we need consider other bandwidth class? For now for bandwidth class C, we do not need additional signaling.

**Agreement**:

* Send LS to RAN2 to check whether there is problem of existing signalling to report the supported bandwidth class for supported intra-band contiguous CA+UL MIMO.
* FFS whether to include intra-band non-contiguous CA+UL MIMO in LS
* OPPO provide revised draft LS.

**Conclusions after 1st round:**

**R4-2114754 LS on signalling for intra-band CA with UL-MIMO**

*Type: other For: Approval  
 Source: OPPO*

**Abstract:**

This contribution provides the LS on signalling for CA+UL-MIMO.

**Discussion:**

**Decision: Return to.**

**R4-2114948 WF on PC2 intra-band UL NC CA and contiguous CA with 2Tx architecture**

*Type: other For: Approval  
 Source: Skyworks*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114949 WF on solution for Scell dropping issue**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114950 LS on scell dropping issue of CA**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114951 WF on contiguous CA for UL-MIMO**

*Type: other For: Approval  
 Source: VIVO*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114952 WF on AMPR of UL MIMO bands**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114948 WF on PC2 intra-band UL NC CA and contiguous CA with 2Tx architecture | Skyworks | Approved | Seems no comment |
| R4-2114949 WF on solution for Scell dropping issue | Huawei, HiSilicon | Approved |  |
| R4-2114950 LS on Scell dropping issue of CA | Huawei, HiSilicon | Approved | Qualcomm had changes on Aug-24. Seems OK. Formal version is not uploaded |
| R4-2114951 WF on contiguous CA for UL MIMO | vivo | Approved |  |
| R4-2114754 LS on signalling for intra-band CA with UL MIMO | OPPO | Return to | ZTE had new comment. Formal tdoc is not uploaded. |
| R4-2114952 WF on AMPR of UL MIMO Bands | Huawei, HiSilicon | Return to | Final draft shared on Aug-25. No further comment. Formal tdoc is not uploaded. |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114953 revised from [R4-2114470](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114470.zip) | CR on contiguous CA with UL MIMO for power class 3 | Huawei, HiSilicon | Agreed. |  |
| R4-2114954 revised from [R4-2114494](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114494.zip) | on intra-band UL NC CA architecture and MPR | Huawei, HiSilicon | Return to | Formal tdoc is not uploaded |
| R4-2114956 revised from  [R4-2114498](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114498.zip) | CR on PC2 intra-band UL contiguous CA RF requirements | Huawei, HiSilicon, Skyworks | Agreed |  |
| R4-2112816  CAT F CR for TS 38.101-2 (Rel-16)  Move from AI 6.1.9 | Introduction of power limits for serving cells of UL CA | Ericsson | Not pursued |  |
| R4-2112817 | Introduction of power limits for serving cells of UL CA | Ericsson | Withdrawn | CAT A CR  Move from AI 6.1.9 |
| R4-2112811  CAT F CR for TS 38.101-1 (Rel-16)  Move from AI 6.1.9 | Introduction of power limits for serving cells of UL CA | Ericsson | Not pursued |  |
| R4-2112812  (Not submitted)  Move from AI 6.1.9 | Introduction of power limits for serving cells of UL CA | Ericsson | Withdrawn | CAT A CR |

#### 9.3.2 RF core requirements

##### 9.3.2.1 UL MIMO configuration for SUL band configurations

##### 9.3.2.2 2Tx switching between carrier 1 and carrier 2

**Email discussion summary of [100-e][128] NR\_RF\_FR1\_enh\_Part\_2, AI 9.3.2.2, 9.3.2.3, 9.3.2.7.1 – Shan Yang**

[**R4-2114728**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114728.zip) **Email discussion summary for [100-e][128] NR\_RF\_FR1\_enh\_Part\_2**

*Type: other For: Information  
 Source: Moderator (China Telecom)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115028 (from R4-2114728).**

[**R4-2115028**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114728.zip) **Email discussion summary for [100-e][128] NR\_RF\_FR1\_enh\_Part\_2**

*Type: other For: Information  
 Source: Moderator (China Telecom)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114957 WF on UL-MIMO coherence for Rel-17 Tx switching**

*Type: other For: Approval  
 Source: China Telecom*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114957 | WF on UL-MIMO coherence for Rel-17 Tx switching | China Telecom | Approved |  |
| R4-2112825 | Draft LS on TX switching with multiple TAG | Ericsson | Noted | Changed from “Revised” to “Noted” |
| R4-2114958 | Draft LS on TX switching with multiple TAG | Ericsson | Withdrawn | Revision of LS was not uploaded.  Recommend to withdraw the revision and Note the original one in R4-2112825. |
| R4-2112824 | Draft LS on modification of Pcmax for UL CA with uplink Tx switching capability | Ericsson | Noted | The corresponding CR in R4-2112814 was Noted. |

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[**R4-2112228**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112228.zip) **Discussion on UL MIMO coherence for Rel-17 Tx switching**

*Type: discussion For: Discussion  
 Source: China Telecom*

**Decision: Noted.**

[**R4-2112824**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112824.zip) **Draft LS on modification of Pcmax for UL CA with uplink Tx switching capability**

*Type: LS out For: Approval  
 to RAN  
 Source: Ericsson*

**Abstract:**

Draft LS to inform RAN on the implementation of the CR endorsed at RAN#91-e (implemented in the latest version by RAN4 for RAN#93-e)

**Decision: Noted.**

##### 9.3.2.3 Tx switching between 1 carrier on band A and 2 contiguous aggregated carriers on band B

##### 9.3.2.4 HPUE for TDD intra-band contiguous UL CA

[**R4-2114493**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114493.zip) **on intra-band contiguous CA MPR requirement**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114498**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114498.zip) **CR on PC2 intra-band UL contiguous CA RF requirements**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0913 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon,Skyworks*

**Decision: Revised to R4-2114956 (from R4-2114498).**

**[R4-2114956](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114498.zip) CR on PC2 intra-band UL contiguous CA RF requirements**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0913 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon,Skyworks*

**Decision: Agreed.**

##### 9.3.2.5 HPUE for TDD intra-band non-contiguous UL CA

[**R4-2112022**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112022.zip) **PC2 Intra-band UL NC CA MPR Simulations with 1PA**

*Type: discussion For: Discussion  
 Source: Nokia Corporation*

**Decision: Noted.**

[**R4-2112893**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112893.zip) **MPR requirements and other remaining issues for PC2 intra-band NC CA UE**

*Type: discussion For: Approval  
 Source: LG Electronics France*

**Abstract:**

we provide our view on the remaining open issues such as swapping time for architecture #4 and how to specify MPR requirements according to RF architectures.

**Decision: Noted.**

[**R4-2114494**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114494.zip) **on intra-band UL NC CA architecture and MPR**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114954 (from R4-2114494).**

[**R4-2114954**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114494.zip) **on intra-band UL NC CA architecture and MPR**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2114571**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114571.zip) **Proposal for non-baseline PC2 NC UL CA architectures**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution, we further discuss from our last meeting paper [1] how to dimension the exceptions needed to enable the non-baseline architectures for PC2 NC UL CA in order to make them valuable options for the specification.

**Decision: Noted.**

##### 9.3.2.6 Intra-band UL contiguous CA for UL MIMO (n41C and n78C)

[**R4-2112324**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112324.zip) **Capability signaling for combining UL-MIMO and UL intraband contiguous CA**

*Type: discussion For: Approval  
 Source: ZTE Wistron Telecom AB*

**Decision: Noted.**

[**R4-2113024**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113024.zip) **Discussion on Intra-band UL contiguous CA for UL-MIMO Capability Signaling**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113898**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113898.zip) **R17 FR1 UL CA with MIMO and draft LS**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114470**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114470.zip) **CR on contiguous CA with UL MIMO for power class 3**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0912 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114953 (from R4-2114470).**

[**R4-2114953**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114470.zip) **CR on contiguous CA with UL MIMO for power class 3**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0912 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Agreed.**

[**R4-2114491**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114491.zip) **on CA+MIMO RF requirement**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114564**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114564.zip) **2Tx PC2 contiguous UL CA back-off evaluation for TxD and UL MIMO**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution we present UL CA PC2 2Tx measurements based on 2 PC3 PAs that are compared with 1TX PC3 and PC2 measurements and also discuss waveform choice for SD-CDD to also cover TxD on top of UL MIMO.

**Decision: Revised to** [**R4-2114692**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114692.zip) **(from** [**R4-2114564**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114564.zip)**).**

[**R4-2114692**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114692.zip) **2Tx PC2 contiguous UL CA back-off evaluation for TxD and UL MIMO**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution we present UL CA PC2 2Tx measurements based on 2 PC3 PAs that are compared with 1TX PC3 and PC2 measurements and also discuss waveform choice for SD-CDD to also cover TxD on top of UL MIMO.

**Decision: Noted.**

##### 9.3.2.7 Evaluation according to RAN task

###### 9.3.2.7.1 Clarification of Tx switching scenarios

[**R4-2112825**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112825.zip) **Draft LS on TX switching with multiple TAG**

*Type: LS out For: Approval  
 to RAN1, RAN2  
 Source: Ericsson*

**Abstract:**

Draft LS to RAN1 and RAN2 to ask about possible impact on RAN1 and RAN2 specification of a removal of the single-TAG restriction for CA

**Decision: Noted.**

[**R4-2114958**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112824.zip) **Draft LS on modification of Pcmax for UL CA with uplink Tx switching capability**

*Type: LS out For: Approval  
 to RAN  
 Source: Ericsson*

**Abstract:**

Draft LS to inform RAN on the implementation of the CR endorsed at RAN#91-e (implemented in the latest version by RAN4 for RAN#93-e)

**Decision: Withdrawn.**

###### 9.3.2.7.2 Solution for Scell dropping

[**R4-2112383**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112383.zip) **Views on SCell dropping for UL CA**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2112811**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112811.zip) **Introduction of power limits for serving cells of UL CA**

*Type: draftCR For: Endorsement  
 38.101-1 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to introduce power limits for serving cells of UL CA to prevent power reduction of serving cells for power limited UEs when the power reduction is enabled (FR1)

**Decision: Not pursued.**

[**R4-2112812**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112812.zip) **Introduction of power limits for serving cells of UL CA**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to introduce power limits for serving cells of UL CA to prevent power reduction of serving cells for power limited UEs when the power reduction is enabled (FR1)

**Decision: Withdrawn.**

[**R4-2112813**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112813.zip) **LS on power limits for serving cells of UL CA**

*Type: LS out For: Approval  
 to RAN1, RAN2  
 Source: Ericsson*

**Abstract:**

Draft LS to RAN1 and RAN2 to ask for specification of a RRC configured UE-specific power limits on a serving cell and a MAC-CE to enable/disable these limits per cell, RAN1 for information and possible comments

**Decision: Noted.**

[**R4-2112816**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112816.zip) **Introduction of power limits for serving cells of UL CA**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to introduce power limits for serving cells of UL CA to prevent power reduction of serving cells for power limited UEs when the power reduction is enabled (FR2)

**Decision: Not pursued.**

[**R4-2112817**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112817.zip) **Introduction of power limits for serving cells of UL CA**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to introduce power limits for serving cells of UL CA to prevent power reduction of serving cells for power limited UEs when the power reduction is enabled (FR2)

**Decision: Withdrawn.**

[**R4-2112826**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112826.zip) **Resolution of the Scell dropping (power reduction) problem**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Background to the solution of the Scell power prioritization problems by means of serving cell power limits (both FR1 and FR2 explained)

**Decision: Noted.**

[**R4-2113890**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113890.zip) **R16 discussion on SCC drop**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114468**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114468.zip) **Adding new objective to Rel-17 FR1 WI to prevent scell dropping for CA**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114551**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114551.zip) **Delta Pcell parameter to solve SCell dropping issue**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

#### 9.3.3 RRM core requirements

##### 9.3.3.1 Tx switching requirements

### 9.4 NR RF requirement enhancements for frequency range 2 (FR2)

#### 9.4.1 General

**Email discussion summary of [100-e][129] NR\_RF\_FR2\_req\_enh2\_Part\_1, AI 9.4.1, 9.4.2, 9.4.4, 9.4.5 –Petri Vasenkari**

[**R4-2114729**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114729.zip) **Email discussion summary for [100-e][129] NR\_RF\_FR2\_req\_enh2\_Part\_1**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115029 (from R4-2114729).**

[**R4-2115029**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114729.zip) **Email discussion summary for [100-e][129] NR\_RF\_FR2\_req\_enh2\_Part\_1**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**GTW in 1st round:**

**Topic #2: CA within same frequency group based on CBM AI**

**Issue 2-1-1: UE capability supporting both IBM and CBM**

* Proposals
  + Option 1: Add new enumerated value to beam management type in Rel-17 so that a UE can support both IBM and CBM, i.e., ENUMERATED {ibm, cbm, both}.
  + Option 2: Add new enumerated value to beam management type in Rel-17 so that a UE can support both IBM and CBM but it Applies to only inter-band CA within same frequency group if defined (R4-2112335)
  + Option 3: Is not introduced
  + Option 4: Other
* WF
  + TBA

**Moderator comment: Majority support or can accept option 1 (OPPO, vivo, Sony, LG, Xiaomi, Ericsson, Samsung, ZTE, Nokia). One company (HW) proposed that if UE supports CBM it automatically supports CBM. In GTW we could check if option 1 is acceptable.**

**Discussions:**

Huawei: We have different consideration for the options. Our intention is that we do not need add new capability to new item. If UE can support IBM, it can support CBM naturally. If UE can maintain multiple BM it can maintain one. Is it necessary to introduce the new signalling item from Rel-17?

LGE: support option 1. If ue supports both, which requirements can be applied to UE.

Mediatek: We do not think if UE supports IBM it supports CBM naturally.

Nokia: We agree that UE can support IBM if UE can support CBM. But we have already CBM in Rel-16. We need signalling to indicate support for Rel-17 requirement.

Samsung: there is special handling to support. Option 2 has some compatible issues. If we change the meaning of IBM, there would be compatible issue. To LGE, if UE supports both capability, UE needs fulfil all the requirements.

OPPO: in the hardware, UE may support CBM if it can support IBM. But in some case, the situation is different.

Apple: We have very different requirements from CBM and IBM. In this room, we focus on RF part. But we need check RRM.

Sony: We share the same understanding that we have different requirements between CBM and IBM.

LGE: to Samsung, I need to check test aspects.

Huawei: can we introduce it from early release?

Qualcomm: we do not have requirement in Rel-16. Why should we introduce the signalling from Rel-16?

Nokia: I agree with Huawei on the release aspects. We do it release independent. If RAN4 agreed it for Rel-16, we need ask RAN2 to change Rel-16 signaling. We should agree whether CBM is release independent

**Agreement:** Add new enumerated value to beam management type in [Rel-17] so that a UE can support both IBM and CBM, i.e., ENUMERATED {ibm, cbm, both}.

* FFS on the applicability of requirements for UE supporting both capabilities.
* FFS whether to introduce it from early release.

**Issue 2-1-2: UE capability MultiChainCBM.**

The capability to indicate that whether the UE support CBM under multi-chain architecture (R4-2113002)

* Proposals
  + Option 1: Is introduced
  + Option 2: Is not introduced
* WF
  + TBA

**Moderator comment: Majority supports option 2 (OPPO,HW, QC, Sony, LG, Xiaomi, Ericsson, Samsung, ZTE, Nokia) and Option 1 (vivo, MTK). In GTW we could check if option 2 is acceptable.**

**Discussions:**

Mediatek: we can discuss it after we have clear CBM framework. And we do not need make decision in this meeting.

OPPO: It is UE capability. But in our understanding, we have agreed that CBM requirements should cover both single and multiple chains. No need to introduce the capability.

Huawei: it is baseband capability rather RF. We do not need to wait for other conclusion. We prefer option 2.

VIVO: UE has multiple RF chain can support CBM. Considering multiple chain CBM is different from single chain CBM, we need capability to clarify difference. We do not need to introduce capability before making clear framework.

Nokia: we do not need capability. Prefer Option 2.

Ericsson: we do not see how network use the capability. We do not support introducing capability.

Samsung: Share similar view as Huawei, Ericsson,… CBM capability is agnostic to RF.

Xiaomi: Support Option 2.

**Agreement**: The capability to indicate whether the UE support CBM under multi-chain architecture is not introduced.

**Issue 2-1-3: UE capability Fs\_inter\_CBM**

* Proposals
  + Option 1: Is introduced for inter-band DL CA with CBM within same frequency group.
  + Option 2: Is introduced and is applicable to all CA configurations i.e. also between the frequency groups.
  + Option 3: Is not introduced but acknowledged and is included in general aspects of defining FR2 CA requirements.
* WF
  + TBA

**Moderator comment: Majority (OPPO, HW, vivo, MTK, LG, Docomo, Apple?) supports option 1 or both 1 and 2. Three (QC, ZTE, Nokia) companies supported option 3. (This is quite controversial topic hence we should not spend rest of the GTW time for this one)**

**Discussions:**

Apple: we are OK with Option 1 and Option 3. For Option 1, the capability is applied to same group only and we need additional note.

Qualcomm: Intra-band CA common understanding will be changed. The capability is not right way to go.

VIVO: The limitation comes from single chain. Option 1 is acceptable.

LGE: We have same view as VIVO.

Nokia: It is complicated as Qualcomm said.

Mediatek/Huawei: prefer Option 1 but fine with agreement.

OPPO: for intra-band,

ZTE: We agree with Qualcomm and Nokia. Introduction of capability may change the concept. We do not know how network use it.

Qualcomm: intra-band has bandwidth class not coving the whole band.

Huawei: only intra-band C CA bandwidth class. Intra-band NC CA does not.

Nokia: does it mean that we do not need introduce any sensitivity requirement relaxation with some gaps.

Mediatek: if introducing signalling, we are OK not to have relaxation for CBM within the same frequency group.

Ericsson: does the capability mean not functional or performance degradation.

Oppo: we think it is related performance.

Qualcomm: What happen if the configured bandwidth is less than gap?

Huawei: the largest gap is about 5GHz, which is very large gap.

**Discussion Points**:

Introduce the UE capability Fs\_inter\_CBM for inter-band DL CA with CBM within the same frequency group.

* There is no relaxation of sensitivity requirements specific for separation factor for CBM within the same frequency group.
* Network is allowed not to configure the wider aggregated bandwidth than Fs\_inter if UE does not report the capability for a band combination.
* The capability of UE is functional capability.

**Issue 2-2-1: Core requirements applicability in relation to BMRS location**

* Proposals
  + Option 1: CBM inter-band CA requirements apply per-band with the BMRS configured in any one of the participating bands.
  + Option 2: For inter-band DL CA BM RS configuration, leave it to RAN5
  + Option 3: other
* WF

**Moderator comment: Vast majority supports option 1 (OPPO, vivo, QC, Sony, MTK, Xiaomi, Ericsson, Nokia) but there were also Clarification questions from Apple and Samsung and option 2 was supported by HW. In GTW we could check if option 1 is acceptable.**

* Samsung would like to confirm if it is practical scenario for real network to configure BMRS in SCC than PCC
* Apple: Does this option propose that the CBM inter-band CA requirements shall be defined considering both; the case where the band has been configured with the BMRS and the case where the band has not been configured with the BMRS?

**Discussions:**

Huawei: for intra-band, we do not have discussion on BMRS. We should follow the same procedure for inter-band CA.

Apple: Option 1 needs clarification.

OPPO: have similar clarification as Apple.

Qualcomm: it is the same BMRS as IBM used for CBM.

Nokia: To Huawei, there is no justification what we should do for intra-band. These are different feature. We can leave intra-band as it is. To OPPO, you need meet the requirement on both bands. UE can meet the requirement with and without BMRS considering it is minimal requirement. Test coverage and core requirement are different things.

Huawei: To Apple and OPPO, if RAN4 defines the requirement for BMRS configurations, then RAN5 should define the tests for each requirement. Then for one band, there would be four tests.

OPPO: for testing, we do not sweep all the condition. In Rel-16 when we discussed the BC, we define many requirements but choose skipping Rel-16 tests.

Nokia: we are only test the worst case.

Qualcomm: for CBM, one of band does not get BMRS. This is how it is different from intra-band. BMRS type in test is determined by what UE supports.

Huawei: the test discussions are out of RAN4 scope.

OPPO: we agree that UE should comply with core requirements. But there are a large amount of tests. We are OK to test worst case.

Nokia: we can send LS to RAN5.

Ericsson: We agree with Nokia. The applicability is for core.

Huawei: can we have some side condition.

Qualcomm: what specific condition should be applied to?

OPPO: we are not clear about what is BMRS type?

Qualcomm: we did not ask this question for IBM. The same BMRS as IBM is used for CBM. BMRS is the downlink signal which is used for both. Refer to 11903.

Samsung: what if network configure BMRS on SCC? If there is no uplink BWP, can we place BMRS in SCC then?

Qualcomm: in our understanding, we have agreement BMRS can only be placed in CC with uplink BWP. BMRS can only be placed on PCC.

**Agreement:**

* For core requirements applicability in relation to BMRS location,
  + CBM inter-band CA requirements apply per-band with the BMRS configured in any one of the participating bands.
    - Introduce side condition for core requirement that BMRS can only be placed on PCC for the DL CA case with a single uplink.
    - FFS whether to set side condition only for the worst case
* For test cases, further discussion on setup for testing to reduce the test burden and send LS to RAN5.

**Issue 2-3-3: Spherical coverage**

* Proposals
  + Option 1: Do not define EIS spherical coverage
  + Option 2: Reuse the requirement framework of inter-band DL CA with IBM to define relaxation values for EIS spherical coverage.
  + Option 3: Based on IBM inter-band CA with min. PSD difference (R4-2111903)
* WF

**Moderator comment: Apart from one company others think that Spherical coverage is needed (HW, vivo, Sony, Xiaomi, Samsung, Apple, Nokia, QC) and one company (MTK) wants to postpone the decision and LG couples it to introduction of ‘Fs\_inter\_CBM’. In GTW we could check if option 3 is acceptable.**

**Discussions:**

Mediatek: if we have Fs\_inter\_CBM, it means we…

Nokia: We think Fs\_Inter\_CBM is functional. We cannot test.

Qualcomm: we support Option 3.

Apple: we are OK with requirement. We suggest simulation assumption and we can understanding the performance degradation. Based on simulation RAN4 can define the requirement. Before agreeing now, simulation are needed.

Samsung: Support Option 3.

Mediatek: it is just for requirement framework.

LGE: there is requirement proposal.

Qualcomm: requirements should be consistent for refesens and EIS.

Huawei: could you clarify what consistent means?

Qualcomm: reference for EIS and coverage should use the same framework.

LGE: we just discuss the relaxation of refesens. We need check further.

**Agreement:** RAN4 agree to introduce the spherical coverage requirements based on IBM inter-band CA framework.

* FFS on the values for the requirements
* FFS whether there is PSD difference and what is the difference
* FFS check the impact of frequency separation

**Issue 2-3-4: REFSENS testing scheme**

* Proposals
  + Option 1: Reuse the requirement framework of inter-band DL CA with IBM to define relaxation values of REFSENS (R4-2113096)
  + Option 2: Testing CBM UE with intra-band non-contiguous approach with either define larger relaxation or REFSENS are not required to be met at the same direction. (R4-2113901)
  + Option 3: Based on IBM inter-band CA, min. PSD difference (R4-2111903)
  + Option 4: Define PSD difference between 2 Bands as 6dB for UEs manufactured with only one RF chain for one frequency group; and Define PSD difference between 2 Bands as IBM type for UEs manufactured with 2 or more RF chains for one frequency group.
* WF

**Moderator comment: Majority either prefer or can accept option 3 (OPPO, vivo, QC, Sony, Xiaomi, Ericsson, Samsung, Nokia) Option 4 (HW) and postponing the decision is proposed by MTK. In GTW we could check if option 3 is acceptable.**

**Agreement:** RAN4 agree to introduce the REFSENS core requirement based on IBM inter-band CA framework

* FFS on the values for the requirements
* FFS whether there is PSD difference and what is the difference
* FFS check the impact of frequency separation

**Topic #3: UL CA**

**Issue 3-1-1: How to incorporate PA-PA interaction**

* Proposals
  + Option 1: Included in CA MPR
  + Option 2: Included in relaxations X and Y
  + Option 3: No need to include.
* WF

**Moderator comment: Majority supports option 1 (Verizon, vivo, QC, Xiaomi, Docomo, Ericsson, ZTE, Nokia) and option 2 ( OPPO, HW, LG) Sony do not want option 2 and Samsung questions if PA-PA is included in MPR, when UE is in MOP status, it will fail the emission requirements? In GTW we could check if option 1 is acceptable.**

**Discussions:**

Huawei: the difference for option 1 and option 2 is power control. Option 2 is clean.

Qualcomm: Option 1 can cover all the cases. Option 2 may reduce the power.

VIVO: PA-PA should be consider for active bands. If we have X and Y, there is unncessary restriction.

Nokia: agree VIVO. We should follow FR1 approach.

Huawei: PA-PA interaction causes the issue. But for delta\_RIB, UE is able not to use it.

Samsung: is there any side condition to meet MOP?

Nokia: MPR is relation to maximum output. If ue uses MPR, there is no maximum output anymore.

Samsung: if MPR is applied, there is no MOP condition. MOP will be tested in conformance. How can UE pass MOP test?

Nokia: In test of MOP, UE is allowed to take some MPR. MOP is lower according to allowed MPR.

Samsung: MOP and MPR are different test cases.

Huawei: Samsung comment is valid. We do not have MOP CA. it is reasonable to define requirement without MOP.

LGE: in our understanding, FR1 CA does not consider PA-PA interaction for MPR. Why do we need consider it?

OPPO: in FR1, we only test MOP. If PA-PA interaction applying to all RBs, there is no RB which can achieve MOP, which needs X and Y.

Samsung: without MOP, how we can define MPR.

Qualcomm: MOP is defined per band, to which other band can refer.

**Agreement:** Down-select to Option 1 and Option 2.

**Topic #4: Feasibility study for DL CA**

**Issue 4-1: Feasibility of CBM between different frequency groups**

* Proposals
  + Option 1: CBM between different frequency groups is feasible and study phase can be completed
  + Option 2: CBM between different frequency groups is not feasible
  + Option 3: Keep study phase open.
* WF
* **Moderator comment: Majority (12 companies) prefer option 1, option 2 and 3 both is supported by one company. In GTW we could check if option 1 is acceptable.**

**Discussions:**

Mediatek: We still have some issue unclear now.

Apple: we have similar view as Mediatek that single chain is not feasible. Option 1 is feasible for multi-chain only.

Qualcomm: I am not sure if we need call off which architecture is feasible for some band combination.

Nokia: we can complete the feasibility. This is optional feature. If UE is single RF chain, it can report not supporting.

OPPO: Do we need conclude that single chain cannot support? We can conclude it is feasible for mult-chain.

Huawei: we are talking about the feasibility. If multiple chain is feasible, we can conclude feasible.

Vivo: agree with MTK. Only multi-chain.

**Agreement:** CBM between different frequency groups is feasible and study phase can be completed at least for architecture with multiple RF chain.

**Topic #5: DC-location**

**Issue 5-1: Signalling framework**

* Proposals
  + Option 1: Offset from the default DC location is signalled compared to the declared default
  + Option 2: Combined signalling framework (static reporting for typical scenario + dynamic reporting for corner case)
  + Option 3: Any other alternatives
* WF

**Moderator comment: No consensus but online time in GTW may help to get better understanding on others proposals as some think that option 1 and 2 are same in the end. It would be important to agree the framework in this meeting.**

**Discussions:**

VIVO: We have to explain the starting point for our proposal. In last meeting, the intention to reduce the redundancy but it causes the some DC location missing. We try to combine dynamic reporting to signalling framework.

Huawei: We would like to know what exact the corner case is. How dynamic reporting can meet the corner case.

OPPO: For Option 1 and Option 2, we are not clear with them. Default locations are not one. UE needs report the offset. There would be two needing be reported: default and offset.

Qualcomm: Option 1 means one default. Option 2 means that there would be more than one way to signal to network, which reflects the case that some UE may put DC in the center uplink and some put in somewhere else. It is hard to agree on the wording now.

Nokia: support option 1 and we can go with other options. Qualcomm reason to support Option 2 is that reporting can be replaced… and for some corner cases, dynamic signalling can be used.

OPPO: we need discussions on dynamic reporting and offset. Offset is not dynamic offset.

VIVO: we can just accept combined framework.

Nokia: this topic is on framework.

**Conclusions after 1st round:**

**R4-2114959 WF on Simultaneous RxTx capability for FR2 inter-band CA**

*Type: other For: Approval  
 Source: ZTE*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114960 WF on WF on FR2 DL CA based on CBM**

*Type: other For: Approval  
 Source: Qualcomm*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114961 WF on FR2 UL CA**

*Type: other For: Approval  
 Source: Samsung*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114962 WF on DC-location**

*Type: other For: Approval  
 Source: OPPO*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Return to.**

**R4-2114963 WF on new FR2 CA BW class**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114959 | WF on Simultaneous RxTx capability for FR2 inter-band CA | ZTE Corporation | Approved |  |
| R4-2114960 | WF on FR2 DL CA based on CBM | Qualcomm Incorporated | Approved |  |
| R4-2114961 | WF on FR2 UL CA | Samsung | Approved |  |
| R4-2114962 | WF on DC-location | OPPO | Return to | Huawei comment. Formal version is not available |
| R4-2114963 | WF on new FR2 CA BW Class | Nokia | Return to | ZTE comment |
| ~~NEW~~ | ~~LS on Release independence of the new FBG2 classes~~ | ~~Nokia~~ |  | ~~R4-2114963 agreed to send LS to RAN 2~~ |
| [R4-2114061](file:///C:\Users\vasenkap\Documents\Työt\RAN4\%23100e\Docs\R4-2114061.zip) | On FR2 inter-band UL CA for different frequency group based on IBM | Nokia, Nokia Shanghai Bell | Noted |  |
| R4-2115099  Revised from  [R4-2112902](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112902.zip)  Mirror CR:  [R4-2112903](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112903.zip) | Draft CR to TS 38.101-2: On Simultaneous RxTx capability for FR2 inter-band CA | ZTE | Return to |  |
| [R4-2112730](file:///C:\Users\vasenkap\Documents\Työt\RAN4\%23100e\Docs\R4-2112730.zip) | CR to TS 38.101-2 on extension to CA BW class for FBG3 | ZTE Corporation | Not pursued |  |
| [R4-2112787](file:///C:\Users\vasenkap\Documents\Työt\RAN4\%23100e\Docs\R4-2112787.zip) | draftCR Release independence aspects of new FR2 CA BW classes R15 CATB | Nokia, Nokia Shanghai Bell | Not pursued |  |
| [R4-2112788](file:///C:\Users\vasenkap\Documents\Työt\RAN4\%23100e\Docs\R4-2112788.zip) | draftCR Release independence aspects of new FR2 CA BW classes R16 CATA | Nokia, Nokia Shanghai Bell | Withdrawn |  |
| [R4-2112789](file:///C:\Users\vasenkap\Documents\Työt\RAN4\%23100e\Docs\R4-2112789.zip) | draftCR Release independence aspects of new FR2 CA BW classes R17 CATA | Nokia, Nokia Shanghai Bell | Withdrawn |  |
| [R4-2113100](file:///C:\Users\vasenkap\Documents\Työt\RAN4\%23100e\Docs\R4-2113100.zip) | CR for TS 38.101-2 to introduction of FR2 new CA BW classes | Xiaomi | Not pursued |  |

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[**R4-2112793**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112793.zip) **TR 38.851-0.2.0**

*Type: draft TR For: Approval  
 38.851 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Agreed.**

[**R4-2112901**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112901.zip) **On Simultaneous RxTx capability for FR2 inter-band CA**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2112902**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112902.zip) **Draft CR to TS 38.101-2: On Simultaneous RxTx capability for FR2 inter-band CA**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2115099 (from R4-2112902).**

[**R4-2115099**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112902.zip) **Draft CR to TS 38.101-2: On Simultaneous RxTx capability for FR2 inter-band CA**

*Type: draftCR For: Endorsement  
 38.101-2 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Decision: Return to.**

[**R4-2112903**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112903.zip) **Draft CR to TS 38.101-2: On Simultaneous RxTx capability for FR2 inter-band CA**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Return to.**

#### 9.4.2 UE RF requirements for inter-band CA

[**R4-2112369**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112369.zip) **draftCR to 38.101-2 on the definition for inter-band DL CA CBM and Beam Management Reference Signal location for FR2 CA**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Apple*

**Decision: Endorsed.**

##### 9.4.2.1 Inter-band DL CA requirements

[**R4-2112371**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112371.zip) **Inter-band DL CA based on CBM for FR2**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2114487**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114487.zip) **inter-band CA DL CA with CBM**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

###### 9.4.2.1.1 Applicability of CBM/IBM for different CA configurations

###### 9.4.2.1.2 CA\_n258A-n260A and CA\_n257A-n259A based on IBM

###### 9.4.2.1.3 CA configurations within the same frequency group based on CBM

[**R4-2112335**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112335.zip) **Discussion on CBM based inter-band DL CA within same frequency group**

*Type: discussion For: (not specified)  
 Source: LG Electronics*

**Abstract:**

It discusses RF requirements for CBM based inter-band DL CA.

**Decision: Noted.**

[**R4-2112791**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112791.zip) **CBM considerations on Fs\_inter\_CBM**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2112872**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112872.zip) **UE requirements for CBM**

*Type: other For: Approval  
 Source: Sony, Ericsson*

**Decision: Noted.**

[**R4-2112900**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112900.zip) **Discussion on CBM for FR2 Inter-band DL CA**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2113002**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113002.zip) **Discussion on CBM requirement framework within same frequency group**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113026**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113026.zip) **Proposal on inter-band DL CA based on CBM within the same frequency group**

*Type: discussion For: Approval  
 Source: MediaTek Beijing Inc.*

**Abstract:**

Proposal1: Introduce “Fs\_Inter\_CBM” for inter-band DL CA based on CBM within the same frequency group.

Proposal2: Different frequency groups can report different “Fs\_Inter\_CBM” values.

Observation: for inter-band DL CA within the same frequency group base

**Decision: Noted.**

[**R4-2113096**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113096.zip) **Rx requirements for inter-band DL CA with CBM within same frequency group**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2113901**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113901.zip) **R17 FR2 CBM Inter-band DL CA within same frequency group**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

##### 9.4.2.2 Inter-band UL CA requirements

###### 9.4.2.2.1 Inter-band UL CA for two bands

[**R4-2112283**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112283.zip) **Definition of FR2 MPR and spherical coverage for ULCA**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Discusses FR2 MPR and spherical coverage for ULCA

**Decision: Noted.**

[**R4-2112575**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112575.zip) **Discussion on FR2 inter-band UL CA**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2112873**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112873.zip) **UE UL CA requirements based on IBM**

*Type: other For: Approval  
 Source: Sony, Ericsson*

**Decision: Noted.**

[**R4-2113006**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113006.zip) **Disscussion on inter-band UL CA**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113097**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113097.zip) **Tx requirements for inter-band UL CA between different frequency groups based on IBM**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

###### 9.4.2.2.2 CA configuration CA\_n257A-n259A based on IBM

[**R4-2112336**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112336.zip) **RF requirements for CA\_n257A\_n259A based on IBM**

*Type: discussion For: (not specified)  
 Source: LG Electronics*

**Abstract:**

It discusses RF requirements for IBM based inter-band UL CA\_n257-n259.

**Decision: Noted.**

[**R4-2113031**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113031.zip) **Proposal on min peak EIRP relaxation of Inter-band UL CA of CA\_n257-n259 based on IBM**

*Type: discussion For: Approval  
 Source: MediaTek Beijing Inc.*

**Abstract:**

Proposal: min peak EIRP relaxation of Inter-band UL CA of CA\_n257-n259 based on IBM is 9 dB.

**Decision: Noted.**

[**R4-2113902**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113902.zip) **R17 FR2 IBM Inter-band UL CA peak EIRP and spherical coverage**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114061**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114061.zip) **On FR2 inter-band UL CA for different frequency group based on IBM**

*Type: pCR For: Approval  
 38.851 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

##### 9.4.2.3 Feasibility study for DL inter-band CA

###### 9.4.2.3.1 Study for CBM between different frequency groups

[**R4-2111903**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111903.zip) **Requirement framework for Inter-band CA with CBM**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

Discussion on beam management ref. signal location, PSD difference and requirement framework for CBM UEs

**Decision: Noted.**

[**R4-2112337**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112337.zip) **Discussion on feasibility for inter-band DL CA**

*Type: discussion For: (not specified)  
 Source: LG Electronics*

**Abstract:**

It discusses feasibility for CBM based inter-band DL CA within different frequency group.

**Decision: Noted.**

[**R4-2112576**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112576.zip) **Requirements and UE capability discussion on inter-band DL CA**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2112634**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112634.zip) **RF requirements for CA\_n260-n261 with CBM**

*Type: discussion For: Discussion  
 Source: NTT DOCOMO, INC.*

**Abstract:**

To discuss feasibility and RF requirements for CA\_n260-261 with CBM.

**Decision: Noted.**

[**R4-2112875**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112875.zip) **Applicability for CBM UEs for different frequency group**

*Type: other For: Approval  
 Source: Sony, Ericsson*

**Decision: Noted.**

[**R4-2112975**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112975.zip) **Proposal on inter-band DL CA based on CBM between different frequency groups**

*Type: discussion For: Approval  
 Source: MediaTek Beijing Inc.*

**Abstract:**

Proposal1: Single-chain architecture is NOT feasible for inter-band DL CA based on CBM between different frequency groups based on state-of-the-art, and shall be excluded during corresponding discussion.

Observation: For inter-band DL CA between different

**Decision: Noted.**

[**R4-2113003**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113003.zip) **Discussion on feasibility of CBM between different frequency group**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113098**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113098.zip) **Rx requirements for inter-band DL CA with CBM between different frequency groups**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

###### 9.4.2.3.2 Study for IBM within the same frequency group

#### 9.4.3 UL gaps for self-calibration and monitoring

**Email discussion summary of [100-e][130] NR\_RF\_FR2\_req\_enh2\_Part\_2, AI 9.4.3, 9.4.6.3 – Yang Tang**

[**R4-2114730**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114730.zip) **Email discussion summary for [100-e][130] NR\_RF\_FR2\_req\_enh2\_Part\_2**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115030 (from R4-2114730).**

[**R4-2115030**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114730.zip) **Email discussion summary for [100-e][130] NR\_RF\_FR2\_req\_enh2\_Part\_2**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114964 WF on UL gap for BPS**

*Type: other For: Approval  
 Source: Apple*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114965 LS on UL gap in FR2 RF enhancement**

*Type: LS out For: Approval  
 Source: Apple*

**Abstract:**

This contribution provides the LS.

**Discussion:**

**Decision: Return to.**

**GTW in 2nd round:**

**#1 Tx power management: RF aspect**

Summary of 1st round email discussion is captured in [1]. Some observations are captured below:

* On phantom or blocking be introduced in UL gap testing.
  + No feasible in R17: oppo, Apple, HW, Sony, vivo, Intel.
  + Phantom should be introduced: QC
* Metric:
  + Option 1: Delta P-MPR: Apple, ZTE, Sony, vivo, Intel, DCM, Ericsson.
  + Option 2: Peak EIRP: Oppo,
  + Option 1 and option 2 without phantom: Nokia, Ericsson
  + Option 1 and option 2 with phantom: QC

Proposed agreement:

* *No phantom is introduced in R17 UL gap testing.*

Proposed agreement:

* *Option 1: “P-MPR report without phantom” based, X dB P-MPR enhancement should be achieved.*
  + *X is defined as one of the options below*
    - *6dB*
    - *A value between 6dB and 3dB, which is typical in the field*
    - *A value below 3dB*
  + *FFS on the impact of P-MPR report granularity*
  + *FFS on the implementation margin*
* *Option 2: “P-MPR report+peak EIRP without phantom”, X dB EIRP gain and P-MPR<YdB when UL gap is activated should be achieved compared to the case where no gap is activated* 
  + *X is defined as one of the options below*
    - *6dB*
    - *A value between 6dB and 3dB, which is typical in the field*
    - *A value below 3dB*
  + *Y is defined as*
    - *A value below 3dB*
    - *0dB*
  + *FFS on the implementation margin*

**Discussions:**

Nokia: we recognize the challenging.

Qualcomm: Exclude options without specific test method. We do not favor the proposed agreement.

Ericsson: FCC or another regulation have no testing for phantom, which can take years to develop the test. If we have test, we can address the regulation need. We support regulation to possibly improve Tx power.

Apple: To Nokia, I agree with that. When companies proposed phantom, they should provide the picture. We can continue the study of testing phantom in future releases. Some similar work in GCF is on-going for phantom. They are going to introduce phantom for MPE. MPE is not scope of RAN4. We should verify the gain of UL gap. To Qualcomm, many companies pointed out the testing difficulty for it.

Ericsson: given the current FCC requirement, we assume UE may use a certain P-MPR value. If network reduces the duty cycle, is P-MPR reduced for UE? Would be such mechanism?

Apple: to Qualcomm, the phantom is discussed for multiple meetings. There are many aspects that phantom needs a lot of time for discussion. To Ericsson, we agree that if network reduces the duty cycle, UE would reduce the P-MPR

**Agreement:**

* Baseline is to verify that UE correctly behave without phantom and ensure the feasible requirement gain in Rel-17 with different test methods.

**Discussions:**

Nokia: we are fine with P-MPR and P-MPR reporting. Considering the challenging, something more is needed. Peak EIRP is needed to verify what truelly happens for UE. Option 2.

OPPO: If we reuse P-MPR for test, we have two issues to be addressed: P-MPR step; P-MPR limited to 12dB (if larger than 12dB there would be no difference between with and without gap). For EIPR testing, it is also simple. The peak direction can be achieved by other tests. UE just need pass one test point. If we want to combine two options, then if the gain without gap is 0dB we can further test the EIRP. If the gain is good, EIPR testing can be skipped.

DOCOMO: Prefer Option 2 since it can guarantee performance but also UE can provide good performance on absolute values.

VIVO: Metric based on P-MPR is simple and smaller granularity is needed. Testing EIRP and P-MPR is redundant. We would like to have a range as starting point.

Ericsson: support Option 2. P-MPR with 2dB step.

Sony: We are OK to further study Option2. There is no limitation for UE to use the P-MPR value. It comes to FCC and it would not cause problem if UE uses conservative value.

ZTE: only reporting P-MPR is enough. It is straightforward. We do not need to report both. To OPPO, we can have some improvement for legacy P-MPR report.

Qualcomm: with option 1 there are too much flexibility for UE. Option2 is preferred.

Apple: We recognize granularity issue for Option 1. We are OK with Option 2.

Ericsson: we have no control of P-MPR. In the normal test, P-MPR should not be used. We should ensure Tx power.

Nokia: gain X and Y dB should be with gap compared without gap.

OPPO: P-MPR is relative value or absolute value?

Nokia: It is absolute P-MPR value. We should not define the new delta P-MPR.

Apple: About hyberic proposal, peak EIPR shows the difference between with and without gap. On top of that we have additional P-MPR test. P-MPR should be sufficient low when gap is activated. Y is absolute value. X is relative gain compared to without gap. Y is value when the gap is activated.

Nokia: we do have phantom study target. The main point is to put requirement a clear gain. How to verify it needs more discussions in next meeting.

OPPO: we can combine X and Y values. X is 26dB. Y is higher than 6dB.

Qualcomm: we need clarification on EIRP.

Nokia: we can compare EIPR with and without gap. We do the same for P=MPR to compare the value between with and without gap.

DOCOMO: for Y, Y dB should be absolute value. We would like to remove the gain.

**Agreement:**

* + - “P-MPR report+peak EIRP without phantom”, X dB EIRP gain and P-MPR requirement of Y when UL gap is activated should be achieved compared to the case where no gap is activated
    - Decide range for X value in this meeting for making decision in future meeting
      * Option 1: at least 6dB
      * Option 2: A value between 6dB and 3dB, which is typical in the field
    - Further discussion on the definition of Y in this meeting
      * Option 1: Y is absolute value
      * Option 2: Y is the relative value of gain
      * Option 3: no P-MPR requirement of Y
    - FFS on the implementation margin

**#2 UL Tx power management: RRM aspect**

Summary of 1st round email discussion is captured in [1]. Some observations are captured below:

* On UL gap activation:
  + Option 1: implicitly activated by P-MPR reporting from UE. The activation criteria is determined and signaled by the NW (apple)
  + Option 2: explicitly activated by NW (apple, Huawei, ZTE, qualcomm, sony, nokia, DCM, vivo, Ericsson, intel)
* On UL gap deactivation
  + Option 1: implicitly deactivated by [TBD] reporting from UE. The deactivation criteria is determined and signaled by the NW (apple)
  + Option 2: explicitly deactivated by NW (apple, Huawei, ZTE, qualcomm, sony, nokia, DCM, vivo, Ericsson, intel)
* In case of explicit activation/deactivation, UL gap should be
  + Option 1: MAC CE (Apple, Huawei, ZTE, Qualcomm, Sony, DCM, vivo, Ericsson, Intel )
  + Option 2: DCI (DCM)
  + Option 3: RRC (Nokia, Ericsson)
* Candidate gap configurations: UGL (UL gap length), UGRP (UL gap repetition periodicity)
  + UGL: 0.5ms, UGRP: 20ms (Huawei)
  + UGL: 1ms, UGRP:20ms (Huawei, apple)
  + UGL: 1.25ms, UGRP: 20ms (apple)
  + UGL: 0.5ms, UGRP:40ms (Huawei)
  + UGL: 1ms, UGRP:40ms (Huawei)
  + UGL: 0.125ms, UGRP:5ms (Qualcomm)
  + UGL: 0.125ms, UGRP:10ms (Qualcomm)
  + UGL: 0.125ms, UGRP:20ms (Qualcomm)
  + UGRP: 160ms (Sony, vivo, Ericsson, intel)
  + UGRP: 320ms (Sony, vivo, Ericsson, intel)

**Proposed agreement:**

* UL gap should be explicitly activated by NW via signaling
  + How can UE indicate the NW UL gap activation is needed?
    - Option 1: UE explicitly indicates to NW by signaling
    - Option 2: UE implicitly indicate to NW by P-MPR reporting. The exact P-MPR value is FFS.
* UL gap should be explicitly deactivated by NW via signaling
  + How can UE indicate the NW UL gap deactivation is needed?
    - Option 1: UE explicitly indicates to NW by signaling
    - Option 2: UE implicitly indicate to NW by [TBD] reporting.

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**Discussions:**

Ericsson: for option 1, can network configure without indication.

Qualcomm: does UE need be beyond a threshold such that UE will indicate? Is there any signaling impact?

Apple: If network leaves the reported P-MPR higher, network can take is as explicit indication. We have no good idea on the threshold. It is more clear and simple solution if we can go with Option 1.

**Agreement:**

* UL gap should be explicitly activated by NW via signaling
  + How can UE indicate the NW UL gap activation is needed?
    - Option 1: UE explicitly indicates to NW by signaling
    - Option 2: UE implicitly indicate to NW by P-MPR reporting. The exact P-MPR value is FFS.
  + Network can activate UL gap without the indication from UE
* UL gap should be explicitly deactivated by NW via signaling
  + How can UE indicate the NW UL gap deactivation is needed?
    - Option 1: UE explicitly indicates to NW by signaling
    - Option 2: UE implicitly indicate to NW by [TBD] reporting.
  + Network can deactivate UL gap without the indication from UE.

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* UL gap should be explicitly activated and deactivated by MAC CE

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**Discussions:**

Nokia: We would like to clarify the simple case. When it is configured with RRC, we wonder whether MAC CE is always needed.

Ericsson: we share the same Nokia.

Qualcomm: RRC configuration is basic and MAC CE is on top of it.

**Agreement:** Two approaches will be considered

* #1: UL gap should be explicitly configured and activated/deactivated directly by RRC signaling
* #2: UL gap should be explicitly configured by RRC and activated and deactivated by MAC CE

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* Send LS to RAN2 for above agreement.
* Further discussion on down-selection of gap configurations.

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**Discussions:**

Ericsson: the switching should be included in gap.

Apple: same understanding

**Agreement:**

* The switching time should be included in gap period.

**#3 UL coherent MIMO**

Summary of 1st round email discussion is captured in [1].

**Proposed WF on performance gain evaluation:**

* The gain of UL MIMO with UL gap configured has been shown.
* Observations:
  + In R4-2111383, it shows 20.3% mean throughput gain and maximum 40.7% throughput gain with 40 degree phase error.
  + In R4-2114492, it shows further 8% throughput gain can be reached by further improve relative phase error requirement.
* The metric of the performance gain for further discussion:
  + - Option 1: By removing side conditions of coherent UL MIMO requirement, the requirement for relative phase/power keep the same, i.e. 40 degree/4dB
    - Option 2: By improving the requirement for relative phase/power, e.g. 30 degree for relative phase
* New requirement if identified can be discussed in phase II
* Companies are encouraged to provide analysis based on gap pattern examples
  + Other gap pattern is not precluded

**Discussions:**

Nokia: I do not see the enough gain in requirement. It is not sufficient to enable the gain by using uplink gap.

Huawei: We think it makes sense that RAN1 agree even if UE cannot meet the requirement UE can use coherent codebook. UE can get coherent UL MIMO gain if UE can meet the requirement as well as the limitation side condition can be guaranteed. Or UE can get the gain even if the side condition is not met.

Ericsson: Question on the examples. We do not see the gap coordination between RAN2 and RAN4. For training thing, we need more discussion.

Nokia: RAN1 never discussed that the gap is needed for coherent UL MIMO.

ZTE: we have two concerns about the details. In example 1 the first 2 symbols transmitted cannot be correctly decoded. It may impact the BLER of the whole slot. I have concern on the configuration DMRS.

Huawei: To Ericssion/ZTE, for example 1, it is not our recommendation. The disadvantage, there is limitation of DMRS configuration. If there is no DMRS configuration, the performance degrades. Our recommendation is example 1 to have some additional signals.

* Focus on answering the questions in the 2nd round.

**Conclusions after 2nd round**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Title** | **Source** | **Status** | **Comments** |
| R4-2114964 WF on UL gap for BPS | Apple | Approved. |  |
| R4-2114965 LS on UL gap in FR2 RF enhancement | Apple | Return to | To: RAN\_2; |

##### 9.4.3.1 Gap use cases and performance evaluation

[**R4-2113004**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113004.zip) **Discussion on UL gap for coherent MIMO**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113212**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113212.zip) **Discussion on UL gap for coherent UL MIMO use case**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2113662**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113662.zip) **On UL calibration gaps for coherent UL MIMO**

*Type: discussion For: Decision  
 Source: Ericsson, Sony*

**Abstract:**

Observations and open issues and question on coherent UL MIMO calibration gaps

**Decision: Noted.**

[**R4-2114492**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114492.zip) **on FR2 UL gap for coherence calibration**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114555**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114555.zip) **Ul gaps test configuration**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2114577**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114577.zip) **UL gaps test configuration**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

##### 9.4.3.2 UE Tx power management

[**R4-2112088**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112088.zip) **UL gaps for Tx power management RF aspect**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2112635**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112635.zip) **RF requirements and NW configuration for UL gap**

*Type: other For: Approval  
 Source: NTT DOCOMO, INC.*

**Abstract:**

To clarify RF requirements (test cases) and NW configuration for UL gap.

**Decision: Noted.**

[**R4-2112808**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112808.zip) **Requirements and test cases of UE FR2 UL Gap for UE Tx power enhancement**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2113005**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113005.zip) **Discussion on UL gap for Tx power management**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113211**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113211.zip) **Discussion on UL gap for Tx power management**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2113661**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113661.zip) **Test considerations on UL calibration gaps for BPS**

*Type: discussion For: Decision  
 Source: Ericsson, Sony*

**Abstract:**

Furter consideration on BPS calibration gaps

**Decision: Noted.**

[**R4-2113900**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113900.zip) **R17 FR2 UL gap for power management**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

##### 9.4.3.3 Others

#### 9.4.4 DC location for intra-band UL CA with > 2 CCs for both FR2 and FR1

[**R4-2111772**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111772.zip) **DC location reporting method and exception handling**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2113007**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113007.zip) **Discussion on DC location for intra-band UL CA**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113899**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113899.zip) **R17 DC reporting**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114548**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114548.zip) **DC location offset framework**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

#### 9.4.5 CA BW classes

##### 9.4.5.1 New FR2 CA BW classes

[**R4-2112648**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112648.zip) **FR2 bandwidth class in Rel-17**

*Type: discussion For: Approval  
 Source: Verizon, MediaTek*

**Decision: Noted.**

[**R4-2112729**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112729.zip) **New CA BW class denotation for FR2**

*Type: discussion For: Approval  
 Source: ZTE Corporation*

**Abstract:**

In this paper, we’d like to share our views on the introduction of new CA BW classes for FBG3 in FR2 and discuss how to denote the new CA BW classes.

**Decision: Noted.**

[**R4-2112730**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112730.zip) **CR to TS 38.101-2 on extension to CA BW class for FBG3**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0415 rev Cat: F (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This CR is to add new CA BW classes in FBG3.

**Decision: Not pursued.**

[**R4-2112786**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112786.zip) **Release independence spect of new FR2 CA BW class.**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2112787**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112787.zip) **draftCR Release independence aspects of new FR2 CA BW classes R15 CATB**

*Type: draftCR For: Endorsement  
 38.307 v15.8.0 CR- rev Cat: B (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Not pursued.**

[**R4-2112788**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112788.zip) **draftCR Release independence aspects of new FR2 CA BW classes R16 CATA**

*Type: draftCR For: Endorsement  
 38.307 v16.7.0 CR- rev Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Withdrawn.**

[**R4-2112789**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112789.zip) **draftCR Release independence aspects of new FR2 CA BW classes R17 CATA**

*Type: draftCR For: Endorsement  
 38.307 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Withdrawn.**

[**R4-2113099**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113099.zip) **Discussion on FR2 new CA BW class denotation and definition**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2113100**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113100.zip) **CR for TS 38.101-2 to introduction of FR2 new CA BW classes**

*Type: CR For: Agreement  
 38.101-2 v17.2.0 CR-0417 rev Cat: B (Rel-17)  
  
 Source: Xiaomi*

**Decision: Not pursued.**

##### 9.4.5.2 UE Rx requirements

#### 9.4.6 RRM core requirements

##### 9.4.6.1 Inter-band DL CA requirements for CBM

###### 9.4.6.1.1 MRTD requirements

###### 9.4.6.1.2 Other RRM requirements

##### 9.4.6.2 Inter-band UL CA for IBM

##### 9.4.6.3 UL gaps for self-calibration and monitoring

**Refer to email discussion summary of [100-e][130] NR\_RF\_FR2\_req\_enh2\_Part\_2, AI 9.4.3, 9.4.6.3 – Yang Tang**

[**R4-2112089**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112089.zip) **UL gaps for Tx power management RRM aspect**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2112705**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112705.zip) **UL gaps for self-calibration and monitoring**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2114016**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114016.zip) **Network impact of UE FR2 UL Gap for UE Tx power enhancements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

### 9.5 NR repeater

#### 9.5.1 General

##### 9.5.1.1 System parameters

##### 9.5.1.2 Repeater Class/Type

##### 9.5.1.3 TDD repeater switching requirements

##### 9.5.1.4 Others

#### 9.5.2 Conductive RF core requirements

##### 9.5.2.1 Transmitted power related requirements

##### 9.5.2.2 Emission requirements

##### 9.5.2.3 Others

#### 9.5.3 Radiated RF core requirements

##### 9.5.3.1 Transmitted power related requirements

##### 9.5.3.2 Emission requirements

##### 9.5.3.3 Others

#### 9.5.4 EMC core requirements

### 9.6 Introduction of DL 1024QAM for NR FR1

#### 9.6.1 General

#### 9.6.2 BS TX RF requirements

##### 9.6.2.1 Deployment and link level simulation

##### 9.6.2.2 EVM requirements

##### 9.6.2.3 Others

#### 9.6.3 UE RX RF requirements

### 9.7 UE RF requirements for Transparent Tx Diversity (TxD) for NR

**Email discussion summary of [100-e][131] NR\_TxD, AI 9.7 – Ville Vintola**

[**R4-2114731**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114731.zip) **Email discussion summary for [100-e]****[131] NR\_TxD**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115031 (from R4-2114731).**

[**R4-2115031**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114731.zip) **Email discussion summary for [100-e][131] NR\_TxD**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**GTW in 1st round:**

**Sub-topic 2-1 MPR**

**Issue 2-1: Which MPRs to be changed**

* Proposals for changes for MPR
  + Option 1: Edge MPR
  + Option 2: Inner
  + Option 3: Outer
  + Option 4: Higher MCS (EVM driven)
* Tentative agreements: Some non-zero MPR seems acceptable
* Recommendations for 2nd round:
  + Detailed proposal to be put together.

**Discussions:**

LGE: generally we are fine with Skyworks evaluation results. The higher order modulation needs further input. Inner cases, 1.5 is assumption for CP-OFDM. For DFT-s-OFDM, 1dB would be OK. We can further decide values based on skyworks results.

Huawei: for higher modulation order, is it possible for Skyworks to provide further evaluation? In the last meeting, we still have a range. What is the possible values we can take in the draft CR?

Ericsson: Regarding PC2 with 2Tx, -3dB tolerance for it is relative large.

Skyworks: PA is calibrated to ACLR level. We can have different MPR table or provide delta. We could account for wider toleration for PC2 definition. To Huawei, for 64QAM and 256QAM, we can also look into what happen to PC1.5. What kind of delta MPR will be counted for.

**Agreement:** Provide MPR tables in this meeting for further review.

* Skyworks will provide the draft way forward.

**Sub-topic 2-2 A-MPR**

**Issue 2-2: UL MIMO A-MPR for UE’s with Tx diversity**

* Proposals
  + Option 1: Study band specific A-MPR requirements in the TxD WI
  + Option 2: Study band specific A-MPR requirements in the UL MIMO bands WI
* Tentative agreements: UL MIMO AMPR needs to be studied for TxD UE. Ran4 can study first in this Wi and then what is not finished, in UL MIMO bands WI.
* Candidate options:
  + 1) List of high priority bands to be put to in to TxD WID
  + 2) All bands are gathered in the UL MIMO WID
* Recommendations for 2nd round: Option 2 seems more favorable.

**Discussions:**

Skyworks: How can we treat the complexity? We need first decide which configuration will be supported. For MPR, it is matter of delta value compared to 1Tx. And we can apply the same delta to A-MPR.

Huawei: Check the views. For MPR, it would be the same for PC3. If we can agree on it first, then we can look into the band which supports PC2.

**Agreement:**

* For PC3, there is no additional work for A-MPR
* For PC2,
* UL MIMO AMPR needs to be studied for TxD UE.
* Ran4 can study first in this WI and then what is not finished, in UL MIMO bands WI.

**Sub-topic 2-3 UL MIMO MPR and A-MPR**

**Issue 2-3-1: TxD MPR is applicable for UL MIMO**

* Proposals
  + Option 1: When UE declares txd (R4-2114545, R4-2114553, R4-2113177)
  + Option 2: For all UL MIMO implementations (R4-2114510)
  + Option 3: Other?
* Recommendations
  + Issue 2-3-1: It seems there are few comments saying issue is not understood. Intention is to agree if TxD MPR applies for all UL MIMO implementations, including the rel-15 one which has 26 dBm PA, or only for UL MIMO for UE that implements/declares TxD.
  + Recommendations for 2nd round: Re word the issue if no consensus.

**Discussions:**

Skyworks: it applies when UE declares txd and also for UE which declares for full power. We need make clear to which MRP table signalling this will be applied.

Huawei: Based on the discussion now, I saw the capability for ul-mimo should be decoupled from txd. It could be possible for UE to supporting uplink mimo but not to support txd. For Rel-15, UE may still use two 23dBm chains. It does not need to have such close relation.

Ericsson: we have discussed the dependence between mimo and txd. If MPR for full power feature is modified due to txd, there will be clear dependency. We propose to signal features independently. We need clarification.

VIVO: We have some basic agreement before. We should have MPR for 2Tx no matter whether it is txd or supports ul MIMO. For ul mimo, we can reuse MPR for Txd with two Tx.

Samsung: we would like to go back for history. During rel-16 discussion, the emission should be tested per UE rather per connector according to regulation. The same MPR table is followed by ul mimo. If we change per connector to per UE emission, there is big impact. Do we need re-consider the change from per-UE to per-connector?

OPPO: We echo comment from VIVO. We have already had agreement to apply MPR to UL-MIMO. For option 1, it is quite confusion.

Skyworks: we need treat UL-MIMO and TxD emission together. How do we look into the case where UE uses two PA to support single port for 26dBm?

Huawei: to Ericsson, currently in the spec, we only have MPR requirement for PC3 for MIMO. The agreement in RAN4 is that we consider regulation and define requriements for txd and ul-mimo together.

T-Mobile: MPR is the same PA configuration. If you have two 23dBm PA for txd, and 26dBm PA for MIMO, the MPR is different. We do not want to relax the requirement.

Qualcomm: Agree with T-Mobile and Skyworks. It depends on PA configuration.

Moderator: if we relax the requirement in the way T-mobile mentioned, it is unjustified. To Huawei, there is no reference to PC2 is some kind of mistake.

**Issue 2-3-2: MPR applicability for 2-layer UL MIMO and ULFPTx**

* Proposals
  + Option 1: Same MPR applies for 2-layer and ULFPTx
  + Option 2: Different MPR can apply between 2-layer and ULFPTx
* Tentative agreements: 1 and 2-layer UL MIMO share the MPR.

**Agreement:** MPR applicability for 2-layer UL MIMO and ULFPTx

* 1 and 2-layer UL MIMO share the MPR

**Conclusions after 1st round:**

**R4-2114753 WF on TxD MPR values**

*Type: other For: Approval  
 Source: Skyworks*

**Abstract:**

This contribution provides the way forward for MPR table for TxD.

**Discussion:**

**Decision: Approved.**

**R4-2114966 WF on Tx diversity system aspects**

*Type: other For: Approval  
 Source: Orange*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Revised to R4-2115102 (from R4-2114966).**

**R4-2115102 WF on Tx diversity system aspects**

*Type: other For: Approval  
 Source: Orange*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Noted.**

**R4-2114967 Draft CR on section D changes for TxD**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Samsung*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Return to.**

**R4-2114968 Draft CR on SRS antenna switching change**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: OPPO*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Postponed.**

**R4-2114969 LS on TxD UE capability**

*Type: other For: Approval  
 Source: VIVO*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Return to.**

**Conclusions after 2nd round**

**New tdocs after 1st round**

|  |  |  |
| --- | --- | --- |
| **Title** | **Source** | **Status** |
| R4-2115102 WF on Tx diversity system aspects | Orange | Noted |
| R4-2114753 WF on TxD MPR values | Skyworks | Approved |
| R4-2114967 Draft CR on section D changes for TxD | Samsung | Return to. Ericsson concerns, to be checked in GTW |
| R4-2114968 Draft CR on SRS antenna sw changes | Oppo | Postponed |
| R4-2114969 LS on Txd UE capability | vivo | Return to.  The formal version uploaded. Seems OK. |

**Existing tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** |
| R4-2114970 Rev of [**R4-2113010**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113009.zip) | TP for TR 38.837 on Requirements part for Transparent Tx Diversity | vivo, | Approved |
| R4-2114971 Rev of [**R4-2114511**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114511.zip) | CR for TS 38.101-1 Tx diversity requirements | Huawei, HiSilicon | Endorsed |
| R4-2114972 Rev of [**R4-2113893**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113893.zip) | Draft CR on SRS antenna sw changes | Oppo | Postponed |
| R4-2114975 Rev of [**R4-2113013**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113013.zip) | Correction of general description of EN-DC related power class based on the TxD capability | Vivo | Merged |
| R4-2114974 rev of [**R4-2114513**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114513.zip) | draft CR for TS 38.101-3 correction of power class for EN-DC | Huawei | Postponed |
| R4-2114552 | TxD work plan | Qualcomm | Approved |

**New tdocs after 2nd round**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** |
| R4-2115100 | CR for TS 38.101-1 Tx diversity requirements | Huawei | Return to  Formal cat.B CR for phase 1 requirements, to be approved in GTW Friday |

#### 9.7.1 General

[**R4-2112320**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112320.zip) **Discussion on the differences between NR transparent TxD and ULFPTx mode 1**

*Type: discussion For: Approval  
 Source: ZTE Wistron Telecom AB*

**Decision: Noted.**

[**R4-2113009**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113009.zip) **TP for TR 38.837 on Annex part for Transparent Tx Diversity**

*Type: pCR For: Approval  
 38.837 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: vivo, Qualcomm, Huawei*

**Decision: Approved.**

[**R4-2113010**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113010.zip) **TP for TR 38.837 on Requirements part for Transparent Tx Diversity**

*Type: pCR For: Approval  
 38.837 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: vivo, Qualcomm, Huawei*

**Decision: Revised to R4-2114970 (from R4-2113010).**

[**R4-2114970**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113010.zip) **TP for TR 38.837 on Requirements part for Transparent Tx Diversity**

*Type: pCR For: Approval  
 38.837 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: vivo, Qualcomm, Huawei*

**Decision: Approved.**

[**R4-2114358**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114358.zip) **TR 38.837 skeleton for Transparent Tx Diversity**

*Type: draft TR For: Approval  
 38.837 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: vivo, Qualcomm, Huawei*

**Decision: Agreed.**

[**R4-2114510**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114510.zip) **On remaining TxD requirements**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114511**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114511.zip) **CR for TS 38.101-1 Tx diversity requirements**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon, vivo, OPPO, CMCC, Qualcomm*

**Decision: Revised to R4-2114971 (from R4-2114511).**

[**R4-2114971**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114511.zip) **CR for TS 38.101-1 Tx diversity requirements**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon, vivo, OPPO, CMCC, Qualcomm*

**Decision: Endorsed.**

[**R4-2115100**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114511.zip) **CR for TS 38.101-1 Tx diversity requirements**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-xxxx rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon, vivo, OPPO, CMCC, Qualcomm*

**Decision: Return to.**

[**R4-2114552**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114552.zip) **TxD work plan**

*Type: Work Plan For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Approved.**

[**R4-2114554**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114554.zip) **TxD WID revision**

*Type: WID revised For: Endorsement  
 Source: Qualcomm Incorporated*

**Decision: Endorsed.**

#### 9.7.2 UE RF requirements for phase 1 (38.101-1)

[**R4-2114003**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114003.zip) **Discussion on requirements for Tx Diversity**

*Type: discussion For: (not specified)  
 Source: Orange Spain*

**Decision: Noted.**

##### 9.7.2.1 UE requirements (other than MPR)

##### 9.7.2.2 MPR requirements

[**R4-2114545**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114545.zip) **PC2 TxD MPR evaluation and SD-CDD waveform choice**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution we present PC2 measurements based on 2 PC3 PAs that are compared with 1TX PC3 and PC2 measurements and also discuss waveform choice for SD-CDD.

**Decision: Noted.**

#### 9.7.3 UE RF requirements for phase 2 (38.101-1)

##### 9.7.3.1 SRS antenna switching related

[**R4-2112827**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112827.zip) **SRS antenna switching with antenna virtualization**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution we discuss SRS swiching with virtualization (TxD) and make proposals on the configured power for SRS with switching

**Decision: Noted.**

[**R4-2113178**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113178.zip) **Discussion on Transparent TxD – SRS antenna switching related**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2113306**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113306.zip) **Discussion on Tx diversity SRS antenna switching**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2113892**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113892.zip) **R17 SRS IL for TxD**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2113893**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113893.zip) **Draft Rel-15 CR for introduction of TxD SRS IL**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: OPPO*

**Decision: Revised to R4-2114972 (from R4-2113893).**

[**R4-2114972**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113893.zip) **Draft Rel-15 CR for introduction of TxD SRS IL**

*Type: draftCR For: Endorsement  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: OPPO*

**Decision: Postponed.**

[**R4-2114590**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114590.zip) **On Transmit Power Relaxations for SRS Switching**

*Type: discussion For: Discussion  
 Source: Lenovo, Motorola Mobility*

**Decision: Noted.**

##### 9.7.3.2 ULFPTx related

[**R4-2111904**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111904.zip) **On enabling ULFPTx UEs to employ transparent TxD**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

peak gain, spherical coverage of gain discussed

**Decision: Noted.**

[**R4-2112828**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112828.zip) **ULFPTx and the TxD capability**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution we discuss the relation between TxD and FP modes and discuss the requirements for FP single-antenna fallback

**Decision: Noted.**

[**R4-2113177**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113177.zip) **Discussion on Transparent TxD – Uplink Full Power Tx (ULFPTx) related**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2113894**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113894.zip) **R17 TxD and ULFPTx**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

#### 9.7.4 Power class ambiguity issues

[**R4-2112318**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112318.zip) **On the remaining power ambiguity issue**

*Type: discussion For: Discussion  
 Source: ZTE Wistron Telecom AB*

**Decision: Noted.**

[**R4-2112829**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112829.zip) **Correction of Pcmax for an NR PC2 UE supporting NR PC3 for EN-DC**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to resolve part of the NR power-class ambiguity when a UE is configured for EN-DC (Rel-15 only)

**Decision: Postponed.**

[**R4-2113011**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113011.zip) **Remaining issues in Power class related requirements and Reply LS to GCF**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113012**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113012.zip) **Clarification of 1-port fall back SA power class for Rel-15**

*Type: draftCR For: Approval  
 38.101-1 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: vivo*

**Decision: Postponed.**

[**R4-2113013**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113013.zip) **Correction of general description of EN-DC related power class based on the TxD capability**

*Type: draftCR For: Approval  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: vivo*

**Decision: Revised to R4-2114975 (from R4-2113013).**

[**R4-2114975**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113013.zip) **Correction of general description of EN-DC related power class based on the TxD capability**

*Type: draftCR For: Approval  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: vivo*

**Decision: Merged.**

[**R4-2113891**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113891.zip) **R17 Discussion on UL MIMO fallback to TxD**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114512**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114512.zip) **Discussion and draft reply LS on EN-DC power class**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114513**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114513.zip) **draft CR for TS 38.101-3 correction of power class for EN-DC**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2114974 (from R4-2114513).**

**[R4-2114974](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114513.zip) draft CR for TS 38.101-3 correction of power class for EN-DC**

*Type: draftCR For: Endorsement  
 38.101-3 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Decision: Postponed.**

#### 9.7.5 Capability related

[**R4-2112319**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112319.zip) **Draft reply LS to RAN2 on the capability of transparent TxD**

*Type: LS out For: Approval  
 to RAN2  
 Source: ZTE Wistron Telecom AB*

**Decision: Noted.**

[**R4-2113014**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113014.zip) **Discussion and Reply LS on the capability related to transparent TxD**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2114514**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114514.zip) **draft CR for TS 38.307: release independent requirements for TxD**

*Type: draftCR For: Endorsement  
 38.307 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2114553**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114553.zip) **Legacy UE type handling with TX Diversity**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

### 9.8 Enhancement for NR high speed train scenario in FR1

#### 9.8.1 General

#### 9.8.2 RRM core requirements

##### 9.8.2.1 UE RRM core requirements for CA scenario

###### 9.8.2.1.1 Intra-frequency measurements

###### 9.8.2.1.2 Inter-frequency measurements

###### 9.8.2.1.3 Other

#### 9.8.3 UE demodulation requirements (38.101-4)

##### 9.8.3.1 General

##### 9.8.3.2 PDSCH requirements for CA scenarios

### 9.9 NR support for high speed train scenario in FR2

#### 9.9.1 General

**Email discussion summary of [100-e][132] NR\_HST\_FR2\_enh, AI 9.9.1, 9.9.3 – He Wang**

[**R4-2114732**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114732.zip) **Email discussion summary for [100-e][132] NR\_HST\_FR2\_enh**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115032 (from R4-2114732).**

[**R4-2115032**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114732.zip) **Email discussion summary for [100-e][132] NR\_HST\_FR2\_enh**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114976 WF on UE RF requirement for FR2 HST**

*Type: other For: Approval  
 Source: Samsung*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**GTW in 2nd round**

**#1 Minimum Peak EIRP**

**Issue 2-1-1: Minimum Peak EIRP**

**Proposals:**

* Proposal 1 (Ericsson): (By revisiting last meeting agreement) Increase maximum output power for train mounted HST FR2 UEs, consider PC1 as baseline.
* Proposal 2 (Samsung): (By following last meeting agreement) For FR2 HST UE, RAN4 adopt the minimum peak EIRP requirement for the relevant bands n261, n257 and n258, as

|  |  |
| --- | --- |
| **Operating band** | **Min peak EIRP (dBm)** |
| n257 | 30.0 |
| n258 | 30.4 |
| n261 | 30.0 |
| NOTE 1: Minimum peak EIRP is defined as the lower limit without tolerance | |

[Moderator] Continue the discussion on:

* The feasibility of applying the PC1-like UE (with maximum EIRP limit of 55dBm) in mobility usage scenario:
  + Quote from Intel’s comment in 1st round: “In our understanding, PC1 cannot be used for HST since the max EIRP limit of 55 dBm is for transportable stations, which the FCC defines as transmitting equipment that is not intended to be used while in motion, but rather at stationary locations (47 CFR § 30.2 – Definitions).”
* The technical argument why PC5-like 30.x dBm minimum peak EIRP requirement shall be revisited:
  + Which parameters are changed as the baseline to derive requirement?
  + What other factors are changed?

[Moderator] Suggest to further discussion on the following tentative agreement in Wed. GTW session.

[Moderator] Early comments before GTW are also encouraged to be captured in the 2nd round summary.

**Discussions:**

Nokia: We support revisiting the agreement. The agreement was made before we had clear view for deployment. PC5 is not aligned with discussion in our view. The reason is PC5 has wider spherical coverage in our analysis. WI scope is PC4 as baseline.

Qualcomm: We prefer to proposal 2. We do not think min level should be increased to PC1 level. We can add more thing to cover the region. Peak EIPR of PC1 is not perferrable. Nokia comments is related to issue 2-2 not sure if Nokia have concern on peak EIRP.

Samsung: for PC1, Intel mentioned the regulation reason. PC1 is used for fixed use case rather for roof mounted use case. We should exclude PC1. For number of min peak EIRP, we have already agreed to use 4x4. We think it is very reasonable to use similar number as PC5. We believe PC5 number is acceptable.

Huawei: to Nokia, the issue is that we agreed with array size 4x4. The RRM and demod session have many agreements based on this assumption. For proposal 2, from FR perspective, it should be reasonable. But RRM has agreed the 6 beam number for scenario B. Both uni-and bi-directional case are agreed. If UE uses rough beam to cover larger range, the absolute EIRP would be reduced. At least for scenario B, bi-diretional case the min EIRP number should be kept open. For other we can go with PC5.

Ericsson: We are aligned with Nokia. We suggested to have new clause to define EIPR and spherical coverage.

Qualcomm: to Huawei, the number of beam considered in RF session could be different from those number in RRM session. In RRM, they consider the rough beam for searching. In RF, we consider the finer beam. We suggest to agree that the finer beam number should be larger than number considered in RRM.

Samsung: for finer or rough beam, we share the similar views as Qualcomm. All the RF requirements are based on fine beam. We just consider the number of element. We do not see the reason to differentiate scenario A and B. If the scenario B has more controversial issue, and we cannot make the agreement for scenario B. we would like to down-scope for scenario B. If we have no constructive proposal, we have to drop it from WID.

Huawei: we do not see the clear assumption that the beam is rough or fine beam.

Nokia: to comments from Samsung, peak EIRP and coverage can be a tradeoff. We propose to consider higher EIRP rather coverage. PC4 is aligned with 4x4.

Qualcomm: our interpretation is that scenario B is that the number of beam that we are going to sweep for RRM measurement. In RRM, we can say RF should be able to use the different number of beam function. To proceed, that different beam numbers in RF can be assumed.

Samsung: we wonder if the peak EIRP can be increased or not.

Huawei: either increase beam number or reduce the peak EIPR.

Qualcomm: we prefer one set of requirement. Otherwise, it will increase the UE complexity. We are OK to consider more beams but consider PC5.

**Issue 2-1-2: Multi-band Relaxation**

Agreements:

* For FR2 HST UE, RAN4 adopt 0.7dB multi-band relaxation similar as PC5, that is

|  |  |  |
| --- | --- | --- |
| **Band** | **MBP,n (dB)** | **MBS,n (dB)** |
| n257 | 0.7 | 0.7 |
| n258 | 0.7 | 0.7 |
| n261 | 0.7 | 0.7 |

**#2 Spherical Coverage**

**Issue 2-2-1: Spherical coverage requirement framework**

**Candidate options:**

* Spherical coverage requirement framework for FR2 HST UE:
  + Option-1: Still follow Rel-15 NR spherical coverage requirement framework
  + Option-2: Specify the spherical coverage for FR2 HST in terms of theta and phi range w.r.t. boresight direction.

[Moderator] Recommendations for 2nd round:

* Continue discussion on the above two options, and the supporters of Option-2 may want to address the questions and concerns in 1st round as below:
  + Even if the required spherical region, the traditional spherical coverage definition still works?
  + More details about new framework: e.g., azimuth/elevation angle range (w.r.t. boresight direction) is assumed for the “required range”, how much %-tile is required over the range?

[Moderator] Suggest to further discussion for down-select to one option as follows in Wed. GTW session.

[Moderator] Early comments before GTW are also encouraged to be captured in the 2nd round summary.

**Discussions:**

Qualcomm: Option 2 is our proposal. We can use the different analysis. Otherwise the traditional spherical coverage, we do not know UE performance in HST.

Samsung: the better performance can be achieved at boresight direction. We do not see too much difference between Option 1 and Option 2. The differene depends on phi and theta. The proponent wants smaller theta value compared to normal FR2 UE. Before agreeing we want to see the proposed theta and phi. For option 2, based on option 2, we have guarantee 100% test points above the threshold. Qualcomm intention is UE should guarantee performance in all directions within theta and phi.

Huawei: Prefer Option 2. Option 2 and Option 1 do not have too much difference. The theta and phi would be limited. It is better to define the requirements to ensure the good performance within the directions matching HST.

Qualcomm: According to Samsung first part of comment, we have our proposal for spherical coverage for theta and phi range. If we chose Option 2, any theta and phi range can be implemented on the spherical coverage requirement.

Nokia: for option 2, we have scenario A and scenario B. Scenario B needs wider range than scenario A. Do you use the same range to cover both case? Do we need different UE capabilies.

Samsung: we would like to decide the framework. Even if we go with option 2, we still can further discuss whether two or one set requirement is needed.

Huawei: we need to define how many test points are needed.

**Agreement:** For spherical coverage requirement framework, specify the spherical coverage for FR2 HST in terms of theta and phi range w.r.t. boresight direction.

* Further discussion on theta and phi value
* UE should meet EIPR requirement for 100% percentage of test points within the theta and phi range with some tolerances
* If the problem is identified, go back to option 1.

**#3 UE RF requirement framework and Power Class**

**Issue 2-3-1: UE RF requirement framework**

Candidate options:

* Option-1: For HST FR2 UE, RAN4 only defines RF requirement in the case where UE receives the HST FR2 network deployment flag. No requirement is defined when HST FR2 UE has not received the HST FR2 network deployment flag.
* Option-2: The RF requirement applicability rule (based on NW flag signalling) is not introduced.

[Moderator] Suggest to further discussion for down-select to one option as follows in Wed. GTW session.

[Moderator] Early comments before GTW are also encouraged to be captured in the 2nd round summary.

**Discussions:**

Qualcomm: support option 2.

Huawei: on the content on NW flag, is it include the scenario? Or one bit flag.

Nokia: how is the flag used and defined? We should have clear view on flag. Is the flag from one cell?

Samsung: one flag is agreed to introduce to indicate whether it is HST scenario or not.

Huawei: we prefer option 2 with the clarification.

Samsung: original intention is that cell coverage region is with very high speed.

Nokia: the flag is not tightly related to RF requirements.

**Discussion point:** The RF requirement applicability rule (based on NW flag signalling) is not introduced.

* NOTE: NW flag signaling means 1 bit network flag which was agreed in RRM session.

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114976 | WF on UE RF requirement for FR2 HST  (based on the latest draft: [R4-211xxxx Draft WF on NR HST FR2 RF\_v01.docx](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_100-e/Inbox/Drafts/%5B100-e%5D%5B132%5D%20NR_HST_FR2_enh/Round%202/R4-211xxxx%20Draft%20WF%20on%20NR%20HST%20FR2%20RF_v01.docx)) | Samsung | Approved |  |

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[**R4-2113792**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113792.zip) **Discussion on general issues for NR FR2 HST deployment scenario**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114024**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114024.zip) **TR for FR2 HST**

*Type: draft TR For: Endorsement  
 38.854 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell, Samsung*

**Decision: Endorsed.**

#### 9.9.2 High speed train deployment scenario in FR2

##### 9.9.2.1 Deployment Scenario-A

##### 9.9.2.2 Deployment Scenario-B

##### 9.9.2.3 Channel modeling

##### 9.9.2.4 Others

#### 9.9.3 UE RF core requirements

[**R4-2112262**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112262.zip) **On FR2 HST RF Requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Decision: Noted.**

##### 9.9.3.1 Baseline power class and UE Tx requirements

[**R4-2113173**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113173.zip) **On UE TX RF requirement for FR2 HST**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2113655**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113655.zip) **On UE beam and pwr requirements for FR2 HST**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on UE PC for HST FR2

**Decision: Noted.**

[**R4-2114058**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114058.zip) **EIRP requirement for FR2 HST**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

##### 9.9.3.2 Beam correspondence

[**R4-2113175**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113175.zip) **Further discussion on beam correspondence for FR2 HST UE**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2113656**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113656.zip) **On Beam Correspondence requirements for FR2 HST**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on UE Beam correspondence for HST FR2

**Decision: Noted.**

[**R4-2114059**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114059.zip) **UE beam correspondence for FR2 HST**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

##### 9.9.3.3 UE Rx requirements

[**R4-2113174**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113174.zip) **On UE RX RF requirement for FR2 HST**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

##### 9.9.3.4 Others

#### 9.9.4 RRM core requirements

##### 9.9.4.1 General

##### 9.9.4.2 Number of RX beams

##### 9.9.4.3 RRC Idle/Inactive and connected state mobility requirements

##### 9.9.4.4 Timing requirements

##### 9.9.4.5 Signalling characteristics requirements

##### 9.9.4.6 Measurement procedure requirements

#### 9.9.5 Demodulation requirements

##### 9.9.5.1 General

##### 9.9.5.2 UE demodulation requirements

##### 9.9.5.3 BS demodulation requirements

###### 9.9.5.3.1 PUSCH requirements

###### 9.9.5.3.2 PUSCH with UL timing adjustment requirements

###### 9.9.5.3.3 PRACH requirements

### 9.10 Further RRM enhancement for NR and MR-DC

#### 9.10.1 General

#### 9.10.2 RRM core requirements

##### 9.10.2.1 SRS antenna port switching

##### 9.10.2.2 HO with PSCell

##### 9.10.2.3 PUCCH SCell activation/deactivation

### 9.11 NR and MR-DC measurement gap enhancements

#### 9.11.1 General

#### 9.11.2 RRM core requirements

##### 9.11.2.1 Pre-configured MG pattern(s)

##### 9.11.2.2 Multiple concurrent and independent MG patterns

##### 9.11.2.3 Network Controlled Small Gap

### 9.12 Further enhancement on NR demodulation performance

#### 9.12.1 General

#### 9.12.2 UE demodulation and CSI requirements

##### 9.12.2.1 MMSE-IRC receiver for inter-cell interference

###### 9.12.2.1.1 PDSCH requirements

###### 9.12.2.1.2 CSI requirements

##### 9.12.2.2 MMSE-IRC receiver for intra-cell inter-user interference

##### 9.12.2.3 Evaluation on CRS interference in scenarios with overlapping spectrum for LTE and NR

#### 9.12.3 BS demodulation requirements

##### 9.12.3.1 PUSCH demodulation requirements for FR1 256QAM

### 9.13 Solutions for NR to support non-terrestrial networks (NTN)

#### 9.13.1 General and work plan

##### 9.13.1.1 System parameters

##### 9.13.1.2 NTN gNB Class/Type

##### 9.13.1.3 Regulatory information

##### 9.13.1.4 Others

#### 9.13.2 Coexistence aspects

##### 9.13.2.1 Coexistence scenarios and Simulation assumptions

##### 9.13.2.2 Simulation results

#### 9.13.3 BS RF requirements

##### 9.13.3.1 TX requirements

##### 9.13.3.2 RX requirements

#### 9.13.4 UE RF requirements

##### 9.13.4.1 TX requirements

##### 9.13.4.2 RX requirements

#### 9.13.5 RRM core requirements

##### 9.13.5.1 General and RRM requirements impacts

##### 9.13.5.2 GNSS-related requirements

##### 9.13.5.3 Mobility requirements

##### 9.13.5.4 Timing requirements

##### 9.13.5.5 Measurement procedure requirements

### 9.14 UE Power Saving Enhancements

#### 9.14.1 General

#### 9.14.2 UE measurements relaxation for RLM and/or BFD

### 9.15 NR Sidelink enhancement

#### 9.15.1 General

**Email discussion summary of [100-e][134] NRSL\_enh\_Part\_1, AI 9.15.1, 9.15.2, 9.15.3, 9.15.4, 9.15.7, 6.1.3.1 – Suhwan Lim**

[**R4-2114734**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114734.zip) **Email discussion summary for [100-e][134] NRSL\_enh\_Part\_1**

*Type: other For: Information  
 Source: Moderator (LGE)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115034 (from R4-2114734).**

[**R4-2115034**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114734.zip) **Email discussion summary for [100-e][134] NRSL\_enh\_Part\_1**

*Type: other For: Information  
 Source: Moderator (LGE)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114977 WF on FCC regulation requirements for 5G V2X service**

*Type: other For: Approval  
 Source: Huawei*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114978 WF on n14 coexistence evaluation for NR PS UE**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114979 WF on Pemax definition and NR PS REFSENS in licensed band**

*Type: other For: Approval  
 Source: LGE*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2115086 LS on FCC regulation of the C-V2X emission limits on 47 CFR Parts 90 for V2X service in 5850-5925 MHz**

*Type: LS out For: Approval  
 Source: LGE*

**Abstract:**

This contribution provides the LS.

**Discussion:**

**Decision: Approved.**

**GTW in 2nd round:**

Move from AI 9.15.3 to here

[**R4-2111940**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111940.zip) **TP on sync raster for SL licensed bands**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CATT*

**Discussions:**

Qualcomm: the problem is that you try to use sync raster. There is no frame structure for sidelink. The sync raster is defined for DL. There is no sync raster for UL. We define no sync raster for sidelink.

LGE: this sentence is applied to TDD band only. In FDD band there is no sync raster. Sidelink only operates in uplink resource. Keep Rel-16 agreement.

Vivo: in Rel-16, we spent a lot of effort to discuss the sync raster. We agree that there is no sync raster for licensed band and unlicensed band. The proposal here overrides the agreement in Rel-16. We sent LS to RAN1. They configure SL based on ARFCN. If we agree with TP, we need sending LS to RAN1. Agree with Qualcomm.

CATT: We are OK to keep Rel-16 agreement. There would be no sync raster defined for licensed band. The sentence here is applied TDD.

Agreement: keep the Rel-16 agreement for sync raster.

**Decision: Revised to R4-2114980 (from R4-2111940).**

[**R4-2114980**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111940.zip) **TP on sync raster for SL licensed bands**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CATT*

**Decision: Noted.**

**For Tdoc R4-2114979**

**Issue 2-3-1: Pemax definition for SL Enhancement UE**

**Discussions:**

Xiaomi: we provided comment. It is related to intra-band co-current.

Huawei: This issue has been discussed in other email thread. The signaling is used for sidelink only. This issue should be further discussed.

Qualcomm: the information is for sidelink.

CATT: for clarification, scenario is something like intra-band. UE is not associated with sideline only operation. Whether information can be reused needs more discussion.

LGE: most companies support option 1. Some company further check the IE. Option 1 would be possible solution. Further checking is possible in the next RAN4 meeting.

Ericsson: Most companies thought it is OK, which is aligned with RAN1 specificiation. SL UE is associated with cell. The wording is similar.

**Agreement**

* Further check if RAN4 can adopt Option 1 for SL Enh UE in n14 and if the existing IE*sl-maxTxPower* can be used

**Issue 2-3-2: REFSENS for n14 SL Enhancement UE**

**Discussions:**

LGE: there is not big different between Uu and SL. We prefer Option 2. When considering D2D equation, there is no too much difference.

CATT: SL is operated in uplink resource. There is no simultaneous Rx and Tx. We have totally different condition between sidelink and Uu. It is not acceptable to directly use Uu REFSENs.

AT&T: we should not reuse Uu directly. 3dB improvement for direction communication compared to Uu performance. Either case needs evaluation for n14 to look at the performance gain.

Qualcomm: Architecture for SL is different from Uu. There are additional loss for SL. Those should be taken into account. We need detailed budget before we agree relaxation compared Uu.

AT&T: the case you described is the same situation for LTE. It would be good to know why LTE is better for SL than Uu. Why can we not achieve the same gain?

LGE: to AT&T for D2D direct communication, we capture FRC table where the maximum HARQ is 4. Retransmission 4 is allowed to derive the REFENS requirement for SL. When you consider the same number of PRB and no re-transmission, then the requriement for Uu and SL is the same.

Qualcomm: we should do detailed budget to ensure the correct numbers.

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114977 | WF on FCC regulation requirements for 5G V2X service | Huawei | Approved |  |
| R4-2114978 | WF on n14 coexistence evaluation for NR PS UE | Ericsson | Approved |  |
| R4-2114979 | WF on Pemax definition and NR PS REFSENS in licensed band | LG Electronics | Approved |  |
| R4-2112767 | TR38.785 v0.3.0 TR Update for SL enhancement in Rel-17 | LG Electronics France | Agreed | Update TR contents based on the approved TPs in [134][135][136] email thread |
| R4-2114981 | TP on updating REFSENS requirements for NR SL enhancement | LG Electronics France | Noted | [ ] is added |
| R4-2114980 | TP on sync raster for SL licensed bands | CATT | Noted |  |
| [R4-2113411](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113411.zip) | Draft CR for 38.101-1 to remove the ASE requirements for NS\_52 (Rel-16) | Huawei, HiSilicon | Postponed | Further discuss in next RAN4 meeting |
| R4-2113412 | Draft CR for 38.101-1 to remove the ASE requirements for NS\_52 (Rel-17) | Huawei, HiSilicon | Postponed | Further discuss in next RAN4 meeting |
| R4-2114337 | CR on NR V2X Pcmax in TS38.101-1 in Rel-17 | Ericsson | Postponed | Further discuss in next RAN4 meeting |
| R4-2115086 | LS on FCC regulation of the C-V2X emission limits on 47 CFR Parts 90 for V2X service in 5850-5925 MHz | LG Electronics | Approved | To verify the emission limits for C-V2X UE in 5895~5925MHz |

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[**R4-2111942**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111942.zip) **On coexistence evaluation necessity in band n14**

*Type: discussion For: Approval  
 Source: CATT*

**Decision: Noted.**

[**R4-2112767**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112767.zip) **TR38.785 v0.3.0 TR Update for SL enhancement in Rel-17**

*Type: draft TR For: Agreement  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

draft TR v0.3.0 to capture the approved TPs and WF.

**Decision: Agreed.**

[**R4-2112840**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112840.zip) **Consideration on NR PS and LTE PS different point for n14 SL enhancement coexistence study perspective**

*Type: discussion For: Approval  
 Source: LG Electronics France*

**Abstract:**

provide our views on the remaining issues for coexistence study between n14 PS operation and NR/LTE legacy system for NE sidelink enhancement operation in n14

**Decision: Noted.**

#### 9.15.2 Spectrum request for SL operation

[**R4-2112990**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112990.zip) **Discussion on coexistence evaluation necessity in n14**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

#### 9.15.3 System parameters (numerologies, rasters, CBW, etc)

#### 9.15.4 UE RF requirements for NR SL enhancement

##### 9.15.4.1 TX requirements

[**R4-2114337**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114337.zip) **CR on NR V2X Pcmax**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR on NR V2X Pcmax

**Decision: Postponed.**

##### 9.15.4.2 RX requirements

[**R4-2111941**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111941.zip) **TP on REFSENS for SL enhancement**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CATT*

**Decision: Noted.**

[**R4-2112842**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112842.zip) **TP on updating REFSENS requirements for NR SL enhancement**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

To specify the REFSENS requirements in n14 for SL enh operation, RAN4 can reuse the NR Uu REFSENS requirements.

**Decision: Revised to R4-2114981 (from R4-2112842).**

**[R4-2114981](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112842.zip) TP on updating REFSENS requirements for NR SL enhancement**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

To specify the REFSENS requirements in n14 for SL enh operation, RAN4 can reuse the NR Uu REFSENS requirements.

**Decision: Noted.**

#### 9.15.5 Partially used SL operation with NR Uu operating bands

**Email discussion summary of [100-e][135] NRSL\_enh\_Part\_2, AI 9.15.5 – Yuan Gao**

[**R4-2114735**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114735.zip) **Email discussion summary for [100-e][135] NRSL\_enh\_Part\_2**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115035 (from R4-2114735).**

[**R4-2115035**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114735.zip) **Email discussion summary for [100-e][135] NRSL\_enh\_Part\_2**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114982 WF on intra-band V2X operation**

*Type: other For: Approval  
 Source: CATT*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114983 WF on MPR fro intra-band con-current operation**

*Type: other For: Approval  
 Source: LGE*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** |
| R4-2114982 | WF on intra-band V2X operation | CATT | Approved |
| R4-2114983 | WF on MPR for intra-band con-current operation | LG Electronics | Approved |
| R4-2114984 | TP on RF requirements for intra-band con-current V2X operation in licensed band | LG Electronics | Approved |
| [R4-2112341](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112341.zip) | TP on MPR for NR V2X intra-band con-current operation with Uu | LG Electronics | Approved |

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[**R4-2112769**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112769.zip) **RF requirements for intra-band con-current V2X operation with NR PC5 and NR Uu in a licensed band**

*Type: discussion For: Approval  
 Source: LG Electronics France*

**Abstract:**

Propose RF requirements for intra-band V2X con-current operation

**Decision: Noted.**

[**R4-2112771**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112771.zip) **TP on RF requirements for intra-band con-current V2X operation in licensed band**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

Provide TP to capture UE Tx/Rx RF requirements for intra-band con-current V2X UE in licensed band

**Decision: Revised to R4-2114984 (from R4-2112771).**

[**R4-2114984**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112771.zip) **TP on RF requirements for intra-band con-current V2X operation in licensed band**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

Provide TP to capture UE Tx/Rx RF requirements for intra-band con-current V2X UE in licensed band

**Decision: Approved.**

[**R4-2112991**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112991.zip) **Discussion on issues for intra-band con-current operation**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

##### 9.15.5.1 FDM operation

[**R4-2111944**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111944.zip) **On V2X intra-band con-current operation**

*Type: discussion For: Approval  
 Source: CATT*

**Decision: Noted.**

[**R4-2112604**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112604.zip) **Further discussion on FDM intra-band concurrent operation**

*Type: discussion For: (not specified)  
 Source: Xiaomi*

**Decision: Revised to** [**R4-2114698**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114698.zip) **(from** [**R4-2112604**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112604.zip)**).**

[**R4-2114698**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114698.zip) **Further discussion on FDM intra-band concurrent operation**

*Type: discussion For: (not specified)  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2114338**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114338.zip) **FDM operation for partially used SL operation in licensed band**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on the above issues.

**Decision: Noted.**

##### 9.15.5.2 TDM operation

[**R4-2111943**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111943.zip) **TP on intra-band V2X operation**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CATT*

**Decision: Approved.**

[**R4-2112605**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112605.zip) **Further discussion on TDM intra-band concurrent operation**

*Type: discussion For: (not specified)  
 Source: Xiaomi*

**Decision: Revised to** [**R4-2114699**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114699.zip) **(from** [**R4-2112605**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112605.zip)**).**

[**R4-2114699**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114699.zip) **Further discussion on TDM intra-band concurrent operation**

*Type: discussion For: (not specified)  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2114506**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114506.zip) **On TDM operation for NR SL**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

##### 9.15.5.3 Synchronous operation between NR Uu and NR SL in a TDD band

[**R4-2114251**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114251.zip) **Con-current reception of SL and Uu transmission in licensed band**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Presents view on whether to support con-current reception of SL and Uu transmission in licensed band

**Decision: Noted.**

[**R4-2114505**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114505.zip) **Further consideration on SL timing alignment**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

##### 9.15.5.4 Others

[**R4-2111945**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111945.zip) **On time mask for Uu and SL switching**

*Type: discussion For: Approval  
 Source: CATT*

**Decision: Noted.**

[**R4-2112284**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112284.zip) **MPR specifications for intra-band con-current V2X operation**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Outlines MPR development for V2X intra-band con-current operation

**Decision: Noted.**

[**R4-2112341**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112341.zip) **TP on MPR for NR V2X intra-band con-current operation with Uu**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics*

**Abstract:**

It provides TP on MPR for NR V2X intra-band con-current operation with Uu based on agreed WF([R4-2107870](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2107870.zip)).

**Decision: Approved.**

[**R4-2113410**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113410.zip) **Discussion on MPR requirements for intra-band con-current V2X operation**

*Type: discussion For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114589**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114589.zip) **MPR specifications for V2X intra-band con-current operation**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Outlines MPR development for V2X intra-band con-current operation

**Decision: Noted.**

#### 9.15.6 High power UE(PC2) for SL

**Email discussion summary of [100-e][136] NRSL\_enh\_Part\_3, AI 9.15.6 – Ye Liu**

[**R4-2114736**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114736.zip) **Email discussion summary for [100-e][136] NRSL\_enh\_Part\_3**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115036 (from R4-2114736).**

[**R4-2115036**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114736.zip) **Email discussion summary for [100-e][136] NRSL\_enh\_Part\_3**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114985 Way forward on PC2 NR V2X**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114985 | Way forward on PC2 NR V2X | Huawei, HiSilicon | Approved | Please also check the latest WF at:  [drafdt Way forward on PC2 NR V2X\_v1.docx](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_100-e/Inbox/Drafts/%5B100-e%5D%5B136%5D%20NRSL_enh_Part_3/Round%202/WF/drafdt%20Way%20forward%20on%20PC2%20NR%20V2X_v1.docx) |
| [R4-2112612](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2112612.zip) | draft LS out\_PC2 V2X intra-band concurrent | Xiaomi | Noted |  |
| [R4-2114508](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114508.zip) | draft LS on new power class 2 capability for NR-V2X | Huawei, HiSilicon | Noted |  |

##### 9.15.6.1 TX requirements

[**R4-2111946**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111946.zip) **On HPUE for NR SL enhancement**

*Type: discussion For: Approval  
 Source: CATT*

**Decision: Noted.**

[**R4-2112602**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112602.zip) **draft CR for TS 38.101-3 PEMAX for intra-band concurrent operation**

*Type: draftCR For: Endorsement  
 38.101-3 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Xiaomi*

**Decision: Postponed.**

[**R4-2112603**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112603.zip) **draft CR for TS 38.101-3 PEMAX for intra-band concurrent operation**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Xiaomi*

**Decision: Revised to** [**R4-2114697**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114697.zip) **(from** [**R4-2112603**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112603.zip)**).**

[**R4-2114697**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114697.zip) **draft CR for TS 38.101-3 PEMAX for intra-band concurrent operation**

*Type: draftCR For: Endorsement  
 38.101-3 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Xiaomi*

**Decision: Postponed.**

[**R4-2112611**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112611.zip) **on PEMAX issue**

*Type: discussion For: (not specified)  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2112678**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112678.zip) **TP for TR 38.785 on MPR and AMPR for NR V2X PC2**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics Inc.*

**Decision: Approved.**

[**R4-2112992**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112992.zip) **Discussion on HPUE issues for SL enhancements**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2114507**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114507.zip) **On specific HPUE power class capability for NR V2X**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114508**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114508.zip) **draft LS on new power class 2 capability for NR-V2X**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

##### 9.15.6.2 Coexistence study

[**R4-2113409**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113409.zip) **TP to 38.785 to capture NR V2X PC2 coexistence results**

*Type: pCR For: Approval  
 38.785 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2114335**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114335.zip) **coexisting simulation assumption for public safety UC and protection of B13**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on coexisting simulation in n14 and protection of B13.

**Decision: Noted.**

[**R4-2114509**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114509.zip) **Further consideration on co-existence study for n38 (SL) and adjacent band n7 (Uu)**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

##### 9.15.6.3 Others

[**R4-2112608**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112608.zip) **on HPUE signalling issue**

*Type: discussion For: (not specified)  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2112612**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112612.zip) **draft LS out\_PC2 V2X intra-band concurrent**

*Type: LS out For: (not specified)  
 to RAN2  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2114336**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114336.zip) **Co-channel co-existence between SL and Uu**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our views on above issues

**Decision: Noted.**

#### 9.15.7 Other RF/general requirements for New SL enhancement

#### 9.15.8 RRM core requirements

### 9.16 Extending current NR operation to 71GHz

#### 9.16.1 General

**Email discussion summary of [100-e][137] NR\_ext\_to\_71GHz\_Part\_1, AI 9.16.1, 9.16.2, 9.16.3, 9.16.8 –Jiwoo Kim**

[**R4-2114737**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114737.zip) **Email discussion summary for [100-e][137] NR\_ext\_to\_71GHz\_Part\_1**

*Type: other For: Information  
 Source: Moderator (Intel)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115037 (from R4-2114737).**

[**R4-2115037**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114737.zip) **Email discussion summary for [100-e][137] NR\_ext\_to\_71GHz\_Part\_1**

*Type: other For: Information  
 Source: Moderator (Intel)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114986 WF on work split in general parts of 60 GHz spec**

*Type: other For: Approval  
 Source: Huawei*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114987 Reply LS on the maximum/minimum channel bandwidth and channelization for NR operation in 52.6 to 71 GHz**

*Type: LS out For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution provides the LS.

To: RAN\_1

(Reply LS on R1-2102128)

**Discussion:**

**Decision: Approved.**

**R4-2114988 WF on [137] NR\_ext\_to\_71GHz\_Part1**

*Type: other For: Approval  
 Source: Intel*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**GTW in 2nd round:**

**#1 Channelization**

The latest email discussion summary is captured below:

* Option 1: Harmonize channelization between licensed and unlicensed bands
  + Option 1A: Align with IEEE 802.11ad/ay with fixed channelization
  + Option 1B: No IEEE 802.11ad/ay alignment with fixed channelization (vivo, MTK)
  + Option 1C: No IEEE 802.11ad/ay alignment and floating channelization (Nokia, Ericsson, ZTE, Xiaomi, OPPO, CMCC, Huawei)
  + Option 1D: Hybrid between IEEE and no IEEE alignment with fixed channelization depending on max spectrum utilization and better coexistence (Intel, Charter, CATT, Sony, MTK, QCOM)
  + Option 1E: Fixed channelization with proper channel raster granularity to consider the co-existence with IEEE 802.11ad/ay alignment if needed. (CATT, Sony)
* Option 2: Separate channelization
  + For Licensed:
    - Option 2A: No IEEE 802.11ad/ay alignment (Apple)
  + For Unlicensed:
    - Option 2B: Align with IEEE 802.11ad/ay (Apple, Sony)

There are three aspects companies want to achieve on this issue which are maximal spectrum utilization, better coexistence and cell search complexity. The Option 1D from R4-2113159 seems a good compromise among the goals. Channelization and SSB raster are tightly related. From moderating the discussion perspective, however, the moderator would like to separate the discussion as much as possible so that the discussion can be more manageable. The moderator would like to check if the group can compromise with the Option 1D?

**Discussions**:

Mediatek: we are OK to consider 1D. We need clarification. Our initial thinking is go with 100KHz. How can we define the raster for 960KHz. Ask about the higher SCS for 400MHz bandwidth, which is not in the diagram. The same design.

Ericsson: we have concern with 1D. We would like to remark non FCC requests any alignment to improve co-existence. Alignment is not essential need. We also need consider SU. We should not repeat mistake 95% utilization which is only good on paper.

CMCC: for 1D, the main problem is what is meaning by saying hybrid. How to hybrid? Majority company supports 1C.

VIVO: our view is that 1D is not a good compromise. Alternative A and Alternative B are for better SU … separately. We need unified raster design. Majority of companies support 1B and 1C. Many companies do not want to mandate the IEEE alignment.

Intel: regarding sync raster, if we consider nested design, we can reuse 100Mhz. Regarding hybrid, moderator captured the figure. We support wide channel. Some channel is not aligned. Regarding to FCC and EU regulation on alignment, we can certainly come up with IEEE device co-existing with NR-U.

Qualcomm: 1D, if network deploy how is trial made? We agree with Intel goal for limited channel search space by fixing channel number to minimal level.

Apple: initially we want to separate channelization. 1D should achieve the goal. We are going to have two alternative: one for licensed operation and other for unlicensed. From channel raster, we do not see any issue. We should work on how to design sync raster. Intel design can meet the goal for limited raster. For LBT mandatory band, aligning or non-aligning makes difference in terms of co-existence. Even if regulation is not mandatry but we need consider co-exist.

LGE: 1D is beneficial for limiting sync number and also meet the goal of good co-exist. How the location be shared… needs more discussion.

CATT: we support fixed sync raster. We do not think floating is good. It may need RAN1 change. For 1D, if we go with two alternatives, we do not think it is a good solution. We need more discussion. Only one sync raster would be OK. For IEEE alignement could be sub-set. The design would be similar to licensed.

Nokia: support 1C considering single FFT. 1C does not preclude the alignment if some regulation requires.

XIaomi: we supports 1C. EU regulation defines the beamforming solution. We do not need satisfy our spectrum utilization. We do not think floating channelization is issue.

Charter: support 1D and comments by Qualcomm, Intel and Apple. It is compromise with SU and co-existence.

Intel: It will operator and vendors of infra to choose channel.

Ericsson: The co-existence has been addressed. Advanatage of floating raster is forward compatible.

Mediatek: Fixed vs floating is not related to alignment with IEEE. We enable too much flexibility by floating sync for 60GHz. It is more complexity. If there is more ad hoc network, UE needs to do more searching which is power consuming. 120Khz, 960KHz the channel granularity is not a good trade-off. To xiaomi, in our paper, we provide analysis. 2.88 times difference. 600 is still big number.

Qualcomm: I do agree with MTK on fixed raster. 1D proposal, how does network choose A and B channelization. This can be deployed per area.

CATT: We cannot agree with the design which leads to RAN1 coreset change. We can agree with fixed channelization and then we discuss the granularity next.

Ericsson: Regarding to search complexity, we need concrete argument why floating cannot be used. We need flexibility for channel arrangement, although the search work is lower.

Mediatek: from our paper, if we did limit the sync raster to 100Mhz or 400Mhz, the only technique limitation is on lower channel bandwidth. For bandwidth is larger than min, we can still keep the full flexibility for channel arrangement.

**Agreement:**

* For channel raster and sync raster, use Option 1C and Option 1D as starting point to seek the compromised solution.

**#2 Channel raster grid**

The latest email discussion summary is captured below:

* Option 1: 120 kHz (Ericsson, ZTE)
* Option 2: 960 kHz (Intel, Apple, Charter, LGE, CATT, OPPO, MTK, QCOM)
* Other: More discussion is needed (CMCC, Huawei, vivo)

Based on the moderator’s understanding, this is nothing to do with the minimum SCS although they are the same numbers. The main idea is choosing channel raster entries (the difference between two raster entries) to be an integer multiple of 960 kHz (960 kHz = LCM[120 kHz, 480 kHz, 960 kHz]) so that all channel raster entries are on the same grid which enables single FFT implementation in case of CA operation. This approach is the same as 5 GHz NR-U where the channel raster entries were selected based on 60 kHz, i.e., 60 kHz = LCM[15 kHz, 30 kHz, 60 kHz].

Proposed agreement:

* *Option 2*

**Discussion:**

Ericsson: We support 120KHz considering CA aspect.

ZTE: Normalized channel spacing can address the issue for CA. Option 2 is like NR-U design.

Intel: to Ericsson, 480Khz, how do you align the carriers? 960KHz is superset. We need support SCell.

Ericsson: we do not see the reason to limit channel raster.

LGE: Support 960. 120 leads too much flexibility.

**#3 Intermediate CBWs between min and max CBWs**

Summary of 1st round email discussion is captured in [1].

* Option 1: Integer multiples of the min CBW for each SCS
  + 120 kHz: 100 MHz (min), **200 MHz**, 400 MHz (max)
  + 480 kHz: 400 MHz (min), **800 MHz, 1200 MHz,** 1600 MHz (max)
  + 960 kHz: 400 MHz (min), **800 MHz, 1200 MHz, 1600 MHz,** 2000 MHz (max)
* Option 2: Remove 1200 MHz from the Option 1
  + 120 kHz: 100 MHz (min), **200 MHz,** 400 MHz (max)
  + 480 kHz: 400 MHz (min), **800 MHz,** 1600 MHz (max)
  + 960 kHz: 400 MHz (min), **800 MHz, 1600 MHz,** 2000 MHz (max)
* Option 3: Replace 1200 MHz with 1000 MHz from the Option 1
  + 120 kHz: 100 MHz (min), **200 MHz,** 400 MHz (max)
  + 480 kHz: 400 MHz (min), **800 MHz, 1000 MHz,** 1600 MHz (max)
  + 960 kHz: 400 MHz (min), **800 MHz, 1000 MHz, 1600 MHz,** 2000 MHz (max)

During the 1st round discussion,

* 4 companies supported the Option 1 (ZTE, vivo, CMCC, Huawei)
  + 1 company was conditional upon removing 200 MHz for 120 kHz from the Option 1 (Ericsson)
* 11 companies supported the Option 2 (Nokia, MTK, Intel, Apple, Samsung, Xiaomi, Charter, LGE, CATT, OPPO, Huawei)

The only difference between the option 1 and 2 is 1200 MHz. A technical justification not to support 1200 MHz CBW from implementation efficient perspective was provided in [R4-2113159](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113159.zip). While the moderator proposes the tentative agreement to agree on the Option2, the proponents of the Option 1 are encouraged to provide justification to keep 1200 MHz CBW for 480/960 kHz SCS during the 2nd round discussion.

**Discussions:**

Apple: Why do we need 1200MHz?

CATT: if we consider spectrum efficiency, the efficiency is low. 1GHz is more reasonable if we need add one.

**Agreement:** For intermediate CBWs between min and max CBWs,

* Integer multiples of the min CBW for each SCS
  + 120 kHz: 100 MHz (min), 400 MHz (max)
  + 480 kHz: 400 MHz (min), **800 MHz,** 1600 MHz (max)
  + 960 kHz: 400 MHz (min), **800 MHz, 1600 MHz,** 2000 MHz (max)
* FFS whether 1200Mhz CBW is needed for 480KHz SCS and 960Khz SCS
* FFS whether 200MHz CBW is needed for 120KHz SCS

**#4 Optionality of the max CBWs**

Proposals: Optional support for the max CBWs. The following channels are optional:

* 120 kHz: 400 MHz
* 480 kHz: 1600 MHz
* 960 kHz: 2000 MHz

During the 1st round discussion,

* 10 companies commented the optionality is not necessary as 480/960 kHz SCS is already optional (Nokia, Ericsson, Intel, Xiaomi, ZTE, Charter, Sony, LTE, CMCC, Huawei)
* 2 companies commented optionality is for all SCS not for a specific channel bandwidth (vivo, OPPO)
* 1 company supported the original proposal (Apple)

As many companies pointed out, 480/960 kHz SCS are already optional, and another layer of optionality is unnecessary. The moderator suggests to support all CBWs if a specific SCS is being supported.

**Proposed agreement**

* *All CBWs for a specific SCS shall be supported if the SCS is supported.*

**Discussions:**

Apple: to support very large channel bandwidth, UE needs larger FFT and hardware. It would be good to have optionality for maximum CBWs. Even if UE supports 480 and 960KHz SCS, it is better to make max CBW optional. From implemetaion and time-to-market perspeictive, it is better to have such flexiblity for implementation.

Qualcomm: It is good point to give the flexilbity to vendors for implementaion. Support the optionality of max channel bandwidth.

ZTE: if 480Khz is supported by UE and the maximum CBW is 1600MHz, then which channel bandwidth is mandated for UE. If we can support the bandwidth as large bandwidth as possible, it would be to reduce network burden and RRC signaling.

Nokia: We should discuss different SCS separately.

* Postpone the discussion until RAN4 discusses the capability.

**#5 Intra-band Contiguous Carrier Aggregation within 2 GHz**

Summary of 1st round email discussion is captured in [1].

* Option 1: Fixed combination (Nokia, MTK, Charter)
  + n x 400 MHz, n = [2, 3, 4, 5]
  + m x 100 MHz for 120 kHz SCS, m is FFS
* Option 2: Normal CA operation (Ericsson, Apple, Samsung, Xiaomi, ZTE, CATT, vivo, OPPO, CMCC, Huawei)

While there are already limited sets of CBWs for FR2-2, the Option 1 further simplifies implementation complexity. Major concern on the Option 2 is potentially growing the permutation of channel bandwidth combinations for CA.

While majority view (10 companies) is the Option 2 (normal CA operation), the moderator thinks it is useful discussion how to minimize the growing permutation concern” with the Option 2. The interested companies are encouraged to provide their view, if any, during the 2nd round discussion. The moderator expects RAN4 would need more discussion in Nov. meeting.

**Proposed WF on Intra-band Contiguous CA within 2 GHz**

* *Interested companies are encouraged to provide their view, if any, on how to minimize ”growing CA permutations”.*

**Discussions:**

Huawei: the lower number of channel bandwidth we keep, the more growing CA permutation.

**#7 Max CBW with 960 kHz SCS**

During the 1st round discussion, a consensus had been reached in RAN4.

**Agreement**

* 2 GHz as the maximum CBW with 960 kHz SCS for both licensed and unlicensed bands.

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114986 | WF on work split in general parts of 60 GHz spec | Huawei | Approved |  |
| R4-2114987 | Reply LS on the maximum/minimum channel bandwidth and channelization for NR operation in 52.6 to 71 GHz | Ericsson | Approved |  |
| R4-2114988 | WF on [137] NR\_ext\_to\_71GHz\_Part1 | Intel | Approved |  |

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[**R4-2112993**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112993.zip) **Discussion on the intermediate and maximum channel bandwidths for B52.6G**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2113652**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113652.zip) **DRAFT CR to TS 38.101-1 Introducing extension of FR2 to cover up to 71GHz**

*Type: draftCR For: Endorsement  
 38.101-1 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Adding new FR2 definition into specification

**Decision: Not pursued.**

[**R4-2113653**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113653.zip) **DRAFT CR to TS 38.101-2 Introducing extension of FR2 to cover up to 71GHz**

*Type: draftCR For: Endorsement  
 38.101-2 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Adding new FR2 definition into specification

**Decision: Not pursued.**

[**R4-2113654**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113654.zip) **DRAFT CR to TS 38.104 Introducing extension of FR2 to cover up to 71GHz**

*Type: draftCR For: Endorsement  
 38.104 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Adding new FR2 definition into specification

**Decision: Not pursued.**

[**R4-2113954**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113954.zip) **On 52.6 to 71 GHz maximum channel bandwidth for 960 kHz, draft LS to RAN1**

*Type: LS out For: Approval  
 to RAN1  
 Source: Ericsson*

**Abstract:**

draft LS to RAN1 on maximum channel bandwidth for 960 kHz SCS

**Decision: Noted.**

[**R4-2114411**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114411.zip) **On implementation of FR2 frequency sub-ranges (FR2-1 and FR2-2) in core specifications**

*Type: discussion For: Discussion  
 Source: Huawei*

**Abstract:**

In this contribution, we provide furhter updated and analyses related to the implementation of the FR2 extension with the two sub-ranges FR2-1 and FR2-2.

**Decision: Noted.**

[**R4-2114478**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114478.zip) **60GHz UE transient times and switching times**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

Discussion of UE switching times and transiet period

**Decision: Noted.**

#### 9.16.2 Band plans and regulatory requirements

[**R4-2111722**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111722.zip) **Introducing Upper 700 MHz Block A as a new stand-alone band for NB-IoT for Industrial IoT applications**

*Type: discussion For: Discussion  
 Source: Puloli*

**Abstract:**

Discussion of introducing Upper 700 MHz Block A as a new stand-alone band for NB-IoT. Specifically, the uplink band for this new band is 1 MHz, 787-788 MHz; the downlink band is 1 MHz, 757-768 MHz; the duplex spacing is 30 MHz.

**Decision:** The document was **revised to** [**R4-2112740**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112740.zip).

[**R4-2113686**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113686.zip) **Bandplan for a NR band in the range 52.6GHz – 71GHz**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

#### 9.16.3 System parameters (numerologies, rasters, CBW, etc)

[**R4-2111913**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111913.zip) **Discussion on the system parameters for 57-71 GHz**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

[**R4-2112134**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112134.zip) **System parameters for NR operation in 52.6GHz - 71GHz**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2112186**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112186.zip) **On system parameters for NR in 52.6GHz ~ 71GHz**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2112606**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112606.zip) **on channelization for licensed and un-licensed band**

*Type: discussion For: (not specified)  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2112865**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112865.zip) **View on system parameter for extending NR to 71GHz**

*Type: other For: Approval  
 Source: Samsung*

**Decision: Noted.**

[**R4-2112994**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112994.zip) **Discussion on system parameters for B52.6GHz**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2113159**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113159.zip) **On 60 GHz system parameters**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

[**R4-2113528**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113528.zip) **120kHz and 480kHz SSB raster for 52.6-71GHz band**

*Type: discussion For: Approval  
 Source: LG Electronics Finland*

**Abstract:**

SSB raster for 52.6-71GHz frequency range is discussed and a proposal for defining SS raster entries for 120kHz and 480kHz SSB is made.

**Decision: Noted.**

[**R4-2113550**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113550.zip) **Channelization open issues for 52.6-71GHz**

*Type: discussion For: Decision  
 Source: MediaTek (Chengdu) Inc.*

**Decision: Noted.**

[**R4-2113680**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113680.zip) **System parameters for a NR band in the range 52.6GHz – 71GHz**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2113921**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113921.zip) **Discussion on system parameters for 52.6-71GHz**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2113953**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113953.zip) **52.6-71 GHz System Parameters**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

The focus of this contribution is to provide analysis on impacts of the agree bandwidths on, channel raster and spectrum utilization selections.

**Decision: Noted.**

[**R4-2114479**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114479.zip) **60GHz Carrier aggregation**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

Discuss CCBWs for CA

**Decision: Noted.**

#### 9.16.4 UE RF requirements

**Email discussion summary of [100-e][138] NR\_ext\_to\_71GHz\_Part\_2, AI 9.16.4 – Phil Coan**

[**R4-2114738**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114738.zip) **Email discussion summary for [100-e][138] NR\_ext\_to\_71GHz\_Part\_2**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115038 (from R4-2114738).**

[**R4-2115038**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114738.zip) **Email discussion summary for [100-e][138] NR\_ext\_to\_71GHz\_Part\_2**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114989 WF on 60 GHz UE RF requirements**

*Type: other For: Approval  
 Source: Qualcomm*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114990 LS on 60 GHz time-related issues**

*Type: LS out For: Approval  
 Source: Apple*

**Abstract:**

This contribution provides the LS.

To: RAN\_1

Response to R4-2104451 which adds additional information to R4-2107985 LS sent last meeting

**Discussion:**

**Decision: Noted.**

**R4-2115085 WF on determining 60 GHz UE EIRP**

*Type: other For: Approval  
 Source: Qualcomm*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Noted.**

**GTW in 2nd round:**

**Issue 1-1.1: Power class framework**

**Discussions:**

Intel: we understand PC1 is FWA. Is the idea to move forward PC1, PC2 will be the same those for FR2-1. Those parameters would need modification for the new bands.

Qualcomm: the values can be changed.

MTK: what is leverage meaning?

**Agreement**:

* Reuse the framework of power class naming in FR2-1 (i.e., PC1 ~ PC5) same in FR2-2 unless there is issue and specify the corresponding MOP requirements (i.e., minimum peak EIRP, EIRP spherical coverage, maximum TRP and maximum peak EIRP) for the band to be defined in FR2-2.
  + Power class refers to MOP requirements for FR2-1. They are min peak EIRP, max peak EIRP, TRP, and spherical coverage. Adopt the wording in the tentative agreement.
  + REFSENS requirements can be defined for different power classes
  + FFS on the concrete requirements for each power class for different operating bands.
  + Retain the FR2-2 device types the same as those for FR2-1 in terms of power class

**Issue 1-1.2: Power class maximum output power parameters directivity**

**Agreement:** Focus primarily on antenna element numbers as they are related to directivity. Consider the possibility of use directivity as a factor in developing the spec as an alternative if it appears to be a more efficient way to come to a requirements agreement.

**Issue 1-1.3: Power class maximum output power PSD limit parameter**

**Discussions:**

Ericsson: we should define the requirements if there is regulation.

Chair: RAN4 requirements should reflect regulation. So RAN4 can define requirements corresponding to regulation as usual business.

**Issues 1-1.4 and 5: Power class antenna size assumption and Handheld UE minimum peak EIRP**

**Agreement:** Have further analysis on the UE EIPR requirements taking both antenna element number and PA performance

* Include multiple antenna element numbers
* Practical form factor should be considered in the analysis

**Issue 1-1.5.2: Handheld UE maximum output power limits (TRP and max EIRP)**

**Agreement:** for UE maximum output power limits, discuss RAN4 requirements considering the following regulatory requirements

* maximum peak EIRP requirement 43 dBm
* maximum average EIRP requirement 40 dBm
* Maximum TRP 27dBm
  + 27dBm is conductive power defined in US
* Other regional regulatory requirements are not precluded.

**Issue 1-1.5.3: Handheld UE CDF of coverage, i.e., spherical coverage**

**Agreement:** Check if the parameters in R4-1801202 could be reused for evaluation of CDF of coverage.

**Issue 1-1.6.1: Fixed UE minimum peak EIRP**

**Agreement:** To determine the fixed UE minimum peak EIRP, a way forward is needed to capture all the parameters for further evaluation.

* Qualcomm will provide the draft for both Fixed UE and vehicular UE

**Issue 1-7.1: 480 and 960 kHz ON/OFF OFF/ON transient period**

**Agreement:** Reuse FR2-1 5usec for all ON/OFF and OFF/ON for 480KHz and 960KHz SCS.

**Issue 1-7.2: 480 and 960 SCS ON/ON transient period**

**Discussions:**

Intel: four proposals are quite aligned.

Huawei: we agree 5us for 120KHz SCS. The transient capability comes from hardware rather than depending on SCS.

Apple: we have the same comment. We prefer to reuse the requirement of FR2-1.

Ericsson: Ericsson supports all the proposals. We would like to have shorter one to avoid too much uplink blanking. In the existing baseline, FR1 is different from this. We can use the same technique as for FR1 as capability.

Qualcomm: we agree with Huawei position. 5us is hardware implementation. 5us for SCS matches the capability of UE.

Mediatek: we have the same view as Huawei, Qualcomm.

Intel: it is for 480 and 960. We need a new design. Based on our analysis, there is significant degradation with 5us. We need keep the door open to further improvement.

**Issue 1-7.3: UE timing advance error**

**Discussions:**

Ericsson: add note in the summary that this requirement is denoted TA\_offset in TS 38.133, section 7.1 and N\_RX\_TX, N\_TX\_RX in TS 38.211, section 4.3.2. The issue 1-11.1 in section 1.22 would be related to UE timing advance error.

ZTE: the issue needs more input from RF session.

Chair: In RF session, we do not need discuss this particular requirements. The corresponding requirements can be discussed in RRM session and RF people will be involved if needed.

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114989 | WF on 60 GHz UE RF requirements | Qualcomm Inc | Approved |  |
| R4-2115085 | WF on determining 60 GHz UE EIRP | Qualcomm Inc | Noted | Not enough time to prepare and review. Will discuss next meeting. |
| R4-2114990 | LS on 60 GHz time-related issues | Apple | Noted | Not enough agreement on parameters |

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[**R4-2112370**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112370.zip) **Views on minimum peak EIRP and EIS requirements for 60 GHz**

*Type: discussion For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2112996**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112996.zip) **Discussion on beam switch scenarios and requirements**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

##### 9.16.4.1 TX requirements

[**R4-2112033**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112033.zip) **Views on UE antenna array size and link budget at 70 GHz**

*Type: discussion For: Discussion  
 Source: Murata Manufacturing Co Ltd.*

**Decision: Noted.**

[**R4-2112384**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112384.zip) **FR2 UL field data for NR 60GHz TPC consideration**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2112830**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112830.zip) **More on UE TX requirements for operations up to 71 GHz**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution we consider the UE power capability, unwanted emissions and spectrum utilization for operations in 57-71 GHz.

**Decision: Noted.**

[**R4-2112887**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112887.zip) **Views on UE Array and EIRP level at 60 GHz**

*Type: other For: Discussion  
 Source: Sony*

**Decision: Noted.**

[**R4-2112995**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112995.zip) **Discussion on power class requirements for B52.6GHz**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2113160**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113160.zip) **On 60 GHz UE Tx requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

[**R4-2113547**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113547.zip) **Discussion on Tx power class and UE types**

*Type: discussion For: Discussion  
 Source: LG Electronics Finland*

**Abstract:**

Document discusses on UE power class and UE types for FR2-2

**Decision: Noted.**

[**R4-2113687**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113687.zip) **On UE Tx RF aspects for a NR band in the range 52.6GHz – 71GHz**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2114480**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114480.zip) **60GHz UE TX**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

Discuss various UE TX requirements

**Decision: Noted.**

##### 9.16.4.2 RX requirements

[**R4-2113688**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113688.zip) **On UE Rx RF aspects for a NR band in the range 52.6GHz – 71GHz**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

#### 9.16.5 BS RF requirements

##### 9.16.5.1 TX requirements

##### 9.16.5.2 RX requirements

#### 9.16.6 Co-existence simulations

**Email discussion summary of [100-e][139] NR\_ext\_to\_71GHz\_Part\_3, AI 9.16.6 – Huiping Shan**

[**R4-2114739**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114739.zip) **Email discussion summary for [100-e][139] NR\_ext\_to\_71GHz\_Part\_3**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115039 (from R4-2114739).**

[**R4-2115039**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114739.zip) **Email discussion summary for [100-e][139] NR\_ext\_to\_71GHz\_Part\_3**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

After 1st round discussion, the following agreements were reached.

**Issue 1-1:  Synchronization assumption of indoor scenario**

**Agreement:** Synchronized TDD is assumed as TR 38.803

**Issue 1-2: UE EIRP limit assumption**

**Agreement:** Keep UE EIRP assumption in WF R4-2107915.

**Issue 1-4: BS antenna model parameter**

**Agreement:** Keep the current assumption in WF R4-2107915.

**R4-2114993 WF on co-existence simulation for NR\_ext\_to\_71GHz**

*Type: other For: Approval  
 Source: Qualcomm*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114993 | WF on co-existence simulation for NR\_ext\_to\_71GHz | Qualcomm | Approved |  |

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[**R4-2111914**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111914.zip) **Some co-existence simulation results for 57-71 GHz**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Revised to** [**R4-2114693**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114693.zip) **(from** [**R4-2111914**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111914.zip)**).**

[**R4-2114693**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114693.zip) **Some co-existence simulation results for 57-71 GHz**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2112020**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112020.zip) **Simulation results for NR DL coexistence study: indoor deployment at 60GHz**

*Type: discussion For: Discussion  
 Source: Korea Testing Laboratory*

**Decision: Revised to** [**R4-2114694**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114694.zip) **(from** [**R4-2112020**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112020.zip)**).**

[**R4-2114694**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114694.zip) **Simulation results for NR DL coexistence study: indoor deployment at 60GHz**

*Type: discussion For: Discussion  
 Source: Korea Testing Laboratory*

**Decision: Noted.**

[**R4-2112146**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112146.zip) **NR coexistence simulation results for 52.6-71 GHz**

*Type: other For: Discussion  
 Source: Qualcomm CDMA Technologies*

**Decision: Noted.**

[**R4-2112277**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112277.zip) **Proposals on coexistence simulation for extending current NR operation to 71 GHz**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This contribution provides some preliminary simulation results based on the proposed assumptions and parameters in the approved WF and provides some proposals on coexistence simulation for extending current NR operation to 71.

**Decision: Noted.**

[**R4-2112997**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112997.zip) **Initial simulation results for coexistence studies**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2113924**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113924.zip) **Initial coexistence simulation results for 52.6-71GHz**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

#### 9.16.7 RRM core requirements

##### 9.16.7.1 General and RRM requirements impacts

##### 9.16.7.2 Timing requirements

##### 9.16.7.3 Interruption requirements

##### 9.16.7.4 Active BWP switching delay requirements

##### 9.16.7.5 Measurement gap interruption requirements

#### 9.16.8 Others

**Refer to email discussion summary of [100-e][137] NR\_ext\_to\_71GHz\_Part\_1, AI 9.16.1, 9.16.2, 9.16.3, 9.16.8 –Jiwoo Kim**

[**R4-2114413**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114413.zip) **Release independence aspects for the FR2 extension up to 71 GHz**

*Type: discussion For: Discussion  
 Source: Huawei*

**Abstract:**

This contribution provides clarification on the applicabiltiy of the NR operating bands or features specific to the NR operation in FR2-2 range sub-range, as only applowed to be release-independent from Rel-17 onwards.

**Decision: Noted.**

### 9.17 Enhancements to Integrated Access and Backhaul (IAB) for NR

#### 9.17.1 General

#### 9.17.2 RF requirements

##### 9.17.2.1 Impact for Simultaneous operation of IAB child and parent links

##### 9.17.2.2 Impact for Timing enhancement

##### 9.17.2.3 Others

#### 9.17.3 RRM core requirements

#### 9.17.4 Others

### 9.18 NR coverage enhancements

#### 9.18.1 General

**Email discussion summary of [100-e][140] NR\_cov\_enh, AI 9.18 – Shan Yang**

[**R4-2114740**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114740.zip) **Email discussion summary for [100-e][140] NR\_cov\_enh**

*Type: other For: Information  
 Source: Moderator (China Telecom)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115040 (from R4-2114740).**

[**R4-2115040**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114740.zip) **Email discussion summary for [100-e][140] NR\_cov\_enh**

*Type: other For: Information  
 Source: Moderator (China Telecom)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2114991 Reply LS on PUCCH and PUSCH transmissions**

*Type: LS out For: Approval  
 Source: Qualcomm*

**Abstract:**

This contribution provides the WF.

to RAN1.

**Discussion:**

**Decision: Approved.**

**R4-2114992 WF on phase continuity and power consistency for PUCCH and PUSCH transmissions**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**GTW in 2nd round**

**Issue 1-1-1: Maximum length of un-scheduled gap, i.e., feasibility of 14 symbols or 1 ms for different SCSs for the un-scheduled gap**

*Summary of round 1 feedback:*

* + Option 2: 1ms for different SCS (ZTE, Nokia)
  + Option 3: 14 symbols for all SCS (HW, QC, MTK acceptable, CTC)
  + Option 4: Need further study (E///, Sony)

*Moderator’s observations:*

This is the 4th meeting to discuss this issue in RAN4, and RAN1 Rel-17 is scheduled to be completed in Dec.

If no agreement on the feasibility of 14 symbols or 1 ms in this RAN4 meeting, RAN1 will probably not include the corresponding scenarios in Rel-17.

Therefore, moderator recommends to make a decision in this meeting. Otherwise, we need to inform RAN1 that no consensus is reached on the feasibility of either 14 symbols or 1 ms.

**Discussions:**

Ericsson: Option 3 is with PA switching off. I am not sure if we are eager to agree with it. We do our simulation for phase continuity tolerance. We have other UE implementation to fulfil the potential tolerance requirement. We should wait and do not decide it in this meeting.

Qualcomm: Option 3 is OK for us. Having no gap is beneficial. What is the benefit for network to use?

Mediatek: we prefer as short as possible. We prefer no gap.

Sony: We agree to justify whether we need longer gap. The gap should be absolute value.

CTC: if going with Option 4, we prefer no further discussion. Then we can focus on complete the other issue.

Huawei: Option 3 comes from limitation of UE implementation.

ZTE: We can accept Option 3.

Huawei: we have already sent LS to RAN1 to indicate the un-scheduled gap is feasible.

CTC: the same comment.

Ericsson: in the previous LS we also said that there is open issue.

Mediatek: no feasibility of a gap length larger than 13 symbols.

CTC: we will continue working on power and phase continuity. We try to have some agreement to facilitate the work.

Mediatek: To Ericsson, we do not need link the discussions.

**Agreement:** Send LS to RAN1 to explain that the 13-symbol is the maximum length and that the 14-symbol or 1ms will not be discussed in RAN4 anymore for un-scheduled gap in Rel-17.

* To clarify work in RAN4, off-power requirement can be further discussed for up to 13 symbols.

**Issue 1-2-1: Non-zero gap with other uplink transmissions for the UE**

*Summary of round 1 feedback:*

* Proposals for scenario 1

*Scenario 1: if the other scheduled signals/channels during the non-zero gap have the same settings in antenna port, occupied PRBs and UL power than the repeated transmission signals/channels*

* + Guard period for scenario 1
    - Option 1: A guard period is needed (Sony, QC, OPPO)
      * QC: We can agree not to have the guard period for scenario 1 once we know more about the conditions for retaining the mentioned parameters, such as ensuring PUSCH/PUCCH part of repetitions and SRS has same PAPR and AVG power.
      * Sony: if RAN4 would conclude that retuning is not be needed, then the guard period can be skipped. Otherwise, the guard period would still be required.
    - Option 2: not needed (MTK, ZTE, E///, HW, Nokia)
* Proposals for scenario 2

*Scenario 2: If the other scheduled signals/channels during the non-zero gap have the different settings in antenna port, occupied PRBs or UL power than the repeated transmission signals/channels*

* + Option 1: A guard period is needed (Sony, QC, OPPO)
  + Option 2: Phase continuity and power consistency cannot be guaranteed (MTK, ZTE, Nokia, QC)
  + Option 3: Further investigation is needed (E///)

*Tentative agreements in round 1 summary:*

For scenario 2, no consensus is reached on the feasibility of maintaining phase continuity and power consistency across the PUSC/PUCCH transmissions.

*Recommendations for 2nd round:*

For scenario 1, further discuss whether the guard period is needed.

**Discussions:**

Ericsson: to require guard period, we should understand the purpose. We would like to understand more on the method.

Qualcomm: What is the specific question? Returning the phase needs some time.

Mediatek: we should limit the condition where phase is kept. If the transmission condition is not changed, that should be feasible. We need check the practical.

Sony: UE can always retune the device to proper phase. The period would be needed for UE to do it. We just needs to provide justification whether UE can keep continuity or not.

ZTE: if the PAPR and … are the same, do we need guard period?

Qualcomm: The signal characteristics of PUCCH is different from PUSCH. It is easy for UE that power is the same for PUSCH and PUCCH. But how can we do it? In real life, such condition cannot be met.

Mediatek: If understand Qualcomm correctly, maybe we conclude not to put any other channel in the gap.

ZTE: Regarding Qualcomm reply, that relies on network configuration. If Qualcomm think there is no much meaning for it….

Qualcomm: Support Mediatek that no other channel in the gap.

Ericsson: we should wait a little.

Huawei: PRB allocation could be different. Power per RE could be same between PUSCH and PUCCH.

**Agreement:**

* Scenario 2 is not considered.
* For scenario 1, there is no guard period on the condition that
  + Signals/channels with repetitions and other signals/channels in the gap have the same PAPR and AVG power, e.g., PUSCH/PUCCH part of repetitions and SRS has same PAPR and AVG power.
  + The same RPB location and RPB size for signals/channels with repetitions and other signals/channels in the gap
  + Signals/channels with repetitions and other signals/channels in the gap have the same settings in antenna port, occupied PRBs and UL power than the repeated transmission signals/channels
* Re-visit the above conclusions after RAN4 finalizes the phase continuity tolerance requirement.

Tentative agreement: Check with RAN1 the consequence if no other scheduled signals/channels should be put during the non-zero gap.

**Issue 1-3-1: For network commanded TA adjustment**

*Summary of round 1 feedback:*

* + Option 1: Network commanded TA adjustments should be avoided in between the PUSCH/PUCCH transmissions (MTK, ZTE, E///, HW, QC, IDC, CTC compromise, OPPO, Nokia/NSB)

*Tentative agreements in round 1 summary:*

**Discussions:**

Huawei/Qualcomm: do we need change to across or just ensure the adjacent slots.

Mediatek: After starting the first transmission and until the end of transmission?

Ericsson: the bundling time slot from the first transmission to the end of repetition.

**Agreement:** TA adjustments should be avoided across the PUSCH/PUCCH transmissions (i.e., from starting the first transmission until the end of repetition) for joint channel estimation.

**Issue 1-5-1: For joint channel estimation, is there a maximum duration during which UE is able to maintain power consistency and phase continuity under certain tolerance level?**

*Summary of round 1 feedback:*

* + Option 1: Yes (Nokia, China Telecom, ZTE, E///, HW, QC, IDC, MTK, Sony, OPPO)

*Tentative agreements in round 1 summary: Agree option 1*.

**Agreement:** For joint channel estimation, there is a maximum duration during which UE is able to maintain power consistency and phase continuity under certain tolerance level.

**Issue 1-5-2: If there is a maximum duration for joint channel estimation, how long is it?**

*Summary of round 1 feedback:*

* + Option 1: The maximum duration should depend on the interval where the UE does not make frequency adjustment, i.e., at least smaller than the configured SSB periodicity. (E///, Nokia/NSB, MTK)
    - HW: During connected mode, UE is not required to re-sync with SSB.
  + Option 2: Depends on JCE performance considering the phase tolerance and/or gNB frequency offset compensation accuracy during the duration even within a sync periodicity. (MTK, QC, HW, ZTE)
  + Option 3: Less than 32 slots (32 is the max number of repetitions agreed in RAN1) (CTC)

*Recommendations for 2nd round:*

Check if it is agreeable to send “option 1 + option 2” to RAN1, and further discuss the exact number in the next meeting.

**Discussions:**

Ericsson: option 3 does not provide any new information. We should focus on option 1 and option 2. For 32 slots, this may not be real answer.

Mediatek: we should first finalize on the phase tolerance.

**Conclusions after 2nd round**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** |
| R4-2114991 | Reply LS on PUCCH and PUSCH transmissions | Qualcomm | Approved |
| R4-2114992 | WF on phase continuity and power consistency for PUCCH and PUSCH transmissions | Huawei, HiSilicon | Approved |

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[**R4-2112230**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112230.zip) **RAN4 RF work plan for NR coverage enhancements WI**

*Type: Work Plan For: Approval  
 Source: China Telecom*

**Decision: Approved.**

[**R4-2114331**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114331.zip) **On definition of phase continuity**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on the phase continuity definition with the defined reference point

**Decision: Noted.**

[**R4-2114334**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114334.zip) **LS reply On maximum duration of phase continuity and power consistency for PUCCH and PUSCH repetition**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on the FFS aspects of phase continuity and also our view on the LS questions.

**Decision: Noted.**

#### 9.18.2 Phase continuity and power consistency for PUSCH and PUCCH repetition

[**R4-2111901**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111901.zip) **Discussion on phase continuity**

*Type: other For: Approval  
 Source: InterDigital Communications*

**Abstract:**

In this contribution we discuss the phase continuity issues in the context of the new questions asked by RAN1.

**Decision: Noted.**

[**R4-2112231**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112231.zip) **On phase continuity and power consistency for PUCCH and PUSCH repetition**

*Type: discussion For: Discussion  
 Source: China Telecom*

**Decision: Noted.**

[**R4-2112804**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112804.zip) **Phase continuity and power consistency for PUSCH and PUCCH repetition**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2112889**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112889.zip) **Views on phase continuity and power consistency for PUSCH and PUCCH repetition**

*Type: other For: Discussion  
 Source: Sony*

**Decision: Noted.**

[**R4-2113504**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113504.zip) **Further analysis on PUSCH/PUCCH repetition phase continuity**

*Type: discussion For: Decision  
 Source: MediaTek (Chengdu) Inc.*

**Decision: Noted.**

[**R4-2113925**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113925.zip) **Discussion on reply LS on NR coverage enhancement**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2113926**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113926.zip) **Discussion on phase discontinuity and power inconsistency tolerance across different repetitions**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2114332**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114332.zip) **Initial simulation results for phase tolerance for PUSCH repetition**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our initial simulation results together with the CFO and TA inaccuracy investigations.

**Decision: Noted.**

[**R4-2114496**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114496.zip) **on phase continuty for multiple transmissions**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114549**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114549.zip) **Simulation results fo the DMRS bundling**

*Type: discussion For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision: Withdrawn.**

#### 9.18.3 RF requirements

[**R4-2114333**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114333.zip) **RF impact on phase continuity and power consistency for PUCCH and PUSCH**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on the RF requirement aspect of phase continuity.

**Decision: Noted.**

[**R4-2114550**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114550.zip) **Requirements for phase continuity for transmission repetitions**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

### 9.19 Further enhancements on MIMO for NR

#### 9.19.1 General

**Email discussion summary of [100-e][141] NR\_feMIMO, AI 9.19.1, 9.19.2 –Taekhoon Kim**

[**R4-2114741**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114741.zip) **Email discussion summary for [100-e][141] NR\_feMIMO**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115041 (from R4-2114741).**

[**R4-2115041**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114741.zip) **Email discussion summary for [100-e][141] NR\_feMIMO**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114994 WF on FeMIMO impacts to RF requirements**

*Type: other For: Approval  
 Source: Samsung*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114994 | WF on FeMIMO impacts to RF requirements | Samsung | Approved |  |

#### 9.19.2 UE RF requirements

[**R4-2112971**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112971.zip) **RF requirements for further enhancements on MIMO**

*Type: discussion For: Approval  
 Source: Samsung*

**Decision: Noted.**

##### 9.19.2.1 Impact of multi-panel reception

[**R4-2111771**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111771.zip) **Multi-panel reception impact on Rx requirements**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2113016**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113016.zip) **Discussion on impact of multi-panel reception requirements**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2113035**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113035.zip) **Proposal on FR2 FeMIMO multi-panel reception requirement**

*Type: discussion For: Approval  
 Source: MediaTek Beijing Inc.*

**Abstract:**

Proposal: Additional reception requirement shall NOT be specified for multi-panel UE in Rel-17 FeMIMO WI.

**Decision: Noted.**

##### 9.19.2.2 Impact for MPE

[**R4-2111770**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111770.zip) **MPE mitigation techniques**

*Type: other For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2113017**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113017.zip) **Discussion on impact of MPE requirements**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

#### 9.19.3 RRM core requirements

##### 9.19.3.1 General and RRM requirements impacts

##### 9.19.3.2 Multi-beam operation enhancement

##### 9.19.3.3 Link recovery procedure for FR2 serving cells

### 9.20 Support of reduced capability NR devices

#### 9.20.1 General

**Email discussion summary of [100-e][142] NR\_RedCap, AI 9.20.1, 9.20.2 – Chunhui Zhang**

[**R4-2114742**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114742.zip) **Email discussion summary for [100-e][142] NR\_RedCap**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115042 (from R4-2114742).**

[**R4-2115042**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114742.zip) **Email discussion summary for [100-e][142] NR\_RedCap**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2114995 WF on RedCap REFSENS in FR1**

*Type: other For: Approval  
 Source: Sony*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2114996 Reply LS to Half-duplex FDD switching for RedCap UE**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Return to.**

**R4-2115096 WF on the RedCap RF**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**GTW in 2nd round:**

**Sub-topic 4-1: REFSENS for 1 RX RedCap UE**

Possible options discussed:

* Option 1: Reuse the constant gain adjustment of LTE Cat-1bis 2Rx to 1 Rx REFSENS [Apple]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Duplex Mode | 1Rx and 2Rx REFSENS difference (dB) | | | |
| 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| FDD | 2.5 | 3 | 3 | 3 |
| TDD | 2.5 | 2.5 | 2.5 | 2.5 |

* Option 2: Apply 2.5 dB for FD-FDD and TDD. [Sony, ZTE] Qualcomm for simplicity.
* Option 3: Apply 3 dB for FD-FDD and 2.5 dB for TDD [Xiaomi]
* Option 4: Constant 3dB gain relaxation [ Vivo, Huawei, Ericsson, OPPO]

Moderator recommendation [3]: *Down-selection from option 1, 2 and 4*

* Option 1: Reuse the constant gain adjustment of LTE Cat-1bis 2Rx to 1 Rx REFSENS [Nokia]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Duplex Mode | 1Rx and 2Rx REFSENS difference (dB) | | | |
| 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| FDD | 2.5 | 3 | 3 | 3 |
| TDD | 2.5 | 2.5 | 2.5 | 2.5 |

* Option 2: Apply 2.5 dB for FD-FDD and TDD. [Ericsson, Qualcomm, Sony]
* Option 4: Constant 3dB gain relaxation.

**Discussions:**

Ericsson: the constant relaxation is preferred. The factor that we take for RedCap should not be worse than LTE. We should use the similar approach for NR as for LTE.

ZTE: we agree with 2.5dB for all the bands. There is no Rx diversity gain. And there will be 0.5dB margin.

Apple: Support option 1 which is based on LTE requirements. We are also OK with option 3.

Qualcomm: I would like to change our opionion to option 1 or 3. Prefer option 3.

Xiaomi: Agree with Apple. For FDD, if we reduce to 1Rx, it also has insertion loss than TDD. We support 1 and 3.

Vivo: we share the similar view as Ericsson. We need be careful about the reuiqrements. Option 4 is our preference.

Sony: the RedCap should not be worse than MTC. Support option 2.

Xiaomi: Cat1bis, the relaxation is option 1. Cat1bis is without uplink limitation.

**Agreement:** For REFSENS of 1Rx, use the constant XdB gain relaxation based on 2Rx REFSENS

* FFS for X dB
  + 2.5dB for TDD
  + FFS for FDD
    - Option 1: 2.5dB
    - Option 2: 3dB

**Sub-topic 4-2: RX RedCap UE in HD-FDD mode**

Possible options discussed:

* Option 1: [Apple] Qualcomm
  + For all NR FDD bands, the 5MHz REFSENS requirements defined for full-duplex operation can be reused for half-duplex operation.
  + HD-FDD REFSENS for channel BW wider than 5 MHz can be calculated by REFSENS(5MHz) + 10log10(n x NRB/25), where NRB is the maximum transmission bandwidth configuration with n=1 for 15kHz SCS and n=2 for 30kHz SCS.
* Option 2: Relaxation of 0.8 dB of 2 RX REFSENS of NR FDD band[ ZTE]
* Option 3: Reuse the 2 RX REFSENS of NR FDD band [Xiaomi]
* Option 4: [Ericsson]
  + Consider the ΔIM modification in Table 1 for 2 RX antenna port REFSENS for RedCap UE operating in HD-FDD mode.
* Option 5: FFS [Vivo]

Moderator recommendation [3]: *Recommendations for 2nd round:*

*Issue 4-2-a: For the RedCap UE only support HD-FDD, should UE report* *HD-FDD capability to network (e.g in the case duplexer is replaced with switch?), if so, should RAN4 specify different REFSENS than FD-HDD?*

*Issue4-2-b: For the RedCap UE support both FD-HDD and HD-FDD, should UE report HD-FDD and FD-HDD capability to network (e.g in the case duplexer is kept?), if so, should RAN4 specify different REFSENS than FD-HDD?*

*Based on the outcome of discussion, the down selection could be from option 1, 2,3, 4*

**Discussions:**

Ericsson: the critical question is whether device should support both. According to WID, we are going to reduce the cost of device. It seems that supporting both modes are not qualified. If companies want to include that device, the update of WID is needed. There is an impact on RAN1 if device supports both. We should focus on device only supporting HD-FDD. And put FFS on UE supporting both FDD and HD-FDD.

Apple: in our view, choosing the duplexer and use filter for Tx switching. Using duplexer can make UE support both. If using single filter, there would be reduction of insertion loss. If UE supporting both FDD and HD-FDD, and if the test on FDD, the insertion loss is still there.

Huawei: the initial intention to introduce HD-FDD is to reduce the cost of UE. It can also be beneficial for REFSENS. If companies want to use the duplexer implementation, it is not aligned with our intention. If UE reports both mode, how can network can schedule?

Apple: does it imply UE supporting FDD is precluded from supporting HD-FDD.

Qualcomm: we share the same view as Apple. UE should have flexibility to operate with FDD and HD-FDD with single archeticture. Power saving.

Ericsson: We should not ignore the network impact with two capabilities. We are not sure if we understand it clearly from RAN1. We need further discuss this device. We can focus on HD-FDD single mode device.

Sony: we support Ericsson in this. We do not understand both HD-FDD and FDD. Whether it is UE choice or network choice. We should focus on one thing and further discussion on other aspects after we got clarify from RAN1.

Xiaomi: what is the benefit if UE supports both?

Apple: single architecture supports both FDD and HD-FDD would bring in the benefit. In the cell edge, for certain FDD band, UE need FDD to get better uplink performance. When supporting HD-FDD, there is no interference and you can get better DL performance.

Huawei: If HD-FDD can benefit REFSENS, Apple and Qualcomm proposes reusing. Is there any benefit?

Apple: we are talking about the benefit when UE is far from the gNB. It is not about 0.5 insertion loss. There is huge difference.

Ericsson: Apple focuses on cell benefit rather than UE benefit, which is far from the WID not from cost saving perspective.

Ericsson: HD-FDD only mode fits the WID. If companies are interested in dual mode device, it may have impact on RAN1.

**Agreement:** For RedCap requirements, focus on HD-FDD only mode

* FFS on dual mode, i.e., supporting both FDD and HD-FDD.

**Sub-topic 4-3: 1 RX RedCap UE in HD-FDD mode**

Possible options discussed:

* Option 1: Relaxation of 1.7 dB of 2 RX NR FDD band REFSENS[Sony, ZTE, Xiaomi, Ericsson]
* Option 2: [Ericsson]
  + Consider the ΔIM modification in Table 1 for 2 RX antenna port REFSENS for RedCap UE operating in HD-FDD mode.
  + Consider adjusting diversity gain from 3 dB additionally for 1 RX antenna port REFSENS for RedCap UE operating in HD-FDD mode.
* Option 3: FFS [Vivo] Qualcomm

Moderator recommendation [3]: *Down-selection from option 1, 2, 3, also possibly depend on the issue 4-1 and issue 4-2 if common scaling factor is agreed.*

Option 3: FFS (depending on outcome of Issue 4-2, Proposal 2)[Ericsson, Qualcomm, Sony]

**Agreement:** For Rx RedCap UE in HD-FDD mode, relaxation of Y dB of 2Rx NR FDD band REFSENS

* Y value should be less than 2.5dB.

**RedCap UE power class**

Tentative agreements:

1. PC3 should be specified for Redcap in FR1
2. No PC1 and PC1.5 for RedCap UE in FR1
3. PC2 for RedCap UE depending on operator request

**Agreement:**

* PC3 should be specified for Redcap in FR1
* No PC1 and PC1.5 for RedCap UE in FR1
* PC2 for RedCap UE depending on operator request

**Operating Bands:**

Tentative agreements: All the operating bands in FR1 can be supported by RedCap UE based on UE’s report.

**Discussion point:** All FDD bands should be supported by RedCap UE

**Discussions:**

Huawei: RedCap UE can support all the bands. There is no reason to limit the band.

Apple: there are a few FDD bands, so called flexible-duplex FDD band, which needs the CA architecture. Should we include those bands?

Ericsson: FDD bands do not include SUL and SDL. We have discussion below for SUL.

Apple: There are band n91~n94. Those come from combination of SUL and SDL band. The implementation is duplexer plus diplexer.

Huawei: Band n91~ n94 can be implemented by diplexer, which should not be precluded by RedCap UE. The reason to preclude the CA is that the bandwidth of RedCap is limited.

Mediatek: we agree with Huawei comments. UE can do the job with larger switching time and can support SUL band.

CMCC: we share the same view as Huawei that there is no reason to preclude any bands.

OPPO: tend to agree with CMCC and Huawei. Especially for SUL band, it is not precluded.

ZTE: in my view, if we say UE supports SUL band, it needs combine with other band.

**Conclusions after 2nd round**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** |
| R4-2114995 | WF on RedCap REFSENS in FR1 | Sony | Approved |
| R4-2115096 | WF on the RedCap RF | Ericsson | Approved |
| R4-2114996 | Reply LS to Half-duplex FDD switching for RedCap UE | Ericsson | Return to |
| R4-2114997 | CR on RedCap UE FR1-TX | Ericsson | Not Pursued |

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[**R4-2114339**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114339.zip) **WI work plan for RedCap for RF RAN4 work**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

WI work plan is updated

**Decision: Approved.**

#### 9.20.2 UE RF requirements

##### 9.20.2.1 Rx-Tx switching time for FR1 HD-FDD Type A device

[**R4-2111728**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111728.zip) **Type-A HD-FDD RedCap Transition Time and Power Savings**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Withdrawn.**

[**R4-2113406**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113406.zip) **Draft Reply LS on Half-duplex FDD switching time for RedCap UE**

*Type: LS out For: Approval  
 to R1  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2114073**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114073.zip) **Rx-Tx switching time for HD-FDD RedCap UE**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion on Rx-Tx switching time for HD-FDD RedCap UE

**Decision: Noted.**

[**R4-2114340**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114340.zip) **Reply LS on Half-duplex FDD switching for RedCap UE**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, the questions in by RAN1 is discussed and proposal of LS is followed.

**Decision: Noted.**

##### 9.20.2.2 Tx requirements for FR1

[**R4-2112984**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112984.zip) **Views on RedCap Tx requirements**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2113407**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113407.zip) **Discussion on SUL supporting for RedCap UE**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114074**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114074.zip) **RedCap UE Tx requirements for FR1**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discusses RedCap UE Tx requirements for FR1 and makes some proposals.

**Decision: Noted.**

[**R4-2114343**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114343.zip) **CR on RedCap UE FR1-TX**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR on general and Tx part for RedCap UE is introduced

**Decision: Revised to R4-2114997 (from R4-2114343).**

**[R4-2114997](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114343.zip) CR on RedCap UE FR1-TX**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

CR on general and Tx part for RedCap UE is introduced

**Decision: Return to.**

##### 9.20.2.3 Rx requirements for FR1

[**R4-2112385**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112385.zip) **RedCap UE REFSENS requirements**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

**Decision: Noted.**

[**R4-2112890**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112890.zip) **Considerations on RF receiver for RedCap FR1**

*Type: other For: Discussion  
 Source: Sony*

**Decision: Noted.**

[**R4-2112912**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112912.zip) **Discussion on RedCap UE requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2112985**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112985.zip) **Views on RedCap REFSENS requirements**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2113101**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113101.zip) **Rx requirements for FR1 Redcap UE**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2113408**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113408.zip) **Discussion on RF requirements for RedCap UE**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114075**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114075.zip) **RedCap UE Rx requirements for FR1**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discusses RedCap UE Rx requirements for FR1 and makes some proposals

**Decision: Noted.**

[**R4-2114341**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114341.zip) **RF impact analysis on R17 RedCap**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on the RF impact from these RedCap features.

**Decision: Noted.**

##### 9.20.2.4 Input on FR2 RedCap UE

[**R4-2112891**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112891.zip) **Considerations on RF architecture for RedCap FR2**

*Type: other For: Discussion  
 Source: Sony*

**Decision: Noted.**

[**R4-2113102**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113102.zip) **Discussion on FR2 Redcap UE**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2114076**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114076.zip) **Discussion on FR2 RedCap UE**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion on aspects related to FR2 RedCap UE

**Decision: Noted.**

[**R4-2114342**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114342.zip) **On FR2 R RedCap**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on FR2 RedCap UE.

**Decision: Noted.**

##### 9.20.2.5 Others

[**R4-2113973**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113973.zip) **SUL for RedCap**

*Type: discussion For: Decision  
 Source: MediaTek Inc.*

**Decision: Noted.**

#### 9.20.3 RRM core requirements

##### 9.20.3.1 General and RRM requirements impacts

##### 9.20.3.2 UE complexity reduction

##### 9.20.3.3 Extended DRX enhancements

##### 9.20.3.4 RRM measurement relaxations

### 9.21 Positioning enhancements for NR

#### 9.21.1 General

#### 9.21.2 RRM core requirements

##### 9.21.2.1 General and RRM requirements impacts

##### 9.21.2.2 UE Rx/Tx and/or gNB Rx/Tx timing delay mitigation

##### 9.21.2.3 Latency reduction of positioning measurement

##### 9.21.2.4 Measurement in RRC\_INACTIVE state

##### 9.21.2.5 Impact on existing UE positioning and RRM requirements

##### 9.21.2.6 Enhancements of A-GNSS positioning

### 9.22 Multi-Radio Dual-Connectivity enhancements

#### 9.22.1 General

#### 9.22.2 RRM core requirements

##### 9.22.2.1 General and RRM requirements impacts

##### 9.22.2.2 Efficient activation/de-activation mechanism for SCells

##### 9.22.2.3 Efficient activation/de-activation mechanism for one SCG

##### 9.22.2.4 Conditional PSCell change and addition

### 9.23 Enhanced IIoT and URLLC support

#### 9.23.1 General

#### 9.23.2 RRM core requirements

##### 9.23.2.1 General and RRM requirements impacts

##### 9.23.2.2 Propagation delay compensation enhancements

##### 9.23.2.3 Reference point for Te requirements

### 9.24 NR Sidelink Relay

#### 9.24.1 General and work plan

#### 9.24.2 RRM core requirements

## 10 Rel-17 Study Items for NR

### 10.1 Study on enhanced test methods for FR2 in NR

#### 10.1.1 General

#### 10.1.2 Test methodology for high DL power and low UL power test cases

#### 10.1.3 Polarization basis mismatch

#### 10.1.4 Test time reduction

#### 10.1.5 OTA test methods for UE RF, RRM and demodulation for 52.6~71GHz

#### 10.1.6 Others

### 10.2 Study on Efficient utilization of licensed spectrum that is not aligned with existing NR channel bandwidths

**Email discussion summary of [100-e][143] FS\_NR\_eff\_BW\_util, AI 10.2 – Esther Sienkiewicz**

[**R4-2114743**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114743.zip) **Email discussion summary for [100-e][143] FS\_NR\_eff\_BW\_util**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

Nokia: “The summary is missing Nokia’s comments to Sub-topic#2-2 and 2-3 tentative agreements:

* assumptions for Tx channel filter need to be provided as well, to indicate how many PRBs can be used for this method
* further wording changes are necessary (e.g. for “number of blanked RBs required to be specified”) since at this time we do not know the effectiveness of this method”

**Decision: Revised to R4-2115043 (from R4-2114743).**

[**R4-2115043**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114743.zip) **Email discussion summary for [100-e][143] FS\_NR\_eff\_BW\_util**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**GTW in 1st round:**

**Issue 3-1: Reconfiguring a wider UE dedicated BWP**

As reference for discussions below the actual carrier as described in TS 38.211 clause 4.4.5 and copied below:

* Proposals
  + Option 1: TS 38.211 Clause 4.4.5 implies the reconfiguration of a wider UE dedicated BWP to irregular BW. No RAN1/2 spec impact.
  + Option 2: TS 38.211 Clause 4.4.5 only allows for the reconfiguration of a smaller UE dedicated BWP to irregular BW. Reconfiguration to irregular BW which is larger than indicated in MIB/SIB1 during initial access has RAN1/2 spec impact.
  + Option 3: New UE capability and signalling is needed (and should be added) to support the interpretation/application of the reconfiguring of wide.
  + Option 4: Request RAN1 and RAN2 to check whether allowing BWP BW > CBW BW leads to any spec change.
  + Option 5: LS to be sent to RAN1/2 for clarification on all aspects indicated by all methods
* Recommended WF
  + TBA

**Discussion:**

Qualcomm: need of new signalling is quite obvious. Option 2 has big impact. Those options are not preclusive.

Intel: we are talking from network and for UE perspective. Not use if Ericsson is talking about from UE perspective.

Qualcomm: Overlapping channel bandwidth from UE perspective is also possible without combining them, like overlapping CA. Initially like combined channel bandwidth from network perspective.

Nokia: I have a feeling that we are discussing the same issue. We provide the evindence that there is no impact of RAN1.

ZTE: If we are talking about signalling issue, what is channel bandwidth here. Is it whole RF carrier or base band bandwidth for option 4? RF channel bandwidth is larger than channel bandwidth. Should we treat RF bandwidth and baseband bandwidth separately? We need common understanding on it.

Huawei: If we re-configure UE wide BWP, then we will have RAN1 and RAN2 impact. Not all the UE supports intraband NC CA. We need consider the case with new UE use legacy channel bandwidth.

Ericsson: We should differentiate the cases between single serving cell or two cells. UE only operates in the regular bandwidth. BS has irregular bandwidth. Regarding option 2 and Nokia proposal, that needs major changes in RAN1/2.

Intel: we are talking about all the existing UE has two RF chains. It combines somewhere. It is good to reuse the hardware. For changes, we see sub-topic 3-1. There is need of extension of BWP, which can be done as small impact. Change of SSB technology is a big thing.

ZTE: From RAN4 understanding, it is clear that UE reuse the same architecture.

**Agreement:** Send LS to RAN1 and RAN2, including the specific questions about the BWP configuration for solution of reconfiguring a wider UE dedicated BWP.

* Nokia will provide draft LS and we will come back on Thursday (August 19) GTW.

*Sub-topic description: Overlapping CA approach*

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

**Issue 3-2: PRB grid alignment**

* Proposals
  + Option 1: Overlapping CA approach needs to have PRB grids between overlapping CCs
  + Option 2: No PRB grids alignment is needed
  + Option 3: Define the number of overlapping RBs
  + Option 4: Alignment on the 900 kHz raster is required
* Recommended WF
  + TBA

Agreement:

* Overlapping CA approach needs to have PRB grid alignment between overlapping CCs
* FFS: Alignment on the 900 kHz raster is required.
  + 900KHz raster is applied to the case with 15Khz SCS.

*Sub-topic description: Overlapping from Network perspective*

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

**Issue 3-4: UE signalling**

* Proposals
  + Option 1: Current RAN1/2 specifications support this approach only new signalling is needed
  + Option 2: Current RAN1/2 specifications does not support this approach

*Moderator comment: Please further information for what would be required to enable the RAN1/2 specification in order to support this approach e.g. higher layer signalling is needed to indicate second BWP needed, if this Option is selected.*

* Recommended WF
  + TBA

**Discussion:**

Apple: where is Option 2 coming from.

Intel: for <10Mhz case.

Apple: staggering solution is not precluded.

Qualcomm: same understanding as Apple. It is possible to make it like two cells. There are different ways to address this and has already been supported.

**Issue 3-6: PRB grid alignment**

* Proposals
  + Option 1: Overlapping UE channel bandwidth approach needs to have PRB grids between 1st UE CBW and 2nd UE CBW
    - Option 1a: Define the number of overlapping RBs
    - Option 1b: Alignment on the 900 kHz raster is required
  + Option 2: No PRB grids alignment is needed
* Recommended WF
  + Capture agree approach in TR 38.844 Clause 6.2

**Agreement**: PRB grid alignment is needed for the solution of Overlapping from Network perspective.

**Conclusions after 1st round:**

**R4-2114751 LS on specification impact for methods on efficient utilization of licensed spectrum that is not aligned with existing NR channel bandwidths**

*Type: LS out For: Approval  
 Source: Nokia*

**Abstract:**

This contribution provides LS.

**Discussion:**

GTW on August 19, 2021

Receive some comments on wider CHBW that the questions are related to RAN4 only and there is no need to ask RAN2. For overlapping CA, the comments were received that the first sub-bullet is not needed since RAN4 had agreement and the third sub-bullet is not relevant since RAN4 only considers DL CA.

GTW on Agust 25, 2021

The revision is agreeable.

**Decision: Approved.**

**R4-2114998 WF on widerCBW approach**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**GTW on August 26, 2021**

For Tdoc R4-2112365 and revision 4999

Agreement:

* Clarify the numbers in table comes from companies’ contributions.
* The proponent clarify what the gNB transmit filter is assumed when deriving those numbers.

Moved from AI 10.2.2

[**R4-2112365**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112365.zip) **TP on using next larger channel bandwidth solution**

*Type: pCR For: Approval  
 38.844 v0.0.3 CR- rev Cat: (Rel-17)  
  
 Source: Apple, Skyworks Solutions Inc.*

**Decision: Revised to R4-2114999 (from R4-2112365).**

[**R4-2114999**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112365.zip) **TP on using next larger channel bandwidth solution**

*Type: pCR For: Approval  
 38.844 v0.0.3 CR- rev Cat: (Rel-17)  
  
 Source: Apple, Skyworks Solutions Inc.*

**Decision: Return to.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114998 | WF on widerCBW Approach | Ericsson | Approved |  |
| R4-2114999 | TP on using next larger channel bandwidth solution | Apple, Skyworks Solutions Inc., Ericsson | Return to |  |
| R4-2114751 | LS on specification impact for methods on efficient utilization of licensed spectrum that is not aligned with existing NR channel bandwidths | Nokia, Nokia Shanghai Bell | Approved |  |
| R4-2115000 | TP on overlapping UE channel bandwidths | Huawei, HiSilicon | Approved |  |
| R4-2115050 | TP to TR 38.844: Section 6.2 Overlapping UE Channel BWs | Ericsson, Apple | Approved |  |
| R4-2114367 | On the use of overlapping channel bandwidths from UE perspective | Nokia, Nokia Shanghai Bell | Noted |  |

#### 10.2.1 General and work plan

[**R4-2113948**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113948.zip) **draft TR 38.844 v0.0.4**

*Type: draft TR For: Approval  
 38.844 v0.0.3 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Updated with agreed TP from RAN4 #99bis-e

**Decision: Endorsed.**

#### 10.2.2 Evaluation of use of larger channel bandwidths than operator licensed bandwidth

[**R4-2111744**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111744.zip) **Discussion on the approach of using larger channel bandwidths**

*Type: discussion For: Discussion  
 Source: China Telecommunications*

**Decision: Noted.**

[**R4-2111815**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111815.zip) **Discussion on the approach of using larger channel bandwidths**

*Type: discussion For: Discussion  
 Source: China Telecommunications*

**Decision:** The document was **withdrawn**.

[**R4-2112327**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112327.zip) **Further discussion on immediate wider channel bandwidth**

*Type: discussion For: Discussion  
 Source: ZTE Wistron Telecom AB*

**Decision: Noted.**

[**R4-2113045**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113045.zip) **Evaluation for use of larger channel bandwidth**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2113161**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113161.zip) **Views on the next wider channel BW method**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

[**R4-2113657**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113657.zip) **TP to TR on immediate wider bandwidth**

*Type: pCR For: Approval  
 38.844 v0.0.4 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

TP to update the TR with input on the immediate wider BW method

**Decision: Noted.**

[**R4-2114004**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114004.zip) **Views on next wider channel bandwidth**

*Type: discussion For: Decision  
 Source: MediaTek (Chengdu) Inc.*

**Decision: Noted.**

[**R4-2114239**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114239.zip) **TP\_TR38.844 n85\_6\_MHz**

*Type: pCR For: Approval  
 38.844 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: T-Mobile USA*

**Decision: Approved.**

[**R4-2114240**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114240.zip) **6 MHz n85 with 5 MHz n12 Discussion**

*Type: discussion For: Approval  
 Source: T-Mobile USA*

**Decision: Noted.**

#### 10.2.3 Evaluation of use of overlapping UE channel bandwidths

[**R4-2111743**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111743.zip) **Discussion on the approach of using overlapping channel bandwidths**

*Type: discussion For: Discussion  
 Source: China Telecommunications*

**Decision: Noted.**

[**R4-2112190**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112190.zip) **Discussion on the approaches of overlapping channel bandwidths**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2112233**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112233.zip) **Open Issues for Overlapping UE Channel Bandwidths Schemes**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2112328**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112328.zip) **Further discussion on overlapping UE channel bandwidth**

*Type: discussion For: Discussion  
 Source: ZTE Wistron Telecom AB*

**Decision: Noted.**

[**R4-2113046**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113046.zip) **TP on overlapping UE channel bandwidths**

*Type: pCR For: Approval  
 38.844 v0.0.4 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2115000 (from R4-2113046).**

[**R4-2115000**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113046.zip) **TP on overlapping UE channel bandwidths**

*Type: pCR For: Approval  
 38.844 v0.0.4 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Approved.**

[**R4-2113162**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113162.zip) **Views on the Overlapping CBW from UE and Network perspective**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

[**R4-2113949**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113949.zip) **TP to TR 38.844: Section 6.2 Overlapping UE Channel BWs**

*Type: pCR For: Approval  
 38.844 v0.0.4 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

In this contribution, discussion and text proposal is presented on overlapping UE channel bandwidth approach.

**Decision: Revised to R4-2115050 (from R4-2113949).**

[**R4-2115050**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113949.zip) **TP to TR 38.844: Section 6.2 Overlapping UE Channel BWs**

*Type: pCR For: Approval  
 38.844 v0.0.4 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

In this contribution, discussion and text proposal is presented on overlapping UE channel bandwidth approach.

**Decision: Approved.**

[**R4-2114005**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114005.zip) **Views on overlapping carrier aggregation**

*Type: discussion For: Decision  
 Source: MediaTek (Chengdu) Inc.*

**Decision: Noted.**

[**R4-2114367**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114367.zip) **On the use of overlapping channel bandwidths from UE perspective**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

#### 10.2.4 Others

[**R4-2113950**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113950.zip) **TP to TR 38.844: Section 6.5 RAN1 and RAN2 Impacts**

*Type: pCR For: Approval  
 38.844 v0.0.4 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

In this contribution, a text proposal is presented to help capture the current understanding on RAN1 and RAN2 impacts for each approach which has been currently introduced into the TR.

**Decision: Noted.**

[**R4-2114006**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114006.zip) **Views on combined UE bandwidth**

*Type: discussion For: Decision  
 Source: MediaTek (Chengdu) Inc.*

**Decision: Noted.**

### 10.3 Study on band combination handling in RAN4

**Email discussion summary of [100-e][144] FS\_BC\_handling, AI 10.3 –Zhifeng Ma**

[**R4-2114744**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114744.zip) **Email discussion summary for [100-e][144] FS\_BC\_handling**

*Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115044 (from R4-2114744).**

[**R4-2115044**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114744.zip) **Email discussion summary for [100-e][144] FS\_BC\_handling**

*Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round**

**R4-2115051 TR 38.862 V030 Band combination handling**

*Type: draft TR For: Approval  
 38.862 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This contribution provides the TP.

**Discussion:**

**Decision: For email approval.**

**R4-2115054 TP on addition or removal of channel BW in existing BCS**

*Type: pCR For: Approval  
 38.862 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This contribution provides the TP.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2115051 | TR 38.862 V030 Band combination handling | ZTE Corporation | For email approval |  |
| R4-2115052 | TP on the rules of NE-DC with contiguous intra-band NR and LTE   carriers | Huawei, HiSilicon | Approved |  |
| R4-2115053 | TP on ULSUP notation | ZTE Corporation | Approved |  |
| R4-2115054 | TP on addition or removal of channel BW in existing BCS | Ericsson | Approved |  |
| R4-2115055 | TP to TR38.862: Guidelines on the band edge relaxation for MOP   for CA/DC band combination | ZTE Corporation | Approved |  |

#### 10.3.1 General and TR

[**R4-2112717**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112717.zip) **TR 38.862 V020 Band combination handling**

*Type: draft TR For: Approval  
 38.862 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This paper is to provide TR 38.862 V020 for band combination handling.

**Decision: Agreed.**

#### 10.3.2 How to introduce band combinations including TP format

[**R4-2112719**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112719.zip) **TP on rules of DC configuration table**

*Type: pCR For: Approval  
 38.862 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

In this proposal, we provides the rules of DC configuration table as a text proposal to the new TR

**Decision: Approved.**

#### 10.3.3 Rules and guidelines of specifying band combinations including notations of CA/DC combinations

[**R4-2112718**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112718.zip) **TP on ULSUP notation**

*Type: pCR For: Approval  
 38.862 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

In this text proposal, we add the notation of ULSUP to the TR.

**Decision: Revised to R4-2115053 (from R4-2112718).**

[**R4-2115053**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112718.zip) **TP on ULSUP notation**

*Type: pCR For: Approval  
 38.862 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

In this text proposal, we add the notation of ULSUP to the TR.

**Decision: Approved.**

[**R4-2112792**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112792.zip) **Statistical distribution of dTib values**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2113568**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113568.zip) **Discussion on addition or removal of channel BW’s (NBC changes) in existing BCS’s**

*Type: discussion For: Endorsement  
 Source: Ericsson*

**Abstract:**

Discussion on addition or removal of channel BW’s (NBC changes) in existing BCS’s

**Decision: Noted.**

#### 10.3.4 Improving RAN4 specification structures and reducing redundant contents

[**R4-2112437**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112437.zip) **Discussion on rules based approach and optimized tables of delta TIB and RIB**

*Type: discussion For: Approval  
 Source: Samsung*

**Decision: Noted.**

[**R4-2112720**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112720.zip) **TP on channel bandwidth for CA configuration table**

*Type: pCR For: Approval  
 38.862 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

In this proposal, we update the table of channel bandwidth for each NR band with the new template for CA configuration table.

**Decision: Approved.**

[**R4-2114238**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114238.zip) **TP for TR 38.862: WID realignment**

*Type: pCR For: Approval  
 38.862 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: T-Mobile USA, Ericsson, AT&T*

**Decision: Postponed.**

#### 10.3.5 Others

[**R4-2112176**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112176.zip) **TP on the rules of NE-DC with contiguous intra-band NR and LTE carriers**

*Type: pCR For: Approval  
 38.862 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Decision: Revised to R4-2115052 (from R4-2112176).**

[**R4-2115052**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112176.zip) **TP on the rules of NE-DC with contiguous intra-band NR and LTE carriers**

*Type: pCR For: Approval  
 38.862 v0.0.1 CR- rev Cat: (Rel-17)  
  
 Source: Huawei,HiSilicon*

**Decision: Approved.**

[**R4-2112436**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112436.zip) **Optimization to configurations table of inter-band EN-DC and NE-DC including FR2,inter-band EN-DC including FR1 and FR2, inter-band NR-DC between FR1 and FR2**

*Type: discussion For: Approval  
 Source: Samsung*

**Decision: Noted.**

[**R4-2112916**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112916.zip) **TP to TR38.862: Guidelines on the band edge relaxation for MOP for CA/DC band combination**

*Type: pCR For: Approval  
 38.862 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2115055 (from R4-2112916).**

**[R4-2115055](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112916.zip) TP to TR38.862: Guidelines on the band edge relaxation for MOP for CA/DC band combination**

*Type: pCR For: Approval  
 38.862 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

### 10.4 Study on extended 600MHz NR band

**Email discussion summary of [100-e][145] FS\_NR\_600MHz\_ext, AI 10.4 – Christian Bergljung**

[**R4-2114745**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114745.zip) **Email discussion summary for [100-e][145] FS\_NR\_600MHz\_ext**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115045 (from R4-2114745).**

[**R4-2115045**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114745.zip) **Email discussion summary for [100-e][145] FS\_NR\_600MHz\_ext**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**GTW in 1st round:**

* LS to AWG, two alternatives for conveying the study Conclusions after 1st round
  1. LS from RAN#93-e with an approved TR attached (should ideally be an ‘External TR’ to be included in an LS to an external group)
  2. LS to AWG-28 (6-14th September 2021) sent directly from RAN4#100-e but without the draft TR attached, this LS could also ask about a preferred band arrangement
  3. Proposal from moderator: Alt 2, combine the contents of two proposed draft LS submitted
     + Conclusions on the band options B1, B2 and B2a
     + Ask AWG for a preferred band arrangement
     + TR not attached since internal and draft (AWG can find the internal TR on the 3GPP site)

**Agreement:**

* LS to AWG-28 and CC RAN sent directly from RAN4#100-e with the contents and conclusions endorsed in TR by RAN4 on the band options B1, B2 and B2a.
* Spark will prepare draft LS based on companies’ input ([R4-2114394](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114394.zip)), and we will come back to it on Thursday (August 19) GTW if the draft is ready.

**Conclusions after 1st round:**

**R4-2114750 LS on the progress of the study item on extended 600MHz NR band**

*Type: other For: Information  
 Source: Spark*

**Abstract:**

This contribution provides the LS on the progress of SI to AWG.

**Discussion:**

**GTW on August 19**

**Agreement:** remove summary section.

**CTW on August 26**

**Agreement:** include the following sentence in LS

* Any updates on the regulatory requirements for the APT region in the frequency range of interest, possibly including information regulatory updates which could impact the 600MHz band plan in APT region, including but not limited to, DTV and RAS services, would be of interest to 3GPP for any possible further work on the APT 600 MHz arrangements by 3GPP

**Decision: Return to.**

**Conclusions after 2nd round.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2114750 | LS on the progress of the study item on extended 600MHz NR band | Spark NZ | Return to | To: AWG-28; Cc: RAN |
| R4-2111742 | Study on extended 600MHz NR band | Spark NZ (Rapporteur) | For email approval.  For v0.4.0 (e-mail approval recommended for checking implementation of agreed TPs and editorial corrections) | To be used for v0.4.0 |
| R4-2115056 | TP for 38.860: APT600 band specific aspects | Ericsson | Approved |  |
| R4-2115057 | TP to TR 38.860: coexistence with other services | ZTE Corporation | Approved |  |
| R4-2115058 | TP to TR 38.860 - Conclusion | Ericsson | Approved |  |
| R4-2115059 | TP for 38.860: Further B1 filter optimization | Qualcomm Incorporated | Return to |  |
| R4-2115060 | Proposals to conclude the APT600 study | Apple | Return to |  |
| R4-2115061 | TP to TR 38.860: editorial cleanup | Huawei | Approved |  |

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[**R4-2111721**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111721.zip) **Study on extended 600MHz NR band**

*Type: draft TR For: Approval  
 38.860 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Spark NZ Ltd*

**Abstract:**

During RAN4 99e meeting various texts to different sections of TR 38 860 were approved. This contribution presents a record of what was approved in the version 0.2 of TR 38 860 and requests that this version become version 0.3 and become base line for an

**Decision: Agreed.**

[**R4-2111742**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111742.zip) **Study on extended 600MHz NR band**

*Type: draft TR For: Approval  
 38.860 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Spark NZ Ltd*

**Abstract:**

During RAN 4 100 e meeting various TPs to TR 38 860 are expected.. This document aims to consolidate all agreed TPs into TR 38 860 and make this a v 1.0.0 and submit for plenary approval

**Decision:** The document was **for email approval**.

#### 10.4.1 General

[**R4-2114379**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114379.zip) **Proposals to conclude the APT600 study**

*Type: discussion For: Approval  
 Source: Apple*

**Decision: Revised to R4-2115060 (from R4-2114379).**

[**R4-2115060**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114379.zip) **Proposals to conclude the APT600 study**

*Type: discussion For: Approval  
 Source: Apple*

**Decision: Return to.**

[**R4-2114394**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114394.zip) **[Draft] LS on the progress of the study item on extended 600MHz NR band**

*Type: LS out For: Approval  
 to APT Wireless Group, cc TSG RAN  
 Source: Huawei, HiSilicon, Spark NZ Ltd*

**Abstract:**

In this contribution we provide LS to the APT Wireless Group, informing on the completion of the SI on extended 600MHz NR band for APT region. AWG is asked to provide feedback on the preferred band arrangement in 612 - 703 MHz frequency range, based on th

**Decision: Noted.**

#### 10.4.2 Coexistence study

[**R4-2113217**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113217.zip) **TP to TR 38.860: coexistence with other services**

*Type: pCR For: Approval  
 38.860 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2115057 (from R4-2113217).**

**[R4-2115057](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113217.zip) TP to TR 38.860: coexistence with other services**

*Type: pCR For: Approval  
 38.860 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

#### 10.4.3 Study on frequency arrangements (such as options B1 and B2)

[**R4-2112831**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112831.zip) **TP for 38.860: APT600 band specific aspects**

*Type: pCR For: Approval  
 38.860 v0.0.2 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This contribution contains a TP on APT 600 band specific issues for the frequency arrangements (e.g. use of multiple-FBI)

**Decision: Revised to R4-2115056 (from R4-2112831).**

[**R4-2115056**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112831.zip) **TP for 38.860: APT600 band specific aspects**

*Type: pCR For: Approval  
 38.860 v0.0.2 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This contribution contains a TP on APT 600 band specific issues for the frequency arrangements (e.g. use of multiple-FBI)

**Decision: Approved.**

[**R4-2113218**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113218.zip) **Discussion on frequency arrangement for APT 600 MHz**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2114224**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114224.zip) **TP for 38.860: Further B1 filter optimization**

*Type: pCR For: Approval  
 38.860 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Decision: Revised to R4-2115059 (from R4-2114224).**

**[R4-2115059](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114224.zip) TP for 38.860: Further B1 filter optimization**

*Type: pCR For: Approval  
 38.860 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Decision: Return to.**

#### 10.4.4 Others

[**R4-2113736**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113736.zip) **TP to TR 38.860 - Conclusion**

*Type: pCR For: Approval  
 38.860 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This TP to TR is proposing a conclusion for the SI on extented 600MHz NR band

**Decision: Revised to R4-2115058 (from R4-2113736).**

[**R4-2115058**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113736.zip) **TP to TR 38.860 - Conclusion**

*Type: pCR For: Approval  
 38.860 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This TP to TR is proposing a conclusion for the SI on extented 600MHz NR band

**Decision: Approved.**

[**R4-2114562**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114562.zip) **TP to TR 38.860: editorial cleanup**

*Type: pCR For: Approval  
 38.860 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei*

**Abstract:**

TR 38.860 was scanned for the issues which require corrections before the SI is closed. Several aspects were corrected, with couple of outstanding issues being identified. Additionally, editorial corrections were implemented to follow 3GPP drafting rules.

**Decision: Revised to R4-2115061 (from R4-2114562).**

**[R4-2115061](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114562.zip) TP to TR 38.860: editorial cleanup**

*Type: pCR For: Approval  
 38.860 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei*

**Abstract:**

TR 38.860 was scanned for the issues which require corrections before the SI is closed. Several aspects were corrected, with couple of outstanding issues being identified. Additionally, editorial corrections were implemented to follow 3GPP drafting rules.

**Decision: Approved.**

### 10.5 Study on high power UE (power class 2) for one NR FDD band

**Email discussion summary of [100-e][146] FS\_NR\_PC2\_UE\_FDD, AI 10.5 – Basaier Jialade**

[**R4-2114746**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114746.zip) **Email discussion summary for [100-e][146] FS\_NR\_PC2\_UE\_FDD**

*Type: other For: Information  
 Source: Moderator (China Unicom)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115046 (from R4-2114746).**

[**R4-2115046**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114746.zip) **Email discussion summary for [100-e][146] FS\_NR\_PC2\_UE\_FDD**

*Type: other For: Information  
 Source: Moderator (China Unicom)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**GTW in 1st round:**

**Issue 1-1: NR FDD duty cycle**

* Proposals：The optional UE capability for duty cycle is reported to the network.

Note 1: UE-implementation based method (P-MPR) is the baseline SAR solution, which covers the method that duty cycle is not reported but used by UE implementation.

Note 2: There is no restriction on network behaviours by introducing optional capability of duty cycle reporting.

* Recommended WF
  + To check whether duty cycle reporting as an optional capability can be introduced for FDD HPUE.

**Discussions:**

OPPO: in last meeting, we have agreement that how to handle duty cycle is up to UE implementation including where the window starts and the duration. BS cannot do anything even if UE reports capability. How can BS use the capability?

Apple: For clarification, what is the purpose of this open issue? Does it want to define the capability? The existing signalling applies for FR1 bands including TDD and FDD. The capability is already there. No need of new one.

Ericsson: Agree with conclusion in OPPO paper. It is not possible for BS to use the information. We raise general question for duty cycle capability. At least for single uplink TDD capability, the UL-DL configuration is fixed. There is slightly different for FDD comparing with TDD. No reason to repeat this.

Huawei: In our view, it is up to network implementation. BS can decide whether to do some limitation for power. The capability has been discussed for a long time. All existing HPUE WIs provide the duty cycle capability. If we can reuse the existing capability, it would be possible, but we need check the exact wording of the existing signalling.

CUC: It is up to BS to decide how to use and configure. The purpose to introduce duty cycle is that UE can meet the requirements even if the Tx power is high. But UE may need network help to use high power.

VIVO: support moderator view. The P-MPR range is unclear. The power backoff is 3dB. The capability is helpful. For start of window, we have the solution.

T-Mobile: with TDD, there is duty cycle. For TDD, it makes sense. For FDD, you put the constrain for scheduling for some case when UE has 1 PRB. If you have 2 PRB or more, having 50% duty cycle may not be helpful in terms of PSD. There is some corner case the capability is helpful.

CUC: We see the benefit due to nature of uplink traffic. Uplink traffic is not continuous rather burst. The transmission can be finalized in short time.

LGE: Support moderator proposal. Duty cycle capability is optional. Network can use the information.

Xiaomi: Agree with Apple. The similar duty cycle capability can be used. If duty cycle is reported, whether UE falls back is allowed or not.

ZTE: Support moderator view. In our view the duty cycle solution is the same as other HPUE topics.

Samsung: We echo OPPO view. UE implementation does not put constraint on network. But we can support moderator proposal.

OPPO: we are not against optional duty cycle capability. We just want to clarify how BS use it. In RAN5 testing, is it possible for RAN5 to test HPUE if UE does not report capability.

Ericsson: Supposing that network can count for duty cycle, from SAR perspective, the SAR level depends on actual UE transmission power. Network may artificially constrain the Tx power/scheduler even if the transmission power is not max, and there would be no SAR issue. What would be fallback behaviour? In testing in RAN5, we expect power class can be tested by using RMC which should not be 100%. It is different from TDD where we have UL-DL configuration. Network can decide whether to schedule flexible symbol in TDD case.

InterDigital: I agree with T-Mobile and Ericsson. SAR is measured per band. It is about antenna. Not only for Tx power class. This kind of capability is for per band. In FDD, it is very hard to use and make decision based on duty cycle. Usually scheduler has to have entire freedom to schedule only when P-MPR is reported. It depends on the sensor, implementation. P-MPR is calibrated. It is complicated use case for this capability.

VIVO: the difference between P-MPR and duty cycle is to help network be aligned with UE. For testing, if we have duty cycle capability, we think maximum duty cycle is applied otherwise we fall back.

Huawei: It is study item. Duty cycle reporting is not a new and discussed from Rel-15. We know that there is trade-off. The additional information would be helpful for network. To T-Mobile, the opportunity to schedule more PB is less likely. Ericsson’s comment is not only applied for this SI but also for other WI.

Ericsson: For TDD, single uplink, we have agreed the capability in past. It could be possibly used to schedule UE in flexible symbol when UL-DL configuration is fixed. For EN-DC, we have the same problem. Duty cycle takes two uplink into account. We have the same problem on ambiguity to decide the power.

Huawei: it is optional capability.

VIVO: we also have intra-band CA.

Chair: In order to close SI, we can consider the tentative conclusions for duty cycle capability for FDD HPUE, i.e., there is no consensus on duty cycle capability for FDD HPUE in SI, but it does not impact closing SI.

* Come back to check the progress on Friday GTW.

**Issue 1-2: Interference**

The following proposals are summarized based on inputs in this meeting.

Proposal 1: To capture the available MSD values in R4-2112911 and R4-2114695 into the TR 38.861 as a reference. Alignment of calculated and measurement results will be further discussed in the WI stage.

Proposal 2: Current analyses are based on existing RF components. Parameters of new components with higher power handling capability and larger rejection capability, if available, can be considered at WI stage.

* Recommended WF
  + TBA

**Discussions:**

Apple: we also need consider blocker and other factor for MSD. Not all the factors are considered in the evaluation.

Huawei: SI is just for n1 and n3. Based on our observation, it seems MSD is not a big issue for this band. We agree to capture the inputs in TR as starting point. We have measurement results. We wonder if the factors mentioned by Apple are considered for measurement results.

LGE: we consider noise level… which causes defesens. We can capture all the results in the TR. We should consider mixed impacts.

Skyworks: we agree with moderator proposal. As far as refesens level, we have used the delta-MSD method based on Tx noise level and islolation of 50dB. Tx noise level, PC2 refesens level for some band would be lower than the agreed level for PC3. When we do PC3, we have the same observation. For PC3, we use different MSD than agreed one. MSD may look high. We agree with Apple we do not consider impact on Tx chain. To LGE, the reported noise level can be used for other isolation value.

**Agreement:**

* Capture the inputs of MSD values from companies, and interpret the meaning behind values, if needed.
  + Capture all the factors which should be considered further when defining the requirements
* Identify the open issues to be addressed in follow-up work after closing SI.
* LGE will provide revised TP to capture all the inputs of MSD.

**Issue 1-3: SI Conclusion**

Comments can be made in the 1.3.2 CR/TP comments section, R4-2112427.

**Discussion:**

Ericsson: have concern on the duty cycle part in conclusion and need softening the wording.

Apple: need clarification on part related to simulation results. For some bands, the potential degradation on reference sensitivity would be high.

Chair: Remind that company also need to check TP capturing simulation results.

Huawei: for duty cycle, need more discussion.

Conclusions after 2nd round

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2115062 | TP for TR 38.861 Conclusion of SI for FDD HPUE | China Unicom | Approved |  |
| R4-2115063 | TP on Sensitivity analysis results and UE implementation for PC2 FDD band | LGE, ZTE, Skyworks | Approved |  |

This email is closed.

#### 10.5.1 General

[**R4-2112427**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112427.zip) **TP for TR 38.861 Conclusion of SI for FDD HPUE**

*Type: pCR For: Approval  
 38.861 v1.0.0 CR- rev Cat: (Rel-17)  
  
 Source: China Unicom*

**Decision: Revised to R4-2115062 (from R4-2112427).**

[**R4-2115062**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112427.zip) **TP for TR 38.861 Conclusion of SI for FDD HPUE**

*Type: pCR For: Approval  
 38.861 v1.0.0 CR- rev Cat: (Rel-17)  
  
 Source: China Unicom*

**Decision: Approved.**

[**R4-2112470**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112470.zip) **TR 38.861 v1.1.0 FS\_NR\_PC2\_UE\_FDD**

*Type: draft TR For: Approval  
 38.861 v1.1.0 CR- rev Cat: (Rel-17)  
  
 Source: China Unicom*

**Decision:** The document was **for email approval**.

[**R4-2113001**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113001.zip) **TP to TR38.861 Dynamic system level simulation results for FDD HPUE**

*Type: pCR For: Approval  
 38.861 v1.0.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo, Huawei, HiSilicon, ZTE Corporation*

**Decision: Approved.**

[**R4-2113025**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113025.zip) **Further system performance evaluation for FDD HPUE**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

#### 10.5.2 Duty cycle in FDD bands for SAR issue

[**R4-2112428**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112428.zip) **Discussion on duty cycle in FDD bands for SAR issue**

*Type: discussion For: Approval  
 Source: China Unicom*

**Decision: Noted.**

[**R4-2112999**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112999.zip) **Discussion on UE capability for SAR scheme of FDD HPUE**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2113301**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113301.zip) **Discussion on HP UE for FDD bands**

*Type: discussion For: Approval  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2113905**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113905.zip) **R17 FDD HPUE**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

#### 10.5.3 Analyses on receiver sensitivity degradation

[**R4-2112834**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112834.zip) **TP on Sensitivity analysis results and UE implementation for PC2 FDD band**

*Type: pCR For: Approval  
 38.861 v1.0.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics Inc.*

**Abstract:**

In this contribution, we provide Text proposals to capture the expected sensitivity degradation in n1/n3 by high power transmission and wide CBW in n3. Also, we provide current RF component characteristics and parameters for PA and Duplexer in FDD band.

**Decision: Revised to R4-2115063 (from R4-2112834).**

[**R4-2115063**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112834.zip) **TP on Sensitivity analysis results and UE implementation for PC2 FDD band**

*Type: pCR For: Approval  
 38.861 v1.0.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics Inc.*

**Abstract:**

In this contribution, we provide Text proposals to capture the expected sensitivity degradation in n1/n3 by high power transmission and wide CBW in n3. Also, we provide current RF component characteristics and parameters for PA and Duplexer in FDD band.

**Decision: Approved.**

[**R4-2112911**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112911.zip) **Discussion on interference for HPUE FDD band**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2114580**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114580.zip) **n3 PC2 MSD**

*Type: discussion For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

This document presents preliminary and partial measurement results to evaluate n3 PC2 REFSENS.

**Decision: Revised to** [**R4-2114695**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114695.zip) **(from** [**R4-2114580**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114580.zip)**).**

[**R4-2114695**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114695.zip) **n3 PC2 MSD**

*Type: discussion For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

This document presents preliminary and partial measurement results to evaluate n3 PC2 REFSENS.

**Decision: Noted.**

### 10.6 Optimizations of pi/2 BPSK uplink power in NR

**Email discussion summary of [100-e][147] FS\_NR\_Opt\_pi2BPSK, AI 10.6 – Chan Fernando**

[**R4-2114747**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114747.zip) **Email discussion summary for [100-e][147] FS\_NR\_Opt\_pi2BPSK**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115047 (from R4-2114747).**

[**R4-2115047**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114747.zip) **Email discussion summary for [100-e][147] FS\_NR\_Opt\_pi2BPSK**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2115064 WF on optimization of Pi/2 BPSK UL power in NR and agreements**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**R4-2115066 Considerations for pi/2 BPSK with spectrum shaping study**

*Type: discussion For: Discussion  
 Source: IITH, CEWiT, Reliance Jio, IITM, Tejas Networks*

**Abstract:**

**Discussion:**

**Decision: Noted.**

**Conclusions after the 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2115064 | WF on optimization of Pi/2 BPSK UL power in NR and agreements | Nokia | Approved |  |
| R4-2115065 | TR skeleton on optimization of pi/2 BPSK uplink power in NR - Revised | Qualcomm | Agreed |  |

#### 10.6.1 General and work plan

[**R4-2112286**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112286.zip) **TR skeleton for SI on optimizations of pi\_2 BPSK uplink power**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Update TR for ‘Optimizations of pi/2 BPSK uplink power in NR’ is presented

**Decision: Revised to R4-2115065 (from R4-2112286).**

**[R4-2115065](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112286.zip) TR skeleton for SI on optimizations of pi\_2 BPSK uplink power**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Update TR for ‘Optimizations of pi/2 BPSK uplink power in NR’ is presented

**Decision: Agreed.**

#### 10.6.2 UE Tx power for pi/2 BPSK

[**R4-2112282**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112282.zip) **Pi/2 BPSK PC2 measurements**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Presents Pi/2 BPSK PC2 measurements

**Decision: Noted.**

[**R4-2112347**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112347.zip) **Considerations and simulation results for pi/2 BPSK**

*Type: discussion For: Decision  
 Source: Apple*

**Decision: Noted.**

[**R4-2112806**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112806.zip) **Transmitter performance for pi/2 BPSK with spectral shaping?**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2114517**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114517.zip) **On power enhancement for Pi/2 BPSK**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 10.6.3 SAR analysis

#### 10.6.4 Shaping filter characteristics

[**R4-2112807**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112807.zip) **Shaping filter characteristics including transmitter and link performance?**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2114518**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114518.zip) **Shaping filter characteristics for Pi/2 BPSK**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 10.6.5 Link simulation

[**R4-2112281**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112281.zip) **Pi/2 BPSK link level simulations**

*Type: discussion For: Discussion  
 38.101-1 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Presents link simulation results for filtered Pi/2 BPSK waveforms

**Decision: Noted.**

[**R4-2112805**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112805.zip) **Receiver performance for pi/2 BPSK with spectral shaping**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2114519**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114519.zip) **Link level evaluation for Pi/2 BPSK**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

### 10.7 Study on 5G NR UE Application Layer Data Throughput Performance

#### 10.7.1 General and work plan

#### 10.7.2 Test methodology

#### 10.7.3 Test parameters

## 11 Rel-17 Work Items for LTE

### 11.1 LTE inter-band Carrier Aggregation for 2 bands DL with 1 band UL

**Email discussion summary of [100-e][148] LTE\_Baskets, AI 11.1, 11.2, 11.3, 11.4, 11.5, 11.7 –Per Lindell**

[**R4-2114748**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114748.zip) **Email discussion summary for [100-e][148] LTE\_Baskets**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Noted.**

#### 11.1.1 Rapporteur Input (WID/TR/CR)

[**R4-2112238**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112238.zip) **Revised WID: Rel17 LTE inter-band CA for 2 bands DL with 1 band UL**

*Type: WID revised For: (not specified)  
 Source: Qualcomm Incorporated*

**Decision:** The document was **for email approval**.

[**R4-2112239**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112239.zip) **TR 36.717-02-01 Rel-17 LTE inter-band CA for 2 bands DL and 1 band UL CA**

*Type: draft TR For: (not specified)  
 36.717-02-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **for email approval**.

[**R4-2112240**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112240.zip) **Big CR to TS36.101: Rel-17 LTE inter-band CA for 2 bands DL and 1 band UL CA**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5800 rev Cat: B (Rel-17)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **for email approval**.

#### 11.1.2 UE RF with harmonic, close proximity and isolation issues

#### 11.1.3 UE RF without specific issues

[**R4-2112590**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112590.zip) **draft CR to TS 36.101 for LTE CA\_3A-8B, CA\_3A-3A-8B, CA\_7A-8B, CA\_7A-7A-8B**

*Type: draftCR For: Endorsement  
 36.101 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: CHTTL*

**Decision: Endorsed.**

[**R4-2112802**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112802.zip) **DraftCR 36.101: Addition of CA\_2C-28A**

*Type: draftCR For: Endorsement  
 36.101 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Telefonica*

**Decision: Revised to** **R4-2114756 (from R4-2112802).**

[**R4-2114756**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112802.zip) **DraftCR 36.101: Addition of CA\_2C-28A**

*Type: draftCR For: Endorsement  
 36.101 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Telefonica*

**Decision: Endorsed.**

[**R4-2112966**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112966.zip) **TP for TR 36.717-02-01: CA\_3A-3A-38A**

*Type: pCR For: Approval  
 36.717-02-01 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal for LTE CA band combination CA\_3A-3A-38A for TR 36.717-02-01. Only 1 UL is considered.

**Decision: Approved.**

[**R4-2112967**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112967.zip) **TP for TR 36.717-02-01: CA\_32A-38A**

*Type: pCR For: Approval  
 36.717-02-01 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal for LTE CA band combination CA\_32A-38A for TR 36.717-02-01.

**Decision: Approved.**

### 11.2 LTE inter-band Carrier Aggregation for 3 bands DL with 1 band UL

[**R4-2114538**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114538.zip) **Introduction of completed R17 3DL band combinations to TS 36.101**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5815 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

#### 11.2.1 Rapporteur Input (WID/TR/CR)

[**R4-2112004**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112004.zip) **TR 38.717-03-01 on Rel-17 NR inter-band Carrier Aggregation (CA) for 3 Down Link (DL) / 1 Up Link (UL) v.0.5.0**

*Type: draft TR For: Approval  
 38.717-03-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: CATT*

**Decision:** The document was **for email approval**.

[**R4-2112005**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112005.zip) **Revised WID on Rel-17 NR inter-band CA of 3DL bands and 1UL band**

*Type: WID revised For: Endorsement  
 Source: CATT*

**Decision:** The document was **for email approval**.

[**R4-2112006**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112006.zip) **CR on Introducing NR inter-band CA for 3DL Bands and 1UL band for 38.101-1**

*Type: CR For: Agreement  
 38.101-1 v17.2.0 CR-0884 rev Cat: B (Rel-17)  
  
 Source: CATT*

**Decision:** The document was **for email approval**.

[**R4-2112007**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112007.zip) **CR on Introducing NR inter-band CA for 3DL Bands and 1UL band for 38.101-3**

*Type: CR For: Agreement  
 38.101-3 v17.2.0 CR-0612 rev Cat: B (Rel-17)  
  
 Source: CATT*

**Decision:** The document was **for email approval**.

[**R4-2112008**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112008.zip) **TR 38.717-03-01 on Rel-17 NR inter-band Carrier Aggregation (CA) for 3 Down Link (DL) / 1 Up Link (UL) v.0.6.0**

*Type: draft TR For: Agreement  
 38.717-03-01 v0.6.0 CR- rev Cat: (Rel-17)  
  
 Source: CATT*

**Decision:** The document was **for email approval**.

[**R4-2114537**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114537.zip) **TR 36.717-03-01 0.4.0**

*Type: draft TR For: (not specified)  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

#### 11.2.2 UE RF with harmonic, close proximity and isolation issues

#### 11.2.3 UE RF without specific issues

[**R4-2112628**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112628.zip) **draft CR to TS 36.101 for LTE CA\_3A-7A-8B, CA\_3A-3A-7A-8B, CA\_3A-7A-7A-8B, CA\_3A-3A-7A-7A-8B**

*Type: draftCR For: Approval  
 36.101 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: CHTTL*

**Decision: Endorsed.**

[**R4-2113027**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113027.zip) **TP for TR 36.717-03-01: CA\_1A-3A-3A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-3A-38A for TR 36.717-03-01.

**Decision: Revised to** **R4-2114759 (from R4-2113027).**

[**R4-2114759**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113027.zip) **TP for TR 36.717-03-01: CA\_1A-3A-3A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-3A-38A for TR 36.717-03-01.

**Decision: Approved.**

[**R4-2113032**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113032.zip) **TP for TR 36.717-03-01: CA\_1A-28A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-28A-38A for TR 36.717-03-01.

**Decision: Revised to R4-2114760 (from R4-2113032).**

[**R4-2114760**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113032.zip) **TP for TR 36.717-03-01: CA\_1A-28A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-28A-38A for TR 36.717-03-01.

**Decision: Approved.**

[**R4-2113034**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113034.zip) **TP for TR 36.717-03-01: CA\_1A-32A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-32A-38A for TR 36.717-03-01.

**Decision: Revised to R4-2114761 (from R4-2113034).**

[**R4-2114761**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113034.zip) **TP for TR 36.717-03-01: CA\_1A-32A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-32A-38A for TR 36.717-03-01.

**Decision: Approved.**

[**R4-2113036**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113036.zip) **TP for TR 36.717-03-01: CA\_3A-3A-8A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-3A-8A-38A for TR 36.717-03-01.

**Decision: Revised to** **R4-2114762 (from R4-2113036).**

[**R4-2114762**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113036.zip) **TP for TR 36.717-03-01: CA\_3A-3A-8A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-3A-8A-38A for TR 36.717-03-01.

**Decision: Approved.**

[**R4-2113037**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113037.zip) **TP for TR 36.717-03-01: CA\_8A-32A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_8A-32A-38A for TR 36.717-03-01.

**Decision: Approved.**

[**R4-2113038**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113038.zip) **TP for TR 36.717-03-01: CA\_20A-28A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_20A-28A-38A for TR 36.717-03-01.

**Decision: Revised to R4-2114763 (from R4-2113038).**

[**R4-2114763**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113038.zip) **TP for TR 36.717-03-01: CA\_20A-28A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_20A-28A-38A for TR 36.717-03-01.

**Decision: Approved.**

[**R4-2113090**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113090.zip) **TP for TR 36.717-03-01: CA\_20A-32A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_20A-32A-38A for TR 36.717-03-01.

**Decision: Revised to R4-2114764 (from R4-2113090).**

**[R4-2114764](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113090.zip) TP for TR 36.717-03-01: CA\_20A-32A-38A**

*Type: pCR For: Approval  
 36.717-03-01 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_20A-32A-38A for TR 36.717-03-01.

**Decision: Approved.**

### 11.3 LTE inter-band Carrier Aggregation for x bands DL (x=4, 5) with 1 band UL

#### 11.3.1 Rapporteur Input (WID/TR/CR)

[**R4-2112782**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112782.zip) **Release independence aspect of 6-band LTE CA**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Approved.**

[**R4-2112783**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112783.zip) **CR Release independence aspect of 6-band LTE CA R14 CATB**

*Type: draftCR For: Endorsement  
 36.307 v14.10.0 CR- rev Cat: B (Rel-14)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Endorsed.**

[**R4-2112784**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112784.zip) **CR Release independence aspect of 6-band LTE CA R15 CATA**

*Type: draftCR For: Endorsement  
 36.307 v15.7.0 CR- rev Cat: A (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Endorsed.**

[**R4-2112785**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112785.zip) **CR Release independence aspect of 6-band LTE CA R16 CATA**

*Type: draftCR For: Endorsement  
 36.307 v16.3.0 CR- rev Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Endorsed.**

[**R4-2114060**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114060.zip) **Introduction of LTE inter-band Carrier Aggregation for x bands DL (x=4, 5) with 1 band UL to TS36.101**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5812 rev Cat: B (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **for email approval**.

[**R4-2114362**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114362.zip) **Revised WID: LTE Advanced inter-band CA Rel-17 for x bands DL (x=4, 5, 6) with 1 band UL**

*Type: WID revised For: Endorsement  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **for email approval**.

[**R4-2114363**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114363.zip) **TR 36.717-04-01 v0.6.0**

*Type: draft TR For: Approval  
 36.717-04-01 v0.6.0 CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **for email approval**.

[**R4-2114364**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114364.zip) **Updated scope of TR: LTE inter-band CA for 4/5/6 bands DL with 1 band UL**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Approved.**

#### 11.3.2 UE RF with 4 LTE bands CA

[**R4-2112926**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112926.zip) **TP for 36.717-04-01: CA\_1A-7A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Revised to** **R4-2114758 (from R4-2112926).**

[**R4-2114758**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112926.zip) **TP for 36.717-04-01: CA\_1A-7A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.4.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2113093**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113093.zip) **TP for TR 36.717-04-01: CA\_1A-3A-3A-8A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-3A-8A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114765 (from R4-2113093).**

[**R4-2114765**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113093.zip) **TP for TR 36.717-04-01: CA\_1A-3A-3A-8A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-3A-8A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113094**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113094.zip) **TP for TR 36.717-04-01: CA\_1A-3A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114766 (from R4-2113094).**

[**R4-2114766**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113094.zip) **TP for TR 36.717-04-01: CA\_1A-3A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113110**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113110.zip) **TP for TR 36.717-04-01: CA\_1A-7A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-20A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114767 (from R4-2113110).**

[**R4-2114767**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113110.zip) **TP for TR 36.717-04-01: CA\_1A-7A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-20A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113112**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113112.zip) **TP for TR 36.717-04-01: CA\_1A-7A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114768 (from R4-2113112).**

[**R4-2114768**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113112.zip) **TP for TR 36.717-04-01: CA\_1A-7A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113113**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113113.zip) **TP for TR 36.717-04-01: CA\_1A-7A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114769 (from R4-2113113).**

[**R4-2114769**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113113.zip) **TP for TR 36.717-04-01: CA\_1A-7A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113114**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113114.zip) **TP for TR 36.717-04-01: CA\_1A-8A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-8A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114770 (from R4-2113114).**

[**R4-2114770**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113114.zip) **TP for TR 36.717-04-01: CA\_1A-8A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-8A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113115**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113115.zip) **TP for TR 36.717-04-01: CA\_1A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-20A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114771 (from R4-2113115).**

[**R4-2114771**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113115.zip) **TP for TR 36.717-04-01: CA\_1A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-20A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113116**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113116.zip) **TP for TR 36.717-04-01: CA\_1A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-20A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114772 (from R4-2113116).**

[**R4-2114772**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113116.zip) **TP for TR 36.717-04-01: CA\_1A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-20A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113117**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113117.zip) **TP for TR 36.717-04-01: CA\_3A-7A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-7A-20A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114773 (from R4-2113117).**

[**R4-2114773**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113117.zip) **TP for TR 36.717-04-01: CA\_3A-7A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-7A-20A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113163**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113163.zip) **TP for TR 36.717-04-01: CA\_3A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-20A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114774 (from R4-2113163).**

[**R4-2114774**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113163.zip) **TP for TR 36.717-04-01: CA\_3A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-20A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113164**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113164.zip) **TP for TR 36.717-04-01: CA\_7A-8A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-8A-20A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114775 (from R4-2113164).**

[**R4-2114775**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113164.zip) **TP for TR 36.717-04-01: CA\_7A-8A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-8A-20A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113165**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113165.zip) **TP for TR 36.717-04-01: CA\_7A-8A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-8A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114776 (from R4-2113165).**

[**R4-2114776**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113165.zip) **TP for TR 36.717-04-01: CA\_7A-8A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-8A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113166**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113166.zip) **TP for TR 36.717-04-01: CA\_7A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-20A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114777 (from R4-2113166).**

[**R4-2114777**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113166.zip) **TP for TR 36.717-04-01: CA\_7A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-20A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113169**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113169.zip) **TP for TR 36.717-04-01: CA\_7A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-20A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114778 (from R4-2113169).**

[**R4-2114778**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113169.zip) **TP for TR 36.717-04-01: CA\_7A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-20A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113293**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113293.zip) **TP for TR 36.717-04-01: CA\_8A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_8A-20A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114779 (from R4-2113293).**

**[R4-2114779](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113293.zip) TP for TR 36.717-04-01: CA\_8A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_8A-20A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

#### 11.3.3 UE RF with 5 LTE bands CA

[**R4-2113295**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113295.zip) **TP for TR 36.717-04-01: CA\_1A-3A-7A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-7A-20A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114780 (from R4-2113295).**

[**R4-2114780**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113295.zip) **TP for TR 36.717-04-01: CA\_1A-3A-7A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-7A-20A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113308**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113308.zip) **TP for TR 36.717-04-01: CA\_1A-3A-7A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-7A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114781 (from R4-2113308).**

[**R4-2114781**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113308.zip) **TP for TR 36.717-04-01: CA\_1A-3A-7A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-7A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113309**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113309.zip) **TP for TR 36.717-04-01: CA\_1A-3A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-20A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114782 (from R4-2113309).**

[**R4-2114782**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113309.zip) **TP for TR 36.717-04-01: CA\_1A-3A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-20A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113319**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113319.zip) **TP for TR 36.717-04-01: CA\_1A-7A-8A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-8A-20A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114783 (from R4-2113319).**

[**R4-2114783**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113319.zip) **TP for TR 36.717-04-01: CA\_1A-7A-8A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-8A-20A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113320**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113320.zip) **TP for TR 36.717-04-01: CA\_1A-7A-8A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-8A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114784 (from R4-2113320).**

[**R4-2114784**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113320.zip) **TP for TR 36.717-04-01: CA\_1A-7A-8A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-8A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113321**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113321.zip) **TP for TR 36.717-04-01: CA\_1A-7A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-20A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114785 (from R4-2113321).**

[**R4-2114785**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113321.zip) **TP for TR 36.717-04-01: CA\_1A-7A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-20A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113322**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113322.zip) **TP for TR 36.717-04-01: CA\_1A-7A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-20A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114786 (from R4-2113322).**

[**R4-2114786**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113322.zip) **TP for TR 36.717-04-01: CA\_1A-7A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-20A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113323**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113323.zip) **TP for TR 36.717-04-01: CA\_1A-8A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-8A-20A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114787 (from R4-2113323).**

[**R4-2114787**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113323.zip) **TP for TR 36.717-04-01: CA\_1A-8A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-8A-20A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113338**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113338.zip) **TP for TR 36.717-04-01: CA\_3A-7A-8A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-7A-8A-20A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114788 (from R4-2113338).**

[**R4-2114788**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113338.zip) **TP for TR 36.717-04-01: CA\_3A-7A-8A-20A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-7A-8A-20A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113339**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113339.zip) **TP for TR 36.717-04-01: CA\_3A-7A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-7A-20A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114789 (from R4-2113339).**

[**R4-2114789**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113339.zip) **TP for TR 36.717-04-01: CA\_3A-7A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_3A-7A-20A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113340**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113340.zip) **TP for TR 36.717-04-01: CA\_7A-8A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-8A-20A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114790 (from R4-2113340).**

[**R4-2114790**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113340.zip) **TP for TR 36.717-04-01: CA\_7A-8A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_7A-8A-20A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113341**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113341.zip) **TP for TR 36.717-04-01: CA\_1A-3A-7A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-7A-20A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114791 (from R4-2113341).**

[**R4-2114791**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113341.zip) **TP for TR 36.717-04-01: CA\_1A-3A-7A-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-7A-20A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113342**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113342.zip) **TP for TR 36.717-04-01: CA\_1A-3A-7C-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-7C-20A-28A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114792 (from R4-2113342).**

[**R4-2114792**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113342.zip) **TP for TR 36.717-04-01: CA\_1A-3A-7C-20A-28A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-3A-7C-20A-28A-38A for TR 36.717-04-01.

**Decision: Approved.**

[**R4-2113343**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113343.zip) **TP for TR 36.717-04-01: CA\_1A-7A-8A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-8A-20A-32A-38A for TR 36.717-04-01.

**Decision: Revised to R4-2114793 (from R4-2113343).**

**[R4-2114793](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113343.zip) TP for TR 36.717-04-01: CA\_1A-7A-8A-20A-32A-38A**

*Type: pCR For: Approval  
 36.717-04-01 v0.5.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal on LTE CA band combination CA\_1A-7A-8A-20A-32A-38A for TR 36.717-04-01.

**Decision: Approved.**

### 11.4 LTE inter-band Carrier Aggregation for 2 bands DL with 2 band UL

#### 11.4.1 Rapporteur Input (WID/TR/CR)

[**R4-2114520**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114520.zip) **Introduction of completed LTE CA for 2 bands DL with 2 bands UL into Rel-17 TS 36.101**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5814 rev Cat: B (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

[**R4-2114521**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114521.zip) **Revised WID for LTE inter-band CA for 2 bands DL with 2 bands UL**

*Type: WID revised For: Endorsement  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

[**R4-2114522**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114522.zip) **TR 36.717-02-02 v0.2.0**

*Type: draft TR For: Endorsement  
 36.717-02-02 v0.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Agreed.**

#### 11.4.2 UE RF with harmonic, close proximity and isolation issues

#### 11.4.3 UE RF without specific issues

[**R4-2112973**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112973.zip) **TP for TR 36.717-02-02 to add UL configuration CA\_3A-38A for CA\_3A-38A**

*Type: pCR For: Approval  
 36.717-02-02 v0.1.0 CR- rev Cat: (Rel-17)  
  
 Source: VODAFONE Group Plc*

**Abstract:**

This contribution provides a text proposal for the LTE UL configuration CA\_3A-38A for CA\_3A-38A requested in RAN4#99-e.

**Decision: Approved.**

### 11.5 LTE inter-band Carrier Aggregation for x bands DL (x= 3, 4, 5) with 2 band UL

#### 11.5.1 Rapporteur Input (WID/TR/CR)

[**R4-2112711**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112711.zip) **TR 36.717-03-02 v0.5.0 TR update for LTE-A inter-band CA for x bands (x=3,4,5) DL with 2 bands UL in Rel-17**

*Type: draft TR For: Agreement  
 36.717-03-02 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

To update the each CA band combinations based on the approved TP.

**Decision:** The document was **for email approval**.

[**R4-2112713**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112713.zip) **Revised WID on LTE-A inter-band CA for x bands (x=3,4,5) DL with 2 bands UL in Rel-17**

*Type: WID revised For: Endorsement  
 Source: LG Electronics France*

**Abstract:**

Provide revised WID to update the each CA status and add new LTE-A CA band combinations in this meeting.

**Decision:** The document was **for email approval**.

[**R4-2112714**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112714.zip) **Introduction of LTE-A inter-band CA for x bands (x=3,4,5) DL with 2 bands UL to TS36.101**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5810 rev Cat: B (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

To introduce new LTE-A CA band combinations and related RF requirements for xDL/2UL CA.

**Decision:** The document was **for email approval**.

#### 11.5.2 UE RF with MSD

#### 11.5.3 UE RF without MSD

[**R4-2112712**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112712.zip) **TP on summary of self-interference analysis for new x bands (x=3,4,5) DL with 2 bands UL**

*Type: pCR For: Approval  
 36.717-03-02 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

To capture the self interference analysis results for x bands DL and 2 bands UL LTE-A CA (x=3,4,5)

**Decision: Revised to R4-2114755 (from R4-2112712).**

[**R4-2114755**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112712.zip) **TP on summary of self-interference analysis for new x bands (x=3,4,5) DL with 2 bands UL**

*Type: pCR For: Approval  
 36.717-03-02 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics France*

**Abstract:**

To capture the self interference analysis results for x bands DL and 2 bands UL LTE-A CA (x=3,4,5)

**Decision: Approved.**

[**R4-2112923**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112923.zip) **TP for 36.717-03-02: CA\_1A-7A-20A-38A**

*Type: pCR For: Approval  
 36.717-03-02 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2112924**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112924.zip) **TP for 36.717-03-02: CA\_1A-20A-38A**

*Type: pCR For: Approval  
 36.717-03-02 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2114757 (from R4-2112924).**

[**R4-2114757**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112924.zip) **TP for 36.717-03-02: CA\_1A-20A-38A**

*Type: pCR For: Approval  
 36.717-03-02 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

[**R4-2112925**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112925.zip) **TP for 36.717-03-02: CA\_3A-20A-38A**

*Type: pCR For: Approval  
 36.717-03-02 v0.3.0 CR- rev Cat: (Rel-17)  
  
 Source: ZTE Corporation*

**Decision: Approved.**

### 11.6 RRM for LTE CA basket WIs

#### 11.6.1 RRM Core (36.133)

#### 11.6.2 RRM Perf (36.133)

### 11.7 New WID on Additional LTE bands for UE category M1&M2 and/or NB1&NB2 in Rel-17

#### 11.7.1 Rapporteur Input (WID/TR/CR)

[**R4-2114347**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114347.zip) **Revised WID Additional LTE bands for UE category M1\_M2 \_NB1\_NB2 in Rel-17**

*Type: WID revised For: Endorsement  
 Source: Ericsson*

**Abstract:**

the WID is revised

**Decision: Endorsed.**

#### 11.7.2 RF

[**R4-2112315**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112315.zip) **CAT-M1/M2 Simulation Results for LTE band 24**

*Type: discussion For: Approval  
 Source: Ligado Networks*

**Decision: Approved.**

[**R4-2112317**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112317.zip) **CR for adding A-MPR for LTE Band 24 for UE categories M1 and M2**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5809 rev Cat: B (Rel-17)  
  
 Source: Ligado Networks*

**Decision: Postponed.**

[**R4-2114348**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114348.zip) **CR on adding B24 for Cat-M1\_M2 36.101**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5813 rev Cat: B (Rel-17)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M1/M2

**Decision: Revised to** **R4-2114870 (from R4-2114348).**

[**R4-2114870**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114348.zip) **CR on adding B24 for Cat-M1\_M2 36.101**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5813 rev Cat: B (Rel-17)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M1/M2

**Decision: Agreed.**

[**R4-2114349**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114349.zip) **CR on adding B24 for Cat-M1\_M2 36.133**

*Type: CR For: Agreement  
 36.133 v17.2.0 CR-7129 rev Cat: B (Rel-17)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M1/M2

**Decision: Agreed.**

[**R4-2114350**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114350.zip) **CR on adding B24 for Cat-M1 36.307\_13B**

*Type: CR For: Agreement  
 36.307 v13.13.0 CR-4450 rev Cat: B (Rel-13)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M1

**Decision: Agreed.**

[**R4-2114351**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114351.zip) **CR on adding B24 for Cat-M2 36.307\_14B**

*Type: CR For: Agreement  
 36.307 v14.10.0 CR-4451 rev Cat: B (Rel-14)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M2

**Decision: Agreed.**

[**R4-2114352**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114352.zip) **CR on adding B24 for Cat-M1 36.307\_14A**

*Type: CR For: Agreement  
 36.307 v14.10.0 CR-4452 rev Cat: A (Rel-14)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M1

**Decision: Agreed.**

[**R4-2114353**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114353.zip) **CR on adding B24 for Cat-M1 36.307\_15A**

*Type: CR For: Agreement  
 36.307 v15.7.0 CR-4453 rev Cat: A (Rel-15)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M1

**Decision: Agreed.**

[**R4-2114354**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114354.zip) **CR on adding B24 for Cat-M1 36.307\_16A**

*Type: CR For: Agreement  
 36.307 v16.3.0 CR-4454 rev Cat: A (Rel-16)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M1

**Decision: Agreed.**

[**R4-2114355**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114355.zip) **CR on adding B24 for Cat-M2 36.307\_15A**

*Type: CR For: Agreement  
 36.307 v15.7.0 CR-4455 rev Cat: A (Rel-15)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M2

**Decision: Agreed.**

[**R4-2114356**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114356.zip) **CR on adding B24 for Cat-M2 36.307\_16A**

*Type: CR For: Agreement  
 36.307 v16.3.0 CR-4456 rev Cat: A (Rel-16)  
  
 Source: Ericsson, Ligado Network*

**Abstract:**

B24 is added to support Cat-M2

**Decision: Agreed.**

[**R4-2114585**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114585.zip) **CR for adding MOP for LTE Band 24 for UE categories M1 and M2**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5816 rev Cat: B (Rel-17)  
  
 Source: Ligado Networks*

**Decision: Agreed.**

#### 11.7.3 Others

[**R4-2114357**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114357.zip) **initial simulation result for A-MPR for Cat-M1**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present initial simulation results for A-MPR for Cat-M1

**Decision: Withdrawn.**

### 11.8 Additional enhancements for NB-IoT and LTE-MTC

**Refer to email discussion summary of [100-e][123] LTE\_NR\_Other\_basket, AI 8.42, AI 11.8 – Jin Wang**

#### 11.8.1 General and work plan

[**R4-2114218**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114218.zip) **Work plan of Rel-17 enhancements for NB-IoT and LTE-MTC**

*Type: Work Plan For: Approval  
 Source: Huawei, Ericsson*

**Abstract:**

The work plan is updated owing to the changes in group meeting arrangements by RAN plenary.

**Decision: Approved.**

#### 11.8.2 Support of 16QAM in NB-IoT

##### 11.8.2.1 BS RF requirements

[**R4-2112280**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112280.zip) **Proposals on BS RF requirements for support of 16QAM in NB-IoT**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This contribution provides further proposals on BS RF requirements for the support of 16-QAM in NB-IoT unicast in UL and DL according to the approved WF at TSG RAN4#98-bis-e and the agreements in RAN1.

**Decision: Noted.**

[**R4-2114217**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114217.zip) **Further discussion on BS RF requirements for 16QAM NB-IoT Downlink**

*Type: discussion For: Agreement  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114345**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114345.zip) **BS RF impact analysis on R17 NB\_IoT**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on the BS RF impact on NB-IoT for this objective.

**Decision: Noted.**

##### 11.8.2.2 UE RF requirements

[**R4-2113620**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113620.zip) **MPR for NB-IoT 16-QAM with modified IBE**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2114002**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114002.zip) **CR on NB-IoT IBE mask to allow 16-QAM**

*Type: CR For: Agreement  
 36.101 v17.2.0 CR-5811 rev Cat: B (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

It is agreeable.

Wait for the Outcome of MPR and EVM discussions. Approve all UE RF requirements for 16QAM as one package.

**Decision: Return to.**

[**R4-2114216**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114216.zip) **Discussion on in-band emission requirements for 16QAM NB-IoT Uplink**

*Type: discussion For: Agreement  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2114346**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114346.zip) **UE RF impact analysis on R17 NB\_IoT**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on the UE RF impact on NB-IoT for this objective.

**Decision: Noted.**

#### 11.8.3 Support of power reduction for PRACH, PUCCH, and full-PRB PUSCH in MTC

##### 11.8.3.1 UE RF requirements

[**R4-2114344**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114344.zip) **RF impact analysis on Rel-17 eMTC WID**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

In this paper, we present our view on the RF impact for the Rel-17 eMTC.

**Decision: Noted.**

#### 11.8.4 RRM core requirements

##### 11.8.4.1 Neighbour cell measurement in RRC Connected state for NB-IoT

#### 11.8.5 Others

## 12 Liaison and output to other groups

**Email discussion summary of [100-e][149] NR\_reply\_LS\_UE\_RF, AI12 – Steven Chen**

[**R4-2114749**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114749.zip) **Email discussion summary for [100-e][149] NR\_reply\_LS\_UE\_RF**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Revised to R4-2115049 (from R4-2114749).**

[**R4-2115049**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114749.zip) **Email discussion summary for [100-e][149] NR\_reply\_LS\_UE\_RF**

*Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**

**Conclusions after 1st round:**

**R4-2115067 LS on Inclusive Language Review Status and Consistency Check**

*Type: LS out For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution provides the LS.

**Discussion:**

**Decision: Approved.**

**R4-2115068 Reply LS on FR2 requirement applicability over ETC**

*Type: LS out For: Approval  
 Source: VIVO*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Noted.**

**R4-2115069 Reply LS on FR2 UE relative power control tolerance requirements**

*Type: LS out For: Approval  
 Source: Qualcomm*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Withdrawn.**

**R4-2115070 Reply LS on Clarification on exception requirements for Intermodulation due to Dual uplink (IMD**

*Type: LS out For: Approval  
 Source: Xiaomi*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Withdrawn.**

**R4-2115081 WF on WF on FR2 power control for NR-DC**

*Type: other For: Approval  
 Source: OPPO*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Approved.**

**Conclusions after 2nd round**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Status** | **Comments** |
| R4-2115067 | LS on Inclusive Language Review Status and Consistency Check | Ericsson | Approved |  |
| R4-2115081 | WF on FR2 power control for NR-DC | OPPO | Approved |  |
| R4-2115068 | Reply LS on FR2 requirement applicability over ETC | vivo | Return to | The LS needs more time to become agreeable |
| R4-2115069 | Reply LS on FR2 UE relative power control tolerance requirements | Qualcomm | Withdrawn |  |
| R4-2115070 | Reply LS on Clarification on exception requirements for Intermodulation due to Dual uplink (IMD) | Xiaomi | Withdrawn |  |

### 12.1 R17 related

[**R4-2111912**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111912.zip) **On beam correspondence requirements and SDT**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

RAN1 has enquired about the beam correspondence functionality in context of the SDT feature. We provide our views on UE RF requirements for this type of feature

**Decision: Noted.**

[**R4-2112137**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112137.zip) **On beam correspondence with Small Data Transmission in Inactive State**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2112832**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112832.zip) **Draft Reply LS on Beam correspondence with Small Data Transmission in Inactive State**

*Type: LS out For: Approval  
 to RAN1  
 Source: Ericsson*

**Abstract:**

Draft LS to RAN1 on the introduction of additional beam-corresponding requirement covering SDT

**Decision: Noted.**

[**R4-2113908**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113908.zip) **R17 Discussion on FR2 power control for NR-DC**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2113927**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113927.zip) **Discussion on reply LS on Beam correspondence with Small Data Transmission in Inactive State**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2113974**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113974.zip) **Discussion and draft Reply LS on Beam correspondence with Small Data Transmission in Inactive State**

*Type: discussion For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2114057**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114057.zip) **UE beam correspondence requirements for RRC INACTIVE**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

[**R4-2114498**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114489.zip) **on beam correspondence requirement under inactive state for SDT and Reply LS**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

### 12.2 Others

[**R4-2111910**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111910.zip) **On FR2 requirement applicability over ETC**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

We discuss ETC applicability of core requirements to FR2 UE per TS38.101-2 V15.14 towards responding to the LS from RAN5 on the same subject

**Decision: Noted.**

[**R4-2111911**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111911.zip) **On FR2 UE relative power control tolerance requirements**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Abstract:**

We discuss FR2 UE relative power control tolerance requirements towards formulating a reply to RAN5 on this subject

**Decision: Noted.**

[**R4-2112915**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112915.zip) **Discussion on reply LS on Clarification on exception requirements for Intermodulation due to Dual uplink (IMD)**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2112983**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112983.zip) **Discussion and draft LS on applicability of RF requirements on extreme tempreture condition**

*Type: discussion For: Approval  
 Source: viv*

**Decision: Noted.**

[**R4-2113302**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113302.zip) **Reply LS on Clarification on exception requirements for Intermodulation due to Dual uplink (IMD)**

*Type: LS out For: Approval  
 to RAN5  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2113402**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113402.zip) **Discussion and draft Reply LS on exception requirements for Intermodulation due to Dual uplink (IMD)**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2113567**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113567.zip) **Discussion on requirements without MSD in 2UL IMD scenario**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on requirements without MSD in 2UL IMD scenario

**Decision: Noted.**

[**R4-2113658**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113658.zip) **Extreme temp conditions FR2 LS response**

*Type: LS out For: Approval  
 to 3GPP WG5  
 Source: Ericsson*

**Abstract:**

Response Ls on RAN5 incoming LS on Extreme temp conditions

**Decision: Noted.**

[**R4-2113659**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113659.zip) **Relative power control FR2 LS response**

*Type: LS out For: Approval  
 to 3GPP WG5  
 Source: Ericsson*

**Abstract:**

Response Ls on RAN5 incoming LS on relative power ctrl testability

**Decision: Noted.**

[**R4-2113888**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113888.zip) **R15 Reply LS on FR2 Extreme temperature conditions clarifications**

*Type: LS out For: Approval  
 to RAN5  
 Source: OPPO*

**Decision: Noted.**

[**R4-2113889**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113889.zip) **R15 Discussion on RAN5 LS of MSD exception requirements**

*Type: discussion For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2114393**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114393.zip) **Discussion and draft LS response on FR2 Extreme temperature conditions clarifications**

*Type: discussion For: Endorsement  
 Source: Keysight Technologies*

**Decision: Noted.**

[**R4-2114472**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114472.zip) **Inclusive Language Review Status and Consistency Check**

*Type: other For: Information  
 Source: Ericsson*

**Abstract:**

Ericsson was appointed by the RAN as coordinator across all groups for consistency checking of the inclusive language. The document is submitted also to RAN2 and RAN3 as guidance for all the spec rapporteurs.

**Decision: Noted.**

## 13 Revision of the Work Plan

### 13.1 R17 new proposals

#### 13.1.1 Spectrum related

[**R4-2112051**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112051.zip) **Motivation on addition of FR1 4 Bands for 2+4 band EN-DC**

*Type: discussion For: Discussion  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

[**R4-2113441**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113441.zip) **New Basket WID on specifying test configurations with MSD = 0 for EN-DC band combinations which have REFSENS exceptions due to IMD interference**

*Type: WID new For: Information  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**[R4-2113483](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113483.zip) Discussion on EN-DC 3DL/3UL LTE Inter-band 2CC with NR FR1 1CC**

*Type: discussion For: (not specified)  
 Source: SK Telecom, Telecom Italia*

**Abstract:**

This contribution discusses EN-DC 3DL/3UL requirements (LTE inter-band 2CC with NR FR1 1CC) to address UL performance enhancements.

**Decision:** The document was **not treated**.

**[R4-2112740](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112740.zip) Introducing Upper 700 MHz Block A as a new stand-alone band for NB-IoT for Industrial IoT applications**

*Type: discussion For: Discussion  
 Source: Puloli*

(Replaces [R4-2111722](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2111722.zip))

**Abstract:**

Liaison Letter for introducing Upper 700 MHz Block A as a new stand-alone band for NB-IoT. Specifically, the uplink band for this new band is 1 MHz, 787-788 MHz; the downlink band is 1 MHz, 757-768 MHz; the duplex spacing is 30 MHz.

**Decision:** The document was **revised to** [**R4-2114500**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114500.zip).

[**R4-2114500**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114500.zip) **Introducing Upper 700 MHz Block A as a new stand-alone band for NB-IoT for Industrial IoT applications**

*Type: discussion For: Discussion  
 Source: Puloli*

(Replaces [R4-2112740](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112740.zip))

**Abstract:**

Liaison Letter for introducing Upper 700 MHz Block A as a new stand-alone band for NB-IoT. Specifically, the uplink band for this new band is 1 MHz, 787-788 MHz; the downlink band is 1 MHz, 757-768 MHz; the duplex spacing is 30 MHz. This is a new WI propo

**Decision:** The document was **not treated**.

#### 13.1.2 Non-spectrum related

[**R4-2113449**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113449.zip) **New WID on further RRM enhancement in R18**

*Type: WID new For: Information  
 Source: CATT*

**Decision:** The document was **not treated**.

[**R4-2113452**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113452.zip) **New WID on NTN BS type 1-O**

*Type: WID new For: Information  
 Source: CATT*

**Decision:** The document was **not treated**.

[**R4-2113909**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113909.zip) **Motivation of 3Tx handheld UE**

*Type: discussion For: Information  
 Source: OPPO*

**Decision:** The document was **not treated**.

[**R4-2113910**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113910.zip) **New WID on 3Tx handheld UE for NR**

*Type: WID new For: Information  
 Source: OPPO*

**Decision:** The document was **not treated**.

### 13.2 Others

[**R4-2112133**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112133.zip) **Motivation paper for R18 RRM enhancement**

*Type: discussion For: Information  
 Source: Apple*

**Decision:** The document was **not treated**.

[**R4-2112143**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112143.zip) **Motivation on defining 8Rx performance requirements for NR**

*Type: discussion For: Information  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

[**R4-2112144**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112144.zip) **Motivation for supporting non-colocated scenarios for band 42 and n77/n78**

*Type: discussion For: Information  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

[**R4-2112844**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112844.zip) **Motivation for new WI on air-to-ground network for NR**

*Type: WID new For: Information  
 Source: CMCC*

**Decision:** The document was **not treated**.

[**R4-2112845**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112845.zip) **New WID on air-to-ground network for NR**

*Type: WID new For: Information  
 Source: CMCC*

**Decision:** The document was **not treated**.

[**R4-2112846**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112846.zip) **Motivation for new WID on Home Base Station for NR**

*Type: WID new For: Information  
 Source: CMCC*

**Decision:** The document was **not treated**.

[**R4-2112847**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112847.zip) **New WID on Home Base Station for NR**

*Type: WID new For: Information  
 Source: CMCC*

**Decision:** The document was **not treated**.

[**R4-2113008**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113008.zip) **Motivation paper for R18 UE RF enhancement**

*Type: other For: Information  
 Source: vivo*

**Decision:** The document was **not treated**.

[**R4-2113806**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113806.zip) **Motivation paper for NR UE advanced receiver**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2113807**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113807.zip) **draft WID for NR UE advanced receiver**

*Type: WID new For: Information  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2113851**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113851.zip) **[Draft] WID on FR2 RRM requirements evaluation**

*Type: WID new For: Information  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2113918**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113918.zip) **TP to TR 38.921: MR/LA BS UEM requirements**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2114318**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114318.zip) **Motivation for FR2 RRM requirement enhancement**

*Type: discussion For: Information  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2114488**](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114488.zip) **New WID of RF requirements further enhancement for NR frequency range 1 (FR1)**

*Type: WID new For: Information  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

## 14 Any other business

### 14.1 Celebration of RAN4#100 meeting

## 15 Close of the E-meeting

Report prepared by: MCC

## BACKUP

**R4-21AAAAA WF on**

*Type: other For: Approval  
 Source:*

**Abstract:**

This contribution provides the WF.

**Discussion:**

**Decision: Return to.**

**R4-21ABAAB Email discussion summary for [100-e][10x] x**

*Type: other For: Information  
 Source: Moderator (xxx)*

**Abstract:**

This contribution provides the summary of email discussion and recommended summary.

**Discussion:**

**Decision: Return to.**