**3GPP TSG-RAN WG4 Meeting #94-e R4-20xxxxx**

**Electronic Meeting, Feb.24th – Mar.6th 2020**

**Agenda item:** 9.2, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12 and 9.13.

**Source:** Moderator(Nokia)

**Title:** Email discussion summary for RAN4#94e\_#26\_NR\_Baskets\_Part\_2

**Document for:** Information

# Introduction

## Background and Scope

This email discussion is intended to handle the Tdocs submitted for agenda 9.2, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12 and 9.13. The list of Tdocs assigned for block approval have been shared via the reflector Feb. 18th and the deadline for flagging Tdocs for discussion have been set to 5pm UTC Feb. 21. Tdocs which are either flagged or submitted for agenda 9.2, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12 and 9.13 for discussion will be further discussed in this document.

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

* 1st round:
  + To resolve to agreeable revisions of Tdocs which have been flagged after the announcement of Tdocs for block approval.
  + To capture campaigns comments to discussion papers and if applicable agreeable proposals.
  + To resolve overlapping CRs with the intention to have a combined CR for which a new CR nr. can be issued by chair and approved.
  + To approve/endorse rapporteurs basket CRs and revised WIDs.
* 2nd round:
  + There will be no 2nd round email discussion for the basket agenda items as per chair guidelines.

Each of the agenda points 9.2, 9.7, 9.8, 9.9, 9.10, 9.11, 9.12 and 9.13 will have a separate section in this document. All submitted Tdocs for each agenda point will be listed including information on its status. All Tdocs which needs further discussion are assigned sub-topic and listed in the ‘Open issues summary’ subsection. TPs which are flagged for revision are not all assigned sub-topic in this document as they are to be resolved via reflector discussion as normal procedure. If needed the moderator can assign a sub-topic if further discussion is needed.

Companies who have comments to open discussions (sub-topics) are encouraged to capture this in sub-section ‘Companies views’ collection for 1st round’. As there will be no 2nd round for the basket agenda points there will be no approval of proposals or CRs if no imminent consensus can be achieved.

Tdocs assigned for block approval and not flagged before the deadline Friday 5pm UTC Feb. 21 is considered accepted for block approval. Tdocs which have been flagged but resolved without the need revision is also considered accepted for block approval. The list of Tdocs proceeding with block approval was shared via the draft inbox and announced via the reflector Friday 7pm UTC Feb. 21.

Tdocs which have been flagged and resolved by a revision is listed in this document for the purpose of assigning Tdoc numbers for the revisions.

This discussion document was first shared via the draft inbox and announced via the reflector Monday 7am UTC Feb. 24.

## Email discussion guidelines

In addition to following the RAN4#94 E-meeting Arrangements and Guidelines V1.1” of which some important passages are reproduced below, we would request the companies participating in RAN4#94e\_#26\_NR\_Baskets\_Part\_2, to follow the additional guidelines outlined here:

* Deadline for 1st round email discussion is **Thursday 5pm UTC, Feb. 27**.
* Emails sent and company views uploaded after the deadline will not be taken into account for the summary of the respective round.
* The preferred method of commenting is to add/update your company’s view directly in this email summary document (use change marks if appropriate) and upload it to the RAN4#94e\_#26\_NR\_Baskets\_Part\_2 draft folder, using a new revision counter.
  + Please account for possibly updated base document versions, before uploading your updates.
  + At the end of the file name, add your company identifier and the date. For example, “NOK\_2402” for Nokia updates on February, 24th.
  + Draft folder: <https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_94_e/Inbox/Drafts/%2326_NR_Baskets_Part_2>
  + Comments only received by email will merged into the summary document by the moderator on a best effort basis.
* If no company shows their concern on a particular issue until the deadline, the related contents will be considered stable.

In the shared draft of the “RAN4#94 E-meeting Arrangements and Guidelines V1.1”, available on the reflector and ultimately uploaded as [R4-2000001], the RAN4 Chair and Vicechairs have given the following guidance and the email discussion procedures and timeline:

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| * **Week before the E-meeting (Feb. 17 - 21)**   + Monday (Feb. 17): email discussion moderators will be announced by session chairs (aligned template will be provided and used)   + Tuesday – Friday (Feb. 18-21): moderators prepare summary materials for email discussion     - Moderators shall identify key open issues, summarize proposals and recommend topics/questions to be handled via email discussions * **E-meeting (Feb. 24 – Mar. 6)**    + Stage 0: Session chairs announce the set of email threads (no later than Monday 8am UTC, Feb. 24)   + Stage 1: Moderators trigger email discussion (Monday Feb. 24)   + Stage 2: Companies provide comments for the 1st round (Feb. 24 – Wednesday 5pm UTC Feb. 26)   + Stage 3: Moderators summarize the status and possible proposals, recommending what decisions can be made for 1st round. A formal t-doc will be used (Thursday 5pm UTC, Feb. 27)   + Stage 4: After receiving the summary from moderators, session chair may approve documents, make agreements or assign new CRs, WFs, LSs, etc. Then, session chair announces 2nd round discussion with tdoc status update (no later than Monday 8am UTC, March 2)   + Stage 5: Companies provide comments for 2nd round and moderators provide second round summary (Monday Mar. 2 – Thursday 5pm UTC Mar. 5)     - Note: Formal version of stable tdocs shall be uploaded to the Inbox (except Cat A CRs) before Stage 6   + Stage 6: Session Chair announces conclusions (no later than 5pm UTC, March 6) |

Furthermore, useful notes/tips on the email discussion were provided:

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| * Delegates are strongly encouraged to provide comments/concerns asap   + Silence within a reasonable timeframe means no objection * It is strongly encouraged that each company/delegate consolidate their comments/views and send them out in one email for each email thread * Each email thread needs to use a clear and consistent thread title for easy tracking (the title for each thread is to be announced)   + - * E.g., if not done appropriately, after a while an email thread may become something like:         + RE: xxxx         + RE: RE: xxxx         + 回复:RE: xxxx         + [External] RE: xxxx         + Etc.   which makes it very hard to track. PLEASE fix it to RE: xxxx! |

Please be also advised to follow the requests by MCC on the email reflector on the logistics of this e-meeting:

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| * It is important to refrain from sending attachments [on the reflector] because they slow down the delivery of emails and thereby, they have an adverse impact on the already ongoing e-meetings. Draft documents can be shared by creating subfolders to Inbox/Drafts folder. * there is now a facility on RAN4#94-e Inbox and Inbox/Drafts folders on the public server to allow you to upload your documents using a web browser\*.   + Open your browser and navigate to RAN4#94-e Inbox folder,   + <https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_94_e/Inbox>   + or Inbox/Drafts folder,   + <https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_94_e/Inbox/Drafts>   + Click the green button to log in using your EOL account. |

# Topic #1: 9.2 NR inter-band Carrier Aggregation/Dual Connectivity for 2 bands DL with x bands UL (x=1, 2)

## Companies’ contributions summary

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| **T-doc number** | **Company** | **Title / Proposals / Observations** | **Status / Notes** Assigned sub-topic / Flagged / Resolved  No comment = For block approval |
| R4-2000497 | ZTE Corporation | Rapporteurs CR to 38.101-1 | **Sub-topic 1-2** |
| R4-2000498 | ZTE Corporation | Rapporteurs CR to 38.101-3 | **Sub-topic 1-3** |
| R4-2000502 | ZTE Corporation | Rapporteurs revised WID | **Sub-topic 1-1**  Awaiting draft for review |
| [**R4-2000803**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000803.zip) | ZTE Wistron Telecom AB | Rapporteurs revised draft TR 38.716-02-00 v090 |  |
| [**R4-2000128**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000128.zip) | Verizon, Ericsson | Editorial correction of band n66 bandwidth |  |
| **[R4-2000143](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000143.zip)** | Dish Network | TP for TR38.716-02-00: Requirements for DL CA\_n29A-n70A, DL CA\_n29A-n66B, DL CA\_n29A-n66(2A) and for UL CA\_n66A-n71A, UL CA\_n70A-n71A | **Resolved – for revision**  Flagged by Huawei  1. For CA\_n66-n71 and CA\_n70-n71, the requirements of spurious emission for UE co-existence are missing. 2. In table 6.x.1.5-1, the REFSENS of band n66 is suitable for CA\_n66B and CA\_n66(2A). It's for single carrier instead of CA combos. 3. In table 6.4.1.5-1, the duplex mode for n71 is incorrect.  Flagged by ZTE  For CA UL CA\_n66A-n71A, UL CA\_n70A-n71A, please using TR template to capture the 2UL specific requirements, where a new subclause titled 'Specific for 2 bands UL CA' is needed. In addition, Protected bands for the 2UL bands CA configuration is missing. For CA\_n29-n70, by using the same approach of LTE, it is no need to put the n29 in delta T/R table since band n29 is SDL band.  Revision provided – reflagged by ZTE and Huawei  2nd revision provided – ZTE OK, Huawei OK |
| [**R4-2000181**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000181.zip) | Nokia, Nokia Shanghai Bell, BT plc | TP to TR 38.716-02-00: CA\_n28-n78 | Flagged by Huawei  1. The mark "\_" between n28 and n78 should be replaced by "-" in MSD table.  2. In table 6.37.2.1-1, 5MHz BW can't support 30kHz SCS for band n28.  **Flagged by ZTE**  In Table 6.37.2.3-1, the bandwidth class shall be added to CA Configuration, which is CA\_n28A\_n78A, CA\_n28A\_n78(2A)  **Revision provided -OK Huawei** |
| [**R4-2000183**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000183.zip) | Nokia, Nokia Shanghai Bell, T-Mobile USA | TP to TR 38.716-02-00: CA\_n41-n66 | **Resolved – for revision**  Flagged by MediaTek  MSD due to cross band isolation and its uplink configuration for n66, 40MHz was missing  Revision provided – OK MediaTek |
| [**R4-2000184**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000184.zip) | Nokia, Nokia Shanghai Bell, T-Mobile USA | TP to TR 38.716-02-00: CA\_n41-n71 | **Resolved – for revision**  Flagged by Huawei  1. The configuration of CA\_n41(2A)-n71B and CA\_n41C-n71B is incorrect in table 6.18.1.2-1.  Revision provided – OK Huawei |
| [**R4-2000189**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000189.zip) | Nokia, Nokia Shanghai Bell | TP to TR 38.716-02-00: Corrections to CA\_n5-n261 and CA\_n66-n261 | **Resolved – for revision**  Flagged by ZTE  The band n66 bandwidth is incoreectly implemented, the bandwidth shall be corrected to 40MHz from 60MHz for the band n66, please refer to the CR from Verizon (R4-2000128).  Revision provided – ZTE OK |
| [**R4-2000448**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000448.zip) | Xiaomi | CR to TS 38.101-1: Corrections on MSD tables for CA\_n20-n78 and CA\_n66-n78 |  |
| [**R4-2000478**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000478.zip) | ZTE Corporation | TP for TR 38.716-02-00: CA\_n3A-n38A | **Resolved – for revision**  Flagged by Huawei  1. In Table 6.x.1.1-1, duplex mode of n38 is incorrect.  Revision provided – OK for Huawei |
| [**R4-2000691**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000691.zip) | Verizon UK Ltd | TP for TR 38.716-02-00 CA\_n2A\_n66A | **Resolved – for revision – Document type should be changed to pCR**  Flagged by Huawei  1. In Table 6.x.1.3-2, frequency range of band n2 is incorrect.  Revision provided – Huawei OK |
| [**R4-2000692**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000692.zip) | Verizon UK Ltd | TP for TR 38.716-02-00 CA\_n5A\_n66A | **Resolved – for revision – Document type should be changed to pCR**  Flagged by Huawei  1. In subclause 6.x.1.4, the last sentence is incorrect. (The results are reused values from CA\_2\_66)  Flagged by ZTE  Two tyop2: 1. Two n5 in theTable 6.x.1.3-1 2. 'the results are mainly reused values from CA\_2\_66.' shall be 'the results are mainly reused values from CA\_5\_66', right?  Revision provided – reflagged by Huawei  I have to point out that the connection symbol is “-” instead of “\_” for NR\LTE CA between two bands.  2nd revision provided – Huawei OK |
| [**R4-2000831**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000831.zip) | Huawei, HiSilicon | TP for TR 38.716-02-00: CA\_n2-n78 | **Resolved – for revision**  Flagged by ZTE  1. CA\_n2-n78 shall be added to the note 1 of table 6.x.1.5-1.  2. Note 4 shall be added in table Table 6.x.2.1-2, otherwise wedon't whether the note 4 is align with the note in TS38.101-1 or not. 3. All of the NR CA configurations in Table 6.x.1.2-1 shall be added in Table 6.x.2.1-1, because they share the same MSD values. 4. in Table 6.x.2.1-2, n78 shall be removed because TDD bands can never protect their own TX bands with -50dBm/MHz, since they are transmitting on that frequency.  Revision provided – ZTE OK |
| [**R4-2000832**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000832.zip) | Huawei, HiSilicon | TP for TR 38.716-02-00: CA\_n38-n66 | **Flagged by ZTE**  1. 30MHz is not supported for band n66, it shall be removed in table 6.x.2-1.BTW, table number shall be 6.x.2-1,rather than 8.x.2-1. 2. what does note x mean in Table 6.x.2.1-2  **ZTE OK – if CR R4-2000829 agreed –** EmailDiscussion RAN4#94e\_#33\_NR\_n66\_BW |
| [**R4-2000833**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000833.zip) | Huawei, HiSilicon | TP for TR 38.716-02-00: CA\_n7-n25 |  |
| [**R4-2000834**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000834.zip) | Huawei, HiSilicon | TP for TR 38.716-02-00: CA\_n25-n66 | **Flagged by ZTE**  1. 30MHz is not supported for band n66, it shall be removed in table 6.x.2-1. BTW, table number shall be 6.x.2-1,rather than 8.x.2-1. 2. All of the NR CA configurations in Table 6.x.1.2-1 shall be added in Table 6.x.2.1-1, because they share the same MSD values.  **ZTE OK – if CR R4-2000829 agreed –** EmailDiscussion RAN4#94e\_#33\_NR\_n66\_BW |
| [**R4-2000835**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000835.zip) | Huawei, HiSilicon | TP for TR 38.716-02-00: CA\_n25-n78 | **Resolved – for revision**  Flagged by ZTE  1.'reuse the MSD value from DC\_2A\_n78'. shall be'..reuse the MSD value from DC\_25A\_n78A.', right? 2. CA\_n25-n78 shall be added to the note 1 of table 6.x.1.5-1.  3.in Table 6.x.2.1-2, n78 shall be removed because TDD bands can never protect their own TX bands with -50dBm/MHz, since they are transmitting on that frequency. 4. All of the NR CA configurations in Table 6.x.1.2-1 shall be added in Table 6.x.2.1-1, because they share the same MSD values.  Revision provided – ZTE OK |
| [**R4-2000836**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000836.zip) | Huawei, HiSilicon | TP for TR 38.716-02-00: CA\_n66A-n78(2A) | **Resolved – for revision**  Flagged by ZTE  All of the NR CA configurations in Table 6.39.1.2-1 shall be added in Table 6.39.2.2-1, because they share the same MSD values.  Revision provided – ZTE OK |
| [**R4-2001060**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001060.zip) | Huawei, HiSilicon, BT plc | Updated TP for TR 38.716-02-00: CA\_n1A-n78(2A) | Pending outcome of discussion related to R4-2001071.  **Flagged by ZTE**  All of the NR CA configurations in Table 6.1.1.2-1 shall be added in Table 6.1.2.2-1, because they share the same MSD values. rather than delete the bandwidth class in the table. |
| [**R4-2001061**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001061.zip) | Huawei, HiSilicon | TP for TR 38.716-02-00: CA\_n20-n75 | **Resolved – for revision**  Flagged by ZTE  By using the same approach of LTE, it is no need to capture SDL band in the delta Rib table.  Revision provided  Flagged by Skyworks  Error: say no additional MSD needed but based on harmonic table, the 4th harmonics of band n20 UL will fall into the band n75 Rx. Or is it that 4th harmonic interference is ignored?  2nd Revision provided – OK for Skyworks |
| [**R4-2001062**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001062.zip) | Huawei, HiSilicon | Draft CR for 38.101-1 to correct editoral errors |  |
| [**R4-2001071**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001071.zip) | Huawei, HiSilicon | Discussion on improvement of Reference sensitivity exception table in 38.101-1 and 38.101-3 **Proposal 1:** It’s proposed to use band combination specific manner to specify IMD exception requirements for inter-band ENDC. **Proposal 2:** It’s proposed to use band combination specific manner to specify IMD exception requirements for inter-band CA. **Proposal 3:** It’s proposed to remove the NR CA configurations in table 7.3A.6-1 from TS 38.101-1 in order to simplify the exceptions due to cross band isolation. | **Sub-topic 1-4**  For further discussion |
| [**R4-2001072**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001072.zip) | Huawei, HiSilicon | CR for 38.101-1: improvement of Reference sensitivity exception table (Rel-16)  **Implementation of R4-2001071** | Pending outcome of discussion related to R4-2001071. |
| [**R4-2001073**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001073.zip) | Huawei, HiSilicon | CR for 38.101-3: improvement of Reference sensitivity exception table (Rel-16)  **Implementation of R4-2001071** | Pending outcome of discussion related to R4-2001071. |
| [**R4-2001076**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001076.zip) | Huawei, HiSilicon | Discussion on introduction of some sub-clause title for NR inter-band CA  **Proposal 1:** It’s proposed to add some sub-clause to distinguish different number of bands for configurations and ΔTIB,c. | **Sub-topic 1-5**  For further discussion |
| [**R4-2001519**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001519.zip) | Ericsson, Telia, BT plc | TP for TR 38.716-02-00 to include CA\_n20-n78 | **Resolved – To be Withdrawn**  Flagged by Huawei  1. CA\_n20A-n78A has been specified into the TR 38.716-02-00 and TS 38.101-1. It's unnecessary to submit a new TP for CA\_n20A-n78A again, unless there is something to be updated.  Flagged by ZTE  This TP shall be withdraw, because CA\_n20A-n78A have already been included in the TS38.101-1.  Flagged by MediaTek  OOBB exception shall be allowed which is similar to that was specified in TS38.101-1, 7.6A.3.3 Out-of-band blocking for Inter-band CA  Withdrawn by Ericsson |
| [**R4-2000986**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000986.zip) | CHTTL | CR to TS 38.101-3: adding 90MHz channel BW support for Rel.16 CA\_n78A-n257 configurations |  |

## Open issues summary

This agenda point contains both normal rapporteur inputs, TPs (pCR) and documents for further discussion.

### Sub-topic 1-1 - Rapporteurs revised WID (R4-2000497)

A draft version of the WID should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2.

Companies are encouraged to comment on the provided draft – no comments on draft will mean it is to be considered approvable.

### Sub-topic 1-2 - Rapporteurs CR to 38.101-1 (R4-2000497)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 1-3 - Rapporteurs CR to 38.101-3 (R4-2000498)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 1-4 - Discussion on improvement of Reference sensitivity exception table in 38.101-1 and 38.101-3 (R4-2001071)

In order to reduce missing and errors, it is proposed to discuss to improve and simplify the reference sensitivity exception table for SA and NSA spec.

* Proposals
  + **Proposal 1**: It’s proposed to use band combination specific manner to specify IMD exception requirements for inter-band ENDC.
  + **Proposal 2**: It’s proposed to use band combination specific manner to specify IMD exception requirements for inter-band CA.
  + **Proposal 3:** It’s proposed to remove the NR CA configurations in table 7.3A.6-1 from TS 38.101-1 in order to simplify the exceptions due to cross band isolation.

Companies are encouraged to comment on the proposals and the related CRs R4-2001072 and R4-2001073 in section 1.3 – no comments received will mean it is to be considered approvable.

### Sub-topic 1-5 - Discussion on introduction of some sub-clause title for NR inter-band CA (R4-2001076)

In the last meeting, the big CRs for 2 bands, 3 bands and 4 bands inter band CA were introduced synchronously. There seems to be room for improvements from specification architecture. Thus, this contribution provides some proposals to improve it.

* Proposals
  + **Proposal 1**: It’s proposed to add some sub-clause to distinguish different number of bands for configurations and ΔTIB,c.

Companies are encouraged to comment on the proposal in section 1.3 – no comments received will mean it is to be considered approvable.

## Companies views’ collection for 1st round

### Open issues

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| **Company** | **Comments** |
| ZTE | Sub topic 1-4:  It is general requirements, not basket WID specific problem, I will impact all the NR basket WIDs, including ENDC and NR CA. For the issue mentioned in this contribution, we understand the intention, indeed different configurations for a certain band combination share the same MSD values. However, in my view, the current method in the TS seems more clear by listing all of the different configurations, and RAN4 didn’t use band specific manner in each basket WID based on the agreed template. We are open to other view  Sub topic 1-5:  The configurations for 2 bands. 3 bands and 4 bands CA have already been captured in different tables under the same clause. It is clear in the TS, no need to introduce additional sub-clauses. |
| Huawei | Sub topic 1-4:  1. Yes, these proposals have an impact on several NR basket WID, but it’s still about band specific requirements instead of general requirements.  2. It can help reduce the RAN4’s workload and avoid some mistakes, misalignments and configuration missing.  3. As it actually goes on, many configurations for the same band combos will be introduced. It may make the spec complex.  4. Delta Rib and Tib also use band specific manner. As you said, different configurations for a certain band combination share the same MSD values. Why don’t we use band specific manner for MSD exception?  Sub topic 1-5:  1. As it actually goes on and amount of combos increases, it's inconvenient to check the inter-band configuration and ΔTIB,c for inter-band CA, just like LTE spec.  2. If we can introduce the additional sub-clause, it can help retrieval the sub-clause quickly and save reader’s time.  3. There is a sub-clause misalignment between ΔTIB,c and ΔRIB,c in TS 38.101-1.  4. Referring to 38.101-3, the configurations and ΔTIB,c for inter-band ENDC were separated as bands number. Why don’t we use the same manner for 38.101-1. |
| XXX | Sub topic 1-1:  Sub topic 1-2:  ….  Others: |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

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|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

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| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

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

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| [R4-2000143](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000143.zip) | To be revised to R4-2002635 |
| [R4-2000181](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000181.zip) | Still under discussion [To be revised to R4-2002636] |
| [R4-2000183](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000183.zip) | To be revised to R4-2002637 |
| [R4-2000184](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000184.zip) | To be revised to R4-2002638 |
| [R4-2000189](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000189.zip) | To be revised to R4-2002639 |
| [R4-2000478](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000478.zip) | To be revised to R4-2002640 |
| [R4-2000691](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000691.zip) | To be revised to R4-2002641 |
| [R4-2000692](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000692.zip) | To be revised to R4-2002642 |
| [R4-2000831](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000831.zip) | To be revised to R4-2002643 |
| [R4-2000832](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000832.zip) | Still under discussion [To be revised to R4-2002644] |
| [R4-2000834](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000834.zip) | Still under discussion |
| [R4-2000835](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000835.zip) | To be revised to R4-2002645 |
| [R4-2000836](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000836.zip) | To be revised to R4-2002646 |
| [R4-2001060](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001060.zip) | Pending outcome of discussion related to R4-2001071 [To be revised to R4-2002647] |
| [R4-2001061](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001061.zip) | To be revised to R4-2002648 |
| [R4-2001071](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001071.zip) | Still under discussion |
| [R4-2001072](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001072.zip) | Pending outcome of discussion related to R4-2001071. |
| [R4-2001073](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001073.zip) | Pending outcome of discussion related to R4-2001071. |
| [R4-2001076](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001076.zip) | Still under discussion |

# Topic #2: 9.7 EN-DC of x bands (x=1,2, 3, 4) LTE inter-band CA and 2 bands NR inter-band CA

## Companies’ contributions summary

|  |  |  |  |
| --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title / Proposals / Observations** | **Status / Notes** Assigned sub-topic / Flagged / Resolved  No comment = For block approval |
| R4-2001066 | LG Electronics France | Rapporteurs CR  Introducing CR on new EN-DC LTE(xDL/1UL)+ NR(2DL/1UL) DC in rel-16 | **Sub-topic 2-2** |
| R4-2001064 | LG Electronics France | Rapporteurs revised WID  Revised WID on LTE (xDL/UL x=1.2,3,4) with NR 2 bands (2DL/1UL) EN DC in rel-16 | **Sub-topic 2-1**  Awaiting draft for review |
| R4-2000102 | Verizon UK Ltd | TP for TR 37.716-21-21: DC\_66\_n5-n48 | **Withdrawn** |
| R4-2000103 | Verizon UK Ltd | TP for TR 37.716-21-21: DC\_13\_n48-n66 | **Withdrawn** |
| R4-2000105 | Verizon UK Ltd | TP for TR 37.716-21-21: DC\_13\_n5-n48 | **Withdrawn** |
| R4-2000106 | Verizon UK Ltd | TP for TR 37.716-21-21: DC\_13-66\_n5-n48 | **Withdrawn** |
| **R4-2001042** | LG Electronics France | Rapporteurs revised draft TR 38.716-21-21 v090 |  |
| [**R4-2000182**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000182.zip) | Nokia, Nokia Shanghai Bell, BT plc | Draft CR: Adding EN-DC configurations to DC\_3-20\_n28-n78 |  |
| [**R4-2000263**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000263.zip) | Samsung, Bell mobility | TP for TR 37.716-21-21: DC\_2A\_n66A-n78A |  |
| [**R4-2000264**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000264.zip) | Samsung, Bell mobility | TP for TR 37.716-21-21: DC\_2A-7A\_n66A-n78A and DC\_2A-7A-7A\_n66A-n78A |  |
| [**R4-2000265**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000265.zip) | Samsung, Bell mobility | TP for TR 37.716-21-21: DC\_2A-7A-66A\_n66A-n78A and DC\_2A-7A-7A-66A\_n66A-n78A |  |
| **[R4-2000266](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000266.zip)** | Samsung, Bell mobility | TP for TR 37.716-21-21: DC\_2A-66A\_n66A-n78A | **Resolved – for revision**  Flagged by LGE  The E-UTRA and NR DC band in Table 7.x.1-1 is wrong. DC\_2A\_7A\_n66A-n78A will be changed with DC\_2A-66A\_n66A-n78A  Revision provided – LGE OK |
| [**R4-2000267**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000267.zip) | Samsung, Bell mobility | TP for TR 37.716-21-21: DC\_7A\_n66A-n78A | **Resolved – for revision**  Flagged by LGE  The section 6.74 will be merged in section 6.63. The MSD level will be used in 6.63 for both DC combinations. Recomment to revise this paper  Revision provided – LGE OK |
| [**R4-2000268**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000268.zip) | Samsung, Bell mobility | TP for TR 37.716-21-21: DC\_7A-7A\_n66A-n78A | **Resolved – to be Noted**  Flagged by LGE  The section 6.74 will be merged in section 6.63. The MSD level will be used in 6.63 for both DC combinations. This Tdoc will be noted  Accepted noted by Samsung |
| [**R4-2000269**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000269.zip) | Samsung, Bell mobility | TP for TR 37.716-21-21: DC\_7A-66A\_n66A-n78A and DC\_7A-7A-66A\_n66A-n78A |  |
| [**R4-2000270**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000270.zip) | Samsung, Bell mobility | TP for TR 37.716-21-21: DC\_66A\_n66A-n78A |  |
| [**R4-2000480**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000480.zip) | ZTE Corporation | TP for TR37.716-21-21: DC\_1A-3A-20A\_n38A-n78A | **Resolved – to be Withdrawn**  Flagged by LGE  In Table 8.x.2-1, the NR\_CA\_n38A-n78A does not specified in TS38.101-1 until now. So need to add exact channel bandwidths according to each NR band  Withdrawn by ZTE |
| [**R4-2000481**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000481.zip) | ZTE Corporation | TP for TR37.716-21-21\_ DC\_1A-20A\_n3A-n38A | **Flagged by LGE**  In Table 7.x.2-1, the NR\_CA\_n3A-n38A does not specified in TS38.101-1 until now. So need to add exact channel bandwidths according to each NR band. In 7.x.4, DC\_1-20\_n8-n38 will be changed as DC\_1-20\_n3-n38  **Revision provided – Reflagged by LGE**  **2nd revision provided** |
| [**R4-2000482**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000482.zip) | ZTE Corporation | TP for TR37.716-21-21\_ DC\_1A-20A\_n3A-n78A |  |
| [**R4-2000483**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000483.zip) | ZTE Corporation | TP for TR37.716-21-21\_ DC\_1A-20A-38A\_n3A-n78A | **Flagged by LGE**  In Table 8.x.2-1, the LTE\_CA\_1A-20A-38A does not specified in TS36.101 until now. So need to add exact channel bandwidths according to each NR band. In 8.x.4, DC\_1-3-20\_n38-n78 will be changed as DC\_1-20-38\_n3-n78  **Revision provided** |
| [**R4-2000484**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000484.zip) | ZTE Corporation | TP for TR37.716-21-21: DC\_3A-20A\_n38A-n78A | **Resolved – to be Withdrawn**  In Table 7.x.2-1, the NR\_CA\_n38A-n78A does not specified in TS38.101-1 until now. So need to add exact channel bandwidths according to each NR band.  Withdrawn by ZTE |
| [**R4-2000485**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000485.zip) | ZTE Corporation | TP for TR37.716-21-21: DC\_7A-20A\_n3A-n78A |  |
| [**R4-2000846**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000846.zip) | Huawei, HiSilicon | TP for TR 37.716-21-21:DC\_2\_n7-n78 | **Resolved – for revision**  Flagged by LGE  In 6.x.4, DC\_12\_n7-n78 will be changed as DC\_2\_n7-n78. Also The title of Table 6.x.5-1 will be change with DC\_2A\_n7A-n78A. LGE also proposed MSD 3.9 dB in R4-2001130. It will be merged as average manner in your TP.  Revision provided  2nd Revision provided - OK |
| [**R4-2000851**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000851.zip) | CHTTL | TP for TR 37.716-21-21: UE requirements for DC\_3-3-7-8\_n1-n78, DC\_3-7-7-8\_n1-n78, DC\_3-3-7-7-8\_n1-n78 |  |
| [**R4-2000856**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000856.zip) | CHTTL | TP for TR 37.716-21-21: UE requirements for DC\_3-3-8\_n1-n78, DC\_7-7-8\_n1-n78 |  |
| [**R4-2001092**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001092.zip) | Huawei Technologies R&D UK | TP to TR 37.716.21-21: Addition of CA configuration for DC\_1A\_n8A-n78A | **Resolved - Document type should be changed to pCR** |
| [**R4-2001128**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001128.zip) | LG Electronics France | TP on summary of self-interference analysis for new EN-DC LTE(xDL/1UL)+ NR(2DL/1UL) DC in rel-16 |  |
| [**R4-2001130**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001130.zip) | LG Electronics France | MSD results for new EN-DC LTE(xDL/1UL)+ NR(2DL/1UL) DC in rel-16 | **Resolved – for revision**  Flagged by LGE  Remove the TP contents for DC\_2\_n7-n78 since HW will be derive MSD level as average manner with the LGE proposed MSD.  Revision provided – LGE OK |
| [**R4-2001998**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001998.zip) | Ericsson, Telstra | TP for TR 37.716-21-21 to include DC\_28\_n7-n78 |  |
| [**R4-2001999**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001999.zip) | Ericsson, Telstra | TP for TR 37.716-21-21 to include DC\_3-28\_n7-n78 |  |
| [**R4-2002000**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002000.zip) | Ericsson, Telstra | TP for TR 37.716-21-21 to include DC\_1-28\_n7-n78 |  |
| [**R4-2002001**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002001.zip) | Ericsson, Telstra | TP for TR 37.716-21-21 to include DC\_1-3-28\_n7-n78 |  |
| [**R4-2002002**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002002.zip) | Ericsson, Telstra | draft CR adding configurations for 1\_n7-n78, 3\_n7-n78, 1-3\_n7-n78, 3\_n7-n78 |  |
| [**R4-2002008**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002008.zip) | Ericsson, Telstra | TP for TR 37.716-21-21 to include DC\_7A-28A\_n3A-n78A, DC\_7C-28A\_n3A-n78A |  |
| [**R4-2002011**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002011.zip) | Ericsson, T-Mobile US | draft Rel-16 CR to 38.101-3 to add new configurations for 2\_n41-n71, 66\_n25-n41, 66\_n41-n71, 2-66\_n41-n71 to existing combinations |  |
| [**R4-2002013**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002013.zip) | Ericsson, T-Mobile US | TP for TR 37.716-21-21 to include DC\_2\_n41-n66 |  |
| [**R4-2002014**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002014.zip) | Ericsson, T-Mobile US | TP for TR 37.716-21-21 to include DC\_2\_n66-n71 |  |
| [**R4-2002016**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002016.zip) | Ericsson, T-Mobile US | TP for TR 37.716-21-21 to include 66\_n25-n71 |  |
| [**R4-2002017**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002017.zip) | Ericsson, T-Mobile US | TP for TR 37.716-21-21 to include DC\_2-46\_n41-n66 | **Resolved – for revision**  Flagged by LGE  The title of Table 6.x.1-1 and Table 6.x.2-1 are changed with LTE 2DL/1UL + NR 2DL/1UL. The section number will be used 7.x  Revision provided – LGE OK |
| [**R4-2002018**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002018.zip) | Ericsson, T-Mobile US | TP for TR 37.716-21-21 to include DC\_2-66\_n71-n261 | **Resolved – for revision**  Flagged by LGE  The title of Table 6.x.1-1 and Table 6.x.2-1 are changed with LTE 2DL/1UL + NR 2DL/1UL. The section number will be used 7.x  Revision provided – LGE OK |
| [**R4-2000537**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000537.zip) | Nokia, US Cellular | TP for TR 37.716-21-21: DC\_66A\_n12A-n258A | **Resolved – for revision**  Flagged by LGE  The SCS for n258 in Table 6.x.2-1 were wrong. Need to change with 60kHz and 120kHz.  Revision provided – LGE OK |
| [**R4-2000538**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000538.zip) | Nokia, US Cellular | TP for TR 37.716-21-21: DC\_66A\_n12A-n260A | **Resolved – for revision**  Flagged by LGE  The SCS for n260 in Table 6.x.2-1 were wrong. Need to change with 60kHz and 120kHz.  Revision provided – LGE OK |
| [**R4-2000539**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000539.zip) | Nokia, US Cellular | TP for TR 37.716-21-21: DC\_66A\_n12A-n261A | **Resolved – for revision**  Flagged by LGE  The SCS for n261 in Table 6.x.2-1 were wrong. Need to change with 60kHz and 120kHz.  Revision provided – LGE OK |
| [**R4-2000762**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000762.zip) | SoftBank Corp. | Draft CR for TS 38.101-3: Support of n77(2A) in DC\_1-8\_n77-n257 |  |
| [**R4-2000765**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000765.zip) | SoftBank Corp. | Draft CR for TS 38.101-3: Support of n77(2A) in DC\_1\_n77-n257, 3\_n77-n257 and 8\_n77-n257 |  |
| [**R4-2000776**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000776.zip) | SoftBank Corp. | TP for TR 37.716-21-21: EN-DC\_11\_n77-n257 |  |
| [**R4-2000777**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000777.zip) | SoftBank Corp. | TP for TR 37.716-21-21: EN-DC\_28\_n77-n257 |  |
| [**R4-2000860**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000860.zip) | NTT DOCOMO, INC. | TP for EN-DC of 1-3-21\_n78-n257 for TR37.716-21-21 |  |
| [**R4-2000861**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000861.zip) | NTT DOCOMO, INC. | TP for EN-DC of 1-19-42\_n78-n257 for TR37.716-21-21 |  |
| [**R4-2000862**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000862.zip) | NTT DOCOMO, INC. | TP for EN-DC of 1-21-42\_n78-n257 for TR37.716-21-21 |  |
| [**R4-2000863**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000863.zip) | NTT DOCOMO, INC. | TP for EN-DC of 19-21-42\_n78-n257 for TR37.716-21-21 |  |
| [**R4-2000864**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000864.zip) | NTT DOCOMO, INC. | TP for EN-DC of 1-3-21\_n79-n257 for TR37.716-21-21 |  |
| [**R4-2000865**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000865.zip) | NTT DOCOMO, INC. | TP for EN-DC of 1-19-42\_n79-n257 for TR37.716-21-21 |  |
| [**R4-2000866**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000866.zip) | NTT DOCOMO, INC. | TP for EN-DC of 1-21-42\_n79-n257 for TR37.716-21-21 |  |
| [**R4-2000867**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000867.zip) | NTT DOCOMO, INC. | TP for EN-DC of 19-21-42\_n79-n257 for TR37.716-21-21 |  |
| [**R4-2000868**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000868.zip) | NTT DOCOMO, INC. | TP for EN-DC of 1-3-21\_n77-n257 for TR37.716-21-21 |  |
| [**R4-2000869**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000869.zip) | NTT DOCOMO, INC. | TP for EN-DC of 1-19-42\_n77-n257 for TR37.716-21-21 |  |
| [**R4-2000870**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000870.zip) | NTT DOCOMO, INC. | TP for EN-DC of 1-21-42\_n77-n257 for TR37.716-21-21 | **Resolved – for revision**  Flagged by LGE  In section 8.x.4, the DC\_1-21-42\_n79-n257 will be cahnged as DC\_1-21-42\_n77-n257  Revision provided – LGE OK |
| [**R4-2000871**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000871.zip) | NTT DOCOMO, INC. | TP for EN-DC of 19-21-42\_n77-n257 for TR37.716-21-21 |  |
| [**R4-2000879**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000879.zip) | KDDI Corporation | draft CR for introduce DC of LTE 2bands + NR 2band for TS 38.101-3 |  |
| [**R4-2000880**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000880.zip) | KDDI Corporation | draft CR for introduce DC of LTE 3bands + NR 2band for TS 38.101-3 |  |
| [**R4-2000882**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000882.zip) | KDDI Corporation | draft CR for introduce DC of LTE 4bands + NR 2band for TS 38.101-3 |  |
| R4-2000888 | Samsung | Rapporteurs CR to 38.101-3  CR to TS38.101-3 on band combination for Inter-band EN-DC | **Sub-topic 2-3** |
| [**R4-2001093**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001093.zip) | NTT DOCOMO, INC. | draft CR for EN-DC inc NR CA FR1+FR2 w xDL\_2ULfor TS 38.101-3 |  |
| [**R4-2001094**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001094.zip) | NTT DOCOMO, INC. | TP for DC\_1-19\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001095**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001095.zip) | NTT DOCOMO, INC. | TP for DC\_1-19\_n78-n257 for TR 37.716-21-21 |  |
| [**R4-2001096**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001096.zip) | NTT DOCOMO, INC. | TP for DC\_1-19\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001097**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001097.zip) | NTT DOCOMO, INC. | TP for DC\_1-21\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001098**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001098.zip) | NTT DOCOMO, INC. | TP for DC\_1-21\_n78-n257 for TR 37.716-21-21 |  |
| [**R4-2001099**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001099.zip) | NTT DOCOMO, INC. | TP for DC\_1-21\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001100**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001100.zip) | NTT DOCOMO, INC. | TP for DC\_1-3\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001101**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001101.zip) | NTT DOCOMO, INC. | TP for DC\_1-42\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001102**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001102.zip) | NTT DOCOMO, INC. | TP for DC\_1-42\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001103**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001103.zip) | NTT DOCOMO, INC. | TP for DC\_19-21\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001104**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001104.zip) | NTT DOCOMO, INC. | TP for DC\_19-21\_n78-n257 for TR 37.716-21-21 |  |
| [**R4-2001105**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001105.zip) | NTT DOCOMO, INC. | TP for DC\_19-21\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001106**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001106.zip) | NTT DOCOMO, INC. | TP for DC\_19-42\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001107**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001107.zip) | NTT DOCOMO, INC. | TP for DC\_19-42\_n78-n257 for TR 37.716-21-21 |  |
| [**R4-2001108**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001108.zip) | NTT DOCOMO, INC. | TP for DC\_19-42\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001109**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001109.zip) | NTT DOCOMO, INC. | TP for DC\_21-42\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001110**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001110.zip) | NTT DOCOMO, INC. | TP for DC\_21-42\_n78-n257 for TR 37.716-21-21 |  |
| [**R4-2001111**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001111.zip) | NTT DOCOMO, INC. | TP for DC\_21-42\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001112**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001112.zip) | NTT DOCOMO, INC. | TP for DC\_3-19\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001113**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001113.zip) | NTT DOCOMO, INC. | TP for DC\_3-19\_n78-n257 for TR 37.716-21-21 |  |
| [**R4-2001114**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001114.zip) | NTT DOCOMO, INC. | TP for DC\_3-19\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001115**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001115.zip) | NTT DOCOMO, INC. | TP for DC\_3-21\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001116**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001116.zip) | NTT DOCOMO, INC. | TP for DC\_3-21\_n78-n257 for TR 37.716-21-21 |  |
| [**R4-2001117**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001117.zip) | NTT DOCOMO, INC. | TP for DC\_3-21\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001118**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001118.zip) | NTT DOCOMO, INC. | TP for DC\_3-42\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001119**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001119.zip) | NTT DOCOMO, INC. | TP for DC\_3-42\_n78-n257 for TR 37.716-21-21 |  |
| [**R4-2001120**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001120.zip) | NTT DOCOMO, INC. | TP for DC\_3-42\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001121**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001121.zip) | NTT DOCOMO, INC. | TP for DC\_42\_n77-n257 for TR 37.716-21-21 |  |
| [**R4-2001122**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001122.zip) | NTT DOCOMO, INC. | TP for DC\_42\_n79-n257 for TR 37.716-21-21 |  |
| [**R4-2001981**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001981.zip) | Ericsson, US Cellular | TP for TR 37.716-21-21 to include DC\_2A\_n12A-n258A | **Resolved – for revision**  Flagged by LGE  The SCS for n258 in Table 6.x.2-1 were wrong. Need to change with 60kHz and 120kHz. Also, Note1 and Note2 is not necessary in table 6.x.4-1 and Table 6.x.4.2  Revision provided – LGE OK |
| [**R4-2001982**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001982.zip) | Ericsson, US Cellular | TP for TR 37.716-21-21 to include DC\_2A\_n12A-n260A | **Resolved – for revision**  Flagged by LGE  The SCS for n261 in Table 6.x.2-1 were wrong. Need to change with 60kHz and 120kHz. Also, Note1 and Note2 is not necessary in table 6.x.4-1 and Table 6.x.4.2  Revision provided – LGE OK |
| [**R4-2001983**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001983.zip) | Ericsson, US Cellular | TP for TR 37.716-21-21 to include DC\_2A\_n12A-n261A | **Resolved – for revision**  Flagged by LGE  The SCS for n261 in Table 6.x.2-1 were wrong. Need to change with 60kHz and 120kHz. Also, Note1 and Note2 is not necessary in table 6.x.4-1 and Table 6.x.4.2  Revision provided – LGE OK |
| [**R4-2002015**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002015.zip) | Ericsson, T-Mobile US | TP for TR 37.716-21-21 to include DC\_2\_n71-n261 | **Resolved – for revision**  Flagged by LGE  The SCS for n261 in Table 6.x.2-1 were wrong. Need to change with 60kHz and 120kHz.  Revision provided – LGE OK |
| **[R4-2001302](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001302.zip)** | Nokia, T-Mobile US | TP for 37.716-21-21 to introduce DC\_2-46\_n41-n71 | **Resolved – for block approval**  Note this was original submitted to agenda 9.8.2  Flagged by Skyworks  Clarification: No definition of the valid UL configurations (I guess there is no UL on B46). It is not clear why MSD should not be studied, is it because it is band 46 or is it that lower order studies showed that none of the bands in these combinations had interference from the corresponding 2UL configurations?  Clarified via reflector - OK for Skyworks |
| [**R4-2001303**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001303.zip) | Nokia, T-Mobile US | TP for 37.716-21-21 to introduce DC\_2-46-66\_n41-n71 | **Resolved – for block approval**  Note this was original submitted to agenda 9.8.2  Flagged by Skyworks  Clarification: No definition of the valid UL configurations (I guess there is no UL on B46). It is not clear why MSD should not be studied, is it because it is band 46 or is it that lower order studies showed that none of the bands in these combinations had interference from the corresponding 2UL configurations?  Clarified via reflector - OK for Skyworks |
| [**R4-2001304**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001304.zip) | Nokia, T-Mobile US | TP for 37.716-21-21 to introduce DC\_46-66\_n25-n41 | **Resolved – for block approval**  Note this was original submitted to agenda 9.8.2  Flagged by Skyworks  Clarification: No definition of the valid UL configurations (I guess there is no UL on B46). It is not clear why MSD should not be studied, is it because it is band 46 or is it that lower order studies showed that none of the bands in these combinations had interference from the corresponding 2UL configurations?  Clarified via reflector - OK for Skyworks |
| [**R4-2001305**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001305.zip) | Nokia, T-Mobile US | TP for 37.716-21-21 to introduce DC\_46-66\_n41-n71 | **Resolved – for block approval**  Note this was original submitted to agenda 9.8.2  Flagged by Skyworks  Clarification: No definition of the valid UL configurations (I guess there is no UL on B46). It is not clear why MSD should not be studied, is it because it is band 46 or is it that lower order studies showed that none of the bands in these combinations had interference from the corresponding 2UL configurations?  Clarified via reflector - OK for Skyworks |

## Open issues summary

This agenda point contains both normal rapporteur inputs, TPs (pCR) and documents for further discussion.

### Sub-topic 2-1 - Rapporteurs revised WID (R4-2001064)

A draft version of the WID should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2.

Companies are encouraged to comment on the provided draft – no comments on draft will mean it is to be considered approvable.

### Sub-topic 2-2 - Rapporteurs CR to 38.101-1 (R4-2001066)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 2-3 - Rapporteurs CR to 38.101-3 (R4-2000888)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 2-1:  Sub topic 2-2:  ….  Others: |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

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

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| R4-2000266 | To be revised to R4-2002649 |
| R4-2000267 | To be revised to R4-2002650 |
| R4-2000481 | Still under discussion [To be revised to R4-2002651] |
| R4-2000483 | Still under discussion [To be revised to R4-2002652] |
| R4-2000846 | To be revised to R4-2002653 |
| R4-2001130 | To be revised to R4-2002654 |
| R4-2002017 | To be revised to R4-2002655 |
| R4-2002018 | To be revised to R4-2002656 |
| R4-2000537 | To be revised to R4-2002657 |
| R4-2000538 | To be revised to R4-2002658 |
| R4-2000539 | To be revised to R4-2002659 |
| R4-2000870 | To be revised to R4-2002660 |
| R4-2001981 | To be revised to R4-2002661 |
| R4-2001982 | To be revised to R4-2002662 |
| R4-2001983 | To be revised to R4-2002663 |
| R4-2002015 | To be revised to R4-2002664 |

# Topic #3: 9.8 Band combinations for SA NR supplementary uplink (SUL), NSA NR SUL, NSA NR SUL with UL sharing from the UE perspective (ULSUP)

## Companies’ contributions summary

|  |  |  |  |
| --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title / Proposals / Observations** | **Status / Notes** Assigned sub-topic / Flagged / Resolved  No comment = For block approval |
| R4-2001067 | Huawei, HiSilicon | Rapporteurs revised WID | **Sub-topic 3-1**  Awaiting draft for review |
| [**R4-2002026**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002026.zip) | Skyworks Solutions Inc. | UL Configuration for ULSUP TDM combinations  **Observation:**  • SUL UL configuration is unclear for ULSUP TDM combination using the corresponding LTE band  • Depending on the understanding of the SUL transmission behavior, some further clarification on channel and UL configuration may be needed or potential MSD studied. | **Sub-topic 3-2**  For further discussion |
| [**R4-2002071**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002071.zip) | Google Inc. | CR to 38.101-3 on EN-DC band combination with SUL for n41 | **Flagged by Skyworks**  CR overlap: this CR overlaps with Skyworks CRs 0210/0211 (R4-2001697, R4-2001716) which removes FDM ULSUP combinations because there is missing requirements in the spec to be able to support it (TDM is OK). This was discussed in the last two meeting and no operator is actually requesting or deploying FDM-ULSUP combination. conflict between CRs must solved  **Flagged by Huawei**  1. There is other missing in the spec. It seems that "\_n79A" is missing for DC\_1A\_n84A\_ULSUP-TDM in Table 6.2B.1.3-1. Could you please add it in your revision?  **Revision provided – Huawei OK – Skyworks conflict between CRs must solved**  [Skyworks] In terms of resolution of CR overlap, I hope that my CR removing FDM operation is accepted before end of the basket round. |

## Open issues summary

This agenda point contains both normal rapporteur inputs, TPs (pCR) and documents for further discussion.

### Sub-topic 3-1 - Rapporteurs revised WID (R4-2001067)

A draft version of the WID should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2.

Companies are encouraged to comment on the provided draft – no comments on draft will mean it is to be considered approvable.

### Sub-topic 3-2 - UL Configuration for ULSUP TDM combinations (R4-2002026)

In RAN4#93 meeting, we discussed in [R4-1915319] the fact that MSD and MPR requirements are missing for FDM mode of ULSUP which was already observed in [??]. In this contribution, we have looked at some potential clarification needed in TDM for SUL UL configurations to avoid LTE de-sense for ULSUP TDM combinations using the corresponding LTE DL band.

* Observations
  + **Observation 1**: SUL UL configuration is unclear for ULSUP TDM combination using the corresponding LTE band.
  + **Observation 2**: Depending on the understanding of the SUL transmission behavior, some further clarification on channel and UL configuration may be needed or potential MSD studied.

Companies are encouraged to comment on the proposals and the related CRs R4-2001072 and R4-2001073 in section 3.3.

## Companies views’ collection for 1st round

### Open issues

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| --- | --- |
| **Company** | **Comments** |
| Huawei | Sub topic 3-2:  1. Regarding “... there is no point in defining larger channel bandwidth for SUL band compared to LTE band”, we cannot agree on it, because the larger channel bandwidth for SUL bands compared to the corresponding LTE band can be used for SA NR SUL combination and some NSA NR SUL band combinations according to the agreements. So it is unreasonable to limit the use of larger bandwidth on SUL bands.  2. For ULSUP-TDM, we think the deployment of SUL with larger bandwidth compared to LTE carrier is useful and would like to discuss it further.  Others: |
| Nokia | Sub topic 3-2:  Previously the definitions for shared and same carrier has been agreed in R4-1808394. While feature list in TR 38.822 describes the sharing to take place in a shared carrier, TS 38.101-3 time mask requirements set a more stringent scenario of “in the same channel, which is shared by E-UTRA and NR”. Here the shared carrier means the same center frequency and same channel BW. Therefore, for ULSUP NR carrier cannot be wider than LTE carrier and no risk for de-sense exist. It would be beneficial to further clarify this channel BW restriction in the TS.  For SUL without UL sharing, SUL carrier can be placed closer to downlink frequencies than nominal duplex distance for FDD operation and also NR carrier can be wider than LTE carrier. Therefore, there is a risk for de-sense. The impacted cases should be identified and required corrections/restrictions specified. |
| Huawei | Sub topic 3-2:  1. In Rel-15 RAN4 had the agreement that the same uplink channel bandwidth is used for LTE and NR for ULSUP-TDM, which has been captured in sub-clause 6.3B.1.1 (E-UTRA and NR switching time maks for ULSUP) where it is read "...timg mask is applicable for non-simultaneous transmissions between E-UTRA and NR in TDM based UL sharing from UE perspective in the same channel, RF feature list 1-10 from TR38.822 as you pointed out, and sub-clause 7.3B.1 of TS38.101-3 where the LTE senstivity requirements in TS36.101 is reused for EN-DC in a genera way and LTE uplink is less than 20MHz. So it would be unnecessary to clarify the agreement again. It is ambiguous and unclear about your comment that “clarify the channel BW restriction in the TS”.  2. In Rel-15 RAN had the agreement that the larger channel bandwidth for SUL bands compared to the corresponding LTE band can be used for SA NR SUL combination and NSA NR SUL band combinations from the network perspective based on RP-172744. The existing requirements in TS38.101-1 are aligned with the agreement. To be honest, we do not see the reason why we should re-open the discussion.  3. What do you mean by saying “SUL without UL sharing”? Is it SA SUL, uplink sharing from network perspective, or uplink sharing from UE perspective. It is not clear to us. |
| XXX | Sub topic 3-1:  Sub topic 3-2:  ….  Others: |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

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

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| R4-2002071 | Still under discussion [To be revised to R4-2002665] |

# Topic #4: 9.9 NR Inter-band Carrier Aggregation for 3 bands DL with 1 band UL

## Companies’ contributions summary

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| --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title / Proposals / Observations** | **Status / Notes** Assigned sub-topic / Flagged / Resolved  No comment = For block approval |
| [**R4-2000624**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000624.zip) | CATT | TR 38.716-03-01 v 0.2.0 |  |
| R4-2000625 | CATT | Introducing NR inter-band CA for 3DL Bands and 1UL band for 38.101-1 | **Sub-topic 4-2** |
| R4-2000626 | CATT | Introducing NR inter-band CA for 3DL Bands and 1UL band for 38.101-3 | **Sub-topic 4-3** |
| R4-2000627 | CATT | Rapporteurs revised WID  Revised WID: Rel-16 NR inter-band CA for 3 bands DL with 1 band UL | **Sub-topic 4-1**  Awaiting draft for review |
| [**R4-2000144**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000144.zip) | Dish Network | TP for TR38.716-03-01: Requirements for CA\_n29A-n66A-n70A, CA\_n29A-n66B-n70A, and CA\_n29A-n66(2A)-n70A | **Resolved – for revision**  Flagged by Huawei  Not sure all of the REFSENS about inter-band CA with one DL band need to be listed in the spec. There seems to be some redundant information. Not sure that >2 bands NR CA with one DL combs can reuse some content in the spec.  [Dish] The principle in REFSENS I used is the same as in LTE. To me this TP is ready for approval. If you still have concerns, please identify those in detail.  Huawei OK will come back next meeting with discussion on the simplification. |
| [**R4-2000185**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000185.zip) | Nokia, Nokia Shanghai Bell, T-Mobile USA | TP to TR 38.716-03-01: CA\_n25-n41-n71 |  |
| [**R4-2000186**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000186.zip) | Nokia, Nokia Shanghai Bell, T-Mobile USA | TP to TR 38.716-03-01: CA\_n41-n66-n71 |  |
| [**R4-2000420**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000420.zip) | Sprint Corporation | CR for 38.101-1: Removal of inter-band CA redundancies | **Sub-topic 4-4**  For further discussion |
| [**R4-2000487**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000487.zip) | ZTE Corporation | CR to TS 38.101-1: Improvement on NR 3DL inter-band CA combination | **Sub-topic 4-4**  For further discussion |
| [**R4-2000760**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000760.zip) | SoftBank Corp. | Draft CR for TS 38.101-1: Support of n77(2A) in CA\_n3-n28-n77 |  |
| [**R4-2000847**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000847.zip) | Huawei, HiSilicon | TP for TR 38.716-03-01:CA\_n25-n66-n78 |  |
| [**R4-2000848**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000848.zip) | Huawei, HiSilicon | TP for TR 38.716-03-01: CA\_n7-n66-n78 |  |
| [**R4-2000849**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000849.zip) | Huawei, HiSilicon | TP for TR 38.716-03-01: CA\_n5-n66-n78 |  |
| [**R4-2000850**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000850.zip) | Huawei, HiSilicon | TP for TR 38.716-03-01: CA\_n7-n25-n66 |  |
| [**R4-2001063**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001063.zip) | Huawei, HiSilicon | TP for TR 38.716-03-01: CA\_n20A-n28A-n78A\_BCS0 | **Resolved – for revision**  Flagged by Skyworks  Clarification: n20 and n28 DL overlap, should there be a note on restricted spectrum for n28 (like in similar DC combination)  Revision provided – OK for Skyworks |
| [**R4-2001520**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001520.zip) | Ericsson, BT plc | TP for TR 38.716-03-01 to include CA\_n1-n7-n28 |  |
| [**R4-2001521**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001521.zip) | Ericsson, BT plc | TP for TR 38.716-03-01 to include CA\_n1-n7-n78 |  |

## Open issues summary

This agenda point contains both normal rapporteur inputs, TPs (pCR) and documents for further discussion.

### Sub-topic 4-1 - Rapporteurs revised WID (R4-2000627)

A draft version of the WID should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2.

Companies are encouraged to comment on the provided draft – no comments on draft will mean it is to be considered approvable.

### Sub-topic 4-2 - Rapporteurs CR to 38.101-1 (R4-2000625)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 4-3 - Rapporteurs CR to 38.101-3 (R4-2000626)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 4-4 - Improvements to inter-band CA tables in 38.101-1 (R4-2000420 and R4-2000487)

Sprint and ZTE have an overlapping CR for 38.101. It is proposed by moderator that these two companies work together and to merge these CRs. The merged CR should be shared in the draft folder for review of the other compagnies. If the draft is found agreeable a new CR and Tdoc nr. will be requested by the chair.

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 4-1:  Sub topic 4-2:  ….  Others: |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

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

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| R4-2000144 | To be revised to R4-2002666 |
| R4-2001063 | To be revised to R4-2002667 |

# Topic #5: 9.10 NR Inter-band Carrier Aggregation for 4 bands DL with 1 band UL

## Companies’ contributions summary

|  |  |  |  |
| --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title / Proposals / Observations** | **Status / Notes** Assigned sub-topic / Flagged / Resolved  No comment = For block approval |
| [**R4-2001501**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001501.zip) | Ericsson | Rapporteurs revised WID  Revised WID 4 bands NR CA Rel-16 | **Resolved – for revision**  Flagged by Skyworks  Editorial: CA\_n2A-n2A-n5A-n30A-n66A should be noted CA\_n2(2A)-n5A-n30A-n55A (same for CA\_n2A-n5A-n30A-n66A-n66A which should use n66(2A))  Revision provided – Skyworks OK |
| [**R4-2001504**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001504.zip) | Ericsson | TR 38.716-04-01 v0.2.0 Rel-16 NR Inter-band 4 bands CA |  |
| [**R4-2001508**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001508.zip) | Ericsson | TP for TR 38.716-04-01 for updated scope from RAN #86 |  |
| R4-2001513 | Ericsson | Rapporteurs CR to 38.101-1  CR introduction completed band combinations 38.716-04-01 -> 38.101-1 | **Sub-topic 5-1** |
| R4-2001514 | Ericsson | Rapporteurs CR to 38.101-3  CR introduction completed band combinations 38.716-04-01 -> 38.101-3 | **Sub-topic 5-2** |
| [**R4-2000761**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000761.zip) | SoftBank Corp. | Draft CR for TS 38.101-3: Support of n77(2A) in CA\_n3-n28-n77-n257 |  |

## Open issues summary

This agenda point contains both normal rapporteur inputs, TPs (pCR) and documents for further discussion.

### Sub-topic 5-1 - Rapporteurs CR to 38.101-1 (R4-2001513)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 5-2 - Rapporteurs CR to 38.101-3 (R4-2001514)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 5-1:  Sub topic 5-2:  ….  Others: |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

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

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| R4-2001501 | To be revised to R4-2002668 |

# Topic #6: 9.11 NR Inter-band Carrier Aggregation/Dual connectivity for 3 bands DL with 2 bands UL

## Companies’ contributions summary

|  |  |  |  |
| --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title / Proposals / Observations** | **Status / Notes** Assigned sub-topic / Flagged / Resolved  No comment = For block approval |
| R4-2000499 | ZTE Corporation | Rapporteurs CR to 38.101-1  CR to reflect the completed NR inter band CA DC combinations for 3 bands DL with 2 bands UL into Rel16 TS 38.101-1 | **Sub-topic 6-2** |
| R4-2000500 | ZTE Corporation | Rapporteurs CR to 38.101-3  CR to reflect the completed NR inter band CA DC combinations for 3 bands DL with 2 bands UL into Rel16 TS 38.101-3 | **Sub-topic 6-3** |
| R4-2000503 | ZTE Corporation | Rapporteurs revised WID  Revised WID on Rel-16 NR Inter-band Carrier Aggregation/Dual Connectivity for 3 bands DL with 2 bands UL | **Sub-topic 6-1**  Awaiting draft for review |
| [**R4-2000804**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000804.zip) | ZTE Wistron Telecom AB | TR 38.716-03-02 v040 |  |
| [**R4-2000145**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000145.zip) | Dish Network | TP for TR38.716-03-02: UL CA Requirements for CA\_n66A-n70A-n71A, CA\_n66B-n70A-n71A, and CA\_n66(2A)-n70A-n71A | **Resolved – for revision**  Flagged by ZTE  What's the meaning of 'The TIB,c and RIB,c are already defined in DL CA\_n66A-n70A-n71A.'. The TP itself is for CA\_n66A-n70A-n71A.  [Dish] DL CA for CA\_n66A-n70A-n71A is already defined in the specifications. Adding UL CA configuration does not change those delta T/R, that is the meaning of the sentence.  Revision provided – ZTE OK |
| [**R4-2000415**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000415.zip) | Sprint Corporation | CR for 38.101-3: Remove delta Tib and delta Rib for FR1+FR2 CA | **Sub-topic 6-4**  For further discussion |
| [**R4-2000475**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000475.zip) | ZTE Corporation | TP for TR38.716-03-02: updated the MSD value for CA\_n3-n40A-n41A |  |
| [**R4-2000476**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000476.zip) | ZTE Corporation | TP for TR38.716-03-02: updated the MSD value for CA\_n40A-n41A-n79A |  |
| [**R4-2000778**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000778.zip) | SoftBank Corp. | TP for TR 38.716-03-02: CA\_n3-n28-n77 | **Resolved – for revision**  Flagged by ZTE  No need to caputure 200MHz and 400MHz in Table 5.1.x.2-1, it is pure FR1 combination  Revision provided – ZTE OK |
| [**R4-2000779**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000779.zip) | SoftBank Corp. | TP for TR 38.716-03-02: CA\_n3-n28-n257 |  |
| [**R4-2001522**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001522.zip) | Ericsson, BT plc | TP for TR 38.716-03-02 to include CA\_n1-n7-n28 | **Resolved – for revision**  Flagged by ZTE  Considering 2000778 and 2001522 together, where in 2000778, TBD is added in the MSD table to indicate the incomplete MSD value. However in 2001522, no such TBD in the table. So whch method is better?  [Ericsson]: Would it be possible to further clarify this comment? From our perspective we cannot answer for how CA\_n3-n28-n77 is written in 2000778. R4-2001522 is about a different combination, CA\_n1-n7-n28, and our thinking is that same IMD2 shall be used as in DC\_1A-7A\_n28A for band 1-28 affecting band 7.  [ZTE]：Sorry for misunderstanding. In your TP, according to coex study, both IMD2 and IMD5 may fall into part of its own band. However, only MSD due to IMD2 is specificed in 5.1.x.5. If you didn't speific the MSD due to IMD5 in this TP for the time being, then i think it is better to use TBD to indicate the incomplete MSD value in the table, like R4-2001522 did, Otherwise, rapporteur may not know whether this comb is completed or not. Hope it is clear now.  Flagged by Huawei  1. In sub-clause 5.1.x.5, "table 7.3A.5-2" is incorrect. 2. The MSD for IMD5 of UL n1 + n7 is missing, referring to CA\_1A-7A-28A.  Revision provided – OK for Huawei, Reflagged by ZTE  2nd Revision provided – ZTE OK |
| [**R4-2001523**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001523.zip) | Ericsson, BT plc | TP for TR 38.716-03-02 to include CA\_n1-n7-n78 |  |
| [**R4-2002159**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002159.zip) | Sprint Corporation | CR for 38.101-3: delta Tib corrections | **Withdrawn** |
| [**R4-2002161**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2002161.zip) | Sprint Corporation | CR for 38.101-1: delta Tib corrections | **Flagged by ZTE**  It is fine for me. However it is more like general requirement, not 2UL/3DL NR CA specfic, so let's see if there are any other comments from companies. |

## Open issues summary

This agenda point contains both normal rapporteur inputs, TPs (pCR) and documents for further discussion.

### Sub-topic 6-1 - Rapporteurs revised WID (R4-2000503)

A draft version of the WID should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2.

Companies are encouraged to comment on the provided draft – no comments on draft will mean it is to be considered approvable.

### Sub-topic 6-2 - Rapporteurs CR to 38.101-1 (R4-2000499)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 6-3 - Rapporteurs CR to 38.101-3 (R4-2000500)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 6-4 - CR for 38.101-3: Remove delta Tib and delta Rib for FR1+FR2 CA (R4-2000415)

Since ΔTIB and ΔRIB are independent for FR1 and FR2, there is no reason to include tables for ΔTIB and ΔRIB for CA combinations with FR1 and FR2. Removed the tables for ΔTIB and ΔRIB for CA combinations with FR1 and FR2, and added text pointing to 38.101-1 for FR1 and 38.101-2 for FR2.

Companies are encouraged to comment on the proposal in section 6.3.

## Companies views’ collection for 1st round

### Open issues

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| --- | --- |
| **Company** | **Comments** |
| ZTE | Sub topic 6-4:  1. First, it shall move to 1UL/3DL agenda.  2. Second, it shall align for all FR1+FR2 combs, including ENDC. Hence it is suggest to discuss it with ENDC together.  3. In addition, no ΔTIB,c and RIB,c defined for the FR2 band(s) in TS 38.101-2, both of them are equal to 0 for FR2 band.  4. Another question, how to do for the FR1+FR2 TP to TR in future? |
| Sprint | Sub topic 6-4:  1. Sorry about that  2. We think that ΔTIB,c and ΔRIB,c are needed and appropriate in 38.101-3 for EN-DC in FR1. For FR1+FR2, it is already handled in 38.101-3, saying that ΔTIB,c and ΔRIB,c for FR2 are zero and . I was only touching the CA sections on purpose because I thought that EN-DC is currently handled correctly. If you see any problem with EN-DC then please let me know. Maybe we should point to 38.101-2 for ΔRIB,c for EN-DC (as well as CA) to avoid future problems? Please let me know which is the preferred approach.  3. I saw that ΔTIB,c is currently not in 38.101-2 so always zero, but didn’t know if it would change in the future. I can change that to zero. For ΔRIB,c there are some CA combinations in 38.101-2 section 7.3A.2 that have ΔRIB,c of 0.5, so even though none of the combinations currently have non-zero ΔRIB,c, it seems the safe thing to do is to point to 38.101-2 as proposed to keep things simple and avoid future problems.Would this be acceptable?  4. Up to the rapporteur for how to handle the TP and TRs, but we think the CRs should avoid adding ΔTIB,c and ΔRIB,c for FR1 + FR2 combinations in the CRs for TS 38.101-3. |
| ZTE | Sub topic 6-4:  2. Yes, you are right. It is already handled for ENDC, and for ENDC including both FR1 and FR2, it says:'...,ΔTIB,c for constituent FR2 NR bands is set to zero'. My intention is to align ENDC with inter-band CA. For your question,i currently prefer to use ENDC method in spec, which is :'...,ΔTIB,c for constituent FR2 NR bands is set to zero'. I am open to the other views.  3. 7.3A.2 you mentioned is for intra-band CA, not for inter-band CA. And in current 7.3A.2, it use ΔRIB, rather than ΔRIB,c, i am not sure if they are the same meaning although they looked very similar. -:)  4. My intention here is that the ΔTIB,c and ΔRIB,c vaules in the table should be included in the TR when the companies draft the TP although no ΔTIB,c and ΔRIB,c vaules in the TS if your CR is agreed. Since it is not harmful to keep it in the TR and it can be for information. |
| XXX | Sub topic 6-1:  Sub topic 6-2:  ….  Others: |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

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

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| R4-2000145 | To be revised to R4-2002669 |
| R4-2000778 | To be revised to R4-2002670 |
| R4-2001522 | Still under discussion [To be revised to R4-2002671] |
| R4-2002161 | Still under discussion [To be revised to R4-2002672] |

# Topic #7: 9.12 Dual Connectivity (EN-DC) with 3 bands DL and 3 bands UL

## Companies’ contributions summary

|  |  |  |  |
| --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title / Proposals / Observations** | **Status / Notes** Assigned sub-topic / Flagged / Resolved  No comment = For block approval |
| R4-2000501 | ZTE Corporation | Rapporteurs CR to 38.101-3  CR to reflect the completed ENDC combinations for 3 bands DL with 3 bands UL into Rel16 TS 38.101-3 | **Sub-topic 7-2** |
| R4-2000504 | ZTE Corporation | Rapporteurs revised WID  Revised WID: Dual Connectivity (EN-DC) with 3 bands DL and 3 bands UL | **Sub-topic 7-1**  Awaiting draft for review |
| [**R4-2000477**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000477.zip) | ZTE Corporation | TP for TR 37.716-33: DC\_3A\_n79A-n258 |  |
| [**R4-2000558**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000558.zip) | ETSI MCC | Correction to remedy missing implementation of approved CR0093r1 |  |
| [**R4-2001123**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001123.zip) | NTT DOCOMO, INC. | draft CR for EN-DC inc NR CA FR1+FR2 w 3DL\_3ULfor TS 38.101-3 | **Resolved – for revision**  **Sub-topic 7-3**  Flagged by ZTE |
| [**R4-2001124**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001124.zip) | NTT DOCOMO, INC. | TP for DC\_21\_n77-n257 for TR 37.716-33 |  |
| [**R4-2001125**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001125.zip) | NTT DOCOMO, INC. | TP for DC\_21\_n78-n257 for TR 37.716-33 |  |
| [**R4-2001126**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001126.zip) | NTT DOCOMO, INC. | TP for DC\_21\_n79-n257 for TR 37.716-33 |  |

## Open issues summary

This agenda point contains both normal rapporteur inputs, TPs (pCR) and documents for further discussion.

### Sub-topic 7-1 - Rapporteurs revised WID (R4-2000504)

A draft version of the WID should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2.

Companies are encouraged to comment on the provided draft – no comments on draft will mean it is to be considered approvable.

### Sub-topic 7-2 - Rapporteurs CR to 38.101-3 (R4-2000501)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 7-3 - draft CR for EN-DC inc NR CA FR1+FR2 w 3DL\_3ULfor TS 38.101- (R4-2001123)

The draft CR was flagged by rapporteur (ZTE).

Companies are encouraged to resolve the comments and either revise the draftCR or agree on what to be captured in the rapporteur CR. Comments to be captured in section 7.3.

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| ZTE | Sub-topic 7-3  I am not fully uderstand why there are several rows for a common band combination when EN-DC configuration has only single carrier or contiguous CA operation. According to the WF R4-1904912, they should be grouped in one row. For example, in my understading, all the configurations without non-contiguous CA operation belong to the common band combination DC\_1\_n77-n257 should be grouped in one row.  Another examples are for the same ENDC configuration of DC\_3A\_n77A-n257G/H/I, there are two rows but with different UL EN-DC configurations, that looks weird. If that's the problem, it shall be resolved in DC\_R16\_xBLTE\_2BNR\_yDL2UL(agenda 9.7) basket WID first. |
| Docomo | Sub-topic 7-3  We think we have the same understanding with you about grouping of EN-DC configuration, but the reason why we just added the configuration was that we thought that the purpose of this CR was to add the new configuration but not a correction of EN-DC configuration table. So we added the new configuration in the table as it is.  But if the table change can be considered as editorial correction and it can be included in this CR, we will revise this CR.  And for information, about the DC\_3A\_n77A-n257G/H/I, we also provided the contribution in this meeting where all fallback of DC\_3A\_n77A-n257G/H/I are to be specified in DC\_R16\_xBLTE\_2BNR\_yDL2UL(agenda 9.7). |
| ZTE | Sub-topic 7-3  I am fine with the CR content itself which is only add the new configurations to the TS. My comment was focus on the EN-DC configuration table. My concern is that it may cause problem when merging the two big CRs from the two rapporteurs. Maybe we need a CR to group the EN-DC configuration table next meeting. |
| Docomo | Sub-topic 7-3  Thank you for your reply and explanation.  I understand your point.  I prepared the revision R4-2001123 where we corrected the grouping of EN-DC table only for the proposed configuration, i.e., 1\_n77-n257 and 3\_n78-n257.  And we will check if the two big CR will be merged correctly after RAN4#94-e.  Thank you for pointing out. |
| ZTE | Sub-topic 7-3  Thanks for the revision. I am fine with it although same problem for the other combs not related to your. we can fix them next meeting. |
| XXX | Sub topic 7-1:  Sub topic 7-2:  ….  Others: |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

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

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| R4-2001123 | To be revised to R4-2002673 |

# Topic #8: 9.13 Dual Connectivity (EN-DC) of LTE inter-band CA xDL/1UL bands (x=2,3,4) and NR FR1 1DL/1UL band and NR FR2 1DL/1UL band

## Companies’ contributions summary

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| --- | --- | --- | --- |
| **T-doc number** | **Company** | **Title / Proposals / Observations** | **Status / Notes** Assigned sub-topic / Flagged / Resolved  No comment = For block approval |
| [**R4-2000755**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2000755.zip) | NTT DOCOMO INC. | draft TR skeleton TR 37.716-41-22 v0.0.1 | **Resolved – for revision**  Flagged by Skyworks  Editorial: dT and dR not needed as already available from FR1 part of the combination in 38.101-1  Revision provided – Skyworks OK if dT and dR are not captured in TR  Revision provided – Skyworks OK |
| R4-2002105 | NTT DOCOMO INC. | Revised WID for Dual Connectivity (EN-DC) of LTE inter-band CA xDL/1UL bands (x=2,3,4) and NR FR1 1DL/1UL band and NR FR2 1DL/1UL band | **Sub-topic 8-1**  Awaiting draft for review |
| R4-2002106 | NTT DOCOMO INC. | Updated TR 37.716-41-22 v0.1.0 | **Sub-topic 8-3**  For discussion |
| R4-2002107 | NTT DOCOMO INC. | CR for introduce new EN-DC of LTE 2,3,4 band + NR FR1 1UL/1DL band + NR FR2 1UL/1DL band for TS 38.101-3 | **Sub-topic 8-2** |
| [**R4-2001131**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001131.zip) | NTT DOCOMO, INC. | TP for DC\_1-3\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001132**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001132.zip) | NTT DOCOMO, INC. | TP for DC\_1-21\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001133**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001133.zip) | NTT DOCOMO, INC. | TP for DC\_1-42\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001134**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001134.zip) | NTT DOCOMO, INC. | TP for DC\_3-19\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001135**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001135.zip) | NTT DOCOMO, INC. | TP for DC\_3-21\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001136**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001136.zip) | NTT DOCOMO, INC. | TP for DC\_3-42\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001137**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001137.zip) | NTT DOCOMO, INC. | TP for DC\_19-21\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001138**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001138.zip) | NTT DOCOMO, INC. | TP for DC\_19-42\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001139**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001139.zip) | NTT DOCOMO, INC. | TP for DC\_21-42\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001140**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001140.zip) | NTT DOCOMO, INC. | TP for DC\_1-3\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001141**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001141.zip) | NTT DOCOMO, INC. | TP for DC\_1-21\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001142**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001142.zip) | NTT DOCOMO, INC. | TP for DC\_1-42\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001143**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001143.zip) | NTT DOCOMO, INC. | TP for DC\_3-19\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001144**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001144.zip) | NTT DOCOMO, INC. | TP for DC\_3-21\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001145**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001145.zip) | NTT DOCOMO, INC. | TP for DC\_3-42\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001146**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001146.zip) | NTT DOCOMO, INC. | TP for DC\_19-21\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001147**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001147.zip) | NTT DOCOMO, INC. | TP for DC\_19-42\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001148**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001148.zip) | NTT DOCOMO, INC. | TP for DC\_21-42\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001149**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001149.zip) | NTT DOCOMO, INC. | TP for DC\_1-3\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001150**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001150.zip) | NTT DOCOMO, INC. | TP for DC\_1-21\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001151**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001151.zip) | NTT DOCOMO, INC. | TP for DC\_1-42\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001152**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001152.zip) | NTT DOCOMO, INC. | TP for DC\_3-19\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001153**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001153.zip) | NTT DOCOMO, INC. | TP for DC\_3-21\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001154**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001154.zip) | NTT DOCOMO, INC. | TP for DC\_3-42\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001155**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001155.zip) | NTT DOCOMO, INC. | TP for DC\_19-21\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001156**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001156.zip) | NTT DOCOMO, INC. | TP for DC\_19-42\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001157**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001157.zip) | NTT DOCOMO, INC. | TP for DC\_21-42\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001158**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001158.zip) | NTT DOCOMO, INC. | TP for DC\_1-19\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001159**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001159.zip) | NTT DOCOMO, INC. | TP for DC\_1-3-21\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001160**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001160.zip) | NTT DOCOMO, INC. | TP for DC\_19-21-42\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001161**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001161.zip) | NTT DOCOMO, INC. | TP for DC\_1-21-42\_n77-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001162**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001162.zip) | NTT DOCOMO, INC. | TP for DC\_1-3-21\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001163**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001163.zip) | NTT DOCOMO, INC. | TP for DC\_19-21-42\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001164**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001164.zip) | NTT DOCOMO, INC. | TP for DC\_1-21-42\_n78-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001165**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001165.zip) | NTT DOCOMO, INC. | TP for DC\_1-3-21\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001166**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001166.zip) | NTT DOCOMO, INC. | TP for DC\_19-21-42\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001167**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001167.zip) | NTT DOCOMO, INC. | TP for DC\_1-21-42\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |
| [**R4-2001168**](http://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_94_e/Docs/R4-2001168.zip) | NTT DOCOMO, INC. | TP for DC\_1-19-42\_n79-n257 for TR37.716-41-22 | **Resolved – for block approval**  dT and dR will not be captured in TR |

## Open issues summary

This agenda point contains both normal rapporteur inputs, TPs (pCR) and documents for further discussion.

### Sub-topic 8-1 - Rapporteurs revised WID (R4-2002105)

A draft version of the WID should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2.

Companies are encouraged to comment on the provided draft – no comments on draft will mean it is to be considered approvable.

### Sub-topic 8-2 - Rapporteurs CR to 38.101-3 (R4-2002107)

A draft version of the CR should be uploaded to the draft inbox #26\_NR\_Baskets\_Part\_2 including the accepted TPs.

Companies are encouraged to comment on the provided draft – approval of rapporteur CRs are proposed to be conducted after the basket process.

### Sub-topic 8-2 - Updated TR 37.716-41-22 (R4-2002106)

It is assumed that this will require an official TR to be allocated.

Companies are encouraged to comment on the provided draft (R4-2000755) and if it can be introduced as TR proposed here in section 8.3

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 8-1:  Sub topic 8-2:  ….  Others: |

## Summary for 1st round

### Open issues

*Moderator tries to summarize discussion status for 1st round, list all the identified open issues and tentative agreements or candidate options and suggestion for 2nd round i.e. WF assignment.*

|  |  |
| --- | --- |
|  | **Status summary** |
| **Sub-topic#1** | *Tentative agreements:*  *Candidate options:*  *Recommendations for 2nd round:* |

*Recommendations on WF/LS assignment*

|  |  |  |
| --- | --- | --- |
|  | **WF/LS t-doc Title** | **Assigned Company,**  **WF or LS lead** |
| #1 |  |  |

### CRs/TPs

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

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| R4-2000755 | To be revised to R4-2002674 |