**3GPP TSG-RAN WG4 Meeting # 100-e R4-210XXXX**

**Electronic Meeting, 16th – 27th August, 2021**

**Agenda item: 6.1.1.6.1**

**Source:** Moderator (Nokia, Nokia Shanghai Bell)

**Title:** Email discussion summary for [100-e][207] NR\_unlic\_RRM\_2

**Document for:** Information

# Introduction

This is the document for the email discussion of the following items under the NR-U RRM performance agenda (email discussion with the flag [100-e][207] NR\_unlic\_RRM\_2):

* 6.1.1.6 RRM performance requirements (38.133) [NR\_unlic-Perf]
  + 6.1.1.6.1 General [NR\_unlic-Perf]
  + 6.1.1.6.2 Measurement accuracy requirements [NR\_unlic-Perf]
  + 6.1.1.6.3 Test cases [NR\_unlic-Perf]
    - 6.1.1.6.3.1 General [NR\_unlic-Perf]
    - 6.1.1.6.3.2 RRC IDLE cell re-selection [NR\_unlic-Perf]
    - 6.1.1.6.3.3 HO (delay and interruptions) [NR\_unlic-Perf]
    - 6.1.1.6.3.4 RRC Re-establishment [NR\_unlic-Perf]
    - 6.1.1.6.3.5 RRC Connection Release with Redirection [NR\_unlic-Perf]
    - 6.1.1.6.3.6 Random access [NR\_unlic-Perf]
    - 6.1.1.6.3.7 Timing (transmit timing and TA) [NR\_unlic-Perf]
    - 6.1.1.6.3.8 BWP switching delay and interruptions [NR\_unlic-Perf]
    - 6.1.1.6.3.9 PSCell addition/release (delay and interruption) [NR\_unlic-Perf]
    - 6.1.1.6.3.10 SCell activation/deactivation (delay and interruption) [NR\_unlic-Perf]
    - 6.1.1.6.3.11 Other interruptions [NR\_unlic-Perf]

As this work item is in maintenance mode, and only few discussion papers are left, delegates are encouraged to comment on the Draft CRs and discussion points on both 1st and 2nd round of discussion.

The list of topics covered in this email thread is

* Topic #1: CCA models
  + Sub topic 1-1: CCA models
    - Issue 1-1: Avoiding LMAX in test cases with DRX
* Topic #2: Test case specific details
  + Sub topic 2-1: RRC Connection Release with Redirection
    - Issue 2-1: Configuration of LCCA and WCCA for RRC connection release with redirection test cases
  + Sub topic 2-2: SCell activation/deactivation
    - Issue 2-2: Configuration of LCCA and WCCA for SCell activation/deactivation

Moderator’s note: This email thread only covers part of the NR-U RRM performance requirements. Papers under the agenda items 6.1.1.6.3.12 to 6.1.1.6.3.20 are covered in the email thread [100-e][206] NR\_unlic\_RRM\_1.

Please remember to fill in the contact information of the delegates answering to this email thread.

# Topic #1: CCA models

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| AI 6.1.1.6.3.1 |  | General |
| R4-213227 | Nokia, Nokia Shanghai Bell | Observation 1: Configuring the CCA model with a large WCCA and small LCCA results in a decrease on the minimum achievable CCA success probability, and may reduce CCA failures significantly  Observation 2: In many TCs with DRX, the large values required WCCA would force the CCA model to reduce the CCA failures, and the change for failures during DRX active periods would be significantly reduced.  Proposal 1: The CCA model should only consider CCA failures within DRX active period when evaluating LCCA. |

## Open issues summary

### Sub-topic 1-1 CCA models

*Sub-topic description:*

*On this subtopic only 1 discussion paper has a proposal. This proposal is meant to clarify the behavior of LMAX limitation on test cases with DRX.*

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

**Issue 1-1: Avoiding LMAX in test cases with DRX**

* Proposals
  + Option 1 (R4-213227): The CCA model should only consider CCA failures within DRX active period when evaluating LCCA
  + Option 2: Other option?
* Recommended WF
  + Discuss if Option 1 can be agreed

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 1-1: CCA models  Issue 1-1: Avoiding LMAX in test cases with DRX  … |
| MTK | More discussion is needed. We understood the intention but we are thinking about other approach.  Because the SMTC and DRX on-duration may not be aligned, and the UE is not required to determine the availability of SMTC occasions more frequent than once per DRX cycle.  In other words, UE may measure SMTC outside DRX on duration, and if the SMTC is not available, then the L should also be increased, i.e. we cannot just increase L within DRX on-duration.  The alternative would be:  L~~\_CCA~~ increases on per DRX basis. At the end of each DRX cycle, if one of SMTC is not successfully transmitted during this DRX cycle, increase L~~\_CCA~~ by 1.  Further clarification  We realize the notation of L\_CCA would be misleading, since it serves as Lmax in test. We would use L to note the failure count and to clarify our thinking with the illustration below:  Assume 2 SCTCs per DRX, Lmax is 2.   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **CCA success** | **1** | **0** | **1** | **1** | **0** | **1** | **?** | **?** | | **Failure count (L)** | 0 | 1 | 1 | 1 | 1 | 2 |  |  | | **DRX #** | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 |   CCA on the next DRX should be successful on “?”, because L meet Lmax.  Hope it clarifies. |
| Nokia | Sub topic 1-1: CCA models  Issue 1-1: Avoiding LMAX in test cases with DRX  We think we need a solution for this case like in Option 1.  We think it is important to make this distinction on the CCA failures depending on the DRX state. If we don’t do it, it will be hard to configure LCCA such that Lmax is not exceeded during a test run.  @Mediatek: Thinking about your proposal, we need some clarification. From what I understand your proposal would work that way (please confirm if that understanding is correct):   * You have a certain LCCA configuration for the test case and DRX cycle. * Within one DRX cycle, if there is more than 1 CCA failure, you increase the LCCA by one,   + That means that if LCCA is exceeded on the last DRX cycle, it will be allowed again in the next DRX cycle   One problem I have is that this proposal would allow for the CCA model to generate 1 error exactly in every time the UE is measuring SMTC. In that case, the UE would still exceed Lmax and the parameter LCCA of the CCA model would not help preventing that from happening.  <Nokia> Comment from 18/08 after MTK 2nd reply  We understand now the confusion on L and LCCA.  We still see that the proposed solution would decrease too much the effective CCA failure probability.  I have one example here considering the PCCA=0.9375, and a DRX period of 640 ms  In that situation, every DRX cycle has 32 STMC occasions, which means a probability of 1-0.937532=0.87 that at least 1 STMC is unavailable.  If we considering that only 2 of these SMTC occasions are monitored by the UE, the probability of a CCA failure in the monitoring window is 1 – 0.93752=0.12.  In the example we gave in our paper, the configuration would need to be LCCA=2, and WCCA=8320 ms, that would mean a total of 13 DRX cycles. In this example, if we implement the proposal from MTK, what we expect is that LCCA is exceeded in the first 2-3 DRX cycles. That would mean that the remaining 6 s of that period are free of LBT failures. Additionally, the chance that the UE experiences any LBT failure within that 2 s is extremely low, and would certainly fall below the typical 10% error margin for statistical tests.  So we think the proposed solution would also not help.  <Nokia> Comment from 19/08 after Ericsson and Qualcomm responses  From both Ericsson’s and Mediatek’s feedback we understand that asking the UE to perform measurements during DRX ON only could be difficult to implement; on the other hand, we think that the Mediatek’s counterproposal would artificially turn off CCA failures as LCCA would be usually reached after a few DRX periods.  Therefore, we think for the time being it is better not to introduce this change on CCA model with DRX, and not to configure LCCA/WCCA for the test cases with DRX as in this proposal:  Proposal 2: Improvements on CCA model for DRX might be still be discussed, while solution is not reached set the following parameters for test cases with DRX:   * LCCA\_DL=LCCA\_UL=Not configured * WCCA\_DL=WCCA\_UL=Not configured |
| Ericsson | **Issue 1-1: Avoiding LMAX in test cases with DRX**  We do not see any reason to have separate CCA model in DRX. DRX inactive time is for UE and cannot be determined by SS accurately. It is up to UE when it wants to measure e.g. during DRX OFF. It is also complicated for SS to have different model in DRX. Thus this option is not agreeable to us. |
| Qualcomm | **Issue 1-1: Avoiding LMAX in test cases with DRX**  We kind of agree with MTK. UE is not required to determine the availability of SSB more frequent than once in each DRX cycle. So L should count the number of DRX cycles with at-least one SSB not available and not the actual SSBs within the DRX cycle. |

## 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:* |

## Discussion on 2nd round (if applicable)

# Topic #2: Test case specific details

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| AI 6.1.1.6.3.5 |  | RRC Connection Release with Redirection |
| R4-2113234 | Nokia, Nokia Shanghai Bell | Observation 1: If during the time to identification of NR cell the number of unavailable SMTC occasions exceed L1,max the UE initiates cell selection procedure.  Proposal 1: Configure CCA model with LCCA\_DL=8 and WCCA\_DL=Tidentify-NR\_CCA for the test cases of RRC connection release with redirection under CCA. |
| AI 6.1.1.6.3.10 |  | SCell activation/deactivation (delay and interruption) |
| R4-2113237 | Nokia, Nokia Shanghai Bell | Observation 1: The number of CCA failures in SCell activation requirements is limited by L1,max, L2,1,max, L2,2,max, L3,1,max, and L3,2,max, whose usage depends on the scenario and applies for the activation time Tactivation\_time\_withCCA.  Observation 2: For a SMTC period of 20 ms L1,max = L2,1,max = L2,2,max = L3,1,max = L3,2,max = 2.  Proposal 1: Configure CCA model with LCCA\_DL=2 and WCCA\_DL= Tactivation\_time\_withCCA for the test cases of RLM in-sync test cases in non-DRX mode. |

## Open issues summary

### Sub-topic 2-1: RRC Connection Release with Redirection

*Sub-topic description:*

*For this subtopic only 1 discussion paper was contributed to the meeting, discussing the CCA parameter configuration for RRC connection release with redirection.*

*This configuration is important to be defined in order to avoid reaching LMAX.*

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

**Issue 2-1: Configuration of LCCA and WCCA  for RRC connection release with redirection test cases**

* Proposals
  + Option 1 (R4-2113234): Configure CCA model with LCCA\_DL=8 and WCCA\_DL=Tidentify-NR\_CCA for the test cases of RRC connection release with redirection under CCA.
  + Option 2: Other options?
* Recommended WF
  + Can Option 1 be agreed?

### Sub-topic 2-2 SCell activation/deactivation

*Sub-topic description:*

*For this subtopic only 1 discussion paper was contributed to the meeting, discussing the CCA parameter configuration for RRC connection release with redirection.*

*This configuration is important to be defined in order to avoid reaching LMAX.*

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

**Issue 2-2: Configuration of LCCA and WCCA  for SCell activation/deactivation**

* Proposals
  + Option 1 (R4-2113237): Configure CCA model with LCCA\_DL=2 and WCCA\_DL= Tactivation\_time\_withCCA for the test cases of SCell activation and deactivation test cases in non-DRX mode.
  + Option 2: other options?
* Recommended WF
  + Can Option 1 be agreed?

## Companies views’ collection for 1st round

### Open issues

|  |  |
| --- | --- |
| **Company** | **Comments** |
| XXX | Sub topic 2-1: RRC Connection Release with Redirection  Issue 2-1: Configuration of LCCA and WCCA for RRC connection release with redirection test cases  …  Sub topic 2-2: SCell activation/deactivation  Issue 2-2: Configuration of LCCA and WCCA for SCell activation/deactivation  …. |
| Nokia | Sub topic 2-1: RRC Connection Release with Redirection  Issue 2-1: Configuration of LCCA and WCCA for RRC connection release with redirection test cases  We agree with Option 1.  We understand that this is the correct CCA configuration that will avoid the test case to reach Lmax for RRC connection release with redirection as defined in clause 6.2.3.2.3 of 38.133.  Sub topic 2-2: SCell activation/deactivation  Issue 2-2: Configuration of LCCA and WCCA for SCell activation/deactivation  We agree with Option 1  This configuration avoids reaching the limits L1,max, L2,1,max, L2,2,max, L3,1,max and L3,2,max. of Scell activation for a SMTC period of 20 ms.  Reply to Ericsson 19/08/2021  The L1,max, L2,1,max, L2,2,max, L3,1,max and L3,2,max and LCCA\_DL, WCCA\_DL are different things because they relate either to the UE core requirements or the CCA model implemented by the test equipment.  The parameters LCCA\_DL and WCCA\_DL are the parameters of the CCA model, and will impact how the test equipment should be configured.  The parameters L\_1, L2, … are coming from the core requirements, and influence when the UE reaches Lmax.  The whole objective of LCCA\_DL and WCCA\_DL is to avoid the UE reaching Lmax during the test. In that case the limit Lmax of the core requirements is set by the parameters L1,max, L2,1,max, L2,2,max, L3,1,max and L3,2,max. |
| Ericsson | **Issue 2-1: Configuration of LCCA and WCCA  for RRC connection release with redirection test cases**  We are fine with option 1.  **Issue 2-2: Configuration of LCCA and WCCA  for SCell activation/deactivation**  Test case settings for L1\_max, L2,1 etc are influenced by the choice of SMTC periodicity, which is 20ms in all NR-U TCs. Hence L\_1,max, L2,1 ... = 2 can be used in the CCA model for test cases. But why are new parameters L\_CCA\_DL and W\_CCA\_DL introduced? |

### CRs/TPs comments collection

|  |  |
| --- | --- |
| **CR/TP number** | **Comments collection** |
| 6.1.1.6.3.1 | General |
| [**R4-2113464**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113464.zip)  Mirror: R4-2113465  Ericsson | Draft CR: Correction of RMC for NR-U test cases |
| Huawei: This CR may need revision, as whether test2 is needed is under discussion in [206] |
| Company B |
|  |
|  |
| **[R4-2114103](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114103.zip)**  Mirror: R4-2114104  Huawei, Hisilicon | CR on CORESET RMC for NR-U R16 |
| Ericsson: OK. |
|  |
|  |
|  |
| **[R4-2113228](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113228.zip)**  Mirror: R4-2113229  Nokia, Nokia Shanghai Bell | Correction of CCA model for TCs with DRX |
| Ericsson: We have concern on this CR as commented in issue 1-1. We do not see any reason to have separate CCA model in DRX. DRX inactive time is for UE and cannot be determined by SS accurately. It is up to UE when it wants to measure e.g. during DRX OFF. It is also complicated for SS to have different model in DRX. Thus this option is not agreeable to us. |
|  |
|  |
|  |
| 6.1.1.6.3.2 | RRC IDLE cell re-selection |
| [**R4-2114078**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114078.zip)  Mirror: R4-2114080  Ericsson | Correction to cell reselection test |
| Nokia:  The CR R4-2114105 covers a wider scope of changes. Therefore we suggest merging this CR to R4-2114105. |
|  |
|  |
|  |
| **[R4-2114105](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114105.zip)**  Mirror: R4-2114106  Huawei, Hisilicon | CR on TC of cell reselection for NR-U R16 |
| Nokia:  Wrong reference to CCA model clause needs to be fixed A.3.20 -> A.3.26. |
| Huawei: To Nokia, thanks for pointing it out. It could fixed in revised version. |
| Ericsson: except for the wrong reference as stated above, other changes look fine. |
|  |
| 6.1.1.6.3.3 | HO (delay and interruptions) |
| [**R4-2114077**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114077.zip)  Mirror: R4-2114079  Ericsson | Correction to NR-U handover test |
| Nokia:  This Draft CR fixes the references of clause numbering that were changed on the Big CR implementation.  Since it is covering the same clauses that R4-2114107 and R4-2113230, we propose that this CR is merged to R4-2114107. |
|  |
|  |
|  |
| **[R4-2114107](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114107.zip)**  Mirror: R4-2114108  Huawei, Hisilicon | CR on TC of HO for NR-U R16 |
| Nokia:  For the CCA model, we suggest configuring WCCA =T304 as in R4-2113230 and fixing the reference to the CCA model clause from A.3.20 to A.3.26.  Since there is an overlap with the CRs R4-2114077 and R4-2113230, we propose:  -R4-2114077 is merged to R4-2114107 which keeps the changes on clause A.11.2.1.  -R4-2113230 keeps the changes on A.12.2, adding the coreset configuration and Noc parameters from R4-2114107 |
| Huawei: Fine with Nokia’s solution. |
| Ericsson: Note in table Table A.11.2.1.7-1 should be aligned with other test cases, we don't have such notes in other test cases it seems, but is it introduced it for HO? Other changes look ok. |
|  |
| **[R4-2113230](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113230.zip)**  Mirror: R4-2113231  Nokia, Nokia Shanghai Bell | Draft CR Correction of Handover TCs |
| Nokia  To be reviewed adding Noc parameters and CORESET configuration as in R4-2114077 |
| Ericsson: looks ok, but should it be LCCA\_DL\_max? And LCCA\_UL\_max? SMTC periodicity is already mented in SMTC.1, why to explicitly state it in this test?  Response form Nokia 19/08: The CCA parameters in clause A.3.26 are LCCA\_DL, not LCCA\_DL\_max. This configuration is done in accordance to our agreement in the last meeting:   |  | | --- | | **HO test behaviour after T304 expires**   * Configure LCCA\_DL and LCCA\_UL such that T304 is not expired due to CCA failures in the HO test case. * Configure LCCA\_DL = LCCA\_UL = 5, WCCA =T304, and T304=500ms in the HO test case with CCA. |   As discussed in the last meeting, this configuration is used to avoid expiring the T304 due to LBT failures. |
|  |
|  |
| 6.1.1.6.3.4 | RRC Re-establishment |
| [**R4-2114433**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114433.zip)  Mirror: R4-2114434  Ericsson | Correction to RRC re-establishment tests for NR-U in 38.133 |
| Nokia:  Some of the configuration changes in A.11.2.2.1.1 and A.11.2.2.1.2 are also covered in R4-2113232. Since R4-2113232 and it also covers other changes like the fix of re-establishment delay, I would suggest to merge the changes of NOC and IO from this CR into R4-2113232 for clause A.11.2.2.1.1 and A.11.2.2.1.2 .  CCA model should be referring to clause A.3.26 instead of A.3.20.  PRACH configuration should be *FR1 PRACH configuration 1 under CCA*  This CR should also reflect the agreement from the last meeting:  Out of sync detection evaluation period in tests with CCA  In the test under the following parameter settings (non-DRX, no gaps are used and SSB periodicity is 20 ms), the out of sync detection evaluation period = 480 ms when the serving cell is inactivated (RLM-RS SSB Es/Iot <-7 dB).    Our suggestion is to   * Keep R4-2113232, introducing the Noc and Io changes from R4-2114109 for clauses A.11.2.2.1.1 and A.11.2.2.1.2   Merge R4-2114109 and R4-2114433 keeping clauses A.11.2.2.1.3 and A.11.2.2.1.4 |
|  |
|  |
|  |
| **[R4-2114109](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114109.zip)**  Mirror: R4-2114110  Huawei, Hisilicon | CR on TC of RRC Re-establishment for NR-U R16 |
| Nokia  Some of the configuration changes in A.11.2.2.1.1 and A.11.2.2.1.2 are also covered in R4-2113232. Since R4-2113232 and it also covers other changes like the fix of re-establishment delay, I would suggest to merge the changes of NOC and IO from this CR into R4-2113232 for clause A.11.2.2.1.1 and A.11.2.2.1.2 .  CCA model on table A.11.2.2.1.4.1-2 have the wrong clause number. It should be A.3.26 instead of A.3.20.  PRACH configuration should be *FR1 PRACH configuration 1 under CCA*    Our suggestion is to   * Keep R4-2113232, introducing the Noc and Io changes from R4-2114109 for clauses A.11.2.2.1.1 and A.11.2.2.1.2 * Merge R4-2114109 and R4-2114433 keeping clauses A.11.2.2.1.3 and A.11.2.2.1.4 |
| Huawei: Fine with Nokia’s solution. Suggest to work on 4109 for A.11.2.2.1.3 and A.11.2.2.1.4 |
| Ericsson: This CR overlaps with Nokia and Ericsson CR on RRC re-estab tests. |
|  |
| **[R4-2113232](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113232.zip)**  Mirror: R4-2113233  Nokia, Nokia Shanghai Bell | Draft CR RRC Re-establishment with CCA |
| Nokia:  Since there is an overlap on the content of CR, our suggestion is to   * Keep R4-2113232, introducing the Noc and Io changes from R4-2114109 for clauses A.11.2.2.1.1 and A.11.2.2.1.2 * Merge R4-2114109 and R4-2114433 keeping clauses A.11.2.2.1.3 and A.11.2.2.1.4 |
| Ericsson: There are CR on this section from Ericsson, Nokia and Huawei. They should be merged and currently and all the corrections from all three CRs can be included in the merged CR. |
|  |
|  |
| 6.1.1.6.3.5 | RRC Connection Release with Redirection |
| [**R4-2114435**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114435.zip)  Mirror: R4-2114436  Ericsson | Correction to RRC re-direction tests for NR-U in 38.133 |
| Nokia:  Prefer to use LCCA and WCCA configuration as proposed in the discussion of R4-2113234  PRACH configuration should be defined as configuration 1 for cell 1 and configuration 1 under CCA for cell 2 in A.11.2.2.3.2.  There are some other correction on the redirection delay that we included in our Draft CR R4-2113235 that we believe should be considered.    As the original work split was   * NR-U->NR-U Huawei * NR ->NR-U Ericsson   so we propose one of the following options:   * Option 1:   Merge R4-2113235 to R4-2114435 with clause A.11.2.2.3.2  Merge R4-2113235 to R4-2114111 with clause A.11.2.2.3.1   * Option 2: to merge R4-2114435 and R4-2114111 to R4-2113235.     We have a slight preference to option 2, since there are less updates to be done in R4-2114435 |
|  |
|  |
|  |
| **[R4-2114111](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114111.zip)**  Mirror: R4-2114112  Huawei, Hisilicon | CR on TC of RRC Release with Redirection for NR-U R16 |
| Nokia:  There are still some errors to be corrected in this CR that were covered by R4-2113235 and R4-211443. That include LCCA/WCCA configuration, correction on redirection delay, and other configurations.    As the original work split was   * NR-U->NR-U Huawei * NR ->NR-U Ericsson   we propose one of the following options:   * Option 1:   Merge R4-2113235 to R4-2114435 with clause A.11.2.2.3.2  Merge R4-2113235 to R4-2114111 with clause A.11.2.2.3.1   * Option 2: to merge R4-2114435 and R4-2114111 to R4-2113235.     We have a slight preference to option 2, since there are less updated to be done in R4-2114435 |
| Ericsson: This CR overlaps with Nokia’s and Ericsson’s CR on RRC redirect tests, thus it should be merged. |
|  |
|  |
| **[R4-2113235](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113235.zip)**  Mirror: R4-2113236  Nokia, Nokia Shanghai Bell | Correction on release with redirection TCs for unlicensed operation |
| Nokia:  This Draft CR has some overlap with R4-2113235 and R4-2114111.  See our comments on R4-2113235 and R4-2114111. |
| Ericsson: This CR overlaps with HW and Ericsson’s CR on RRC redirect tests, and should therefore be merged. |
|  |
|  |
| 6.1.1.6.3.6 | Random access |
| [**R4-2113468**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113468.zip)  Mirror: R4-2113469  Ericsson | Draft CR: Correction of random access procedure test cases for NR-U |
| Nokia:  CCA model is defined in clause A.3.26 not A.3.20. |
|  |
|  |
|  |
| **[R4-2114113](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114113.zip)**  Mirror: R4-2114114  Huawei, Hisilicon | CR on TC of RA for NR-U R16 |
| Nokia:  The changes on this CR are not in line with the agreement from meeting 98-bis   |  | | --- | | lbt-FailureRecoveryConfig in random access test cases  Not to configure lbt-FailureRecoveryConfig for the random access procedure test cases. |   From the discussion that we had in this meeting, the LBT failure is avoided by the configuration of LCCA and WCCA |
| Ericsson: Parameter lbt-FailureDetectionTimer is added, but the reason we don't configure is because ul-LBT-FailureDetectionRecovery is optional feature. To avoid the limit of applicability of test cases, we should avoid configuring lbt-FailureDetectionTimer.; Removing the note should be ok. It should be possible to merge this CR with Ericsson’s CR 3468. |
|  |
|  |
| 6.1.1.6.3.7 | Timing (transmit timing and TA) |
| [**R4-2114437**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114437.zip)  Mirror: R4-2114438  Ericsson | Correction to UE timing tests for NR in 38.133 |
| Nokia:  CCA model is defined in clause A.3.26 not A.3.20.  R4-2114437 and R4-2114115 cover the same changes. So we suggest to merge both Draft CRs. |
| Huawei: Suggest to work on 4115 since less updating is needed. |
|  |
|  |
| **[R4-2114115](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114115.zip)**  Mirror: R4-2114116  Huawei, Hisilicon | CR on TC of timing requirements for NR-U R16 |
| Nokia:  On the cover page, I don’t think you need to mention affected test specification from RAN5, since this is covered by other work item.  CCA model is defined in clause A.3.26 not A.3.20.  R4-2114437 and R4-2114115 cover the same changes. So we suggest to merge both Draft CRs.  Update Reply to Huawei (18/08):  We don’t think this is a big issue, especially since this is a Draft CR, but there was a recommendation on RP-210826 as follow:  "Test specifications" under "Other specs affected" on the CR cover: Testing under TSG RAN is either done in RAN4 or in RAN5. Since RAN5 has separate WIs for testing that usually are also just started after RAN4 work is completed, it would not make much sense to reference RAN5 specs on a RAN4 CR as it is clear that the RAN5 CR will just follow later (here it is more appropriate to review the corresponding RAN5 WI when it becomes available). |
| Huawei: Can Nokia clarify more why the affected TS is no needed? |
| Ericsson: This CR overlaps with Ericsson’s CR on timing tests. |
|  |
| 6.1.1.6.3.8 | BWP switching delay and interruptions |
| [**R4-2114439**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114439.zip)  Mirror: R4-2114440  Ericsson | Correction to BWP switching tests for NR-U in 38.133 |
| Nokia  On the notes:  Note 5: Parameters PCCA\_DL, PCCA\_DL\_1, PCCA\_DL\_2 and PCCA\_UL are defined in clause A.3.20.2.  Note 6: For UE supporting both semi-static and dynamic cannel access, the UE must be tested under both dynamic and semi-static channel occupancy configurations.  Replace cannel by channel  Fix clause number for CCA model, A.3.26 instead of A.3.20.  Update 18-08: Agree with Huawei’s suggestion. |
| Huawei: Overlapped with 4117. Suggest to merge the change on A.10.3.5 in 4440 and keep the change to A.11 in 4117. |
|  |
|  |
| **[R4-2114117](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114117.zip)**  Mirror: R4-2114118  Huawei, Hisilicon | CR on TC of BWP switch requirements for NR-U R16 |
| Nokia  References to the clause with CCA model are outdated.  CCA model is defined in clause A.3.26 not A.3.20. |
| Ericsson: This CR overlaps with Ericsson’s CR on BWP switch tests. |
|  |
|  |
| 6.1.1.6.3.9 | PSCell addition/release (delay and interruption) |
| **[R4-2114119](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114119.zip)**  Mirror: R4-2114120  Huawei, Hisilicon | CR on TC of PSCell addition and release for NR-U R16 |
| Nokia:  Can the reason for changing A4 to B1 be clarified?  Please use PRACH configuration 1 with CCA  The CCA model is in clause A.3.26, not A.3.20. |
| Huawei: Response to Nokia’s question. Known NR-U PSCell addition is tested in EN-DC, TE shall configure B1 event (inter-RAT) to during T2 instead of A4 (for inter-frequency) |
| Ericsson: OK. |
|  |
| 6.1.1.6.3.10 | SCell activation/deactivation (delay and interruption) |
| [**R4-2114172**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114172.zip)  Mirror: R4-2114173  Ericsson | DraftCR (R16) Correction of test cases for SCell (de)activation |
| Nokia:  We think L4 should be removed from the description of the test requirements in A.13.2.2 and that also LCCA and WCCA should be configured as in the Draft CR R4-2113238.  The CCA model is in clause A.3.26, not A.3.20.  Since R4-2114172 introduces more changes, our suggestion is to merge the changes from R4-2113238 to R4-2114172. |
|  |
|  |
|  |
| **[R4-2114121](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114121.zip)**  Mirror: R4-2114122  Huawei, Hisilicon | CR on TC of SCell activation for NR-U R16 |
| Nokia:  This CR covers clauses that are also covered by R4-2113238 and R4-2114172  Since R4-2114172 introduces more changes our preference would be to merge the changes from R4-2113238 to R4-2114172.  Are there changes from this CR R4-2114121 that should also be merged to R4-2114172? |
| Huawei: fine with Nokia’s suggestion |
| Ericsson: This CR is incomplete since there is no distinction between semi-static and dynamic channel access on UL. Our preference is to merge it with Ericsson’s CR given that we have been providing and maintaining these test cases. |
|  |
| **[R4-2113238](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2113238.zip)**  Mirror: R4-2113239  Nokia, Nokia Shanghai Bell | TC SCell activation/deactivation for unlicensed bands |
| Nokia:  Overlapping clauses with R4-2114172.  Since R4-2114172 introduces more changes, our suggestion is to merge the changes from R4-2113238 to R4-2114172. |
| Ericsson: It depends on the conclusion to issue 2-2. Thus our earlier comment applies. |
|  |
|  |
| 6.1.1.6.3.11 | Other interruptions |
| [**R4-2114170**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_100-e/Docs/R4-2114170.zip)  Mirror: R4-2114171  Ericsson | DraftCR (R16) Correction of test cases for interruptions |
|  |
|  |
|  |
|  |

## Summary for 1st round

### Open issues

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

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

### CRs/TPs

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

|  |  |
| --- | --- |
| **CR/TP number** | **CRs/TPs Status update recommendation** |
| XXX | *Based on 1st round of comments collection, moderator can recommend the next steps such as “agreeable”, “to be revised”* |

## Discussion on 2nd round (if applicable)

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

# Recommendations for Tdocs

## 1st round

**New tdocs**

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

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
| R4-210xxxx | CR on … | XXX | Agreeable, Revised, Merged, Postponed, Not Pursued |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Notes:

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

## 2nd round

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
| R4-210xxxx | CR on … | XXX | Agreeable, Revised, Merged, Postponed, Not Pursued |  |
| R4-210xxxx | WF on … | YYY | Agreeable, Revised, Noted |  |
| R4-210xxxx | LS on … | ZZZ | Agreeable, Revised, Noted |  |
|  |  |  |  |  |

Notes:

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

# Annex

Contact information

|  |  |  |
| --- | --- | --- |
| **Company** | **Name** | **Email address** |
| (Moderator) Nokia, Nokia Shanghai Bell | Rafael Cauduro Dias de Paiva | rafael.paiva@nokia.com |
| MediaTek Inc. | Hsuanli Lin | [Hsuanli.Lin@mediatek.com](mailto:Hsuanli.Lin@mediatek.com) |
| Ericsson | Santhan Thangarasa | Santhan.thangarasa@ericsson.com |

Note:

1. Please add your contact information in above table once you make comments on this email thread.
2. If multiple delegates from the same company make comments on single email thread, please add you name as suffix after company name when make comments i.e. Company A (XX, XX)