3GPP TSG-RAN WG2 Meeting #110-e [R2-200xxxx](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-200xxxx.zip)

Elbonia, 1 – 13 June 2020

**Agenda item: 5.4.1.1**

**Source: Nokia**

**Title: Summary of discussion [AT110e][006][NR15] Release of Configuration (Nokia)**

**Document for: Discussion and Decision**

# 1 Brief scope of the handled contributions

This document contains the summary of 6 documents from agenda item 5.4.1.1 ("Connection Control”) as shown below:

|  |
| --- |
| Release of Configuration   * [AT110e][006][NR15] Release of Configuration (Nokia)   Scope: Treat [R2-2004903](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004903.zip), [R2-2004904](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004904.zip), [R2-2004905](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004905.zip), [R2-2005009](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005009.zip), [R2-2005002](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip), [R2-2005003](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip) (proponents are responsible to explain and drive)  Part 1: Decision whether to make corrections or not, identify agreeable corrections. Deadline: June 4, 0700 UTC.  Part 2: For agreeable parts, continuation to agree CRs. Deadline: June 10, 0700 UTC  *AddModList release and CORESET and PDCCH TCI state*  [R2-2004903](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004903.zip) Corrections to CORESET and PDCCH TCI state release Nokia, Nokia Shanghai Bell discussion Rel-15 NR\_newRAT-Core  [R2-2004904](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004904.zip) Corrections to CORESET and PDCCH TCI state release Nokia, Nokia Shanghai Bell CR Rel-15 38.331 15.9.0 1633 - F NR\_newRAT-Core  [R2-2004905](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004905.zip) Corrections to CORESET and PDCCH TCI state release Nokia, Nokia Shanghai Bell CR Rel-16 38.331 16.0.0 1634 - A NR\_newRAT-Core  *3 Treated by email [006]*  *SCell release*  [R2-2005009](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005009.zip) Clarification on SCell release Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core  [R2-2005002](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip) Clarification on release and addition of the uplink for Scell Huawei, HiSilicon CR Rel-15 38.331 15.9.0 1643 - F NR\_newRAT-Core  [R2-2005003](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip) Clarification on release and addition of the uplink for Scell Huawei, HiSilicon CR Rel-16 38.331 16.0.0 1644 - A NR\_newRAT-Core  *3 Treated by email [006]* |

# 2 Release of LTE legacy summary

## 2.1 AddModList release and CORESET and PDCCH TCI state [1-3]

The document in [R2-2004903](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004903.zip) [1] discusses four topics:

1. Release of common CORESET in PDCCH-ConfigCommon
2. Release of TCI states within PDCCH-Config when no dedicated CORESETs are configured
3. Release of TCI states within PDCCH-Config and PDSCH-Config
4. Whether additional clarification is needed to RRC guidlines on AddModLists

Correspondingly, the CRs in [12] and [3] illustrating the proposed changes as per the document [R2-2004903](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004903.zip) [1].

Since each of the above topics are connected but also separate, we briefly summarize the points raised by [R2-2004903](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004903.zip) [1] in the table below

|  |  |
| --- | --- |
| **Topic** | **Summary and proposals** |
| 1) Release of common CORESET in PDCCH-ConfigCommon | **Summary:**  The common CORESET is different from dedicated CORESETs, and it’s possible to misinterpret that it can be released via dedicated signalling during handover. Since UE behaviour in the field is observed to cause issues, RAN2 should discuss how to approach the problem.  **Observations/Proposals:**  Observation 1: The common and dedicated CORESET configurations can change during reconfiguration with sync if source and target cells utilize different configurations.  Observation 2: When commonSearchSpaceList is (re)configured in reconfiguration with sync, all the SearchSpace entries are treated as newly created from need code viewpoint, so the CORESET ID within a SearchSpace can be changed.  Observation 3: It is not clear what UE does when network releases a previously used dedicated CORESET with the same ID as used by common CORESET in current configuration.  Proposal 1: RAN2 to confirm that UE shall not release the *PDCCH-ConfigCommon*::*commonControlResourceSet* in via *PDCCH-Config:: controlResourceSetToReleaseList*.  Proposal 2: Discuss whether UE capability is needed for the clarification in proposal 1. |
| 2) Release of TCI states within PDCCH-Config when no dedicated CORESETs are configured | **Summary:**  According to normal RRC principles, TCI states may be configured via AddModList and remain until released. However, it could be clarified whether this also applies to when all dedicated CORESETs are released for the TCI state IDs configured inside PDCCH-Config.  **Observations/Proposals:**  Proposal 3: RAN2 to confirm that entries added by ToAddModList remain until released by ToReleaseList even if the original parent field adding those is released.  Proposal 4: RAN2 to confirm that a PDCCH TCI state ID configured via common CORESET can be released by a dedicated CORESET and vice versa according to current Rel-15 RRC specification without any changes. |
| 3) Release of TCI states within PDCCH-Config and PDSCH-Config | **Summary:**  TCI state IDs inside *PDCCH-Config* actually refer to TCI states defined in *PDSCH-Config*. It is not clear if releasing the TCI state within *PDSCH-Config* would require network to also release the corresponding TCI State **IDs** inside *PDCCH-Config*.  **Observations/Proposals:**  Observation 4: Current AddModReleaseList behaviour implies that releasing all CORESETs does NOT release the TCI State IDs configured by any of those CORESETs.  Proposal 5: Clarify in RRC that the PDCCH TCI state IDs configured in *ControlResourceSet* remain until released by *ControlResourceSet:: tci-StatesPDCCH-ToReleaseList*.  Proposal 6: RAN2 to confirm that it’s up to network implementation to release the TCI State IDs that are no longer used (as per normal assumptions for network to maintain a sensible RRC configuration for a UE). No specification changes are required for that. |
| 4) RRC guidelines on release of AddModList entries. | **Summary:** Current guidelines do not consider the parent-child AddModList relations at all, which has caused the potential ambiguity indicated in this contribution.  **Observations/Proposals:**  Proposal 7: Clarify the general RRC guidelines about ToAddModList usage in A.3.9 that UE shall store the entries provided in the ToAddModList until explicitly released by the network. |

All of these topics relate to the release of the fields, notably:

* How does UE store the AddModList entries in case the parent field is released?
* Is the common CORESET configuration separate from the dedicated CORESETs?
* Does release of TCI state also invalidate the TCI State ID-fields referring to that TCI state?
* Should something be captured in RRC guidelines concerning release of nested AddModList-fields?

**DISC S1\_1:** Discuss whether UE shall release the PDCCH-ConfigCommon::commonControlResourceSet in via PDCCH-Config:: controlResourceSetToReleaseList.

**DISC S1\_2:** Discuss whether a PDCCH TCI state ID configured via common CORESET can be released by a dedicated CORESET and vice versa.

**DISC S1\_3:** Discuss whether UE should retain configuration of a TCI State ID when the corresponding TCI State is released.

**DISC S1\_4:** Discuss whether to adopt some changes to the RRC guidelines in A.3.9 for the AddModList usage regarding the release of parent/child IEs with nested AddModLists.

Since the DISC S1\_4 is more generic questions, it is discussed separately under section 3.4 (together with DISC S2\_2).

## 2.2 SCell release and release/addition of uplink for SCell [4]

The document in [R2-2005009](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005009.zip) [4] returns to a topic already discussed in previous meeting(s), where the main point is to consider what happens to configurations related to SCells (e.g. CSI-RS resources referring to SCell IDs) when those SCells are released. in particular, the following example case is considered:

1. The UE has an NR SpCell and one NR SCell, with *sCellIndex* = 1.
2. The SpCell configuration includes *CSI-MeasConfig* with one *CSI-ReportConfig* {*carrier*: 1, *reportConfigType*: periodic}
3. In a reconfiguration, the network releases the SCell but does not release the *CSI-ReportConfig*, which is still using resources of the released SCell.
4. Given the description of the carrier field as “Indicates in which serving cell the *CSI-ResourceConfig* indicated below are to be found. If the field is absent, the resources are on the same serving cell as this report configuration.”, what happens to the *CSI-ResourceConfig*?

In particular, the contribution request to clarify at least in chairman’s notes the answers to four questions as shown below:

* **Q1:** Upon receiving *sCellToReleaseList* with an *sCellIndex*, is the UE required to release only the *SCellConfig* with the corresponding sCellID?
* **Q2:** Is it a valid reconfiguration to release an SCell via *sCellToReleaseList* but not to release a CSI-ReportConfig of the SpCell cell with resources in that SCell?
* **Q3:** Is the UE required to consider as valid a reconfiguration that keeps a reference to a non-existent SCell?
* **Q4:** If it is valid in Q3, is the UE expected to use the stored *CSI-ReportConfig* configuration when the SCell with the same SCell index is added again later on?

Since these questions are already well-laid out and easily structured, it seems reasonable to just follow them.

**DISC S2\_1:** Discuss the Q1-Q4 from [**R2-2005009**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005009.zip)to determine what is the common understanding in RAN2 concerning them.

However, it should also be noted that these questions are similar question posed in *DISC S1\_3*: Does UE retain configurations that are not “used” at the moment but can be again used later on?

**DISC S2\_2:** Discuss the general principle on UE configurations: If a field (e.g. *field1* with IE type is ***Config1***) contains a child field (e.g. *field2* with IE type ***ID2***) that refers to another IE (i.e. field that is identified according to ***ID2***) and the referred IE is released, does the UE still retain the *field1*?

Since this is a more general question so could be discussed separately so is considered separately in section 3.4 (together with DISC S1\_4).

## 2.3 Release/addition of uplink configuration for SCell [5-6]

The contributions [R2-2005002](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip) [5] and [R2-2005003](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip) [6] note that it is currently not captured whether addition/release of uplink configuration for an SCell requires release and addition of the SCell (like it does in LTE), and proposes to add that to the description of *ServingCellConfig*. This seems aligned with earlier (similar) agreements in LTE, so it could be discussed whether the intent is agreeable and whether the CRs seem agreeable.

**DISC S3\_1:** Discuss whether the intent of the CRs [R2-2005002](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip) and [R2-2005003](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip) is agreeable and whether the CRs are agreeable.

# 3 Company comments to the contributions

## 3.1 [R2-2004903](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004903.zip), [R2-2004904](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004904.zip), [R2-2004905](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004905.zip): Corrections to CORESET and PDCCH TCI state release (Nokia)

This section deals with DISC\_S1\_1, 2 and 3:

***DISC S1\_1:*** *Discuss whether UE shall release the PDCCH-ConfigCommon::commonControlResourceSet in via PDCCH-Config:: controlResourceSetToReleaseList.*

***DISC S1\_2:*** *Discuss whether a PDCCH TCI state ID configured via common CORESET can be released by a dedicated CORESET and vice versa.*

***DISC S1\_3:*** *Discuss whether UE should retain configuration of a TCI State ID when the corresponding TCI State is released.*

Companies are requested to provide comments in the tables 1-3 below (one row for each new comment to better keep track of the discussion – please don’t edit the previous comments.

|  |  |
| --- | --- |
| **Company** | **Views on DISC S1\_1 (i.e. whether UE shall release the PDCCH-ConfigCommon::commonControlResourceSet in via PDCCH-Config:: controlResourceSetToReleaseList): Do you agree with Observation 1, Observation 2, Observation 3, Proposal 1 and Proposal 2?** |
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|  |  |
|  |  |

**Table 1. Comments to DISC S1\_1**

**Conclusions (DISC\_S1\_1): TBA**

|  |  |
| --- | --- |
| **Company** | **Views on DISC S1\_2 (i.e. whether a PDCCH TCI state ID configured via common CORESET can be released by a dedicated CORESET and vice versa): Do you agree with proposal 3 and 4?** |
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**Table 2. Comments to DISC S1\_2**

**Conclusions (DISC\_S1\_2): TBA**

|  |  |
| --- | --- |
| **Company** | **Views on DISC S1\_3 (i.e. whether UE should retain configuration of a TCI State ID when the corresponding TCI State is released): Do you agree with Observation 4, Proposal 5 and Proposal 6?** |
|  |  |
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**Table 3. Comments to DISC S1\_3**

**Conclusions (DISC\_S1\_3): TBA**

## 3.2 [R2-2005009](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005009.zip): Clarification on SCell release (Huawei)

This section deals with DISC\_S2\_1:

***DISC S2\_1:*** *Discuss the Q1-Q4 from* [*R2-2005009*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005009.zip)*to determine what is the common understanding in RAN2 concerning them.*

For each of the questions, it should be discussed what the common understanding is.

Companies are requested to provide comments in the tables 4-7 below (one row for each new comment to better keep track of the discussion – please don’t edit the previous comments.

**Q1: Upon receiving *sCellToReleaseList* with an *sCellIndex*, is the UE required to release only the *SCellConfig* with the corresponding *sCellID*?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments (if any)** |
|  |  |  |
|  |  |  |
|  |  |  |

**Table 4. DISC S2\_1: Comments to Q1**

**Conclusions (Q1 of DISC S2\_1): TBA**

**Q2: Is it a valid reconfiguration to release an SCell via *sCellToReleaseList* but not to release a *CSI-ReportConfig* of the SpCell cell with resources in that SCell?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments (if any)** |
|  |  |  |
|  |  |  |
|  |  |  |

**Table 5. DISC S2\_1: Comments to Q2**

**Conclusions (Q2 of DISC S2\_1): TBA**

**Q3: Is the UE required to consider as valid a reconfiguration that keeps a reference to a non-existent SCell?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments (if any)** |
|  |  |  |
|  |  |  |
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**Table 6. DISC S2\_1: Comments to Q3**

**Conclusions (Q3 of DISC S2\_1): TBA**

**Q4: If it is valid in Q3, is the UE expected to use the stored configuration when the SCell with the same SCell index is added again later on?**

|  |  |  |
| --- | --- | --- |
| **Company** | **Yes/No** | **Comments (if any)** |
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**Table 7. DISC S2\_1: Comments to Q4**

**Conclusions (Q4 of DISC S2\_1): TBA**

## 3.3 [R2-2005002](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip), [R2-2005003](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip): Clarification on release and addition of the uplink for Scell (Huawei)

This section deals with DISC\_S3\_1:

***DISC S3\_1:*** *Discuss whether the intent of the CRs* [*R2-2005002*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip) *and* [*R2-2005003*](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip) *is agreeable and whether the CRs are agreeable.*

Two aspects should be discussed: First, whether the intent of the correction is acceptable and second, if the intent is correct, whether the proposed CR is agreeable.

Companies are requested to provide comments in the table 8 and 9 below (one row for each new comment to better keep track of the discussion – please don’t edit the previous comments.

|  |  |
| --- | --- |
| **Company** | **Is the intent as explained in CRs** [**R2-2005002**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip) **and** [**R2-2005003**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip) **correct?** |
|  |  |
|  |  |
|  |  |

**Table 8. Intent of the CRs**

|  |  |
| --- | --- |
| **Company** | **Comments on the details of the CRs in** [**R2-2005002**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip) **and** [**R2-2005003**](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip)**?** |
|  |  |
|  |  |
|  |  |

**Table 9. Details of the CRs**

**Conclusions (DISC S3\_1): TBA**

## 3.4 General RRC discussion

This section deals with DISC\_S1\_4 and DISC S2\_2:

***DISC S1\_4:*** *Discuss whether to adopt some changes to the RRC guidelines in A.3.9 for the AddModList usage regarding the release of parent/child IEs with nested AddModLists.*

***DISC S2\_2:*** *Discuss the general principle on UE configurations: If a field (e.g. field1 with IE type is* ***Config1****) contains a child field (e.g. field2 with IE type* ***ID2****) that refers to another IE (i.e. field that is identified according to* ***ID2****) and the referred IE is released, does the UE still retain the field1?*

Since these are general principles, they are discussed separately from the particular issues raised in the contributions.

Companies are requested to provide comments in the tables 10-11 below (one row for each new comment to better keep track of the discussion – please don’t edit the previous comments.

|  |  |
| --- | --- |
| **Company** | **Should something be captured in A.3.9 concerning nested AddModLists?** |
|  |  |
|  |  |
|  |  |

**Table 10. DISC S1\_4: Guidelines on AddModLists**

**Conclusions (DISC S1\_4): TBA**

|  |  |
| --- | --- |
| **Company** | **Should something be captured on retaining fields that refer to other released fields?** |
|  |  |
|  |  |
|  |  |

**Table 10. DISC S1\_4: Guidelines on retaining fields that refer to other released fields**

**Conclusions (DISC S2\_2): TBA**

# 4 Conclusions

**Agreements proposed to be agreed in this meeting (from all sub-topics)**

**TBA**

**Discussion items proposed at the start of the discussion:**

**DISC S1\_1:** Discuss whether UE shall release the PDCCH-ConfigCommon::commonControlResourceSet in via PDCCH-Config:: controlResourceSetToReleaseList.

**DISC S1\_2:** Discuss whether a PDCCH TCI state ID configured via common CORESET can be released by a dedicated CORESET and vice versa.

**DISC S1\_3:** Discuss whether UE should retain configuration of a TCI State ID when the corresponding TCI State is released.

**DISC S1\_4:** Discuss whether to adopt some changes to the RRC guidelines in A.3.9 for the AddModList usage regarding the release of parent/child IEs with nested AddModLists.

**DISC S2\_1:** Discuss the Q1-Q4 from [R2-2005009](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005009.zip)to determine what is the common understanding in RAN2 concerning them.

**DISC S2\_2:** Discuss the general principle on UE configurations: If a field (e.g. *field1* with IE type is ***Config1***) contains a child field (e.g. *field2* with IE type ***ID2***) that refers to another IE (i.e. field that is identified according to ***ID2***) and the referred IE is released, does the UE still retain the *field1*?

**DISC S3\_1:** Discuss whether the intent of the CRs [R2-2005002](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip) and [R2-2005003](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip) is agreeable and whether the CRs are agreeable.

# 5 List of referenced documents

[1] [R2-2004903](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004903.zip) Corrections to CORESET and PDCCH TCI state release Nokia, Nokia Shanghai Bell discussion Rel-15 NR\_newRAT-Core

[2] [R2-2004904](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004904.zip) Corrections to CORESET and PDCCH TCI state release Nokia, Nokia Shanghai Bell CR Rel-15 38.331 15.9.0 1633 - F NR\_newRAT-Core

[3] [R2-2004905](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2004905.zip) Corrections to CORESET and PDCCH TCI state release Nokia, Nokia Shanghai Bell CR Rel-16 38.331 16.0.0 1634 - A NR\_newRAT-Core

[4] [R2-2005009](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005009.zip) Clarification on SCell release Huawei, HiSilicon discussion Rel-15 NR\_newRAT-Core

[5] [R2-2005002](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005002.zip) Clarification on release and addition of the uplink for Scell Huawei, HiSilicon CR Rel-15 38.331 15.9.0 1643 - F NR\_newRAT-Core

[6] [R2-2005003](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005003.zip) Clarification on release and addition of the uplink for Scell Huawei, HiSilicon CR Rel-16 38.331 16.0.0 1644 - A NR\_newRAT-Core