3GPP TSG-RAN WG2 #114-e electronic R2-210xxxx

Electronic, 16 – 27 August 2021

Agenda Item: 6.1.4.1.5 Other

Source: Ericsson

Title: [AT115-e][027][NR16] CP Other & LTE (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

This contribution summarizes the following discussion:

* [AT115-e][027][NR16] CP Other & LTE (Ericsson)

 Scope: Determine agreeable parts and agree CRs, For [R2-2107285](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107285.zip)-7288 await on-line treat remaining part if needed, Treat [R2-2108291](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108291.zip), [R2-2107129](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107129.zip), [R2-2107482](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107482.zip), [R2-2106911](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2106911.zip), [R2-2108268](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108268.zip), [R2-2107485](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107485.zip), [R2-2106996](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2106996.zip), [R2-2108434](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108434.zip), [R2-2108275](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108275.zip), [R2-2108189](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108189.zip), [R2-2108190](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108190.zip), [R2-2108569](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108569.zip), [R2-2108679](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108679.zip),

 Intended outcome: Report, Agreed CRs.

 **Deadline: A first round with Deadline for comments Thursday Aug 19 1200 UTC**

**CandidateBeamRSList**

[R2-2107285](file:///D%3A/Documents/3GPP/tsg_ran/WG2/TSGR2_115-e/Docs/R2-2107285.zip) Report of email discussion [Post114-e][071][NR16] CandidateBeamRSList set to release (MediaTek) MediaTek Inc. discussion Rel-16 NR\_eMIMO-Core Late

[R2-2107286](file:///D%3A/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2107286.zip) Handling of candidateBeamRSListExt-v1610 (option A1) MediaTek Inc. draftCR Rel-16 38.331 16.5.0 F NR\_eMIMO-Core Late

[R2-2107287](file:///D%3A/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2107287.zip) Handling of candidateBeamRSListExt-v1610 (option B) MediaTek Inc. draftCR Rel-16 38.331 16.5.0 F NR\_eMIMO-Core Late

[R2-2107288](file:///D%3A/Documents/3GPP/tsg_ran/WG2/RAN2/2108_R2_115-e/Docs/R2-2107288.zip) Handling of candidateBeamRSListExt-v1610 (option C) MediaTek Inc. draftCR Rel-16 38.331 16.5.0 F NR\_eMIMO-Core Late

Misc Corrections

[R2-2108291](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108291.zip) Miscellaneous non-controversial corrections Set XI Ericsson CR Rel-16 38.331 16.5.0 2763 - F NR\_newRAT-Core, TEI16

[R2-2108587](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108587.zip) Correction on RRC multiplicity and type constraint definitions Huawei, HiSilicon        CR       Rel-16           38.331 16.5.0  2782    -           F          NR\_newRAT-Core

**eCall over IMS**

[R2-2107129](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107129.zip) Early implementation of eCall over IMS in NR Qualcomm Incorporated, Ericsson, Vodafone CR Rel-16 38.331 16.5.0 2714 - F TEI16

NR-U

[R2-2107482](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107482.zip) Correction on description of lbt-FailureInstanceMaxCount in LBT-FailureRecoveryConfig ZTE Corporation, Sanechips CR Rel-16 38.331 16.5.0 2727 - F NR\_unlic-Core

2-step RACH

[R2-2106911](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2106911.zip) LS on the description of RRC parameter p0-AlphaSets ([R1-2106168](http://www.3gpp.org/ftp/tsg_ran/WG1_RL1//TSGR1_105-e/Docs//R1-2106168.zip); contact: ZTE) RAN1 LS in Rel-16 NR\_2step\_RACH-Core To:RAN2

[R2-2108268](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108268.zip) Correction to 38.331 on field description of the MsgA-TransMax ZTE Corporation, vivo, LG Electronic, OPPO, Samsung CR Rel-16 38.331 16.5.0 2760 - F NR\_2step\_RACH-Core

[R2-2107485](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107485.zip) Correction to description of po-AlfphaSets ZTE Corporation, Sanechips CR Rel-16 38.331 16.5.0 2728 - F NR\_2step\_RACH-Core

[R2-2106996](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2106996.zip) Correction on msg1-SubcarrierSpacing and msgA-SubcarrierSpacing vivo CR Rel-16 38.331 16.5.0 2707 - F NR\_2step\_RACH-Core

Moved from 6.1.4.1.1

Redirection with MPS indication

[R2-2108434](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108434.zip) Correction on Redirection with MPS Indication Peraton Labs, CISA ECD, T-Mobile US, Ericsson , Qualcomm, NTT DoCoMo, AT&T, Verizon CR Rel-16 36.331 16.5.0 4714 - F NR\_newRAT-Core, TEI16

LTE changes - Mobility

[R2-2108375](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108375.zip) Correction on ULInformationTransferMRDC(R16) ZTE Corporation, Sanechips CR Rel-16 36.331 16.5.0 4713 - F TEI16

LTE changes - ASN.1 on SCG Failure report

[R2-2108189](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108189.zip) ASN.1 misalignment for the SCGFailureInformationNR message Ericsson CR Rel-16 36.331 16.5.0 4709 - F LTE\_NR\_DC\_CA\_enh-Core, NR\_unlic-Core, NR\_IAB-Core, NR\_Mob\_enh-Core

Moved from 6.1.4.1.1

[R2-2108190](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108190.zip) ASN.1 misalignment for the SCGFailureInformationNR message Ericsson CR Rel-16 38.331 16.5.0 2758 - F LTE\_NR\_DC\_CA\_enh-Core, NR\_unlic-Core, NR\_IAB-Core, NR\_Mob\_enh-Core

Moved from 6.1.4.1.1

[R2-2108569](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108569.zip) Discussion on compatibility issue and solutions for Rel-15 failure type definition Huawei, HiSilicon discussion Rel-16 TEI16

[R2-2108679](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108679.zip) Discussion on compatibility issue on failure type for NR SCG failure CATT discussion Rel-15

Contact person(s) for each participating company:

|  |  |
| --- | --- |
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# 2 Discussion

## 2.1 Phase 1: Intended to determine agreeable parts

### 2.1.1 CandidateBeamRSList

[R2-2107285](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107285.zip) Report of email discussion [Post114-e][071][NR16] CandidateBeamRSList set to release (MediaTek) MediaTek Inc. discussion Rel-16 NR\_Emimo-Core Late

[R2-2107286](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107286.zip) Handling of candidateBeamRSListExt-v1610 (option A1) MediaTek Inc. draftCR Rel-16 38.331 16.5.0 F NR\_Emimo-Core Late

[R2-2107287](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107287.zip) Handling of candidateBeamRSListExt-v1610 (option B) MediaTek Inc. draftCR Rel-16 38.331 16.5.0 F NR\_Emimo-Core Late

[R2-2107288](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107288.zip) Handling of candidateBeamRSListExt-v1610 (option C) MediaTek Inc. draftCR Rel-16 38.331 16.5.0 F NR\_Emimo-Core Late

This topic was discussed at Monday online session. The following conclusions were captured in the chair’s notes:

* We go for option A1 (for this and future rel)

- MTK wonder if this is now the principle for the future (for other fields). Samsung think it is only for this case and current principle in RRC can be kept. Ericsson think we just discuss case by case, right now we don’ t need to discuss the future. Chair: seems that the interest to change/discuss principle is limited. Can disucss at later time, if found to be a general issue.

* CRs by email

**Q1. Companies are asked to provide their comments on the draft CR in** [R2-2107285](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107285.zip) (option A1).

|  |  |
| --- | --- |
| **Company** | **Comments** |
| MediaTek | The unchanged sections in annex A can be deleted (they were provided in case we wanted to make modifications to capture the general case). |
| Nokia, Nokia Shanghai Bell | Agree with MediaTek on removal of annex A. Additionally, we have some general wording proposals for the text:* „maintains awareness“ is correct but seems a bit circumspect: We would propose to use just „remembers“ for simplicity.
* Some „only“ could be used added to the text to ensure it‘s clear the extension does not apply to the legacy list entries.

This is what we would propose for the added text (highlighted parts are different from the original CR):The UE remembers which elements were configured by *candidateBeamRSListExt-v1610*, and the subsequently received contents of *candidateBeamRSListExt-v1610* apply only to these entries (i.e., receiving *candidateBeamRSListExt-v1610* set to *release* releases only the entries that were configured by *candidateBeamRSListExt-v1610*, and receiving *candidateBeamRSListExt-v1610* set to *setup* replaces only the entries that were configured by *candidateBeamRSListExt-v1610* with the newly signalled entries).For cover page, some suggestions:* Reason for change: Use „only“ instead of „all“ in the last sentence, i.e. as per below „ If *candidateBeamRSListExt-v1610* is set to *release*, it is ambiguous whether the UE should release all entries >16 in the combined list or only entries that were originally configured by *candidateBeamRSListExt-v1610*.“
* Summary of change: If we use „remembers“ in the field text, then maybe usiong „remembers“ is also appropriate here: „ It is clarified in the field description that the UE remembers of which list entries were configured by which field. „. Similarly, „all“ may not be appropriate and „only“ could be easier to understand (same as above comment for the field description), i.e. „ When *candidateBeamRSListExt-v1610* is set to *release*, the UE releases only entries that were originally configured by *candidateBeamRSListExt-v1610*, irrespective of their current position in the stored list; when *candidateBeamRSListExt-v1610* is set to *setup*, the UE replaces only entries that were originally configured by *candidateBeamRSListExt-v1610* with the newly signalled entries.“
 |
| Ericsson | We thought shorter text could be used, without losing in clarity. E.g.Set of reference signals (CSI-RS and/or SSB) identifying the candidate beams for recovery and the associated RA parameters. This set includes all elements of *candidateBeamRSList* (without suffix) and all elements of *candidateBeamRSListExt-v1610*. Entries in *candidateBeamRSListExt-v1610* set to *setup* replaces all entries that were configured by *candidateBeamRSListExt-v1610, and candidateBeamRSListExt-v1610* set to *release* releases those entries.The network configures these reference signals to be within the linked DL BWP (i.e., within the DL BWP with the same *bwp-Id*) of the UL BWP in which the *BeamFailureRecoveryConfig* is provided. |
| Intel | Agree with Nokia comment about adding “only“. Also wonder if we should add a similar sentence for *candidateBeamRSList.*I am actually a bit confused with the final agreement – the final addition that we didn’t get to discuss further. Is this agreement to use A1 then only for this field?How should be update the general section text:Upon reception of a list not using ToAddModList and ToReleaseList structure, the UE shall delete all entries of the list currently in the UE configuration before applying the received list and shall consider each entry as newly created. This applies also to lists whose size is extended (i.e. with a second list structure in the ASN.1 comprising additional entries).If we want to limit this to just this field and discuss general in the future, we should at least add “unless specified otherwise” to “This applies also to lists whose size is extended”. If we are to apply A1 for the general rule, we need to update the above para.  |
| OPPO | the CR should be [R2-2107286](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107286.zip)the CR number is missedThe clarification is genenral explain the general ASN.1 syntax and hence sounds bit redundant. A simpler version could to clarify that UE should maintain candidateBeamRSList and candidateBeamRSListExt-v1610 separately instead of one single list and that’s it. Similar wording can be used for genenral rule. |
| LG | Our understanding is that our discussion is restricted to those fields. Regarding the wording of the added sentence in the FD, we think the yellow part can be removed, because green sentences specify the exact behaviors. The UE maintains awareness of which elements were configured by *candidateBeamRSListExt-v1610*, and subsequently received contents of *candidateBeamRSListExt-v1610* apply to these entries (i.e., receiving *candidateBeamRSListExt-v1610* set to *release* releases the entries that were configured by *candidateBeamRSListExt-v1610*, and receiving *candidateBeamRSListExt-v1610* set to *setup* replaces the entries that were configured by *candidateBeamRSListExt-v1610* with the newly signalled entries). |
| ZTE | We think the conclusion is to apply this principle for both this field and future release. It would be good if UE/network to take unified solution for all similar fields. So we agree with Intel to add a rule to the general section. * We go for option A1 (for this and future rel)

Regarding the change in field description. The sentences in bracket are quite clear. For the yellow part(shown in LG’s comment), maybe we can simply say:  “The UE maintains *canditateBeamRSList* and *candidateBeamRSListExt-v1610* seperately (i.e. receiving ...)  |

**Summary**

The rapporteur shares the comment by Intel on whether the solution to apply for CandidateBeamRSList should be used also in future. The rapporteur understanding is that we now only discuss this particular case. This need be confirmed online (and has impact on the text in Annex A)

1. Confirm online whether the solution to apply for CandidateBeamRSList (R2-2107286) should be used also in future.

MediTek is asked to revise the CR based on received comments.

1. Revise the CR CR in [R2-2107285](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107285.zip) (option A1) for further review in this email discussion.

### 2.1.2 Misc Corrections

[R2-2108291](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108291.zip) Miscellaneous non-controversial corrections Set XI Ericsson CR Rel-16 38.331 16.5.0 2763 - F NR\_newRAT-Core, TEI16

**Q2. Companies are asked to provide their comments on the proposed changes in the draft CR, and provide further findings on typos etc.**

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| **Company** | **Comments** |
| MediaTek | One additional typo: in section 5.3.13.2, third level 3 bullet, „resumeCause“ and „mps-PriorityAccess“ should be in italics. |
| Lenovo | The changes are ok but further issues can be fixed as well:1. R15 issue:

In 6.4 the description of maxBarringInfoSet is not correct, it should say „Maximum number of access control parameter sets“. MaxAccessCat-1 INTEGER ::= 63 -- Maximum number of Access Categories minus 1maxBarringInfoSet INTEGER ::= 8 -- Maximum number of Access Categories1. R16 issues:
* 5.5.5.1: in the condition below there is a typo, should say „average“.
	1. if avareage uplink PDCP delay values are available:
* 5.5.2.10: typo in the paragraph below, missing letter „t“ to be added in the word „reselecion“:

 If *smtc2-LP* is present, for cells indicated in the *pci-List* parameter in *smtc2-LP* in the same frequency (for intra frequency cell reselection) or different frequency (for inter frequency cell reselection), the UE shall …* 5.5.2.10a: in the paragraph below, „measDuration” to be replaced by “measDurationSymbols”:

On the frequency configured by *rmtc-Frequency*, the UE shall not consider RSSI measurements outside the configured RMTC occasion which lasts for *measDuration* for RSSI and channel occupancy measurements.* 6.2.2, LoggedMeasurementConfiguration field descriptions: in the description of reportType the word should say “configuration”.

Parameter configures the type of MDT configuration, specifically Periodic MDT conifguraiton or Event Triggerd MDT configuration.* 6.2.2, ConnEstFailReport field descriptions: the description of numberOfPreamblesSent can be removed since the field does not exist in IE ConnEstFailReport.

***NumberOfPreamblesSent***This field is used to indicate the number of random access preambles that were transmitted.* 6.3.2, RSSI-ResourceConfigCLI field descriptions: „scs“ in field name rssi-scs should be set in capital letters to be aligned with ASN.1.

***rssi-scs***Reference subcarrier spacing for CLI-RSSI measurement. … * 6.3.2, ServingCellConfig field descriptions: „iab-mt“ in field name tdd-UL-DL-ConfigurationDedicated-iab-mt should be set in capital letters to be aligned with ASN.1.

 ***tdd-UL-DL-ConfigurationDedicated-iab-mt**** 6.3.2, SlotFormatCombinationsPerCell field descriptions: in the description of enableConfiguredUL the word „channels“ should be added as shown below (PUCCH and CG-PUSCH are channels).

***EnableConfiguredUL***If configured, the UE is allowed to transmit uplink signals/channels (SRS, PUCCH, CG-PUSCH) in the set of symbols of the slot when the UE does not detect a DCI format 2\_0 providing a slot format for the set of symbols (see TS 38.213 [13], 11.1.1). |
| Samsung | Fine for the changes but I want to know the intention of CatF for this CR. It seems this CR has more minor corrections than Rel-15 CR. In this case, we think Rel-16 CR category could be A instead of F based on the MCC guideline i.e. If there are more substantial changes in the later release CR, we should normally split the CRs to Cat A + Cat F parts so this is clear. But in this case the changes are anyway mostly editorial so we think it’s fine to just use Cat A for all of them.BTW, it is not really ciritical, we are fine either way. |
| Huawei, HiSilicon | Clauses affected needs to be populated in the final CR. |
| Vivo | Editorial changes, agree |
| Nokia | Same as Huawei. Also Cat F aseems bit strong for this one |
| Convida Wireless | It reads NR\_newRAT-Core on the coversheet. It is a Rel-15 work item. Hence, this is a Rel-16 mirror CR to a Rel-15 correction? If so, the category must be A. Otherwise, if this is only TEI16, it is a Category F CR. Observe, Rel-16 CR cannot be submitted to TSG RAN approval with a Rel-15 WI code unless it is a mirror CR. Also 1) the changes are minor but still some text is added and removed, and 2) Rel-16 is already frozen but Category D is prohibited to frozen Releases. Therefore this cannot be a Category D CR even if Category F is perceived strong. |
| Ericsson | The 38331 Rapporteur has been informed of some other typos:* „Synchrnonous“ in section 5.5.2.9
* „reselecion“ in section 5.5.2.10
* Missing space in

SI-RequestConfig::= SEQUENCE { |
| CATT | No strong view, anyway these changes are not critical. |
| ZTE | Ok to not use Cat F.  |

**Summary**

The 38331 Rapporteur is asked to respect the comment by companies, and proved a revised CR in the scope of this email discussion.

1. Revise the CR R2-2108291 Miscellaneous non-controversial corrections with received comments

The rapporteur will check with the secretary on CR category.

1. Rapporteur to check with RAN2 secretary on appropriate CR Category to use.

[R2-2108587](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108587.zip) Correction on RRC multiplicity and type constraint definitions Huawei, HiSilicon        CR       Rel-16           38.331 16.5.0  2782    -           F          NR\_newRAT-Core

**Q3. Companies are asked to provide their view on the need of the draft CR, and comments on the changes in the draft CR.**

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| --- | --- | --- |
| **Company** | **CR needed?** | **Comments** |
| MediaTek | Yes | The CR has no normative impact, but it’s good to have from a spec cleanliness perspective. We should normalise on one convention or the other (-1-r16 or -r16-1). |
| Lenovo | Yes | For consistency reasons it might be good to fix the suffices of the „minus one“ constants. However, we think that the correct format is „-1-r16“, i.e. the opposite to what is proposed in the CR. This format is also used in LTE. As result, the suffices of the following constants need to be fixed (and can be merged into the rapporteur CR):* maxAI-DCI-PayloadSize-r16-1
* maxNrofAvailabilityCombinationsPerSet-r16-1
* maxNrofCG-SL-r16-1
* maxCI-DCI-PayloadSize-r16-1
* maxNrofCLI-RSSI-Resources-r16-1
* maxNrofConfiguredGrantConfig-r16-1
* maxNrofConfiguredGrantConfigMAC-r16-1
* maxNrofSPS-Config-r16-1
 |
| Samsung | Yes, but | Intention for consistency in RRC spec would be fine. But, it should be kept the legacy cases in 36.331 (i.e. use the suffix of “-1-r16” instead of the suffix of “-r16-1”.This change can be merged in the Rap CR. |
| Huawei, HiSilicon | Yes | Proponent |
| vivo | Yes, but | Agree with Lenovo and Samsung that we should stick to the legacy convention by using „-1-r16“. |
| Nokia, Nokia Shanghai Bell | Partly | The correct form is „-1-r16“, i.e. the release suffix comes last. This is because in case the constant name is referected in procedural text, the releases suffix „-r16“ can be dropped but the „-1“ cannot.Any changes like this can be merged to the rapporteur CR. |
| QCOM | Yes | Since there are 2 different opinions on how to fix the “-1“ suffix, it makes more sense to have it “-1-r16““ |
| Ericsson | Yes but | We agree that same format as in 36.331 shall be used. And we also agree this can be implemented in the Rapp CR. |
| NEC | Yes | this should be corrected to avoid any misunderstanding  |
| Intel | Partly | The suffix -r16 is a release suffix and it has to come last as commented by others. That rule should take precedence over others.  |
| OPPO | Yes | Agree with Samsung. The CR could be merged with rapporteur CR, otherwise the CR category should be D instead of F. |
| CATT | Yes, but | Better to normalise one common convention as in 36.331 |
| ZTE | Yes |  |

**Summary**

There is a clear preference among companies to align NR with LTE as first indicated by Lenovo. Also the change can be merged to the 38331 Rapp CR.

1. On “max-xxx” names, use “-1-r16” as in 36.331. The change can be merged with the rapporteur CR.
2. CR in [R2-2108587](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108587.zip) is not pursued.

### 2.1.3 eCall over IMS

[R2-2107129](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107129.zip) Early implementation of eCall over IMS in NR Qualcomm Incorporated, Ericsson, Vodafone CR Rel-16 38.331 16.5.0 2714 - F TEI16

**Q4. Companies are asked to provide their view on the need of the draft CR, and comments on the changes in the draft CR.**

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| **Company** | **CR needed?** | **Comments** |
| MediaTek | Y |  |
| Lenovo | Not necessarily | We are ok to allow early implementation of eCall over IMS in NR. However, this can be always done acc. to Annex D in TS 38.331. There is no stringent need to add the original CR to the table in Annex C. |
| Samsung | Yes |  |
| Huawei, HiSilicon | No | The support of eCall has been discussed previously in Rel-16 triggered by the LS in R2-2002549 and it was decided to support it since Rel-16 as cited below "TSG SA believes that the changes required in order to allow support for eCall over IMS (NG-eCall) over NR are minimal. CRs should be prepared for TSGs #88 in June 2020 in order to maximise the possibility of including this in Release 16." Thus we don't see need to have early implementation. |
| vivo | Yes |  |
| Nokia | Yes |  |
| Qualcomm Incorproated | Proponent | To answer Lenovo’s question, the CR is necessary to clarify the test applicability, i.e. necessary information for RAN5.Annex D is to explain „how“ the early implementation can be done. |
| Vodafone | yes | To answer Huawei: The SA report is encouraging early implementation! The alternative was that this was done in rel 17. For us it is important that “5G cars“ can appear as soon as possible – and owing to the long life of cars, it is important that they all support eCall over NR.  |
| Ericson | Yes | Proponent |
| NEC | Yes | early implementation is Ok  |
| Intel | Yes |  |
| OPPO | No | Agree with Huawei |
| CATT | No | We agree with HW that there is no need to have early implementation. |
| LG | Yes |  |
| ZTE | Yes |  |

**Summary**

There is a clear preference among companies to agree on the CR. It was explained that the CR is necessary to clarify the test applicability, i.e. necessary information for RAN5.

1. Agree R2-2107129, Early implementation of eCall over IMS in NR.

### 2.1.4 NR-U

[R2-2107482](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107482.zip) Correction on description of lbt-FailureInstanceMaxCount in LBT-FailureRecoveryConfig ZTE Corporation, Sanechips CR Rel-16 38.331 16.5.0 2727 - F NR\_unlic-Core

**Q5. Companies are asked to provide their view on the need of the draft CR, and comments on the changes in the draft CR.**

|  |  |  |
| --- | --- | --- |
| **Company** | **CR needed?** | **Comments** |
| MediaTek | Y | We understand this aligns with the MAC spec. |
| Apple | Y | We agree. |
| Samsung | Yes | Fine with the change. |
| Huawei, HiSilicon | Maybe not | The coversheet contains an error that “Related RAN1 LS in R2-2106911”is not true.The field description already links to TS 38.321 for more details, so we can live without this text enhancement, as we see no room for ambiguity.  |
| vivo | Yes |  |
| Nokia | Not critical | Editorial. There is not really room for misunderstanding. This could be just part of editorial rapporetuer CR as well if any. |
| QCOM | No strong view | More like an editorial change, MAC spec is already clearly stated how the procedure should work |
| Ericsson | Not critical | Good to be consistent with MAC spec, but agree with Nokia that this could be merged with Rapp CR.We should write “lower layers” instead of “the physical layer”. |
| NEC | Yes but | merge with Rapporteur CR |
| Intel | May be | We are OK to do this but don’t see this as essential. |
| OPPO | Yes | And we agree that “Related RAN1 LS in R2-2106911”is not true |
| CATT | Yes | This is reasonable. |
| LG | Not critical | Can be merged in rapporteur CR. |
| ZTE | Yes | Proponent |

**Summary**

There is support for the change and to merge with the 38331 Rapp CR.

1. Merge the change in R2-2107482 Correction on description of lbt-FailureInstanceMaxCount with the 38331 Rapporteur CR
2. CR in R2-2107482 Correction on description of lbt-FailureInstanceMaxCount is not pursued

### 2.1.5 2-step RACH

[R2-2106911](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2106911.zip) LS on the description of RRC parameter p0-AlphaSets ([R1-2106168](http://www.3gpp.org/ftp/tsg_ran/WG1_RL1//TSGR1_105-e/Docs//R1-2106168.zip); contact: ZTE) RAN1 LS in Rel-16 NR\_2step\_RACH-Core To:RAN2

[R2-2107485](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107485.zip) Correction to description of po-AlfphaSets ZTE Corporation, Sanechips CR Rel-16 38.331 16.5.0 2728 - F NR\_2step\_RACH-Core

**Q6. Companies are asked to provide comments/questions on the RAN1 LS, their view on the need of the draft CR, and comments on the changes in the draft CR.**

|  |  |  |
| --- | --- | --- |
| **Company** | **CR needed?** | **Comments** |
| MediaTek | Y |  |
| Lenovo | Yes | We are fine to follow RAN1 recommendation and the CR looks ok. However, on the cover page the typos in the title (po-AlfphaSets) should be fixed to “p0-AlphaSets”. |
| Apple | Yes | Ok as per LS. |
| Samsung | Yes | This CR is in line with RAN1 understanding. |
| Huawei, HiSilicon | Yes |  |
| vivo | Yes |  |
| Nokia  | Yes | aligns with RAN1 |
| Ericsson | Yes |  |
| NEC | Yes |  |
| Intel | Yes |  |
| OPPO | Yes |  |
| CATT | Yes |  |
| LG | Yes |  |
| ZTE | Yes |  |

**Summary**

There is support for the change. CR can be agreed. There are some typos on cover page.

1. CR in R2-2107485 Correction to description of po-AlfphaSets can be agreed after revision (minor typos on cover page)

[R2-2108268](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108268.zip) Correction to 38.331 on field description of the MsgA-TransMax ZTE Corporation, vivo, LG Electronic, OPPO, Samsung CR Rel-16 38.331 16.5.0 2760 - F NR\_2step\_RACH-Core

**Q7. Companies are asked to provide their view on the need of the draft CR, and comments on the changes in the draft CR.**

|  |  |  |
| --- | --- | --- |
| **Company** | **CR needed?** | **Comments** |
| Apple | Yes | Agree |
| Samsung | Yes |  |
| Huawei, HiSilicon | Not needed | The change in this CR changes nothing at the moment as the only place where msgA-TransMax is configured in RACH-ConfigDedicated is cfra-TwoStep, so there is no confusion. The change in MAC agreed last meeting was actually relevant as it changed the UE behaviour, but this one is not needed in our opinion. |
|  |  |  |
| Vivo | Yes | Proponent |
| Nokia | OK | not critical but OK to have |
| QCOM | Yes | CR aligns 38.331 and 38.321 on application of msgA-TransMax. Without this CR, UE can't fallback to 4-step RACH (if 2-step RACH fails) for CFRA based HO. |
| Ericsson | Yes | Fine to correct but not critical |
| NEC | Yes | understood this is the leftover from last meeting  |
| Intel | OK |  |
| OPPO | Yes  | proponent |
| CATT | Yes |  |
| LG | Yes | proponent |
| ZTE | Yes | proponent |

**Summary**

There is a clear preference of agreeing the CR

1. Agree CR in R2-2108268 Correction to 38.331 on field description of the MsgA-TransMax

[R2-2106996](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2106996.zip) Correction on msg1-SubcarrierSpacing and msgA-SubcarrierSpacing vivo CR Rel-16 38.331 16.5.0 2707 - F NR\_2step\_RACH-Core

Moved from 6.1.4.1.1

**Q8. Companies are asked to provide their view on the need of the draft CR, and comments on the changes in the draft CR.**

|  |  |  |
| --- | --- | --- |
| **Company** | **CR needed?** | **Comments** |
| Samsung | See Comments | Regarding the 1st change, this may cause backward compatible issue. Legacy r15 UE does not expect msg1-SubcarrierSpacing to be configured if prach-RootSequenceIndex is not L139. So configuring msg1-SubcarrierSpacing when prach-RootSequenceIndex is not L139 and msgA-PRACH-RootSequenceIndex is L139 may cause problem, as legacy UE may consider the configuration as incorrect.In our view there are two possible ways to handle:Option 1: msgA-PRACH-RootSequenceIndex is set to L139 only if prach-RootSequenceIndex is L139.Option 2: msgA-SubcarrierSpacing is also configured if msgA-PRACH-RootSequenceIndex is set to L139 and if prach-RootSequenceIndex is not L139. Note that currently msgA-SubcarrierSpacing is configured if msgA-PRACH-RootSequenceIndex is set to L139 and 4 step RA is not configured.Option 1 restricts the network configuration whereas option 2 does not. So we prefer option 2 and change can be as follows:***msgA-SubcarrierSpacing***Subcarrier spacing of PRACH (see TS 38.211 [16], clause 5.3.2). Only the values 15 or 30 kHz (FR1), and 60 or 120 kHz (FR2) are applicable. The field is only present in case of 2-step only BWP or in case msgA-PRACH-RootSequenceIndex L = 139 and prach-RootSequenceIndex L is not equal to 139. If absent, the UE applies the SCS as derived from the *msg1-SubcarrierSpacing* in *RACH-ConfigCommon* in case of *msgA-PRACH-RootSequenceIndex* L=139, otherwise, the UE applies the SCS as derived from the *msgA-prach-ConfigurationIndex* in *RACH-ConfigGenericTwoStepRA* (see tables Table 6.3.3.1-1, Table 6.3.3.1-2, Table 6.3.3.2-2 and Table 6.3.3.2-3, TS 38.211 [16]). The value also applies to contention free 2-step random access type (*RACH-ConfigDedicated*).. |
| Huawei, HiSilicon | Not sure | We are wondering whether RAN1 really considered the case that L=839 for 4-step RA while L=139 for 2-step RA, which is the configuration which causes the issues. If RAN1 intention was to support this case (which cannot be derived directly from the current agreements), then perhaps RAN1 should discuss whether for this case msgA-SubcarrierSpacing or msg1-SubcarrierSpacing should be used to indicate the SCS. We think this needs to be confirmed by RAN1 first.Also, the current CR seems to cause an issue that in case msg1-SubcarrierSpacing is only configured by the network to indicate SCS for msgA, then the UE will mistakenly apply it also for msg1 SCS, even though the intention was to use SCS indicated by prach-ConfigurationIndex for 4-step RA.  |
| vivo | Yes with comments | Thanks Samsung and Huawei for pointing out the backward compatible issue raised in the draft CR. To resolve this problem, we are fine with Samsung’s revision. Regarding Huawei’s concern on the potential case where L=839 for 4-step RA while L=139 for 2-step RA (i.e. 4-step RA with the long sequence for coverage performance and 2-step RA with the short sequence for radio-efficiency performance), in our memory, this case was not excluded during the previous RAN1 discussion. If companies think we should check with RAN1, we are also okay to send an LS to RAN1 for further confirmation. |
| QCOM | Yes | CR fixes the current inconsistency in 38.331 of determing msgA-SubcarrierSpacing when msgA-PRACH-RootSequenceIndex = l139 |
| Convida Wireless | No preference | Agree with Samsung’s proposal to fix backwards compatibility issues. |
| Ericsson | No | Cover Sheet:„. However, the field description of msgA-SubcarrierSpacing mandatorily requests UE to apply the SCS as derived from the *msg1-SubcarrierSpacing* in *RACH-ConfigCommon* or from the *prach-ConfigurationIndex* in *RACH-ConfigGeneric* according to the 38.211 specification“🡪 This is only needed for the PARCH with a length 139 and 2-step RACH only case.„we can know if l139 is set for 2-step RACH, then *msg1-subcarrierSpacing* should be mandatory present to indicate the PRACH SCS of MsgA Preamble even though l139 is not configured for 4-step RACH“🡪 This is not correct for 2-step RACH only BWP. Even for the case both 2-step and 4-step RA are configured, a msg1 PRACH with a length other than L139 can not be configured together with a msgA PRACH with a length L139 since their SCS must be aligned and so does the PRACH format.First correction (conditional presense l139):This “*msgA-PRACH-RootSequenceIndex*” will be mandatory for 2-step RACH only case and optional for the case both 2-step and 4-step RA are configured. For 2-step RACH only case (the former), SCS will be provided either by the PRACH format or the separately configured mandatory SCS.For the case both 2-step and 4-step RA are configured (the latter), this msg1 SCS configuration may or may be not needed depending on msg1 PRACH format itself.Since this condition here is assuming 4-step RACH is configured, it must be the latter case.However, the issue is do we allow if *prach-RootSequenceIndex* L!=139, while *msgA-PRACH-RootSequenceIndex* L=139?According to RAN1 agreement, this seems allowed:*Agreements:**For 2-step RACH in separate ROs, the following parameters (prach-RootSequenceIndex, zeroCorrelationZoneConfig, restrictedSetConfig), are separately configured for 2-step RACH. If absent, reuse the corresponding 4-step RACH parameters.*However, in this case, *msg1-SubcarrierSpacing* is not allowed to be configured, as the SCS for msg1 will not be 15/30/60/120KHz and will be determined by PRACH format directly. According to agreement below, it implicitly (in our understanding) means the SCS of MSgA PRACH should be the same as the Msg1 PRACH, i.e. they will have same PRACH format (although the *msg1-subcarrierSpacing* is put in bracket, it doesn’t have to exist if not necessary in our understanding) :*Agreements:**For separately configured ROs, the 2-step RACH MsgA PRACH SCS is indicated by the corresponding 4-step RACH parameter (msg1-subcarrierSpacing).*According to above, the original wording is enough, i.e. as long as “*prach-RootSequenceIndex* L=139”, the field here is mandatory, otherwise absent.Correction to ***msgA-SubcarrierSpacing***RAN1 agreement (copied above), meaning that one do not want to have different SCS between 2-step RACH and 4-step RACH even for separate RO case when “values 15 or 30 kHz (FR1), and 60 or 120 kHz (FR2) are applicable” that “*msg1-subcarrierSpacing*” is aiming for:This update is changing “Otherwise” to “if absent” which is wrong, there’s no “absent” case for 2-step RACH only BWP when “values 15 or 30 kHz (FR1), and 60 or 120 kHz (FR2) are applicable”. Note that here the text “Only the values 15 or 30 kHz (FR1), and 60 or 120 kHz (FR2) are applicable” already indicates that 839/571/1151 length PRACH will be precluded according to the PRACH format definitions in RAN1, i.e. only 139 requires one bit indication, other cases have no confusion at all.So the updates here are not correct, i.e we do not need to consider the PRACH formats with length not equal to 139 here at all.Last change: ok to have |
| OPPO | No | We think the explicit signaling of PRACH SCS is only needed for L139 since the rest can be deduced from PRACH format. Then for L139 we intend to agree with E/// that the case when 2-step RACH is configured with L139 while 4-step RACH is configured with non-L139 doesn’t make sense following RAN1 agreement. Hence we disagree with 1st and 2nd change, but ok with 3rd change. |
| ZTE | Yes |  |

**Summary**

There not consensus on whether the CR is needed. The rapporteur proposes the CR is revised respecting the comments by companies and continue discussing the need and details of this CR in this email discussion.

1. Revise CR R2-2106996 Correction on msg1-SubcarrierSpacing and msgA-SubcarrierSpacing and continue discussion on whether CR is needed via email discussion.

### 2.1.6 Redirection with MPS indication

[R2-2108434](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108434.zip) Correction on Redirection with MPS Indication Peraton Labs, CISA ECD, T-Mobile US, Ericsson , Qualcomm, NTT DoCoMo, AT&T, Verizon CR Rel-16 36.331 16.5.0 4714 - F NR\_newRAT-Core, TEI16

**Q9. Companies are asked to provide their view on the need of the draft CR, and comments on the changes in the draft CR.**

|  |  |  |
| --- | --- | --- |
| **Company** | **CR needed?** | **Comments** |
| MediaTek | Y | We are not sure the CR exactly matches the problem. In our reading, the access attempt for MPS redirection will be allowed if \*any one\* of the ACs 12..14 is not barred, even if the actually assigned AC is barred. So in order to effectively bar access for MPS redirection, it seems that the network needs to bar all of ACs 12..14. We understand this may be unavoidable since the UE does not know what the assigned AC is, but it is still a bit counterintuitive and should perhaps be captured in a NOTE. |
| Lenovo | Yes but | We are ok to extend the applicable AC to 12, 13. However, on the proposed change we wonder how it is meant to work:1. If the UE is configured with AC 12, 13, 14 and the NW sets any of the corresponding bits in the ac-BarringForSpecialAC to „0“ then the UE considers the access to the cell as not barred.
2. If the UE is configured with e.g. AC 12 only and the NW sets AC 12 to „1“ and AC 13, 14 to „0“ in the ac-BarringForSpecialAC, then does this UE still consider the access to the cell as not barred?

Proponents should clarify whether scenario 2 is valid or not acc. to the CR. |
| Samsung | Yes | MPS service can be offered in a number of possible Access Classes (e.g. AC 12-14). |
| vivo | Yes, but | Not sure why the cases when AC = 11 or 15 are excluded from the description, as the TS 22.011 clause 4.4a states that:*“4.4a Multimedia Priority Service**Multimedia Priority Service (TS 22.153 [16]) shall be assigned its own unique access class value (i.e., one of the special access classes 11 to 15). The assigned access class value for Multimedia Priority Service is based on regional/national regulatory requirements and operator policy.”* |
| QCOM | Yes |  |
| Peraton Labs | Yes | In LTE, the SIB1 contains the ac-BarringForSpecialAC 5-bit field. When a bit for an AC is set to zero the UE of that AC is not subject to barring. When the bit is not set (to zero) that UE will be barred as a normal UE (using ac-BarringConfig).The UE is not aware of what Access Class corresponds to the MPS service. Thus, the barring check has to cover all the possibilities of Access Classes. In deployments it would be very rare to encounter undesirable behavior from the proposed CR since a combination of conditions would have to occur where the MPS AC would have to be subject to barring, while the other ACs would not, and simultaneously the network would experience redirection of UEs with MPS Indication, which would have to be subject to barring. Therefore a simple solution is preferred for the barring check. Answer to Mediatek: The example described shows correct behavior with the proposed CR. That is, the UE being redirected with MPS Indication will only be subject to barring if all three bits corresponding to AC 12, 13 and 14 have not been set (bit is 1). If any of the three bits is set to zero this UE will consider the cell as not barred. Answer to Lenovo: The CR addresses the case where the UE is not assigned a special AC 12-14, thus it is a UE unsubscribed to MPS service. It is understood that the intention of the Lenovo examples is to mean “if the MPS is configured with AC 12, 13, 14” instead of what was stated as “if the UE is configured with AC 12, 13, 14”. For both examples 1 and 2 the proposed CR would allow the UE to consider the cell as not barred. Answer to VIVO: TS 22.011 describes the Access Class allocation in Section 4.2 as follows:  *Class 15 - PLMN Staff;* *-"- 14 - Emergency Services;* *-"- 13 - Public Utilities (e.g. water/gas suppliers);* *-"- 12 - Security Services;* *-"- 11 - For PLMN Use.*Therefore only 12-14 are considered to be used.  |
| Ericsson | Yes |  Proponents. |
| Intel | Yes but | We also agree with the comments from others that this CR is possibily generalising it too much by allowing access if any of the special ACes is not barred. But we also understand it seems difficult to formulate the CR to allow different ACes to be used for this.  |
| OPPO | Yes |  |
| CATT | Yes | We agree with the changes. |
| LG | Maybe Yes | It seems that normal MPS access is subject to assigned AC(s) for the acces, but access for MPS redirection is subject to more relaxed access control as indicated by others. If RAN2 confirm that this is the intention, we are fine, and otherwise we can discuss further |

**Summary**

There is strong support on the need for and agreeing the CR as submitted. But there seems still some concerns on principles that could be addressed by the sourcing companies. The rapporteur proposes this is continued in phase 2 of this email discussion.

1. The proponent companies of R2-2108434 Correction on Redirection with MPS Indication ae asked to address company comments raised on AC principles in phase 2.

### 2.1.7 LTE changes - Mobility

[R2-2108375](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108375.zip) Correction on ULInformationTransferMRDC(R16) ZTE Corporation, Sanechips CR Rel-16 36.331 16.5.0 4713 - F TEI16

**Q10. Companies are asked to provide their view on the need of the draft CR, and comments on the changes in the draft CR.**

|  |  |  |
| --- | --- | --- |
| **Company** | **CR needed?** | **Comments** |
| MediaTek | Maybe | We think the intention is fine. I guess we can just remove the word „only“ here as below. NR *RRCReconfigurationComplete* (transmitted upon CPC execution if ~~only~~ SRB1 is configured and the UE is operating in EN-DC) messages. Note 1 - WI code should be LTE\_feMob-Core as it is mainly CR for CPC.Note 2 – There is typo „SBR1“ in the proposed text. Should be SRB1. |
| Samsung | Maybe yes | It seems good to be in line with the procedural texts of TS38.331. |
| vivo | Maybe | Similar view with MTK. |
| Nokia | Maybe | Change SBR1 to SRB1 or even the proposal from MTK seems simpler |
| QCOM | May be | MTK proposal seems ok  |
| Ericson | Maybe, see comment | The draft CR corrects general descriptive text to more exactly match the procedure text. To us this is purely editorial, and can be done in a Rapporteur CR (e.g. as proposed by MTK), if companies really find alignment is needed.  |
| NEC | Yes | either way (original change or MediaTek prposal) is fine |
| Intel | OK with comments | We agree with the CR.The WI code and typo should be updated as mentioned by MTK.We didn’t understand the suggestion from MTK of how removing „ony“ helps – SRB1 is always configured.  |
| OPPO | Yes | Suggest to only remove “only“ and merged into rapporteur CR |
| CATT | Maybe yes  | Agree with MediaTek suggestion  |
| ZTE | Yes | Proponent.We think MTK’s suggestion does not solve the issue, because SRB1 is always configured, then the “if“ branch becomes useless. However, for CPC procedure, if the CPC command was received via SRB3, then the UE needs to transmit RRCReconfigurationComplete message directly to SN via SRB3. Simply remove “only“ still gives wrong impression that any CPC execution complete message (in EN-DC) should be carriered in ULInformationTransferMRDC, which is incorrect. So we suggest to stick to original wording, and we can update the CR cover page based on the received comments. |

**Summary**

There is consensus to align the 36331 text with 38331 procedure text. The rapporteur finds the comments by ZTE/Intel valid. Rapporteur proposes to agree the CR. ZTE is asked to revise (and reduce) Cover page.

1. Agree R2-2108375 Correction on ULInformationTransferMRDC after revision (cover page)

### 2.1.8 LTE changes - ASN.1 on SCG Failure report

[R2-2108189](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108189.zip) ASN.1 misalignment for the SCGFailureInformationNR message Ericsson CR Rel-16 36.331 16.5.0 4709 - F LTE\_NR\_DC\_CA\_enh-Core, NR\_unlic-Core, NR\_IAB-Core, NR\_Mob\_enh-Core

Moved from 6.1.4.1.1

[R2-2108190](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108190.zip) ASN.1 misalignment for the SCGFailureInformationNR message Ericsson CR Rel-16 38.331 16.5.0 2758 - F LTE\_NR\_DC\_CA\_enh-Core, NR\_unlic-Core, NR\_IAB-Core, NR\_Mob\_enh-Core

Moved from 6.1.4.1.1

[R2-2108569](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108569.zip) Discussion on compatibility issue and solutions for Rel-15 failure type definition Huawei, HiSilicon discussion Rel-16 TEI16

[R2-2108679](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108679.zip) Discussion on compatibility issue on failure type for NR SCG failure CATT discussion Rel-15

The above-listed documents deal with an issue postponed at RAN2#114e

**– SCGFailureInformationNR**

FailureReportSCG-NR-r15 ::= SEQUENCE {

 failureType-r15 ENUMERATED {

 t310-Expiry, randomAccessProblem,

 rlc-MaxNumRetx,

 synchReconfigFailureSCG, scg-reconfigFailure,

 srb3-IntegrityFailure, other-r16},

 measResultFreqListNR-r15 MeasResultFreqListFailNR-r15 OPTIONAL,

 measResultSCG-r15 OCTET STRING OPTIONAL,

 ...,

 [[ locationInfo-r16 LocationInfo-r10 OPTIONAL,

 logMeasResultListBT-r16 LogMeasResultListBT-r15 OPTIONAL,

 logMeasResultListWLAN-r16 LogMeasResultListWLAN-r15 OPTIONAL,

 failureType-v1610 ENUMERATED {t312-Expiry, scg-lbtFailure,

 beamFailureRecoveryFailure, bh-RLF-r16, spare4,

 spare3, spare2, spare1} OPTIONAL

 ]]

}

The rapporteurs understanding is that the code point *other-16* does not exist in in 36.331 Rel-15 (not even as a spare value), and will result in a transfer syntax error if received by eNb based on Rel-15 ASN.1.

In the following, the rapporteur tried (based on [R2-2108679](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108679.zip)) to list the proposed solutions (sourcing companies are asked to verify and add/correct where needed).

Solution 1-1
Add a new code point into the *failureType-r15* field in 36.331 Rel-15 SCGFailureInformationNR, e.g. “reserved”.
Further, add a code point into the *failureTyp-15* field within the TS 38.331 *CG-ConfigInfo* structure, e.g. “reserved”.

Solution 1-2:

Add a new code point into the *failureType-r15* field in 36.331 Rel-15 SCGFailureInformationNR, e.g. “reserved”.

*CG-ConfigInfo* is not updated, an hence MeNB should instead trigger a release of SCG.

Solution 2-1:
The value *other-r16* should not be used for any case. The UE should always include a “similar” r15 failure type. There are two variants.

1. Setting of failureType-r15 is specified in 38.331 procedure text.
2. Setting of failureType-r15 is left to UE impl. This solution is covered in [R2-2108569](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108569.zip).

Solution 2-2:
For the case of BFR failure, the Rel-16 UE should set the value failureType-r15 to *randomAccessProblem* Other cases are prevented by network implementation (“prevent Rel-16 UEs from encountering T312 expires, LBT failures and BH RLFs when connecting to a Rel-15 MeNB “).

Solution 3
Introduce a new field *failureTypeOther* in 36.331 Rel-16 SCGFailureInformationNR message, and dummify existing *other-r16* code-point. Corresponding procedure text changes in 38.331 Rel-16. (This solution is covered by draft CRs in [R2-2108189](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108189.zip)/[R2-2108190](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108190.zip)).

In this Phase 1, companies are asked to provide their views on preferred solution alternatives. In a Phase 2, we can discuss CR details.

**Q11. Companies are asked to provide their view on preferred solution alternative.**

|  |  |  |
| --- | --- | --- |
| **Company** | **Preferred Solution**  | **Comments** |
| MediaTek | See comment | This is an unfortunate bug in R16 ASN.1. We should never add new UL enum value in legacy field. We recognize this is a real problem and there is no backward compatible way to solve. Our Suggestion* Dummify the *other-r16* code-point (The R16 UE shall never use it, note that it is NBC)
* No need to add new *failureTypeOther-r16* as proposed in solution 3. The existing *failureType-v1610* will provide enough information to R16 eNB.
* The UE set failureType-r15 to any legacy code-point (or some predefined code-point, e.g. *randomAccessProblem,* no strong view) while including the R16 field *failureType-v1610.*

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| Lenovo | See comment | We recall that when the value “other-r16“ was agreed to be introduced in failureType-r15 for a previously unknown codepoint it was assumed that legacy eNBs need to be upgraded to comprehend the “other-r16“. We wonder why it is not possible to do that. We understood that solution 2-1 and 2-2 also require an upgrade of legacy eNBs to comprehend the new mapping of the legacy R15 failure types.  |
| Apple | Aligned with Mediatek’s view. |  |
| Samsung | Solution 3 or the variant of solution 3 | We share the problem so indeed it should be corrected. The cleanest solution could be the Solution 3 so we think it is better if all other solutions have NBC problem as well. |
| Huawei, HiSilicon | Solution 2-1 | This is aligned with our solution in [R2-2108569](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108569.zip).We think the first thing is to handle the value other-r16 in failureType-r15, as it results in a transfer syntax error according to 3GPP common rules.If the value other-r16 is to be disabled, removed or dummied, how the UE sets the failureType-r15 (when failureType-v1610 is included) needs discussions.In our paper R2-2108569, we think it can be left to UE implementation. We suggest that the UE should set an appropriate value, and then Rel-15 eNB can do the appropriate actions based on the value.We are also open for alternatives, e.g. define explicit mapping between some R16 failure types and R15 failure types. |
| Ericsson | Option 3 (proponent) | In general, we agree that whatever solution we go the change it may be NBC. However, with out Option 3 we want to keep the procedural text as semantically correct as possible. In this sense, we are basically trying to re-use the text that is already there.Of course the UE can randomly set a failure cause for the Rel-15 IE, or define a mapping between Rel-16 and Rel-15 failure causes but from a procedural point of view it will look quite strange.  |
| NTTDOCOMO | Solution 2-1 or solution3 | * Either dummify other-r16 code-point or restrict UE shall not set other-r16 is fine.
* The benefis of new failureTypeOther-r16 seems limited as existing failureType-v1610 already provides the information for r16 eNB, while agree it can mostly re-use the exisiting UE procedure
* For solution2-1, a) is more preferable.
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| vivo | Solution 3 | Prefer to go with solution 3. |
| Nokia | None - See comments | Is this a problem observed in the field? We assume this can only be network misinterpretation issue.We would like note that the failureType-r15 is a **mandatory field**. If we were to remove the "other-r16", then what shall the UE fill in for the failure cause? It will have to provide something, and then the eNB not comprehending the extended cause will think this is a failure of other sort than it actually is, causing different kinds of problems as networks will interpret the reporting differently. So if we go this way, we make NBC change for both UEs (who would have to change th codepoint setting) AND networks (who will now have to cope with erroneous information, which is not easy to detect)!Hence, we really think the only way would be to add a note to the specification to clarify the correct handling. Networks can adapt to this and it will not cause incompatibility with any UEs in the field. Finally, we have disucssed network handling of UL spare values earlier, see e.g. [R2-161903](http://3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_93/Docs/R2-161903.zip). The general understanding at that time was that network just ignores the content. That was also the discussion at the time when the Rel-16 decision to introduce the "other-r16" codepoint was done: The encoding doesn't change and all the codepoints that are unknown will trigger eNB to handle the message as "not comprehended" if received. Hence, network would most likely ignore the whole message (or at least the field value).Note that this whole discussion happened during Rel-16 LTE ASN.1 review, with the following agreements made at the time (see [R2-2005752](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_110-e/Docs/R2-2005752.zip) for discussion details):**Agreements (for LTE and NR)**8 For extension of failure types (which have mandatory R15 field) introduced in R16:- Introduce a value other/ unspecified within the legacy field; Use spares if defined and undefined code point otherwise- Include all new R16 values in an –v16xy extension- When signalling the –v16xy extension, the UE will set the legacy field to other/ unspecified |
| QCOM | Option-3 | Seems the proper way to rectify the issue in the spec.  |
| Convida Wireless | Option 3 with modifications | The damage has already happened. Rel-15 and Rel-16 are not backwards compatible for this use case. There is surely an issue to fix.Upon reception of "other-r16", eNB implementation based on Rel-15 ASN.1 most likely throws a decoding failure which means that the decoding of the whole message fails. It is the behaviour that commercially available ASN.1 softwares produce for UPER decoders. It is enough to have one such implementation on the field. No comments on in-house solutions.It is true that the encoding of this field requires 3 bits in any case and there could potentially be 8 possible code points but only 6 were defined in Rel-15. Therefore these unspecified code points cannot be used as spare values (otherwise they would be called spare values).The handling of this case is different from that of spare values. If a spare value is received, the decoder decodes the message and then the receiver decides what to do with its fields. There is no such choice now because there are no spares and decoding fails. (Try it!)It is pointless to rename or dummify the value anymore because it would not change anything. It may even create another serious error. So, we propose to leave "other-r16" as is but add in the field description something like this "... in this version of the specification the value other-r16 shall not be used and the extension failureTypeOther should be used instead". It does not exclude or prohibit the possibility that by co-incidence both the UE and the eNB support the same Rel-16 ASN.1 version with the code point "other-r16". |
| NEC | See comments | our understanding is that the rel-15 eNB cannot understand the new codepoint in rel-16 and it ignores..One question. Is there any case where the rel-15 eNB needs to get and understand the SCG failure report with rel-16 failure cause by rel-16 UE?? To us, even if it happens, rel-15 eNB cannot understand the rel-16 cause anyway. If and only if any solution is necessary, then the suggestion from MediaTek seems fine, although it is NBC change..  |
| Intel | See commentsSolution 2-1 | We should not have done such tricks! There was no spare value in Rel-15 to assign to other-r16.But we still think whether there is an issue depends on network implementations and whether there is a possibility that the UE might provide this new code point to a legacy node that has not implemented the feature. If no, there shouldnt be an issue.Even though these solutions also need changes to gNBs, the potential advantage of these solutions is that it will not impact a legacy gNB that hasn’t implemented this feature. If there is indeed an issue, we prefer solution 2-1. The benefit of the new field in solution 3 is not clear to us when its presence is directly tied to failureType-v1610 other than possibly procedural text. ASN.1 change is normally more significant than procedural change.Further, what value to use for the Rel-15 field then requires further discussion. |
| OPPO | Solution 2-1 with comment | Either not to use this field or dummy it are both fine for us. |
| CATT | Any except Solution 3 | For Solution 3, adding the new field provides no additional information. The precense of the *failureType-v1610* field itself can imply ignoring the *failureType-r15* field—and it becomes Solution 2-1 automatically.And for Solution 2-1, as commented by Huawei, “the Rel-15 eNB can do the appropriate actions based on the value (of the *failureType-r15* field)”. That is to say, what code point to fill does matter. So we think we had better to specify what value to use in TS 38.331 in order to prevent inter-vendor problems. |
| ZTE | Solution 3 |  |

**Summary**

There is consensus that a change is needed to 36.331.

From the comments received, the rapporteur finds there is even companies support between the main solution alternatives to solve the problem (code point *other-16* in SCGFailureInformationNR does not exist in in 36.331 Rel-15):

* Introduce new ASN.1 field for ”other” in Rel-16 36.331
	+ This is Solution 3 (with some alternatives in details)
* Introduce specification text that avoids the use of code point *other-16.*
	+ This is Solution 2-1
	+ The rapporteur understands proposal by MediaTek also belongs here)

Both alternatives are NBC

Online discussion is needed to get progress.

1. Discuss online way forward on alternative solutions (both are NBC) that code point *other-16* does not exist in in 36.331 Rel-15 SCGFailureInformationNR:
A. Introduce new ASN.1 field for ”other”
B. Introduce specification text that avoids the use of code point *other-16.*

# 3 Conclusion Phase 1

After Phase 1 of the email discssion, the following is proposed:

1. Confirm online whether the solution to apply for CandidateBeamRSList (R2-2107286) should be used also in future.
2. Revise the CR CR in [R2-2107285](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2107285.zip) (option A1) for further review in this email discussion.
3. Revise the CR R2-2108291 Miscellaneous non-controversial corrections with received comments
4. Rapporteur to check with RAN2 secretary on appropriate CR Category to use.
5. On “max-xxx” names, use “-1-r16” as in 36.331. The change can be merged with the rapporteur CR.
6. CR in [R2-2108587](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2//TSGR2_115-e/Docs//R2-2108587.zip) is not pursued.
7. Agree R2-2107129, Early implementation of eCall over IMS in NR.
8. Merge the change in R2-2107482 Correction on description of lbt-FailureInstanceMaxCount with the 38331 Rapporteur CR
9. CR in R2-2107482 Correction on description of lbt-FailureInstanceMaxCount is not pursued
10. CR in R2-2107485 Correction to description of po-AlfphaSets can be agreed after revision (minor typos on cover page)
11. Agree CR in R2-2108268 Correction to 38.331 on field description of the MsgA-TransMax
12. Revise CR R2-2106996 Correction on msg1-SubcarrierSpacing and msgA-SubcarrierSpacing and continue discussion on whether CR is needed via email discussion.
13. The proponent companies of R2-2108434 Correction on Redirection with MPS Indication ae asked to address company comments raised on AC principles in phase 2.
14. Agree R2-2108375 Correction on ULInformationTransferMRDC after revision (cover page)
15. Discuss online way forward on alternative solutions (both are NBC) that code point *other-16* does not exist in in 36.331 Rel-15 SCGFailureInformationNR:
A. Introduce new ASN.1 field for ”other”
B. Introduce specification text that avoids the use of code point *other-16.*