3GPP TSG-RAN WG2 #113bis-e R2-21xxxxx

Electronic, 12th – 20th Apr, 2021

Agenda Item: 5.4.1

Source: Huawei, HiSilicon

Title: [AT113bis-e][006][NR15] Connection Control II (Huawei)

Document for: Discussion, Decision

# 1 Introduction

This document is to kick off the following email discussion:

* [AT113bis-e][006][NR15] Connection Control II (Huawei)

 Scope: Treat R2-2103535, R2-2103536, R2-2104254, R2-2104255, R2-2102715, R2-2103659, R2-2103660, R2-2104267, R2-2104268, R2-2103752, R2-2103753, R2-2103754, R2-2103860, R2-2103861

 Phase 1, determine agreeable parts, Phase 2, for agreeable parts Work on CRs.

 Intended outcome: Report and Agreed-in-principle CRs.

 Deadline: Schedule A

The plan for Schedule A is below:

A first round with **Deadline for comments Wednesday April 14 1000 UTC** to settle scope what is agreeable etc (phase 1)

A pre-final round with **Deadline for any functional and/or scope comments Monday April 19 1800 UTC.** At this point all non-agreeable parts shall be removed/excluded. (phase 2)

A final round (last 24h) for checking and smaller simplification / removal comments only including agreeable parts, with Deadline **EOM** (at this point all outcome documents need to be available in inbox with tdoc numbers).

Additional check-points etc if needed are defined by the Rapporteur. Offline discussion rapporteur must notify chairman / session chair if on-line comeback discussion is needed, if discussion doesn’t converge etc.

# Contact Information

|  |  |
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# Discussion

Companies are requested to add their comments on each of the CRs of this email discussion in the questionnaires below.

## L2 Parameters

[R2-2103535](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103535.zip) Correction on contention resolution timer (R15) Huawei, HiSilicon CR Rel-15 38.331 15.13.0 2512 - F NR\_newRAT-Core

[R2-2103536](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103536.zip) Correction on contention resolution timer (R16) Huawei, HiSilicon CR Rel-16 38.331 16.4.1 2513 - A NR\_newRAT-Core

The reason for changes is:

|  |
| --- |
| For ra-ContentionResolutionTimer, in MAC spec, it says the timer is SpCell only. However, the configuration of such timer is mandatory in RACH-ConfigCommon IE, no matter the IE is for an UL BWP on SpCell or other cells. We need to fix the inconsistence between MAC and RRC specs. |

**Q1: Do you agree with the problem identified and the changes in R2-2103535,** **R2-2103536?**

|  |  |  |
| --- | --- | --- |
| Company | Agree?(Yes or No) | Comments |
| Nokia | Not essential correction | According to MAC, the value from Scell is anyway not used so we don’t see a need to make a correction. |
| Huawei,HiSilicon | Yes | Proponent of the CR |
| Samsung | No | Same view with Nokia i.e. how to use ra-ContentionResolutionTimer is clearly specified in MAC specification so nothing seems broken. In addition, the network may configure the same value on it on SpCell and SCell.  |
| Apple | Yes | We are fine to clarify this aspect in the field description. |
| Qcom | Yes |  |
| MediaTek | Not essential | Correct but not critical to have this CR. Fine to have this if majorities prefer. |
| LGE | No | It is cleary specified in MAC that the timer is used only for SpCell.*ra-ContentionResolutionTimer*: the Contention Resolution Timer (SpCell only);We don’t see any inconsistencies. |
| ZTE | Yes | Agree to merge this to rapporteur CR. |
| Ericsson | No | This is not an essential correction and nothing seems to be broken. |
| CATT | Yes | Agree to merge it into rapporteur CR. |
| Intel | Not essential correction | UE will ignore the field that is not relevant in ConfigCommon (unlike dedicated configuration) |
| NEC | No | no need to fix it, as the spec is not broken. but ok to merge it to Rapporteur CR, if many companies want. |
| vivo | No | Agree with Nokia and LG. Besides, 38.321 has been quoted in this field description of 38.331, so no ambiguity exists. |
| OPPO | Yes | We have sympathy on the CR |
| Sequans | No strong view | We are ok if companies want to clarify. |
|  |  |  |

**Summary:**

Companies’ views are summaried below:

Yes: 6

No: 5

Not essential: 3 (1 company is fine to follow majorities)

No strong view: 1

Given that slightly majorities don’t see a big need to have a dedicated CR for this correction, and slightly minorities companies have sympathy on the CR and some think the change can be merged into the rapporteur CR, rapporteur would like to propose the following.

**Proposal 1: The changes in R2-2103535/R2-2103536 are not pursed.**

## Timer

[R2-2104254](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2104254.zip) Correction on T325 Google Inc. CR Rel-15 38.331 15.13.0 2563 - F NR\_newRAT-Core

[R2-2104255](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2104255.zip) Correction on T325 Google Inc. CR Rel-16 38.331 16.4.1 2564 - F NR\_newRAT-Core

The reason for changes is:

|  |
| --- |
| After successful completion of the mobility from NR, the UE stops all timers. This means the timer T325 is stopped. According to current standard, a UE stops deprioritisation of all frequencies or NR signalled by RRCRelease only due to T325 expiry. Since the T325 is stopped and will not expire, the UE will always keep the deprioritisationReq it received from the network. |

**Q2: Do you agree with the problem identified and the changes in R2-2104254,** **R2-2104255?**

|  |  |  |
| --- | --- | --- |
| Company | Agree?(Yes or No) | Comments |
| Nokia | Yes, but | Is this the only timer that needs such handling? There seems to be a need to do something but then the interoperability statement seems incorrect as it says about network implementation and that doesn’t seem right to us. |
| Huawei, HiSilicon | Yes, agree with the issue, but  | Maybe the intention should be that the UE should stop deprioritizing NR frequencies when T325 is stopped. |
| Samsung | No | Nothing is broken i.e. deprioritization will be ONLY applied while T325 is running. Also, it has been from LTE so we can live w/o this change.  |
| Apple | Yes with comments | Agree with the intention. But the exact change can be further discussed  |
| Lenovo | No | Intention of T325 is that it shall not be stopped and let expire. Therefore, no stop conditions were specified in table 7.1.1 and proposed clarification does not make sense. |
| Qcom | Agree with the intention | I can see multiple views … open for discussion |
| MediaTek | No | Similar view as Samsung. Also, this will be a NBC change and is not acceptable to us at this stage. |
| LGE | Agree but | Similar issue was discussed in offline101 of RAN2#113.We think T325 should keep running even after mobility from NR, so agree with the change to make T325 keep running at that mobility event. However, the “consequences if not approved” is currently incorrect. |
| ZTE | Yes | Agree. In 38331 chapter 7.1.1 , there is no stop case for T325. We think the key issue is whether the UE shall continue to use deprioritisationReq when handover to a RAT cell. According to the following red description in 38304, the UE continue to use deprioritisationReq when handover to a RAT cell, so we support this CR.------In case UE receives *RRCRelease* with *deprioritisationReq*, UE shall consider current frequency and stored frequencies due to the previously received *RRCRelease* with *deprioritisationReq* or all the frequencies of NR to be the lowest priority frequency (i.e. lower than any of the network configured values) while T325 is running irrespective of camped RAT. The UE shall delete the stored deprioritisation request(s) when a PLMN selection is performed on request by NAS (TS 23.122 [9]).------ |
| Ericsson | Yes |  |
| CATT | Yes | Agree with ZTE |
| Intel | Yes | Actual change should be discussed – is this the only place or whether it should be captured as a general statement? |
| NEC | Agree with intention | regarding the handling of T325, it should be kept running after the HO from NR. The comment from Lenovo looks valid that there is no condition to stop. It would be good to clarify the T325 is the exception for the corresponding text (i.e. UE stop all timers), while it is not sure whether any change is necessary. open for further discussion  |
| vivo | comments | Firstly, this case may not exist(i.e., T325 is not started and running based on the start condition). Besides, agree with Intel, the wording needs to be further discussed when T325 is indeed running. |
| OPPO | No | Agree with Lenovo |
| Sequans | Yes |  |
|  |  |  |

**Summary:**

Companies’ views are summaried below:

Yes (including those who agree with the intention): 11

No (including one with comments only): 5

First, there is a majority supporting this CR but it seems that people are not aligned on the consequence of current procedure text in specifications.

According to the information from ZTE, “In case UE receives *RRCRelease* with *deprioritisationReq*, UE shall consider… all the frequencies of NR to be the lowest priority frequency (i.e. lower than any of the network configured values) while T325 is running irrespective of camped RAT”, if T325 is stopped actually the UE will NOT deprioritize the NR frequencies any more. That is to say, the conseuqnce analyzed in the CR, “The UE does not stop deprioritisation of all frequencies or NR signalled by *RRCRelease*”, is not correct, as also commented by LGE.

Therefore, rapporteur would like to first confirm if companies are with the same understanding on the above analysis, and we can then further discuss if the UE should keep T325 running in this mobility case, in phase II discussion..

**Proposal 2a: Further discuss in Phase II if the UE will not deprioritize the NR frequencies if T325 is stopped.**

**Proposal 2b: Further discuss if the UE should keep T325 running in this mobility case, in phase II.**

## RRC Resume (initialization upon reception of RAN paging and T380 Expiry)

[R2-2102715](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2102715.zip) Corrections to initiation upon reception of RAN paging and T380 Expiry Samsung Electronics Co., Ltd CR Rel-15 38.331 15.13.0 2476 - F NR\_newRAT-Core

The reason for changes is:

|  |
| --- |
| Scenario:1. UE is in RRC Connected. UE receives RRCRelease with suspend config
	* UE enters RRC\_INACTIVE
	* Reset MAC
	* Re-establish RLC entities of SRB1
	* Suspend all SRBs and DRB(s) except SRB 0
	* Indicate PDCP suspend to lower layer for all DRBs
2. RRC initiate resumption of RRC Connection in RRC\_INACTIVE and
	* Apply the default SRB1 config
	* Apply the default MAC cell group config
	* Apply the CCCH config
	* Re-establish PDCP entity for SRB1
	* Resume SRB1
	* Generate RRCResumeRequest/RRCResumeRequest1 and submit it to lower layers for transmission
3. While the resumption is ongoing, T380 expires/RAN paging is received.
4. RRC initiates resumption of RRC Connection again according to section 5.3.13.8/5.3.2.3 respectively and
	* Apply the default SRB1 config
	* Apply the default MAC cell group config
	* Apply the CCCH config
	* Re-establish PDCP entity for SRB1
	* Resume SRB1
	* Generate RRCResumeRequest/RRCResumeRequest1 and submit it to lower layers for transmission

In the above scenario, upon initiation of second connection resumption, following steps are missing in current specification.* + MAC reset
	+ Release RLC entity for SRB 0 (inorder to remove old CCCH message from RLC buffer).

In the absence of these steps, even though RRC has initiated connection resume again the the transmission of RRC resume from first initiation of connection resume continues in lower layers (RLC/MAC), leading to unpredictable behaviour. * gNB may discard both the messages leading to failure of connection resume.
* gNB may respond to the first one while the UE is expecting response as per the latest connection resume request. Upon receving second resume request while expecting resume complete, gNB may discard the second resume request and terminate the resume procedure.
 |

**Q3: Do you agree with the problem identified and the changes in R2-2102715?**

|  |  |  |
| --- | --- | --- |
| Company | Agree?(Yes or No) | Comments |
| Nokia | No | Question for clarification: If resumption is ongoing and periodic RAN update expires why would UE start another resumption procedure. Wouldn't it be better just continue with existing one? |
| Huawei, HiSilicon | No | Agree with Nokia. Secondly, we don’t see a real problem if the UE really selects to launch the second resume procedure, and the network should be able to handle this. |
| Samsung (Proponent) | Yes  | In response to Nokia's comment, according to current specification, RRC initiates resumption of RRC connection again according to section 5.3.13.8/5.3.2.3. We are fine to clarify that UE does not initiate second RRC connection resume if RRC connection resumption is already ongoing i.e. Note. However, if UE is allowed to initiate second resume connection, operation as specified by the proposed changes in the CR should be performed.  |
| Apple | No | Agree with Nokia. UE does not need to initiated the 2nd resumption procedure. |
| Qcom | No | The CR proposes that UE should discard already initiated RRCResume procedure and start a new RRCResume procedure again. This seems in-efficient and UE should be allowed to continue with previously started RRCResume procedure. |
| MediaTek | No | UE does not start the 2nd Resume procedure while there is already ongoing Resume procedure. |
| LGE | Neutral | First of all, we have the same question as Nokia, i.e. whether the UE can start another resumption procedure while one is ongoing. But, if the UE is allowed to start another resumption procedure, the change proposed in the CR may be needed, similar to SI request case. |
| ZTE | Yes but | Agree the motivation, but in this case we think the better action is to ignore the new resumption procedure, and continue the old resumption procedure, because it is more effective. Suggest to modify as below.---1> if in RRC\_INACTIVE, for each of the *PagingRecord*, if any, included in the *Paging* message:2> if the *ue-Identity* included in the *PagingRecord* matches the UE's stored *fullI-RNTI*:3> if timer T319 is running:4> end the procedure;3> else if the UE is configured by upper layers with Access Identity 1:4> initiate the RRC connection resumption procedure according to 5.3.13 with *resumeCause* set to *mps-PriorityAccess*;3> else if the UE is configured by upper layers with Access Identity 2:4> initiate the RRC connection resumption procedure according to 5.3.13 with *resumeCause* set to *mcs-PriorityAccess*;3> else if the UE is configured by upper layers with one or more Access Identities equal to 11-15:4> initiate the RRC connection resumption procedure according to 5.3.13 with *resumeCause* set to *highPriorityAccess*;3> else:4> initiate the RRC connection resumption procedure according to 5.3.13 with *resumeCause* set to *mt-Access*;-----5.3.13.8 RNA updateIn RRC\_INACTIVE state, the UE shall:1> if T380 expires; or1> if RNA Update is triggered at reception of SIB1, as specified in 5.2.2.4.2:2> if timer T319 is running:3> end the procedure;2> else initiate RRC connection resume procedure in 5.3.13.2 with *resumeCause* set to *rna-Update*;1> if barring is alleviated for Access Category '8', as specified in 5.3.14.4: |
| Ericsson | No | The use case can happen, and we tend to agree that it is more efficient not to trigger a new resume procedure. We are not sure if a correction for Rel-15 is justified, unless problems have been observed in the field? Based on the discussion above it seems there might be different UE implementations, but it is not clear to use if there are UE implementations that cause inter-operability problems? There are likely other cases where procedures can overlap, which are not explicitly covered in 38.331. We are not sure if this case needs to be explicitly captured, but are open to discuss further.  |
| CATT | No | We should first clarify the UE can start another resumption procedure while one is ongoing |
| Intel | No | These scenarios should not trigger another Resume procedure.  |
| NEC | Maybe | we see some point to be clarified as Samsung replied to question from Nokia. Firstly we would like to have a common understanding, and then can discuss whether/how to clarify it. |
| vivo | No | In our understanding, even though two RRCResumeRequests are initiated, the smart network can handle it. |
| OPPO | No | We also think UE should not start 2nd resumption and fine to clarify this in the spec. |
|  |  |  |

**Summary:**

Companies’ views are summaried below:

Yes: 2

No: 10

Others (neutral or maybe): 2

Majorities don’t see a need for these changes, and some of them think the UE may/should (or should be allowed to) not start the 2nd RRC resumption procedure when there is a resumption procedure ongoing. Even if the UE starts the 2nd RRC resumption procedure, some companies are not convinced that there is a critical problem.

The rapporteur would like to propose the following:

**Proposal 3a: (To be captured in chairman notes) The UE may not start the 2nd RRC resumption procedure when there is a RRC resumption procedure ongoing.**

**Proposal 3b: R2-2102715 is not pursued.**

## RRC Resume (Resume of measurements)

[R2-2103659](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103659.zip) Resume of measurements during the RRC resume procedure Ericsson CR Rel-15 38.331 15.13.0 2524 - F NR\_newRAT-Core

[R2-2103660](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103660.zip) Resume of measurements during the RRC resume procedure Ericsson CR Rel-16 38.331 16.4.1 2525 - A NR\_newRAT-Core

The reason for changes is:

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| --- |
| According to section 5.3.13.4, when a UE resumes from the RRC\_INACTIVE state, it should resume the measurements, if these have been suspended. 1> if the *RRCResume* message includes the *measConfig*:2> perform the measurement configuration procedure as specified in 5.5.2;1> resume measurements if suspended;However, when the UE is released with the RRC release procedure, it is not mentioned anywhere that the measurements are suspended.Further, another issue is that when the UE is released, it should store in the UE Inactive AS Context all the RRC configuration (including the measConfig). However, this is not clear from the procedural text as it says that the UE stores “all other parameters configured”. It is not clear if “parameters” refer also to the measurement configuration.3> store in the UE Inactive AS Context the current KgNB and KRRCint keys, the ROHC state, the stored QoS flow to DRB mapping rules, the C-RNTI used in the source PCell, the *cellIdentity* and the physical cell identity of the source PCell, and all other parameters configured except for the ones within *ReconfigurationWithSync* and *servingCellConfigCommonSIB*; |

**Q4: Do you agree with the problem identified and the changes in R2-2103659,** **R2-2103660?**

|  |  |  |
| --- | --- | --- |
| Company | Agree?(Yes or No) | Comments |
| Nokia | No, but | This will not work with IDLE mode measurements which start when UE receives the RRCRelease. So if we go this way, the Rel-16 CR has to make clear \*which\* measurements are suspended. Maybe "measurements configured for RRC\_CONNECTED"? Is that the intention of the proposal? |
| Huawei, HiSilicon | No | First, it is already clear in other places that the UE will not perform measurement and reporting. Secondly, we are not sure this is the only case, for example, L1 measurement and CSI reporting have not been explicitly suspended, but it is obvious the UE will not do L1 measurement and reporting in RRC\_INACTIVE.  |
| Samsung | No | Nothing is broken and it's merely nice to clarify. If agreed, it should be merged into Rap CR. |
| Apple | No | This is not essential change. I think the current text is clear that the measurement config is part of Inacitve context. |
| Ericsson (proponent) | Yes | Our intention is to clarify that the UE should suspend the measurement for RRC\_CONNECTED when is released. This because there is nowhere in the spec a sentence that says that the UE needs to do so. We agree that nothing should be broken and hopefully all the UEs out there are already behaving this way, but still there is an inconsistency in the spec. In this is not enough to have a CR by itself, we are also fine with Samsung suggestion to include this change in the RRC Rapporteur’s CR. |
| QCOM | No strong view  | It’s expected to have the UE stores measurement configuration (connected) as part of INACTIVE AS context of the configuration, upon Release with suspendConfig … can be merged with Rapporteur CR if needed.  |
| MediaTek | No strong view | Not a critical CR. Since there is no requirement to do CONNECTED mode measurement during INACTIVE state, the UE will not do this. But fine to have this change if majorities prefer. |
| LGE | No | We understand the intention but current specification is clear enough. |
| ZTE | No  | In our understanding, the “and all other parameters configured” already covers measurement configuration. However, We have following comments to the existing test:1. Should we switch the order of below paragraph? i.e. first resume the old configuration, then apply new delta configuration.

1. How does UE handle *OtherConfig*? There is no clear statement in section 5.3.13.4 saying UE will resume OtherConfig, but UE should already suspend OtherConfig after RRCRelease.
 |
| CATT | No | All other parameters includes the measConfig |
| Intel | No | We don’t see this as an essential change. |
| NEC | No | similar view as others above. probably there would be no other interpretation (e.g. release meas config) |
| vivo | No | Anyway, NON-RRCCONNECTED UE won’t do the measurement for RRC-CONNECTED. But we are fine if the majority wants to clarify the measurement for RRC-CONNECTED. |
| OPPO | No | Agree with Nokia |

**Summary:**

Companies’ views are summaried below:

Yes: 1

No: 11

No strong view: 2

Majorities don’t see a room for misunderstanding and don’t support the change. Rapporteur would like to propose:

**Proposal 4: R2-2103659/R2-2103660 are not pursued.**

## Abortion of RRC connection est

[R2-2104267](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2104267.zip) Clarification on the abortion of RRC connection establishment Huawei, HiSilicon CR Rel-15 38.331 15.13.0 2566 - F NR\_newRAT-Core

[R2-2104268](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2104268.zip) Clarification on the abortion of RRC connection establishment Huawei, HiSilicon CR Rel-16 38.331 16.4.1 2567 - A NR\_newRAT-Core

The reason for changes is:

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| --- | --- | --- | --- | --- | --- | --- |
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| --- | --- | --- | --- | --- | --- |
| In Section 7 of TS 38.331, the T319 timer description captures the following:

|  |  |  |  |
| --- | --- | --- | --- |
| T319 | Upon transmission of *RRCResumeRequest* or *RRCResumeRequest1.* | Upon reception of *RRCResume,* *RRCSetup, RRCRelease, RRCRelease* with *suspendConfig* or *RRCReject* message, cell re-selection and upon abortion of connection establishment by upper layers. | Perform the actions as specified in 5.3.13.5. |

At the same time, in the procedural text, the abortion of the connection establishment covers only T300 and speaks nothing about T319:

|  |
| --- |
| 5.3.3.8            Abortion of RRC connection establishmentIf upper layers abort the RRC connection establishment procedure, due to a NAS procedure being aborted as specified in TS 24.501 [23], while the UE has not yet entered RRC\_CONNECTED, the UE shall:1> stop timer T300, if running;1> reset MAC, release the MAC configuration and re-establish RLC for all RBs that are established; |

Since section 7 in only an informative annex while the UE behaviour would rather follow the procedural text in the normative part of the specifications, a correctly implemented UE would actually not stop T319 upon abortion of connection establishment by upper layers, which is against the intended UE behaviour.  |

 |

**Q5: Do you agree with the problem identified and the changes in R2-2104267,** **R2-2104268?**

|  |  |  |
| --- | --- | --- |
| Company | Agree?(Yes or No) | Comments |
| Nokia | Yes | This could be aligned |
| Huawei, HiSilicon | Yes | Proponent of the CR |
| Samsung | No | Our understanding is that the description of T319 timer in the table seems wrong so it can be just deleted from there.  |
| Apple | Yes |  |
| QCOM | Yes | This can align with the timer description table in Section 7 |
| MediaTek | No | T319 is a guard timer for RRC **resume** procedure. How could it be running during RRC **connection establishment**? We think the proper correction would be to update section 7 (i.e. just remove abortion of RRC connection establishment for T319). |
| LGE | Yes | We do not see a real problem without this CR, but fine to have this CR for alignment between normative text and the timer table.  |
| ZTE | Yes |  |
| Ericsson | No | For T319, the Timers table (informative) indicate that “Upon reception of RRCResume, RRCSetup, RRCRelease, RRCRelease with suspendConfig or RRCReject message, cell re-selection and upon abortion of connection establishment by upper layers.”But the highlighted text is incorrect. T319 is started upon transmission of RRCResumeRequest or RRCResumeRequest1, i.e. not at connection establishment (T300 is the relevant timer in this case).So (as proposed in this draft CR) adding “stop timer T319, if running” to section “5.3.3.8 Abortion of RRC connection establishment” is incorrect.There is no section “5.3.13.X Abortion of RRC connection resume”.Instead, the yellow marked text in Timers table above should be deleted. This change to informative section can be made in 38331 Rapporteur CR. |
| CATT | Yes |  |
| Intel | Yes but | We agree with the issue. But we are not sure if this is the right section to capture this. This section is about connection establishment - originally meant for establishment from IDLE. Whether this section also covers Resume is not clear (it was not originally meant to be as we understand it). |
| NEC | Yes | this seems correct  |
| vivo | Yes | Section 5.3.3.8 should be aligned with Section 7 to avoid ambiguity. |
| OPPO | No | We share Samsung and Mediatek’s view |
|  |  |  |

**Summary:**

Companies’ views are summaried below:

Yes: 10

No: 4

Majorities support this CR, and some companies think the section 5.3.3.8 is about RRC establishment which is originally meant for RRC establishment from RRC\_IDLE, but the issue is about the upper layer aborting transition to RRC\_CONNECTED state from RRC\_INACTIVE.

Rapporteur would like to propose to revise R2-2104267/R2-2104268 to find a better place to capture the behavior, e.g. by extending 5.3.3.8 to cover the case of RRC resumption or adding a new section.

**Proposal 5: R2-2104267/R2-2104268 are revised according to the suggestions.**

## SCell Index

[R2-2103752](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103752.zip) Clarification on SCellIndex and ServCellIndex NTT DOCOMO, INC. discussion Rel-15

[R2-2103753](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103753.zip) Clarification on SCellIndex and ServCellIndex NTT DOCOMO, INC. CR Rel-15 38.331 15.13.0 2526 - F NR\_newRAT-Core

[R2-2103754](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103754.zip) Clarification on SCellIndex and ServCellIndex NTT DOCOMO, INC. CR Rel-16 38.331 16.4.1 2527 - A NR\_newRAT-Core

There are two issues explained in R2-2103752, and several proposals are provided.

Rapporteur would like to first ask companies to provide their views on the following two proposals.

**Proposal2: RAN2 to confirm if the assignment of servCellIndex for PSCell can be duplicated with SCellIndex for SCell.**

**Proposal3: RAN2 to confirm if the duplicate use of servCellIndex happens, it is unclear for UE on which cell (i.e. PSCell or SCell) to multiplex the UCI based on current spec.**

**Q6a: What is your understanding on the above two proposals and questions?**

|  |  |
| --- | --- |
| Company | Comments |
| Nokia | We agree that there is a problem but maybe this is just an editorial issue.We understand that network can deal with this apparent “inconsistency” by ensuring that it does not mix the PSCell index space with the Scell index space (e.g. always allocate 1 to PSCell, use Scell space from 2 onwards). Then there is no problem.Can companies confirm that then this is purely an editorial issue? |
| Huawei, HiSilicon | Our understanding is that servCellIndex and SCellIndex are both the serving cell index, and they should not be duplicated for a UE.In MAC spec, only servCellIndex is used for all serving cells. |
| Samsung | Agree with P1. But for the change on P4, we think there is no value to specify the clear NW behavior in the specification.  |
| Apple | For P2, we think these two should not be duplicated and the constraint in NW assignment of this index range needs to be clarified in RRC spec. |
| QCOM | Duplicating the cell index is not expected by network  |
| MediaTek | Similar view as Huawei.servCellIndex and SCellIndex are both used for serving cell ID, and they should NOT be duplicated for a UE.  |
| LGE | We think servCellIndex for PSCell should not be duplicated with SCellIndex for SCell. We think the problem comes from the description of ServCellIndex.The IE *SCellIndex* concerns a short identity, used to identify an SCell or PSCell.The IE *ServCellIndex* concerns a short identity, used to identify a serving cell (i.e. the PCell, the PSCell or an SCell). Value 0 applies for the PCell, while the *SCellIndex* that has previously been assigned applies for SCells.As can be seen, there is no text for PSCell in servCellIndex, and this can result in misinterpretation. We may need to add PSCell in the servCellIndex description.while the *SCellIndex* that has previously been assigned applies for SCells and PSCell. |
| ZTE | Network should ensure that servCellIndex for PSCell is different from sCellIndex for SCell. |
| Ericsson | The servCellIndex for PSCell cannot be duplicated with Scells as this causes issues with RRM measurement reporting where we use only servCellIndex in the measResults associated to serving cell, as well as issues in MAC. Such allocation issues can be taken care by the network (avoiding the allocation of same servCellIndex) and there is no need to explicitly specify anything in the specification.  |
| CATT | “**The IE *ServCellIndex* concerns a short identity, used to identify a serving cell (i.e. the PCell, the PSCell or an SCell). Value 0 applies for the PCell, while the *SCellIndex* that has previously been assigned applies for SCells**”In our opinion the highlight parts has already specified the servCellIndex should be unique for each serving cell, so the NW should ensure the servCellIndex for PSCell should different from SCell |
| NTTDOCOMO | Agree that servCellIndex and SCellIndex should not be duplicated across MCG and SCG. |
| Intel | We also agree that the value should not be duplicated. |
| NEC | We can understand the concern, while network can manage properly without corrections. we are open for further discussion but correction, if any, should be included in rapporteur CR. |
| OPPO | We agree there is problem and the some clarification on field description of *ServCellIndex* is necessary. |
| Sequans | Agree that values should not be duplicated. |
|  |  |

**Summary:**

It seems that people are aligned that the SCellIndex configured for SCells is also the serving cell index, and the serving cell index for PSCell should be different from that for SCells for a UE.

Rapporteur would like to propose:

**Proposal 6a: (To be captured in chairman notes)** **the SCellIndex configured for SCells is also the serving cell index, and the serving cell index for PSCell should be different from that for SCells for a UE.**

Companies are requested to provide feedbacks on the following two proposals.

**Proposal1: Correct the SCellIndex description as following:**

**The IE *SCellIndex* concerns a short identity, used to identify an SCell. The value range is shared across the Cell Groups.**

**Proposal4: Add clarification in the ServCellIndex description as following:**

**The IE *ServCellIndex* concerns a short identity, used to identify a serving cell (i.e. the PCell, the PSCell or an SCell). Value 0 applies for the PCell, while the *SCellIndex* that has previously been assigned applies for SCells. For *ServCellIndex* of PSCell, the value shall be assigned other than *SCellIndex* used for SCells within SCG.**

**Q6b: Do you agree with Proposal 1 and Proposal 4 above?**

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| --- | --- | --- |
| Company | Agree?(Yes or No) | Comments |
| Nokia | - | See answer to Q6a, yes if only change is purely editorial |
| Huawei, HiSilicon | Partially | The first change should be fine (more like editorial).For the second change, we think the serving cell ID should be unique for all serving cells configured to a UE, i.e. across cell groups. |
| Samsung | Partly | We are fine with P1 but we do not see any value on P4.  |
| Apple | Yes with comments | We are fine with P1. We also support some clarification for PSCell index in ServCellIndex. But not sure the text in P4 is the best solution.  |
| Qcom |  | May be can be added as note |
| MediaTek | Partially | P1 is okayWe are fine to reword P4 but also think that no change is okay. |
| LGE | No | Our proposal is to add PSCell in the servCellIndex description.while the *SCellIndex* that has previously been assigned applies for SCells and PSCell.Note that servCellIndex is used in MAC specification, and it uniquely identifies all serving cells configured in the UE, i.e. PCell, PSCell and SCell. Thus, the Proposals 1/4 are not correct in that it does not allocate servCellIndex for PSCell. |
| ZTE | Partly | Agree P1.For P4, it is ok to capture something in chairman notes if needed. |
| Ericsson | Yes/No | Agree with Proposal 1. This change is more editorial and can be captured in TS 38.331 Rapp CRProposal 4 is not needed. |
| CATT | Partly | Agree with P1P4 is not needed |
| NTTDOCOMO | Yes | As proponentFor P4, we admit that the serving cell ID should be unique for all serving cells in the UE, therefore we propose to revise the wording (or at least as a Note) as following:**The IE *ServCellIndex* concerns a short identity, used to identify a serving cell (i.e. the PCell, the PSCell or an SCell). Value 0 applies for the PCell, while the *SCellIndex* that has previously been assigned applies for SCells. For *ServCellIndex* of PSCell and *SCellIndex* of SCell, the value shall be unique across the MCG and SCG.** |
| Intel | Partly | Agree with P1. On P4, as Huawei, we think that it should be unique acorss the cell groups. |
| NEC | Partly | Agree with P1, do not see a need for P4 (but do not object) |
| vivo | Yes P1No P4 | Agree with Huawei. |
| OPPO | Yes but | Agree with proposal1. As for P4, The light version from LGE is fine for us. |
| Sequans | Yes |  |
|  |  |  |

**Summary:**

It seems that people are fine with P1, and for P4 some revision can be made to clarify that the serving cell index should be unique to identify a serving cell across the cell groups.

Rapporteur would like to propose:

**Proposal 6b: R2-2103753/R2-2103754 are revised to capture the following changes:**

1/ Correct the SCellIndex description as following:

The IE *SCellIndex* concerns a short identity, used to identify an SCell. The value range is shared across the Cell Groups.

2/ Correct the clarification in the ServCellIndex description as following:

The IE ServCellIndex concerns a short identity, used to uniquely identify a serving cell (i.e. the PCell, the PSCell or an SCell) across the cell groups. Value 0 applies for the PCell, while the SCellIndex that has previously been assigned applies for SCells.

## Processing delay

[R2-2103860](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103860.zip) Clarification on the RRC Processing Delay Apple draftCR Rel-15 38.331 15.13.0 F NR\_newRAT-Core, TEI15

[R2-2103861](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103861.zip) Clarification on the RRC Processing Delay Apple draftCR Rel-16 38.331 16.4.1 A NR\_newRAT-Core, TEI16

The reason for changes is:

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| --- |
| Currently, RRC reconfiguration delay for SCell modification case is 10ms, but in all other CA/DC cases (i.e. SCell addition/release, SCG addition/modification/release), the delay is 16ms. SCell modification could result in large RRCReconfiguration air-message size (e.g. due to major change in CSI configuration by the network in multiple SCells) considering the large number of SCells that the UE could support. Such large air-message require high processing in RRC and accordingly longer execution time (e.g. longer time for ASN.1 decoding). In addition, since SCG modification also include the SCell modification, for the SCell modification case, the processing delay should be also 16ms. |

**Q7: Do you agree with the problem identified and the changes in R2-2103860,** **R2-2103861?**

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| --- | --- | --- |
| Company | Agree?(Yes or No) | Comments |
| Nokia | No, change is NBC + RAN4 checking is required | * + The proposal is NBC and will require checking with RAN4
	+ Is the change coming from a real field issue that the UE cannot meet the performance? If not, we are not ready to accept to change anything.
 |
| Huawei, HiSilicon | No | Agree with Nokia. |
| Samsung | Yes | It seems omitted by accident and we are fine with the change.  |
| Apple | Yes |  Proponent of the CR |
| MediaTek | No strong view | This was intended behavior that only SCell add/release will increase the processing time at the time while we introduced NR processing delay. This follows LTE principle (from RAN4) and is due to additional PCell interruption time caused by SCell add/release. However, we understand NR reconfiguration is quite flexible, the BW of SCell could be changed by the reconfiguration. So, we are fine with the proposal. |
| LG | No | Unless the change is justified by the RAN4/RAN5, we would like to stick to the current requirement. |
| ZTE | Yes but | First, we should clarify UE’s performance delay in case RRC reconfiguration (scell modification), it is 10ms or 16ms?Second, if agree with this CR, LTE spec should be modified simultaneously.  |
| CATT | Yes  | It is acceptable |
| Ericsson | No strong view | In principle we were fine with the change but now we are not sure whether having this now is a good idea. Given that there are different understanding on this issue we prefer to leave things as they are and not have any change.What is described by Nokia is relevant. |
| vivo | Yes | SCG modification also includes the SCell modification, so we are fine with the changes. |
| OPPO | Yes |  |
|  |  |  |

**Summary:**

Companies’ views are summaried below:

Yes: 6

No: 3

No strong view: 2

Most of companies think the change is acceptable, but some companies think the change is somewhat of NBC nature and not justified by RAN4/5.

Given that the proponent think this change concerns the implementation, rapporteur would like to suggest to further discuss this issue in phase II.

**Proposal 7: R2-2103860/R2-2103861 are further discussed in Phase II.**

# Conclusion

**Proposal 1: The changes in R2-2103535/R2-2103536 are not pursed.**

**Proposal 2a: Further discuss in Phase II if the UE will not deprioritize the NR frequencies if T325 is stopped.**

**Proposal 2b: Further discuss if the UE should keep T325 running in this mobility case, in phase II.**

**Proposal 3a: (To be captured in chairman notes) The UE may not start the 2nd RRC resumption procedure when there is a RRC resumption procedure ongoing.**

**Proposal 3b: R2-2102715 is not pursued.**

**Proposal 4: R2-2103659/R2-2103660 are not pursued.**

**Proposal 5: R2-2104267/R2-2104268 are revised according to the suggestions.**

**Proposal 6a: (To be captured in chairman notes)** **the SCellIndex configured for SCells is also the serving cell index, and the serving cell index for PSCell should be different from that for SCells for a UE.**

**Proposal 6b: R2-2103753/R2-2103754 are revised to capture the following changes:**

1/ Correct the SCellIndex description as following:

The IE *SCellIndex* concerns a short identity, used to identify an SCell. The value range is shared across the Cell Groups.

2/ Correct the clarification in the ServCellIndex description as following:

The IE ServCellIndex concerns a short identity, used to uniquely identify a serving cell (i.e. the PCell, the PSCell or an SCell) across the cell groups. Value 0 applies for the PCell, while the SCellIndex that has previously been assigned applies for SCells.

**Proposal 7: R2-2103860/R2-2103861 are further discussed in Phase II.**

# References

1. [R2-2103535](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103535.zip) Correction on contention resolution timer (R15) Huawei, HiSilicon CR Rel-15 38.331 15.13.0 2512 - F NR\_newRAT-Core
2. [R2-2103536](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103536.zip) Correction on contention resolution timer (R16) Huawei, HiSilicon CR Rel-16 38.331 16.4.1 2513 - A NR\_newRAT-Core
3. [R2-2104254](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2104254.zip) Correction on T325 Google Inc. CR Rel-15 38.331 15.13.0 2563 - F NR\_newRAT-Core
4. [R2-2104255](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2104255.zip) Correction on T325 Google Inc. CR Rel-16 38.331 16.4.1 2564 - F NR\_newRAT-Core
5. [R2-2102715](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2102715.zip) Corrections to initiation upon reception of RAN paging and T380 Expiry Samsung Electronics Co., Ltd CR Rel-15 38.331 15.13.0 2476 - F NR\_newRAT-Core
6. [R2-2103659](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103659.zip) Resume of measurements during the RRC resume procedure Ericsson CR Rel-15 38.331 15.13.0 2524 - F NR\_newRAT-Core
7. [R2-2103660](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103660.zip) Resume of measurements during the RRC resume procedure Ericsson CR Rel-16 38.331 16.4.1 2525 - A NR\_newRAT-Core
8. [R2-2104267](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2104267.zip) Clarification on the abortion of RRC connection establishment Huawei, HiSilicon CR Rel-15 38.331 15.13.0 2566 - F NR\_newRAT-Core
9. [R2-2104268](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2104268.zip) Clarification on the abortion of RRC connection establishment Huawei, HiSilicon CR Rel-16 38.331 16.4.1 2567 - A NR\_newRAT-Core
10. [R2-2103752](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103752.zip) Clarification on SCellIndex and ServCellIndex NTT DOCOMO, INC. discussion Rel-15
11. [R2-2103753](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103753.zip) Clarification on SCellIndex and ServCellIndex NTT DOCOMO, INC. CR Rel-15 38.331 15.13.0 2526 - F NR\_newRAT-Core
12. [R2-2103754](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103754.zip) Clarification on SCellIndex and ServCellIndex NTT DOCOMO, INC. CR Rel-16 38.331 16.4.1 2527 - A NR\_newRAT-Core
13. [R2-2103860](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103860.zip) Clarification on the RRC Processing Delay Apple draftCR Rel-15 38.331 15.13.0 F NR\_newRAT-Core, TEI15
14. [R2-2103861](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_113bis-e%5CDocs%5CR2-2103861.zip) Clarification on the RRC Processing Delay Apple draftCR Rel-16 38.331 16.4.1 A NR\_newRAT-Core, TEI16