3GPP TSG-RAN WG2 #111-e R2-208423

Electronic Meeting, 17th – 28th August 2020

Agenda Item: 5.4.1.4

Source: ZTE Corporation

Title: [AT111-e][005][NR15] Misc Configuration (ZTE)

Document for: Discussion, Decision

# 1 Introduction

This document is to kick off the following email discussion:

* [AT111-e][005][NR15] Misc Configuration (ZTE)

 Scope: Treat [R2-2008091](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2008091.zip), [R2-2008092](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2008092.zip), [R2-2007264](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007264.zip), [R2-2007265](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007265.zip), [R2-2006889](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2006889.zip), [R2-2006890](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2006890.zip), [R2-2007121](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007121.zip), [R2-2007122](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007122.zip), [R2-2008086](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2008086.zip), [R2-2008087](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2008087.zip) (proponents to drive)

 Part 1: Decision whether to make corrections, identify agreeable parts. Identify Controversial issues for on-line treatment (if any).

 Deadline: Aug 20, 0900 UTC.

 Part 2: For agreeable parts, continuation to agree CRs.

 Deadline: Aug 26, 0900 UTC.

# 2 Discussion

Companies are requested to add their comments for each of the treated CRs of this email discussion in the boxes below (one for each CR to be treated).

## 2.1 Clarification on re-establishment procedure

[R2-2008091](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2008091.zip) Clarification on re-establishment procedure (R15) ZTE corporation, Sanechips CR Rel-15 38.331 15.10.0 1987 - F NR\_newRAT-Core Late

[R2-2008092](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2008092.zip) Clarification on re-establishment procedure (R16) ZTE corporation, Sanechips CR Rel-16 38.331 16.1.0 1988 - A NR\_newRAT-Core Late

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| --- | --- | --- |
| Company | Agree?(Yes or No) | Comments |
| Qcom | No | It’s network responsibility (i.e. target cell in this case) to ensure all proper fields are included and configured accordingly during re-establishment. In addition, the proposed change is an NBC.  |
| Ericsson (Antonino Orsino) | No | First, our understanding is that this change prevent the use of delta configuration in the future. Of course, we could still do delta on the measConfig and otherConfig, but maybe the benefits are not so relevant in this case.Second, we think the reason for change mentioned in the CR is not enterely true. Our understanding is that the UE, before the re-establishment procedure, shall:1> apply the default L1 parameter values as specified in corresponding physical layer specifications except for the parameters for which values are provided in *SIB1*;1> apply the default MAC Cell Group configuration as specified in 9.2.2;1> apply the CCCH configuration as specified in 9.1.1.2;Further, when UE transmits the re-establishment request message, the UE shall:> apply the specified configuration defined in 9.2.1 for SRB1;This means that the UE implicitly releases the MAC-CellGroupConfig, physicalCellGroupConfig and source cell SRB1 config. The reason for it is to bring UE to a known state for the target. Therefore, the changes proposed in the CR are not needed.Third, we agree with Qualcomm that the proposed change is NBC and we should avoid such changes in this late stage of Rel-15. |
| Huawei, HiSilicon | No | We don’t see a real issue either. For the first issue mentioned in this CR, it should be up to network to provide a valid configuration.For the second issue mentioned in the CR, we also think that it is clear in specification that the UE has applied default SRB1 configuration when transmitting RRCRe-establishmentRequest, i.e. option-1. |
| Nokia | No | CR is poorly motivated. The Rel-15 CR talks about a conditionalReconfiguration which never existed in this specification. Then what is the issue on the field that this is trying to solve. By releasing the entire MCG there is no bearer information left which means UE effectively starts from IDLE? Releasing RB configuration leads to delta signalling not being supported if re-establishment succeeds, which means bearers can't be resumed. We also think it's better to talk about MCG spCellConfig if something is changed, and that could be part of rapporteur CR. |
| MediaTek | No | The proposed change is clear NBC and is not acceptable to us.UE already apply default MAC/PHY configuration so that it can communicate with target node for SRB1 setup. After that, if target does not understand the source node configuration, it could just use full configuration. We think current procedure text is fine.  |
| OPPO | No | The NBC change is not acceptable to us. |
| ZTE(Yuan) | Yes, as proponent | Sorry for bad organization of this CR. It was drafted in a hurry based on urgent questions from our implementation team. Further explanation is given below:1. Firstly, as mentioned by some company that if the target does not understand the source node configuration, it could use full configuration, which we also agree.
2. Then let us take a look at the next step: reconfiguration with fullconfig after re-establishment.

The srb-ToAddModList is mandatory present and it has been clarified in NOTE2 that this is to apply default configuration for SRB2, which means SRB1 is not included. For the case when SRB1 is not included, there are two possible understanding for SRB1 handling:* Option 1: Since UE has applied default SRB1 configuration when transmitting RRCRe-establishmentRequest, UE can continue to use the SRB1 with default configuration.
* Option 2: Apply the SRB1 configuration from the source node if SRB1 is not included in srb-ToAddModList.

Option 1 is preferred in our understanding, but considering that the SRB1 configuration from the source is still kept at UE side, leads to possibility for option 2, we proposed to release radioBearerConfig upon initiation of the re-establishment procedure which kills option 2.If companies think the proposed change is too strong and NBC, we can simply clarify which option will UE go when SRB1 is not included in srb-ToAddModList for fullconfig after re-establishment. |
| Intel | No | The justitication is not clear to us. The proposed change is NBC. Even after reading the above explanation from ZTE, the issue is still not clear. Re-establishment message in NR is sent over SRB1 – so UE and network has to already have a known configuration – which is the default configuration as captured in 5.3.7.4 and this is what will apply when SRB1 is not included in the srb-ToAddModList |
| Apple | No | We share Ericsson’s view. According to the spec, the UE implicitly releases *masterCellGroup → physicalCellGroupConfig and masterCellGroup → mac-CellGroupConfig*.  |
| CATT | No | We don’t see the benefits of this CR. First, in RRC Re-establishment procedure, there is no constraint on UE’s behavior about releasing MCG SCell and spCellConfig in R15. Second, the current specification has clarified that UE has applied default SRB1 configuration when transmitting *RRCRe-establishmentRequest*, there is no need to prevent the UE from going to option 2. |
| Samsung | No | We don't think the CR is needed.1/ UE applies the default MAC Cell Group Configuration so we do not see any problem. 2/ UE applies the default SRB1 configuration when transmitting RRCReestablishmentRequest, and the remaining parameters not specified in default SRB1 configuration are regarded as "not signaled". Default SRB1 configuration means the target node also knows the baseline. |

Summary:

Based on feedbacks, regarding the scenarios mentioned in the CR, companies have the same understanding that:

1. UE applies default MAC Cell Group Configuration when initiating RRC reestablishment procedure;
2. UE applies default SRB1 configuration when transmiting RRCRestablishmentRequest, and will continue applies default SRB1 configuration if SRB1 is not included in srb-ToAddModList after re-establishment (w/o fullConfig).

Both CRs are not purpused.

**Proposal 1: The CRs in R2-2008091 and R2-2008092 are not pursued.**

## 2.2 Incorrect creation of SCG MAC entity

[R2-2007264](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007264.zip) Incorrect creation of SCG MAC entity Ericsson CR Rel-15 38.331 15.10.0 1814 - F NR\_newRAT-Core

[R2-2007265](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007265.zip) Incorrect creation of SCG MAC entity Ericsson CR Rel-16 38.331 16.1.0 1815 - A NR\_newRAT-Core

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| Company | Agree?(Yes or No) | Comments |
| Qcom | Yes/No | It seems a redundant info as it’s already mentioned during “SCG establishment”, but we’re fine if majority agrees  |
| Ericsson (Antonino Orsino) | Yes | We are the proponent company. As explained also in the CR coverpage, the issue is that the UE should create an SCG MAC entity also when the configuration received is for the MCG (in case of DC) or for NR SA. We believe that this is not the correct behaviour and it should be quite straigforward to correct it. |
| Huawei, HiSilicon | No | The spec has clearly said “(i.e. SCG establishment)”. We don’t see any room for misunderstanding. |
| Nokia | No | The procedure is called with either the MCG or SCG in perspective. So the clarification is really not required. |
| MediaTek | No strong view | UE should not create SCG MAC entity while the configuration is for MCG MAC. The logic of the CR is correct but the modification is not really important. No UE implementation really do this kind of behaviour. No strong view. Could consider it in Rapporteur’s CR if majorities want to have this correction. |
| OPPO | No | We think the current text is clear.Furthermore, the reference part will say it is for MCG or SCG. |
| Intel | No strong view | We don’t think there is a risk of wrong implementation or even confusion with the current text. |
| Apple | No | Same view as Huawei. |
| CATT | No | There is no need to correct creation of SCG MAC entity when the spec has clarified “i.e. SCG establishment”. |
| Samsung | No | In the condition "if SCG MAC is not part of the current UE configuration (i.e. SCG establishment)", SCG MAC means SCG MAC configuration in the received RRC message and we already clarified it by "(i.e. SCG establishment)". |
| ZTE | No strong view | We think the intention is correct, but agree there is no room for misunderstanding.  |

Summary:

Most companies think the CR is not needed, because it can be covered by existing “i.e. SCG establishment”. And there is no risk of wrong UE implementation.

**Proposal 2: The CRs in R2-2007264 and R2-2007265 are not pursued.**

## 2.3 Correction on condition of SyncAndCellAdd

[R2-2006889](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2006889.zip) CR on condition of SyncAndCellAdd ZTE Corporation, Sanechips CR Rel-15 38.331 15.10.0 1748 - F NR\_newRAT-Core

[R2-2006890](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2006890.zip) CR on condition of SyncAndCellAdd ZTE Corporation, Sanechips CR Rel-16 38.331 16.1.0 1749 - A NR\_newRAT-Core

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| Company | Agree?(Yes or No) | Comments |
| Qcom | Yes but | we agree with the intention, but we don't agree with the wording as it adds more confusion. Suggested wording: For SpCell, the field is optionally present, Need N, upon reconfiguration without reconfigurationWithSync, and upon reconfiguration with reconfigurationWithSync to the same SpCell.~~other than PCell change and PSCell addition/change.~~ |
| Ericsson (Antonino Orsino) | Yes with comment | We agree with the intention and we actually think that ZTE wording is a bit more clear than what proposed by Qualcomm. However, we are also open to other wording suggestion. |
| Huawei, HiSilicon | Yes, but | The intention of “upon PCell change and PSCell addition/change” should be reconfiguration with sync. So we tend to agree with Qualcomm’s change.  |
| Nokia | Yes, but | Clarification seems reasonable but does not add any additional value on top of what the field describes especially as the first sentence already clarifies this "This field is mandatory present for a SpCell upon PCell change and PSCell addition/change" |
| MediaTek | See comment | It is about the present of first Active DL/UL BWP and we understand that of course the NW should be able to configure this in intra-cell handover. We also think that it would be much better if the parameter is always present in case of *reconfigurationwithsync* to avoid any potential IOT issue between UE and NW.The original wording here is that the field is mandatory present for a SpCell upon *reconfigurationWithSync* (PCell handover, PSCelladdition/change), which we believe it include both intra-cell and inter-cell handover. Therefore, our suggested change is to make this field mandatory upon reconfiguration with sync (as following).-------------------------This field is mandatory present for a SpCell upon ~~PCell change and PSCell addition/change~~ reconfiguration with *reconfigurationWithSync* and upon *RRCSetup*/*RRCResume*.The field is mandatory present for an SCell upon addition.For SpCell, the field is optionally present, Need N, upon reconfiguration without *reconfigurationWithSync*.In all other cases the field is absent.[ZTE] We actually think this change brings more restriction to network, and probably NBC to network implementation. Network may only update some physical resources without changing the first active DL/UL BWP. So we prefer to keep it “optional” for intra-cell handover case.  |
| OPPO | See commens | I understand you want to say intra-cell handover case. If so, I think the intra-cell handover is for update the key. I do not think we have the requirements to change first Active DL/UL BWP in this case. [ZTE] In fact, this is the case for RRC based BWP switching.  |
| Intel | See comments | We agree with the intention of the CR. Reading the comments from companies, there seems to be some confusion on whether intra-cell HO is included in the “Pcell change” and whether it is mandatory to include it for intra-cell HO. Regarding the suggested text from Qualcomm “to the same SpCell”, “Pcell change” is used in a few places in the spec and these usage seems to be for “HO that is not intra-cell HO”. We should use the same term consistently for a HO that is not intra-cell HO. We don’t have a strong view on what term to use. |
| Apple | See comments | We share MediaTek’s view.  |
| CATT | Yes, but | We share the same view as Huawei. |
| Samsung | Agree | One can argue that PCell change includes intra-cell HO as well and nothing is broken with the current specification. However, it is also true the CRs make things clearer. So we can accept the change if majority want. We prefer QC's rewording which seems capturing the intention better. |
| ZTE | Agree | Proponent.Based on our analysis, the term “PCell change” used in spec does not include “intra-cell HO” case. So we prefer to make it clear in this condition. Considering more companies prefer the proposed wording from Qualcomm, we are also fine with it. |

Almost all companies agree the intention of CR, and more companies suggest to reword the sentence as proposed by Qualcomm.

**Proposal 3: Update the wording in CRs (R2-2006889/R2-2006890) as proposed by QC (i.e. use “to the same sPCell” instead).**

## 2.4 Clarify UE dedicated configuration of rlf-TimersAndConstants

[R2-2007121](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007121.zip) Clarification on the UE dedicated configuration of rlf-TimersAndConstants Apple CR Rel-15 38.331 15.10.0 1788 - F NR\_newRAT-Core

[R2-2007122](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2007122.zip) Clarification on the UE dedicated configuration of rlf-TimersAndConstants Apple CR Rel-16 38.331 16.1.0 1789 - A NR\_newRAT-Core

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| Company | Agree?(Yes or No) | Comments |
| Qcom | No | per the spec, the PCell SIB1 has always has to includes these timers and constants, so UE applies these paramters first (as per SIB1), and then whatever is provided by the dedicatedSIB1-delivery, it will overwrite what was provided via SIB1.From SIB1 fields descriptions:***ue-TimersAndConstants*** *Timer and constant values to be used by the UE. The cell operating as PCell always provides this field.* |
| Ericsson (Antonino Orsino) | No | We agree with Qualcomm that the use cases pointed out by Apple will never happen. Therefore, there is no issue to correct.  |
| Huawei, HiSilicon | No | Agree with Qualcomm’s understanding. |
| Nokia | No | Indeed this issue cannot happen in our view as well if the spec is implemented correctly. |
| MediaTek | No | There is no need for NW to always provide *rlf-TimersAndConstants* in handover as this filed is Need M. Even though the UE handle this filed first then get SIB1, Smart UE implementation will use the SIB1 content for RLF timer and constant. Proper correction would be to move dedicated SIB1 handling in 5.3.5.3 to occur before handling of *masterCellGroup*. |
| OPPO | No | Agree with QC. |
| Intel | No | To make it mandatory now for network to provide it will not be backward compatible. While UE may not have read SIB1 of the target cell at the time of processing the HO command, it can be handled by “reasonable” UE implementations.  |
| Apple | Yes | It seems companies would like UE to follow target PCell’s SIB1 configuration for the RLF configuration. But current spec/procedure in section 5.3.5.3 cannot reflect this meaning correctly.Our understanding is that the procedural text in RRC is just specified the processing order in UE side. Current processing order is as below: UE performs *ue-TimersAndConstants* setting first, and then *dedicatedSIB1-Delivery* later. The processing order is not correct, since when using the SIB1 RLF parameter UE has not process the SIB1.If companies would like to follow this logic, we propose to correct the order.**New Proposal**: **move the *dedicatedSIB1-Delivery* processing before the *masterCellGroup* processing*.*** Current order:1> if the *RRCReconfiguration* includes the *masterCellGroup*:2> perform the cell group configuration for the received *masterCellGroup* according to 5.3.5.5;In section 5.3.5.51> if the *CellGroupConfig* contains the *spCellConfig*:2> configure the SpCell as specified in 5.3.5.5.7;In section 5.3.5.5.71> if the *SpCellConfig* contains the *rlf-TimersAndConstants*:2> configure the RLF timers and constants for this cell group as specified in 5.3.5.5.6;1> else if *rlf-TimersAndConstants* is not configured for this cell group:2> use values for timers T301, T310, T311 and constants N310, N311, as included in *ue-TimersAndConstants* received in *SIB1*;In section 5.3.5.5.61> if the received *rlf-TimersAndConstants* is set to *release*:2> use values for timers T301, T310, T311 and constants N310, N311, as included in *ue-TimersAndConstants* received in *SIB1*;1> else:2> (re-)configure the value of timers and constants in accordance with received *rlf-TimersAndConstants*;2> stop timer T310 for this cell group, if running;2> reset the counters N310 and N311.……1> if the *RRCReconfiguration* message includes the *dedicatedSIB1-Delivery*:2> perform the action upon reception of *SIB1* as specified in 5.2.2.4.2; |
| CATT | No | Agree with Qualcomm. |
| Samsung | No | We agree with Qualcomm. We also think setting RLF-constants has no strict timing requirement but can be done when possible. |

Regarding the handling of rlf-TimersAndConstants, alll companies show the same view that, during handover, UE shall apply the values provided in SIB1 of target cell, if the field is absent in dedicated signalling. (i.e. UE will not inherit the value from source cell)

In addition, both MediaTek and Apple mentioned it can be considered to move the dedicated SIB1 handling in 5.3.5.3 to occur before handling of masterCellGroup. However, most companies think the spec is not broken, and it can be handled by “reasonable” UE implementation, thus further text enhancement is not needed.

**Proposal 4: The CRs in R2-2007121 and R2-2007122 are not pursued.**

## 2.5 Clarify SRB for fullConfig during RRC Resume

[R2-2008086](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2008086.zip) Clarification on the SRB configuration for fullConfig during RRC Resume procedure (R15) ZTE corporation, Sanechips CR Rel-15 38.331 15.10.0 1985 - F NR\_newRAT-Core

[R2-2008087](file:///D%3A%5CDocuments%5C3GPP%5Ctsg_ran%5CWG2%5CTSGR2_111-e%5CDocs%5CR2-2008087.zip) Clarification on the SRB configuration for fullConfig during RRC Resume procedure (R16) ZTE corporation, Sanechips CR Rel-16 38.331 16.1.0 1986 - F NR\_newRAT-Core

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| Company | Agree?(Yes or No) | Comments |
| Qcom | Yes | We’re fine with this change |
| Ericsson (Antonino Orsino) | Maybe | We do not see this as a critical change but we are okay to go with majority view. Maybe good to include it in the Rapporteur’s CR (if we go for it). |
| Huawei, HiSilicon | Yes | Fine with the change. |
| Nokia | No | Bar must be set quite high for Rel-15 corrections. Clarification makes sense to me but maybe UEs are already doing it correctly even without the clarification? If majority are okay let’s do something otherwise no real need. |
| MediaTek | Maybe | It is correct that the SRB2 is also included for RRC Resume with full configuration. However, the NOTE is just for information. It does not prevent NW to do correct configuration. We think that the CR is not essential but fine to include this in Rapporteur’s CR if majorities think it is necessary.  |
| OPPO | Yes  |  |
| ZTE(Yuan) | Yes,as proponent | 1. The intention of this CR is to clarify whether the SRB1 shall be included in srb-ToAddModList for resume with fullconfig.
2. In our understanding, since UE has already apply the default configuration for SRB1 when initiating RRCResumeRequest message, UE can continue to use the default configuration and there seems to be no need for network to include SRB1 in srb-ToAddModList for resume with fullconfig.

Thus, it has been proposed to capture in the note to show that only SRB2 shall be included in srb-ToAddModList for resume with fullconfig and there is no need to include SRB1. |
| Intel | Yes | While this is just a clarification to a NOTE and hence does not change the UE behaviour, it is useful to clarify as the other scenarios are captured and not including Resume could lead to misunderstanding. |
| Apple | Yes | Fine with the change.  |
| CATT | Yes | Fine with the change. |
| Samsung | Yes | We are OK with this change. |

Summary:

Although some companies think this can be merged into the Rapporteur CR, most companies are fine with the CRs. Thus the rapporteur suggests to go for independent CRs.

In addition, MediaTek provided further comments during offline. E.g. The R16 CR should be Cat “A”, and missing tick “N” in the table of spec affacts. So the CRs need update based on these comments.

**Proposal 5: Update CRs (R2-2008086/R2-2008087) based on the comments from MediaTek.**

# Conclusion

Based on the discussion in the previous sections we propose the following:

**Proposal 1: The CRs in R2-2008091 and R2-2008092 are not pursued.**

**Proposal 2: The CRs in R2-2007264 and R2-2007265 are not pursued.**

**Proposal 3: Update the wording in CRs (R2-2006889/R2-2006890) as proposed by QC (i.e. use “to the same sPCell” instead).**

**Proposal 4: The CRs in R2-2007121 and R2-2007122 are not pursued.**

**Proposal 5: Update CRs (R2-2008086/R2-2008087) based on the comments from MediaTek.**

# References

[1]