3GPP TSG-RAN WG2 Meeting #119e Tdoc R2-22xxxxx

Electronical meeting, August 17th – 29th, 2022

Agenda: 6.2.3

Source: Ericsson

Title: Summary of [AT119-e][223][DCCA] RRC corrections to CPAC (Ericsson)

Document for: Discussion, Decision

# 1 Introduction

In this document the following offline is discussed:

* [AT119-e][223][DCCA] RRC corrections to CPAC (Ericsson)

      Scope: Discuss NR and LTE RRC corrections for CPAC marked for this discussion.

Intended outcome: Report in in [R2-2208760](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208760.zip). Merged NR RRC CR in [R2-2208761](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208761.zip) and LTE RRC CR in [R2-2208762](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208762.zip).

Deadline: Deadline 1 (report) / Deadline 2 (final CRs)

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# 2 Discussion

## 2.1 Rel-17 CPAC corrections to NR 38.331

The following CR addresses three changes for CPAC:

[R2-2207320](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207320.zip) Rel-17 CPAC corrections to NR 38.331 Nokia, Nokia Shanghai Bell CR Rel-17 38.331 17.1.0 3246 - F LTE\_NR\_DC\_enh2-Core

1. Two subclauses are merged into a single one, to make the procedural text shorter in 5.3.5.3  
2. The text on the association between the condition and the configuration is removed in 5.5.3.1, as this was not formally agreed in RAN2.  
3. condRRCReconfig is modified to remove the sentence on the CPAC and SCell deactivation coexistence.

Rapporteur’s comment:

The first change seems relevant. Regarding the second change, the current text was agreed in RAN2#118, see agreement below. It is also not clear what the issue with current implementation is.

* Correct issue (not perform measurements for conditional events not used as execution condition) RIL E029. The TP in [R2-2206116](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_118-e/Docs/R2-2206116.zip) is used as baseline.

The third change is similar to CR in R2-2208695 in [AT119-e][221][DCCA] RRC corrections to SCG deactivation (Huawei). In that offline, it is mentioned that the field description of scg-State already captures this behaviour and the RRC CR for SCG deactivation proposes to remove this.

Question 1: Do you have any comments on R2-2207320?

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| **Company** | **Agree/Not agree** | **Comments** |
| Huawei, HiSilicon | Agree | About the conditional measurements:  A network implemented according to 38.331 v17.1.0 thinks that it is no problem for a Rel-16 UE to release conditional configurations but not release the corresponding conditional measurements, because the specification says the UE will not do the measurements in that case.  However, the UE is implemented according to Rel-16 38.331 that says the UE shall do the measurements, then it is a bit unclear what the Rel-16 UE will do, e.g. the UE could perhaps consider the configuration as invalid and do re-establishment. So in fact, 38.331 v17.1.0 has a risk of inter-operability issue with Rel-16 UEs.  About the third change: we agree because the same information is already in the field description of scg-State. |
| MediaTek | See comment | First Change in 5.5.3.1 (Disagree) – We think no need to merge two clauses. It is common style in RRC to have a new line after “else:”.  Second Change in 5.5.3.1 (Disagree) – Not sure why this is needed. There is no description in coversheet on what problem to fix.  Third change 5.5.3.1 (unclear) – related to previous change on *condTriggerConfig*. The editor note could be removed if we do not have previous change.  Change in field description (Agree) – It is fine to remove this as already clear in the field description of scg-State. |
| Lenovo | 1. No  2. No strong view  3. No strong view, relevant to Q4 | The first change seems unnecessary. Same view as MediaTek.  We share sympathy with Rapporteur’s concern on inter-operability issue. On the other hand, we agreed on the current text last time.  No strong view on 3rd change, Q4 is proposing the opposite. Either way is ok for us. |
| ZTE | 1. No 2. No strong view 3. Agree | The first change seems unnecessary.  For the second change, we have some sympathy with Rapporteur’s concern on inter-operability issue. Perhaps it can be up to the NW to ensure the remove of conditional events not used as execution condition. But no strong view, we can follow the majority view.  For the third change, agree to remove this since the field description of scg-State has captured the similar information. |
| CATT | See comments | On the first change, no strong view for us.  On the second change, similar issues as in Q4. Anyway nothing is wrong to add such restriction on UE behaviour. But at least, RAN2 should delete the editor notes in TS38.331” Editors Note: FFS to specify that the UE ignores measId(s) that were not indicated in the condExecutionCond/triggerCondition.”.  On the third change, similar issues as in Q4. Either remove the restriction of coexistence of deactivate SCG and conditional reconfiguration from the field description of condRRCReconfig as proposed by [R2-2207320](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207320.zip) or further modify the restriction to include the CHO with SCG case as proposed by R2-2207396 is fine to us. |
| LGE | 1. Disagree  2. No strong view  3. No strong view | We also think the first change seems not necessary.  For the 2nd change, even though we slightly prefer to Nokia’s change, the current text was agreed before as the rapporteur mentioned.  For the 3rd change, this may be additional information to clarify. |
| NEC | See comment | For the first change, same view as MediaTek and this is not needed.  For the second change, no strong view. We slightly prefer to avoid inter-operability concern explained by Rapporteur.  For the third change, we agree to remove this from condRRCReconfig |
| Qualcomm | Agree | Agree with the proposed changes. |
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Summary question 1:

TBD

## 2.2 On maximum number of SN initiated conditional reconfigurations

The following CR resolves the FFS related to maxNumberCPCCandidates:

[R2-2207639](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207639.zip) On maximum number of SN initiated conditional reconfigurations Lenovo, ZTE Corporation, Sanechips, CATT CR Rel-17 38.331 17.1.0 3300 - F LTE\_NR\_DC\_enh2-Core

1. Remove the Editor’s Note related to the working assumption.
2. Change the minimum value for *maxNumberCPCCandidates-r17* to be 0. Change the maximum value for *maxNumberCPCCandidates-r17* to be *maxNrofCondCells-1-r17* since the absence of this field indicates maximum number of *maxNrofCondCells-r16* conditional reconfigurations allowed at SN.
3. Add clarification on *maxNumberCPCCandidates-r17* in the field description regarding the absence of the field and the minimum value.

Rapporteur’s comment:

This is one possible option to resolve the FFS.

Question 2: Do you have any comments on R2-2207639?

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| **Company** | **Agree/Not agree** | **Comments** |
| Huawei, HiSilicon | Agree but | No impact analysis  Styles are not correct  English is not correct should be: 0 indicates that the SN is not allowed to configure SN initiated CPC. If the field is absent, the SN is allowed to configure up to *maxNrofCondCells-r16* conditional reconfigurations for SN-initiated CPC. |
| Lenovo | Agree | Apologize for a bit reckless cover page. If following impact analysis can help justifying:  Impact Analysis:  Impacted functionality:  Coexistence of MN initiated conditional reconfiguration (e.g., CHO, MN initiated CPC) and SN initiated conditional reconfiguration (e.g., SN initiated CPC).  Inter-operability:  1) when the network implements the CR but the UE does not: there is no issue since this is pure inter node RRC message and no impact on UE implementation.  2) when the UE implements the CR but the network does not: nothing for UE to implement. The SN handling is unclear if MN does not include the field of maxNumberCPCCandidates-r17 to SN, or if MN sets the value of the maxNumberCPCCandidates-r17 to zero.  The wording of the field description was trying to follow the taste in other places in 331 when describing minimum value, maximum value. The change proposed by Huawei looks also good to us. |
| ZTE | Agree |  |
| CATT | Agree |  |
| LGE | Agree |  |
| NEC | Agree but | In addition to Huawei comments (which seems good), one question for clarification for absent case. Basically we understand that there is not network capability exchange between MN and SN for inter-SN CPC. If we say that absent means the SN is allowed to configure SN-initiated CPC which includes inter-SN CPC and the SN triggers inter-SN CPC following that rule, what happen for/at the MN not supporting inter-SN CPC? No issue, e.g. just reject? |
| Qualcomm | Agree | The suggestions by Huawei are needed. |
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Summary question 2:

TBD

## 2.3 Outstanding issue for CPC

The discussion paper proposes resolution of the FFS related to maxNumberCPCCandidates.

[R2-2207728](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207728.zip) Outstanding issue for CPC Ericsson discussion Rel-16 LTE\_NR\_DC\_enh2-Core

**Proposal 1:** The source SN may propose up to eight candidates for the target SN to consider for CPC.

**Proposal 2:** Include the change of “ffsUpperLimit” to “8” in CandidateCellInfoListCPC in a correction CR for CPAC.

Rapporteur’s comment:

This is another option to resolve the same FFS as in 2.2.

Question 3: Do you have any comments on R2-2207728?

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| **Company** | **Agree/Not agree** | **Comments** |
| Huawei, HiSilicon |  | It is very similar to the previous question, ok with the TP in the previous question with the indicated rewording. |
| Lenovo |  | If we can adopt the change in Q1 then the problem is resolved. |
| ZTE | Agree | In our understanding, 2.2. is to resolve the maximum number that the MN indicates to the source SN when the co-existence of MN initiated conditional reconfiguration and SN initiated conditional reconfiguration is allowed. But 2.3 is to resolve the maximum number that the source SN indicates to the target SN, based on the number indicated in 2.2.  So both changes are required. |
| CATT | See comments | To be noted that this is different from the issue of Q2. No strong view for us whether the maximum number of candidate cells can be recommended by S-SN is 8 or larger than 8, anyway it is MN to ensure that the final configured CPAC candidates to UE is no more than the limitation of 8.  Further, we noticed that there are still other FFS/Editor notes in the RRC specification. We think RAN2 should further check the specification case by case to clean up all remaining FFS/Editor notes. For example:  CandidateCell-r17 ::= SEQUENCE {  physCellId-r17 PhysCellId,  condExecutionCondSCG-r17 OCTET STRING (CONTAINING CondReconfigExecCondSCG-r17) OPTIONAL  -- FFS whether the Optional flag is to be removed from condExecutionConditionSN-r17  } |
| LGE |  | It seems to be similar issue to 2.2. We can discuss this with 2.2. |
| NEC |  | This should be considered together with previous question |
| Qualcomm | Agree |  |
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Summary question 3:

TBD

## 2.4 Discussion on Conditional Reconfiguration for CPAC and CHO

The discussion paper brings up outstanding issues for CHO and CPAC:

[R2-2207396](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207396.zip) Discussion on Conditional Reconfiguration for CPAC and CHO CATT discussion Rel-17 LTE\_NR\_DC\_enh2-Core

**Proposal 1:** RAN2 to agree that the deactivate SCG cannot be configured simultaneously with CHO with SCG. TP in Annex 1 is adopted accordingly.  
**Proposal 2:** The editor note “Editors Note: FFS to specify that the UE ignores measId(s) that were not indicated in the condExecutionCond/triggerCondition.” is deleted from the 5.5.3.1 of TS38.331. TP in Annex 2 is adopted accordingly.  
**Proposal 3:** RAN2 to agree to add similar restriction as in NR that UE ignores measId(s) that were not indicated in the triggerCondition/triggerConditionSN in the 5.5.3.1 of LTE RRC specification. TP in Annex 2 is adopted accordingly.  
**Observation 1:** Within the IE ReportConfigInterRAT, the field triggerType, maxReportCells, reportInterval, reportAmount used for periodical or event type reporting are always present, even in the case when conditional event B1 is configured.  
**Proposal 4:** RAN2 to agree to clarify in the LTE specification that UE shall ignore the field triggerType, maxReportCells, reportInterval, reportAmount when the field condReconfigurationTriggerNR is configured. TP in Annex 3 is adopted accordingly.

Question 4: Do you have any comments on the proposals in R2-2207396?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo |  | This paper discussing similar issue as in Q1. We are fine with either way. |
| Huawei, HiSilicon |  | P1: This is already captured in the field description of scg-State, better to remove the incomplete sentence in condRRCReconfig that repeats the same.  P2: Agree  P3: As commented before, this is not BC with Rel-16.  P4: Agree |
| MediaTek |  | P1 – Already captured in current SPEC  P2 – Agreed. Related to Q1, the editor note could be deleted  P3 – No strong view  P4 – Agreed |
| ZTE |  | P1: Already captured in the field description of scg-State.  However, considering that SCG deactivation is not allowed when CPA/CPC was configured, and CHO may also include SCG configuration, we are wondering whether the SCG deactivation is allowed when CHO was configured? If not, the following change is required in the field description of scg-State:  The field is absent if CPA, CPC or CHO is configured for the UE, or if the *RRCReconfiguration* message is contained in *CondRRCReconfig*.  P2: Agree  P3: No strong view. See the same comment as Q1.  P4: Agree |
| CATT | See comments | P1: Agree. Similar issues as in change 3 of Q1, either remove the restriction of coexistence of deactivate SCG and conditional reconfiguration from the field description of condRRCReconfig as proposed by [R2-2207320](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207320.zip) or further modify the restriction to include the CHO with SCG case as proposed by R2-2207396 is fine to us.  P2/P3: Agree. Similar issues as in change 2 of Q1, Anyway nothing is wrong to add such restriction on UE behaviour. But at least, RAN2 should delete the editor notes in TS38.331” Editors Note: FFS to specify that the UE ignores measId(s) that were not indicated in the condExecutionCond/triggerCondition.”.  P4: Agree |
| LGE | Agree with P1 only for now. | Rest of proposals seems related to Q1 and can discuss together. |
| NEC |  | For P1, this is already captured in the spec  For P2, agree  For P3, no strong view, while it seems this should be discussed with Q1?  For P4, agree |
| Qualcomm |  | P1, P2: Agree with Huawei.  P4: Agree. |
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Summary question 4:

TBD

## 2.5 Discussion on CHO with SCG

The discussion paper addresses CHO with SCG.

[R2-2207397](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207397.zip) Discussion on CHO with SCG CATT discussion Rel-17 LTE\_NR\_DC\_enh2-Core

**Proposal 1:** From RAN2 point of view, CHO including target MCG and target SCG is supported and no remaining issue needs to be handled.

Question 5: Do you have any comments on the proposal in R2-2207397?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | No with comment | There are still few issues need to be addressed, either in R17 or R18. We are proposing the following in R2-2207695. And we understand RAN3 is currently discussing solution to fix case#2. Probably we can wait before conclude.  - Case#1: CHO with target SCG which is same as source SCG is configured. CHO condition for PCell is met while UE is experiencing RLF on SCG. UE still performs random access to the failed SCG.  - Case#2: SN can perform an Intra-SN PSCell change or update source SCG configuration without MN involvement. The MN is not aware of PSCell change and the updated SCG configuration. |
| Huawei, HiSilicon |  | Not sure what "from RAN2 point of view means".  We expect that no change is needed in RAN2 stage 3 specification while something might be needed in stage 2 or in RAN3 specifications |
| MediaTek | Agree | We understand “from RAN2 point of view” implies that no further change in RAN2 stage 3 SPEC. Correction CR may be agreed from RAN3 (for case 2).  This may be also discussed in R18 mobility session. |
| ZTE | Agree | Share the same view with MediaTek. |
| CATT | Yes as proponent | Our understanding is similar as MTK. We do not see any change to RAN2 stage 2 spec needed. It is possible RAN3 discuss and conclude on the something but that is up to RAN3. |
| LGE |  | Same view as Huawei |
| NEC | Comments | At least, no big issue remains.  Agree with Lenovo for the Case#2. This is similar issue as the Question 2.3-1 in [AT119-e][220]. Probably, we can discuss there? |
| Qualcomm | Agree | Some changes might be needed in the RAN3 specifications, corresponding to which the Stage 2 descriptions may be impacted. |
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Summary question 5:

TBD

## 2.6 Simultaneous configuration of R16 and R17 CPC

This discussion paper and CR discusses simultaneous configuration of R16 and R17 CPC.

[R2-2207462](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207462.zip) Discussion on handling of simultaneous configuration of R16 and R17 CPC Apple discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2207463](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207463.zip) CR for handling R16 CPC with R17 CPA/CPC Apple CR Rel-17 38.331 17.1.0 3266 - F LTE\_NR\_DC\_enh2-Core

**Proposal 1:** If a RRC configuration results in the UE being configured with both R16 CPC and R17 CPC, the UE skips evaluating the R16 CPC triggering criteria.  
**Proposal 2:** If a RRC configuration results in the UE being configured with a configuration where the R16 CPC and R17 CPC are not present, while they were before the RRC configuration, the UE does not skip evaluating (as in legacy behaviour)  
**Proposal 3:** RAN2 to take the CR from R2-2207463[1] as the baseline approach for addressing this.  
**Proposal 4:** RAN2 to discuss if the UE can indicate to the MN with UAI or as part of reconfigComplete, if the resulting config results in R16 and R17 CPC.  
UAI to be used in case the R16 CPC is configured after R17 CPC.

Question 6: Do you have any comments on the proposals in R2-2207462 and the related CR in R2-2207463?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo |  | The proposals seem relevant to Q11. If proposal in Q11 can be agreed, then it seems ok. |
| Huawei, HiSilicon | Disagree | This would mean the SN does not know whether the UE actually performs the measurements configured for intra-SN CPC or not. In such a case, it is useless to configure intra-SN CPC. This would be a very poor system design. |
| MediaTek | Disagree | We are not sure there is a real issue to fix. |
| ZTE | Disagree | We are not sure this is a good way to handle the issue on coexistence of R16 and R17 CPC. Anyway RAN3 has discussed some solutions on MN-SN awareness about the R16 CPC. So no need to drop off R16 CPC. |
| CATT | Disagree | To be noticed that RAN3 is discussing the issue now. We should avoid repeated discussion on same issue. |
| LGE | Disagree | This seems not necessary. SN knows whether two types of CPC have been configured. |
| NEC | Disagree | We assume at least for intra-SN CPC and SN-initiated inter-SN CPC, the SN can appropriately handle the configurations. |
| Qualcomm | Disagree |  |
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Summary question 6:

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## 2.7 Discussion on conditional reconfiguration release

The discussion paper addresses conditional reconfiguration release.

[R2-2208406](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208406.zip) Discussion on conditional reconfiguration release ZTE Corporation, Sanechips discussion Rel-17 LTE\_NR\_DC\_enh2-Core

[R2-2208407](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208407.zip) CR on conditional reconfiguration release ZTE Corporation, Sanechips CR Rel-17 36.331 17.1.0 4858 - F LTE\_NR\_DC\_enh2-Core

[R2-2208408](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208408.zip) CR on conditional reconfiguration release ZTE Corporation, Sanechips CR Rel-17 38.331 17.1.0 3419 - F LTE\_NR\_DC\_enh2-Core

**Observation 1:** The VarConditionalReconfig specified in TS 38.331 is used to store the conditional reconfiguration for CHO in NR SA/NR-DC/NE-DC, CPA or inter-SN CPC in NR-DC, or intra-SN CPC without MN involvement in NR-DC/EN-DC.  
**Observation 2:** The VarConditionalReconfiguration specified in TS 36.331 is used to store the conditional reconfiguration for CHO in LTE SA/EN-DC, CPA or inter-SN CPC in EN-DC.  
**Observation 3:** In case that CHO and intra-SN CPC without MN involvement (R16 CPC) are configured simultaneously in EN-DC, the execution of CHO should also trigger the release of VarConditionalReconfig specified in TS 38.331 for R16 CPC. This has not been captured in the current LTE spec.  
**Proposal 1:** Upon CHO execution in LTE, the UE shall remove the VarConditionalReconfig as specified in TS 38.331 for intra-SN CPC without MN involvement, if any.  
**Proposal 2:** Introduce a new section for VarConditionalReconfig remove in TS 38.331, as the VarConditionalReconfiguration remove specified in TS 36.331.  
**Proposal 3:** RAN2 agree the CRs on conditional reconfiguration release for LTE RRC spec and NR RRC spec in [4] and [5].

Question 7: Do you have any comments on the proposals in R2-2208406 and the related CRs in R2-2208407 and R2-2208408?

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| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo |  | The proposals seem relevant to Q11. If proposal in Q11 can be agreed, then it seems ok. |
| Huawei, HiSilicon |  | This is possible.  Nevertheless, a general comment: when NR was created, RAN2 decide to avoid autonomous UE behaviours, in order to simplify specifications.  In Rel-16, a decision was made for CHO and for CPC to introduce autonomous UE behaviours, perhaps as it looked simple and there was no need for the network to do anything.  However, in Rel-17, MN-SN coordination will be necessary so autonomous UE behaviours do not help at all and they increase the complexity of stage 3 UE specifications.  This is a bit late but there may be a lesson to learn here: if something needs to be extended, a simple autonomous UE behaviour will eventually be more complicated, so it would rather be avoided from the beginning. |
| MediaTek | TBD | We agree that this case is missing and it seems reasonable to remove intra-SN CPC upon LTE HO. However, we are not sure if this make MN-SN coordination more complicate (as indicated by HW).  For the measurement part, perhaps we can reply on NW configuration? |
| ZTE | Agree (proponent) | According to the following agreement made at last meeting:  **Confirm the working assumption and agree the following: when one conditional reconfiguration is executed, the other conditional reconfigurations are released.**  The intra-SN CPC configuration should also be removed upon CHO execution. But the current LTE spec has not captured this in EN-DC case. Besides, it would be a bit strange if the NR and LTE UEs implement this in different ways.  For the MN-SN coordination, as far as we know, RAN3 has discussed the R16 CPC awareness solution for both XNAP and X2AP specs. So no additional complexity is expected.  For the measurement part, we are also fine to rely on the NW release, if the majority prefers this. |
| CATT | See comments | We agree the intention of the CR, but we think RAN2 should check the LTE and NR RRC specification case by case on each place where conditional reconfiguration should be removed, so that no similar issues is left.  As for whether NW or UE to remove the unavailable CHO/CPAC only measurement configuration, we prefer to align with the legacy behaviour, i.e., UE release it autonomously. Otherwise, additional signalling needed from NW side to release the CHO/CPAC only measurement configuration. Further, it is also strange since for some case, it is UE to release the CHO/CPAC only measurement configuration, for other case, it is NW to do.  As for the stage 3 specification, we think it may not be more complicated than legacy. The referred measConfig type (MCG or SCG), IE to configure the conditional report configuration, and the conditional report event type (A4/A3/A5/B1) can be used to distinguish whether it is for CHO, R17 CPAC, or R16 CPC. For example:   * for MN initiated CPA and CPC in EN-DC, MN measConfig is used and only condReconfigurationTriggerNR can be configured within the reportConfig (conditional B1 event); * for SN initiated CPC in EN-DC, only SN measConfig is used; * for CHO in EN-DC, MN measConfig is used and only condReconfigurationTriggerEUTRAN can be configured within the reportConfig; * for MN initiated CPA and CPC in NR-DC, MN measConfig is used and the associated condEventId within the CondTriggerConfig can only be condEventA4 (conditional A4 event); * for SN initiated CPC in NR-DC, only SN measConfig is used; * for CHO in NR-DC, MN measConfig is used and the associated condEventId within the CondTriggerConfig can only be condEventA3 or condEventA5 (conditional A3/A5 event) |
| LGE | Agree with P1 and related CR | But new section for VarConditionalReconfig removal seems not necessary. Also, the section was just specified and not referred. |
| Qualcomm | Agree | The proposals seem agreeable and the CRs look good. |
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Summary question 7:

TBD

## 2.8 Triggering of multiple cells for conditional reconfiguration execution

The discussion paper proposes resolution of the FFS related to maxNumberCPCCandidates.

[R2-2208649](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208649.zip) Triggering of multiple cells for conditional reconfiguration execution Huawei, HiSilicon discussion Rel-17 LTE\_NR\_DC\_enh2-Core

**Proposal 1:** Remove the note on "selection of a triggered cell" in 5.3.5.13.4 or. 5.3.5.13.4a (since there is no selection in these subclauses, it is in 5.3.5.13.5).  
**Proposal 2:** There is no need to specify anything about parallel triggering of of intra-SN CPC, by TS 38.331, and of inter-SN CPC by TS 36.331.  
**Proposal 3:** Discuss whether to remove the note in TS 38.331 clause 5.3.5.13.5 or to update it (see example). If it is updated, it could be captured in TS 36.331 clause 5.3.5.9.5 for consistency.

Question 8: Do you have any comments on the proposals R2-2208649?

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| --- | --- | --- |
| **Company** | **Agree/Not agree** | **Comments** |
| Lenovo | No? | Similar note exists since Rel16. Not sure if there is any problem by saying it is upon UE implementation in the Note as it is now. |
| Huawei, HiSilicon |  | There is no problem saying it is up to UE implementation but:  - in Rel-16, the note is only in 5.3.5.9.5, while in Rel-17 it was copied to 5.3.5.13.4 (and later to 5.3.5.13.4a) for no reason, so it would be logical to only keep it in the original place  - in Rel-17 in EN-DC, the UE may execute the selection procedure in 36.331 and in 38.331 in parallel and the note does not cover that case. So the suggestion is to either cover that case or remove it. |
| MediaTek | See comment | For P1, we do not see the problem to keep the “selection of a triggered cell” in an informative note  For P3, we suggest just to remove the yellow highlight below  NOTE: If multiple NR cells are triggered in conditional reconfiguration execution, it is up to UE implementation which one to select, e.g. the UE considers beams and beam quality to select one of the triggered cells for execution. |
| ZTE | See comment | P1: Agree to remove the note in 5.3.5.13.4 or 5.3.5.13.4a.  P2: Agree  P3: Agree with the wording suggested by MediaTek. |
| CATT | See comments | On P1, we agree to remove the note.  On P2 and P3, no strong view for us whether to remove the note or revision the note. But if majority agree to revision the note, we prefer the wording recommended by MTK. |
| LGE | Not agree | We can follow the majority view but there is no problem. |
| Qualcomm |  | P1: Agree.  P2: Agree.  P3: Prefer keeping the note with the proposed modifications in R2-2208649. |
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Summary question 8:

TBD

## 2.9 RIL E022

A TP was proposed in e-mail discussion [Post118-e][227][DCCA] Resolving E022 and E023 for CPAC (Huawei) to resolve RIL E022.

[R2-2208647](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208647.zip) [Post118-e][227][DCCA] Resolving E022 and E023 for CPAC (Huawei) Huawei, HiSilicon discussion Rel-17 LTE\_NR\_DC\_enh2-Core

Question 9: Do you have any comments on the TP for RIL E022?

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| --- | --- | --- |
| **Company** | **Agree/Not agree** | **Comments** |
| Huawei, HiSilicon | Agree | Although no change is also fine |
| MediaTek | Agree the TP |  |
| Lenovo | Agree |  |
| ZTE | Agree with comments | For EN-DC case, the VarConditionalReconfig for intra-SN CPC should also be removed, as the Rel-16 UE behaviour.  The following change highlighted by yellow should be captured:  2> else (i.e. EN-DC case):  3> perform VarConditionalReconfiguration CPC removal as specified in TS 36.331 [10] clause 5.3.5.9.6a;  3> remove all the entries within the SCG *VarConditionalReconfig*, if any;  [Huawei] Could be added |
| CATT | See comments | we have some concerns on the TP:  ***1st: lack of description on removal of the intra-SN CPC configuration in EN-DC;***  The intention of the TP is to remove CPC related configurations only upon MRDC release, but according to the TP, the intra-SN CPC configuration for EN-DC case will not be released. So we propose to add description on removal of the intra-SN CPC configuration for EN-DC as proposed by ZTE.  ***2rd: on “5.3.5.9.6a VarConditionalReconfiguration CPC remove”, lack of UE behaviour description on removal of the associated measurement configurations on CPC.***  As for removal of the measurement configuration, we prefer to align with the legacy behaviour, i.e., UE release it autonomously. Otherwise, additional signalling needed from NW side to release the CHO/CPAC only measurement configuration. Further, it is also strange since for some case, it is UE to release the CHO/CPAC only measurement configuration, for other case, it is NW to do.  As for the stage 3 specifications, we think it may not be more complicated than legacy. The referred measConfig type (MCG or SCG), IE to configure the conditional report configuration, and the conditional report event type (A4/A3/A5/B1) can be used to distinguish whether it is for CHO, R17 CPAC, or R16 CPC. For example:   * for MN initiated CPA and CPC in EN-DC, MN measConfig is used and only condReconfigurationTriggerNR can be configured within the reportConfig (conditional B1 event); * for SN initiated CPC in EN-DC, only SN measConfig is used; * for CHO in EN-DC, MN measConfig is used and only condReconfigurationTriggerEUTRAN can be configured within the reportConfig; * for MN initiated CPA and CPC in NR-DC, MN measConfig is used and the associated condEventId within the CondTriggerConfig can only be condEventA4 (conditional A4 event); * for SN initiated CPC in NR-DC, only SN measConfig is used; * for CHO in NR-DC, MN measConfig is used and the associated condEventId within the CondTriggerConfig can only be condEventA3 or condEventA5 (conditional A3/A5 event)   With the above points, we propose the following changes highlighten in green based on the TP provided by the rapporteur: 5.3.5.4 Secondary cell group release The UE shall:  1> as a result of SCG release triggered by E-UTRA (i.e. (NG)EN-DC case) or NR (i.e. NR-DC case):  2> reset SCG MAC, if configured;  2> for each RLC bearer that is part of the SCG configuration:  3> perform RLC bearer release procedure as specified in 5.3.5.5.3;  2> for each BH RLC channel that is part of the SCG configuration:  3> perform BH RLC channel release procedure as specified in 5.3.5.5.10;  2> release the SCG configuration;  2> if SCG release was triggered by NR: (i.e. NR-DC case);  3> remove all the entries within *VarConditionalReconfig* for which the *RRCReconfiguration* within *condRRCReconfig* does not include the *masterCellGroup* with *reconfigurationWithSync*, if any;  3> for each *measId* of the MCG *measConfig*, if configured, if the associated *reportConfig* has a *reportType* set to *condTriggerConfig* and the associated *condEventId* within the *CondTriggerConfig* is *condEventA4*:  4> for the associated *reportConfigId*:  5> remove the entry with the matching *reportConfigId* from the *reportConfigList* within the *VarMeasConfig*;  4> if the associated *measObjectId* is only associated to a *reportConfig* with *reportType* set to *condTriggerConfig* and the associated *condEventId* within the *CondTriggerConfig* is condEventA4:  5> remove the entry with the matching *measObjectId* from the *measObjectList* within the *VarMeasConfig*;  4> remove the entry with the matching *measId* from the *measIdList* within the *VarMeasConfig*;  2> else (i.e. EN-DC case):  3> perform VarConditionalReconfiguration CPC removal as specified in TS 36.331 [10] clause 5.3.5.9.6a, if any;  3> remove all the entries within *VarConditionalReconfig*, if any;  2> stop timer T310 for the corresponding SpCell, if running;  2> stop timer T312 for the corresponding SpCell, if running;  2> stop timer T304 for the corresponding SpCell, if running.  NOTE: Release of cell group means only release of the lower layer configuration of the cell group but the *RadioBearerConfig* may not be released. 5.3.5.9.6a VarConditionalReconfiguration CPC remove The UE shall:  1> remove all the entries within *VarConditionalReconfiguration* for which the *RRCConnectionReconfiguration* within *condReconfigurationToApply* does not include the *MobilityControlInfo*.  1> for each *measId*, that is part of the current UE configuration in *VarMeasConfig*, if the associated *reportConfig* has *condReconfigurationTriggerNR* configured:  2> remove the entry with the matching *reportConfigId* from the *reportConfigList* within the *VarMeasConfig*;  2> if the associated *measObjectId* is only associated with *condReconfigurationTriggerNR*:  3> remove the entry with the matching *measObjectId* from the *measObjectList* within the *VarMeasConfig*;  2> remove the entry with the matching *measId* from the *measIdList* within the *VarMeasConfig*;  [Huawei] According to the field description of *condExecutionCond*, *condEventA4* can be used for CHO so the above text does not work.  If we want to distinguish CPC and CHO, we should use the same method like it used for applicable cells, i.e. based on inclusion of masterCellGroup with reconfigurationWithSync in the conditional reconfiguration, and not based on the event.  However, if the MN is to be made aware of what the UE does, the MN can release the measurements explicitly so we fail to see the need of such new text. |
| LGE | Agree |  |
| NEC | Agree |  |
| Qualcomm | Agree |  |
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Summary question 9:

TBD

## 2.10 RIL E023

A TP was proposed in e-mail discussion [Post118-e][227][DCCA] Resolving E022 and E023 for CPAC (Huawei) to resolve RIL E023.

[R2-2208647](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208647.zip) [Post118-e][227][DCCA] Resolving E022 and E023 for CPAC (Huawei) Huawei, HiSilicon discussion Rel-17 LTE\_NR\_DC\_enh2-Core

Question 10: Do you have any comments on the TP for RIL E023?

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| --- | --- | --- |
| **Company** | **Agree/Not agree** | **Comments** |
| Huawei, HiSilicon | Agree | Although no change is also fine |
| MediaTek | Agree the TP |  |
| Lenovo | Agree |  |
| ZTE | Agree |  |
| CATT | See comments | Please see also comments on Q9, upon SCG release, all CPC configurations should be released, so we propose the following changes highlighted by green.  - **5.3.5.4 Secondary cell group release (with changes from 3.1 above, new changes highlighted)**  2> if SCG release was triggered by NR: (i.e. NR-DC case);  3> remove all the entries within the MCG and SCG *VarConditionalReconfig* for which the *RRCReconfiguration* within *condRRCReconfig* includes the *masterCellGroup* with *reconfigurationWithSync*, if any;  [Huawei] Ok but suggest writing it as a separate bullet:  3> remove all the entries within the MCG *VarConditionalReconfig* for which the *RRCReconfiguration* within *condRRCReconfig* includes the *masterCellGroup* with *reconfigurationWithSync*, if any;  3> remove all the entries within the SCG *VarConditionalReconfig*, if any; |
| LGE | Agree |  |
| NEC | Agree |  |
| Qualcomm | Agree |  |
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Summary question 10:

TBD

## 2.11 RIL V190

A TP was proposed in e-mail discussion [Post118-e][227][DCCA] Resolving E022 and E023 for CPAC (Huawei) to resolve RIL V190.

[R2-2208647](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208647.zip) [Post118-e][227][DCCA] Resolving E022 and E023 for CPAC (Huawei) Huawei, HiSilicon discussion Rel-17 LTE\_NR\_DC\_enh2-Core

Question 11: Do you have any comments on the TP for RIL V190?

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| --- | --- | --- |
| **Company** | **Agree/Not agree** | **Comments** |
| Huawei, HiSilicon | Agree with comments | We see no technical reason for the UE to treat CHO configurations differently for conditional and for non-conditional SCG reconfiguration with sync, the effect is \*exactly\* the same.  We think that respecting a previous agreement is not a suitable justification for introducing such a cumbersome distinction. |
| MediaTek | Agree the TP | With additional modification as we indicated in [R2-2208647](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208647.zip). |
| Lenovo | Agree | As MediaTek suggested. |
| ZTE | Agree with comments | The current TP does not differentiate the SCG reconfigurationWithSync for normal PSCell addition/change and CPA/CPC execution. But for CPA/CPC execution, all other conditional reconfigurations (i.e. including both CHO and CPAC) should be removed.  The following change needs to be updated (as highlighted by green):   1. if the *reconfigurationWithSync* was included in *spCellConfig* of an MCG: or   2> if the *reconfigurationWithSync* was included in *spCellConfig* of an SCG, and the *RRCReconfiguration* message is applied due to a conditional reconfiguration execution:  3> remove all the entries within the MCG and SCG *VarConditionalReconfig*, if any;  3> remove all the entries within *VarConditionalReconfiguration* as specified in TS 36.331 [10], clause 5.3.5.9.6, if any;  3> for each *measId* of the MCG *measConfig*, if configured, and for each *measId* of the SCG *measConfig*, if configured, if the associated *reportConfig* has a *reportType* set to *condTriggerConfig*:  4> for the associated *reportConfigId*:  5> remove the entry with the matching *reportConfigId* from the *reportConfigList* within the *VarMeasConfig*;  4> if the associated *measObjectId* is only associated to a *reportConfig* with *reportType* set to *condTriggerConfig*:  5> remove the entry with the matching *measObjectId* from the *measObjectList* within the *VarMeasConfig*;  4> remove the entry with the matching *measId* from the *measIdList* within the *VarMeasConfig*;  2> else if the *reconfigurationWithSync* was included in *spCellConfig* of an SCG:  3> remove all the entries within the MCG *VarConditionalReconfig* for which the *RRCReconfiguration* within *condRRCReconfig* does not include the *masterCellGroup* with *reconfigurationWithSync*, if any;  3> remove all the entries within the SCG *VarConditionalReconfig*, if any;  3> perform VarConditionalReconfiguration CPC removal as specified in TS 36.331 [10] clause 5.3.5.9.6a;  3> for each *measId* of the SCG *measConfig*, if configured, if the associated *reportConfig* has a *reportType* set to *condTriggerConfig*:  4> for the associated *reportConfigId*:  5> remove the entry with the matching *reportConfigId* from the *reportConfigList* within the *VarMeasConfig*;  4> if the associated *measObjectId* is only associated to a *reportConfig* with *reportType* set to *condTriggerConfig*:  5> remove the entry with the matching *measObjectId* from the *measObjectList* within the *VarMeasConfig*;  4> remove the entry with the matching *measId* from the *measIdList* within the *VarMeasConfig*;  [Huawei] What is the technical reason to treat differently two identical reconfigurations, if one is conditional and the other is not? |
| CATT | See comments | 1st: RAN2 already agreed that if one conditional reconfiguration is executed, the other conditional reconfigurations should be released. So if the SCG reconfigurationWithSync is as a result of CPA/CPC execution, all conditional reconfiguration including CHO should be removed. Agree with the change proposed by ZTE.   |  | | --- | | * 12: (R16/R17 CHO/CPAC coex) If one conditional reconfiguration is executed, the other conditional reconfigurations should be released. Everything else is up to UE implementation.* |   [Huawei]Ok but if there is no technical reason to distinguish conditional and non-conditional reconfigurations, we should not do that. So no change at all.2rd: On unavailable measurement configurations, we prefer to let UE to release it autonomously; the reason can be seen as in Q9.  Thus, we prefer the following changes as highlight in blue:   1. if the *reconfigurationWithSync* was included in *spCellConfig* of an MCG: or   2> if the *reconfigurationWithSync* was included in *spCellConfig* of an SCG, and the *RRCReconfiguration* message is applied due to a conditional reconfiguration execution:  3> remove all the entries within the MCG and SCG *VarConditionalReconfig*, if any;  3> remove all the entries within *VarConditionalReconfiguration* as specified in TS 36.331 [10], clause 5.3.5.9.6, if any;  3> for each *measId* of the MCG *measConfig*, if configured, and for each *measId* of the SCG *measConfig*, if configured, if the associated *reportConfig* has a *reportType* set to *condTriggerConfig*:  4> for the associated *reportConfigId*:  5> remove the entry with the matching *reportConfigId* from the *reportConfigList* within the *VarMeasConfig*;  4> if the associated *measObjectId* is only associated to a *reportConfig* with *reportType* set to *condTriggerConfig*:  5> remove the entry with the matching *measObjectId* from the *measObjectList* within the *VarMeasConfig*;  4> remove the entry with the matching *measId* from the *measIdList* within the *VarMeasConfig*;  2> else if the *reconfigurationWithSync* was included in *spCellConfig* of an SCG:  3> remove all the entries within the MCG *VarConditionalReconfig* for which the *RRCReconfiguration* within *condRRCReconfig* does not include the *masterCellGroup* with *reconfigurationWithSync*, if any;  3> remove all the entries within the SCG *VarConditionalReconfig*, if any;  3> perform VarConditionalReconfiguration CPC removal as specified in TS 36.331 [10] clause 5.3.5.9.6a;  3> for each *measId* of the SCG *measConfig*, if configured, if the associated *reportConfig* has a *reportType* set to *condTriggerConfig*: or  3> for each *measId* of the MCG *measConfig*, if configured, if the associated *reportConfig* has a *reportType* set to *condTriggerConfig* and the associated *condEventId* within the *CondTriggerConfig* is *condEventA4*:  4> for the associated *reportConfigId*:  5> remove the entry with the matching *reportConfigId* from the *reportConfigList* within the *VarMeasConfig*;  4> if the associated *measObjectId* within SCG measConfig is only associated to a *reportConfig* with *reportType* set to *condTriggerConfig*: or  4> if the associated *measObjectId* within MCG measConfig is only associated to a *reportConfig* with *reportType* set to *condTriggerConfig* and the associated *condEventId* within the *CondTriggerConfig* is *condEventA4*:  5> remove the entry with the matching *measObjectId* from the *measObjectList* within the *VarMeasConfig*;  4> remove the entry with the matching *measId* from the *measIdList* within the *VarMeasConfig*; 5.3.5.9.6a VarConditionalReconfiguration CPC remove The UE shall:  1> remove all the entries within *VarConditionalReconfiguration* for which the *RRCConnectionReconfiguration* within *condReconfigurationToApply* does not include the *MobilityControlInfo*.  1> for each *measId*, that is part of the current UE configuration in *VarMeasConfig*, if the associated *reportConfig* has *condReconfigurationTriggerNR* configured:  2> remove the entry with the matching *reportConfigId* from the *reportConfigList* within the *VarMeasConfig*;  2> if the associated *measObjectId* is only associated with *condReconfigurationTriggerNR*:  3> remove the entry with the matching *measObjectId* from the *measObjectList* within the *VarMeasConfig*;  2> remove the entry with the matching *measId* from the *measIdList* within the *VarMeasConfig*;  [Huawei] See comments for Q9 about the issues of this procedure. As explained, if the MN is to be made aware, so the use of this is unclear. |
| LGE | Agree |  |
| NEC | Agree | Agree with MediaTek |
| Qualcomm | Agree | Same comment as MediaTek. |
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Summary question 11:

TBD

# 3 Summary

Based on the discussion in the previous sections the following is proposed:

[Proposal 1 TBD.](#_Toc103256338)

# 4 References

1. [R2-2207320](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207320.zip) Rel-17 CPAC corrections to NR 38.331 Nokia, Nokia Shanghai Bell CR Rel-17 38.331 17.1.0 3246 - F LTE\_NR\_DC\_enh2-Core
2. [R2-2207639](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207639.zip) On maximum number of SN initiated conditional reconfigurations Lenovo, ZTE Corporation, Sanechips, CATT CR Rel-17 38.331 17.1.0 3300 - F LTE\_NR\_DC\_enh2-Core
3. [R2-2207728](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2207728.zip) Outstanding issue for CPC Ericsson discussion Rel-16 LTE\_NR\_DC\_enh2-Core
4. [R2-2208647](https://www.3gpp.org/ftp/TSG_RAN/WG2_RL2/TSGR2_119-e/Docs/R2-2208647.zip) [Post118-e][227][DCCA] Resolving E022 and E023 for CPAC (Huawei) Huawei, HiSilicon discussion Rel-17 LTE\_NR\_DC\_enh2-Core