3GPP TSG-RAN WG Meeting #90 Electronic [RP-20xxxx](http://www.3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_90e/Docs/RP-20xxxx.zip)

Online, 7 – 11 December 2020

**Agenda item: 9.6 Small Technical Enhancements and Improvements for REL-16 [TEI16]**

**Source: Huawei (rapporteur)**

**Title: Summary of [90E][21][DC\_location\_reporting]**

**WID/SID: TEI16 - Release 16**

**Document for: Discussion and Decision**

# 1 Introduction

This discussion handles the following document, according to the RAN Chairman request copied below.

As per the guidance, the goal of this discussion is to generate an agreeable way forward.

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| **Tdoc** | **Title** | **Source** |
| RP-202617 | Clarification on DC location reporting for intra-band UL CA | Huawei, HiSilicon |

***From:*** *3gpp\_tsg\_ran: tsg radio access network group [mailto:3GPP\_TSG\_RAN@LIST.ETSI.ORG]* ***On Behalf Of*** *Bertenyi, Balazs (Nokia - HU/Budapest)****Sent:*** *Sunday, December 6, 2020 10:36 PM****To:*** *3GPP\_TSG\_RAN@LIST.ETSI.ORG****Subject:*** *[90E][21][DC\_location\_reporting] Initial round*

*Dear all,*

*This is the formal kick off of the email thread on finding a way forward on handling DC location reporting for intra-band UL CA.*

*Goal: Generate an agreeable way forward.*

*Input contributions covered:  2617.*

*Moderator: Simone Provvedi.*

*Br,*

*Balazs.*

Please provide your initial comments on the 3 proposals copied in the Discussion section by 11:59 am tomorrow, so that I can elaborate a summary based on this initial round of discussion.

Please each company take the last file in the draft folder and add the company name at the end while also increasing the version number

Example:

Document\_Rapporteur\_v0

Document\_CompanyA\_v1

Document\_CompanyB\_v2

Etc.

# 2 Background

The background can be found in the Tdoc RP-202617.

Also about proposal 3 companies can have a look at RP‑202602.

# 3 Discussion

The discussion in this section focuses on collecting companies input for the 3 proposals below.

**Proposal 1: Adopt RRC based signalling method for DC location reporting in Rel-16.**

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| Answers to Question 1 | | |
| Company | Yes/No | Comments |
| Apple |  | It was our understanding that RAN2 has agreed to use RRC-based solution in Rel-16 in last WG meeting. We are not sure the intention of Proposal 1 in this meeting. What if the proposal is not agreed, are we allowed to considered other method in RAN2 in Rel-16? In our view, if Proposal 3 can be done from Rel-16 for more than 2 UL CCs which is applicable for FR2 and future-proof for FR1, do we really need a Rel-16 RRC patch which is only applicable for 2 UL CCs? |
| Qualcomm |  | It is our understanding likewise Apple is saying, that RAN2 agreed this RRC already as per ran2 chairman notes. Overlapping agreement in RAN would be confusing. |
| Intel (Youn He) | Yes | We don’t have a strong view about RAN2 latest status. We proposed RRC signalling based DC reporting in the last RAN2 meeting, but the discussion was postponed to the next meeting to get RAN4’s further input. In our understanding, it seems now clear that both RAN2 and RAN4 focus on RRC based signalling. So, we are ok to confirm it by this proposal 1. |
| vivo | Yes | Agree with Apple |
| ZTE | Yes | In the past RAN2#112e, it has been concluded that RRC based signaling will be used. |
| Futurewei | Yes | RAN2’s agreement can be confirmed. |
| Samsung | Yes | We share same views with others that RAN2 agreed to use RRC based signalling but we are fine to confirm it in RAN. |
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**Summary 1**: TBD.

**Proposal 1**: TBD.

**Proposal 2: Target to complete the Rel-16 RRC based DC location reporting signalling for 2 UL CCs in RAN#91e.**

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| Answers to Question 2 | | |
| Company | Yes/No | Comments |
| Apple |  | Proposal 2 would be pending on the agreement of Proposal 1. If agreed, how do we handle FR2 DC reporting for more than 2 UL CCs in Rel-16? |
| Qualcomm | No | We should concentrate on finding a solution and enabling technical discussion rather planning forced targets. With this proposal, RAN2 or RAN4 would not even try to accommodate > 2CC and as shown in RP-202617 it is possible within the agreement made in ran2. Maybe better to task ran4 to deliver what assumption can be made in the implementation what impacts DC location in the UE and task ran2 to find solution how to simplify the detailed message transport. |
| Intel | Yes | We understand that FR1 related RAN4 discussion has been limited to up to 2CCs. Furthermore, according RAN4 LS, each TX DC location should be based on permutations of all possible simultaneously activated BWPs within configured BWPs as baseline in Rel16. Considering huge signalling overhead of this approach, it is practical to aim to design the Rel-16 RRC based DC location reporting signalling for 2 UL CCs. |
| vivo | Yes | 2 UL CCs is ok for R16. |
| ZTE | Yes | There has been discussion on the RRC signaling approaches in RAN2 but no consensus has been reached, thus discussion on the RRC based DC location reporting signaling in RAN2 has been postponed to next meeting.  At least one more RAN2 meeting is needed to down select from the signaling approaches and conclude on the signaling details. |
| Futurewei | Yes | RAN2 should be tasked to complete Rel-16 by specifying RRC based DC location reporting signalling for 2 UL CCs in RAN#91e. |
| Samsung | See comments | We are OK to restrict up to 2CCs in FR1, but we understand it does not mean to design RRC based signalling without considering forward compatibility to other combinations e.g. more than 2 UL CCs and/or FR2. As Qualcomm pointed out, we are also under the impression that focusing on a future proof signalling solution with technical discussion outweighs this target plan. |
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**Summary 2**: TBD.

**Proposal 2**: TBD.

**Proposal 3: For more than 2 UL CCs, advanced methods for signalling overhead reduction will be further discussed in Rel-17. Add an objective(s) into Rel-17 FR1 UE RF requirement enhancement WI.**

Companies can have a look at RP‑202602 as an example on how to capture this, but in the initial round we do not want to discuss the details, rather trying to agree on the principle.

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| Answers to Question 2 | | |
| Company | Yes/No | Comments |
| Apple |  | Proposal 3 would be pending on the agreement of Proposal 1 and Proposal 2. If agreed, whether the objective should be included in Rel-17 FR1 UE RF requirement enhancement WI can be further discussed as intra-band UL CA with more than two CCs is not an objective in Rel-17 FR1 UE RF requirement enhancement WI. |
| Qualcomm |  | We should enable clear rel-17 discussion for this since reconfiguration based method may not be feasible in practice and e.g. activation based would provide more streamlined way. Since it is very late to work on R16 for activation based, R17 discussion should be enabled with e.g. enhancement WI objective, give TU budget allows.  Objective in RP‑202602 should be rephrased to something more general such as advanced DC location methods and not specify the FR or number of CC’s or RCC vs DCI. |
| Intel | See comment | Additional objectives to RAN4-led items shall be handled in email thread [09] along with all other proposals to extend the WI scope. |
| vivo |  | We are ok to discuss the enhancement, however how it is handled i.e., in which WID, can be discussed later. |
| ZTE | No | Since the signaling details of RRC based DC location reporting have not been concluded and RAN2 is targeting to design a future-proof signaling, we think it is too early to add an objective into any Rel-17 WI to support DC location reporting for more than 2 UL CCs. |
| Futurewei |  | Methods and signalling for more than 2 UL CCs can be further discussed in Rel-17. |
| Samsung | No | We agree with ZTE that it is premature to make any decision to revise Rel-17 WI scope. |
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**Summary 3**: TBD.

**Proposal 3**: TBD.

# 4 Conclusion

TBA

# Annex – Contact Points

Respondents to the email discussion are kindly asked to fill in the following table.

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| --- | --- | --- |
| Company | Name | Email Address |
| Discussion moderator | Tero Henttonen | tero.henttonen@nokia.com |
| ZTE | Yuan Gao | gao.yuan66@zte.com.cn |
| Futurewei | Hao Bi | Hao.bi@futurewei.com |
| Samsung | Sangyeob Jung | sy0123.jung@samsung.com |
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