**3GPP TSG-RAN WG2 Meeting #112 electronic R2-2xxxxxx**

**2 – 13 November 2020**

**Agenda item: 6.4.1**

**Source: Huawei, HiSilicon**

**Title: Summary of [AT112-e][702][V2X] on RAN4 LS for con-current operation**

**Document for: Discussion and Decision**

# Introduction

This document collets companies’ views on how RAN2 should reply to RAN4’s incoming LS in R2-2008735/R4-2011713 [1].

# Questionnaire

During the online discussion on Monday, companies held different views on how to reply to RAN4’s incoming LS in R2-2008735/R4-2011713 [1]. Mainly, there are two ways as follows:

* WF1: simply confirm that RAN4’s definition is in line with RAN2’s understanding
* WF2: Provide RAN4 with RAN2 understanding on con-current operations as reference, and let RAN4 decide whether their definition is in line with RAN2’s understanding by themselves.

The reason why some companies proposed to adopt WF2 was that it is still unclear in RAN4, and also in the LS, how the part “…*while operation is agnostic of the service used on each interface*” in the definition actually means by RAN4, so that it is even harder for RAN2 to judge whether this definition is really in line with RAN2’s understanding on simultaneous SL/UL operations. Therefore, the below question is to first ask companies’ views on in which direction the reply LS should go.

#### **Question 1:** In which of the following ways do companies prefer to reply to the RAN4’s incoming LS in R2-2008735/R4-2011713?

* WF1: simply confirm that RAN4’s definition is in line with RAN2’s understanding;
* WF2: provide RAN4 with RAN2 understanding on con-current operations as a reference, and let RAN4 colleagues decide whether their definition is in line with RAN2’s understanding by themselves.

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| **Companies** | **Preferred options** | **Comments if any** |
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Based on the answer to Question 1, below questions intend to discuss what specific contents should be included in the RAN2 reply LS, with the draft LS in R2-2009410 [2] as a reference. An informative Annex is provided on how the below options provided are reflected in [2] (but this is just an example, and does not necessarily mean the final wording which is anyway to be further discussed in the LS reviewing phase).

#### **Question 2**: If WF2 is chosen in Question 1, what information should be included in the draft reply LS from RAN2 (Note that multiple options can be selected)?

* Option-A: Clarification on the simultaneous SL/UL operations specified in RAN2 Specs.
* Option-B: The radio resources/parameters for UL and those for SL (especially operation band related, as asked by RAN4) are separated (pre)configured.
* Option-C: The UE can distinguish the data to be transmitted in Uu and in SL respectively, but does not need to be aware of the specific service type (e.g. voice, streaming, etc.) in the AS.
* Others. If this option is selected, please provide the information you’d like to include in detail.

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| **Companies** | **Preferred options** | **Comments if any** |
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#### **Question 3**: If WF1 is chosen in Question 1, how do you interpret the part “*…while operation is agnostic of the service used on each interface*” and judge that the definition is aligned/misaligned with RAN2 understanding?

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| **Companies** | **Please provide the reasoning/clarification in detail, and the information you’d like to additionally provide in the reply LS (if any) in the case of WF1.** |
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# Conclusion

Based on companies’ views collected, it is proposed to go for the majority’s preference, with the following proposals:

[To be added...]

# Reference

1. R2-2008735 LS on definition of NR V2X con-current operation (R4-2011713; contact: Huawei) RAN4
2. R2-2009410 [Draft] Reply LS on definition of NR V2X con-current operation Huawei, HiSilicon

# Annex: Mapping of contents in [2] to the options in Q2 (Informative)

**3GPP TSG-RAN WG2 Meeting #112 electronic R2-2009410**

**2 – 13 November 2020**

**Title: [Draft]** Reply LS on definition of NR V2X con-current operation

**Response to:** LS on definition of NR V2X con-current operation (R4-2011713)

**Release:** Release 16

**Work Item:** 5G\_V2X\_NRSL

**Source:** Huawei **[To be RAN2]**

**To:** RAN4

**Cc:** RAN1

**Contact Person:**

* **Name:** Xiao Xiao

**Tel. Number:**

* **E-mail Address:** xiaoxiao6@huawei.com

**Send any reply LS to: 3GPP Liaisons Coordinator,** [**mailto:3GPPLiaison@etsi.org**](mailto:3GPPLiaison@etsi.org)

**Attachments:** None

**1. Overall Description:**

RAN2 would like to thank RAN4 for the LS on definition of NR V2X con-current operation (R4-2011713). RAN2 checked the below definition as asked by RAN4 in the LS, and would like provide the feedback as follows.

***Con-current operation****: The simultaneous transmission and reception of sidelink and Uu interfaces while operation is agnostic of the service used on each interface.*

In the definition, agnostic of the service in RAN4’s understanding is:

UE is aware of Uu or SL configured in which operating band, but the actual service type transmitted/received in Uu or SL is agnostic from RAN4 perspective.

In RAN2 understanding, a UE can perform Uu transmission and SL transmission simultaneously, if the UE capability allows, and this is already supported in the MAC Specs (TS 38.321/36.321). RAN2 did not discuss simultaneous reception of Uu and SL, with the assumption that whether/how this is done by the UE is up to the PHY layer operation.

RAN2 would also like to point out that the resource configurations (e.g. carrier frequencies, resource pools, etc.) for Uu and those for SL are (pre)configured to the UE separately, so the UE’s AS is aware of in which operating bands Uu communication and SL communication are respectively performed. Also, the UE’s AS can distinguish the data to be transmitted in Uu and in SL respectively, as informed by the upper layers, but the specific service types (e.g. voice, streaming, etc.) are invisible in the AS.

**2. Actions:**

RAN2 respectfully asks RAN4 to take above information into consideration in their future work.

**3. Date of Next TSG-RAN WG2 Meetings:**

TSG RAN WG2 Meeting #113e 25 January – 5 February 2021 eMeeting