**3GPP TSG RAN WG1 #100bis-e R1-2002892**

e-Meeting, April 20th – 30th, 2020

Source: NTT DOCOMO, INC.

Title: Summary on Email discussion [100b-e-NR-UEFeatures-Others-02]

Agenda Item: 7.2.11.13

**Document for:** **Discussion and Decision**

# **Introduction**

This contribution summarizes the following email discussion in AI 7.2.11.13 regarding NR UE features for others.

[100b-e-NR-UEFeatures-Others-02]: Email discussion/approval on general issues having capability signaling impact (dates TBD) – Hiroki (DCM)

* Whether to convert most per-UE capability to per-band capability

# **Discussion**

During the preparation phase email discussion [100b-e-Prep-NR-UEFeatures-Others], following input was provided. The proposal is to convert most “per-UE” capability to “per-band” capability considering the unlicensed operation and IODT concern.

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| Qualcomm | In general, we agree with the categorization. We have some proposed additions / clarifications as follows: An important additional 1st priority issue is to discuss the applicability of all Rel-15 and Rel-16 features to NR-U. For example, whether mTRP is supported in NR-U, etc. In order to avoid an extended debate, we suggest agreeing that all features should be applicable to NR-U as a default, and possibly discuss only some exception cases. At the same time, this does give rise to IODT concern, since all the Rel-15 and Rel-16 features will not be introduced at the same time in licensed and unlicensed. Therefore, even though as default all features should apply to unlicensed, a UE capability differentiation is still needed. In order to introduce the capability differentiation with the smallest possible change in the structure of the capability signaling, we propose to convert most per-UE capability to per-band capability. It would need further discussion how to do the same for Rel-15 features. Regarding XDD/FRX differentiation, we think that a description will be need for each impacted FG that has some cross-carrier element. This is not to explain the rationale for the differentiation but rather to explain whether the differentiation is from the perspective of the cell delivering the control or the cell to which the control is applied, or some other interpretation. We don’t think that the topic of how to signal capability in FR1 TDD and incapability in both FR1 FDD and FR2 TDD at the same time needs further discussion in RAN1. As an additional topic, we would like to clarify whether or not FR1 and FR2 serving cells can be in the same TAG in UL CA. This clarification may impact Rel-15.  |

**Companies are encouraged to provide views on the above proposal.**

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| Company | Comment |
| Ericsson | According to our understanding a proposal to convert most UE feature from per UE to per band would have large implications to the UE capability signaling since it would allow not only different UE capabilities signaling for unlicensed bands, but also different signaling for different licensed bands. There are also RAN2 implications since the signaling per band is already very large. In addition, backwards compatibility in the signaling must be ensured which means that this is not moving Rel-15 UE capabilities, but copying. Any discussion should therefore be on a per FG basis based on technical issues with supporting a certain feature in the unlicensed case. |
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# **Conclusion**

TBD

# **References**

[1] R1-2001484 RAN1 UE features list for Rel-16 NR after RAN1#100-E Moderator (AT&T, NTT DOCOMO, INC.)

[2] R1-2001634 Remaining issues on Rel-16 NR UE features ZTE

[3] R1-2001742 Discussion on the support of SRS transmission in all symbols of a slot OPPO

[4] R1-2002026 On UE feature list Intel Corporation

[5] R1-2002159 UE features for other aspects Samsung

[6] R1-2002281 Potential change/update on existing UE features for Rel-16 UE Ericsson

[7] R1-2002656 High-level discussion on Rel-16 UE features Futurewei

[8] R1-2002674 Other aspects of Rel-16 UE features Huawei, HiSilicon

[9] R1-2002687 Discussion on UE features Qualcomm Incorporated

[10] RP-200502 Informational summary on email discussion: [Rel16\_UE\_capabilities] Exchange of views NTT DOCOMO, INC.