3GPP TSG-RAN WG1 Meeting #107-e R1-2112689

e-Meeting, November 11th – 19th, 2021

**Title: DRAFT** LS on DL synchronization enhancements for IoT NTN

**Reply to:**

**Release:** Release 17

**Work Item:** LTE\_NBIOT\_eMTC\_NTN

**Source:** Moderator (MediaTek), [RAN1]

**To:** RAN4

**Cc:**

**Contact Person:**

**Name:** Gilles Charbit

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**Attachments:** None

**1. Overall Description:**

RAN1 has discussed the following aspects and leaves it up to RAN4 to specify DL synchronization enhancements for IoT NTN as follows:

* Signal Part-of ARFCN indication on MIB for bands where RAN4 cannot introduce a 200 kHz channel raster and the legacy 100 kHz raster is used
* Otherwise for bands where RAN4 can introduce a 200 kHz channel raster there is no signalling of the part-of ARFCN indication on MIB.

The signal Part-of ARFCN indication on MIB is two LSBs of the ARFCN.

RAN1 respectfully requests RAN4 to prioritize the DL synchronization enhancements work.by considering introduction of:

* A new 200 kHz channel raster, replacing the legacy 100 kHz channel raster, in bands where RAN4 finds this suitable, if any.
* The legacy 100 kHz channel raster to be used in conjunction with signaling of the “part-of EARFCN” indication on MIB, with multiple EARFCN hypothesis in bands where it is not feasible to introduce a 200 kHz channel raster.

Relevant RAN1 agreements are attached below.

Agreement:

For DL synchronization enhancements:

* Signal Part-of ARFCN indication on MIB for bands where RAN4 cannot introduce a 200 kHz channel raster and the legacy 100 kHz raster is used, otherwise for bands where RAN4 can introduce a 200 kHz channel raster there is no signalling of the part-of ARFCN indication on MIB.

Agreement:

*For IoT NTN, indicate two LSBs of the ARFCN in the MIB.*

**2. Actions:**

**To RAN4 group:**

**ACTION:** RAN1 respectfully asks RAN4 to take the above into account for future work.

**3. Date of Next TSG-RAN WG1 Meetings:**

TSG-RAN WG1 Meeting #107-bis-e 17 – 25 January 2022 Electronic Meeting

TSG RAN WG1 Meeting #108-e                   21st Feb – 3rd Mar, 2022           Electronic Meeting