**3GPP TSG-RAN WG1 Meeting #112 R1-23xxxxx**

**Athens, Greece, February 27 – March 3, 2023**

**Title:** Draft reply LS on reduced 1024QAM capability

**Response to:** R2-2213343 LS on reduced 1024 QAM capability

**Release:** Rel-17

**Work Item:** NR\_DL1024QAM\_FR1

**Source:** Huawei [RAN1]

**To:** RAN2

**Cc:**

**Contact Person:**

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**Attachments:** none

**1. Overall Description:**

RAN1 thanks RAN2 for providing the information on the reduced 1024QAM capabilities.

RAN1 has discussed the following assumptions and have following comments from RAN1’s perspective.

* [2] Assume to Extend *supportedModulationOrderDL* to include 1024 QAM (confirm with R1).

Comments from RAN1: There’s no consensus in RAN1 on the assumption in bullet 2. Some companies observe increase of signaling by assumption in bullet 2.

* [4] Assume that Max data rate shall be derived from the higher data rate between 1024 QAM or 256 QAM for CC where 1024 QAM is indicated and the UE support reduced 1024 capability (confirm with R1)

Comments from RAN1: RAN1 confirms the assumption in bullet, which is aligned with the following in TS 38.306 from RAN1’s point of view:

*The approximate maximum data rate can be computed as the maximum of the approximate data rates computed using the above formula for each of the supported band or band combinations.*

* [5] Assume to Clarify that both *scalingFactor* and *scalingFactor-1024QAM-FR1-r17* can be included for in one per CC capability and legacy *scalingFactor* is used when non-1024 QAM is scheduled (confirm with R1)

It’s RAN1’s assumption that both scalingFactor and scalingFactor-1024QAM-FR1-r17 can be included for in one per CC capability and legacy scalingFactor is used when non-1024 QAM is configured.

**2. Actions:**

**To RAN2**

**ACTION:** RAN1 respectfully requests RAN2 to take above response into account in their future work.

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

TSG-RAN WG1 Meeting #112-bis-e 17 Apr – 26 Apr 2023 Electronic

TSG-RAN WG1 Meeting #113 22 May – 26 May 2023 Incheon