**3GPP TSG RAN WG2 NR ASN.1 Ad-hoc electronic R2-2204307**

**e-Meeting, April 20th – 22nd, 2022**

**Title: [Draft]** Reply LS on updated Rel-17 RAN1 UE features list for NR

**Response to:** R2-2203746/R1-2202927

**Release:** Rel-17

**Work Items:** NR\_FeMIMO, NR\_ext\_to\_71GHz, NR\_IIOT\_URLLC\_enh, NR\_NTN\_solutions, NR\_pos\_enh, NR\_redcap, NR\_UE\_pow\_sav\_enh, NR\_cov\_enh, NR\_IAB\_enh, NR\_SL\_enh, NR\_MBS, NR\_DSS, LTE\_NR\_DC\_enh2, NR\_DL1024QAM\_FR1, NR\_RF\_FR1\_enh, NR\_SmallData\_INACTIVE

**Source:** Intel Corporation

**To:** RAN WG1

**CC:**

**Contact Person:**

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**Attachment:**

**1. Overall Description:**

RAN2 would like to thank RAN1 for the latest version of the Rel-17 RAN1 UE feature list for NR. In addition, RAN2 would like to get some feedback on the following R1 features:

A) R1 23-8-3

RAN2 understanding is that this feature is an extension of *srs-TxSwitch/srs-TxSwitch-v1610* to support SRS antenna switching xTyR with y>4. However, RAN2 is unclear on how this new capability is populated for a band in a band combination where at least one band in the band combination supports xTyR with y>4 and how it works with the existing *srs-TxSwitch/srs-TxSwitch-v1610*. There are 2 interpretations:

(a) the new capabilities is populated for a band in the band combination only if at least one xTyR entry for the band supports y>4

(b) the new capabilities is populated for a band in the band combination regardless of whether the band supports y>4

If the interpretation is (a), the following note will not occur since the candidate value with xTyR combinations with y>4 are {t2r6, t1r6, t4r8, t2r8, t1r8} where x and y are never equal. For b), the Note can be applicable to, but only in band of the band combination where xTyR supports y ≤ 4, while not applicable in band of the band combination where at least one xTyR supports y>4.

In addition RAN2 understands component 2 and 3 are not reported if x=y as below, and wonders if there is any other case that component 2 and 3 are not reported.

Note: Component 2 and component 3 is not reported if component 1 is reported as xTyR with x=y.

For both interpretations (a) and (b), should the component 1 be set consistently or can be different with the existing *supportedSRS-TxPortSwitch/ supportedSRS-TxPortSwitch-v1610* in *srs-TxSwitch/srs-TxSwitch-v1610* (i.e. the R1 23-8-3 bitmap in component 1 be aligned with the existing *supportedSRS-TxPortSwitch/supportedSRS-TxPortSwitch-v1610* for the bit entries where y<=4). Also how are component 2 and 3 being set with respect to the Rel-15/16 capabilities if bit entries in component 1 contains the xTyR combination(s) in the existing Rel-15/16 capabilities, .e.g.whether it is possible that an xTyR pattern in component 1 is reported in Rel-17 and Rel-15/16 signaling simultaneously, but the corresponding component 2/3 are different?

RAN2 would also like to inform that R1 23-8-3 will be implemented similar to Rel-15/16 *srs-TxSwitch/srs-TxSwitch-v1610* in the BandParameters of a band combination rather than in FeatureSetUplink as components 2 and 3 require setting them to the band entry of a combination.

B). R1 27-16 and 27-19

R1 27-16 and 27-19 have a component description of ‘Same as RRC OLPC-SRS-Pos-r16’ and ‘Same as RRC SpatialRelationsSRS-Pos-r16’ respectively. It is unclear to RAN2 whether the pre-requisite in R1 27-16/27-19 should be *srs-PosResources-r16* as in RRC *OLPC-SRS-Pos-r16/SpatialRelationsSRS-Pos-r16* or should be *“srs-PosResourcesRRC-Inactive-r17”* (i.e. R1 27-15)). RAN2 would like RAN1 to clarify the pre-requisite used in the R1 27-16 and 27-19.

C) R1 24-2 and 24-3

Both of the features have N/A in the column of “Need for the gNB to know if the feature is supported” while indicate in the column of “Mandatory/Optional” as “optional with capability signalling”. From RAN2 perspective, if there is no need for gNB to know whether a feature is supported or not, no capability signalling should be defined. RAN2 also noticed that there are other features in NTN that have such ambiguities (e.g. R1 26-1/26-8 for NTN WI). RAN2 would like to know whether such capabilities are really “optional with capability signalling”

**2. Actions:**

**To RAN WG1**

**ACTION:** RAN2 kindly asks RAN1 to provide feedback on A) – C).

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

TSG-RAN WG2 Meeting #118-e May 9 to May 20, 2022 E-meeting