3GPP TSG-RAN WG4 Meeting #108-bis R4-2315238

Xiamen, China, Oct 09 – 13, 2023

**Title:** draft LS on lower MSD capability

**Response to:**

**Release:** Rel-18

**Work Item:** NR\_ENDC\_RF\_FR1\_enh2

**Source:** RAN4

**To:** RAN2

**Cc:**

**Contact Person:**

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

**Attachments**: N/A

**1. Overall Description:**

After sending the LS on lower MSD to RAN2 in R4-2306594, R4-2310276 and R4-2312247, RAN4 continues the discussion and reached some further agreements. To facilitate RAN2 discussion on the signalling design, RAN4 would like to share the progress with RAN2 in this follow up LS. The content of this LS could be considered as further clarification for the liaisons sent to RAN2 in the past.

* **Some additional information on MSD types**

In the previous LS to RAN2, the following MSD types/orders are agreed by RAN4, i.e.

▪ Harmonic, harmonic mixing, crossband isolation, IMD with order=2/3/4/5 and “ALL” type

There are two other kinds of IMD MSD caused by intra-band UL CA or triple-beat are not listed. All above mentioned MSD types could be related to different UL configurations, e.g.

|  |  |  |
| --- | --- | --- |
| UL configuration | MSD type | Support of reporting  in Rel-18 |
| 1UL with 1CC in one aggressor band | UL harmonic, harmonic mixing and crossband isolation MSD | Yes |
| 1UL with 2CC in one aggressor band | IMD MSD by Intra-band UL CA | No |
| 2UL with 2CC in two aggressor bands | IMD MSD by Inter-band UL CA | Yes |
| 2UL with 3CC in two aggressor bands | Triple beat MSD | No |

It was agreed by RAN4 that MSD caused by triple beat and intra-band UL CA as well as UL configurations are not considered by RAN4 for lower MSD reporting in Rel-18, but some additional MSD caused by different UL configurations may be considered in future release.

* **Further clarification of MSD type “ALL”**

Since not all MSD types/orders specified by RAN4 are listed in the LS to RAN2 for lower MSD capability reporting, if UE reports “ALL” MSD type, it does not mean UE always suffer from all MSD types defined in RAN4 specification. There is no change in the applicable MSD types for the “ALL” type as communicated to RAN2 previously.

RAN4 is still working on the final requirements for a UE to indicate the improved lower MSD performance. If any update, RAN4 will keep RAN2 informed.

**2. Actions:**

**To RAN2:**

**ACTION:** RAN4 respectfully asks RAN2 to take the above information into account for the following RAN2 work on the signalling design for lower MSD.

**3. Date of Next TSG WG RAN4 Meetings:**

TSG-RAN4 Meeting#109 13th – 17th Nov 2023 Chicago, USA

TSG-RAN4 Meeting#110 26th Feb – 01st Mar 2023 Athens, Greece