**3GPP TSG RAN WG2#119-e R2-2209054**

**e-Meeting, 17th - 29th August, 2022**

**3GPP TSG-RAN WG4 Meeting #104-e R4-2214362**

**Electronic Meeting, Aug 15 – Aug 26, 2022**

**Title:** LS on CRS-IM network assistance signalling

**Release:** Rel-17

**Work Item:** NR\_demod\_enh2-Perf

**Source:** RAN WG4

**To:** RAN WG2

**Cc:**

**Contact Person:**

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**Attachments:**

**1. Overall Description:**

In the past RAN4#102-e and RAN4#103-e meetings, RAN4 has agreed the UE capability and network assistant signalling for CRS interference mitigation (CRS-IM), and the corresponding LSs R4-2207238, R4-2210435 were sent to RAN2.

In this RAN4#104-e meeting, the network assistance signalling for CRS interference mitigation (CRS-IM) has been discussed further and following agreements are reached by RAN4:

* From the RAN4 perspective, a new network assistance signalling is agreed to be defined for CRS-IM according to the following
* Optional indication on default network assumption validity, and common across all neighbour cells.
* When the indication is provided and *LTE-NeighCellsCRS-AssistInfoList-r17* is not provided, network either does not know whether default network configuration assumptions (as provided in LSs R4-2207238 and R4-2210435) are applicable or network knows that default network configuration assumptions are not applicable. Based on this, UE may either disable CRS-IM or apply enhanced processing such that at least the performance without applying any interference mitigation is maintained.
* When the indication is provided and *LTE-NeighCellsCRS-AssistInfoList-r17* is also provided, the information provided in *LTE-NeighCellsCRS-AssistInfoList-r17* overrides the default network configuration assumptions.
* When the indication is not provided, the default network configuration assumptions are applicable, and UE is expected to apply CRS-IM based on default network configuration assumptions.
* Regarding the content of Rel-17 network assistance signalling in *LTE-NeighCellsCRS-AssistInfoList-r17*, RAN4 has agreed on following interpretation by the UE:
	+ If a single entry of network assistance signalling *LTE-NeighCellsCRS-AssistInfoList-r17* is provided by the network:
		- If an entry without cell ID information is provided, it is applicable to all neighbouring cells.
		- If an entry with cell ID information is provided, it is applicable only to the neighbouring cell with that cell ID.
	+ If multiple entries of network assistance signalling *LTE-NeighCellsCRS-AssistInfoList-r17* are provided by the network:
		- Either Cell ID or v-shift information is expected to be provided in each entry. Configuration in an entry with vshift does not overwrite the corresponding values of entries with Cell ID if there is a conflict. If both cell ID and v-shift information are not included in any of the entries, UE is not expected to make use of the network assistance signalling provided in that entry.

**2. To RAN WG2 group.**

**ACTION:** RAN4 respectfully request RAN2 to take the above information into account and make changes to the corresponding network assistance signalling for CRS-IM in scenario with overlapping spectrum for LTE and NR.

**3. Date of Next TSG-RAN WG4 Meetings:**

TSG-RAN WG4 Meeting #104-bis-e 10 Oct - 19 Oct 2022 Online

TSG-RAN WG4 Meeting #105 14 Nov - 18 Nov 2022 EU