3GPP TSG RAN WG1 #109-e R1-220XXXX

e-Meeting, May 9th – 20th, 2022

**Title: DRAFT LS on TCI indication in multicast DCI**

**Release: Rel-17**

**Work Item: NR\_MBS**

**Source:** **RAN1**

**To:** **RAN2**

**Cc:**

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

# 1 Overall description

RAN1 made the following agreement about the existence condition for the TCI field in DCI format 4\_2 and would like to inform RAN2 that parameter *tci-PresentInDCI* is also used to indicate if TCI field is present or absent in DCI format 4\_2.

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| **Agreement****Adopt the following text proposal to TS38.214 v17.1.0:*** **Reason for change**
	+ Clause 7.3.1.5.3 of 38.212 states that the existence condition for the TCI field in DCI format 4\_2 is defined in clause 5.1.5 of 38.214. However, 5.1.5 of 38.214 does not yet have a corresponding description.
* **Summary of change**
	+ Add “If a UE is configured with the higher layer parameter tci-PresentInDCI that is set as ‘enabled’ for the CORESET scheduling the multicast PDSCH, the UE assumes that the TCI field is present in the DCI format 4\_2 of the PDCCH transmitted on the CORESET.”
* **Consequences if not approved**
	+ The condition for the existence of TCI field in DCI format 4\_2  is unclear.

Send a LS to RAN2 to inform that parameter *tci-PresentInDCI* is also used to indicate if TCI field is present or absent in DCI format 4\_2.----------------- Start of TP to TS 38.214 v17.1.0  ----------------**<**Unchanged text is omitted>If a UE is configured with the higher layer parameter *tci-PresentInDCI* that is set as ‘enabled’for the CORESET scheduling the PDSCH, the UE assumes that the TCI field is present in the DCI format 1\_1 of the PDCCH transmitted on the CORESET. If a UE is configured with the higher layer parameter *tci-PresentDCI-1-2* for the CORESET scheduling the PDSCH, the UE assumes that the TCI field with a DCI field size indicated by *tci-PresentDCI-1-2* is present in the DCI format 1\_2 of the PDCCH transmitted on the CORESET. If a UE is configured with the higher layer parameter *tci-PresentInDCI* that is set as ‘enabled’for the CORESET scheduling the multicast PDSCH, the UE assumes that the TCI field is present in the DCI format 4\_2 of the PDCCH transmitted on the CORESET. If the PDSCH is scheduled by a DCI format not having the TCI field present, and the time offset between the reception of the DL DCI and the corresponding PDSCH of a serving cell is equal to or greater than a threshold *timeDurationForQCL* if applicable, where the threshold is based on reported UE capability [13, TS 38.306], for determining PDSCH antenna port quasi co-location, the UE assumes that the TCI state or the QCL assumption for the PDSCH is identical to the TCI state or QCL assumption whichever is applied for the CORESET used for the PDCCH transmission within the active BWP of the serving cell. **<**Unchanged text is omitted>----------------- End of TP to TS 38.214 v17.1.0 ---------------- |

RAN1 also made the following agreement in RAN1#108-e not to configure a list of up to *M’ TCI-State* configurations for multicast specifically, which means *tci-StatesToAddModList* and *tci-StatesToReleaseList* parameters are NOT needed for *PDSCH-Config-Multicast*.

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| **Agreement**For TCI states activation/deactivation for multicast GC-PDSCH, Alt-1 is supported.* Alt-1: The unicast PDSCH carrying a ‘TCI States Activation/Deactivation for UE-specific PDSCH MAC CE’ is received by the UE to map up to 8 TCI states configured in *PDSCH-Config* to the TCI codepoints in both unicast DCI format and DCI format 4\_2. The following text in Clause 5.1.5 of TS38.214 is deleted.
	+ “The UE can be configured with a list of up to *M’* *TCI-State*configurations within the higher layer parameter *PDSCH-Config-Multicast* to decode PDSCH associated with a G-RNTI or a G-CS-RNTI according to a detected PDCCH with DCI intended for the UE and the given serving cell, where M’ depends on the UE capability.”
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RAN1 would like to inform RAN2 these agreements for ASN.1 review.

# 2 Actions

**To: RAN2**

**ACTION:** RAN1 respectfully asks RAN2 to take the above information into account of ASN.1 review.

# 3 Dates of next TSG RAN WG1 meetings

TSG RAN WG1 Meeting #110 22nd – 26th Aug, 2022 Toulouse, France

TSG RAN WG1 Meeting #110bis-e 10th – 19th Oct, 2022 E-meeting

**Please provide your comments in this table**

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| **Company** | **Comments** |
| CATT | We are OK with the draft LS. |
| LG Electronics | We are OK with the draft LS. |
| Xiaomi | We are OK with the draft LS. |
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