3GPP TSG RAN WG2 Meeting #129 R2-25xxxxx

**Athens, Greece, 17th – 21st Feb. 2025**

**Title: LS to RAN4 on granularity definition of pdcch-RACH-AffectedBandsList-r18**

**Response to:**

**Release: Rel-18**

**Work Item: NR\_Mob\_enh2-Core**

**Source: RAN2**

**To: RAN4**

**Cc:**

**Contact person: Xiaonan Zhang**

**xiaonan.zhang@mediatek.com**

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

# 1 Overall description

The UE capability *pdcch-RACH-AffectedBandsList-r18* (FG39-4) is defined in RAN4 with the granularity as “Per band pair per band combination (between the target band for RACH transmission and band under UE’s current band combo)” For each reported capability, there are two possible values: *interruption* or *noInterruption*.

Regarding the band pair (one source band +one target band) of the BC, RAN2 understands that the target band refers to the target band towards which the UE performs PDCCH-ordered early RACH. However, the definition of the source band of the band pair remains unclear in RAN2.

* Understanding 1: The source band of the band pair represents the source band (or PCell) on which the PDCCH order is sent to the UE to perform PDCCH-ordered early RACH to the target cell/band. Regarding the interruption band(s), there are two further understandings, denoted by 1a and 1b:
  + Understanding 1a: The value “interruption/noInterruption” means that interruption is needed or not for **all serving bands** of the current band combination.
  + Understanding 1b: The value “interruption/noInterruption” means that interruption is needed or not for the **source band (the same band in which the PDCCH order is sent)** of the current band combination. For other serving bands, noIinterruption can be always assumed.
* Understanding 2: The source band of the band pair represents **the specific source band that have interruption or not** (depends on the value “*interruption*” or “*noInterruption*”) in the BC when UE performs PDCCH-ordered early RACH toward a target cell on target band.

Please note that in Understanding 1, the UE cannot dynamically indicate which specific source band of the BC has an interruption or not (either all bands in current BC in 1a or the same source band that receives the PDCCH order in 1b). In Understanding 2, the information about in which source band the PDCCH order is sent is not provided.

# 2 Actions

**To RAN4**

**ACTION:** RAN2 kindly asks RAN4 to discuss the above understandings and provide clarification on which one is correct.

# 3 Dates of next TSG RAN WG 2 meetings

TSG RAN WG2 Meeting #129bis 7th April – 11th April 2025 Wuhan, China

TSG RAN WG2 Meeting #130 19th May – 23rd May 2025 St Julian, Malta