**3GPP TSG-RAN WG1 Meeting #107-e R1-21xxxxxx**

**E-Meeting, November 11–19, 2021**

**Title:** Draft reply LSon PDCCH Blind Detection in CA

**Response to:** R1-2110757(R2-2109168),

**Release:** Rel-16

**Work Item:** NR\_L1enh\_URLLC-Core

**Source:** Huawei [TSG RAN WG1]

**To:** RAN2

**Contact Person:**

**Name:** Cheng Yan

**E-mail Address:** chengyan.cheng@huawei.com

**1. Overall Description:**

RAN1 thanks RAN2 for the LS on PDCCH Blind Detection in CA. RAN1 discussed the questions in the LS and would like to provide answers as below:

**Question 1**: How many combinations for FG 11-2c and FG 11-2g can be reported at most from RAN1 perspective?

**Answer to Question 1**: RAN1 confirms that multiple combinations of (*pdcch-BlindDetectionCA-R15, pdcch-BlindDetectionCA-R16*) for FG 11-2c and FG 11-2g can be reported.

* The maximum number of reported combinations is a trade-off between configuration flexibility and the potential signaling overhead. From RAN1 perspective, reporting a maximum number of 8 combinations is sufficient but RAN1 leaves it to RAN2’s decision if more combinations should be supported.
* Note: UE can report any number of combinations that is smaller or equal to the maximum number of combinations.

**Question 2:** Whether the “supported span arrangement for CA” should be reported for each of the combinations or reported only once for FG 11-2c?

**Answer to Question 2:** The “supported span arrangement for CA” is reported only once for all reported combination(s) of (*pdcch-BlindDetectionCA-R15, pdcch-BlindDetectionCA-R16*) for FG 11-2c.

**Question 3:** RAN2 wonders whether more than one combination should be supported for FG 11-2e as well? If the answer is yes, how many combinations for FG 11-2e can be reported at most from RAN1 perspective?

**Answer to Question 3:** RAN1 confirms that multiple combinations of (*pdcch-BlindDetectionMCG-UE-r15, pdcch-BlindDetectionSCG-UE-r15, pdcch-BlindDetectionMCG-UE-r16, pdcch-BlindDetectionSCG-UE-r16*) for FG 11-2e can be reported.

* The maximum number of reported combinations is the same as that for combinations of (*pdcch-BlindDetectionCA-R15, pdcch-BlindDetectionCA-R16*) for FG 11 2-c.
* Note 1: UE can report any number of combinations that is smaller or equal to the maximum number of combinations.
* Note 2: One combination of (*pdcch-BlindDetectionMCG-UE-r15, pdcch-BlindDetectionSCG-UE-r15, pdcch-BlindDetectionMCG-UE-r16, pdcch-BlindDetectionSCG-UE-r16*) reported by a UE for FG 11-2e corresponds to one combination of (*pdcch-BlindDetectionCA-r15, pdcch-BlindDetectionCA-r16*) reported by the UE for FG 11-2c or FG 11-2g, as defined in clause 10 in TS 38.213. It is up to RAN2 on where/how to capture the note.

In addition, during the discussion of the questions from RAN2, the following note 3 and note 4 are also agreed in RAN1:

* Note 3: Only one from FG 11-2c and FG 11-2g will be reported by UE if reported. It is up to RAN2 on where/how to capture the note.
* Note 4: Only one from FG 11-2a and FG 11-2f will be reported by UE if reported. It is up to RAN2 on where/how to capture the note.

**2. Actions:**

**To RAN2**

**ACTION:** RAN1 respectfully ask RAN2 to take the above information into account.

**3. Date of Next TSG-RAN WG1 Meetings:**

TSG-RAN WG1 Meeting #107bis-e 17 – 25 January 2022 E-Meeting

TSG-RAN WG1 Meeting #108-e 21 February – 03 March 2022 E-Meeting