**3GPP TSG-RAN2 Meeting #119bis electronic R2-2211023**

**Online, Oct 10th – 19th, 2022**

**Title:** LS on the ue-PowerClassPerBandPerBC-r17(R4 16-8)

**Release:** Rel-17

**Work Item:** NR\_RF\_FR1\_enh

**Source:** RAN2

**To:** RAN4

**Cc:**

**Contact Person:**

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**Attachments:**

1. **Overall Description:**

RAN2 discussed the interaction between R4 16-8 in the R4 feature list (R4-2215143) and the existing power class capabilities. During the RAN2 discussion, companies think that the interaction between R4 16-8 and other existing different power class parameters should be resolved by RAN 4 and have the following questions to RAN4:

1. Whether R4 16-8 is applicable to only inter-band CA?
2. What is the interaction between R4 16-8 and the existing power class capabilities (i.e. ue-PowerClass/ue-PowerClass-v1610/ue-PowerClass-1700, powerClassNRPart-r16 (if R4 16-8 is also applicable to the cases other than inter-band CA) and powerClass/powerClass-v1610) ?

RAN2 sincerely requests RAN4 to provide answers of the above 2 questions for RAN2 future work.

PS: The related power class capabilities are listed as below

| ***powerClassNRPart-r16***Indicates NR part power class the UE supports when operating according to this band combination.This field only applies for MR-DC BCs containing only single CC or intra-band CA in NR side in this release. | BC | No | N/A | FR1 only |
| --- | --- | --- | --- | --- |
| ***powerClass, powerClass-v1610***Indicates power class the UE supports when operating according to this band combination. If the field is absent, the UE supports the default power class. If this power class is higher than the power class that the UE supports on the individual bands of this band combination (*ue-PowerClass* in *BandNR*), the latter determines maximum TX power available in each band. The UE sets the power class parameter only in band combinations that are applicable as specified in TS 38.101-1 [2] and TS 38.101-3 [4]. This capability is not applicable to IAB-MT. | BC | No | N/A | FR1 only |
| ***ue-PowerClass, ue-PowerClass-v1610, ue-PowerClass-v1700***For FR1, if the UE supports the different UE power class than the default UE power class as defined in clause 6.2 of TS 38.101-1 [2], the UE shall report the supported UE power class in this field. For FR2, UE shall report the supported UE power class as defined in clause 6 and 7 of TS 38.101-2 [3] in this field. UE indicating support for *pc6* supports the enhanced intra-NR RRM and demodulation processing requirements for FR2 to support high speed up to 350 km/h as specified in TS 38.133 [5]. This capability is not applicable to IAB-MT. The power class pc7 is only applicable for RedCap UEs operation in FR2. | Band | Yes | N/A | N/A |
| ***ue-PowerClassPerBandPerBC-r17***Indicates the UE power class per band per band combination. | FS | No | N/A | FR1 only |

## 2. Actions:

**To RAN4 group:**

ACTION: RAN2 respectfully asks RAN4 to provide feedback to the above questions.

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**3. Date of Next TSG-RAN2 Meetings:**

3GPPRAN2#120 14 - 18 Nov 2022 Toulouse,FR

3GPPRAN2#121 27Feb -03 Mar 2023 Athens,GR