**3GPP TSG-RAN WG4 Meeting # 110-bis R4-240xyz**

**Changsha, China, 17th –26th April, 2023**

**Title:** WF on power boosting feature in Rel-18

**Agenda Item:** 6.17.1.2

**Source: Ericsson**

**Document for:** Approval

RAN4 further discuss the applicability of the power boosting feature related to CA configuration below:

* Case A: FR1 CA with DL CA combination configured and with a single uplink CC used for transmission.
* Case B: FR1 inter-band [and intra-band] UL CA, at least one indicated band supports the power boosting, where a single CC is used for transmission in each power boosted uplink band.
* Case C: FR1+FR2 UL CA, FR1+FR2 DC, FR1+FR1 DC, power boosting feature is supported in an FR1 NR band, where a single CC is configured in this uplink band.

**Issue 0: which applicable power class should be based on for CA configuration**

Option 1: applicable power class type, configured output power requirements and criteria for the band activated with power boosting for the case

Option 2: The power class indication for the single uplink CC, which is the basic to enable power boosting, is subject to the discussion outcome of NR\_power\_class thread.

**~~RAN4 discuss applicable power class type, configured output power requirements and criteria for the band activated with power boosting for the case~~**

~~Discuss options to enable combinations which shall be subject to power boost:~~

~~Option 1: Enable combinations case by case. Basket approach is used similar to the basket approach used for introducing new band combinations. Requirements can be checked. MSD and other requirements can be specified.~~

~~Option 2: Other options are not precluded.~~

**Issue 1: in which condition for CA case supported in Rel-18**

* Option A: FR1 CA with DL CA combination and with a single uplink CC configured.
* ~~Option A-2: FR1 CA with DL and UL CA combination configured and with a single uplink CC within a cell activated.~~
* ~~Option B: FR1 CA with DL and UL CA combination configured and with a single uplink CC within a cell scheduled for transmission., eg. Case B or Case C listed above.~~
* ~~The power class indication for the single uplink CC, which is the basic to enable power boosting, is subject to the discussion outcome of NR\_power\_class thread.~~

**Issue 3: MSD impact due the enabling of the power boosting feature for case A**

* Proposals
  + Option 1: MSD impact due to enabling power boosting feature will not be evaluated in RAN4 and will not be specified in RAN4 specification, how to capture this in RAN4 specification is FFS
  + Option 2: MSD and other requirements can be specified.
    - enable combinations which shall be subject to power boost:
      * Enable combinations case by case. Basket approach is used similar to the basket approach used for introducing new band combinations. Requirements can be checked.
  + Option 3: Others

**~~Issue 4: Further discuss how to support the case B and Case C~~**

* ~~Proposals:~~
* ~~Option 1: TEI~~
* ~~Option 2: TBD~~