**3GPP TSG-RAN WG2 Meeting #120R2-22xxxxx**

**Toulouse, France, 14 – 18 November, 2022**

Title: [Draft] Reply LS on reference SSB for *s-MeasureConfig* checking`

Response to: R2-2212985/R4-2218138

Release: Release 17

**Work Item:**  NR\_redcap-Core

Source: Apple (to be RAN2)

To: RAN4

Cc: -

**Contact Person:**

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

Attachments:

**1. Overall Description:**

RAN2 would like to thank RAN4 for their LS on reference SSB for *s-MeasureConfig* checking.

RAN2 confirms the RAN4 understanding that the reference SSB used for threshold for *s-MeasureConfig* is the SSB defined in BWP-specific *servingCellMO* under *BWP-DownlinkDedicated* of active DL BWP, and if the field is absent, the reference SSB is the SSB defined in *servingCellMO* under *ServingCellConfig*.

RAN2 has the following field descriptions in TS38.331 for the usage of NCD-SSB for serving cell measurements and the corresponding note in TS38.300 which reflects the RAN4 understanding. It is RAN2 understanding that no specification change is needed.

TS38.331 (sec 6.2.3):

***nonCellDefiningSSB***

If configured, the RedCap UE operating in this BWP uses this SSB for the purposes for which it would otherwise have used the cell-defining SSB of the serving cell (e.g. obtaining sync, measurements, RLM). Furthermore, other parts of the BWP configuration that refer to an SSB (e.g. the "SSB" configured in the *QCL-Info* IE; the "ssb-Index" configured in the *RadioLinkMonitoringRS*; *CFRA-SSB-Resource*; *PRACH-ResourceDedicatedBFR*) refer implicitily to this NCD-SSB.

The NCD-SSB has the same values for the properties (e.g., *ssb-PositionsInBurst*, *PCI*, *ssb-periodicity*, *ssb-PBCH-BlockPower*) of the corresponding CD-SSB apart from the values of the properties configured in the *NonCellDefiningSSB-r17* IE.

***servingCellMO***

*measObjectId* of the *MeasObjectNR* in *MeasConfig* which is associated to the serving cell. For this *MeasObjectNR*, the following relationship applies between this *MeasObjectNR* and *nonCellDefiningSSB* in *BWP-DownlinkDedicated* of the associated downlink BWP: if *ssbFrequency* is configured, its value is the same as the *absoluteFrequencySSB* in the *nonCellDefiningSSB*. If the field is present in a downlink BWP and the BWP is activated, the RedCap UE uses this measurement object for serving cell measurements, otherwise, the RedCap UE uses the *servingCellMO* in *ServingCellConfig* IE.

TS38.300 (sec 9.2.4):

NOTE 2a: If a RedCap UE is configured to perform serving cell measurements based on an NCD-SSB configured in its active BWP, this NCD-SSB is considered as the SSB of the serving cell in the definition of intra-frequency and inter-frequency measurements as above.

**2. Actions:**

**To RAN4**

**ACTION:** RAN2 respectfully asks RAN4 to take above information into consideration.

**3. Date of Next TSG-RAN WG2 Meetings:**

TSG-RAN WG2 Meeting #121 27th February – 3rd March 2023 Athens, GR

TSG-RAN WG2 Meeting #121bis-e 17th - 26th April 2023 e-Meeting