**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 additional specification change is needed to top of the below.

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