3GPP TSG RAN WG1 #101-e R1-200xxxx

e-Meeting, May 25th – June 5th, 2020

**Title:** [DRAFT] Reply LS on NR-U SSB monitoring capabilities

**Release:** Rel-16

**Work Item:** NR\_unlic-core

**Source:** RAN1

**To:** RAN4

**Cc:** -

**Contact Person:**

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**1. Overall Description:**

RAN1 would like to thank RAN4 for their LS [1] related to NR-U SSB monitoring capabilities.

Related to the four questions asked by RAN4, RAN1 feedback is as follows.

**[Question 1]** Provide feedback whether monitoring within a given discovery burst transmission window all candidate SS/PBCH block indexes corresponding to the same SS/PBCH block index is mandatory for UEs.

**[RAN1 answer]** It is mandatory for the UEs to monitor all SS/PBCH blocks with candidate indexes corresponding to the same SS/PBCH block index within a given discovery burst transmission window; it can be up to UE’s implementation to stop SS/PBCH block monitoring for a given SS/PBCH block index in the case the UE has already detected a SS/PBCH block with the same index for a given discovery burst transmission window.

It is RAN1 understanding that any deviation to this requirement will lead to degraded performances for both RRM and RLM/BFD/CBD measurements.

RAN1 would also like to provide RAN4 with the following additional remarks:

* It is expected that the discovery burst transmission window duration will be configured depending in particular from the spectrum load, e.g. for a NR-U network operating in low spectrum load condition the discovery burst transmission window duration is expected to be shorter than 5ms, which should help to reduce the UE power consumption.
* For FBE mode and for a given discovery burst transmission window, the network is not expected to transmit SS/PBCH blocks beyond the 8 first candidate SS/PBCH block indexes, which should also help to reduce the UE power consumption.

**[Question 2]** Provide feedback on the values of N1 and N2, considering the impact on the network performance if UEs are not monitoring all candidate positions.

**[RAN1 answer]** N1 and N2 are not applicable (see answer to question 1).

**[Question 3]** Provide feedback on whether differentiation is needed for UEs operating in FBE and LBE modes.

**[RAN1 answer]** As N1 and N2 are not applicable (see answer to question 1), there is no need to differentiate UEs operating in FBE and LBE modes.

**[Question 4]** Provide feedback for the case when Q is not provided to the UE

**[RAN1 answer]** For both RRM and RLM/BFD/CBD measurements, Q is always provided to the UE. More details of the indication of Q can be found in R1-2003044 [2].

**2. Actions:**

**To RAN4.**

**ACTION:** RAN1 respectfully ask RAN4 to take the above answers into account.

**3. References**

[1] R1-2003274/R4-2005418, “LS on NR-U SSB monitoring capabilities”, Nokia, RAN4

[2] R1-2003044, “LS on Signalling of Q Parameter for NR-U”, Charter Communications, RAN1

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

TSG-WG1 Meeting #102 24th – 28th August 2020 e-Meeting

TSG-WG1 Meeting #102bis 12th – 16th October 2020 e-Meeting