**3GPP TSG RAN WG1 Meeting #92 R1-1801318**

**Athens, Greece, February 26th – March 2nd, 2018**

**3GPP TSG-RAN WG2 #AH NR 1801 Tdoc R2-1801569**

**Vancouver, Canada, Jan 22nd – 26th, 2018**

**Title:** LS on Clarifications in MAC

**Release:** Rel-15

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

**Source:** RAN2

**To:** RAN4, RAN1

**Contact Person:**

#### Name: Mats Folke

**Tel. Number:** +46761271385

E-mail Address: mats.folke@ericsson.com

**1. Overall Description:**

**Action 1 – In which specification to capture the delays for activation and deactivation of secondary cells**

Upon discussing the delays used for activating and deactivating secondary cells where TS 38.321 refer to TS 38.213 it was discovered that in sub-clause 4.3 TS 38.213 refer back to the RRC specification TS 38.331 for the definition of the delays.

RAN2 believe that this is an erroneous reference and that the correct reference should be TS 38.133. RAN2 does not intend to include any value for the delay in TS 38.331.

**RAN2 therefore asks**

* **RAN1 to investigate and if needed, update the reference to the correct specification.**
* **RAN4 to confirm that TS 38.133 will contain the delay for activation and deactivation of secondary cells.**

**Action 2 – Values for DELTA\_PREAMBLE**

In the Random Access procedure for NR in 38.321, section 5.1.3, the MAC layer determines the preamble transmission power according to

1. set *PREAMBLE\_RECEIVED\_TARGET\_POWER* to *ra-PreambleInitialReceivedTargetPower* + *DELTA\_PREAMBLE* + (*PREAMBLE\_POWER\_RAMPING\_COUNTER* – 1) \* *powerRampingStep*;

In 38.331, values for *ra-PreambleInitialReceivedTargetPower* and *powerRampingStep* are specified. The *DELTA\_PREAMBLE* value is deduced from the configured preamble format. In LTE, the DELTA\_PREAMBLE is included in a table in 36.321. However, for NR, no values have yet been specified and are not included in 38.321.

RAN2 believe that the *DELTA\_PREAMBLE* values should be specified by RAN1 for the available preamble formats.

**RAN2 therefore asks**

* **RAN1 to specify values for the DELTA\_PREAMBLE parameter for the available preamble formats.**

**Action 3 – HARQ Feedback for SCell Activation and Deactivation**

RAN2 has discussed the HARQ feedback when receiving a MAC CE for SCell Activation/Deactivation and captured the following text in TS 38.321 (similar text can be found in TS 36.321):

HARQ feedback for the MAC PDU containing SCell Activation/Deactivation MAC CE shall not be impacted by PCell, PSCell and PUCCH SCell interruptions due to SCell activation/deactivation in TS 38.133 [11].

The motivation of this text in LTE was to guarantee that the eNB can confirm whether UE received activation/deactivation MAC CE to determine when to start/stop monitoring the CSI for the SCell. The similar requirement should be needed also for the NR SCell unless RAN4 confirms the activation and deactivation is always completed before the ACK/NACK transmission for the MAC CE. RAN2 thinks the UE behaviour in NR should correspond the UE behaviour in LTE, as shown with the specification text above.

**RAN2 therefore asks**

* **RAN4 to confirm that HARQ feedback for the MAC PDU containing SCell Activation/Deactivation MAC CE shall not be impacted by PCell, PSCell, and PUCCH SCell interruptions due to SCell activation/deactivation.**

**Action 4 – Unified behaviour between TDD and FDD for starting the BWP inactivity timer**

RAN2 has discussed the criteria for starting the BWP inactivity timer and made the following agreements:

**Agreements**

1. If the random access procedure is initiated on SCell (other than PSCell), MAC entity stops BWP-InactivityTimer of SCell and SpCell. If the random access procedure is initiated on SpCell, MAC entity stops BWP InactivityTimer associated with SpCell
2. bwp-InactivityTimer is (re-)started, if MAC PDU is transmitted in a configured uplink grant or received in a configured downlink assignment
3. The BWP inactivity timer does not start/re-start when a DCI is received while RA procedure is ongoing associated with this serving cell. [FFS except for DCI scheduling mgs2/4 with UE’s C-RNTI].
4. If a BWP switch is triggered with DCI scheduling msg4 with UE’s C-RNTI the UE considers contention resolution successful (as usual) and shall switch (e.g. the RACH will not be restarted in the new BWP). The UE starts the timer upon the switch like in all other cases.
5. Upon deactivation of a Scell, BWP-InactivityTimer associated with the deactivated Scell is stopped.
6. When RA procedure is initiated, the bwp-InactivityTimer is also reset in addition to stopping it.
7. Capture that bwp-InactivityTimer is restarted upon receival of UL grant for TDD. bwp-InactivityTimer is also restarted upon reception of UL grant for FDD

RAN2 would like to draw the attention of RAN1 to agreements 2 and 7 given that RAN1 previously made similar agreements, but limited to TDD only.

**RAN2 therefore asks**

* **RAN1 to note the agreements on BWP inactivity timer (in particular agreements 2 and 7).**

**2. Actions:**

**To RAN1 group.**

**ACTIONS: RAN2 asks RAN1 to investigate and if needed, update the reference to the correct specification.**

 **RAN2 asks RAN1 to specify values for the DELTA\_PREAMBLE parameter for the available preamble formats.**

 **RAN2 asks RAN1 to note the agreements on BWP inactivity timer (in particular agreements 2 and 7).**

**To RAN4 group.**

**ACTIONS:** **RAN2 asks RAN4 to confirm that TS 38.133 will contain the delay for activation and deactivation of secondary cells.**

 **RAN2 asks RAN4 to confirm that HARQ feedback for the MAC PDU containing SCell Activation/Deactivation MAC CE shall not be impacted by PCell, PSCell, and PUCCH SCell interruptions due to SCell activation/deactivation.**

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

RAN2#101 26th February – 2nd March 2018 Athens, Greece

RAN2#101-Bis 16th – 20th April 2018 China