3GPP TSG-RAN WG1 Meeting #106bis-e R1-21xxxxx

e-Meeting, October 11th – 19th, 2021

**Title: DRAFT** LS on UE TA reporting

**Release:** Release 17

**Work Item:** NR\_NTN\_solutions

**Source:** Ericsson (to be: RAN1)

**To:** RAN2

**Cc:**

**Contact Person:** Xingqin Lin

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**Attachments:** None

**1. Overall Description:**

RAN1 definition of UE’s TA is given by the following agreement:

Agreement:

The Timing Advance applied by an NR NTN UE in RRC\_IDLE/INACTIVE and RRC\_CONNECTED is given by:

$$T\_{TA}=\left(N\_{TA}+N\_{TA, UE-specific}+N\_{TA,common}+N\_{TA,offset}\right)×T\_{c}$$

Where:

* $N\_{TA}$ is defined as 0 for PRACH and updated based on TA Command field in msg2/msgB and MAC CE TA command.
	+ FFS: details of NTA update/accumulation.
* $N\_{TA, UE-specific}$  is UE self-estimated TA to pre-compensate for the service link delay.
* $N\_{TA,common}$ is network-controlled common TA, and may include any timing offset considered necessary by the network.
* $N\_{TA,common}$ with value of 0 is supported.
	+ FFS:  details of signaling including granularity.
* $N\_{TA,offset}$ is a fixed offset used to calculate the timing advance.

In addition, RAN1 has agreed the following for UE TA reporting:

Agreement:

The granularity of the reported TA is slot.

* FFS how to round TA value to slot level granularity

It is up to RAN2 to decide which component or what combination of the components in the UE’s TA formula to use in TA reporting.

**2. Actions:**

**To RAN2 group:**

**ACTION:** RAN1 respectfully requests RAN2 to take the above into account.

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

TSG-RAN WG1 Meeting #107-e 11 – 19 November 2021 Electronic Meeting

TSG-RAN WG1 Meeting #107-bis-e 17 – 25 January 2022 Electronic Meeting