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Source: TSG-RAN WG2

To: TSG-RAN WG1, TSG-RAN WG4

Cc: TSG-RAN WG3

Title: Response to LS (R1-001163) on Issues related to UE timing

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RAN WG2 thanks RAN WG1 and RAN WG4 for their LSs on issues related to UE timing (R1-001163 and R4-000717). RAN WG2 discussed these issues and came to the following conclusions:

1. First significant path

RAN WG2 will replace the term "first significant path" with the term "first detected path (in time)" in the applicable RAN WG2 specifications.

2. Rx-Tx time difference

RAN WG2 notes that there are already two distinct definitions of "Rx-Tx time difference" in RAN2 specifications. One is used for DL timing, with a resolution of 1 chip, and the other is used by LCS – [UE based OTDOA] with a resolution of ¼ of chip (it will be changed to 1/16 of a chip). Note that ASN.1 allows to reuse the same name for distinct Information Elements, provided that they are included in different messages. RAN WG2 will clarify this situation by re-naming the two respective Information Elements as follows: "Rx-Tx time difference Type 1" and "Rx-Tx time difference Type 2". It is RAN WG2's understanding that the "Type 1" measurement of "Rx-Tx time difference" is used for initial DL timing selection and that it is mandatory. Furthermore, it is RAN WG2's understanding that the "Type 2" measurement of "Rx-Tx time difference" is used for UE positioning when it is requested by UTRAN. The UE does not need to support the "Rx-Tx time difference Type 2" if the UE does not support "UE based OTDOA".

3. "Valid" range

RAN WG2 will correct the reporting range of Rx-Tx time difference Type 1 to 768…1280 chips and the range of Rx-Tx time difference Type 2 to 768…1279.9375 chips.

4. PC combining

RAN WG2 does not expect any changes in RAN2 specifications as result of a potential increase of UL and/or DL power control loop delay.

5. Timing adjustment

RAN WG2 does not expect any issues resulting from a scenario in which the UE is constantly adjusting its Tx timing. RAN WG2 would like to ask RAN WG1 to be informed if RAN WG1 should decide to change the required UE behaviour with respect to the Tx timing.