**3GPP TSG-RAN WG2 #130 R2-25xxxxx**

**St Julian's, Malta, 19-23 May 2025**

**Title: DRAFT** LS on delayed A-IoT D2R NAS messages

**Response to:** -

**Release:** Release 19

**Work Item:** Ambient\_IoT\_Solutions

**Source:** MediaTek [to be RAN2]

**To:** CT1

**Cc:** SA2

**Contact Person:**

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**Attachments:** -

**1. Overall Description:**

In RAN2#130, RAN2 discussed the timing of AS/NAS interaction when a command is sent to the A-IoT device, and reached the following agreement:

1. The device is expected to send a MAC response to the reader in the D2R occasion. The MAC response contains the NAS message if available at the D2R occasion. If there is no NAS message available to transmit at the D2R occasion then the response contains MAC with 0 SDU and padding as needed.

RAN2 understand that the device may, for example, receive a write command message from the reader, pass the command message to NAS layer, and when the scheduled D2R occasion for the response arrives, transmit the MAC response with an empty SDU if the NAS response has not yet been delivered to MAC as indicated in the agreement above.

However, RAN2 protocol design does not allow transmission of the NAS response if it is delivered to the device MAC layer later, when no D2R radio resources are provided by the reader to transmit the response (e.g., if the write operation at the device takes longer than expected), as shown in the figure below.



For such a case, RAN2 have not agreed on a mechanism for the device to transmit the delayed NAS response to the reader. RAN2 would prefer that this situation be avoided or handled by CT1. As one potential approach, RAN2 considered that the device NAS layer might generate and deliver to the device MAC layer an immediate NAS response upon successful reception of a command (e.g., a write command), without waiting for the command to execute. RAN2 acknowledge that such a solution is in CT1 remit to decide.

**2. Actions:**

**To CT1:**

**ACTION:** RAN2 respectfully ask CT1 to take RAN2 conclusion into account and indicate if CT1 can address the identified situation.

**3. Dates of Next TSG-RAN WG2 Meetings:**

RAN2#131 25-29 August 2025 Bengaluru, IN (TBC)

RAN2#131bis 13-17 October 2025 Prague, CZ