**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:**

**Name:** Nathan Tenny

**Email Address:** nathan.tenny@mediatek.com

**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**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 for D2R scheduling, as indicated in the agreement above.

However, RAN2 have some concern that the NAS response may be delivered to the device MAC layer later, when no D2R radio resources are available 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 transmitting 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 NAS layer might deliver to the MAC layer an **immediate NAS response** upon successful reception of a write command, without waiting for the command to execute. This can be achieved by some examples like:

* Example 1: CT1 defines the NAS response as “successful reception of write command”, instead of “successful write operation” (or just one very general NAS response as “success response of write command”); or
* Example 2: CT1 defines both “successful reception of write command” and “successful write operation” and device only sends one of them whichever is available upon D2R occasion.

RAN2 acknowledge that such a solution is in CT1 remit to decide.

**2. Actions:**

**To CT1:**

**ACTION:** RAN2 respectfully ask CT1 to discuss the above case and indicate if CT1 can address how to handle a delayed command response from NAS layer to MAC layer.

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

RAN2#131 25-29 August 2025 Bangalore, IN

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