**3GPP SA WG2 Meeting #164 S2-2407680r03**

**19-23 August 2024, Maastricht, NL**

Title: [DRAFT] LS reply on LS on RAN2 agreements and assumptions for Ambient IoT

**Response to:** LS on RAN2 agreements and assumptions for Ambient IoT

**Release: Rel-19**

**Work Item: FS\_Ambient\_IoT\_solutions, FS\_AmbientIoT**

**Source: SA2**

**To: RAN2**

**Cc:** **RAN3, SA3, SA1**

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

**Attachments:**

**1. Overall Description:**

SA2 would like to thank RAN2’s LS(S2-2407447/ R2-2406150) on RAN2 agreements and assumptions for Ambient IoT.

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| **Agreements*** …
* RAN2 assumes that no per-packet QoS and no per-QoS flow is supported at AS level (for both UL/DL). FFS how to handle the general QoS requirements from SA2
* …..
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For above agreement, SA2 would like to confirm there is no discussion in SA2 on per-packet QoS and no per-QoS flow QoS so far and it is not expected to open the discussion in rel-19 scope.

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| **Agreements*** As baseline, the “inventory only” case is supported by the procedure:
* Step A: A-IoT paging;
* Step B: Device ID transmission (via Random Access or without using RA). Details are FFS
* As baseline, the “inventory and command” case is supported by the procedure:
* Step A: A-IoT paging;
* Step B: Device ID transmission (via Random Access or without using RA). Details are FFS
* Step C: reader to device data transmission (e.g. the R2D command), and
* Step D: corresponding device to reader data transmission (e.g. the feedback). FFS whether this is optional, pending other WG discussions.
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For above agreement, SA2 would like confirm Step D is needed in order to send the success ack to step C or report information as requested by step C. Furthermore, SA2 will further decide whether repeated Step C and Step D is possible (e.g. due to more commands are needed to be transferred to the AIoT devices).

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| **Agreements**…..* From RAN2 point of view we will study “Command only” use case.

FFS the options on how to support it:* A-IoT paging message from the reader contains the command. Final feasibility depends on SA2 and SA3 work/conclusions.
* Use baseline procedure for “inventory and command” (i.e. first triggers inventory procedure and then sends command)

…… |

For above agreement, it is unclear security feasibility for this use case which needs SA3 to confirm. If SA3’s confirmation is positive, from SA2 point of view it is feasible to support “• A-IoT paging message from the reader contains the command”.

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| * RAN2 will study the following cases for A-IoT paging message:
* a message containing an ID of a single A-IoT device.
* a message containing a group ID that maps to multiple A-IoT devices.
* a message that does not contain an ID, i.e., addressed for all devices that can receive the A-IoT message.
* a message containing multiple IDs of A-IoT devices. Need to confirm the need for this use case based on SA2 discussion.

What device ID and group ID and scenarios is depending on SA2 discussion. |

For above agreement, SA2 would like to confirm both AIoT device and Group ID can be used to filter AIoT devices, but there is also some other filter information which is different from per device ID and group ID but captures the information used to filter AIoT devices. Hence, the above three can be categorized as a filter information, Including the one of the following (and which is used depends on which is provided by the AF):

* + per AIoT device ID list,
	+ Group ID,
	+ Match information, which is different from per device ID and group ID but captures the information used to filter AIoT devices.

SA2 also would like RAN2 to feedback whether the following AF provided information is useful for RAN to perform AIoT operation or not

* + The number of target AIoT devices;
	+ The characteristics of the target AIoT devices, e.g. whether UL and/ DL amplification are supported by AIoT device, whether the device’s UL transmission is generated internally by the device, or be backscattered on a carrier wave provided externally.

**2. Actions:**

**RAN2:**

**ACTION:** SA2 kindly asks RAN2 to take the above feedback into account.

**3. Date of Next TSG SA WG2 Meetings:**

TSG-SA2 Meeting #165 14-18 October 2024 Hyderabad, IN

TSG-SA2 Meeting #166 18-22 November 2024 Orlando, FL, US