3GPP TSG-RAN WG2 Meeting #112-e R2-200xxxx

Online, 2nd - 13th November 2020

**Agenda item: 4.2**

**Source: Huawei**

**Title: Draft summary of [AT112-e][401][NB-IoT/eMTC R15] UP EDT for DRB using RLC AM (Huawei)**

**Document for: Report**

# 1 Scope of the offline discussion

This is the offline email discussion “[AT112-e][401][NB-IoT/eMTC R15] UP EDT for DRB using RLC AM”, as indicated below:

* [AT112-e][401][NB-IoT/eMTC R15] UP EDT for DRB using RLC AM (Huawei)

Status: Started

Scope: Discuss how to capture the agreement on how the procedure ends at the UE for MO-EDT, MT-EDT or PUR in the specifications.

Intended outcome: Agreed 36.300 and 36.331 CRs in R2-2010810, R2-2010811, R2-2010812, and R2-2010813

Deadline: Tuesday 2020-11-10 14:00 UTC

# 2 Offline discussion

The summary of offline discussion [Post111-e][922][NB-IoT/eMTC R15] UP EDT for DRB using RLC AM (Huawei) [1] was discussed and the following agreeement was made:

* For MO-EDT, MT-EDT or PUR, the procedure ends at the UE with the transmission of HARQ ACK for Msg4, i.e., without responding to the poll bit, if any, or waiting for 1.25sec/10 sec. FFS how to capture this in the specifications.

This offline discussion is to discuss and agree on what and how to capture in the specification.

In [1], it was proposed to capture the above as follows:

* Proposal 5: Capture in stage 2 that the EDT procedure terminates with the transmission of HARQ ACK for MSG4 which is an implicit acknowledgment of the successful delivery of the DL data. ([2])
* Proposal 6: Capture in RRC specification, that upon reception of RRCConnectionRelease for EDT, the UE can proceed without delay with the release of the resources, regardless of any poll bit. ([4])

**Proposal 1**: Capture in stage 2 that, for MO-EDT, MT-EDT and PUR, the EDT procedure ends with the transmission of HARQ ACK for MSG4 which is an implicit acknowledgment of the successful delivery of the DL data

Companies to provide their views on the proposal and provide details on the required changes as needed.

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| **Company** | **Do you agree?**  **Yes/No** | **Comments** |
| Huawei, Hisilicon | yes | We need to capture in stage 2 how the procedure is working and that it ends with transmission of the HARQ ACK by the UE. We also need to indicate that the HARQ ACK acts as an implicit acknowledgment of the successful delivery of the DL data. this is needed to report successful data delivery for non-IP service.  We can fine with the change proposed in ([2]) |
| Nokia | Yes | *The reception of a positive layer 1 feedback from the UE is the acknowledgement of the successful DL data transmission. The procedure ends. To be changed as …*  *If the downlink data multiplexed with RRC connection, the procedure ends at ENB on reception of positive ack from layer-1.*  Above is needed irrespective of whether included PDU is from RLC-AM or RLC-UM. |
| MediaTek | Yes | *Agree with Nokia’s wording.* |

Conclusion:

**Proposal 2**: Capture in RRC specification, that upon reception of RRCConnectionRelease for EDT, the UE proceeds without delay with the release of the resources (i.e, regardless of any poll bit).

Companies to provide their views on the proposal and provide details on the required changes as needed.

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| **Company** | **Do you agree?**  **Yes/No** | **Comments** |
| Huawei, HiSilicon | yes with the intent | We need to specify in stage 3 that the UE proceeds with the release of the connection immediately after the transmission of the HARQ.  We think it can be done in two ways:   1. Specify as in [4] that the UE proceeds immediately upon reception of the RRCConnectionRelease message for EDT, i.e. the UE ignores the poll bit. 2. Specify that the eNB does not set the poll bit in the RRCConnectionRelease message for EDT. In that case, the UE follows the existing text for quick RRC connection release.   We have a preference for option 2 as it does not change the UE behaviour. Maybe be it could be clarified in the existing NOTE.  For BL UEs, Ues in CE and NB-IoT, when STATUS reporting, as defined in TS 36.322 [7], has not been triggered and the UE has sent positive HARQ feedback (ACK), as defined in TS 36.321 [6], the lower layers can be considered to have indicated that the receipt of the *RRCConnectionRelease* message has been successfully acknowledged. STATUS reporting is not triggered with *RRCConnectionRelease* in response to *RRCConnectionResumeRequest* for EDT. |
| Nokia | No | Stage-2 clarification is sufficient. For option1 indicated above, specification changes are not needed.. because when RRC layer triggers transition to IDLE state all the lower layers are reset ,so even if the UE have pending RLC status for polling bit, it will also be cancelled. So no explicit specification changes not needed. |
| MediaTek | Yes | We prefer Option 2 which has no UE impact. |

Conclusion:

Companies to provide their views on whether other changes are required and in which specification(s).

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| **Company** | **Comments** |
| MediaTek | Proposal 2 captures the changes for EDT in stage 3. Do we need stage 3 changes for PUR as well? |
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Conclusion:

# 3 Conclusion

# 4 Reference

1. [R2-2009723](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2009723.zip) Report of e-mail discussion [Post111-e][922][NB-IoT/eMTC R15] UP EDT for DRB using RLC AM (Huawei) Huawei, HiSilicon report Rel-15 NB\_IOTenh2-Core, LTE\_eMTC4-Core

1. [R2-2009724](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2009724.zip) Clarification to UP-EDT Huawei, HiSilicon CR Rel-15 36.300 15.11.0 1298 1 F NB\_IOTenh2-Core, LTE\_eMTC4-Core [R2-2007328](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_111-e/Docs/R2-2007328.zip)
2. [R2-2009725](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2009725.zip) Clarification to UP-EDT Huawei, HiSilicon CR Rel-16 36.300 16.3.0 1299 1 A NB\_IOTenh2-Core, LTE\_eMTC4-Core [R2-2007329](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_111-e/Docs/R2-2007329.zip)

1. [R2-2009726](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2009726.zip) Clarification to UP-EDT Huawei, HiSilicon CR Rel-15 36.331 15.11.0 4477 - F NB\_IOTenh2-Core, LTE\_eMTC4-Core
2. [R2-2009727](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_112-e/Docs/R2-2009727.zip) Clarification to UP-EDT Huawei, HiSilicon CR Rel-16 36.331 16.2.1 4478 - A NB\_IOTenh2-Core, LTE\_eMTC4-Core

# 4 Participants

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| **Company** | **Name** | **e-mail address** |
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