3GPP TSG-RAN WG2 Meeting #110-e draft\_R2-2005822

Online, 1st - 12th June 2020

**Agenda item: 4.2.1**

**Source: Huawei (offline email discussion rapporteur)**

**Title: Report of [AT110-e][402][eMTC] R15 Clarification for CP EDT (Huawei)**

**Document for: Report**

# 1 Scope of the offline email discussion

This document contains the summary of the offline email discussion “[AT110-e][402][eMTC] R15 Clarification for CP EDT (Huawei)”, as indicated below:

* [AT110-e][402][eMTC] R15 Clarification for CP EDT (Huawei)

Scope: Check if there is support and update based on the comments if the CRs are agreeable

Intended outcome: Report provided in R2-2005822 and, if agreeable, updated CR(s).

Deadline: Friday, June 5th 10:00 UTC

# 2 Offline email discussion

[R2-2005010](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005010.zip) Clarification for CP EDT Huawei, HiSilicon CR Rel-15 36.304 15.5.0 0793 - F NB\_IOTenh2-Core, LTE\_eMTC4-Core

Companies are requested to provide comments in the table below (one row for each new comment to better keep track of the discussion – please don’t edit the previous comments).

|  |  |  |
| --- | --- | --- |
| **Company** | **Do you agree with the intent of the CR?** | **Detailed comments** |
| Qualcomm | **Yes** | Change to section 5.2.4.1 is ok.  Change to section 5.2.7 is somewhat confusing because UE is supposed to be in RRC\_IDLE at start, during and end of EDT, therefore it is not correct to say *RRCEarlyDataComplete* message causes the UE to return to idle when UE never left idle state. Furthermore, *RRCEarlyDataComplete* cannot move UE to RRC\_INACTIVE.  Second paragraph, first change should change as follows:  At reception of *RRCConnectionRelease* message to move the UE into RRC\_IDLE or RRC\_INACTIVE, or at reception of *RRCEarlyDataComplete*, or at reception of *RRCConnectionRelease* during EDT (TS 36.300 [2]), UE shall attempt to camp on a suitable cell according to *redirectedCarrierInfo*, if included in the *RRCConnectionRelease* message or *RRCEarlyDataComplete* message.  Second paragraph, second change is ok.  Third paragraph change is not needed because EDT cannot be used in state 'camped on any cell' and this change will confuse the reader that EDT is supported when ‘camped on any cell’.  Change to section 5.2.7a are not right for similar reason above.  First change should be as follows:  On transition from RRC\_CONNECTED to RRC\_IDLE or on completion of EDT (TS 36.300 [2]), UE shall attempt to camp on a suitable cell according to *redirectedCarrierInfo*, if included in the *RRCConnectionRelease-NB* message or *RRCEarlyDataComplete-NB* message.  Second change is fine. |
| Huawei | **yes** | In response to Qualcomm’s comment, we think we should avoid introducing EDT and PUR in 36.304. Note that also in 36.331 for EDT the UE perfoms the action ‘Upon leaving RRC\_CONNECTED or RRC\_INACTIVE’. Also in eLTE, the UE does not move to RRC\_CONNECTED when performing RNA Update. We are open to small wording change but we prefer not to mention EDT or PUR.  In our view, the text is 5.2.7 is general enough, (UE moves from IDLE to IDLE and it is clear in RRC that *RRCEarlyDataComplete* does not move the UE to RRC\_INACTIVE). In section 5.2.7a, to avoid explicit mention of transition from RRC\_CONNECTED, we could align the text with 5.2.7.  Agree that EDT cannot be initiated in ‘limited’ state thus the 2nd change in 5.2.7 should be removed. |
| ZTE | **Yes** | Generally we agree with the intention of the CR. We also agree with QC’s comment that UE is supposed to be kept in RRC\_IDLE for EDT. So we are ok with all the Qualcomm’s suggestions.  While with consideration on HW’s comment of avoiding EDT and PUR in 36.304, we give the following change examples for 5.2.7 and 5.2.7a for further comparison. 5.2.7 Cell Selection at transition to RRC\_IDLE or RRC\_INACTIVE state For NB-IoT cell Selection at transition to RRC\_IDLE state is defined in clause 5.2.7a.  At reception of *RRCConnectionRelease* or *RRCEarlyDataComplete* message, UE shall attempt to camp on a suitable cell according to *redirectedCarrierInfo*, if included in the *RRCConnectionRelease* or *RRCEarlyDataComplete* message. If the UE cannot find a suitable cell, the UE is allowed to camp on any suitable cell of the indicated RAT. If the *RRCConnectionRelease* or *RRCEarlyDataComplete* message does not contain the *redirectedCarrierInfo* UE shall attempt to select a suitable cell on an EUTRA carrier. If no suitable cell is found according to the above, the UE shall perform a cell selection starting with Stored Information Cell Selection procedure in order to find a suitable cell to camp on.  …… 5.2.7a Cell Selection at transition to RRC\_IDLE state for NB-IoT At reception of *RRCConnectionRelease-NB* or *RRCEarlyDataComplete-NB* message, UE shall attempt to camp on a suitable cell according to *redirectedCarrierInfo*, if included in the *RRCConnectionRelease-NB* or *RRCEarlyDataComplete-NB* message. If the UE cannot find a suitable cell, the UE is allowed to camp on a suitable cell of any NB-IoT carrier. If the *RRCConnectionRelease-NB* or *RRCEarlyDataComplete-NB* message does not contain the *redirectedCarrierInfo* UE shall attempt to select a suitable cell on a NB-IoT carrier. |
| Ericsson | **Yes** | Change in section 5.2.4.1 looks OK.  In section 5.2.7 agree that the "any cell change" should be removed.  Regarding the comments on introducing EDT/PUR in TS 36.304; we share the Huawei view and prefer not to introduce these concepts. As mentioned above, in TS 36.331 the UE performs "UE actions upon leaving RRC\_CONNECTED or RRC\_INACTIVE" in some cases even when it is not explicitly stated whether the UE is in a particular state. During EDT discussions it was a deliberate choice back then in RAN2 to model EDT this way. Additionally there is a case for eLTE where UE is responded with release after sending resume request as mentioned by HW and if the existing text would be changed this would need to be taken into account as well.  Thus, we don't think there is a real issue with the original CR formulation in section 5.2.7. The changes suggested by ZTE modify the existing text which are not needed, unless some alignment is done between 5.2.7 and 5.2.7a.  There is one missing case of "or *RRCEarlyDataComplete* message" at the end of the sentence containing the first change in section 5.2.7.  For section 5.2.7a the specification text directly mentions transition from connected to idle and thus we would be fine to align with the text in 5.2.7 instead to clarify and avoid mentioning RRC\_CONNECTED. |
| LG | **Yes** | Change in section 5.2.4.1 looks OK.  We agree that “any cell change” should be removed in section 5.2.7.  We are fine with ZTE’s suggestion because we think it’s different from the case refering the section in TS 36.331. The current descritipon “leaving RRC\_CONNECTED” is confusing. |
| Lenovo | **Yes** | For section 5.2.7a, we have the same veiw as LG and ZTE, “leaving RRC\_CONNECTED” is confusing for EDT case, some futher modification is needed. |

Conclusion:

All companies agree with the intention of the CR.

The following comments have been made:

* The changes in 5.2.4.1 are fine
* The last change in 5.2.7 is not needed
* Several companies think that the changes for NB-IoT are confusing because the UE is in RRC\_IDLE when receiving RRCEarlyDataComplete for EDT. One company wants to explicitly mention EDT, two companies think we should not introduce EDT in TS 36.304. Some companies propose to align the wording in 5.2.7a with 5.2.7 to avoid mentioning transition from RRC\_CONNECTED.

Proposal:

**Proposal**: Agree the CR in R2-2005010 with the following changes:

* The last change in section 5.2.7 is removed
* The wording in section 5.2.7a is aligned with the wording in section 5.2.7

# 3 Conclusion

**Conclusion:**

**Proposal**: Agree the CR in R2-2005010 with the following changes:

* The last change in section 5.2.7 is removed
* The wording in section 5.2.7a is aligned with the wording in section 5.2.7

**Agreed CR:**

TBC – agreed Rel-15 and Rel-16 shadow CR.

# 4 List of referenced documents

[1] [R2-2005010](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005010.zip) Clarification for CP EDT Huawei, HiSilicon CR Rel-15 36.304 15.5.0 0793 - F NB\_IOTenh2-Core, LTE\_eMTC4-Core

[2] [R2-2005011](http://ftp.3gpp.org/tsg_ran/WG2_RL2/TSGR2_110-e/Docs/R2-2005011.zip) Clarification for CP EDT Huawei, HiSilicon CR Rel-16 36.304 16.0.0 0794 - A NB\_IOTenh2-Core, LTE\_eMTC4-Core