**3GPP TSG-CT WG1 Meeting #137-eC1-22xxxx**

**E-Meeting, 18th – 26th August 2022 *(was C1-224819)***

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **24.301** | **CR** | **3774** | **rev** | **1** | **Current version:** | **17.7.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Correction on eDRX handling in EPS |
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| ***Source to WG:*** | vivo |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc17 |  | ***Date:*** | 2022-08-05 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | 1. TS 23.401 specifies the behavior of the UE and the MME when the UE has bearers for emergency bearer services as below:

*When the UE has bearers for emergency bearer services, the UE and MME follow regular discontinuous reception as defined in clause 5.13 and shall not use the extended idle mode DRX. Extended idle mode DRX parameters may be negotiated while the UE has bearers for emergency bearer services.*In SA2 spec, the UE and the AMF use DRX and shall not use eDRX. However, CT1 spec does not cover the case where the UE and the AMF shall not use eDRX. The forbidden behavior should be stated explicitly.Based on the SA2 requirement, eDRX can be negotiated when the UE has an active emergency PDN. But current CT1 spec is as below: *The UE shall not request the use of eDRX during:**- an attach for emergency bearer services procedure; or**- a tracking area updating procedure for the UE attached for emergency bearer services; or**- an attach for access to RLOS.*Yellow part in CT1 spec refers to that the UE is attached for emergency service and has an emergency PDN after the completion of attach. That is contradictory with SA2 requirement.As a result, stage 3 implementation needs to be modified for alignment with stage 2.1. In the attach and TAU process, the behavior of the UE has be specified:

*If the UE supports eDRX and requests the use of eDRX, the UE shall include the extended DRX parameters IE in the ATTACH REQUEST/* TRACKING AREA UPDATE REQUEST *message.*However such support is missing in the description of Extended DRX parameters IE. The correction on Extended DRX parameters IE needs to be implemented. |
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| ***Summary of change:*** | 1. Specify that the UE and the MME shall not use eDRX when the UE has bearers for emergency bearer services and add the scenario on the negotiation of eDRX.
2. Add the missing condition in the description of Extended DRX parameters IE.

Backwards compatibility analysis:The change has no impact on the signalling interface, so there is no backwards compatible issue on the change of this CR. |
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| ***Consequences if not approved:*** | 1. Misalignment with SA2 requirement and lack of scenario for the negotiation of eDRX. The negotiation of eDRX can not be implemented in the attach process. As a result, the UE would not use eDRX timely after the emergency PDN connection is released, which may cause negative experience on the power consumption.
2. Inconsistent specification may confused the UE implementer.
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| ***Clauses affected:*** | 5.3.12, 8.2.4.20, 8.2.29.26 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* First Change \* \* \* \*

### 5.3.12 Extended idle-mode DRX cycle

The UE may request the use of extended idle-mode DRX cycle (eDRX) during an attach or tracking area updating procedure by including the extended DRX parameters IE (see 3GPP TS 23.682 [11A] and 3GPP TS 23.401 [10]). The UE shall not request the use of eDRX during:

- an attach for emergency bearer services procedure; or

- an attach for access to RLOS.

The UE and the network may negotiate eDRX parameters during a tracking area updating procedure when the UE has a PDN connection for emergency bearer services.

The network accepts the request to use the eDRX by providing the extended DRX parameters IE when accepting the attach or the tracking area updating procedure. The UE shall use eDRX only if it received the extended DRX parameters IE during the last attach or tracking area updating procedure and the UE does not have a PDN connection for emergency bearer services.

NOTE: If the UE wants to keep using eDRX, the UE includes the extended DRX parameters IE in each attach or tracking area updating procedure.

If the UE received the extended DRX parameters IE during the last attach or tracking area updating procedure, upon successful completion of the PDN disconnect procedure of the PDN connection for emergency bearer services or EPS bearer context deactivation procedure of the EPS bearer context for emergency, the UE shall resume eDRX.

If the network has provided the extended DRX parameters IE during the last attach or tracking area updating procedure, upon successful completion of the PDN disconnect procedure of the PDN connection for emergency bearer services or EPS bearer context deactivation procedure of the EPS bearer context for emergency, the network shall resume eDRX.

If the UE or the network locally releases the PDN connection for emergency bearer service, the UE or the network shall not use eDRX until the UE receives eDRX parameters during a tracking area updating procedure with EPS bearer context synchronization or upon successful completion of a service request procedure.

If the UE did not receive the extended eDRX parameters IE, or if the UE has a PDN connection for emergency bearer services, the UE shall use the stored UE specific DRX parameter, if available, and shall not use eDRX.

If the network did not accept the request to use eDRX, or if the UE has a PDN connection for emergency bearer services, the network shall use the stored UE specific DRX parameter, if available, and shall not use eDRX.

If the network provided the extended DRX parameters IE and also assigned a new GUTI for the UE as described in clause 5.5.3.2.4 during the last tracking area updating procedure, the network shall use the stored UE specific DRX parameter, if available, with the old GUTI and use the eDRX provided by the network with the new GUTI until the old GUTI can be considered as invalid by the network (see clause 5.4.1.4).

\* \* \* Next Change \* \* \* \*

#### 8.2.4.20 Extended DRX parameters

The UE shall include this IE if the UE supports eDRX and requests the use of eDRX.

\* \* \* Next Change \* \* \* \*

#### 8.2.29.26 Extended DRX parameters

The UE shall include this IE if the UE needs to use eDRX or change the extended DRX parameters.

\* \* \* End of Changes \* \* \* \*