**3GPP TSG-CT WG1 Meeting #141eC1-23xxxx**

**Online 17– 21 April 2023**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
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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:***  | Supporting multicast MBS session for UE that uses eDRX |
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| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, Huawei, HiSilicon |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5MBS\_Ph2 |  | ***Date:*** | 2023-04-06 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** |  |
|  | *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:*** | Stage-2 has introduced in TS 23.247 the requirements needed for MBS coexistence with existing power saving mechanisms, due to the approved SA2 CRs S2-2301599, 01598 and S2-2303871.The detailed stage-2 requirements can be found in the clause 7.2.10 (on Multicast MBS procedures for UEs using power saving functions) of TS 23.247.This CR proposes to define stage-3 requirements for supporting multicast MBS sessions for a UE that is using eDRX. |
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| ***Summary of change:*** | Specifying the requirements of supporting multicast MBS sessions for a UE that is using eDRX. |
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| ***Consequences if not approved:*** | No specification for how a UE using eDRX can support receiving multicast data |
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| ***Clauses affected:*** | 5.3.16 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **x** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\*\*\* First change \*\*\*\*\*

### 5.3.16 Extended DRX cycle for UEs in 5GMM-IDLE and 5GMM-CONNECTED mode with RRC inactive indication

Extended DRX (eDRX) cycle is supported for a UE in N1 mode. When eDRX is requested by the UE and accepted by the network:

- if the UE is not in NB-N1 mode, eDRX is used when the UE is in 5GMM-IDLE mode or in 5GMM-CONNECTED mode with RRC inactive indication; or

- if the UE is in NB-N1 mode, eDRX is used when the UE is in 5GMM-IDLE mode.

The UE may request the use of eDRX cycle during a registration procedure by including the Requested extended DRX parameters IE (see 3GPP TS 23.501 [8] and 3GPP TS 23.502 [9]). The UE shall not request the use of eDRX during a registration procedure for emergency services. The UE may use the extended idle mode DRX cycle length stored in the USIM (see 3GPP TS 31.102 [22]) when requesting the use of eDRX.

The UE and the network may negotiate eDRX parameters during a registration procedure when the UE has an emergency PDU session.

The network accepts the request to use the eDRX by providing the Negotiated extended DRX parameters IE when accepting the registration procedure. The UE shall use eDRX only if it received the Negotiated extended DRX parameters IE during the last registration procedure and the UE does not have an emergency PDU session.

NOTE 1: If the UE wants to keep using eDRX, the UE includes the Extended DRX parameters IE in each registration procedure.

If the UE received the Negotiated extended DRX parameters IE during the last registration procedure, upon successful completion of the PDU session release procedure of the emergency PDU session, the UE shall resume eDRX.

If the network has provided the Negotiated extended DRX parameters IE during the last registration procedure, upon successful completion of the PDU session release procedure of the emergency PDU session, the network shall resume eDRX.

If the UE or the network locally releases an emergency PDU session, the UE or the network shall not use eDRX until the UE receives eDRX parameters during a registration procedure with PDU session context synchronization or upon successful completion of a service request procedure with PDU session context synchronization.

If the UE did not receive the Negotiated extended DRX parameters IE, or if the UE has an emergency PDU session, the UE shall use the stored UE specific DRX parameter, if available.

If the network did not accept the request to use eDRX, or if the UE has an emergency PDU session, the network shall use the stored UE specific DRX parameter, if available.

If the network provided the Negotiated extended DRX parameters IE and also assigned a new 5G-GUTI for the UE as described in subclause 5.5.1.3.4 during the last registration procedure, the network shall use the stored UE specific DRX parameter, if available, with the old 5G-GUTI and use the eDRX provided by the network with the new 5G-GUTI until the old 5G-GUTI can be considered as invalid by the network (see subclauses 5.4.4.4 and 5.5.1.3.4).

The UE using eDRX may join one or more multicast MBS sessions by using the UE-requested PDU session establishment procedure or the UE-requested PDU session modification procedure as specified in clause 6.4.1.2 and clause 6.4.2.2. The UE provides the lower layers with multicast start time and the scheduled multicast activation times of a multicast MBS session if any of those times are available as specified in 3GPP TS 23.247 [53], to allow lower layers to listen to paging for a multicast MBS session which the has UE joined.

NOTE 2: The UE can obtain via the service announcement a multicast start time and/or a sequence of scheduled multicast activation times (e.g. a first time and a periodicity) of a multicast MBS session as described in 3GPP TS 23.247 [53], which is out of scope of this specification.

NOTE 3: It is up to UE implementation whether to leave one or more multicast MBS sessions after each deactivation of each multicast MBS session and to re-join again at the next multicast activation time or to keep a multicast MBS session that the UE has joined for the whole period of the session, as described in 3GPP TS 23.247 [53].

\*\*\*\*\* End of changes \*\*\*\*\*