**3GPP TSG-RAN WG2 Meeting #111 electronicR2-2008236**

**Online, August 17 – 28 2020**

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| *CR-Form-v11.4* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **36.306** | **CR** | **1780** | **rev** | **1** | **Current version:** | **16.1.0** |  |
|  | | | | | | | | |
| *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 | **X** | Core Network |  |

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| ***Title:*** | Addition of missing capabilities for eMTC R16 | | | | | | | | | |
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| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE\_eMTC5-Core | | | | |  | ***Date:*** | | | 2020-08-06 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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 can be 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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
| ***Reason for change:*** | | RAN4 related optional UE features without capability signalling, according to R2-2006134, are missing:  1-1 Relaxed RRM measurements   * Relaxation of RRM measurements for serving cell for UEs using MWUS for at least low mobility UEs   1-2 RSS-based measurement improvement in RRC\_IDLE   * Improved DL RSRP measurement accuracy through use of RSS in RRC\_IDLE   1-4 RSS based measurement   * Support Measurement of neighbour cell RSS in the NB of MPDCCH.   **Impact analysis**  Impacted functionality:  eMTC Idle mode  Inter-operability:  No interoperability issues, since no need to indicate capability. | | | | | | | | |
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| ***Summary of change:*** | |  | | | | | | | | |
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| ***Consequences if not approved:*** | | RAN4 defined optional features are missing from the specification. | | | | | | | | |
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| ***Clauses affected:*** | | 6.3.6 | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |

## 6.17 Idle mode measurements

### 6.17.1 Relaxed monitoring

It is optional for UE to support relaxed monitoring in RRC\_IDLE as specified in TS 36.304 [14]. This feature is only applicable if the UE supports any *ue-Category-NB* or if the UE supports UE category M1 or UE category M2 or if the UE supports coverage enhancements (*ce-ModeB-r13* and/or *ce-ModeA-r13*).

### 6.17.2 DL channel quality reporting in Msg3 for the anchor carrier

It is optional for UE to support DL channel quality reporting in Msg3 for the anchor carrier for FDD, as specified in TS 36.331 [5]. This feature is only applicable if the UE supports any *ue-Category-NB*.

### 6.17.3 Serving cell idle mode measurements reporting

It is optional for UE to include *measResultServCell-r14* in *RRCConnectionRestablishmentComplete-NB, RRCConnectionResumeComplete-NB* and *RRCConnectionSetupComplete-NB messages* as specified in TS 36.331 [5]. This feature is only applicable if the UE supports any *ue-Category-NB*.

### 6.17.4 NSSS-Based RRM measurements

It is optional for UE to support NSSS-Based RRM measurements for FDD, as specified in TS 36.211 [17] and TS 36.214 [23]. This feature is only applicable if the UE supports any *ue-Category-NB*.

### 6.17.5 NPBCH-Based RRM measurements

It is optional for UE to support NPBCH-Based RRM measurements for the serving cell for FDD, as specified in TS 36.214 [23]. This feature is only applicable if the UE supports any *ue-Category-NB*.

### 6.17.6 RRM measurements on non-anchor paging carriers

It is optional for UE to support idle mode RRM measurements on non-anchor paging carriers for FDD, as specified in TS 36.133 [6]. A UE supporting RRM measurements on non-anchor paging carriers shall also support NRS presence on non-anchor paging carriers. This feature is only applicable if the UE supports any *ue-Category-NB*.

### 6.17.7 NRS presence on non-anchor paging carriers

It is optional for UE to support NRS presence on non-anchor paging carriers for FDD as specified in TS 36.211 [17]. This feature is only applicable if the UE supports any *ue-Category-NB.*

### 6.17.8 DL channel quality reporting in Msg3 for non-anchor carrier

It is optional for UE to support DL channel quality reporting for a non-anchor carrier for FDD in Msg3 as specified in TS 36.331 [5]. This feature is only applicable if the UE supports any *ue-Category-NB.*

### 6.17.9 Assistance information for inter-RAT cell selection to/from NB-IoT

It is optional for UE to support assistance information for inter-RAT cell selection to/from NB-IoT as specified in TS 36.331 [5]. This feature is only applicable if the UE supports any *ue-Category-NB.*

### 6.17.10 DL channel quality reporting in Msg3

It is optional for UE to support DL channel quality reporting of the serving cell in Msg3, as specified in TS 36.321 [4]. This feature is only applicable if the UE supports *ce-ModeA-r13*.

### 6.17.x Relaxed RRM measurements

It is optional for UE to support relaxation of RRM measurements for serving cell while using WUS, as specified in TS 36.133 [6]. This feature is only applicable if the UE supports *ce-ModeA-r13*.

### 6.17.y RSS based measurement improvement

It is optional for UE to support improved DL RSRP measurement accuracy through use of RSS in RRC\_IDLE as specified in TS 36.133 [6]. This feature is only applicable if the UE supports *ce-ModeA-r13* r13and serving cell RSS measurements..

### 6.17.z RSS based measurement in MPDCCH narrowband

It is optional for UE to support measurement of neighbour cell RSS in the same narrowband as MPDCCH in RRC\_IDLE as specified in TS 36.133 [6]. This feature is only applicable if the UE supports *ce-ModeA-*r13and serving cell RSS measurements.