**3GPP TSG-RAN WG2 Meeting #116-eR2-**

**Electronic Meeting, November 01 – 12, 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **36.331** | **CR** | **4744** | **rev** | **1** | **Current version:** | **16.6.0** |  |
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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 | **x** | Core Network |  |

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| ***Title:*** | SCG Overheating termination indication in EN-DC | | | | | | | | | |
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| ***Source to WG:*** | Qualcomm Incorporated, Ericsson | | | | | | | | | |
| ***Source to TSG:*** | RAN2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2021-11-01 |
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| ***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)* | |
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| ***Reason for change:*** | | Current spec indicates that UE shall **not** include the “*overheatingAssistanceForSCG*” to indicate that it no longer experiences an overheating condition.  TS 36.331 section 5.6.10.3    However the ASN.1 has defined the “*overheatingAssistanceForSCG*” as a mandatory IE.    The suggested change is to not include “*overheatingAssistance-v1610*” which is the parent IE of the “*overheatingAssistanceForSCG*”, which is an optional IE.    Note: not including the overheatingAssistance-v1610 signifies that UE can implement it by not including parent IE, e.g. *UEAssistanceInformation-v1610-IEs* or *UEAssistanceInformation-v1530-IEs*, the NW interpretation in both cases is that “UE did not include overheatingAssistance-v1610” | | | | | | | | |
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| ***Summary of change:*** | | Modifying the procedural text in section 5.6.10.3, by replacing “*overheatingAssistanceForSCG*” by “*overheatingAssistance-v1610*”.    2> else (if the UE no longer experiences an overheating condition):  3> do not include *reducedUE-Category*, *reducedMaxCCs* and *overheatingAssistance-v1610* (if configured to provide overheating assistance indication for NR SCG) in *OverheatingAssistance* IE;  **Impact Analysis:**  Impacted 5G architecture options:  EN-DC  Impacted functionality:  SCG overheating  Interoperability issue:   * if the network is implemented according to the CR and the UE is not, UE behavior to indicate that it no longer experiences overheating is unknown. * if the UE is implemented according to the CR and the network is not, no interperoperability is expected, as network may correctly interpret the UE indication, or it may ignore the SCG overheating indication. | | | | | | | | |
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| ***Consequences if not approved:*** | | UE behavior in EN-DC when indicating the termination of SCG overheating is unknown. | | | | | | | | |
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| ***Clauses affected:*** | | 5.6.10.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

Change start

5.6.10.3 Actions related to transmission of *UEAssistanceInformation* message

The UE shall set the contents of the *UEAssistanceInformation* message for power preference indications:

1> if configured to provide power preference indication and if the UE prefers a configuration primarily optimised for power saving:

2> set *powerPrefIndication* to *lowPowerConsumption*;

1> else if configured to provide power preference indication:

2> set *powerPrefIndication* to *normal*;

The UE shall set the contents of the *UEAssistanceInformation* message for SPS assistance information:

1> if configured to provide SPS assistance information:

2> if there is any traffic for V2X sidelink communication which needs to report SPS assistance information:

3> include *trafficPatternInfoListSL* in the *UEAssistanceInformation* message;

2> if there is any traffic for uplink communication which needs to report SPS assistance information:

3> include *trafficPatternInfoListUL* in the *UEAssistanceInformation* message;

The UE shall set the contents of the *UEAssistanceInformation* message for bandwidth preference indications:

1> set *bw-Preference* to its preferred configuration;

The UE shall set the contents of the *UEAssistanceInformation* message for delay budget report:

1> if configured to provide delay budget report:

2> if the UE prefers an adjustment in the connected mode DRX cycle length:

3> set *delayBudgetReport* to *type1* according to a desired value;

2> else if the UE prefers coverage enhancement configuration change:

3> set *delayBudgetReport* to *type2* according to a desired value;

The UE shall set the contents of the *UEAssistanceInformation* message for the RLM report:

1> if configured to provide RLM report:

2> if T314 has expired:

3> set *rlm-event* to *earlyOutOfSync*;

2> if T315 has expired:

3> set *rlm-event* to *earlyInSync*;

3> if configured to report *rlmReportRep-MPDCCH*:

4> set *excessRep-MPDCCH* to the value indicated by lower layers;

The UE shall set the contents of the *UEAssistanceInformation* message for overheating assistance indication:

1> if configured to provide overheating assistance indication:

2> if the UE experiences internal overheating:

3> if the UE prefers to temporarily reduce its DL category and UL category:

4> include *reducedUE-Category* in the *OverheatingAssistance* IE;

4> set *reducedUE-CategoryDL* to the number to which the UE prefers to temporarily reduce its DL category;

4> set *reducedUE-CategoryUL* to the number to which the UE prefers to temporarily reduce its UL category;

3> if the UE prefers to temporarily reduce the number of maximum secondary component carriers:

4> include *reducedMaxCCs* in the *OverheatingAssistance* IE;

4> set *reducedCCsDL* to the number of maximum SCells the UE prefers to be temporarily configured in downlink;

4> set *reducedCCsUL* to the number of maximum SCells the UE prefers to be temporarily configured in uplink;

3> if configured to provide overheating assistance indication for NR SCG:

4> include *overheatingAssistanceForSCG* in the *OverheatingAssistance* IE;

4> set *overheatingAssistanceForSCG* in accordance with clause 5.7.4.3a as specified in TS 38.331 [82];

2> else (if the UE no longer experiences an overheating condition):

3> do not include *reducedUE-Category*, *reducedMaxCCs* and *overheatingAssistance-v1610* (if configured to provide overheating assistance indication for NR SCG) in *OverheatingAssistance* IE;

The UE shall:

1> if the procedure was triggered to provide SPS assistance information and the related configuration was provided by an *RRCConnectionReconfiguration* message that was received embedded within an NR *RRCReconfiguration* message:

2> submit the *UEAssistanceInformation* message via SRB1 embedded in NR RRC message *ULInformationTransferIRAT* as specified in TS 38.331 [82];

1> else:

2> submit the *UEAssistanceInformation* message to lower layers for transmission.

NOTE 1: It is up to UE implementation when and how to trigger SPS assistance information.

NOTE 2: It is up to UE implementation to set the content of *trafficPatternInfoListSL* and *trafficPatternInfoListUL*.

NOTE 3: Traffic patterns for different Destination Layer 2 IDs are provided in different entries in *trafficPatternInfoListSL.*

NOTE 4: Although not recommended, UE may start or restart the following timers whenever it sends the *UEAssistanceInformation* message (i.e. even if the message was not triggered for the concerned feature): T340, T341, T342, T343, T344 and T345*.*

Change End