**3GPP TSG-CT WG1 Meeting #134-eC1-221791**

**E-Meeting, 17th – 25th February 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **27.007** | **CR** | **0772** | **rev** | **-** | **Current version:** | **17.4.0** |  |
|  |
| *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 |  | Core Network |  |

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|  |
| ***Title:***  | AT command for QoE measurement in NR |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | TEI17, NR\_QoE-Core |  | ***Date:*** | 2022-02-05 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | RAN2 and RAN3 have defined (see incoming LSes in C1-221038 and C1-221590/R3-221463) Quality of Experience measurements for NR in WI NR\_QoE-Core. To support the functionality new AT-commands are needed between the application layer and the AS layer.RAN3 LS indicates that RAN visible QoE configuration and report will be specified by RAN2. |
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| ***Summary of change:*** | Add two AT-commands to allow the RAN to control configuration of the measurement reporting and to send back reports to the AS layer.Added an EN that RAN visible QoE configuration and report needs specification. |
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| ***Consequences if not approved:*** | The feature is not usable since the UE support is missing |
|  |  |
| ***Clauses affected:*** | 8.XX (new), 8.YY (new) |
|  |  |
|  | **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:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

**\*\*\*\*\*\*\***

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

## 8.XX Application level measurement configuration for NR +CAPPLEVMCNR

Table 8.XX-1: +CAPPLEVMCNR parameter command syntax

|  |  |
| --- | --- |
| Command | Possible response(s) |
| +CAPPLEVMCNR=[<n>] | *+CME ERROR: <err>* |
| +CAPPLEVMCNR? | +CAPPLEVMCNR: <n> |
| +CAPPLEVMCNR=? | +CAPPLEVMCNR: (list of supported <n>s) |

Editor's Note: This AT command can be further updated in Rel-17 based on RAN2's input.

**Description**

This command allows control of the application level measurement configuration according to 3GPP TS 38.331 [160]. The set command controls the presentation of the unsolicited result code +CAPPLEVMCNR: (list of [<CR><LF>, <start-stop\_measurement>],[<app-meas\_config\_file\_length>,<app-meas\_config-file>],[<meas\_config\_app\_layer\_id>]) providing data for the configuration. Refer clause 9.2 for possible <err> values.

Read command returns the current value of <n>.

Test command returns values supported as a compound value.

**Defined values**

<n>: integer type. Disable and enable presentation of the unsolicited result code +CAPPLEVMCNR to the TE.

0 Disable presentation of the unsolicited result code

1 Enable presentation of the unsolicited result code

<app-meas\_service\_type>: integer type. Contains the indication of what application that is target for the application level measurement configuration.

1 QoE measurement collection for streaming services

2 QoE measurement collection for MTSI services

3 QoE measurement collection for VR services

4 QoE measurement collection for MBMS services

<start-stop\_measurement>: integer type. Indicates the start and stop of the application level measurement reporting for the application indicated by the <app-meas\_service\_type>.

0 start the application level measurement

1 stop the application level measurement and release the application level measurement configuration

<app-meas\_config\_file\_length>: integer type. Indicates the number of octets of the <app-meas\_config-file> parameter.

<app-meas\_config-file>: string of octets. Contains the application level measurement configuration file for the application indicated by the <app-meas\_service\_type>. The parameter shall not be subject to conventional character conversion as per +CSCS.

<meas\_config\_app\_layer\_id>: integer type. At QoE measurement configuration the <meas\_config\_app\_layer\_id> indicates an identity for the QoE measurement configuration received in the <app-meas\_config-file>. At QoE measurement configuration release, the <meas\_config\_app\_layer\_id> indicates the measurement to be released. The absence of this parameter indicates that all measurement configurations are released.

**Implementation**

Optional.

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

## 8.YY Application level measurement report for NR +CAPPLEVMRNR

Table 8.YY-1: +CAPPLEVMR action command syntax

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| --- | --- |
| Command | Possible response(s) |
| +CAPPLEVMR=(list of [<CR><LF><app-meas\_report\_length>,<app-meas\_report>,<meas\_config\_app\_layer\_id>]) | *+CME ERROR: <err>* |
| +CAPPLEVMR=? |  |

Editor's Note: This AT command can be further updated in Rel-17 based on RAN2's input.

**Description**

This command allows the MT to provide a list of application level measurement reports according to 3GPP TS 38.331 [160]. Refer clause 9.2 for possible <err> values.

**Defined values**

<app-meas\_report\_length>: integer type. Indicates the number of octets of the <app-meas\_report> parameter.

<app-meas\_report>: string of octets. Contains the application level measurement report for the application indicated by the <app-meas\_service\_type>. The parameter shall not be subject to conventional character conversion as per +CSCS.

<meas\_config\_app\_layer\_id>: integer type. Identifies the QoE measurement configuration associated with the report in the <app-meas\_report> parameter.

**Implementation**

Optional.

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