**3GPP TSG-CT WG1 Meeting #126-eC1-20xxxx**

**Electronic meeting, 15-23 October 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **27.007** | **CR** | **0705** | **rev** | **1** | **Current version:** | **16.6.0** |  |
|  | | | | | | | | |
| *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:*** | Addition of 5GSM causes #37 and #59 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | MediaTek Inc., Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GProtoc17 | | | | |  | ***Date:*** | | | 2020-10-16 |
|  |  | | | |  | |  | | |  |
| ***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 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) Rel-17 (Release 17)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Multiple 5GSM causes are introduced in TS 24.501, thus sub-clause 9.2.2.2.3 (Errors for 5GS) needs updates. | | | | | | | | |
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| ***Summary of change:*** | | Three new 5GS errors are specified:   * 137 5GS QoS not accepted (#37) * 181 Unsupported 5QI value (#59) | | | | | | | | |
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| ***Consequences if not approved:*** | | Muitple 5GSM causes are missing in the sub-clause 9.2.2.2.3 (Errors for 5GS). | | | | | | | | |
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| ***Clauses affected:*** | | 9.2.2.2.3, 10.1.49 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

\*\*\*\*\* Next change \*\*\*\*\*

##### 9.2.2.2.3 Errors for 5GS

Numeric Text

126 Insufficient resources (#26)  
127 Missing or unknown DNN (#27)  
128 Unknown PDU session type (#28)  
129 User authentication or authorization failed (#29)  
131 Request rejected, unspecified (#31)  
132 Service option not supported (#32)  
133 Requested service option not subscribed (#33)  
135 PTI already in use (#35)  
136 Regular deactivation (#36)  
137 5GS QoS not accepted (#37)  
141 Semantic error in the TFT operation (#41)  
142 Syntactical error in the TFT operation (#42)  
143 Invalid PDU session identity (#43)  
144 Semantic errors in packet filter(s) (#44)  
145 Syntactical errors in packet filter(s) (#45)  
172 Semantically incorrect message (#95)  
173 Invalid mandatory information (#96)  
174 Message type non-existent or not implemented (#97)  
175 Conditional IE error (#100)  
176 Protocol error, unspecified (#111)  
177 Operator determined barring (#8)  
181 Unsupported 5QI value (#59)  
184 Invalid PTI value (#81)  
186 Message not compatible with protocol state (#101)  
190 Network failure (#38)  
191 Reactivation requested (#39)  
192 PDU session type IPv4 only allowed (#50)  
193 PDU session type IPv6 only allowed (#51)  
196 PDU session type IPv4v6 only allowed (#57)  
197 PDU session type Unstructured only allowed (#58)  
202 PDU session does not exist (#54)  
205 Insufficient resources for specific slice and DNN (#67)  
206 Not supported SSC mode (#68)  
207 Insufficient resources for specific slice (#69)  
208 Message type not compatible with protocol state (#98)  
209 Information element non-existent or not implemented (#99)  
213 Missing or unknown DNN in a slice (#70)  
220 Out of LADN service area (#46)  
221 PTI mismatch (#47)  
222 Maximum data rate per UE for user-plane integrity protection is too low (#82)  
223 Semantic error in the QoS operation (#83)  
224 Syntactical error in the QoS operation (#84)  
225 Invalid mapped EPS bearer identity (#85)  
230 PDU session type Ethernet only allowed (#61)

NOTE: Values in parentheses are 3GPP TS 24.501 [161] cause codes.

\*\*\*\*\* Next change \*\*\*\*\*

### 10.1.49 Define 5GS quality of service +C5GQOS

Table 10.1.49-1: +C5GQOS parameter command syntax

| Command | Possible Response(s) |
| --- | --- |
| +C5GQOS=[<cid>[,<5QI>[,<DL\_GFBR>,<UL\_GFBR>[,<DL\_MFBR>,<UL\_MFBR]]]] | *+CME ERROR: <err>* |
| +C5GQOS? | [+C5GQOS: <cid>,<5QI>[,<DL\_GFBR>,<UL\_GFBR>[,<DL\_MFBR>,<UL\_MFBR>]]]  [<CR><LF>+C5GQOS: <cid>,<5QI>,[<DL\_GFBR>,<UL\_GFBR>[,<DL\_MFBR>,<UL\_MFBR>]]  [...]] |
| +C5GQOS=? | +C5GQOS: (range of supported <cid>s),(list of supported <5QI>s),(list of supported <DL\_GFBR>s),(list of supported <UL\_GFBR>s),(list of supported <DL\_MFBR>s),(list of supported <UL\_MFBR>s) |

**Description**

The set command allows the TE to specify the 5GS Quality of Service parameters <cid>, <5QI>, [<DL\_GFBR> and <UL\_GFBR>] and [<DL\_MFBR> and <UL\_MFBR>] for a QoS flow (see 3GPP TS 23.501 [165] and 3GPP TS 24.501 [161]). Refer subclause 9.2 for possible <err> values.

A special form of the set command, +C5GQOS= <cid> causes the values for context number <cid> to become undefined.

The read command returns the current settings for each defined QoS.

The test command returns the ranges of the supported parameters as compound values.

**Defined values**

<cid>: integer type; specifies a particular QoS flow definition, EPS Traffic Flows definition and a PDP Context definition (see the +CGDCONT and +CGDSCONT commands).

<5QI>: integer type; specifies a class of 5GS QoS (see 3GPP TS 23.501 [165] and 3GPP TS 24.501 [161]).

0 5QI is selected by network

[1 – 4] value range for guaranteed bit rate QoS flows

[71 – 76] value range for guaranteed bit rate QoS flows

[5 – 9] value range for non-guaranteed bit rate QoS flows

79, 80 values for non-guaranteed bit rate QoS flows

[82 – 85] value range for delay critical guaranteed bit rate QoS flows

[128 – 254] value range for Operator-specific 5QIs

The 5QI values 65, 66, 67, 69 and 70 are not allowed to be requested by the UE. If the TE requests a 5QI parameter 65, 66, 67, 69 or 70, the MT responds with result code +CME ERROR: 181 (unsupported 5QI value).

<DL\_GFBR>: integer type; indicates DL GFBR in case of GBR 5QI. The value is in kbit/s. This parameter is omitted for a non-GBR 5QI (see 3GPP TS 24.501 [161]).

<UL\_GFBR>: integer type; indicates UL GFBR in case of GBR 5QI. The value is in kbit/s. This parameter is omitted for a non-GBR 5QI (see 3GPP TS 24.501 [161]).

<DL\_MFBR>: integer type; indicates DL MFBR in case of GBR 5QI. The value is in kbit/s. This parameter is omitted for a non-GBR 5QI (see 3GPP TS 24.501 [161]).

<UL\_MFBR>: integer type; indicates UL MFBR in case of GBR 5QI. The value is in kbit/s. This parameter is omitted for a non-GBR 5QI (see 3GPP TS 24.501 [161]).

**Implementation**

Optional.