**3GPP TSG-CT WG1 Meeting #133-eC1-216643**

**E-meeting, 11-19 November 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **27.007** | **CR** | **0752** | **rev** | **1** | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *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 MUSIM Reject Paging | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Apple | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | MUSIM | | | | |  | ***Date:*** | | | 2021/10/17 |
|  |  | | | |  | |  | | |  |
| ***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 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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | A MUSIM capable UE when responding to paging can indicate to the network to reject the paging during Service Request procedure. There needs to be an AT command so that the TE can indicate this to the MT. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Define a new AT command +CREJPAG to enable the TE to indicate to the MT to reject the paging.  TE => MT: AT +CREJPAG  MT <= NW: Received paging  MT => NW: Reject the paging by Service Request “Rejection of paging”  Also enable an unsolicited return code to enable MT to indicate to TE whether UE has received paging for voice services. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing stage-3 functionality to enable the TE to indicate to the MT to reject the paging. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.1.X (New Clause), Annex B | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \*\*\*

### 10.1.X Reject paging +CREJPAG

Table 10.1.X-1: +CREJPAG parameter command syntax

|  |  |
| --- | --- |
| Command | Possible response(s) |
| +CREJPAG=[<n>[,<rejpage\_pgcause\_unknown>[,<rejpage\_pgcause\_not\_voice>[,<rejpage\_pgcause\_voice>]]]] | *+CME ERROR: <err>*  **when <n>=2 and command successful**  +CREJPAG: <rejpage\_pgcause\_unknown>,<rejpage\_pgcause\_not\_voice>,<rejpage\_pgcause\_voice> |
| +CREJPAG? | +CREJPAG: <n>,<rejpage\_pgcause\_unknown>,<rejpage\_pgcause\_not\_voice>,<rejpage\_pgcause\_voice> |
| +CREJPAG=? | +CREJPAG: (list of supported <n>s),(list of supported <rejpage\_pgcause\_unknown>s),(list of supported <rejpage\_pgcause\_not\_voice>s),(list of supported <rejpage\_pgcause\_voice>s) |

**Description**

The set command controls the presentation of unsolicited result code +CREJPAG: <paging\_cause> when <n>=1 reporting the paging cause indication for which the MUSIM capable UE has received a page. The following cases are applicable in EPS (see 3GPP TS 24.301 [83], clause 5.5.1) and 5GS (see 3GPP TS 24.501 [161], clause 5.5.1).

a) UE receives page from a network that does not support paging cause indication for voice services; or

b) UE receives page from a network that supports paging cause indication for voice services and page is not related to voice service; or

c) UE receives page from a network that supports paging cause indication for voice services and page is related to voice service.

When <n>=2, a special form of the set command +CREJPAG: <rejpage\_pgcause\_unknown>,<rejpage\_pgcause\_not\_voice>,<rejpage\_pgcause\_voice> enables the MUSIM capable UE to reject the paging request from the network in EPS (see 3GPP TS 24.301 [83], clause 5.6.1), and 5GS (see 3GPP TS 24.501 [161], clause 5.6.1). The TE sends this command (when <n>=2) to the MT in anticipation of MT receiving indication of paging from the network.

The read command returns the current settings of <n> and indicates whether currently the paging request received from the network is set to be rejected or not for the different cases described above.

Refer clause 9.2 for possible <err> values.

The test command returns values of supported <n>s.

**Defined values**

<n>: integer type

0 Disable presentation of unsolicited result code +CREJPAG: <paging\_cause>

1 Enable presentation of unsolicited result code +CREJPAG: <paging\_cause>

2 Reject paging request from the network. There will be no change in the current setting of <n>, enabling or disabling of unsolicited result code +CREJPAG: <paging\_cause>

<paging\_cause>: integer type; indicates the paging cause.

0 Page is received from a network that does not support paging cause indication for voice services

1 Page is received from a network that supports paging cause indication for voice services and page is not related to voice service

2 Page is received from a network that supports paging cause indication for voice services and page is related to voice service

<rejpage\_pgcause\_unknown>: integer type; indicates whether the paging request is set to be rejected when the UE receives page from a network that does not support paging cause indication for voice services.

0 Paging request is not set to be rejected

1 Paging request is set to be rejected

<rejpage\_pgcause\_not\_voice>: integer type; indicates whether the paging request is set to be rejected when the UE receives page from a network that supports paging cause indication for voice services and page is not related to voice service.

0 Paging request is not set to be rejected

1 Paging request is set to be rejected

<rejpage\_pgcause\_voice>: integer type; indicates whether the paging request is set to be rejected when the UE receives page from a network that supports paging cause indication for voice services and page is related to voice service.

0 Paging request is not set to be rejected

1 Paging request is set to be rejected

**Implementation**

Optional.

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

Annex B (normative):  
Summary of result codes

ITU‑T Recommendation V.250 [14] result codes which can be used in the present document and result codes defined in the present document:

Table B.1: Result codes

|  |  |  |  |
| --- | --- | --- | --- |
| Verbose result code  (V.250 command V1 set) | Numeric  (V0 set) | Type | Description |
| +C5GPDUAUTHU | as verbose | unsolicited | refer clause 10.1.74 |
| +C5GUSMS | as verbose | unsolicited | refer clause 10.1.59 |
| +CABTSRI | as verbose | unsolicited | refer clause 10.1.41 |
| +CACSP | as verbose | unsolicited | refer clause 11.1.7 |
| +CALV | as verbose | unsolicited | refer clause 8.16 |
| +CANCHEV | as verbose | unsolicited | refer clause 11.1.8 |
| +CAPPLEVMC | as verbose | unsolicited | refer clause 8.78 |
| +CAPTT | as verbose | unsolicited | refer clause 11.1.4 |
| +CAULEV | as verbose | unsolicited | refer clause 11.1.5 |
| +CBCAP | as verbose | unsolicited | refer clause 8.59 |
| +CBCHG | as verbose | unsolicited | refer clause 8.61 |
| +CBCON | as verbose | unsolicited | refer clause 8.60 |
| +CCCM | as verbose | unsolicited | refer clause 7.16 |
| +CCSFBU | as verbose | unsolicited | refer clause 8.76 |
| +CCSTATEREQU | as verbose | unsolicited | refer clause 10.1.72 |
| +CCWA | as verbose | unsolicited | refer clause 7.12 |
| +CCWV | as verbose | unsolicited | refer clause 8.28 |
| +CDEV | as verbose | unsolicited | refer clause 8.10 |
| +CDIP | as verbose | unsolicited | refer clause 7.9 |
| +CDUT | as verbose | intermediate | refer clause 13.2.1 |
| +CDUU | as verbose | unsolicited | refer clause 13.2.1 |
| +CECN | as verbose | unsolicited | refer clause 6.28 |
| +CEDRXSP | as verbose | unsolicited | refer clause 7.40 |
| +CEMBMSRI | as verbose | unsolicited | refer clause 14.2.2 |
| +CEMBMSSAII | as verbose | unsolicited | refer clause 14.2.6 |
| +CEMBMSSRVI | as verbose | unsolicited | refer clause 14.2.3 |
| +CEN1 | as verbose | intermediate  unsolicited | refer clause 8.67 |
| +CEN2 | as verbose | intermediate  unsolicited | refer clause 8.67 |
| +CEN3 | as verbose | intermediate  unsolicited | refer clause 8.67 |
| +CEN4 | as verbose | intermediate  unsolicited | refer clause 8.67 |
| +CEPTT | as verbose | unsolicited | refer clause 11.1.10 |
| +CEPSFBS | as verbose | unsolicited | refer clause 8.81 |
| +CEREG | as verbose | unsolicited | refer clause 10.1.22 |
| +CPBW | as verbose | intermediate | refer clause 8.14 |
| +CPNERU | as verbose | unsolicited | refer clause 8.70 |
| +CGBRRREP | as verbose | unsolicited | refer clause 10.1.69 |
| +CGDEL | as verbose | intermediate | refer clause 10.1.29 |
| +CGEV | as verbose | unsolicited | refer clause 10.1.19 |
| +CGREG | as verbose | unsolicited | refer clause 10.1.20 |
| +CHSR | as verbose | intermediate | refer clause 6.16 |
| +CIEV | as verbose | unsolicited | refer clause 8.10 |
| +CCIOTOPTI | as verbose | unsolicited | refer clause 7.42 |
| +CIREGU | as verbose | unsolicited | refer clause 8.71 |
| +CIREPH | as verbose | unsolicited | refer clause 8.64 |
| +CIREPI | as verbose | unsolicited | refer clause 8.64 |
| +CKEV | as verbose | unsolicited | refer clause 8.10 |
| +CLADNU | as verbose | unsolicited | refer clause 10.1.61 |
| +CLAV | as verbose | unsolicited | refer clause 8.31 |
| +CLIP | as verbose | unsolicited | refer clause 7.6 |
| +CMCCSI | as verbose | unsolicited | refer clause 8.73 |
| +CMCCSS<x> | as verbose | unsolicited | refer clause 8.73 |
| +CMCCSSEND | as verbose | unsolicited | refer clause 8.73 |
| +CME ERROR | as verbose | final | refer clause 9.2.0 |
| +CMICO | as verbose | unsolicited | refer clause 10.1.55 |
| +CMOLRE | as verbose | unsolicited | refer clause 9.3.1 |
| +CMOLRG | as verbose | unsolicited | refer clause 8.50 |
| +CMOLRN | as verbose | unsolicited | refer clause 8.50 |
| +CMTLR | as verbose | unsolicited | refer clause 8.57 |
| +CRTDCP | as verbose | unsolicited | refer clause 10.1.44 |
| +CMWN | as verbose | unsolicited | refer clause 7.36 |
| +CNAP | as verbose | intermediate  unsolicited | refer clause 7.30 |
| +CNEC\_MM | as verbose | unsolicited | refer clause 9.1b |
| +CNEC\_GMM | as verbose | unsolicited | refer clause 9.1b |
| +CNEC\_GSM | as verbose | unsolicited | refer clause 9.1b |
| +CNEC\_EMM | as verbose | unsolicited | refer clause 9.1b |
| +CNEC\_ESM | as verbose | unsolicited | refer clause 9.1b |
| +CNEMIU | as verbose | unsolicited | refer clause 7.33 |
| +CNEMS1 | as verbose | unsolicited | refer clause 7.33 |
| +CNEM5G | as verbose | unsolicited | refer clause 7.33 |
| +CNRREG | as verbose | unsolicited | refer clause 10.1.47 |
| +COEV | as verbose | unsolicited | refer clause 8.10 |
| +COLP | as verbose | intermediate  unsolicited | refer clause 7.8 |
| +CPINR | as verbose | intermediate | refer clause 8.65 |
| +CPINRE | as verbose | intermediate | refer clause 8.65 |
| +CPOSR | as verbose | unsolicited | refer clause 8.56 |
| +CPNERU | as verbose | unsolicited | refer clause 8.70 |
| +CPNSTAT | as verbose | unsolicited | refer clause 7.28 |
| +CPSB | as verbose | unsolicited | refer clause 7.29 |
| +CR | as verbose | intermediate | refer clause 6.9 |
| +CREG | as verbose | unsolicited | refer clause 7.2 |
| +CREJPAG | as verbose | unsolicited | refer clause 10.1.X |
| +CRING | as verbose | unsolicited | refer clause 6.11 |
| +CRLOSPU | as verbose | unsolicited | refer clause 10.1.65 |
| +CRTDCP | as verbose | unsolicited | refer clause 10.1.44 |
| +CRUEPOLICYU | as verbose | unsolicited | refer clause 10.1.51 |
| +CSBTSRI | as verbose | unsolicited | refer clause 10.1.56 |
| +CSCON | as verbose | unsolicited | refer clause 10.1.30 |
| +CSDBTSRI | as verbose | unsolicited | refer clause 10.1.58 |
| +CSSI | as verbose | intermediate | refer clause 7.17 |
| +CSSU | as verbose | unsolicited | refer clause 7.17 |
| +CTEV | as verbose | unsolicited | refer clause 8.10 |
| +CTZE | as verbose | unsolicited | refer clause 8.41 |
| +CTZEU | as verbose | unsolicited | refer clause 8.41 |
| +CTZV | as verbose | unsolicited | refer clause 8.41 |
| +CUSATEND | as verbose | unsolicited | refer clause 12.2.4 |
| +CUSATP | as verbose | unsolicited | refer clause 12.2.4 |
| +CUSATS | as verbose | unsolicited | refer clause 12.2.3 |
| +CUSD | as verbose | unsolicited | refer clause 7.15 |
| +CUUS1I | as verbose | intermediate | refer clause 7.26 |
| +CUUS1U | as verbose | unsolicited | refer clause 7.26 |
| +CWLANOLADI | as verbose | unsolicited | refer clause 10.1.39 |
| +CWLANOLCMI | as verbose | unsolicited | refer clause 10.1.40 |
| +DR | as verbose | intermediate | refer clause 6.26 |
| +ILRR | as verbose | intermediate | refer clause 4.3 |
| BUSY | 7 | final | busy signal detected |
| CONNECT | 1 | intermediate | connection has been established |
| CONNECT <text> | manufacturer specific | intermediate | as CONNECT but manufacturer specific <text> gives additional information (e.g. connection data rate) |
| ERROR | 4 | final | command not accepted |
| NO ANSWER | 8 | final | connection completion timeout |
| NO CARRIER | 3 | final | connection terminated |
| NO DIALTONE | 6 | final | no dialtone detected |
| OK | 0 | final | acknowledges execution of a command line |
| RING | 2 | unsolicited | incoming call signal from network |
| NOTE: From v6.2.0 onwards, ATV0 numeric result codes 5, 6, 7 for NO DIALTONE, BUSY and NO ANSWER respectively, have been replaced by numeric result codes 6, 7, 8 respectively, to be aligned with the values listed in ITU-T Recommendation V.250 [14] (previously V.25ter). | | | |

NOTE: The table B.1 is as an overview of the result codes, hence the complete syntax of the result codes is not shown.

\*\*\* end of change \*\*\*