3GPP TSG-T (Terminals) Meeting #9
Hawaii, USA, 20 - 22 September, 2000

Tdoc TP-000154

Source: T3

Title: Change Requests to TS 31.111 "USIM application toolkit"

Agenda item: 6.3.3

Document for: Approval

This document contains several change requests to TS 31.111 v3.1.0 agreed by T3.

T3 Doc	Spec	CR	Rv	Rel	Subject
T3-000412	31.111	005		R99	Correction of Profile Download regarding USAT service table
T3-000456	31.111	006		R00	Modification of GET INKEY
T3-000448	31.111	007		R00	DTMF issues
T3-000447	31.111	008		R99	correction to GET INPUT regarding number of response string variables
T3-000474	31.111	009		R99	Clarification for Alpha Identifier in PLAY TONE
T3-000486	31.111	010		R99	EVENT DOWNLOAD-MT call : correction of the sub-address description
T3-000471	31.111	011		R00	Addition of a Technology Indicator Tag in a Terminal Response message

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***Document* T3-000412**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

TS 31.111	CR	005	Current Version:	V3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-T #09	for approval	X	strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [X] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: T3 **Date:** 16/08/2000

Subject: Correction of Profile Download regarding USAT service table

Work item: TEI

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: $EF_{USAT\ Service\ Table}$ doesn't exist in USIM ADF.

Clauses affected: 4.1

Other specs affected:

Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

4 Overview of USAT

The USAT provides mechanisms which allow applications, existing in the UICC, to interact and operate with any ME which supports the specific mechanism(s) required by the application.

If class "a" is supported, a UICC supporting USAT shall be able to communicate with the additional card(s) and get information about the additional reader(s) via the ME.

The following mechanisms have been defined. These mechanisms are dependent upon the commands and protocols relevant to USAT in TS 31.101 [13].

4.1 Profile Download

Profile downloading provides a mechanism for the ME to tell the UICC what it is capable of. ~~The ME knows what the UICC is capable of through the USAT Service Table and all the USIM Service Tables.~~

4.2 Proactive UICC

Proactive UICC gives a mechanism whereby the UICC can initiate actions to be taken by the ME. These actions include:

- displaying text from the UICC to the ME;

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Document T3-000456
revised from T3-000352

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

31.111	CR	006	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-T #9	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM	X	ME	X	UTRAN / Radio		Core Network	

Source: T3 **Date:** 18/08/2000

Subject: Modification of GET INKEY

Work item: USAT

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	
B	Addition of feature	X
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	
Release 00	X

Reason for change: Adds an option allowing the UICC to request 0-9,*,# from the ME without the input being displayed or confirmed by the ME user in any way.

Clauses affected: 6.4.2, 8.6

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

6.4.2 GET INKEY

This command instructs the ME to display text and/or an icon (see subclause 6.5.4) and to expect the user to enter a single character. Any response entered by the user shall be passed transparently by the ME to the UICC.

The text can be in one of three formats:

- packed format in SMS default alphabet - (see subclause 8.15.2);
- unpacked format in SMS default alphabet - (see subclause 8.15.2);
- UCS2 alphabet format - (see subclause 8.15.3).

The response can be from one of three character sets. This is specified by the UICC:

- digits only (0-9, *, #, and +);
- characters from the SMS default alphabet;
- characters from the UCS2 alphabet.

Upon receiving the command, the ME shall display the text. The ME shall allow the user to enter a single character in response.

- If the user has indicated the need to go backwards in the proactive UICC session, the ME shall send a TERMINAL RESPONSE with "Backward move in the proactive UICC session requested by the user" result value.
- If the user has indicated the need to end the proactive UICC session, the ME shall send a TERMINAL RESPONSE with "Proactive UICC session terminated by the user" result value.
- If the ME decides that no user response has been received, the ME shall send a TERMINAL RESPONSE with "No response from user" result value.
- If the UICC requests an immediate digit response, the ME shall only allow the user to enter a character from the digits 0-9, * and # (but not +). When the user has entered a digit, the ME shall pass the entered digit transparently to the UICC, using TERMINAL RESPONSE. The ME shall not display the entered digit in any way. The ME shall not allow the user to change the entered digit. The ME shall not request the user to confirm the response.
- If the UICC requests a digit only, the ME shall only allow the user to enter a character from the digits 0-9, *, # and +. When the user has entered a digit, the ME shall pass the entered digit transparently to the UICC, using TERMINAL RESPONSE.
- If help information is available for the command and if the user has indicated the need to get help information, the ME shall send a TERMINAL RESPONSE with "help information required by the user" result value.
- If the UICC requests a character from the SMS default alphabet, the ME shall allow the user to enter a character using characters from this alphabet. When the user has entered a character, the ME shall pass the entered character transparently to the UICC, using TERMINAL RESPONSE.
- If the UICC requests a "Yes/No" response, the ME shall allow the user to enter either a positive or a negative decision using MMI means left to ME manufacturer's choice (keypad, touch screen, softkey,...). The ME may use SEND, ACCEPT or END functions in relation to GET INKEY "Yes/No" response. If used, the SEND and ACCEPT functions as defined in 3G 22.030 [2] shall mean positive decision and the END function as defined in 3G 22.030 [2] shall mean a negative one. Depending on the user's choice, the ME shall pass the positive or a negative value to the UICC, using TERMINAL RESPONSE.

NOTE: If the MMI of the ME requires more than one keypress in order to select a character, it is an implementation decision for the ME manufacturer how to indicate completion (e.g. timeout, pressing SEND, OK). It may be useful to echo the input character on the display.

For digits only (0-9,*,# and +) and SMS default alphabet characters sets, the response shall be coded using the SMS default alphabet in unpacked format.

8.6 Command details

Byte(s)	Description	Length
1	Command details tag	1
2	Length = '03'	1
3	Command number	1
4	Type of command	1
5	Command Qualifier	1

- Command number
  - for contents and coding, see subclause 6.5.1.
- Type of command:
  - contents: The Type of Command specifies the required interpretation of the data objects which follow, and the required ME procedure;
  - coding:
    - see subclause 9.4;
    - the ME shall respond to reserved values (i.e. values not listed) with the result "Command type not understood".
- Command Qualifier:
  - contents: Qualifiers specific to the command;
  - coding:
    - REFRESH:
      - '00' = USIM Initialization and Full File Change Notification;
      - '01' = File Change Notification;
      - '02' = USIM Initialization and File Change Notification;
      - '03' = USIM Initialization;
      - '04' = UICC Reset;
      - '05' = USIM Application Reset;
      - '06' = 3G Session Reset;
      - '07' to 'FF' = reserved values.
    - MORE TIME:
      - this byte is RFU.
    - POLL INTERVAL:
      - this byte is RFU.
    - POLLING OFF:
      - this byte is RFU.
    - SET UP CALL:
      - '00' = set up call, but only if not currently busy on another call;

- '01' = set up call, but only if not currently busy on another call, with redial;
- '02' = set up call, putting all other calls (if any) on hold;
- '03' = set up call, putting all other calls (if any) on hold, with redial;
- '04' = set up call, disconnecting all other calls (if any);
- '05' = set up call, disconnecting all other calls (if any), with redial;
- '06' to 'FF' = reserved values.

- SEND DTMF:
  - this byte is RFU.
- SET UP EVENT LIST:
  - this byte is RFU.
- SEND SS:
  - this byte is RFU.
- SEND USSD:
  - this byte is RFU.
- SEND SHORT MESSAGE:
  - bit 1: 0 = packing not required;

    1 = SMS packing by the ME required.
  - bits 2-8: = 0 RFU.
- PLAY TONE:
  - this byte is RFU.
- DISPLAY TEXT:
  - bit 1: 0 = normal priority;

    1 = high priority.
  - bits 2-7: = RFU.
  - bit 8: 0 = clear message after a delay;

    1 = wait for user to clear message.
- GET INKEY:
  - bit 1: 0 = digits (0-9, *, # and +) only;

    1 = alphabet set.
  - bit 2: 0 = SMS default alphabet;

    1 = UCS2 alphabet.
  - bit 3: 0 = character sets defined by bit 1 and bit 2 are enabled;

    1 = character sets defined by bit 1 and bit 2 are disabled and the "Yes/No" response is requested.
  - bit 4: 0 = user response shall be displayed. The ME may allow alteration and/or confirmation;

1 = an immediate digit response (0-9, * and #) is requested.

- bits 45-7: = RFU.
- bit 8: 0 = no help information available;

  1 = help information available.

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CHANGE REQUEST

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31.111	**CR**	**007**	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-T #9	for approval	X	strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: T3 **Date:** 17/08/00

Subject: to prevent the interception of hidden data by for instance emitting DTMF tones.

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	
Release 00	X

Reason for change: In a previous LS (T3-000350/S3-000477), S3 pointed out that SAT command "GET INPUT (with hidden text)" should imply that the input text is not only hidden on the display but it is also hidden by all other means from any observers. In particular, no DTMF tones shall be emitted.

Clauses affected: 6.4.3 Get input

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:


help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.4.3 GET INPUT

This command instructs the ME to display text and/or an icon (see 6.5.4) and that any response string entered by the user shall be passed transparently by the ME to the UICC. If the UICC provides a default text, the ME shall display this default text, which the user may accept, reject or edit as the response string.

The text can be in one of three formats:

- packed format in SMS default alphabet (see subclause 8.15.2);
- unpacked format in SMS default alphabet (see subclause 8.15.2);
- UCS2 alphabet format (see subclause 8.15.3).

The UICC indicates how many characters are expected for the response string, by giving a minimum and a maximum acceptable length.

The UICC specifies three variables for the response string it is expecting from the user:

- the response contains either digits only (0-9, *, # and +) or characters from the SMS default alphabet;
- the response for digits only (0-9,*,# and +) or characters from SMS default alphabet is either in an unpacked format or in a packed format;
- the ME may display the text string being entered by the user (the response), or the ME shall hide ~~(i.e. not display)~~ the actual text string.

The combination of characters from the SMS default alphabet and hidden entry mode is not allowed. In hidden entry mode, only digits from the set "0-9","*" and "#" are allowed for the user input. "+" is not allowed for user input in this mode.

If the UICC requests that the user input (text string) is to be hidden, the ME shall prevent the text string from being identified by any means. For example, the text string shall not be displayed and no DTMF tones shall be emitted. Nevertheless, it is permissible for the ME to indicate the entry of characters, so long as the characters themselves are not revealed.

Upon receiving the command, the ME shall display the text. The ME shall allow the user to enter characters in response.

- The ME MMI is responsible for managing the entry of the correct number of characters.
- If the user has indicated the need to go backwards in the proactive UICC session, the ME shall send a TERMINAL RESPONSE with "Backward move in the proactive UICC session requested by the user" result value.
- If the user has indicated the need to end the proactive UICC session, the ME shall send a TERMINAL RESPONSE with "Proactive UICC session terminated by the user" result value.
- If the ME decides that no user response has been received, the ME shall send a TERMINAL RESPONSE with "No response from user" result value.
- If the UICC requests digits only, the ME shall only allow the user to enter the digits 0-9, *, # and +. When the user has indicated completion, the ME shall pass the entered digit string transparently to the UICC, using TERMINAL RESPONSE.
- If the UICC requests characters from the UCS2 alphabet or SMS default alphabet, the ME shall allow the user to enter a character string using characters from one of these alphabets. When the user has indicated completion, the ME shall pass the entered text string transparently to the UICC, using TERMINAL RESPONSE.
- If help information is available for the command and if the user has indicated the need to get help information, the ME shall send a TERMINAL RESPONSE with 'help information required by the user' result value.

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Tdoc T3-000447

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

31.111	**CR**	**008**	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-T #9	for approval	X	strategic		*(for SMG use only)*
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM	X	ME	X	UTRAN / Radio		Core Network	

Source:	T3	**Date:**	17/08/00

Subject: Correction of description of the Get Input command

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	X
Release 00	

Reason for change: Correction of description of the Get Input command, especially the available options for the response, to align it with the available command details

Clauses affected: 6.4.3 Get input

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:


help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.4.3 GET INPUT

This command instructs the ME to display text and/or an icon (see 6.5.4) and that any response string entered by the user shall be passed transparently by the ME to the UICC. If the UICC provides a default text, the ME shall display this default text, which the user may accept, reject or edit as the response string.

The text can be in one of three formats:

- packed format in SMS default alphabet (see subclause 8.15.2);
- unpacked format in SMS default alphabet (see subclause 8.15.2);
- UCS2 alphabet format (see subclause 8.15.3).

The UICC indicates how many characters are expected for the response string, by giving a minimum and a maximum acceptable length.

The UICC specifies~~-~~ the following ~~three~~ variables for the response string it is expecting from the user:

- the response contains either digits only (0-9, *, # and +) or characters from ~~the SMS default~~one of the possible alphabets;
- the response contains either characters coded in SMS default alphabet or characters coded in UCS2 alphabet;
- the response for digits only (0-9,*,# and +) or characters from SMS default alphabet is either in an unpacked format or in a packed format;
- the ME may display the text string being entered by the user (the response), or the ME shall hide (i.e. not display) the actual text string.

The combination of characters from either the SMS default alphabet or the UCS2 alphabet and hidden entry mode is not allowed. In hidden entry mode, only digits from the set "0-9","*" and "#" are allowed for the user input. "+" is not allowed for user input in this mode.

If the UICC requests that the user input (text string) is to be hidden, it is permissible for the ME to indicate the entry of characters, so long as the characters themselves are not revealed.

Upon receiving the command, the ME shall display the text. The ME shall allow the user to enter characters in response.

- The ME MMI is responsible for managing the entry of the correct number of characters.
- If the user has indicated the need to go backwards in the proactive UICC session, the ME shall send a TERMINAL RESPONSE with "Backward move in the proactive UICC session requested by the user" result value.
- If the user has indicated the need to end the proactive UICC session, the ME shall send a TERMINAL RESPONSE with "Proactive UICC session terminated by the user" result value.
- If the ME decides that no user response has been received, the ME shall send a TERMINAL RESPONSE with "No response from user" result value.
- If the UICC requests digits only, the ME shall only allow the user to enter the digits 0-9, *, # and +. When the user has indicated completion, the ME shall pass the entered digit string transparently to the UICC, using TERMINAL RESPONSE.
- If the UICC requests characters from the UCS2 alphabet or SMS default alphabet, the ME shall allow the user to enter a character string using characters from one of these alphabets. When the user has indicated completion, the ME shall pass the entered text string transparently to the UICC, using TERMINAL RESPONSE.
- If help information is available for the command and if the user has indicated the need to get help information, the ME shall send a TERMINAL RESPONSE with 'help information required by the user' result value.

Tdoc T3-000474

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

31.111	CR	009	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: TSG-T #9 *list expected approval meeting # here ↑*

for approval [X] for information [ ]

strategic [ ] non-strategic [ ] *(for SMG use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: T3 **Date:** 18/08/2000

Subject: Clarification for Alpha Identifier in PLAY TONE

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	[X]
A	Corresponds to a correction in an earlier release	[ ]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Release:

Phase 2	[ ]
Release 96	[ ]
Release 97	[ ]
Release 98	[ ]
Release 99	[X]
Release 00	[ ]

Reason for change: This CR aims to clarify the handling of Alpha Identifier in PLAY TONE.

Clauses affected: 6.4.5

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.4.5 PLAY TONE

This command instructs the ME to play an audio tone.

Upon receiving this command, the ME shall check if it is currently in, or in the process of setting up (SET-UP message sent to the network, see GSM 04.08 [8]), a speech call.

- If the ME is in, or is setting up a speech call, it shall superimpose the tone on top of the downlink audio (if any), for the duration given in the command. The progress or current state of the call shall not be affected in any way. The ME shall send the TERMINAL RESPONSE (Command performed successfully) as soon as possible after the tone has been completed and, if an alpha identifier was included and displayed, the screen is available for subsequent information display.

- If the ME is not in or setting up a speech call, it shall route the audio to the external ringer, or other appropriate audio device, and play the tone for the duration given in the command. The ME shall send the TERMINAL RESPONSE (Command performed successfully) as soon as possible after the tone has been completed and, if an alpha identifier was included and displayed, the screen is available for subsequent information display.

- If the user has indicated the need to end the proactive SIM application session while the ME plays the tone, the ME shall stop playing the tone and shall send a TERMINAL RESPONSE with "Proactive SIM application session terminated by the user" result value.

- If ME support for the specific tone requested is optional, and the ME does not support this particular tone, the ME shall inform the SIM using TERMINAL RESPONSE (Command beyond ME's capabilities).

This proactive command contains no information on how a call is progressing; therefore the ME shall not generate any verbal indication or display any text or graphical indication about the normal meaning of this tone (e.g. display "called subscriber busy"). If the SIM wishes to convey a meaning in text to the user, it shall do this through the alpha identifier data object and/or an icon (see 6.5.4).

The use of this alpha identifier by the ME is described below.

- If the alpha identifier is provided by the SIM and is not a null data object, the ME shall use it to inform the user. If an icon is provided by the SIM, the icon indicated in the command may be used by the ME to inform the user, in addition to, or instead of the alpha identifier, as indicated with the icon qualifier (see subclause 6.5.4).

- If the alpha identifier is provided by the SIM and is a null data object (i.e. length = '00' and no value part), the ME should not give any information to the user.

- If the alpha identifier is not provided by the SIM, the ME may give information to the user concerning what is happening

If the ME is required to generate a supervisory tone due to the progress of the current call (e.g. the network sends the ME call control cause information) as defined in GSM 02.40 [18], then the call supervisory tone shall take precedence over the tone requested by the SIM.

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Document T3-000486

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

TS 31.111 **CR** **010** Current Version: V3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: TSG-T #9 *list expected approval meeting # here ↑*

for approval [X]
for information [ ]

strategic [ ]
non-strategic [ ]
(for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [X] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: Gemplus **Date:** 28/08/2000

Subject: EVENT DOWNLOAD-MT call : correction of the sub-address description

Work item: T.E.I.

Category: *(only one category shall be marked with an X)*

F	Correction	[X]
A	Corresponds to a correction in an earlier release	[ ]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Release:

Phase 2	[ ]
Release 96	[ ]
Release 97	[ ]
Release 98	[ ]
Release 99	[X]
Release 00	[ ]

Reason for change: An ambiguity lies in the description of the EVENT DOWNLOAD-MT call description. The 'called line party subaddress' should be renamed as 'subaddress'.

Clauses affected: 6.6.12, 6.6.27, 7.3.1.6, 7.5.1.2, 8.3, 9.3

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments: CRs to GSM11.14 R'98 and R'99 also needed


help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.6.12 SET UP CALL

Description	Section	M/O	Min	Length
Proactive UICC command Tag	9.2	M	Y	1
Length (A+B+C+D+E+F+G+H+I+J)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device identities	8.7	M	Y	B
Alpha identifier (user confirmation phase)	8.2	O	N	C
Address	8.1	M	Y	D
Capability configuration parameters	8.4	O	N	E
~~Called party s~~Subaddress	8.3	O	N	F
Duration	8.8	O	N	G
Icon identifier (user confirmation phase)	8.31	O	N	H
Alpha identifier (call set up phase)	8.2	O	N	I
Icon identifier (call set up phase)	8.31	O	N	J

If the capability configuration parameters are not present, the ME shall assume the call is a speech call.

If the ~~called party~~ subaddress is not present, the ME shall not provide a called party subaddress to the network.

If the duration is not present, the UICC imposes no restrictions on the ME of the maximum duration of redials.

6.6.27 OPEN CHANNEL

Description	Section	M/O	Min	Length
Proactive UICC command Tag	9.2	M	Y	1
Length (A+B+C+D+E+F+G+H+I+J+K+L+M+N+O+P+Q)	-	M	Y	1 or 2
Command details	8.6	M	Y	A
Device identities	8.7	M	Y	B
Alpha identifier	8.2	O	N	C
Icon identifier	8.31	O	N	D
Address	8.1	C	Y	E
~~Called party s~~Subaddress	8.3	O	N	F
Duration 1	8.8	O	N	G
Duration 2	8.8	O	N	H
Bearer description	8.52	M	Y	I
Buffer size	8.55	M	N	J
URL (Access Point address)	8.48	O	N	K
Other address (local address)	8.58	O	N	L
Text String (User login)	8.15	O	N	M
Text String (User password)	8.15	O	N	N
SIM/ME interface transport level	8.59	O	N	O
URL (data destination address)	8.48	C	Y	P
Other address (data destination address)	8.58	C	Y	Q

The Address is requested for CS bearer, for other bearer it is ignored. If the parameter is not present, the mobile uses the default address mobile configuration if any.

The Subaddress may be requested for CS bearer only, for other bearer it is ignored. If the ~~called party s~~subaddress is not present, the ME shall not provide a called party subaddress to the network.

Duration 1 indicates the duration of reconnection tries. If Duration 1 is not present, the UICC imposes no restrictions on the ME.

Duration 2 indicates the timeout value before the ME releases the link if there is no data exchanged on the link.If duration 2 is not present the link is never released automatically by the ME.

The Access point address may be requested for GPRS bearer only. For other bearers, it shall be ignored. The Access point address parameter is a URL (see 8.48) which provides information to the ME necessary to identify the entity which provides interworking with an external network. If the parameter is not present, the mobile may use the default access point address mobile configuration or subscription value.

The local address parameter (see 8.58) provides information to the ME necessary to identify the local device (i.e. it provides an IP address). If local address length is null, dynamic local address is required. If parameter is not present, the mobile may use the mobile default local address configuration.

User login parameter is a text string (see 8.15) which provides information to the ME necessary to answer authentication challenge by supplying access login (e.g. it may provide PPP login). If parameter is not present, the mobile uses default login configuration if any. If no authentication challenge is requested, the user login parameter shall be ignored.

User password parameter is a text string (see 8.15) which provides information to the ME necessary to answer authentication challenge by supplying access password (e.g. it may provide PPP password). If the parameter is not present, the mobile may use the default password configuration if any. If no authentication challenge is requested, the user password paremeter shall be ignored.

If the SIM/ME interface transport level is present in the command, then the ME shall provide the requested transport layer protocols under the channel and shall use this object containing a set of parameters required to make the transport connection. If the parameter is not present, the UICC/ME interface is the bearer level (serial link or packet link as AT command defined in TS 27.007 [27]). The data that will be received/sent from the SAT to the transport layer is a SDU that will be received/transmitted in the Transport-PDU.

7.3.1.6 Structure of ENVELOPE (CALL CONTROL)

Direction: ME to UICC.

The command header is specified in TS 31.101 [13].

Command parameters/data:

Description	Section	M/O	Min	Length
Call control tag	9.2	M	Y	1
Length (A+B+C+D+E+F)	-	M	Y	1 or 2
Device identities	8.7	M	Y	A
Address or SS string or USSD string	8.1, 8.14 or 8.17	M	Y	B
Capability configuration parameters 1	8.4	O	N	C
~~Called party s~~Subaddress	8.3	O	N	D
Location information	8.19	M	N	E
Capability configuration parameters 2	8.4	O	N	F

- Device identities: the ME shall set the device identities to:
  - source: ME;
  - destination: UICC.
- Address or SS string or USSD string: only one data object shall be sent to the UICC:
  - for a call set-up, the address data object is used and holds the Called Party Number, as defined in 3G 24.008 [9], to which the ME is proposing setting up the call;
  - for a supplementary service, the SS string data object is used and holds the corresponding supplementary service;
  - for a USSD operation, the USSD string data object is used and holds the corresponding USSD control string;
  - USIM Applications and MEs should take into account that early implementations of USAT use the SS string data object for coding of USSD control strings (instead of the USSD string data object). This behaviour is only possible for USSD control strings consisting of digits (0-9,*,#). The UICC can identify MEs having this early implementation by evaluating the indication "USSD string data object supported in Call Control" in the TERMINAL PROFILE. The ME can identify SIMs having this early implementation by evaluating the indication "USSD string data object supported in Call Control" in the UICC Service Table.
- Capability configuration parameters: Only used for a call set-up, this contains the Bearer capabilities that the ME is proposing to send to the network. The first capability configuration parameters corresponds to the bearer capability 1 information element of a mobile originating SETUP message, as defined in 3G 24.008 [9]. The second capability configuration parameters correspond to the bearer capability 2 information element of a mobile originating SETUP message, as defined in 3G 24.008 [9]. If no capability configuration parameters are present, this shall indicate a speech call.
- ~~Called party s~~Subaddress: Only used for a call set-up, this contains the called party subaddress that the ME is proposing to send to the network. If one is not present, this shall indicate that the ME is proposing not to send this information element to the network.
- Location information: This data object contains the identification (MCC, MNC, LAC, Cell Identity) of the current serving cell of the MS. The comprehension required flag of this data object in this command shall be set to '0'.

Response parameters/data:

It is permissible for the UICC to provide no response data, by responding with SW1 / SW2 = '90 00'. If the UICC does not provide any response data, then this shall have the same meaning as "allowed, no modification".

Description	Section	M/O	Min	Length
Call control result	-	M	Y	1
Length (A+B+C+D+E+F)	-	M	Y	1 or 2
Address or SS string or USSD string	8.1, 8.14 or 8.17	O	N	A
Capability configuration parameters 1	8.4	O	N	B
~~Called party s~~Subaddress	8.3	O	N	C
Alpha identifier	8.2	O	N	D
BC repeat indicator	8.42	M/O	N	E
Capability configuration parameters 2	8.4	O	N	F

- Call control result:

Contents: the command that the UICC gives to the ME concerning whether to allow, bar or modify the proposed call (or supplementary service operation).

Coding:

'00' = Allowed, no modification
'01' = Not allowed
'02' = Allowed with modifications

- Address or SS string or USSD string: Only one data object may be included if the UICC requests the call (or supplementary service or USSD operation) details to be modified:

  - for a call set-up, if the address data object is not present, then the ME shall assume the Dialling number is not to be modified;

  - for a supplementary service, if the SS string data object is not present, then the ME shall assume that SS is not to be modified;

  - for a USSD operation, if the USSD string data object is not present, then the ME shall assume that the USSD operation is not to be modified.

- Capability configuration parameters: Only used for a call set-up, this data object is only required if the USIM application requests the call details to be modified. The first capability configuration parameters corresponds to the bearer capability 1 information element of a mobile originating SETUP message, as defined in 3G 24.008 [9]. The second capability configuration parameters corresponds to the bearer capability 2 information element of a mobile originating SETUP message, as defined in 3G 24.008 [8]. If the capability configuration parameters are not present, then the ME shall assume the parameters are not to be modified.

- ~~Called party s~~Subaddress: Only used for a call set-up, this data object is only required if the USIM application requests the call details to be modified. If the ~~called party s~~subaddress is not present, then the ME shall assume the called party subaddress is not to be modified. If the subaddress supplied by the USIM application is a null data object, then the ME shall not provide a called party subaddress to the network. A null data object shall have length = '00' and no value part.

7.5.1.2 Structure of ENVELOPE (EVENT DOWNLOAD - MT call)

Direction: ME to UICC

The command header is specified in TS 31.101 [13].

Command parameters/data:

Description	Section	M/O	Min	Length
Event download tag	13.1	M	Y	1
Length (A+B+C+D+E)	-	M	Y	1 or 2
Event list	8.25	M	Y	A
Device identities	8.7	M	Y	B
Transaction identifier	8.28	M	Y	C
Address	8.1	M/O	N	D
~~Called party s~~Subaddress	8.3	M/O	N	E

M/O reflects that inclusion of the object is conditional, as defined in the text below.

- Event list: the event list object shall contain only one event (value part of length 1 byte), and ME shall set the event to:
  MT call

- Device identities: the ME shall set the device identities to:
  Source: Network
  Destination: UICC

- Transaction identifier: the transaction identifier data object shall contain one transaction identifier, and this shall be the Transaction Identifier in the SETUP message from the network.

- Address: The address data object holds the Calling ~~Line Identity~~Party BCD number as received by the ME in the SETUP message. If the Calling ~~Line Identity~~Party BCD number is included in the SETUP message, the ME shall include the Address object, otherwise the ME shall not include the Address object.

- ~~Called party s~~Subaddress: The ~~called party s~~Subaddress data object holds the Calling ~~Line Identity~~Party Subaddress as received by the ME in the SETUP message. If the Calling ~~Line Identity~~Party Subaddress is included in the SETUP message, the ME shall include the ~~Called party s~~Subaddress object, otherwise the ME shall not include the ~~called party s~~Subaddress object.

Response parameters/data:
None.

8.3 ~~Called party s~~Subaddress

Byte(s)	Description	Length
1	~~Called party s~~Subaddress tag	1
2 to (Y-1)+2	Length (X)	Y
(Y-1)+3 to (Y-1)+X+2	~~Called party s~~Subaddress	X

~~Called party s~~Subaddress contains information as defined for this purpose in 3G 24.008 [9] (calling party subaddress or called party subaddress). All information defined in 3G 24.008 shall be given in the value part of the data object, except the information element identifier and the length of ~~called party~~ subaddress contents (which is given by the length part of the data object).

9.3 SIMPLE-TLV tags in both directions

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Command details tag	1	'01'	'01' or '81'
Device identity tag	1	'02'	'02' or '82'
Result tag	1	'03'	'03' or '83'
Duration tag	1	'04'	'04' or '84'
Alpha identifier tag	1	'05'	'05' or '85'
Address tag	1	'06'	'06' or '86'
Capability configuration parameters tag	1	'07'	'07' or '87'
~~Called party s~~Subaddress tag	1	'08'	'08' or '88'
SS string tag	1	'09'	'09' or '89'
USSD string tag	1	'0A'	'0A' or '8A'
SMS TPDU tag	1	'0B'	'0B' or '8B'

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San Diego, USA, 16 - 18 August, 2000

Document T3-000471
e.g. for 3GPP use the format T3-001234

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

31.111	CR	011	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-T #9	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [X] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: T3 **Date:** 18th August 2000

Subject: Notification of Access Technology for USAT in a multi-access environment

Work item: Multi-Technology SIM Tool Kit Interoperability

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	
B	Addition of feature	X
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	
Release 00	X

Reason for change:

There are certain proactive commands that cause a multi-access technology ME to return technology specific responses (e.g. for the PROVIDE LOCAL INFORMATION command the Location Information, Network Measurement Results, etc are different between GSM and TIA/EIA-136).

In such cases the USAT application needs to determine which access technology the received data pertains to.

Additionally some of the features in another access technology are not supported in the same manner as those in GSM or even not supported at all.

Clauses affected: 3.2, 4.7, 5.2, 6.4.15, 6.7, 6.8, 6.8.7, 6.11, 7.5.12(new), 8.6, 8.12, 8.25, 8.61(new), 9.3, 10, Annex F

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

3.2 Abbreviations

For the purpose of the present document, the following abbreviations apply:

ADN	Abbreviated Dialling Number
APDU	Application Protocol Data Unit
ATR	Answer To Reset
BCD	Binary Coded Decimal
BDN	Barred Dialling Number
BER	Basic Encoding Rules of ASN.1
C-APDU	Command Application Protocol Data Unit
CB	Cell Broadcast
CBMI	Cell Broadcast Message Identifier
CCP	Capability/Configuration Parameter
CSD	Circuit Switched Data
DTMF	Dual Tone Multiple Frequency
EIA	Electronics Industries Association
EF	Elementary File
EGPRS	EDGE General Packet Radio Service
ETSI	European Telecommunications Standards Institute
etu	elementary time unit
FDN	Fixed Dialling Number
GPRS	General Packet Radio Service
GSM	Global System for Mobile communications
ID	IDentifier
IEC	International Electrotechnical Commission
IMEI	International Mobile Equipment Identity
IMUI	International Mobile User Identity
ISO	International Organization for Standardization
lgth	The (specific) length of a data unit
LND	Last Number Dialled
ME	Mobile Equipment
MMI	Man Machine Interface
NMR	Network Measurement Results (see also 3G 24.008 [9])
NPI	Numbering Plan Identifier
PDP	Packet Data Protocol, e.g., Ip or X25 or PPP
PDU	Protocol Data Unit
RAND	A RANDom challenge issued by the network
R-APDU	Response Application Protocol Data Unit
RFU	Reserved for Future Use
SDU	Service Data Unit
SMS	Short Message Service
SRES	Signed RESponse calculated by a UICC
SS	Supplementary Service
SSC	Supplementary Service Control string
SW1/SW2	Status Word 1 / Status Word 2
TIA	Telecommunications Industries Association
TCP	Transmission Control Protocol
TE	Terminal Equipment (e.g. an attached personal computer)
TLV	Tag, length, value
TON	Type Of Number
TP	Transfer layer Protocol
TS	Technical Specification
UDP	User Datagram Protocol
UCS2	Universal two byte coded Character Set
UE	User Equipment
UICC	USIM Integrated Circuit Card
UMTS	Universal Mobile Telecommunication System
URL	Uniform Resource Location
USAT	USIM Application Toolkit

USIM	Universal Subscriber Identity Module
USSD	Unstructured Supplementary Service Data

4.7 Event download

A set of events to monitor for is supplied by the UICC in a proactive UICC command. The event download mechanism is used to transfer details of the event to the UICC, when it occurs. Events that the ME can report to the UICC include incoming calls, location status, access technology, and availability of the screen for applications.

5.2 Structure and coding of TERMINAL PROFILE

Direction: ME to UICC.

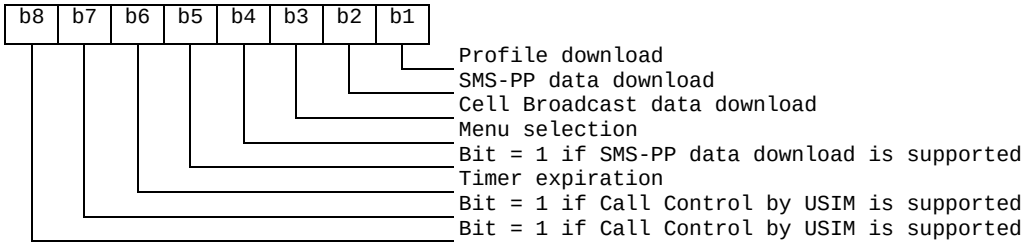
The command header is specified in TS 31.101 [13].

Command parameters/data:

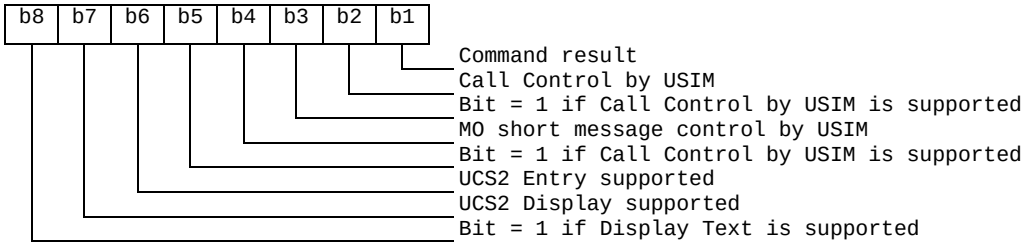
Description	Subclause	M/O/C	Length
Profile	-	M	lgth

- Profile:
  Contents: The list of USAT facilities that are supported by the ME.
  Coding:
  1 bit is used to code each facility:
  bit = 1: facility supported by ME
  bit = 0: facility not supported by ME

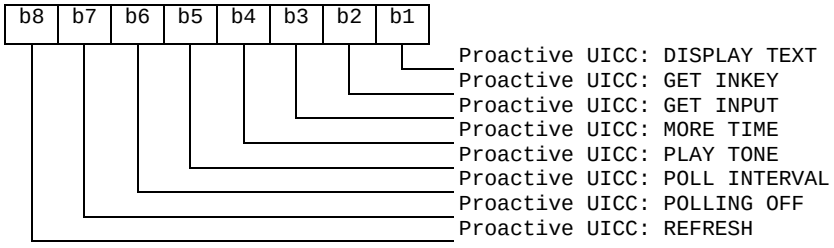
  First byte (Download):



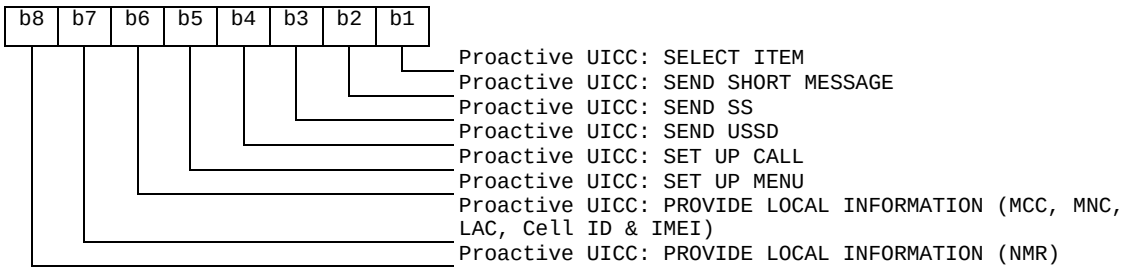
  Second byte (Other):



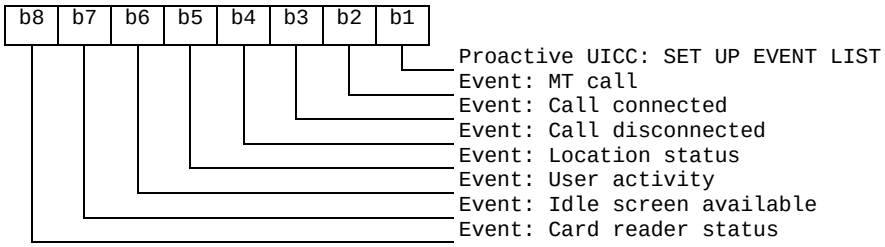
  Third byte (Proactive UICC):



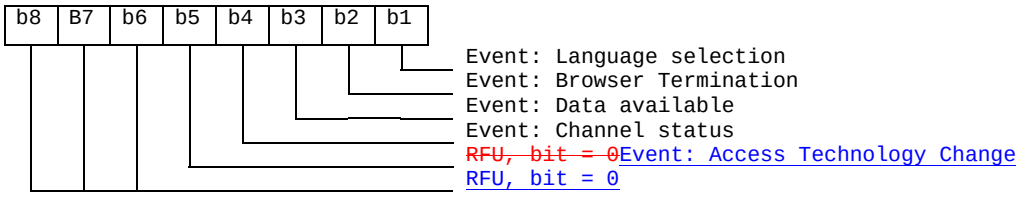
  Fourth byte (Proactive UICC):



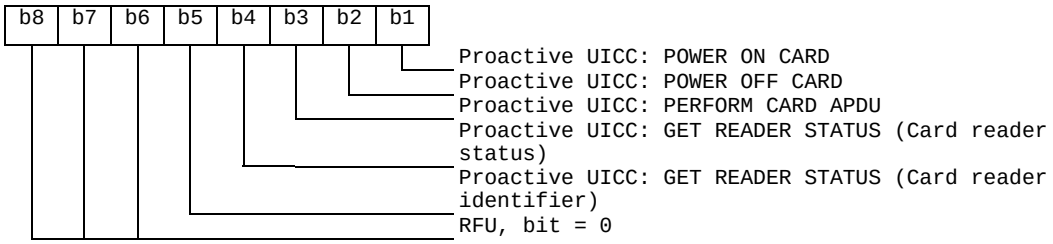
Fifth byte (Event driven information):



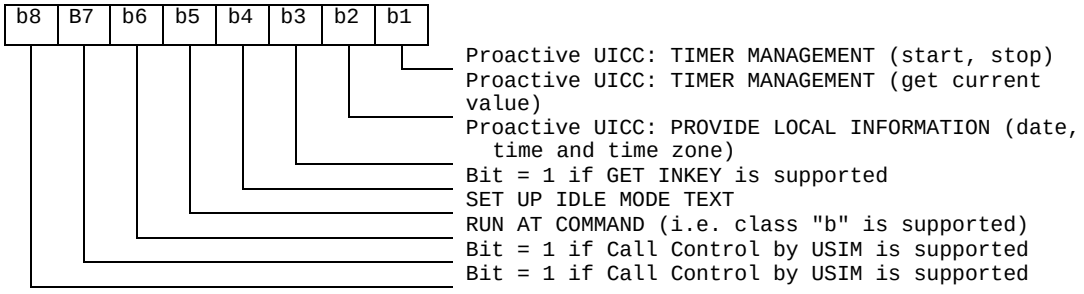
Sixth byte (Event driven information extensions):



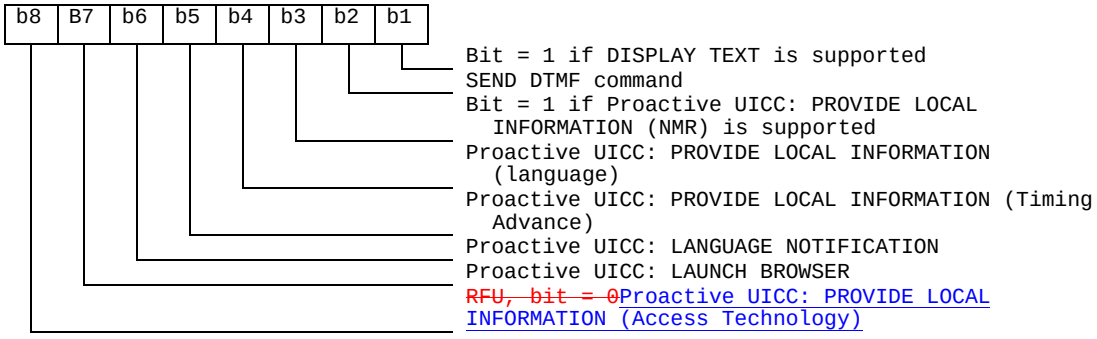
Seventh byte (Multiple card proactive commands) for class "a"



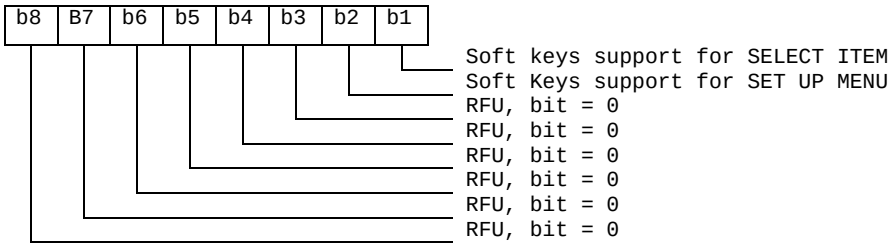
Eighth byte (Proactive UICC):



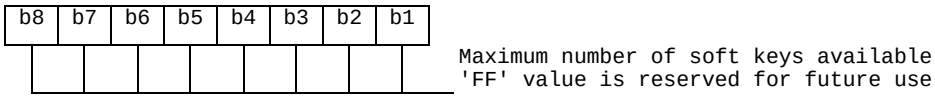
Ninth byte:



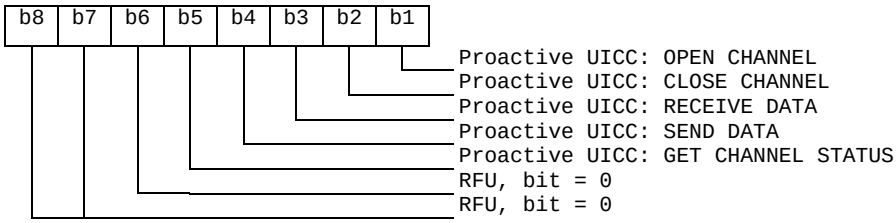
Tenth byte (Soft keys support) for class "d":



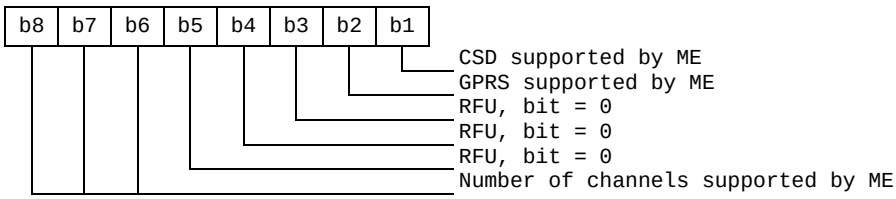
Eleventh byte: (Soft keys information)



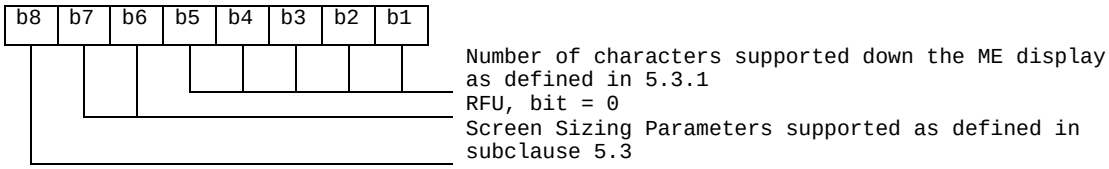
Twelfth byte: (Bearer independent protocol proactive commands) for class "e":



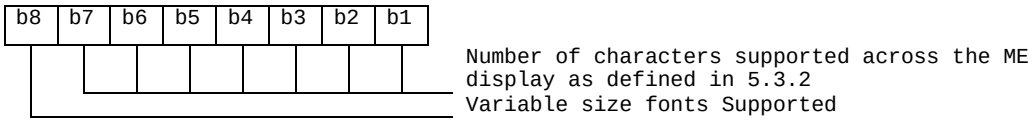
Thirteenth byte (Bearer Independent protocol supported bearers (class "e"):



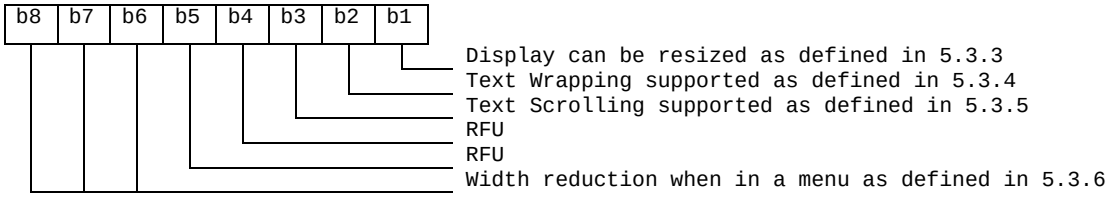
Fourteenth byte: (Screen height)



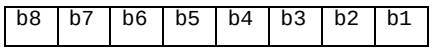
Fifteenth byte: (Screen width)



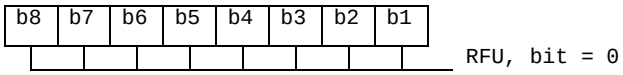
Sixteenth byte: (Screen effects)



Seventeenth byte: (Bearer independent protocol supported transport interface) for class "e":



Subsequent bytes:



RFU bits, and all bits of subsequent bytes, are reserved to indicate future facilities. A SIM supporting only the features of SIM Application Toolkit defined here shall not check the value of RFU bits.

Response parameters/data: None.

6.4.15 PROVIDE LOCAL INFORMATION

Editor's note: NMR, BCCH channel list and Timing Advance needs to be redefined for UTRAN.

This command requests the ME to send current local information to the UICC. At present, this information is restricted to:

- location information: the mobile country code (MCC), mobile network code (MNC), location area code (LAC) and cell ID of the current serving cell;
- the IMEI of the ME;
- (the Network Measurement Results and the BCCH channel list, suitable only for GSM access network);
- the current date, time and time zone;
- the current ME language setting;
- —(the Timing Advance, suitable only for GSM access network);
- the current access technology.

The ME shall return the requested local information within a TERMINAL RESPONSE. Where location information or Network Measurement Results has been requested and no service is currently available, then the ME shall return TERMINAL RESPONSE (ME currently unable to process command - no service). Where location information or Network Measurement Results has been requested and the ME is on limited service (e.g. emergency calls only), the ME shall return the data requested in the TERMINAL RESPONSE with the general result (Limited Service).

If the NMR are requested and a call is in progress, the value of all the returned parameters provided by the ME in the response to the command will be valid. The NMR returned when a call is in progress from MEs supporting multiband operation, shall be according to the value of the multiband reporting parameter as defined in 3G 24.008 [9]. If a call is not in progress (i.e. ME is in idle mode) some of the returned parameters (e.g. RXQUAL) may be invalid. In idle mode, MEs supporting multiband operation shall ignore the value of the multiband reporting parameter and the NMR returned shall be as defined in 3G 24.008 [9] when the multiband reporting parameter equals zero.

NOTE 2: When in idle mode, the only information element on which it is possible to rely on is the RXLEV-FULL-SERVING-CELL, which contains the value of the received signal strength on the BCCH of the current serving cell.

NOTE 3: Network Measurement Results are defined in 3G 24.008 [9] as Measurement Results.

The ME shall return the current date and time as set by the user. If available, the ME shall also return the time zone known from the network with the NITZ feature (see 3G 22.042 [3]). If the time zone information is not available, the ME shall return 'FF' for this element.

If language setting is requested, the ME shall return the currently used language.

If the Timing Advance is requested, the ME shall return the timing advance value that was received from the BTS during the last active dedicated connection (e.g. for call or SMS). Timing advance is defined in 3G 24.008 [9]. An ME supporting the Timing Advance feature shall be able to store the last value of timing advance. In addition to the timing advance value, the ME shall return its current status (i.e. ME is in idle mode or not) in order for the application to be aware of potential misinterpretation of the timing advance value. Caution should be taken if using the Timing Advance value for distance measurement as reflections from the external environment (buildings etc.) may affect the accuracy.

If the access technology is requested, the ME shall return the current access technology that the ME is using.

6.7 Command results

Once the ME has made its attempt to execute a proactive command from the UICC, the ME shall inform the UICC of the success or otherwise of that command, by using TERMINAL RESPONSE. This message gives the command details, including the number of the command (see subclause 6.5.1), a general result, and sometimes more specific information.

Three overall categories of results are defined:

- command performed successfully. This is returned by the ME for every successful command;
- temporary problem with executing command. This is further defined below, but generally these indicate to the UICC that it is worth trying again later;
- permanent problem with executing command. These are further defined below, but generally indicate that the same command will end in the same result if repeated during the same 3G session.

Successful commands are further defined as:

- command performed successfully. There were no problems;
- command performed with partial comprehension. Here the ME receives a command with one or more SIMPLE-TLV data objects that are unrecognized or unexpected, all of which do not have their "comprehension required" flag set (subclause 9.3), but the parent BER-TLV data object still has the minimum set of SIMPLE-TLV data objects required to perform the command;
- command performed, with missing information. The ME received at least the minimum set of component parts, but did not receive all of the parts that it believed mandatory for the UICC to send;
- REFRESH performed with additional EFs read (see subclause 6.4.7);
- command performed successfully but requested icon could not be displayed;
- command performed, but modified by call control. This is sent by the ME to indicate that call control modified the type of request indicated in the proactive command, and that the action requested by call control was performed successfully;
- command performed with modification. This is sent by the ME to indicate that it is unable to process the command using the exact parameters provided by the UICC. The command is processed with the best possible parameters;
- command performed successfully, limited service;
- REFRESH performed but indicated USIM was not active.

Temporary problems are further defined as:

- ME is currently unable to process the command. Specific causes for this are:
  - the screen is busy;
  - ME currently busy on a call;
  - ME currently busy on SEND DTMF operation;
  - ME currently busy on SS transaction;
  - ME currently busy on USSD operation;
  - no service is currently available;
  - access control class barred on serving network;
  - no radio resource currently available;
  - not in speech call;

  - no USIM active.

- if none of these can be made to apply, a "no cause can be given" value can be used;
- network is currently unable to process the command. Specific cause values are the cause values given by the network, as defined in 3G 24.008 [9];
- the user did not accept the call set-up request. This is where the ME alerts the user before setting up a call, and the user either rejected or did not accept the "call";
- the user cleared down the call, before the call connected (CONNECT received from network, as defined in 3G 24.008 [9]) or before the network released the call;
- action in contradiction with the current timer state. This is where the UICC requests an action for a timer to be taken by the ME and the state of the timer does not allow that action;
- interaction with call control by UICC, temporary problem. This is sent by the ME to indicate that call control modified the type of request indicated in the proactive command, and that the action requested by call control encounters a temporary problem.

Permanent problems are further defined as:

- command is beyond ME's capabilities. This is sent by the ME when it understands what the UICC is asking it to do, but does not have the capability to do it, e.g. ME which only supports SMS asked to set up a call;
- command type not understood by ME. This is sent by the ME when the UICC sends a command with the Type of Command byte set to a value the ME does not know. This is to allow future expansion of commands;
- command data not understood by ME. This is sent by the ME when the command type is understood by the ME, but the related data object(s) are not, e.g. reserved values have been included in a data object, or one or more unknown SIMPLE-TLV data objects have a "comprehension required" tag;
- SS Return Error. This is given to the UICC when the network returns a SS error in response to a previous SS command. Specific cause values are the same as given by the network in the Return Error message;
- USSD Return Error. This is given to the UICC when the network returns a USSD error in response to a previous USSD command. Specific cause values are the same as given by the network in a Return Error message;
- SMS RP-ERROR. This is given to the UICC when the network returns an error in response to the ME trying to send a short message. Specific cause values are the same as the cause value of RP-Cause in an RP-ERROR message;
- error, required values are missing. This is given when the command type is understood by the ME, but it does not receive the minimum set of SIMPLE-TLV data objects that it requires to perform the command. These components are shown by the "Min" column in the command structure definitions;
- interaction with call control by USIM or MO short message control by USIM, permanent problem. This is sent by the ME to indicate that:
  - call control by USIM does not allow the action corresponding to the proactive command; or
  - call control by USIM has modified the type of request indicated in the proactive command and that the action requested by call control encounters a permanent problem.
- specific cause values for this are:
  - action not allowed;
  - the type of request has changed.
  - Current Access Technology unable to process command. This is given to the USIM when ME is unable to process the requested command due to the current access technology in use.
- if none of these can be made to apply, a "no cause can be given" value can be used.

6.8 Structure of TERMINAL RESPONSE

Direction: ME to UICC.

The command header is specified in TS 31.101 [13]. Length (A+B+ … +V) is indicated by P3 of the header.

Command parameters/data.

Description	Subclause	M/O/C	Min	Length
Command details	8.6	M	Y	A
Device identities	8.7	M	N	B
Result	8.12	M	Y	C
Duration (only required in response to a POLL INTERVAL proactive command)	8.8	C	N	D
Text string (only required in response to a GET INKEY or GET INPUT or SEND USSD proactive command)	8.15	C	N	E
Item identifier (only required in response to SELECT ITEM proactive command)	8.10	C	N	F
Local information (only required in response to PROVIDE LOCAL INFORMATION proactive command)	8.19, 8.20, 8.22, 8.29, 8.39, 8.45, 8.46, 8.61	C	N	G
Call control requested action (only required if call control by USIM has modified a proactive command SET UP CALL, SEND SS or SEND USSD in another type of request).	8.30	C	N	H
Result data object 2 (only required if call control by USIM has modified a proactive command SET UP CALL, SEND SS or SEND USSD in another type of request).	8.12	C	N	I
Card reader status (only required in response to GET READER STATUS command). According to the requested information, one Card reader status object or one Card reader identifier object is required for each card interface reported.	8.32, 8.57	C	N	$J_0 + … + J_n$
Card ATR (only required in response to POWER ON CARD).	8.33	C	N	K
R-APDU (only required in response to PERFORM CARD APDU).	8.36	C	N	L
Timer identifier (only required in response to a TIMER MANAGEMENT proactive command)	8.37	C	N	M
Timer value (only required in response to a TIMER MANAGEMENT proactive command)	8.38	C	N	N
AT Response (only required in response to RUN AT COMMAND proactive command)	8.41	C	N	P
Text string2 (only required if call control by USIM has modified the proactive command SET UP CALL or SEND SS into a USSD request)	8.15	C	N	Q
Channel data (only required in response to RECEIVE DATA)	8.54	C	N	R
Channel status (only required in response to GET CHANNEL STATUS or OPEN CHANNEL proactive command)	8.56	C	N	$S_0 + … + S_n$
Channel data length (only required in response to RECEIVE DATA or SEND DATA proactive command)	8.54	C	N	T

Description	Subclause	M/O/C	Min	Length
Bearer description (only required in response to OPEN CHANNEL proactive command)	8.52	C	N	U
Buffer size (only required in response to OPEN CHANNEL proactive command)	8.55	C	N	V

Under no circumstances shall the UICC wait indefinitely for a TERMINAL RESPONSE.

For all the Conditional (C) SIMPLE-TLV objects, the ME should not include them in the response to non-applicable situations. However, if one is present, the UICC shall ignore it.

For all SIMPLE-TLV objects with Min=N, the ME should set the CR flag to comprehension not required. Any future additional SIMPLE-TLV objects will be included as Min = N and comprehension not required. This will ensure that any proactive command will end in a predictable way.

Response parameters/data: None.

6.8.7 Local information

When the ME issues a successful TERMINAL RESPONSE for a PROVIDE LOCAL INFORMATION command, it shall supply the requested local information.

- Where the UICC has requested location information, TERMINAL RESPONSE shall contain the location information data object.
- Where the UICC has requested the IMEI, TERMINAL RESPONSE shall contain the IMEI data object.
- Where the UICC has requested the Network Measurement Results the TERMINAL RESPONSE shall contain the NMR data object and the BCCH channel list data object.
- Where the UICC has requested the date, time and time zone the TERMINAL RESPONSE shall contain the Date-Time and Time zone data object.
- Where the UICC has requested the currently used language, the TERMINAL RESPONSE shall contain the Language data object.
- Where the UICC has requested the Timing Advance, the TERMINAL RESPONSE shall contain the Timing Advance data object.
- Where the UICC has requested the Access Technology, the TERMINAL RESPONSE shall contain the Access Technology data object.

6.11 Proactive commands versus possible Terminal response

Table 6.1 shows for each proactive command the possible terminal response returned (marked by a "●" character).

Table 6.1

		Proactive Command																								
Terminal response		GET INKEY '22'	GET INPUT '23'	SEL-ECT ITEM '24'	PLAY TONE '20'	DIS-PLAY TEXT '21'	SET UP MENU '25'	POLL-ING OFF '04'	POLL INTER-VAL '03'	RE-FRESH '01'	SET UP CALL '10'	SEND SMS '13'	SEND SS '11'	SEND USSD '12'	PRO-VIDE LOCAL INFO '26'	MORE TIME '02'	SETUP EVENT LIST '05'	TIMER MAN-AGE-MENT '27'	CARD APDU '30'	POWER ON CARD '31'	POWER OFF CARD '32'	GET READ-ER STATUS '33'	SETUP IDLE MODE TEXT '28'	RUN AT COMM-AND '34'	SEND DTMF '14'	LANG NOTIFI CA TION '35'
00	Command performed successfully	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
01	Command performed with partial comprehension	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
02	Command performed, with missing information	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
03	REFRESH performed with additional EFs read									•																
04	Command performed succesfully, but requested icon could not be displayed	•	•	•	•	•	•				•	•	•	•											•	
05	Command performed, but modified by call control by USIM.										•		•	•												
06	Command performed successfully, limited service														•											
07	Command performed with modification																									
08	REFRESH performed but indicated USIM was not active									•																
10	Proactive UICC session terminated by the user	•	•	•	•	•					•														•	
11	Backward move in the proactive UICC session requested by the user	•	•	•		•																				
12	No response from user	•	•	•		•																				
13	Help information required by the user	•	•	•																						
14	USSD or SS Transaction terminated by user										•		•	•												
20	ME currently unable to process command	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
21	Network currently unable to process command										•	•	•	•												
22	User did not accept call setup request										•															
23	User cleared down call before connection or network release										•															
24	Action in contradiction with the current timer state																	•								
25	Interaction with call control by USIM, temporary problem										•		•	•												
26	Launch browser generic error																									
30	Command beyond MEs capabilities	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
31	Command type not understood by ME	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32	Command data not understood by ME	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
33	Command number not known by ME	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
34	SS Return Error										•		•													
35	SMS RPERROR											•														
36	Error, required values are missing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Terminal response		Proactive Command																								
		GET INKEY '22'	GET INPUT '23'	SEL-ECT ITEM '24'	PLAY TONE '20'	DIS-PLAY TEXT '21'	SET UP MENU '25'	POLL-ING OFF '04'	POLL INTER-VAL '03'	RE-FRESH '01'	SET UP CALL '10'	SEND SMS '13'	SEND SS '11'	SEND USSD '12'	PRO-VIDE LOCAL INFO '26'	MORE TIME '02'	SETUP EVENT LIST '05'	TIMER MAN-AGE-MENT '27'	CARD APDU '30'	POWER ON CARD '31'	POWER OFF CARD '32'	GET READ-ER STATUS '33'	SETUP IDLE MODE TEXT '28'	RUN AT COMM-AND '34'	SEND DTMF '14'	LANG NOTIFI CA TION '35'
37	USSD return error													•												
38	Multiple Card command error																		•	•	•	•				
39	Interaction with call control by USIM or MO SM control by USIM, permanent problem.										•	•	•	•												
3A	Bearer Independent Protocol error																									
3B	Access Technology unable to process command												•	•												

		Proactive Command																				
	Terminal response	**OPEN CHANNEL** '40'	**CLOSE CHANNEL** '41'	**RECEIVE DATA** '42'	**SEND DATA** '43'	**GET CHANNEL STATUS** '44'	LAUNCH BROWSER '15'															
00	Command performed successfully	•	•	•	•	•	•															
01	Command performed with partial comprehension	•	•	•	•	•	•															
02	Command performed, with missing information	•	•	•	•	•	•															
03	REFRESH performed with additional EFs read																					
04	Command performed succesfully, but requested icon could not be displayed	•	•	•	•	•																
05	Command performed, but modified by call control by USIM.																					
06	Command performed successfully, limited service																					
07	Command performed with modification	•																				
08	REFRESH performed but indicated USIM was not active	•																				
10	Proactive UICC session terminated by the user	•	•	•	•	•																
11	Backward move in the proactive UICC session requested by the user																					
12	No response from user																					
13	Help information required by the user																					
14	USSD or SS Transaction terminated by user	•	•	•	•	•																
20	ME currently unable to process command	•			•		•															
21	Network currently unable to process command	•					•															
22	User did not accept call setup request	•																				
23	User cleared down call before connection or network release																					
24	Action in contradiction with the current timer state	•																				
25	Interaction with call control by USIM, temporary problem	•	•	•	•	•																
26	Launch browser generic error						•															

		Proactive Command																				
		OPEN CHANNEL '40'	**CLOSE CHANNEL** '41'	**RECEIVE DATA** '42'	**SEND DATA** '43'	**GET CHANNEL STATUS** '44'	LAUNCH BROWSER '15'															
Terminal response																						
30	Command beyond MEs capabilities	•	•	•	•	•	•															
31	Command type not understood by ME	•	•	•	•	•	•															
32	Command data not understood by ME	•	•	•	•	•	•															
33	Command number not known by ME						•															
34	SS Return Error																					
35	SMS RPERROR	•	•	•	•	•																
36	Error, required values are missing																					
37	USSD return error																					
38	Multiple Card command error																					
39	Interaction with call control by USIM or MO SM control by USIM, permanent problem.		•	•	•																	
3A	Bearer Independent Protocol error																					
3B	Access Technology unable to process command	•																				

7.5.12 Access Technology Change Event

7.5.12.1 Procedure

If the Access Tehnology Change event is part of the current event list (as set up by the last SET UP EVENT LIST command, see subclause 6.4.16), then, when the ME detects a change in its current access technology the ME shall inform the UICC that this has occurred, by using the ENVELOPE (EVENT DOWNLOAD – Access Technology Change) command as defined below.

7.5.12.2 Structure of ENVELOPE (EVENT DOWNLOAD – Access Technology Change)

Direction: ME to UICC.

The command header is specified in TS 31.101 [13].

Command parameters/data.

Description	Subclause	M/O	Min	Length
Event download tag	9.1	M	Y	1
Length (A+B+C)	-	M	Y	1 or 2
Event list	8.25	M	Y	A
Device identities	8.7	M	Y	B
Access Technology	8.61	M	Y	C

- Event list: the Event list data object shall contain only one event (value part of length 1 byte), and ME shall set the event to:
  - Access Technology Change
- Device identities: the ME shall set the device identities to:
  - source: ME;
  - destination: UICC.
- Access Technology: this data object shall contain the current access technology that the ME is using

Response parameters/data: None for this type of ENVELOPE command.

8.6 Command details

Byte(s)	Description	Length
1	Command details tag	1
2	Length = '03'	1
3	Command number	1
4	Type of command	1
5	Command Qualifier	1

- Command number
  - for contents and coding, see subclause 6.5.1.
- Type of command:
  - contents: The Type of Command specifies the required interpretation of the data objects which follow, and the required ME procedure;
  - coding:
    - see subclause 9.4;
    - the ME shall respond to reserved values (i.e. values not listed) with the result "Command type not understood".
- Command Qualifier:
  - contents: Qualifiers specific to the command;
  - coding:
    - REFRESH:
      - '00' = USIM Initialization and Full File Change Notification;
      - '01' = File Change Notification;
      - '02' = USIM Initialization and File Change Notification;
      - '03' = USIM Initialization;
      - '04' = UICC Reset;
      - '05' = USIM Application Reset;
      - '06' = 3G Session Reset;
      - '07' to 'FF' = reserved values.
    - MORE TIME:
      - this byte is RFU.
    - POLL INTERVAL:
      - this byte is RFU.
    - POLLING OFF:
      - this byte is RFU.
    - SET UP CALL:
      - '00' = set up call, but only if not currently busy on another call;
      - '01' = set up call, but only if not currently busy on another call, with redial;

- '02' = set up call, putting all other calls (if any) on hold;
- '03' = set up call, putting all other calls (if any) on hold, with redial;
- '04' = set up call, disconnecting all other calls (if any);
- '05' = set up call, disconnecting all other calls (if any), with redial;
- '06' to 'FF' = reserved values.

- SEND DTMF:
  - this byte is RFU.
- SET UP EVENT LIST:
  - this byte is RFU.
- SEND SS:
  - this byte is RFU.
- SEND USSD:
  - this byte is RFU.
- SEND SHORT MESSAGE:
  - bit 1: 0 = packing not required;

    1 = SMS packing by the ME required.
  - bits 2-8: = 0 RFU.
- PLAY TONE:
  - this byte is RFU.
- DISPLAY TEXT:
  - bit 1: 0 = normal priority;

    1 = high priority.
  - bits 2-7: = RFU.
  - bit 8: 0 = clear message after a delay;

    1 = wait for user to clear message.
- GET INKEY:
  - bit 1: 0 = digits (0-9, *, # and +) only;

    1 = alphabet set.
  - bit 2: 0 = SMS default alphabet;

    1 = UCS2 alphabet.
  - bit 3: 0 = character sets defined by bit 1 and bit 2 are enabled;

    1 = character sets defined by bit 1 and bit 2 are disabled and the "Yes/No" response is requested.
  - bits 4-7: = RFU.
  - bit 8: 0 = no help information available;

1 = help information available.

- GET INPUT:
  - bit 1: 0 = digits (0-9, *, #, and +) only;

    1 = alphabet set.
  - bit 2: 0 = SMS default alphabet;

    1 = UCS2 alphabet.
  - bit 3: 0 = ME may echo user input on the display;

    1 = user input shall not be revealed in any way (see note).
  - bit 4: 0 = user input to be in unpacked format;

    1 = user input to be in SMS packed format.
  - bits 5 to 7: = RFU.
  - bit 8: 0 = no help information available;

    1 = help information available.

NOTE: Where user input is not to be revealed, the ME may provide an indication of key entries, such as by displaying "*"s. See subclause 6.4.3 for more information on the character set available in this mode.

- SELECT ITEM:
  - bit 1: 0 = presentation type is not specified;

    1 = presentation type is specified in bit 2.
  - bit 2: 0 = presentation as a choice of data values if bit 1 = '1';

    1 = presentation as a choice of navigation options if bit 1 is '1'.
  - bit 3: 0 = no selection preference;

    1 = selection using soft key preferred.
  - bits 4 to 7: = RFU.
  - bit 8: 0 = no help information available;

    1 = help information available.
- SET UP MENU:
  - bit 1: 0 = no selection preference;

    1 = selection using soft key preferred.
  - bits 2 to 7: = RFU.
  - bit 8: 0 = no help information available;

    1 = help information available.
- PROVIDE LOCAL INFORMATION:
  - '00' = Location Information (MCC, MNC, LAC and Cell Identity);
  - '01' = IMEI of the ME;
  - '02' = Network Measurement results;

- '03' = Date, time and time zone;
- '04' = Language setting;
- '05' = Timing Advance;
- '06' = Access Technology;
- '07' to 'FF' = Reserved.

- SET UP IDLE MODE TEXT:
  - this byte is RFU.
- PERFORM CARD APDU:
  - this byte is RFU.
- POWER OFF CARD:
  - this byte is RFU.
- POWER ON CARD:
  - this byte is RFU.
- GET READER STATUS:
  - '00' = Card reader status;
  - '01' = Card reader identifier;
  - '02' to 'FF' = Reserved.
- TIMER MANAGEMENT:
  - bits 1 to 2: 00 = start;
    01 = deactivate;
    10 = get current value;
    11 = RFU.
  - bits 3 to 8: RFU.
- RUN AT COMMAND:
  - this byte is RFU.
- LANGUAGE NOTIFICATION:
  - bit 1: 0 = non-specific language notification;
    1 = specific language notification.
  - bits 2 to 8: = RFU.
- LAUNCH BROWSER:
  - '00' = launch browser without making a connection, if not already launched;
  - '01' = launch browser, making a connection, if not already launched;
  - '02' = use the existing browser (the browser shall not use the active existing secured session);
  - '03' = close the existing browser session and launch new browser session, making a connection;

- '04' = close the existing browser session and launch new browser session, using a secure session;
- '05' to 'FF' = RFU.

- OPEN CHANNEL:
  - bit 1 : 0 = On demand link establishment;
    1 = Immediate link establishment.
  - bits 2 to 8: = RFU.
- CLOSE CHANNEL:
  - this byte is RFU.
- RECEIVE DATA:
  - this byte is RFU.
- SEND DATA:
  - bit 1: 0 = store data in Tx buffer;
    1 = Send data immediately.
  - bits 2 to 8: = RFU.
- GET CHANNEL STATUS:
  - this byte is RFU.

The ME shall respond to reserved values with the result "Command type not understood".

8.12 Result

Byte(s)	Description	Length
1	Result tag	1
2 to (Y-1)+2	Length (X)	Y
(Y-1)+3	General result	1
(Y-1)+4 to (Y-1)+X+2	Additional information on result	X-1

- General result:
  - contents: General result specifies the result and indicates appropriate UICC action;
  - coding:
    - '00' = Command performed successfully;
    - '01' = Command performed with partial comprehension;
    - '02' = Command performed, with missing information;
    - '03' = REFRESH performed with additional EFs read;
    - '04' = Command performed successfully, but requested icon could not be displayed;
    - '05' = Command performed, but modified by call control by USIM;
    - '06' = Command performed successfully, limited service;
    - '07' = Command performed with modification;
    - '08' = REFRESH performed but indicated USIM was not active;
    - '10' = Proactive UICC session terminated by the user;
    - '11' = Backward move in the proactive UICC session requested by the user;
    - '12' = No response from user;
    - '13' = Help information required by the user;
    - '14' = USSD or SS transaction terminated by the user.
  - results '0X' and '1X' indicate that the command has been performed:
    - '20' = ME currently unable to process command;
    - '21' = Network currently unable to process command;
    - '22' = User did not accept call set-up request;
    - '23' = User cleared down call before connection or network release;
    - '24' = Action in contradiction with the current timer state;
    - '25' = Interaction with call control by USIM, temporary problem.
    - '26' = Launch browser generic error code.
  - results '2X' indicate to the UICC that it may be worth re-trying the command at a later opportunity:
    - '30' = Command beyond ME's capabilities;
    - '31' = Command type not understood by ME;
    - '32' = Command data not understood by ME;

- '33' = Command number not known by ME;
- '34' = SS Return Error;
- '35' = SMS RP-ERROR;
- '36' = Error, required values are missing;
- '37' = USSD Return Error;
- '38' = MultipleCard commands error;
- '39' = Interaction with call control by USIM or MO short message control by USIM, permanent problem;
- '3A' = Bearer Independent Protocol error.
- '3B' = Access Technology unable to process command;

Results '3X' indicate that it is not worth the UICC re-trying with an identical command, as it will only get the same response. However, the decision to retry lies with the application.

The application should avoid a rapid sequence of repeated retried commands as this may be detrimental to ME performance.

All other values are reserved.

- Additional information.
- Contents: For the general result "Command performed successfully", some proactive commands require additional information in the command result. This is defined in the subclauses below. For the general results '20', '21', '26', '34', '35', '37', '38', '39' and '3A', it is mandatory for the ME to provide a specific cause value as additional information, as defined in the subclauses below. For the other general results, the ME may optionally supply additional information. If additional information is not supplied, then the length of the value part of the data object need only contain the general result.

8.25 Event list

Byte(s)	Description	Length
1	Event list tag	1
2 to Y+1	Length (X) of bytes following	Y
Y+2 to X+Y+1	Event list	X

- Event list:
  - contents: A list of events, of variable length. Each byte in the list defines an event. Each event type shall not appear more than once within the list;
  - coding: Each byte in the event list shall be coded with one of the values below:
    - '00' = MT call;
    - '01' = Call connected;
    - '02' = Call disconnected;
    - '03' = Location status;
    - '04' = User activity;
    - '05' = Idle screen available;
    - '06' = Card reader status;
    - '07' = Language selection;
    - '08' = Browser termination;
    - '09' = Data available;
    - '0A' = Channel status.
    - '0B' = Access Technology Change;

8.61 Access Technology

Byte(s)	Description	Length
1	Access Technology tag	1
2	Length = '01'	1
3	Technology	1

- Technology
  Contents: The ME shall use this information as a mechanism to indicate to the UICC the current access technology that it is using.

  Coding:

- '00' GSM
- '01' EIA/TIA-553
- '02' TIA/EIA-136
- All other values are reserved for future use

9 Tag values

This clause specifies the tag values used to identify the BER-TLV and SIMPLE-TLV data objects used in the present document.

9.1 BER-TLV tags in ME to UICC direction

Description	Length of tag	Value
SMS-PP download tag	1	'D1'
Cell Broadcast download tag	1	'D2'
Menu Selection tag	1	'D3'
Call control tag	1	'D4'
MO Short message control tag	1	'D5'
Event download tag	1	'D6'
Timer expiration	1	'D7'

9.2 BER-TLV tags in UICC TO ME direction

Description	Length of tag	Value
Proactive UICC command tag	1	'D0'

9.3 SIMPLE-TLV tags in both directions

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Command details tag	1	'01'	'01' or '81'
Device identity tag	1	'02'	'02' or '82'
Result tag	1	'03'	'03' or '83'
Duration tag	1	'04'	'04' or '84'
Alpha identifier tag	1	'05'	'05' or '85'
Address tag	1	'06'	'06' or '86'
Capability configuration parameters tag	1	'07'	'07' or '87'
Called party subaddress tag	1	'08'	'08' or '88'
SS string tag	1	'09'	'09' or '89'
USSD string tag	1	'0A'	'0A' or '8A'
SMS TPDU tag	1	'0B'	'0B' or '8B'
Cell Broadcast page tag	1	'0C'	'0C' or '8C'
Text string tag	1	'0D'	'0D' or '8D'
Tone tag	1	'0E'	'0E' or '8E'
Item tag	1	'0F'	'0F' or '8F'
Item identifier tag	1	'10'	'10' or '90'
Response length tag	1	'11'	'11' or '91'
File List tag	1	'12'	'12' or '92'
Location Information tag	1	'13'	'13' or '93'
IMEI tag	1	'14'	'14' or '94'
Help request tag	1	'15'	'15' or '95'
Network Measurement Results tag	1	'16'	'16' or '96'
Default Text	1	'17'	'17' or '97'
Items Next Action Indicator tag	1	'18'	'18' only
Event list tag	1	'19'	'19' or '99'
Cause tag	1	'1A'	'1A' or '9A'
Location status tag	1	'1B'	'1B' or '9B'
Transaction identifier tag	1	'1C'	'1C' or '9C'
BCCH channel list tag	1	'1D'	'1D' or '9D'
Icon identifier	1	'1E'	'1E' or '9E'
Item Icon identifier list	1	'1F'	'1F' or '9F'
Card reader status tag	1	'20'	'20' or 'A0'
Card ATR tag	1	'21'	'21' or 'A1'
C-APDU tag	1	'22'	'22' or 'A2'
R-APDU tag	1	'23'	'23' or 'A3'
Timer identifier tag	1	'24'	'24' or 'A4'
Timer value tag	1	'25'	'25' or 'A5'
Date-Time and Time zone tag	1	'26'	'26' or 'A6'
Call control requested action tag	1	'27'	'27' or 'A7'
AT Command tag	1	'28'	'28' or 'A8'
AT Response tag	1	'29'	'29' or 'A9'
BC Repeat Indicator tag	1	'2A'	'2A' or 'AA'
Immediate response tag	1	'2B'	'2B' or 'AB'
DTMF string tag	1	'2C'	'2C' or 'AC'
Language tag	1	'2D'	'2D' or 'AD'
Timing Advance tag	1	'2E'	'2E' or 'AE'
AID tag	1	'2F'	'2F' or 'AF'
Browser Identity tag	1	'30'	'30' or 'B0'
URL tag	1	'31'	'31' or 'B1'
Bearer tag	1	'32'	'32' or 'B2'
Provisioning Reference File tag	1	'33'	'33' or 'B3'
Browser Termination Cause tag	1	'34'	'34' or 'B4'
Bearer description tag	1	'35'	'35' or 'B5'
Channel data tag	1	'36'	'36' or 'B6'
Channel data length tag	1	'37'	'37' or 'B7'
Channel status tag	1	'38'	'38' or 'B8'
Buffer size tag	1	'39'	'39' or 'B9'

Continued…..

Description	Length of tag	Tag value, bits 1-7 (Range: '01' - '7E')	Tag (CR and Tag value)
Card reader identifier tag	1	'3A'	'3A' or 'BA'
Text String (User password)	1	'3B'	'3B' or 'BB'
SIM/ME interface transport level	1	'3C'	'3C' or 'BC'
URL (data destination address)	1	'3D'	'3D' or 'BD'
Other address (data destination address)	1	'3E'	'3E' or 'BE'
Access Technology tag	1	'3F'	'3F' or 'BF'

10 Allowed Type of command and Device identity combinations

Only certain types of commands can be issued with certain device identities. These are defined below.

Command description	Source	Destination
CALL CONTROL	ME	UICC
CELL BROADCAST DOWNLOAD	Network	UICC
COMMAND RESULT	ME	UICC
DISPLAY TEXT	UICC	Display
EVENT DOWNLOAD		
- MT call	Network	UICC
- Call connected at near end (MT call)	ME	UICC
- Call connected at far end (MO call)	Network	UICC
- Call disconnected at near end	ME	UICC
- Call disconnected at far end	Network	UICC
- Location status	ME	UICC
- User activity	ME	UICC
- Idle screen available	Display	UICC
- Card reader status	ME	UICC
- language selection	ME	UICC
- data available	ME	UICC
- channel status	ME	UICC
- Access Technology Change	ME	UICC
GET INKEY	UICC	ME
GET INPUT	UICC	ME
GET READER STATUS	UICC	ME or Card reader x
LANGUAGE NOTIFICATION	UICC	ME
LAUNCH BROWSER	UICC	ME
MENU SELECTION	Keypad	UICC
MO SHORT MESSAGE CONTROL	ME	UICC
MORE TIME	UICC	ME
PERFORM CARD APDU	UICC	Card reader x
PLAY TONE	UICC	Earpiece (see note)
POLLING OFF	UICC	ME
POLL INTERVAL	UICC	ME
POWER ON CARD	UICC	Card reader x
POWER OFF CARD	UICC	Card reader x
PROFILE DOWNLOAD	ME	UICC
PROVIDE LOCAL INFORMATION	UICC	ME
REFRESH	UICC	ME
RUN AT COMMAND	UICC	ME
SELECT ITEM	UICC	ME
SEND DTMF	UICC	Network
SEND SHORT MESSAGE	UICC	Network
SEND SS	UICC	Network
SEND USSD	UICC	Network
SET UP CALL	UICC	Network
SET UP EVENT LIST	UICC	ME
SET UP IDLE MODE TEXT	UICC	ME
SET UP MENU	UICC	ME
SMS-PP DOWNLOAD	Network	UICC
TIMER MANAGEMENT	UICC	ME
TIMER EXPIRATION	ME	UICC
OPEN CHANNEL	UICC	ME
CLOSE CHANNEL	UICC	Channel x
RECEIVE DATA	UICC	Channel x
SEND DATA	UICC	Channel x
GET CHANNEL STATUS	UICC	ME
NOTE: The ME may route the tone to other loudspeakers (external ringer, car kit) if more appropriate.		

Annex F (informative): Monitoring of events

Some of the events monitored through the event download mechanism are reported by the mobile each time the event occurs, while other events are reported only once (the ME removes the event type from the current event list once the event occurs). This is summarised in the table below.

Event	Continuously reported	Reported once
MT call	X	
Call connected	X	
Call disconnected	X	
Location status	X	
User activity		X
Idle screen available		X
Card reader status	X	
Language selection	X	
Data available	X	
Channel status	X	
Access Technology Change	X	