Contents

Help commands

AT ??: List supported AT commands

Description: Lists all supported AT commands and result codes starting with <prefix>. Besides this, there is also the possibility to type "AT <command> ??" on the command line to get a detailed description of the <command>.

References: None

Group: Help commands

Syntax: Extended format

Command	Possible response(s)
AT ??=[<prefix>[,<mode>]]	
	<help text>
AT ??	<help text>
AT ???	n/a
AT ??=?	??: (list of supported <mode>s)

Defined values

<prefix>: string

<mode>: decimal (0-3); Type of listing

- **0** interactive (only headlines)
- **1** short (only headlines)
- **2** long (complete information)
- **3** HTML (readable with an internet browser)

<help text>: alphanumeric

ITU-T V.25ter: DTE-DCE Interface Commands

AT S: Set register

Description: Sets a register which controls the operation of the DCE.

References: ITU-T V.25ter

Group: DTE-DCE Interface Commands

Syntax: Basic format

Command	Possible response(s)
AT S<reg id>=<reg value> to set or S<reg id>? to read the register	
	Read response: <reg value> (3 decimal digits) +CME ERROR: <err>

Defined values

<reg id>: decimal (0,2-8,10-11,19); ID of a register

<reg value>: decimal (Depending on id)

<S0 value>: decimal (0-255); Automatic answer

0 disabled (default)

1-255 Number of RINGs until automatic answer

<S2 value>: decimal (1-255); PPP character to abort online mode

43 + (default)

<S3 value>: decimal (0-127); Command line termination character

13 CR (default)

<S4 value>: decimal (0-127); Response formatting character

10 LF (default)

<S5 value>: decimal (0-127); Command line editing character

8 BS (default)

<S6 value>: decimal (2-10); Pause before blind dialing, in seconds

2 (default)

<S7 value>: decimal (1-255); Connection completion timeout, in seconds

60 (default)

<S8 value>: decimal (0-255); Comma dial modifier time, in seconds

2 (default)

<S10 value>: decimal (1-254); Automatic disconnect delay, in tenths of seconds

1 (default)

<S11 value>: decimal (50-255); Length of DTMF tone duration, in milliseconds

95 (default)

AT E: Command echo

Description: Sets whether or not the DCE echoes characters received from the DTE during command and online command state.

References: ITU-T V.25ter

Group: DTE-DCE Interface Commands

Syntax: Basic format

Command	Possible response(s)
AT E[<value>]	
	+CME ERROR: <err>

Defined values

<value>: decimal (0-1); Echo

0 off
1 on (default)

ITU-T V.25ter: Call Control Commands

AT D: Dial

Description: Originates a call (or sends a supplementary service string to the network). All characters appearing on the same command line after the "D" are considered part of the call addressing information to be signalled to the network, or modifiers used to control the signalling process, up to a semicolon character or the end of the command line. It is also possible to dial a number from the phonebook.
AT D without an argument can be used to modify a call (Voice <-> FAX).

References: ITU-T V.25ter, ETSI GSM 07.07

Group: Call Control Commands

Syntax: Basic format

Command	Possible response(s)
AT D[(<dial string>|<pb dial>)[<clir>][<cug>][<semi>]][,<mode>]	
	CONNECT CONNECT <text> NO CARRIER BUSY NO ANSWER NO DIALTONE OK +CME ERROR: <err>

Defined values

<dial string>: := {<digit>|<modifier>};
Simple dialing

<pb dial>: := '>'(<alpha>|[<pb>]<index>);
Dialling from phonebook

<clir>: character (I,i); Override the CLIR supplementary service subscription default value for this call

I invocation (restrict CLI presentation)

i suppression (allow CLI presentation)

<cug>: character (G,g); Control the CUG supplementary service information for this call; uses index and info values set with command AT +CCUG

<semi>: character (;); When semicolon character is given after dialing digits (or modifiers), a voice call originated to the given address (ignoring AT +FCLASS). TA returns to command state immediately.

<digit>: character (0-9,*,#,+,A-C,a-c); Dialling digits
<modifier>: character (D,,,T,P,t,p,!,W,@); Call modifiers (ignored)
<alpha>: string (0-tlength(pb)); Alpha-tag of a phonebook entry
<pb>: alphanumeric; Name of phonebook memory (w/o quotes) see AT +CPBS
<index>: decimal (1-total(pb)); Index in phonebook memory
<mode>: string ("0","1","2","3"); mode

0 voice (64kbps)
1 data (UDI/RDI)
2 4kbps voice
3 3.1kHz audio

AT H: Hook control

Description: Instructs the DCE to disconnect from the line, terminating any call in progress.
References: ITU-T V.25ter
Group: Call Control Commands
Syntax: Basic format

Command	Possible response(s)
AT H[<value>]	

Defined values

<value>: decimal (0);

0 Disconnect and terminate call

ETSI GSM 07.07: General Commands

AT +CGMI: Request Manufacturer Identification

Description: Returns information to identify the ME manufacturer.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGMI=...	n/a

AT +CGMI	<manufacturer> +CME ERROR: <err>
AT +CGMI?	n/a
AT +CGMI=?	

Defined values

<manufacturer>: alphanumeric

AT +CGMM: Request Model Identification

Description: Returns information to identify the ME model.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGMM=...	n/a
AT +CGMM	<model> +CME ERROR: <err>
AT +CGMM?	n/a
AT +CGMM=?	

Defined values

<model>: alphanumeric

AT +CGMN: Request Manufacturer Name

Description: Returns information to identify the ME manufacturer name.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGMN=...	n/a
AT +CGMN	<manuf_name> +CME ERROR: <err>

AT +CGMN?	n/a
AT +CGMN=?	

Defined values
<manuf_name>: alphanumeric

AT +CGMP: Request Manufacturer Part Number

Description: Returns information to identify the ME part number.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGMP=...	n/a
AT +CGMP	<manuf_part_number> +CME ERROR: <err>
AT +CGMP?	n/a
AT +CGMP=?	

Defined values
<manuf_part_number>: alphanumeric

AT +CGMR: Request Revision Identification

Description: Returns information to identify the ME version, revision level or date.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGMR=...	n/a
AT +CGMR	<revision> +CME ERROR: <err>
AT +CGMR?	n/a
AT +CGMR=?	

Defined values

<revision>: alphanumeric

AT +CGMS: Request Manufacturer Serial Number

Description: Returns information to identify the ME serial number.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGMS=...	n/a
AT +CGMS	<manuf_serial_number> +CME ERROR: <err>
AT +CGMS?	n/a
AT +CGMS=?	

Defined values

<manuf_serial_number>: alphanumeric

AT +CGSN: Request Product Serial Number Identification

Description: Returns information to identify the individual ME. Typically IMEI (International Mobile station Equipment Identity).
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGSN=...	n/a
AT +CGSN	<sn> +CME ERROR: <err>
AT +CGSN?	n/a
AT +CGSN=?	

Defined values

<sn>: alphanumeric

AT +CSCS: Select TE Character Set

Description: Informs the TA about the character set used by the TE. TA is then able to convert character strings correctly between TE and ME character sets.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CSCS=[<chset>]	
	+CME ERROR: <err>
AT +CSCS	n/a
AT +CSCS?	+CSCS: <chset>
AT +CSCS=?	+CSCS: (list of supported <chset>s)

Defined values
<chset>: string ("IRA","GSM","PCCP437","8859-1")

AT +CIMI: Request International Mobile Subscriber Identity (IMSI)

Description: Return IMSI to identify the individual SIM card
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CIMI=...	n/a
AT +CIMI	+CME ERROR: <err>
AT +CIMI?	n/a
AT +CIMI=?	

Defined values
<imsi>: string ("IMSI")

AT +CNUM: Subscriber Number

Description: Returns MSISDNs related to the subscriber (stored in SIM or ME).
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CNUM=...	n/a
AT +CNUM	+CNUM: [<alpha>],<number>,<type>[,<speed>,<service>[,<itc>]] [<CR><LF> +CNUM: [<alpha>],<number>,<type>[,<speed>,<service>[,<itc>]] [...]] +CME ERROR: <err>
AT +CNUM?	n/a
AT +CNUM=?	

Defined values

<alpha>: string
<number>: string
<type>: decimal (0-255)
<speed>: decimal (0-81)
<service>: decimal (0-5)
<itc>: decimal (0-1)

AT +CREG: Network Registration

Description: Controls reporting of unsolicited result code +CREG.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CREG=[<mode>]	
	+CME ERROR: <err>
AT +CREG	n/a
AT +CREG?	+CREG: <mode>,<stat>[,<lac>,<ci>] +CME ERROR: <err>

AT +CREG=?	+CREG: (list of supported <mode>s)

Defined values

<mode>: decimal (0-2); report
- **0** off
- **1** registration only
- **2** registration and location information

<stat>: decimal (0-5);
- **0** not registered
- **1** registered (home)
- **2** not registered (searching)
- **3** registration denied
- **4** unknown
- **5** registered (roaming)

<lac>: string (4); location area code

<ci>: string (4); cell ID

AT +COPS: Operator Selection

Description: Forces an attempt to select and register with the network operator. <mode> is used to select whether the selection is done automatically by the ME or is forced by this command to operator <oper> (it shall be given in <format>).

References: ETSI GSM 07.07

Group: General Commands

Syntax: Extended format

Command	Possible response(s)
AT +COPS=[<mode>[,<format>[,<oper>]]]	
	+CME ERROR: <err>
AT +COPS	n/a
AT +COPS?	+COPS: <mode>[,<format>,<oper>] +CME ERROR: <err>
AT +COPS=?	+COPS: [list of supported (<stat>, <oper long>,<oper short>,<oper num>)s] [,,(list of supported <mode>s),(list of supported <format>s)] +CME ERROR: <err>

Defined values

<mode>: decimal (0-2);
0 automatic
1 manual
2 deregister

<format>: decimal (0-2);
0 long alphanumeric
1 short alphanumeric
2 numeric

<oper long>: string

<oper short>: string

<oper num>: string

<stat>: decimal (0-3);
0 unknown
1 available
2 current
3 forbidden

<oper>: := (<oper long>|<oper short>|<oper num>); // operator depending on <format>

AT +CPOL: Preferred PLMN List

Description: Used to edit PLMN List on SIM card
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CPOL=[<index>[,<format>[,<oper>[,<GSM_AcT>,<GSM_COMP_AcT>, <GSM_UTRA_AcT>]]]]	
	+CME ERROR: <err>
AT +CPOL	n/a
AT +CPOL?	<index>,<format>,<oper>[,<GSM_AcT>,<GSM_COMP_AcT>,<GSM_UTRA_AcT>]
AT +CPOL=?	+CPOL: (list of supported <index>s)

Defined values

<index>: decimal (0-255); index

<format>: decimal (0-2);

0 long alphanumeric

1 short alphanumeric

2 numeric

<oper long>: string

<oper short>: string

<oper num>: string

<GSM_AcT>: decimal (0-1);

0 Access technology not selected

1 Access technology selected

<GSM_COMP_AcT>: decimal (0-1);

0 Access technology not selected

1 Access technology selected

<GSM_UTRA_AcT>: decimal (0-1);

0 Access technology not selected

1 Access technology selected

<oper>: := (<oper long>|<oper short>|<oper num>); // operator depending on <format>

AT +CPLS: Preferred PLMN List

Description: Select a Preferred PLMN List to edit on SIM card

References: ETSI GSM 07.07

Group: General Commands

Syntax: Extended format

Command	Possible response(s)
AT +CPLS=<plmn-selector>	
	+CME ERROR: <err>
AT +CPLS	n/a
AT +CPLS?	+CME ERROR: <err>
AT +CPLS=?	+CPLS: (list of supported <plmn-selector>s)

Defined values

<plmn-selector>: decimal (0-2);

0 User controlled PLMN with EFPLMNwAcT/EFPLMNsel

1 Operator controlled PLMN selector with EFOPLMNwAcT

2 HPLMN selector with EFHPLMNwAcT

AT +CLCK: Facility Lock

Description: Used to lock, unlock or interrogate a MT or a network facility <fac>. Password is normally needed to do such actions.

References: ETSI GSM 07.07

Group: General Commands

Syntax: Extended format

Command	Possible response(s)
AT +CLCK=<fac>,<mode>[,<password>[,<class>]]	
	+CME ERROR: <err> when <mode>=2 and command successful: +CLCK: <status>[,<class>[<CR><LF>+CLCK: <status>,<class>[...]]
AT +CLCK	n/a
AT +CLCK?	n/a
AT +CLCK=?	+CLCK: (list of supported <fac>s) +CME ERROR: <err>

Defined values

<fac>: string;

- **"PS"** Phone to SIM Lock
- **"SC"** SIM Lock (PIN1)
- **"PN"** Network Personalization
- **"PU"** Network Subset Personalization
- **"PP"** Service Provider Personalization
- **"PC"** Corporate Personalization

<mode>: decimal (0-2);

- **0** unlock
- **1** lock
- **2** query status

<password>: string

<class>: decimal (1-7); Sum of

- **1** voice
- **2** data
- **4** fax

(default is 7)

<status>: decimal (0-1);

0 not active
1 active

AT +CPWD: Change Password

Description: Sets a new password for the facility lock function defined by command +CLCK.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CPWD=<fac>,<oldpwd>,<newpwd>	
	+CME ERROR: <err>
AT +CPWD	n/a
AT +CPWD?	n/a
AT +CPWD=?	+CPWD: list of supported (<fac>,<pwdlength>)s +CME ERROR: <err>

Defined values

<fac>: string;
- **"PS"** Phone to SIM Lock
- **"SC"** SIM Lock (PIN1)
- **"PN"** Network Personalization
- **"PU"** Network Subset Personalization
- **"PP"** Service Provider Personalization
- **"PC"** Corporate Personalization

<oldpwd>: string (oldpwd)
<newpwd>: string (newpwd)

AT +CCUG: Closed User Group

Description: This command allows control of the Closed User Group supplementary service.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CCUG=<n>[,<index>[,<info>]]	
	OK +CME ERROR: <err>
AT +CCUG	n/a
AT +CCUG?	<n>,<index>,<info>
AT +CCUG=?	+CCUG: (list of supported <n>s)[,(list of supported <index>s)[, (list of supported <info>s)]]

Defined values

<n>: decimal (0-1); Reporting

0 disable

1 enable

<index>: decimal (0-10);

0-9 CUG index

10 no index(preferred CUG taken from subscriber data)

<info>: decimal (0-5);

0 no information

1 suppress OA

2 suppress preferential CUG

3 suppress OA and preferential CUG

AT +CLCC: List Current Calls

Description: List Current Calls of MT. If command succeeds but no calls are available no information response is sent.

References: ETSI GSM 07.07

Group: General Commands

Syntax: Extended format

Command	Possible response(s)
AT +CLCC=...	n/a
AT +CLCC	+CLCC: <direction>,<status>,<mode>,<multiparty>,<number>] +CME ERROR: <err>
AT +CLCC?	n/a
AT +CLCC=?	+CLCC: [list of supported <direction>, <status>, <mode>, <multiparty>] +CME ERROR: <err>

Defined values

<direction>: decimal (0-1);
- **0** Mobile Originated
- **1** Mobile Terminated

<status>: decimal (0-5);
- **0** active
- **1** held
- **2** dialing (MO)
- **3** alerting (MO)
- **4** incoming (MT)
- **5** waiting (MT)

<mode>: decimal (0-1);
- **0** voice
- **1** data

<multiparty>: decimal (0-1);
- **0** no
- **1** yes

<number>: string

AT +CUSD: Unstructured Supplementary Service Data

Description: Allows control of the Unstructured Supplementary Service Data(USSD) according to 3GPP TS 22.090 [23]. Both network and mobile initiated operations are supported.

References: ETSI GSM 07.07

Group: General Commands

Syntax: Extended format

Command	Possible response(s)
AT +CUSD=[<n>[,<str>[,<dcs>]]]	
	+CME ERROR: <err>
AT +CUSD	n/a
AT +CUSD?	+CUSD: <n>
AT +CUSD=?	+CUSD: (list of supported <n>s)

Defined values

<n>: decimal (0-2); Disable/Enable +CUSD Result Code

<str>: string; USSD string

<dcs>: decimal (0); Data Coding Scheme
<m>: decimal (0-5); m value

AT +CPAS: Phone Activity Status

Description: Used to interrogate the ME before requesting action from the phone.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CPAS=...	n/a
AT +CPAS	+CPAS: <pas> +CME ERROR: <err>
AT +CPAS?	n/a
AT +CPAS=?	+CPAS: (list of supported <pas>s) +CME ERROR: <err>

Defined values

<pas>: decimal (0-5);

- **0** ready (ME allows commands from TA/TE)
- **1** unavailable (ME does not allow commands from TA/TE)
- **2** unknown
- **3** ringing (ready, but the ringer is active)
- **4** call in progress (ready, but a call is active)
- **5** asleep (ME is unable to process commands from TA/TE because it is in low functionality state)

AT +CFUN: Set Phone Functionality

Description: Selects the level of functionality in the ME.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CFUN=[<level>[,<reset>]]	
	+CME ERROR: <err>

AT +CFUN	n/a
AT +CFUN?	+CFUN: <level> +CME ERROR: <err>
AT +CFUN=?	+CFUN: (list of supported <level>s),(list of supported <reset>s) +CME ERROR: <err>

Defined values

<level>: decimal (0-5);

- **0** minimum functionality
- **1** full functionality
- **2** FUN_NO_TRANSMIT
- **3** FUN_NO_RECEIVE
- **4** FUN_NO_T_AND_R
- **5** FUN_RESERVED

<reset>: decimal (0-1); Reset the ME before setting it to <level>

- **0** no
- **1** yes

AT +CPIN: Enter PIN

Description: Sends to the ME a password which is necessary before it can be operated. If the PIN required is a PUK, a new PIN must also be given.

References: ETSI GSM 07.07

Group: General Commands

Syntax: Extended format

Command	Possible response(s)
AT +CPIN=<pin>[,<newpin>]	
	+CME ERROR: <err>
AT +CPIN	n/a
AT +CPIN?	+CPIN: <code> +CME ERROR: <err>
AT +CPIN=?	

Defined values

<pin>: string

<newpin>: string

<code>: alphanumeric

AT +CBC: Battery Charge

Description: Returns battery connection status <bcs> and battery charge level <bcl> of the ME.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CBC=...	n/a
AT +CBC	+CBC: <bcs>,<bcl> +CME ERROR: <err>
AT +CBC?	n/a
AT +CBC=?	+CBC: (list of supported <bcs>s),(list of supported <bcl>s)

Defined values

<bcs>: decimal (0-3);

- **0** ME is powered by the battery
- **1** ME has a battery connected, but is not powered by it
- **2** ME does not have a battery connected
- **3** Recognized power fault, calls inhibited

<bcl>: decimal (0-100);

- **0** battery exhausted or not connected
- **1-100** percent of capacity remaining

AT +CIND: Indicator

Description: Set the values of MT indicators.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CIND=<battchg>	
	+CME ERROR: <err>
AT +CIND	

AT +CIND?	+CIND: <battchg>[,<signal>[,<sounder>[,<message>[,<call>[, <smsfull>[,<buzzer>[,<button>[,<leds>]]]]]]] +CME ERROR: <err>
AT +CIND=?	+CIND: (list of supported <battchg>s)[, (list of supported <signal>s)[,(list of supported <sounder>s)[, (list of supported <message>s)[,(list of supported <call>s)[, (list of supported <smsfull>s)[,(list of supported <buzzer>s)[, (list of supported <button>s)[,(list of supported <leds>s)]]]]]]]]

Defined values

<battchg>: decimal (0-5); Battery Charge indicator (0: disabled, 1: enabled)
<signal>: decimal (0-5); Signal level indicator
<sounder>: decimal (0-1); Sounder indicator
<message>: decimal (0-1); Message indicator
<call>: decimal (0-11); Call count indicator
<smsfull>: decimal (0-1); SMS memory indicator
<buzzer>: decimal (0-1); Buzzer on/off indicator
<button>: decimal (0-1); Button on/off indicator
<leds>: decimal (0-1); leds on/off indicator

AT +CPBS: Select Phonebook Memory Storage

Description: Selects phonebook memory storage <storage>, which is used by other phonebook commands.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CPBS=<storage>	
	+CME ERROR: <err>
AT +CPBS	n/a
AT +CPBS?	+CPBS: <storage>[,<used>,<total>] +CME ERROR: <err>
AT +CPBS=?	+CPBS: (list of supported <storage>s)

Defined values

<storage>: string constant ("SM","LD","FD");
"**SM**" SIM phonebook

	"LD"	SIM last-dialing phonebook
	"FD"	fix-dialing phonebook
<used>:	decimal (used(pb)); Number of used locations in selected memory	
<total>:	decimal (total(pb)); Total number of locations in selected memory	

AT +CPBR: Read Phonebook Entries

Description: Returns phonebook entries in location number range <index1>...<index2> from the current phonebook memory storage selected with AT +CPBS.

References: ETSI GSM 07.07

Group: General Commands

Syntax: Extended format

Command	Possible response(s)
AT +CPBR=<index1>[,<index2>]	
	+CPBR: <index1>,<number>,<type>,<alpha>[[...] <CR><LF>+CPBR: <index2>,<number>,<type>,<alpha>] +CME ERROR: <err>
AT +CPBR	n/a
AT +CPBR?	n/a
AT +CPBR=?	+CPBR: (list of supported <index>s),<nlength>,<tlength> +CME ERROR: <err>

Defined values

<index1>:	decimal (1-total(pb)); start index
<index2>:	decimal (1-total(pb)); end index
<number>:	string (0-nlength(pb)); phone number
<type>:	decimal (0-255); type of phone number
<alpha>:	string (0-tlength(pb)); alpha-tag assigned to phone number
<index>:	decimal (1-total(pb)); index in phonebook
<nlength>:	decimal (nlength(pb)); maximum length of field <number>
<tlength>:	decimal (tlength(pb)); maximum length of field <alpha>

AT +CPBW: Write/Delete Phonebook Entry

Description: Writes phonebook entry in location number <index> in the current phonebook memory storage selected with AT +CPBS. If only <index> is given, the entry is deleted. If <index> is left out, entry is written to the first free location.

References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CPBW=[<index>][,<number>[,<type>[,<alpha>]]]	
	+CME ERROR: <err>
AT +CPBW	n/a
AT +CPBW?	n/a
AT +CPBW=?	+CPBW: (list of supported <index>s),<nlength>, (list of supported <type>s),<tlength> +CME ERROR: <err>

Defined values

<index>: decimal (1-total(pb)); index in phonebook
<number>: string (0-nlength(pb)); phone number
<type>: decimal (129,145); type of phone number
<alpha>: string (0-tlength(pb)); alpha-tag assigned to phone number
<nlength>: decimal (nlength(pb)); maximum length of field <number>
<tlength>: decimal (tlength(pb)); maximum length of field <alpha>

AT +CRSM: Restricted SIM Access

Description: Transmits to the ME the SIM <command> and its required parameters. ME handles internally all SIM-ME interface locking and file selection routines. As response to the command, ME sends the actual SIM information parameters and response data. Failure in the execution of the command in the SIM is reported in <sw1> and <sw2> parameters. See also GSM 11.11.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CRSM=<command>[,<fileid>[,<P1>,<P2>,<P3>[,<data>]]]	
	+CRSM: <sw1>,<sw2>[,<response>] +CME ERROR: <err>
AT +CRSM	n/a

AT +CRSM?	n/a
AT +CRSM=?	+CRSM: (list of supported <command>s), (list of supported <fileid>s)

Defined values

<command>: decimal (176,178);

176 READ BINARY

178 READ RECORD

<fileid>: decimal (36609-36620); Supported identifiers of an elementary data file on SIM

36609 POS-IND

36610 INM-CUG

36611 DP-NAME

36612 SERV-LOGO

36613 SUPP-LOGO

36614 APN

36615 SUP-TEL

36616 SUP-EMAIL

36617 SUP-URL

36618 SRV-URL

36619 DP-INFO-URL

36620 SP-NAME

<P1>: decimal (0); Parameter passed on to the SIM

<P2>: decimal (0); See <P1>

<P3>: decimal (0-255); See <P1>

<data>: alphanumeric; Not supported

<sw1>: decimal; Information from the SIM about the execution of the actual command.

<sw2>: decimal; See <sw1>

<response>: alphanumeric; Response data

AT +CMAR: Master Reset

Description: Restore Factory defaults.

References: ETSI GSM 07.07

Group: General Commands

Syntax: Extended format

Command	Possible response(s)
AT +CMAR=<passwd>	

	+CME ERROR: <err>
AT +CMAR	
AT +CMAR?	
AT +CMAR=?	

Defined values

<passwd>: string constant ("password");
"pass" password

AT +CMEE: Report Mobile Equipment Error

Description: Defines the reporting of ME errors. See ERROR, +CME, +CMS.
References: ETSI GSM 07.07
Group: General Commands
Syntax: Extended format

Command	Possible response(s)
AT +CMEE=[<level>]	
	+CME ERROR: <err>
AT +CMEE	n/a
AT +CMEE?	+CMEE: <level>
AT +CMEE=?	+CMEE: (list of supported <level>s)

Defined values

<level>: decimal (0-2); +CME ERROR <err> result code
0 disabled - instead ERROR is used
1 enabled - numeric <err> values
2 enabled - verbose <err> values

ETSI GSM 07.05: General Configuration Commands

AT +CSMS: Select Message Service

Description: Selects <service> and returns types of messages supported by the ME: <mt> for mobile terminated messages, <mo> for mobile originated massages and <bm> for broadcast type messages.
References: ETSI GSM 07.05

Group: General Configuration Commands
Syntax: Extended format

Command	Possible response(s)
AT +CSMS=[<service>]	
	+CSMS: <mt>,<mo>,<bm> +CMS ERROR: <err>
AT +CSMS	n/a
AT +CSMS?	+CSMS: <service>,<mt>,<mo>,<bm>
AT +CSMS=?	+CSMS: (list of supported <service>s)

Defined values

<service>: decimal (0);
0 GSM 07.05 Phase 2

<mt>: decimal (0-1);
1 supported

<mo>: decimal (0-1);
1 supported

<bm>: decimal (0-1);
1 supported

AT +CPMS: Preferred Message Storage

Description: Selects memory storages <mem1>, <mem2> and <mem3> to be used for reading, writing, etc.
References: ETSI GSM 07.05
Group: General Configuration Commands
Syntax: Extended format

Command	Possible response(s)
AT +CPMS=<mem1>[,<mem2>,[<mem3>]]	
	+CPMS: <used1>,<total1>,<used2>,<total2>,<used3>,<total3> +CMS ERROR: <err>
AT +CPMS	n/a
AT +CPMS?	+CPMS: <mem1>,<used1>,<total1>, <mem2>,<used2>,<total2>, <mem3>,<used3>,<total3>

	+CMS ERROR: <err>
AT +CPMS=?	+CPMS: (list of supported <mem1>s),(list of supported <mem2>s), (list of supported <mem3>s)

Defined values

<mem1>: string constant ("SM"); Memory from which messages are read and deleted (AT +CMGL, AT +CMGR, AT +CMGD)

"**SM**" SIM message storage

<mem2>: string constant ("SM"); Memory to which writing and sending operations are made (AT +CMSS, AT +CMGW).

<mem3>: string constant ("BM"); Memory to which received SMs are preferred to be stored. Received CBMs are always stored in "BM". Received status reports are always stored in "SR".

<used1>: decimal; Number of messages currently in <mem1>

<total1>: decimal; Total number of message locations in <mem1>

<used2>: decimal; Number of messages currently in <mem2>

<total2>: decimal; Total number of message locations in <mem2>

<used3>: decimal; Number of messages currently in <mem3>

<total3>: decimal; Total number of message locations in <mem3>

AT +CMGF: Message Format

Description: Command tells the TA, which input and output format of message to use. <mode> can be either PDU or text mode.

References: ETSI GSM 07.05

Group: General Configuration Commands

Syntax: Extended format

Command	Possible response(s)
AT +CMGF=[<mode>]	
	+CMS ERROR: <err>
AT +CMGF	n/a
AT +CMGF?	+CMGF: <mode>
AT +CMGF=?	+CMGF: (list of supported <mode>s)

Defined values

<mode>: decimal (0-1);

0 PDU (default)

1 text

ETSI GSM 07.05: Message Configuration Commands

AT +CSCA: Service Center Address

Description: Updates SMSC address, through which mobile originated SMs are transmitted. Setting is used by AT +CMGS and AT +CMGW.
References: ETSI GSM 07.05
Group: Message Configuration Commands
Syntax: Extended format

Command	Possible response(s)
AT +CSCA=<sca number>[,<sca type>]	
	+CMS ERROR: <err>
AT +CSCA	n/a
AT +CSCA?	+CSCA: <sca number>,<sca type>
AT +CSCA=?	

Defined values
<sca number>: string
<sca type>: decimal (0-255)

AT +CSMP: Set Text Mode Parameters

Description: Select values for additional parameters needed when SM is sent to the network or placed in a storage when text format message mode is selected. The format of <vp> is given by <fo>.
References: ETSI GSM 07.05
Group: Message Configuration Commands
Syntax: Extended format

Command	Possible response(s)
AT +CSMP=[<fo>[,(<vp int>|<vp str>)[,<pid>[,<dcs>]]]]	
	+CMS ERROR: <err>
AT +CSMP	n/a
AT +CSMP?	+CSMP: <fo>,(<vp int>|<vp str>),<pid>,<dcs>

AT +CSMP=?	

Defined values

<fo>:	decimal (0-255); first octet of SMS
<vp int>:	decimal (0-255); Relative TP-Validity-Period
<vp str>:	string (20); Absolute TPVP "yy/MM/dd,hh:mm:ssSzz"
<pid>:	decimal (0-255); TP-Protocol-Identifier
<dcs>:	decimal (0-255); Data Coding Scheme

AT +CSDH: Show Text Mode Parameters

Description: Controls whether detailed header information is shown in text mode result codes (AT +CMT, AT +CMGL, AT +CMGR).

References: ETSI GSM 07.05

Group: Message Configuration Commands

Syntax: Extended format

Command	Possible response(s)
AT +CSDH=[<show>]	
	+CMS ERROR: <err>
AT +CSDH	n/a
AT +CSDH?	+CSDH: <show>
AT +CSDH=?	+CSDH: (list of supported <show>s)

Defined values

<show>: decimal (0-1);

0 hide values

1 show values

AT +CSCB: Select Cell Broadcast Message Types

Description: Selects which types of CBMs are to be received by the ME. The set of messages is defined by <mids> and <dcss>.

References: ETSI GSM 07.05

Group: Message Configuration Commands

Syntax: Extended format

Command	Possible response(s)

AT +CSCB=[<mode>[,<mids>[,<dcss>]]]	
	+CMS ERROR: <err>
AT +CSCB	n/a
AT +CSCB?	+CSCB: <mode>,<mids>,<dcss>
AT +CSCB=?	+CSCB: (list of supported <mode>s)

Defined values

<mode>: decimal (0-0); accept messages
- **0** in set
- **1** not in set

<mids>: string; list of CBM identifiers

<dcss>: string; list of CBM data coding schemes

AT +CSAS: Save Settings

Description: Saves active message service settings (AT +CSCA, AT +CSMP, AT +CSCB) to a non-volatile memory. A TA can contain several <profile>s.

References: ETSI GSM 07.05

Group: Message Configuration Commands

Syntax: Extended format

Command	Possible response(s)
AT +CSAS=[<profile>]	
	+CMS ERROR: <err>
AT +CSAS	+CMS ERROR: <err>
AT +CSAS?	n/a
AT +CSAS=?	+CSAS: (list of supported <profile>s)

Defined values

<profile>: decimal (0-4); profile index

AT +CRES: Restore Settings

Description: Restores message service settings (AT +CSCA, AT +CSMP, AT +CSCB) from a non-volatile memory. A TA can contain several <profile>s.

References: ETSI GSM 07.05

Group: Message Configuration Commands
Syntax: Extended format

Command	Possible response(s)
AT +CRES=[<profile>]	
	+CMS ERROR: <err>
AT +CRES	+CMS ERROR: <err>
AT +CRES?	n/a
AT +CRES=?	+CRES: (list of supported <profile>s)

Defined values
<profile>: decimal (0-4); profile index

ETSI GSM 07.05: Message Receiving and Reading Commands

AT +CNMI: New Message Indications to TE

Description: Selects the procedure, how receiving of new messages from the network is indicated to the TE when TE is active.
References: ETSI GSM 07.05
Group: Message Receiving and Reading Commands
Syntax: Extended format

Command	Possible response(s)
AT +CNMI=[<mode>[,<mt>[,<bm>[,<ds>[,<bfr>]]]]]	
	+CMS ERROR: <err>
AT +CNMI	n/a
AT +CNMI?	+CNMI: <mode>,<mt>,<bm>,<ds>,<bfr>
AT +CNMI=?	+CNMI: (list of supported <mode>s),(list of supported <mt>s), (list of supported <bm>s),(list of supported <ds>s), (list of supported <bfr>s)

Defined values
<mode>: decimal (1);
1 Discard indication and reject new received message unsolicited result code when TA-TE link is reserved. Otherwise

forward them directly to TE

<mt>: decimal (0-1); SMS-DELIVERs

<bm>: decimal (0); CBMs

<ds>: decimal (0,2); SMS-STATUS-REPORTs

<bfr>: decimal (0); When <mode> 1..3 is entered, TA buffer of unsolicited result code defined within this command is

0 flushed to the TE

1 cleared

AT +CMGL: List Messages

Description: Returns messages with status value <stat> from message storage <mem1> to the TE. In PDU mode <stat> is an integer else a string. If status of the message is 'unread', status in storage changes to 'read'. AT +CSDH controls the returned parameters in text mode.

References: ETSI GSM 07.05

Group: Message Receiving and Reading Commands

Syntax: Extended format

Command	Possible response(s)
AT +CMGL=(<stat int>|<stat str>)	

	if text mode and command successful:
	1) SMS-SUBMITs and/or SMS-DELIVERs:
	+CMGL: <index>,<stat str>,<oa/da>,[<alpha>],[<scts>]
	[,<tooa/toda>,<length>]<CR><LF><data>[<CR><LF>
	+CMGL: <index>,<stat str>,<oa/da>,[<alpha>],[<scts>]
	[,<tooa/toda>,<length>]<CR><LF><data>[...]]
	2) SMS-STATUS-REPORTs:
	+CMGL: <index>,<stat str>,<fo>,<mr>,[<ra>],[<tora>],<scts>,
	<dt>,<st>[<CR><LF>
	+CMGL: <index>,<stat str>,<fo>,<mr>,[<ra>],[<tora>],<scts>,
	<dt>,<st>[...]]
	3) SMS-COMMANDs:
	+CMGL: <index>,<stat str>,<fo>,<ct><CR><LF>
	+CMGL: <index>,<stat str>,<fo>,<ct>[...]]
	4) CBM storage:
	+CMGL: <index>,<stat str>,<sn>,<mid>,<page>,<pages><CR><LF>
	<data>[<CR><LF>
	+CMGL: <index>,<stat str>,<sn>,<mid>,<page>,<pages><CR><LF>
	<data>[...]]
	if PDU mode and command successful:
	+CMGL: <index>,<stat int>,[<alpha>],<length><CR><LF><pdu>
	[<CR><LF>+CMGL: <index>,<stat int>,[<alpha>],<length>
	<CR><LF><pdu>[...]]

	otherwise: +CMS ERROR: <err>
AT +CMGL	like +CMGL=4 or "ALL"
AT +CMGL?	n/a
AT +CMGL=?	PDU: +CMGL: (list of supported <stat int>s) Text: +CMGL: (list of supported <stat str>s)

Defined values

<stat int>:	decimal (0-4); used in PDU mode **0** unread **1** read **2** unsent **3** send **4** all
<stat str>:	string; used in text mode **"REC UNREAD"** **"REC READ"** **"STO UNSENT"** **"STO SEND"** **"ALL"**
<index>:	decimal (1-total(mem1)); Index to <mem1> (see AT +CPMS)
<oa/da>:	string
<alpha>:	string
<scts>:	string
<tooa/toda>:	decimal (0-255)
<length>:	decimal (0-255)
<data>:	alphanumeric
<pdu>:	alphanumeric
<fo>:	decimal (0-255); first octet of SMS
<mr>:	decimal (n); TP-Message-Reference
<ra>:	string; TP-Recipient-Address
<tora>:	decimal (0-255)
<dt>:	string (20); TP-Discharge-Time
<st>:	decimal (n); TP-Status
<ct>:	decimal (n); TP-Command-Type
<sn>:	decimal (n); CBM Serial Number
<mid>:	decimal (n); CBM Message Identifier
<page>:	decimal (0-15); CBM Page Parameter (bits 4-7)
<pages>:	decimal (0-15); CBM Page Parameter (bits 0-3)

AT +CMGR: Read Message

Description: Returns message with location value <index> from message storage <mem1> to the TE. AT +CSDH controls the amount of returned values. If status of the message is 'received unread', status in the storage changes to 'received read'.

References: ETSI GSM 07.05

Group: Message Receiving and Reading Commands

Syntax: Extended format

Command	Possible response(s)
AT +CMGR=<index>	

	if text mode and command successful:
	1) SMS-DELIVER:
	+CMGR: <stat str>,<oa>,[<alpha>],<scts>
	[,<tooa>,<fo>,<pid>,<dcs>,<sca>,<tosca>,<length>] // AT +CSDH
	<CR><LF><data>
	2) SMS-SUBMIT:
	+CMGR: <stat str>,<da>,[<alpha>]
	[,<toda>,<fo>,<pid>,<dcs>,[<vp>], // AT +CSDH
	<sca>,<tosca>,<length>] // AT +CSDH
	<CR><LF><data>
	3) SMS-STATUS-REPORT:
	+CMGR: <stat str>,<fo>,<mr>,[<ra>],[<tora>],<scts>,<dt>,<st>
	4) SMS-COMMAND:
	+CMGR: <stat str>,<fo>,<ct>
	[,<pid>,[<mn>],[<da>],[<toda>], // AT +CSDH
	<length><CR><LF><cdata>] // AT +CSDH
	5) CBM storage:
	+CMGR: <stat str>,<sn>,<mid>,<dcs>,<page>,<pages>
	<CR><LF><data>
	if PDU mode and command successful:
	+CMGR: <stat int>,[<alpha>],<length><CR><LF><pdu>
	otherwise:
	+CMS ERROR: <err>

AT +CMGR	n/a
AT +CMGR?	n/a
AT +CMGR=?	

Defined values

<index>: decimal (1-total(mem1)); Index to <mem1> (see AT +CPMS)

<stat str>: string;

"REC UNREAD"

"REC READ"

"STO UNSENT"
"STO SEND"

<oa>: string; TP-Originating-Address
<tooa>: decimal (0-255); type of <oa>
<alpha>: string; alpha-tag in phonebook
<scts>: string; TP-Service-Center-Time-Stamp
<fo>: decimal (0-255); first octet of SMS
<pid>: decimal (0-255); TP-Protocol-Identifier
<dcs>: decimal (0-255); SM or CBM Data Coding Scheme
<sca>: string; RP service center address
<tosca>: decimal; type of <sca>
<length>: decimal (0-255); length of <data> or <cdata>
<data>: alphanumeric; TP-User-Data
<da>: string; TP-Destination-Address
<toda>: decimal; type of <da>
<vp>: := (<vp str>|<vp int>); // TPVP depending on <fo>
<vp str>: string (20); Absolute TPVP "yy/MM/dd,hh:mm:ssSzz"
<vp int>: decimal (0-255); Relative TP-Validity-Period
<mr>: decimal (n); TP-Message-Reference
<ra>: string; TP-Recipient-Address
<tora>: decimal (0-255); type of <ra>
<dt>: string (20); TP-Discharge-Time
<st>: decimal (n); TP-Status
<ct>: decimal (n); TP-Command-Type
<mn>: decimal; TP-Message-Number
<cdata>: alphanumeric; TP-Command-Data
<sn>: decimal; CBM Serial Number
<mid>: decimal; CMB Message Identifier
<page>: decimal (0-15); CBM Page Parameter (bits 4-7)
<pages>: decimal (0-15); CBM Page Parameter (bits 0-3)
<stat int>: decimal (0-3);

- **0** unread
- **1** read
- **2** unsent
- **3** send

<pdu>: alphanumeric

ETSI GSM 07.05: Message Sending and Writing Commands

AT +CMGS: Send Message

Description: Sends message from a TE to the network (SMS-SUBMIT). Message reference value <mr> is returned to the TE on successful message delivery. Optionally (when AT +CSMS <service> value is 1 and network supports) <scts> is returned (in pdu mode <ackpdu>).

References: ETSI GSM 07.05

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CMGS= if text mode =<da>[,<toda>]<CR>text_is_entered<ctrl-z/ESC> if pdu mode =<length><CR>pdu_is_given<ctrl-z/ESC>	
	if text mode +CMGS: <mr>[,<scts>] if pdu mode +CMGS: <mr>[,<ackpdu>] if sending fails +CMS ERROR: <err>
AT +CMGS	n/a
AT +CMGS?	n/a
AT +CMGS=?	

Defined values

<da>: string; recipient address

<toda>: decimal (0-255)

<length>: decimal (1-n)

<mr>: decimal (n); TP-Message-Reference

<scts>: string; TP-Service-Center-Time-Stamp

<ackpdu>: string (1-n)

AT +CMSS: Send Message from Storage

Description: Sends message from with location value <index> from preferred message storage <mem2> to the network (SMS-SUBMIT or SMS-COMMAND). If new recipient address <da> is given for SMS-SUBMIT, it shall be used instead of the one stored with the message. Reference value <mr> is returned to the TE on successful message delivery. Optionally (when AT +CSMS <service> value is 1 and network supports) <scts> is returned

(in pdu mode <ackpdu>).

References: ETSI GSM 07.05

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CMSS=<index>[,<da>[,<toa>]]	
	if text mode +CMSS: <mr>[,<scts>] if pdu mode +CMSS: <mr>[,<ackpdu>] if sending fails +CMS ERROR: <err>
AT +CMSS	n/a
AT +CMSS?	n/a
AT +CMSS=?	

Defined values

<index>: decimal (1-n); location in <mem2>

<da>: string; recipient address

<toa>: decimal (0-255)

<mr>: decimal (n); TP-Message-Reference

<scts>: string; TP-Service-Center-Time-Stamp

<ackpdu>: string (1-n)

AT +CMGW: Write Message to Memory

Description: Stores message to memory storage <mem2> and returns the location <index>. If <stat> is not given status will be set to 'unsent'.

References: ETSI GSM 07.05

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CMGW= if text mode =<address>[,<toa>[,<stat str>]]<CR>text_is_entered<ctrl-z/ESC> if pdu mode =<length>[,<stat int>]<CR>pdu_is_given<ctrl-z/ESC>	

	+CMGW: <index> +CMS ERROR: <err>
AT +CMGW	n/a
AT +CMGW?	n/a
AT +CMGW=?	

Defined values

<address>: string
<toa>: decimal (0-255)
<stat int>: decimal (0-3);
0 unread
1 read
2 unsent
3 send
<stat str>: string;
"REC UNREAD"
"REC READ"
"STO UNSENT"
"STO SEND"
<length>: decimal (1-n)
<index>: decimal (1-n)

AT +CMGD: Delete Message

Description: Deletes message from preferred message storage <mem1> (see AT +CPMS) location <index>.
References: ETSI GSM 07.05
Group: Message Sending and Writing Commands
Syntax: Extended format

Command	Possible response(s)
AT +CMGD=<index>	
	+CMS ERROR: <err>
AT +CMGD	n/a
AT +CMGD?	n/a
AT +CMGD=?	+CMGD: (list of supported <index>s)[, (list of supported <del_flag>s)]

Defined values

<index>: decimal (1-n)

<del_flag>: decimal (0-4); delete_flag

- **0** Delete the message specified in index
- **1** Delete all read msgs except unread & stored msgs
- **2** Delete all read & sent messages except unread & stored msgs
- **3** Delete all read, sent & unsent msgs except unread & stored msgs
- **4** Delete all read msgs including unread msgs

AT +CGDCONT: Define PDP Context

Description: Specifies PDP context parameter values for a PDP context identified by the (local) context identification parameter, <cid>

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGDCONT=<cid>[,<pdp_type>[,<apn>[,<pdp_address>[,<d_comp>[,<h_comp>[,<pd1>[,<pd2>[,<pd3>[,<pd4>]]]]]]]]	
	+CME ERROR: <err>
AT +CGDCONT	n/a
AT +CGDCONT?	+CGDCONT: <cid>,<pdp_type>,<apn>,<pdp_address>,<d_comp>,<h_comp> ,<pd1>,<pd2>,<pd3>,<pd4>,<pd5>,<pd6><CR><LF> +CGDCONT: <cid>,<pdp_type>,<apn>,<pdp_address>,<d_comp>,<h_comp>,<pd1>,<pd2>,<pd3>,<pd4>,<pd5>,<pd6>
AT +CGDCONT=?	+CGDCONT: (list of supported <cid>s), (list of supported <pdp_type>s),,, (list of supported <d_comp>s),(list of supported <h_comp>s),,, ,

Defined values

<cid>: decimal (1-11); PDP Context Identifier

<pdp_type>: string ("IP", "PPP"); Packet Data Protocol types

<apn>: string; Access Point Name

<pdp_address>: string; PDP address

<d_comp>: decimal (0-3); data compression parameter

- **0** off (default if value is omitted)
- **1** on (manufacturer preferred compression - not supported)
- **2** V.42bis (not supported)

3 V.44 (not supported)

<h_comp>: decimal (0-4); header compression parameter

0 off (default if value is omitted)

1 on (manufacturer preferred compression - not supported)

2 RFC1144 (not supported)

3 RFC2507 (supported but not controllable with this parameter)

4 RFC3095 (not supported)

<pd1>: string; apn-username (optional)

<pd2>: string; apn-password (optional)

<pd3>: string; TE address (optional)

<pd4>:

<pd5>: string; DNS1 (read-only)

<pd6>: string; DNS2 (read-only)

AT +CGDSCONT: Define Secondary PDP Context

Description: Specifies PDP context parameter values for a Secondary PDP context identified by the (local) context identification parameter, <cid>

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGDSCONT=<cid>[,<p_cid>[,<d_comp>[,<h_comp>]]]	
	+CME ERROR: <err>
AT +CGDSCONT	n/a
AT +CGDSCONT?	+CGDSCONT: <cid>,<p_cid>,<d_comp>,<h_comp><CR><LF> +CGDSCONT: <cid>,<p_cid>,<d_comp>,<h_comp>[...]]
AT +CGDSCONT=?	+CGDSCONT: (list of supported <cid>s), (list of supported <p_cid>s),(list of supported <d_comp>s), (list of supported <h_comp>s)

Defined values

<cid>: decimal (1-11); PDP Context Identifier

<p_cid>: decimal (1-11); Primary PDP Context Identifier

<d_comp>: decimal (0-3); data compression parameter

0 off (default if value is omitted)

1 on (manufacturer preferred compression - not supported)

2 V.42bis (not supported)

3 V.44 (not supported)

<h_comp>: decimal (0-4); header compression parameter

0 off (default if value is omitted)

1 on (manufacturer preferred compression - not supported)

2 RFC1144 (not supported)

3 RFC2507 (supported but not controllable with this parameter)

4 RFC3095 (not supported)

AT +CGEQREQ: 3G Quality of Service Profile (Requested)

Description: Specifies a profile for the context identified by the (local)context identification parameter, <cid>

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGEQREQ=<cid>[,<traffic_class>[,<max_br_ul>[,<max_br_dl>[,<guar_br_ul>[,<guar_br_dl>[,<dlv_order>[,<max_sdu_size>[,<sdu_err_ratio>[,<res_be_ratio>[,<del_err_sdus>[,<trnsf_delay>[,<traf_hdl_prio>]]]]]]]]]]]]	
	+CME ERROR: <err>
AT +CGEQREQ	n/a
AT +CGEQREQ?	+CGEQREQ: <cid>,<traffic_class>,<max_br_ul>,<max_br_dl>,<guar_br_ul>,<guar_br_dl>,<dlv_order>,<max_sdu_size>,<sdu_err_ratio>,<res_be_ratio>,<del_err_sdus>,<trnsf_delay>,<traf_hdl_prio><CR><LF> +CGEQREQ: <cid>,<traffic_class>,<max_br_ul>,<max_br_dl>,<guar_br_ul>,<guar_br_dl>,<dlv_order>,<max_sdu_size>,<sdu_err_ratio>,<res_be_ratio>,<del_err_sdus>,<trnsf_delay>,<traf_hdl_prio>[...]]
AT +CGEQREQ=?	+CGEQREQ: (list of supported <pdp_type>s), (list of supported <cid>s),(list of supported <traffic_class>s), (list of supported <max_br_ul>s) ,(list of supported <max_br_dl>s), (list of supported <guar_br_ul>s), (list of supported <guar_br_dl>s), (list of supported <dlv_order>s) ,(list of supported <max_sdu_size>s), (list of supported <sdu_err_ratio>s), (list of supported <res_be_ratio>s), (list of supported <del_err_sdus>s) ,(list of supported <trnsf_delay>s), (list of supported <traf_hdl_prio>s)

Defined values

<cid>: decimal (1-11); PDP Context Identifier

<traffic_class>: decimal (0-4); The type of application

- **0** conversational
- **1** streaming
- **2** interactive
- **3** background
- **4** subscribed value

<max_br_ul>: decimal (0-512); maximum bit rate ul

<max_br_dl>: decimal (0-512); maximum bit rate dl

<guar_br_ul>: decimal (0-512); guaranteed bit rate ul

<guar_br_dl>: decimal (0-512); guaranteed bit rate dl

<dlv_order>: decimal (0-2); delivery order

- **0** no
- **1** yes
- **2** subscribed value

<max_sdu_size>: decimal (0-255); maximum sdu size

<sdu_err_ratio>: string; sdu error ratio

<res_be_ratio>: string; residual bit error ratio

<del_err_sdus>: decimal (0-3); delivery of erroneous sdus

- **0** no
- **1** yes
- **2** no detect
- **3** subscribed value

<trnsf_delay>: decimal (0-255); transfer delay

<traf_hdl_prio>: decimal (0-255); traffic handling priority

<pdp_type>: string ("IP"); Packet Data Protocol types

"IP"

AT +CGQREQ: Quality of Service Profile (Requested)

Description: Specifies a profile for the context identified by the (local)context identification parameter, <cid>

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGQREQ=<cid>[,<precedence>[,<delay>[,<reliability>[,<peak>[,<mean>]]]]]	

	+CME ERROR: <err>
AT +CGQREQ	n/a
AT +CGQREQ?	+CGQREQ: <cid>,<precedence>,<delay>,<reliability>,<peak>,<mean> <CR><LF> +CGQREQ: <cid>,<precedence>,<delay>,<reliability>,<peak>, <mean>[...]]
AT +CGQREQ=?	+CGQREQ: (list of supported <cid>s), (list of supported <precedence>s),(list of supported <delay>s), (list of supported <reliability>s),(list of supported <peak>s), (list of supported <mean>s)

Defined values

<cid>:	decimal (1-11); PDP Context Identifier
<precedence>:	decimal (0-3); precedence class
<delay>:	decimal (0-4); delay class
<reliability>:	decimal (0-5); reliability class
<peak>:	decimal (0-9); peak throughput class
<mean>:	decimal (31); mean throughput class

AT +CGQMIN: Quality of Service Profile (Minimum Acceptable)

Description: Specifies a profile for the context identified by the (local)context identification parameter, <cid>

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGQMIN=<cid>[,<precedence>[,<delay>[,<reliability>[,<peak>[,<mean>]]]]]	
	+CME ERROR: <err>
AT +CGQMIN	n/a
AT +CGQMIN?	+CGQMIN: <cid>,<precedence>,<delay>,<reliability>,<peak>,<mean> <CR><LF> +CGQMIN: <cid>,<precedence>,<delay>,<reliability>,<peak>, <mean>[...]]
AT +CGQMIN=?	+CGQMIN: (list of supported <cid>s), (list of supported <precedence>s),(list of supported <delay>s), (list of supported <reliability>s),(list of supported <peak>s), (list of supported <mean>s)

Defined values

<cid>:	decimal (1-11); PDP Context Identifier
<precedence>:	decimal (0-3); precedence class
<delay>:	decimal (0-4); delay class
<reliability>:	decimal (0-5); reliability class
<peak>:	decimal (0-9); peak throughput class
<mean>:	decimal (31); mean throughput class

AT +CGEQMIN: 3G Quality of Service Profile (Minimum Acceptable)

Description: Specifies a profile for the context identified by the (local)context identification parameter, <cid>

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGEQMIN=<cid>[,<traffic_class>[,<max_br_ul>[,<max_br_dl>[,<guar_br_ul>[,<guar_br_dl>[,<dlv_order>[,<max_sdu_size>[,<sdu_err_ratio>[,<res_be_ratio>[,<del_err_sdus>[,<trfr_delay>[,<traf_hdl_prio>]]]]]]]]]]]]	
	+CME ERROR: <err>
AT +CGEQMIN	n/a
AT +CGEQMIN?	+CGEQMIN: <cid>,<traffic_class>,<max_br_ul>,<max_br_dl>,<guar_br_ul>,<guar_br_dl>,<dlv_order>,<max_sdu_size>,<sdu_err_ratio>,<res_be_ratio>,<del_err_sdus>,<trfr_delay>,<traf_hdl_prio><CR><LF> +CGEQMIN: <cid>,<traffic_class>,<max_br_ul>,<max_br_dl>,<guar_br_ul>,<guar_br_dl>,<dlv_order>,<max_sdu_size>,<sdu_err_ratio>,<res_be_ratio>,<del_err_sdus>,<trfr_delay>,<traf_hdl_prio>[...]]
AT +CGEQMIN=?	+CGEQMIN: (list of supported <pdp_type>s),(list of supported <cid>s),(list of supported <traffic_class>s),(list of supported <max_br_ul>s) ,(list of supported <max_br_dl>s), (list of supported <guar_br_ul>s),(list of supported <guar_br_dl>s), (list of supported <dlv_order>s) ,(list of supported <max_sdu_size>s),(list of supported <sdu_err_ratio>s), (list of supported <res_be_ratio>s),(list of supported <del_err_sdus>s) ,(list of supported <trfr_delay>s), (list of supported <traf_hdl_prio>s)

Defined values

<cid>: decimal (1-11); PDP Context Identifier

<traffic_class>: decimal (0-4); The type of application

0 conversational

1 streaming

2 interactive

3 background

<max_br_ul>: decimal (0-512); maximum bit rate ul

<max_br_dl>: decimal (0-512); maximum bit rate dl

<guar_br_ul>: decimal (0-512); guaranteed bit rate ul

<guar_br_dl>: decimal (0-512); guaranteed bit rate dl

<dlv_order>: decimal (0-2); delivery order

0 no

1 yes

<max_sdu_size>: decimal (0-255); maximum sdu size

<sdu_err_ratio>: string; sdu error ratio

<res_be_ratio>: string; residual bit error ratio

<del_err_sdus>: decimal (0-3); delivery of erroneous sdus

0 no

1 yes

2 no detect

<trfr_delay>: decimal (0-255); transfer delay

<traf_hdl_prio>: decimal (0-255); traffic handling priority

<pdp_type>: string ("IP"); Packet Data Protocol types

"IP"

AT +CGEQNEG: 3G Quality of Service Profile (Negotiated)

Description: Specifies a negotiated 3g QoS profile for the context identified by the (local)context identification parameter, <cid>

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGEQNEG=<active_cid>[,<active_cid>]	
	+CGEQNEG: <active_cid>,<traffic_class>,<max_br_ul>,<max_br_dl>,<guar_br_ul>,<guar_br_dl>,<dlv_order>,<max_sdu_size>,<sdu_err_ratio>,<res_be_ratio>,<dlv_err_sdus>,<trfr_delay>,<traf_hdl_prio><CR><LF> +CGEQNEG: <active_cid>,<traffic_class>,<max_br_ul>,<max_br_dl>

	,<guar_br_ul>,<guar_br_dl>,<dlv_order>,<max_sdu_size>, <sdu_err_ratio>,<res_be_ratio>,<dlv_err_sdus>,<trfr_delay>, <traf_hdl_prio>[...]]
AT +CGEQNEG	n/a
AT +CGEQNEG?	
AT +CGEQNEG=?	+CGEQNEG: (list of supported <active_cid>s)

Defined values

<active_cid>: decimal (1-11); Active PDP Context Identifier

<traffic_class>: decimal (0-4); The type of application

- **0** conversational
- **1** streaming
- **2** interactive
- **3** background

<max_br_ul>: decimal (0-512); maximum bit rate ul

<max_br_dl>: decimal (0-512); maximum bit rate dl

<guar_br_ul>: decimal (0-512); guaranteed bit rate ul

<guar_br_dl>: decimal (0-512); guaranteed bit rate dl

<dlv_order>: decimal (0-2); delivery order

- **0** no
- **1** yes

<max_sdu_size>: decimal (0-255); maximum sdu size

<sdu_err_ratio>: string; sdu error ratio

<res_be_ratio>: string; residual bit error ratio

<dlv_err_sdus>: decimal (0-3); delivery of erroneous sdus

- **0** no
- **1** yes
- **2** no detect

<trfr_delay>: decimal (0-255); transfer delay

<traf_hdl_prio>: decimal (0-255); traffic handling priority

AT +CGATT: Attach or Detach

Description: Attach the MT to, or detach the MT from, the Paket Domain service

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGATT=<state>[,<conntype>]	
	+CME ERROR: <err>
AT +CGATT	n/a
AT +CGATT?	+CGATT: <cs_state>,<ps_state>
AT +CGATT=?	+CGATT: (list of supported <state>s) (list of supported <conntype>s)

Defined values

<state>: decimal (0-1);
- **0** detached
- **1** attached

<conntype>: decimal (1-4); connection type
- **1** CS
- **2** PS
- **3** Both (Combined)
- **4** Power off (Detach only)

<cs_state>: decimal (0-1); CS state
- **0** detached
- **1** attached

<ps_state>: decimal (0-1); PS state
- **0** detached
- **1** attached

AT +CGACT: PDP Context Activate or Deactivate

Description: Activate or deactivate the specified PDP context(s).
References: ETSI GSM 07.07
Group: Message Sending and Writing Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGACT=<state>[,<cid>]	
	+CME ERROR: <err>
AT +CGACT	n/a
AT +CGACT?	+CGACT: <cid>,<state> +CGACT: <cid>,<state>[...]]

AT +CGACT=?	+CGACT: (list of supported <state>s)

Defined values

<state>: decimal (0-1);
- **0** deactivated
- **1** activated

<cid>: decimal (1-11); PDP Context Identifier

AT +CGCMOD: PDP Context Modify

Description: Modify the specified PDP context(s) with respect to QoS profiles and TFTs.

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGCMOD=[<cid>]	
	+CME ERROR: <err>
AT +CGCMOD	
AT +CGCMOD?	n/a
AT +CGCMOD=?	+CGCMOD: (list of supported <cid>s)

Defined values

<cid>: decimal (1-11); PDP Context Identifier

AT +CGTFT: Traffic Flow Template

Description: Allows TE to specify a Packet Filter for a Traffic Flow Template

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGTFT=<cid>[,<packet_filter_id>,<eval_prec_index>[,<addr_n_mask>[,<protocol_number>[,<desc_port_range>[,<src_port_range>[,<spi>[,<tos_n_mask>[,<flow_label>]]]]]]]	

	+CME ERROR: <err>
AT +CGTFT	n/a
AT +CGTFT?	+CGTFT: <cid>,<packet_filter_id>,<eval_prec_index>,<addr_n_mask> ,<protocol_number>,<desc_port_range>,<src_port_range>,<spi>, <tos_n_mask>,<flow_label><CR><LF> +CGTFT: <cid>,<packet_filter_id>,<eval_prec_index>, <addr_n_mask>,<protocol_number>,<desc_port_range>, <src_port_range>,<spi>,<tos_n_mask>,<flow_label>[...]]
AT +CGTFT=?	+CGTFT: (list of supported <cid>s), (list of supported <packet_filter_id>s), (list of supported <eval_prec_index>s), (list of supported <addr_n_mask>s), (list of supported <protocol_number>s), (list of supported <desc_port_range>s), (list of supported <src_port_range>s),(list of supported <spi>s) ,(list of supported <tos_n_mask>s), (list of supported <flow_label>s)

Defined values

<cid>: decimal (1-11); PDP Context Identifier
<packet_filter_id>: decimal (1-8); packet filter identifier
<eval_prec_index>: decimal (0-255); evaluation precedence index
<addr_n_mask>: string; source address and subnet mask
<protocol_number>: decimal (0-255); protocol number
<desc_port_range>: string; destination port range
<src_port_range>: string; source port range
<spi>: decimal; ipsec security parameter index
<tos_n_mask>: string; tos and mask
<flow_label>: decimal; flow label

AT +CGDATA: Data Mode

Description: Causes the MT to perform whatever actions are necessary to establish communication between the TE and the network using one or more Packet Domain PDP types. This may include performing a PS attach and one or more PDP context activations.

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGDATA=<cid>[,<>[,<pdp_type>]	

	+CME ERROR: <err>
AT +CGDATA	
AT +CGDATA?	
AT +CGDATA=?	+CGDATA: (list of supported <pdp_type>s), (list of supported <cid>s)

Defined values

<cid>: decimal (1-11); PDP Context Identifier

<pdp_type>: string ("IP", "PPP"); Packet Data Protocol types

AT +CGPADDR: Show PDP Address

Description: Specifies PDP address for specified context identification parameter <cid>

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGPADDR=<cid>	
	+CME ERROR: <err>
AT +CGPADDR	n/a
AT +CGPADDR?	+CGPADDR: <cid>,<pdp_address> <CR><LF>
AT +CGPADDR=?	+CGPADDR: (list of supported <cid>s)

Defined values

<cid>: decimal (1-11); PDP Context Identifier

<pdp_address>: string; PDP address

AT +CGCLASS: GPRS Mobile Station Class

Description: Mode of operation set by the TE, independent of the current serving cell capability and independent of the current serving cell Access Technology.

References: ETSI GSM 07.07

Group: Message Sending and Writing Commands

Syntax: Extended format

Command	Possible response(s)
AT +CGCLASS=<mt_class>	
	+CME ERROR: <err>
AT +CGCLASS	<mt_class>
AT +CGCLASS?	+CGCLASS: <mt_class>
AT +CGCLASS=?	+CGCLASS: (list of supported <mt_class>s)

Defined values

<mt_class>: string; Class mode of Operation: BGAN Class A

- **A** MT would operate simultaneous PS and CS service
- **B** MT would operate PS and CS services but not simultaneously
- **CG** MT would only operate PS services
- **CC** MT would only operate CS services

AT +CGREG: GPRS Network Registration Indication

Description: Reports changes in network registration. Controlled by AT +CGREG.
References: ETSI GSM 07.07
Group: Message Sending and Writing Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGREG=<n>	
	<stat> +CME ERROR: <err>
AT +CGREG	n/a
AT +CGREG?	<n>[,<stat>[,<lac>]]
AT +CGREG=?	+CGREG: (list of supported <n>s)[,(list of supported <stat>s)[,l 2]]

Defined values

<n>: decimal (0-2); Reporting

- **0** disable +CGREG reporting
- **1** enable +CGREG reporting
- **2** enable +CGREG and location info

<stat>: decimal (0-5);

- **0** not registered
- **1** registered (home)
- **2** not registered (searching)
- **3** registration denied
- **4** unknown
- **5** registered (roaming)

<lac>: string (4); location area code

<ci>: string (4); cell ID

AT +CGSMS: Select Service for MO SMS Messages

Description: MO SMS messages
References: ETSI GSM 07.07
Group: Message Sending and Writing Commands
Syntax: Extended format

Command	Possible response(s)
AT +CGSMS=<n>	
	<> +CME ERROR: <err>
AT +CGSMS	n/a
AT +CGSMS?	<n>
AT +CGSMS=?	+CGSMS: (list of supported <n>s)

Defined values

<n>: decimal (0-3); service preference

- **0** Packet Domain
- **1** Circuit Domain
- **2** Packet Preferred
- **3** Circuit Preferred

Inmarsat Specific AT Commands

AT _IPOINT: Antenna Pointing

Description: Used to enter/exit antenna pointing mode
References: None

Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IPOINT=<exit_pointing>[,<ipoint_reporting>]	
	<exit_pointing>:<ipoint_reporting> +CME ERROR: <err>
AT _IPOINT	+CME ERROR: <err>
AT _IPOINT?	<exit_pointing>:<ipoint_reporting>
AT _IPOINT=?	_IPOINT: (list of supported <exit_pointing>s)

Defined values

<exit_pointing>: decimal (0-1); Exit Pointing
- **0** Antenna Pointing Active
- **1** Antenna Pointing Terminated

<ipoint_reporting>: decimal (0-1); Unsolicited Reports
- **0** Disable unsolicited result codes
- **1** Enable unsolicited result codes

AT _IGPS: GPS Location Information

Description: Supports read/set operations on GPS location. Unsolicited results
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IGPS=<lat_deg>	
	+CME ERROR: <err>
AT _IGPS	
AT _IGPS?	_IGPS: <lat_deg>,<lon_deg>,<type>,<status>,<time>
AT _IGPS=?	_IGPS: (list of supported <lat_deg>s),(list of supported <lon_deg>s), (list of supported <type>s)(list of supported <status>s), (list of supported <time>s)

Defined values

<lat_deg>: decimal (-90.00-90.00); Latitude in decimal degrees (minutes & seconds

converted to decimal degrees)

<lon_deg>: decimal (-180.00-180.00); Longitude, also in decimal

<type>: string constant ("2D","3D","Stored","Acquiring"); Fix Quality

"2D",	GPS receiver has a 2D fix
"3D",	GPS receiver has a 3D fix
"Stored",	GPS receiver is off – Lat & Lon are stored values of latest fix
"Acquiring",	attempting to acquire a fix

<status>: string constant ("allowed","barred","undetermined"); Fix status

"allowed"	Terminal is permitted to display GPS
"barred"	GPS operation barred at the location
"undetermined"	GPS network-policy not received

<time>: decimal; Timestamp

AT _INIS: Network Interface Status

Description: Used to query the status of network interface.

References: None

Group: Inmarsat Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _INIS=<func>	
	<func>: <dec-value> +CME ERROR: <err>
AT _INIS	+CME ERROR: <err>
AT _INIS?	<func>: <dec-value>
AT _INIS=?	_INIS: (list of supported <func>s)

Defined values

<func>: string constant ("ETH","WLAN","USB","ISDN"); Interface

"ETH"	Ethernet
"WLAN"	Wireless LAN
"USB"	USB
"ISDN"	ISDN

<dec-value>: decimal (0-1); Parameter Value

0	OFF
1	ON

AT _ITFT: Uplink Traffic Flow Template

Description: Allows TE to specify a Packet Filter for a Traffic Flow Template
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _ITFT=<cid>[,<packet_filter_id>,<eval_prec_index>[,<addr_n_mask>[,<protocol_number>[,<desc_port_range>[,<src_port_range>[,<spi>[, <tos_n_mask>]]]]]]]	
	+CME ERROR: <err>
AT _ITFT	n/a
AT _ITFT?	_ITFT: <cid>,<packet_filter_id>,<eval_prec_index>,<addr_n_mask>,<protocol_number>,<desc_port_range>,<src_port_range>,<spi>,<tos_n_mask><CR><LF> _ITFT: <cid>,<packet_filter_id>,<eval_prec_index>,<addr_n_mask>,<protocol_number>,<desc_port_range>,<src_port_range>,<spi>,<tos_n_mask>[...]]
AT _ITFT=?	_ITFT: (list of supported <cid>s), (list of supported <packet_filter_id>s), (list of supported <eval_prec_index>s), (list of supported <addr_n_mask>s), (list of supported <protocol_number>s), (list of supported <desc_port_range>s), (list of supported <src_port_range>s),(list of supported <spi>s) ,(list of supported <tos_n_mask>s)

Defined values

<cid>: decimal (1-11); PDP Context Identifier
<packet_filter_id>: decimal (1-4); packet filter identifier
<eval_prec_index>: decimal (0-255); evaluation precedence index
<addr_n_mask>: string; destination address and subnet mask
<protocol_number>: decimal (0-255); protocol number
<desc_port_range>: string; destination port range
<src_port_range>: string; source port range
<spi>: decimal; ipsec security parameter index
<tos_n_mask>: string; tos and mask

AT _ITEMP: BGAN Terminal Temperature

Description: To query the MT temperature and for unsolicited temperature reports
References: None

Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _ITEMP=<mt_thermal_status>,<mt_thermal_scale>	
AT _ITEMP	<mt_thermal_status>,<mt_thermal_scale> +CME ERROR: <err>
AT _ITEMP?	<mt_thermal_status>,<mt_thermal_scale> +CME ERROR: <err>
AT _ITEMP=?	_ITEMP: (list of supported <mt_thermal_status>s)[, (list of supported <mt_thermal_scale>s)]

Defined values
<mt_thermal_status>: decimal (0-4); MT Temperature Status
<mt_thermal_scale>: decimal (20-40); MT Temperature Scale

AT _ILOG: Retrieve Log File

Description: Retrieve syslog file from BGAN terminal.
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _ILOG=	
	<logfile>[,<lines>[,<action>[,<start>]]]
AT _ILOG	n/a
AT _ILOG?	_ILOG: (list of supported <logfile>s)
AT _ILOG=?	_ILOG: (list of supported <logfile>s), (list of supported <lines>s),(list of supported <action>s), (list of supported <start>s)

Defined values
<logfile>: string (syslog); log file name
<lines>: decimal (0-65535); lines to items to return
<action>: decimal (0-1); action command

0 No action(default)

1 Erase log file(not supported)

<start>: decimal (0-65535); start offset

AT _ISLEEP: MT Sleep Status Indicator

Description: Indicates the sleep status information. Unsolicited reporting of sleep state

References: None

Group: Inmarsat Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _ISLEEP=	
AT _ISLEEP	+CME ERROR: <err>
AT _ISLEEP?	<mt_sleep_status>, <mt_sleep_timeout> +CME ERROR: <err>
AT _ISLEEP=?	_ISLEEP: (list of supported <mt_sleep_status>s)[, (list of supported <mt_sleep_timeout>s)]

Defined values

<mt_sleep_status>: decimal (0-1); MT Sleep Status

<mt_sleep_timeout>: decimal (20-40); Time left for the MT to go to sleep

AT _IMETER: Call Metering

Description: BGAN terminal call metering

References: None

Group: Inmarsat Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IMETER=	
	<meter_type>[,<mode>] +CME ERROR: <err>
AT _IMETER	n/a

AT _IMETER?	
AT _IMETER=?	_IMETER: (list of supported <meter_type>s), (list of supported <mode>s)

Defined values

<meter_type>: string ("CS","CS_SESSION","CS_TRIP","PS","PS_RX","PS_TX","PS_SESSION_RX", "PS_SESSION_TX","PS_TRIP","PS_TRIP_RX", "PS_TRIP_TX"); Call Meters

<mode>: decimal (0-3); mode used in exec command

- **0** read
- **1** disable unsolicited meter reporting
- **2** enable unsolicited meter reporting
- **3** reset meter counter

AT _ISIG: Signal Strength Indicator

Description: Used for querying C/No values or request C/No reports.
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _ISIG=<cn0_report>[,<interval>]	
	<cn0_report>: <cn0_report>[,<interval>] +CME ERROR: <err>
AT _ISIG	_ISIG: <c_n0_value>
AT _ISIG?	_ISIG: <cn0_report>
AT _ISIG=?	_ISIG: (list of supported <cn0_report>s)[, (list of supported <interval>s)]

Defined values

<cn0_report>: decimal (0-1); C/No reports

- **0** Disable unsolicited result code
- **1** Enable unsolicited result code

<interval>: decimal (0-255); Parameter Value

<c_n0_value>: decimal (0-255); C/No Value

AT _IBALARM: Alarm Indicator

Description: Alarm Category & Condition Indicator.
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IBALARM=	
	<rep_mode> +CME ERROR: <err>
AT _IBALARM	+CME ERROR: <err>
AT _IBALARM?	<alarm_catg>,<alarm_status> +CME ERROR: <err>
AT _IBALARM=?	_IBALARM: (list of supported <rep_mode>s)

Defined values

<rep_mode>: decimal (0-1); Reporting mode
- **0** Basic mode
- **1** Verbose mode

<alarm_status>: decimal (0-1); Outstanding Alarms/Status
- **0** Alarm Inactive
- **1** Alarm Active

<alarm_catg>: decimal (1-10); Alarms Category
- **1** SIM PIN Error
- **2** PCB Core Overheat
- **3** GPS HW Failure
- **4** GPS Communication Failure
- **5** Antenna Communication Failure
- **6** SIM Not Present
- **7** Battery Low (N/A some platforms)
- **8** Battery Overheat (N/A some platforms)
- **9** SIM Not Supported
- **10** BDE <-> Antenna Mismatch

AT _ISATINFO: BGAN Satellite Information

Description: CM satellite table information.
References: None
Group: Inmarsat Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _ISATINFO=...	n/a
AT _ISATINFO	_ISATINFO: <sat_id>,<lon_deg>[...] +CME ERROR: <err>
AT _ISATINFO?	n/a
AT _ISATINFO=?	_ISATINFO: (list of supported <sat_id>s),(list of supported <lon_deg>s)

Defined values

<sat_id>: decimal (1-32); Satellite ID

<lon_deg>: decimal (0.0-359.9); Longitude-degrees

AT _ISATVIS: BGAN Satellite(s) Visible

Description: CM satellite table information.

References: None

Group: Inmarsat Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _ISATVIS=...	n/a
AT _ISATVIS	_ISATVIS: <sat_id>,<elevation>[...] +CME ERROR: <err>
AT _ISATVIS?	n/a
AT _ISATVIS=?	_ISATVIS: (list of supported <sat_id>s),(list of supported <elevation>s)

Defined values

<sat_id>: decimal (1-32); Satellite ID

<elevation>: decimal (0-90); Satellite elevation

AT _ISATCUR: BGAN Current Satellite

Description: CM satellite table information.

References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _ISATCUR=	
AT _ISATCUR	n/a
AT _ISATCUR?	
AT _ISATCUR=?	_ISATCUR: (list of supported <sat_id>s)

Defined values
<sat_id>: decimal (1-255); Satellite ID

AT _IBNOTIFY: Control Unsolicited Commands

Description: Control sending of unsolicited result codes for commands "_IGPS","_IPOINT","_ITEMP","_ISIG","_ISLEEP","_IMETER","+CBC","+CGEV","+CLCC","+CGPADDR","_IHGF","_IHREBOOT","_IHSTATUS","+CMTI" ,"_IHPIN","_IHPACKET","_IHSMS","_IHBEAM", and "_IBALARM".
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IBNOTIFY=	
	<command_code>[,<status>] +CME ERROR: <err>
AT _IBNOTIFY	+CME ERROR: <err>
AT _IBNOTIFY?	_IBNOTIFY: <command_code>,<status>
AT _IBNOTIFY=?	_IBNOTIFY: (list of supported <command_code>s), (list of supported <status>s)

Defined values
<command_code>: string; Command codes

"_IGPS"	unsolicited result code
"_IPOINT"	unsolicited result code
"_ITEMP"	unsolicited result code
"_ISIG"	unsolicited result code
"_ISLEEP"	unsolicited result code
"_IMETER"	unsolicited result code
"+CBC"	unsolicited result code
"+CGEV"	unsolicited result code
"+CLCC"	unsolicited result code
"+CGPADDR"	unsolicited result code
"_IHGF"	unsolicited result code
"_IHREBOOT"	unsolicited result code
"_IHSTATUS"	unsolicited result code
"+CMTI"	unsolicited result code
"_IHPIN"	unsolicited result code
"_IHPACKET"	unsolicited result code
"_IHSMS"	unsolicited result code
"_IHBEAM"	unsolicited result code
"_IBALARM"	unsolicited result code

<status>: decimal (0-1); On/Off

0 Disable the sending of this unsolicited result code

1 Enable the sending of this unsolicited result code

AT _IERROR: BGAN Terminal Error Reports

Description: Unsolicited error reports

References: None

Group: Inmarsat Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IERROR=<rejCode>	
AT _IERROR	n/a
AT _IERROR?	
AT _IERROR=?	

Defined values

<rejCode>: decimal (1-5); Rejection codes

1 ierror_code_rnc_failure
2 ierror_code_congestion
3 ierror_code_unsupported_lai
4 ierror_code_unsupported_ue_class
5 ierror_code_usim_required

<deregCode>: decimal (11-20); Deregistration codes

11 ierror_code_reg_completion_failure
12 ierror_code_service_area_barred
13 ierror_code_gps_position_required
14 ierror_code_network_reset
15 ierror_code_ue_inactivity
16 ierror_code_pos_not_received
17 ierror_code_fix_old
18 ierror_code_decryption_error
19 ierror_code_invalid_gps_pos
20 ierror_code_oper_initialted_dereg

AT _IGETFW: Get firmware file from FTP server

Description: Download firmware file from FTP server using specified parameters
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IGETFW=<mode>[,<server_ip>[,<server_uname>[,<server_passwd>[,<apn_name>[,<apn_uname>[,<apn_passwd>]]]]]]	
	_IGETFW: <mode>,<server_ip>,<server_uname>,<server_passwd>,<apn_name>,<apn_uname>,<apn_passwd>
AT _IGETFW	
AT _IGETFW?	_IGETFW: <mode>,<server_ip>,<server_uname>,<server_passwd>,<apn_name>,<apn_uname>,<apn_passwd> +CME ERROR: <err>
AT _IGETFW=?	_IGETFW: (list of supported <mode>s), (list of supported <server_ip>s), (list of supported <server_uname>s), (list of supported <server_passwd>s), (list of supported <apn_name>s),(list of supported <apn_uname>s) ,(list of supported <apn_passwd>s)

Defined values

<mode>: decimal (0-1); deferred/immediate mode
<server_ip>: string; IP address of the FTP server
<server_uname>: string; Username for the FTP server
<server_passwd>: string; Password for the FTP server
<apn_name>: string; APN to access the FTP server
<apn_uname>: string; Username for the APN
<apn_passwd>: string; Password for the APN

AT _IUPDFW: Trigger firmware update.

Description: Trigger a firmware update.
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IUPDFW=	
	_IUPDFW: <bin_file> +CME ERROR: <err>
AT _IUPDFW	
AT _IUPDFW?	
AT _IUPDFW=?	_IUPDFW: (list of supported <bin_file>s)

Defined values

<bin_file>: string (""); Firmware binary file name

AT _ISENDFILE: Send file from UT to FTP server

Description: Send a file using FTP from the UT to an FTP server
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _ISENDFILE=<local_dir>,<filename>,<ftp_dir>,<ftp_server>,<ftp_username>, <ftp_password>	

	_ISENDFILE: <local_dir>,<filename>,<ftp_dir>,<ftp_server>, <ftp_username>,<ftp_password>
AT _ISENDFILE	
AT _ISENDFILE?	_ISENDFILE: <local_dir>,<filename>,<ftp_dir>,<ftp_server>, <ftp_username>,<ftp_password> +CME ERROR: <err>
AT _ISENDFILE=?	_ISENDFILE: (list of supported <local_dir>s), (list of supported <filename>s),(list of supported <ftp_dir>s), (list of supported <ftp_server>s), (list of supported <ftp_username>s), (list of supported <ftp_password>s),(list of supported <>s)

Defined values

<local_dir>: string; Directory on UT containing file to be transfered
<filename>: string; Name of file to be transfered
<ftp_dir>: string; Directory on FTP server to store the file
<ftp_server>: string; FTP server name or IP address
<ftp_username>: string; FTP server username for login
<ftp_password>: string; FTP server password for login

AT _IGETFILE: Download file from FTP server to UT

Description: Download a file using FTP from a server to the UT
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IGETFILE=<ftp_dir>,<filename>,<local_dir>,<ftp_server>,<ftp_username>, <ftp_password>[,<apn_name>[,<apn_uname>,<apn_passwd>]]	
	_IGETFILE: <ftp_dir>,<filename>,<local_dir>,<ftp_server>, <ftp_username>,<ftp_password>,<apn_name>,<apn_uname>, <apn_passwd>
AT _IGETFILE	
AT _IGETFILE?	_IGETFILE: <ftp_dir>,<filename>,<local_dir>,<ftp_server>, <ftp_username>,<ftp_password>,<apn_name>,<apn_uname>, <apn_passwd> +CME ERROR: <err>
AT	_IGETFILE: (list of supported <ftp_dir>s),

_IGETFILE=?	(list of supported <filename>s),(list of supported <local_dir>s) ,(list of supported <ftp_server>s), (list of supported <ftp_username>s), (list of supported <ftp_password>s), (list of supported <apn_name>s),(list of supported <apn_uname>s) ,(list of supported <apn_passwd>s),(list of supported <>s)

Defined values

<ftp_dir>: string; Directory on FTP server where file exists
<filename>: string; Name of file to be transfered
<local_dir>: string; Directory on UT where file will be stored
<ftp_server>: string; FTP server name or IP address
<ftp_username>: string; FTP server username for login
<ftp_password>: string; FTP server password for login
<apn_name>: string; APN to access the FTP server
<apn_uname>: string; Username for the APN
<apn_passwd>: string; Password for the APN

AT _IUPDCFG: Install new 'config.txt' file.

Description: Activate a new configuration by overwriting 'config.txt' with a new file.
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IUPDCFG=	
	_IUPDCFG: <filename> +CME ERROR: <err>
AT _IUPDCFG	
AT _IUPDCFG?	
AT _IUPDCFG=?	_IUPDCFG: (list of supported <filename>s)

Defined values

<filename>: string (""); Name of file to be new 'config.txt'.

AT _IREMWEB: Control HTTP access to UT.

Description: Enable/Disable access to web server in UT, for specific client IP

address(es)

References: None

Group: Inmarsat Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IREMWEB=<enable>,<http_client_ipaddr_lo>[,<http_client_ipaddr_hi>]	
	_IREMWEB: <enable>,<http_client_ipaddr_lo>, <http_client_ipaddr_hi>
AT _IREMWEB	
AT _IREMWEB?	_IREMWEB: <enable>,<http_client_ipaddr_lo>, <http_client_ipaddr_hi> +CME ERROR: <err>
AT _IREMWEB=?	_IREMWEB: (list of supported <enable>s), (list of supported <http_client_ipaddr_lo>s), (list of supported <http_client_ipaddr_hi>s)

Defined values

<enable>: decimal (0-1); enable/disable

<http_client_ipaddr_lo>: string; IP address of allowed HTTP client

<http_client_ipaddr_hi>: string; Upper IP address for range of HTTP clients

AT _ICLCK: Facility Lock Configure

Description: Used to lock, unlock or interrogate a MT facility <fac>. Password is normally needed to do such actions.

References: None

Group: Inmarsat Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _ICLCK=<fac>,<mode>[,<password>]	
	+CME ERROR: <err> when <mode>=2 and command successful: _ICLCK: <status><CR><LF>
AT _ICLCK	n/a
AT _ICLCK?	n/a
AT _ICLCK=?	_ICLCK: ("AD", "RS") +CME ERROR: <err>

Defined values

<fac>: string;
- **"AD"** Administrator Lock
- **"RS"** Remote SMS Lock Status

<mode>: decimal (0-2);
- **0** unlock
- **1** lock
- **2** query status

<password>: string

<status>: decimal (0-1);
- **0** not active
- **1** active

AT _ICPWD: Change Facility Password

Description: Sets a new password for the facility lock function defined by command _ICLCK.

References: None

Group: Inmarsat Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _ICPWD=<fac>,<oldpwd>,<newpwd>	
	+CME ERROR: <err>
AT _ICPWD	n/a
AT _ICPWD?	n/a
AT _ICPWD=?	_ICPWD: ("AD", "RS") +CME ERROR: <err>

Defined values

<fac>: string;
- **"AD"** Administrator Lock
- **"RS"** Remote SMS Lock Status

<oldpwd>: string (oldpwd)

<newpwd>: string (newpwd)

AT _IATCSCN: Inititate RX ATC Scan

Description: Used for running Rx scan for ATC sources.
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IATCSCN=...	n/a
AT _IATCSCN	
AT _IATCSCN?	_IATCSCN: <>
AT _IATCSCN=?	_IATCSCN: (list of supported <>s)

AT _IATCROBST: Enable / Disable ATC robustness mode

Description: Used to enable or disable remote ATC robustness mode.
References: None
Group: Inmarsat Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IATCROBST=	
	+CME ERROR: <err>
AT _IATCROBST	
AT _IATCROBST?	_IATCROBST: <>
AT _IATCROBST=?	_IATCROBST: (list of supported <Status>s)

Defined values

<Status>: decimal (0-1); robustness mode command status
- **0** Disable robustness mode
- **1** Enable robustness mode

HNS Specific AT Commands

AT _IHINIT: Initial Configuration Settings

Description: Allows TE to configure the UT for specific initialization parameters.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHINIT=<func>[,<value>]	
	<value> +CME ERROR: <err>
AT _IHINIT	
AT _IHINIT?	<func>,<value>
AT _IHINIT=?	_IHINIT: (list of supported <func>s), (list of supported <value>s)

Defined values

<func>: string constant ("BAP","APA","APO","ACA","OBL","IPS","PSA","CSA","IBT","DHCP","PKA","SIT","APD","NWA","RFC2507_HC","STORE"); Init Parameters

"BAP"	Bypass Antenna Pointing
"APA"	Antenna Pointing Audio
"APO"	Auto Power On
"ACA"	Auto Context Activation (for DHCP IP TEs; refer to _IHACA for Static IP TEs)
"OBL"	On-board LEDs
"IPS"	ISDN Power Sourcing
"PSA"	Automatic PS Attach
"CSA"	Automatic CS Attach
"IBT"	ISDN Bearer Trigger
"DHCP"	Enable DHCP Server
"PKA"	Enable 24/7 PDP Context Keep Alive
"SIT"	Stream Inactivity Timer
"APD"	Auto PDP Context De-activation
"NWA"	No Wait AT commands
"RFC2507_HC"	Enable RFC2507 Header Compression
"STORE"	Write config.txt to flash (value irrelevant)

<valu decimal (0-1); Status

e>: **0** OFF
1 ON

AT _IHIP: Internet Protocol Settings

Description: Allows TE to query IP settings. Note the range restrictions on the Unit IP address. Also note that a minimum of 11 DHCP-assigned addresses must be provided based on the DHCP_HI and DHCP_LO values.

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHIP=<ip-parms>[,<str-value>]	
	<ip-parms>,<str-value> +CME ERROR: <err>
AT _IHIP	
AT _IHIP?	<ip-parms>,<str-value>
AT _IHIP=?	_IHIP: (list of supported <ip-parms>s)

Defined values

<ip-parms>: string constant ("DNS","DNS2","UNITIP","SUBNET","NETMODE","DHCP_LO","DHCP_HI");
BGAN Terminal IP Parameters

"DNS"	DNS server IP (4 octets)
"DNS2"	Secondary DNS server IP (4 octets)
"UNITIP"	BGAN unit IP: 192.168.(1-255).(1-254)
"SUBNET"	DHCP/IP Subnet Mask (4 octets)
"NETMODE"	Network Mode [NAT, BRIDGE, RELAY]
"DHCP_LO"	DHCP server lo address (start address) last octet, range [1-254]
"DHCP_HI"	DHCP server hi address (end address) last octet, range [1-254]

<str-value>: string; Parameter Value

AT _IHSTATUS: HNS Terminal Status

Description: Allows TE to query terminal status.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHSTATUS=<param>	
	<param>,(<dec_value>|<str_value>) +CME ERROR: <err>
AT _IHSTATUS	
AT _IHSTATUS?	<param>,(<dec_value>|<str_value>)
AT _IHSTATUS=?	_IHSTATUS: (list of supported <param>s)

Defined values

<param>: string constant ("CIPH","CONN","TRAF","FLTS","MAC","GPS","WLAN","CSC","CLASS"); BGAN Terminal Status Parameters

"CIPH"	Ciphering
"CONN"	Connectivity
"TRAF"	Traffic Monitor
"FLTS"	Faults
"MAC"	MAC Address
"GPS"	GPS Status & Position
"WLAN"	Wireless LAN Status
"CSC"	Circuit Switched Connection Status
"CLASS"	UE Class

<dec_value>: decimal (0-1); Parameter Value

0	OFF
1	ON

<str_value>: string; Parameter Value

AT _IHSET: HNS Set Terminal Configuration

Description: Allows TE to configure UT specific parameters.
References: None
Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHSET=<set>[,<str-value>]	
	<set>,<str-value> +CME ERROR: <err>
AT _IHSET	
AT _IHSET?	<set>,<str-value>
AT _IHSET=?	_IHSET: (list of supported <set>s)

Defined values

<set string constant>: ("MSN_SPEECH","MSN_AUDIO","MSN_UDI","MSN_RDI","SAT_SELECT","MAN_NAME","MAN_ID","MODEL_NO","PART_NO","SERIAL_NO","REV_ID");
BGAN terminal Parameters

"**MSN_SPEECH**"	ISDN MSN_SPEECH
"**MSN_AUDIO**"	ISDN MSN_AUDIO
"**MSN_UDI**"	ISDN MSN_UDI
"**MSN_RDI**"	ISDN MSN_RDI
"**SAT_SELECT**"	DEFAULT SATELLITE SELECTION
"**MAN_NAME**"	MANUFACTURER NAME
"**MAN_ID**"	MANUFACTURER ID
"**MODEL_NO**"	MANUFACTURER MODEL NUMBER
"**PART_NO**"	MANUFACTURER PART NUMBER
"**SERIAL_NO**"	MANUFACTURER SERIAL NUMBER
"**REV_ID**"	MANUFACTURER REVISION NUMBER

<str-value>: string; Parameter Value

AT _IHREAD: HNS Terminal Version Information

Description: Allows TE to configure UT specific parameters.
References: None
Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHREAD=<param>	
	<param>,<str-value> +CME ERROR: <err>
AT _IHREAD	
AT _IHREAD?	<param>,<str-value>
AT _IHREAD=?	_IHREAD: (list of supported <param>s)

Defined values

<param>: string constant ("SW","FW","ROM","IMEI","PIC"); BGAN Terminal Version Info

"SW"	software version
"FW"	firmware version
"ROM"	ROM version
"IMEI"	IMEI of the unit
"PIC"	PIC version

<str-value>: string; Parameter Value

AT _IHDEFCNT: Define a Default PDP Context

Description: Specifies PDP context parameter values for a PDP context.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHDEFCNT=<pdp_type>[,<apn>[,<pdp_address>[,<d_comp>[,<h_comp>[,<pd1>[,<pd2>[,<pd3>[,<pd4>[,<traffic_class>[,<max_br_ul>[,<max_br_dl>[,<guar_br_ul>[,<guar_br_dl>]]]]]]]]]]]]	
	+CME ERROR: <err>
AT _IHDEFCNT	n/a
AT _IHDEFCNT?	_IHDEFCNT: <pdp_type>,<apn>,<pdp_address>,<d_comp>,<h_comp>,<pd1>,<pd2>,<pd3>,<pd4>,<traffic_class>,<max_br_ul>,<max_br_dl>,<guar_br_ul>,<guar_br_dl><CR><LF> _IHDEFCNT: <pdp_type>,<apn>,<pdp_address>,<d_comp>,<h_comp>,

	<pd1>,<pd2>,<pd3>,<pd4>,<traffic_class>,<max_br_ul>,<max_br_dl>, <guar_br_ul>,<guar_br_dl>,<dlv_order>,<max_sdu_size>, <sdu_err_ratio>,<res_be_ratio>,<dlv_err_sdus>,<trfr_delay>, <traf_hdl_prio>
AT _IHDEFCNT=?	_IHDEFCNT: (list of supported <pdp_type>s),,, (list of supported <d_comp>s),(list of supported <h_comp>s),,, , (list of supported <traffic_class>s), (list of supported <max_br_ul>s), (list of supported <max_br_dl>s), (list of supported <guar_br_ul>s), (list of supported <guar_br_dl>s), (list of supported <dlv_order>s), (list of supported <max_sdu_size>s), (list of supported <max_sdu_size>s), (list of supported <sdu_err_ratio>s), (list of supported <res_be_ratio>s), (list of supported <dlv_err_sdus>s), (list of supported <dlv_err_sdus>s), (list of supported <traf_hdl_prio>s)

Defined values

<pdp_type>: string ("IP", "PPP"); Packet Data Protocol types

<apn>: string (""); Access Point Name

<pdp_address>: string (""); PDP address

<d_comp>: decimal (0-3); data compression parameter

- **0** off (default if value is omitted)
- **1** on (manufacturer preferred compression - not supported)
- **2** V.42bis (not supported)
- **3** V.44 (not supported)

<h_comp>: decimal (0-4); header compression parameter

- **0** off (default if value is omitted)
- **1** on (manufacturer preferred compression - not supported)
- **2** RFC1144 (not supported)
- **3** RFC2507 (supported but not controllable with this parameter)
- **4** RFC3095 (not supported)

<pd1>: string (""); apn-username (optional)

<pd2>: string (""); apn-password (optional)

<pd3>: string (""); TE address (optional)

<pd4>:

<traffic_class>: decimal (0-4); The type of application

- **0** conversational
- **1** streaming
- **2** interactive
- **3** background
- **4** subscribed value

<max_br_ul>: decimal (0-512); maximum bit rate ul

<max_br_dl>: decimal (0-512); maximum bit rate dl

<guar_br_ul>: decimal (0-512); guaranteed bit rate ul

<guar_br_dl>: decimal (0-512); guaranteed bit rate dl

<dlv_order>: decimal (0-2); delivery order

0 no

1 yes

2 subscribed value

<max_sdu_size>: decimal (0-255); maximum sdu size

<sdu_err_ratio>: string ((1-255)E(0-9)); sdu error ratio

<res_be_ratio>: string ((1-255)E(0-9)); residual bit error ratio

<dlv_err_sdus>: decimal (0-3); delivery of erroneous sdus

0 no

1 yes

2 no detect

3 subscribed value

<trfr_delay>: decimal (0-255); transfer delay

<traf_hdl_prio>: decimal (0-255); traffic handling priority

AT _IHACA: Automatic Context Activation

Description: Allows TE to configure Automatic PDP Context activation. Note that this command is used to configure ACA for TEs with Static IP addresses; the _IHINIT AT Command has an "ACA" parameter that shows the status of/controls the use of ACA for TEs with DHCP-assigned IP addresses. Note that the "ACA Always On" parameter MUST be provided as the last parameter for ACA Identifier 7 creation/modification ONLY (it is not needed/has no effect when used to create/modify ACA Identifiers 1 through 6); also note that the enabling of ACA Identifier 7 (for Always On ACA) will automatically force all Static ACA definitions (ACA Identifiers 1-6) as well as DHCP-based ACA (in _IHINIT) to become disabled. If ACA Identifier 7 is shown as enabled, the ACA Always On function is enabled, and vice-versa (there is no separate indicator).

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHACA=<aca_id>,<enable>,[<lo_ip_address>,<hi_ip_address>[,<qos>[,<apn>[,<username>[,<password>[,<always_on>]]]]]]	
	+CME ERROR: <err>
AT _IHACA	n/a
AT _IHACA?	_IHACA: <aca_id>,<enable>,<lo_ip_address>,<hi_ip_address>,<qos>,<apn>,<username>,<password><CR><LF>

	_IHACA: <aca_id>,<enable>,<lo_ip_address>,<hi_ip_address>, <qos>,<apn>,<username>,<password>[...]
AT _IHACA=?	_IHACA: (list of supported <aca_id>s), (list of supported <enable>s), (list of supported <lo_ip_address>s), (list of supported <hi_ip_address>s),(list of supported <qos>s), (list of supported <apn>s),(list of supported <username>s), (list of supported <password>s)

Defined values

<aca_id>: decimal (1-7); ACA Identifier
- **1-6** ACA Regular Index
- **7** ACA Always On Index

<enable>: decimal (0-2); ACA Enable
- **0** disabled
- **1** enabled
- **2** data activated

<lo_ip_address>: string; Low limit for TE IP address space (4 octets)

<hi_ip_address>: string; High limit for TE IP address space (4 octets)

<qos>: decimal (2-5); QoS
- **2** Background
- **3** 32 kbps streaming
- **4** 64 kbps streaming
- **5** 128 kbps streaming

<apn>: string; Access Point Name (APN)

<username>: string; APN username

<password>: string; APN password

<always_on>: decimal (0-1); ACA Always On (MUST be used as last parm with ACA Identifier 7 create ONLY)
- **0** disabled
- **1** enabled

AT _IHTM: Set CM to Test Mode

Description: Sets the CM to work in test mode, for cable calibration
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHTM=<testmode>	

	+CME ERROR: <err>
AT _IHTM	n/a
AT _IHTM?	<testmode>
AT _IHTM=?	(list of supported <testmode>s)

Defined values

<testmode>: decimal (0-1); mode

0 disabled

1 enabled

AT _IHTXCW: Transmit CW

Description: Orders CM to transmit CW
- First call will set the CW to 12dB reference point
- Subsequent calls (with <pwr_sense>) will increase or decrease by 1dB from previous value

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHTXCW=<frequency>,<offset>,[<pwr_sense>]	
	OK +CME ERROR: <err>
AT _IHTXCW	n/a
AT _IHTXCW?	<status>[,<frequency>,<offset>]
AT _IHTXCW=?	n/a

Defined values

<frequency>: decimal (6000-19600); Channel number

<offset>: decimal (0-1); 1.25 kHz offset

<pwr_sense>: decimal (0-1); Power backoff - sense

0 (default) Positive backoff (+1dB)

1 Negative backoff (-1dB)

<status>: decimal (0-1);

0 CW Tx OFF

1 CW Tx ON

AT _IHSTXCW: Stop CW Transmission

Description: Orders CM to Stop CW Transmission.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHSTXCW=...	n/a
AT _IHSTXCW	<status> +CME ERROR: <err>
AT _IHSTXCW?	<status>
AT _IHSTXCW=?	n/a

Defined values

<status>: decimal (0-1);

0 CW Tx OFF

1 CW Tx ON

AT _IHTXMOD: Transmit Modulated Signal

Description: Ask CM to transmit modulated signal.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHTXMOD=<frequency>,<offset>,<bearer>,<coding>,<delay>,<ts>,<backoff>	
	+CME ERROR: <err>
AT _IHTXMOD	n/a
AT _IHTXMOD?	<status>[,<frequency>,<offset>,<bearer>,<coding>,<delay>,<ts>,<backoff>]
AT	n/a

_IHTXMOD=?	

Defined values

<frequency>: decimal (6000-19600); Channel number
<offset>: decimal (0-1); 1.25 kHz offset
<bearer>: decimal (7); bearer type: R20T4.5Q
<coding>: decimal (0); coding type: R
<delay>: decimal (0); time delay: 0
<ts>: decimal (65535); time slot: all slots
<backoff>: decimal (0); 0dB backoff -- maximum power
<status>: decimal (0-1);

0 modulated Tx OFF
1 modulated Tx ON

AT _IHSTXMOD: Stop Modulated Signal Transmission

Description: Command CM to stop modulated signal transmission.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHSTXMOD=	
	<status>
AT _IHSTXMOD	<status>
AT _IHSTXMOD?	<status>
AT _IHSTXMOD=?	n/a

Defined values

<status>: decimal (0-1);

0 modulated Tx OFF
1 modulated Tx ON

AT _IHGFACQ: Ask PSAB Acquisition Status

Description: CM scans PSAB channel found by ADE and reports acquisition status.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHGFACQ=<frequency>,<offset>	
	+CME ERROR: <err>
AT _IHGFACQ	
AT _IHGFACQ?	
AT _IHGFACQ=?	_IHGFACQ: (list of supported <frequency>s), (list of supported <offset>s)

Defined values

<frequency>: decimal (6000-19600); Frequency
<offset>: decimal (0-1); 1.25 kHz offset disable/enable

AT _IHSIGACQ: Ask Signal Acquisition Status

Description: CM compares receive signal level to minimal bearer level
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHSIGACQ=...	n/a
AT _IHSIGACQ	_IHSIGACQ: : <status>
AT _IHSIGACQ?	
AT _IHSIGACQ=?	_IHSIGACQ: (list of supported <status>s),(list of supported <>s)

Defined values

<status>: decimal (0-1); signal acquisition status

0 Signal Acquisition Failed
1 Signal Acquisition Succeeded

AT _IHGF: Obtain Satellite Information for Antenna Pointing

Description: CM scans PSAB channel found by ADE and reports acquisition status.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHGF=...	n/a
AT _IHGF	_IHGF: <coverage_type>,<desired_sat>[,<lon_deg>,<lon_min>,<lon_sense>, <sat_id>,<frequency>,<offset>[...]] +CME ERROR: <err>
AT _IHGF?	
AT _IHGF=?	_IHGF: (list of supported <desired_sat>s), (list of supported <lon_deg>s),(list of supported <lon_min>s), (list of supported <lon_sense>s), (list of supported <frequency>s),(list of supported <offset>s), (list of supported <frequency>s)

Defined values

<sat_id>: decimal (0-15); Satellite ID
<desired_sat>: decimal (0-15); Desired Satellite ID
<lon_deg>: decimal (0-180); Longitude-degrees
<lon_min>: decimal (0-59); Longitude-minutes
<lon_sense>: decimal (0-1); Longitude-sense
- **0** East (+)
- **1** West (-)

<frequency>: decimal (6000-19600); Frequency
<offset>: decimal (0-1); 1.25 kHz offset disable/enable
<frequency>: decimal (6000-19600); Frequency
<offset>: decimal (0-1); 1.25 kHz offset disable/enable
<coverage_type>: decimal (0-2);
- **0** no coverage
- **1** 1-satellite coverage
- **2** overlap coverage

AT _IHGPS: Initiate or Update GPS Information to CM

Description: BCP should send GPS information at power on and as needed.

References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHGPS=<lat_deg>,<lat_min>,<lat_sense>,<lon_deg>,<lon_min>,<lon_sense>, <time>[,<fix>,<altitude>,<altitude_sense>,<nos>,<hdop>]	
	+CME ERROR: <err>
AT _IHGPS	n/a
AT _IHGPS?	n/a
AT _IHGPS=?	n/a

Defined values

<lat_deg>: decimal (0-90); Latitude-degrees
<lat_min>: decimal (0-59); Latitude-minutes
<lat_sense>: decimal (0-1); Latitude-sense
0 North (+)
1 South (-)
<lon_deg>: decimal (0-180); Longitude-degrees
<lon_min>: decimal (0-59); Longitude-minutes
<lon_sense>: decimal (0-1); Longitude-sense
0 East (+)
1 West (-)
<time>: string (20); format is "yy/MM/dd,hh:mm:ssSzz"
<fix>: decimal (0-2); Fix quality
0 non-fix
1 2D fix
2 3D fix
<altitude>: decimal (0-33554431); Altitude
<altitude_sense>: decimal (0-1); Altitude-sense
0 Above WGS84 ellipsoid
1 Below WGS84 ellipsoid
<nos>: decimal (0-32); Number of GPS satellites
<hdop>: decimal (0-16383); horizontal dilution of precision

AT _IHPWROFF: CM Accomplishes Deregistration Procedure

Description: CM accomplishes deregistration procedure upon receiving power off

indication.

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHPWROFF=...	n/a
AT _IHPWROFF	+CME ERROR: <err>
AT _IHPWROFF?	n/a
AT _IHPWROFF=?	n/a

AT _IHREBOOT: Reboot Terminal

Description: User may use to reboot terminal from handset menu (if applicable).

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHREBOOT=	
	+CME ERROR: <err>
AT _IHREBOOT	
AT _IHREBOOT?	
AT _IHREBOOT=?	

AT _IHCCAL: Send Cable Calibration Data to CM

Description: CM may adjust nominal TX power according to cable loss at different frequency.

References: None

Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHCCAL=<frequency>,<backoff>,<pwr_sense>,<commit>	
	+CME ERROR: <err>
AT _IHCCAL	n/a
AT _IHCCAL?	_IHCCAL: <frequency>,<backoff>
AT _IHCCAL=?	n/a

Defined values

<frequency>: decimal (6000-19600); Frequency
<backoff>: decimal (0-65535); Power backoff - attenuation
<pwr_sense>: decimal (0-1); Power backoff - sense
0 Positive backoff (+)
1 Negative backoff (-)
<commit>: decimal (0-1); Commit flag
0 Do not commit values
1 Commit values

AT _IHSWUPG: SW Upgrade Indication

Description: SW upgrade indication.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHSWUPG=<module>	
	<module>,<filename> +CME ERROR: <err>
AT _IHSWUPG	
AT _IHSWUPG?	
AT _IHSWUPG=?	

Defined values

<module>: string ("IB", "ADE"); Module

<filename>: string; File name

AT _IHSWDATA: Request a block of image file.

Description: BCP requests a block of the module's image file.

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHSWDATA=<module>,<block_number>	
	<block_number>[,<block>,<crc>] +CME ERROR: <err>
AT _IHSWDATA	
AT _IHSWDATA?	
AT _IHSWDATA=?	

Defined values

<module>: string ("IB", "ADE"); Module

<block_number>: decimal (0-65535); Block number (0 indicates all data has been transferred)

<block>: string; Data block

<crc>: decimal (0-65535); CRC for current block

AT _IHLOG: Write String to Console and Syslog

Description: Write string to console and syslog for testing.

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHLOG=<info>	

	+CME ERROR: <err>
AT _IHLOG	n/a
AT _IHLOG?	n/a
AT _IHLOG=?	n/a

Defined values

<info>: string; Information to log.

AT _IHPIN: Query PIN/PUK Status

Description: Query PIN/PUK status.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHPIN=...	n/a
AT _IHPIN	n/a
AT _IHPIN?	
AT _IHPIN=?	n/a

Defined values

<pin_retries>: decimal; remaining tries of PIN input
<puk_retries>: decimal; remaining tries of PUK input

AT _IHPACKET: Report PS Call Log Information

Description: Reports PS call log information. If the PDP Context ID provided is active, then current information is provided. If the specfied PDP Context ID's connection is currently closed, then the last information recorded for that Context ID is reported (information is recorded for future reporting when a PDP Context is closed, regardless of the _IHPACKET setting in _IBNOTIFY).
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHPACKET=<cid>	
	_IHPACKET: <cid>,<qos>,<units>,<dl_meter>,<ul_meter>,<cause>
AT _IHPACKET	n/a
AT _IHPACKET?	n/a
AT _IHPACKET=?	n/a

Defined values

<cid>: decimal (1-11); PDP context ID

<qos>: decimal (0);

0 Background context

<units>: decimal (0-1);

0 bytes for non-streaming

1 seconds for streaming

<dl_meter>: decimal; meter for downlink

<ul_meter>: decimal; meter for uplink

<cause>: decimal (0-255); cause code

AT _IHSMS: Report Short Message Delivery Status

Description: Report short message delivery status.

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHSMS=...	n/a
AT _IHSMS	n/a
AT _IHSMS?	_IHSMS: <direction>,<number>,<length>,<cause>
AT _IHSMS=?	n/a

Defined values

<direction>: decimal (0-1);

0 Mobile Originated

1 Mobile Terminated

<number>: string; party number

<length>: decimal (0-255); length of short message in bytes

<cause>: decimal (0-255); cause code

AT _IHBEAM: Report Beam ID in which UT is Operating

Description: Report beam ID in which UT is operating.

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHBEAM=<beam_report>	
	+CME ERROR: <err>
AT _IHBEAM	n/a
AT _IHBEAM?	_IHBEAM: <beam_id>
AT _IHBEAM=?	n/a

Defined values

<beam_report>: decimal (0-1);

0 Disable unsolicited result code

1 Enable unsolicited result code

<beam_id>: decimal (0-255); spot beam ID

AT _IHTIMER: Set Timeouts for Connections and Leases

Description: Set timeout, in seconds, for certain connections and leases.

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHTIMER=<func>[,<timer_value>]	
	+CME ERROR: <err>

AT _IHTIMER	n/a
AT _IHTIMER?	_IHTIMER: <func>, <timer_value>
AT _IHTIMER=?	_IHTIMER: (list of supported <func>s), (list of supported <timer_value>s)

Defined values

<func>: string constant ("INACTIVE","DHCP_IDLE","DHCP_CONN","DHCP_RENEW","DHCP_REBIND"); Init Parameters

"**INACTIVE**"	Streaming connection inactivity timer in seconds
"**DHCP_IDLE**"	DHCP Lease Time (in seconds) when TE is IDLE
"**DHCP_CONN**"	DHCP Lease Time (in seconds) when TE has an active PDP context ("Connected Mode")
"**DHCP_RENEW**"	DHCP Lease Renew Time (in seconds), Option 58
"**DHCP_REBIND**"	DHCP Lease Rebind Time (in seconds), Option 59

<timer_value>: decimal (0-65535); Streaming connection inactivity timer (in seconds)

<dhcp_idle>: decimal (30-65535); DHCP Lease Time when TE is IDLE (in seconds)

<dhcp_conn>: decimal (30-65535); DHCP Lease Time when TE has active PDP context (in seconds)

<dhcp_renew>: decimal (15-65535); DHCP Context Lease Renew Time (in seconds), Option 58

<dhcp_rebind>: decimal (15-65535); DHCP Context Lease Rebind Time (in seconds), Option 59

AT _IHARP: Terminal ARP Entries

Description: Query ARP table status.

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHARP=<rpt_mode>	
	+CME ERROR: <err>

AT _IHARP	_IHARP: <rpt_mode>
AT _IHARP?	_IHARP: <id>, <ip_addr>, <mac_addr>
AT _IHARP=?	n/a

Defined values

<id>: decimal; entry id
<ip_addr>: string (IP); Host IP address
<mac_addr>: string (MAC); Host MAC address
<rpt_mode>: decimal (0-1); Unsolicited reporting mode
0 Disable unsolicited result codes
1 Enable unsolicited result codes

AT _IHPING: Terminal-initiated PING.

Description: Terminal initiated PING.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHPING=<ip_addr>[,<pkt_count>[,<pkt_size>[,<pkt_ttl>[,<rpt_mode>[, <ip_addr2>[,<ip_addr3>[,<wdog_mode>[,<wdog_freq>[, <wdog_ping_mode>]]]]]]]]]	
	+CME ERROR: <err>
AT _IHPING	n/a
AT _IHPING?	_IHPING: <wdog_mode>[,<pkt_size>[,<time>]]
AT _IHPING=?	_IHPING: <rpt_mode>

Defined values

<ip_addr>: string (IP); Destination IP address
<pkt_count>: decimal (1-255); Packet Count
<pkt_size>: decimal (0-65535); Packet Size
<pkt_ttl>: decimal (0-255); Packet Time to Live (hops)
<rpt_mode>: decimal (0-1); Unsolicited reporting mode
0 Disable unsolicited result codes
1 Enable unsolicited result codes
<ip_addr2>: string (IP); Second Destination IP address
<ip_addr3>: string (IP); Third Destination IP address

<wdog_mode>: decimal (0-1); Watchdog mode

- **0** Disable Watchdog
- **1** Enable Watchdog
- **2** [Status Only]: Watchdog Disabled and all 3 Ping addresses invalid

<wdog_freq>: decimal (0-65535); Watchdog frequency, in minutes

<wdog_ping_mode>: decimal (0-1); Watchdog Require Ping mode

- **0** Disable Require Ping receipt
- **1** Enable Require Ping receipt

<status>: decimal (0-1); ihping success or failure

- **0** success
- **1** failure

<time>: decimal; ihping packet trip time in milliseconds

AT _IHTEXT: Terminal Text Message

Description: Terminal initiated Text message.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHTEXT=<mesg>,<dest_ip>,<dest_port>[,<mesg_count>[,<intvl>]]	
	+CME ERROR: <err>
AT _IHTEXT	n/a
AT _IHTEXT?	n/a
AT _IHTEXT=?	n/a

Defined values

<mesg>: string (mesg); text message (50 chars)
<dest_ip>: string (IP); Destination IP address
<dest_port>: decimal (1-65535); Destination Port
<mesg_count>: decimal (1-15); Transmit count (default 5)
<intvl>: decimal (1-30); Interval (default 1 sec)

AT _IHPBIT: Command UT to Perform Platform Built-In Test and Check Status

Description: Perform Platform Built-in Test (BIT) on UT.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHPBIT=<param>	
	_IHPBIT: <param>,<result>[...] +CME ERROR: <err>
AT _IHPBIT	
AT _IHPBIT?	_IHPBIT: <param>,<result>[...] +CME ERROR: <err>
AT _IHPBIT=?	_IHPBIT: (list of supported <param>s)

Defined values

<param>: string constant
("POST","MEM","IMG","CNF","ETH","ASIC","DSP","USB","ALL");
Command UT to perform BIT and check status

"**POST**"	POST RESULTS
"**MEM**"	MEMORY
"**IMG**"	IMAGE
"**CNF**"	CONFIG
"**ETH**"	ETHERNET
"**ASIC**"	ASIC
"**DSP**"	DSP
"**USB**"	USB
"**ALL**"	ALL TESTS

<result>: decimal (0-2); result

AT _IHEVENT: BGAN Terminal Event Reports

Description: Configures whether certain events will be reported on the AT interface. This command configures whether the unsolicited events shown under <event_type> will appear on the AT (port 1829) interface or not. Note that when IHEVENTs are reported on the AT interface, they follow the syntax "IHEVENT: <event_type>,<event_code>[,<optional_str>]"
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHEVENT=<report_mode>	
	+CME ERROR: <err>
AT _IHEVENT	n/a
AT _IHEVENT?	_IHEVENT: <report_mode>
AT _IHEVENT=?	_IHEVENT: (list of supported <report_mode>s)

Defined values

<report_mode>: decimal (0-1);
- **0** Disable Unsolicited Event Notifications
- **1** Enable Unsolicited Event Notifications

<event_type>: decimal (1-255);
- **1** registration
- **2** deregistration
- **3** pdp_activation
- **4** pdp_deactivation
- **5** isdn
- **6** sms
- **7** usim
- **8** attach
- **9** detach

<event_code>: decimal (1-255); event code

<optional_str>: string; optional character string

AT _IHCIRCUIT: BGAN Terminal CS Call Reports

Description: Report CS call log when a CS connection is closed.

References: None

Group: HNS Specific AT Commands

Syntax: Extended format

Command	Possible response(s)
AT _IHCIRCUIT=<report_mode>	
	+CME ERROR: <err>
AT _IHCIRCUIT	n/a

AT _IHCIRCUIT?	_IHCIRCUIT: <report_mode>
AT _IHCIRCUIT=?	_IHCIRCUIT: (list of supported <report_mode>s)

Defined values

<report_mode>: decimal (0-1);
- **0** Disable unsolicited CS call notifications
- **1** Enable unsolicited CS call notifications

<bearer>: decimal (0-3);
- **0** Speech
- **1** 3.1 kHz Audio
- **2** UDI (64 kbps)
- **3** RDI (56 kbps)

<direction>: decimal (0-1);
- **0** Mobile Originated (MO)
- **1** Mobile Terminated (MT)

<caller_id>: string; Caller ID
- **MO calls** Called Party Number
- **MT calls** Calling Party Number

<seconds>: decimal; Duration of CS connection

<cause>: decimal (0-255); Disconnect cause code

AT _IHTEMP: HNS Terminal Temperature

Description: Provides temperature readings.
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHTEMP=<module>	
	_IHTEMP: <module>,<value> +CME ERROR: <err>
AT _IHTEMP	n/a
AT _IHTEMP?	n/a
AT _IHTEMP=?	n/a

Defined values

<module>: string constant ("VGA", "PA", "PD", "VR", "ANT", "ALL"); Module

"VGA"	VGA temperature reading
"PD"	Power Detector temperature reading
"VR"	Board temperature reading
"ALL"	All temperature readings

<value>: decimal; Temperature Value

AT _IHMETER: Expanded Call Metering

Description: BGAN terminal expanded call metering commands
References: None
Group: HNS Specific AT Commands
Syntax: Extended format

Command	Possible response(s)
AT _IHMETER=	
	<meter_type>[,<context_id>] +CME ERROR: <err>
AT _IHMETER	n/a
AT _IHMETER?	_IHMETER: <meter_type>
AT _IHMETER=?	

Defined values

<meter_type>: string; meter types

"ALL_TRIP"	Used ONLY for clearing all Trip Meters
"CS_TRIP"	Connection Time for ALL CS calls (seconds)
"CS_TRIP_MO"	Connection Time for MO CS calls (seconds)
"CS_TRIP_MT"	Connection Time for MT CS calls (seconds)
"CS_TRIP_SPEECH"	Connection Time for All CS Speech calls (seconds)
"CS_TRIP_SPEECH_MO"	Connection Time for MO CS Speech calls (seconds)
"CS_TRIP_SPEECH_MT"	Connection Time for MT CS Speech calls (seconds)

"CS_TRIP_AUDIO"	Connection Time for All CS 3.1 kHz Audio calls (seconds)
"CS_TRIP_AUDIO_MO"	Connection Time for MO CS 3.1 kHz Audio calls (seconds)
"CS_TRIP_AUDIO_MT"	Connection Time for MT CS 3.1 kHz Audio calls (seconds)
"CS_TRIP_UDI"	Connection Time for All CS UDI calls (seconds)
"CS_TRIP_UDI_MO"	Connection Time for MO CS UDI calls (seconds)
"CS_TRIP_UDI_MT"	Connection Time for MT CS UDI calls (seconds)
"CS_TRIP_RDI"	Connection Time for All CS RDI calls (seconds)
"CS_TRIP_RDI_MO"	Connection Time for MO CS RDI calls (seconds)
"CS_TRIP_RDI_MT"	Connection Time for MT CS RDI calls (seconds)
"PS_TRIP"	Bytes for all background QoS PDP Contexts
"PS_TRIP_FORWARD"	Bytes for all background QoS PDP Contexts, Forward Direction
"PS_TRIP_RETURN"	Bytes for all background QoS PDP Contexts, Return Direction
"PS_TRIP_32K"	Connection Time for all 32 kbps QoS (seconds)
"PS_TRIP_64K"	Connection Time for all 64 kbps QoS (seconds)
"PS_TRIP_128K"	Connection Time for all 128 kbps QoS (seconds)
"PS_TRIP_256K"	Connection Time for all 256 kbps QoS (seconds)
"CS_SESSION"	Session Time for last/current CS call (seconds)
"PS_SESSION"	Session bytes for last background QoS
"PS_SESSION_FORWARD"	Session forward bytes for last background QoS
"PS_SESSION_RETURN"	Session return bytes for last background QoS

	"PS_SESSION_STREAM"	Session stream time for last background QoS (seconds)

<context_id>: decimal (1-11,255); Context ID Number or Reset Counter

1-11	Context ID Number
255	Reset Meter Counter

Summary of Inmarsat Specific Result Codes

This section describes all result codes specific for Inmarsat terminals.

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