

AT Commands Reference Guide

UC864-AK

80341ST10065a Rev.0 – May 2009



Applicability Table

This document is related to the following products:

PRODUCT	PART NUMBER
UC864-AK	4990250135



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These commands might be performed in a single command line as shown below:

ATCMD1 CMD2=10+CMD1;+CMD2=, ,10;+CMD1?;+CMD1=?<CR>

anyway it is always preferable to separate into different command lines the basic commands and the extended commands; furthermore it is suggested to avoid placing several action commands in the same command line, because if one of them fails, then an error message is received but it is not possible to argue which one of them has failed the execution.

If command **V1** is enabled (verbose responses codes) and all commands in a command line has been performed successfully, result code **<CR><LF>OK<CR><LF>** is sent from the TA to the TE, if subparameter values of a command are not accepted by the TA or command itself is invalid, or command cannot be performed for some reason, result code **<CR><LF>ERROR<CR><LF>** is sent and no subsequent commands in the command line are processed.

If command **V0** is enabled (numeric responses codes), and all commands in a command line has been performed successfully, result code **0<CR>** is sent from the TA to the TE, if sub-parameter values of a command are not accepted by the TA or command itself is invalid, or command cannot be performed for some reason, result code **4<CR>** and no subsequent commands in the command line are processed.

In case of errors depending on ME operation, **ERROR** (or **4**) response may be replaced by **+CME ERROR: <err>** or **+CMS ERROR: <err>**.



NOTE:

The command line buffer accepts a maximum of 80 characters. If this number is exceeded none of the commands will be executed and TA returns ERROR.



2.3. AT Commands Availability Table

The following table lists the compatible AT commands set and matches the availability of this product.

COMMAND	UC864-AK	Function	Page
Command Line General Format – Command Line Prefixes			
AT	•	Starting A Command Line	16
A/	•	Last Command Automatic Repetition Prefix	16
Custom specific AT Commands – Hyundai Motors Co.			
+CDV	•	Call Dialing Voice	31
+CHV	•	Call Hangup Voice	32
+CMEE	•	Report Mobile Equipment Error	17
+GMR	•	Display SW Revision Identification	18
+CPIN	•	Enter PIN	18
+CREG	•	Network Registration Report	43
#COMS	•	Send OTA MSG	36
#EMDS	•	Display Debug Information	44
#PCT	•	Display PIN Counter	45
#REBOOT	•	Modem Reboot	31
#SHDN	•	Software Shun Down	31
\$ATAN	•	Auto answering	32
\$AUDIOSET	•	Audio parameter Set	17
\$BELLTYPE	•	Select the Bell Sound	20
\$BWMODE	•	Change the mode	20
\$BWSN	•	Display MSN	20
\$CCID	•	Read Circuit Card Identification	21
\$CHGDMR		Not available	21
\$CID	•	Display caller ID	32
\$CMDECHO	•	Command Echo	21
\$DELALLMT	•	Delete All SMS MT MSG	36
\$DTMF	•	Send DTMF Tone	33
\$FLASH	•	FLASH call	33
\$GPSINFO	•	Save GPS Information	21
\$HACO	•	Specific command refer detail	46
\$IMSI		Not available	22
\$MIKE	•	Mute/Unmute Mike	22
\$MOBISACCOFF	•	Specific command , 48hr mode	23
\$MOBISACTIVE	•	Specific command , Control Active Pin Signal	23
\$MOBISATAN	•	Specific command , Auto Answering	34
\$MOBISEMREN	•	Specific command , Emergency MSG enable	37
\$MOBISEMRENV	•	Specific command , Airbag Signal detection option	37
\$MOBISENVIR	•	Specific command , Emergency SMS parameters	38
\$MOBISDIALSN	•	Specific command , Serial Number	24
\$MOBISMSGPIN	•	Specific command , MSG Pin activation duration	24
\$MODELSEL	•	MTS Model Selection	24
\$MODEMINFO	•	Modem information(Network and msisdn)	46
\$MTACK		Not available	38
\$ORI	•	Call Origination	34
\$OTAFLAG	•	OTA Result Flag	25
\$PHONENUM	•	Display phone number(msisdn)	25
\$PING	•	Read current RSSI grade	47
\$QCCAV	•	Answering Voice Call	34



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COMMAND	UC864-AK	Function	Page
\$READY	•	Display if modem is ready state(dummy cmd)	26
\$REJECT	•	Reject Voice Call	35
\$REL	•	Release Voice Call	35
\$RESET	•	Modem Reset	26
\$RINGVOL	•	Ringer Tone Volume	26
\$RPTREADY	•	Report Ready notification(dummy cmd)	27
\$RPTRSSI	•	Report RSSI notification(dummy cmd)	27
\$RPTNOSVC	•	Report No Service notification(dummy cmd)	28
\$RPTRI	•	Report RI Indicator notification(dummy cmd)	28
\$RSSI	•	Display Current RSSI level	47
\$RSSIGRADE	•	Configure each RSSI boundary of RSSI grade	48
\$SMCNFM	•	Delete the MT SMS message.	38
\$SMREAD	•	Read the New MT SMS message.	39
\$SMSREADE	•	Read the New MT SMS message.(Automatic deletion)	41
\$SMSCNT	•	Display the count of New MT SMS message	39
\$SMSMO	•	Originate SMS	40
\$SMSREAD	•	Read SMS	40
\$SMSSENT	•	Display the state for SMS send operation.	42
\$SMSSND	•	Send Emergency SMS message(TI=32870)	42
\$SMSTC	•	Read the SMS message from specified memory	42
\$SMSTYPE	•	SMS Data Type(dummy cmd)	42
\$SMSVOL	•	SMS Alert Tone Volume	42
\$STSINFO	•	Network Status Information	48
\$STSINFOA	•	Network Status Information option A	49
\$STSINFOE	•	Network Status Information option E	50
\$STSREG	•	Registration Status	51
\$SYSTIME	•	Display System Time	56
\$VOCGAIN	•	Voice Gain set enable(dummy cmd)	29
\$VOCGAINSET	•	Voice Gain level set(dummy cmd)	29
\$VOL	•	Voice Volume	30
\$VOLINIT	•	Initialize the volume setting(include several audio tunes)	30
\$VOICESTATE	•	Display Voice Call State	36



2.4. AT Commands References

2.4.1. Command Line General Format

2.4.1.1. Command Line Prefixes

2.4.1.2. Starting A Command Line - AT

AT - Starting A Command Line	
AT	The prefix AT , or at , is a two-character abbreviation (ATtention), always used to start a command line to be sent from TE to TA
Reference	3GPP TS 27.007

2.4.1.3. Last Command Automatic Repetition - A/

A/ - Last Command Automatic Repetition	
A/	<p>If the prefix A/ or a/ is issued, the MODULE immediately executes once again the body of the preceding command line. No editing is possible and no termination character is necessary. A command line may be repeated multiple times through this mechanism, if desired.</p> <p>If A/ is issued before any command line has been executed, the preceding command line is assumed to have been empty (that results in an OK result code).</p> <p>Note: this command works only at fixed IPR.</p> <p>Note: the custom command #/ has been defined: it causes the last command to be executed again too; but it doesn't need a fixed IPR.</p>
Reference	V25ter



2.4.2. Custom specific Commands – Hyundai Motors Co.

1.1.1.1 General setting commands

2.4.2.1. Audio tune Set - \$AUDIOSET

\$AUDIOSET – Audio tune Set	
AT\$AUDIOSET?	Read command return the several Audio tune values.
AT\$AUDIOSET=<x1> ,<x2>,<x3>,<x4>,<x5> >,<x6>	Set command set the several Audio tune values. Parameter: <x1> 0..7 – tx mic gain <x2> 0..14 – rx voice gain <x3> 0..1 – Echo canceller on/off <x4> 0..1 – Noise Reduction on/off <x5> 0..1 – Side Tone on/off <x6> 0..1 – Automatic Gain Control on/off
Example	<pre>AT\$AUDIOSET? 0,14,1,1,0,0 OK AT\$AUDIOSET=2,10,1,1,0,0 OK AT\$AUDIOSET? 2,10,1,1,0,0 OK</pre>

2.4.2.2. Report Mobile Equipment Error - +CMEE

+CMEE - Report Mobile Equipment Error	
AT+CMEE=[<n>]	Set command enables/disables the report of result code: +CME ERROR: <err> as an indication of an error relating to the +Cxxx commands issued. When enabled, device related errors cause the +CME ERROR: <err> final



+CMEE - Report Mobile Equipment Error	
	<p>result code instead of the default ERROR final result code. ERROR is anyway returned normally when the error message is related to syntax, invalid parameters, or DTE functionality.</p> <p>Parameter: <n> - enable flag 0 - disable +CME ERROR:<err> reports, use only ERROR report. 1 - enable +CME ERROR:<err> reports, with <err> in numeric format 2 - enable +CME ERROR: <err> reports, with <err> in verbose format</p>
AT+CMEE?	<p>Read command returns the current value of subparameter <n>:</p> <p>+CMEE: <n></p>
AT+CMEE=?	Test command returns the range of values for subparameter <n>
Note	+CMEE has no effect on the final result code +CMS
Reference	3GPP TS 27.007

2.4.2.3. Get Module Revision Information - +GMR

+GMR – Get Module Revision information	
AT+GMR	Execution command returns a module revision information
Example	<pre>at+gmr +GMR: S/W VER: AA3.3.301 KAN02AKC OK</pre>

2.4.2.4. Enter PIN - +CPIN

+CPIN - Enter PIN	
AT+CPIN=<pin> [,<newpin>]	<p>Set command sends to the device a password which is necessary before it can be operated (SIM PIN, SIM PUK, PH-SIM PIN, etc.). If the PIN required is SIM PUK or SIM PUK2, the <newpin> is required. This second pin, <newpin> will replace the old pin in the SIM. The command may be used to change the SIM PIN by sending it with both parameters <pin> and <newpin> when PIN request is pending;</p> <p>Parameters: <pin> - string type value <newpin> - string type value.</p> <p>To check the status of the PIN request use the command AT+CPIN?</p> <p>Note: If all parameters are omitted then the behaviour of Set command is the same as Read command.</p>



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+CPIN - Enter PIN	
AT+CPIN?	<p>Read command reports the PIN/PUK/PUK2 request status of the device in the form: +CPIN: <code> where: <code> - PIN/PUK/PUK2 request status code READY - ME is not pending for any password SIM PIN - ME is waiting SIM PIN to be given SIM PUK - ME is waiting SIM PUK to be given PH-SIM PIN - ME is waiting phone-to-SIM card password to be given PH-FSIM PIN - ME is waiting phone-to-very first SIM card password to be given PH-FSIM PUK - ME is waiting phone-to-very first SIM card unblocking password to be given SIM PIN2 - ME is waiting SIM PIN2 to be given; this <code> is returned only when the last executed command resulted in PIN2 authentication failure (i.e. +CME ERROR: 17) SIM PUK2 - ME is waiting SIM PUK2 to be given; this <code> is returned only when the last executed command resulted in PUK2 authentication failure (i.e. +CME ERROR: 18) PH-NET PIN - ME is waiting network personalization password to be given PH-NET PUK - ME is waiting network personalization unblocking password to be given PH-NETSUB PIN - ME is waiting network subset personalization password to be given PH-NETSUB PUK - ME is waiting network subset personalization unblocking password to be given PH-SP PIN - ME is waiting service provider personalization password to be given PH-SP PUK - ME is waiting service provider personalization unblocking password to be given PH-CORP PIN - ME is waiting corporate personalization password to be given PH-CORP PUK - ME is waiting corporate personalization unblocking password to be given</p>
Example	<pre>AT+CMEE=1 OK AT+CPIN? +CME ERROR: 10 error: you have to insert the SIM AT+CPIN? +CPIN: READY you inserted the SIM and device is not waiting for PIN to be given OK</pre>
Reference	3GPP TS 27.007



2.4.2.5. Bell sound selection - \$BELLTYPE

\$BELLTYPE – Bell sound selection	
AT\$BELLTYPE?	Read command returns and plays the current bell sound.
AT\$BELLTYPE=<n>	Set command sets and play the bell sound. Parameter: <n> 0 – stop playing bell sound. 1..17 – set and play bell sound
Example	AT\$BELLTYPE? 1 OK AT\$BELLTYPE=5 OK AT\$BELLTYPE=0 OK

2.4.2.6. Change the Mode - \$BWMODE

\$BWMODE – Change the Mode	
AT\$BWMODE=<mode>	Set command changes the mode of modem. Parameter: <mode> RESET – reset the modem NAMING – Naming Mode (dummy)
Example	AT\$BWMODE=RESET OK \$READY

2.4.2.7. Display Mobile Serial Number - \$BWSN

\$BWSN – Display Mobile Serial Number	
AT\$BWSN?	Read command returns the Mobile Serial Number.(dummy cmd)
Example	AT\$BWSN? 00000000 OK



2.4.2.8. Circuit Card Identification - \$CCID

\$CCID – Read Circuit Card Identification	
AT\$CCID?	Read command returns the Card Identification.
Example	AT\$CCID? 354387010268200,8982300708000188439F,00000000 OK

2.4.2.9. - \$CHGDMR

\$CHGDMR -	
AT\$CHGDMR	(dummy cmd)

2.4.2.10. Cmd Echo - \$CMDECHO

\$CMDECHO – Cmd Echo	
AT\$CMDECHO?	Read command returns the current setting.
AT\$CMDECHO=<n>	Set command sets the command echo setting. Parameter: <n> 0 – echo disable(default value) 1 – echo enable Note: if command echo option is enabled, command name is included to response of read command. Note: value is not saved.
Example	AT\$MOBISACCOFF? 2880,0,1,1 OK AT\$CMDECHO=1 OK AT\$MOBISACCOFF? #MOBISACCOFF: 2880,0,1,1 OK

2.4.2.11. GPS Information - \$GPSINFO

\$GPSINFO – GPS Information	
AT\$GPSINFO?	Read command changes the active call sequentially. Other calls is changed to waiting mode.



\$GPSINFO – GPS Information	
AT\$GPSINFO=<Lon>,<Lat>	Set command sets the GPS Information. Parameter: <Lon> - Longitude <Lat> - Latitude Note : Parameters <Lon>,<Lat> are just simple integer string. And the setting is volatile.
Example	<pre> AT\$GPSINFO? 0,0 OK AT\$GPSINFO=37123212,127635142 OK AT\$GPSINFO? 37123212,127635142 OK </pre>

2.4.2.12. IMSI query - \$IMSI

\$IMSI – IMSI query(dummy cmd)	

2.4.2.13. Mike Mute - \$MIKE

\$MIKE – Mike Mute	
AT\$MIKE?	Read command returns the current mike mute status.
AT\$MIKE=<n>	Set command sets the mike mute status. Parameter: <n> - mike mute 0 – mike unmute 1 – mike mute
Example	<pre> AT\$MIKE? 0 OK AT\$MIKE=1 OK </pre>



2.4.2.14. MOBIS Acc Off configuration - \$MOBISACCOFF

\$MOBISACCOFF – MOBIS Acc Off configuration	
AT\$MOBISACCOFF?	Read command returns the current settings of 48hr mode.
AT\$MOBISACCOFF=<accoff_time>,<delay>,<delay_time>,<traffic>?	<p>Set command changes the settings of 48hr mode.</p> <p>Parameter:</p> <p><accoff_time> duration of 48hr mode(unit : minute, default value : 2880)</p> <p><delay> 0..1 - delay option to change mode to 48hr mode after accoff</p> <p><delay_time> delay time to change mode to 48hr mode after accoff</p> <p><traffic> 0..1 – traffic disconnect option starting 48hr mode.</p>
Example	<pre>AT\$MOBISACCOFF? 2880,0,1,1 OK AT\$MOBISACCOFF=1440,0,1,0 OK</pre>

2.4.2.15. MOBIS Active pin control - \$MOBISACTIVE

\$MOBISACTIVE – MOBIS Active pin control	
AT\$MOBISACTIVE?	Read command returns the current settings.
AT\$MOBISACTIVE=<val>,<delay>	<p>Set command controls the active pin as a setting.</p> <p>Parameter:</p> <p><val> 0..1 – active pin level</p> <p><delay> Delay to change active pin state(unit : second)</p> <p>Note : if active pin status is low, serial communication is disabled.</p> <p>Note : settings are volatile.</p>
Example	<pre>AT\$MOBISACTIVE? 1,0 OK</pre>



\$MOBISACTIVE – MOBIS Active pin control	
	AT\$ MOBISACTIVE =0,10 OK

2.4.2.16. MOBIS Dial and Serial Number - \$MOBISDIALSN

\$MOBISDIALSN – MOBIS Dial and Serial Numer	
AT\$MOBISDIALSN	Read command returns mobile identification numbers. Format : <msisdn>,<serial number>,<version>
Example	AT\$MOBISDIALSN? 01099991111,00000000,KAN02AKC OK

2.4.2.17. MOBIS MSG pin activation duration - \$MOBISMSGPIN

\$MOBISMSGPIN – MOBIS MSG pin activation duration	
AT\$MOBISMSGPIN?	Read command returns the current duration.
AT\$MOBISMSGPIN=<n>	Set command sets the duration. If modem get the emergency SMS in 48hr mode, mode activate the msg pin for this duration. Parameter: <n> 0 – don't deactivate 1..MAX – MSG pin deactivated after this duration (unit : second)
Example	AT\$MOBISMSGPIN? 0 OK AT\$MOBISMSGPIN=10 OK

2.4.2.18. Model Selection - \$MODELSEL

\$MODELSEL – Model Selection	
AT\$MODELSEL?	Read command returns the current MTS model selection
AT\$MODELSEL=<n>	Set command sets the current MTS model selection



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\$MODELSEL – Model Selection	
	Parameter: <n> 0 – MTS-350 selected 1 – MTS-460 selected Note: If MTS-350 selected, active pin not deactivate when starting 48hr mode.
Example	<pre>AT\$MODELSEL? 0 OK AT\$MODELSEL=1 OK</pre>

2.4.2.19. OTA Result flag - \$OTAFLAG

\$OTAFLAG – OTA Result flag	
\$OTAFLAG?	Read command returns OTA result. Format : <n> Parameter: <n> 0 – OTA not processed 1 – OTA already done
Example	<pre>AT\$OTAFLAG? 1 OK</pre>

2.4.2.20. Phone Number(MSISDN) - \$PHONENUM

\$PHONENUM – Phone Number(MSISDN)	
AT\$PHONENUM?	Read command returns Phone Number(MSISDN) Format : <phonenum> Parameter: <phonenum> - msisdn Note: if USIM is not inserted, command returns string “00000000000”



\$PHONENUM – Phone Number(MSISDN)	
Example	<pre>AT\$PHONENUM? 00000000000 OK</pre>

2.4.2.21. Ready command - \$READY

\$READY – Ready command(dummy command)	
AT\$READY?	<p>Read command returns modem ready status.</p> <p>Format : <n></p> <p>Parameter: <n> 1 – ready(fixed value)</p> <p>Note: added for compatibility.</p>
Example	<pre>AT\$READY? 1 OK</pre>

2.4.2.22. Reset command - \$RESET

\$RESET – Reset command	
AT\$RESET	Execution command reset the modem.
Example	<pre>AT\$RESET OK \$READY</pre>

2.4.2.23. Ring Volume - \$RINGVOL

\$RINGVOL – Ring Volume	
AT\$RINGVOL?	Read command returns the current ringing volume.
AT\$RINGVOL=<n>	<p>Set command sets the ringing volume.</p> <p>Parameter: <n> 0..4 – ringing volume</p>



\$RINGVOL – Ring Volume	
	Note : if you want to save the setting, you must transmit AT&P0 and AT&W commands.
Example	<pre>AT\$RINGVOL? 0 OK AT\$RINGVOL=3 OK</pre>

2.4.2.24. Report Ready - \$RPTREADY

\$RPTREADY(dummy command)	
AT\$RPTREADY?	Read command returns the current setting.
AT\$RPTREADY=<n>	Set command sets the ready report setting. Parameter: <n> 0..1 – enable/disable Note : if command is add for compatibility.
Example	<pre>AT\$RPTREADY? 1 OK AT\$RPTREADY=0 OK</pre>

2.4.2.25. Report RSSI - \$RPTRSSI

\$RPTRSSI(dummy command)	
AT\$RPTRSSI?	Read command returns the current setting.
AT\$RPTRSSI=<n>	Set command sets the rssi report setting. Parameter: <n> 0..1 – enable/disable Note : if command is add for compatibility.
Example	<pre>AT\$RPTRSSI? 1 OK AT\$RPTRSSI=0</pre>



\$RPTRSSI(dummy command)	
	OK

2.4.2.26. Report No service - \$RPTNOSVC

\$RPTNOSVC(dummy command)	
AT\$RPTNOSVC?	Read command returns the current setting.
AT\$RPTNOSVC=<n>	Set command sets the no service report setting. Parameter: <n> 0..1 – enable/disable Note : if command is add for compatibility.
Example	AT\$RPTNOSVC? 1 OK AT\$RPTNOSVC=0 OK

2.4.2.27. Repot RI change - \$RPTRI

\$RPTRI(dummy command)	
AT\$RPTRI?	Read command returns the current setting.
AT\$RPTRI=<n>	Set command sets the RI change report setting. Parameter: <n> 0..1 – enable/disable Note : if command is add for compatibility.
Example	AT\$RPTRI? 1 OK AT\$RPTRI=0 OK



2.4.2.28. System Time - \$SYSTIME

\$SYSTIME – System Time	
AT\$SYSTIME?	<p>Read command returns system time.</p> <p>Format : YYYYMMDDhhmmsswww</p> <p>Note: command should be transmitted after getting notification \$SYSTIME.</p>
Example	<pre>AT\$SYSTIME? 20090210094028TUE OK</pre>

2.4.2.29. Voice gain - \$VOCGAIN

\$VOCGAIN – Voice gain(dummy command)	
AT\$VOCGAIN?	Read command returns voice gain enable setting.
AT\$VOCGAIN?=<n>	<p>Set command enables the voice gain.</p> <p>Parameters</p> <p><n></p> <p>0..1 – enable/disable</p> <p>Note: the format of the numbers in output is always 3 digits, left-filled with 0s</p>
Example	<pre>AT\$VOCGAIN? 0 OK AT\$VOCGAIN=1 OK</pre>

2.4.2.30. Voice gain set level - \$VOCGAINSET

\$VOCGAINSET – Voice gain set level(dummy command)	
AT\$VOCGAINSET?	<p>Read command returns the current setting of voice gain level</p> <p>Format : <tx>,<rx>,<st></p> <p>Parameter:</p> <p><tx> – mic gain 8291..650000 – default value(18000)</p>



\$VOCGAINSET - Voice gain set level(dummy command)	
	<p><rx> – speaker gain 11599..34797 – default value(35000)</p> <p><st> – side tone 1024..3072 – default value(1024)</p>
Example	<pre>AT\$VOCGAINSET? 18000,35000,1024 OK AT\$VOCGAINSET=8291,11599,1024 OK</pre>

2.4.2.31. Volume - \$VOL

\$VOL - Volume	
AT\$VOL?	Read command returns the current rx volume.
AT\$VOL=<n>	Set command sets the rx volume. Parameters <n> 0..4 – volume(default:4)
Example	<pre>AT\$VOL? 4 OK AT\$VOL=2 OK</pre>

2.4.2.32. Volume Initialization - \$VOLINIT

\$VOLINIT - Volume Initialization	
AT\$VOLINIT	Execution command initialize the volume settings including several auto tunes to default values. Note : Side Tone:off, Echo Canceller:off, Automatic gain control:off, Micgain:4, Volume:4 are defaults. Note : check if default values is changed.
Example	<pre>AT\$VOLINIT OK</pre>



2.4.2.33. Software Shut Down - #SHDN

#SHDN - Software Shutdown	
AT#SHDN	<p>Execution command causes device detach from the network and shut down. Before definitive shut down an OK response is returned.</p> <p>Note: after the issuing of this command any previous activity is terminated and the device will not respond to any further command.</p> <p>Note: to turn it on again Hardware pin ON/OFF must be tied low.</p> <p>Note: to turn it off, USB_VBUS pin must be tied low.</p>
AT#SHDN=?	Test command returns the OK result code.

2.4.2.34. Restart the Modem - #REBOOT

#REBOOT - Restart The Modem	
AT#REBOOT	Execution command Restart the modem.

2.4.2.35. Voice call commands

2.4.2.36. Call Dialing Voice - +CDV

+CDV - Call Dialing Voice	
AT+CDV<number>	<p>Execution command setup the voice call.</p> <p>Parameter: <number> - destination number</p>
Note	issuing a command, \$VCALL, \$VCON, CONNECT notification appear as processing status
Example	<pre>AT+CDV119 OK \$VCALL119 \$VCON CONNECT</pre>



2.4.2.37. Call Hangup Voice - +CHV

+CHV – Call Hangup Voice	
AT+CHV	Execution command Hangup the voice call. Parameter: <number> - destination number
Note	issuing a command, NO CARRIER notification appear.
Example	AT+CDV119 OK \$VCALL119 \$VCON CONNECT at+chv OK NO CARRIER

2.4.2.38. Auto Answering - \$ATAN

\$ATAN – Auto Answering	
AT\$ATAN?	Read command returns the current auto answering setting.
AT\$ATAN=<n>	Set command sets the auto answering setting. Parameter: <n> 0..1 – disable/enable
Example	AT\$ATAN? #ATAN: 1 OK AT\$ATAN=0 OK

2.4.2.39. Caller ID - \$CID

\$CID – Caller ID	
AT\$CID?	Read command returns the current caller ID. Note : If modem is not in conversation, command returns a latest caller ID.
Example	AT\$CID? 023684659 OK



2.4.2.40. Transmit DTMF tone - \$DTMF

\$DTMF – transmit DTMF tone	
AT\$DTMF<n>	Execution command transmits a DTMF tone. Note: if modem is in idel state, command just returns a OK response.
Example	\$VCON CONNECT at\$dtmf1 OK NO CARRIER

2.4.2.41. FLASH Call - \$FLASH

\$FLASH – FLASH Call	
AT\$FLASH	Execution command changes the active call sequentially. Other calls is changed to waiting mode.
AT\$FLASH<number >	Execution command originate the conference call. If the command is transmitted in conversation, current calls is waited and new call is originated. When the new call connected, another AT\$FLASH command gather all call for conference call.
Example	AT\$ORI023684601 OK \$VCALL023684601 \$VCON CONNECT \$CNI023684602 AT\$FLASH OK AT\$FLASH OK AT\$REL OK AT\$FLASH023684602 OK \$VCALL024684602 \$VCON AT\$FLASH OK AT\$REL OK AT\$REL OK NO CARRIER



2.4.2.42. MOBIS Auto Answering - \$MOBISATAN

\$MOBISATAN – MOBIS AuTo ANswering	
AT\$MOBISATAN?	Read command returns the current auto answering setting.
AT\$MOBISATAN=<n> >	Set command sets the auto answering setting. Parameter: <n> 0..1 – disable/enable Note : same as command AT\$ATAN
Example	AT\$MOBISATAN? 0 OK AT\$MOBISATAN=1 OK

2.4.2.43. Voice call Origination - \$ORI

\$ORI – Voice call Origination	
AT\$ORI<number>	Excution command originate the voice call to <number> Parameter: <number> - destination number Note: if service no available, command just returns OK.
Example	AT\$ORI011XXXXXXX OK \$VCALLORI011XXXXXXX \$VCON CONNECT \$REL OK NO CARRIER

2.4.2.44. Answering Voice Call - \$QCCAV

\$QCCAV – Answering Voice Call	
AT\$QCCAV	Excution command answer the voice call. Note : same as ATA command
Example	\$CNI023684659 RING



\$QCCAV – Answering Voice Call	
	<pre>AT\$QCCAV OK \$VCON CONNECT AT\$REL OK NO CARRIER</pre>

2.4.2.45. Reject the receiving call - \$REJECT

\$REJECT – Reject receiving call(dummy command)	
AT\$REJECT	<p>Excution command reject the receiving call.</p> <p>Note : command not valid, but you can AT\$REL command to reject the call.</p>
Example	<pre>\$CNI023684659 RING AT\$REL OK NO CARRIER</pre>

2.4.2.46. Release the call - -\$REL

\$REL – Release the call	
AT\$REL	<p>Execution command release the current active call.</p> <p>Note: command reject the call, not in conversation mode.</p>
Example	<pre>\$CNI023684659 RING AT\$QCCAV OK \$VCON CONNECT AT\$REL OK NO CARRIER \$CNI023684659 RING AT\$REL OK NO CARRIER</pre>



2.4.2.47. Voice state - \$VOICESTATE

\$VOLINIT – Volume Initialization	
AT\$VOLINIT	<p>Execution command initialize the volume settings including several auto tunes to default values.</p> <p>Note : Side Tone:off, Echo Canceller:off, Automatic gain control:off, Micgain:4, Volume:4 are defaults.</p> <p>Note : check if default values is changed.</p>
Example	<pre>AT\$VOLINIT OK</pre>

2.4.2.48. SMS message commands

2.4.2.49. OTA Msg Send - #COMS

#COMS – OTA Msg Send	
AT#COMS=00	<p>Execution command send the OTA Msg of type <xx></p> <p>Note: two chars parameter “00” should be provide.</p>
Example	<pre>AT#COMS=00</pre>

2.4.2.50. Delete All MT SMS messages - \$DELLALLMT

\$DELALLMT – Delete All SMS MT message	
\$DELALLMT	<p>Execution command delete all SMS MT messages.</p>
Example	<pre>AT\$SMSCNT? #SMSCNT: 3 OK AT\$DELALLMT OK AT\$SMSCNT? #SMSCNT: 0 OK</pre>



2.4.2.53. MOBIS Emergency SMS parameters - \$MOBISENVIR

\$MOBISENVIR – MOBIS Emergency SMS parameters	
AT\$MOBISENVIR?	Read command returns current parameters.
AT\$MOBISENVIR=<TID>,<destination>	Set command sets parameters. Parameter: <TID> - specified teleservice ID(fixed : 32870) <destination> - specified destination number (default : #777) Note: these parameters are fixed as a service. Careful for changing these.
Example	AT\$MOBISENVIR? 32870,#777 OK

2.4.2.54. Mobile Terminal Acknowledgement - \$MTACK

\$MTACK – Mobile Terminal Acknowledgement	
Not available	

2.4.2.55. Sms confirm - \$SMCNFM

\$SMCNFM – Sms confirm	
AT\$SMCNFM<id>	Execution command delete SMS message specified by <id>. Parameter <id> - SMS ID
Example	AT\$SMREAD? SMID259,200902091420,,4098,"31313131" OK AT\$SMSCNT? 2 OK AT\$SMCNFM259 OK AT\$SMSCNT? 1 OK



2.4.2.56. Sms message Read - \$SMREAD

\$SMREAD – Sms message Read	
AT\$SMREAD?	<p>Read command reads the latest SMS MT message.</p> <p>Format : <id>,<systemtime>,<callback>,<tid>,<msg></p> <p>Parameter:</p> <p><id> – SMID + ID number</p> <p><systemtime> – system time(YYYYMMDDhhmmss)</p> <p><callback> – callback number</p> <p><tid> – teleservice ID 4098 – general SMS message 32870 – emergency SMS message</p> <p><msg> – message contents</p>
Example	<pre>AT\$SMREAD? SMID259,200902091420,,4098,"31313131" OK AT\$SMSCNT? 2 OK AT\$SMCNFM259 OK AT\$SMSCNT? 1 OK</pre>

2.4.2.57. Sms message count - \$SMSCNT

\$SMSCNT – Sms message count	
AT\$SMSCNT?	<p>Read command returns current count of new SMS MT message.</p>
Example	<pre>AT\$SMSCNT? 0 OK \$SMSALERT \$SMSALERT \$SMSALERT AT\$SMSCNT? 3 OK</pre>



2.4.2.58. Sms message Mobile Origination - \$SMSMO

\$SMSMO – Sms message Mobile Origination	
AT\$SMSMO<n>?	Read command returns the SMSMO message numbered <n>.
AT\$SMSMO<n>=<destination>,<callback>,<tid>,<msg>	Set command deliver th SMSMO message. And save message. Parameters <n> – message number <destination> – destination number <callback> – callback number <tid> – teleservice id 4098 – general SMS message 32870 – emergency SMS message(Hyundai) <msg> – message contents(hexa string type) Note : deleivery is success, if \$SMSMOACK<n>, notification is received. And deleivery is fail, if \$SMSMONAK<n> notification is received.
Example	AT\$SMSMO=010XXXXXXXX,010YYYYYYY,4098,30303131 OK \$SMSMOACK0

2.4.2.59. Sms message Read - \$SMSREAD

\$SMSREAD – Sms message Read	
AT\$SMSREAD?	Read command reads the latest SMS MT message. Format : <id>,<sysptime>,<callback>,<tid>,<msg> Parameter: <id> – SMID + ID number <sysptime> – system time(YYYYMMDDhhmmss) <callback> – callback number <tid> – teleservice ID 4098 – general SMS message 32870 – emergency SMS message <msg> – message contents Note : read message is deleted automatically.



\$SMSREAD – Sms message Read	
Example	<pre>AT\$SMSCNT? 3 OK AT\$SMSREAD? 200902091420,010YYYYYYYY,4098,"31313131" OK AT\$SMSCNT? 2 OK</pre>

2.4.2.60. SMS message Read option E

\$SMSREADE – Sms message Read option E	
AT\$SMSREADE?	<p>Read command reads the latest SMS MT message.</p> <p>Format : <callback>,<tid>,<systemtime>,<msg></p> <p>Parameter:</p> <p><callback> – callback number</p> <p><tid> – teleservice ID 4098 – general SMS message 32870 – emergency SMS message</p> <p><systemtime> – system time(YYYYMMDDhhmmss)</p> <p><msg> – message contents</p> <p>Note : read message is deleted automatically.</p>
Example	<pre>AT\$SMSREADE? 010YYYYYYYY,4098,200902091704,"31313131" OK</pre>



2.4.2.61. Sms message Sent state - \$SMSENT

\$SMSENT(dummy command)	

2.4.2.62. Emergency Sms message send - \$SMSSND

\$SMSSND – emergency Sms message send	
AT\$SMSSND=<destination>,<reserved>,<msg>	Set command deliver the emergency SMS message. Parameter: <destination> - destination number <reserved> - reserved <msg> - msg contents
Example	AT\$SMSSND=010XXXXXXXXX,,303030303030 OK

2.4.2.63. SMS Test Case - \$SMSTC

\$SMSTC – SMS Test Case(hidden command)	

2.4.2.64. SMS message data type - \$SMSTYPE

\$SMSTYPE – SMS message data type(dummy command)	
AT\$SMSTYPE?	Read command returns current SMS data type.
AT\$SMSTYPE=<n>	Set command sets SMS data type. Parameter <n> - SMS data type

2.4.2.65. \$SMS alerting tone volume - \$SMSVOL

\$SMSVOL – SMS alerting tone volume	
AT\$SMSVOL?	Read command returns current SMS alerting tone volume.
AT\$SMSVOL=<n>	Set command sets SMS alerting tone volume. Parameter



\$SMSVOL – SMS alerting tone volume	
	<p><n> - volume 0..4 – default value is 3</p>
Example	<pre>AT\$SMSVOL? 3 OK AT\$SMSVOL=2 OK</pre>

2.4.2.66. Status request commands

2.4.2.67. Network Registration Report - +CREG

+CREG - Network Registration Report	
<p>AT+CREG= [<mode>]</p>	<p>Set command enables/disables network registration reports depending on the parameter <mode>.</p> <p>Parameter: <mode></p> <ul style="list-style-type: none"> 0 - disable network registration unsolicited result code (factory default) 1 - enable network registration unsolicited result code 2 - enable network registration unsolicited result code with network Cell identification data <p>If <mode>=1, network registration result code reports:</p> <p style="padding-left: 20px;">+CREG: <stat></p> <p>where <stat></p> <ul style="list-style-type: none"> 0 - not registered, ME is not currently searching a new operator to register to 1 - registered, home network 2 - not registered, but ME is currently searching a new operator to register to 3 - registration denied 4 - unknown 5 - registered, roaming <p>If <mode>=2, network registration result code reports:</p> <p style="padding-left: 20px;">+CREG: <stat>[,<Lac>,<Ci>]</p>



+CREG - Network Registration Report	
	<p>where:</p> <p><Lac> - Local Area Code for the currently registered on cell</p> <p><Ci> - Cell Id for the currently registered on cell</p> <p>Note: <Lac> and <Ci> are reported only if <mode>=2 and the mobile is registered on some network cell.</p>
AT+CREG?	<p>Read command reports the <mode> and <stat> parameter values in the format:</p> <p>+CREG: <mode>,<stat>[,<Lac>,<Ci>]</p> <p>Note: <Lac> and <Ci> are reported only if <mode>=2 and the mobile is registered on some network cell.</p>
AT+CREG=?	Test command returns the range of supported <mode>
Example	<pre>AT OK at+creg? +CREG: 0,2 OK (the MODULE is in network searching state) at+creg? +CREG: 0,2 OK at+creg? +CREG: 0,2 OK at+creg? +CREG: 0,2 OK at+creg? +CREG: 0,1 OK (the MODULE is registered) at+creg? +CREG: 0,1 OK</pre>
Reference	3GPP TS 27.007

2.4.2.68. Engineering Mode Debug Screen - #EMDS

#EMDS - Engineering Mode Debug Screen	
AT#EMDS	Execution command display the Debug Screen Information as a current option.
AT#EMDS?	Read command returns current display option



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#EMDS – Engineering Mode Debug Screen	
AT#EMDS=<n>	<p>Set command sets the display options and display the Debug Screen Informaion as new option.</p> <p>Parameter: <n> 0..6 – display option</p>
Note	Value is not saved.
Example	<pre>AT#EMDS? 10787,438,-80,-68,-12.0,76,7,450,8,5122,1,0,- 15,64,19,0,1,10683946,450081,030009085 OK AT#EMDS =6 RSSI:79 REG:2 ROAM:0 RAT:2 OK AT#EMDS RSSI:79 REG:2 ROAM:0 RAT:2 OK</pre>

2.4.2.69. Display PIN Counter - #PCT

#PCT - Display PIN Counter	
AT#PCT	<p>Execution command reports the PIN/PUK or PIN2/PUK2 input remaining attempts, depending on +CPIN requested password in the format:</p> <p>#PCT: <n></p> <p>where: <n> - remaining attempts 0 - the SIM is blocked. 1..3 - if the device is waiting either SIM PIN or SIM PIN2 to be given. 1..10 - if the device is waiting either SIM PUK or SIM PUK2 to be given.</p>
AT#PCT=?	Test command returns the OK result code.
Example	<pre>AT+CPIN? +CPIN: SIM PIN OK AT#PCT Check PIN remained counter #PCT: 3 OK AT+CPIN=1111 Input incorrect PIN number +CME ERROR: incorrect password AT#PCT #PCT: 2</pre>



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\$MODEMINFO – Modem debug Information	
	<p><msisdn> – numerical identifier. Mobile Subscriber ISDN Number <mnc> – mobile network code <mcc> – mobile country code < bs_lat> – basestation latitude(not valid) < bs_lon> – basestation longitude(not valid)</p>
Example	<pre>AT\$MODEMINFO? 45008, 5122, 438, H, 01027873460, 1, 7008, 01027873460, 08, 450, 0, 0 OK</pre>

2.4.2.72. Rssi grade - \$PING

\$PING – Current RSSI grade	
AT\$PING?	<p>Read command returns current rssi grade and connection state.</p> <p>Format: <rssi>,<connect></p> <p>Parameter: <rssi> 0..6 – current RSSI</p> <p><connect> 2 – disconnected 4 – connected</p>
Example	<pre>AT\$PING? 6,2 OK</pre>

2.4.2.73. current RSSI - \$RSSI

\$RSSI – current RSSI	
AT\$RSSI?	<p>Read command returns the current RSSI level.</p> <p>Format : <level></p> <p>Parameter <level></p> <p>Note : command returns the minus value. And if value is -128, that means no service.</p>



\$RSSI – current RSSI	
Example	<pre>AT\$RSSI? -75 OK</pre>

2.4.2.74. RSSI grade boundary - \$RSSIGRADE

\$RSSIGRADE – RSSI grade boundary	
AT\$RSSIGRADE?	<p>Read command returns current rssi grade boundary.</p> <p>Format : <rssi1>,<rssi2>,<rssi3>,<rssi4>,<rssi5>,<rssi6>,<rssi7>,<rssi8></p> <p>Parameters: <rssiin> - grade boundary(level is greater than <rssiin>, that means grade n)</p> <p>Note: if <rssiin> is 0, the highest grade is limited n.</p> <p>Note: minus char is omitted in each boundary value.</p>
AT\$RSSIGRADE?= <rssi1>,<rssi2>,<rssi3>,<rssi4>,<rssi5>,<rssi6>,<rssi7>,<rssi8>	<p>Set command sets rssi grades.</p> <p>Parameters: <rssiin> - grade boundary(level is greater than <rssiin>, that means grade n)</p>
Example	<pre>AT\$RSSIRAGDE? 106,100,94,88,82,76,70,64 OK AT\$RSSIRAGDE=106,100,94,88,82,76, 0,0 OK</pre>

2.4.2.75. Network status Information - \$STSINFO

\$STSINFO – network Status Information	
AT\$STSINFO?	<p>Read command returns the current network status informations.</p> <p>Format :</p> <p><freq>,<scr>,<mcc>,<mnc>,<rrcstate>,<rssi>,<ec/io>,<txadj>,<rxadj>,<txrate>,<rxrate>,<batt></p>



\$STSINFOA – network Status Information option A	
	0 – Disconnected 1 – CELL_FACH 2 – CELL_PCH 3 – Connection 4 – Connected <rsSI> – current RSSI level <ec/io> – ec/io value <txadj> – (not valid) <rxrate> – (not valid) <txrate> – (not valid) <batt> – (not valid)
Example	<pre>AT\$STSINFOA? CHAN=10836,PN=7008,SID=450,NID=8,RXSTATE=5122,RSSI=0,Ec/Io=-- 74.6, TXADJ=0, RXRATE=0, TXRATE=0, BATT=0 OK</pre>

2.4.2.77. Network status Information optin E - \$STSINFOE

\$STSINFOE – network Status Information option E	
AT\$STSINFOE?	<p>Read command returns the current network status informations.</p> <p>Format :</p> <p><freq>,<scr>,<mcc>,<mnc>,<rrcstate>,<rsSI>,<ec/io>,<txadj>,<rxadj>,<txrate>,<rxrate>,<batt>,<reserved1>,<reserved2>,<reserved3>,<reserved4></p> <p>Parameter:</p> <p><freq> – frequency number <scr> – scramble code <mcc> – mobile country code 450 – Korea <mnc> – mobile network code 08 – KTF network <rrcstate> – rrc state 0 – Disconnected 1 – CELL_FACH 2 – CELL_PCH 3 – Connection 4 – Connected <rsSI> – current RSSI level <ec/io> – ec/io value <txadj> – (not valid)</p>



\$STSINFOE – network Status Information option E	
	<p><rxrate> – (not valid) <txrate> – (not valid) <batt> – (not valid) <reserved1> – (not valid) <reserved2> – (not valid) <reserved3> – (not valid) <reserved4> – (not valid)</p>
Example	<p>AT\$STSINFOE? 10836,7008,450,8,5122,0,--74.5,0,0,0,0,5,1,0,0 OK</p>

2.4.2.78. Status of registration - \$STSREG

\$STSREG – Status of registration	
AT\$STSREG?	<p>Read command returns the current registration status.</p> <p>Format : <status></p> <p>Parameter <status> 0 – No Service 1 – Normal Service 2 – Limited Service</p>
Example	<p>AT\$STSREG? 1 OK</p>



3. Notification Messages

The Telit wireless module UC864-AK can report the status of module using some notifications. In the following, it is described that What kind of Notifications can be reported from the Telit wireless module UC864-AK.

3.1. Notification table

The following table lists Notifications set for Hyundai Motors Co.

Notification	UC864-AK	Function	Page
Basic Notifications			
CONNECT	•	Call Connected	53
NO CARRIER	•	Call Disconnected	53
RING	•	Call Received	53
Customized specific Notifications			
\$DORMENT	•	Preservation Mode Entry	54
\$DORMEXT	•	Preservation Mode Exit	54
\$LOCK	•	Registration fail(Limited mode)	54
\$VCON	•	Voice call connected	55
\$VCALL		Voice call calling	54
\$DREL	•	Data Call Released	57
\$DCON	•	Data Call Connected	57
\$DCONTYPE	•	Data Connection Type	57
\$CNI	•	Caller Number Identification	55
\$SMSMOACK	•	SMS message Mobile Origination Acked	55
\$SMSMONAK	•	SMS message Mobile Origination Negative Acked	55
\$SMSALERT	•	SMS receiving Alert	55
\$AIRBAG	•	Air Bag Signal On	56
\$NOSVC	•	No Service	56
\$RSSI	•	RSSI changed	56
\$NO CARD	•	No USIM Card	56
\$READY	•	Module Ready	26
\$SIM READY	•	USIM Ready	56
\$SYSTIME	•	Obtain system time from network	56
\$OTA DONE	•	OTA process succeed	57
\$OTA FAIL	•	OTA process fail	57



3.2. Notification References

3.2.1. Basic Notifications

3.2.1.1. Call Connected - CONNECT

CONNECT – Call Connected	
CONNECT	Call Connection established.
Example	RING CNI010YYYYYYYY ATA OK CONNECT

3.2.1.2. Ringing - RING

RING – Ringing	
RING	Voice Call Received.
Example	RING CNI010YYYYYYYY ATA OK CONNECT

3.2.1.3. Call Disconnected - NO CARRIER

NO CARRIER – Call Disconnected	
NO CARRIER	Call Disconnected
Example	RING CNI010YYYYYYYY ATA OK CONNECT AT\$REL OK NO CARRIER



3.2.1.4. Module Ready - \$READY

\$READY – Module Ready	
\$READY	Module is now ready.

3.2.1.5. Dormant Mode Entry - \$DORMANT

\$DORMANT – Dormant Mode Entry	
\$DORMANT	Module enter to Preservation mode

3.2.1.6. Dormant Mode Exit - \$DORMEXT

\$DORMEXT – Dormant Mode Exit	
\$DORMEXT	Module exit to Preservation mode

3.2.1.7. Registration Lock - \$LOCK

\$LOCK – Registration Lock	
\$LOCK<n>	Module fail the registration on network and operate in Limited mode. Parameter <n> - networ network reject cause
Example	\$READY

3.2.1.8. Voice Call Calling - \$VCALL

\$VCALL – Voice Call Calling	
\$VCALL<number>	Module is now calling to <number>. Parameter <number> - destination number



3.2.1.9. Voice Connected - \$VCON

\$VCON – Voice Call Connected	
\$VCON	Voice Call Connected. And Receiver answer the call, CONNECT notification is reported.

3.2.1.10. Caller Number Identifier - \$CNI

\$CNI – Caller Number Identifier	
\$CNI<id>	When the voice call is received, this notification is reported. Parameter <id> - Caller Identification Number RESTRICTED – Caller Identification is restricted. NOT_AVAIL – Caller Identification number is not avail.

3.2.1.11. SMS message Mobile Origination Acked - \$SMSMOACK

\$SMSMOACK – SMS message Mobile Origination Acked	
\$SMSMOACK<n>	If the SMS origination is succeed, this notification is reported. Parameter <n> - SMS number

3.2.1.12. SMS message Mobile Origination Negative Acked - \$SMSMONAK

\$SMSMONAK – SMS message Mobile Origination Negative Acked	
\$SMSMONAK<n>	If the SMS origination is fail, this notification is reported. Parameter <n> - SMS number

3.2.1.13. SMS message receiving Alert - \$SMSALERT

\$SMSALERT – SMS message receiving Alert	
\$SMSALERT	If new SMS is received, this notification is reported.



3.2.1.14. AirBag system worked - \$AIRBAG

\$AIRBAG – AirBag system worked(not valid)	
\$AIRBAG	If the airbag signal is activated, this notification is reported.

3.2.1.15. No Service - \$NOSVC

\$NOSVC – No Service	
\$NOSVC	If module change mode to No Service, this notification is reported.

3.2.1.16. RSSI grade changed - \$RSSI

\$RSSI – RSSI grade changed	
\$RSSI<n>	If RSSI grade is changed, this notification is reported. <n> - current RSSI grade Note : refer AT\$RSSIGRADE command.

3.2.1.17. No Card inserted - \$NO CARD

\$NO CARD – No Card inserted	
\$NO CARD	If USIM is not inserted, this notification is reported.

3.2.1.18. USIM is Ready - \$SIM READY

\$SI M READY – USIM is Ready	
\$SIM READY	If USIM initialization is over, this notification is reported.

3.2.1.19. Obtain System Time - \$SYSTIME

\$SYSTIME – obtain System Time	
\$SYSTIME	It is success to obtain system time from network. Note : If this notification is reported, it is ok to use the command AT\$SYSTIME .



3.2.1.20. Data Call Connected - \$DCON

\$DCON – Data Call Connected	
\$DCON	Module is connected to network for data transmission.

3.2.1.21. Data Connection Type - \$DCONTYPE

\$DCONTYPE – Data Connection Type	
\$DCONTYPE<tx>,<rx> x>	Module enter to Preservation mode Parameter <tx> - transmission rate <rx> - receiving rate

3.2.1.22. Data Connection Released - \$DREL

\$DREL – Data Connection Released	
\$DREL	Data connection is released.

3.2.1.23. OTA process success - \$OTA DONE

\$OTA DONE – OTA process success	
\$OTA DONE	If OTA process is success, this notification is reported. Note : refer the command AT#COMS

3.2.1.24. OTA process fail - \$OTA FAIL

\$OTA FAIL – OTA process fail	
\$OTA FAIL	If OTA process is fail, this notification is reported. Note : refer the command AT#COMS



4. List of acronyms

ARFCN	Absolute Radio Frequency Channel Number
AT	Attention command
BA	BCCH Allocation
BCCH	Broadcast Control Channel
CA	Cell Allocation
CBM	Cell Broadcast Message
CBS	Cell Broadcast Service
CCM	Current Call Meter
CLIR	Calling Line Identification Restriction
CTS	Clear To Send
CUG	Closed User Group
DCD	Data Carrier Detect
DCE	Data Communication Equipment
DCS	Digital Cellular System
DGPS	Differential GPS, the use of GPS measurements, which are differentially corrected
DNS	Domain Name System Server
DSR	Data Set Ready
DTE	Data Terminal Equipment
DTMF	Dual Tone Multi Frequency
DTR	Data Terminal Ready
GGA	GPS Fix data
GLL	Geographic Position – Latitude/Longitude
GLONASS	Global positioning system maintained by the Russian Space Forces
GMT	Greenwich Mean Time
GNSS	Any single or combined satellite navigation system (GPS, GLONASS and combined GPS/GLONASS)
GPRS	Global Packet Radio Service
GPS	Global Positioning System
GSA	GPS DOP and Active satellites
GSM	Global System Mobile
GSV	GPS satellites in view
HDLC	High Level Data Link Control
HDOP	Horizontal Dilution of Precision
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
IRA	International Reference Alphabet
IWF	Interworking Function



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MO	Mobile Originated
MT	Mobile Terminal
NMEA	National Marine Electronics Association
NVM	Non Volatile Memory
PCS	Personal Communication Service
PDP	Packet Data Protocol
PDU	Packet Data Unit
PIN	Personal Identification Number
PPP	Point to Point Protocol
PUK	Pin Unblocking Code
RLP	Radio Link Protocol
RMC	Recommended minimum Specific data
RTS	Request To Send
SAP	SIM Access Profile
SCA	Service Center Address
SMS	Short Message Service
SMSC	Short Message Service Center
SMTP	Simple Mail Transport Protocol
TA	Terminal Adapter
TCP	Transmission Control Protocol
TE	Terminal Equipment
UDP	User Datagram Protocol
USSD	Unstructured Supplementary Service Data
UTC	Coordinated Universal Time
VDOP	Vertical dilution of precision
VTG	Course over ground and ground speed
WAAS	Wide Area Augmentation System

