



# UMTS Modems

## Supported AT Command Reference

Includes:

AC875 / AC875U

AC880 / AC880E / AC880U

AC881 / AC881U

C885

C888

MC8775 / MC8775V

MC8780 / MC8781

MC8785V

MC8790 / MC8790V

MC8791V

MC8792V

2130617  
Rev 2.8.1



## Important Notice

Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

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Do not operate the Sierra Wireless modem in areas where blasting is in progress, where explosive atmospheres may be present, near medical equipment, near life support equipment, or any equipment which may be susceptible to any form of radio interference. In such areas, the Sierra Wireless modem **MUST BE POWERED OFF**. The Sierra Wireless modem can transmit signals that could interfere with this equipment.

Do not operate the Sierra Wireless modem in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, the Sierra Wireless modem **MUST BE POWERED OFF**. When operating, the Sierra Wireless modem can transmit signals that could interfere with various onboard systems.

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*Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless modems may be used at this time.*

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The driver or operator of any vehicle should not operate the Sierra Wireless modem while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some states and provinces, operating such communications devices while in control of a vehicle is an offence.

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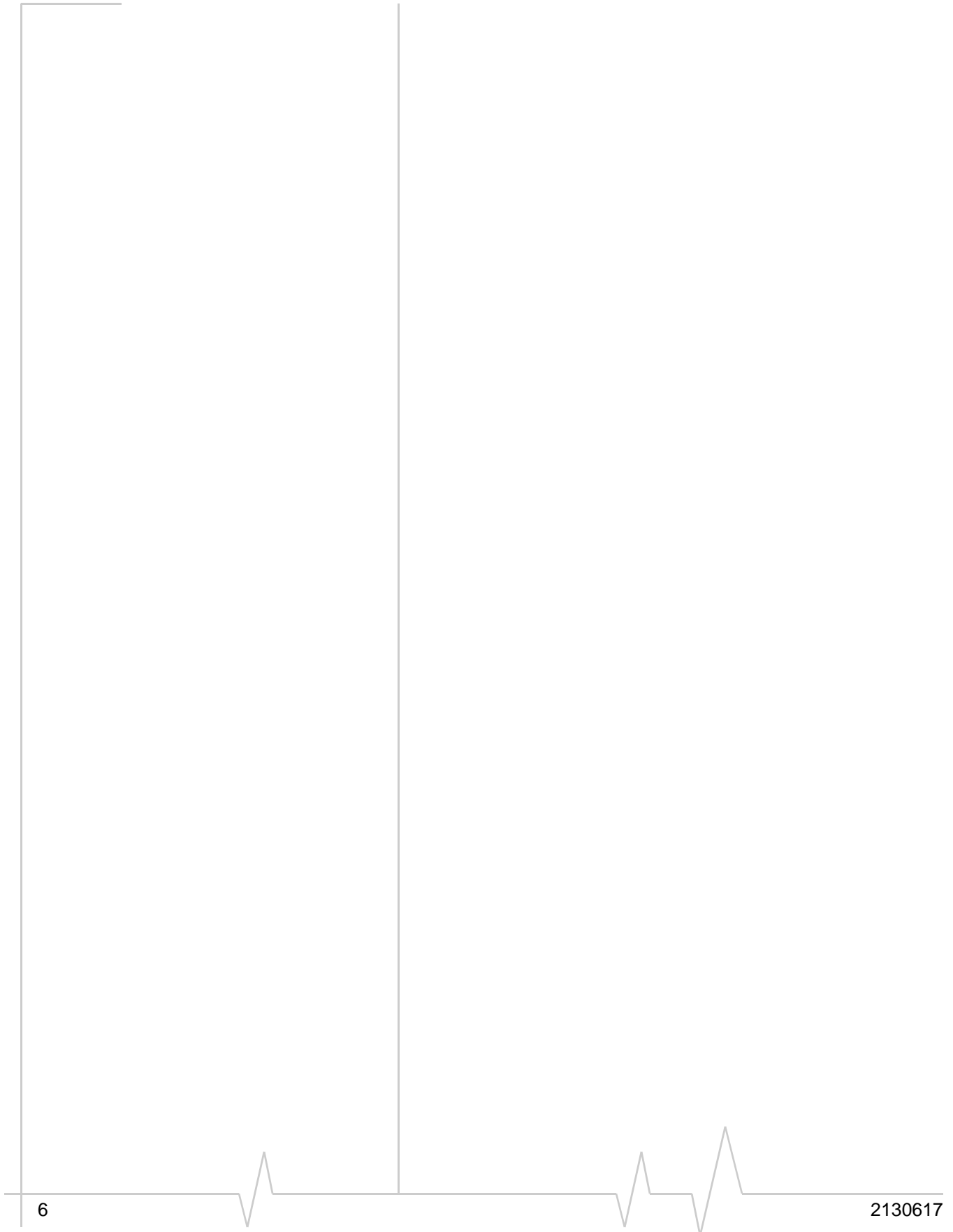
Consult our website for up-to-date product descriptions, documentation, application notes, firmware upgrades, troubleshooting tips, and press releases:

[www.sierrawireless.com](http://www.sierrawireless.com)

## Revision History

Revision number	Release date	Changes
2.3	Jul 2007	<ul style="list-style-type: none"> <li>Fixed <b>!TIME</b> (page 53) syntax</li> <li>Added <b>+ECIO</b> (page 33), <b>!GSMINFO</b> (page 36), <b>!INVPORTSET</b> (page 39), <b>!SMSSTSEN</b> (page 48) commands</li> <li>Added detail for <b>!SMSRETRY</b> (page 47)</li> </ul>
2.4	Jan 2008	<ul style="list-style-type: none"> <li>Updated <b>!TIME</b> (page 53) syntax</li> </ul>
2.5	Mar 2008	<ul style="list-style-type: none"> <li>Added band indexes (0C,0D) and clarified query use for <b>!BAND</b> (page 29)</li> <li>Clarified <b>!NVBACKUP</b> (page 63) options</li> <li>Clarified <b>+ECIO</b> (page 33) and <b>+USET</b> (page 55)</li> </ul>
2.6	Jul 2008	<ul style="list-style-type: none"> <li>Added C885/C888/MC8790/MC8790V to supported modems list</li> <li>Updated minimum firmware revisions</li> <li>Updated 'supported modems' lists for several commands</li> <li>Updated <b>!GRELIMEI</b> (page 35)</li> <li>Added <b>!SCPROFDEL</b> (page 44), <b>!SDNOTINSTALLED</b> (page 45), <b>!SIMNOTINSTALLED</b> (page 46)!</li> <li>Changed 'Support' status to 'Yes' for supported AT commands described in Chapter 2: <b>+CMMS</b>, <b>+CPOL</b>, <b>+CPUC</b>, <b>+CTFR</b>, <b>+DS</b>, <b>&amp;F</b>, <b>O</b>, <b>+VTD</b>, <b>+VTS</b></li> </ul>
2.7	Sep 2008	<ul style="list-style-type: none"> <li>Added MC8791V and MC8792V to supported modems list</li> <li>Added WCDMA900 content to <b>!BAND</b> (page 29) and <b>!GSTATUS</b> (page 38)</li> </ul>
2.8	Apr 2009	<ul style="list-style-type: none"> <li>Added <b>+ETFCI</b></li> <li>Indicated support for <b>+CIEV</b>, <b>+CIND</b>, <b>+CMER</b></li> <li>Moved <b>!AUTH</b> and <b>!GCIPHER</b> into different chapters</li> <li>Added general and AT command indexes</li> </ul>
2.8.1	Feb 2011	<ul style="list-style-type: none"> <li>Updated Patents statement</li> </ul>

# Supported AT Command Reference



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# >> 1: About this Guide

- Introduction
- Result codes
- Terminology and acronyms
- Current firmware versions
- Document structure
- Conventions

## Introduction

This document describes standard and proprietary AT commands that are available for users of UMTS AirCard modems, Compass modems, and Mini Card embedded modules.

The standard 3GPP AT commands for UMTS devices are described in two standards documents available from the 3GPP (3rd Generation Partnership Project) web site, [www.3gpp.org](http://www.3gpp.org):

- TS 27.007 *AT command set for User Equipment (UE)*
- TS 27.005 *Use of Data Terminal Equipment -- Data Circuit terminating Equipment (DTE-DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (BSE)*

The proprietary AT commands are supplemental to the standard AT commands.

For normal operation of the modem, consult the *GSM AT Command Reference* (document number 2130213). You may also want to consult the other documents available in the AC8xx/MC87xx Development Kit or on our Internet site at

[www.sierrawireless.com](http://www.sierrawireless.com)

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*Note: Some standard 3GPP commands are NOT supported, or are partially supported. These commands are identified in [Supported GSM / WCDMA AT Commands, page 17](#).*

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*Note: When designing applications that use these AT commands, use Watcher<sup>®</sup> (and other Sierra Wireless applications) as functionality templates to ensure proper use of command groups. For questions or concerns relating to command implementation, please contact your Sierra Wireless account representative.*

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*Note: Revision codes that include letters, such as 2.1A, are to be considered drafts and are subject to change before final release.*

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## Result codes

Result codes are not shown in the command tables unless special conditions apply. Generally the result code OK is returned when the command has been executed. ERROR may be returned if parameters are out of range, and will be returned if the command is not recognized or is not permitted in the current state or condition of the modem.

## Terminology and acronyms

This document makes use of acronyms that are in common use in data communications and cellular technology. Our [Internet site](#) provides a *Glossary of Terms and Acronyms* (document number 2130891) that may be helpful in understanding some acronyms and terminology used in this guide.

## Current firmware versions

### Versions

**Document** This document is revised periodically as new firmware versions are released. This edition is:

**Rev 2.8.1 Feb.11**

**Applicability of commands to different modules** Each command listed in this guide includes a list of supporting AC8xx and MC87xx modules. Unless otherwise noted, the following minimum firmware revisions are required to support the listed commands:

- AC875 / MC8775 / MC8775V – Revision H1\_0\_0\_0 or higher
- AC880 / MC8780 / MC8781 – Revision D1\_0\_3\_0ap / F1\_0\_0\_0ap or higher
- AC881 / AC881U – Revision F1\_0\_0\_4ap or higher
- C885 / MC8785V – Revision J1\_0\_1\_0ap or higher
- C888 / MC8790 / MC8790V – Revision K1\_0\_1\_2ap or higher
- MC8791V / MC8792V – Revision K1\_0\_2\_13ap or higher

To determine your firmware revision:

- Enter the identification command **AT+GMR**  
The modem responds with version information for software, firmware, and hardware.

The details following the revision number include Sierra Wireless information on the specific build followed by the date and time of the build.

+GMR: ... F/W VER: R1\_0\_0\_...

## Upgrading

If your modem firmware is an earlier version, you can acquire updated firmware by contacting your account manager.

## Document structure

This document assumes you have the 3GPP TS 27.007 AT command documentation (see [page 9](#)). This reference includes a chapter covering [Supported 27.007 AT commands](#), as well as the proprietary commands listed in the tables below. Each table corresponds to one chapter in this guide.

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*Note: The 'Supporting modems' column indicates which modems support each command—Mini Card (MC), Compass (C), and AirCard (AC). If an entry is marked with an asterisk (\*), a firmware upgrade may be required. See the detailed command entry for details.*

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**Modem Status, Customization, and Reset Commands** This chapter describes commands used to determine modem status, adjust customization settings, and reset the modem.

**Table 1-1: Modem status and reset commands**

Cmnd	Pg	Description	Supporting modems
<a href="#">!BAND</a>	29	Selects a set of frequency bands/queries current selection	All
<a href="#">!BCINF</a>	30	Returns the bootloader version	All
<a href="#">!BOOTHOLD</a>	30	Resets modem and waits in bootloader for firmware download	All
<a href="#">^CARDMODE</a>	30	Returns SIM card mode (card type)	All
<a href="#">+CLVL</a>	31	Sets / returns internal loudspeaker volume	All
<a href="#">+CMUT</a>	31	Enables / disables uplink voice muting	All voice-enabled
<a href="#">!CNTI</a>	31	Returns current, available, and supported network technologies	All <sup>a</sup>
<a href="#">+CQI</a>	32	Returns or enables / disables return of averaged CQI (Channel Quality Indicator) value (WCDMA only)	All
<a href="#">!CSDONSIO2</a>	32	Configures secondary SIO port for circuit-switched data	All
<a href="#">+ECIO</a>	33	Returns total Energy per chip per power density value (WCDMA only)	All

**Table 1-1: Modem status and reset commands (Continued)**

Cmnd	Pg	Description	Supporting modems
<b>+ETFCI</b>	33	Enable / disable / query E-TFCI average value	All
<b>!GCIPHER</b>	34	Enables / disables ciphering and integrity settings	All
<b>!GETBAND</b>	34	Returns the current active band	All
<b>!GETRAT</b>	34	Returns the current active radio access technology (RAT)	All
<b>!GRELIMEI</b>	35	Returns the modem's production TAC	All
<b>!GRESET</b>	35	Resets the modem	All
<b>!GSMINFO</b>	36	Displays 2G network information	All <sup>a</sup>
<b>!GSTATUS</b>	38	Returns operational status	All
<b>!GVER</b>	39	Returns the firmware version	All
<b>^HVER</b>	39	Returns the modem hardware version	All
<b>!INVPORSET</b>	39	Assigns appropriate USB endpoint AT port	AC880 / 881 MC8780 / 81
<b>!PCTEMP</b>	39	Returns current temperature information	MC (all) C885 C888
<b>!PCVOLT</b>	40	Returns current power supply voltage information	MC (all) C885 C888
<b>!POWERDOWN</b>	40	Powers down the system	All
<b>!REL</b>	41	Queries the active protocol / revision	All
<b>!RESET</b>	41	Resets the modem	All
<b>+RSCP</b>	41	Returns Received Signal Code Power (RSCP) (WCDMA only)	All
<b>!SCACT</b>	42	Activates / deactivates PDP context for FIFO interface	All
<b>!SCDFTPROF</b>	42	Queries / sets the default profile ID	All
<b>!SCDNS</b>	43	Queries / sets profile ID DNS address	All
<b>!SCPADDR</b>	43	Displays IP address for specified PDP context	All
<b>!SCPROF</b>	44	Queries / sets SWI-specific profile information	All
<b>!SCPROFDEL</b>	44	Erase profile information	All <sup>a</sup>
<b>!SELMODE</b>	45	Queries / sets current service domain	All
<b>!SELRAT</b>	45	Queries / sets current radio access technology (RAT)	All

**Table 1-1: Modem status and reset commands (Continued)**

Cmnd	Pg	Description	Supporting modems
<b>!SDNOTINSTALLED</b>	45	Returns SD installation status	C885
<b>!SIMNOTINSTALLED</b>	46	Returns SIM installation status	AC885 C885 C888 MC8785V MC8790/90V MC8791V MC8792V
<b>!SMSRETRY</b>	47	Queries / sets SMS retry period and interval	AC880 / 881 C885 MC8780 / 81 MC8785V MC8790/90V MC8791V MC8792V
<b>!SMSSTSEN</b>	48	Enables / disables SMS status reports	All <sup>a</sup>
<b>!SWICALLPROG</b>	49	Enables / disables Call Progress Notification	All
<b>^SYSCONFIG</b>	51	Queries / sets system configuration information	All
<b>^SYSINFO</b>	52	Returns service status information	All
<b>!TIME</b>	53	Queries / sets current time of day	All
<b>!UDINFO</b>	54	Queries / sets current time of day	All
<b>+UPSC</b>	54	Displays Primary Scrambling Code (WCDMA only)	All
<b>+USET</b>	55	Displays WCDMA set information	All
<b>&amp;V</b>	57	Return operating mode AT configuration parameters	All

a. A firmware upgrade may be required, as noted in the detailed listing for this command.

**Diagnostic Commands** This chapter describes commands used to select frequency bands and diagnose problems.

**Table 1-2: Diagnostic commands**

Cmnd	Pg	Description	Supporting modems
<b>!MXSTATS</b>	60	Displays / clears 27.010 statistics	All

**Test commands** This chapter describes commands required to place the modem in particular modes of operation, test host connectivity, and configure the transmitters and receivers for test measurements.

**Table 1-3: Test commands**

Cmnd	Pg	Description	Supporting modems
<b>!ERR</b>	61	Displays diagnostic information	All
<b>!GCCLR</b>	61	Clears crash dump data	All
<b>!GCDUMP</b>	61	Displays the crash dump data	All

**Memory Management Commands** This chapter describes commands that control the data stored in non-volatile memory of the modem.

**Table 1-4: Memory management commands**

Cmnd	Pg	Description	Supporting modems
<b>!NVBACKUP</b>	63	Backs up items stored in non-volatile memory	All

**SIM Commands** This chapter describes commands that communicate with an installed (U)SIM.

**Table 1-5: SIM commands**

Cmnd	Pg	Description	Supporting modems
<b>!AUTH</b>	65	!AUTH = <randNumber>	All
<b>!ICCID</b>	66	Returns (U)SIM card's ICCID	All

## Conventions

The following format conventions are used in this reference:

Character codes or keystrokes that are described with words or standard abbreviations are shown within angle brackets using a different font, such as <CR> for Carriage Return and <space> for a blank space character.

Numeric values are decimal unless prefixed as noted below.

Hexadecimal values are shown with a prefix of 0x, i.e. in the form 0x3D.

Binary values are shown with a prefix of 0b, i.e. in the form 0b00111101.

Command and register syntax is noted using an alternate font: **!CHAN=<c>[,b]**. The “AT” characters are not shown but must be included before all commands except as noted in the reference tables.

Characters that are required are shown in uppercase; parameters are noted in lowercase. Required parameters are enclosed in angle brackets (<n>) while optional parameters are enclosed within square brackets ([x]). The brackets are not to be included in the command string.

Commands are presented in table format. Each chapter covers the commands related to that subject and presents a summary table to help you locate a needed command. Commands are in ASCII alphabetical order in the body of each chapter.

Any default settings are noted in the command tables. Note that these are the factory default settings and *not* the default parameter value assumed if no parameter is specified.

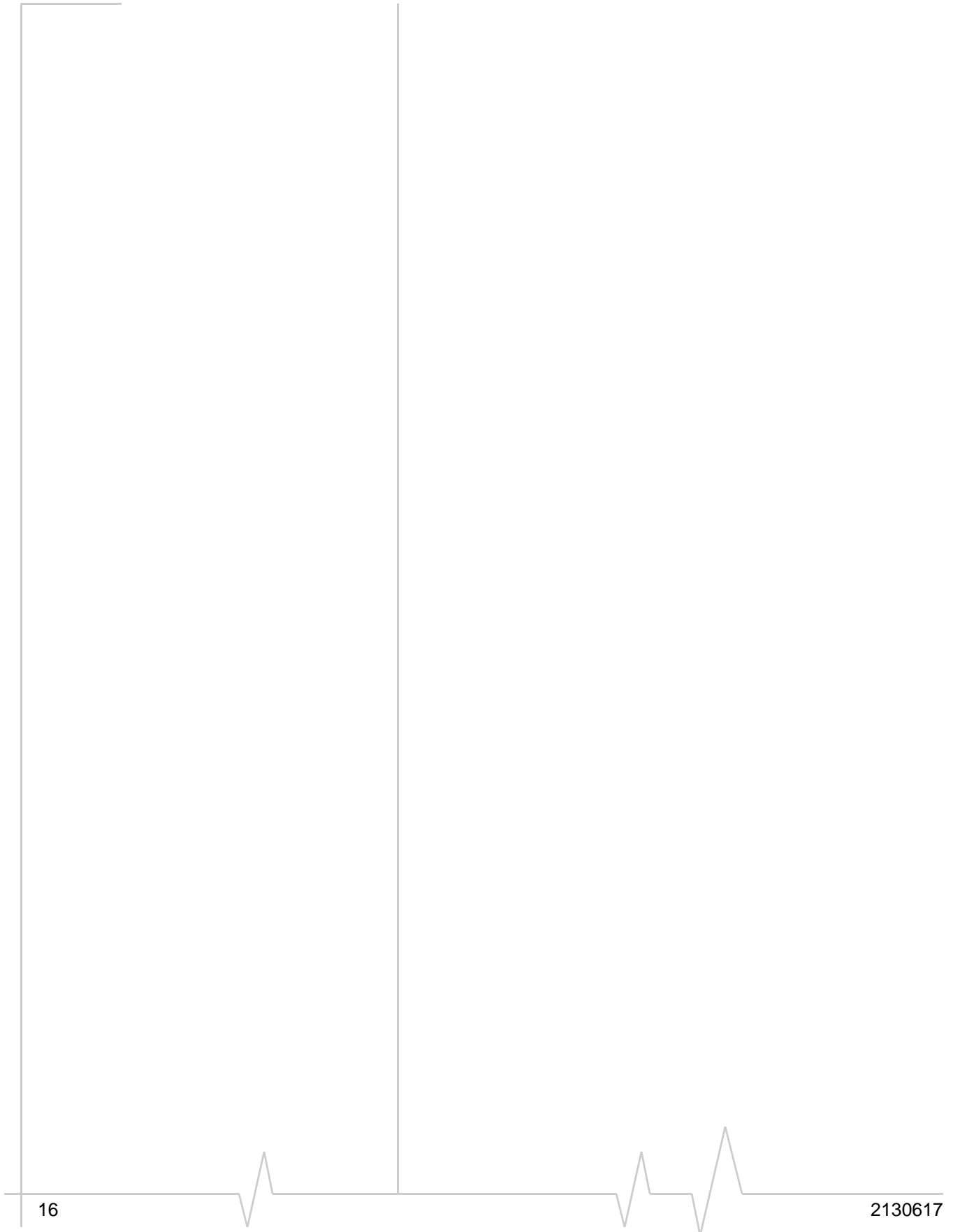
**Result Code** This is a numeric or text code that is returned after all commands (except resets). Only one result code is returned for a command line regardless of the number of individual commands contained on the line.

**Response** This term indicates a response from the modem that is issued prior to a result code. Reading registers or issuing commands that report information will provide a response followed by a result code unless the command generates an error.

Responses and result codes from the modem, or host system software prompts, are shown in this font:

**CONNECT 14400**

# Supported AT Command Reference





## 2: Supported GSM / WCDMA AT Commands

This chapter identifies the ITU-T Recommendation V.250, 3GPP TS 27.005, and 3GPP TS 27.007 AT commands that are supported on regular and voice-enabled Sierra Wireless modems (AirCard, Compass, and Mini Card). These commands are used to:

- Control serial communications over an asynchronous interface (*ITU-T Recommendation V.250*)
- Control SMS functions for devices on GSM/WCDMA networks (*3GPP TS 27.005*)
- Control devices operating on GSM/WCDMA networks (*3GPP TS 27.007*)

The ITU-T specification, *Serial Asynchronous Dialling and Control (Recommendation V.250)*, is available on the International Telecommunication Union web site, [www.itu.int](http://www.itu.int), and the 3GPP specification documents, *3GPP TS 27.007 V3.13.0 (2003-03)* and *3GPP TS 27.007 V3.13.0 (2003-03)*, are available on the 3GPP web site, [www.3gpp.org](http://www.3gpp.org).

The tables below identify whether each command is supported on AirCard modems, Compass modems, and Mini Card embedded modules. An “N/A” in the Supported column of the table indicates that the command is related to a feature (such as voice) that is not available on the modems.

Some commands are partially supported—the descriptions for these commands identify any limitations on command usage. Also, some commands are described in more detail in later chapters—the descriptions for these commands link to those detailed entries (for example, **&V** in Table 2-1).

**Table 2-1: Supported ITU-T Recommendation V.250 AT commands**

Command	Description	Supported
<b>&amp;C</b>	Set Data Carrier Detected (Received line signal detector) function mode	No
<b>&amp;D</b>	Set Data Terminal Ready function mode	No
<b>&amp;F</b>	Set all current parameters to manufacturer's defaults	Yes
<b>&amp;S</b>	Set DSR signal	No
<b>&amp;T</b>	Auto tests	No
<b>&amp;V</b>	<a href="#">Return operating mode AT configuration parameters</a>	Yes

**Table 2-1: Supported ITU-T Recommendation V.250 AT commands (Continued)**

Command	Description	Supported
<b>&amp;W</b>	Store current parameter to user-defined profile	No
<b>+DR</b>	V42bis data compression report	Yes
<b>+DS</b>	V42bis data compression	Yes
<b>+GCAP</b>	Request complete TA capabilities list	Yes
<b>+GMI</b>	Request manufacturer identification	Yes
<b>+GMM</b>	Request TA model identification	Yes
<b>+GMR</b>	Request TA revision identification	Yes
<b>+GOI</b>	Request global object identification	No
<b>+GSN</b>	Request TA serial number identification	Yes
<b>+ICF</b>	Set TE-TA control character framing	Yes
<b>+IFC</b>	Set TE-TA local data flow control	Yes
<b>+ILRR</b>	Set TE-TA local rate reporting mode	No
<b>+IPR</b>	Set fixed local rate	Yes
<b>A</b>	Answer incoming call	Yes
<b>A/</b>	Re-issues last AT command given	No
<b>D</b>	Dial	Yes
<b>D&gt;&lt;MEM&gt;&lt;N&gt;</b>	Originate call to phone number in memory <MEM>	No
<b>D&gt;&lt;N&gt;</b>	Originate call to phone number in current memory	Yes
<b>D&gt;&lt;STR&gt;</b>	Originate call to phone number in memory which corresponds to alphanumeric field <STR>	No
<b>DL</b>	Redial last telephone number used	No
<b>E</b>	Set command echo mode	Yes
<b>H</b>	Disconnect existing connections	Yes
<b>I</b>	Display product identification information	Yes
<b>L</b>	Set monitor speaker loudness	No
<b>M</b>	Set monitor speaker mode	No
<b>O</b>	Switch from command mode to data mode	Yes
<b>P</b>	Select pulse dialing	No
<b>Q</b>	Set Result code presentation mode	No
<b>S0</b>	Set number of rings before automatically answering the call	Yes

**Table 2-1: Supported ITU-T Recommendation V.250 AT commands (Continued)**

Command	Description	Supported
<b>S10</b>	Set disconnect delay after indicating the absence of data carrier	Yes
<b>S3</b>	Set command line termination character	Yes
<b>S4</b>	Set response formatting character	Yes
<b>S5</b>	Set command line editing character	Yes
<b>S6</b>	Set pause before blind dialing	Yes
<b>S7</b>	Set number of seconds to wait for connection completion	Yes
<b>S8</b>	Set number of seconds to wait when comma dial modifier used	Yes
<b>T</b>	Select tone dialing	Yes
<b>V</b>	Set result code format mode	Yes
<b>X</b>	Set connect result code format and call monitoring	Yes
<b>Z</b>	Set all current parameters to user-defined profile	Yes

**Table 2-2: Supported 27.005 AT commands**

Command	Description	Supported
<b>+CBM</b>	Cell broadcast message directly displayed	Yes
<b>+CBMI</b>	Cell broadcast message stored in memory at specified <index> location	No
<b>+CDS</b>	SMS status report after sending a SMS	Yes
<b>+CDSI</b>	Incoming SMS status report	Yes
<b>+CMGC</b>	Send command	Yes
<b>+CMGD</b>	Delete message	Yes
<b>+CMGF</b>	Message format	Yes
<b>+CMGL</b>	List messages	Yes
<b>+CMGR</b>	Read message	Yes
<b>+CMGS</b>	Send message	Yes
<b>+CMGW</b>	Write message to memory	Yes
<b>+CMMS</b>	More messages to send	Yes
<b>+CMNA</b>	New message acknowledgement to ME/TA	Yes
<b>+CMS ERROR: &lt;err&gt;</b>	SMS error (mobile or network error)	Yes
<b>+CMSS</b>	Send message from storage	Yes

**Table 2-2: Supported 27.005 AT commands (Continued)**

Command	Description	Supported
<b>+CMT</b>	Incoming message directly displayed	Yes
<b>+CMTI</b>	Incoming message stored in <mem> ("SM" - (U)SIM message storage) at location <index>	Yes
<b>+CNMA</b>	New message acknowledgement to mobile equipment	Yes
<b>+CNMI</b>	New message indications to TE	Yes
<b>+CPMS</b>	Preferred message storage	Yes
<b>+CRES</b>	Restore settings	No
<b>+CSAS</b>	Save settings	No
<b>+CSCA</b>	Service centre address	Yes
<b>+CSCB</b>	Select cell broadcast message types	Yes
<b>+CSDH</b>	Show text mode parameters	Yes
<b>+CSMP</b>	Set text mode parameters	Yes
<b>+CSMS</b>	Select message service	Yes

**Table 2-3: Supported 27.007 AT commands**

Command	Description	Support
<b>C</b>	ITU T V.24 circuit 109 carrier detect signal behavior command Format <ul style="list-style-type: none"> <li>• C&lt;value&gt;</li> </ul> Limitations <ul style="list-style-type: none"> <li>• Default &lt;value&gt; = 2</li> <li>• &lt;value&gt; = 2 causes the AT/Data carrier detect pin to 'wink' (briefly switch off and on) when data calls end.</li> <li>• &lt;value&gt; = 0 or 1 performs as defined in the standard</li> </ul>	Partial
<b>+CACM</b>	Accumulated call meter	No
<b>+CACSP</b>	Voice Group or Voice Broadcast Call State Attribute Presentation	N/A
<b>+CAEMLPP</b>	eMLPP Priority Registration and Interrogation	No
<b>+CAHLD</b>	Leave an ongoing Voice Group or Voice Broadcast Call	N/A
<b>+CAJOIN</b>	Accept an incoming Voice Group or Voice Broadcast Call	N/A
<b>+CALA</b>	Alarm	N/A
<b>+CALCC</b>	List current Voice Group and Voice Broadcast Calls	N/A
<b>+CALD</b>	Delete alarm	N/A

Table 2-3: Supported 27.007 AT commands (Continued)

Command	Description	Support
<b>+CALM</b>	Alert sound mode	No
<b>+CAMP</b>	Accumulated call meter maximum	No
<b>+CANCHEV</b>	NCH Support Indication	No
<b>+CAOC</b>	Advice of Charge	No
<b>+CAPD</b>	Postpone or dismiss an alarm	N/A
<b>+CAPTT</b>	Talker Access for Voice Group Call	N/A
<b>+CAREJ</b>	Reject an incoming Voice Group or Voice Broadcast Call	N/A
<b>+CAULEV</b>	Voice Group Call Uplink Status Presentation	N/A
<b>+CBC</b>	Battery charge	Yes
<b>+CBST</b>	Select bearer service type	Yes
<b>+CCCM</b>	Current call meter value	No
<b>+CCFC</b>	Call forwarding number and conditions	Yes
<b>+CCLK</b>	Clock	N/A
<b>+CCUG</b>	Closed user group	Yes
<b>+CCWA</b>	Call waiting	Yes
<b>+CCWE</b>	Call Meter maximum event	No
<b>+CDIP</b>	Called line identification presentation	No
<b>+CDIS</b>	Display control	No
<b>+CEER</b>	Extended error report	No
<b>+CFUN</b>	Set phone functionality Format <ul style="list-style-type: none"> <li>• +CFUN = [ &lt;fun&gt; [, &lt;rst&gt;] ]</li> </ul> Limitations <ul style="list-style-type: none"> <li>• Valid &lt;fun&gt; values:               <ul style="list-style-type: none"> <li>• 0 (minimum functionality, low power draw)</li> <li>• 1 (full functionality, high power draw)</li> </ul> </li> </ul>	Partial
<b>+CGACT</b>	PDP context activate or deactivate	Yes
<b>+CGANS</b>	Manual response to a network request for PDP context activation	No
<b>+CGATT</b>	PS attach or detach	Yes
<b>+CGAUTO</b>	Automatic response to a network request for PDP context activation	No

**Table 2-3: Supported 27.007 AT commands (Continued)**

Command	Description	Support
<b>+CGCLASS</b>	GPRS mobile station class	Yes
<b>+CGCLOSP</b>	Configure local octet stream PAD parameters	No
<b>+CGCMOD</b>	PDP Context Modify	No
<b>+CGDATA</b>	Enter data state	Yes
<b>+CGDCONT</b>	Define PDP Context	Yes
<b>+CGDSCONT</b>	Define Secondary PDP Context	Yes
<b>+CGEQMIN</b>	3G Quality of Service Profile (Minimum acceptable)	Yes
<b>+CGEQNEG</b>	3G Quality of Service Profile (Negotiated)	Yes
<b>+CGEQREQ</b>	3G Quality of Service Profile (Requested)	Yes
<b>+CGEREP</b>	Packet Domain event reporting	Yes
<b>+CGEV</b>	GPRS network event indication	Yes
<b>+CGMI</b>	Request manufacturer identification	Yes
<b>+CGMM</b>	Request model identification	Yes
<b>+CGMR</b>	Request revision identification	Yes
<b>+CGPADDR</b>	Show PDP address	Yes
<b>+CGQMIN</b>	Quality of Service Profile (Minimum acceptable)	Yes
<b>+CGQREQ</b>	Quality of Service Profile (Requested)	Yes
<b>+CGREG</b>	GPRS network registration status	Yes
<b>+CGSMS</b>	Select service for MO SMS messages	Yes
<b>+CGSN</b>	Request product serial number identification	Yes
<b>+CGTFT</b>	Traffic Flow Template	Yes
<b>+CHLD</b>	Call related supplementary services	Yes
<b>+CHSA</b>	HSCSD non-transparent asymmetry configuration	N/A
<b>+CHSC</b>	HSCSD current call parameters	N/A
<b>+CHSD</b>	HSCSD device parameters	N/A
<b>+CHSR</b>	HSCSD parameters report	N/A
<b>+CHST</b>	HSCSD transparent call configuration	N/A
<b>+CHSU</b>	HSCSD automatic user initiated upgrading	N/A
<b>+CHUP</b>	Hangup call	Yes

Table 2-3: Supported 27.007 AT commands (Continued)

Command	Description	Support
<b>+CIEV</b>	Indicator event	Yes
<b>+CIMI</b>	Request international mobile subscriber identity	Yes
<b>+CIND</b>	Indicator control	Yes
<b>+CKEV</b>	Key press or release event	No
<b>+CKPD</b>	Keypad control	No
<b>+CLAC</b>	List all available AT commands	No
<b>+CLAE</b>	Language Event	No
<b>+CLAN</b>	Set Language	No
<b>+CLCC</b>	List current calls	Yes (MC8790V/ MC8791V/ MC8792V)  Partial (other voice-enabled modules)
<b>+CLCK</b>	Facility lock	Yes
<b>+CLIP</b>	Calling line identification presentation	Yes
<b>+CLIR</b>	Calling line identification restriction	Yes
<b>+CLVL</b>	<a href="#">Sets / returns internal loudspeaker volume</a>	Yes
<b>+CMAR</b>	Master Reset	No
<b>+CME ERROR: &lt;err&gt;</b>	Mobile Termination error result code	Yes
<b>+CMEC</b>	Mobile Termination control mode	No
<b>+CMEE</b>	Report Mobile Termination error	Yes
<b>+CMER</b>	Mobile Termination event reporting	Yes
<b>+CMOD</b>	Call mode	Yes
<b>+CMUT</b>	<a href="#">Enables / disables uplink voice muting</a>	Yes
<b>+CMUX</b>	Multiplexing mode	Yes
<b>+CNUM</b>	Subscriber number	Yes
<b>+COLP</b>	Connected line identification presentation	Yes
<b>+COPN</b>	Read operator names	Yes
<b>+COPS</b>	Operator selection	Yes
<b>+CPAS</b>	Phone activity status	Yes

**Table 2-3: Supported 27.007 AT commands (Continued)**

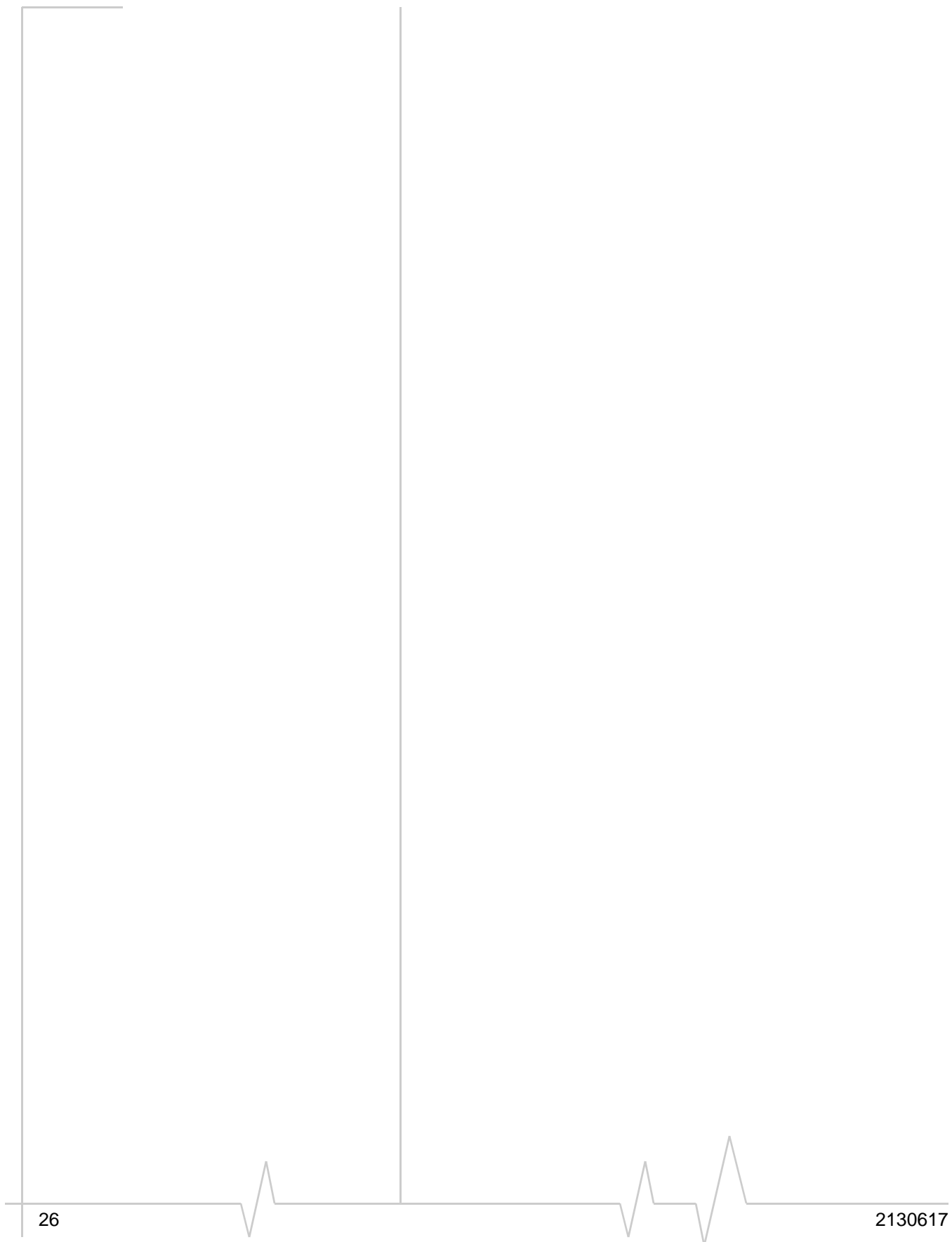
Command	Description	Support
<b>+CPBF</b>	Find phonebook entries	Yes
<b>+CPBR</b>	Read phonebook entries	Yes
<b>+CPBS</b>	Select phonebook memory storage	Yes
<b>+CPBW</b>	Write phonebook entry	Yes
<b>+CPIN</b>	Enter PIN	Yes
<b>+CPOL</b>	Preferred operator list	Yes
<b>+CPROT</b>	Enter protocol mode	No
<b>+CPUC</b>	Price per unit and currency table	Yes
<b>+CPWC</b>	Power class	No
<b>+CPWD</b>	Change password	Yes
<b>+CR</b>	Service reporting control	Yes
<b>+CRC</b>	Cellular result codes	Yes
<b>+CREG</b>	Network registration	Yes
<b>+CRING</b>	Incoming call type	Yes
<b>+CRLP</b>	Radio link protocol	Yes
<b>+CRMP</b>	Ring Melody Playback	N/A
<b>+CRSL</b>	Ringer sound level	N/A
<b>+CRSM</b>	Restricted SIM access	Yes
<b>+CSCC</b>	Secure control command	No
<b>+CSCS</b>	Select TE character set	Yes
<b>+CSDF</b>	Settings date format	N/A
<b>+CSGT</b>	Set Greeting Text	N/A
<b>+CSIL</b>	Silence Command	N/A
<b>+CSIM</b>	Generic SIM access	Yes
<b>+CSNS</b>	Single numbering scheme	No
<b>+CSQ</b>	Signal quality	Yes
<b>+CSSN</b>	Supplementary service notifications	Yes
<b>+CSTA</b>	Select type of address	Yes
<b>+CSTF</b>	Settings time format	Yes



Table 2-3: Supported 27.007 AT commands (Continued)

Command	Description	Support
<b>+CSVM</b>	Set Voice Mail Number	No
<b>+CTFR</b>	Call deflection	Yes
<b>+CTZR</b>	Time Zone Reporting	N/A
<b>+CTZU</b>	Automatic Time Zone Update	No
<b>+CUSD</b>	Unstructured supplementary service data	Yes
<b>+CV120</b>	V.120 rate adaption protocol	No
<b>+CVHU</b>	Voice Hangup Control	No
<b>+CVIB</b>	Vibrator mode	N/A
<b>D</b>	ITU T V.25ter [14] dial command	Yes
<b>D*99#</b>	Sets up a packet data call (PDP context) based on profile ID #1	Yes
<b>D*99***&lt;n&gt;#</b>	Sets up a packet data call (PDP context) based on profile ID #<n> (<n> is the <cid> in the +CGDCONT command)	Yes
<b>+VTD</b>	Tone duration	Yes
<b>+VTS</b>	DTMF and arbitrary tone generation	Yes
<b>+WS46</b>	PCCA STD 101 [17] select wireless network	No

# Supported AT Command Reference



# 3: Modem Status, Customization, and Reset Commands

- [Introduction](#)
- [Command summary](#)
- [Command reference](#)

## Introduction

This chapter describes commands used to reset the modem, adjust customization settings, retrieve the firmware version, and monitor the temperature, voltage, and modem status.

## Command summary

The table below lists the commands described in this chapter.

**Table 3-1: Modem status commands**

Command	Description	Page
<b>!BAND</b>	Selects a set of frequency bands/queries current selection	29
<b>!BCINF</b>	Returns the bootloader version	30
<b>!BOOTHOLD</b>	Resets modem and waits in bootloader for firmware download	30
<b>^CARDMODE</b>	Returns SIM card mode (card type)	30
<b>+CLVL</b>	Sets / returns internal loudspeaker volume	31
<b>+CMUT</b>	Enables / disables uplink voice muting	31
<b>!CNTI</b>	Returns current, available, and supported network technologies	31
<b>+CQI</b>	Returns or enables / disables return of averaged CQI (Channel Quality Indicator) value (WCDMA only)	32
<b>+CSDONSIO2</b>	Configures secondary SIO port for circuit-switched data	32
<b>+ECIO</b>	Returns total Energy per chip per power density value (WCDMA only)	33
<b>+ETFCI</b>	Enable / disable / query E-TFCI average value	33
<b>!GCIPHER</b>	Returns operational status	38
<b>!GETBAND</b>	Returns the current active band	34
<b>!GETRAT</b>	Returns the current active radio access technology (RAT)	34
<b>!GRELIMEI</b>	Returns the modem's production TAC	35
<b>!GRESET</b>	Resets the modem	35
<b>!GSMINFO</b>	Displays 2G network information	36
<b>!GSTATUS</b>	Returns operational status	38

Table 3-1: Modem status commands (Continued)

Command	Description	Page
<b>!GVER</b>	Returns the firmware version	39
<b>^HVER</b>	Returns the modem hardware version	39
<b>!INVPORSET</b>	Assigns appropriate USB endpoint AT port	39
<b>!PCTEMP</b>	Returns current temperature information	39
<b>!PCVOLT</b>	Returns current power supply voltage information	40
<b>!POWERDOWN</b>	Powers down the system	40
<b>!REL</b>	Queries the active protocol / revision	41
<b>!RESET</b>	Resets the modem	41
<b>+RSCP</b>	Returns Received Signal Code Power (RSCP) (WCDMA only)	41
<b>!SCACT</b>	Activates / deactivates PDP context for FIFO interface	42
<b>!SCDFTPROF</b>	Queries / sets the default profile ID	42
<b>!SCDNS</b>	Queries / sets profile ID DNS address	43
<b>!SCPADDR</b>	Displays IP address for specified PDP context	43
<b>!SCPROF</b>	Queries / sets SWI-specific profile information	44
<b>!SCPROFDEL</b>	Erase profile information	44
<b>!SDNOTINSTALLED</b>	Returns SD installation status	45
<b>!SELMODE</b>	Queries / sets current service domain	45
<b>!SELRAT</b>	Queries / sets current radio access technology (RAT)	45
<b>!SIMNOTINSTALLED</b>	Returns SIM installation status	46
<b>!SMSRETRY</b>	Queries / sets SMS retry period and interval	47
<b>!SMSSTSEN</b>	Enables / disables SMS status reports	48
<b>!SWICALLPROG</b>	Enables / disables Call Progress Notification	49
<b>^SYSCONFIG</b>	Queries / sets system configuration information	51
<b>^SYSINFO</b>	Returns service status information	52
<b>!TIME</b>	Queries / sets current time of day	53
<b>!UDINFO</b>	Returns information from active USB descriptor	54
<b>+UPSC</b>	Displays Primary Scrambling Code (WCDMA only)	54
<b>+USET</b>	Displays WCDMA set information	55
<b>&amp;V</b>	Return operating mode AT configuration parameters	57

## Command reference

**Table 3-2: Modem status, customization, and reset commands**

Command	Description
<p><b>!BAND=&lt;bandsetInd&gt;</b></p> <p><b>!BAND=?</b></p> <p><b>!BAND?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul> <hr/> <p><i>Note: These band sets are preconfigured by your device's manufacturer. The bands displayed by the query command (AT!BAND=?) depend on this configuration, as shown in this example.</i></p> <hr/>	<p><b>Selects a set of frequency bands/queries current selection</b></p> <p>This command is used to configure the modem to operate on a set of frequency bands, look up the sets available, and query the current selection.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT!BAND=? reports allowed values for &lt;bandsetInd&gt; and the corresponding frequency bands.</li> <li>AT!BAND=&lt;bandsetInd&gt; is used to select a set of bands.</li> <li>AT!BAND? reports the current band selection.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;bandsetInd&gt; (band index value—When configured for 'all regions', all of the bands supported by the modem will appear):</p> <ul style="list-style-type: none"> <li>00 = All bands</li> <li>01 = WCDMA 2100</li> <li>02 = WCDMA 850/1900</li> <li>03 = GSM 900/1800</li> <li>04 = GSM 850/1900</li> <li>05 = GSM ALL</li> <li>06 = WCDMA 2100 GSM 900/1800</li> <li>07 = WCDMA 850/1900 GSM 850/1900</li> <li>08 = WCDMA ALL</li> <li>09 = WCDMA 850/2100</li> <li>0A = WCDMA 800/2100</li> <li>0B = WCDMA 850/2100 GSM 900/1800</li> <li>0C = WCDMA 850 GSM 900/1800</li> <li>0D = WCDMA 850</li> <li>0E = WCDMA 900</li> <li>0F = WCDMA 900/2100</li> </ul> <p><b>Example:</b></p> <p>When configured for a specific region, AT!BAND=? could return:</p> <p>00, All bands            01, WCDMA 2100            02, N/A (Defaults to All)            03, GSM 900/1800            04, N/A (Defaults to ALL)            05, GSM ALL            06, N/A (Defaults to ALL)            07, N/A (Defaults to ALL)            08, WCDMA ALL            09, N/A (Defaults to ALL)            0A, N/A (Defaults to ALL)            0B, N/A (Defaults to ALL)            0C, N/A (Defaults to ALL)            0D, N/A (Defaults to ALL)            0D, N/A (Defaults to ALL)            0E, N/A (Defaults to ALL)</p>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!BCINF</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Returns the bootloader version</b></p> <p>This command is used to return the module's bootloader version.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT!BCINF returns several values—the bootloader version is the second parameter returned.</li> </ul> <p><b>Example:</b></p> <p>AT!BCINF returns:</p> <pre> BOOT Address: &lt;...&gt; Version: &lt;version&gt; ... </pre> <p><b>Parameters:</b></p> <p>&lt;version&gt; (bootloader version):</p> <ul style="list-style-type: none"> <li>ASCII string</li> <li>Maximum length: 84 characters</li> <li>Example: H1_0_0_0ACBT G:/WS/FW/H1_0_0_0ACBT/MSM6280/SRC 2006/09/01 16:33:30</li> </ul>
<p><b>!BOOTHOLD</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Resets modem and waits in bootloader for firmware download</b></p> <p>This command is used to prepare for a firmware download by resetting the modem and waiting in 'boot and hold' mode.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT!BOOTHOLD forces the modem to backup user NV options, reset, and then wait in boot and hold mode for a firmware download.</li> </ul>
<p><b>^CARDMODE</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Returns SIM card mode (card type)</b></p> <p>This command is used to identify the type of SIM card being used.</p> <p><b>Returned parameters:</b></p> <p>&lt;sim_type&gt; (the type of sim card)</p> <ul style="list-style-type: none"> <li>0 = unknown</li> <li>1 = SIM</li> <li>2 = USIM</li> </ul>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>+CLVL=&lt;level&gt;</b></p> <p><b>+CLVL=?</b></p> <p><b>+CLVL?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Sets / returns internal loudspeaker volume</b></p> <p>This command is used to set or report the modem's internal loudspeaker volume.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT+CLVL=&lt;level&gt; sets the volume within a specified range</li> <li>AT+CLVL=? reports allowed values for &lt;level&gt;</li> <li>AT+CLVL? reports the current volume</li> </ul> <p><b>Parameters:</b></p> <p>&lt;level&gt; (Sound level):</p> <ul style="list-style-type: none"> <li>Manufacturer-specific volume levels</li> <li>Valid range: 0(lowest)–7(highest)</li> </ul>
<p><b>+CMUT=&lt;enableFlag&gt;</b></p> <p><b>+CMUT=?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All voice-enabled modems</li> </ul>	<p><b>Enables / disables uplink voice muting</b></p> <p>This command is used to enable or disable uplink voice muting during a voice call.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT+CMUT=&lt;enableFlag&gt; turns muting on or off</li> <li>AT+CMUT=? returns valid &lt;enableFlag&gt; values</li> </ul> <p><b>Parameters:</b></p> <p>&lt;enableFlag&gt; (Enable / disable muting):</p> <ul style="list-style-type: none"> <li>0 = Mute off</li> <li>1 = Mute on</li> </ul>
<p><b>*CNTI=&lt;n&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All, with following exceptions: <ul style="list-style-type: none"> <li>AC875/875U (min. FW: H1_1_4_1)</li> </ul> </li> </ul>	<p><b>Returns current, available, and supported network technologies</b></p> <p>This command is used to report the network technology currently being used, the technologies available for use, or the technologies supported by the modem.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT*CNTI=&lt;n&gt; returns *CNTI: &lt;n&gt;,&lt;tech&gt;[,&lt;tech&gt;[...]]</li> </ul> <p><b>Parameters:</b></p> <p>&lt;n&gt; (reporting option):</p> <ul style="list-style-type: none"> <li>0 = Network technology currently in use</li> <li>1 = Available technologies on current network</li> <li>2 = All technologies supported by the modem</li> </ul> <p>&lt;tech&gt; (technology type):</p> <ul style="list-style-type: none"> <li>ASCII string</li> <li>Valid values: "GSM", "GPRS", "EDGE", "UMTS", "HSDPA", "HSUPA" (only when &lt;n&gt; = 1)</li> </ul>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>+CQI?</b></p> <p><b>+CQI=&lt;enableFlag&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Returns or enables / disables return of averaged CQI (Channel Quality Indicator) value (WCDMA only)</b></p> <p>This command returns the averaged CQI from the modem.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT!CQI? returns the average CQI and the number of samples used to determine the average. For example: +CQI: total valid samples 1600, average cqi 26</li> <li>AT!CQI=&lt;enableFlag&gt; enables or disables the query version of the command (+CQI?)</li> </ul> <p><b>Parameters:</b></p> <p>&lt;enableFlag&gt; (enable / disable CQI value retrieval):</p> <ul style="list-style-type: none"> <li>0 = Disable retrieval</li> <li>1 = Enable retrieval</li> </ul>
<p><b>CSDONSIO2?</b></p> <p><b>!CSDONSIO2=&lt;port#&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Configures secondary SIO port for circuit-switched data</b></p> <p>This command configures the secondary serial I/O (SIO) port for circuit-switched data over the main AT port or MUX1/MUX2/MUX3.</p> <hr/> <p><i>Note: The modem must be reset before any change takes effect.</i></p> <hr/> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT!CSDONSIO2? returns the current port number currently used for the SIO port. For example: +CSDONSIO2: &lt;port#&gt;</li> <li>AT!CSDONSIO2=&lt;port#&gt; sets the port number to use for the SIO port.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;port#&gt; (Port used for circuit-switched data):</p> <ul style="list-style-type: none"> <li>0 = CSD on main AT port (Default)</li> <li>1 = CSD on MUX1</li> <li>2 = CSD on MUX2</li> <li>3 = CSD on MUX3</li> </ul>



**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>+ECIO?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Returns total Energy per chip per power density value (WCDMA only)</b></p> <p>This command returns the total energy per chip per power density (Ec/Io) value of the active set's three strongest cells.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT+ECIO? returns the signed dB values of the three strongest cells in the active set. The values are listed from strongest to weakest, based on RSCP, and separated by tabs. If there are less than three cells, only those values appear. For example:                      +ECIO:                      Ec/Io: -3.5 dB -14.0 dB -24.5 dB                      ---or---                      +ECIO:                      Ec/Io: -7.5 dB</li> <li>Valid range = -31.5 dB to 0 dB</li> <li>The command <b>+USET</b> also displays Tot Ec/Io as one of its outputs.</li> </ul>
<p><b>+ETFCI?</b></p> <p><b>+ETFCI=&lt;status&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>MC879x(V) (min. FW: K1_1_1_1ap)</li> </ul>	<p><b>Enable / disable / query E-TFCI average value</b></p> <p>This command enables/disables checking of average E-TFCI values during an HSUPA call.</p> <p>The average value is based on 64 sets of log values extracted from the E-DPCCH packet:</p> <ul style="list-style-type: none"> <li>every 200 ms (for 10 ms TTI)—each set includes 20 samples. A total of 1280 samples are taken (200 ms/set, 20 samples per set, 64 sets over 12.8 second period).</li> <li>every 80 ms (for 2 ms TTI)—each set includes 40 samples. A total of 2560 samples are taken (80 ms/set, 40 samples per set, 64 sets over 5.12 second period).</li> </ul> <hr/> <p><i>Note: An HSUPA call must be in progress to obtain the E-TFCI.</i></p> <hr/> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT+ETFCI? indicates if E-TFCI checking is enabled, and reports the total number of samples and average E-TFCI value. For example:                      +ETFCI:                      Status: &lt;status&gt;                      total samples 1280, average etfci &lt;etfci&gt;</li> <li>AT+ETFCI=&lt;status&gt; enables or disables the ability to check the average E-TFCI value.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;status&gt; (E-TFCI reporting status):</p> <ul style="list-style-type: none"> <li>0—Disabled</li> <li>1—Enabled</li> </ul> <p>&lt;etfci&gt; (Average E-TFCI value over sampling period):</p> <ul style="list-style-type: none"> <li>Valid range = 0–127</li> </ul>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!GCIPHER = &lt;setting&gt;</b></p> <p><b>!GCIPHER?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Enables / disables ciphering and integrity settings</b></p> <p>To register onto a network with WCDMA service, the modem's ciphering and integrity settings must be enabled or disabled to match the network settings. Most carriers enable both ciphering and integrity.</p> <p>When testing the modem, you may be using a SIM that has different codes for ciphering and integrity than those used by the test system. In this case, you may need to disable ciphering and integrity checking to use the test system.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!GCIPHER=&lt;setting&gt; sets the ciphering and integrity settings.</li> <li>• AT!GCIPHER? reports the current ciphering and integrity settings (0=disabled, 1=enabled).</li> </ul> <p><b>Parameters:</b></p> <p>&lt;setting&gt; (enable / disable ciphering and integrity):</p> <ul style="list-style-type: none"> <li>• 0 = ciphering disabled; integrity disabled</li> <li>• 1 = ciphering enabled; integrity disabled</li> <li>• 2 = ciphering enabled; integrity enabled</li> <li>• 3 = ciphering disabled; integrity enabled</li> </ul>
<p><b>!GETBAND?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Returns the current active band</b></p> <p>This command returns the active band currently being used by the modem.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!GETBAND? returns a description of the current active band, or returns an error message.</li> </ul> <hr/> <p><i>Note: Due to stack implementation requirements, !GETBAND reports W800 for both W800 and W850.</i></p> <hr/>
<p><b>!GETRAT?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Returns the current active radio access technology (RAT)</b></p> <p>This command returns the RAT currently being used by the modem.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!GETRAT? returns a description of the current RAT, or returns an error message.</li> </ul>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!GRELIMEI?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Returns the modem's production TAC</b></p> <p>This command returns the modem's production TAC (Type Allocation Code). (TAC is first 8 chars, then padded with Zeros). EG: if IMEI is 289258158732085, returns 289258150000000.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!GRELIMEI? returns the &lt;TAC&gt; assigned to the modem.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;TAC&gt;</p> <ul style="list-style-type: none"> <li>• 15-character string. First 8 characters are the TAC, remainder of string is zero-padded.</li> </ul> <p><b>Example:</b></p> <p>If the modem's IMEI is 289258158732085, !GRELIMEI returns 289258150000000.</p>
<p><b>!GRESET</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Resets the modem</b></p> <p>This command performs a modem reset.</p> <hr/> <p><i>Note: This command is identical in function to <a href="#">!RESET</a>.</i></p> <hr/>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!GSMINFO?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All, with following exceptions: <ul style="list-style-type: none"> <li>• MC8775 (min. FW: H1_1_8_13mcap)</li> <li>• AC875 (min. FW: H1_1_8_13acap)</li> </ul> </li> </ul>	<p><b>Displays 2G network information</b></p> <p>This command returns 2G network information for the 'serving' cell and up to 6 'neighbor' cells.</p> <p><b>Parameters:</b> (referenced in example below)</p> <p>&lt;mccmnc&gt;: Mobile Country Code and Mobile Network Code (combine to form the PLMN)</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;lac&gt;: Location Area Code</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;cellid&gt;: Cell ID</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;bsic&gt;: Base Station Identity Code</p> <ul style="list-style-type: none"> <li>• 8-bit decimal</li> </ul> <p>&lt;ncc&gt;: Network Color Code</p> <ul style="list-style-type: none"> <li>• 8-bit decimal</li> </ul> <p>&lt;bicc&gt;: Base Station Color Code</p> <ul style="list-style-type: none"> <li>• 8-bit decimal</li> </ul> <p>&lt;rac&gt;: Routing Area Code</p> <ul style="list-style-type: none"> <li>• 8-bit decimal</li> </ul> <p>&lt;minrx&gt;: Minimum Rx level (dBm) needed to register</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;maxrach&gt;: Reserved for future use</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;band&gt;: Indicates the 2G network band</p> <ul style="list-style-type: none"> <li>• Valid values: "E900", "P900", "1900", "1800", "850", "Unknown"</li> </ul> <p>&lt;arfcn&gt;: Absolute Radio Frequency Channel Number</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;rxlvl&gt;: Received BCCH frequency level (dBm)</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;c1&gt;: C1 cell selection criteria</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;c2&gt;: C2 cell selection criteria</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;c31&gt;: C31 cell selection criteria</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>&lt;c32&gt;: C32 cell selection criteria</p> <ul style="list-style-type: none"> <li>• 16-bit decimal</li> </ul> <p>(Continued on next page)</p>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>!GSMINFO (Continued)</b></p>	<p><b>Displays 2G network information</b></p> <p><b>Example</b></p> <p>AT!GSMINFO?</p> <p>returns:</p> <p>!gsminfo: Serving Cell: PLMN: &lt;mccmnc&gt; LAC: &lt;lac&gt; Cell ID: &lt;cellid&gt; BSIC: &lt;bsic&gt; NCC: &lt;ncc&gt; BSCC: &lt;b SCC&gt; RAC: &lt;rac&gt; Min Rx Lvl Rqd: &lt;minrx&gt; Max Rach: &lt;maxrach&gt; Band: &lt;band&gt; ARFCN: &lt;arfcn&gt; RX level (dBm): &lt;rxlvl&gt; C1: &lt;c1&gt; C2: &lt;c2&gt; C31: &lt;c31&gt; C32: &lt;c32&gt;</p> <p>Neighbour Cells: Band: &lt;band&gt; &lt;band&gt; &lt;band&gt; ARFCN: &lt;arfcn&gt; &lt;arfcn&gt; &lt;arfcn&gt; RAC: &lt;rac&gt; &lt;rac&gt; &lt;rac&gt; RX level (dBm): &lt;rxlvl&gt; &lt;rxlvl&gt; &lt;rxlvl&gt; C1: &lt;c1&gt; &lt;c1&gt; &lt;c1&gt; C2: &lt;c2&gt; &lt;c2&gt; &lt;c2&gt; C31: &lt;c31&gt; &lt;c31&gt; &lt;c31&gt; C32: &lt;c32&gt; &lt;c32&gt; &lt;c32&gt;</p>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!GSTATUS?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Returns operational status</b></p> <p>This command returns specific details about the current operational status of the modem.</p> <p><b>Parameters:</b></p> <p>&lt;ctime&gt;: Current time (Seconds from bootup)</p> <p>&lt;temperature&gt;: Approximate temperature (<math>\pm 5^{\circ}\text{C}</math>)</p> <p>&lt;btime&gt;: Bootup Time (Seconds from reset)</p> <p>&lt;mode&gt;: Current modem mode</p> <ul style="list-style-type: none"> <li>("POWERING OFF", "FACTORY TEST", "OFFLINE", "ONLINE", "LOW POWER MODE", "RESETTING", "NETWORK TEST", "OFFLINE REQUEST", "PSEUDO ONLINE", "Unknown")</li> </ul> <p>&lt;smode&gt;: System mode acquired by modem</p> <ul style="list-style-type: none"> <li>("No service", "AMPS", "CDMA", "GSM", "HDR", "WCDMA", "GPS", "WCDMA+GSM", "Unknown")</li> </ul> <p>&lt;PSstate&gt;: Current PS state</p> <ul style="list-style-type: none"> <li>("Attached", "Not attached")</li> </ul> <p>&lt;wband&gt;: Current WCDMA band being accessed</p> <ul style="list-style-type: none"> <li>("CDMA cell", "CDMA PCS", "IMT2000", "WCDMA1900", "WCDMA1800", "WCDMA800", "GSM EGSM900", "GSM DCS1800", "GSM 850", "GSM1900", "GPS", "No band", "WCDMA900")</li> </ul> <p>&lt;gband&gt;: Current GSM band, either TCH or BCCH</p> <ul style="list-style-type: none"> <li>("GSM850", "GSM900", "DCS1800", "PCS1900", "Unknown")</li> </ul> <p>&lt;wchan&gt;: WCDMA channel number</p> <p>&lt;gchan&gt;: GSM channel number</p> <p>&lt;gmmstate&gt;: Current GMM state</p> <ul style="list-style-type: none"> <li>("IDLE", "DEREGISTERED", "Registering", "REGISTERED", "Deregistering", "RA updating", "Requesting srvc")</li> </ul> <p>&lt;gmmsubstate&gt;: Current GMM sub-state</p> <ul style="list-style-type: none"> <li>("NORMAL SERVICE", "LIMITED SERVICE", "ATT NEEDED", "ATTEMPTING ATT", "NO IMSI", "NO SERVICE", "PLMN SEARCH", "SUSPENDED", "UPDATE NEEDED", "UPDATING", "DEATTACHING", "---")</li> </ul> <p>Note: "---" indicates 'undefined sub-state'</p> <p>&lt;mmstate&gt;: Current MM state</p> <ul style="list-style-type: none"> <li>("NULL", "IDLE", "LA Rejected", "LA Start", "CONNECTED", "Network Command", "---")</li> </ul> <p>Note: "---" indicates 'undefined state'</p> <p>&lt;mmsubstate&gt;: Current MM sub-state</p> <ul style="list-style-type: none"> <li>("NORMAL SERVICE", "LIMITED SERVICE", "NO IMSI", "NO SERVICE", "PLMN SEARCH", "UPDATE NEEDED", "UPDATING", "---")</li> </ul> <p>Note: "---" indicates 'undefined sub-state'</p>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>!GVER?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Returns the firmware version</b></p> <p>This command returns the firmware version as a string in the format version yyyy/mm/dd hh:mm:ss.</p>
<p><b>^HVER</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Returns the modem hardware version</b></p> <p>This command returns the modem’s hardware version number based on the FSN.</p> <p>The version number is returned as a short string representing the actual version.</p> <p><b>Examples:</b></p> <ul style="list-style-type: none"> <li>• “E2” – Eng2 device</li> <li>• “1.0” – Production v1.0</li> <li>• “1.1” – Production v1.1</li> <li>• etc.</li> </ul>
<p><b>!NVPORTSET?</b></p> <p><b>!NVPORTSET=&lt;mapping&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• MC8780 / 81</li> <li>• AC880 / 881</li> </ul>	<p><b>Assigns appropriate USB endpoint AT port</b></p> <p>This command maps the AT port to either endpoint 5 or endpoint 2 in non-MUX mode, or reports the current mapping.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!NVPORTSET? returns the current endpoint &lt;mapping&gt;</li> <li>• AT!NVPORTSET=&lt;mapping&gt; maps the AT port to the appropriate USB endpoint</li> </ul> <p><b>Parameters:</b></p> <p>&lt;mapping&gt; (mapping type):</p> <ul style="list-style-type: none"> <li>• 0 = endpoint 5 (Default value)</li> <li>• 1 = endpoint 2</li> </ul>
<p><b>!PCTEMP?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All MC modems</li> <li>• C885</li> <li>• C888</li> </ul>	<p><b>Returns current temperature information</b></p> <p>This command returns the module’s temperature state and actual temperature.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!PCTEMP? returns the &lt;state&gt; and &lt;temperature&gt;.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;state&gt; (temperature state):</p> <ul style="list-style-type: none"> <li>• “Normal”</li> <li>• “High Warning”</li> <li>• “High Critical”</li> <li>• “Low Critical”</li> </ul> <p>&lt;temperature&gt; (current temperature):</p> <ul style="list-style-type: none"> <li>• Current temperature in degrees Celsius – this is the highest temperature reported by the two thermistors (one measures the PA (Power Amplifier) used by the WCDMA transceiver, the other measures the temperature of the PA used by the GSM transceiver).</li> </ul>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!PCVOLT?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All MC modems</li> <li>• C885</li> <li>• C888</li> </ul>	<p><b>Returns current power supply voltage information</b></p> <p>This command returns the module's power supply state and actual voltage.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!PCVOLT? returns the &lt;state&gt;, &lt;voltage&gt;, and &lt;raw&gt; (Analog/Digital Convertor reading).</li> </ul> <p><b>Parameters:</b></p> <p>&lt;state&gt; (power supply state):</p> <ul style="list-style-type: none"> <li>• "Normal"</li> <li>• "High Critical"</li> <li>• "Low Warning"</li> <li>• "Low Critical"</li> </ul> <p>&lt;voltage&gt;:</p> <ul style="list-style-type: none"> <li>• Current voltage reading in mV.</li> </ul> <p>&lt;raw&gt;:</p> <ul style="list-style-type: none"> <li>• Analog/Digital Convertor reading</li> </ul>
<p><b>!POWERDOWN</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Powers down the system</b></p> <p>This command powers down the system. After using this command, the modem will not communicate with the host until it has been power cycled.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!POWERDOWN returns "OK" and powers the system down.</li> </ul> <hr/> <p><i>Note: This command should only be used when testing using an appropriate testing jig—do not use it when the modem is installed in a computer.</i></p> <hr/>



**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>!REL?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Queries the active protocol / revision</b></p> <p>This command is used to indicate the modem's current protocol, SGSN, and MSC revision settings.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!REL? reports the current operating protocol, SGSN revision, and MSC revision in the format &lt;wcdmarrc&gt; &lt;sgsnr&gt; &lt;mscr&gt; (each value appears on a separate line).</li> </ul> <p><b>Parameters:</b></p> <p>&lt;wcdmarrc&gt;: WCDMA RRC Revision (Protocol)</p> <ul style="list-style-type: none"> <li>• 00 = Release 99</li> <li>• 01 = Release 5 (Default)</li> </ul> <p>&lt;sgsnr&gt;: SGSN Revision</p> <ul style="list-style-type: none"> <li>• 00 = Release 97</li> <li>• 01 = Release 99</li> <li>• 02 = Release 5</li> <li>• 03 = Dynamic (Default)—uses whichever protocol is broadcast by the network</li> </ul> <p>&lt;mscr&gt;: MSC Revision</p> <ul style="list-style-type: none"> <li>• 00 = Release 97</li> <li>• 01 = Release 99</li> <li>• 02 = Release 5</li> <li>• 03 = Dynamic (Default)—uses whichever protocol is broadcast by the network</li> </ul>
<p><b>!RESET</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Resets the modem</b></p> <p>This command performs a modem reset.</p> <hr/> <p><i>Note: This command is identical in function to <b>!GRESET</b>.</i></p> <hr/>
<p><b>+RSCP?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Returns Received Signal Code Power (RSCP) (WCDMA only)</b></p> <p>This command returns the RSCP of the active set's three strongest cells.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!RSCP? returns the signed dBm value, from weakest to strongest cell. For example: +RSCP: RSCP: -73 dBm -84 dBm</li> <li>• Valid return values: -120 dBm to -20 dBm</li> </ul>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!SCACT? [&lt;pid&gt;]</b></p> <p><b>!SCACT=&lt;state&gt;[, &lt;pid&gt;]</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Activates / deactivates PDP context for FIFO interface</b></p> <p>This command is used to activate or deactivate the specified PDP context for FIFO interface.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SCACT? [&lt;pid&gt;] reports the status of the identified profile (&lt;pid&gt;). If no &lt;pid&gt; is specified, the status of all profiles is returned.</li> <li>• AT!SCACT=&lt;state&gt;[,&lt;pid&gt;] is used to set the state of the identified profile (&lt;pid&gt;). If no &lt;pid&gt; is specified, profile 1 is updated.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;state&gt; (PDP context activation state):</p> <ul style="list-style-type: none"> <li>• 0 = Deactivated</li> <li>• 1 = Activated</li> <li>• During assignment, any &lt;state&gt; other than 1 or 2 will return an ERROR response.</li> </ul> <p>&lt;pid&gt; (PDP context definition):</p> <ul style="list-style-type: none"> <li>• Valid range: 1–16</li> </ul>
<p><b>!SCDFTPROF?</b></p> <p><b>!SCDFTPROF=&lt;pid&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Queries / sets the default profile ID</b></p> <p>This command is used to query / set the default profile ID.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SCDFTPROF? returns the default profile ID (&lt;pid&gt;).</li> <li>• AT!SCDFTPROF=&lt;pid&gt; sets the default profile ID to &lt;pid&gt;.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;pid&gt; (Profile ID):</p> <ul style="list-style-type: none"> <li>• Valid range: 1–16 — a valid profile ID that will be used as the default</li> </ul>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>!SCDNS?&lt;pid&gt;</b></p> <p><b>!SCDNS=&lt;pid&gt;, &lt;pri_dns&gt;, &lt;sec_dns&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Queries / sets profile ID DNS address</b></p> <p>This command is used to query / set the primary and secondary DNS addresses of a profile.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SCDNS?&lt;pid&gt; returns the primary (&lt;pri_dns&gt;) and secondary (&lt;sec_dns&gt;) DNS addresses for the specified profile (&lt;pid&gt;).</li> <li>• AT!SCDNS=&lt;pid&gt;,&lt;pri_dns&gt;,&lt;sec_dns&gt; sets the default primary and secondary IP addresses for domain name services.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;pid&gt; (PDP context definition)</p> <ul style="list-style-type: none"> <li>• Valid range: 1–16 — a valid profile ID that will be used as the default</li> </ul> <p>&lt;pri_dns&gt; (Default primary IP address for DNS lookup):</p> <ul style="list-style-type: none"> <li>• ‘Dot format’ IP address. For example, 10.10.10.1</li> <li>• Used by modem when no DNS server address is received over the air during PDP context activation</li> </ul> <p>&lt;sec_dns&gt;: Default secondary IP address for DNS lookup</p> <ul style="list-style-type: none"> <li>• ‘Dot format’ IP address. For example, 10.10.10.1</li> <li>• Used by modem when no DNS server address is received over the air during PDP context activation</li> </ul>
<p><b>!SCPADDR=&lt;pid&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Displays IP address for specified PDP context</b></p> <p>This command is used to display the IP address of the specified PDP context (profile), or for all profiles.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SCPADDR=&lt;pid&gt; returns the IP address for the specified &lt;pid&gt; in the format &lt;pid&gt;, &lt;addr&gt;.</li> <li>• AT!SCPADDR= returns the IP addresses for all defined profiles.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;pid&gt; (profile ID (PDP context))</p> <ul style="list-style-type: none"> <li>• Valid range: 1–16</li> </ul> <p>&lt;addr&gt; (IP address of &lt;pid&gt;)</p> <ul style="list-style-type: none"> <li>• ‘Dot’ format IP address (for example, 255.255.255.0)</li> </ul>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!SCPROF?&lt;pid&gt;</b></p> <p><b>!SCPROF=&lt;pid&gt;,&lt;label&gt;,&lt;autoconnect&gt;,&lt;promptforpassword&gt;,&lt;autolaunchapp&gt;,&lt;rffu&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Queries / sets SWI-specific profile information</b></p> <p>This command is used to query / set the SWI specific information for a profile.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>!SCPROF?&lt;pid&gt; reports current SWI-specific information for the specified profile (&lt;pid&gt;) in the format &lt;pid&gt; &lt;label&gt; &lt;autoconnect&gt; &lt;promptforpassword&gt; &lt;autolaunchapp&gt; &lt;pdplintimer&gt;.</li> <li>!SCPROF=&lt;pid&gt;...&lt;pdplintimer&gt; sets the SWI-specific information for the specified profile (&lt;pid&gt;).</li> </ul> <p><b>Parameters:</b></p> <p>&lt;pid&gt;: PDP context definition</p> <ul style="list-style-type: none"> <li>Valid range: 1–16 — a valid profile ID that will be used as the default</li> </ul> <p>&lt;label&gt;: Configuration buffer label</p> <ul style="list-style-type: none"> <li>30-character string surrounded by quotation marks</li> </ul> <p>&lt;autoconnect&gt;: Automatic context activation mode</p> <ul style="list-style-type: none"> <li>0 = manual activation</li> <li>1 = auto activation</li> </ul> <p>&lt;promptforpassword&gt;: Flag value (prompt for password)</p> <ul style="list-style-type: none"> <li>0 = do not prompt for password</li> <li>1 = prompt for password</li> </ul> <p>&lt;autolaunchapp&gt;: Flag value (auto launch application)</p> <ul style="list-style-type: none"> <li>0 = do not auto launch the application</li> <li>1 = auto launch the application</li> </ul> <p>&lt;rffu&gt;: Reserved for future use</p> <ul style="list-style-type: none"> <li>0–32767 = Reserved</li> </ul>
<p><b>!SCPROFDEL=?</b></p> <p><b>!SCPROFDEL=&lt;pid&gt;</b></p> <p><b>!SCPROFDEL</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>AC875 (min. FW: H2_0_8_8ap)</li> <li>AC880 / 881 (min. FW: F1_2_3_14ap)</li> <li>C888</li> <li>MC8775 (min. FW: H2_0_8_8mcap)</li> <li>MC8780 / 81 (min. FW: F1_2_3_14ap)</li> <li>MC8785V</li> <li>MC8790 / 90V</li> <li>MC8791V</li> <li>MC8792V</li> </ul>	<p><b>Erase profile information</b></p> <p>This command is used to erase the information for one or all profiles.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>!SCPROFDEL=? returns valid formats for the assignment command (!SCPROFDEL=).</li> <li>!SCPROFDEL=&lt;pid&gt; deletes the identified profile.</li> <li>!SCPROFDEL deletes all profiles</li> </ul> <p><b>Parameters:</b></p> <p>&lt;pid&gt;: PDP context definition</p> <ul style="list-style-type: none"> <li>Valid range: 1–16</li> </ul>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>!SDNOTINSTALLED?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• C885</li> </ul>	<p><b>Returns SD installation status</b></p> <p>This command is used to indicate if an SD card is in the modem.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SDNOTINSTALLED? returns:                             <ul style="list-style-type: none"> <li>• 'OK' if an SD card is not currently installed</li> <li>• 'ERROR' if there is an SD card currently installed</li> </ul> </li> </ul>
<p><b>!SELMODE?</b></p> <p><b>!SELMODE=?</b></p> <p><b>!SELMODE=&lt;sdInd&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Queries / sets current service domain</b></p> <p>This command is used to configure the modem to use a specific service domain.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SELMODE? returns the current service domain index (&lt;sdInd&gt;) and description. If the &lt;sdInd&gt; is undefined, an error message is returned.</li> <li>• AT!SELMODE=? returns a list of supported service domain indexes in the format &lt;sdInd&gt;, &lt;description&gt;.</li> <li>• AT!SELMODE=&lt;sdInd&gt; sets the desired service domain.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;sdInd&gt; (service domain index):</p> <ul style="list-style-type: none"> <li>• 00 = CS only</li> <li>• 01 = PS only</li> <li>• 02 = CS and PS</li> </ul>
<p><b>!SELRAT?</b></p> <p><b>!SELRAT=?</b></p> <p><b>!SELRAT=&lt;ratInd&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Queries / sets current radio access technology (RAT)</b></p> <p>This command is used to configure the modem to use a specific (or preferred) RAT.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SELRAT? returns the current RAT configuration index (&lt;ratInd&gt;) and description. If the &lt;ratInd&gt; is undefined, an error message is returned.</li> <li>• AT!SELRAT=? returns a list of supported RAT configurations in the format &lt;ratInd&gt;, &lt;description&gt;.</li> <li>• AT!SELRAT=&lt;ratInd&gt; sets the desired RAT configuration.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;ratInd&gt; (RAT configuration index):</p> <ul style="list-style-type: none"> <li>• 00 = Automatic</li> <li>• 01 = UMTS 3G only</li> <li>• 02 = GSM 2G only</li> <li>• 03 = UMTS 3G preferred</li> <li>• 04 = GSM 2G preferred</li> </ul>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<b>!SIMNOTINSTALLED?</b> Supporting modems: <ul style="list-style-type: none"><li>• AC885</li><li>• C885</li><li>• C888</li><li>• MC8785V</li><li>• MC8790 / 90V</li><li>• MC8791V</li><li>• MC8792V</li></ul>	<b>Returns SIM installation status</b> This command is used to indicate if a SIM is installed for the modem. <b>Usage:</b> <ul style="list-style-type: none"><li>• AT!SIMNOTINSTALLED? returns:<ul style="list-style-type: none"><li>• 'OK' if a SIM is not currently installed</li><li>• 'ERROR' if there is a SIM currently installed</li></ul></li></ul>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>!SMSRETRY?</b></p> <p><b>!SMSRETRY=?</b></p> <p><b>!SMSRETRY=&lt;period&gt;, &lt;interval&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• AC880 / 881</li> <li>• C885</li> <li>• C888</li> <li>• MC8780 / 81</li> <li>• MC8785V</li> <li>• MC8790 / MC8790V</li> <li>• MC8791V</li> <li>• MC8792V</li> </ul>	<p><b>Queries / sets SMS retry period and interval</b></p> <p>This command is used to configure the SMS retry period and interval for MO-SMS.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SMSRETRY? returns the current &lt;period&gt; and &lt;interval&gt; settings.</li> <li>• AT!SMSRETRY=? reports the format used for AT!SMSRETRY.</li> <li>• AT!SMSRETRY=&lt;period&gt;, &lt;interval&gt; sets the retry period and retry interval</li> </ul> <p><b>Parameters:</b></p> <p>&lt;period&gt; (Number of seconds allowed for MO-SMS retry attempts):</p> <ul style="list-style-type: none"> <li>• 0–255</li> </ul> <p>&lt;interval&gt; (Number of seconds to wait between MO-SMS retry attempts):</p> <ul style="list-style-type: none"> <li>• 0–255</li> </ul> <hr/> <p><i>Note: If &lt;interval&gt; is greater than &lt;period&gt;, a single retry attempt is made.</i></p> <hr/> <p><i>Note: &lt;interval&gt; ignores the time spent actually performing a retry attempt. If &lt;interval&gt; = 5, attempts are made at elapsedTime = 0, 5, 10, etc. until an attempt is successful or &lt;period&gt; - elapsedTime &lt; &lt;interval&gt;.</i></p> <hr/> <p><b>Example 1:</b></p> <p>Assume a retry attempt takes 2 seconds.</p> <p>If &lt;period&gt; = 1 and &lt;interval&gt; = 8, and no attempts are successful:</p> <ul style="list-style-type: none"> <li>• time = 0: Retry attempt fails at time = 2. No more attempts are made because &lt;period&gt; has expired.</li> </ul> <p><b>Example 2:</b></p> <p>Assume a retry attempt takes 2 seconds.</p> <p>If &lt;period&gt; = 3 and &lt;interval&gt; = 5, and no attempts are successful:</p> <ul style="list-style-type: none"> <li>• time = 0: Retry attempt fails at time = 2. No more attempts are made because &lt;period&gt; will expire before the &lt;interval&gt; passes.</li> </ul> <p><b>Example 3:</b></p> <p>Assume a retry attempt takes 2 seconds.</p> <p>If &lt;period&gt; = 14 and &lt;interval&gt; = 5, and no attempts are successful:</p> <ul style="list-style-type: none"> <li>• time = 0: Retry attempt fails at time = 2; next attempt will begin at time=5 (the &lt;interval&gt; counts from the beginning of the previous attempt)</li> <li>• time = 5: Retry attempt fails at time = 7; next attempt will begin at time=10</li> <li>• time = 10: retry attempt fails at time = 12; No more attempts will be made because the &lt;period&gt; will expire before another &lt;interval&gt; of 5 seconds can pass.</li> </ul>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!SMSSTSEN?</b></p> <p><b>!SMSSTSEN=?</b></p> <p><b>!SMSSTSEN=&lt;enable&gt;, &lt;mode&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All, with following exceptions:</li> <li>• AC875 (min. FW: H1_1_8_14Acap)</li> <li>• MC8775 / 75V (min. FW: H1_1_8_14mcap)</li> </ul>	<p><b>Enables / disables SMS status reports</b></p> <p>This command is used to enable / disable SMS status reports for MO-SMS messages, and to indicate if the user should be able to enable / disable the reports.</p> <p>The status report indicates when a message is delivered to its intended recipient (in addition to the report that is sent when the network first receives the message).</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SMSSTSEN? returns the current &lt;enable&gt; and &lt;mode&gt; settings.</li> <li>• AT!SMSSTSEN=? reports the format used for AT!SMSSTSEN.</li> <li>• AT!SMSSTSEN=&lt;enable&gt;, &lt;mode&gt; enables / disables status reports, and indicates if the user can enable / disable the feature.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;enable&gt; (Enable / Disable SMS status reports):</p> <ul style="list-style-type: none"> <li>• 0 = Disable</li> <li>• 1 = Enable</li> </ul> <p>&lt;mode&gt; (User access to reporting feature):</p> <ul style="list-style-type: none"> <li>• 0 = Read / Write (User can enable / disable the feature)</li> <li>• 1 = Read only (User cannot enable / disable the feature—the feature status is preset by the device provider)</li> </ul>



**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>!SWICALLPROG?</b></p> <p><b>!SWICALLPROG=&lt;cpnStatus&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Enables / disables Call Progress Notification</b></p> <p>This command is used to enable or disable call progress notification. This allows the host to receive call status updates such as type of call, answered, on hold, etc.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!SWICALLPROG? returns the current &lt;cpnStatus&gt;.</li> <li>• AT!SWICALLPROG=&lt;cpnStatus&gt; Information on current calls is returned, when the call status changes, in the format: !SWICALLPROG:&lt;idx<sub>1</sub>&gt;,&lt;dir&gt;,&lt;stat&gt;,&lt;mode&gt;,&lt;empty&gt;,&lt;number&gt;,&lt;type&gt;,&lt;alpha&gt; !SWICALLPROG:&lt;idx<sub>2</sub>&gt;,&lt;dir&gt;,&lt;stat&gt;,&lt;mode&gt;,&lt;empty&gt;,&lt;number&gt;,&lt;type&gt;,&lt;alpha&gt; ...</li> </ul> <hr/> <p><i>Note: When call progress notification is enabled, the standard AT command +CLCC (List Current Calls) is disabled.</i></p> <hr/> <p><b>Parameters:</b></p> <p>&lt;cpnStatus&gt; (Call progress notification status):</p> <ul style="list-style-type: none"> <li>• 0 = Disabled</li> <li>• 1 = Output on AT channel if AT is not blocked</li> <li>• 2 = Output on AT channel even if AT is blocked</li> <li>• Any other value will return an ERROR response</li> </ul> <p>&lt;idx&gt; (Call identification number):</p> <ul style="list-style-type: none"> <li>• Integer value as described in GSM 02.30 Section 4.5.5.1</li> <li>• Can be used in +CHLD command</li> </ul> <p>&lt;dir&gt; (Call direction):</p> <ul style="list-style-type: none"> <li>• 0 = Mobile-originated (MO)</li> <li>• 1 = Mobile-terminated (MT)</li> </ul> <p>&lt;state&gt; (Call state):</p> <ul style="list-style-type: none"> <li>• 0 = Active</li> <li>• 1 = Held</li> <li>• 2 = Dialing (MO calls)</li> <li>• 3 = Alerting (MO calls)</li> <li>• 4 = Incoming (MT calls)</li> <li>• 5 = Waiting (MT calls)</li> <li>• 6 = Disconnected</li> </ul> <p>&lt;mode&gt; (Bearer / teleservice):</p> <ul style="list-style-type: none"> <li>• 0 = Voice</li> <li>• 1 = Data</li> <li>• 2 = Fax</li> </ul> <p>(Continued on next page)</p>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<b>!SWICALLPROG (Continued)</b>	<p><b>Enables / disables Call Progress Notification (Continued)</b></p> <p>&lt;empty&gt; (Multiparty status):</p> <ul style="list-style-type: none"> <li>• 0 = Not part of a multiparty (conference) call</li> <li>• 1 = Part of a multiparty (conference) call</li> </ul> <p>&lt;number&gt; (Telephone number of other end of connection):</p> <ul style="list-style-type: none"> <li>• format specified by next parameter (&lt;type&gt;)</li> </ul> <p>&lt;type&gt; (Address octet type):</p> <ul style="list-style-type: none"> <li>• Two bitfields identifying the type of telephone number and numbering plan type (national / international).</li> <li>• Format specified in <i>3GPP TS 24.008 Section 10.5.4.7</i></li> </ul> <p>&lt;alpha&gt; (Tag associated with &lt;number&gt; in the phonebook):</p> <ul style="list-style-type: none"> <li>• Example: "John Doe"</li> </ul>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>^SYSCONFIG?</b></p> <p><b>^SYSCONFIG=&lt;mode&gt;, &lt;acqorder&gt;, &lt;roam&gt;, &lt;srvDomain&gt;</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Queries / sets system configuration information</b></p> <p>This command is used to set and retrieve the modem's configuration.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT^SYSCONFIG= sets the various configuration parameters. You must specify all of the parameters.</li> <li>• AT^SYSCONFIG? returns the current modem configuration information in the format &lt;mode&gt; &lt;netAccessOrder&gt; &lt;roaming&gt; &lt;srvDomain&gt;.</li> </ul> <p><b>Parameters:</b></p> <p>&lt;mode&gt; (Supported system mode):</p> <ul style="list-style-type: none"> <li>• 2 = Auto-select</li> <li>• 13 = GSM only</li> <li>• 14 = WCDMA only</li> <li>• 16 = No change—use this value with AT^SYSCONFIG= if you do not want to change the current setting.</li> </ul> <p>&lt;acqOrder&gt; (Network acquisition order)</p> <ul style="list-style-type: none"> <li>• 0 = Automatic</li> <li>• 1 = GSM, then WCDMA</li> <li>• 2 = WCDMA, then GSM</li> <li>• 3 = No change—use this value with AT^SYSCONFIG= if you do not want to change the current setting.</li> </ul> <p>&lt;roam&gt; (Roaming support)</p> <ul style="list-style-type: none"> <li>• 0 = Not supported</li> <li>• 1 = Supported</li> <li>• 2 = No change—use this value with AT^SYSCONFIG= if you do not want to change the current setting.</li> </ul> <p>&lt;srvDomain&gt; (Service domain support)</p> <ul style="list-style-type: none"> <li>• 0 = Circuit-switched only</li> <li>• 1 = Packet-switched only</li> <li>• 2 = Circuit- and packet-switched</li> <li>• 3 = Any</li> <li>• 4 = No change—use this value with AT^SYSCONFIG= if you do not want to change the current setting.</li> </ul> <p>&lt;simStatus&gt; (SIM status)</p> <ul style="list-style-type: none"> <li>• 0 = SIM is not available</li> <li>• 1 = SIM is available</li> <li>• 255 = No SIM, or the SIM has been PIN-locked (invalid PIN was entered and must be reset)</li> </ul>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>^SYSINFO</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Returns service status information</b></p> <p>This command returns current service type and availability information, and the current status of the module's SIM in the format &lt;srvStatus&gt; &lt;srvDomain&gt; &lt;roamStatus&gt; &lt;sysMode&gt; &lt;simState&gt;.</p> <p><b>Parameters:</b></p> <p>&lt;srvStatus&gt; – Service availability</p> <ul style="list-style-type: none"> <li>• 0 = No service</li> <li>• 1 = Limited service</li> <li>• 2 = Service</li> <li>• 3 = Limited regional service</li> <li>• 4 = Power save mode or deep sleep mode</li> </ul> <p>&lt;srvDomain&gt; – Service domain</p> <ul style="list-style-type: none"> <li>• 0 = No service</li> <li>• 1 = Circuit-switched service only</li> <li>• 2 = Packet-switched service only</li> <li>• 3 = Circuit- and packet-switched service</li> </ul> <p>&lt;roamStatus&gt; – Roaming status indicator</p> <ul style="list-style-type: none"> <li>• 0 = Not roaming</li> <li>• 1 = Roaming</li> </ul> <p>&lt;sysMode&gt; – System mode</p> <ul style="list-style-type: none"> <li>• 0 = No service</li> <li>• 3 = GSM / GPRS mode</li> <li>• 5 = WCDMA mode</li> </ul> <p>&lt;simStatus&gt; – SIM status</p> <ul style="list-style-type: none"> <li>• 0 = SIM is not available</li> <li>• 1 = SIM is available</li> <li>• 255 = No SIM, or the SIM has been PIN-locked (invalid PIN was entered and must be reset)</li> </ul>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>!TIME=&lt;YYYY&gt;, &lt;MM&gt;, &lt;DD&gt;, &lt;hh&gt;, &lt;mm&gt;, &lt;ss&gt; [, &lt;TZ&gt;, &lt;DST&gt;]</b></p> <p><b>!TIME?</b></p> <p><b>!TIME=?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Queries / sets current time of day</b></p> <p>This command is used to set and retrieve the current time of day—the time of day can be set using this command, or could be set by the network. If the time has not been set, the command returns ERROR.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT!TIME= &lt;YYYY&gt;,&lt;MM&gt;,&lt;DD&gt;,&lt;hh&gt;,&lt;mm&gt;,&lt;ss&gt; [, &lt;TZ&gt;, &lt;DST&gt;] sets the current time.</li> <li>AT!TIME? returns four lines of data. Lines 1-2 show local date and time, lines 3-4 show UTC date and time. Date format is YYYY/MM/DD; time format is hh:mm:ss.</li> </ul> <p>Example response:</p> <pre>!TIME: 2007/10/21 10:23:38 (local) 2007/10/21 17:23:38 (UTC) OK</pre> <p>Note: In this example, &lt;tz&gt; is -32 (-8 hours) and DST is 1 (+1 hour).</p> <ul style="list-style-type: none"> <li>AT!TIME=? reports the format used for AT!TIME</li> </ul> <p><b>Parameters:</b></p> <p>&lt;YYYY&gt; – year</p> <ul style="list-style-type: none"> <li>4 digits required</li> </ul> <p>&lt;MM&gt; – month</p> <ul style="list-style-type: none"> <li>Valid values: 01–12</li> </ul> <p>&lt;DD&gt; – day</p> <ul style="list-style-type: none"> <li>Valid values: 01–31</li> </ul> <p>&lt;hh&gt; – hour</p> <ul style="list-style-type: none"> <li>Valid values: 00-23</li> </ul> <p>&lt;mm&gt; – minute</p> <ul style="list-style-type: none"> <li>Valid values: 00–59</li> </ul> <p>&lt;ss&gt; – second</p> <ul style="list-style-type: none"> <li>Valid values: 00–59</li> </ul> <p>&lt;TZ&gt; – time zone offset from UTC in 15-minute increments</p> <ul style="list-style-type: none"> <li>Valid values: -48 to 48</li> <li>&lt;DST&gt; must also be set if &lt;TZ&gt; is used</li> </ul> <p>&lt;DST&gt; – Daylight Saving Time offset in 1-hour increments</p> <ul style="list-style-type: none"> <li>Valid values: 0 to 2</li> <li>&lt;TZ&gt; must also be set if &lt;DST&gt; is used</li> </ul>

Table 3-2: Modem status, customization, and reset commands (Continued)

Command	Description
<p><b>!UDINFO?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Returns information from active USB descriptor</b></p> <p>This command returns information from the active USB descriptor in the format &lt;vid&gt; &lt;pid&gt; &lt;manuf string&gt; &lt;product string&gt; (each parameter on a separate line).</p> <p><b>Parameters:</b></p> <p>&lt;vid&gt; – Vendor ID</p> <ul style="list-style-type: none"> <li>• Valid range: 0000–FFFF</li> </ul> <p>&lt;pid&gt; – Product ID</p> <ul style="list-style-type: none"> <li>• Valid range: 0000–FFFF</li> </ul> <p>&lt;manuf string&gt; – Manufacturer string</p> <ul style="list-style-type: none"> <li>• ASCII string (29 characters maximum)</li> <li>• Example: “Sierra Wireless, Incorporated”</li> </ul> <p>&lt;product string&gt; – Product string</p> <ul style="list-style-type: none"> <li>• ASCII string (64 characters maximum)</li> <li>• Example: “Mini Card”</li> </ul>
<p><b>+UPSC</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Displays Primary Scrambling Code (WCDMA only)</b></p> <p>This command displays the Primary Scrambling Code (PSC) of the reference WCDMA cell.</p> <p><b>Example:</b></p> <p>AT!UPSC returns:</p> <p>+UPSC: &lt;psc&gt;</p> <p><b>Parameters:</b></p> <p>&lt;psc&gt; – Primary Scrambling Code of reference WCDMA cell</p> <ul style="list-style-type: none"> <li>• Valid range: 0-255</li> <li>• 255 = No valid cell</li> </ul>

**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>+USET?&lt;set&gt;</b></p> <p><b>+USET=?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Displays WCDMA set information</b></p> <p>This command displays WCDMA set information (Active Set, Candidate Set, etc.).</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>AT+USET?&lt;set&gt; returns detailed information about each item in the &lt;set&gt;.</li> <li>AT+USET=? returns the list of valid &lt;set&gt; values</li> </ul> <p><b>Example:</b></p> <p>AT+USET?&lt;set&gt; returns:</p> <pre>+USET: &lt;setName&gt; Count: &lt;count&gt; PSC: &lt;psc&gt; &lt;ref&gt; SSC: &lt;ssc&gt; STTD: &lt;sttd&gt; Tot Ec/Io: &lt;totEcIo&gt; Ec/Io: &lt;EcIo&gt; RSCP: &lt;rscp&gt; Window Size: &lt;winSize&gt;</pre> <p>... (repeats for &lt;count&gt; items)</p> <p><b>Parameters:</b></p> <p>&lt;set&gt; – Set for which details are requested</p> <ul style="list-style-type: none"> <li>Valid range: 0–11 (see &lt;setName&gt; for descriptions)</li> </ul> <p>&lt;setName&gt; – Description of &lt;set&gt; value</p> <ul style="list-style-type: none"> <li>ASCII string</li> <li>Valid values: <ul style="list-style-type: none"> <li>0-Active Set</li> <li>1-Sync Neighbour Set</li> <li>2-Async Neighbour Set</li> <li>3-Unlisted Set</li> <li>4-Add-Candidate Set</li> <li>5-Drop-Candidate Set</li> <li>6-After failed W2G Set</li> <li>7-DCH-Only Set</li> <li>8-HHO Active Set</li> <li>9-HHO Active No PN Set</li> <li>10-Candidate to Unlisted Set</li> <li>11-Saved Set</li> </ul> </li> </ul> <p>&lt;count&gt; – Number of items in &lt;set&gt;</p> <ul style="list-style-type: none"> <li>Valid range: 0-255</li> </ul> <p>&lt;psc&gt; – Primary Scrambling Code</p> <ul style="list-style-type: none"> <li>Valid range: 0–FFFF</li> </ul> <p>(Continued on next page)</p>

Table 3-2: Modem status, customization, and reset commands (Continued)

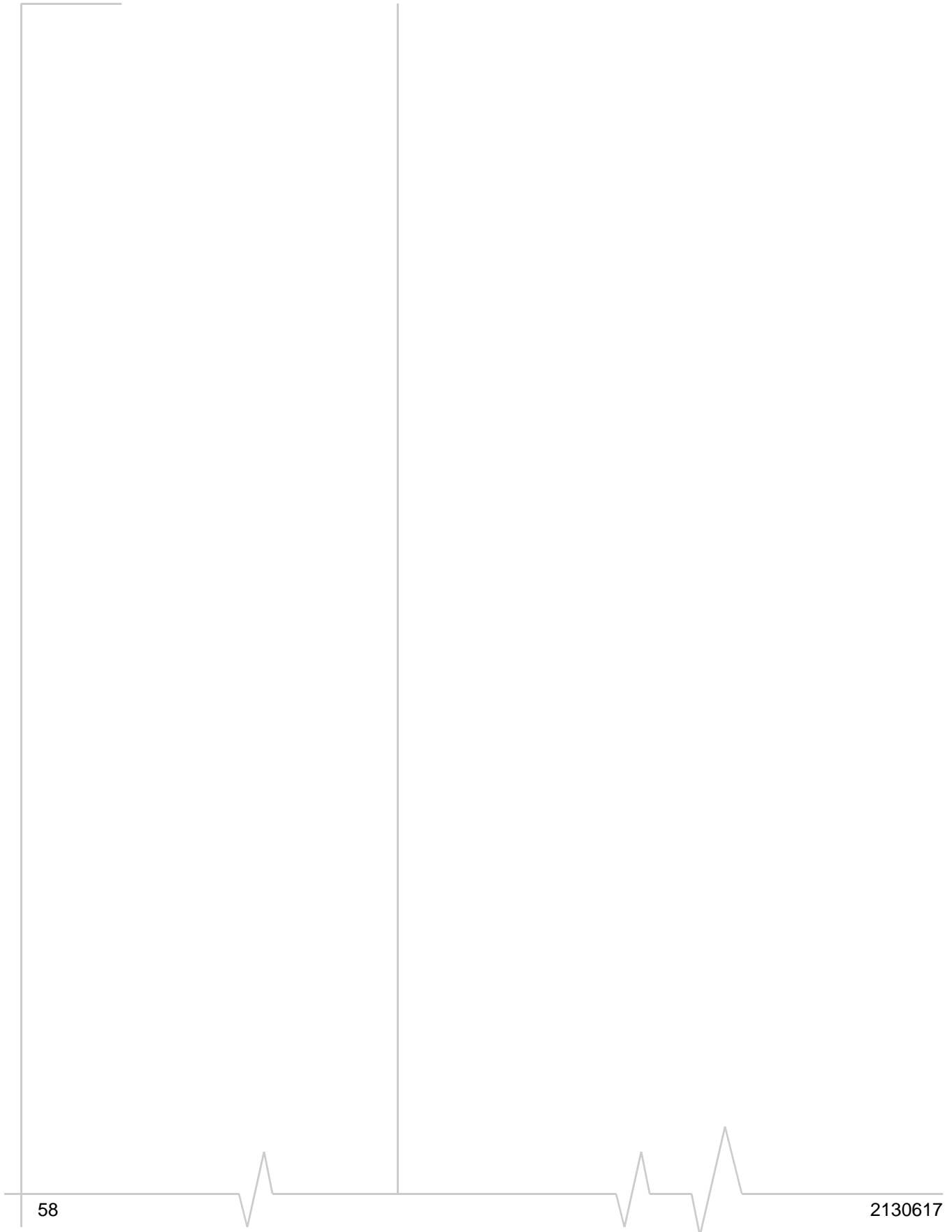
Command	Description
<b>+USET</b>	<p><b>Displays WCDMA set information (Continued)</b></p> <p>&lt;ref&gt; – Reference PSC designator string</p> <ul style="list-style-type: none"> <li>• Displays “(REF)” if this is the reference PSC</li> </ul> <p>&lt;ssc&gt; – Secondary Scrambling Code</p> <ul style="list-style-type: none"> <li>• Valid range: 0–FFFF</li> </ul> <p>&lt;std&gt; – Common Pilot Channel (CPICH) supports Space Time Transit Diversity</p> <ul style="list-style-type: none"> <li>• 0 = Not supported</li> <li>• 1 = Supported</li> </ul> <p>&lt;totEcIo&gt; – Total Ec/Io</p> <ul style="list-style-type: none"> <li>• Valid range: 00–FF</li> <li>• To convert to a dB value, convert to decimal and divide by -2. Example: 0x0B / -2 = 11 / -2 = -5.5 dB</li> <li>• <b>Note:</b> The command <b>AT+ECIO?</b> also reports Total Ec/Io as a dB value.</li> </ul> <p>&lt;EcIo&gt; – Best path Ec/Io</p> <ul style="list-style-type: none"> <li>• Valid range: 00–FF</li> <li>• To convert to a dB value, convert to decimal and divide by -2. Example: 0x0B / -2 = 11 / -2 = -5.5 dB</li> </ul> <p>&lt;rscp&gt; – Received Signal Code Power</p> <ul style="list-style-type: none"> <li>• Valid range: 0–FFFF</li> </ul> <p>&lt;winSize&gt; – Search window size</p> <ul style="list-style-type: none"> <li>• Valid range: 0000–FFFFFFF</li> </ul>



**Table 3-2: Modem status, customization, and reset commands (Continued)**

Command	Description
<p><b>&amp;V</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>All</li> </ul>	<p><b>Return operating mode AT configuration parameters</b></p> <p>This command returns the status of all AT command parameters that apply to the current operating mode.</p> <p><b>Example:</b></p> <pre> "AT&amp;V &lt;Enter&gt; &amp;C: 2; &amp;D: 2; &amp;F: 0; E: 1; L: 0; M: 0; Q: 0; V: 1; X: 0; Z: 0; S0: 0; S2: 43; S3: 13; S4: 10; S5: 8; S6: 2; S7: 50; S8: 2; S9: 6; S10: 14; S11: 95; +FCLASS: 0; +ICF: 3,3; +IFC: 2,2; +IPR: 115200; +DR: 0; +DS: 0,0,2048,6;+WS46: 12; +CBST: 0,0,1;+CRLP: (61,61,48,6,0),(61,61,48,6,1),(240,240,52,6,2);+CV120: 1,1,1,0,0,0; +CHSN: 0,0,0,0; +CSSN: 0,0; +CREG: 0; +CGREG: 0;+CFUN;; +CSCS: "IRA"; +CSTA: 129; +CR: 0; +CRC: 0; +CMEE: 2; +CGDCONT: (1,"IP","", "",0,0); +CGDSCONT: ; +CGTFT: ; +CGEQREQ: ; +CGEQMIN: ; +CGQREQ: ; +CGQMIN: ;+CGEREP: 0,0; +CGDATA: "PPP"; +CGCLASS: "A"; +CGSMS: 3; +CSMS: 0;+CMGF: 0; +CSCA: ""; +CSMP: ,,0,0; +CSDH: 0; +CSCB: 0,"", ""; +FDD: 0;+FAR: 0; +FCL: 0; +FIT: 0,0; +ES: ;; +ESA: 0,,,,0,0,255;; +CMOD: 0;+CVHU: 0; +CPIN: ; +CMEC: 0,0,0; +CKPD: 1,1; +CGATT: 0; +CGACT: 0;+CPBS: "SM"; +CPMS: "SM","SM","SM"; +CNMI: 0,0,0,0,0; +CMMS: 0; +FTS: 0;+FRS: 0; +FTH: 3; +FRH: 3; +FTM: 96; +FRM: 96; +CCUG: 0,0,0;+COPS: 0,0,""; +CUSD: 0; +CAOC: 1; +CCWA: 0; +CPOL: 0,2,""; +CTZR: 0;+CLIP: 0; +COLP: 0; +CMUX: 0,0,5,31,10,3,30,10,2;!CMUX: 0,0,5,31,10,3,30,10,2 </pre> <p>OK"</p>

# Supported AT Command Reference



## >> 4: Diagnostic Commands

- [Introduction](#)
- [Command summary](#)
- [Command reference](#)

### Introduction

This chapter describes commands used to diagnose modem problems.

### Command summary

The table below lists the commands described in this chapter.

**Table 4-1: Diagnostic commands**

Cmnd	Description	Page
<b>!MXSTATS</b>	<a href="#">Displays / clears 27.010 statistics</a>	<a href="#">60</a>

## Command reference

**Table 4-2: Diagnostic command details**

Command	Description
<p><b>!MXSTATS=0</b></p> <p><b>!MXSTATS?</b></p> <p>Supporting modems:</p> <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Displays / clears 27.010 statistics</b></p> <p>TS 27.010 is a standard that defines a multiplexing protocol between a mobile station and a terminal. This standard is supported on the modem and AT!MXSTATS is used to display statistics related to that protocol for debugging purposes.</p> <p><b>Usage:</b></p> <ul style="list-style-type: none"> <li>• AT!MXSTATS=0 clears the statistics.</li> <li>• AT!MXSTATS? reports the statistics.</li> </ul> <p>The command AT!MXSTATS? returns these statistics:</p> <ul style="list-style-type: none"> <li>• Sessions Started</li> <li>• Sessions Ended</li> <li>• SABM (Tx/Rx)</li> <li>• DISC (Tx/Rx)</li> <li>• UA (Tx/Rx)</li> <li>• DM (Tx/Rx)</li> <li>• UIH (Tx/Rx)</li> <li>• T1 expiry</li> <li>• T2 expiry</li> <li>• T3 expiry</li> <li>• N1 count</li> <li>• N2 count</li> <li>• Bad Frame (addr)</li> <li>• Bad Frame (ctl)</li> <li>• Bad Frame (len)</li> <li>• Bad Frame (F9)</li> <li>• Bad Frame (fcs)</li> <li>• Bad Frame (mem)</li> </ul> <p>Values are accumulated until cleared (by issuing the command AT!MXSTATS=0).</p>

## 5: Test commands

- [Introduction](#)
- [Command summary](#)
- [Command reference](#)

### Introduction

This chapter describes commands used to display and clear data that is stored if the modem crashes.

### Command summary

The table below lists the commands described in this chapter.

**Table 5-1: Test commands**

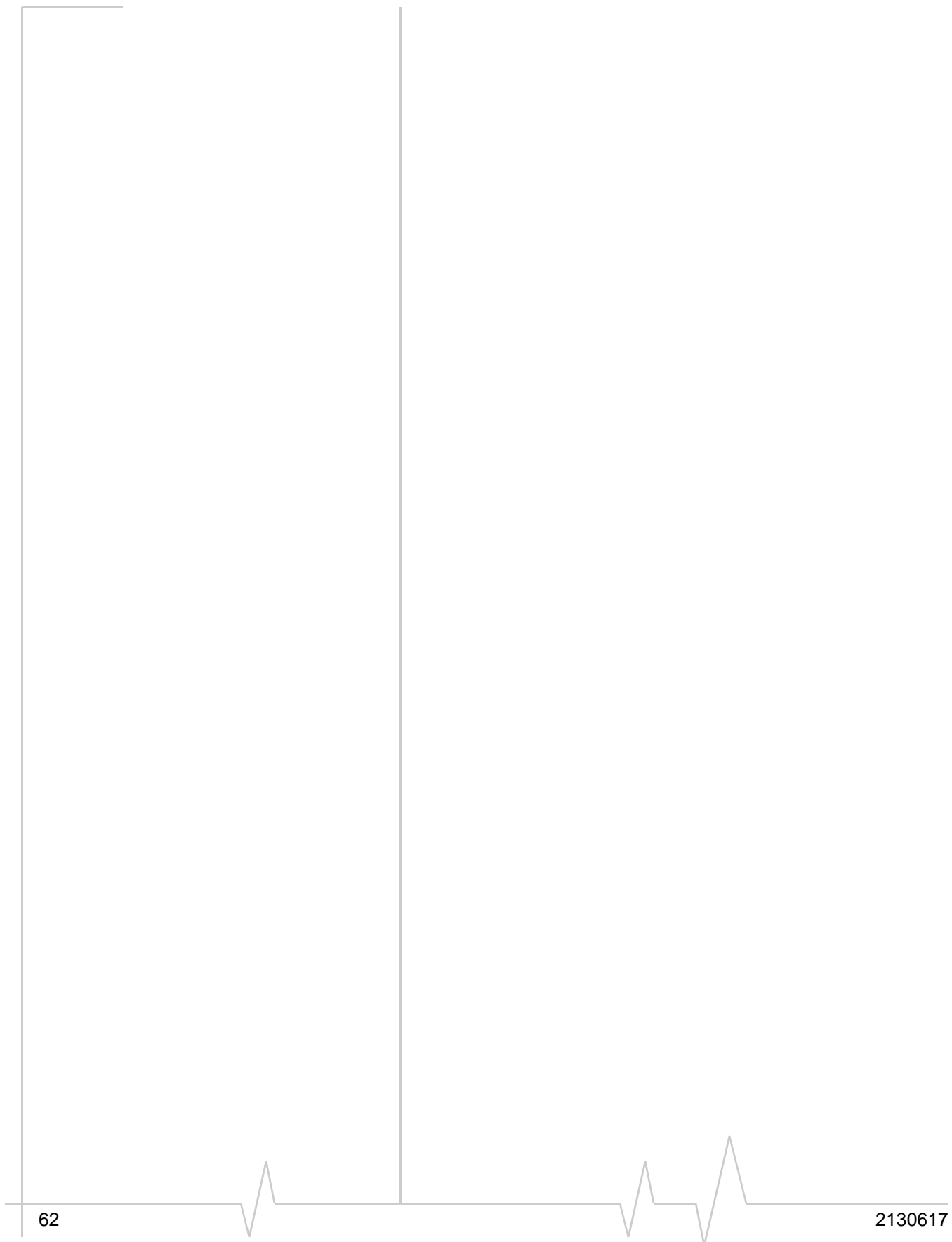
Cmnd	Description	Page
<b>!ERR</b>	Displays diagnostic information	61
<b>!GCCLR</b>	Clears crash dump data	61
<b>!GCDUMP</b>	Displays the crash dump data	61

### Command reference

**Table 5-2: Test command details**

Command	Description
<b>!ERR</b> Supporting modems: <ul style="list-style-type: none"> <li>• All</li> </ul>	<b>Displays diagnostic information</b> This command is used to display diagnostic information that Sierra Wireless uses to assist in resolving technical issues.
<b>!GCCLR</b> Supporting modems: <ul style="list-style-type: none"> <li>• All</li> </ul>	<b>Clears crash dump data</b> This command clears the crash dump and assert data.
<b>!GCDUMP</b> Supporting modems: <ul style="list-style-type: none"> <li>• All</li> </ul>	<b>Displays the crash dump data</b> This command displays crash dump data. If there is no crash dump data, it displays the string "No crash data available".

# Supported AT Command Reference



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# 6: Memory Management Commands

## Introduction

The modem has 2 MB of non-volatile memory that is used to store:

- Factory calibration data
- Settings made in a host application such as Watcher

The commands in this chapter allow you to back up and restore the data in non-volatile memory.

## Command summary

The table below lists the commands described in this chapter:

**Table 6-1: Memory management command passwords**

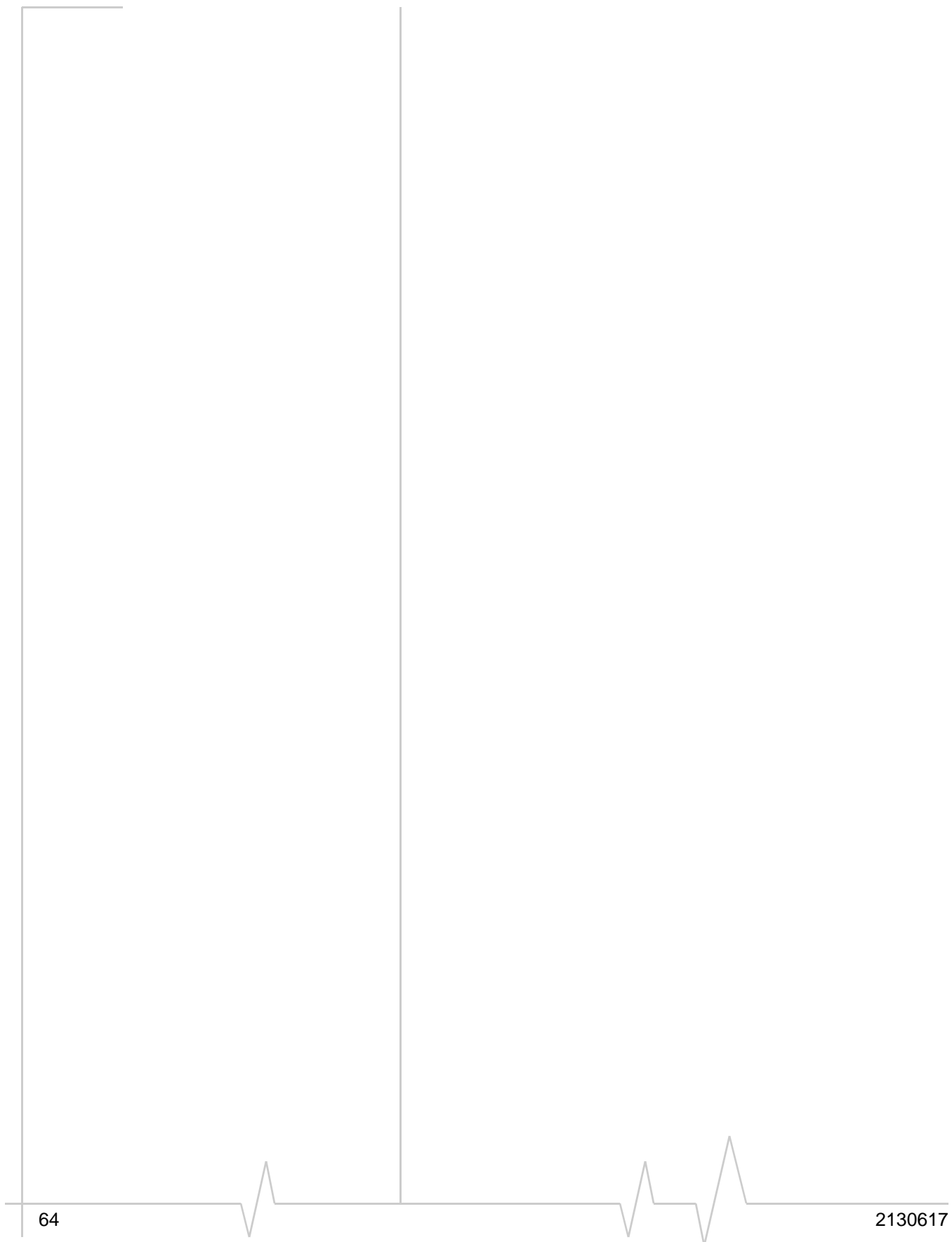
Command	Description	Page
!NVBACKUP	<a href="#">Backs up items stored in non-volatile memory</a>	63

## Command reference

**Table 6-2: Memory management command details**

Command	Description
<b>!NVBACKUP</b> <b>=&lt;category&gt;</b>  Supporting modems: <ul style="list-style-type: none"> <li>• All</li> </ul>	<p><b>Backs up items stored in non-volatile memory</b></p> <p>This command creates a backup that is stored in the modem's flash memory.</p> <p><b>Parameters:</b></p> <p>&lt;category&gt; (specify items to back up):</p> <ul style="list-style-type: none"> <li>• 0 = Factory items (RF calibration data)—Used only at the factory (only needs to be done once for the lifetime of the device)</li> <li>• 1 = OEM items (PRI customizations)—Used only by the OEM when loading a new PRI configuration (only needs to be done once for the lifetime of the device)</li> <li>• 2 = User items (customizations, including those made by Watcher or other host applications)—This is the only backup option that should be employed by users. Use this command before doing a firmware update. If the modem's file system is reinitialized for some reason during the update, the customizations would then be automatically restored using from the backed-up information.</li> </ul> <p>The command returns:</p> <ul style="list-style-type: none"> <li>• NV Items saved</li> <li>• NV Items skipped</li> </ul> <p>The 'items skipped' represent memory to which nothing has been written.</p>

# Supported AT Command Reference





# 7: SIM Commands

- [Introduction](#)
- [Command summary](#)
- [Command reference](#)

## Introduction

This chapter describes commands used to communicate with an installed (U)SIM.

## Command summary

The table below lists the commands described in this chapter:

**Table 7-1: SIM command passwords**

Command	Description	Page
!AUTH	Runs GSM algorithm on SIM	65
!ICCID	Returns (U)SIM card's ICCID	66

## Command reference

**Table 7-2: SIM command details**

Command	Description
<b>!AUTH = &lt;randNumber&gt;</b> Supporting modems: <ul style="list-style-type: none"> <li>• All</li> </ul>	<b>Runs GSM algorithm on SIM</b> This command is used to authenticate the SIM using a random number. The command returns the SIM's response and a 64-bit ciphering key in the format: <key>, <SRES> <b>Parameters:</b> <randNumber> <ul style="list-style-type: none"> <li>• 32 hexadecimal digit random number. Example: 123A567B9012C4567D90123E56789012</li> </ul> <SRES> - SIM response <ul style="list-style-type: none"> <li>• Example: 500e2879</li> </ul> <key> - Ciphering key <ul style="list-style-type: none"> <li>• Example: ec793ac5662e7000</li> </ul>

**Table 7-2: SIM command details (Continued)**

Command	Description
<b>!ICCID</b> Supporting modems: <ul style="list-style-type: none"><li>• All</li></ul>	<b>Returns (U)SIM card's ICCID</b> This command returns a (U)SIM's ICCID (Integrated Circuit Card ID). <b>Usage:</b> <ul style="list-style-type: none"><li>• AT!ICCID? returns !ICCID: &lt;iccid&gt;</li></ul> <b>Parameters:</b> <iccid> (ICCID of the (U)SIM currently being tested): <ul style="list-style-type: none"><li>• 20 digit decimal number—This number is often printed on the (U)SIM card.</li></ul>

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!AUTH, run GSM algorithm on SIM, [65](#)

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+CCLK, clock, [21](#)  
+CCUG, closed user group, [21](#)  
+CCWA, call waiting, [21](#)  
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+CDIP, called line identification presentation, [21](#)  
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 +CMER, mobile termination event reporting, [23](#)  
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 +CMGF, message format, [19](#)  
 +CMGL, list messages, [19](#)  
 +CMGR, read message, [19](#)  
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 +CRC, cellular result code, [24](#)  
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 +CRSM, restricted SIM access, [24](#)  
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