GIVE WINGS TO YOUR IDEAS

OPEN AT

AT version X.51

Revision: **002**
Date: **August 2005**

wavecom

AT Version X.51
Release Note

651_09gg.v13
351_09gm.v13

Reference : **WM_ASW_OAT_DVD_00120**

Version : **002**

Date : **August 25th 2005**

Level	Date	History of the evolution	Writer
001	August 19th 2005	Creation	
002	August 25th 2005	Information added in paragraph 5.2.2.2 on the custo_AT.CUS file removal. Restriction added in paragraph 6.5.2 on the use of V42bis compression on A memories.	

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1 Introduction

1.1 Scope of this document

The scope of this document is the X.51 AT software release description for WISMO Quik series Q2400A, Q2406x, Q2426B and Q2501B.

1.2 Audience for this document

This Release note may be distributed to all direct and indirect customers and will be posted on the corporate web site under the Support\Private area.

1.3 Release Feature List

1.3.1 Main Features Reminder

Features list for AT	SW version	
	351	651
Multiple UART management	X	(*)
Extended SMS Storage: up to 99 in Flash	X	X
Extended Phone Book Management (Name, 5 numbers, address, e-mail, group)	X	X
Low Power consumption for the module with disconnected mode (Radio and protocol stack off: but Open AT® Application running)	X	X
Interruption PIN Management	X	X
GPS Management (Q2501B only)		X
Agenda management	X	X
Extended characters	X	X
SIM Speed Enhancement default activation	X	X

(*): Refer to chapter 6.5.1.

1.3.2 New Features / Evolutions

This software is a maintenance release of the X.50a including some new features depicted below:

Features list for AT	SW version	
	351	651
Specific Country Lock implementation	X	X
Open AT® everywhere	X	X
Implementation of LLC parameter in source code	X	X
Activation of battery charging on Q2501B	X	X
Echo Cancellation Algorithm 6 availability on Q2426	X	X
Long phonebook numbers management	X	X
Update of AT+WTONE (2 frequencies allowed)	X	X
Removal of WAP service	X	X
STK Setup Call function	X	X
SPI Management	X	X
Interface change : AT+WMFM	X	X

For more details on these features please refer to chapter 6.3

1.4 Dedicated versions for Specific Markets

1.4.1 New product introduction

As per specific market requirements, additional "countries dedicated" version of module has been launched.

1.4.2 Dedicated version

As these products are tailored for the dedicated countries, they are locked not to work on any other network but the selected country's available carriers. These products will not be compatible with the former SW versions on the branch (refer to 0). Obviously Wavecom will perform maintenance on these product in the same way as it is done on other products.

1.4.3 Storage & Marking

For countries dedicated versions, in the Product Code file, the SW Configuration of this version includes the mention "CCx", x depending on the country.
This SW configuration will only appear on the pizza box. A special attention is required to manage the storage, as this SW configuration is the only way to distinguish the product.

1.4.4 Availability

SW versions available on the Wavecom web site are only for not dedicated products.
In order to obtain Software version for updating the products dedicated to specific countries, contact your Wavecom technical support.

1.4.5 Warning

Standard X.51 software not tuned for dedicated countries must not be used on modules that are dedicated to a specific country, as it is not compatible. In this case, the message BAD SOFTWARE is displayed (refer to the AT Command Interface Guide for more information on this message).
This can be undone by re-downloading a compatible version.

1.4.6 Software Behavior

Refer to section 6.3.1 for details about the behavior of countries dedicated version.

2 RELATED DOCUMENTS

[1]	AT Commands Interface Guide for revision X51	WM_ASW_OAT_UGD_00016-005

[2]	Hands free audio application note	WM_DSP_GEN_UGD_001-001

3 ABBREVIATIONS AND DEFINITIONS

IFS   :   Interface Specification
LLC   :   Low Layer Compatibility
STK   :   SIM Toolkit
UGD :   User Guide
WM   :   Wavecom

4 Hardware Compatibility

4.1 Module Compatibility

X51 Software version	Module Compatibility List
6.51	Q2406A Q2406B Q2426B Q2501B
3.51	Q2400A

5 Software release description

5.1 Release identification

	WISMO Quik – Q24X6X, Q2400A and Q2501B - Series		
Date of generation	July 7, 2005		
Software identification	651_09gg.Q2406A	16/2 Mbits	GPRS+Open AT®
	651_09gg.Q2406B	32/4 Mbits	GPRS+Open AT®
	651_09gg.Q2426B	32/4 Mbits	GPRS+Open AT®
	651_09gg.Q2501B	32/4 Mbits	GPRS+Open AT® + GPS
	351_09gm.Q2400A	16/2 Mbits	GSM only + Open AT®
IMEISV	18		
Checksum		6.51	0x2A CD 63 E9
		3.51	0x2A CD 63 EA
Flash type	16/2 Mbits (type A) 32/4 Mbits (type B)		
Open AT® version	V3.02		
Xmodem downloader	V2.12		
Previous Official Release on the Branch	6.50a (6.51) 3.50a (3.51)		

5.2 Released Files & Download Processes

This section describes the files that need to be downloaded on the module with DwlWin tool or with a HyperTerminal software.

5.2.1 X-Modem download mode

5.2.1.1 X-Modem configuration required for download

In order to download the FW by using the X-Modem protocol, the following configurations and conditions have to be set:
- Create an Hyper Terminal connection on COM port with following parameters:
  - *Bit/Second* **115200**
  - *Data Bit* **8**
  - *Parity* **None**
  - *Bit Stop* **1**
  - *Flow Control* **Hardware**
- A version of AT software must be already downloaded on the module

5.2.1.2 Common Files required for download

The file to download depends on the HW platform. This file has the following name:
- **X51_full_<Module_Type>.dwl**

The content of this file is the following:
  - X.51 binary version,
  - Common E2P configuration (w.dwl file),
  - E2P configuration specific to <Module_Type> module.

Ex: 651_q2406b.dwl is the file to download on a module Q2406B.

5.2.1.3 Download procedure

The following procedure as to be performed in order to download the FW in the module:
- Connect the Starter Kit on this COM port and start the module.
- Enter "at<CR>" on the Hyper Terminal windows. Module has to answer:
  "*OK*"
- Check the current downloader (dwl) on the module side. It must be the same or compatible to the embedded one in the new binary (see the Xmodem downloader version in the table paragraph 5.1).

  NB: *To recall the current dwl version, enter "at+wdwl?<CR>" on the Hyper terminal. The module answers:*
  "+WDWL: V<downloader version>"
  If existing downloader is not the good one, the new downloader has to be reloaded first. In order to download it, use the following process and select "dwl.dwl" as file to download. When download is completed and the module has been reset, repeat the following procedure to download the new AT binary.

- Enter "at+wdwl<CR>" to start the download. Module has to answer:
  "*+WDWL: 0*
  ▌▌▌▌▌▌▌▌▌▌ .....*"
- Enter menu "Transfer/Send a file"
- Select protocol: "*1k Xmodem*"

- Select the *dwl* file to download.
- Validate so that the download starts.
- When new characters "▌" are received, the download is finished.
- Reset the module by using the command "*AT+CFUN=1*" and wait for the "*Ok*" answer.

5.2.1.4 Specific GPS Files (only for Q2501B series)

Not applicable.

5.2.2 DwlWin download mode

5.2.2.1 DWLWin configuration required for download

Before launching the download process, the DWLWin tool has to be configured as following:
- Select CPU type field according to the module series:
  - **WISMO 2-3**   For Q24 and Q31 series module
  - **Q2501**   For Q2501 modules
- Select "Erase objects" and "Erase Customization Files" options

5.2.2.2 Common Files required for download

The E2P parameters to download depend on the HW platform. For this reason, two files must be downloaded for E2P parameters:

- **pro-dwl.wpb**   (Binary)
- **w.e2p**   (Generic E2P file)
- *<Module><FlashType>*.e2p   (module specific E2P file)
  For example: 'q2406b.e2p' for Q2406 module with flash type B (32/4)

Warning: All these files must be downloaded at the same time.

Note: the custo_AT.CUS file provided with previous X50a firmware is no more provided since X51 firmware. The content of this file is now directly included in the binary file.

5.2.2.3 Download procedure

Refer to DWLWin Help provided in the DWLWin tool.

5.2.2.4 Specific GPS Files (only for Q2501B series)

The GPS following file must be downloaded for the Q2501B module version:
- **<CodeSoft>_300-gps.wpb**   (GPS binary file)

5.3 Software Tools Version

This section gives the last Wavecom tools versions.

S/W Tools Name	Version

S/W Tools Name	Version
DwlWin Downloader	v3.3.9.1
Target Monitoring Tool (TMT)	V2.7.4.0
TMT Workspace	B51f09gx.v13_64k.wks

6 Software Description

The following table shows the feature availability depending on the SW version.

	3.51	6.51
GPRS Class 10	No	Yes
Open AT®	Yes	Yes
TCP/IP	Yes	Yes
GPS	No	Yes on Q2501B

The *Severity* values have the following meaning :
- 1 : Critical
- 2 : Major
- 3 : Minor
- 4 : Cosmetic

6.1 Validated Corrections/Improvement

This section gives the list of all corrections or improvements integrated in the X.51 version from the X.50a version.

Id	Description (What / When)	Impacted Domain	Impacted Sub Domain	Severity*
26415	When the command AT+WMIR has been used, the software upgrade fails and might render the module unusable.	FLASH	EEPROM	1
27198	OTA update of SIM card on AWS network fails.	AT	STK	1
27199	OTA issue on Cingular network. Six segments OTA not received by the module.	AT	STK	1
27210	When the UART 2 is opened (with AT+WMFM=0,1,1), it's possible to launch the internal mode (using AT+WGPSCONF=0,1). It should be only possible when the UART 2 is closed.	AT	OTHER	1
27370	During a STLK REFRESH (tests GCF 3.16 (Mandatory)), the initialization is badly implemented. When the EFs LOCI, IMSI are invalidated, the module doesn't rehabilitate these files.	AT	STK	1
27443	When the SP lock (using AT+WLCK="PP",1,<code>,<gid1>) is activated with a GID1 and if several values exist in the GID file of the SIM, the module is not unlocked even if the GID1 is present in the SIM. It's ok if the SIM contains only one value.	AT	OTHER	1
27491	When the CORP lock (using AT+WLCK="PC",1,<code>,<gid1>,<gid2>) is activated with a GID2 and if several values exist in the GID file of the SIM, the module is not unlocked even if the GID2 is present in the SIM. It's ok if the SIM contains only one value	AT	OTHER	1
27537	On A memory, with extended mode activated (AT+WCOS=1) and flash phonebook selected (AT+CPBS="ME"), when all the parameters of CPBW command have the max length, the max number of entries is not 500 but 270. In normal mode (At+WCOS=0), the max number is 500.	AT	PHONEBOOK	1

27656	When the 2 physical uarts are opened, if during the treatment of AT+CCFC=0,2 on the 1st uart the command 'AT' is sent on the 2nd uart, the 1st one will be blocked in +CME ERROR: 515 state.	AT	OTHER	1
27663	When the 2 physical uarts are opened, during the treatment of a phonebook read on the 1st uart (using +CPBR=<id1>,<id2> command), if a SMS read is treated on the 2nd uart, the response on uart 1 is stopped.	AT	OTHER	1
27760	When software AMR feature is enabled on hardware modules that don't support AMR feature, all GSM RF system is non-functional until software AMR feature is disabled.	HWL	OTHER	1
27761	Unwanted AMR feature on Q2406A non AMR module	SYS	FEATURES	1
27942	In test 27.22.4.5, the STLK session is immediately aborted after the display of +STGI: 5,<TimeUnit>,<TimeInterval>,<TextInfo> instead of after the time indicated in <TimeUnit> and <TimeInterval> parameters	AT	STK	1
27961	The module resets in a particular SIM Toolkit certification test case (PTCRB 27.22.36.1 seq 1.7B), which uses Call Control feature.	AT	STK	1
27971	Impossible to send SMS messages with SIM cards which have SMS MO Control enabled and if STK Terminal Profile is set to support this feature.	AT	STK	1
28021	During the 27.22.4.13 GCF test, the module resets during a STK SETUP CALL with a long alpha ID	AT	STK	1
28101	During the 27.22.4.13 GCF test, the module resets during a STK SETUP CALL with a long alpha ID	AT	STK	1
28285	When an ADL application is running on the module, data calls are able to connect to the remote part, but the serial link is not switched to data mode after the CONNECT result.	OTHER	OTHER	1
28312	When an ADL application is running on the module, GPRS data sessions are able to be activated, but the serial link is not switched to data mode after the CONNECT result.	OTHER	OTHER	1
28317	Impossible to Attach GPRS with network infrastructure using Cell Notification instead of normal Cell Update.	GPRS	OTHER	1
28318	Impossible to attach GPRS with network infrastructure using Cell Notification instead of normal Cell Update.	GPRS	OTHER	1
28361	When entering some entries in "ME" phone book of a SIM 1, if another SIM is then inserted, Wavecom modem resets during ADN phonebook reload, after Pin activation.	AT	PHONEBOOK	1
28390	In noisy conditions (car telephony), when noise reduction is limited, the comfort noise level is too low comparing to the transmitted ambient noise level	HWL	AUDIO	1
28391	In noisy conditions (car telephony), when noise reduction is limited, the comfort noise level is too low comparing to the transmitted ambient noise level	HWL	AUDIO	1
28448	Trying to download an Open-AT application on a A memory module with the XModem downloader leads to a MEMORY ALLOCATION ERROR.	DWL	OTHER	1
28483	The module resets when a table with 255 character is entered using +WCCS command	AT	OTHER	1
28529	No incoming nor outgoing call on 1800 networks	HWL	RF	1
28572	The change in transmit gain is not relative, when gain of the controller 2 (+WSVG :1) is changed using AT+VGT command. This leads to random quality in transmitted data.	AT	OTHER	1
28584	When CPBW command is used to store an entry in the SIM phonebook without specifying the telephone number, the module	AT	PHONEBOOK	1

	returns CME ERRROR 13 indicating SIM Failure, and further access to SIM are no more possible.			
28586	PTCRB 26.16.9.8 and 26.16.9.11 failure when RACAL testers are used on PTCRB tests lab.	HWL	MODEM	1
28591	When a call is setup from phonebook, +WBCI: 0 is displayed indicating that battery has reached minimum level. This indicates that module will be powered off as battery is discharged though this is not the real case	AT	OTHER	1
28599	When a phonebook is read using AT+CPBR command with AT+WCOS=1 , the module resets (even if the phonebook entry is not an extended one)	AT	PHONEBOOK	1
28629	Module sends unsolicited indications(WIND:1, CREG:1), when it is initialised with a STLK SIM REFRESH IND. This gives a impression that module has been reset.	AT	STK	1
28640	When AT+WDWL is sent, all GPIOs are set as OUTPUT. The Xmodem downloader should not initialize the values of the GPIOs	DWL	OTHER	1
28683	An Open-AT application is running and opens the GSM Data FCM flow. On an outgoing data call setup success, both OK and CONNECT responses are sent to the external application. Only CONNECT should be sent.	AT	OTHER	1
28929	If AFC saturated, no communication possible with GSM network	HWL	MODEM	1
29110	TC 42.4.2.3.1 FAILED : mandatory for GCF 3.17.0	GSM	CELL_SEL	1
29330	PTCRB 26.16.9.8 and 26.16.9.11 failure (with RACAL)	HWL	MODEM	1
21506	On modules equipped with particular series of AMR baseband IC, the AMR speech codec cannot be activated during speech call. Lower quality codecs such as FR or EFR codec are used instead.	HWL	AUDIO	2
21984	TEST 27.22.4.7.2 When doing a EF IMSI refresh SIM Initialization (with a new IMSI)the IMSI is not well updated	AT	STK	2
26141	The adl_adSubscribe Open AT API wrongly allows to create two A&D cells with undefined sizes.	FLASH	DOTA	2
26436	The Name length parameter returned by AT+CPBP=?, AT+CPBR=?, AT+CPBW=? is wrong for the ME phonebook	AT	PHONEBOOK	2
26437	The Name length parameter returned in AT+CPBR=? and AT+CPBP=? is wrong for the SIM phonebook	AT	PHONEBOOK	2
26474	During handover procedure of speech call, it randomly occurs low level audio noise of short duration (< 500 ms).	HWL	AUDIO	2
26911	When an OAT application uses both UARTs in data mode, the "+++" sequence does not work on UART2. The UART 1 has first to be switched back to AT mode with "+++", and then the UART2 may be switched also.	DEVICE	V24	2
26943	The DOTA storage volume eventually fails to properly update unfinalized cells.	FLASH	DOTA	2
26944	The DOTA storage volume eventually returns wrong answers to cells information queries.	FLASH	DOTA	2
26945	The DOTA storage volume eventually allows a cell to be allocated with the same identifier as another previously created but unfinalized one.	FLASH	DOTA	2
26957	Very short audio drop during voice call (~ 100 ms) triggered by network Channel Modify procedure with particular cell configuration parameters.	HWL	AUDIO	2
26992	AT+WBCM? returns a false value for LevelMin after AT&F	AT	OTHER	2
27015	Using AT&F to restore the factory settings, the parameters of the +WBHV command are not updated	AT	OTHER	2

27126	Low probability of very loud audio explosion noise during voice call (< 100 ms) randomly few seconds after handover procedure. Very uncomfortable & disturbing at ear.	HWL	AUDIO	2
27129	The numbers 000, 08, 110, 118, 119 and 999 are not treated as emergency numbers when no SIM inserted (911 and 08 for PCS PLMN). Moreover, EN phonebook is not available if the SIM does not contain EF-EN.	AT	OTHER	2
27172	When the registration fails because of an unknown IMSI or an illegal ME, the module sends an unsolicited response +CREG: 4 instead of +CREG: 3	AT	OTHER	2
27178	When AT+CSQ is sent to the module just after a call release, the response is +CSQ: <rssi>,99 instead of +CSQ: <rssi>,<ber> (the 99 value is wrong)	AT	OTHER	2
27196	After AT+CSAS command, the content of EF_SMSP SIM file is not clean : random data are stored in the padding area : should be 0xFF data.	AT	SMS	2
27217	In the response to AT+WGPSM=4 command, date and time formats are wrong: one digit is missing; unexpected space displayed after each comma.	AT	OTHER	2
27221	When the command AT+CPIN? is sent immediately after the +WIND: 1 indication, the module response is +CME ERROR: 515 (please wait) instead of +CPIN: <rsp>. The +WIND: 1 indication should be sent when the PIN service is ready.	AT	OTHER	2
27268	The resume feature in the DOTA volume fails to allow further data updates.	FLASH	DOTA	2
27503	Systematic reset occurs during downlink GPRS transfer with an Lab tester equipment having an erroneous implementation of the GPRS RLC layer for the Fbi bit management in the transferred blocks.	GPRS	RLC	2
27582	TC 42.3.1.2.2 FAILED : mandatory for GCF 3.17.0	GPRS	CELL_RESEL	2
27616	On modules equipped with particular series of AMR baseband IC, the AMR speech codec cannot be activated during speech call. Lower quality codecs such as FR or EFR codec are used instead.	SYS	OTHER	2
27657	When software Echo Cancellation feature is enabled on AMR modules, all GSM RF system is non-functional until Echo Cancellation feature is disabled.	HWL	MODEM	2
27703	If an alphatag in SIM phonebook is replaced by a shorter one using an external SIM reader, the module won't detect the change. It should be detected.	AT	PHONEBOOK	2
27743	In case of a module supplied by a battery, when the power of the battery is at the lowest stage (quasi insufficient to power on the module), if the module is successfully powered on, it resets in loop till battery is completely dead or battery has more power.	GSM	OTHER	2
27744	Data call establishment failure : when AMR feature is activated, "Data TCH/H" establishment cause is used even if not supported.	GSM	CC	2
27758	On modules equipped with particular series of AMR baseband IC, the AMR speech codec cannot be activated during speech call. Lower quality codecs such as FR or EFR codec are used instead.	HWL	AUDIO	2
27759	On modules equipped with particular series of AMR baseband IC, the AMR speech codec cannot be activated during speech call. Lower quality codecs such as FR or EFR codec are used instead.	SYS	FEATURES	2
27820	With AT+ECHO command, when algorithm 6 is activated, changing the NmbTabs parameter from 256 to any value below 256 disables the AEC processing	HWL	AUDIO	2
27830	Using the +ECHO command, the AlgoId 3 should not be supported	AT	OTHER	2

	on Q2426			
27885	In case of a module supplied by a battery, when the power of the battery is at the lowest stage (quasi insufficient to power on the module), if the module is successfully powered on, it resets in loop till battery is completely dead or battery has more power.	GSM	OTHER	2
28217	In the RTE dialog box, the flash objects synchronization process (read from/write to the target) does not work : the data are not synchronized between the PC and the target	OTHER	OTHER	2
28283	Using +WMFM command to specify where data flows are directed (uart 1 or uart 2), CONNECT is not returned during a Data com on the right UART.	AT	OTHER	2
28376	If an Open-AT application requires an A&D recompaction process when the A&D volume is empty, or when an undefined size cell is allocated but not finalized, the recompact function lead to an exception and the module resets.	FLASH	DOTA	2
28583	Remote modem supporting the standard ATY1 command might not be treated properly by Wavecom modem	DEVICE	V24	2
28671	In RTE, if an Open-AT application sends FCM data blocks bigger than 150 bytes, the application freezes on the adl_fcmSendData function call.	OTHER	OTHER	2
28697	After entered a wrong CHV2 code using AT+CPBS="FD",<pin2>, the module stays in a blocked state (+CME ERROR: 515 is returned for all AT commands)	AT	OTHER	2
28797	With SIM cards which don't support CB Data Download STK envelop, "+CME ERROR: 13" is sent at start-up and further access to SIM are no more possible.	SIM	STK	2
28801	When FDN feature is deactivated with AT+CLCK, the selected phonebook changes from FD phonebook to SM phonebook.	AT	PHONEBOOK	2
18671	When the FDN feature is deactivated using AT+CLCK="FD",0,<pin2>, the selected phonebook is switched to SM phonebook. It should remain to the current phonebook.	AT	OTHER	3
26580	It's not possible to establish a data connection using AT+CBST=4,0,1 settings in Brazil on TIM Network. The call is rejected	AT	OTHER	3
26778	Test 44.2.1.2.8 FAILED: mandatory for GCF 3.17.0	GPRS	OTHER	3
27753	Module is unable to synchronize with Will'Tech testers at power on of the module.	HWL	RF	3
27979	The command AT+WGPSRAW does not work properly	AT	OTHER	3
28041	Bad echo cancellation efficiency during voice call when ConvergenceTime1 and ConvergenceTime2 parameters are out of range.	HWL	AUDIO	3
28047	Tests TC 20.22.4 and TC 20.22.9 FAILED (GCF 3.17 A and P)	GPRS	CELL_RESEL	3
28580	MT phonebook, previously selected with AT+CPBS="MT", is automatically switched to FD phonebook when FDN feature is enabled	AT	PHONEBOOK	3
28244	In +WMFM command, the value of <port_id> parameter should be 1 for UART 1 and 2 for UART 2	AT	OTHER	4

6.2 Integrated But Not Validated Corrections/Improvement

None.

6.3 Specificities Versus Previous Official Release on the branch

This section lists the new features from the X.50a version.

6.3.1 Specific Country Lock implementation

Specific country lock feature aims at locking a module use to a pre-determined list of countries.

⇨The use of module for not allowed countries is forbidden. In this case, the message "**SIM NOT ALLOWED FOR THIS MODULE**" is sent, the module resets and AT SIM commands are then no more available.

⇨ The module upgrade by using a specific country lock version is not reversible. Effectively, all modules upgraded by using such a version won't be allowed to use previous software version. In this case, a message "**BAD SOFTWARE**" will be displayed.

6.3.2 Open AT® everywhere

The Open AT® feature is now available across the whole M2M and auto product range including the entry-end products (GSM only and GSM/GPRS). Open AT® in available on Q2406A with the following specificities :

- Open AT® v3 support preferred, but v2.1x is also accepted,
- GSM/GPRS class 10 supported while executing an embedded application.

This feature aims at making it possible to:

- Develop and embed simple applications into a Q2406A,
- Easily port existing Open AT® v2.1x applications running onto Q2400A or Q2403A to Q2406A.

6.3.3 Implementation of LLC parameter in source code

For outgoing data calls, when modem type is set to *autobauding* by using the *AT+CBST=0* command, LLC parameter is managed so that data calls are correctly setup on all the networks.

Without the LLC parameter management, if a network does not ignore this parameter, the call is systematically rejected.

6.3.4 Activate battery charging on Q2501B

Charging the battery is now available on Q2501B module.
Command +WHCNF and +WIOM have been updated for the Q2501B battery charge.

Refer to [1] *AT Commands Interface Guide for revision X51* for more information.

6.3.5 Echo Cancellation Algorithm 6 availability on Q2426

AEC (Acoustic Echo Cancellation) and NR (Noise Reduction) have been improved on Q2400A, Q2406x and Q2501B from X42 to X43b versions. These Improvements have been implemented in a new patch available through the

algorithm 6 of the AT+ECHO command. Former algorithm 3 is still available for ascending compatibility reasons.

In the X.51 version, these improvements are now available for the Q2426 modules as well. The list of improved behaviours is given hereunder:

- Tunable half duplex mode at the beginning of the call,
- New LMS step computation,
- Comfort noise generation,
- New background noise estimation,
- New background noise reduction algorithm (X43 and further only).

Refer to [1] *Hands free audio application note* for more details on this new algorithm.

6.3.6 Long phonebook numbers management

In a SIM card, two Elementary Files (EF_{EXT1} and EF_{EXT2}) can be used as extensions by the AND, LND and FDN phonebooks to store long phone numbers.

Refer to *General behaviours* and *Phonebook command* sections in the [1] *AT Commands Interface Guide for revision X51* for more information.

6.3.7 Update of AT+WTONE (2 frequencies allowed)

This specific command allows a tone to be played on the current speaker or on the buzzer. Frequency, gain and duration can be specified.

Refer to +WTONE command in the [1] *AT Commands Interface Guide for revision X51* for more information.

6.3.8 Removal of WAP service

Since the WAP feature is no more available on X.51 version, all WAP related AT commands are no more supported by the current software version (and removed from documentation set).

6.3.9 STK Setup Call function

The aim of this feature is to enhance the SIM Toolkit setup call function. The aim of this function is to make an outgoing call when the user selects a SIM Toolkit menu item (e.g. weather, account info, bank, and so on). In this case, the module issues the call automatically, not by the applicative software.

In order to allow the applicative software to fully control call setups, it is possible thanks to this new command behaviour to initiate the call from the applicative software by using the AT command interface.

Refer to +STGR command in the [1] *AT Commands Interface Guide for revision X51* for more information.

6.3.10   Interface change : AT+WMFM

The interface of the AT+WMFM command has changed.

Refer to +WMFM command in the 2]*AT Commands Interface Guide for revision X51* for more information.

6.4 Certification Compliance

All the platforms are compliant to R&TTE EN 301 419-1 v4.1.1 and EN 301 511 v7.0.1.
The following table sums up the certifications passed for this software version or the last version that obtained a certificate.

	GCF-CC	PTCRB
Q2400A	v3.18.0	-
Q2406x	v3.18.0	-
Q2426B	-	V3.2.1
Q2501B	v3.18.0	-

6.5 Additional Information / Restrictions

This section lists additional information or restrictions that must be taken into account regarding the X.51 firmware.

6.5.1 Common to all modules

- <u>AT+WBHV</u> – When activating low consumption with WBHV command for parameter 1 or 2, the command is correctly taken into account by the module. However, either an error code can be received or OK answer can be received twice.
- <u>TCP/IP Everywhere</u> – The TCP/IP application is not activated by default. The AT+WOPEN=1 command has to be sent for TCP/IP stack activation.
- <u>Open AT®</u> – If Open AT® is activated, a reset occurs when the AT+CCED=0,1 command is used.
- <u>Open AT®</u> – If Open AT® is activated, when *at+creg=0;&w* is entered, the parameter is not saved.
- <u>Downloader</u> – It is no more possible to monitor the DCD signal (which is multiplexed with a GPIO) to launch automatic download. Indeed, the latest downloader to be used with X.51 version does not initialize GPIOs anymore.
- <u>Charge indications</u> – Charge indications are not received on Q2501B.
- <u>UART2 availability</u> – The UART2 is not available when the GPS internal mode is activated on Q2501B (see AT+WMFM chapter in the AT Command Interface Guide).
- <u>LD phonebook</u> – When the module is reset, some of the Last Dialed Numbers might have been removed from the LD phonebook.

6.5.2 Specific to A memories

- <u>Phonebook</u> – Due to the memory size constraints on module A, it is not possible to reach the maximum supported capacity (maximum number of records with maximum size for each field) regarding the ME phonebook.

- <u>Agenda</u> – A reset can occur during GPRS attachment when agenda events are stored. Consequently, agenda must not be used if the GPRS is used.
- <u>DATA CSD / GPRS</u> – Data CSD calls and GPRS sessions are not simultaneously available.
- <u>V42bis compression</u> – V42bis compression feature is not supported on A memories. If V42bis compression is enabled, DATA calls may fail systematically. The recommendation is to disable the feature with the command AT%C0.

6.5.3 Specific to Q2501B module

- <u>GPIO3</u> - Since battery charging feature is supported, GPIO3 is no more available for a customer application.

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