Customer Release Note

Open AT® Software Suite v2.11

Reference: **WM_DEV_OAT_CRN_021**

Revision: **001**

Date: **September 23, 2008**

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Document Information

Revision	Date	List of revisions	
001	September 23, 2008	Official Release	

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1 Introduction

1.1 Related Documents

[1]	ADL User Guide for Open AT® OS v6.10	WM_DEV_OAT_UGD_080
[2]	Open AT® IP Connectivity Development Guide	WM_DEV_OAT_UGD_075-002
[3]	Open AT® FW R72 Release Note	WM_PGM_OASIS_CRN_004
[4]	AT Commands User Guide for Wavecom IP 5.01	WM_DEV_OAT_UGD_076-002
[5]	WIPSoft v5.01 Release Note	WM_DEV_WIP_CRN_001
[6]	eRide GPS Core Interface	WM_DEV_C-GPS_IFS_003
[7]	C-GPS Development Kit User Guide	WM_DEV_C-GPS_UGD_001
[8]	Technical Specification for Multiplexer protocol	3G TS 27010
[9]	Tools Manual for Open AT® IDE v1.07	WM_DEV_OAT_UGD_045
[10]	Security User Manual	WM_DEV_SEC_UGD_002
[11]	Jamming Detection Manual	WM_DEV_SEC_UGD_001
[12]	C-GPS OPUS III Development Kit User Guide	WM_DEV_CGPS3_UGD_001-002
[13]	Open AT® dynamic programming with LUA reference manual	Included within the SDK
[14]	Migration document	WM_DEV_WUP_MEM_022

1.2 Delivered Version Definition

This definition lists all modifications since the **Open AT® Software Suite v2.02a Release.**

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1.3 Correction Severity Levels

The *Severity* values have the following meaning:

- 1: Critical
- 2: Major
- 3: Minor
- 4: Improvement

1.4 Open AT® Software Suite 2.11 SDK Content

- Open AT® IDE v1.07 built on Eclipse™
- Open AT® OS v6.10
- Open AT® FW R72
- Wavecom TCP/IP and Internet v5.00 Plug-Ins version
- Open AT® Security v1.01 Plug-Ins
- Open AT® C-GPS v1.07 Plug-In
- Open AT® C-GPS v3.04 Plug-In
- Open AT® GR v2.03 Plug-In
- Open AT® LUA v1.00 Plug-In
- CMUX tool V2900

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2 Open AT® Software Suite 2.11 New Services and Modified Interfaces

2.1 Open AT® OS new services and Interfaces break

For more information, please refer to Open AT® OS ADL Update

Please see the Open AT®-OS restrictions.

Please note that, since Open AT® Software Suite 2.10, the OAT Link address has been set to 0x260000.

As a consequence of the OAT Link address change, it is no longer possible to upgrade firmware with DOTA on 32MBits flash with Open AT® Firmware R72.

2.2 Open AT® TCP/IP and Internet Plug-Ins

New feature WIP:

- IP route APIs
- IP tunnel interfaces
- Read and write raw IP datagrams
- Ability to control retries
- TCP/IP Gateway - Static Routing
- MMS support
- SNMP support

NB: All features need the "ip_full" commercial feature activation

For more information, please refer to Open AT® IP Connectivity Development Guide [2] and .AT Commands User Guide for Wavecom IP V5.00 [4]

2.3 Open AT® Security Plug-Ins

A new plug-ins is available, providing the following features:

- Jamming detection API
- WIPSSL API, which provides SSL-secured communication channels to WIP
- Cryptographic API

For more information, please refer to Security User Manual [10] and Jamming Detection Manual [11].

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2.4 Open AT® C-GPS OPUS I - OPUS III Plug-Ins

The release provides two C-CPS Plugins, adapted for Opus chipset.

The source files for 3 samples are provided: Simple sample, QueryApp sample, QueryAppAiding sample.

Please note, that the C-GPS binary format samples are no more provided.

This plug-in is multi OS and Multi hardware platforms.

NB: See restriction for Query App and QueryAppAiding

2.5 Open AT® LUA Plug-In

Wavecom introduces support for dynamic language programming on embedded devices, with Open AT Lua. Check Open AT® dynamic programming with LUA reference manual [13] for more details

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3 Open AT® Firmware R72

3.1 Delivery

The Open AT® Firmware R72 is delivered on the SDK for WMP100/Q2686/Q2687/ WMP50/WMP120/WM150/FSU & variants Wireless CPU® in the Firmware delivery directory.

WARNING: If the original firmware is older than R71, it is mandatory to follow the instructions of the document describing how to migrate to R72 *before* downloading the dwl files provided for the FW R72 [14]. Otherwise an error message occurs concerning a bad header format.

3.2 Corrections

Please refer to Open AT® Firmware R72 full Release Note (see document [3]) for more information about AT commands related to new features and corrections.

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4 Open AT® OS v6.10 Update

4.1 Open AT® OS ADL API Update

4.1.1 New Features

Id	Severity	Description (What/When)	Interface Change
NEW45751	4-enhancement	[ADL Samples] RDMS Provisioning and Monitoring	yes
NEW46498	4-enhancement	[OAT] New API required to handle SIM PIN - step 1 and 2	yes
NEW47750	4-enhancement	[ADL][OASiS 2.10 - RQMT 730] new synchronization object: OS EVENT handling	yes
NEW47755	4-enhancement	[ADL][OASiS 2.10 - RQMT 703] Response time to interruption up to 20µs	yes
NEW47764	4-enhancement	[OASiS 2.10 - RQMT 637] Wireless CPU compatibility: BSP Audio adaptation	yes
NEW47801	4-enhancement	RVDS support for OS 6.10 libs	no
NEW47803	4-enhancement	[OASiS 2.10 - RQMT 630] RAM not cleared after a reset	yes
NEW47961	4-enhancement	[OS/ADL]Provide access to UARTs interface pattern in ADL	yes
NEW47962	4-enhancement	[OS sample] Provide access to UARTs interface pattern in ADL	no
NEW47968	4-enhancement	[OASiS 2.10 - RQMT 630] RAM not cleared after a reset	yes
NEW47969	4-enhancement	[OASiS 2.10 - RQMT 630] RAM not cleared after a reset	no
NEW48145	4-enhancement	RVDS support for OS 6.10 Samples	no
NEW48682	4-enhancement	Full GSM Spectrum Radio Information	yes
NEW49184	4-enhancement	[ADL] Secured ORBCOMM ID storage	yes

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4.1.2 Corrections

Id	Severity	Description (What/When)	Interface Change
ANO47297	1-high	"ADL_SIM_EVENT_PIN_NO_ATTEMPT" is only received for pin code sent with adl_simSubscribe() or adl_simEnterPIN() but not with pin code sent from external.	no

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5 Plug-Ins Update

5.1 Open AT® TCP/IP and Internet Plug-Ins

5.1.1 New Features

5.1.2 Corrections

Id	Severity	Description (What/When)	Interface Change
ANO46887	1-high	Application can't set the ethernet interface link configuration nor the promiscuous mode.	no
ANO48103	1-high	When a finalizer is specified for the HTTP SESSION channel, it is called prematurely.	no

5.2 Open AT® Security Plug-Ins

5.2.1 New Features

5.2.2 Corrections

Id	Severity	Description (What/When)	Interface Change
CUS44486	1-high	If you are using an SSL socket and if an event WIP_CEV_ERROR is generated, the memory resources used by the SSL socket are not released even if a wip_close() is called. If there is not enough available memory, the trace "ADL Get memory error" and RESET is sent, when a try to open another SSL session is made. To avoid the RESET, use the adl_errSubscribe function to trap the error (however a reset is necessary to reopen an SSL session).	no
ANO48105	1-high	When you are getting an HTTPS page through the GPRS bearer, It is possible to receive two WIP_CEV_PEER_CLOSE events instead of one.	no

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Id	Severity	Description (What/When)	Interface Change
DEV48633	2-medium	Customer cannot create their own WIP channel classes	no
ANO48115	3-low	It is impossible to connect to a SSL server if WIP_COPT_ENCRYPTION and/or WIP_COPT_AUTHENTICATION are/is set to WIP_SSL_NULL.	no

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6 Restrictions & Known Problems

6.1 Open AT® OS known Problems

Id	Description (What / When)
ANO36363	When an Open AT® application is running, after a reset (AT+CFUN=1), +WIND: 0/13/13/14 indications are returned to external application even if this application doesn't sent AT+WIND=<value>. These indications should not be returned (only internal to Open AT®).
CUS40027	Application is not able to subscribe to AT commands that are subscribed by ADL, ref : "Inner AT commands Configuration" paragraph in ADL Documentation.
ANO36583/ ANO41818	User can't use adl_atCmdSubscribe to subscribe to a command beginning by "ATA", "ATD" or "ATH" when call service is used.
CUS36584 CUS36366 CUS41816 CUS41819	Commands such as ATA, ATH and ATD can not be filtered using the API adl_atCmdSubscribe (), when FCM, Call and/or SIM services are running.
ANO36586/ ANO41821	Wireless CPU® may reset, when a huge number of bad formatted AT commands (e.g. a lot of commands are sent with 2 \r at the end) are sent from an external application.
ANO36357/ ANO41811	A GPIO is firstly subscribed as an output, but requiring a polling process. If it is set as an input (using SetDirection), INPUT_CHANGED events are never generated. If it is firstly subscribed as an input, INPUT_CHANGED events are correctly generated, even after a direction change.
CUS36693 CUS36689 CUS41832	When AT+CREG? is sent from an external application after subscription to this AT command, +CREG response is received twice because the AT+CREG? is automatically subscribed internally by application. Hence, there are two different subscriptions for the same command. This is an ADL limitation which is specified in chapter 2.4 "ADL limitations" in the ADL user guide.
CUS39061/ CUS41844	RI behavior (configured through AT+WRIM command) is not the same when an Open AT® application is running or not. This behavior should be independent of the application execution.
CUS36708/ CUS41833	Unexpected unsolicited +CREG & +CGREG events are sent by the Wireless CPU® when an embedded application is running and the AT&W command is used.

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Id	Description (What / When)
CUS38906/ CUS38905/ CUS41843	Service SIM of ADL is not in a good state when the AT+CPIN=XXXX commands is sent by the external application too quickly. A workaround is to check the PIN status like ADL (AT+CPIN?), when +SIM PIN is received wait for 1 second in order to let ADL subscribe to SIM event and then verify the PIN code. The +CME ERROR: 811 will disappear.
ANO38485/ ANO41841	When using the CMUX feature, if an application tries to send unsolicited responses too early (e.g. in the adl_main function), these ones should not be displayed on DLC ports, since they are not opened yet. As a workaround, the application should wait for the CMUX ports to be opened (use adl_portIsAvailable).
CUS36364/ CUS41815	An Open AT® application has no way to retrieve the current state of the ATE command on each external port.
ANO36593/ ANO41826	With the External_Storage sample, the chip writing process is not documented. Writing is limited to 32 data bytes, so only up to 32 data bytes can be written in a single AT command operation; all additional bytes will be ignored.
ANO43290	When a task is declared with a really too short value (e.g. 256), the Wireless CPU® resets immediately with a 190 exception.
ANO44244	Backtrace occurs when wm_sprintf( ) is using with a local or external variable in low level IRQ handler.
CUS41433	When the application subscribes to SMS service, if the Wireless CPU® receives a "+CMTI" indication before "+WIND: 16" indication, then the SMS handler is not called and it's not notified for the other SMS received later.
ANO49761	IDS Sample not functional with ADS or RVDS compiler.
ANO49342	When GPRS service is used in other task than main task, then it doesn't work.
CUS49697	Signal Generator example does not work. adl_tcuStart() or adl_tcuStop() API doesn't works in low IRQ handler, as described in ADL user guide

6.2 Open AT® IDE known Problems

Id	Description (What / When)
ANO39333	The RTE mode is not working on Windows VISTA: the RTE application is frozen and does not respond anymore.
ANO35826	Open AT® project creation systematically fails if some special characters are used for project name (&,|) in the Wizard.

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Id	Description (What / When)
CUS37359	On specific user system configurations, modifications performed during the Open AT® Software Suite installation (such as the JRE installation) are taken into account only after the computer restarts. The Setup engine is currently not able to detect such a restart need, and does not warn the user about it.
CUS42857	Sometimes, in RTE under Eclipse IDE, the linker crashes and the application is not completely built.
CUS49767	With OS versions supporting the "Uninitialized RAM area" feature, the TMT workspace generation is corrupted. TMT will be able to decode backtraces, but there will be no functions names in the backtrace log, only the functions addresses.

6.3 Open AT® TCP/IP and Internet Plug-Ins Restrictions

Please note that the SNMP sample is not provided

Id	Description (What / When)
DEV36615	When 100 mails are stored in the maildrop, the getList() may result in a reset of the Wireless CPU®.
ANO36804	In some cases, writing on a socket already shut down doesn't cause any error.
ANO35171	When GSM bearer is used, ATH from external terminal stops the bearer link.
CUS39557	GSM data call not handled properly when a TCP data channel is already established.
CUS41717	When AT+WIPCFG=0 is executed to stop the stack, the Wireless CPU® resets if the FTP/SMTP/POP3/HTTP session is active. Work Around: before closing stack using +WIPCFG=0, sockets/sessions should be closed first (using +WIPCLOSE AT command), then bearers should be stopped (using +WIPBR AT command), then bearers should be closed (using +WIPBR AT command) then IP stack can be closed (using +WIPCFG=0 AT command).
ANO42797	Wireless CPU® will reset when WIP _CEV_READ event occurs while reading a file from POP3 Server over GPRS.
CUS46367	WIP_COPT_POP3_MAILSIZE option will return the value received by the 'LIST n' command and no the 'RETR n' command.
ANO46900	[WIP / CMUX] It is impossible to create a PPP connexion on MUX UART

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Id	Description (What / When)
ANO47516	[WIP/RTE] RESET when launching an WIP application by RTE using ECLIPSE
ANO49267	Customer may be limited on the number of connexion that can be simultaneously handled.
ANO45470	While sending data from the UDP socket, an extra ETX character is received at peer UDP socket end and further data can't be sent from the same sender UDP socket side to the peer
ANO49013	[WIP] : WIP_BOPT_ETH_PROMISC boolean value is not taken into account when wip_bearerSetOpts() is called
ANO49014	[WIP] : WIP_BOPT_ETH_ALLMULTI boolean value is not taken into account when wip_bearerSetOpts() is called
ANO48818	Cant go back in data mode after +++ when using UART PPP bearer
ANO49116	FINALIZER option doesn't work with ip tunnel channels

6.4 Open AT® Security Plug-Ins Restrictions

Id	Description (What / When)
ANO47945	The following options of the GetOpts function don't work correctly or provide unintelligible results: WIP_COPT_PUB_KEY, WIP_COPT_EXT_CRITICAL, WIP_COPT_PUB_KEY_ALGO and WIP_COPT_SIG_ALGO. It is recommended not to use these options.
ANO48185	TLS Ciphers are being used while SSLV3 version is used during channel creation. Though, the channel is created successfully as the client is able to handshake properly with the server but the underlying protocol used is not correct.
ANO50375	In case of big transfer, customer should use smaller buffers or increase the internal SSL write buffer size to send its data

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6.5 Open AT® C-GPS Plug-In OPUS I Restrictions

Id	Description (What / When)
DEV36673	Performance of C-GPS in RTE mode are degraded because processing Open AT® application in RTE mode is slower than in target mode.
ANO41489	When the stack is under heavy work loads, one second NMEA data send from Open AT® application to UART1 and USB is lost. This issue is systematic on the sample application (QueryApp) after processing the app several hours.
ANO41514	When the position pinning function is enabled, the core will not unpin the position until the position error of over 20 m between the pinned position and the latest GPS measurement.

6.6 Open AT® C-GPS Plug-In OPUS III Restrictions

Id	Description (What / When)
ANO47943	Sample QueryAppAiding - Module reset after AT+ERAID
ANO48517	When an application tries to switch on "pass-thru" mode, if it changes the UART baud to dot it, then the application tries to subscribe again to GPIOs and writes them. This action causes a WCPU reset with the chipset Opus III. A workaround to prevent from resetting is to changes the source code as described in the Annex §5
N/A	Samples documents such as readme.html, provided in the plug-in, are in preliminary format, and some responses return by AT commands are different from those indicated in the document.
N/A	On OASIS 2.01, with FW R7.1, the C-GPS plug-ins can only be used with Nanoride hardware. With the chipset Opus III, the plug-ins C-GPS will only work with version of Firmware superior or equal to R7.1a (OASIS 2.02).
N/A	with Nanoride hardware; the parameter"OPUS_III_CHIPSET_ePV36" must not be defined; In the QueryApp sample this define must be removed, to be used on Nanoride hardware.

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7 Memory Information

7.1 With ADS compiler

Details:

	WIP Library	WIPSoft Library
Size	611kbytes	110kbytes
Max RAM size used	7.65kbytes	4.55kbytes

WIPSoft binary

Binary size: 145kbytes

	WIP Library (KB)	WIPSoft Library (KB)	RAM size use by lib+ appli (KB)
RAM size	5.19	4.55	10.78

7.2 With GCC compiler

Details:

	WIP Library	WIPSoft Library
Size	6309 kbytes	790 kbytes
Max RAM size used	X	X

WIPSoft binary

Binary size: 192kbytes

	WIP Library (KB)	WIPSoft Library (KB)	RAM size use by lib+ appli (KB)
RAM size	5.19	4.55	12.9

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7.3 With RVDS compiler

Details:

	WIP Library	WIPSoft Library
Size	593 kbytes	95kbytes
Max RAM size used	7.64	4.55

WIPSoft binary

Binary size: 138kbytes

	WIP Library (KB)	WIPSoft Library (KB)	RAM size use by lib+ appli (KB)
RAM size	5.19	4.55	10.68

For more information about how to handle RAM and Flash with Open AT® applications, please refer to documentation [1]

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