



Open AT® OS & Plug-Ins

Software built for embedded applications

Developing wireless products used to be a tricky and costly business with complex software and hardware architectures to consider with all of the incompatible interfaces that glue them together. That has all changed with the introduction of the Wireless CPU and Open AT® Software from Wavecom. By combining an application processor, Operating System, Plug-Ins and Integrated Development Environments with wireless capabilities such as cellular, Bluetooth® and GPS, you now have access to the most powerful and integrated wireless development solution in this industry.

COMPREHENSIVE PORTFOLIO

Open AT® Software consists of Open AT® IDE, Open AT® Applications, Open AT® Plug-Ins, Open AT® OS and Open AT® Firmware.

PURPOSE BUILT

Open AT® Software is the only software platform created specifically to meet the demanding requirements of the M2M industry and has evolved to efficiently serve Automotive and Mobile Professional segment needs too. Open AT® Applications are written in C and run natively on top of a real time OS, with a minimum memory footprint and processor resource overhead.

BE PART OF THE FAST GROWING OPEN AT® DEVELOPER COMMUNITY

By exchanging application software and experience on the Open AT® Developers Forum, you not only benefit from Wavecom's knowledge, but can also leverage on your peers' experience.

INNOVATION GUARANTEED

Because you innovate, so do we and that's why you can sleep at night with the knowledge that we will continue to adapt to your needs, quickly. And how can we do this? Because we are the only platform vendor who owns our own software.



wavecom[®]
Make it wireless



Open AT® OS

Operating Systems with a difference

The Open AT® Operating System is the heart of the Wavecom family of wireless solutions. It is the brain that *thinks, acts, does* and makes Wavecom products more than simple bit-pipe modems - they are highly sophisticated and powerful computing platforms. What this OS does differently is that it not only provides you with core embedded programming capability, as you would expect from any embedded processor operating system, but it adds to this, the capability to connect to globally standardized cellular wireless networks. Built-in connectivity to the Internet, without wires, means that your application can now fly.

Now you don't need to consider a separate application processor and a data modem because we have combined the two and created a solution that is not only tailored to your needs but actually saves you money.

Open AT® Software							
Open AT® IDEs							
Open AT® built on Eclipse							
Open AT® GTI							
M2M Developer Suite*							
Open AT® Applications							
Open AT® Plug-Ins							
312 IBM MQTT	313 M2M Connect	407 TCP/IP	410 Internet	415 Bluetooth	430 C-GPS	420 Security	505 GTI
Open AT® OS							
RTOS	VariSpeed						
DOTA I, II, III	MultiApp						
Time Slice	MultiPlug-In						
Open AT® Firmware							
Device Drivers	GSM / CDMA / W-CDMA						
	Bluetooth Other Wireless						

TOTAL COST OF OWNERSHIP: *be financially efficient*

Many of our customers have proven that by using the embedded application capabilities of Open AT®, they save money on product material costs, time to market costs and post sales field maintenance costs. See for yourself in our customer Open AT® Application Gallery at www.wavecom.com/gallery.

REAL TIME: *do it now and do it fast*

Because we own our software, we have the ability to make significant innovative steps in our portfolio. RTOS is one such step. It allows you to embed time critical processes, ensuring guaranteed response time to hardware timers and external interruption through a low level interruption handler.

DOWNLOAD OVER THE AIR: *investment protection*

With an increasing number of features being introduced by cellular network operators, Wavecom and of course yourself, it pays to invest in a solution that allows you to not only download your Open AT® Application over the air but the entire Open AT® Software as well. This functionality is the single biggest factor in reducing preventative maintenance costs for M2M applications.

PERIPHERAL CONNECTIVITY: *connect anything to anything*

The markets we serve are all about connectivity. It may be connecting physical sensors, bus driven peripherals or external devices such as displays, keypads and memory. It may be connecting to the Internet via GSM, GPRS and EDGE cellular networks. It may even be connecting to local wireless peripherals such as Bluetooth and GPS. Whatever it is you want to connect to, the Open AT® OS is there to make it both a reality and easier.

* M2M Developer suite is a partner IDE from Anyware Technologies.



Open AT® Plug-Ins

Plug in to enhanced creativity

The Open AT® OS is at the heart of the system, but what about complimentary add-on functionality? Wavecom's Open AT® Software has been structured to allow new functionality to be added in the form of Open AT® Plug-Ins. Several Open AT® Plug-Ins already exist today and new ones are being added all the time, bringing yet more architecture efficiency enhancements in addition to added value features. With further enhancements in new releases of the Open AT® OS, it will be possible to benefit from multiple Open AT® Plug-Ins running concurrently on the Wireless CPU of your choice.

There are several ranges of product offers that allow you to select the best combination of features for your product:

STANDARD EMBEDDED RANGE

Series 405	Open AT® OS
Series 407	Open AT® OS + TCP/IP Plug-In
Series 410	Open AT® OS + Internet Plug-In
Series 415	Open AT® OS + Internet Plug-In + Bluetooth
Series 420	Open AT® OS + Internet Plug-In + Security*
Series 430	Open AT® OS + Internet Plug-In + C-GPS*

GRAPHICAL TURBO INTERFACE RANGE

Series 505	Open AT® GTi
Series 507*	Open AT® GTi + TCP/IP Plug-In
Series 510*	Open AT® GTi + Internet Plug-In

Note: Open AT® GTi includes the Open AT® OS, Open AT® GTi Plug-In, Open AT® GTi IDE & Wavecom University services. Refer to separate IDE brochure for more details.

SOLUTION SPECIFIC RANGE

Series 312	Open AT® OS + IBM MQTT Plug-In
Series 313	Open AT® OS + Orange M2M Connect Plug-In

The **TCP/IP Plug-In** enables your Wireless CPU to be connected to the Internet while the Internet Plug-In adds additional embedded client functionality such as Email and File Transfer.

Controllerless Bluetooth, another first from Wavecom, represents additional system efficiency from both a space and cost perspective. The Bluetooth stack and profiles are embedded within the Open AT® Software with which, with the addition of a reduced functionality controllerless (no microprocessor) chipset, a complete Bluetooth system can be realised.

The **Security Plug-In** adds encryption, authentication and non-repudiation to the air interface in addition to anti-tampering detection and avoidance.

Controllerless GPS is similar to the controllerless Bluetooth solution whereby the GPS stack is embedded as an Open AT® Plug-In, again allowing a reduced RF GPS chipset to be used to create an optimally efficient location solution.

* available in 2006

OS & Plug-In Features

KEY FEATURES

Open AT® OS	Execute embedded applications, making use of up to 16MIPS of ARM9 power (Q2686/Q2687)
RTOS	Benefit from 1ms interrupt latency, multiple interrupt management, high granularity timers and guaranteed response times
VariSpeed	Control the clock frequency of the Wireless CPU to tune the performance of your application
VariPower	Further tune the performance with a set of low current consumption modes, even disabling the network connection to reach as low as 17µA
DOTA Type I	Download your Open AT® Application remotely, over-the-air, and never have to upgrade software in the field again
DOTA Type II	Download the Wavcom Open AT® OS remotely, over-the-air, and remain compatible with cellular infrastructure for years to come
DOTA Type III	Download only the parts that have changed of either your Open AT® Application, or the entire Wavcom Open AT® Software
Embedded Application APIs	More than 440 programming interfaces available to enthuse creativity
External Commands	More than 320 "AT Commands" (AT refers to the Hayes compatible standard which is expanded by 3GPP for cellular use)
Custom Commands	Programmable interface to allow custom AT commands to be developed
Virtual Ports	Standardised multiplexing (CMUX GSM 27.10) allowing multiple applications to use the same physical link
Data Logging	Measure, store and forward sensor data to remote servers using 3 libraries: LogIT: Collect Data from the ADC and use programmable event triggers FileIT: Store formatted logged data and manage report creation and deletion SendIT: Manage seamless report sending over any available bearer
Cellular	Voice/Fax/SMS/CSD/GPRS/EDGE/CDMA1xRTT

OPEN AT® SOFTWARE COMPATIBILITY AT A GLANCE

	OS VERSION					OS VERSION				
	6.40	6.50	6.60	Next Gen		6.40	6.50	6.60	Next Gen	
Plug-In Type	Series 505: GTi	• (6.56)	•	•	Wireless CPU	Q2687			•	•
	Series 430: C-GPS		• (6.61)	•		Q2686			•	•
	Series 420: Security			•		Q2501		•		
	Series 415: Bluetooth	• (6.55)	•	•		Q2406 & Q2426	•	•		
	Series 410: Internet	•	•	•	•	M1306 & M2106	•	•		
	Series 407: TCP/IP	•	•			Q2438			WZ series	
	Series 313: M2M Connect	•								
	Series 312: IBM MQTT	•								

Please visit our customers who have benefited from Open AT® Software at: www.wavcom.com/gallery

Join the Open AT Developers Forum at: www.wavcom.com/forum

Download product literature, including application notes with free source code at: www.wavcom.com/support



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