



# W24 Wi-Fi Module

Delivering seamless mobility to the M2M world



**MOTO2MOTO**

# Hello Wi-Fi

- bg** 802.11b/g
- Ad-Hoc
- Compact Size
- RoHS
- Ext. RF
- EPRS Wi-Fi Data Routing
- Internal WEB Server
- Over The Air
- Internal TCP/IP, UDP
- SMT/POP3 - e-mail
- FTP - File Transfer
- Highly Secured Connection

## Let's talk Wi-Fi.

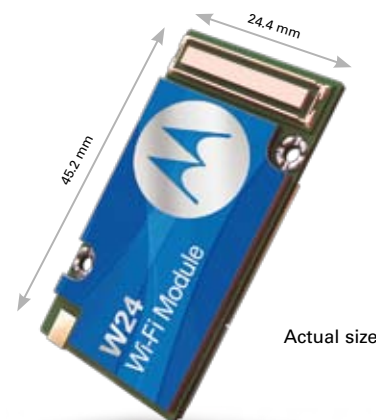
Introducing the new Wi-Fi M2M module, the ultimate communication solution for multiple M2M devices concentrated in a single area. With easy and secure Wi-Fi access to internet and data connections, the W24 was designed to meet your needs for cost effective and secure broadband access for M2M applications.

## Single design – dual use.

The W24 does more than Wi-Fi connectivity. Now, M2M projects that require both broadband (Wi-Fi) locally and real-time (cellular) for remote access can exploit a single design solution. The W24 utilizes the same form factor as the other members of the Motorola M2M family, so you can leverage existing designs for easy and fast integration. In addition, the W24 can be stacked seamlessly with the G24 GSM module for smooth Wi-Fi to cellular data routing.

## Wireless reality you can trust.

Motorola's W24 embeds your Wi-Fi with serious security. It incorporates proven security protocols along with an additional security block between the host device application and the Internet. This way your surveillance cameras or any other devices equipped with W24 can securely transfer data to any access point. This is how we at Motorola help you create a safe wireless reality you and your customers can trust.



## You can standalone.

The W24 was built to stand on its own. Motorola invested it with so many resources and capabilities, it's practically plug and play with your existing designs. The W24 offloads the Internet communications task from the host application. So even without any Internet programming resources of your own, you can quickly Internet-enable your devices by inserting just a few commands in the application. Effortlessly, the W24 can get your product to market faster than ever.

### Best of both worlds.

Many M2M projects can utilize broadband for local IP access but need real-time access for remote data communication. With the W24 you can do both. As a dual modem device the W24 enables data communication in both Wi-Fi and GSM/GPRS/EDGE. In addition, the W24 includes built-in connectivity to the G24 module for Wi-Fi - cellular data routing.

### Dual advantage.

The W24/G24 stack leverages a single design, and is therefore a perfect solution for M2M applications requiring both communication types, like fleet management, security or AMR devices. W24/G24 allows multiple tasks: the W24 provides broadband Internet access for data collection and downloading at the local dock, while the G24 is used as a backhaul to monitor in real time. This dual use of our wireless modules is just one more advantage of Motorola's core competencies and experience in the wireless ecosystem. That puts more seamless mobility in your M2M world.

### You know the family.

With over 80 years of setting the tone in the communication industry, Motorola continues to set the standards for M2M systems. At Motorola we hold our products and manufacturing up to the highest industry standards. We've created proprietary testing and support procedures that help you get your M2M applications to any market in a flash, whether for telematics, fleet

management, security, automation & remote control, or vending machines. With our continuous efforts to innovate and upgrade, Motorola is a name you can rely on.



# W24 Wi-Fi Product Specifications

## Product Features

### Supported Specifications:

- IEEE 802.11b, IEEE 802.11g
- Support 3 different channel configurations:
  - USA (11 channels)
  - Europe (13 channels)
  - Japan (channel 14)

### Wireless Connection Modes

- Infrastructure Station Mode
- Ad-Hoc Station Mode (IBSS)

### Physical

- W24 Size: 24.4 x 45.2 x 5.3 mm
- W24 & G24 stack: 24.4 x 45.2 x 11.6 mm
- Mounting: two 2.4 mm holes
- Weight: 10 gram

### Environmental

- Operating Temperature: -30°C to +85°C
- Storage Temperature: -40°C to +85°C

### Firmware Upgrade

- Firmware upgrade Over The Air (OTA)
- Firmware upgrade via UART/USB

### Internal Web

- Embedded WEB Server
- Internal WEB Site

## Performance

### Operating Voltage

- Voltage: 3.3 - 4.2V

### TX Power

- 802.11b: 17dBm
- 802.11g: 15dBm

### Typical RX sensitivity

- 802.11b: -86dBm @ 11Mbps (10dB margin on top of spec)
- 802.11g: -71dBm @ 54Mbps (6dB margin on top of spec)

## Interfaces

### Connectors

- Two 70 pin board to board (For host device and "24" form factor connections)
- RF MMCX

### Connectivity to Host and G24

- 2x UART: BR from 2400 bps to 230.4 Kbps
- Auto BR
- Optional extended BR up to 3 Mbps
- USB 2.0 full speed

## Regulatory and Approvals

- FCC
- R&TTE/CE
- IC CANADA

## Data Features

### Wi-Fi Data Rates

- 1 Mbps – 54 Mbps (automatic fallback)

### Modulation Schemes

- 802.11b – BPSK, QPSK, CCK, DSSS
- 802.11g – BPSK, QPSK, 16-QAM, 64-QAM, OFDM

### Embedded Protocols

- TCP/IP and UDP protocol stack
- FTP
- SMTP/POP3 (email)
- HTTP client and server
- DHCP client and server
- PPP
- Telnet
- DNS

## Security Features

### Security Block

- HW security Block between the host device application and the Internet

### WLAN Security Protocols

- WEP
- WPA2

### Encryption

- SHA
- AES
- 3DES

### General Protocols

- SSL3
- TLS1

### Authorization

- W24 remote configuration and firmware upgrade only by authorized users.

## Control / Status Indications

### W24

- Wake up in/out
- Antenna presence detect

### W24 & G24 Stack

- 8 GPIO's
- 3x A2D general purpose converters

## Command Sets

### W24

- AT+i™ command set - for W24

### W24 & G24 Stack

- GSM 07.05, 07.07, 07.10 – for "24" form factor
- Motorola proprietary AT commands – for "24" form factor

For more information contact us at: [M2M.Sales@motorola.com](mailto:M2M.Sales@motorola.com)



[www.motorola.com/m2m](http://www.motorola.com/m2m)



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