



GS2011M Wi-Fi Adapter Board

PRODUCT OVERVIEW

The Wi-Fi Adapter Board (WAB) is a GS2011MIZ Wi-Fi module based hardware adapter board that can be interfaced to a microcontroller (MCU) development board to enable Wi-Fi connectivity in MCU based applications. It provides the means to evaluate the capabilities of GainSpan's low-power GS2011MIZ Wi-Fi modules and Serial-to-Wi-Fi embedded software, and develop software for MCU host-based Wi-Fi enabled devices.

The WAB supports IEEE 802.11b/g/n protocols and includes a GainSpan GS2011MIZ soldered down module. It communicates with the MCU over the SPI or UART interface. It is designed to plug into various MCU development platforms such as RL78, RX62/RX63, RX100/200/600, SuperH and others, using the PMOD and Application Header interface. The boards have built-in external flash for reliable over the air firmware upgrade, factory restore configuration as well as data storage for web pages.

The WAB comes with pre-loaded Serial-to-Wi-Fi application firmware that supports complete Wi-Fi and networking stacks, Wi-Fi and application layer security, Wi-Fi and IP network configuration web pages, as well as the Limited AP capability for ease of provisioning. The Serial-to-Wi-Fi embedded software allows devices and appliances manufacturers to easily add Wi-Fi capabilities to their products with minor impact on the host microcontroller firmware. Small-footprint drivers and reference code are available for a variety of MCUs.

Software and documentation for the WAB is available on the GainSpan customer support portal.



BENEFITS:

- **Wi-Fi Adapter board for enabling Wi-Fi connectivity in MCU based applications with minor impact on host firmware**
- **Easy integration of Wi-Fi and web connectivity with MCU based embedded devices, over UART or SPI interface**
- **Allows evaluation of capabilities of the GS2000 SoC and enables customer application development**
- **Serial-to-WiFi software allows easy addition of Wi-Fi capabilities to hosted embedded system using AT commands**

FEATURES:

- **Highly integrated, ultra-low power 802.11b/g/n GS2011MIZ Wi-Fi modules**
- **PMOD and Application header interfaces to plug into MCU development platforms**
- **Multiple serial ports**
 - **UART: up to 921 Kbps**
 - **SPI: up to 30MHz (master mode) 10MHz (slave mode)**
- **Programmed with Serial-to-WiFi software including**
 - **Full Wi-Fi and networking stack - Wi-Fi security (WEP, WPA/2), WPS, TCP/UDP/IP, DNS, DHCP, HTTP/s, DTLS, CoAP, TLS/SSL**
 - **Complete set of AT commands to communicate with the host MCU**
- **Push buttons for Factory Restore and Reset**
- **Jumpers for serial interface selection and power measurement**

WI-FI ADAPTER BOARD SPECIFICATIONS

Feature	Description
RF Module	GS2011MIZ Ultra-Low Power Module
Radio Protocol	IEEE 802.11 b/g/n, 2.4GHz
Antenna Type	Ceramic Antenna
Power Source	PMOD or Application Header Connector
I/O Interfaces	UART, SPI, GPIO
Push Buttons	Factory Restore and Reset
Jumpers	UART or SPI Selection, Current Measurement
Connector	PMOD and Application Header Interface
Serial Flash	External Flash for storing web pages or firmware code base for factory restore

WI-FI ADAPTER BOARD ORDERING INFORMATION

ITEM	PART NUMBER	Description
GS2011M Wi-Fi Adapter Board	WAB-GW-GS2011MIZ	802.11b/g/n Wi-Fi Adapter Board with a GS2011MIZ module