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GainSpan Corporation
WAB-GW-GS2011MIZ

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PRELIMINARY PRODUCT BRIEF

# 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**

PRELIMINARY PRODUCT BRIEF

## 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 |

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