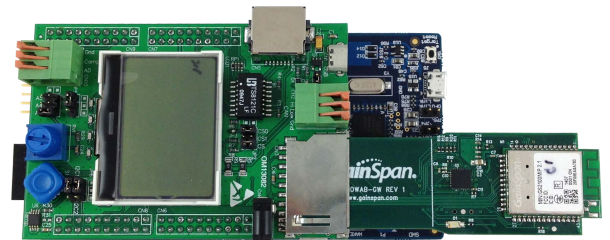# GS2100M SDIO Wi-Fi Adapter Board

PRODUCT OVERVIEW

The SDIO Wi-Fi Adapter Board (WAB) is a GS2100MIP Wi-Fi module based hardware adapter board that can be interfaced to the SDIO interface of a host microcontroller / SOC. SDIO WAB provides the means to evaluate the capabilities of GainSpan's low-power GS2100MIP Wi-Fi modules and Serial-to-Wi-Fi embedded software, and develop software for MCU host-based Wi-Fi enabled devices.

The SDIO board includes the GainSpan GS2100MIP module and supports IEEE 802.11b/g/n protocols. It communicates with the MCU over the SDIO interface and is designed to plug into the SDIO interface on various MCU development platforms such as Renesas RZ and SH series, Freescale Tower K60, ST Micro STM32 development platforms and others. The modules on the board have built-in flash for reliable over the air firmware upgrade, as well as data storage for web pages.

The SDIO board 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:

- **SDIO 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 to MCU based embedded devices with microcontroller, over SDIO 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 GS2100MIP Wi-Fi modules**
- **SDIO interface compliant with v2.0 specifications**
    - **Device mode only**
- **UART port (921 Kbps) for program loading**
    - **Can also be used as host I/F with PC (only one host I/F at one time)**
- **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 CoAP, TLS/SSL**
    - **Complete set of AT commands to communicate with the host MCU**
- **Switches for Run/Program mode selection**

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SDIO WI-FI BOARD SPECIFICATIONS

Feature	Description
RF Module	GS2100MIP Ultra-Low Power Wi-Fi Module
Radio Protocol	IEEE 802.11 b/g/n, 2.4GHz
Antenna Type	PCB Trace
Power Source	SDIO Interface or USB (SDIO and USB are mutually exclusive; only one can be connected at once)
I/O Interfaces	SDIO or USB-UART
Switches	Run/Program, PC Control
Connector	SDIO, Mini-USB
Serial Flash	On-module Flash for storing web pages and firmware code

SDIO WI-FI BOARD ORDERING INFORMATION

ITEM	PART NUMBER	Description
SDIO Adapter Board	SD-GW-GS2100MIP	802.11b/g/n SDIO Board with a GS2100MIP module