GainSpan GS1011MIC Low Power Wi-Fi® Module with Connector

PRODUCT OVERVIEW

The GS1011M family of fully certified modules offers a quick, easy and cost effective way for device and appliances manufacturers to add Wi-Fi capabilities to their products. As opposed to other GS1011M soldered down modules the GS1011 MIC uses a 30 pin connector. The module provides serial UART connection to any embedded design utilizing an 8/16/32-bit microcontroller via simple commands. The GS1011M family is an ideal solution for organizations with limited or no Wi-Fi or RF expertise, as it not only dramatically reduces RF design time but also removes the burden of testing and certification, allowing customers to focus on their core application, product or expertise. The module supports data rates up to 11 Mbps, is compliant with 802.11b and meets regulatory and Wi-Fi Alliance requirements.

Multiple software configurations are available for the stack running on the module. For applications utilizing a small 8 bit microcontroller host, the module supports a serial to Wi-Fi function and runs the full Wi-Fi and TCP/IP networking stacks, completely offloading the host. The module includes access to ADC pins for connecting sensors for applications that plan to develop a Wi-Fi based sensor device. In addition, it supports WEP/WPA/WPA2 security, Web Server as well as Wi-Fi Protected Setup (WPS) for ease of provisioning.

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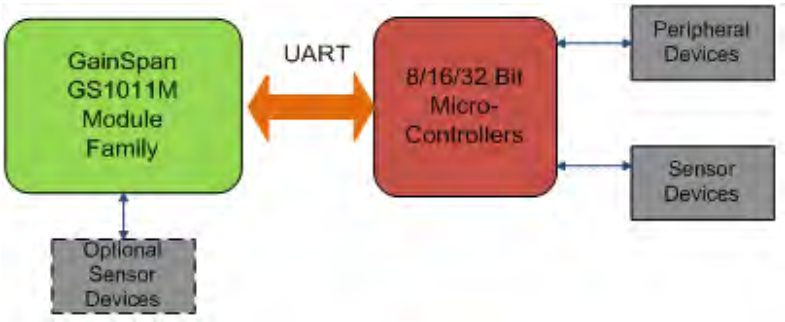

GS1011MIC based Embedded Design

The module has a 30-pin connector that brings out the I/O connection and includes a PCB trace antenna. The module is US (FCC/IC), Europe (ETSI) and Japan (TELEC) certified.

SKUs	Power Amplifier	Antenna Option
GS1011MIC	Internal PA	PCB Trace Antenna

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BENEFITS:

- **Brings Wi-Fi and web connectivity to any device with a microcontroller and serial HOST interface (UART)**
- **Reduces development time, testing and certification burden, accelerating time to market**
- **Fully contained solution minimizes host processor loading when needed**
- **Easy device provisioning through Limited AP (embedded web pages) or Wi-Fi Protected Set-up (WPS)**
- **Ultra low power consumption through dynamic power management**
  - **Sleep, Deep Sleep, Standby**

FEATURES:

- **Operates with standard 802.11 b/g/n access points at speed up to 11 Mbps (802.11b)**
  - **Infrastructure, Limited AP or Adhoc**
- **Supports data rates of up to 921.6 kbps on UART**
- **Firmware provides full Wi-Fi and networking stack services including TCP/UDP/IP, HTTP, DNS, DHCP and SSL**
- **802.11i Security**
  - **WEP, WPA/WPA2 Personal**
  - **WPA/WPA2 Enterprise**

MODULE HIGHLIGHTS

- **Power source: 3.3V or 1.8V I/O, 3.6V Battery**
- **Certification: FCC/IC, ETSI, TELEC**
- **Rich I/O interfaces : UART, GPIO, I2C, ADC, PWM**

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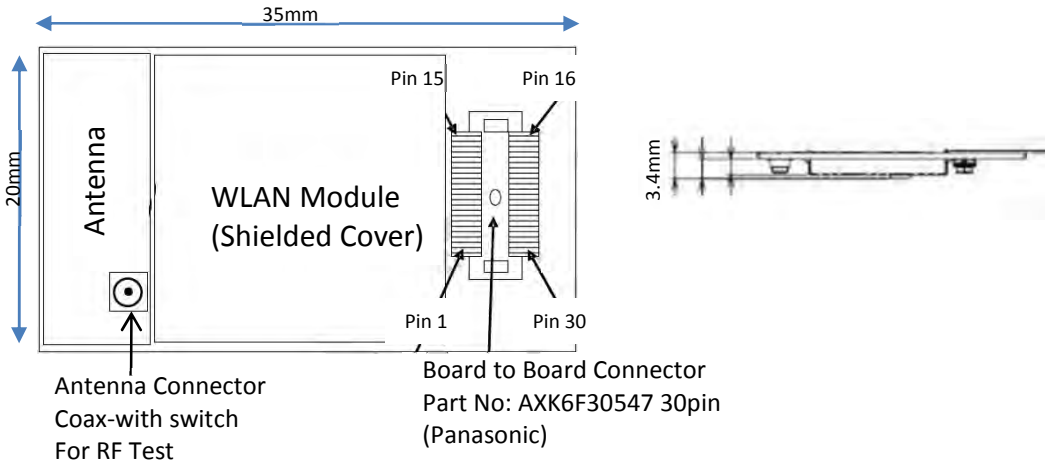
GS1011M MODULE SPECIFICATIONS

Radio Protocol	IEEE 802.11b/g/n Compatible
RF Output Power (Typical)	9 dBm
RF Operating Frequency	2.4 - 2.497 GHz
Supported Data Rates	11, 5.5, 2, 1 Mbps (802.11b)
Antenna	PCB Trace (Peak gain 1.7dBi, VSWR 2.0 max, Polarization: Linear)
Operating Temperature	-10° to +70°C
Security Protocols	WEP, WPA/WPA2 Personal, WPA/WPA2(EAP-FAST, EAP-TLS, EAP-TTLS, PEAP)
Networking Protocols	UDP, TCP/IP, DHCP, DNS, HTTP Client and Server, SSL
Certifications and Compliance	FCC, IC, Japan, ETSI, RoHS
I/O Interfaces	UART (2), I2C, ADC (3), ALARM, GPIOs, PWM
Outline Dimensions (mm)	35×20×3.4
Power Source	3.3V or 1.8V VDDIO, 3.6V VBATT
Connector	0.5mm Pitch, 30-pin B - to- B Connector

Top View



Pin No	Description	Pin No.	Description	Pin No.	Description
1	ADC1	11	UART1_TX/GPIO2	21	GPIO10/PWM0
2	ALARM2	12	VDDIO	22	GPIO11/PWM1
3	ADC2	13	UART1_RX/GPIO3	23	GPIO20
4	EXT_RESET#	14	UART1_RTS/GPIO27	24	GPIO21
5	DC_DC_OUT (1.8V)	15	I2C_DATA/GPIO8	25	UART0_CTS/GPIO24
6	UART0_RTS/GPIO25	16	GND	26	GPIO31/LED1
7	VDDIO	17	GND	27	GPIO30/LED0
8	UART0_RX/GPIO0	18	VBATT	28	GND
9	UART1_CTS/GPIO26	19	DC_DC_CNTL	29	ALARM1
10	UART0_TX/GPIO1	20	I2C_CLK//GPIO9	30	ADC3

TARGET APPLICATIONS

GainSpan's GS1011MIC module is easily designed into embedded systems, allowing customers to develop a broad array of devices and appliances that will connect to the Internet. In applications such as healthcare and fitness, smart energy, industrial controls, commercial/building automation and consumer electronics.