



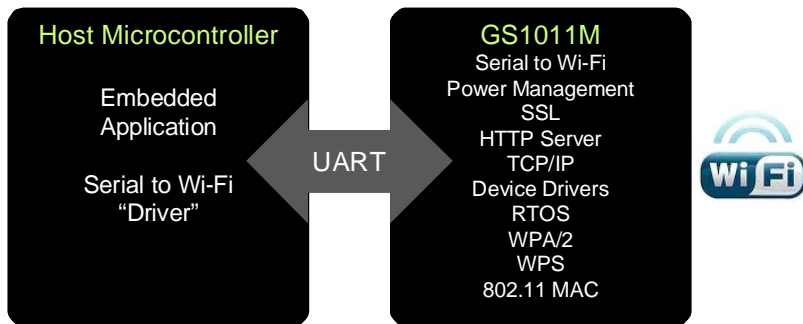
GainSpan Serial to Wi-Fi® Evaluation Kit



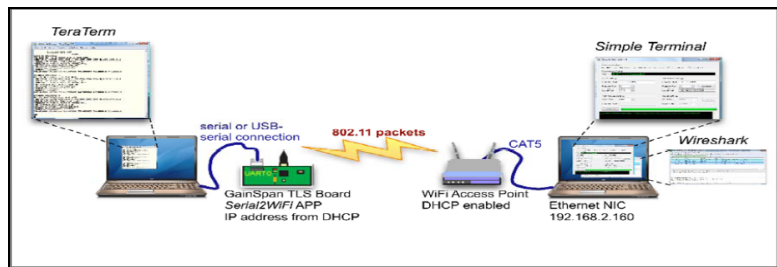
PRODUCT OVERVIEW

The Serial to Wi-Fi Evaluation Kit provides GainSpan's customers the mean to evaluate the capabilities of the GS1011 ultra-low power wireless system-on-a-chip and the Serial to Wi-Fi embedded software for Wi-Fi networks. 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.

The Serial to Wi-Fi Evaluation Kit provides all the hardware and software necessary to quickly set up a serial (UART) based link to a PC or external microcontroller. In order to evaluate the ease of adding secure Wi-Fi communications to a product using GainSpan's AT command set, the kit includes all the software tools necessary for configuration of Serial-to-Wi-Fi and GS1011 modules, data transfer using "AT" command-set and protocol analyzer for validation of packet & frame fields.



The Serial to Wi-Fi Evaluation Kit enables GainSpan customers to develop software on their existing microcontrollers to support the "AT" command set, and connect it to the serial interface on the evaluation kit reference board.



The evaluation kits ship with serial-to-Wi-Fi binary pre-loaded. Additional binaries are included in the kit to download to the module for evaluating other features and capabilities such as Wi-Fi protected Setup (WPS), Enterprise Security (EAP), RF Testing and Temperature and Light Sensing (TLS).

BENEFITS:

- Easy in-field provisioning with WPS or embedded configuration web pages
- Easy integration of Wi-Fi connectivity to devices with existing microcontroller serial interface
- Minimal Serial to Wi-Fi "driver" footprint on host microcontroller and minor changes to existing host MCU firmware
- Offloading of smaller host microcontrollers from the Wi-Fi and TCP/ IP networking
- Simple AT commands for configuration and data communication
- Support for over the air firmware updates on GS1011

FEATURES:

- Data rates:
 - UART: up to 921 Kbps
- Embedded Web server & configuration web pages
- SSL
- TCP/UDP/IP
 - TCP/UDP connections
 - DNS
 - Static IP or DHCP
- 802.11 b/g connection
 - Infrastructure and Ad hoc modes
- Wi-Fi Security
 - WPA/2-personal
 - WPA/2-enterprise
- Wi-Fi Protected Setup (WPS)
- Power Management
- Temperature and Light Sensor Application



AT COMMAND SET

The ‘AT’ command set supports the full range of capabilities provided by the underlying GainSpan network services software that abstracts the complexity of IP networking and Wi-Fi communication from the embedded application while giving it complete control over the AT command set.

Types	Commands
Serial Interface Configuration	Set Serial Parameters such as baud rates, Hardware flow control
Profile Management	Load/Save/Restore profiles for auto connection
Wi-Fi Interface	Set/query MAC address, Scan/associate/disassociate with Wi-Fi network
Security	Enable/set security for WEP, WPA/2 Personal, Enterprise,
Network interface	Static or DHCP, DNS lookup
Connection management	TCP/UDP client/server, Open sockets, Close connections
Power management	Enable/disable deep sleep and standby for low power consumption
Services	Upgrade firmware, RF Testing

EVALUATION BOARD SPECIFICATIONS

Feature	Description
Radio Protocol	IEEE 802.11b
Module	GS1011MIP-EVB – Low Power Module – Internal PA and PCB Internal Antenna GS1011MEP-EVB – Extended Reach – External PA and PCB Internal Antenna GS1011MEE-DB – Extended Reach – External PA and External Antenna
RF Output Power (Typical)	9 dBm with GS1011MIP-EVB 18 dBm with GS1011MEP-EVB or GS1011MEE-DB
Radio Frequency	2.4 – 2.497 GHz
Antenna Type	PCB Trace Internal Antenna or u.FL connector for external Antenna
I/O Port	6-pin serial UART interface (15540 compatible); DB9 RS232 Connector
Power Source	Two 1.5 V Lithium Batteries with GS1011MxP-EVB 3.3V DC Power Adapter with GS1011MEE-DB

EVAL KIT CONTENTS

ITEM	Description
Evaluation Board	Either GS1011MIP-EVB or GS1011MEE-DB
USB Memory Stick	Installation software for module firmware, Documentation and Tools
Batteries or AC adapter	Two 1.5V Lithium AA Batteries or 3.3V DC Power Adapter
Wi-Fi Access Point	Off the Shelf Wi-Fi Access Point for out of box functionality
Serial Cable	6-pin or DB9 serial cable for connection to host
Software Tools	TeraTerm --- Open Source Serial Terminal Emulator Wireshark --- Open Source, Network Protocol Analyzer GSDemo --- GainSpan Demo software for sensor and firmware upgrade
Documentation	Quick Start Guide, User Manuals

EVAL KIT ORDERING INFORMATION

PART NUMBER	Description
GS1011MIP-EVK-S2W-WEB	Serial to Wi-Fi Evaluation Kit with – Internal PA and PCB Internal Antenna
GS1011MEP-EVK-S2W-WEB	Serial to Wi-Fi Evaluation Kit with – External PA and PCB Internal Antenna
GS1011MEE-EVK-S2W-WEB	Serial to Wi-Fi Evaluation Kit with – External PA and External Antenna

