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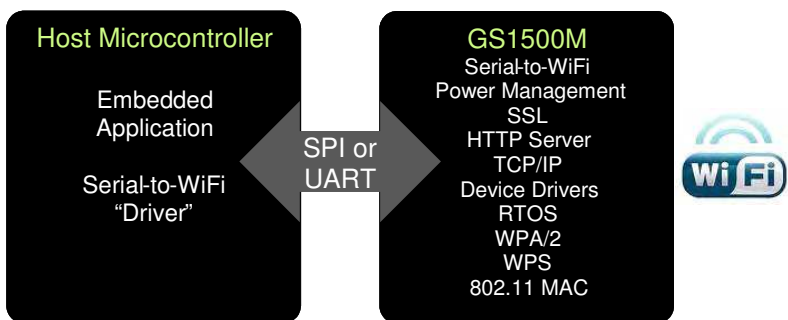
# GainSpan GS1500M EVK Mrk II Evaluation Kit



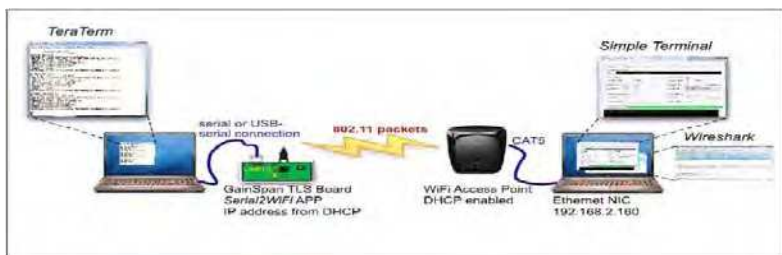
## PRODUCT OVERVIEW

The GS1500M EVK Mrk II Evaluation Kit provides GainSpan customers the means to evaluate capabilities of the GS1500M low power wireless module together with Serial-to-WiFi embedded software for Wi-Fi networks. The Serial-to-WiFi embedded software allows devices and appliances manufacturers to easily add Wi-Fi capabilities to their products with minimal impact on the host microcontroller firmware.

The GS1500M EVK Mrk II Evaluation Kit provides all the hardware and software necessary to quickly set up a serial (UART or SPI) based link to a PC or external microcontroller. In order to evaluate the ease of adding secure Wi-Fi communications to a product using the GainSpan AT command set, the kit includes all the software tools necessary for configuration of Serial-to-Wi-Fi and GS1500M module, data transfer using “AT” command-set and protocol analyzer for validation of packet & frame fields. For module details please refer to the GS1500M module product brief.



The GS1500M EVK Mrk II Evaluation Kit enables GainSpan customers to develop software on their existing microcontrollers to support the “AT” command set, and connect it to either UART or SPI interface on the evaluation kit reference board.



## BENEFITS:

- GS1500M highly integrated advanced 802.11b/g/n Wi-Fi radio
- Pin-pin, footprint and software architecture compatibility with GS1011M
- Easy device provisioning with WPS or embedded configuration web pages
- Easy integration of Wi-Fi and web connectivity to devices with existing microcontroller and UART or SPI interface
- Serial-to-Wi-Fi software allows easy addition of Wi-Fi capabilities to embedded system
- Offloads Wi-Fi and TCP/ IP networking from smaller host microcontrollers
- Simple AT commands for configuration and data communication
- Support for over the air firmware updates using external flash

## FEATURES:

- Supports Infrastructure, Limited AP and Adhoc networking
- Support for peer to peer networking
- Two UART/SPI ports. Clock data rates are
  - UART: up to 921 Kbps
  - SPI: up to 3 Mbps
- Push button for Alarms and firmware restore from External Flash
- Full Wi-Fi and networking stack services including TCP/UDP/IP, DNS, DHCP, HTTP and SSL
- Wi-Fi Security
  - WEP, WPA/WPA2 Personal
  - WPA/WPA2 Enterprise
  - Wi-Fi Protected Setup (WPS)
- 802.11 b/g/n Wi-Fi Alliance Certified Module
- Power Save Modes – PS-Poll, Sleep, Deep sleep, Standby





**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
<b>Serial Interface Configuration</b>	Set Serial Parameters (baud rate, flow control)
<b>Profile Management</b>	Load/Save/Restore profiles
<b>Wi-Fi Interface</b>	Scan/associate/disassociate
<b>Security</b>	Enable/set security
<b>Network Management</b>	Static or DHCP, DNS
<b>Connection management</b>	UDP, TCP, HTTP
<b>Power management</b>	Enable/disable PS-Poll, deep sleep and standby
<b>Services</b>	Upgrade firmware

**EVALUATION BOARD SPECIFICATIONS**

Feature	Description
<b>Radio Protocol</b>	IEEE 802.11b/g/n single stream
<b>RF Module</b>	GS1500M – Low Power Module
<b>RF Output Power (Typical)</b>	14dBm (802.11b), 12dBm (802.11n)
<b>Radio Frequency</b>	2.412 – 2.484 GHz
<b>Antenna Type</b>	PCB Trace or u.FL connector for external antenna
<b>I/O Port</b>	6-pin serial UART interface, 15540 compatible; DB9 RS232 Connector; SPI
<b>Power Source</b>	1.5 V Lithium Batteries (2x) or Line Powered
<b>GS1500M Firmware</b>	Serial to Wi-Fi
<b>Dimensions</b>	3.5 in X 3.0 in (includes module and RS232 connector)

**EVALUATION KIT CONTENTS**

ITEM	Description
<b>GS1500M Evaluation Board</b>	Evaluation board based on low-power GS1500M module (IEEE 802.11b/g/n)
<b>USB Memory Stick</b>	Installation software for Serial to Wi-Fi firmware, Documentation and Tools
<b>Batteries</b>	Two 1.5V Lithium AA Batteries
<b>Wi-Fi Access Point</b>	Off the Shelf Wi-Fi Access Point for out of box functionality
<b>Cable</b>	6-pin serial UART to USB cable to connect to host PC
<b>Software Tools</b>	TeraTerm --- Open Source Serial Terminal Emulator Wireshark --- Open Source, Network Protocol Analyzer GS Flash Program --- GainSpan tool for Firmware Upgrade
<b>Documentation</b>	Quick Start Guide, Programmers Guide, Schematics

**EVALUATION KIT ORDERING INFORMATION**

ITEM	PART NUMBER	Description
<b>GS1500M EVK2 Evaluation Kit</b>	GS1500M-EVK2-S2W-WEB	GS1500M EVK2 Evaluation Kit based on the low power GS1500M module base board. The Serial to Wi-Fi firmware supports embedded web-server for provisioning.

