Product Brief ISM4319-M3-L44

Wi-Fi 802.11b/g/n Wireless Networking Module

Plug-and-Play… Small Foot Print… Integrated Antenna

The Inventek ISM4319-M3-L44 is an embedded wireless Internet Connectivity device. The Wi-Fi module hardware system consists of a host processor, integrated antenna and Broadcom Wi-Fi device. The module provides SPI and UART interfaces enabling easy connection to an embedded design. The Wi-Fi module requires no operating system and has a complete integrated TCP/IP Stack that only requires a simple AT command set to establish connectivity for your wireless product, minimizing development time, testing routines and re-certification. The low-cost, small foot-print design (15mmx30mm), and ease of design-in make it ideal for a wide range of embedded wireless applications.

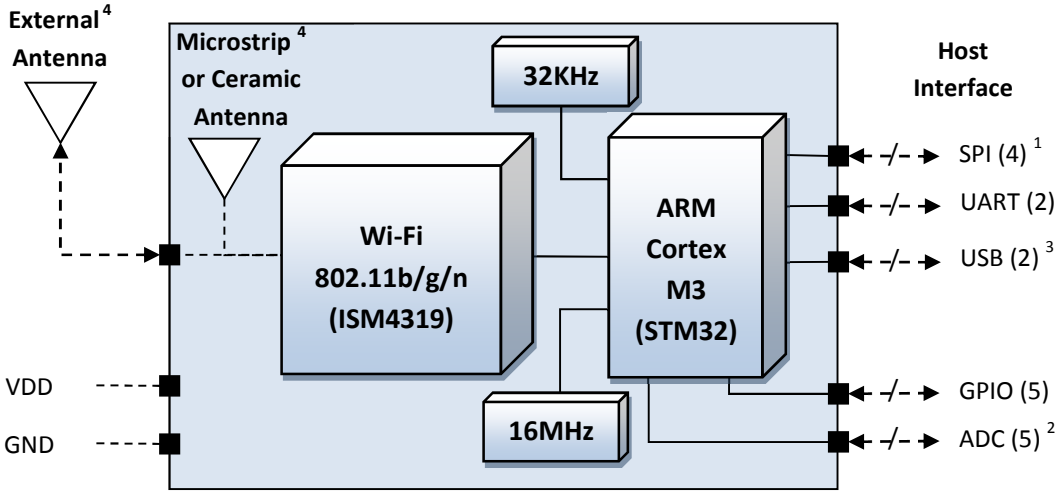
Main Features

- 802.11 b,g and n compliant based on Broadcom MAC/Baseband/Radio device.
- Fully contained TCP/IP stack minimizing host CPU requirements
- Configurable though AT commands.
- Host interfaces: UART, SPI up to 25 MHz.
- Network features ICMP (Ping), ARP, DHCP,TCP, UDP
- Low power operation (3.3V supply) with built-in low power modes.
- Secure Wi-Fi authentication WEP-128, WPA-PSK (TKIP), WPA2-PSK

Application Examples

- PDA, Pocket PC, computing devices
- Building automation and smart energy control.
- Industrial sensing and remote equipment monitoring.
- Warehousing, logistics and freight management
- PC and gaming peripherals
- Printers, scanners, alarm and video systems
- Medical applications including patient monitoring and remote diagnostics

Functional Block Diagram



Note: 1 - Shared with SDIO signal to ISM4319

2 - ADC1-ADC4 can also be used as SPI port (recommended for best performance)

3 - Not currently supported in firmware

4 – Two unique modules are available: One has an integrated micro-strip antenna and the other has an u.fl connector for an external antenna.

Specification Summary:

NETWORK STANDARD	IEEE 802.11b/g/n
RF FREQUENCY	2.400 GHz ~ 2.497 GHz
DATA RATES	802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps
MODULATION TECHNIQUES	802.11g/n: 64-QAM, 16-QAM, QPSK, BPSK 802.11b: CCK, DQPSK, DBPSK
WIRELESS SECURITY	WEP (64/128-bit),WPA™ (PSK, TKIP) / WPA2™ (AES, CCMP, 802.1x Authentication)
HOST INTERFACES	SPI, UART
NETWORK PROTOCOLS	TCP, UDP, IPv4, ARP, ICMP, DHCP Client
WLAN FUNCTIONS	Power save modes, automatic roaming, auto-rate Ad-hoc and Infrastructure modes
CONFIGURATION	AT commands, SPI frames
SUPPLY VOLTAGE	3.3V ± 5%
PACKAGE	44-pin LGA, 15mm x 30mm
OPERATING TEMPERATURE	-10°C to +65°C
CERTIFICATIONS	FCC and CE