

MIST Module

802.11 b/g/n Embedded Wi-Fi Module with Integrated Antenna

Description

MIST is a highly integrated low power single-stream (1x1) IEEE 802.11 b/g/n embedded Wi-Fi Module. This highly tuned certified Module integrates crystals, flash and antenna for easy hardware design. This feature-rich Module using Qualcomm QCA4010 SoC is specially designed for various verticals of Internet of Things (IoT) like Smart Home, Industrial IoT, Smart Retail, and Smart City. The MIST Module includes a suite of communication protocols including HTTP, IPv4v6, TCP, SSL 3.0, TLS1.0, TLS1.1, TLS1.2, DHCP, ICMP, IGMP, MQTT and DNS, as well as support for multiple cloud agent like AWS..

MIST is designed to answer manufacturer demand for easy integration, low power with advanced features while minimizing size, cost and power consumption. This low power highly secure Module with its integrated security engine is suitable for battery powered portable wireless applications.

Features

- ❖ Industry-leading single stream 802.11bgn Wi-Fi solution
- ❖ Data rate up to 72.2 Mbps MCS7 HT20
- ❖ UART Interfaces with Baud Rates up to 3Mbps
- ❖ Throughputs up to 1.6Mbps
- ❖ Integrated TCP/IP network stack
- ❖ Low power CPU for embedded applications
- ❖ Low power modes:
 - IEEE Sleep with low power consumption and optimal state transition times
 - Power optimized listen, receive, transmit and associated operating modes
 - Store and recall
- ❖ Network and security: TCP/IP, IPv4/IPv6, HTTP, SSL 3.0, TLS1.0, TLS1.1, TLS1.2, MQTT, DNS, mDNS
- ❖ Software support for AWS IoT
- ❖ AT Command set for MCU hosted solutions
- ❖ Host API source code and documentation for easy integration of MIST Module

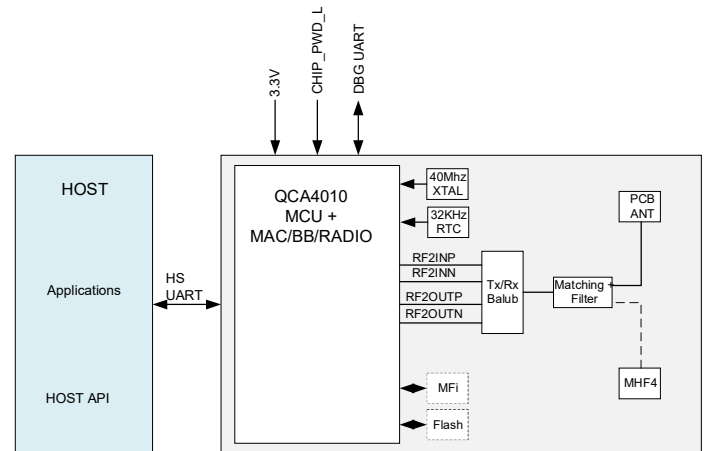


Size: 16 mm x 20 mm x 2.1 mm

Applications

- ❖ Smart Home sensor networks
- ❖ Smart city sensor networks
- ❖ High performance HID controllers
- ❖ Internet of Things (IoT) sensor networks
- ❖ Smart door locks
- ❖ Smart lighting networks
- ❖ Connected white goods

Block Diagram



Specifications

WLAN Technology	802.11 b/g/n
Frequency Bands	2.412 – 2.472 GHz
Data Rates	802.11b: 11, 5.5, 2, 1 Mbps 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n: MCS 0 to 7
Security Features	WEP, WPS2.0, WPA/WPA2-PSK (TKIP/AES) encryption SSL – Application level security Integrated crypto accelerator
Operating Channels	North America: Channels 1 – 11 Europe: Channels 1 – 13
Modulation Schemes	802.11b: CCK, DQPSK, DBPSK 802.11g: 64QAM, 16QAM, QPSK, BPSK 802.11n: BPSK, QPSK, 16QAM, 64QAM
Antenna Design Options	PCB printed antenna or u.FL
Interfaces	High Speed UART
Operating Modes	Station, AP, Concurrent (MCC)
Active Power Save	Green Tx & Low Power Listen (LPL)
Current Consumption	Standby: 13 uA (Suspend), 450 uA (DTIM3) Rx: 76 mA (TCP downlink) Tx: 124 mA (TCP uplink)
Transmit Power	802.11b: 17 dBm (US) 14 dBm (EU) (1-11Mbps) 802.11g: 17 dBm (US) 14 dBm (EU) (6 Mbps) 802.11g: 13 dBm (US, EU) (54 Mbps) 802.11n: 17 dBm (US) 14 dBm (EU) (MCS0, HT20) 802.11n: 15 dBm (US) 14 dBm (EU) (MCS4, HT20) 802.11n: 12 dBm (US) 12 dBm (EU) (MCS7, HT20)
Receive Sensitivity	802.11b: -95 dBm (1 Mbps) 802.11g: -89 dBm (6 Mbps) 802.11n: -89 dBm (MCS0, HT20)
Network Throughput	up to 1.6 Mbps
Operating Voltage	3.3V +/- 10% I/O Supply Voltage
Temperature	Operating: 0° to 85°C Storage: -40° to 85°C
Humidity	Operating: 5 – 90% (Non-condensing) Storage: 5 – 95% (Non-condensing)
Package	16 x 20 x 2.1mm QFN Dual-Row 116-pin, 0.5mm pitch, RoHS Compliant

Certifications and approvals

- ❖ Module certifications - FCC, IC, CE

MIST Module Part Ordering

I960EB00-C2LT	MIST module with PCB Antenna, Tray packing
I960EB00-C2LR	MIST module with PCB Antenna, Tape and Reel packing
I960EB00-C3LT	MIST module with MHF4 Antenna connector, Tray packing
I960EB00-C3LR	MIST module with MHF4 Antenna connector, Tape and Reel packing

MIST DVK Part Ordering

I960EB00-2DVK	MIST DVK kit with PCB antenna
I960EB00-3DVK	MIST DVK kit with MHF4 connector

Development Kit

DVK comes with the following:

- ❖ STM32F411 MCU board
- ❖ MIST EVK
- ❖ Mini-USB Cable
- ❖ Micro-USB Cable

Additional Information:

For the latest collaterals, please visit <http://www.ivativ.com>