QCA4020 Module (WL501)

Product Description

The WL501 module provides a highly-integrated and flexible platform for developing and evaluating products and applications based on the QCA4020 SoC. The WL501 module can be incorporated into OEM products to enable rapid deployment of Wi-Fi connected systems. The WL501 module includes the following components:

■ QCA4020 chip (WLAN/BLE/15.4) ■ Printed antennas ■ 32 Mb NOR flash memory

The QCA4020 is a dual band 1x1 802.11 a/b/g/n device optimized for low-power embedded applications with single-stream capability for both Tx and Rx. It has an integrated network processor with a large set of TCP/IP with IPv4/IPv6-based services.

WL501 module features

■ Dual-Band IEEE 802.11 a/b/g/n, single stream 1x1

■ BLE 5.0

■ ZigBee 15.4

■ Green Tx power saving mode

■ Low -power listen mode

■ Four-layer PCB design

■ Rich set of GPIO(s) and interfaces: I2C, HSUART, UART, SPI, QSPI, SDIO 2.0, I2S, JTAG, Sensor ADC (up to 8 channels, 12bit, 1Msps). Up to 8 PWM optimized for LED lighting applications.

■ Secured boot and support for application-level AES encryption and image authentication hash function (SHA256)

■ Advancement power management scheme to minimize power dissipation for each use case

WL501 manufacturing interface

■ USB 2.0 interface with integrated controller and PHY for manufacturing test and configuration

WL501 host interfaces

■ UART host interface to a remote microcontroller with an AT style command set