

TECHNICAL DESCRIPTION

WLAN Function Description

This WLAN device (BT and WLAN combo module) is adapted to 2.4G 802.11b/g/n. Operation of each part is based and explained in a module RF Block diagram. The transceiver embedded Low Noise Amplifier, harmonic filter and Power Amplifier for RF transceiving circuit, modulator and demodulator.

the single spatial stream modulations of 802.11n enable support for embedded mobile devices without requiring multiple antennas. Support for optional 802.11n features provides enhanced rate, range and performance.

By using the reference signal currently used by the internal clock input, stable RF signal and the baseband clock are generated.

The operating band is 2.412 GHz – 2.462GHz (2.4 GHz ISM Band).

Modulation for 802.11b : DQPSK, DBPSK, CCK

Modulation for 802.11 g/n : OFDM /64-QAM,16-QAM, QPSK, BPSK

Bluetooth Function Description

The Bluetooth transceiver embedded Low Noise Amplifier, harmonic filter and Power Amplifier for RF transceiving circuit, modulator and demodulator. The Bluetooth baseband signal processor incorporates hardware engines performs frequency hopping, error correcting, whitening, encrypting, data packet assembling and de-assembling. Bluetooth function is fully compliant with Bluetooth specification 4.0.

Bluetooth basic rate use GFSK modulation, where an instantaneous data rate of 1 Mbit/s is possible.

Bluetooth Enhanced Data Rate (EDR) adopts $\pi/4$ -DPSK and 8DPSK schemes, each with 2 and 3 Mbits/s respectively.

Bluetooth Low Energy(BLE) adopts GFSK scheme

Ant+ Function Description

The ANT+ transceiver embedded Low Noise Amplifier, RX/TX filter and Power Amplifier for RF transceiving circuit, modulator and demodulator.

operate on frequencies from 2.403GHz to 2.481GHz. The resolution of the RF channel frequency setting is 1MHz, The radio front end uses GFSK modulation. It has user configurable parameters like frequency channel, output power and air data rate.