Opreational Description

EUT is a BCM4318 CF module with 11 channels(2412MHz~2462MHz, Space 5MHz). It allows you to connect to other WLAN device.

General Operational Description:

1. Time base of the transmission frequency:

    For IF and RF frequency, Crystal is a clock reference.

2. Synthesizer:

    Synthesizer inside Transceiver IC and operate frequency in 2.4GHz ISM Band. Internal voltage controlled oscillator (VCO) provides the desired LO signal base on the phase-locked loop (PLL) with a relatively wide tuning range for this application.

3. Transmission:

    BBP IC has DSSS (BPSK/QPSK/CCK) and OFDM (BPSK/QPSK/16QAM/64QAM) modulation function, it provides transmission data rate are 1, 2, 5.5, 11 Mbps on DSSS and 6, 12, 18, 24, 36, 48, 54 Mbps on OFDM. Digital data signal will be converted to analog (TX IQ) signals through DAC in BBP IC, TX IQ pass through to low pass filter. TX I/Q signal use direct conversion (zero-IF) architecture converter to generate carrier frequency signal. Transceiver IC and external PA magnify output power.

4. Receiver:

    Reverse direction isolation of LNA inside Transceiver IC suppresses unwanted radiation. Then 2.4GHz RF signal will be directly down to IF signal (RX IQ) and high frequency spurious emissions are suppressed by LPF. At last RX IQ signal will be demodulated digital data.

5. Base band Processing:

    Channel Selection: Channel selection is controlled by BBP IC.

    Data Modulation: DSSS (BPSK/QPSK/CCK) and OFDM (BPSK/QPSK/16QAM/64QAM) modulation type is controlled by BBP IC.

    Power Control Level: BBP IC has the power leveling loop table are calibrated by manufacturer, then uses closed-loop power control function to limit RF output power level. Power leveling step accuracy is ±0.5dB.

    Transmit/Receive Switch: EUT has Transmit/Receive Switch and Antenna switch

    Data Link Layer:

    Firmware implements the full IEEE 802.11 Wireless LAN MAC protocol. It supports BSS and IBSS operation under DCF, and operation under the optional Point Coordination Function (PCF). Lower level protocol functions such as RTS/CTS generation and acknowledgment, fragmentation and de-fragmentation, and automatic beacon monitoring are handled without host intervention. Active scanning is performed autonomously once initiated by host command. Host interface command and status handshakes allow concurrent operations from multi-threaded I/O drivers.

6. Interface: CF

7. Power: Input 3.3Vdc from host equipment. This power is provided to regulator components to regulated DC power.

Product Details

EUT IS a CF module with IEEE 802.11b/g radio function. Only the radio detail of WLAN is shown in the table below. For more detailed features description, please refer to the manufacturer's specifications or user's manual.

Items	Description
Product Type	WLAN
Radio Type	Intentional Transceiver
Power Type	Host
Interface Type	CF
Modulation	DSSS for IEEE 802.11b ; OFDM for IEEE 802.11g
Data Modulation	DSSS (BPSK / QPSK / CCK) ; OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	DSSS (1/ 2/ 5.5/11) ; OFDM (6/9/12/18/24/36/48/54)
Frequency Range	2400 ~ 2483.5MHz
Channel Number	11
Channel Band Width (99%)	11b: 12.60 MHz ; 11g: 16.44 MHz
Conducted Output Power	11b: 17.90 dBm ; 11g: 18.90 dBm
Carrier Frequencies	2412-2462 MHz
Antenna	Chip Antenna

Accessories

NA

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	TENNA	EA2400	Chip Antenna	UFL	3.00