Operational Description

EUT is an Wireless WICED module 802.11bgn Wireless Device with Single band operation .

It allows you to connect to other WLAN device.

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 up to 11 Mbps on DSSS and up to 72.2 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.