

## **Exhibit I: Operational Description**

**FCC ID: EJM-X400**

## WL-350F MiniPCI Card

Description the function in each item:

1. Fundamental frequency spec.  $-10$  to  $+70 \cdot \pm 25$  ppm which was generated by 44 MHz crystal oscillator(U6).It supply the reference clock to CPU and PLL.

### 2.Synthesizer

Required frequency comes from crystal oscillator(U6),RF PLL IC(U11),IF PLL IC(U9),IF VCO(U14) etc.The frequency is controlled through CPU(U1),and generate different frequency band Which made by RF PLL and IF PLL .Receive and transmitter are same frequency;IF PLL(U13) generate 748MHz which divided by 2(U9) into 374 MHz which is IF LO.RF LO comes from VCO U14 and U11 PLL, the LO frequency is 2038—2110 MHz,step 5 Mhz,total channel 14.Transmitter/receiver freq. is 2412 and 2484 MHz.

### 3.Transmitter

Transmitter path is through (ANT1),switch(U8),bandpass filter(FL4),IC(U11)transmitter,bandpass filter(FL5),SAW filter(FL1),Quad IF Converter(U9) to Baseband processor.

Transmitter frequency, channel 1 is 2412 MHz and channel 14 is 2484MHz,each channel has 5 MHz step.Transmitter power is 12 to 13 dBm.

### 4.Modulation

Modulation from CPU(U1),transmitter data into baseband processor generate the I,Q signal then mixed with the IFLO which is 374MHz differential signal(phase difference 90 degree)then the I,Q sum up together.The modulation are DBPSK for 1M data rate,DQPSK for 2M data rate,CCK for 5 and 11 M data rate.

Demodulation:IF signal through U9 mixed with IFLO which is 374MHz differential signal (phase difference 90 degree).Generate the I,Q signal then through U1 baseband processor demodulate into data.And send to CPU (U1) for data processing.

### 5.Receiver

RF signal 2412 to 2484 MHz ,received from antenna,bandpass TX/RX switch (U8),filter(FL6),through RF/IF converter(U11) ,mixed with RFLO down to 374MHz IF.Then IF through SAW filter into U9 mixed with IFLO which is 374MHz differential signal (phase difference 90 degree).Generate the I,Q signal then through U1 baseband processor demodulate into data.And send to CPU (U1) for data processing.Both U9 and U11 have AGC circuit to auto control the receiver signal for the best receiver sensitivity.

## 6.Signal Control

Signal control is consist of CPU(U1) , SRAM(U4) ,Flash ROM(U2),  
Voltage regulator (U15/U7)

6-1.PLL control: Two PLL IC controlled by U1,one is  
IFLO,748MHz,the other is RFLO from 2038 to 2110  
MHz,channel step 5 MHz.

6-2.TX/RX control: control the TX/RX switch(U8),U9 ,U11, U5 to  
perform TX/RX function.

6-3.VCO control: control the power supply of the RF VCO (U14) and  
IF VCO (U13)

6-4.Interface control: control Mini PCI interface through this interface  
communicate with system. which have TCP/IP and NDIS  
protocal .

6-5.Memory: In the flash memory contain the MAC address, firmware  
, product information ,series number and other relative  
information.

## 7.Power supply:

Main power supply is from 3.3 V Mini PCI interface then into 2  
regulator(U15,U7) which generate 2.85 V for RFIC and  
VCO.

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