

FccID: H9PLA4131M

Conf Num:

Correspondence # 72301

WLAN PC Card, 11 Mbps, T3

Original Equip.

Date Emailed: 7/23/01

Question 1

Please provide User Manual.

Answer:

User manual is attached.

Question 2

Please provide Processing Gain measurement data.

Answer:

Processing Gain Report is attached.

Question 3

Please provide request for confidentiality letter.

Answer:

Confidentiality request cover letter is attached.

Question 4

In the Page 3 of test report, the frequency range for this device is listed from 2412 - 2462 MHz with 11 channels. However, in the page 9 of operational description, there are total of 13 channels listed with frequency range from 2412 - 2472 MHz. Please explain.

The upper two channels are used in Japan. For the US they are excluded. That is why they are listed in the operational description but not in the test report which tests to the US spec. Firmware locks out channels 12 and 13 for the US configuration of the radio.

Question 5

As indicated in the test setup photos, EUT was tested with extended cable out from the Notebook computer to the EUT. Please explain the rational behind this type of setup.

Answer:

According to the FCC, ANSI C63.4-1992 Fig 9(c) shows 10 cm between pieces of equipment. The FCC wanted us to follow this guideline and use a non-shielded cable extender. This would simulate a worst case situation when the EUT was integrated in access points instead of just with a laptop.

Question 6

RF antenna conducted test: Page 23 of test report shows the emission peak is detected on 2411.69MHz. It is beyond the frequency band of 2412 - 2462 MHz. Please explain.

Answer:

The carrier is modulated with a long sequence of random data. Because peak hold is used on the spectrum analyzer and the nature of random data the peak may not occur at the carrier frequency. In this case the peak falls just lower than the carrier freq of 2412 MHz \pm 50ppm.

Question 7

RF antenna conducted test, Page 33 of test report shows the emission peak is detected on 2462.54MHz. It is beyond the frequency band of 2412 - 2462 MHz. Please explain.

Answer:

The carrier is modulated with a long sequence of random data. Because peak hold is used on the spectrum analyzer and the nature of random data the peak may not occur at the carrier frequency. In this case the peak falls just higher than the carrier freq of 2462 MHz \pm 50ppm.

Question 8

Is this application requested for modular approval ? This device is a type II PCMCIA card with external antenna connectors. The typical antenna installations as described in RF Exposure document which show the access point be installed with antenna but not the PCMCIA card. Operational description indicates that PCMCIA card is intended for Notebook, handheld or fixed computers to provide wireless access (Page 8). Please explain how the various proposed antennas to be used with such mobile applications.

Answer:

The operational description includes all configurations even those not included in this application. The Notebook config is covered under a separate application for portable devices. This application is for mobile configurations for fixed computers or access points. For these mobile configurations the antennas are mounted as indicated in the RF Exposure document.

Question 9

The max. proposed antenna gain is 11.4dbi. Please address 15.247 (b)(3) and 15.247(b)(3)(I) de facto EIRP requirements.

Answer:

Since the sourced based average power of the transmitter is $60 \text{ mW} \times .72 = 43.2 \text{ mW}$ or 16.3 dBm this is reduced 13.7 dB below the allowed max power of 30 dBm. So for point to multi-point applications we can have a max antenna gain of $6 + 13.7$ or 19.7 dBi. For point to point we can have a max antenna gain of $6 + 3(13.7)$ or 47.1 dBi. The 11.4 dBi proposed antenna is well below these limits.

Question 10

Please provide MPE calculation to show how the RF separation distances were calculated.

Answer:

For ant #1 see the attached file MPE calc.pdf