

**To:** Mike Kuo

**Subject:** Re: Feedback for Portable PC With 2.4GHz wireless Lan

-----Original Message-----

**From:** Jenny Chen []

**Sent:** Monday, November 10, 2003 7:52 AM

**To:** Mike Kuo

**Subject:** Feedback for Portable PC With 2.4GHz wireless Lan

Dear Mike

Glad to meet up in Taiwan. It is a good experience to understand about the changes and new development of CCS. At the same time, we would like apologise for the late reply for our kick off project.

Client : Infowave Pte Ltd  
Equipment: Portable PC With built in 2.4GHz Wireless Lan  
Model: W988A  
FCC ID : RVG0309W988A  
Assessment no : AN03T3314  
Applicant ID: T11362

a) Since the test report is protected, please provide test setup photo in a separated file.

b) What is the frequency range investigated during 15.107 and 15.207 AC line conducted tests ?

Answer : Please refer to report no : 56S030690-01 page 7.

c) Peak power measurement : Universal Radio Communication Tester was used during peak power measurement. Based upon the measurement procedures published by FCC, when measuring RF conducted output power, the RBW must be greater than 6dB. Please provide the instrument setting of Universal Radio communication tester used during peak power measurement.

Answer: The measurement was done based on the wideband power meter equipped in the universal radio communication tester which has the capability of measuring power in the range from 100kHz to 2700kHz. The information has been added in the report (56S030690-01) page 18.

d) What is the cable loss during the peak power measurement ?

Answer: 1.6dB

e) EIRP measurement result, the antenna gain indicates in page 19 of test report does not match with the antenna gain specified in the antenna specification sheet. Please explain the differences.

Answer: The peak power measurement was done based on conducted method. As such, EIRP measurement method is not applicable. The 2.9dBi antenna gain declared by manufacturer is the maximum gain whereas 1.6dBi is the nominal gain given by manufacturer. 2.9dBi should be the declared value.

f) Please explain why the peak output power measurement setup photo is identical to EIRP test setup photo?

Answer: As EIRP measurement method is not applicable ( peak power measurement was done using conducted

method), it has been removed from the test report.

g) Power Spectral Density tests : The instrument setting used does not comply with FCC measurement guideline, per FCC measurement guideline,  $RBW=3\text{kHz}$ ,  $VBW>RBW$ ,  $\text{Sweep} = (\text{SPAN}/3\text{kHz})$ . Please redo the measurement and provide the revised test data.

Answer: Please refer to page 33 to 37 ( 56S030690-01)

h) Please provide the preliminary radiated spurious emission data above 1GHz for low/middle and high channel during 15.209 /15.205 investigation.

Answer: Please refer to attachment Radiated spurious emission plots

i) Please provide additional radiated emission data by turning the transmitter to channel 13 and measure the restricted band bandedge at 2483.5MHz ( Horizontal / Vertical ), and then tune the transmitter to channel 1 and measure the restricted band at 2390MHz ( Horizontal and Vertical ).

Answer : Please refer to attachment Restricted Band Radiated Spurious @band edge plot.

j) This device is panel PC which is considered as portable device when the device is used at lap held position. When the device is classified as portable device, MPE measurement can not be used to justify RF exposure compliance for portable device. MPE estimate or measurement can only be used for mobile device ( Far field exposure condition ) where the antenna is separated by more than 20cm . Based upon the output power of this device, SAR evaluation is required to demonstrate RF exposure compliance. Please provide SAR evaluation report.

Answer : Please refer to SAR test report ( 56S030690-02)

k) For your information , based upon July 2002 TCB exclusion list, for 2.4GHz portable device, if the conducted output power or EIRP is higher than 100mW, TCB can not review such application and the application shall be reviewed by FCC.

l) Please provide external photos in one file and internal photo in a separate file. Please provide additional internal photo by removing the metal plate on the transmitter module.

Answer : Please refer to internal photos- PCB View 3.

m) Please identify antenna locations on the internal photos.

Answer : Please refer to page 50 of the antenna location or internal photo

n) RF Exposure statement in the user manual does not applicable to this device. Once again, when this device is used at lap held position, the end user can not maintain 20 cm separation distance between the transmitting antenna to the body of end user.

Answer : The RF exposure statement in the user manual has been removed.

o) Page 4 of user manual indicates that this device is equipped with external antenna, please explain the antenna connector type and the antenna specification. Also please explain what are the antennas were tested.

Answer: The external antenna is in disable state and not in use as clarified by the manufacturer. Please refer to page 4 of user manual.

p) As indicated in the user manual, the PC card slot can be used with Bluetooth device. Please provide the co-location test data when the WLAN and Bluetooth transmitter are transmitting at the same time. Please inform the FCC ID number of Bluetooth TX will be used with this device.

Answer : The bluetooth device is not in use as clarified by the manufacturer. The statement has been revised in the page 4 of user manual.

Remark :

The User manual will be sent to you by tomorrow.

Sorry for the inconvenience caused.

Thank you

Warmest Regards  
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