Test Report
for
FCC Part 15 Subpart B & C

of

Product Name

Notebook Personal Computer

(with Intel PRO/Wireless 2200BG Network Connection inside)

Model

M220

(Brand:MITAC)

Applied by:

MITAC Technology Corporation
4F, No.1, R&D Road 2,
Hsinchu Science-Based industrial Park, Hsinchu 300
Taiwan,R. O. C.

Test Performed by:

International Standards Laboratory

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Report Number: ISL-04LR036FC **Issue Date: 2005/01/18**

HC LAB:NVLAP:200234-0;VCCI: R-341,C-354;NEMKO:ELA 113a,113c;BSMI:SL2-IN-E-0037;SL2-R1-E-0037;CNLA:1178
LT LAB:NVLAP:200234-0;VCCI: R-1435,C-1440;NEMKO:ELA 113b,113d;BSMI:SL2-IN-E-0013;CNLA:0997

Contents of Report

1. General

1.1 Certification of Accuracy of Test Data

Standards:	CFR 47 Part 15 Subpart B Class B CFR 47 Part 15 Subpart C (Section 15.247)
Test Procedure:	ANSI C63.4:2003
Equipment Tested:	Notebook Personal Computer (with Intel PRO/Wireless 2200BG Network Connection inside)
Model:	M220
Applied by:	MITAC Technology Corporation
Sample received Date:	2004/11/09
Final test Date :	2005/01/18
Test Result	PASS
Test Site:	Chamber 02, Conduction 02
Temperature	Refer to each site test data
Humidity:	Refer to each site test data
Test Engineer:	Mailes Hsieh

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Approve & Signature

Eddy Hsiung

Eddy Hsiung/Director

Test results given in this report apply only to the specific sample(s) tested under stated test conditions. This report shall not be reproduced other than in full without the explicit written consent of ISL. This report totally contains 66 pages, including 1 cover page , 2 contents page, and 63 pages for the test description. This report must not be use to claim product endorsement by NVLAP or any agency of the U.S. Government.

This test data shown below is traceable to NIST or national or international standard. International Standards Laboratory certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853(a).

2. Test Results Summary

The 802.11b functions of EUT has been tested according to the FCC regulations listed below:

Tested Standards: 47 CFR Part 15 Subpart C			
Standard Section	Test Type	Result	Remarks
15.207	AC Power Line Emissions	Pass	
15.247(a)(2)	Spectrum Bandwidth Of DSSS device	Pass	
15.247(b)	Max. Peak Output Power	Pass	
15.247(c)	Radiated Emissions 30MHz – 25 GHz	Pass	
15.247 (c)	Band Edge Measurement	Pass	
15.247(b)(4)	Radiation Exposure	Pass	MPE report attached
15.247 (d)	Power Spectral Density	Pass	

The 802.11g functions of EUT has been tested according to the FCC regulations listed below:

Tested Standards: 47 CFR Part 15 Subpart C			
Standard Section	Test Type	Result	Remarks
15.207	AC Power Line Emissions	Pass	
15.247(a)(2)	Spectrum Bandwidth Of DSSS device	Pass	
15.247(b)	Max. Peak Output Power	Pass	
15.247(c)	Radiated Emissions 30MHz – 25 GHz	Pass	
15.247 (c)	Band Edge Measurement	Pass	
15.247(b)(4)	Radiation Exposure	Pass	MPE report attached
15.247 (d)	Power Spectral Density	Pass	

3. Description of Equipment Under Test (EUT)

Description:	Notebook Personal Computer (with Intel PRO/Wireless 2200BG Network Connection inside)
Model No.:	M220
FCC ID:	MAU012
Brand:	MITAC
Wireless LAN Module:	Intel, Model: WM3B2200BG
Frequency Range 802.11b/g:	2400 - 2483.5 MHz
Support channel:	
802.11b/g	11 Channels
Modulation Skill:	
802.11b	DBPSK(1Mbps), DQPSK(2Mbps), CCK(5.5/11Mbps)
802.11g	OFDM (6M - 54Mbps)
Antennas Type:	PIFA Type in Metal made by JOINSOON ELECTRONICS MFG. CO., LTD
Antenna Connected:	Connected to RF connector on the PCB of the 802.11b/g WLAN Adapter. The user is not possible to change the antenna without disassembling the notebook computer.
Antenna peak Gain:	
Main antenna	1.78 dBi (11b/g)
Power Type of LAN module:	3.3V DC from Notebook PC

The channel and the operation frequency of 802.11b and 802.11g is listed below:

Channel	Frequency(MHz)	Channel	Frequency(MHz)
01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	11	2462
06	2437		

Adapter Type:	Delta (Model:ADP-90SB BB) or Delta (Model:ADP-90FB REV:F)
Hard Disk Driver:	Toshiba (Model: MK8025GAS)
DVD Dual:	Panasonic (Model:UJ-831B)
Modem Card:	Askey (Model: 1456 VQL4A(INT))
DDR :	Kingston (Model: KVR266X64SC25/1G)1G
PS/2:	one
USB Connector:	two 4 Pins
RJ11 Connector:	one 2 Pins
RJ45 Connector:	one 8 Pins(10/100Mbps)
VGA Connector:	one 15 Pins
PCMCIA Slot:	two
Line out Port:	one
Line-in Port:	one
Serial Port:	one
DC IN Port:	one
Battery:	Lithium-ion(Model: EMC 202S-20)
LCD:	AU(Model:B141XG08)
Power Cord:	Non-shielded, Detachable
Display:	LCD & CRT (1024*768)
Maximum Resolution :	LCD & CRT (1024*768)

Speed & CPU Speed	CPU
100MHz	Pentium M 1.4 GHz

The following test configurations were scanned during the preliminary test

Test Configuration	CPU	LANSpeed	Adapter	Resolution
1	Pentium M 1.4 GHz	100M bps	Delta (Model:ADP-90SB BB)	1024*768 V:60Hz
2	Pentium M 1.4 GHz	10Mbps	Delta (Model:ADP-90FB REV:F)	800*600 V:60Hz

We found the test configurations producing the highest emission level is Configuration 1 and we shown the data in this report

EMI Noise Source:
Crystal: 12MHz (X1),25MHz(X2), 14.318MHz (X3),14.318MHz (X4), 16MHz (X5), 14.318MHz(X6),27MHz(X501),32.768KHz(X500)
Clock Generator: U19

EMI Solution:
1. Add one gasket on the upper case.
2. Add two springs on the Motherboard
3. Add one gasket on the Motherboard USB port
4. Add one spring on the I/O board
5. Add one gasket on the I/O board
6. Add one gasket on the I/O board Lan port
7. Add one ferrite core on the Line out Port
8. Add one ferrite core on the Line-in Port.

4. TEST RESULTS (802.11b)

4.1 Powerline Conducted Emissions [Section 15.207]

4.1.1 EUT Configuration

The conducted emission test setups are in accordance with Figs 9, 10(a) and 10(b) of ANSI C63.4-2001, CFR 47 Part 15 Subpart B; or EN55022:1994/ A1:1995/A2:1997; CISPR 22:1993/A1:1995/A2:1996.

The EUT was set up on the non-conductive table that is 1.0 by 1.5 meter, 80cm above ground. The wall of the shielded room was located 40cm to the rear of the EUT.

Power to the EUT was provided through the LISN. The impedance vs. frequency characteristic of the LISN is complied with the limit shown on the figure 1 of ANSI C63.4-2001.

Both lines (neutral and hot) were connected to the LISN in series at testing. A coaxial-type connector which provides one 50 ohms terminating impedance was provided for connecting the test instrument. The excess length of the power cord was folded back and forth at the center of the lead so as to form a bundle not exceeding 40cm in length.

Any changes made to the configuration, or modifications made to the EUT, during testing are noted in the following test record.

If the EUT is a Personal Computer or a peripheral of personal computer, and the personal computer has an auxiliary AC outlet which can be used for providing power to an external monitor, then all measurements will be made with the monitor power from first the computer-mounted AC outlet and then a floor-mounted AC outlet.

4.1.2 Test Procedure

The system was set up as described above, with the EMI diagnostic software running. The main power line conducted EMI tests were run on the hot and neutral conductors of the power cord and the results were recorded. The effect of varying the position of the interface cables has been investigated to find the configuration that produces maximum emission.

At the frequencies where the peak values of the emissions were higher than 6dß below the applicable limits, the emissions were also measured with the quasi-peak detectors. At the frequencies where the quasi-peak values of the emissions were higher than 6dß below the applicable average limits, the emissions were also measured with the average detectors.

The highest emissions were analyzed in details by operating the spectrum analyzer in fixed tuned mode to determine the nature of the emissions and to provide information which could be useful in reducing their amplitude.

4.1.3 EMI Receiver/Spectrum Analyzer Configuration (for the frequencies tested)

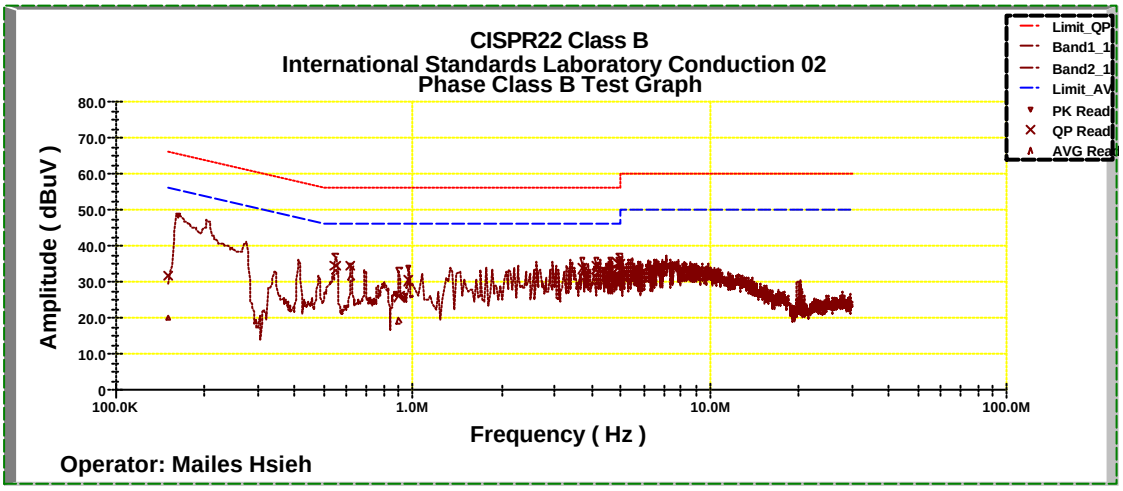
Frequency Range	150 KHz--30MHz
Detector Function	Quasi-Peak/Average
Bandwidth (RBW)	9KHz

4.1.4 Test Data:

Power Line Conducted Emissions (Hot) Channel 1, 6, 11

Operator:MailesHsieh
Temperature(C):24
11:21:27AM,Thursday,December02,2004 Humidity(%):50

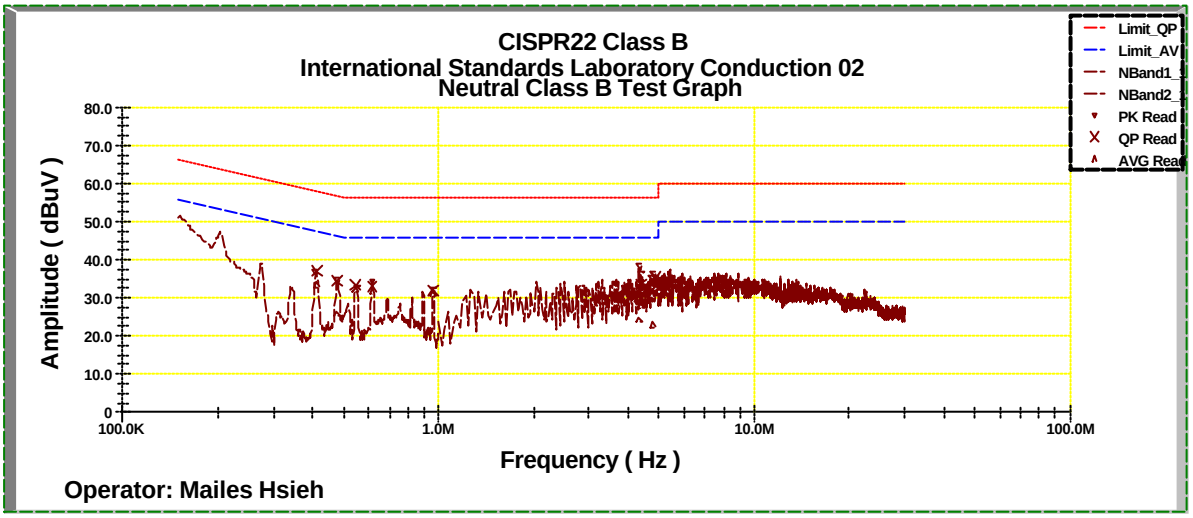
Frequency	LISNLoss	CableLoss	QPCorrct.	QPLimit	QPMargin	AVECorrct.	AVELimit	AVEMargin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.15004	0.10	0.02	31.55	66.00	-34.45	20.03	56.00	-35.97
0.54928	0.12	0.07	34.34	56.00	-21.66	32.69	46.00	-13.31
0.61868	0.14	0.07	34.39	56.00	-21.61	30.92	46.00	-15.08
0.89998	0.18	0.07	25.85	56.00	-30.15	19.12	46.00	-26.88
0.96566	0.19	0.07	30.41	56.00	-25.59	29.10	46.00	-16.90
3.71868	0.20	0.13	33.72	56.00	-22.28	31.84	46.00	-14.16
4.13282	0.20	0.14	34.42	56.00	-21.58	32.65	46.00	-13.35
4.61585	0.21	0.15	32.99	56.00	-23.01	29.94	46.00	-16.06
4.89101	0.22	0.15	35.17	56.00	-20.83	33.41	46.00	-12.59
4.96124	0.22	0.15	34.92	56.00	-21.08	33.14	46.00	-12.86



Power Line Conducted Emissions (Neutral) Channel 1, 6, 11

Operator:MailesHsieh
Temperature(C):24
11:08:58AM,Thursday,December02,2004 Humidity(%):50

Frequency	LISNLoss	CableLoss	QPCorrct.	QPLimit	QPMargin	AVECorrct.	AVELimit	AVEMargin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.41106	0.10	0.08	37.06	58.54	-21.49	33.44	48.54	-15.10
0.47646	0.11	0.07	34.45	56.67	-22.23	25.60	46.67	-21.07
0.54825	0.12	0.07	33.41	56.00	-22.59	32.15	46.00	-13.85
0.61653	0.14	0.07	32.93	56.00	-23.07	31.86	46.00	-14.14
0.96031	0.19	0.07	31.98	56.00	-24.02	31.00	46.00	-15.00
4.31581	0.20	0.14	30.44	56.00	-25.56	24.25	46.00	-21.75
4.38363	0.20	0.14	33.57	56.00	-22.43	27.89	46.00	-18.11
4.72634	0.19	0.15	31.54	56.00	-24.46	30.80	46.00	-15.20
4.79208	0.19	0.15	31.69	56.00	-24.31	22.77	46.00	-23.23
4.87044	0.19	0.15	35.36	56.00	-20.64	32.53	46.00	-13.47



* NOTE: During the test, the EMI receiver was set to Max. Hold then switch the EUT Channel between 1 , 6, 11 to get the maximum reading of all these channels .
Margin = Amplitude + Insertion Loss- Limit
A margin of -8dB means that the emission is 8dB below the limit

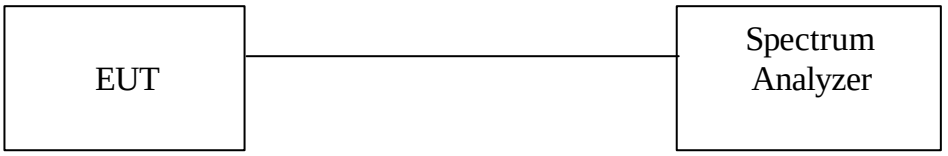
4.2 Bandwidth for DSSS [Section 15.247 (a)(2)]

4.2.1 Test Procedure

The Transmitter output of EUT was connected to the spectrum analyzer. The 6 dB bandwidth of the fundamental frequency was measured. The setting of spectrum analyzer is as follows

Equipment mode	Spectrum analyzer
Detector function	Peak mode
RBW	100KHz
VBW	100KHz

4.2.2 Test Setup



4.2.3 Test Data:

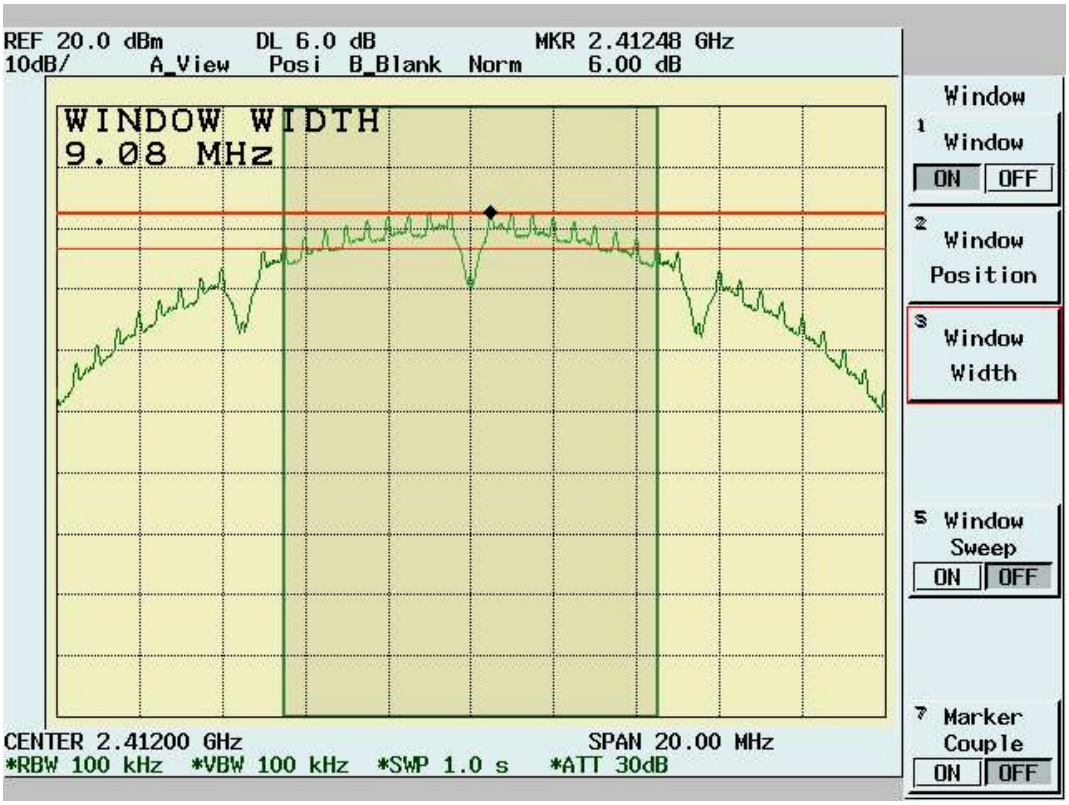
6dB Bandwidth

Temp. (deg. C): 25

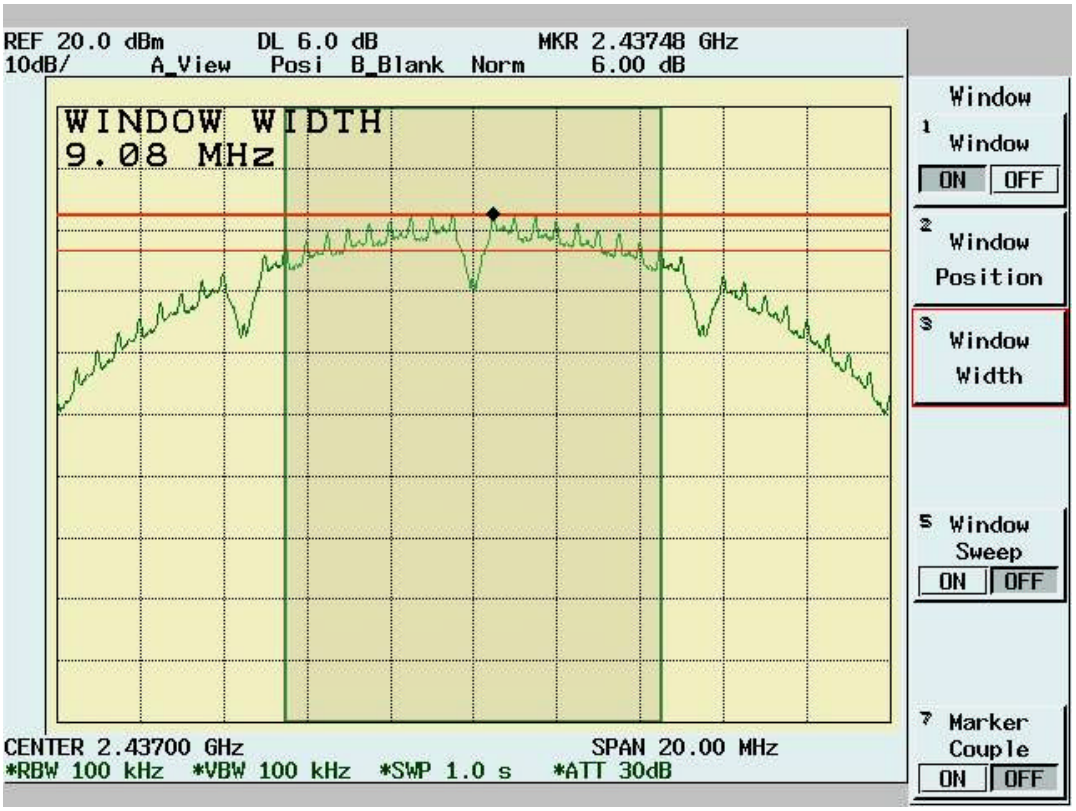
Test Engr: Mailes Hsieh Humidity (%): 50

Chennel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Pass/Fail
1	2412	9.08	0.5	Pass
6	2437	9.08	0.5	Pass
11	2462	9.08	0.5	Pass

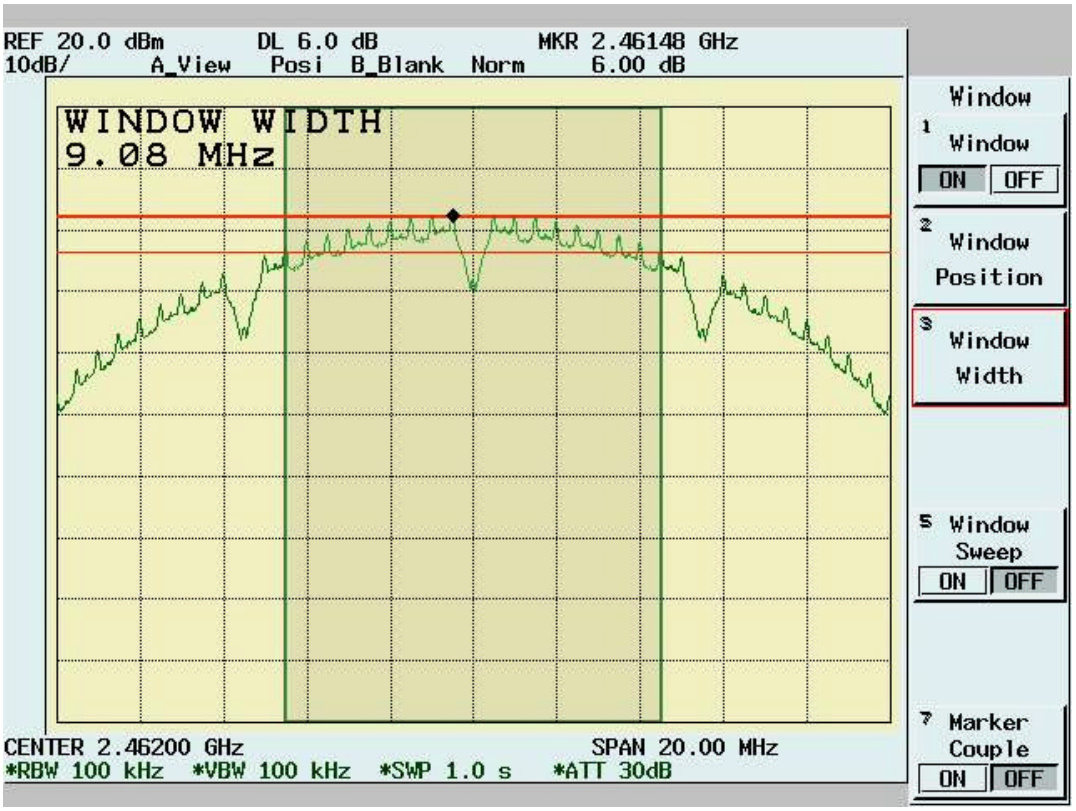
Channel 1:



Channel 6:



Channel 11:

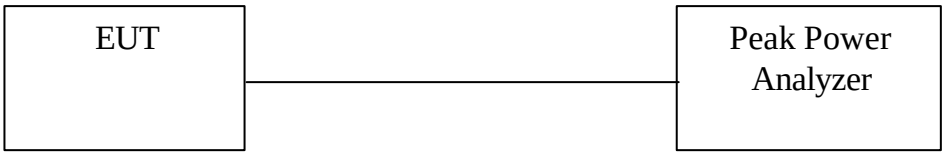

REF 20.0 dBm
10dB/
DL 6.0 dB
A_View
Posi
B_Blank
Norm
MKR 2.46148 GHz
6.00 dB
WINDOW WIDTH
9.08 MHz
Window
1 Window
ON OFF
2 Window Position
3 Window Width
5 Window Sweep
ON OFF
7 Marker Couple
ON OFF
CENTER 2.46200 GHz
SPAN 20.00 MHz
*RBW 100 kHz
*VBW 100 kHz
*SWP 1.0 s
*ATT 30dB

4.3 DSSS Maximum Peak Output Power [Section 15.247 (b)(1)]

4.3.1 Test Procedure

The Transmitter output of EUT was connected to the peak power analyzer.

4.3.2 Test Setup



4.3.3 Test Data

Maximum Peak Output Power

Temp. (deg. C): 25

Test Engr: Mailes Hsieh Humidity (%): 50

Channel	Frequency (Mhz)	Analyzer Reading (dBm)	Cable Loss (dB)	Peak Power Output (mW)	Peak Power Output (dBm)	Limit (dBm)	Pass/Fail
1	2412	15.031	1.1	41.03	16.131	30	Pass
6	2437	14.281	1.1	34.52	15.381	30	Pass
11	2462	13.812	1.1	30.99	14.912	30	Pass

Note: Two RF output(MAIN & AUX) have been test,the worse data shown above.

4.4 Radiated Emission Measurement [Section [15.247(c)(4)]

4.4.1 EUT Configuration

The equipment under test was set up on the10 meter chamber with measurement distance of 3 meters. The EUT was placed on a non-conductive table 80cm above ground.

Any changes made to the configuration, or modifications made to the EUT, during testing are noted in the following test record.

4.4.2 Test Procedure

The system was set up as described above, with the EMI diagnostic software running. We found the maximum readings by varying the height of antenna and then rotating the turntable. Both polarization of antenna, horizontal and vertical, are measured.

30M to 1GHz: The highest emissions between 30 MHz to 1000 MHz were also analyzed in details by operating the spectrum analyzer and/or EMI receiver in quasi-peak mode to determine the precise amplitude of the emissions. While doing so, the interconnecting cables and major parts of the system were moved around, the antenna height was varied between one and four meters, its polarization was varied between vertical and horizontal, and the turntable was slowly rotated, to maximize the emission.

1GHz – 25GHz: The highest emissions were also analyzed in details by operating the spectrum analyzer and/or EMI receiver in peak mode to determine the precise amplitude of the emission. While doing so, the interconnecting cables and major parts of the system were moved around, the antenna height was varied between one and four meters, its polarization was varied between vertical and horizontal, and the turntable was slowly rotated, to maximize the emission. During test the EMI receiver and spectrum was setup ac*cording to EMI Receiver/Spectrum Analyzer Configuration.*

For the test of 2^{nd} to 10^{th} harmonics frequencies , the equipment setup was also refer to *EMI Receiver/Spectrum Analyzer Configuration*. The frequencies were tested using Peak mode first, if the test data is higher than the emissions limit, an additional measurement using Average mode will be performed and the average reading will be compared to the limit and record in test report.

4.4.3 EMI Receiver/Spectrum Analyzer Configuration (for the frequencies tested)

Frequency Range Tested:	30MHz~1000MHz
Detector Function:	Quasi-Peak Mode
Resolution Bandwidth (RBW):	120KHz
Video Bandwidth (VBW)	1MHz

Frequency Range Tested:	1GHz – 25 GHz
Detector Function:	Peak Mode
Resolution Bandwidth (RBW):	1MHz
Video Bandwidth (VBW)	3MHz

Frequency Range Tested:	1GHz – 25 GHz
Detector Function:	Average Mode
Resolution Bandwidth (RBW):	1MHz
Video Bandwidth (VBW)	10 Hz

4.4.4 Test Data (30MHz – 1GHz):

30M – 1GHz Open Field Radiated Emissions (Horizontal) Channel 1, 6, 11

Operator:MailesHsieh
Temperature(C):22
05:48:45PM,Sunday,November28,2004 Humidity(%):55

Frequency	RxAmp.	AntFact	CableLoss	PreAmpGain	Corrct.Emi.	Limit	Margin	Ant.Pos.	TablePos.
MHz	(dBuV)	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg)
48.43	6.82	8.05	1.24	0.00	16.11	40.00	-23.89	146.00	296.00
96.93	25.66	9.69	1.84	0.00	37.19	43.50	-6.31	196.00	60.00
138.64	13.22	10.45	2.27	0.00	25.94	43.50	-17.56	196.00	223.00
155.13	13.52	9.09	2.45	0.00	25.07	43.50	-18.43	196.00	191.00
224.97	11.93	8.65	3.10	0.00	23.68	46.00	-22.32	146.00	263.00
249.22	9.79	11.49	3.32	0.00	24.60	46.00	-21.40	101.00	210.00
264.74	10.24	12.90	3.45	0.00	26.59	46.00	-19.41	101.00	210.00
304.51	8.53	13.66	3.78	0.00	25.98	46.00	-20.02	101.00	210.00
590.66	1.58	18.88	5.82	0.00	26.28	46.00	-19.72	146.00	18.00
947.62	0.90	21.07	8.04	0.00	30.01	46.00	-15.99	196.00	125.00

30M – 1GHz Open Field Radiated Emissions (Vertical) Channel 1, 6, 11

Operator:MailesHsieh
Temperature(C):22
05:50:42PM,Sunday,November28,2004 Humidity(%):55

Frequency	RxAmp.	AntFact	CableLoss	PreAmpGain	Corrct.Emi.	Limit	Margin	Ant.Pos.	TablePos.
MHz	(dBuV)	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg)
35.82	5.81	14.64	1.02	0.00	21.48	40.00	-18.52	103.00	170.00
48.43	19.05	8.05	1.24	0.00	28.34	40.00	-11.66	103.00	251.00
95.96	25.14	9.49	1.83	0.00	36.46	43.50	-7.04	196.00	120.00
135.73	9.62	10.77	2.26	0.00	22.65	43.50	-20.85	196.00	120.00
167.74	10.02	8.57	2.55	0.00	21.14	43.50	-22.36	103.00	267.00
522.76	1.48	18.09	5.41	0.00	24.98	46.00	-21.02	196.00	23.00
558.65	1.75	18.82	5.67	0.00	26.24	46.00	-19.76	103.00	218.00
594.54	1.39	18.89	5.85	0.00	26.13	46.00	-19.87	103.00	349.00
870.99	0.78	20.52	7.72	0.00	29.01	46.00	-16.99	153.00	289.00
927.25	1.30	20.78	7.91	0.00	29.99	46.00	-16.01	103.00	283.00

NOTE:

✍✍During the Pre-test, the EUT has been tested for Channel 1 , 6, 11 transmit from Main and Aux antenna respectively to get all the critical emission frequencies. In the final test all the critical emission frequencies has been tested and the test data are listed above.

✍✍Margin = Corrected Amplitude – Limit

Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss - Pre-Amplifier Gain

A margin of -8dB means that the emission is 8dB below the limit

All frequencies from 30MHz to 1GHz have been tested

4.4.5 Test Data (1GHz – 25 GHz) .

1GHz~ 25 GHz (Horizontal), Channel 1: 2412 MHz

Operator:MailesHsieh RBW:1MHz
Humidity(%):37
Temperature(C):22

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
2026.47	44.33pk	30.99	2.52	35.32	42.52pk	54.00av	-11.48	100	51
2191.31	44.43pk	30.96	2.02	35.39	42.02pk	54.00av	-11.98	101	103
2528.47	44.55pk	30.91	1.37	35.51	41.32pk	54.00av	-12.68	102	209
2590.91	44.60pk	30.94	1.38	35.49	41.42pk	54.00av	-12.58	102	229
4821.68	32.57pk	34.92	2.12	39.12	30.49pk	54.00av	-23.51	100	18
9643.36	38.84pk	40.58	3.24	34.13	48.55pk	54.00av	-5.45	102	7

1GHz~ 25 GHz (Vertical), Channel 1: 2412 MHz

Operator:MailesHsieh RBW:1MHz
Humidity(%):37
Temperature(C):22

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
2296.2	45.09pk	30.94	1.70	35.43	42.30pk	54.00av	-11.70	101	136
2568.43	44.34pk	30.93	1.37	35.50	41.15pk	54.00av	-12.85	102	221
2730.77	44.31pk	30.99	1.40	35.45	41.26pk	54.00av	-12.74	102	272
4821.68	36.38pk	34.92	2.12	39.12	34.30pk	54.00av	-19.70	100	18
9643.36	41.45pk	40.58	3.24	34.13	51.15pk	54.00av	-2.85	102	7

Note:

- According to ANSI C63.4-2001 8.3.1.2 Notes(1):Where limits are specified by agencies for both average and peak (or quasi-peak) detection , if the peak (or quasi-peak) measured value complies with the average limit , it is unnecessary to perform an average measurement.
- " * ": Fundamental Frequency
- "**": Not in the restricted band, Limit level=Fundamental Emission-20dB
- " pk": peak mode
- "av": average mode
- "---": No meter reading data due to the emission level is smaller than spectrum noise level.
- The Spectrum noise level+Correction Factor < Limit - 6 dB
- Margin=Corrected Amplitude – Limit
- Corrected Amplitude=Radiated Amplitude+Antenna Correction Factor+Cable Loss-Pre-Amplifier Gain
- A margin of -8dB means that the emission is 8dB below the limit.

All frequencies from 1GHz to 25 GHz have been tested.

1GHz~ 25 GHz (Horizontal) , Channel 6 : 2437 MHz

Operator:MailesHsieh RBW:1MHz
Humidity(%):37
Temperature(C):22

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
2211.29	45.02pk	30.96	1.96	35.40	42.54pk	54.00av	-11.46	101	109
2308.69	44.81pk	30.94	1.66	35.44	41.97pk	54.00av	-12.03	101	140
4870.63	31.68pk	35.11	2.14	39.16	29.76pk	54.00av	-24.24	100	13
9745.25	39.12pk	40.36	3.30	33.75	49.02pk	54.00av	-4.98	102	5

1GHz~ 25 GHz (Vertical), Channel 6 : 2437 MHz

Operator:MailesHsieh RBW:1MHz
Humidity(%):37
Temperature(C):22

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
2066.43	44.35pk	30.99	2.40	35.34	42.40pk	54.00av	-11.60	100	64
2286.21	44.39pk	30.94	1.73	35.43	41.63pk	54.00av	-12.37	101	133
4870.63	33.98pk	35.11	2.14	39.16	32.06pk	54.00av	-21.94	100	13
9745.25	41.22pk	40.36	3.30	33.75	51.12pk	54.00av	-2.88	102	5

Note:

- According to ANSI C63.4-2001 8.3.1.2 Notes(1):Where limits are specified by agencies for both average and peak (or quasi-peak) detection , if the peak (or quasi-peak) measured value complies with the average limit , it is unnecessary to perform an average measurement.
- " * ": Fundamental Frequency
- "**": Not in the restricted band, Limit level=Fundamental Emission-20dB
- " pk": peak mode
- "av": average mode
- "---": No meter reading data due to the emission level is smaller than spectrum noise level.
- The Spectrum noise level+Correction Factor < Limit - 6 dB
- Margin=Corrected Amplitude – Limit
- Corrected Amplitude=Radiated Amplitude+Antenna Correction Factor+Cable Loss-Pre-Amplifier Gain
- A margin of -8dB means that the emission is 8dB below the limit.

All frequencies from 1GHz to 25 GHz have been tested.

1GHz~ 25 GHz (Horizontal), Channel 11: 2462 MHz

Operator:MailesHsieh RBW:1MHz
Humidity(%):37
Temperature(C):22

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
2018.98	44.55pk	31.00	2.54	35.32	42.77pk	54.00av	-11.23	100	49
2313.69	44.74pk	30.94	1.64	35.44	41.88pk	54.00av	-12.12	101	141
2813.19	44.80pk	31.03	1.42	35.42	41.82pk	54.00av	-12.18	102	298
4923.08	29.72pk	35.31	2.15	39.20	27.97pk	54.00av	-26.03	100	8
9841.16	36.00pk	40.15	3.35	33.40	46.10pk	54.00av	-7.90	101	3

1GHz~ 25 GHz (Vertical), Channel 11 : 2462 MHz

Operator:MailesHsieh RBW:1MHz
Humidity(%):37
Temperature(C):22

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
2076.42	44.80pk	30.98	2.37	35.34	42.81pk	54.00av	-11.19	100	67
2253.75	45.37pk	30.95	1.83	35.42	42.73pk	54.00av	-11.27	101	123
4919.58	32.38pk	35.29	2.15	39.20	30.62pk	54.00av	-23.38	100	8
9841.16	37.79pk	40.15	3.35	33.40	47.88pk	54.00av	-6.12	101	3

Note:

- According to ANSI C63.4-2001 8.3.1.2 Notes(1):Where limits are specified by agencies for both average and peak (or quasi-peak) detection , if the peak (or quasi-peak) measured value complies with the average limit , it is unnecessary to perform an average measurement.
- " * ": Fundamental Frequency
- "**": Not in the restricted band, Limit level=Fundamental Emission-20dB
- " pk": peak mode
- "av": average mode
- "---": No meter reading data due to the emission level is smaller than spectrum noise level.
- The Spectrum noise level+Correction Factor < Limit - 6 dB
- Margin=Corrected Amplitude – Limit
- Corrected Amplitude=Radiated Amplitude+Antenna Correction Factor+Cable Loss-Pre-Amplifier Gain
- A margin of -8dB means that the emission is 8dB below the limit.

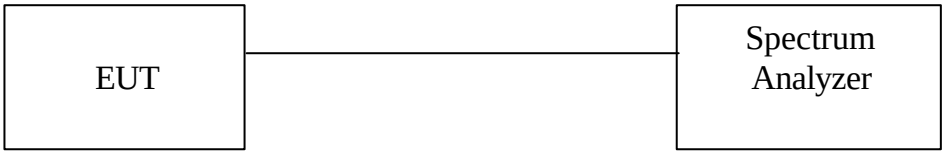
All frequencies from 1GHz to 25 GHz have been tested.

4.5 Band Edge Measurement

4.5.1 Test Procedure (Conducted)

1. The transmitter output of EUT was connected to the spectrum analyzer.
   Equipment mode: Spectrum analyzer
   Detector function: Peak mode
   SPAN: 100MHz
   RBW: 100KHz
   VBW: 100KHz
   Center frequency: 2.4GHz, 2.4835GHz.
2. Using Peak Search to read the peak power of Carrier frequencies after Maximum Hold function is completed
3. Find the next peak frequency outside the operation frequency band

4.5.2 Test Setup (Conducted)



4.5.3 Test Data:

Table: Band Edge measurement (Conducted)

Temp. (deg. C): 25

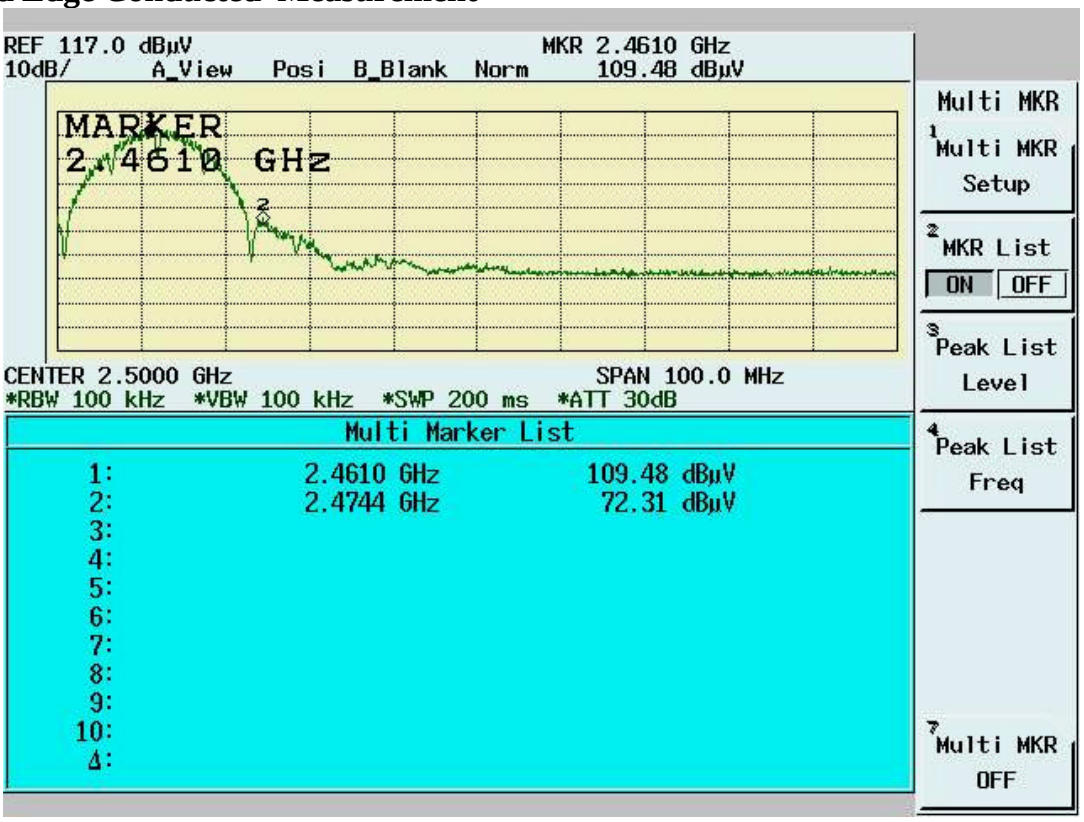
Test Engr: Mailes Hsieh Humidity (%): 50

Channel	Frequency (MHz)	Spectrum Reading (dBuV)	Carrier - Outsideband Limit: >20dB (dB)	Pass/Fail
1	2410.9	110.32	---	---
Outside band	2399.5	74.39	35.93	Pass
11	2461	109.48	---	---
Outside band	2474.4	72.31	37.17	Pass

Note: Two RF output(MAIN & AUX) have been test,the worse data shown above.

Band Edge Conducted measurement

Band Edge Conducted Measurement



4.5.4 Test Procedure (Radiated)

1. Antenna and Turntable test procedure same as Radiated Emission Measurement.
   Equipment mode: Spectrum analyzer
   Detector function: Peak mode
   SPAN: 100MHz
   RBW: 1MHz
   VBW: 3MHz
   Center frequency: 2.395GHz, 2.48GHz.
2. Using Peak Search to read the peak power of Carrier frequencies after Maximum Hold function is completed.
3. Find the next peak frequency outside the operation frequency band
4. For peak frequency emission level measurement in Restricted Band ,
   Change RBW: 1MHz
   VBW: 10Hz
   Span: 100MHz.
5. Get the spectrum reading after Maximum Hold function is completed.

4.5.5 Test Setup (Radiated)

Same as *Radiated Emission Measurement*

4.5.6 Test Data

Table Band Edge measurement (Radiated)

Temp. (deg. C): 25

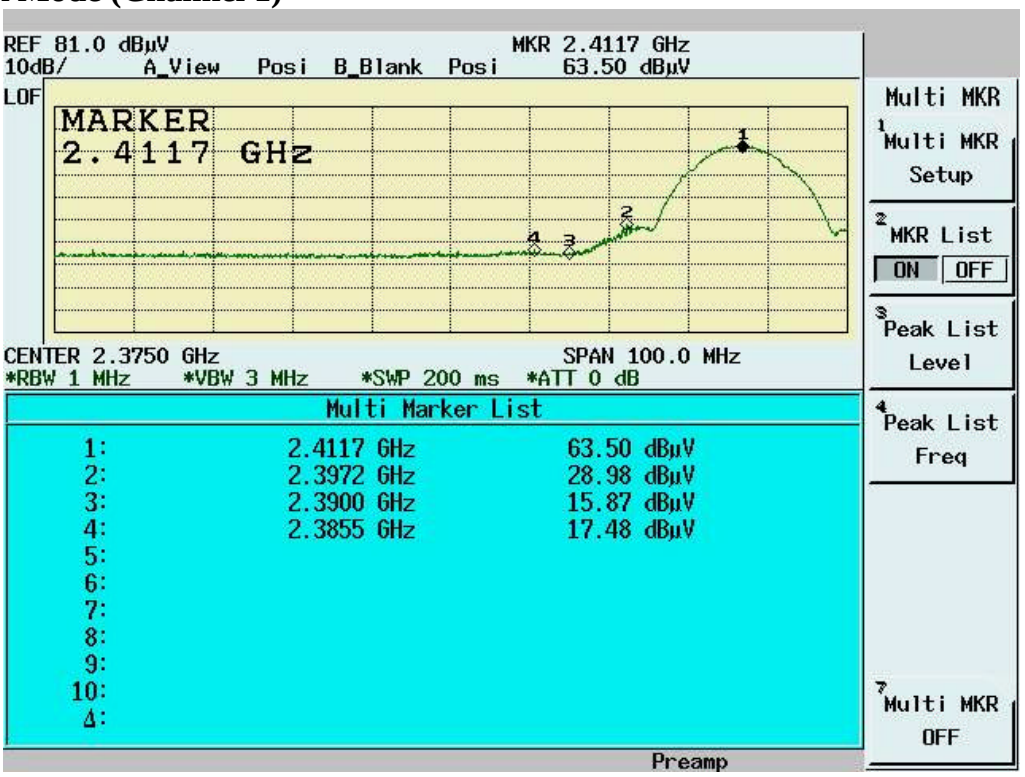
Test Engr: Mailes Hsieh Humidity (%): 50

Description	Frequency (MHz)	Spectrum Reading (dBuV)	Correction Factor (dB/m)	Emission Level (dBuV/m)	dBc (Limit: > 20dBc)	Limit (dBuV/m)	Equip. Setup VBW	Pass or Fail
Channel_1 (average mode)	2410.8	56.75	35.48	92.23	---	---	10Hz	---
Channel_1 (peak mode)	2411.7	63.5	35.48	98.98	---	---	3MHz	---
Outside band (peak mode)	2397.2	28.98	35.48	64.46	34.52	---	3MHz	Pass
Channel_11 (average mode)	2462.7	53.01	35.5	88.51	---	---	10Hz	---
Channel_11 (peak mode)	2461.6	61.14	35.5	96.64	---	---	3MHz	---
Outside band (peak mode)	2474.8	28.44	35.51	63.95	32.69	---	3MHz	Pass
Channel_1 Restricted band (peak mode)	2385.5	17.48	35.47	52.95	---	74	3MHz	Pass
Restricted band (average mode)	2383.6	6.34	35.47	41.81	---	54	10Hz	Pass
Channel_11 Restricted band (peak mode)	2487	18.98	35.51	54.49	---	74	3MHz	Pass
Restricted band (average mode)	2488.4	7.62	35.51	43.13	---	54	10Hz	Pass

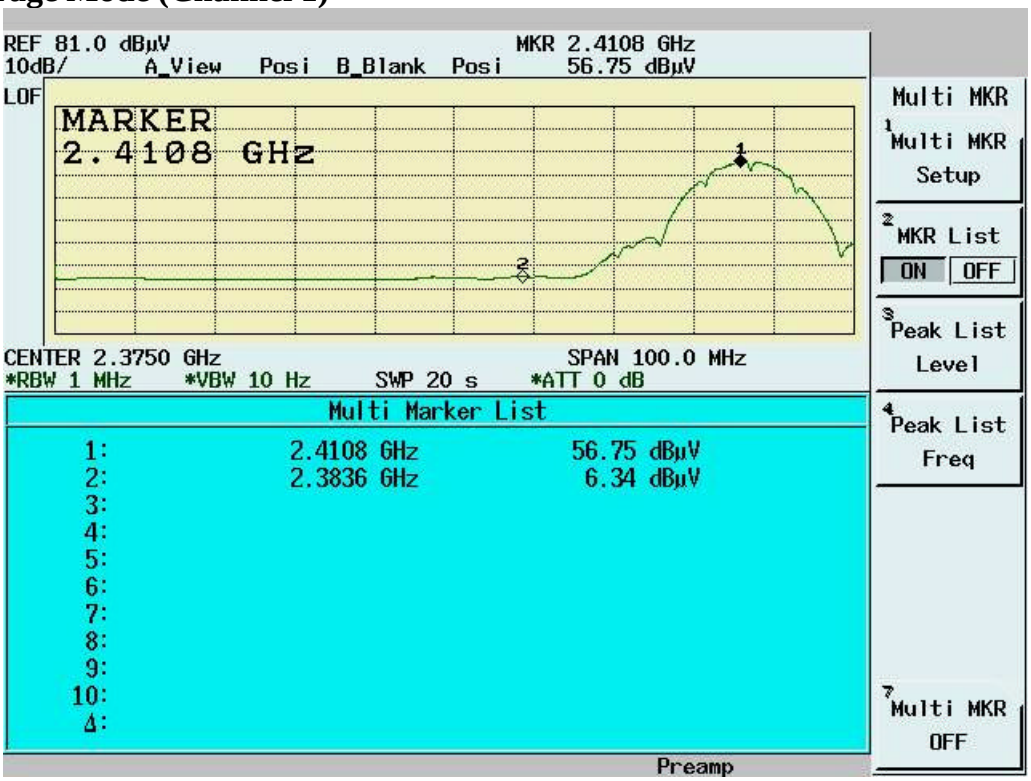
Note:

- ✍✍ The Spectrum plot of emission level measurement in Restricted band is attached.
- ✍✍ Emission Level=Spectrum Reading+Correction Factor
- ✍✍ Correction Factor=Antenna Factor+cable loss–amplifier gain
- ✍✍ Both Horizontal and Vertical polarizaion have been tested and the worst data is listed above.

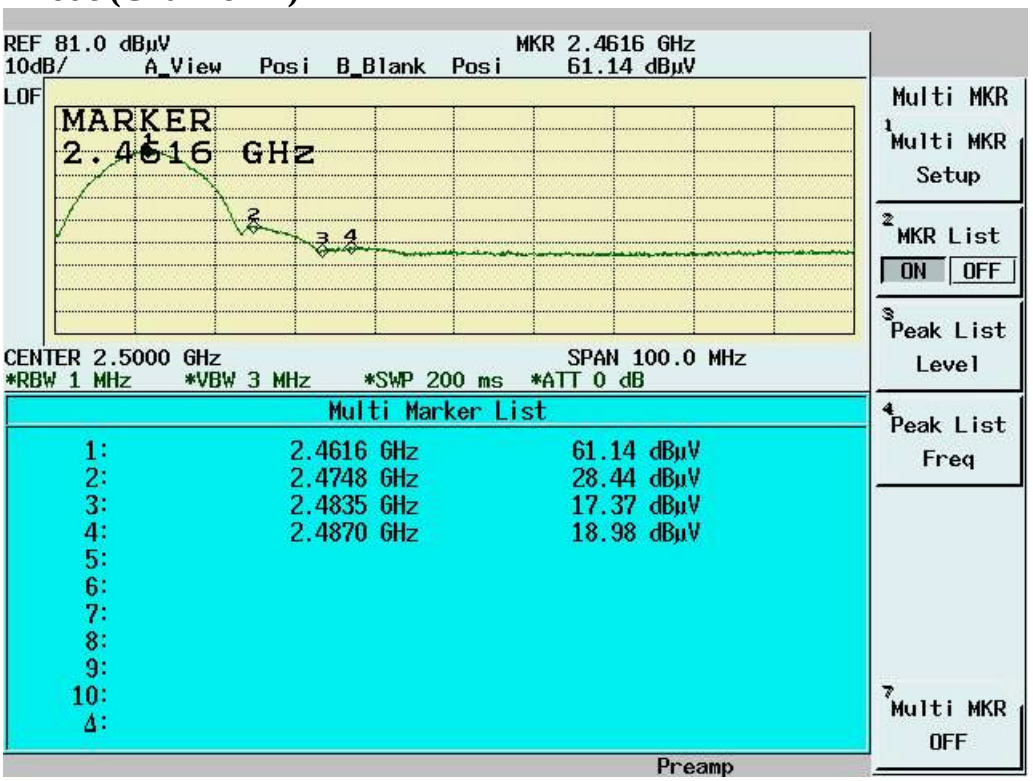
Band Edge measurement for radiated emission in Restricted Band(Radiated) Peak Mode (Channel 1)



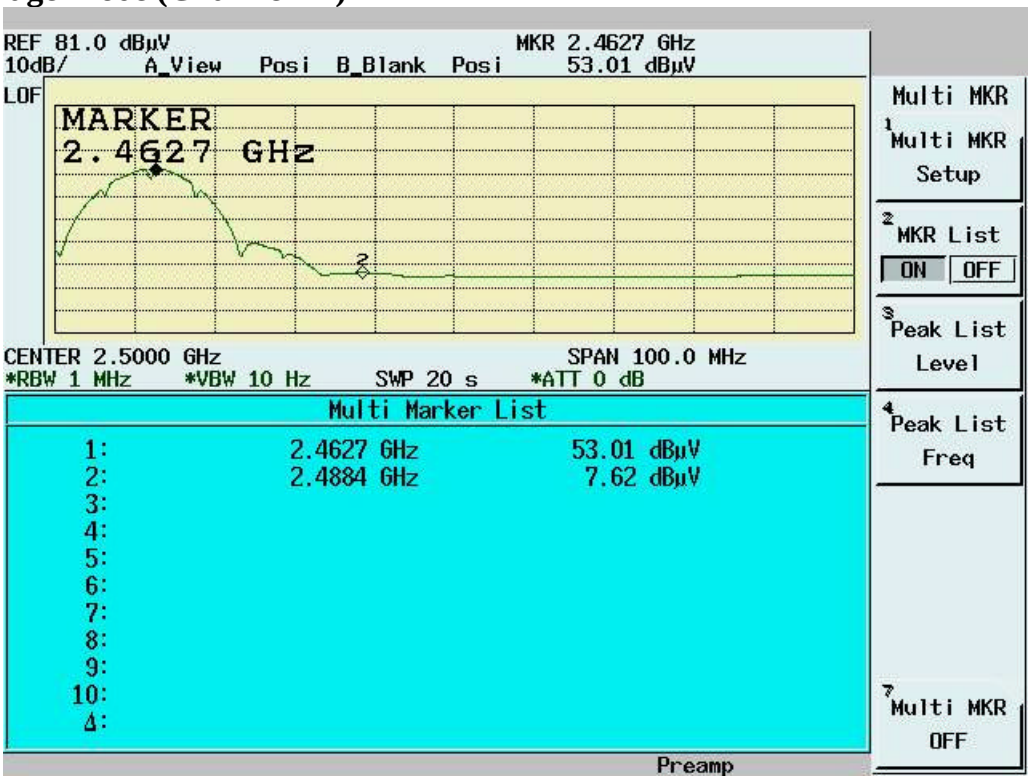
Band Edge measurement for radiated emission in Restricted Band(Radiated) Average Mode (Channel 1)



Band Edge measurement for radiated emission in Restricted Band(Radiated) Peak Mode (Channel 11)



Band Edge measurement for radiated emission in Ristricted Band(Radiated) Average Mode (Channel 11)



4.6 RF Exposure Measurement [Section 15.247(b)(4) & 1.1307(b)]

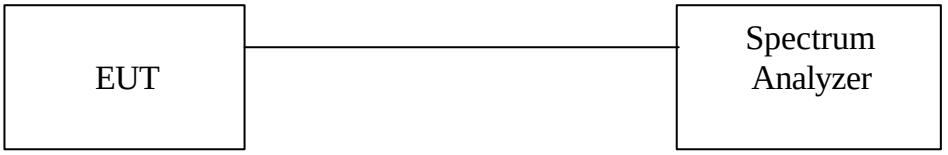
See MPE report

4.7 DSSS Peak Power Spectral Density [Section 15.247(d)]

4.7.1 Test Procedure

1. The Transmitter output of EUT was connected to the spectrum analyzer.
   Equipment mode: Spectrum analyzer
   Detector function: Peak mode
   SPAN:1.5MHz
   RBW: 3KHz
   VBW: 30KHz
   Center frequency: fundamental frequency tested.
   Sweep time= 500 sec.
2. Using Peak Search to read the peak power after Maximum Hold function is completed.

4.7.2 Test Setup



4.7.3 Test Data

Maximum Peak Output Power Density

Temp. (deg. C): 25

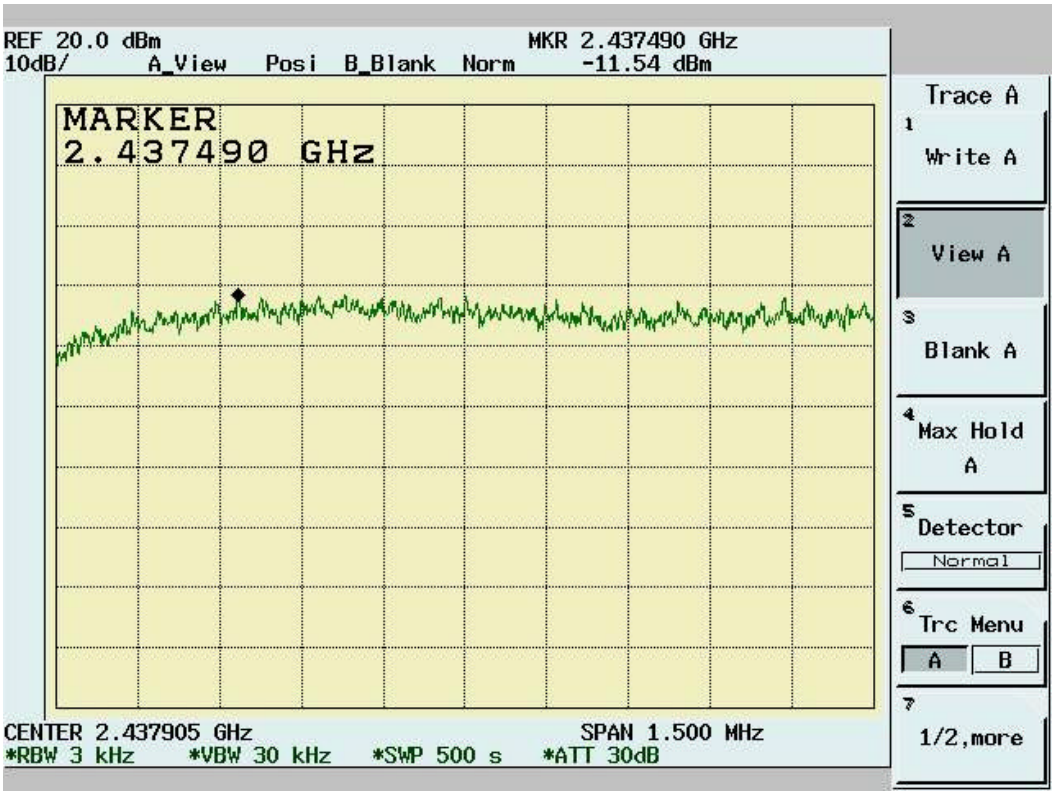
Test Engr: Mailes Hsieh Humidity (%): 50

Chennel	Frequency (MHz)	Spectrum Reading (dBm/3KHz)	Cable Loss (dB)	Peak Power Output (dBm/3KHz)	Limit (dBm/3KHz)	Pass/Fail
1	2412	-10.15	1.1	-9.05	8	Pass
6	2437	-11.54	1.1	-10.44	8	Pass
11	2462	-10.61	1.1	-9.51	8	Pass

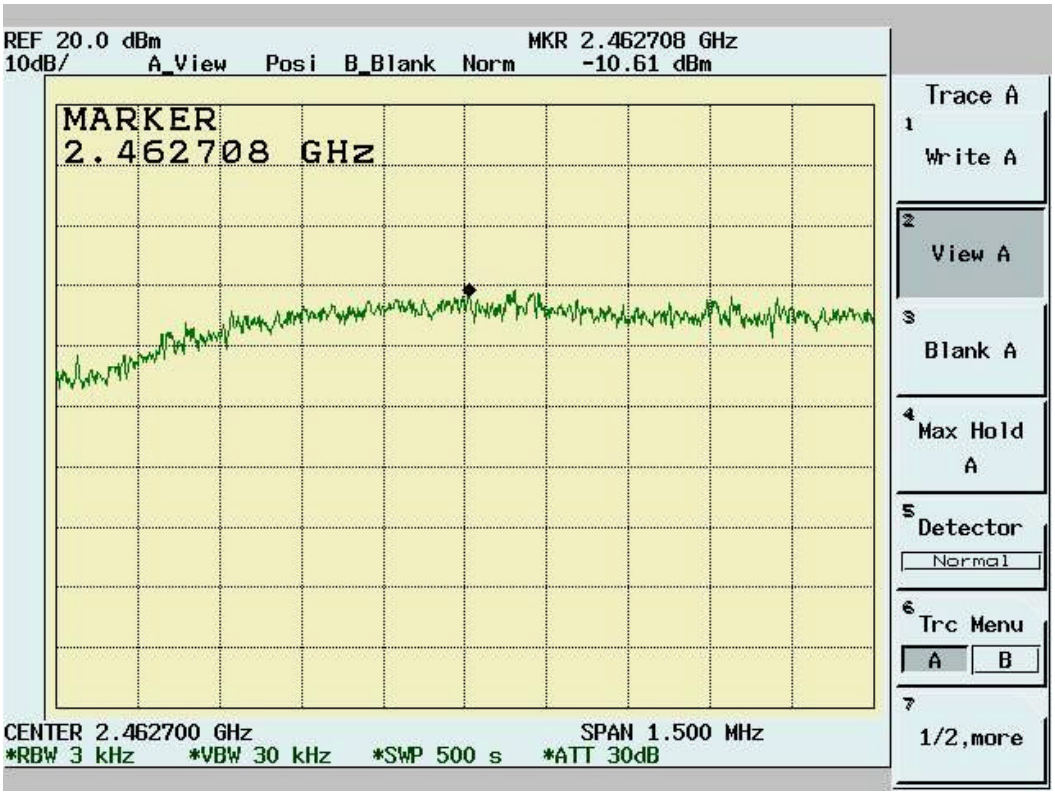
Note: Two RF output(MAIN & AUX) have been test,the worse data shown above.

Channel 1

Channel 6



Channel 11


REF 20.0 dBm
10dB/ A_View Posi B_Blank Norm
MKR 2.462708 GHz
-10.61 dBm
MARKER
2.462708 GHz
Trace A
1 Write A
2 View A
3 Blank A
4 Max Hold A
5 Detector
Normal
6 Trc Menu
A B
7 1/2,more
CENTER 2.462700 GHz
SPAN 1.500 MHz
*RBW 3 kHz *VBW 30 kHz *SWP 500 s *ATT 30dB

5. TEST RESULTS (802.11g)

5.1 Powerline Conducted Emissions [Section 15.207]

5.1.1 EUT Configuration

The conducted emission test setups are in accordance with Figs 9, 10(a) and 10(b) of ANSI C63.4-2001, CFR 47 Part 15 Subpart B; or EN55022:1994/ A1:1995/A2:1997; CISPR 22:1993/A1:1995/A2:1996.

The EUT was set up on the non-conductive table that is 1.0 by 1.5 meter, 80cm above ground. The wall of the shielded room was located 40cm to the rear of the EUT.

Power to the EUT was provided through the LISN. The impedance vs. frequency characteristic of the LISN is complied with the limit shown on the figure 1 of ANSI C63.4-2001.

Both lines (neutral and hot) were connected to the LISN in series at testing. A coaxial-type connector which provides one 50 ohms terminating impedance was provided for connecting the test instrument. The excess length of the power cord was folded back and forth at the center of the lead so as to form a bundle not exceeding 40cm in length.

Any changes made to the configuration, or modifications made to the EUT, during testing are noted in the following test record.

If the EUT is a Personal Computer or a peripheral of personal computer, and the personal computer has an auxiliary AC outlet which can be used for providing power to an external monitor, then all measurements will be made with the monitor power from first the computer-mounted AC outlet and then a floor-mounted AC outlet.

5.1.2 Test Procedure

The system was set up as described above, with the EMI diagnostic software running. The main power line conducted EMI tests were run on the hot and neutral conductors of the power cord and the results were recorded. The effect of varying the position of the interface cables has been investigated to find the configuration that produces maximum emission.

At the frequencies where the peak values of the emissions were higher than 6dß below the applicable limits, the emissions were also measured with the quasi-peak detectors. At the frequencies where the quasi-peak values of the emissions were higher than 6dß below the applicable average limits, the emissions were also measured with the average detectors.

The highest emissions were analyzed in details by operating the spectrum analyzer in fixed tuned mode to determine the nature of the emissions and to provide information which could be useful in reducing their amplitude.

5.1.3 EMI Receiver/Spectrum Analyzer Configuration (for the frequencies tested)

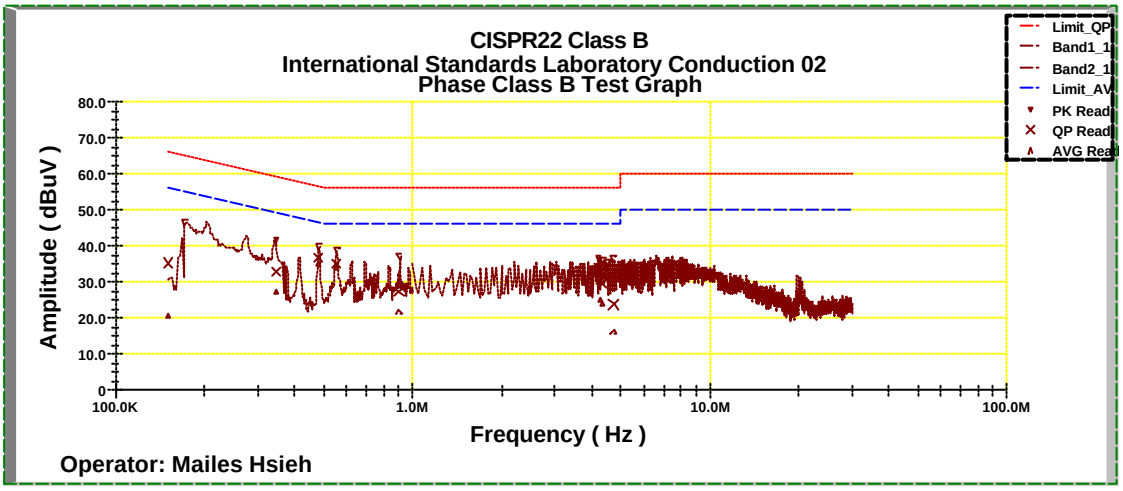
Frequency Range	150 KHz--30MHz
Detector Function	Quasi-Peak/Average
Bandwidth (RBW)	9KHz

5.1.4 Test Data:

Power Line Conducted Emissions (Hot) Channel 1, 6, 11

Operator:MailesHsieh
Temperature(C):24
11:32:23AM,Thursday,December02,2004 Humidity(%):50

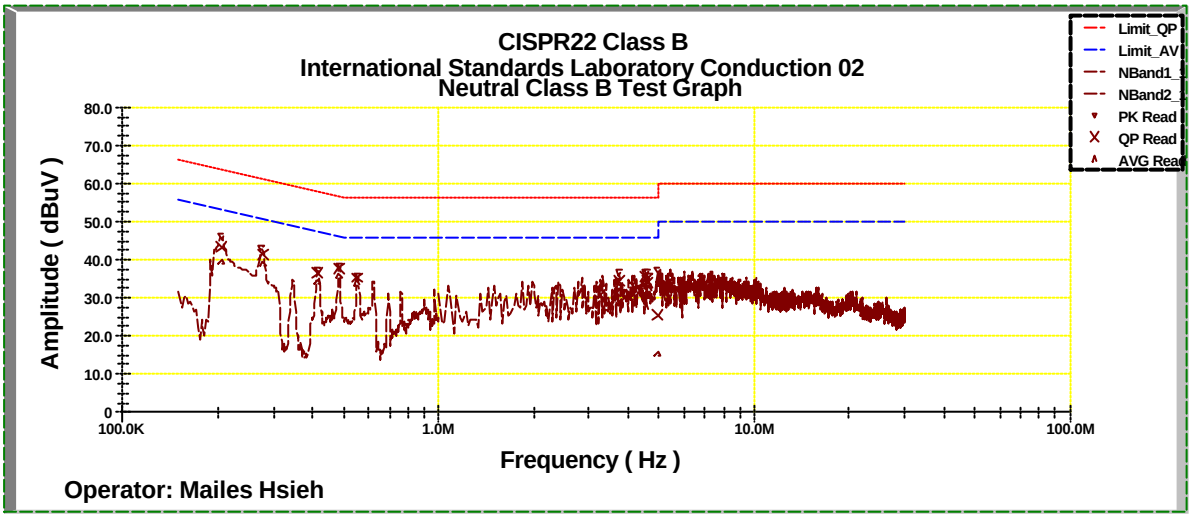
Frequency	LISNLoss	CableLoss	QPCorrct.	QPLimit	QPMargin	AVECorrct.	AVELimit	AVEMargin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.15022	0.10	0.02	35.24	65.99	-30.75	20.41	55.99	-35.58
0.34673	0.10	0.09	32.85	60.38	-27.53	26.98	50.38	-23.40
0.48130	0.11	0.07	36.81	56.53	-19.73	34.80	46.53	-11.74
0.55310	0.13	0.07	35.05	56.00	-20.95	33.65	46.00	-12.35
0.89823	0.18	0.07	27.15	56.00	-28.85	21.57	46.00	-24.43
4.20780	0.20	0.14	33.63	56.00	-22.37	31.14	46.00	-14.86
4.27354	0.20	0.14	30.81	56.00	-25.19	24.85	46.00	-21.15
4.34552	0.21	0.14	29.59	56.00	-26.41	23.63	46.00	-22.37
4.48310	0.21	0.15	34.47	56.00	-21.53	32.67	46.00	-13.33
4.74552	0.21	0.15	23.65	56.00	-32.35	16.17	46.00	-29.83



Power Line Conducted Emissions (Neutral) Channel 1, 6, 11

Operator:MailesHsieh
Temperature(C):24
11:40:45AM,Thursday,December02,2004 Humidity(%):50

Frequency	LISNLoss	CableLoss	QPCorrct.	QPLimit	QPMargin	AVECorrct.	AVELimit	AVEMargin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.20623	0.10	0.05	43.38	64.39	-21.01	39.31	54.39	-15.08
0.27798	0.10	0.09	41.38	62.34	-20.97	38.85	52.34	-13.49
0.41473	0.10	0.08	36.42	58.44	-22.02	34.10	48.44	-14.34
0.48313	0.11	0.07	37.83	56.48	-18.66	35.81	46.48	-10.68
0.55308	0.13	0.07	35.27	56.00	-20.73	33.84	46.00	-12.16
3.72716	0.20	0.13	34.35	56.00	-21.65	33.13	46.00	-12.87
4.48797	0.20	0.15	35.67	56.00	-20.33	34.06	46.00	-11.94
4.55769	0.19	0.15	34.67	56.00	-21.33	27.52	46.00	-18.48
4.62914	0.19	0.15	34.06	56.00	-21.94	32.22	46.00	-13.78
4.93977	0.19	0.15	25.41	56.00	-30.59	15.08	46.00	-30.92



* NOTE: During the test, the EMI receiver was set to Max. Hold then switch the EUT Channel between 1 , 6, 11 to get the maximum reading of all these channels .
Margin = Amplitude + Insertion Loss- Limit
A margin of -8dB means that the emission is 8dB below the limit

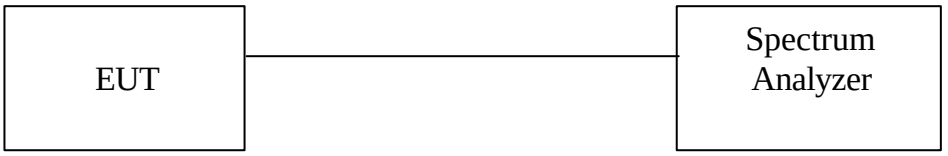
5.2 Bandwidth for DSSS [Section 15.247 (a)(2)]

5.2.1 Test Procedure

The Transmitter output of EUT was connected to the spectrum analyzer. The 6 dB bandwidth of the fundamental frequency was measured. The setting of spectrum analyzer is as follows

Equipment mode	Spectrum analyzer
Detector function	Peak mode
RBW	100KHz
VBW	100KHz

5.2.2 Test Setup



5.2.3 Test Data:

6dB Bandwidth

Temp. (deg. C): 25

Test Engr: Mailes Hsieh Humidity (%): 50

Chennel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Pass/Fail
1	2412	16.6	0.5	Pass
6	2437	16.6	0.5	Pass
11	2462	16.6	0.5	Pass

Channel 1:

Channel 6:

Channel 11:

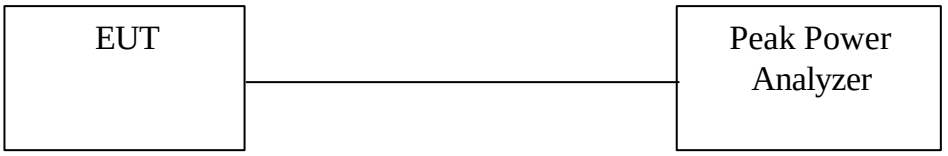

REF 20.0 dBm
10dB/
DL 6.0 dB
A_View
Posi
B_Blank
Norm
MKR 2.46324 GHz
6.00 dB
WINDOW WIDTH
16.60 MHz
Window
1 Window
ON OFF
2 Window Position
3 Window Width
5 Window Sweep
ON OFF
7 Marker Couple
ON OFF
CENTER 2.46200 GHz
SPAN 20.00 MHz
*RBW 100 kHz
*VBW 100 kHz
*SWP 1.0 s
*ATT 30dB

5.3 DSSS Maximum Peak Output Power [Section 15.247 (b)(1)]

5.3.1 Test Procedure

The Transmitter output of EUT was connected to the peak power analyzer.

5.3.2 Test Setup



5.3.3 Test Data

Maximum Peak Output Power

Temp. (deg. C): 25

Test Engr: Mailes Hsieh Humidity (%): 50

Channel	Frequency (Mhz)	Analyzer Reading (dBm)	Cable Loss (dB)	Peak Power Output (mW)	Peak Power Output (dBm)	Limit (dBm)	Pass/Fail
1	2412	15.437	1.1	45.05	16.537	30	Pass
6	2437	14.874	1.1	39.57	15.974	30	Pass
11	2462	14.486	1.1	36.19	15.586	30	Pass

Note: Two RF output(MAIN & AUX) have been test,the worse data shown above.

5.4 Radiated Emission Measurement [Section [15.247(c)(4)]

5.4.1 EUT Configuration

The equipment under test was set up on the 10 meter chamber with measurement distance of 3 meters. The EUT was placed on a non-conductive table 80cm above ground.

Any changes made to the configuration, or modifications made to the EUT, during testing are noted in the following test record.

5.4.2 Test Procedure

The system was set up as described above, with the EMI diagnostic software running. We found the maximum readings by varying the height of antenna and then rotating the turntable. Both polarization of antenna, horizontal and vertical, are measured.

30M to 1GHz: The highest emissions between 30 MHz to 1000 MHz were also analyzed in details by operating the spectrum analyzer and/or EMI receiver in quasi-peak mode to determine the precise amplitude of the emissions. While doing so, the interconnecting cables and major parts of the system were moved around, the antenna height was varied between one and four meters, its polarization was varied between vertical and horizontal, and the turntable was slowly rotated, to maximize the emission.

1GHz – 25GHz: The highest emissions were also analyzed in details by operating the spectrum analyzer and/or EMI receiver in peak mode to determine the precise amplitude of the emission. While doing so, the interconnecting cables and major parts of the system were moved around, the antenna height was varied between one and four meters, its polarization was varied between vertical and horizontal, and the turntable was slowly rotated, to maximize the emission. During test the EMI receiver and spectrum was setup ac*cording to EMI Receiver/Spectrum Analyzer Configuration.*

For the test of 2^{nd} to 10^{th} harmonics frequencies , the equipment setup was also refer to *EMI Receiver/Spectrum Analyzer Configuration*. The frequencies were tested using Peak mode first, if the test data is higher than the emissions limit, an additional measurement using Average mode will be performed and the average reading will be compared to the limit and record in test report.

5.4.3 EMI Receiver/Spectrum Analyzer Configuration (for the frequencies tested)

Frequency Range Tested:	30MHz~1000MHz
Detector Function:	Quasi-Peak Mode
Resolution Bandwidth (RBW):	120KHz
Video Bandwidth (VBW)	1MHz

Frequency Range Tested:	1GHz – 25 GHz
Detector Function:	Peak Mode
Resolution Bandwidth (RBW):	1MHz
Video Bandwidth (VBW)	3MHz

Frequency Range Tested:	1GHz – 25 GHz
Detector Function:	Average Mode
Resolution Bandwidth (RBW):	1MHz
Video Bandwidth (VBW)	10 Hz

5.4.4 Test Data (30MHz – 1GHz):

30M – 1GHz Open Field Radiated Emissions (Horizontal) Channel 1, 6, 11

Operator:MailesHsieh
Temperature(C):22
05:56:36PM,Sunday,November28,2004 Humidity(%):55

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
48.43	15.28	8.05	1.24	0.00	24.57	40.00	-15.43	102.00	353.00
66.86	9.56	5.40	1.46	0.00	16.42	40.00	-23.58	102.00	353.00
100.81	25.34	10.41	1.89	0.00	37.65	43.50	-5.85	196.00	73.00
135.73	12.36	10.77	2.26	0.00	25.39	43.50	-18.11	196.00	237.00
156.1	13.63	9.03	2.46	0.00	25.13	43.50	-18.37	196.00	203.00
264.74	10.51	12.90	3.45	0.00	26.86	46.00	-19.14	102.00	223.00
565.44	2.40	18.83	5.70	0.00	26.92	46.00	-19.08	196.00	352.00
688.63	0.73	19.00	6.47	0.00	26.20	46.00	-19.80	102.00	337.00
742.95	1.16	19.94	6.90	0.00	28.01	46.00	-17.99	147.00	71.00
985.45	0.85	21.17	8.38	0.00	30.40	54.00	-23.60	102.00	142.00

30M – 1GHz Open Field Radiated Emissions (Vertical) Channel 1, 6, 11

Operator:MailesHsieh
Temperature(C):22
05:58:32PM,Sunday,November28,2004 Humidity(%):55

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
35.82	5.79	14.64	1.02	0.00	21.45	40.00	-18.55	153.00	337.00
48.43	18.80	8.05	1.24	0.00	28.10	40.00	-11.90	102.00	300.00
98.87	18.80	10.07	1.87	0.00	30.75	43.50	-12.75	196.00	7.00
132.82	9.80	11.09	2.24	0.00	23.12	43.50	-20.38	102.00	120.00
137.67	7.88	10.56	2.27	0.00	20.71	43.50	-22.79	102.00	235.00
163.86	10.91	8.68	2.52	0.00	22.12	43.50	-21.38	102.00	316.00
249.22	7.28	11.49	3.32	0.00	22.09	46.00	-23.91	102.00	87.00
599.39	1.35	18.90	5.88	0.00	26.13	46.00	-19.87	153.00	288.00
622.67	0.69	18.95	6.10	0.00	25.73	46.00	-20.27	153.00	222.00
984.48	0.66	21.17	8.37	0.00	30.21	54.00	-23.79	153.00	288.00

NOTE:

✍✍During the Pre-test, the EUT has been tested for Channel 1 , 6, 11 transmit from Main and Aux antenna respectively to get all the critical emission frequencies. In the final test all the critical emission frequencies has been tested and the test data are listed above.

✍✍Margin = Corrected Amplitude – Limit

Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss - Pre-Amplifier Gain

A margin of -8dB means that the emission is 8dB below the limit

All frequencies from 30MHz to 1GHz have been tested

5.4.5 Test Data (1GHz – 25 GHz) .

1GHz~ 25 GHz (Horizontal), Channel 1: 2412 MHz

Operator:MailesHsieh RBW:1MHz
Humidity(%):37
Temperature(C):22

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1032.47	51.25pk	24.65	2.17	34.86	43.21pk	54.00av	-10.79	102	110
2248.75	44.60pk	30.95	1.84	35.41	41.98pk	54.00av	-12.02	101	121
2980.52	45.09pk	31.09	1.45	35.37	42.26pk	54.00av	-11.74	103	351
6737.76	30.45pk	37.68	3.26	38.11	33.27pk	54.00av	-20.73	101	156
12568.4	31.25pk	41.69	3.67	36.37	40.24pk	54.00av	-13.76	101	234

1GHz~ 25 GHz (Vertical), Channel 1: 2412 MHz

Operator:MailesHsieh RBW:1MHz
Humidity(%):37
Temperature(C):22

Frequency	Rx_R.	Ant_F.	Cab_L.	PreAmpl	Emission	Limit	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
2363.64	45.27pk	30.93	1.49	35.46	42.23pk	54.00av	-11.77	101	157
2585.91	44.71pk	30.93	1.38	35.49	41.53pk	54.00av	-12.47	102	227
3155.34	45.44pk	31.22	1.53	35.63	42.56pk	54.00av	-11.44	103	317
6594.41	30.97pk	36.91	3.34	38.66	32.56pk	54.00av	-21.44	101	181
12664.3	31.09pk	41.67	3.65	36.30	40.12pk	54.00av	-13.88	101	260

Note:

- According to ANSI C63.4-2001 8.3.1.2 Notes(1):Where limits are specified by agencies for both average and peak (or quasi-peak) detection , if the peak (or quasi-peak) measured value complies with the average limit , it is unnecessary to perform an average measurement.
- " * ": Fundamental Frequency
- "**": Not in the restricted band, Limit level=Fundamental Emission-20dB
- " pk": peak mode
- "av": average mode
- "---": No meter reading data due to the emission level is smaller than spectrum noise level.
- The Spectrum noise level+Correction Factor < Limit - 6 dB
- Margin=Corrected Amplitude – Limit
- Corrected Amplitude=Radiated Amplitude+Antenna Correction Factor+Cable Loss-Pre-Amplifier Gain
- A margin of -8dB means that the emission is 8dB below the limit.

All frequencies from 1GHz to 25 GHz have been tested.