

Turbo Mode (Channel 4) Peak data



Turbo Mode (Channel 4) Average data





#### **4.7 RF Exposure Measurement [Section 15.407(f)(4) & 1.1307(b)]**

Refer to MPE Test Report

### 4.8 Frequency Stability [Section 15.407(g)]

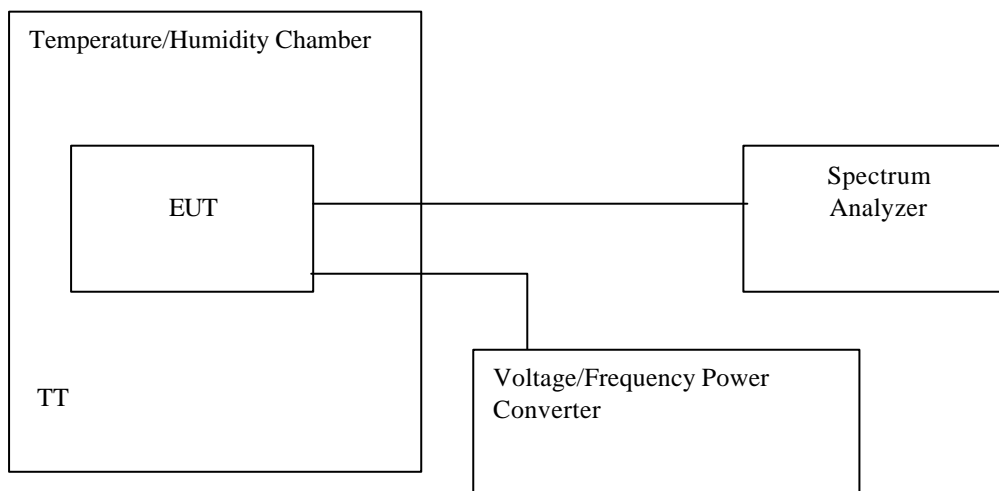
#### 4.8.1 Limits of Frequency Stability Measurement

The frequency tolerance of the carrier sing shall be maintained within +/- 0.02% of the operating frequency over the operation temperature range of EUT (0<sup>0</sup>C~35<sup>0</sup>C), and variation in the primary supply voltage from 85% to 115% of the rated supply voltage (115V AC) at 20<sup>0</sup>C.

#### 4.8.2 Test Procedure

1. The EUT was placed in the Temperature/Humidity Chamber and powered by a Voltage/Frequency Power converter.
2. Connect the RF output of EUT to Spectrum. Turn on the EUT.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the chamber temperature to stabilize. Turn the EUT on and measure the operating frequency after 2, 5, 10 minutes.
5. Set the Voltage/Frequency Power Converter to 85% and 115% of supply voltage, then repeat step 2, 3, 4 respectively.
6. Repeat step 2 , 3, 4, 5 with the temperature of chamber set to the lowest temperature.
7. Repeat step 2 , 3, 4, 5 with the temperature of chamber set to 20<sup>0</sup>C.

#### 4.8.3 Test Setup



**4.8.4 Test Data**

Test Engr: Mailes  
Hsieh

Operating Frequency:		5180 (Mhz)		Limit: +/- 0.02%			
Temp.	Power Supply	2 minutes		5 minutes		10 minutes	
( <sup>0</sup> C)	(V AC)	(MHz)	(%)	(MHz)	(%)	(MHz)	
35	132	5179.9836	-0.000317	5179.9670	-0.000637	5179.9810	-0.000367
	115	5179.9974	-0.000050	5179.9862	-0.000266	5179.9730	-0.000521
	97	5180.0062	0.000120	5179.9842	-0.000305	5179.9870	-0.000251
0	132	5180.0134	0.000259	5180.0004	0.000008	5180.0116	0.000224
	115	5180.0018	0.000035	5180.0032	0.000062	5180.0086	0.000166
	97	5180.0144	0.000278	5180.0104	0.000201	5180.0116	0.000224
20	132	5179.9424	-0.001112	5179.9778	-0.000429	5179.9710	-0.000560
	115	5179.9876	-0.000239	5179.9748	-0.000486	5179.9712	-0.000556
	97	5179.9678	-0.000622	5179.9692	-0.000595	5179.9680	-0.000618

## 5. TEST RESULTS (802.11b) (for Antenna DMA)

### 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 EN 55022:1994/ 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 6dB 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 6dB 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

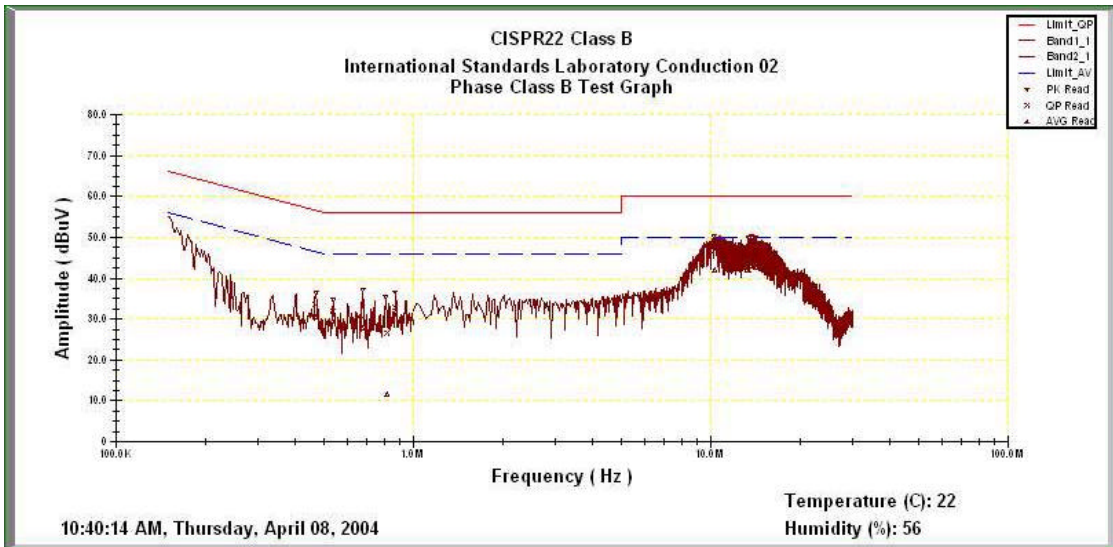
5.1.4 Test Data:

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

Operator: Mailes Hsieh  
 Temperature (C): 22  
 Humidity (%): 56

10:40:14 AM, Thursday, April 08, 2004

Frequency	LISN Loss	Cable Loss	QP Corrcet.	QP Limit	QP Margin	AVE Corrcet.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.46803	0.11	0.03	33.53	56.91	-23.38	30.44	46.91	-16.47
0.53496	0.12	0.03	32.02	56.00	-23.98	29.38	46.00	-16.62
0.67085	0.15	0.04	30.23	56.00	-25.77	27.82	46.00	-18.18
0.81381	0.17	0.06	26.49	56.00	-29.51	11.53	46.00	-34.47
0.86686	0.18	0.06	32.79	56.00	-23.21	30.93	46.00	-15.07
10.2798	0.53	0.19	46.85	60.00	-13.15	42.04	50.00	-7.96
13.4186	0.64	0.26	47.16	60.00	-12.84	41.82	50.00	-8.18
13.688	0.65	0.27	48.22	60.00	-11.78	42.98	50.00	-7.02
13.8204	0.66	0.27	48.53	60.00	-11.47	43.21	50.00	-6.79
14.1525	0.67	0.28	47.82	60.00	-12.18	42.59	50.00	-7.41



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

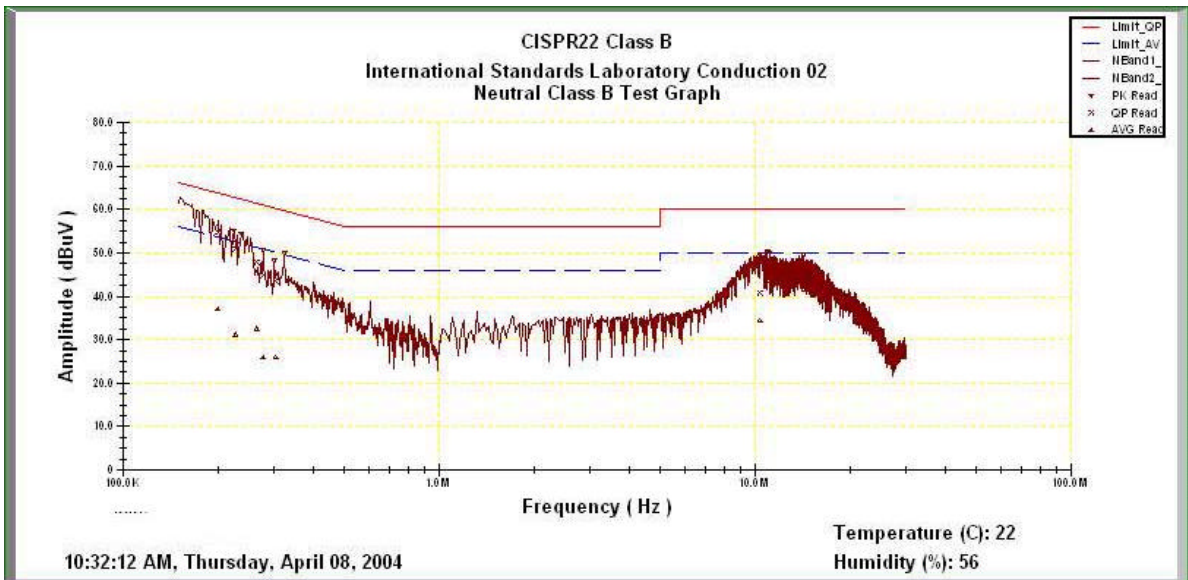
Operator: Mailes Hsieh

Temperature (C): 22

10:32:12 AM, Thursday, April 08, 2004

Humidity (%): 56

Frequency	LISN Loss	Cable Loss	QP Corct.	QP Limit	QP Margin	AVE Corct.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.19948	0.10	0.02	54.74	64.59	-9.85	37.06	54.59	-17.52
0.22723	0.10	0.02	50.88	63.79	-12.91	31.11	53.79	-22.69
0.26445	0.10	0.02	47.80	62.73	-14.93	32.43	52.73	-20.30
0.27763	0.10	0.02	44.83	62.35	-17.52	25.86	52.35	-26.50
0.30348	0.10	0.02	43.52	61.61	-18.09	25.97	51.61	-25.64
10.3427	0.32	0.19	40.70	60.00	-19.30	34.38	50.00	-15.62
10.9525	0.33	0.20	48.19	60.00	-11.81	43.58	50.00	-6.42
11.0864	0.33	0.21	48.16	60.00	-11.84	43.51	50.00	-6.49
14.1579	0.38	0.28	47.28	60.00	-12.72	42.09	50.00	-7.91
14.2235	0.39	0.28	46.94	60.00	-13.06	41.54	50.00	-8.46



\* 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

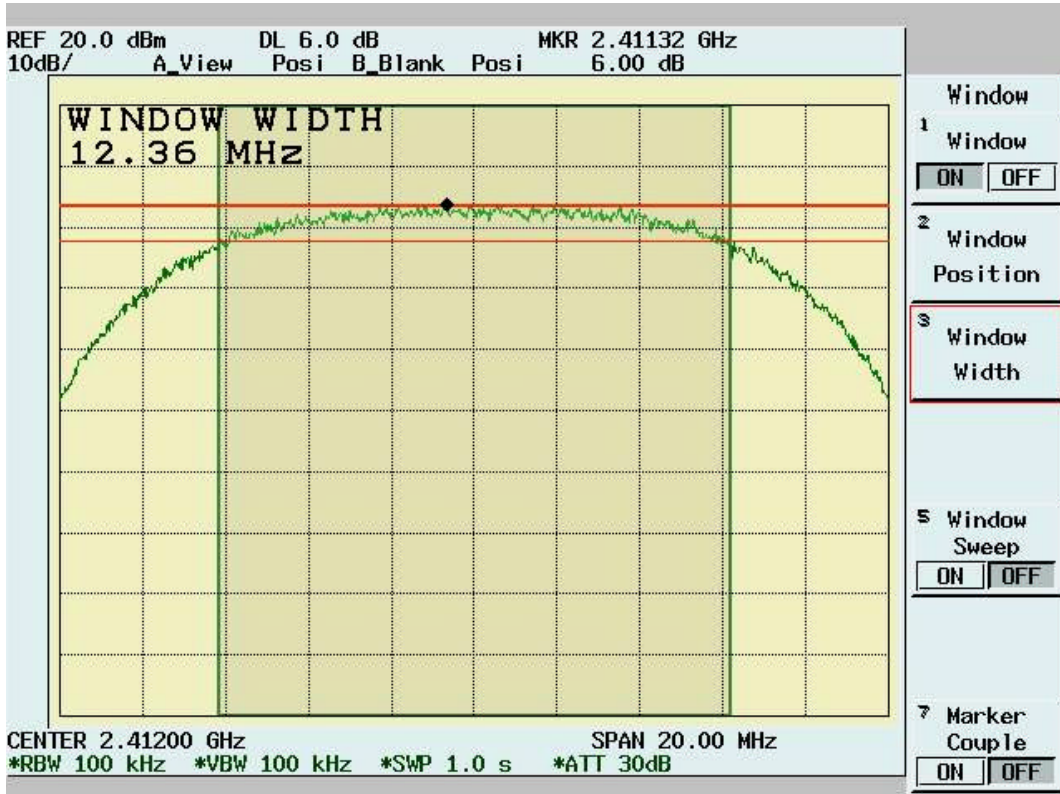
Temp. (deg. C): 25

Test Engr: Mailes  
Hsieh

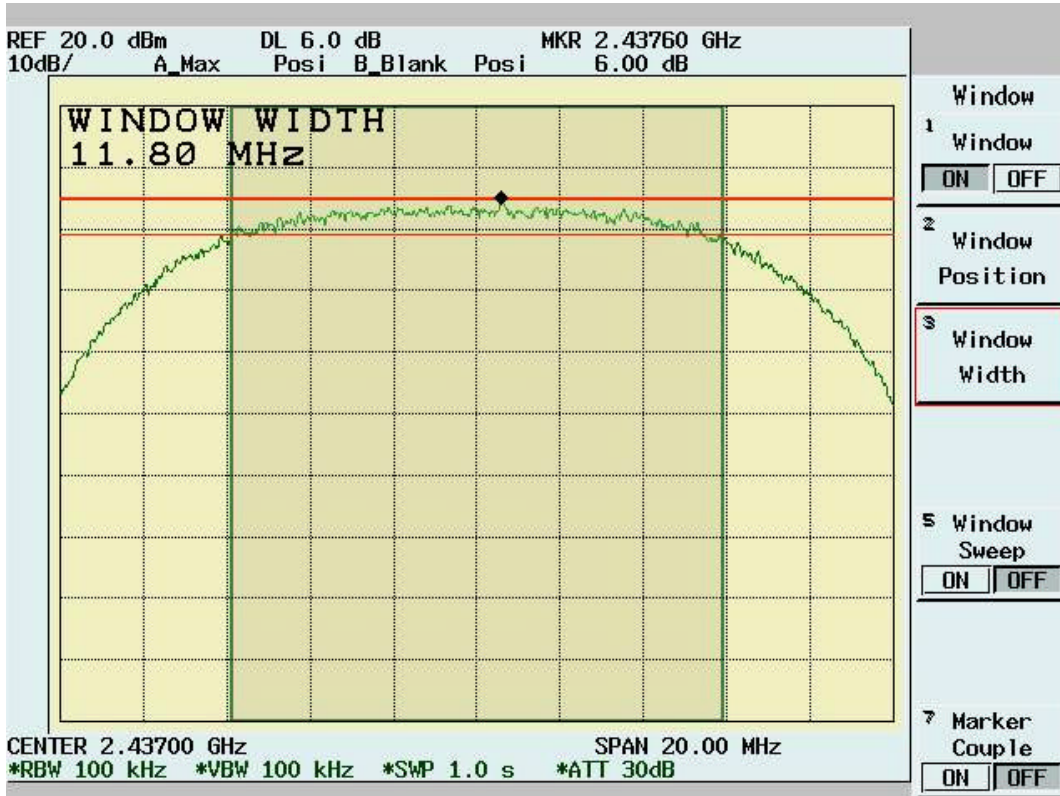
Humidity (%): 50

Chennel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Pass/Fail
1	2412	12.36	0.5	Pass
6	2437	11.8	0.5	Pass
11	2462	12.08	0.5	Pass

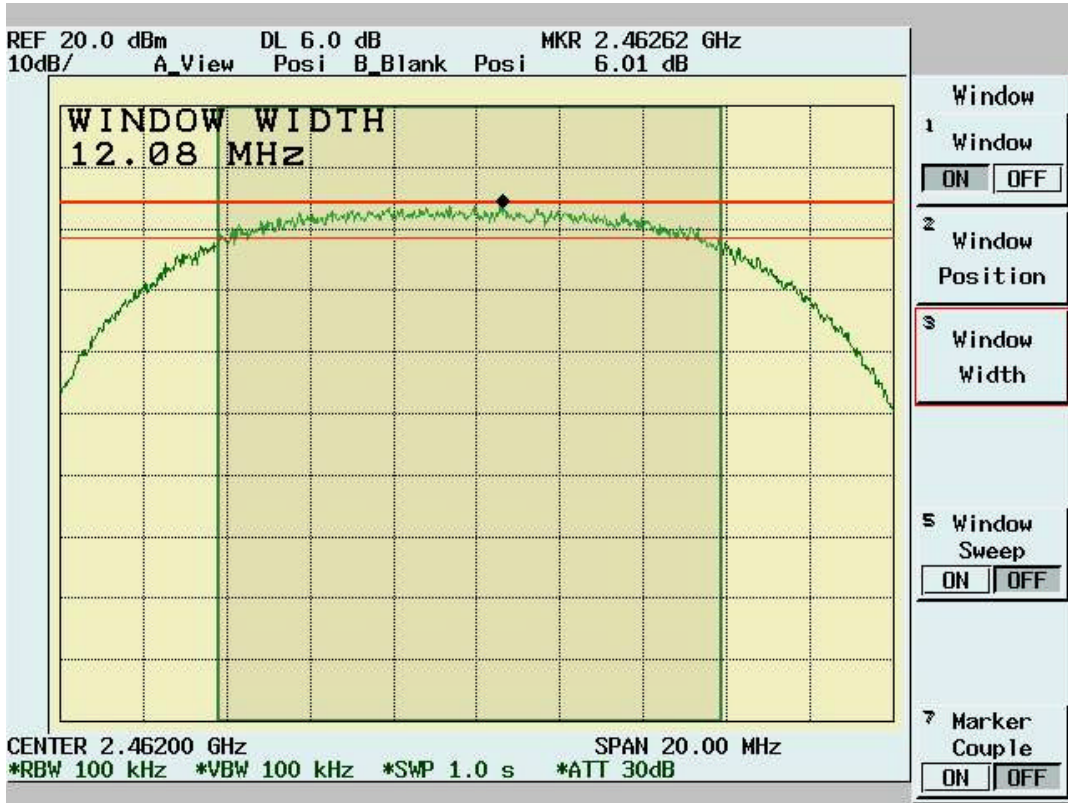
Channel 1:



Channel 6:



Channel 11:

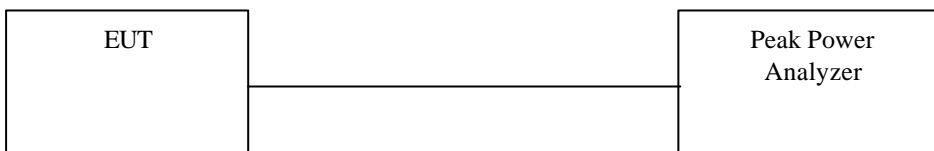


### 5.3 DSSS Maximum Peak Output Power [Section 15.247 (b)(1)]

#### 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	21.499	1.1	181.93	22.599	30	Pass
6	2437	21.624	1.1	187.24	22.724	30	Pass
11	2462	21.624	1.1	187.24	22.724	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 according to *EMI Receiver/Spectrum Analyzer Configuration*.

For the test of 2<sup>nd</sup> to 10<sup>th</sup> 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)	1MHz

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: Mailes Hsieh

Humidity (%): 46

Temperature (C): 25

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
99.84	22.45	10.27	3.02	0.00	35.73	43.50	-7.77	200.00	140.00
198.78	24.94	8.86	4.18	0.00	37.98	43.50	-5.52	150.00	346.00
231.76	27.17	9.21	4.48	0.00	40.87	46.00	-5.13	200.00	29.00
298.69	21.10	13.57	4.69	0.00	39.37	46.00	-6.63	100.00	175.00
365.62	22.66	14.83	5.08	0.00	42.57	46.00	-3.43	250.00	173.00
398.6	19.57	15.95	5.31	0.00	40.83	46.00	-5.17	100.00	239.00
431.58	18.91	16.25	5.61	0.00	40.77	46.00	-5.23	150.00	157.00
465.53	15.27	16.80	5.88	0.00	37.95	46.00	-8.05	100.00	9.00
564.47	13.97	19.04	6.57	0.00	39.58	46.00	-6.42	100.00	305.00
864.2	8.76	20.54	8.24	0.00	37.54	46.00	-8.46	100.00	124.00

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

Operator: Mailes Hsieh

Humidity (%): 46

Temperature (C): 25

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
136.7	17.95	10.73	3.54	0.00	32.22	43.50	-11.28	200.00	242.00
364.65	15.38	14.80	5.07	0.00	35.25	46.00	-10.75	200.00	176.00
431.58	12.89	16.25	5.61	0.00	34.75	46.00	-11.25	100.00	203.00
469.41	13.09	16.90	5.89	0.00	35.89	46.00	-10.11	150.00	192.00
497.54	12.74	17.64	6.04	0.00	36.41	46.00	-9.59	100.00	21.00
643.04	7.62	19.07	7.00	0.00	33.70	46.00	-12.30	200.00	262.00
652.74	14.39	19.09	7.05	0.00	40.53	46.00	-5.47	100.00	225.00
661.47	8.12	19.08	7.07	0.00	34.27	46.00	-11.73	100.00	242.00
764.29	5.61	20.07	7.64	0.00	33.32	46.00	-12.68	100.00	209.00
864.2	4.57	20.54	8.24	0.00	33.35	46.00	-12.65	100.00	143.00

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: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R (pk).	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1449.55	66.46	26.57	1.81	46.20	48.64	54.00	-5.36	101	81
1549.45	64.15	27.22	1.87	46.22	47.01	54.00	-6.99	101	74
2351.15	62.96	30.93	2.61	46.21	50.29	54.00	-3.71	101	153
3755.24	51.73	31.86	2.12	46.37	39.34	54.00	-14.66	102	163
4821.68	46.52	34.92	1.28	46.88	35.83	54.00	-18.17	100	18
7233.77	49.21	39.47	3.15	46.21	45.63	54.00	-8.37	101	143

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

Operator: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R (pk)	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1794.21	63.52	29.27	2.00	46.21	48.59	54.00	-5.41	100	57
2768.23	56.51	31.01	2.82	46.41	43.93	54.00	-10.07	102	284
3758.74	56.38	31.86	2.12	46.37	44.00	54.00	-10.00	102	162
4821.68	52.85	34.92	1.28	46.88	42.17	54.00	-11.83	100	18
7233.77	54.27	39.47	3.15	46.21	50.69	54.00	-3.31	101	143
9643.36	37.57	40.58	3.17	42.07	39.25	54.00	-14.75	102	7

Note:

“ \* ”: Fundamental Frequency

“\*\*”: Not in the restricted band, Limit level=Fundamental Emission-20dB

“ pk ”: peak reading

“ av ”: average reading

“ --- ”: No meter reading data due to the emission level is smaller than spectrum noise level.

The Spectrum noise level+Correction Factor &lt; 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: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R. (pk)	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1197.30	60.35	25.41	1.63	46.09	41.31	54.00	-12.69	102	98
1796.70	58.25	29.29	2.00	46.21	43.33	54.00	-10.67	100	57
3751.75	52.24	31.85	2.12	46.38	39.84	54.00	-14.16	102	164
4870.63	48.54	35.11	1.25	46.93	37.97	54.00	-16.03	100	13
7305.69	47.02	39.59	3.20	46.18	43.62	54.00	-10.38	101	154
9745.25	35.97	40.36	3.13	41.81	37.65	54.00	-16.35	102	5

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

Operator: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R. (pk)	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
2388.61	58.83	30.92	2.66	46.21	46.20	54.00	-7.80	101	165
2770.73	52.88	31.01	2.82	46.41	40.29	54.00	-13.71	102	285
4870.63	54.13	35.11	1.25	46.93	43.56	54.00	-10.44	100	13
7311.69	53.89	39.60	3.20	46.17	50.52	54.00	-3.48	101	155
9745.25	38.77	40.36	3.13	41.81	40.46	54.00	-13.54	102	5
12172.8	35.51	42.09	3.71	42.81	38.50	54.00	-15.50	100	130

## Note:

“ \* ”: Fundamental Frequency

“\*\*”: Not in the restricted band, Limit level=Fundamental Emission-20dB

“pk”: peak reading

“av”: average reading

“---”: No meter reading data due to the emission level is smaller than spectrum noise level.

The Spectrum noise level+Correction Factor &lt; 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: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R (pk).	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1197.30	60.36	25.41	1.63	46.09	41.31	54.00	-12.69	102	98
1716.78	57.42	28.62	1.96	46.21	41.79	54.00	-12.21	101	63
1796.70	56.60	29.29	2.00	46.21	41.69	54.00	-12.31	100	57
2203.80	52.48	30.96	2.40	46.20	39.64	54.00	-14.36	101	107
4923.08	47.05	35.31	1.23	46.97	36.62	54.00	-17.38	100	8
7383.62	47.46	39.71	3.25	46.14	44.28	54.00	-9.72	101	165

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

Operator: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R (pk)	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit	Margin (av)	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1794.21	62.69	29.27	2.00	46.21	47.75	54.00	-6.25	100	57
2388.61	58.81	30.92	2.66	46.21	46.19	54.00	-7.81	101	165
2423.58	56.18	30.92	2.71	46.21	43.60	54.00	-10.40	101	176
2985.51	54.16	31.09	2.82	46.57	41.51	54.00	-12.49	103	352
4923.08	52.04	35.31	1.23	46.97	41.60	54.00	-12.40	100	8
7383.62	54.08	39.71	3.25	46.14	50.90	54.00	-3.10	101	165

Note:

“ \* ”: Fundamental Frequency

“\*\*”: Not in the restricted band, Limit level=Fundamental Emission-20dB

“pk”: peak reading

“av”: average reading

“---”: 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.

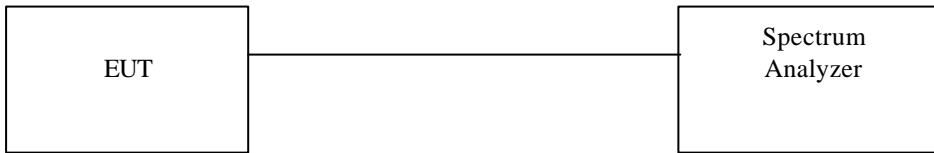
**All frequencies from 1GHz to 25 GHz have been tested.**

### 5.5 Band Edge Measurement

#### 5.5.1 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

#### 5.5.2 Test Setup (Conducted)



#### 5.5.3 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	2412.6	117.21	---	---
Outside band	2397	83.91	33.3	Pass
11	2462.6	117.12	---	---
Outside band	2476.5	85.6	31.52	Pass

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

Band Edge Conducted measurement



Band Edge Conducted Measurement



#### 5.5.4 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: 1MHz  
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.

#### 5.5.5 Test Setup (Radiated)

Same as *Radiated Emission Measurement*

5.5.6 Test Data

Table Band Edge measurement (Radiated)

Temp. (deg. C): 25

Test Engr: Mailes Hsieh

Humidity (%): 50

Channel	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
1(peak mode)	2410.9	79.27	31.1	110.37	---	---	1MHz	---
Outside band	2397.4	51.34	31.1	82.44	27.93	---	1MHz	Pass
1(average mode)	2412.8	71.06	31.1	102.16	---	---	10Hz	---
Restricted band	2386.8	18.95	31.1	50.05	---	54	10Hz	Pass
11(peak mode)	2460.7	83.27	31.1	114.37	---	---	1MHz	---
Outside band	2477.2	52.13	31.1	83.23	31.14	---	1MHz	Pass
11(average mode)	2461.3	70.48	31.1	101.58	---	---	10Hz	---
Restricted band	2487.2	20.69	31.1	51.79	---	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 Restricted Band(Radiated)  
Average Mode (Channel 11)



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

**See MPE report**



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

#### 5.7.1 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.

#### 5.7.2 Test Setup



#### 5.7.3 Test Data

##### Maximum Peak Output Power Density

Temp. (deg. C): 25

Test Engr:

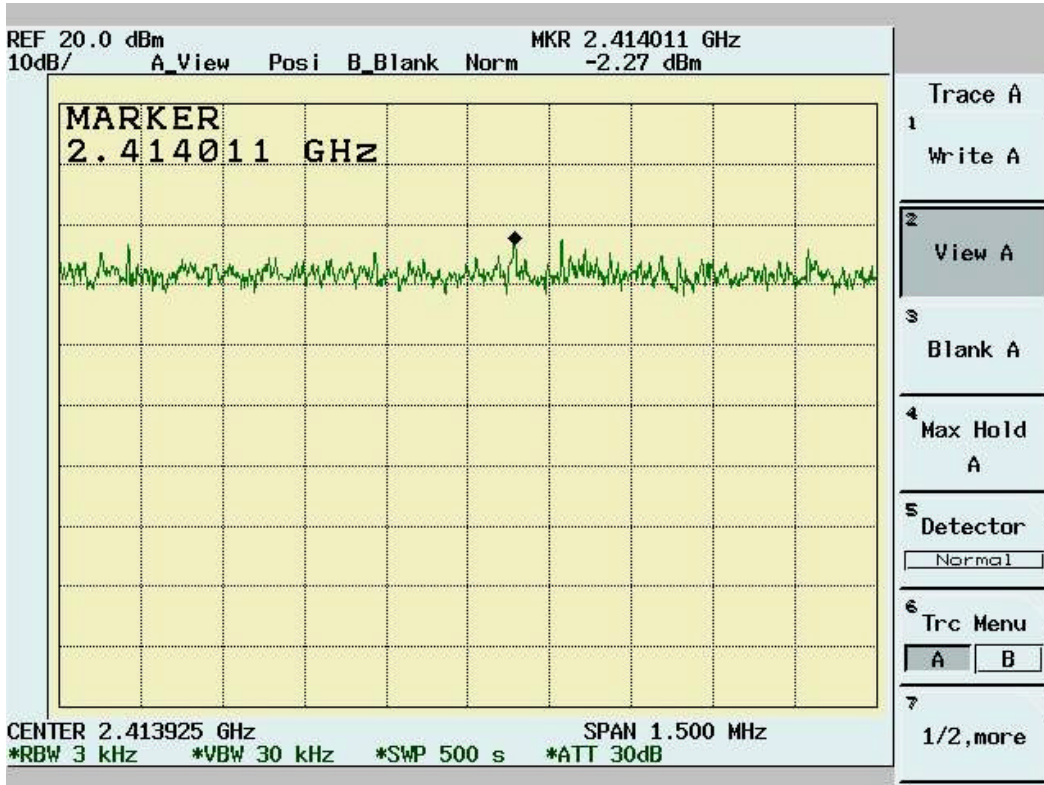
Mailes  
Hsieh

Humidity (%): 50

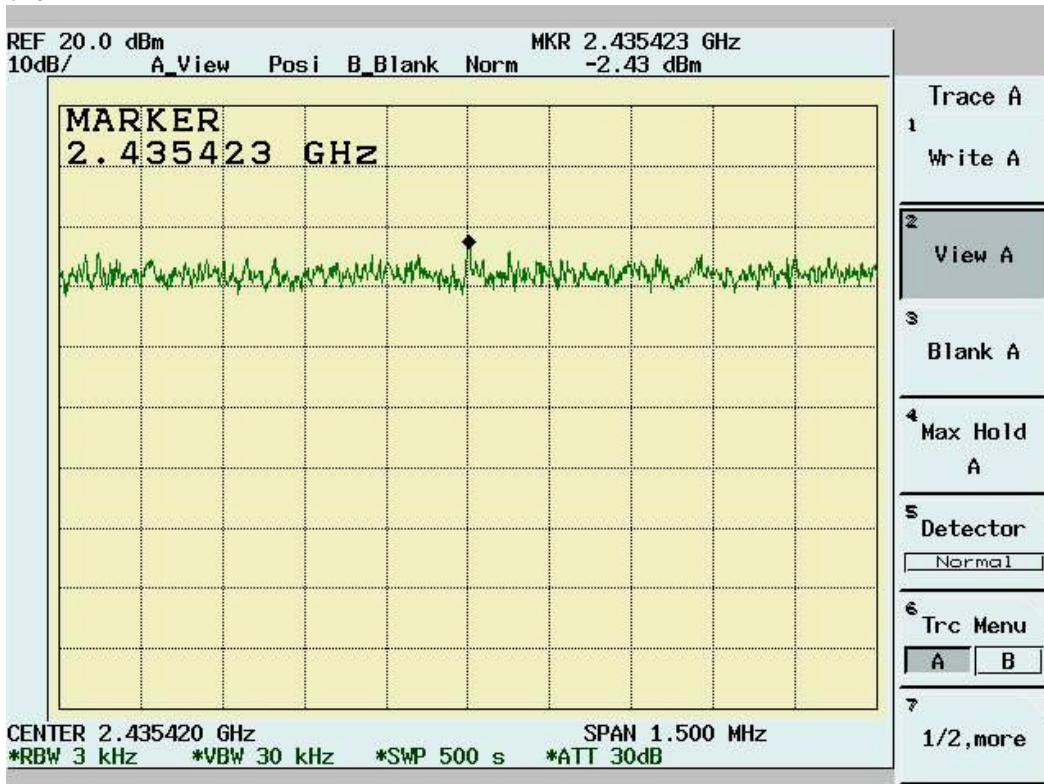
Chennel	Frequency (MHz)	Spectrum Reading (dBm/3KHz)	Cable Loss (dB)	Peak Power Output (dBm/3KHz)	Limit (dBm/3KHz)	Pass/Fail
1	2412	-2.27	1.1	-1.17	8	Pass
6	2437	-2.43	1.1	-1.33	8	Pass
11	2462	-2.37	1.1	-1.27	8	Pass

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

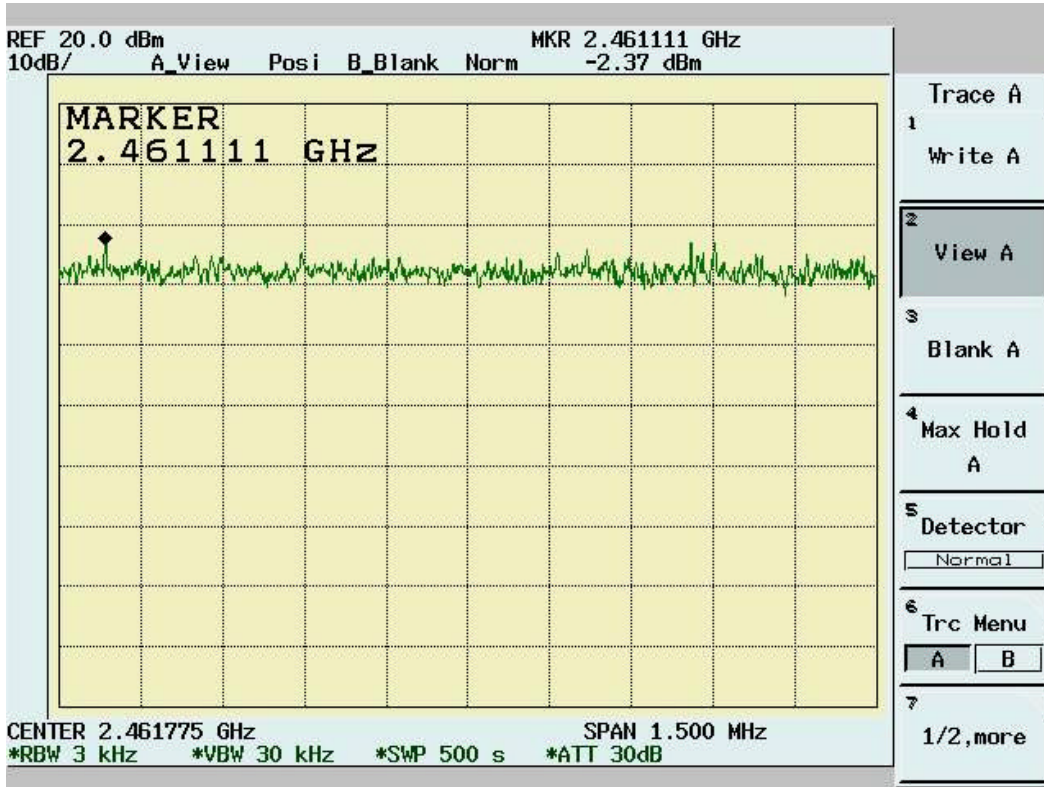
Channel 1



Channel 6



Channel 11



## 6. TEST RESULTS (802.11g)

### 6.1 Powerline Conducted Emissions [Section 15.207]

#### 6.1.1 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.

#### 6.1.2 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 6dB 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 6dB 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.

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

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

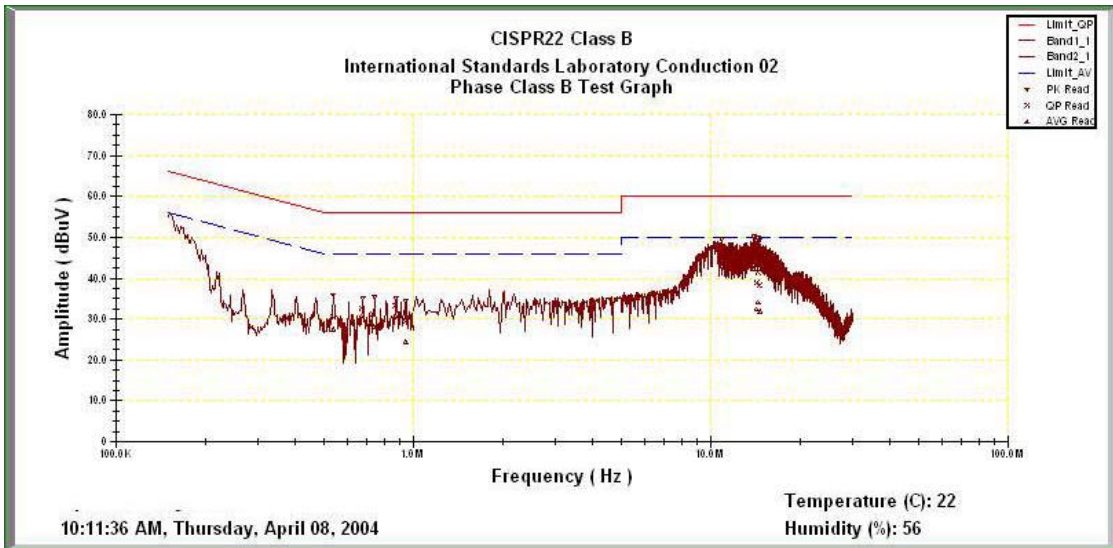
6.1.4 Test Data:

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

Operator: Mailes Hsieh  
Temperature (C): 22  
Humidity (%): 56

10:11:36 AM, Thursday, April 08, 2004

Frequency	LISN Loss	Cable Loss	QP Corrcr.	QP Limit	QP Margin	AVE Corrcr.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.53828	0.12	0.03	30.44	56.00	-25.56	27.36	46.00	-18.64
0.6683	0.14	0.04	32.66	56.00	-23.34	30.64	46.00	-15.36
0.73431	0.16	0.05	31.14	56.00	-24.86	28.12	46.00	-17.88
0.86946	0.18	0.06	33.28	56.00	-22.72	30.88	46.00	-15.12
0.93993	0.19	0.07	29.46	56.00	-26.54	24.31	46.00	-21.69
10.9046	0.55	0.20	47.46	60.00	-12.54	43.01	50.00	-6.99
13.9134	0.66	0.27	47.69	60.00	-12.31	42.33	50.00	-7.67
14.2884	0.67	0.28	38.92	60.00	-21.08	32.35	50.00	-17.65
14.4344	0.68	0.29	41.35	60.00	-18.65	34.07	50.00	-15.93
14.6037	0.69	0.29	38.30	60.00	-21.70	31.74	50.00	-18.26



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

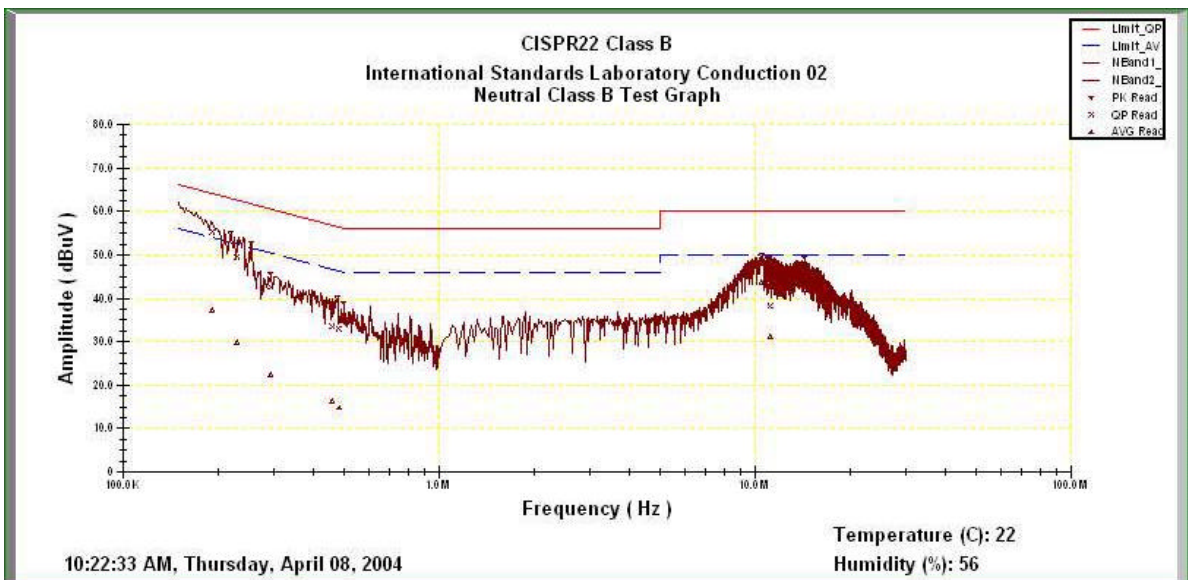
Operator: Mailes Hsieh

Temperature (C): 22

10:22:33 AM, Thursday, April 08, 2004

Humidity (%): 56

Frequency	LISN Loss	Cable Loss	QP Corrct.	QP Limit	QP Margin	AVE Corrct.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.19138	0.10	0.02	55.21	64.82	-9.61	37.26	54.82	-17.56
0.22916	0.10	0.02	49.56	63.74	-14.18	29.72	53.74	-24.02
0.29223	0.10	0.02	42.60	61.94	-19.34	22.29	51.94	-29.65
0.45818	0.11	0.03	33.43	57.19	-23.77	16.38	47.19	-30.82
0.482	0.11	0.03	33.04	56.51	-23.47	14.85	46.51	-31.67
10.491	0.32	0.19	48.06	60.00	-11.94	43.70	50.00	-6.30
10.9588	0.33	0.20	48.22	60.00	-11.78	43.60	50.00	-6.40
11.0265	0.33	0.20	48.04	60.00	-11.96	43.63	50.00	-6.37
11.1362	0.33	0.21	38.20	60.00	-21.80	31.09	50.00	-18.91
14.2993	0.39	0.28	47.25	60.00	-12.75	42.02	50.00	-7.98



\* 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

### 6.2 Bandwidth for DSSS [Section 15.247 (a)(2)]

#### 6.2.1 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

#### 6.2.2 Test Setup



#### 6.2.3 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	16.36	0.5	Pass
6	2437	16.4	0.5	Pass
11	2462	16.4	0.5	Pass

Channel 1:



Channel 6:





Channel 11:



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

#### 6.3.1 Test Procedure

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

#### 6.3.2 Test Setup



#### 6.3.3 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	21.781	1.1	194.13	22.881	30	Pass
6	2437	21.531	1.1	183.27	22.631	30	Pass
11	2462	21.812	1.1	195.52	22.912	30	Pass

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

## 6.4 Radiated Emission Measurement [Section [15.247(c)(4)]

### 6.4.1 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.

### 6.4.2 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 according to *EMI Receiver/Spectrum Analyzer Configuration*.

For the test of 2<sup>nd</sup> to 10<sup>th</sup> 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.

### 6.4.3 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)	1MHz

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

6.4.4 Test Data (30MHz – 1GHz):

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

Operator: Mailes Hsieh

Humidity (%): 46

Temperature (C): 25

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
99.84	22.02	10.27	3.02	0.00	35.31	43.50	-8.19	150.00	31.00
198.78	25.45	8.86	4.18	0.00	38.49	43.50	-5.01	150.00	55.00
232.73	27.43	9.33	4.50	0.00	41.26	46.00	-4.74	200.00	55.00
298.69	21.57	13.57	4.69	0.00	39.84	46.00	-6.16	100.00	236.00
365.62	22.02	14.83	5.08	0.00	41.92	46.00	-4.08	200.00	285.00
397.63	20.39	15.92	5.30	0.00	41.61	46.00	-4.39	100.00	301.00
431.58	18.85	16.25	5.61	0.00	40.71	46.00	-5.29	150.00	219.00
465.53	14.70	16.80	5.88	0.00	37.38	46.00	-8.62	250.00	31.00
489.78	18.78	17.43	5.99	0.00	42.21	46.00	-3.79	100.00	31.00
563.5	13.73	19.05	6.56	0.00	39.33	46.00	-6.67	100.00	170.00

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

Operator: Mailes Hsieh

Humidity (%): 46

Temperature (C): 25

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
133.79	18.07	11.02	3.52	0.00	32.61	43.50	-10.89	250.00	298.00
364.65	15.85	14.80	5.07	0.00	35.72	46.00	-10.28	100.00	266.00
431.58	13.48	16.25	5.61	0.00	35.34	46.00	-10.66	100.00	266.00
489.78	16.84	17.43	5.99	0.00	40.26	46.00	-5.74	200.00	233.00
498.51	13.65	17.66	6.04	0.00	37.35	46.00	-8.65	100.00	298.00
643.04	9.86	19.07	7.00	0.00	35.94	46.00	-10.06	100.00	282.00
651.77	14.16	19.10	7.04	0.00	40.30	46.00	-5.70	250.00	298.00
662.44	8.76	19.08	7.07	0.00	34.90	46.00	-11.10	100.00	315.00
696.39	7.79	19.01	7.34	0.00	34.14	46.00	-11.86	150.00	315.00
864.2	7.11	20.54	8.24	0.00	35.89	46.00	-10.11	100.00	68.00

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

6.4.5 Test Data ( 1GHz – 25 GHz) .

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

Operator: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R. (pk)	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1452.05	63.31	26.58	1.81	46.20	45.50	54.00	-8.50	101	81
2366.13	57.80	30.93	2.63	46.21	45.15	54.00	-8.85	101	158
2371.13	62.29	30.93	2.64	46.21	49.64	54.00	-4.36	101	160
4562.94	42.41	33.94	1.40	46.66	31.09	54.00	-22.91	101	44
7947.05	39.10	40.53	3.06	44.00	38.69	54.00	-15.31	100	247
8846.15	38.55	41.15	3.23	42.73	40.19	54.00	-13.81	103	56

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

Operator: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R. (pk)	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1472.03	62.09	26.67	1.82	46.21	44.37	54.00	-9.63	101	79
1799.20	62.23	29.31	2.00	46.21	47.34	54.00	-6.66	100	57
2750.75	56.52	31.00	2.82	46.40	43.94	54.00	-10.06	102	279
2775.72	60.63	31.01	2.82	46.41	48.05	54.00	-5.95	102	287
4083.92	51.78	32.45	2.05	46.19	40.09	54.00	-13.91	102	92
7233.77	42.75	39.47	3.15	46.21	39.17	54.00	-14.83	101	143

Note:

“ \* ”: Fundamental Frequency

“\*\*”: Not in the restricted band, Limit level=Fundamental Emission-20dB

“ pk ”: peak reading

“ av ”: average reading

“---“: 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: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R (pk)	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1469.53	67.60	26.66	1.82	46.21	49.87	54.00	-4.13	101	80
1794.21	56.80	29.27	2.00	46.21	41.86	54.00	-12.14	100	57
2396.10	59.24	30.92	2.67	46.21	46.63	54.00	-7.37	101	167
3755.24	52.41	31.86	2.12	46.37	40.01	54.00	-13.99	102	163
5384.62	42.09	35.91	1.13	47.29	31.83	54.00	-22.17	100	110
9769.23	35.80	40.31	3.12	41.74	37.49	54.00	-16.51	101	5

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

Operator: Mailes Hsieh

Spec: FCC Part 15 Class B & C  
RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R (pk).	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1876.62	63.68	29.96	2.04	46.20	49.48	54.00	-4.52	100	52
2388.61	59.93	30.92	2.66	46.21	47.31	54.00	-6.69	101	165
3758.74	58.97	31.86	2.12	46.37	46.58	54.00	-7.42	102	162
4080.42	54.08	32.44	2.05	46.19	42.38	54.00	-11.62	102	92
7305.69	41.41	39.59	3.20	46.18	38.02	54.00	-15.98	101	154
8972.03	38.17	40.94	3.18	42.83	39.47	54.00	-14.53	103	27

Note:

“ \* ”: Fundamental Frequency

“\*\*”: Not in the restricted band, Limit level=Fundamental Emission-20dB

“pk”: peak reading

“av”: average reading

“---“: 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: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R. (pk)	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1222.28	66.01	25.52	1.65	46.10	47.08	54.00	-6.92	102	97
1714.29	65.02	28.60	1.96	46.21	49.36	54.00	-4.64	101	63
2203.80	57.18	30.96	2.40	46.20	44.33	54.00	-9.67	100	107
4073.43	50.91	32.42	2.06	46.18	39.21	54.00	-14.79	102	93
7383.62	39.34	39.71	3.25	46.14	36.15	54.00	-17.85	101	165
9775.22	35.80	40.29	3.12	41.73	37.49	54.00	-16.51	101	4

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

Operator: Mailes Hsieh

RBW: 1 MHz  
Humidity (%): 46  
Temperature (C): 25

Frequency	Rx_R. (pk)	Ant_F.	Cab_L.	PreAmpl	Emission (pk)	Limit (av)	Margin	A.Tower	T.Table
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg
1796.70	61.84	29.29	2.00	46.21	46.93	54.00	-7.07	100	57
2123.88	61.56	30.98	2.29	46.20	48.62	54.00	-5.38	100	82
2393.61	59.47	30.92	2.67	46.21	46.85	54.00	-7.15	101	167
4181.82	49.17	32.75	1.90	46.29	37.53	54.00	-16.47	102	82
7377.62	43.40	39.70	3.24	46.14	40.20	54.00	-13.80	101	164
9253.75	36.03	40.90	3.20	42.65	37.48	54.00	-16.52	102	15

Note:

“ \* ”: Fundamental Frequency

“\*\*\*”: Not in the restricted band, Limit level=Fundamental Emission-20dB

“pk”: peak reading

“av”: average reading

“---“: 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.**