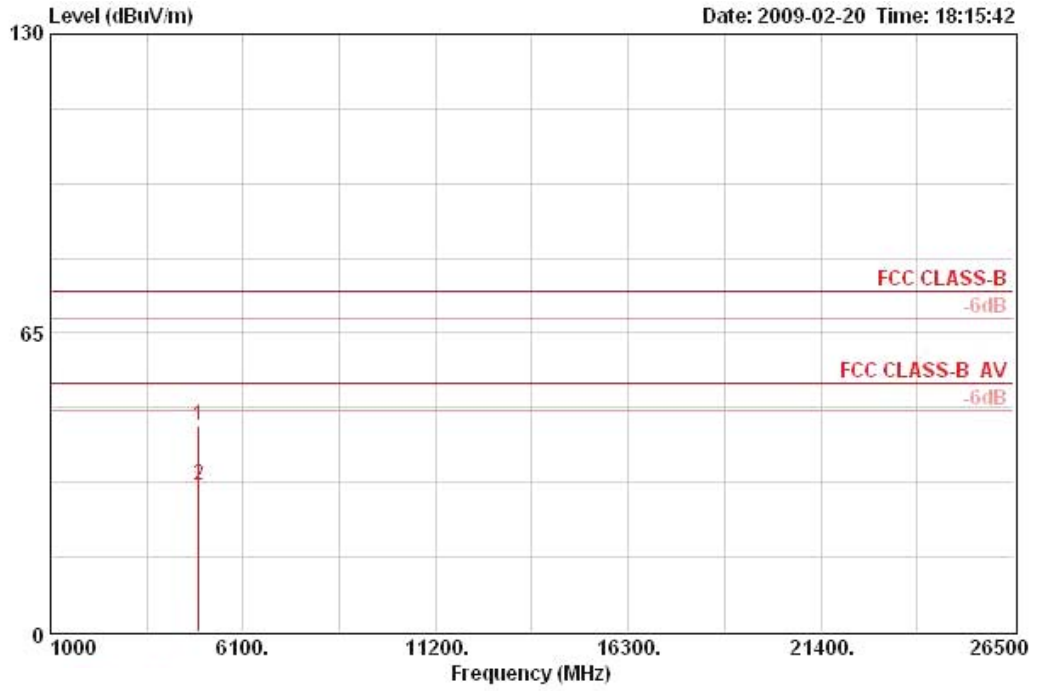


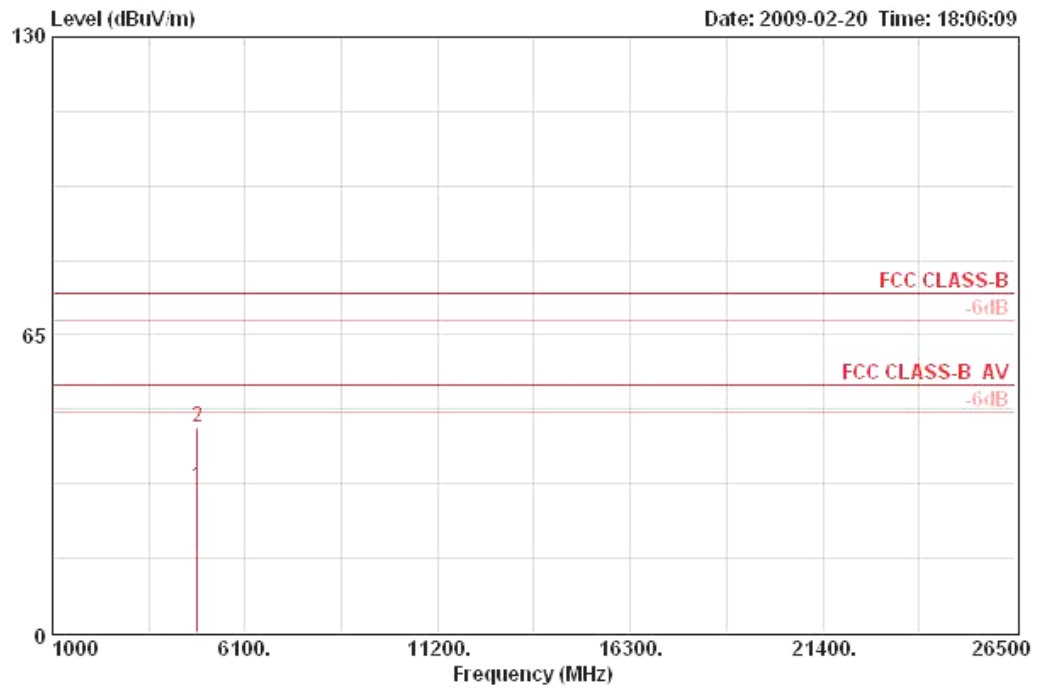
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB			deg	cm
1	4923.208	44.81	-29.19	74.00	42.60	33.26	35.02	3.97	PEAK	VERTICAL	82	100
2	4923.928	31.71	-22.29	54.00	29.49	33.26	35.02	3.97	AVERAGE	VERTICAL	82	100

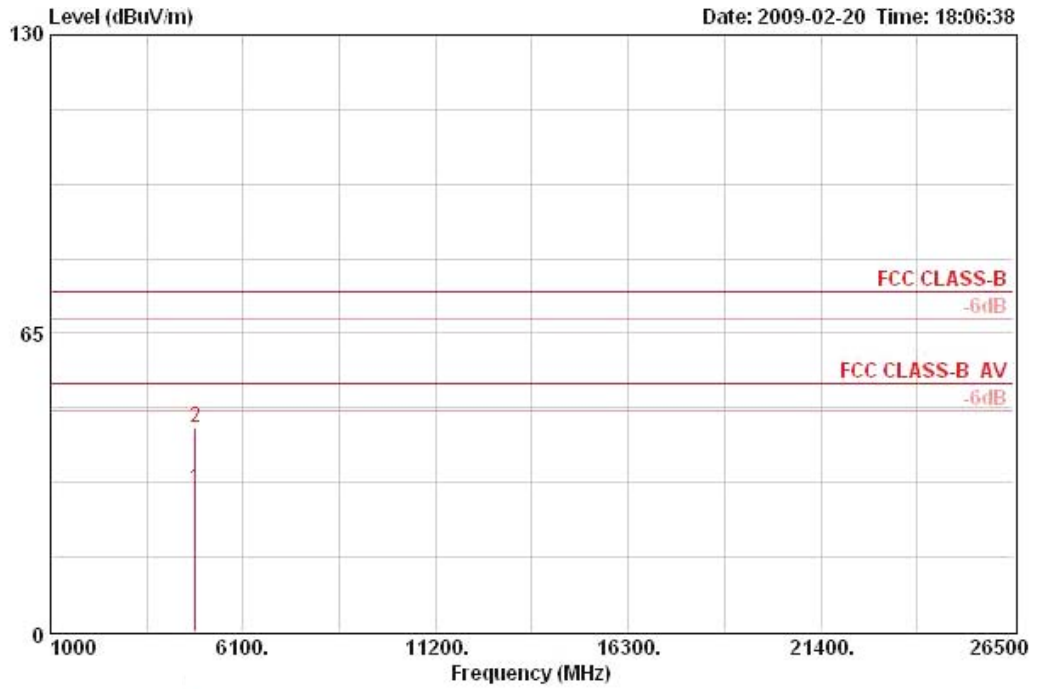
Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	Draft n MCS8 40MHz Ch 3 Ant. A + Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4843.959	31.96	-22.04	54.00	29.94	33.09	35.03	3.96	AVERAGE	HORIZONTAL	135	100
2	4844.085	44.83	-29.17	74.00	42.81	33.09	35.03	3.96	PEAK	HORIZONTAL	135	100

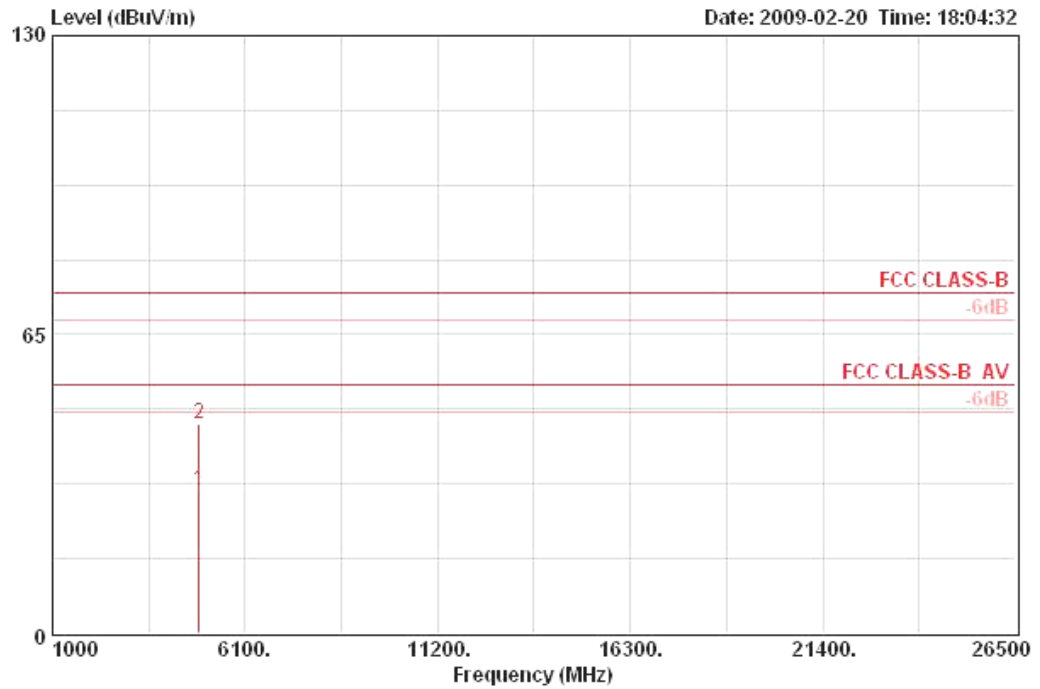
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4843.875	31.09	-22.91	54.00	29.07	33.09	35.03	3.96	AVERAGE	VERTICAL	260	100
2	4843.879	44.39	-29.61	74.00	42.37	33.09	35.03	3.96	PEAK	VERTICAL	260	100

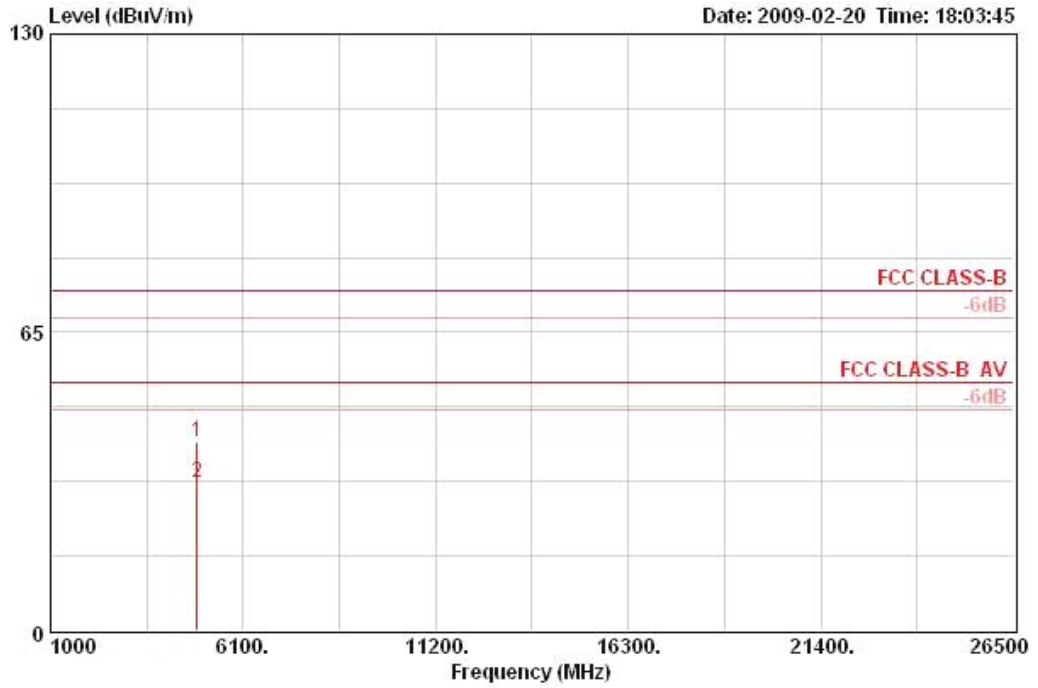
Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	Draft n MCS8 40MHz Ch 6 Ant. A + Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4873.602	31.16	-22.84	54.00	29.06	33.16	35.03	3.97	AVERAGE	HORIZONTAL	286	100
2	4873.680	45.47	-28.53	74.00	43.37	33.16	35.03	3.97	PEAK	HORIZONTAL	286	100

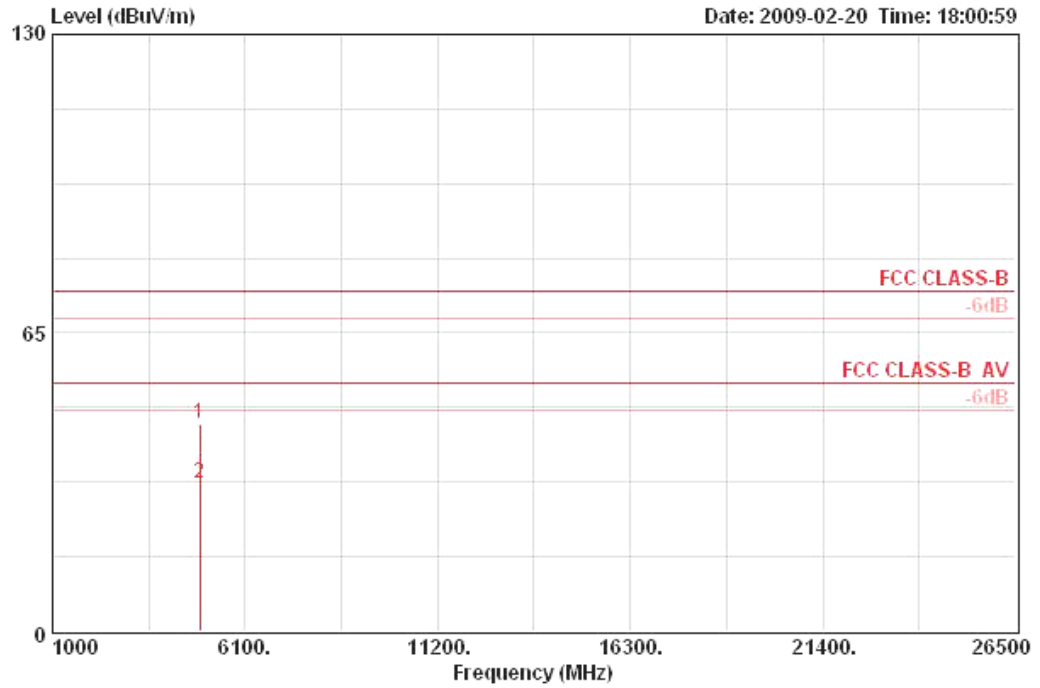
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB			deg	cm
1	4873.560	40.99	-33.01	74.00	38.89	33.16	35.03	3.97 PEAK	VERTICAL	127	100
2	4874.000	32.07	-21.93	54.00	29.97	33.16	35.03	3.97 AVERAGE	VERTICAL	127	100

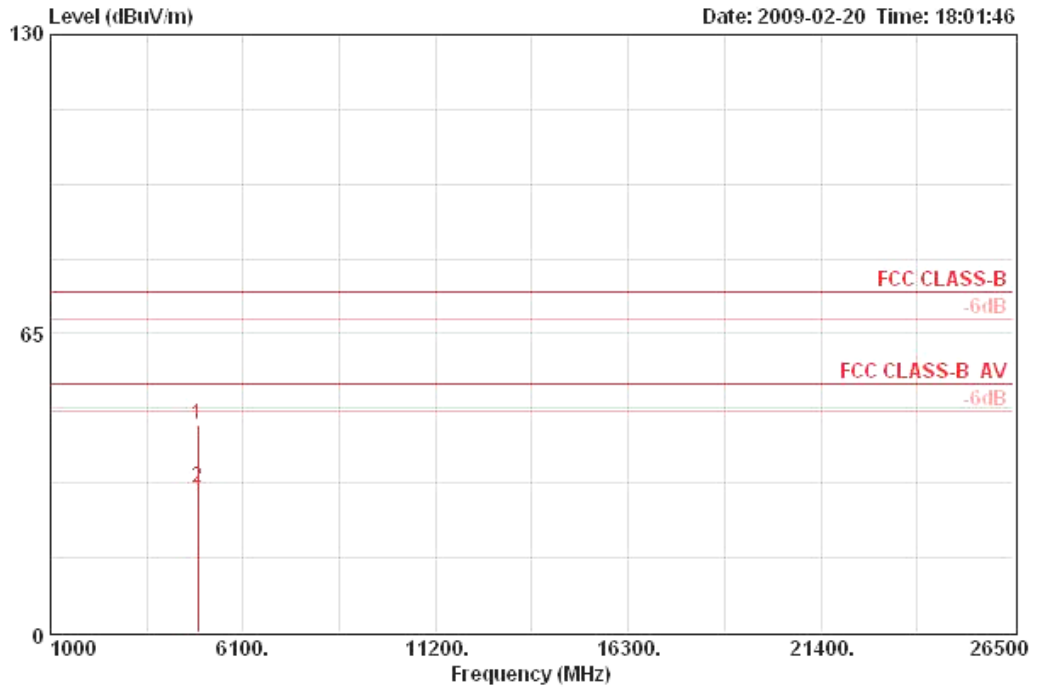
Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	Draft n MCS8 40MHz Ch 9 Ant. A + Ant. B

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4903.842	45.07	-28.93	74.00	42.93	33.19	35.02	3.97	PEAK	HORIZONTAL	116	100
2	4904.071	32.18	-21.82	54.00	30.04	33.19	35.02	3.97	AVERAGE	HORIZONTAL	116	100

Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna	Preamp	Cable	Remark	Table	Ant	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB		Pos	Pos	
									deg	cm	
1	4903.872	45.21	-28.79	74.00	43.07	33.19	35.02	3.97 PEAK	VERTICAL	299	100
2	4904.166	31.48	-22.52	54.00	29.34	33.19	35.02	3.97 AVERAGE	VERTICAL	299	100

Note:

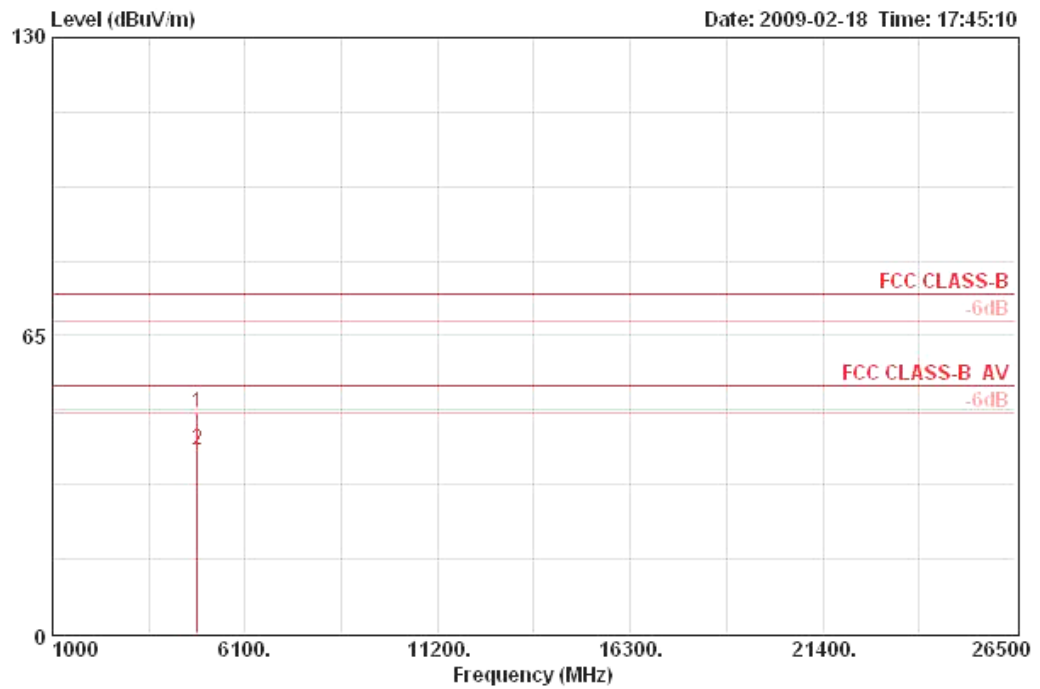
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

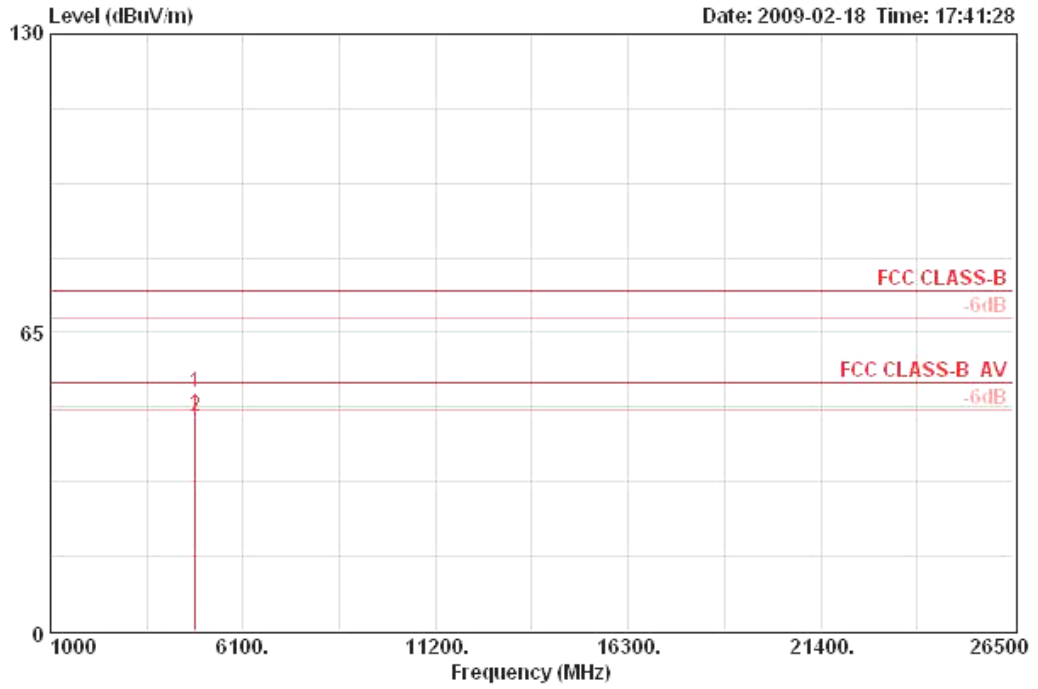
Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	802.11b CH 1 Ant. A

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4823.970	48.15	-25.85	74.00	46.17	33.06	35.04	3.96	PEAK	HORIZONTAL	276	100
2	4824.010	40.02	-13.98	54.00	38.04	33.06	35.04	3.96	AVERAGE	HORIZONTAL	276	100

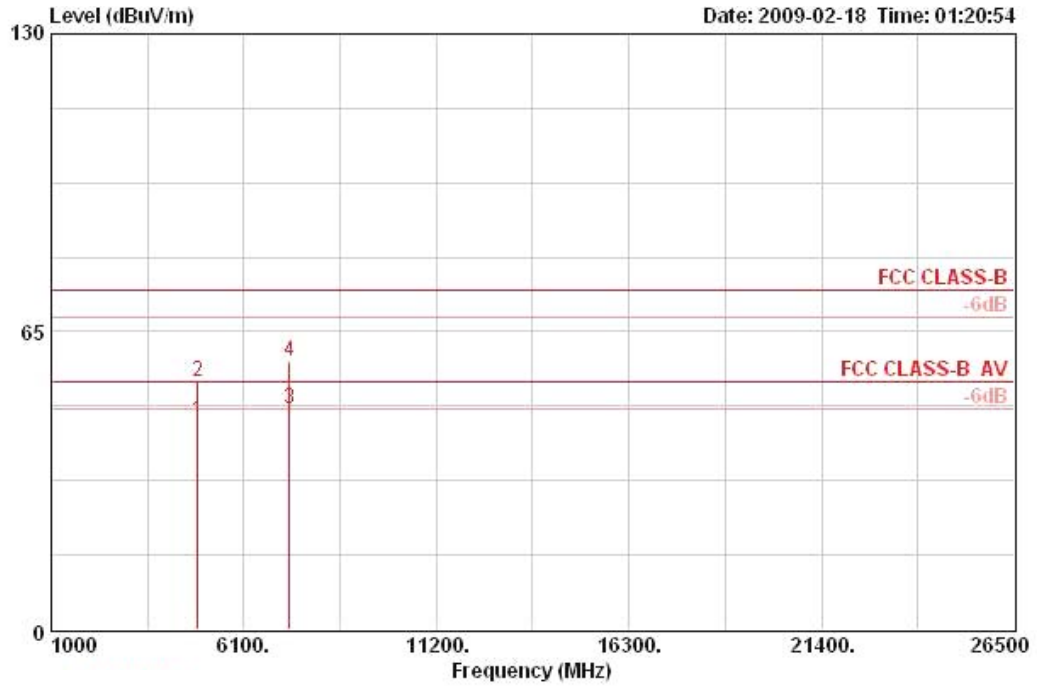
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB			deg	cm
1	4823.860	51.79	-22.21	74.00	49.81	33.06	35.04	3.96 PEAK	VERTICAL	55	100
2	4824.010	46.49	-7.51	54.00	44.51	33.06	35.04	3.96 AVERAGE	VERTICAL	55	100

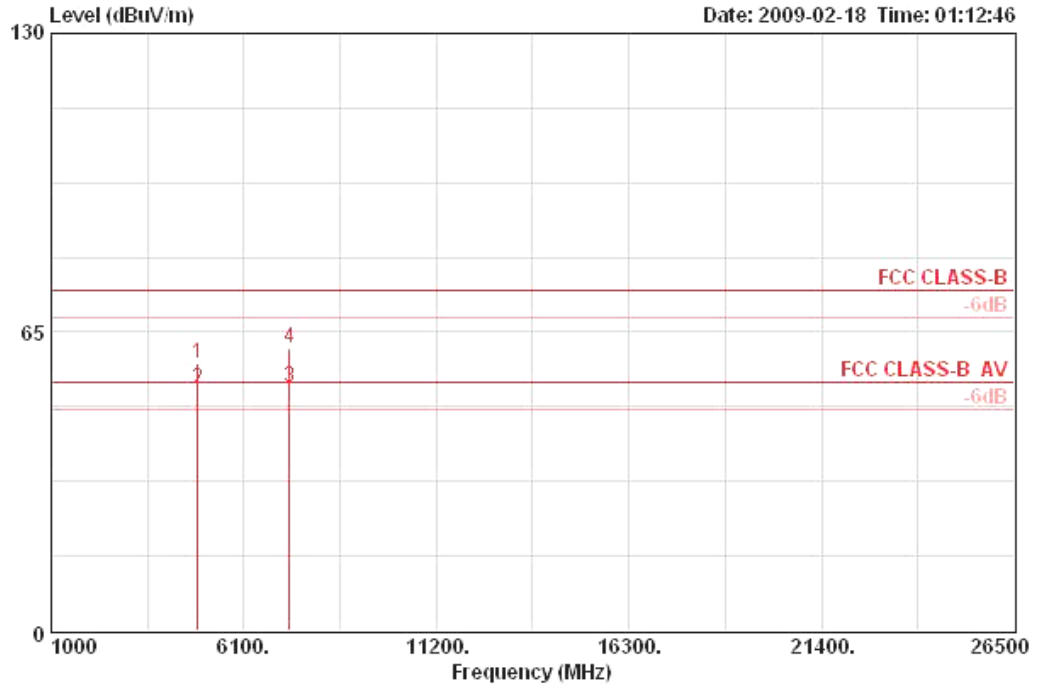
Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	802.11b CH 6 Ant. A

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4873.990	45.40	-8.60	54.00	40.50	33.48	35.15	6.56	AVERAGE	HORIZONTAL	105	100
2	4874.090	53.89	-20.11	74.00	48.99	33.48	35.15	6.56	PEAK	HORIZONTAL	105	100
3 !	7311.770	48.19	-5.81	54.00	38.61	36.50	34.93	8.01	AVERAGE	HORIZONTAL	272	100
4	7311.970	58.43	-15.57	74.00	48.85	36.50	34.93	8.01	PEAK	HORIZONTAL	272	100

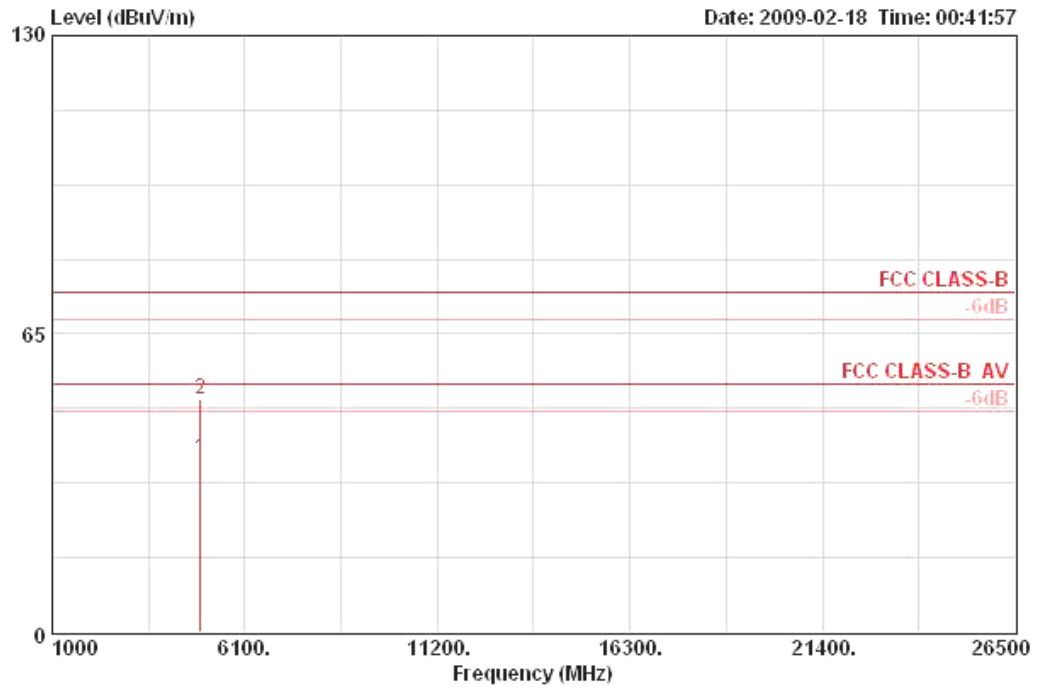
Vertical



	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Pol/Phase	Table	Ant
	MHz	dBuV/m	Limit	Line	Level	Factor	Factor	Loss			Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4873.990	58.28	-15.72	74.00	53.39	33.48	35.15	6.56	PEAK	VERTICAL	269	116
2 !	4874.050	52.53	-1.47	54.00	47.63	33.48	35.15	6.56	AVERAGE	VERTICAL	269	116
3 !	7310.220	53.13	-0.87	54.00	43.58	36.50	34.94	7.99	AVERAGE	VERTICAL	95	141
4	7311.170	61.39	-12.61	74.00	51.84	36.50	34.94	7.99	PEAK	VERTICAL	95	141

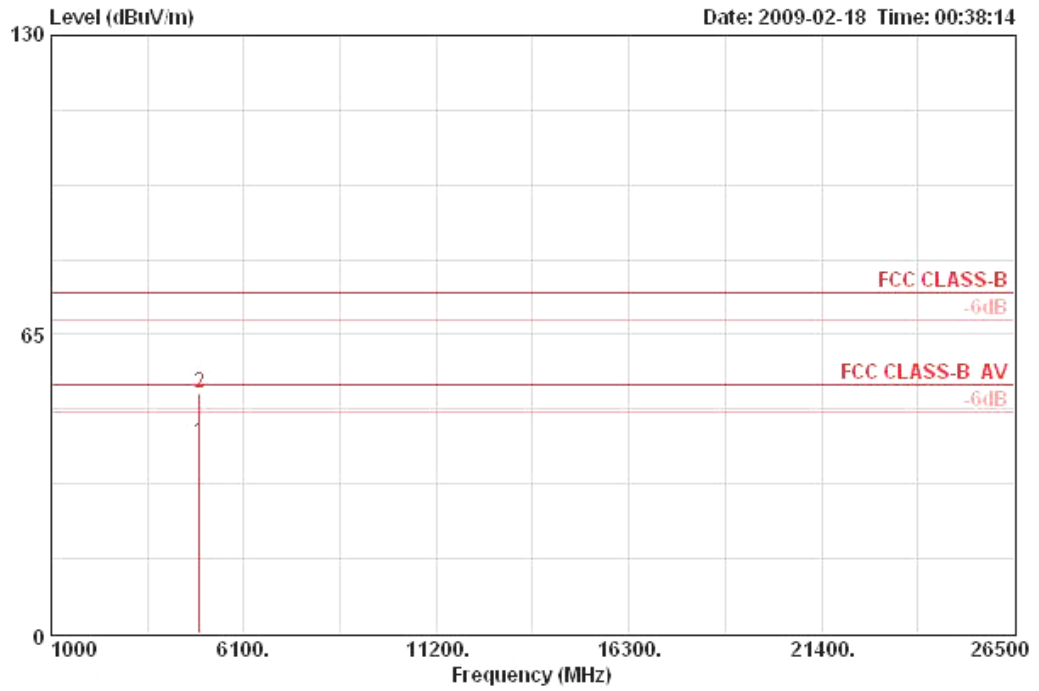
Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	802.11b CH 11 Ant. A

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4923.990	37.77	-16.23	54.00	32.50	33.58	35.03	6.73	AVERAGE	HORIZONTAL	141	161
2	4924.310	50.78	-23.22	74.00	45.51	33.58	35.03	6.73	PEAK	HORIZONTAL	141	161

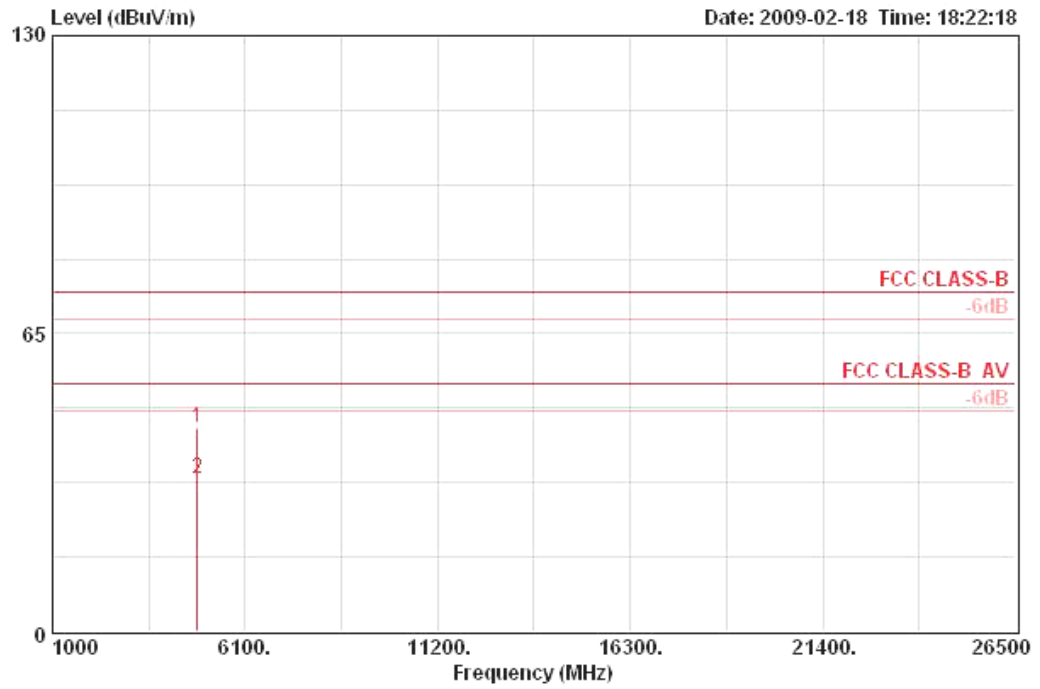
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4924.070	41.39	-12.61	54.00	36.11	33.58	35.03	6.73	AVERAGE	VERTICAL	15	110
2	4924.300	52.10	-21.90	74.00	46.83	33.58	35.03	6.73	PEAK	VERTICAL	15	110

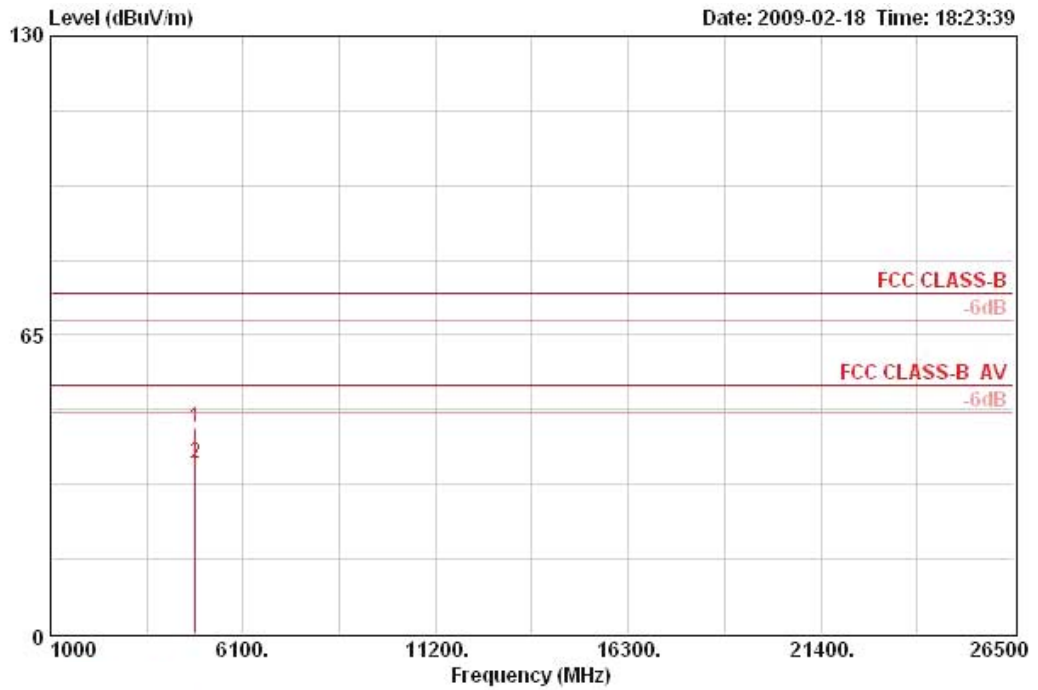
Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	802.11g CH 1 Ant. A

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB			deg	cm
1	4823.993	44.48	-29.52	74.00	42.50	33.06	35.04	3.96 PEAK	HORIZONTAL	360	100
2	4824.007	33.49	-20.51	54.00	31.51	33.06	35.04	3.96 AVERAGE	HORIZONTAL	360	100

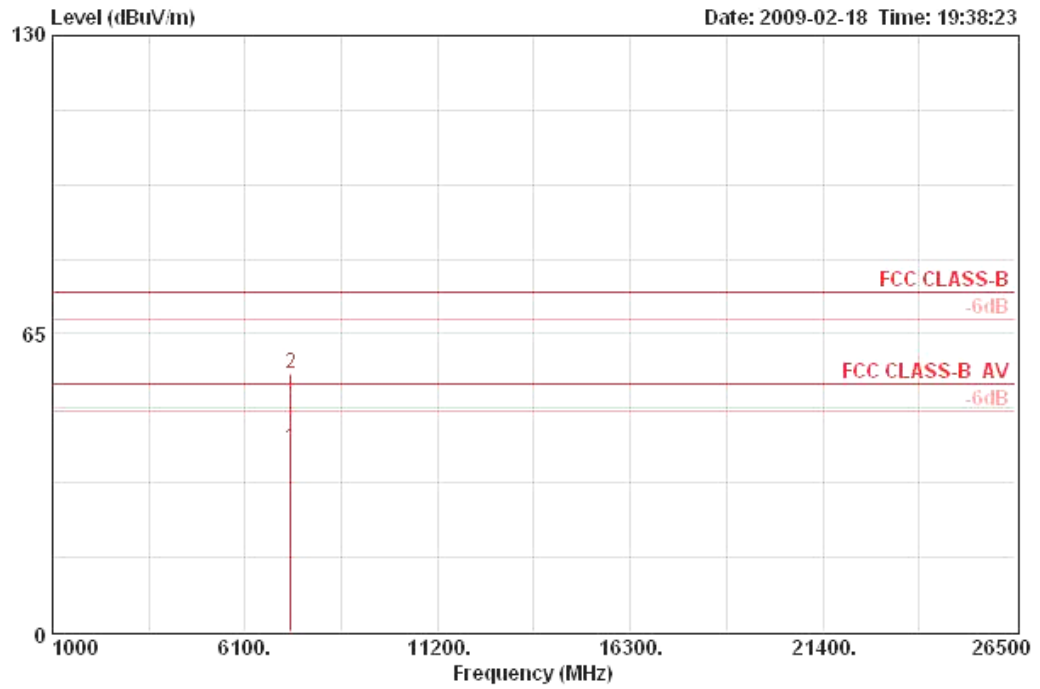
Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4824.015	44.68	-29.32	74.00	42.71	33.06	35.04	3.96	PEAK	VERTICAL	0	100
2	4824.021	37.13	-16.87	54.00	35.15	33.06	35.04	3.96	AVERAGE	VERTICAL	0	100

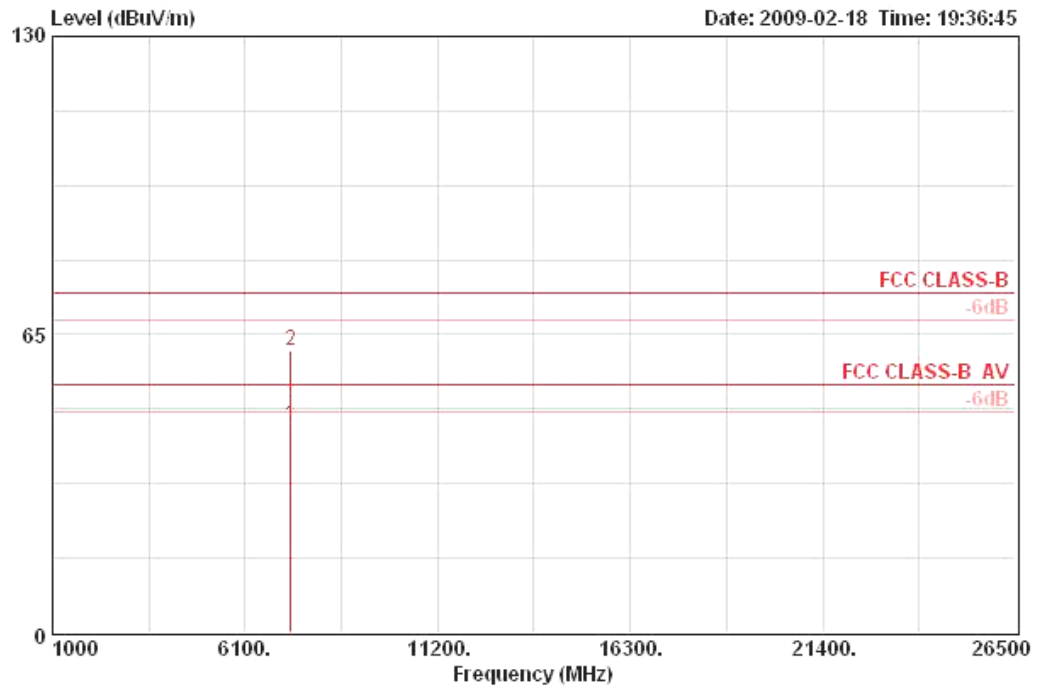
Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	802.11g CH 6 Ant. A

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB			deg	cm
1 @	7312.840	40.01	-13.99	54.00	34.28	35.96	35.40	5.18 AVERAGE	HORIZONTAL	152	100
2	7316.880	56.20	-17.80	74.00	50.47	35.96	35.40	5.18 PEAK	HORIZONTAL	152	100

Vertical

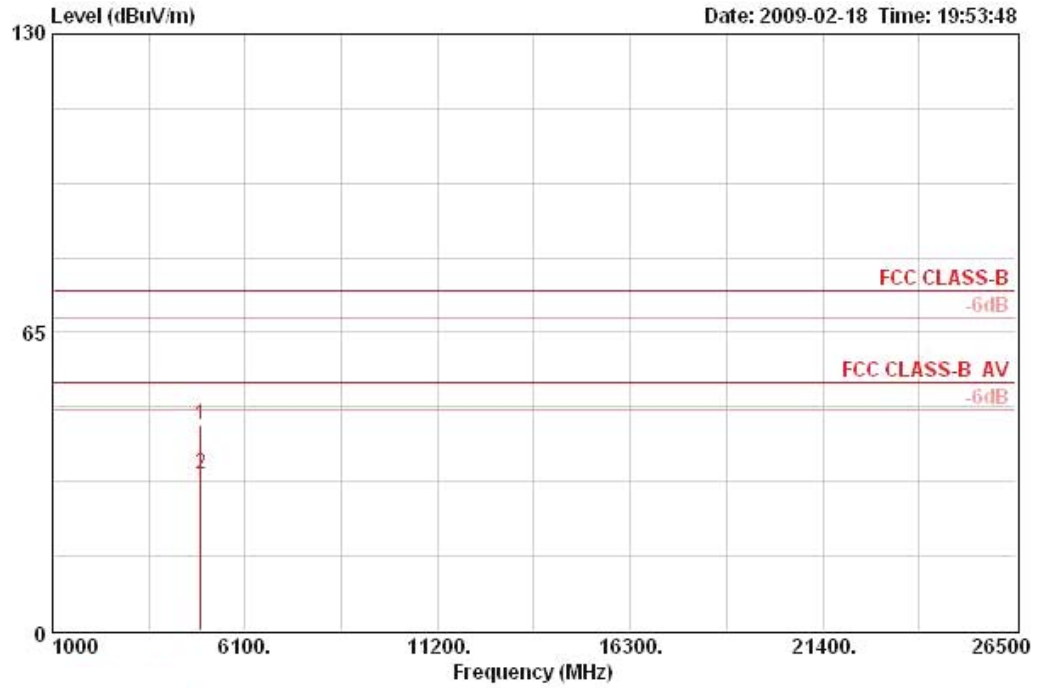


5

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB			deg	cm
1	7313.560	45.27	-8.73	54.00	39.54	35.96	35.40	5.18 AVERAGE	VERTICAL	311	100
2	7318.480	61.64	-12.36	74.00	55.91	35.96	35.40	5.18 PEAK	VERTICAL	311	100

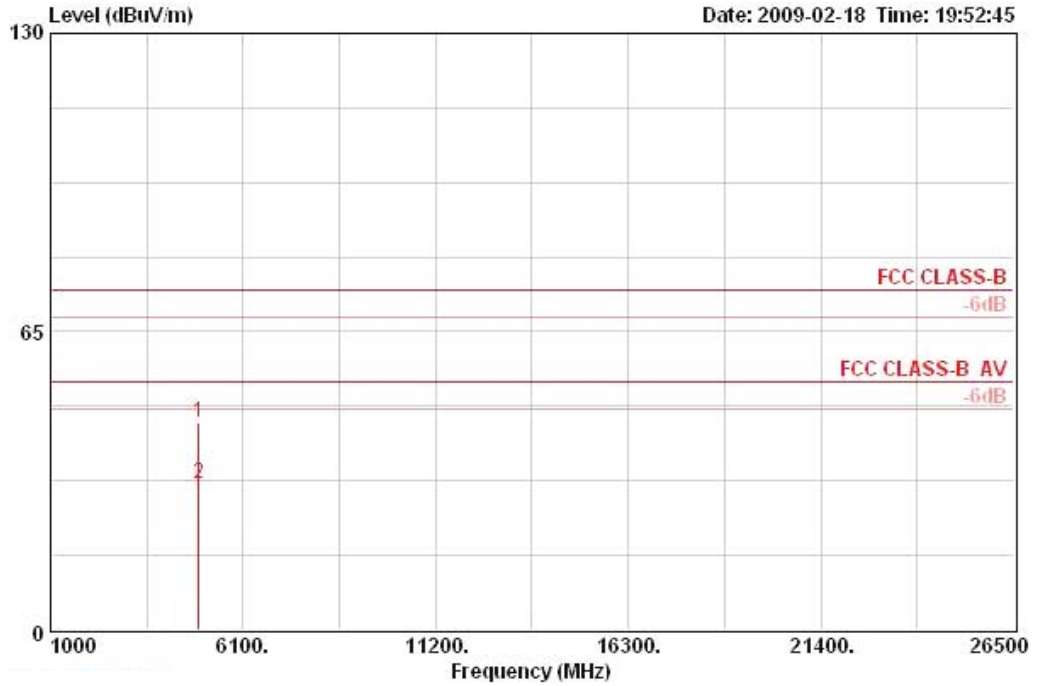
Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	802.11g CH 11 Ant. A

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4923.981	44.88	-29.12	74.00	42.66	33.26	35.02	3.97	PEAK	HORIZONTAL	0	100
2	4924.003	34.15	-19.85	54.00	31.93	33.26	35.02	3.97	AVERAGE	HORIZONTAL	0	100

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4923.982	45.02	-28.98	74.00	42.80	33.26	35.02	3.97	PEAK	VERTICAL	360	100
2	4923.989	31.81	-22.19	54.00	29.59	33.26	35.02	3.97	AVERAGE	VERTICAL	360	100

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBUV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6. Band Edge Emissions Measurement

4.6.1. Limit

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micovolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (Emission in restricted band)	1 MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	100 KHz /100 KHz for Peak

4.6.3. Test Procedures

1. The test procedure is the same as section 4.5.3, only the frequency range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

4.6.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.5.4.

4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.6.7. Test Result of Band Edge and Fundamental Emissions

Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	Draft n MCS8 20MHz Ch 1, 6, 11 Ant. A + Ant. B
Test Date	Feb. 18, 2009		

Channel 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 ☒	2389.600	71.50	-2.50	74.00	40.57	28.17	0.00	2.76	PEAK	HORIZONTAL	339	107
2 ☒	2390.000	53.02	-0.98	54.00	22.09	28.17	0.00	2.76	AVERAGE	HORIZONTAL	339	107
3 ☒	2411.800	105.76			74.77	28.21	0.00	2.77	PEAK	HORIZONTAL	339	107
4 ☒	2412.800	94.40			63.42	28.21	0.00	2.77	AVERAGE	HORIZONTAL	339	107

Item 3, 4 are the fundamental frequency at 2412 MHz

Channel 6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 ☒	2388.400	72.46	-1.54	74.00	41.53	28.17	0.00	2.76	PEAK	HORIZONTAL	91	106
2 ☒	2390.000	49.78	-4.22	54.00	18.85	28.17	0.00	2.76	AVERAGE	HORIZONTAL	91	106
3 ☒	2436.200	102.50			71.44	28.29	0.00	2.78	AVERAGE	HORIZONTAL	91	106
4 ☒	2436.400	113.41			82.34	28.29	0.00	2.78	PEAK	HORIZONTAL	91	106
5 ☒	2483.500	48.58	-5.42	54.00	17.40	28.38	0.00	2.81	AVERAGE	HORIZONTAL	91	106
6 ☒	2486.500	69.38	-4.62	74.00	38.15	28.42	0.00	2.81	PEAK	HORIZONTAL	91	106

Item 3, 4 are the fundamental frequency at 2437MHz.

Channel 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 ☒	2461.000	94.33			63.20	28.33	0.00	2.80	AVERAGE	HORIZONTAL	90	104
2 ☒	2461.200	105.15			74.03	28.33	0.00	2.80	PEAK	HORIZONTAL	90	104
3 ☒	2484.300	53.33	-0.67	54.00	22.15	28.37	0.00	2.81	AVERAGE	HORIZONTAL	90	104
4 ☒	2485.300	72.77	-1.23	74.00	41.55	28.41	0.00	2.81	PEAK	HORIZONTAL	90	104

Item 1, 2 are the fundamental frequency at 2462 MHz.



Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	Draft n MCS8 40MHz Ch 3, 6, 9 Ant. A + Ant. B
Test Date	Feb. 18, 2009		

Channel 3

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 ☺	2383.200	70.10	-3.90	74.00	39.17	28.17	0.00	2.76	PEAK	HORIZONTAL	341	105
2 ☺	2385.520	53.04	-0.96	54.00	22.11	28.17	0.00	2.76	AVERAGE	HORIZONTAL	341	105
3 ☺	2420.400	87.83			56.81	28.25	0.00	2.77	AVERAGE	HORIZONTAL	341	105
4 ☺	2424.800	100.86			69.84	28.25	0.00	2.77	PEAK	HORIZONTAL	341	105

Item 3, 4 are the fundamental frequency at 2422 MHz.

Channel 6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 ☺	2390.000	52.71	-1.29	54.00	21.78	28.17	0.00	2.76	AVERAGE	HORIZONTAL	92	107
2 ☺	2390.000	72.94	-1.06	74.00	42.01	28.17	0.00	2.76	PEAK	HORIZONTAL	92	107
3 ☺	2433.800	91.67			60.64	28.25	0.00	2.78	AVERAGE	HORIZONTAL	92	107
4 ☺	2435.400	105.72			74.65	28.29	0.00	2.78	PEAK	HORIZONTAL	92	107
5 ☺	2483.500	51.07	-2.93	54.00	19.88	28.38	0.00	2.81	AVERAGE	HORIZONTAL	92	107
6 ☺	2484.700	70.59	-3.41	74.00	39.40	28.38	0.00	2.81	PEAK	HORIZONTAL	92	107

Item 3, 4 are the fundamental frequency at 2437MHz.

Channel 9

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 ☺	2449.200	89.41			58.34	28.29	0.00	2.78	AVERAGE	HORIZONTAL	89	100
2 ☺	2454.000	103.42			72.31	28.33	0.00	2.78	PEAK	HORIZONTAL	89	100
3 ☺	2484.300	53.31	-0.69	54.00	22.12	28.38	0.00	2.81	AVERAGE	HORIZONTAL	89	100
4 ☺	2485.100	73.27	-0.73	74.00	42.04	28.42	0.00	2.81	PEAK	HORIZONTAL	89	100

Item 1, 2 are the fundamental frequency at 2452 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.



Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	802.11b CH 1, 6, 11 Ant. A
Test Date	Feb. 18, 2009		

Channel 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 ☺	2387.200	48.02	-5.98	54.00	17.09	28.17	0.00	2.76	AVERAGE	HORIZONTAL	194	100
2 ☺	2390.000	59.18	-14.82	74.00	28.25	28.17	0.00	2.76	PEAK	HORIZONTAL	194	100
3 ☺	2412.800	99.96			68.98	28.21	0.00	2.77	AVERAGE	HORIZONTAL	194	100
4 ☺	2413.200	105.46			74.48	28.21	0.00	2.77	PEAK	HORIZONTAL	194	100

Item 3, 4 are the fundamental frequency at 2412 MHz.

Channel 6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	2388.800	58.05	-15.95	74.00	27.13	28.05	0.00	2.86	PEAK	HORIZONTAL	215	100
2	2390.000	44.67	-9.33	54.00	13.74	28.05	0.00	2.88	AVERAGE	HORIZONTAL	215	100
3 ☺	2436.200	102.35			71.32	28.13	0.00	2.90	AVERAGE	HORIZONTAL	215	100
4	2438.200	107.56			76.49	28.18	0.00	2.90	PEAK	HORIZONTAL	215	100
5	2483.500	56.41	-17.59	74.00	25.22	28.26	0.00	2.93	PEAK	HORIZONTAL	215	100
6	2483.500	45.08	-8.92	54.00	13.90	28.26	0.00	2.93	AVERAGE	HORIZONTAL	215	100

Item 3, 4 are the fundamental frequency at 2437MHz.

Channel 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	2461.000	108.65			77.52	28.22	0.00	2.91	PEAK	HORIZONTAL	23	100
2 ☺	2461.200	103.26			72.13	28.22	0.00	2.91	AVERAGE	HORIZONTAL	23	100
3 !	2483.500	52.96	-1.04	54.00	21.78	28.26	0.00	2.93	AVERAGE	HORIZONTAL	23	100
4	2483.500	61.42	-12.58	74.00	30.24	28.26	0.00	2.93	PEAK	HORIZONTAL	23	100

Item 1, 2 are the fundamental frequency at 2462 MHz.

Temperature	24°C	Humidity	57%
Test Engineer	Allen Liu	Configurations	802.11g CH 1, 6, 11 Ant. A
Test Date	Feb. 18, 2009		

Channel 1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 @	2387.400	69.54	-4.46	74.00	38.61	28.17	0.00	2.76	PEAK	HORIZONTAL	341	105
2 @	2390.000	53.70	-0.30	54.00	22.77	28.17	0.00	2.76	AVERAGE	HORIZONTAL	341	105
3 @	2411.400	108.41			77.43	28.21	0.00	2.77	PEAK	HORIZONTAL	341	105
4 @	2412.800	94.01			63.03	28.21	0.00	2.77	AVERAGE	HORIZONTAL	341	105

Item 3, 4 are the fundamental frequency at 2412 MHz.

Channel 6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 @	2390.000	72.26	-1.74	74.00	41.33	28.17	0.00	2.76	PEAK	HORIZONTAL	341	106
2 @	2390.000	51.42	-2.58	54.00	20.49	28.17	0.00	2.76	AVERAGE	HORIZONTAL	341	106
3 @	2434.800	103.30			72.23	28.29	0.00	2.78	AVERAGE	HORIZONTAL	341	106
4 @	2436.400	113.60			82.53	28.29	0.00	2.78	PEAK	HORIZONTAL	341	106
5 @	2483.500	48.40	-5.60	54.00	17.21	28.38	0.00	2.81	AVERAGE	HORIZONTAL	341	106
6 @	2483.900	67.73	-6.27	74.00	36.55	28.38	0.00	2.81	PEAK	HORIZONTAL	341	106

Item 3, 4 are the fundamental frequency at 2437 MHz.

Channel 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 @	2461.600	94.75			63.62	28.33	0.00	2.80	AVERAGE	HORIZONTAL	348	100
2	2463.200	106.08			74.95	28.33	0.00	2.80	PEAK	HORIZONTAL	348	100
3 *	2483.500	53.46	-0.54	54.00	22.28	28.38	0.00	2.81	AVERAGE	HORIZONTAL	348	100
4 *	2485.700	72.73	-1.27	74.00	41.50	28.42	0.00	2.81	PEAK	HORIZONTAL	348	100

Item 1, 2 are the fundamental frequency at 2462 MHz.

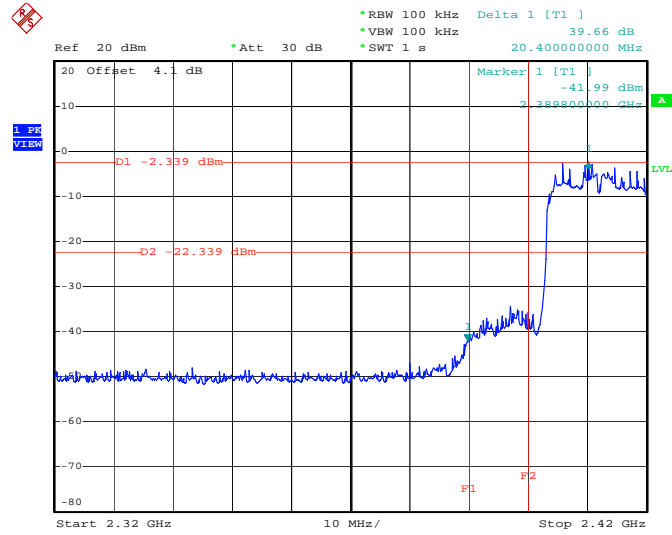
Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

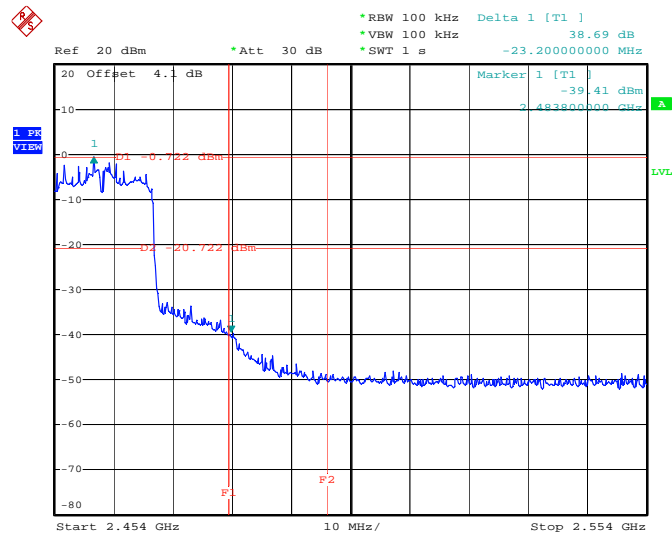
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Low Band Edge Plot on Configuration Drafft n MCS8 20MHz Ant. A + Ant. B / 2412 MHz



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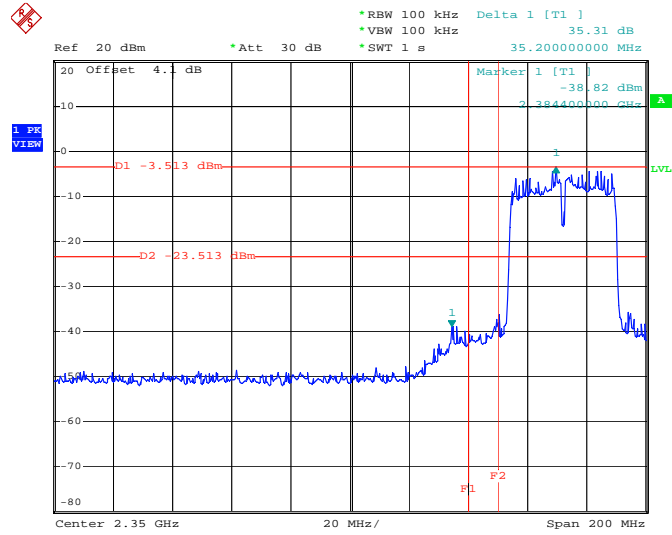
High Band Edge Plot on Configuration Drafft n MCS8 20MHz Ant. A + Ant. B / 2462 MHz



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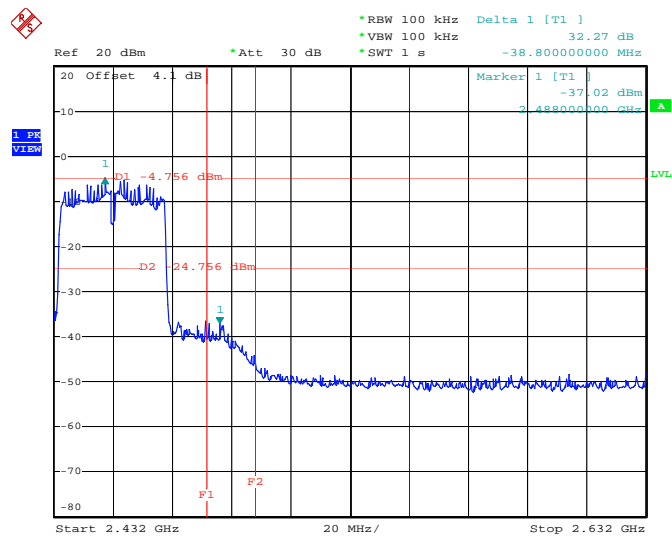
For Emission not in Restricted Band

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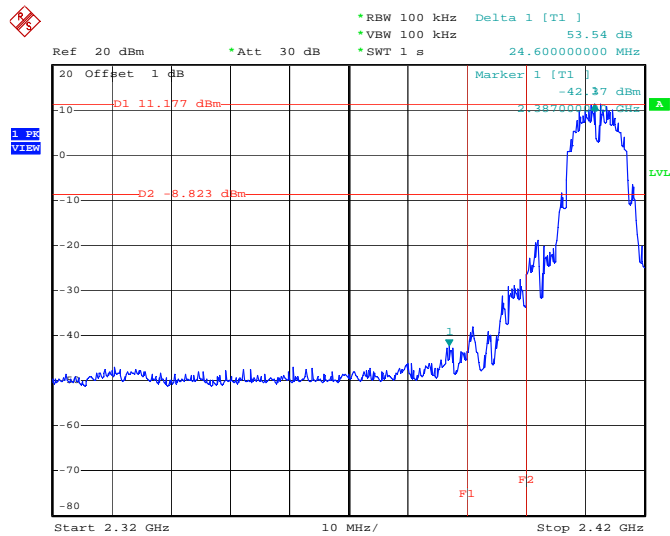
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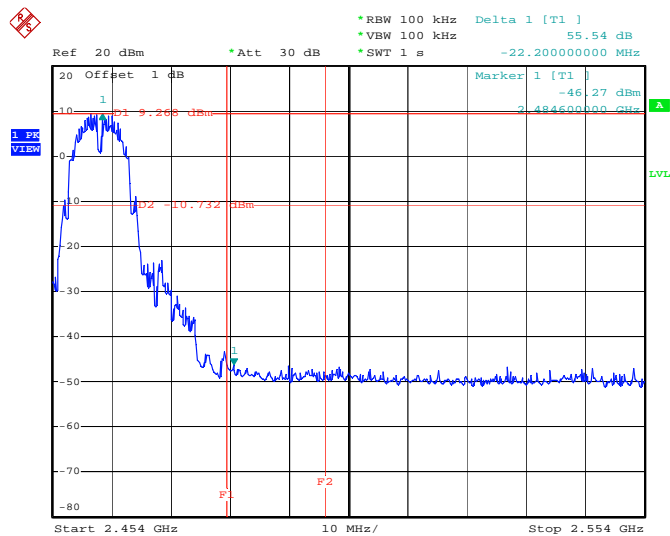
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Low Band Edge Plot on Configuration IEEE 802.11b Ant. A / 2412 MHz



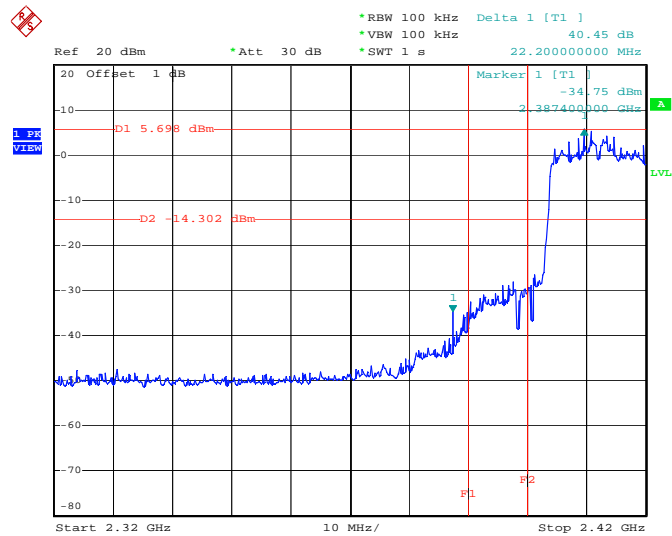
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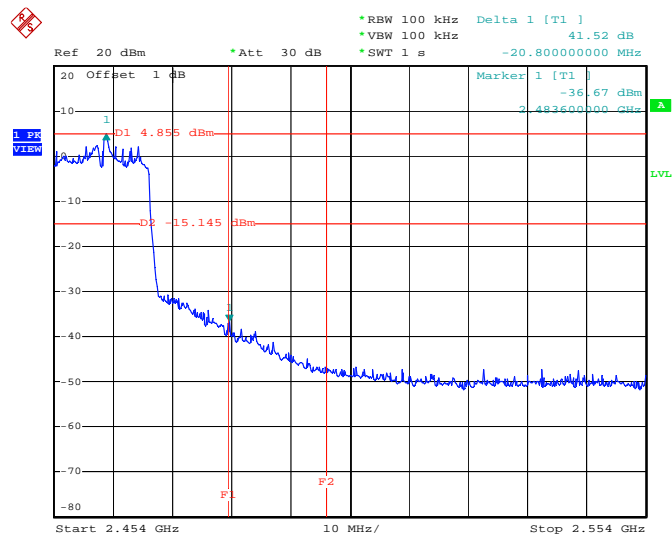
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Low Band Edge Plot on Configuration IEEE 802.11g Ant. A / 2412 MHz



Date: 23.FEB.2009 20:35:52

High Band Edge Plot on Configuration IEEE 802.11g Ant. A / 2462 MHz



Date: 23.FEB.2009 20:41:20

4.7. Antenna Requirements

4.7.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.7.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	Mar. 03, 2008	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2008	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2008	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2008	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz – 30MHz	Mar. 27, 2008	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 14, 2008	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	COA9231A	18667	9 kHz - 2 GHz	Jan. 23, 2009	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jul. 21, 2008	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5 GHz - 40 GHz	Jan. 22, 2008*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP40	100004	9 kHz - 30 GHz	Oct. 06, 2008	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	Jul. 28, 2008*	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 12, 2008	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	Apr. 04, 2008	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	Jan. 16, 2009	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100023	9kHz ~ 30GHz	Jan. 09, 2009	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jul. 11, 2008	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100458	DC ~ 30GHz	Jul. 11, 2008	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jul. 11, 2008	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	May 30, 2008*	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 13, 2008	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-001	N/A	Jul. 18, 2008	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2008	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2008	Conducted (TH01-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Dec. 14, 2008	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 10, 2008	Conducted (TH01-HY)
Oscilloscope	Tektonix	TDS380	B016197	400MHz/ 2GS/s	Jun. 27, 2008	Conducted (TH01-HY)

Note: Calibration Interval of instruments listed above is one year.

Note: *Calibration Interval of instruments listed above is two year.

6. TEST LOCATION

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 886-2-2696-2468 FAX : 886-2-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
LINKOU	ADD : No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C TEL : 886-2-2601-1640 FAX : 886-2-2601-1695
DUNGHU	ADD : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : 886-2-2631-4739 FAX : 886-2-2631-9740
JUNGHE	ADD : 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. TEL : 886-2-8227-2020 FAX : 886-2-8227-2626
NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 nd Rd., Taipei 114, Taiwan, R.O.C. TEL : 886-2-2794-8886 FAX : 886-2-2794-9777
JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

7. TAF CERTIFICATE OF ACCREDITATION



Certificate No. : L1190-070110

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.

EMC & Wireless Communications Laboratory

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien,
Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	: ISO/IEC 17025:2005
Accreditation Number	: 1190
Originally Accredited	: December 15, 2003
Effective Period	: January 10, 2007 to January 09, 2010
Accredited Scope	: Testing Field, see described in the Appendix
Specific Accreditation Program	: Accreditation Program for Designated Testing Laboratory for Commodities Inspection : Accreditation Program for Telecommunication Equipment Testing Laboratory

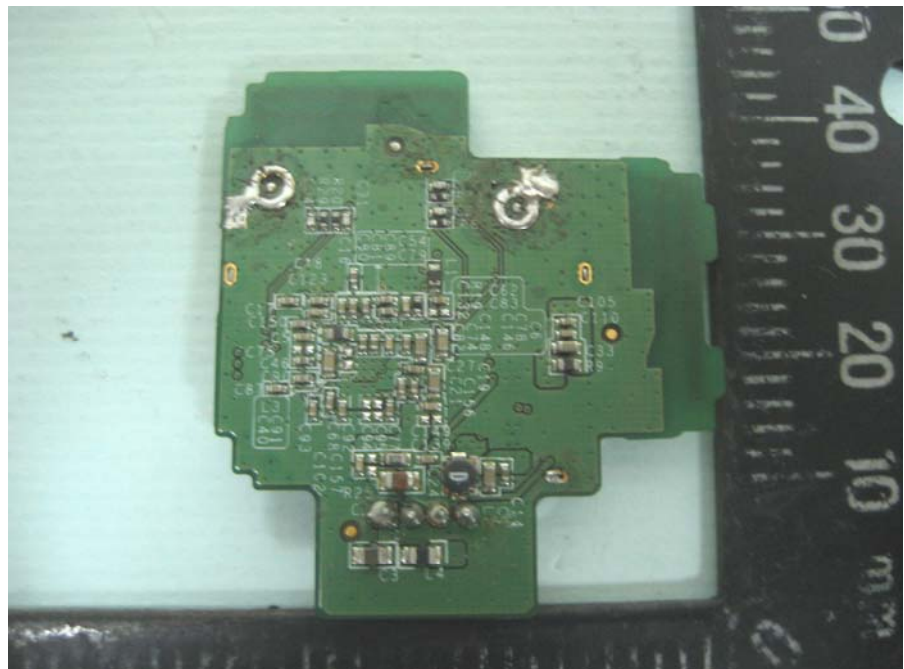


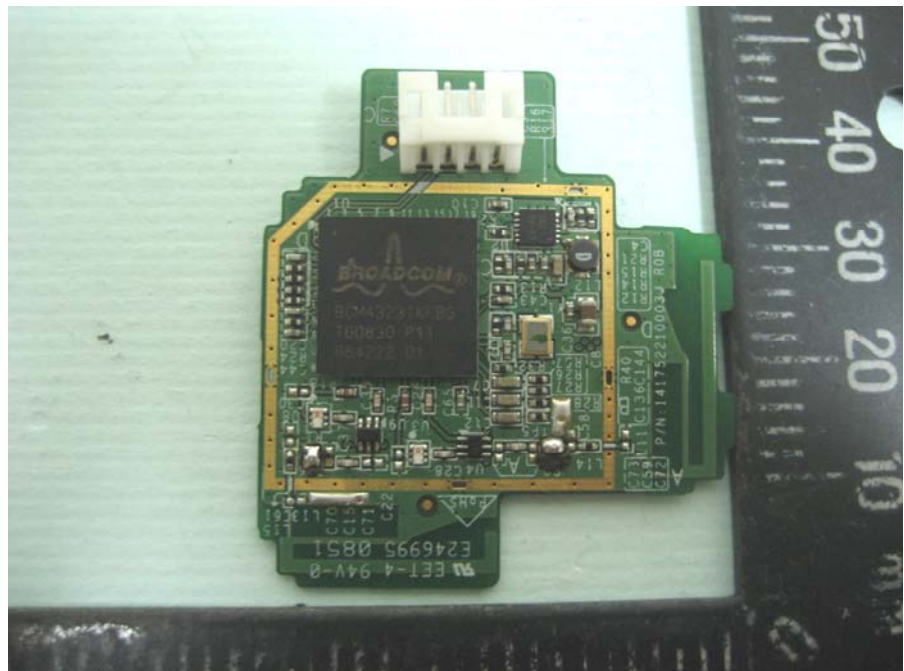
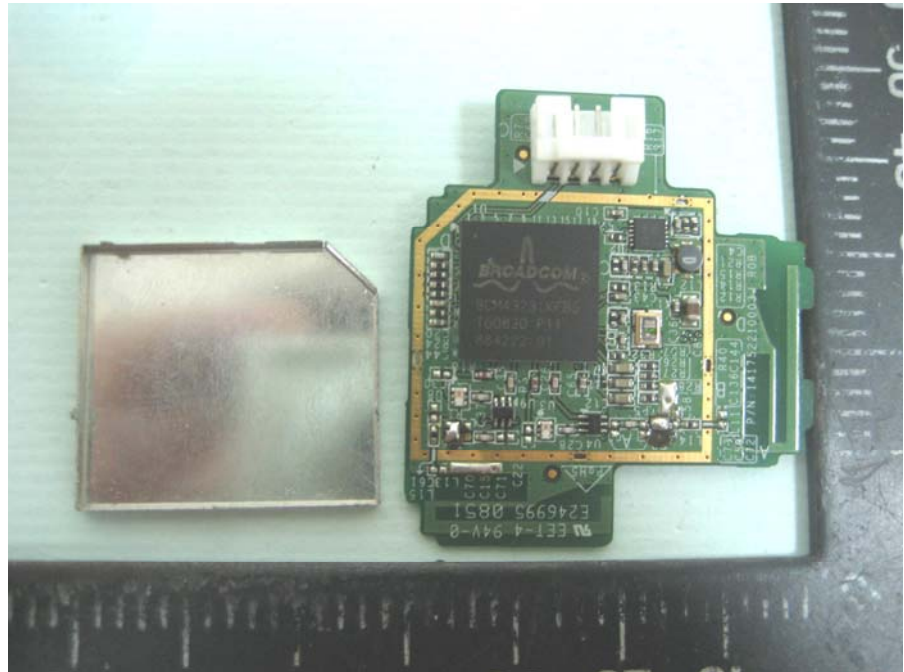
Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 10, 2007

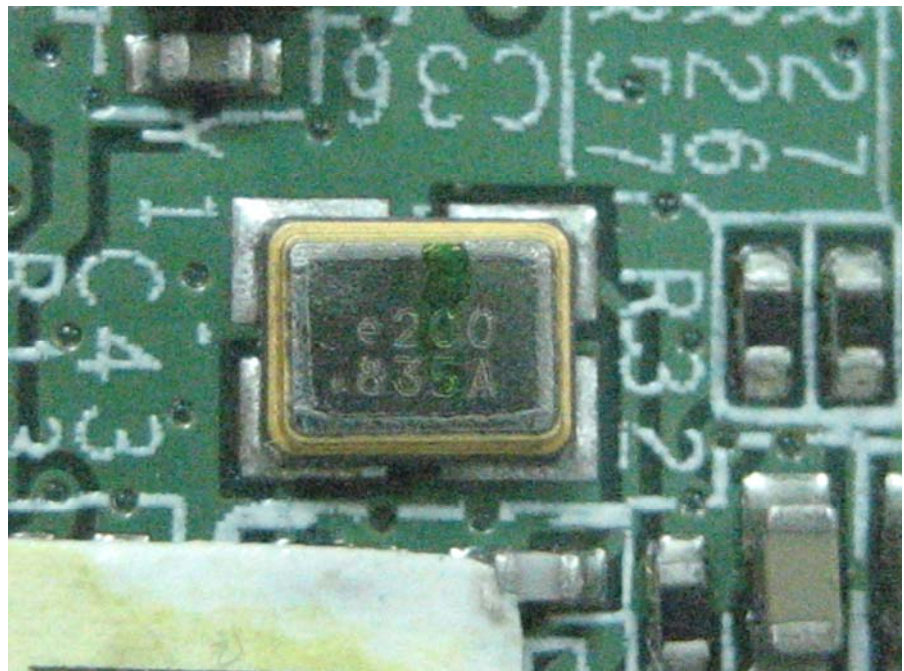
P1, total 9 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when used without the Appendix.

APPENDIX A. Photographs of EUT



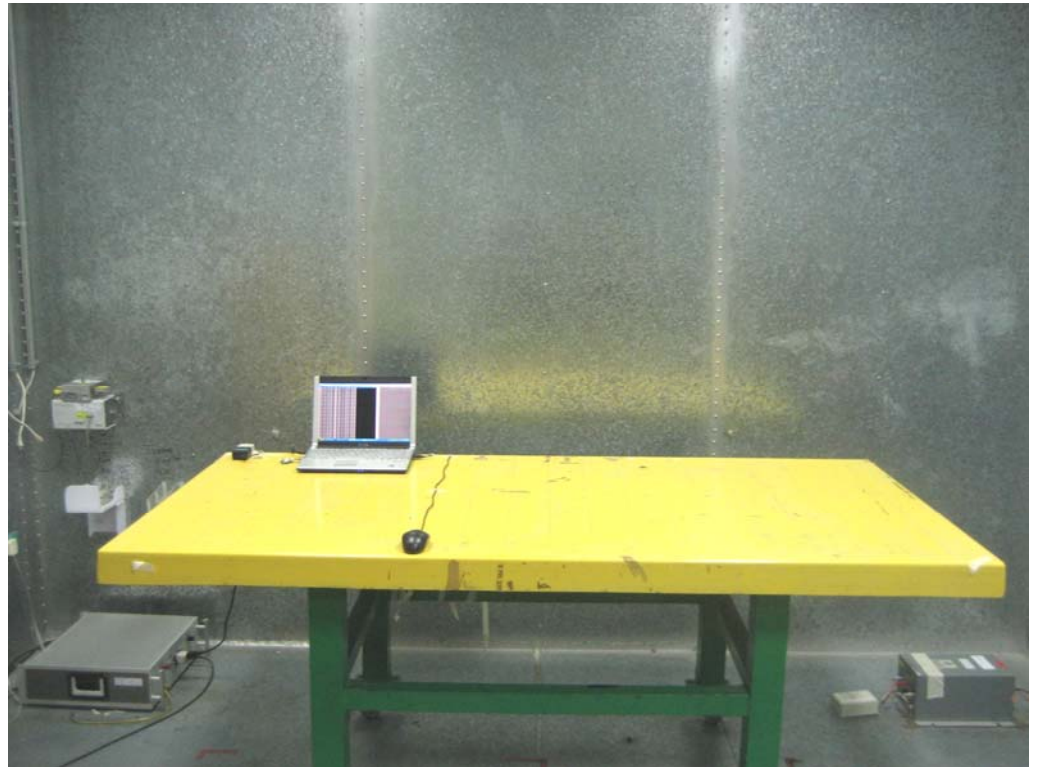




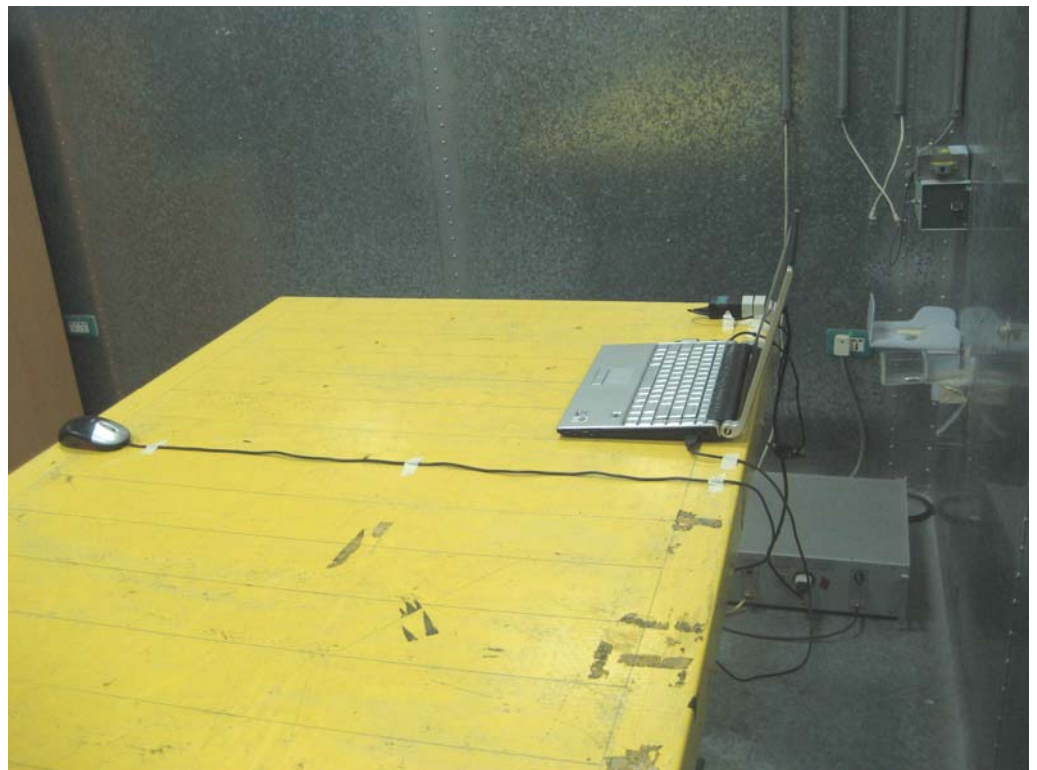
Appendix B. Test Photos

1. Photographs of Conducted Emissions Test Configuration

FRONT VIEW



REAR VIEW



2. Photographs of Radiated Emissions Test Configuration

9kHz ~30MHz

FRONT VIEW

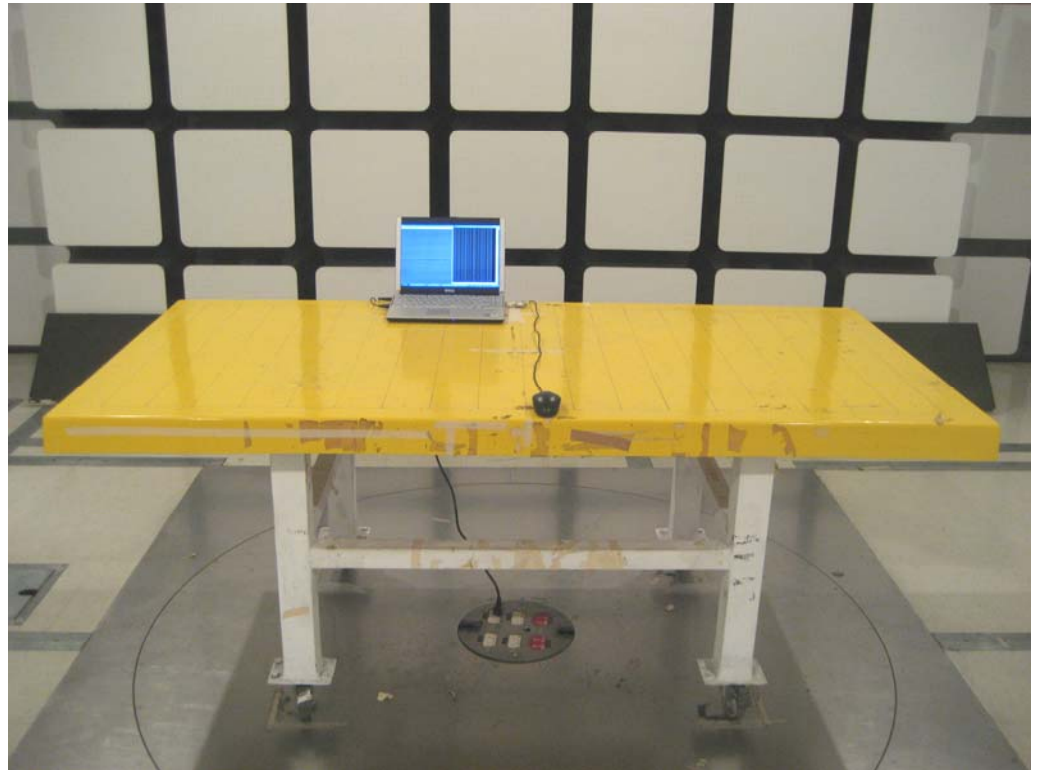


REAR VIEW



30MHz~1GHz

FRONT VIEW

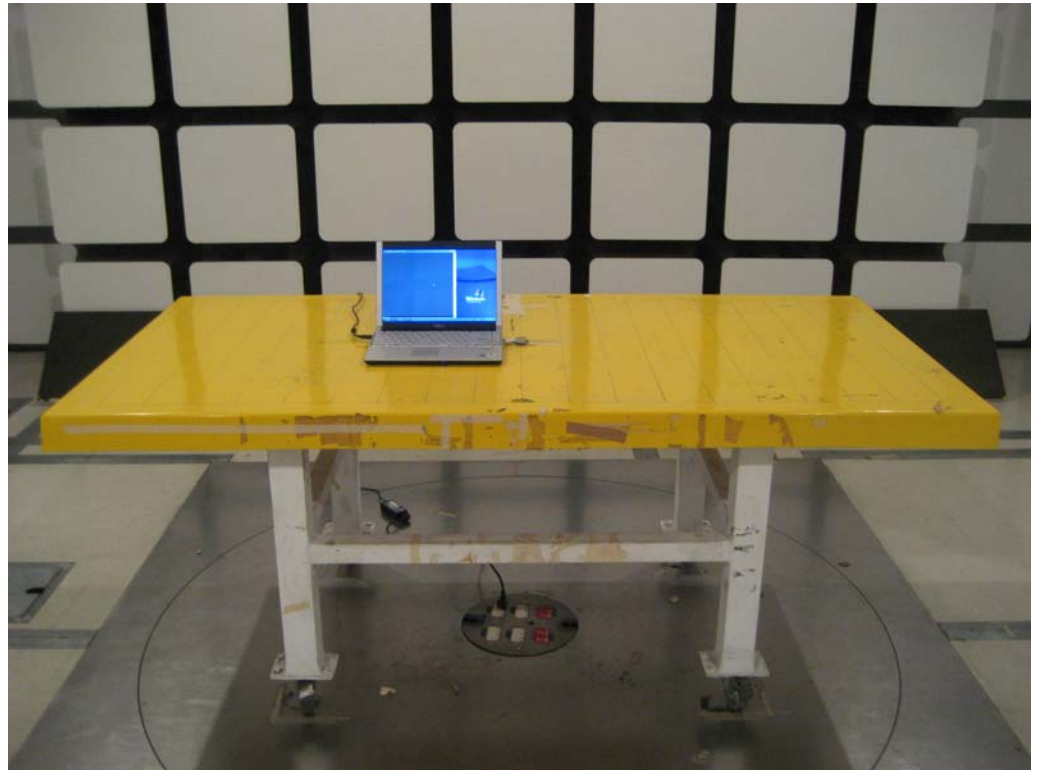


REAR VIEW



Above 1GHz

FRONT VIEW



REAR VIEW



SIDE VIEW



Appendix C. Maximum Permissible Exposure

1. Maximum Permissible Exposure

1.1. Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

1.2. MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

1.3. Calculated Result and Limit

For 2.4GHz Band: 802.11n

Antenna Type : PCB Printed Antenna

Max Conducted Power for IEEE 802.11n 20MHz Ant. A+ Ant. B: 23.70 dBm

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
1.5	1.4125	23.7046	234.6737	0.065980	1	Complies