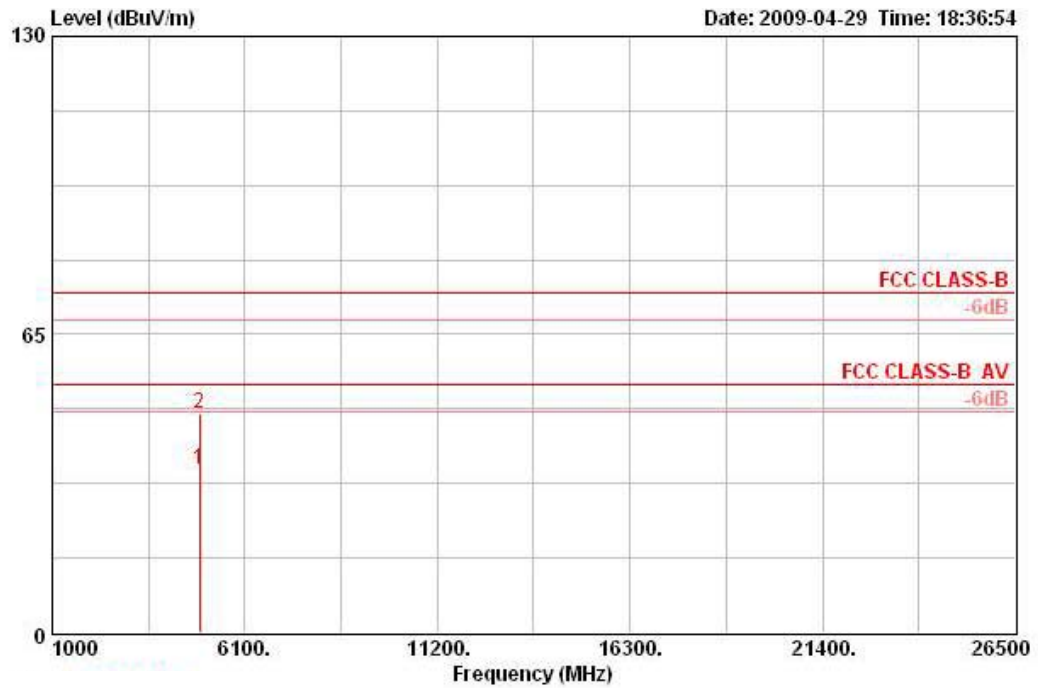




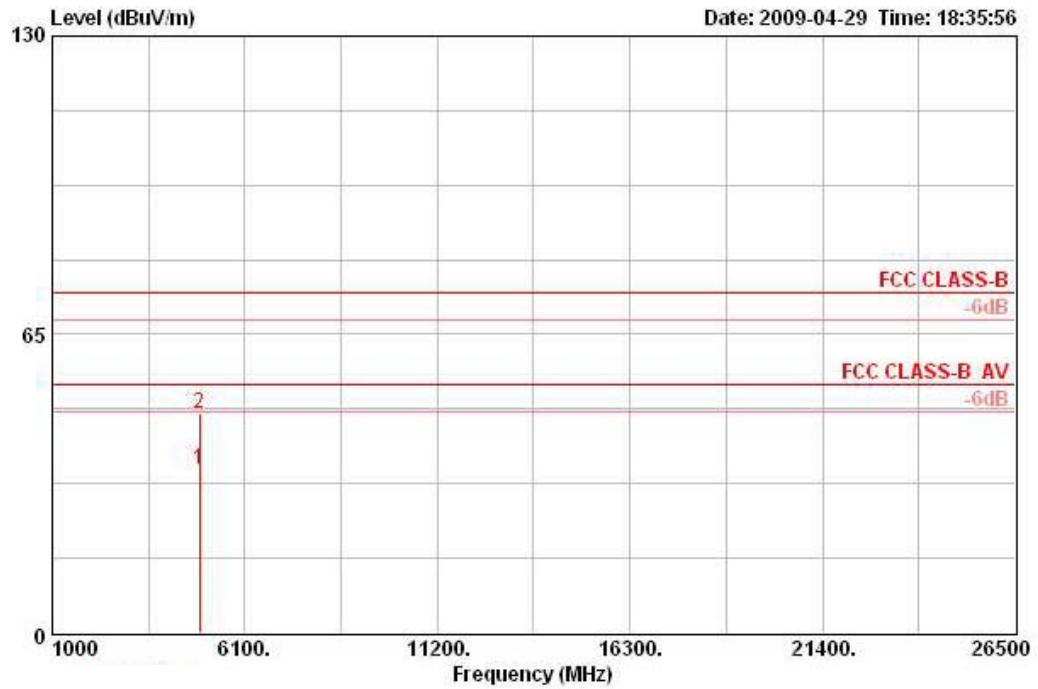
<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	Draft n MCS0 40MHz Ch 9 / Ant. A + Ant. B

**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	4904.001	35.41	-18.59	54.00	30.42	33.54	35.20	6.65	AVERAGE	HORIZONTAL	0	100
2	4904.019	47.84	-26.16	74.00	42.85	33.54	35.20	6.65	PEAK	HORIZONTAL	0	100

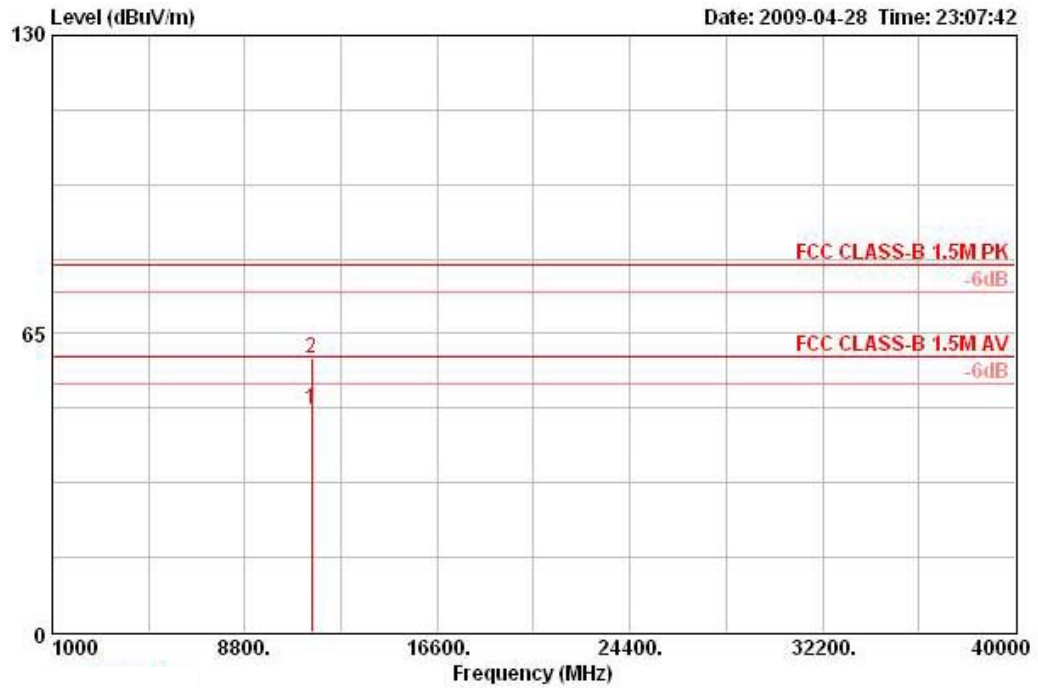
**Vertical**



	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	4903.982	35.53	-18.47	54.00	30.54	33.54	35.20	6.65	AVERAGE	VERTICAL	360	100
2	4904.008	47.83	-26.17	74.00	42.83	33.54	35.20	6.65	PEAK	VERTICAL	360	100

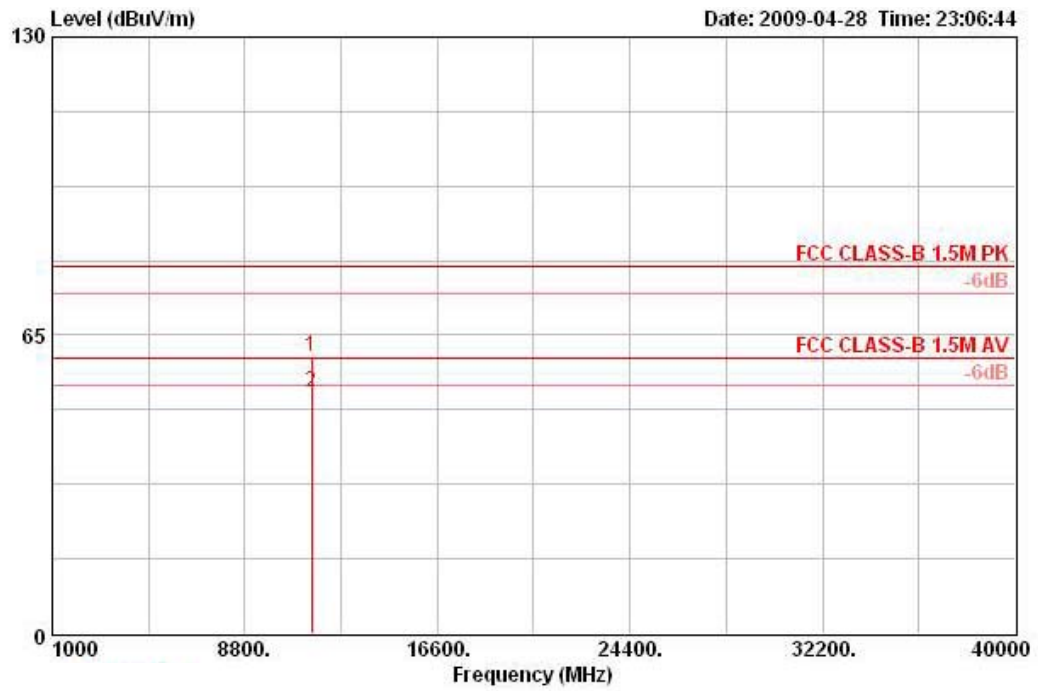
<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	11a Draft n MCS0 20MHz CH 149 / Ant. A + Ant. B

**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	11490.000	48.62	-11.38	60.00	33.32	39.50	35.09	10.90	AVERAGE	HORIZONTAL	91	100
2	11490.000	59.71	-20.29	80.00	44.41	39.50	35.09	10.90	PEAK	HORIZONTAL	91	100

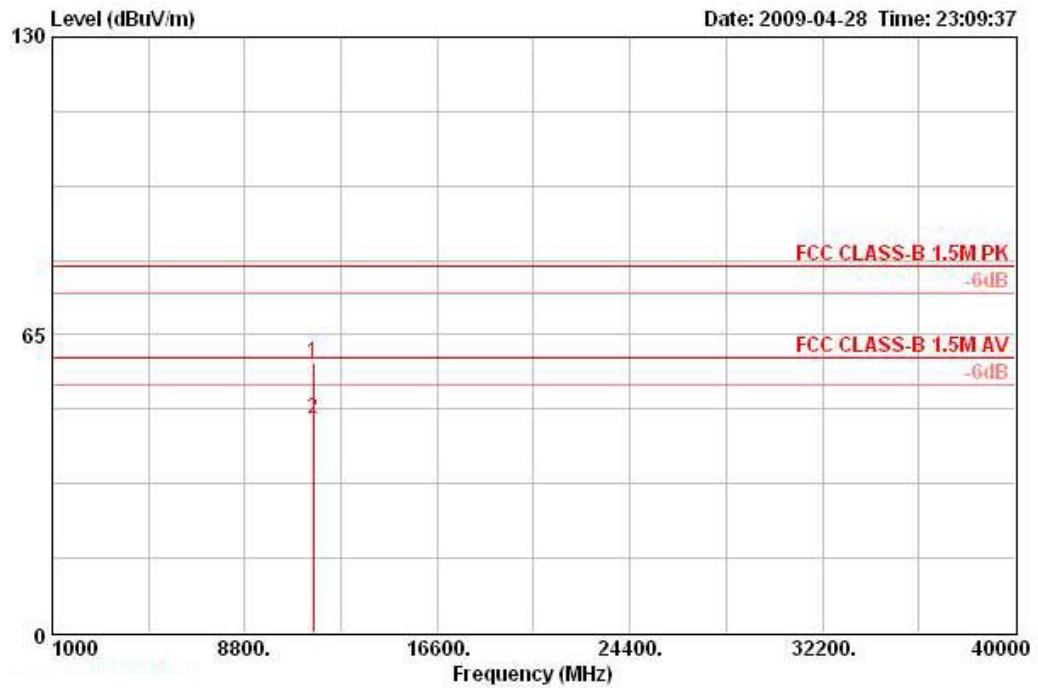
**Vertical**



	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	11490.010	60.25	-19.75	80.00	44.94	39.50	35.09	10.90	PEAK	VERTICAL	360	100
2	11490.020	52.60	-7.40	60.00	37.30	39.50	35.09	10.90	AVERAGE	VERTICAL	360	100

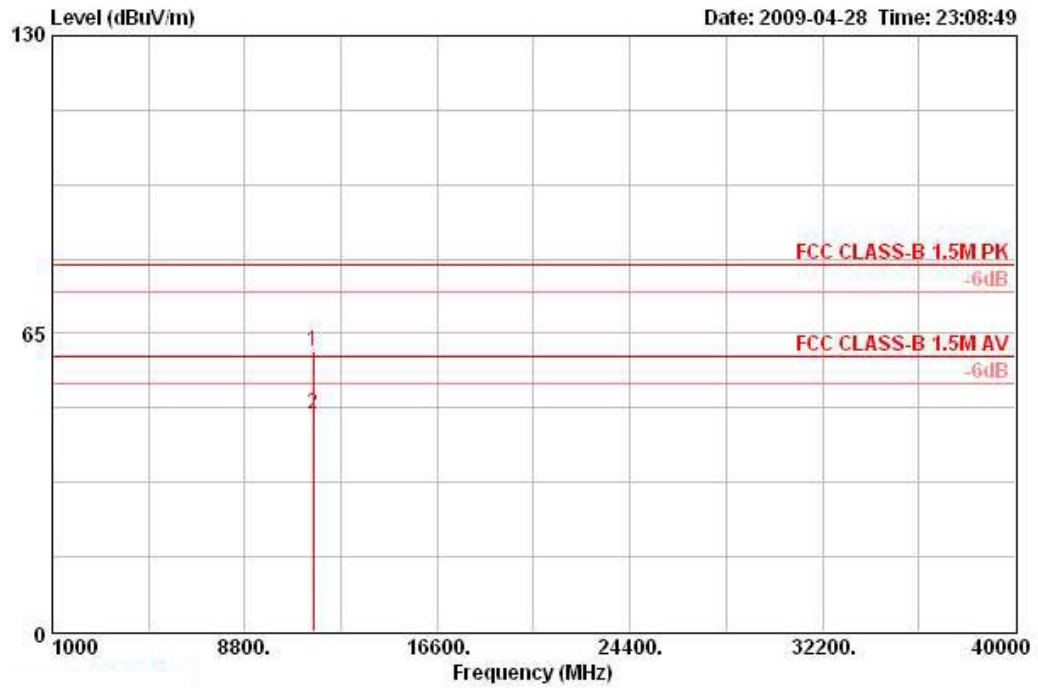
<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	11a Draft n MCS0 20MHz CH 157 / Ant. A + Ant. B

**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	11570.000	59.04	-20.96	80.00	43.82	39.47	35.09	10.83	PEAK	HORIZONTAL	286	100
2	11570.020	46.57	-13.43	60.00	31.35	39.47	35.09	10.83	AVERAGE	HORIZONTAL	286	100

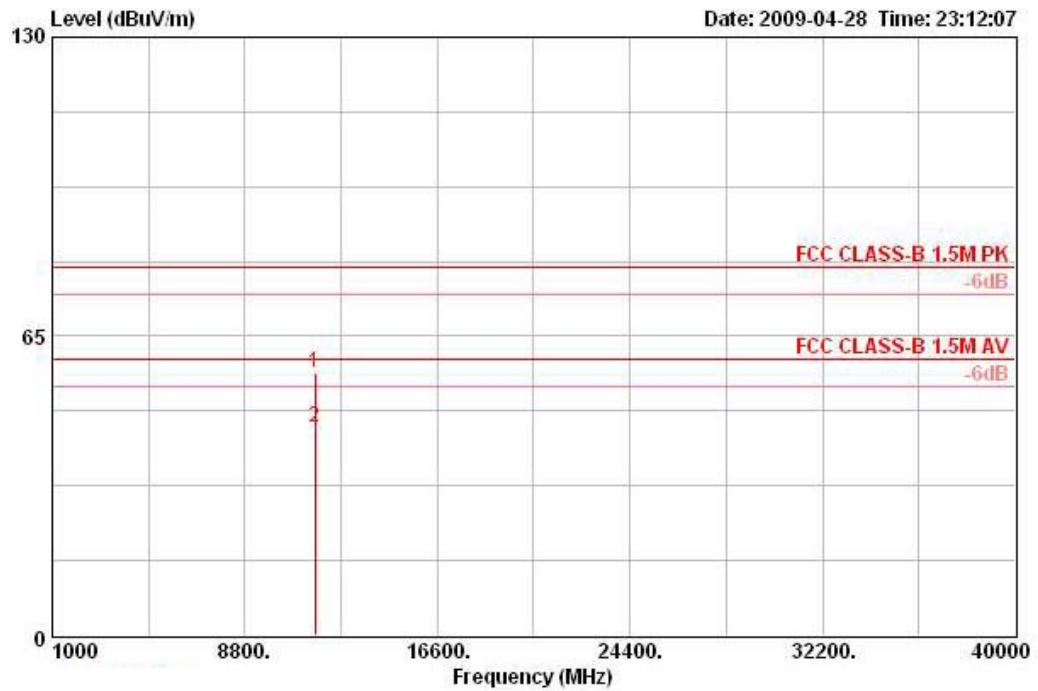
**Vertical**



	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	11569.990	61.04	-18.96	80.00	45.82	39.47	35.09	10.83	PEAK	VERTICAL	42	100
2	11570.010	47.40	-12.60	60.00	32.19	39.47	35.09	10.83	AVERAGE	VERTICAL	42	100

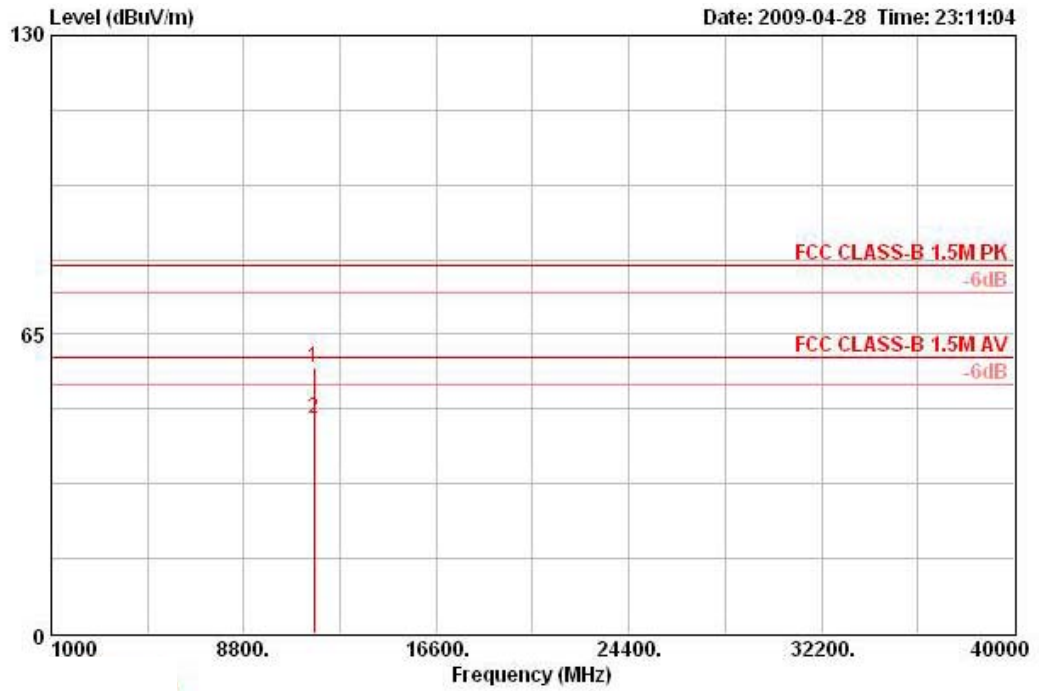
<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	11a Draft n MCS0 20MHz CH 165 / Ant. A + Ant. B

**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	11649.980	57.19	-22.81	80.00	42.09	39.44	35.07	10.72	PEAK	HORIZONTAL	360	100
2	11650.010	45.15	-14.85	60.00	30.06	39.44	35.07	10.72	AVERAGE	HORIZONTAL	360	8485

**Vertical**

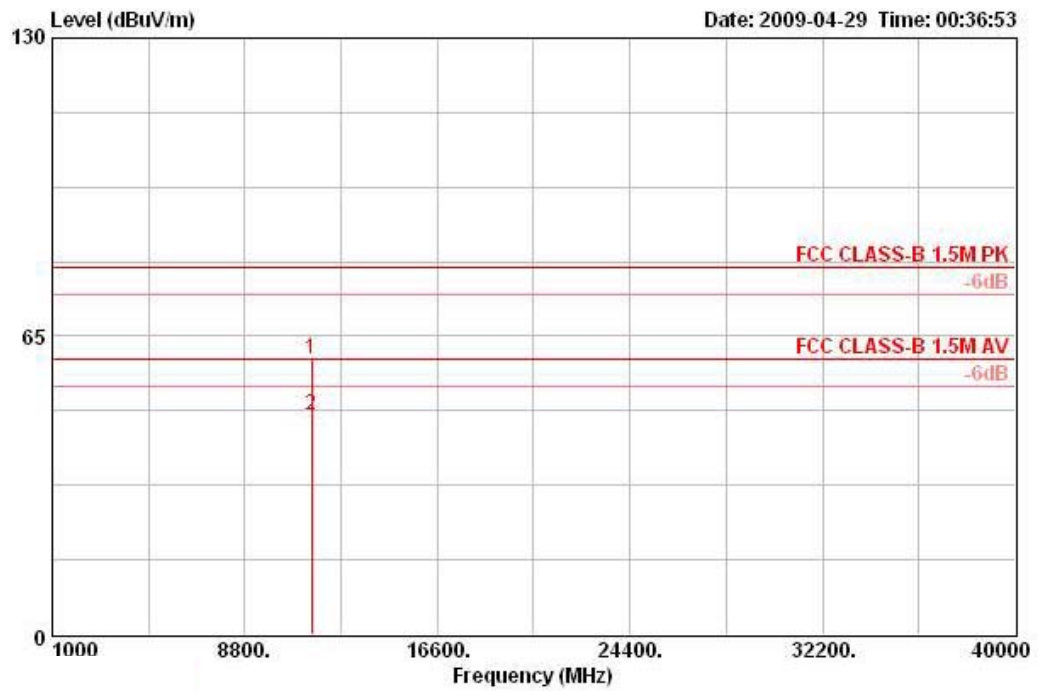


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	11649.980	57.70	-22.30	80.00	42.60	39.44	35.07	10.72	PEAK	VERTICAL	0	100
2	11649.990	46.55	-13.45	60.00	31.46	39.44	35.07	10.72	AVERAGE	VERTICAL	0	100



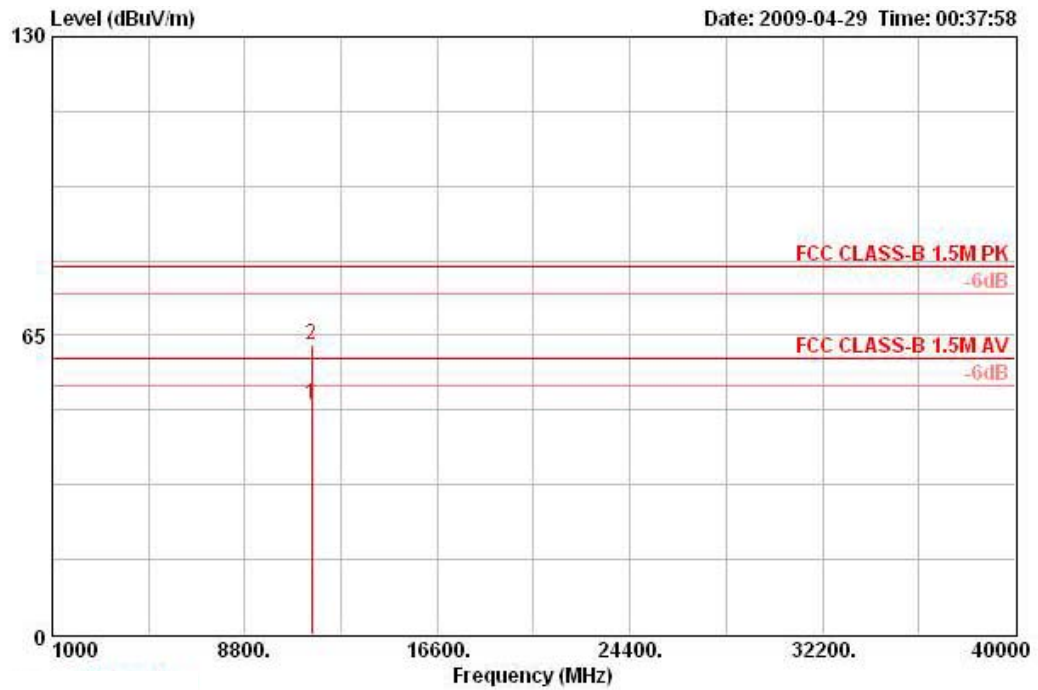
<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	11a Draft n MCS0 40MHz CH 151 / Ant. A + Ant. B

**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	11509.990	59.82	-20.18	80.00	44.49	39.50	35.10	10.93	PEAK	HORIZONTAL	0	100
2	11510.000	47.73	-12.27	60.00	32.40	39.50	35.10	10.93	AVERAGE	HORIZONTAL	0	100

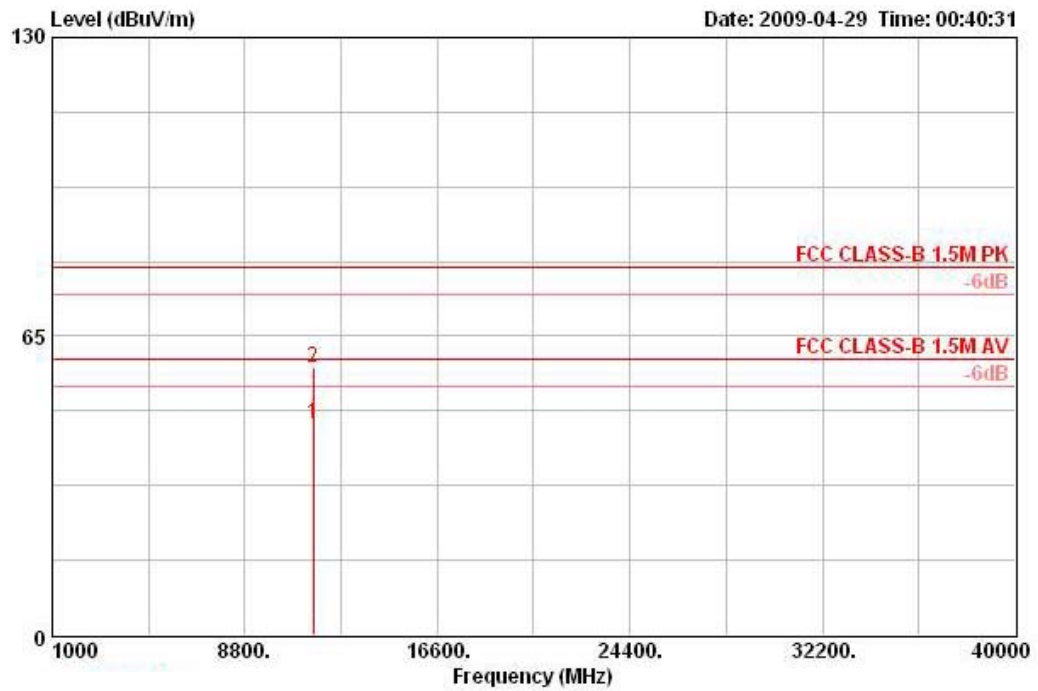
**Vertical**



	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 ☺	11509.980	50.10	-9.90	60.00	34.77	39.50	35.10	10.93 AVERAGE	VERTICAL	266	100
2 ☺	11510.000	63.01	-16.99	80.00	47.68	39.50	35.10	10.93 PEAK	VERTICAL	266	100

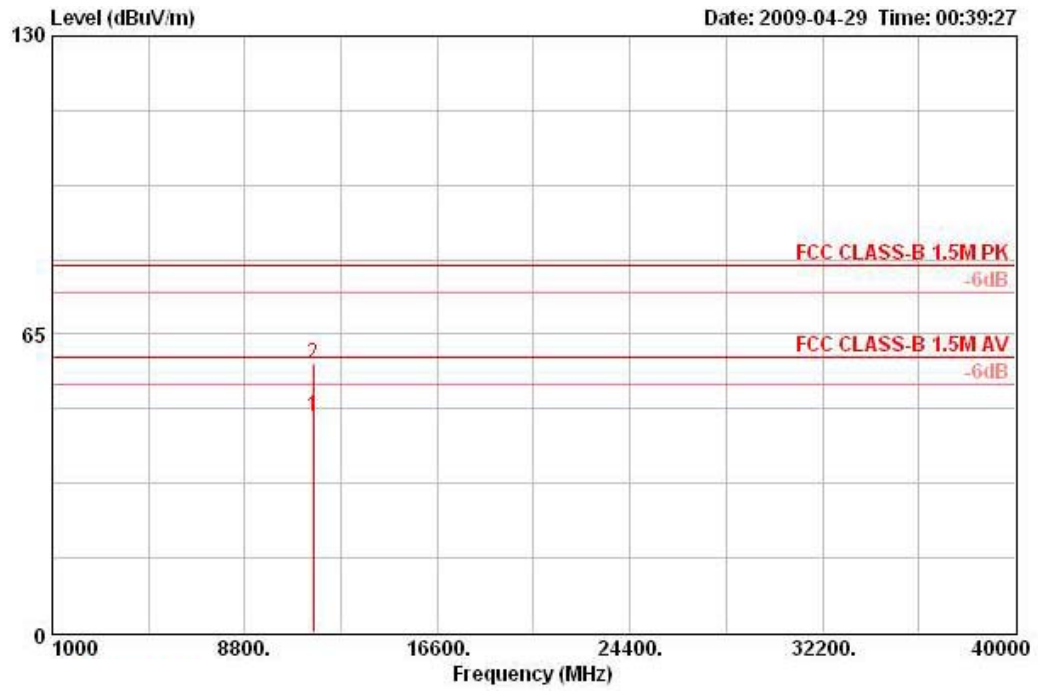
<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	11a Draft n MCS0 40MHz CH 159 / Ant. A + Ant. B

**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	11589.980	45.81	-14.19	60.00	30.60	39.47	35.08	10.83	AVERAGE	HORIZONTAL	360	100
2	11589.990	58.11	-21.89	80.00	42.90	39.47	35.08	10.83	PEAK	HORIZONTAL	360	100

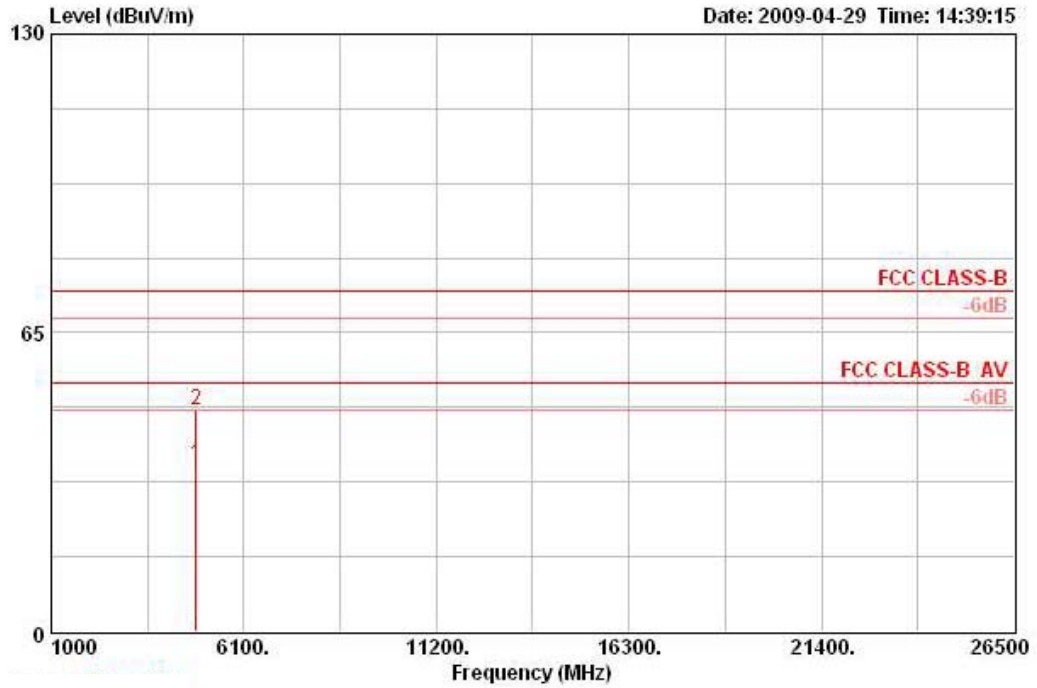
**Vertical**



	Freq	Level	Over Limit	Limit Line	ReadLevel	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	11589.980	46.99	-13.01	60.00	31.78	39.47	35.08	10.83	AVERAGE	VERTICAL	0	8960
2	11589.980	58.67	-21.33	80.00	43.46	39.47	35.08	10.83	PEAK	VERTICAL	0	100

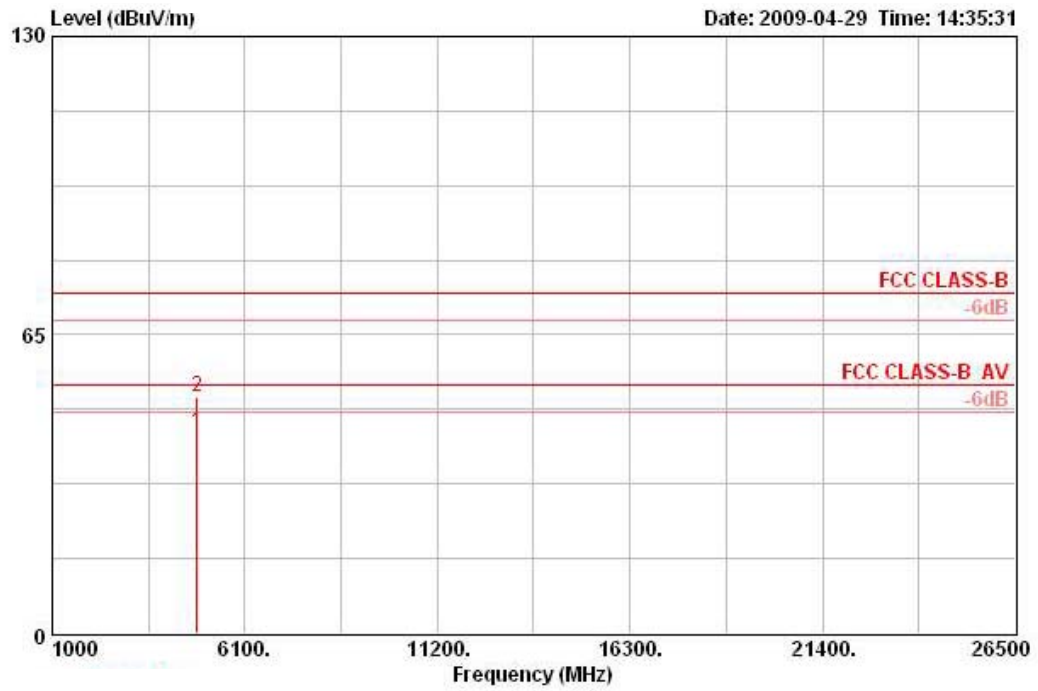
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11b CH 1 / Ant. A + Ant. B

**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	4823.948	36.16	-17.84	54.00	31.58	33.39	35.20	6.39	AVERAGE	HORIZONTAL	73	156
2	4824.200	48.00	-26.00	74.00	43.43	33.39	35.20	6.39	PEAK	HORIZONTAL	73	156

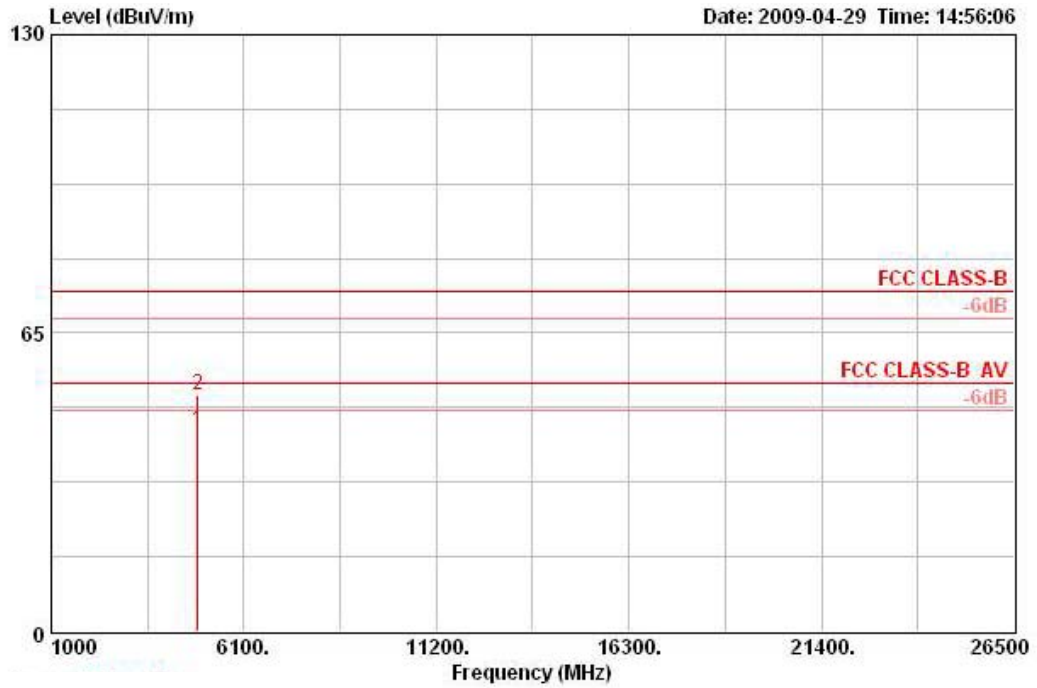
**Vertical**



	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Pol/Phase	Table	Ant
	MHz	dBuV/m	dB	dBuV/m	Level	Factor	Factor	Loss			Pos	Pos
					dBuV	dB/m	dB	dB			deg	cm
1	4823.952	43.66	-10.34	54.00	39.08	33.39	35.20	6.39	AVERAGE	VERTICAL	92	203
2	4824.156	51.38	-22.62	74.00	46.80	33.39	35.20	6.39	PEAK	VERTICAL	92	203

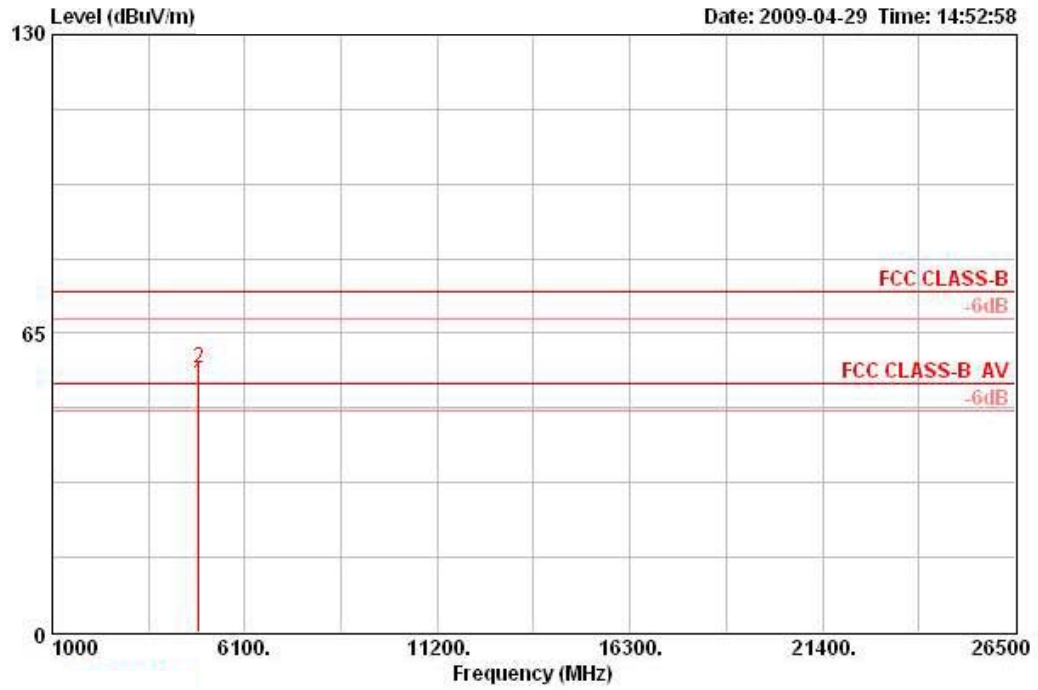
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11b CH 6 / Ant. A + Ant. B

**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	4873.992	43.59	-10.41	54.00	38.75	33.48	35.20	6.56	AVERAGE	HORIZONTAL	313	100
2	4874.020	51.36	-22.64	74.00	46.52	33.48	35.20	6.56	PEAK	HORIZONTAL	313	100

**Vertical**

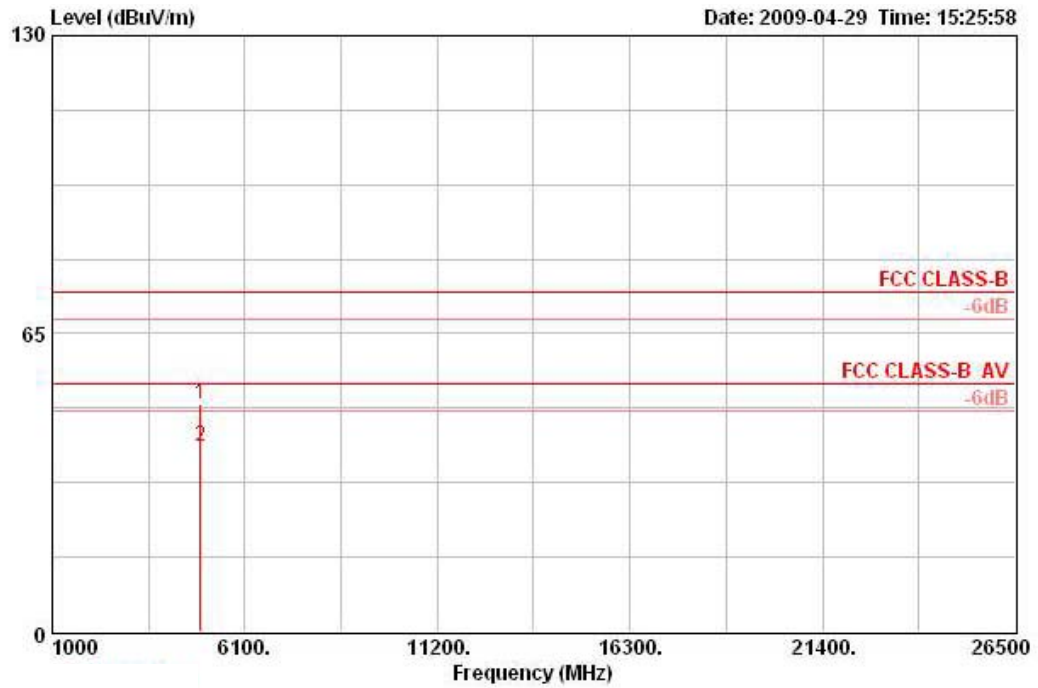


	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable		Table	Ant	
	MHz	dBuV/m	dB	dBuV/m	Level	Factor	Factor	Loss	Remark	Pos	Pos	
					dBuV	dB/m	dB	dB		deg	cm	
1	4873.952	53.89	-0.11	54.00	49.05	33.48	35.20	6.56	AVERAGE	VERTICAL	270	124
2	4874.020	57.27	-16.73	74.00	52.42	33.48	35.20	6.56	PEAK	VERTICAL	269	124



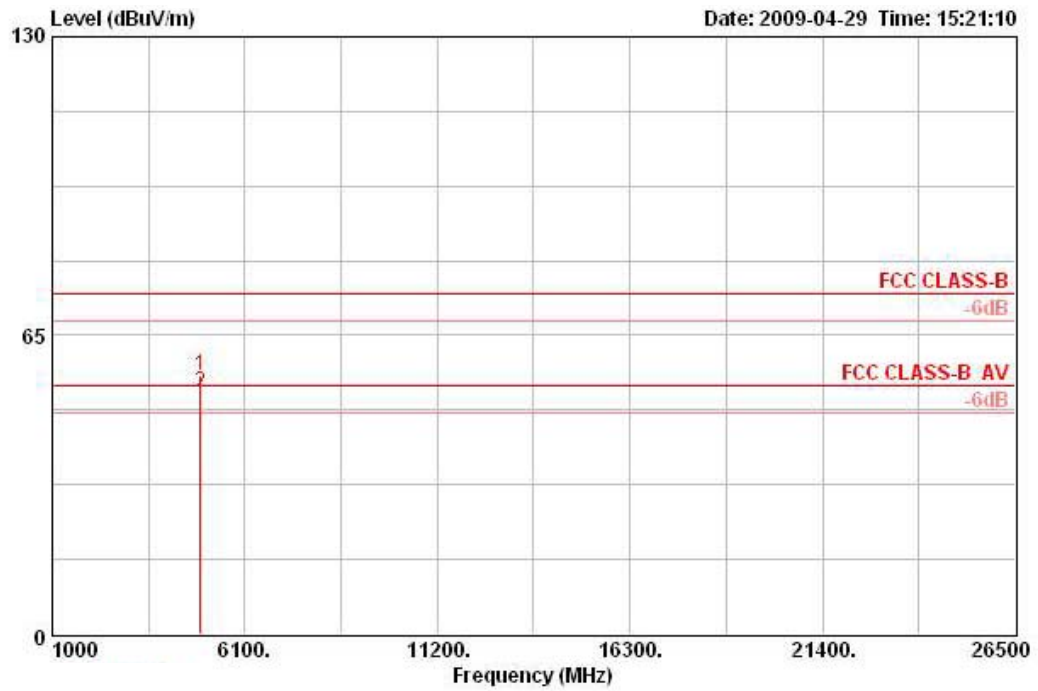
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11b CH 11 / Ant. A + Ant. B

**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	4923.760	49.65	-24.35	74.00	44.54	33.58	35.20	6.73	PEAK	HORIZONTAL	246	199
2	4923.908	40.24	-13.76	54.00	35.14	33.58	35.20	6.73	AVERAGE	HORIZONTAL	246	199

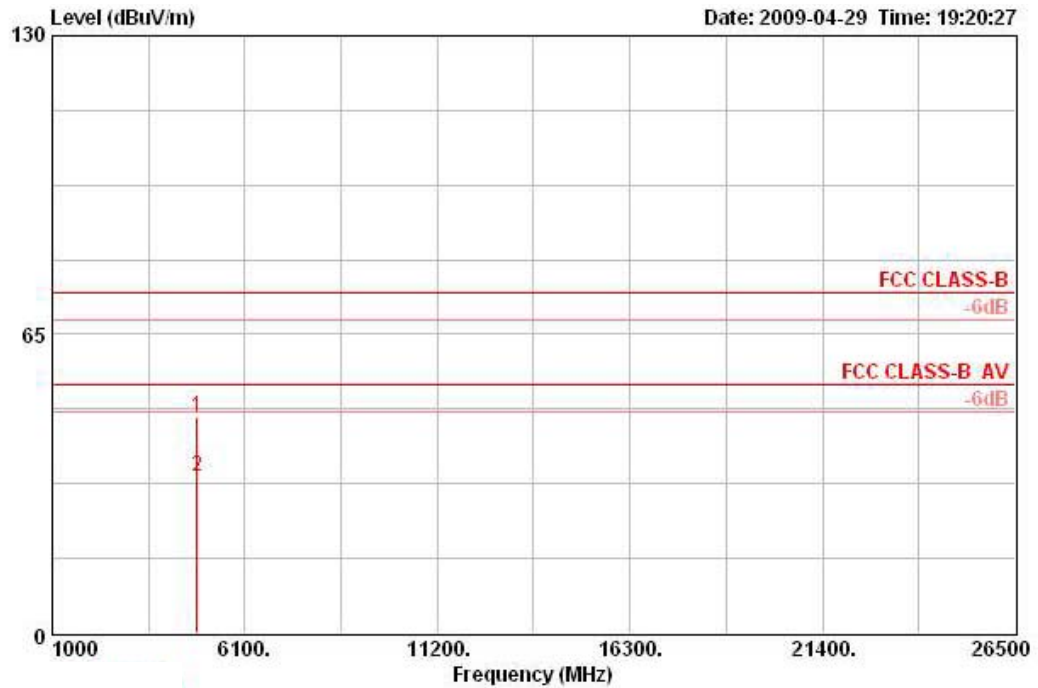
**Vertical**



	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	4923.860	56.42	-17.58	74.00	51.32	33.58	35.20	6.73	PEAK	VERTICAL	271	126
2	4923.928	52.77	-1.23	54.00	47.66	33.58	35.20	6.73	AVERAGE	VERTICAL	271	126

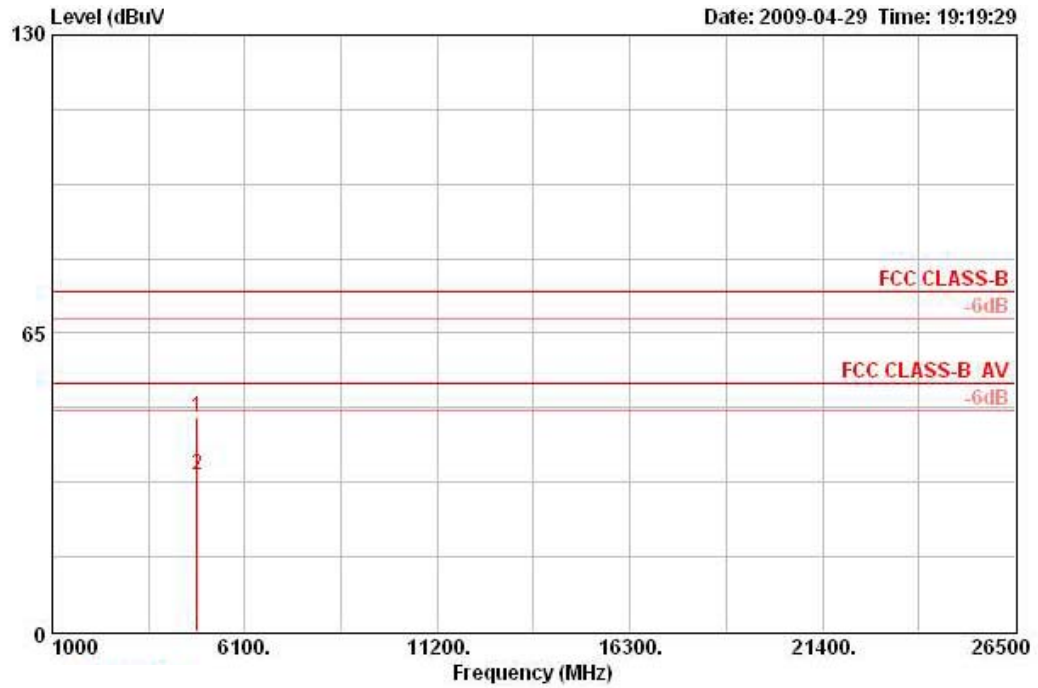
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11g CH 1 / Ant. A + Ant. B

**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	4823.988	47.00	-27.01	74.00	42.42	33.39	35.20	6.39	PEAK	HORIZONTAL	0	100
2	4823.996	33.93	-20.07	54.00	29.35	33.39	35.20	6.39	AVERAGE	HORIZONTAL	0	8415

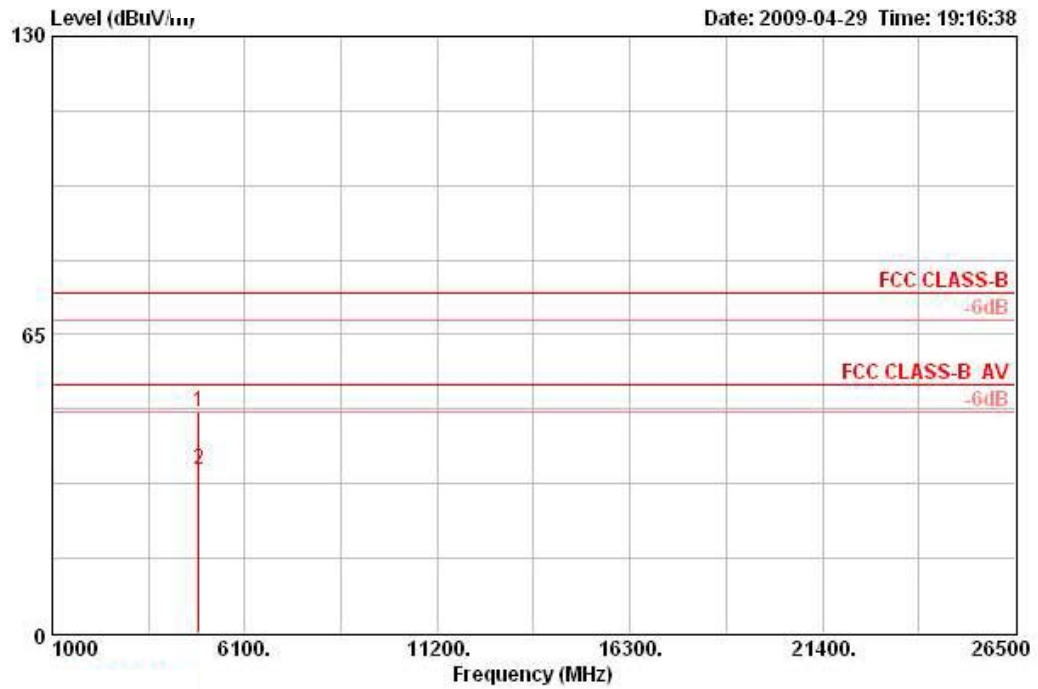
**Vertical**



	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	4823.987	46.85	-27.15	74.00	42.27	33.39	35.20	6.39	PEAK	VERTICAL	360	100
2	4824.008	34.03	-19.97	54.00	29.45	33.39	35.20	6.39	AVERAGE	VERTICAL	360	100

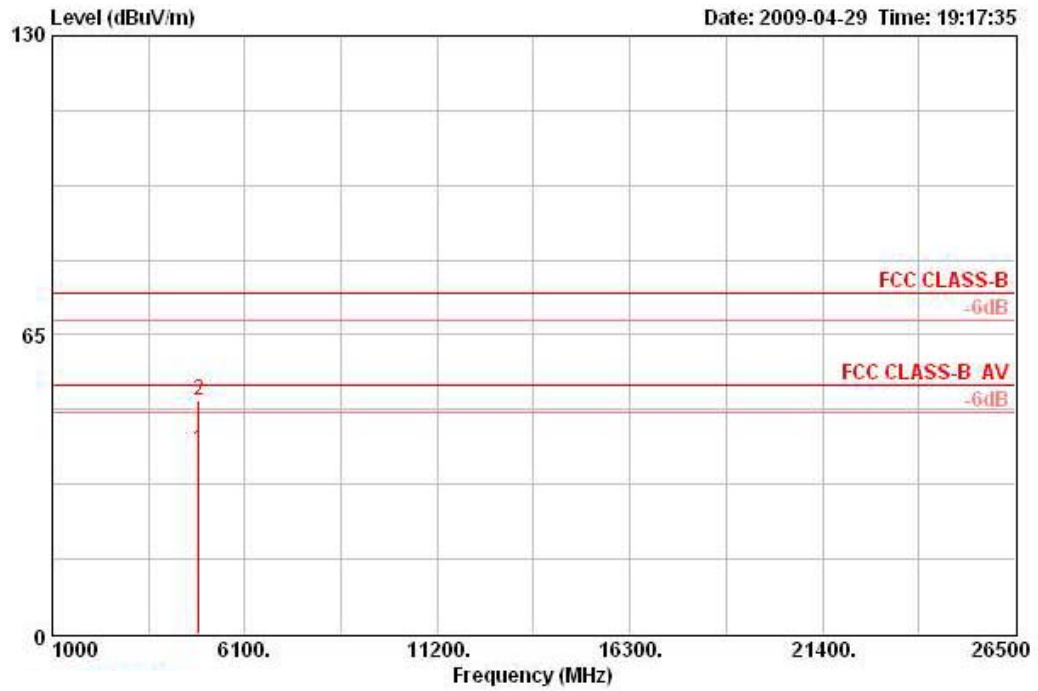
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11g CH 6 / Ant. A + Ant. B

**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	4873.998	48.21	-25.79	74.00	43.37	33.48	35.20	6.56	PEAK	HORIZONTAL	360	100
2	4874.015	35.69	-18.31	54.00	30.85	33.48	35.20	6.56	AVERAGE	HORIZONTAL	360	100

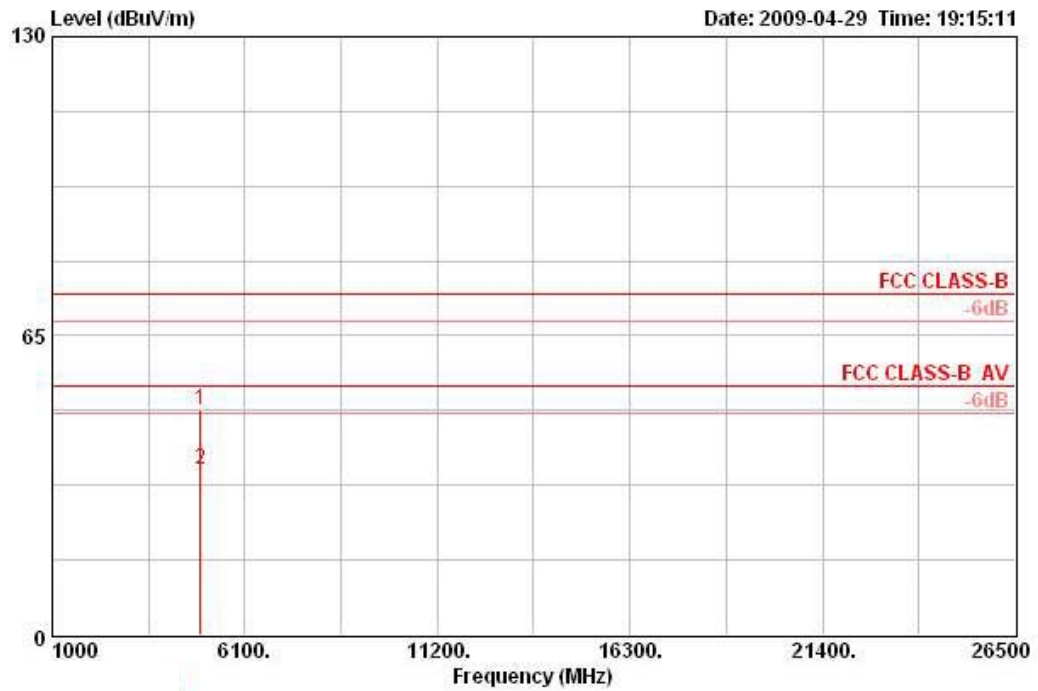
**Vertical**



	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	4874.021	39.89	-14.11	54.00	35.04	33.48	35.20	6.56	AVERAGE	VERTICAL	0	100
2	4874.024	50.70	-23.30	74.00	45.86	33.48	35.20	6.56	PEAK	VERTICAL	0	100

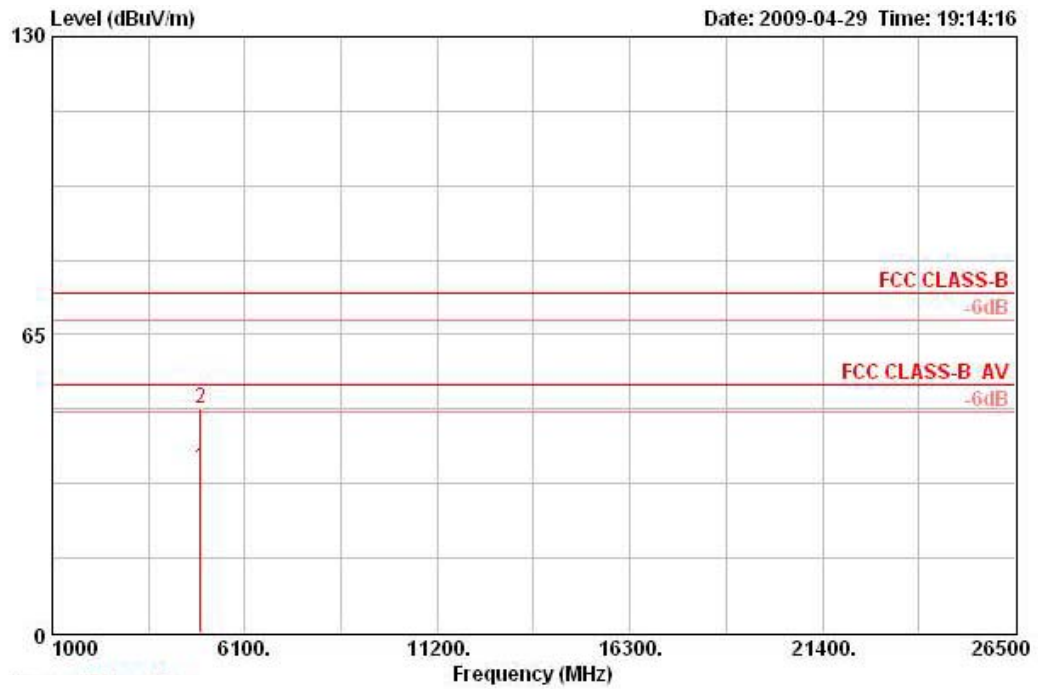
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11g CH 11 / Ant. A + Ant. B

**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	4923.983	49.03	-24.97	74.00	43.92	33.58	35.20	6.73	PEAK	HORIZONTAL	0	100
2	4923.986	35.76	-18.24	54.00	30.66	33.58	35.20	6.73	AVERAGE	HORIZONTAL	0	100

**Vertical**



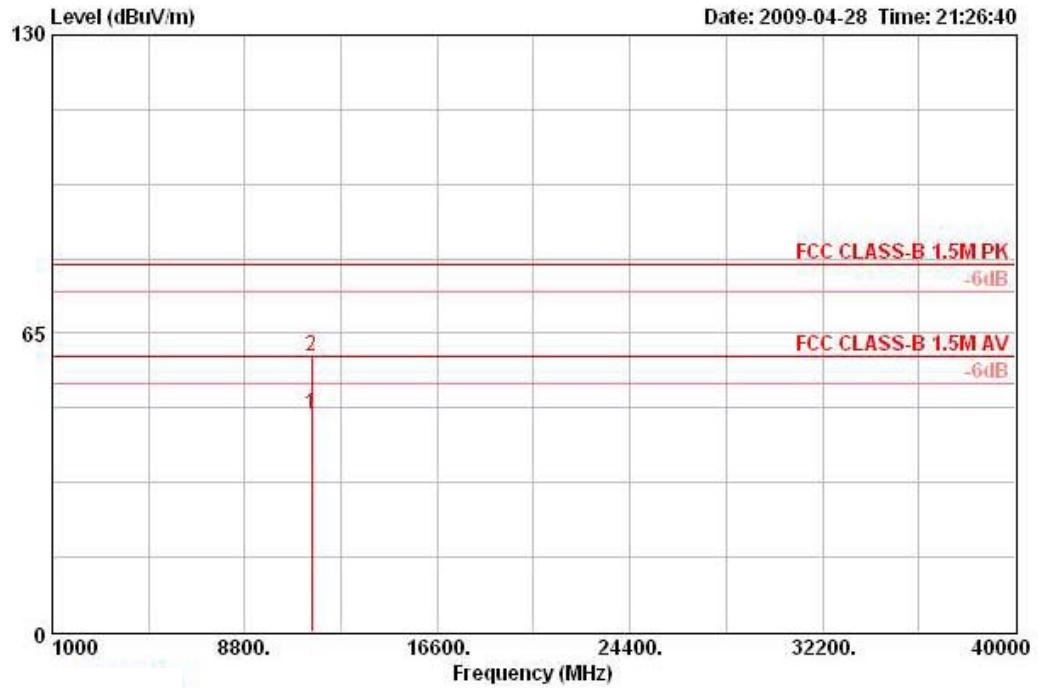
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Pol/Phase	Table Pos	Ant Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1	4923.979	36.10	-17.90	54.00	30.99	33.58	35.20	6.73	AVERAGE	VERTICAL	360	100
2	4924.006	48.91	-25.09	74.00	43.80	33.58	35.20	6.73	PEAK	VERTICAL	360	100





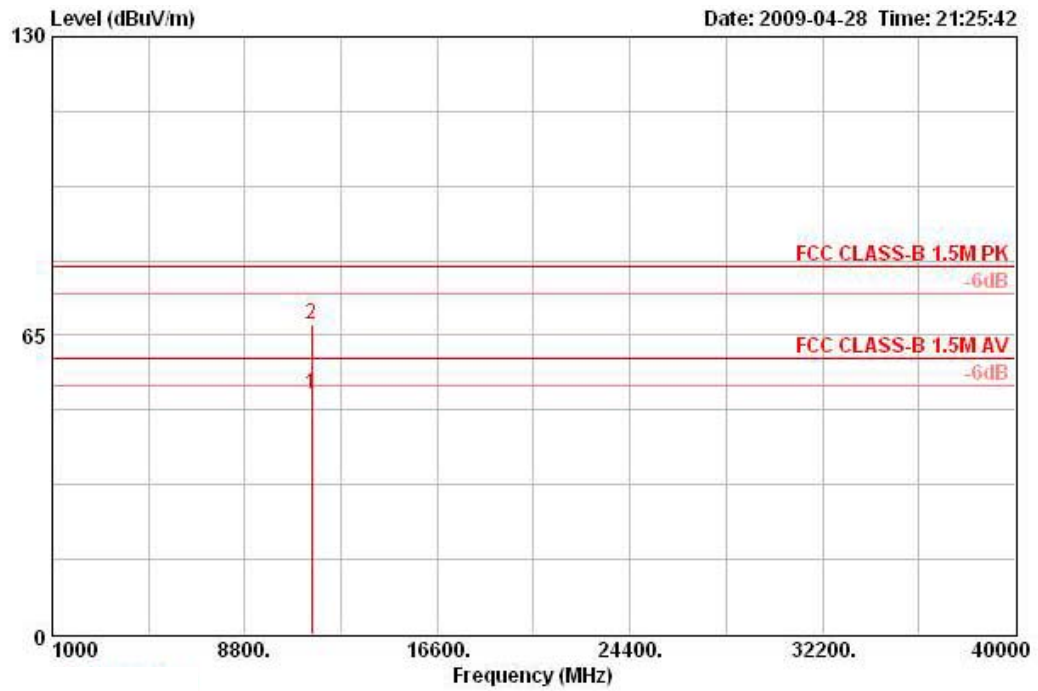
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a CH 149 / Ant. A + Ant. B

**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	11489.980	47.31	-12.69	60.00	32.00	39.50	35.09	10.90	AVERAGE	HORIZONTAL	0	100
2	11489.980	59.97	-20.03	80.00	44.66	39.50	35.09	10.90	PEAK	HORIZONTAL	0	100

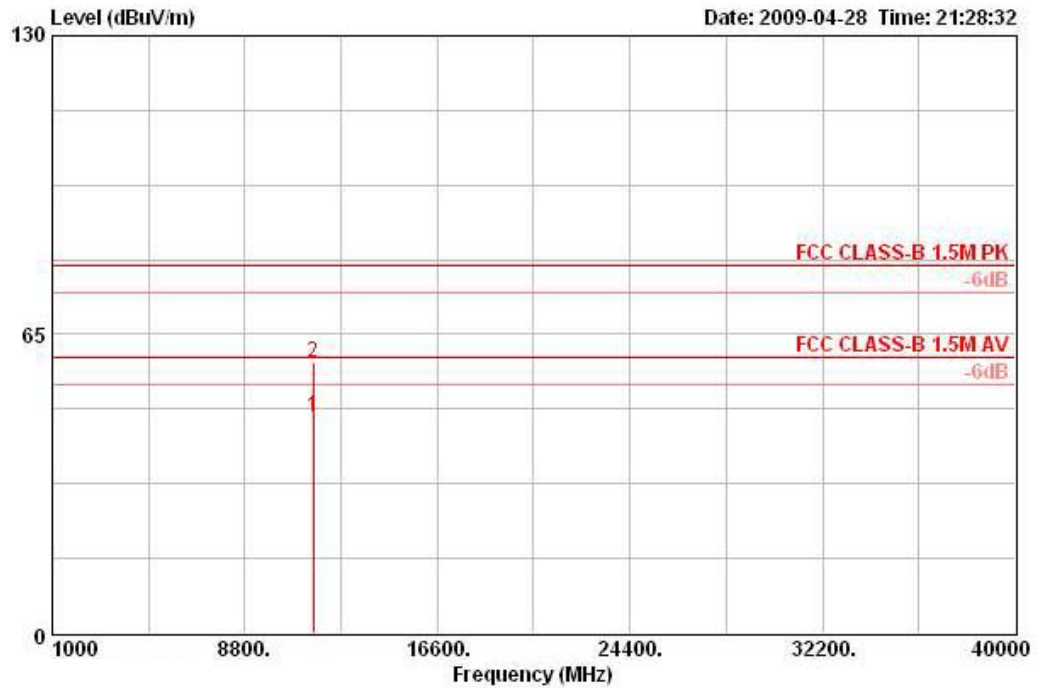
**Vertical**



	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	11490.010	52.35	-7.65	60.00	37.04	39.50	35.09	10.90	AVERAGE	VERTICAL	263	100
2	11490.020	67.28	-12.72	80.00	51.97	39.50	35.09	10.90	PEAK	VERTICAL	263	100

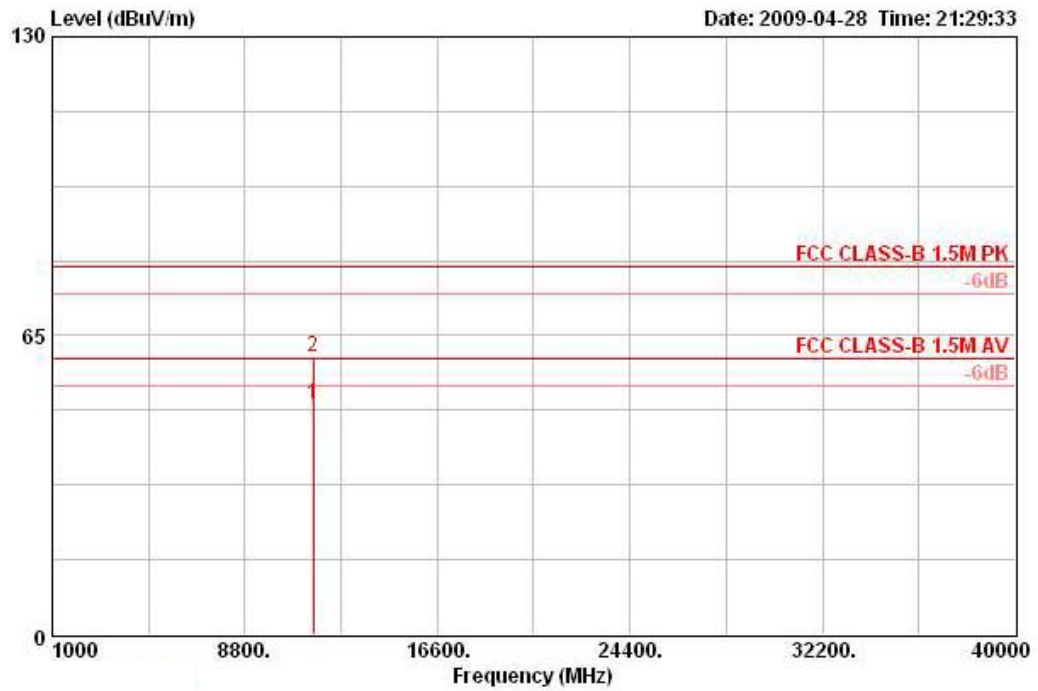
<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	802.11a CH 157 / Ant. A + Ant. B

**Horizontal**



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp 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	11569.990	46.91	-13.09	60.00	31.69	39.47	35.09	10.83	AVERAGE	HORIZONTAL	360	100
2	11570.000	58.81	-21.19	80.00	43.60	39.47	35.09	10.83	PEAK	HORIZONTAL	360	100

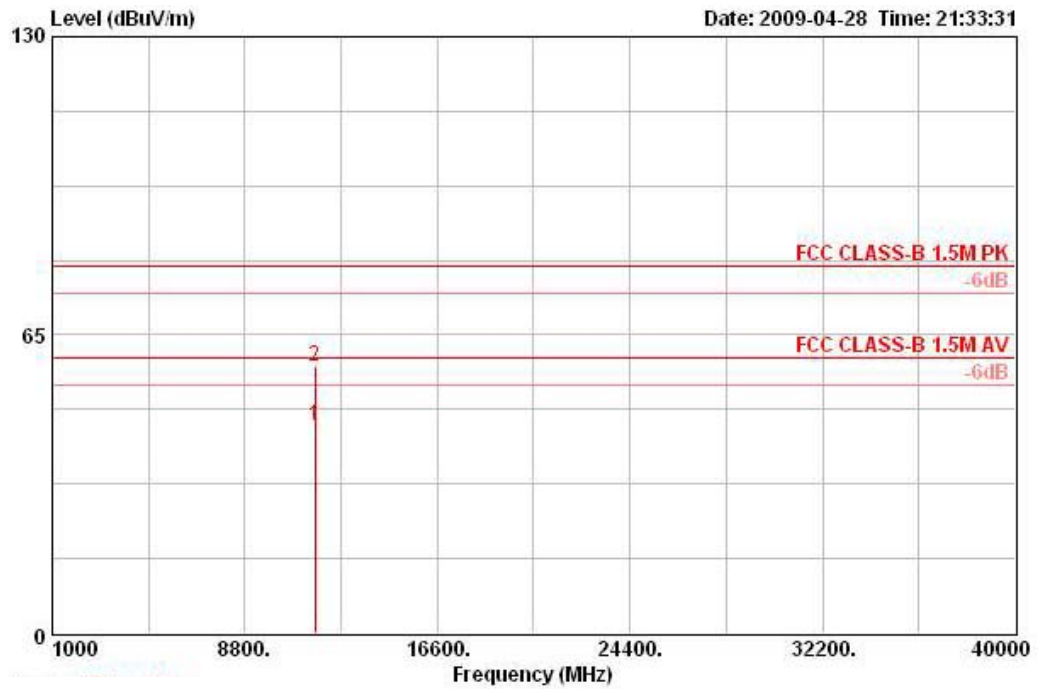
**Vertical**



	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	11569.980	50.17	-9.83	60.00	34.95	39.47	35.09	10.83	AVERAGE	VERTICAL	0	100
2	11570.020	60.36	-19.64	80.00	45.14	39.47	35.09	10.83	PEAK	VERTICAL	0	100

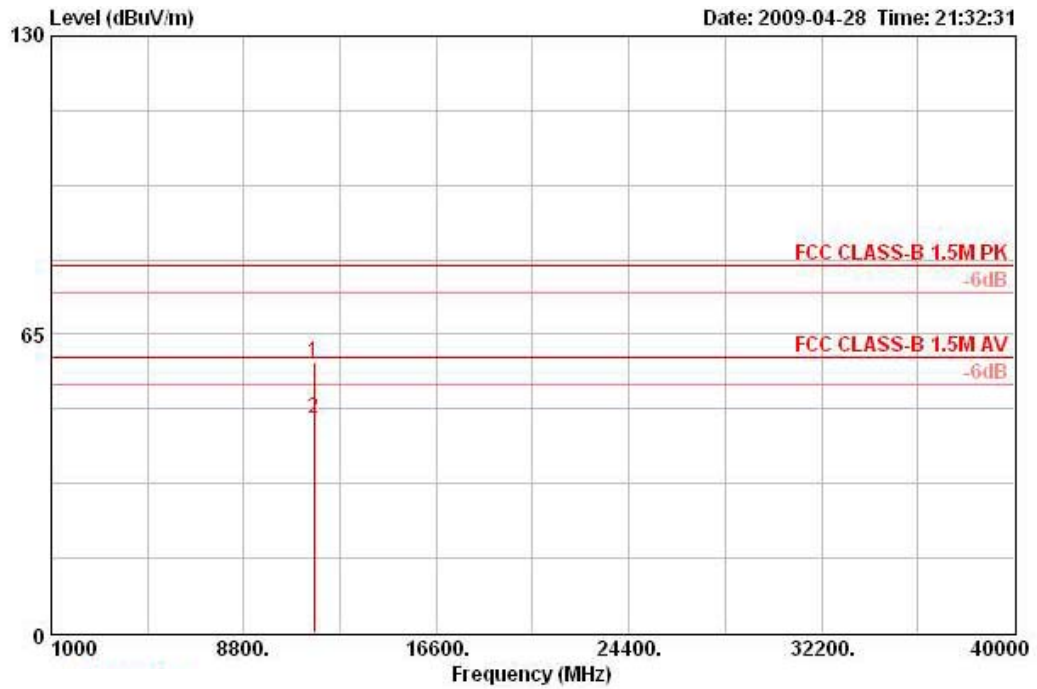
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a CH 165 / Ant. A + Ant. B

**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	11649.980	45.31	-14.69	60.00	30.22	39.44	35.07	10.72	AVERAGE	HORIZONTAL	0	100
2	11650.010	58.18	-21.82	80.00	43.08	39.44	35.07	10.72	PEAK	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	11650.010	58.78	-21.22	80.00	43.68	39.44	35.07	10.72	PEAK	VERTICAL	360	100
2	11650.010	46.74	-13.26	60.00	31.64	39.44	35.07	10.72	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	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 1, 6, 11 / Ant. A + Ant. B
Test date	Apr. 29, 2009		

## Channel 1

	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 ☺	2389.000	71.84	-2.16	74.00	40.93	28.05	0.00	2.86	PEAK	VERTICAL	145	100
2 ☺	2390.000	53.68	-0.32	54.00	22.75	28.05	0.00	2.88	AVERAGE	VERTICAL	145	100
3 ☺	2409.200	113.44			82.47	28.09	0.00	2.88	PEAK	VERTICAL	145	100
4 ☺	2410.400	101.46			70.48	28.09	0.00	2.88	AVERAGE	VERTICAL	145	100

Item 3, 4 are the fundamental frequency at 2412 MHz

## Channel 6

	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 ☺	2389.200	70.39	-3.61	74.00	39.47	28.05	0.00	2.86	PEAK	VERTICAL	88	100
2 ☺	2390.000	52.92	-1.08	54.00	21.99	28.05	0.00	2.88	AVERAGE	VERTICAL	88	100
3 ☺	2431.000	120.65			89.62	28.13	0.00	2.90	PEAK	VERTICAL	88	100
4 ☺	2438.200	108.64			77.57	28.18	0.00	2.90	AVERAGE	VERTICAL	88	100
5 ☺	2483.500	52.08	-1.92	54.00	20.90	28.26	0.00	2.93	AVERAGE	VERTICAL	88	100
6 ☺	2483.700	69.48	-4.52	74.00	38.29	28.26	0.00	2.93	PEAK	VERTICAL	88	100

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

## Channel 11

	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 ☺	2458.400	101.43			70.30	28.22	0.00	2.91	AVERAGE	VERTICAL	216	100
2 ☺	2461.000	113.22			82.09	28.22	0.00	2.91	PEAK	VERTICAL	216	100
3	2483.700	53.69	-0.31	54.00	22.51	28.26	0.00	2.93	AVERAGE	VERTICAL	216	100
4 ☺	2483.900	71.55	-2.45	74.00	40.36	28.26	0.00	2.93	PEAK	VERTICAL	216	100

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



<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	Draft n MCS0 40MHz Ch 3, 6, 9 / Ant. A + Ant. B
<b>Test date</b>	Apr. 29, 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 @	2388.400	71.25	-2.75	74.00	40.33	28.05	0.00	2.86	PEAK	VERTICAL	213	100
2 @	2390.000	53.73	-0.27	54.00	22.80	28.05	0.00	2.88	AVERAGE	VERTICAL	213	100
3 @	2413.600	106.39			75.42	28.09	0.00	2.88	PEAK	VERTICAL	213	100
4 @	2429.600	93.83			62.80	28.13	0.00	2.90	AVERAGE	VERTICAL	213	100

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 @	2389.600	53.38	-0.62	54.00	22.46	28.05	0.00	2.86	AVERAGE	VERTICAL	211	100
2 @	2390.000	71.59	-2.41	74.00	40.66	28.05	0.00	2.88	PEAK	VERTICAL	211	100
3 @	2431.800	97.20			66.17	28.13	0.00	2.90	AVERAGE	VERTICAL	211	100
4 @	2439.800	111.10			80.03	28.18	0.00	2.90	PEAK	VERTICAL	211	100
5 @	2483.500	50.21	-3.79	54.00	19.03	28.26	0.00	2.93	AVERAGE	VERTICAL	211	100
6 @	2483.500	70.56	-3.44	74.00	39.38	28.26	0.00	2.93	PEAK	VERTICAL	211	100

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 @	2460.000	106.36			75.23	28.22	0.00	2.91	PEAK	VERTICAL	217	100
2 @	2460.800	94.08			62.96	28.22	0.00	2.91	AVERAGE	VERTICAL	217	100
3 @	2483.500	53.65	-0.35	54.00	22.47	28.26	0.00	2.93	AVERAGE	VERTICAL	217	100
4 @	2483.500	72.17	-1.83	74.00	40.98	28.26	0.00	2.93	PEAK	VERTICAL	217	100

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

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11b CH 1, 6, 11 / Ant. A + Ant. B
Test Date	Apr. 29, 2009		

### Channel 1

	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 ☺	2385.400	52.39	-1.61	54.00	21.52	28.01	0.00	2.86	AVERAGE	VERTICAL	321	100
2 ☺	2386.400	60.66	-13.34	74.00	29.74	28.05	0.00	2.86	PEAK	VERTICAL	321	100
3 ☺	2413.600	108.73			77.76	28.09	0.00	2.88	PEAK	VERTICAL	321	100
4 ☺	2414.800	105.21			74.24	28.09	0.00	2.88	AVERAGE	VERTICAL	321	100

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

### Channel 6

	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 ☺	2387.400	56.31	-17.69	74.00	25.39	28.05	0.00	2.86	PEAK	VERTICAL	86	100
2 ☺	2388.800	46.05	-7.95	54.00	15.14	28.05	0.00	2.86	AVERAGE	VERTICAL	86	100
3 ☺	2438.000	112.58			81.51	28.18	0.00	2.90	PEAK	VERTICAL	86	100
4 ☺	2439.800	108.51			77.44	28.18	0.00	2.90	AVERAGE	VERTICAL	86	100
5 ☺	2484.700	46.96	-7.04	54.00	15.77	28.26	0.00	2.93	AVERAGE	VERTICAL	86	100
6 ☺	2485.300	56.91	-17.09	74.00	25.72	28.26	0.00	2.93	PEAK	VERTICAL	86	100

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

### Channel 11

	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 ☺	2462.800	106.33			75.20	28.22	0.00	2.91	AVERAGE	VERTICAL	152	100
2 ☺	2463.200	110.30			79.17	28.22	0.00	2.91	PEAK	VERTICAL	152	100
3	2487.500	53.54	-0.46	54.00	22.31	28.30	0.00	2.93	AVERAGE	VERTICAL	152	100
4 ☺	2487.500	61.66	-12.34	74.00	30.44	28.30	0.00	2.93	PEAK	VERTICAL	152	100

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

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11g CH 1, 6, 11/ Ant. A + Ant. B
Test Date	Apr. 29, 2009		

**Channel 1**

	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Pol/Phase	Table	Ant
			Limit	Line	Level	Factor	Factor	Loss			Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 @	2389.400	72.19	-1.81	74.00	41.27	28.05	0.00	2.86	PEAK	VERTICAL	91	100
2 @	2390.000	53.43	-0.57	54.00	22.50	28.05	0.00	2.88	AVERAGE	VERTICAL	91	100
3 @	2405.400	113.48			82.51	28.09	0.00	2.88	PEAK	VERTICAL	91	100
4 @	2410.600	101.37			70.39	28.09	0.00	2.88	AVERAGE	VERTICAL	91	100

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

**Channel 6**

	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Pol/Phase	Table	Ant
			Limit	Line	Level	Factor	Factor	Loss			Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 @	2390.000	53.75	-0.25	54.00	22.82	28.05	0.00	2.88	AVERAGE	VERTICAL	89	100
2 @	2390.000	72.16	-1.84	74.00	41.23	28.05	0.00	2.88	PEAK	VERTICAL	89	100
3 @	2432.800	109.57			78.54	28.13	0.00	2.90	AVERAGE	VERTICAL	89	100
4 @	2438.200	121.32			90.25	28.18	0.00	2.90	PEAK	VERTICAL	89	100
5 @	2483.500	51.08	-2.92	54.00	19.89	28.26	0.00	2.93	AVERAGE	VERTICAL	89	100
6 @	2485.100	67.04	-6.96	74.00	35.86	28.26	0.00	2.93	PEAK	VERTICAL	89	100

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

**Channel 11**

	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Remark	Pol/Phase	Table	Ant
			Limit	Line	Level	Factor	Factor	Loss			Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	cm
1 @	2457.800	113.46			82.33	28.22	0.00	2.91	PEAK	VERTICAL	88	100
2 @	2463.200	102.90			71.78	28.22	0.00	2.91	AVERAGE	VERTICAL	88	100
3 @	2483.700	67.82	-6.18	74.00	36.63	28.26	0.00	2.93	PEAK	VERTICAL	88	100
4 @	2483.900	51.77	-2.23	54.00	20.58	28.26	0.00	2.93	AVERAGE	VERTICAL	88	100

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

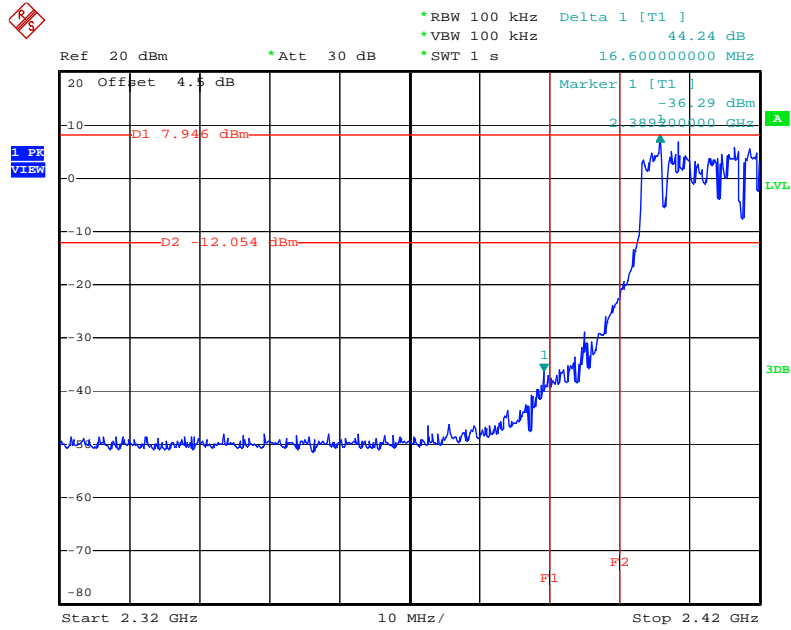
Note:

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

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

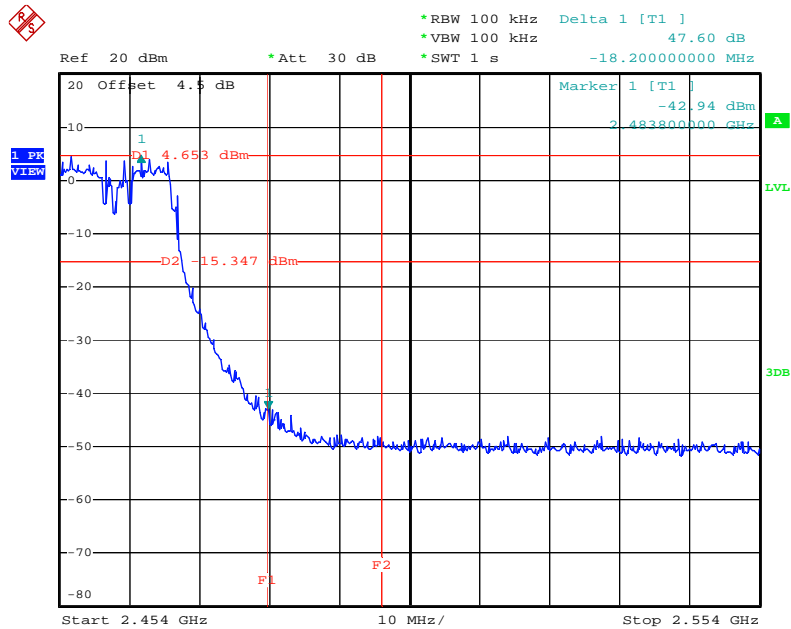
**For Emission not in Restricted Band**

**Low Band Edge Plot on Configuration Drafft n MCS0 20MHz Ant. A + Ant. B / 2412 MHz**



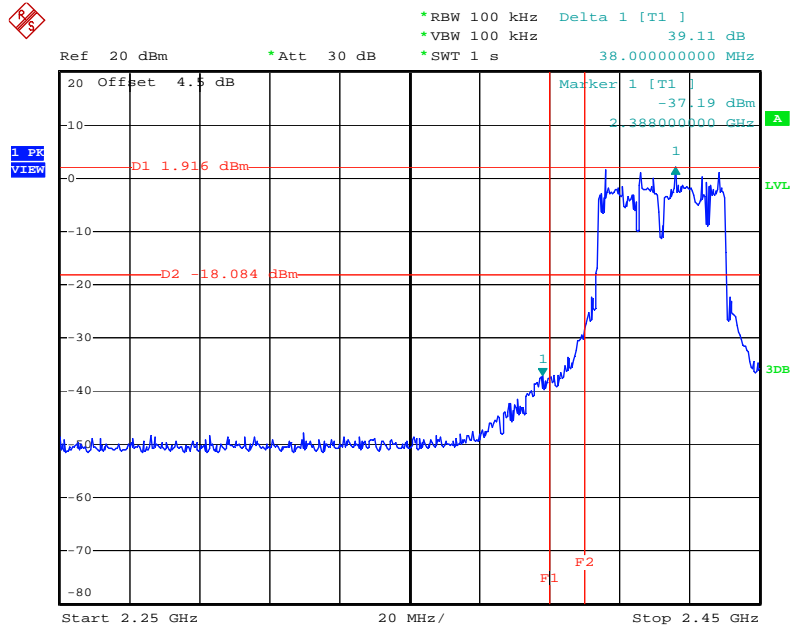
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**High Band Edge Plot on Configuration Drafft n MCS0 20MHz Ant. A + Ant. B / 2462 MHz**



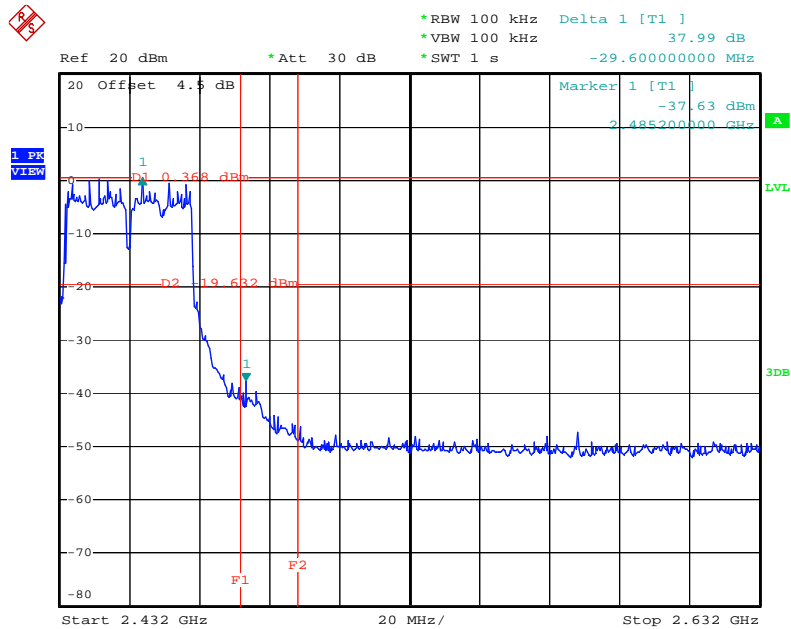
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Low Band Edge Plot on Configuration Draft n MCS0 40MHz Ant. A + Ant. B / 2422 MHz



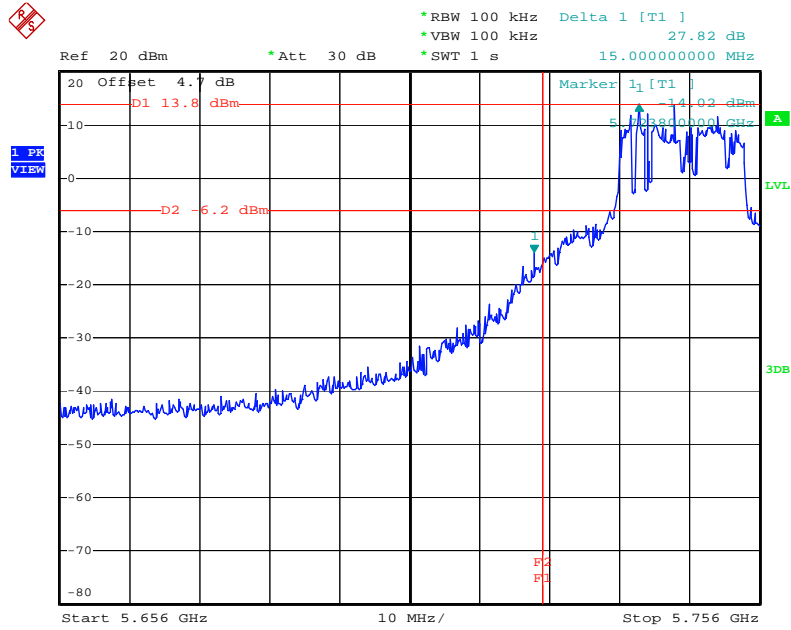
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High Band Edge Plot on Configuration Draft n MCS0 40MHz Ant. A + Ant. B / 2452 MHz



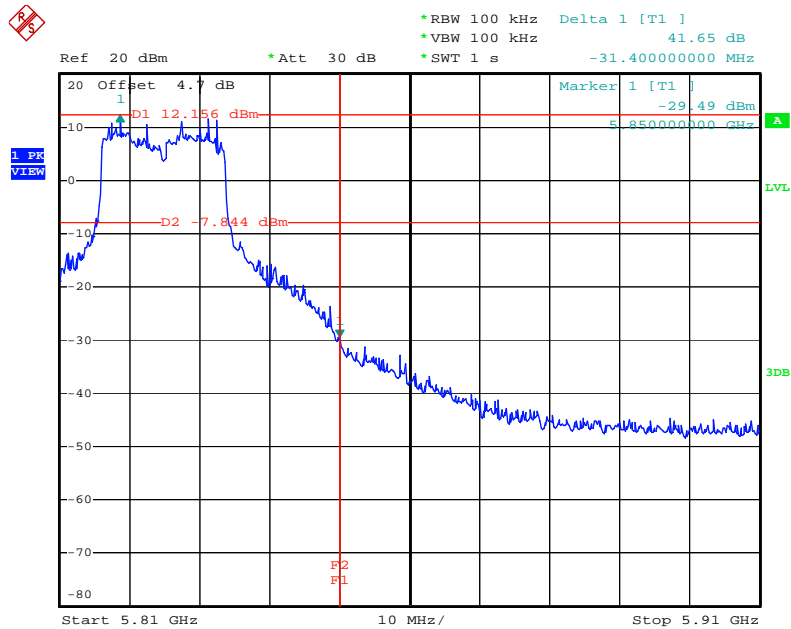
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Low Band Edge Plot on Configuration 11a Drafft n MCS0 20MHz Ant. A + Ant. B / 5745 MHz



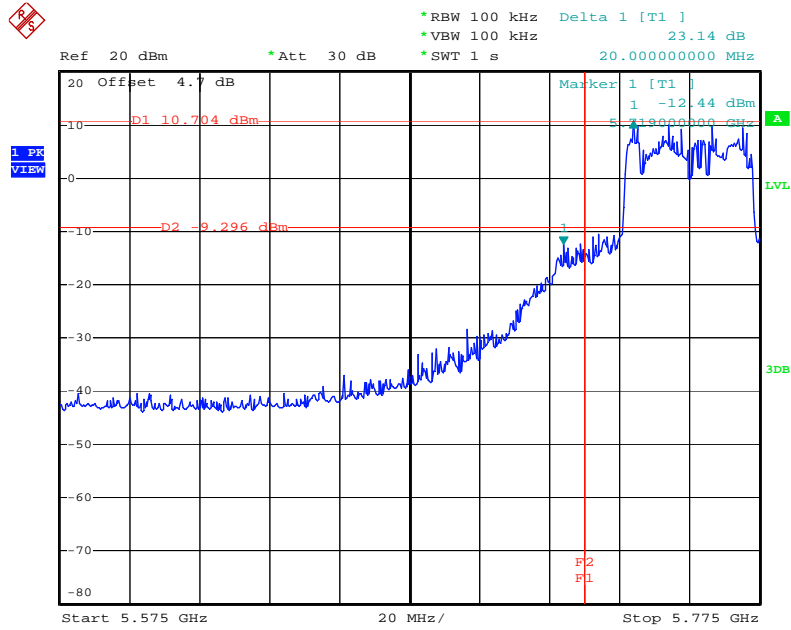
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High Band Edge Plot on Configuration 11a Drafft n MCS0 20MHz Ant. A + Ant. B / 5825 MHz



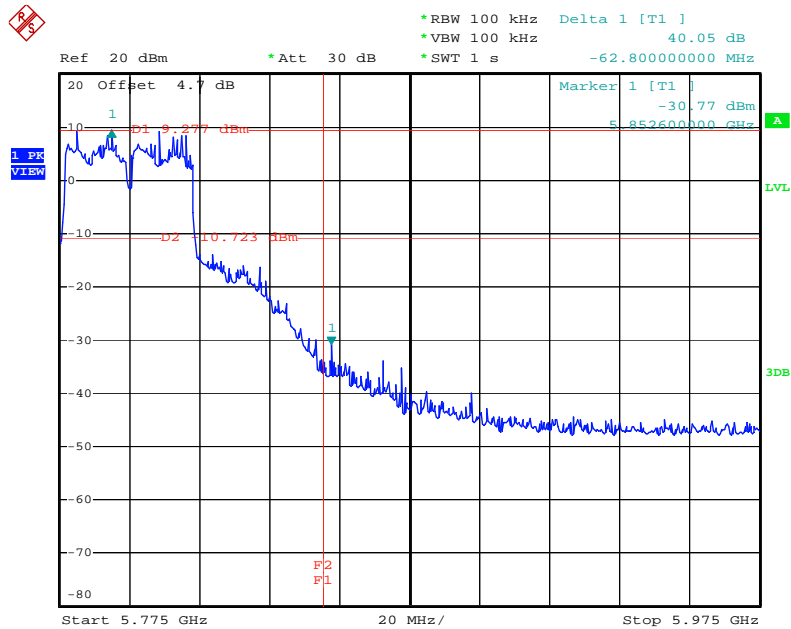
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Low Band Edge Plot on Configuration 11a Draft n MCS0 40MHz Ant. A + Ant. B / 5755 MHz



Date: 26.MAR.2009 13:38:58

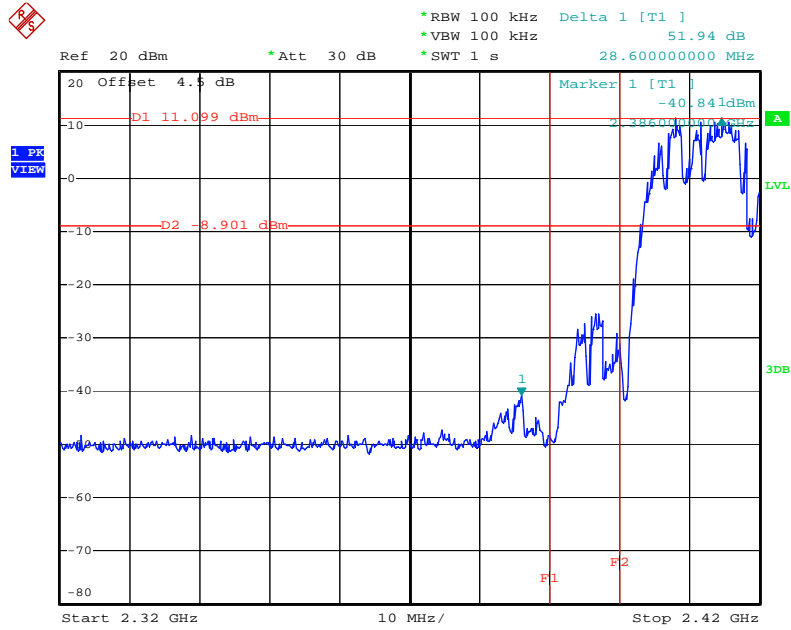
High Band Edge Plot on Configuration 11a Draft n MCS0 40MHz Ant. A + Ant. B / 5795 MHz



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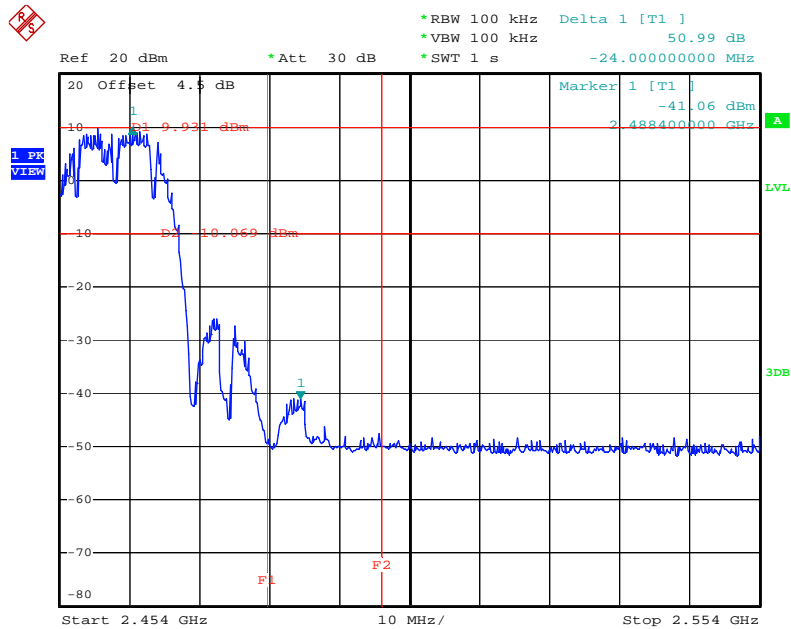
For Emission not in Restricted Band

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



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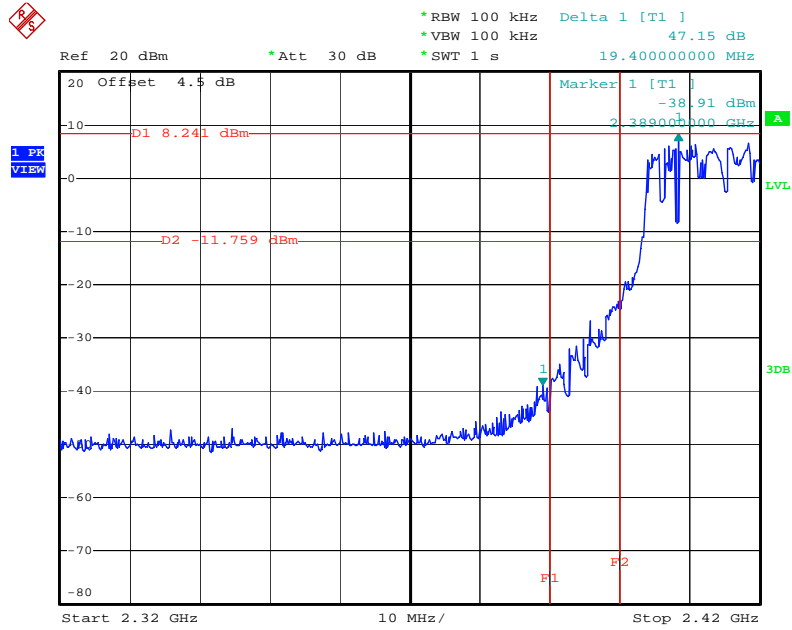
High Band Edge Plot on Configuration IEEE 802.11b Ant. A + Ant. B / 2462 MHz



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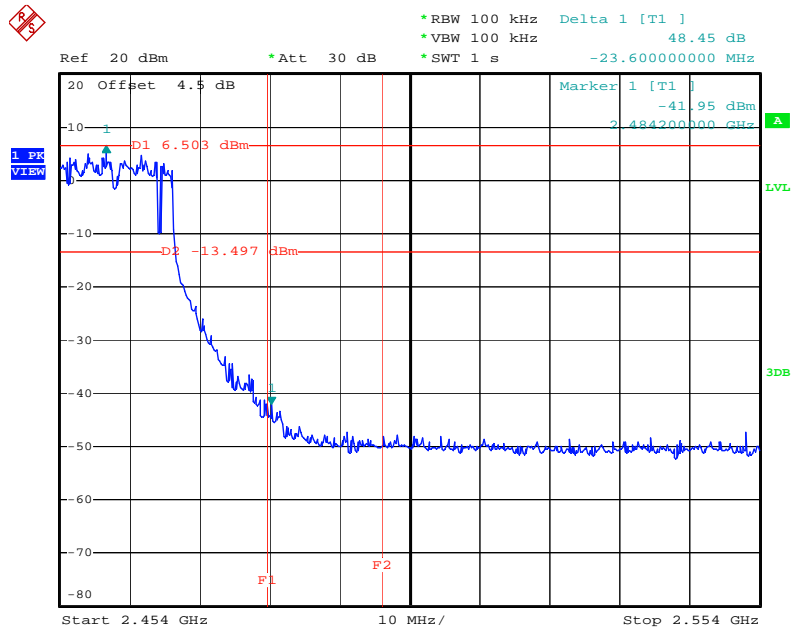


Low Band Edge Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2412 MHz



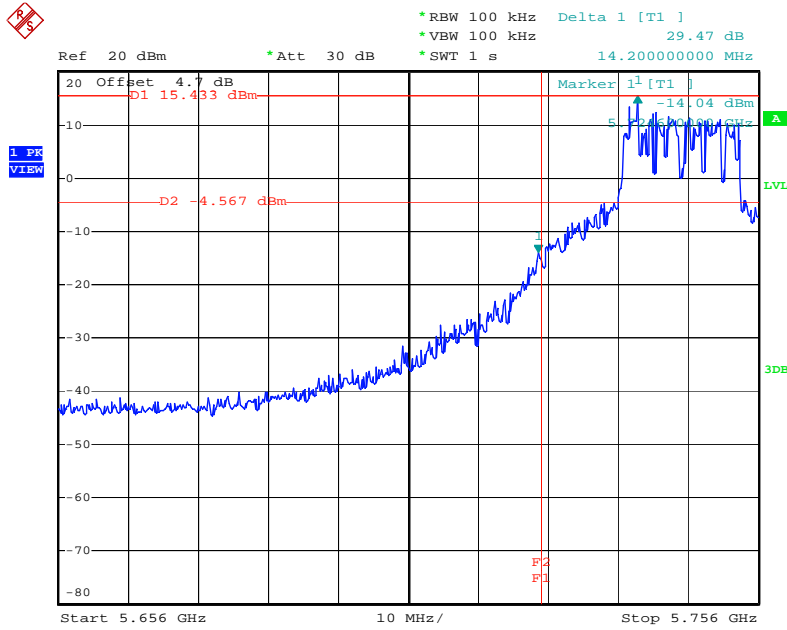
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High Band Edge Plot on Configuration IEEE 802.11g Ant. A + Ant. B / 2462 MHz



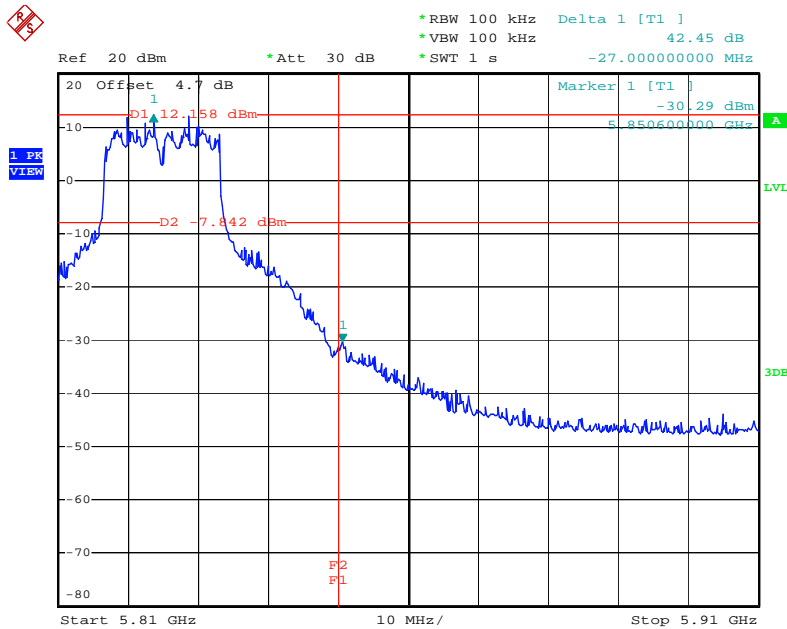
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Low Band Edge Plot on Configuration IEEE 802.11a Ant. A + Ant. B / 5745 MHz



Date: 26.MAR.2009 14:03:13

High Band Edge Plot on Configuration IEEE 802.11a Ant. A + Ant. B / 5825 MHz



Date: 26.MAR.2009 13:48:13

## 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	Apr. 15, 2009	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 23, 2009	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2009	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	Jun 13, 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	Apr. 06, 2009*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100023	9 kHz - 30 GHz	Feb 02, 2009	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. 29, 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, 2009	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, 2009	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 <sup>nd</sup> Rd., Taipei 114, Taiwan, R.O.C. TEL : 886-2-2794-8886 FAX : 886-2-2794-9777
JHUBEI	ADD : No.8, Lane 728, 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

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