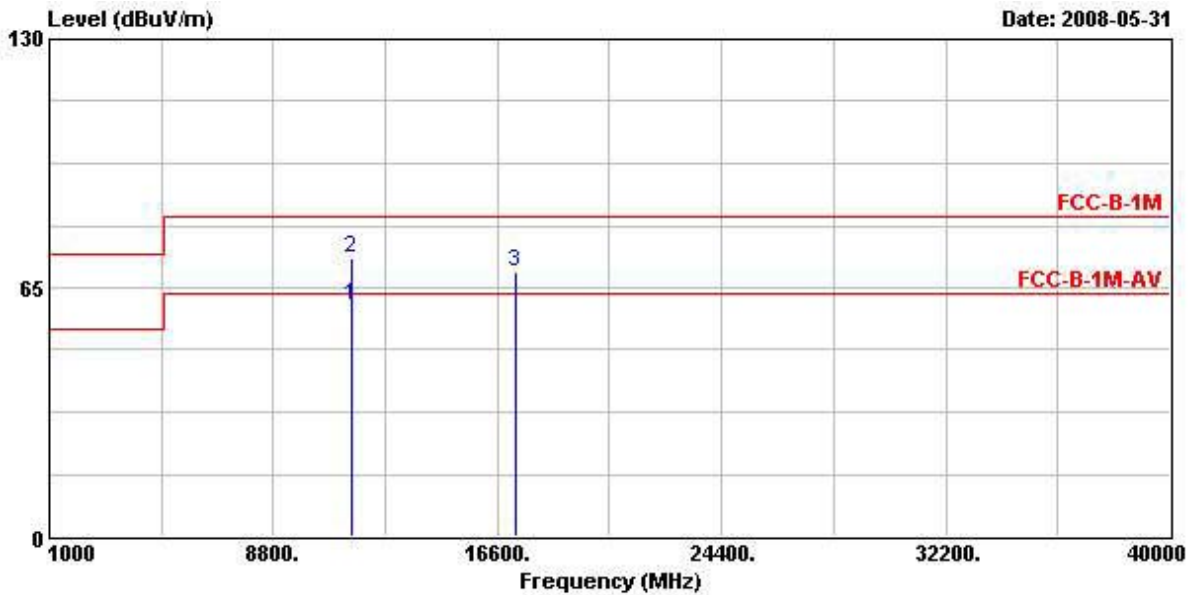


For Two Chain:

Test date	May 31, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	5G 802.11n CH 149 (20MHz)

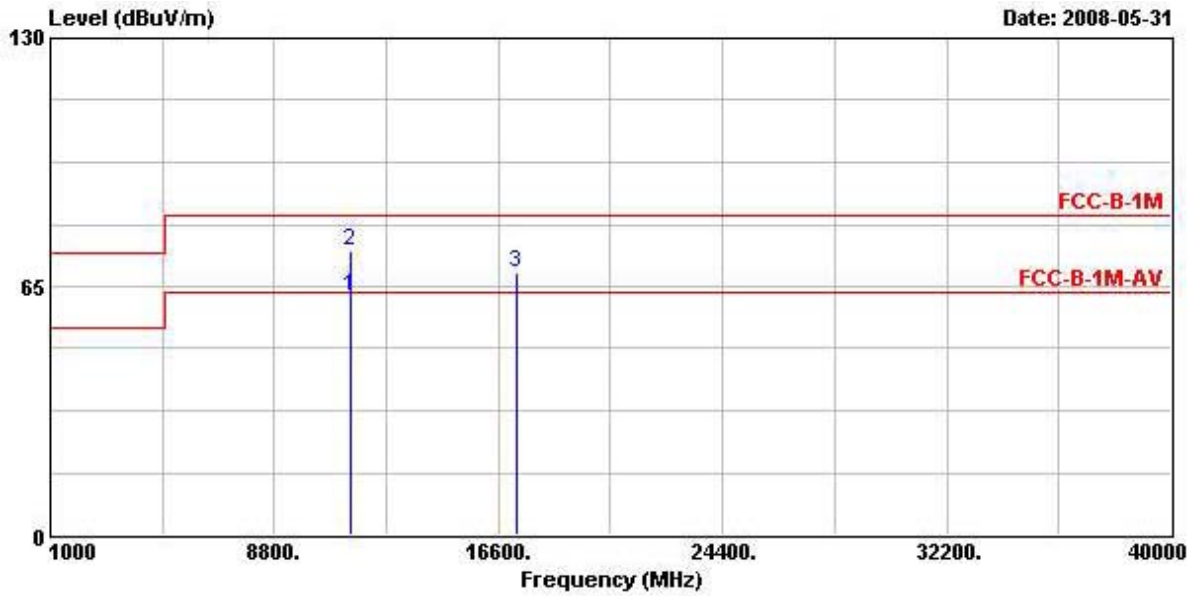
Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	11489.560	60.25	-3.29	63.54	46.11	39.68	6.78	32.31	AVERAGE
2	11489.560	72.86	-10.68	83.54	58.72	39.68	6.78	32.31	Peak
3	17235.000	69.33			46.81	43.26	7.80	28.55	PEAK

Note: An item 3 is on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical

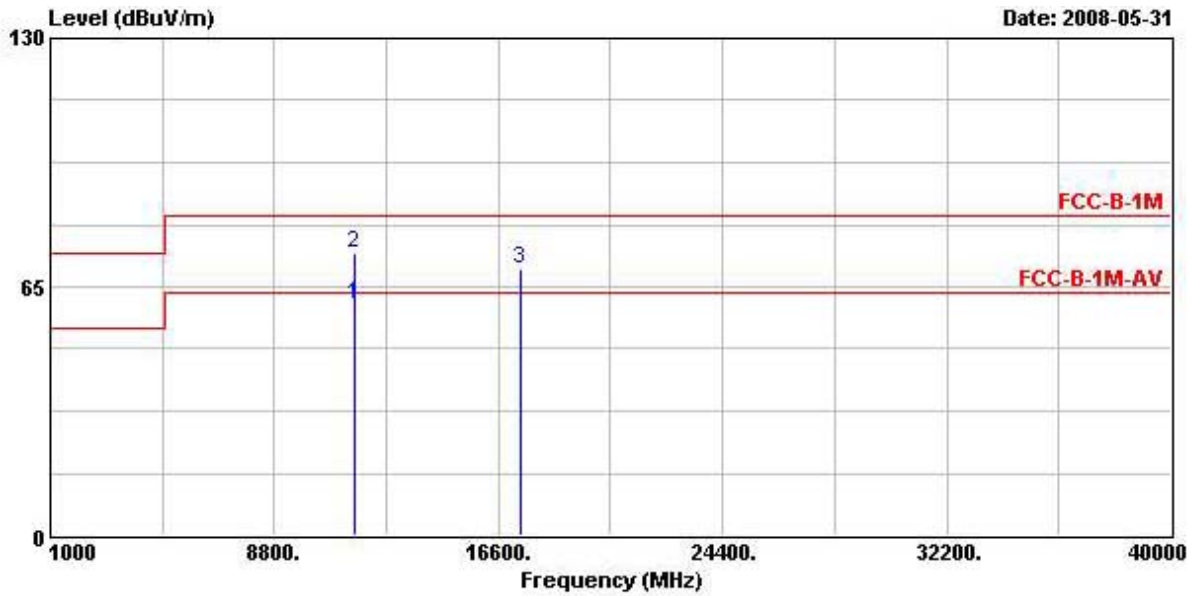


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11489.120	62.18	-1.36	63.54	48.04	39.68	6.78	32.31	AVERAGE
2	11489.120	74.22	-9.32	83.54	60.08	39.68	6.78	32.31	Peak
3	17235.000	68.73			46.21	43.26	7.80	28.55	PEAK

Note: An item 3 is on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Test date	May 31, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	5G 802.11n CH 157 (20MHz)

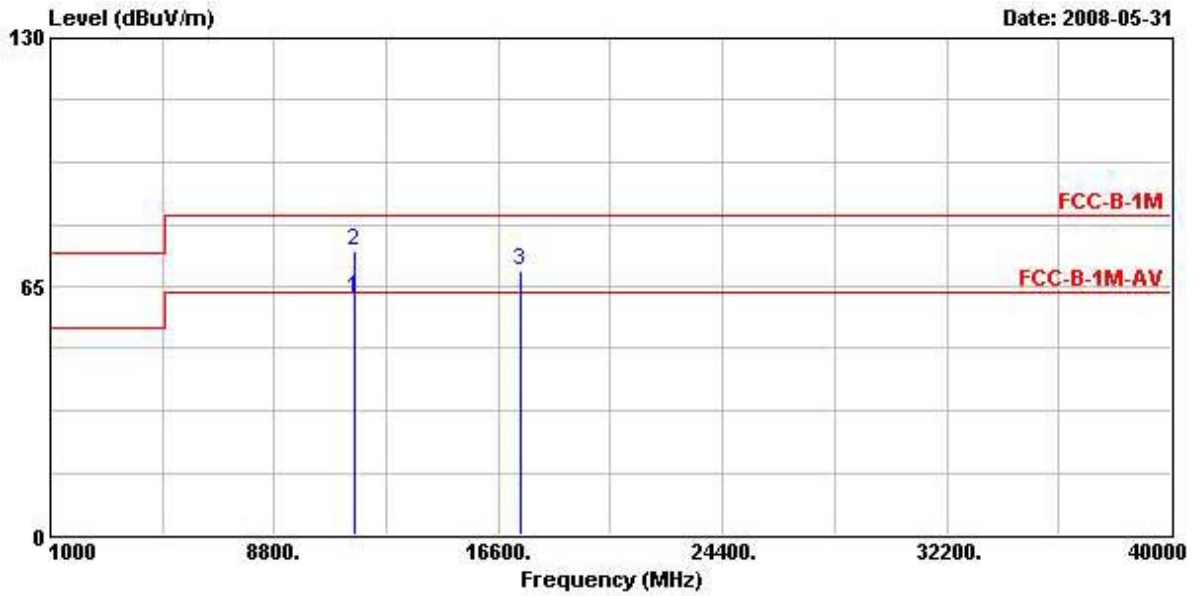
Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11570.800	60.59	-2.95	63.54	46.80	39.63	6.68	32.52	AVERAGE
2	11570.800	73.65	-9.89	83.54	59.86	39.63	6.68	32.52	Peak
3	17355.000	69.58			46.08	44.24	7.82	28.56	PEAK

Note: An item 3 is on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical

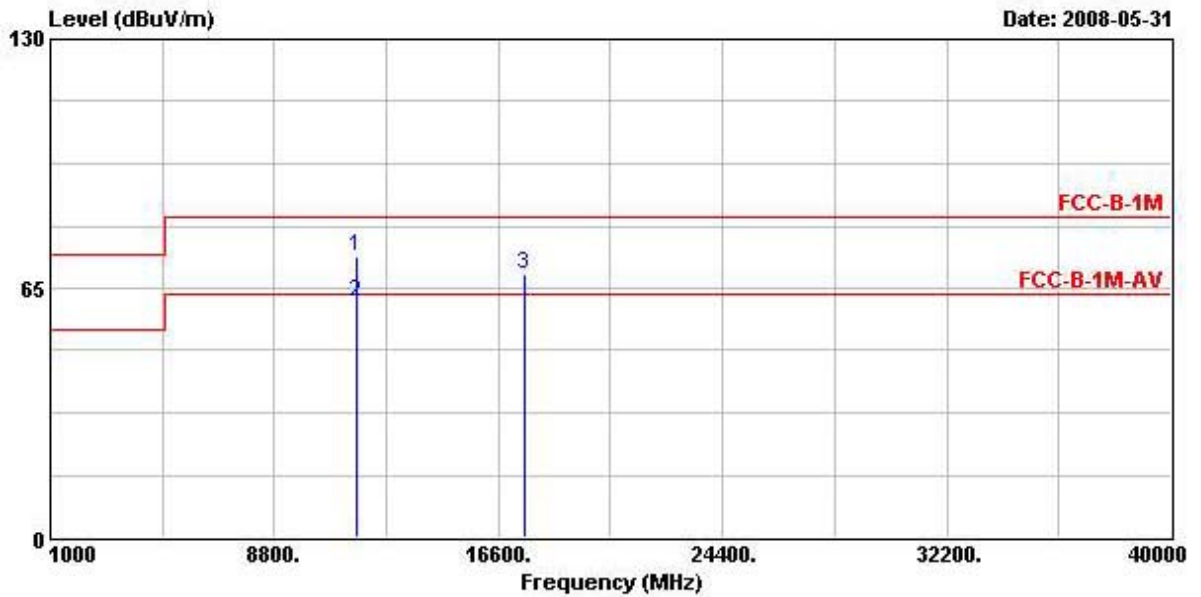


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	
1	11569.760	61.73	-1.81	63.54	47.94	39.63	6.68	32.52	AVERAGE
2	11569.760	74.10	-9.44	83.54	60.31	39.63	6.68	32.52	Peak
3	17355.000	69.08			45.58	44.24	7.82	28.56	PEAK

Note: An item 3 is on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Test date	May 31, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	5G 802.11n CH 165 (20MHz)

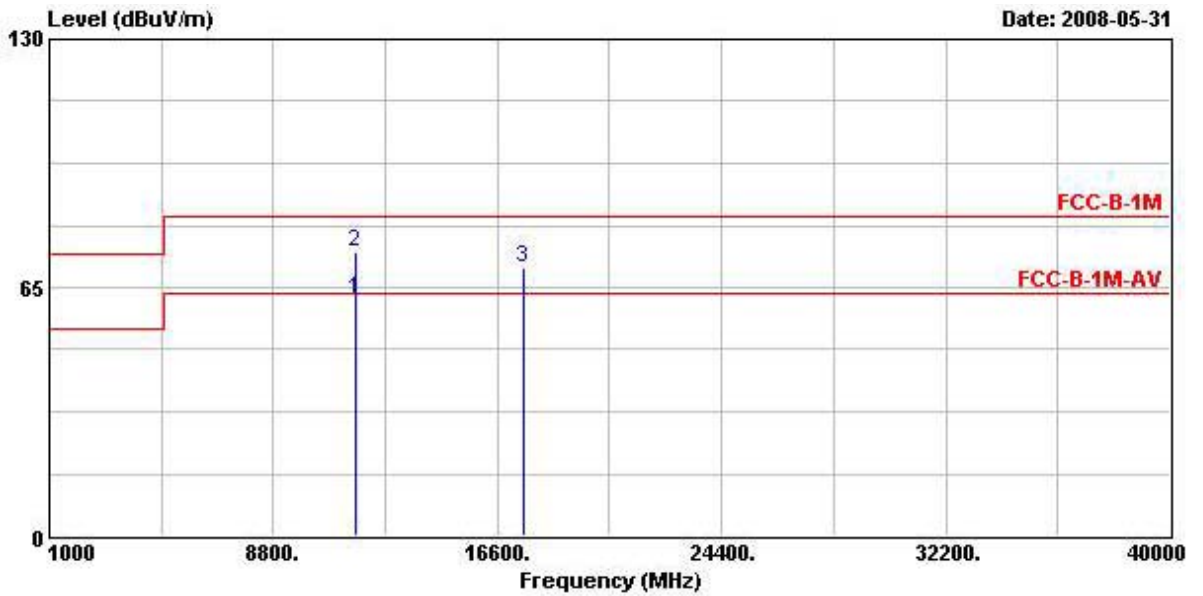
Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11653.920	73.39	-10.15	83.54	59.86	39.54	6.57	32.59	PEAK
2	11653.920	61.60	-1.94	63.54	48.08	39.54	6.57	32.59	Average
3	17475.000	68.40			43.91	45.22	7.84	28.57	PEAK

Note: An item 3 is on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical

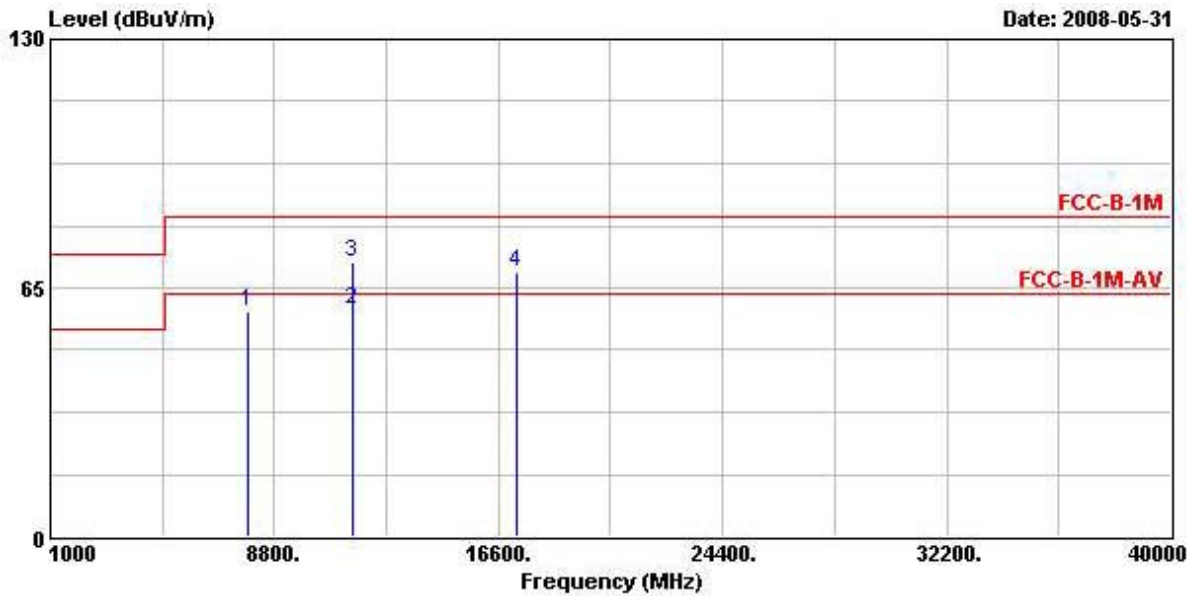


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	
1 @	11648.220	61.92	-1.62	63.54	48.38	39.56	6.57	32.59	AVERAGE
2	11648.220	74.08	-9.46	83.54	60.54	39.56	6.57	32.59	Peak
3	17475.000	70.00			45.51	45.22	7.84	28.57	PEAK

Note: An item 3 is on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Test date	May 31, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	5G 802.11n CH 151 (40MHz)

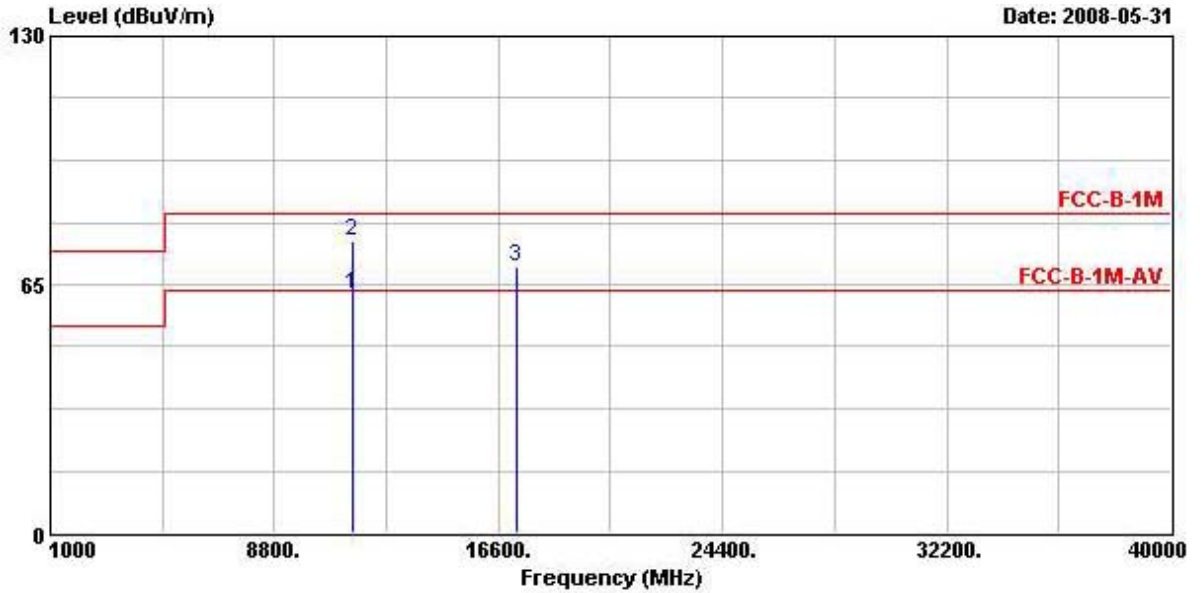
Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	
1	7863.000	58.88			49.41	37.67	4.65	32.85	PEAK
2	11510.700	59.08	-4.46	63.54	45.10	39.70	6.73	32.45	AVERAGE
3	11510.700	71.86	-11.68	83.54	57.88	39.70	6.73	32.45	Peak
4	17265.000	68.88			46.08	43.54	7.81	28.55	PEAK

Note: An item 1 and 4 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical



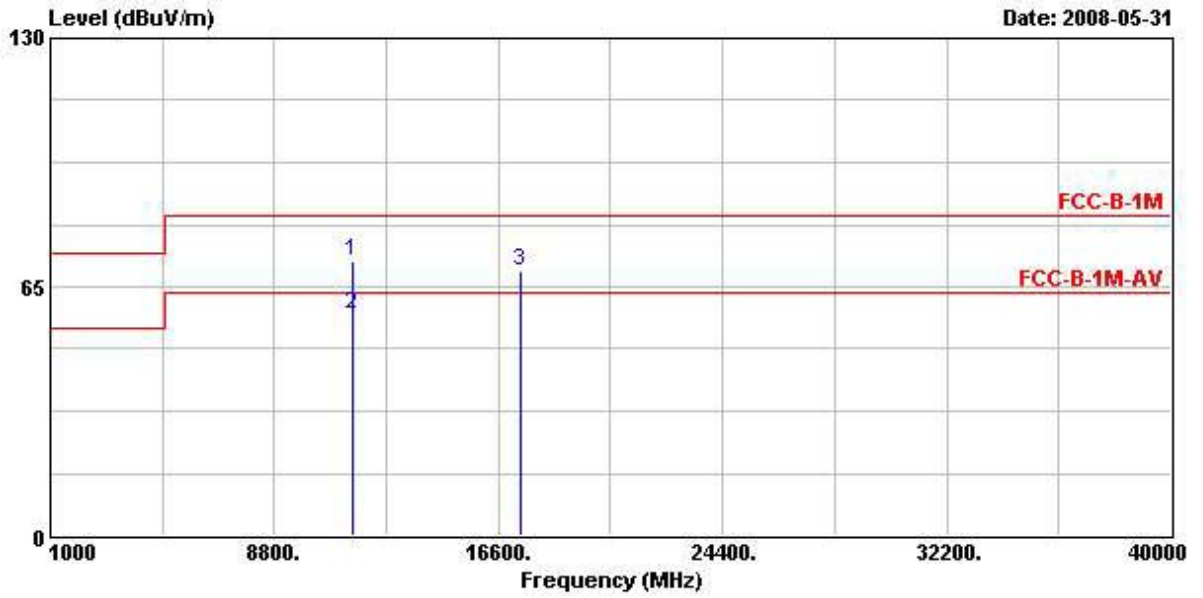
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11510.500	62.34	-1.20	63.54	48.36	39.70	6.73	32.45	AVERAGE
2	11510.500	76.15	-7.39	83.54	62.17	39.70	6.73	32.45	Peak
3	17265.100	69.67			46.87	43.54	7.81	28.55	PEAK

Note: An item 3 is on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).



Test date	May 31, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	5G 802.11n CH 159 (40MHz)

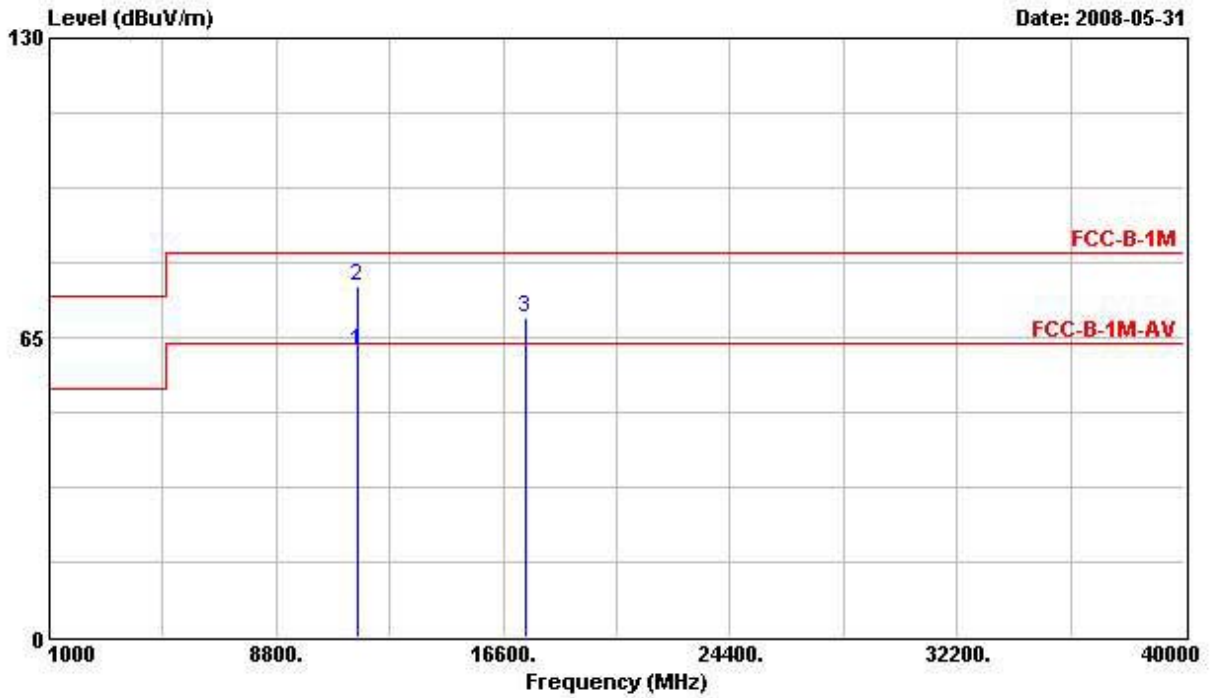
Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11510.500	71.67	-11.87	83.54	57.69	39.70	6.73	32.45	PEAK
2 @	11510.500	57.86	-5.68	63.54	43.88	39.70	6.73	32.45	Average
3	17385.000	69.13			45.35	44.52	7.83	28.57	PEAK

Note: An item 3 is on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical

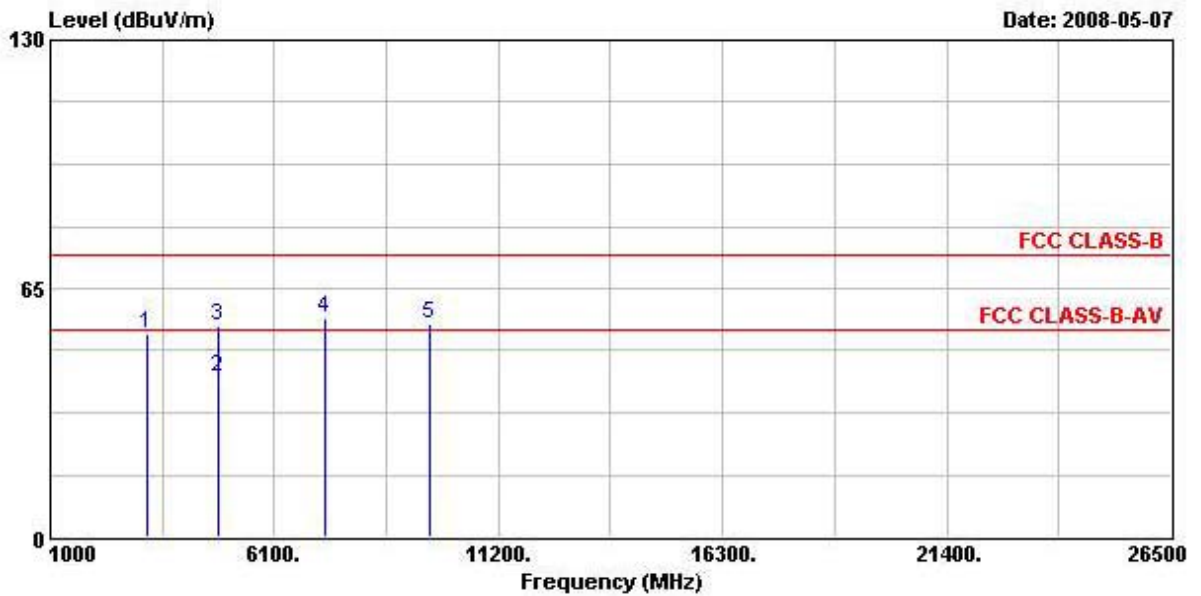


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11590.400	61.84	-1.70	63.54	48.12	39.61	6.62	32.52	AVERAGE
2	11590.400	75.91	-7.63	83.54	62.19	39.61	6.62	32.52	Peak
3	17385.100	69.25			45.47	44.52	7.83	28.57	PEAK

Note: An item 3 is on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Test date	May 07, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 1 (20MHz)

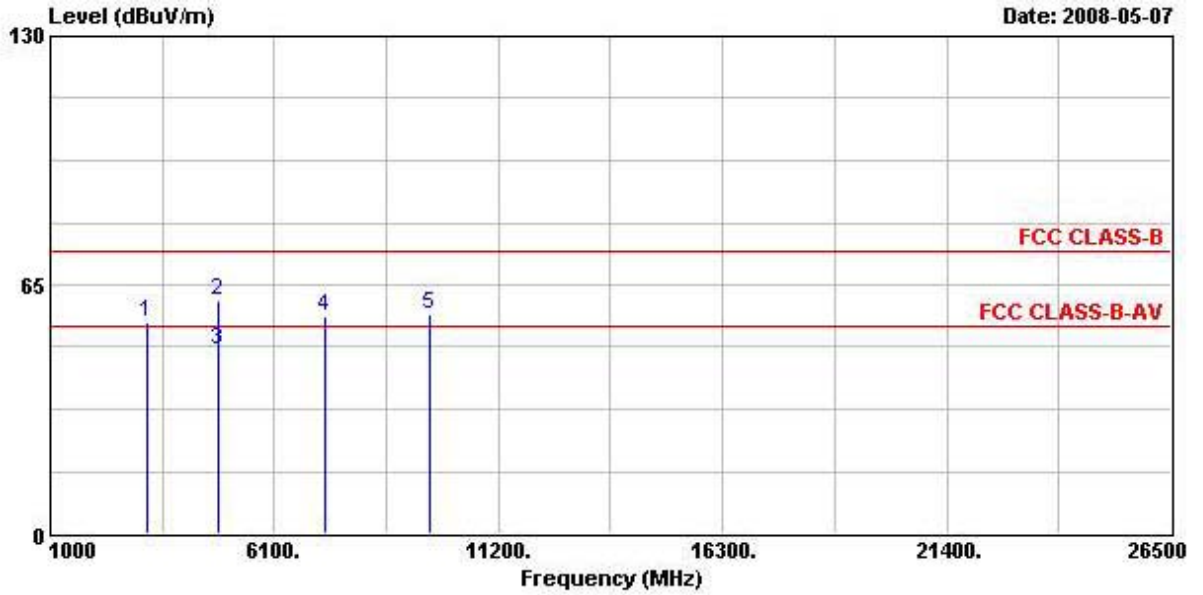
Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	
1	3216.000	53.05			52.97	30.51	2.47	32.91	PEAK
2	4823.900	41.75	-12.25	54.00	37.14	33.06	4.03	32.47	Average
3	4823.900	54.99	-19.01	74.00	50.38	33.06	4.03	32.47	PEAK
4	7242.500	57.49			50.86	35.78	3.67	32.82	PEAK
5	9644.000	55.88			45.25	38.38	5.21	32.95	PEAK

Note: An item 1, 4 and 5 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

**Vertical**

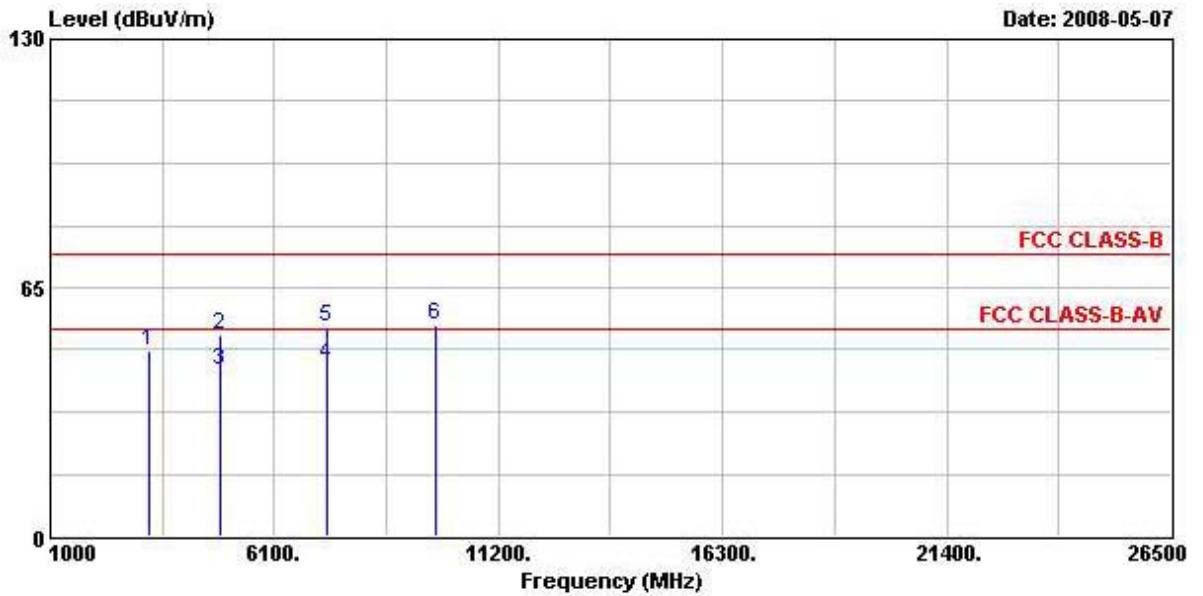


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	3216.000	55.43			55.35	30.51	2.47	32.91	PEAK
2	4823.000	60.62	-13.38	74.00	56.01	33.06	4.03	32.47	Peak
3 @	4823.000	47.99	-6.01	54.00	43.38	33.06	4.03	32.47	AVERAGE
4	7240.000	56.88			50.25	35.78	3.67	32.82	PEAK
5	9644.000	57.29			46.66	38.38	5.21	32.95	PEAK

Note: An item 1, 4 and 5 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Test date	May 07, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 6 (20MHz)

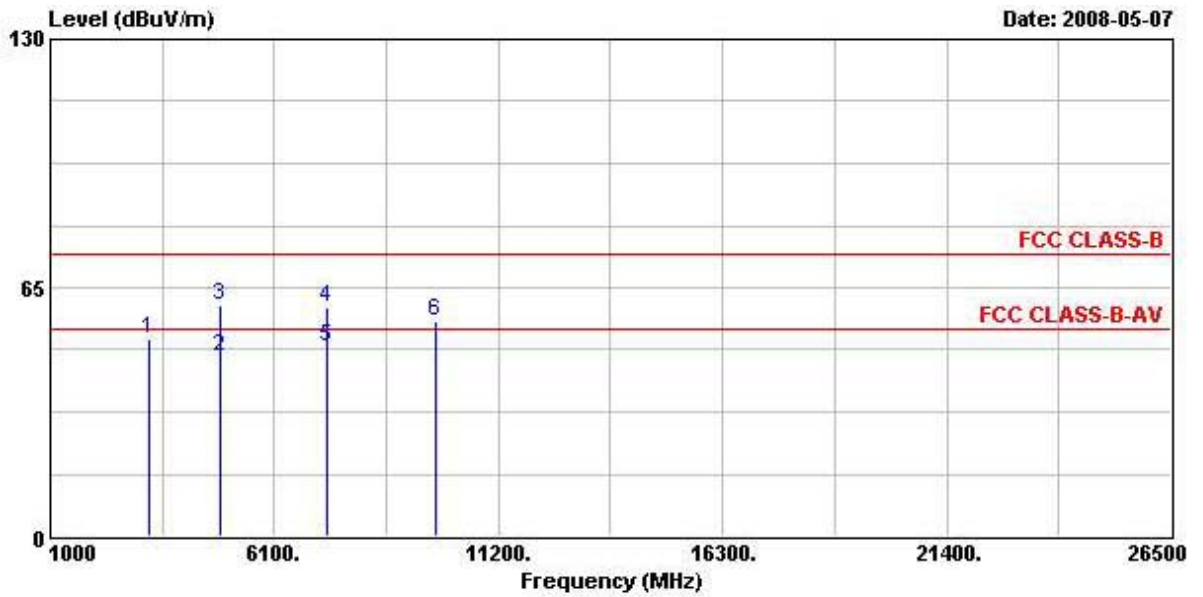
Horizontal



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Remark
	MHz	dBUV/m	Limit	Line	Level	Loss	Factor	
			dB	dBUV/m	dBuV	dB	dB	
1	3248.000	48.61			48.45	2.48	32.91	PEAK
2	4876.000	52.62	-21.38	74.00	47.91	4.02	32.47	PEAK
3	4876.000	43.53	-10.47	54.00	38.81	4.02	32.47	Average
4	7308.000	44.92	-9.08	54.00	37.91	3.91	32.85	Average
5	7308.000	54.80	-19.20	74.00	47.79	3.91	32.85	PEAK
6	9752.000	55.37			44.36	5.31	32.92	PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical

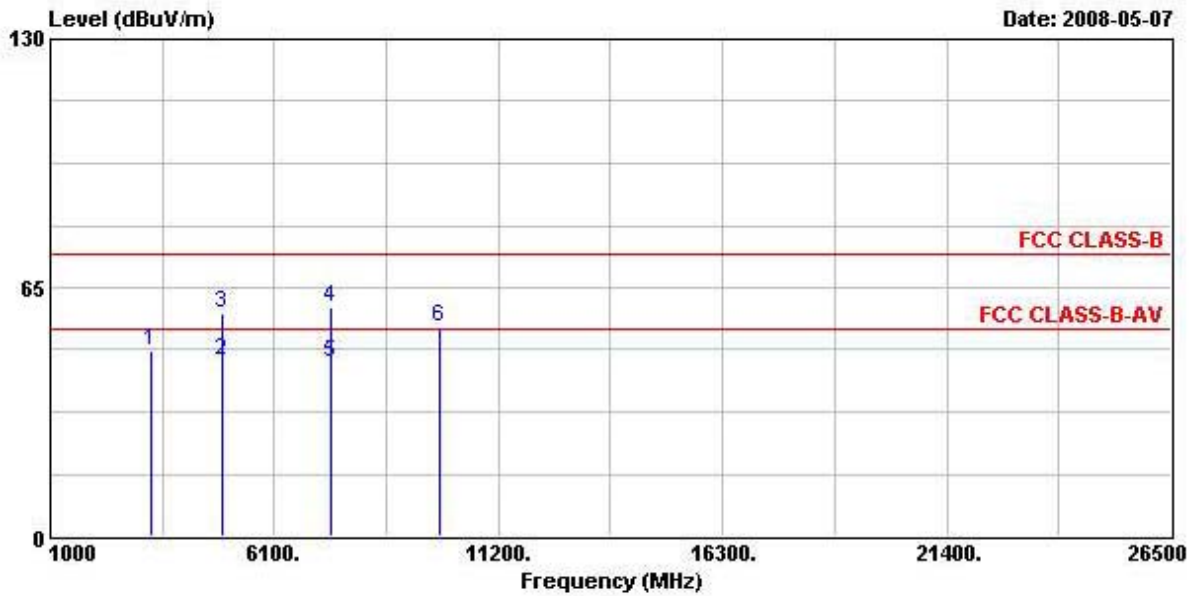


	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	
			dB	dBuV/m	dBuV	dB	dB	
1	3248.000	51.58			51.42	30.58	2.48	32.91 PEAK
2 @	4874.000	47.11	-6.89	54.00	42.40	33.16	4.02	32.47 AVERAGE
3	4874.000	60.16	-13.84	74.00	55.44	33.16	4.02	32.47 Peak
4	7304.000	59.62	-14.38	74.00	52.61	35.94	3.91	32.85 PEAK
5 @	7304.000	49.67	-4.33	54.00	42.66	35.94	3.91	32.85 Average
6	9752.000	56.42			45.41	38.62	5.31	32.92 PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Test date	May 07, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 11 (20MHz)

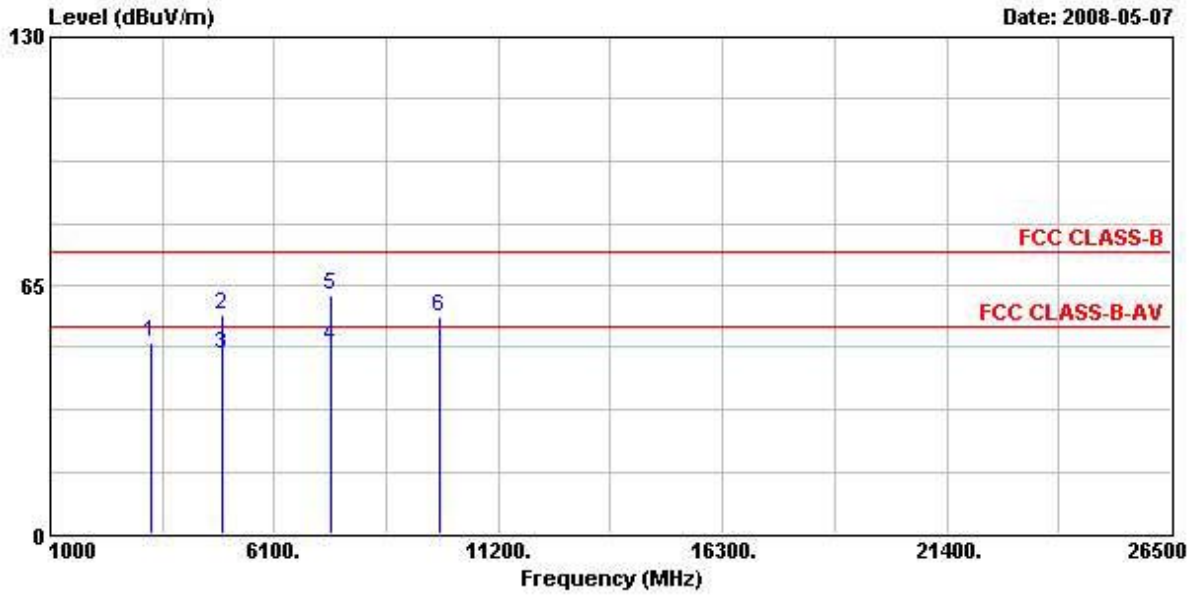
Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	
1	3280.000	48.30			48.08	30.65	2.48	32.91	PEAK
2	4923.000	46.07	-7.93	54.00	41.26	33.26	4.02	32.46	AVERAGE
3	4923.000	58.52	-15.48	74.00	53.71	33.26	4.02	32.46	Peak
4	7387.500	59.88	-14.12	74.00	52.47	36.15	4.16	32.90	Peak
5	7387.500	45.37	-8.63	54.00	37.96	36.15	4.16	32.90	AVERAGE
6	9852.000	54.58			43.19	38.82	5.47	32.89	PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical



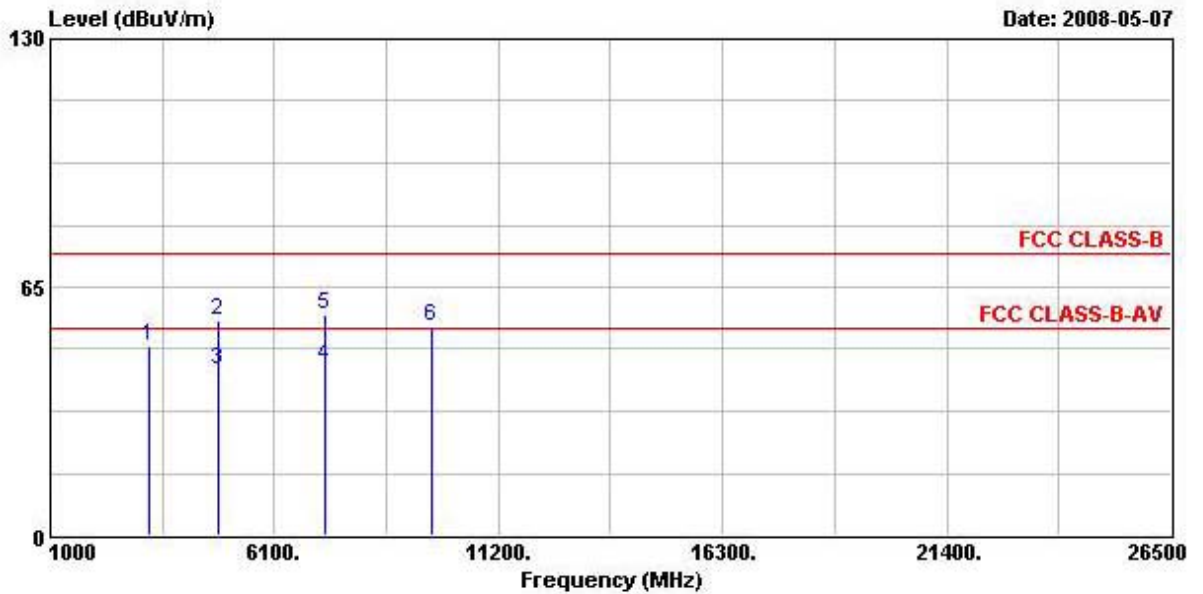
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	
			dB	dBuV/m	dBuV	dB	dB	
1	3280.000	50.04			49.82	30.65	2.48	32.91 PEAK
2	4924.000	57.43	-16.57	74.00	52.61	33.26	4.02	32.46 PEAK
3 @	4924.000	46.75	-7.25	54.00	41.94	33.26	4.02	32.46 AVERAGE
4 @	7385.200	49.14	-4.86	54.00	41.73	36.15	4.16	32.90 AVERAGE
5	7385.200	62.59	-11.41	74.00	55.18	36.15	4.16	32.90 Peak
6	9852.000	56.79			45.39	38.82	5.47	32.89 PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).



Test date	May 07, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 3 (40MHz)

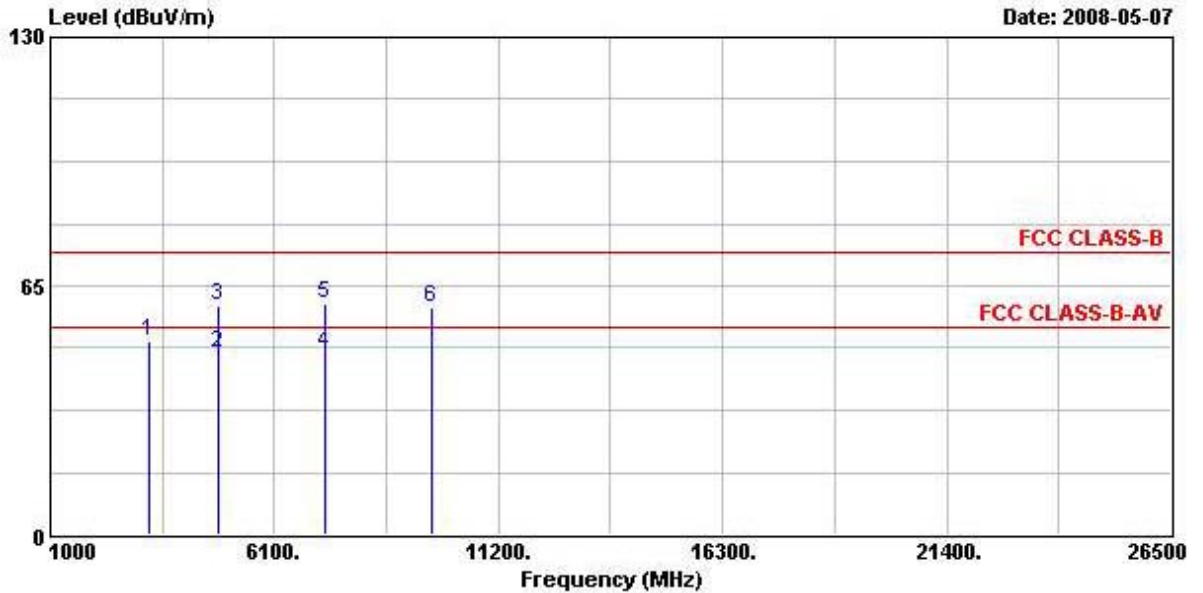
Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	3228.000	49.42			49.31	30.55	2.47	32.91	PEAK
2	4838.200	56.07	-17.93	74.00	51.42	33.09	4.03	32.47	Peak
3	4838.200	43.21	-10.79	54.00	38.56	33.09	4.03	32.47	AVERAGE
4	7259.200	44.53	-9.47	54.00	37.73	35.82	3.79	32.82	AVERAGE
5	7259.200	57.96	-16.04	74.00	51.16	35.82	3.79	32.82	Peak
6	9688.000	54.49			43.68	38.48	5.26	32.94	PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical

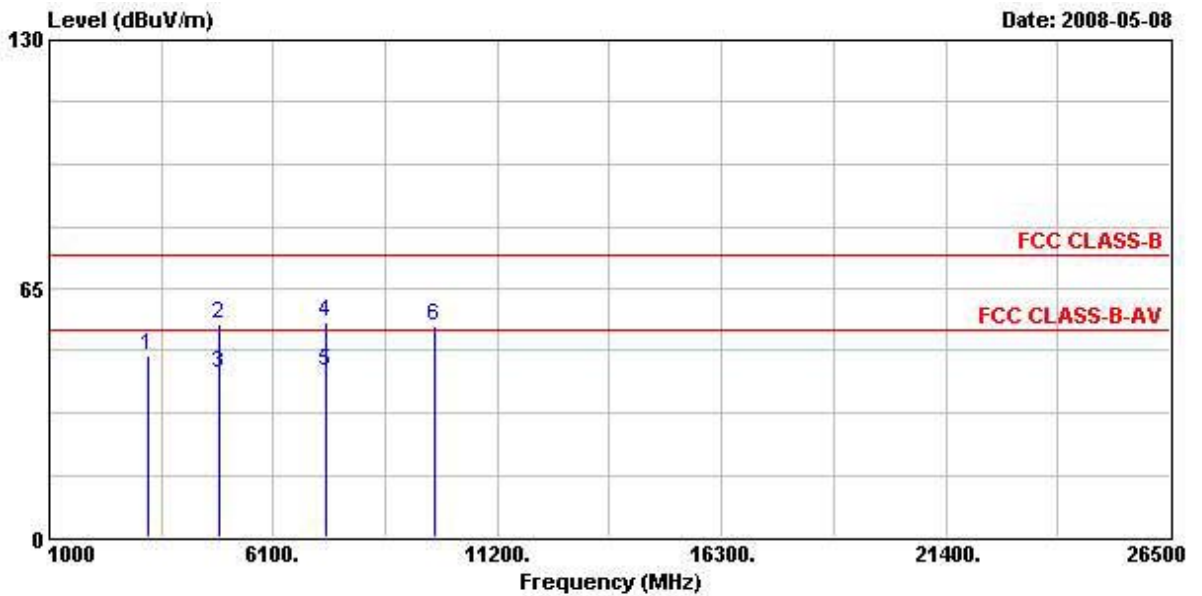


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	
1	3228.000	50.58			50.47	30.55	2.47	32.91	PEAK
2	4844.200	47.49	-6.51	54.00	42.85	33.09	4.02	32.47	AVERAGE
3	4844.200	59.98	-14.02	74.00	55.34	33.09	4.02	32.47	Peak
4	7271.400	47.69	-6.31	54.00	40.87	35.86	3.79	32.83	AVERAGE
5	7271.400	60.50	-13.50	74.00	53.68	35.86	3.79	32.83	Peak
6	9688.000	59.50			48.69	38.48	5.26	32.94	PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Test date	May 08, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 6 (40MHz)

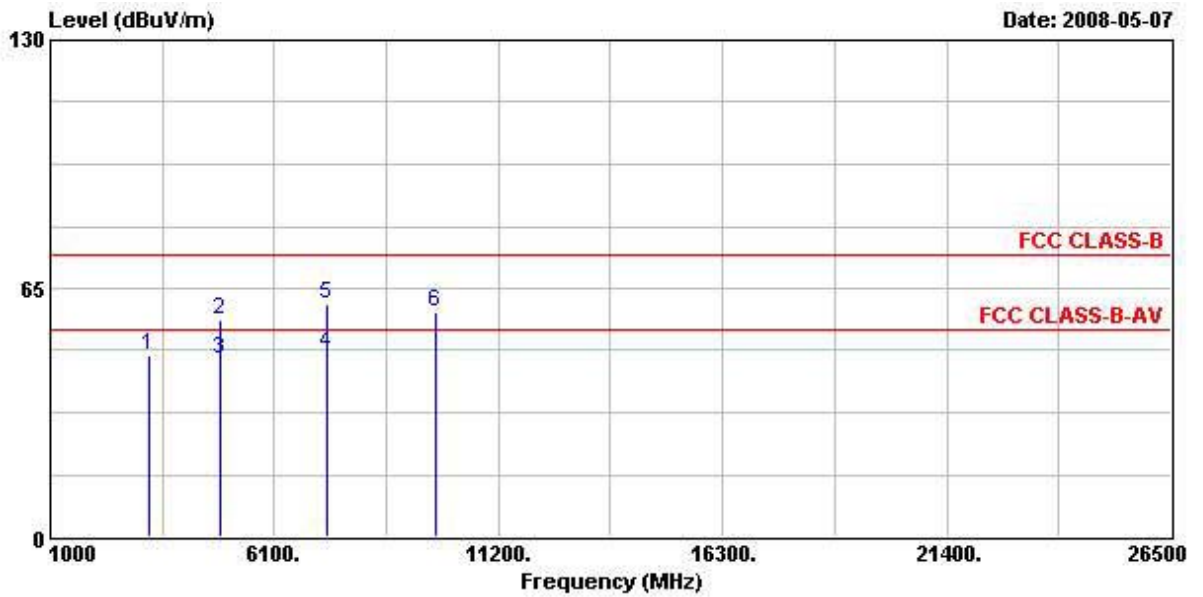
Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	3248.000	47.23			47.07	30.58	2.48	32.91	PEAK
2	4875.400	55.64	-18.36	74.00	50.92	33.16	4.02	32.47	Peak
3	4875.400	42.73	-11.27	54.00	38.01	33.16	4.02	32.47	AVERAGE
4	7316.400	56.23	-17.77	74.00	49.20	35.99	3.91	32.87	Peak
5	7316.400	43.20	-10.80	54.00	36.17	35.99	3.91	32.87	AVERAGE
6	9748.000	55.30			44.29	38.62	5.31	32.92	PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	
			dB	dBuV/m	dBuV	dB	dB	
1	3248.000	47.58			47.43	30.58	2.48	32.91 PEAK
2	4876.000	56.97	-17.03	74.00	52.26	33.16	4.02	32.47 PEAK
3 @	4876.000	46.46	-7.54	54.00	41.74	33.16	4.02	32.47 Average
4 @	7304.000	48.09	-5.91	54.00	41.08	35.94	3.91	32.85 AVERAGE
5	7304.000	60.76	-13.24	74.00	53.75	35.94	3.91	32.85 Peak
6	9748.000	58.94			47.93	38.62	5.31	32.92 PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Test date	May 08, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 9 (40MHz)

Horizontal

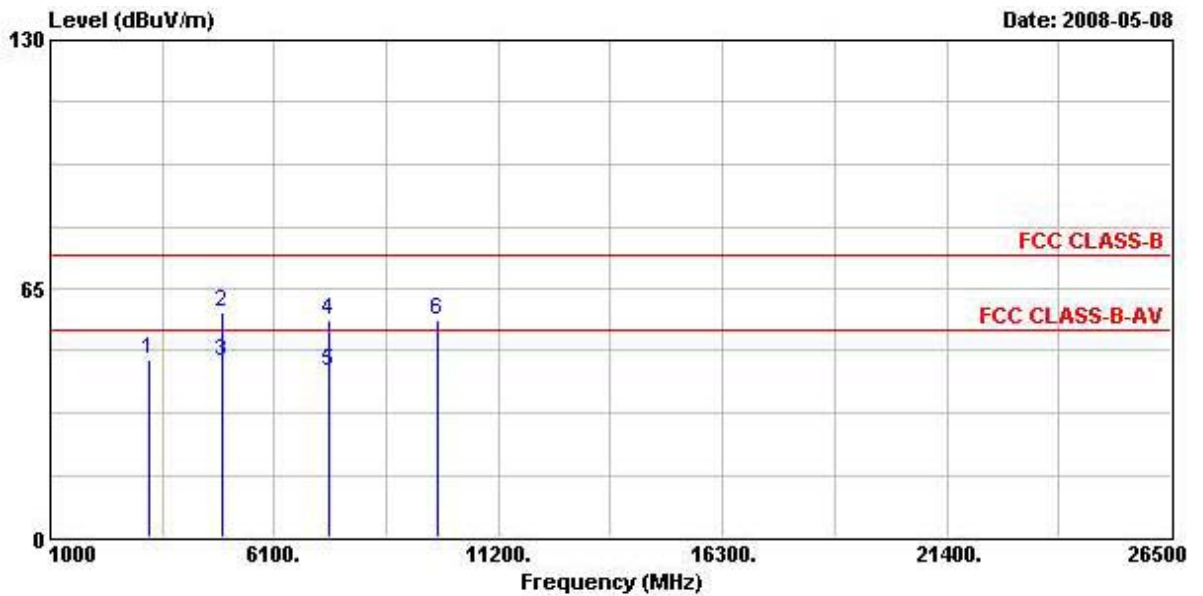


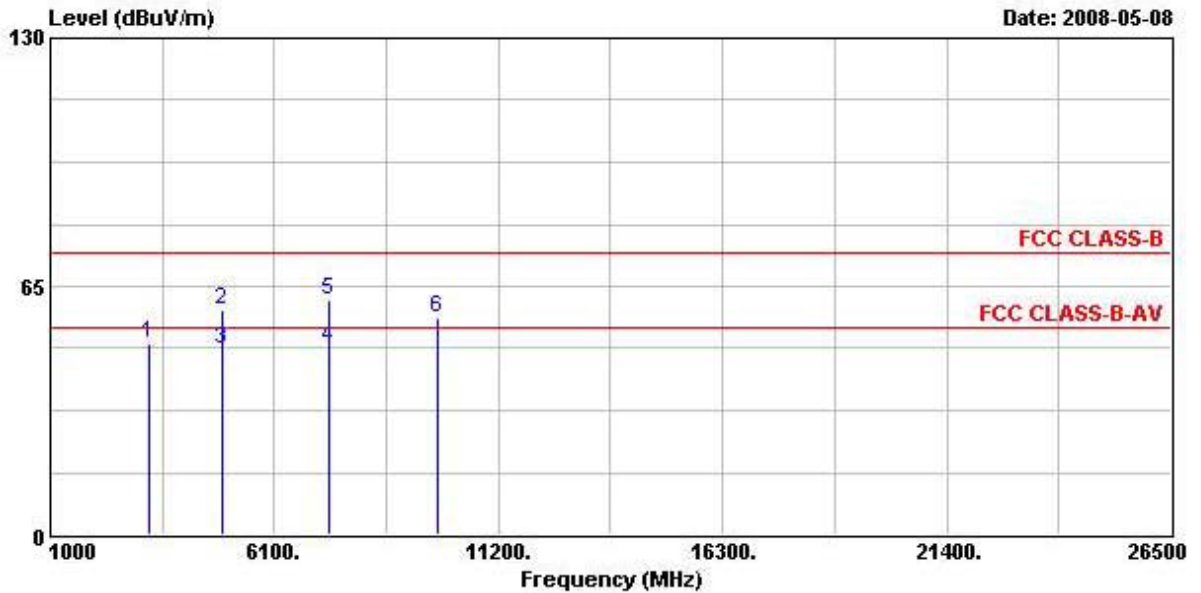
TABLE 1: Horizontal Field Strength

TABLE 2: Peak Data

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	3268.000	46.63			46.44	30.62	2.48	32.91	PEAK
2	4903.400	58.77	-15.23	74.00	53.99	33.23	4.02	32.47	Peak
3 @	4903.400	46.03	-7.97	54.00	41.25	33.23	4.02	32.47	AVERAGE
4	7359.000	56.62	-17.38	74.00	49.40	36.07	4.03	32.88	Peak
5	7359.000	43.32	-10.68	54.00	36.10	36.07	4.03	32.88	AVERAGE
6	9808.000	56.57			45.34	38.72	5.42	32.91	PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	3268.000	50.24			50.05	30.62	2.48	32.91	PEAK
2	4904.000	58.57	-15.43	74.00	53.79	33.23	4.02	32.47	PEAK
3	4904.000	48.44	-5.56	54.00	43.66	33.23	4.02	32.47	Average
4	7363.400	49.12	-4.88	54.00	41.91	36.07	4.03	32.90	AVERAGE
5	7363.400	61.31	-12.69	74.00	54.11	36.07	4.03	32.90	Peak
6	9808.000	56.85			45.63	38.72	5.42	32.91	PEAK

Note: An item 1 and 6 are on un-restricted band, so the limit is -20dB for the field strength of the fundamental emissions (see section 3.6.7).

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.

**3.6 Band Edge and Fundamental Emissions Measurement**

**3.6.1 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.

<b>Frequencies (MHz)</b>	<b>Field Strength (micorvolts/meter)</b>	<b>Measurement Distance (meters)</b>
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

**3.6.2 Measuring Instruments and Setting**

Please refer to section 4 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

**3.6.3 Test Procedures**

1. The test procedure is the same as section 3.5.3; 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.

**3.6.4 Test Setup Layout**

This test setup layout is the same as that shown in section 3.5.4.

**3.6.5 Test Deviation**

There is no deviation with the original standard.

**3.6.6 EUT Operation during Test**

The EUT was programmed to be in continuously transmitting mode.

**3.6.7 Test Result of Band Edge and Fundamental Emissions**

For Single Chain:

<b>Test date</b>	May 23, 2008	<b>Test Site No.</b>	03CH03-HY
<b>Temperature</b>	26	<b>Humidity</b>	54%
<b>Test Engineer</b>	Duncan	<b>Configuration</b>	2.4G 802.11n CH 1, 6, 11 (20MHz)

**Channel 1**

	<b>Freq</b>	<b>Level</b>	<b>Over Limit</b>	<b>Limit Line</b>	<b>ReadAntenna Level</b>	<b>Antenna Factor</b>	<b>Cable Loss</b>	<b>Preamp Factor</b>	<b>Remark</b>
	<b>MHz</b>	<b>dBuV/m</b>	<b>dB</b>	<b>dBuV/m</b>	<b>dBuV</b>	<b>dB/m</b>	<b>dB</b>	<b>dB</b>	
1 @	2389.420	68.54	-5.46	74.00	38.06	28.29	2.19	0.00	Peak
2 @	2411.650	114.16			83.65	28.33	2.19	0.00	Peak
1 @	2390.000	52.61	-1.39	54.00	22.13	28.29	2.19	0.00	Average
2 @	2411.650	103.91			73.40	28.33	2.19	0.00	Average

An item 2 is Fundamental Emissions.

**Channel 6**

	<b>Freq</b>	<b>Level</b>	<b>Over Limit</b>	<b>Limit Line</b>	<b>ReadAntenna Level</b>	<b>Antenna Factor</b>	<b>Cable Loss</b>	<b>Preamp Factor</b>	<b>Remark</b>
	<b>MHz</b>	<b>dBuV/m</b>	<b>dB</b>	<b>dBuV/m</b>	<b>dBuV</b>	<b>dB/m</b>	<b>dB</b>	<b>dB</b>	
1	2386.570	63.22	-10.78	74.00	32.74	28.29	2.19	0.00	Peak
2 @	2436.540	118.07			87.46	28.40	2.22	0.00	Peak
3	2486.130	63.45	-10.55	74.00	32.74	28.47	2.25	0.00	Peak
1 @	2390.000	51.75	-2.25	54.00	21.27	28.29	2.19	0.00	Average
2 @	2436.540	107.68			77.07	28.40	2.22	0.00	Average
3 @	2484.420	51.93	-2.07	54.00	21.22	28.47	2.25	0.00	Average

An item 2 is Fundamental Emissions.

**Channel 11**

	<b>Freq</b>	<b>Level</b>	<b>Over Limit</b>	<b>Limit Line</b>	<b>ReadAntenna Level</b>	<b>Antenna Factor</b>	<b>Cable Loss</b>	<b>Preamp Factor</b>	<b>Remark</b>
	<b>MHz</b>	<b>dBuV/m</b>	<b>dB</b>	<b>dBuV/m</b>	<b>dBuV</b>	<b>dB/m</b>	<b>dB</b>	<b>dB</b>	
1 @	2461.810	110.69			80.04	28.43	2.22	0.00	Peak
2 @	2483.500	67.85	-6.15	74.00	37.14	28.47	2.25	0.00	Peak
1 @	2461.810	103.12			72.47	28.43	2.22	0.00	Average
2 @	2483.500	51.42	-2.58	54.00	20.71	28.47	2.25	0.00	Average

An item 1 is Fundamental Emissions.



Test date	May 23, 2008	Test Site No.	03CH03-HY
Temperature	26	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 3, 6, 9 (40MHz)

Channel 3

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	2390.000	65.34	-8.66	74.00	34.86	28.29	2.19	0.00	Peak
2 @	2425.330	103.17			72.59	28.36	2.22	0.00	Peak
1 @	2381.820	52.05	-1.95	54.00	21.64	28.26	2.16	0.00	Average
2 @	2425.330	93.51			62.93	28.36	2.22	0.00	Average

An item 2 is Fundamental Emissions.

Channel 6

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	2390.000	63.25	-10.75	74.00	32.77	28.29	2.19	0.00	Peak
2 @	2426.090	108.70			78.12	28.36	2.22	0.00	Peak
3	2483.850	64.25	-9.75	74.00	33.54	28.47	2.25	0.00	Peak
1 @	2390.000	52.09	-1.91	54.00	21.61	28.29	2.19	0.00	Average
2 @	2426.090	98.82			68.24	28.36	2.22	0.00	Average
3 @	2484.420	52.74	-1.26	54.00	22.03	28.47	2.25	0.00	Average

An item 2 is Fundamental Emissions.

Channel 9

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 @	2454.970	102.21			71.56	28.43	2.22	0.00	Peak
2 @	2483.500	66.82	-7.18	74.00	36.11	28.47	2.25	0.00	Peak
1 @	2454.970	92.63			61.98	28.43	2.22	0.00	Average
2 @	2492.020	52.22	-1.78	54.00	21.47	28.50	2.25	0.00	Average

An item 1 is Fundamental Emissions.

Note:

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

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

**For Two Chain:**

<b>Test date</b>	May 27, 2008	<b>Test Site No.</b>	03CH03-HY
<b>Temperature</b>	26	<b>Humidity</b>	54%
<b>Test Engineer</b>	Duncan	<b>Configuration</b>	2.4G 802.11n Ant. A & B CH 1, 6, 11 (20MHz)

**Channel 1**

	<b>Freq</b>	<b>Level</b>	<b>Over Limit</b>	<b>Limit Line</b>	<b>ReadAntenna Level</b>	<b>Antenna Factor</b>	<b>Cable Loss</b>	<b>Preamp Factor</b>	<b>Remark</b>
	<b>MHz</b>	<b>dBuV/m</b>	<b>dB</b>	<b>dBuV/m</b>	<b>dBuV</b>	<b>dB/m</b>	<b>dB</b>	<b>dB</b>	
1 @	2389.420	67.43	-6.57	74.00	36.95	28.29	2.19	0.00	Peak
2 @	2416.210	115.16			84.65	28.33	2.19	0.00	Peak
1 @	2390.000	52.79	-1.21	54.00	22.31	28.29	2.19	0.00	Average
2 @	2416.210	104.46			73.95	28.33	2.19	0.00	Average

An item 2 is Fundamental Emissions.

**Channel 6**

	<b>Freq</b>	<b>Level</b>	<b>Over Limit</b>	<b>Limit Line</b>	<b>ReadAntenna Level</b>	<b>Antenna Factor</b>	<b>Cable Loss</b>	<b>Preamp Factor</b>	<b>Remark</b>
	<b>MHz</b>	<b>dBuV/m</b>	<b>dB</b>	<b>dBuV/m</b>	<b>dBuV</b>	<b>dB/m</b>	<b>dB</b>	<b>dB</b>	
1	2388.660	63.72	-10.28	74.00	33.24	28.29	2.19	0.00	Peak
2 @	2433.690	117.88			87.30	28.36	2.22	0.00	Peak
3	2484.610	63.33	-10.67	74.00	32.62	28.47	2.25	0.00	Peak
1 @	2388.850	51.34	-2.66	54.00	20.86	28.29	2.19	0.00	Average
2 @	2433.690	107.05			76.47	28.36	2.22	0.00	Average
3 @	2486.130	51.87	-2.13	54.00	21.16	28.47	2.25	0.00	Average

An item 2 is Fundamental Emissions.

**Channel 11**

	<b>Freq</b>	<b>Level</b>	<b>Over Limit</b>	<b>Limit Line</b>	<b>ReadAntenna Level</b>	<b>Antenna Factor</b>	<b>Cable Loss</b>	<b>Preamp Factor</b>	<b>Remark</b>
	<b>MHz</b>	<b>dBuV/m</b>	<b>dB</b>	<b>dBuV/m</b>	<b>dBuV</b>	<b>dB/m</b>	<b>dB</b>	<b>dB</b>	
1 @	2460.860	112.38			81.73	28.43	2.22	0.00	Peak
2 @	2483.500	67.54	-6.46	74.00	36.83	28.47	2.25	0.00	Peak
1 @	2460.860	102.16			71.51	28.43	2.22	0.00	Average
2 @	2483.500	52.85	-1.15	54.00	22.14	28.47	2.25	0.00	Average

An item 1 is Fundamental Emissions.

<b>Test date</b>	Apr. 26, 2008	<b>Test Site No.</b>	03CH03-HY
<b>Temperature</b>	26	<b>Humidity</b>	54%
<b>Test Engineer</b>	Duncan	<b>Configuration</b>	2.4G 802.11n Ant. A & B CH 3, 6, 9 (40MHz)

**Channel 3**

	<b>Freq</b>	<b>Level</b>	<b>Over Limit</b>	<b>Limit Line</b>	<b>ReadAntenna Level</b>	<b>Antenna Factor</b>	<b>Cable Loss</b>	<b>Preamp Factor</b>	<b>Remark</b>
	<b>MHz</b>	<b>dBuV/m</b>	<b>dB</b>	<b>dBuV/m</b>	<b>dBuV</b>	<b>dB/m</b>	<b>dB</b>	<b>dB</b>	
1 @	2390.000	67.52	-6.48	74.00	37.04	28.29	2.19	0.00	Peak
2 @	2429.130	106.32			75.74	28.36	2.22	0.00	Peak
1 @	2390.000	52.74	-1.26	54.00	22.26	28.29	2.19	0.00	Average
2 @	2429.130	95.53			64.95	28.36	2.22	0.00	Average

An item 2 is Fundamental Emissions.

**Channel 6**

	<b>Freq</b>	<b>Level</b>	<b>Over Limit</b>	<b>Limit Line</b>	<b>ReadAntenna Level</b>	<b>Antenna Factor</b>	<b>Cable Loss</b>	<b>Preamp Factor</b>	<b>Remark</b>
	<b>MHz</b>	<b>dBuV/m</b>	<b>dB</b>	<b>dBuV/m</b>	<b>dBuV</b>	<b>dB/m</b>	<b>dB</b>	<b>dB</b>	
1	2389.610	63.82	-10.18	74.00	33.34	28.29	2.19	0.00	Peak
2 @	2427.610	110.75			80.17	28.36	2.22	0.00	Peak
3	2484.610	64.17	-9.83	74.00	33.46	28.47	2.25	0.00	Peak
1 @	2390.000	51.45	-2.55	54.00	20.97	28.29	2.19	0.00	Average
2 @	2427.610	99.12			68.54	28.36	2.22	0.00	Average
3 @	2483.500	52.71	-1.29	54.00	22.00	28.47	2.25	0.00	Average

An item 2 is Fundamental Emissions.

**Channel 9**

	<b>Freq</b>	<b>Level</b>	<b>Over Limit</b>	<b>Limit Line</b>	<b>ReadAntenna Level</b>	<b>Antenna Factor</b>	<b>Cable Loss</b>	<b>Preamp Factor</b>	<b>Remark</b>
	<b>MHz</b>	<b>dBuV/m</b>	<b>dB</b>	<b>dBuV/m</b>	<b>dBuV</b>	<b>dB/m</b>	<b>dB</b>	<b>dB</b>	
1 @	2441.860	106.12			75.51	28.40	2.22	0.00	Peak
2 @	2483.500	67.73	-6.27	74.00	37.02	28.47	2.25	0.00	Peak
1 @	2441.860	94.10			63.49	28.40	2.22	0.00	Average
2 @	2483.500	52.85	-1.15	54.00	22.14	28.47	2.25	0.00	Average

An item 1 is Fundamental Emissions.

Note:

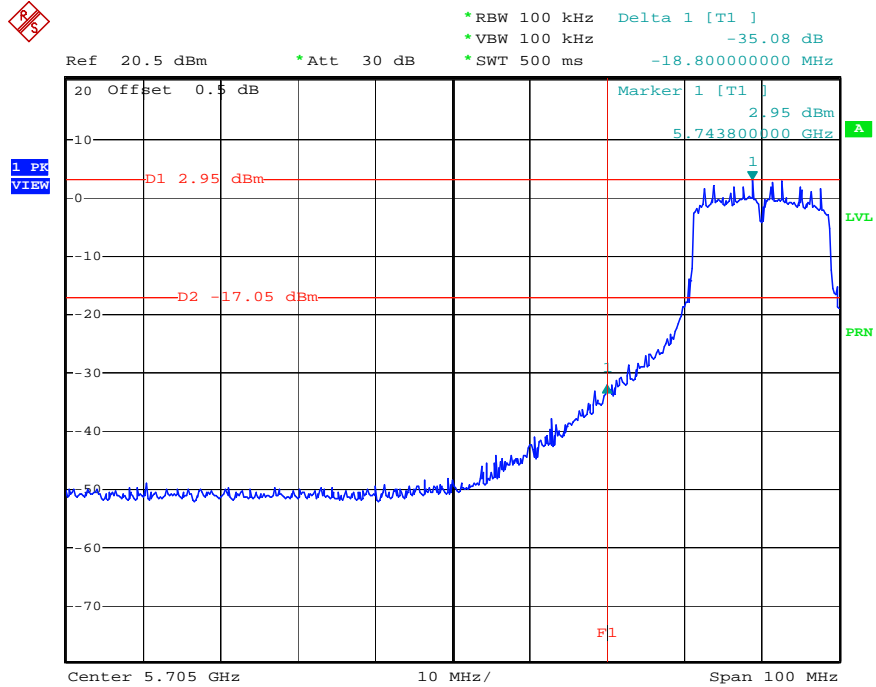
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

For Single Chain:

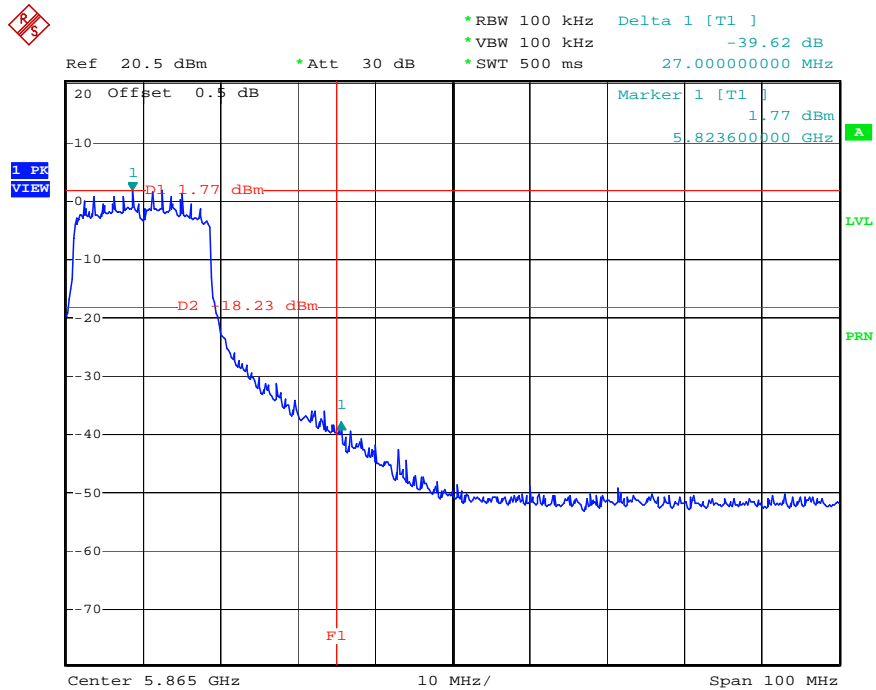
For Emission not in Restricted Band

Low Band Edge Plot on Configuration of IEEE 802.11n-5G (20MHz) / 5745 MHz



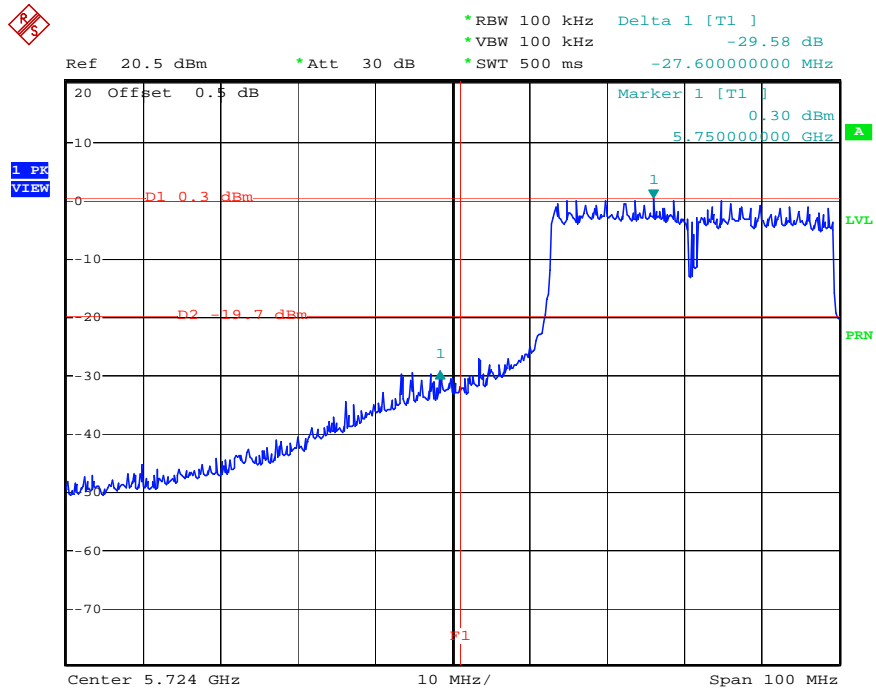
Date: 31.MAY.2008 18:18:10

High Band Edge Plot on Configuration of IEEE 802.11n-5G (20MHz) / 5825 MHz



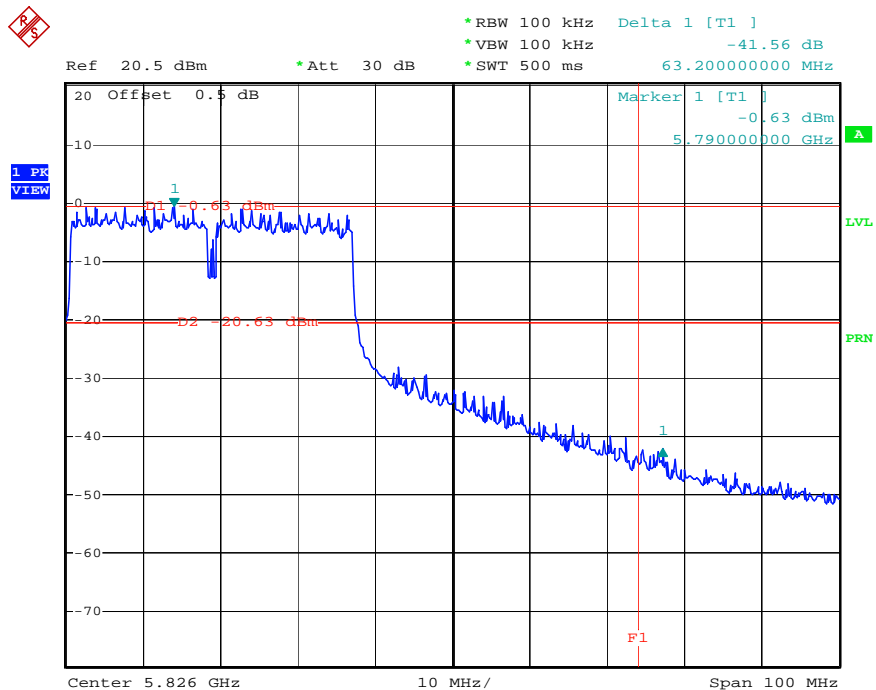
Date: 31.MAY.2008 19:12:18

Low Band Edge Plot on Configuration of IEEE 802.11n-5G (40MHz) / 5755 MHz



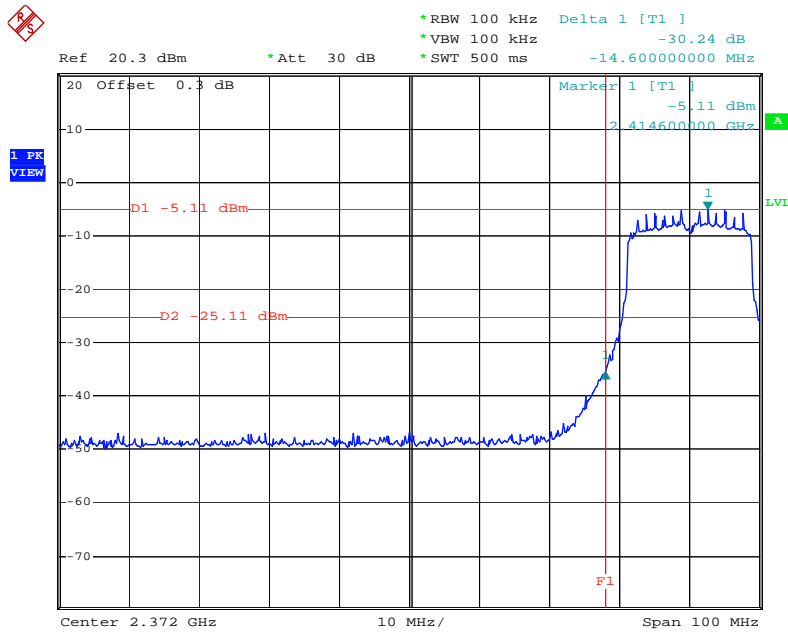
Date: 31.MAY.2008 19:45:25

High Band Edge Plot on Configuration of IEEE 802.11n-5G (40MHz) / 5795 MHz



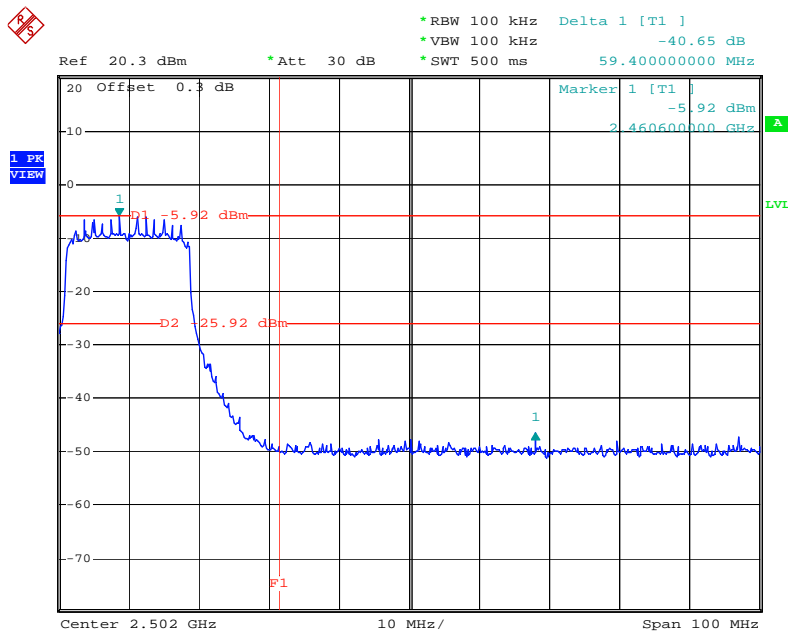
Date: 31.MAY.2008 19:40:32

Low Band Edge Plot on Configuration of IEEE 802.11n-2.4G (20MHz) / 2412 MHz



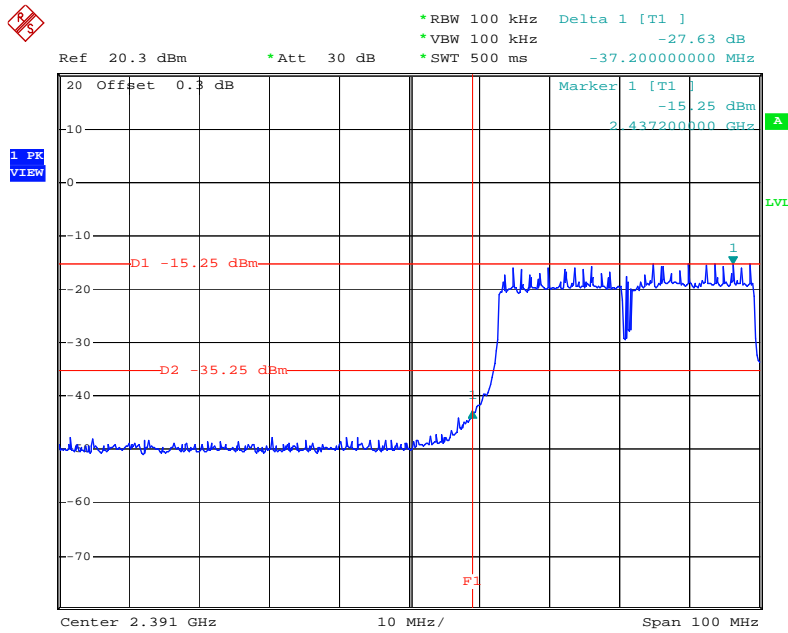
Date: 26.MAY.2008 16:40:49

High Band Edge Plot on Configuration of IEEE 802.11n-2.4G (20MHz) / 2462 MHz



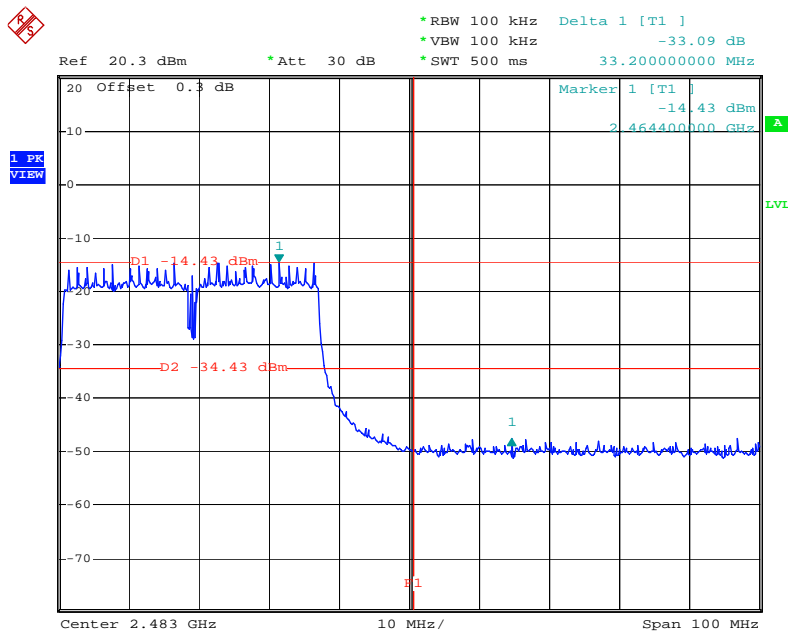
Date: 26.MAY.2008 15:57:50

Low Band Edge Plot on Configuration of IEEE 802.11n-2.4G (40MHz) / 2422 MHz



Date: 26.MAY.2008 16:55:49

High Band Edge Plot on Configuration of IEEE 802.11n-2.4G (40MHz) / 2452 MHz

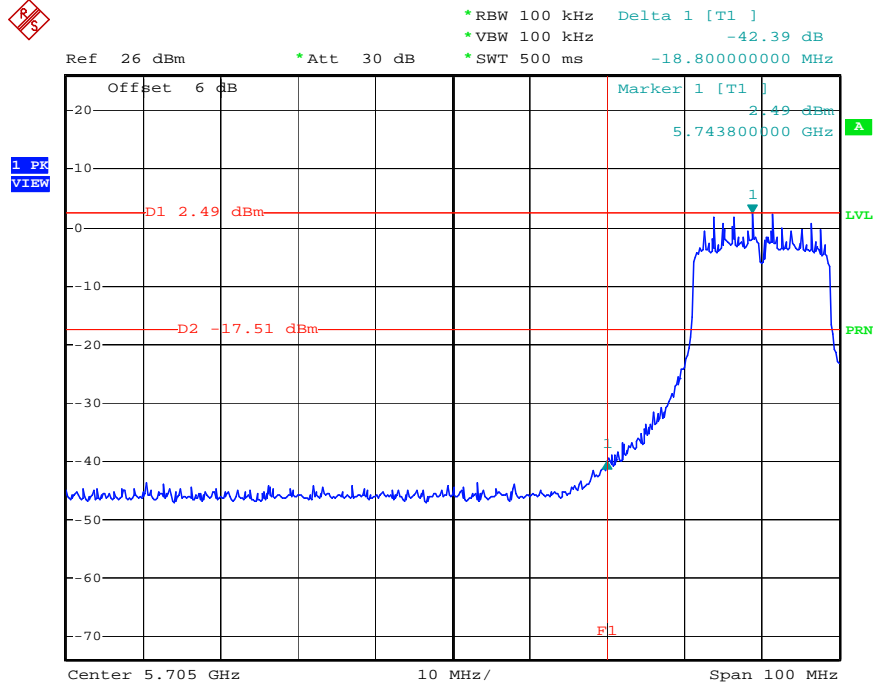


Date: 26.MAY.2008 16:54:36

For Two Chain:

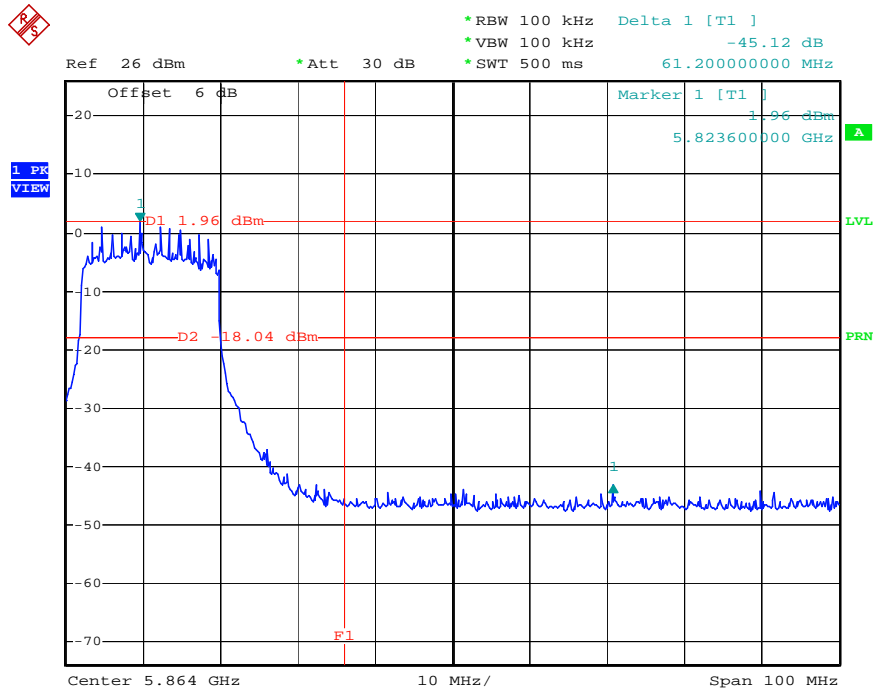
For Emission not in Restricted Band

Low Band Edge Plot on Configuration of IEEE 802.11n-5G Ant. A & B (20MHz) / 5745 MHz



Date: 31.MAY.2008 21:02:40

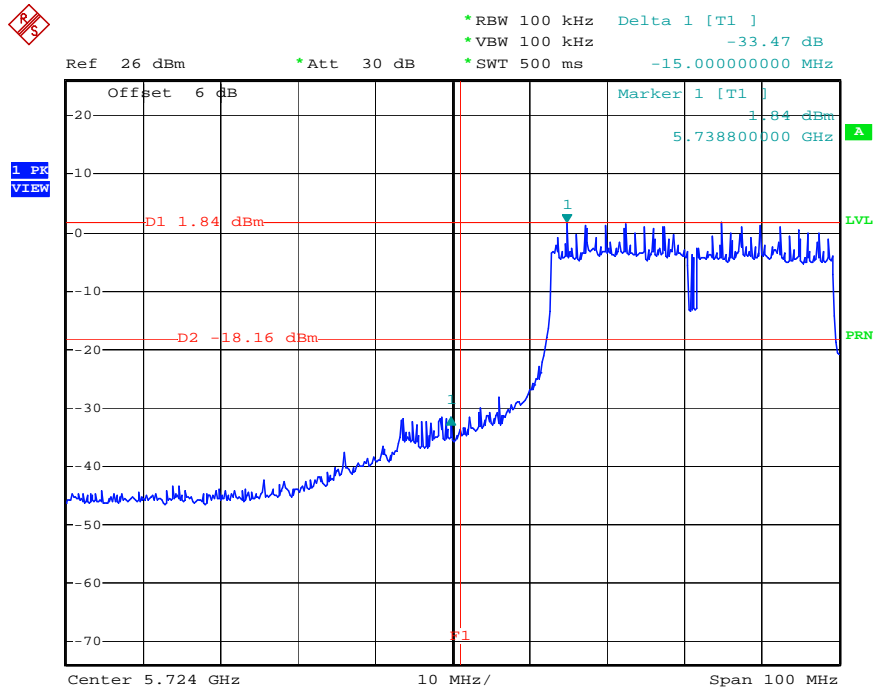
High Band Edge Plot on Configuration of IEEE 802.11n-5G Ant. A & B (20MHz) / 5825 MHz



Date: 31.MAY.2008 20:43:03

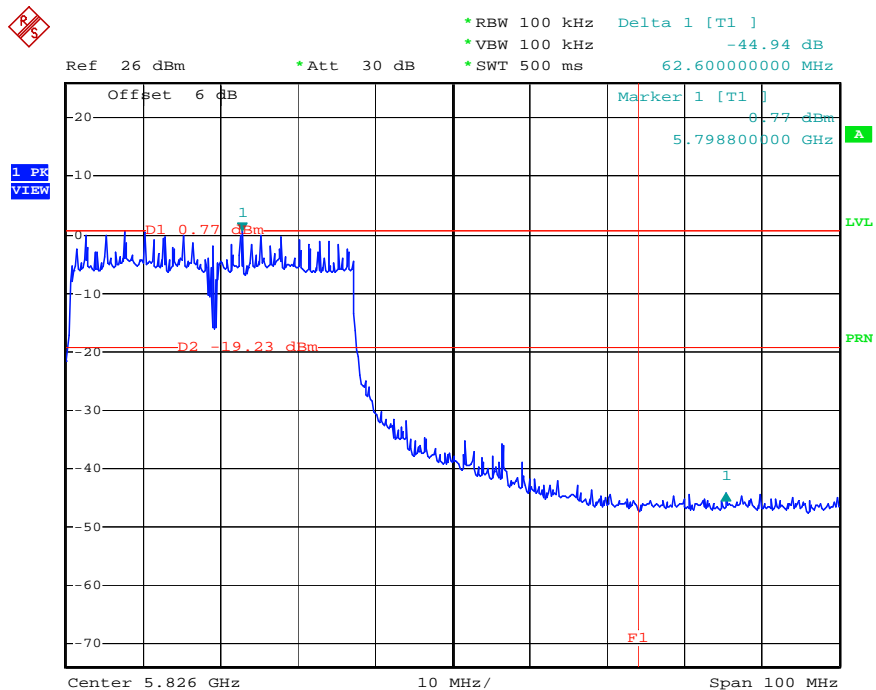


Low Band Edge Plot on Configuration of IEEE 802.11n-5G Ant. A & B (40MHz) / 5755 MHz



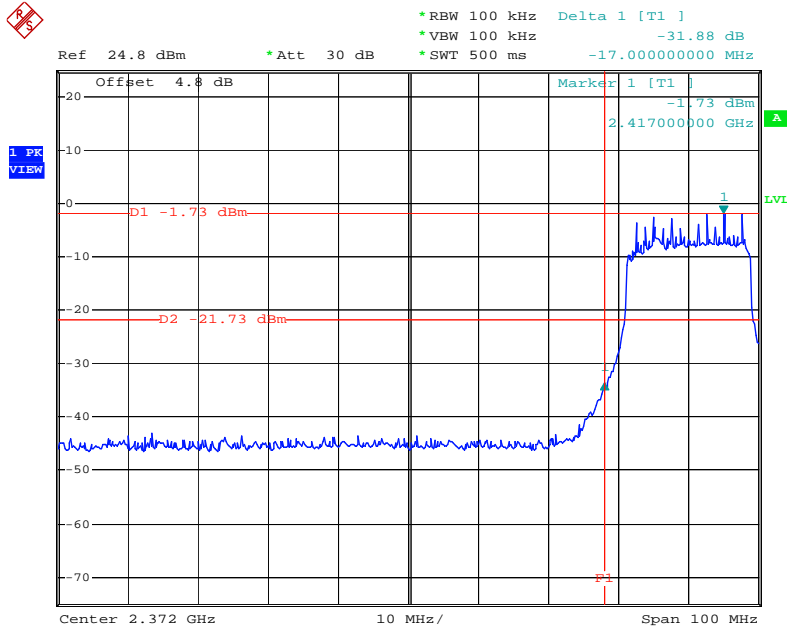
Date: 31.MAY.2008 22:00:22

High Band Edge Plot on Configuration of IEEE 802.11n-5G Ant. A & B (40MHz) / 5795 MHz



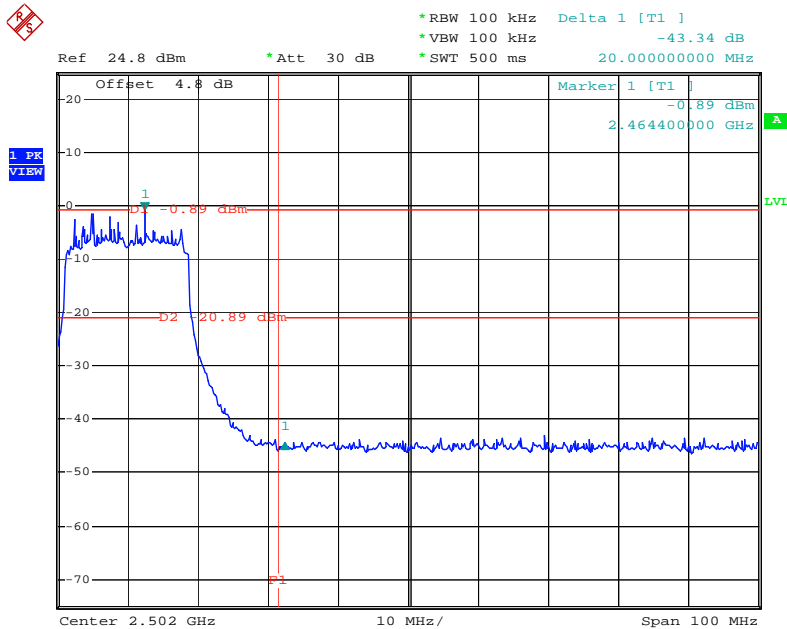
Date: 31.MAY.2008 21:54:39

Low Band Edge Plot on Configuration of IEEE 802.11n-2.4G Ant. A & B (20MHz) / 2412 MHz



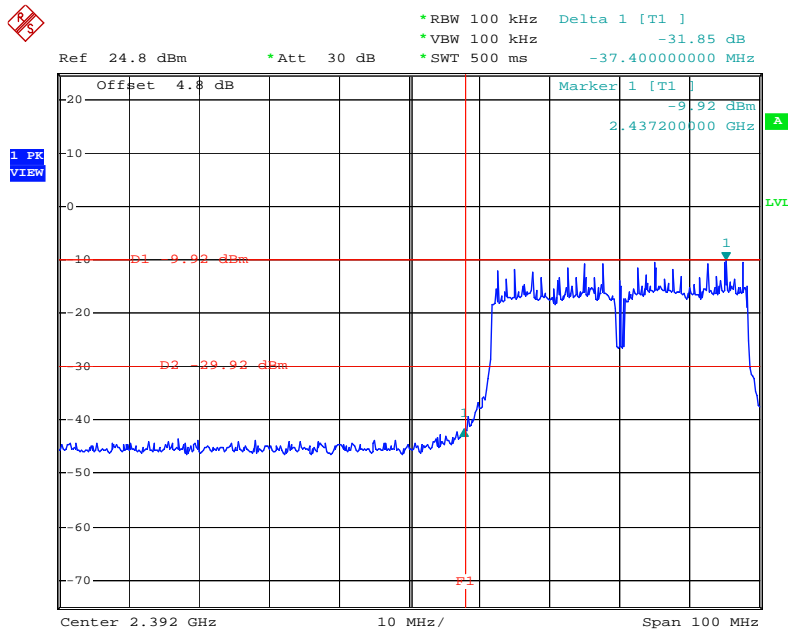
Date: 26.MAY.2008 18:19:45

High Band Edge Plot on Configuration of IEEE 802.11n-2.4G Ant. A & B (20MHz) / 2462 MHz



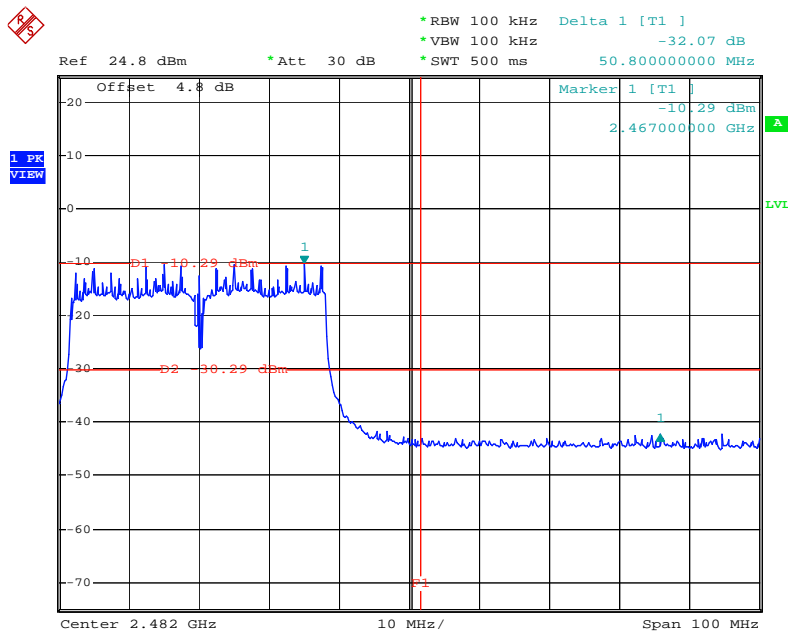
Date: 26.MAY.2008 18:18:26

Low Band Edge Plot on Configuration of IEEE 802.11n-2.4G Ant. A & B (40MHz) / 2422 MHz



Date: 27.MAY.2008 17:38:04

High Band Edge Plot on Configuration of IEEE 802.11n-2.4G Ant. A & B (40MHz) / 2422 MHz



Date: 27.MAY.2008 17:46:10

### **3.7 Antenna Requirements**

#### **3.7.1 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.

#### **3.7.2 Antenna Connector Construction**

Please refer to section 2.3 in this test report; antenna connector complied with the requirements.

**4 LIST OF MEASURING EQUIPMENTS**

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Receiver	R&S	ESCS 30	836858/024	9 kHz - 2.75 GHz	Sep. 11, 2007	Conduction (CO01-LK)
LISN	SCHAFFNER	NNB-41	98087	9 kHz - 30 MHz	Sep. 21, 2007	Conduction (CO01-LK)
RF Cable-CON	Suhner Switzerland	RG223/U	CB017	9 kHz - 30 MHz	Nov. 30, 2007	Conduction (CO01-LK)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP30	100023	9kHz ~ 30GHz	Jan. 10, 2008	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100458	DC ~ 30GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jun. 27, 2007	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 13, 2008	Conducted (TH01-HY)
Temp. and Humidity Chamber	KSON	THS-C3L	612	N/A	Oct. 01, 2007	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2007	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2007	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Nov. 14, 2007	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 10, 2008	Conducted (TH01-HY)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 14, 2007	Radiation (03CH03-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 13, 2008	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	COA9231A	18667	9 kHz - 2 GHz	Jan. 14, 2008	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jun. 07, 2007	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jul. 21, 2008	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100023	9 kHz - 30 GHz	Jan. 10, 2008	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz - 1 GHz	Jul. 21, 2007	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	Mar. 04, 2008	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	Jan.18, 2008	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Dec. 03, 2007	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Dec. 03, 2007	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)

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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	May 04, 2007*	Conducted (TH01-HY)
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5 GHz - 40 GHz	Jan. 22, 2007*	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	May 22, 2008*	Radiation (03CH03-HY)

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

## 5 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 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

6 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.