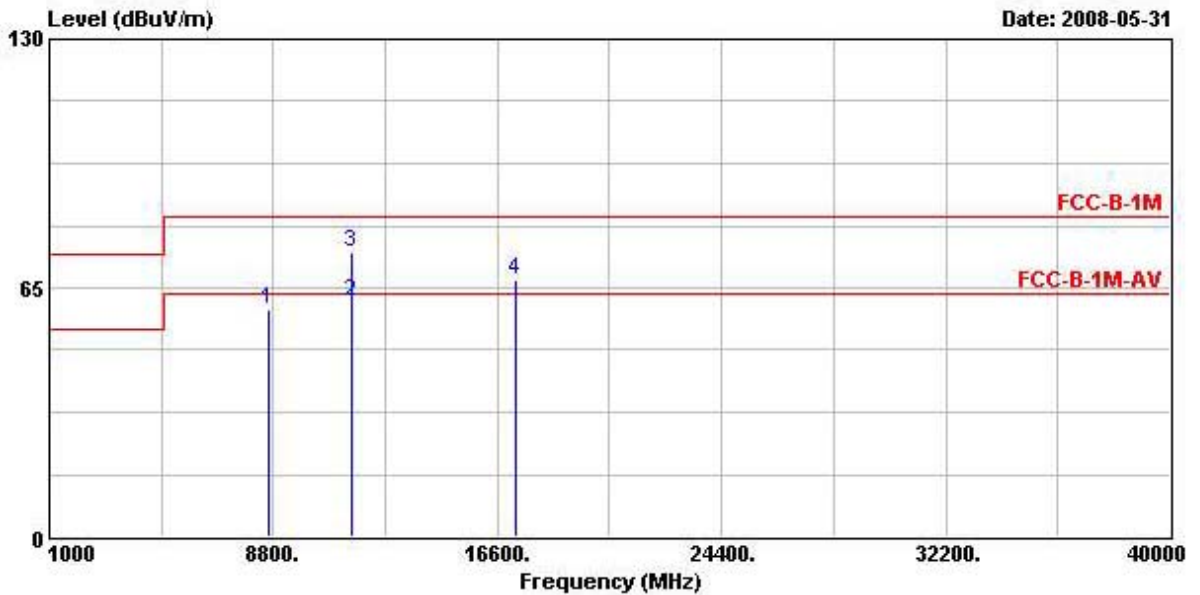


For Two Chain:

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

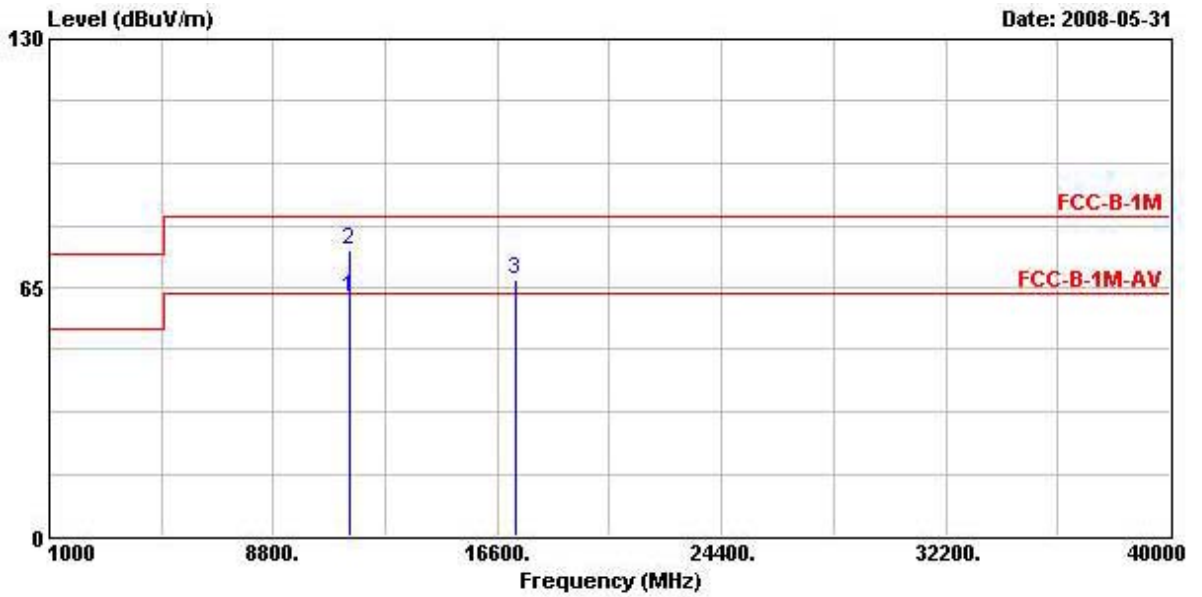
Horizontal



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Remark
	MHz	dBUV/m	Limit	Line	Level	Factor	Loss	Factor
			dB	dBUV/m	dBuV	dB/m	dB	dB
1	8634.000	59.27			48.49	38.38	5.21	32.81 Peak
2 @	11491.100	61.27	-2.27	63.54	47.13	39.68	6.78	32.31 AVERAGE
3	11491.100	74.22	-9.32	83.54	60.08	39.68	6.78	32.31 Peak
4	17235.000	67.18			44.66	43.26	7.80	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

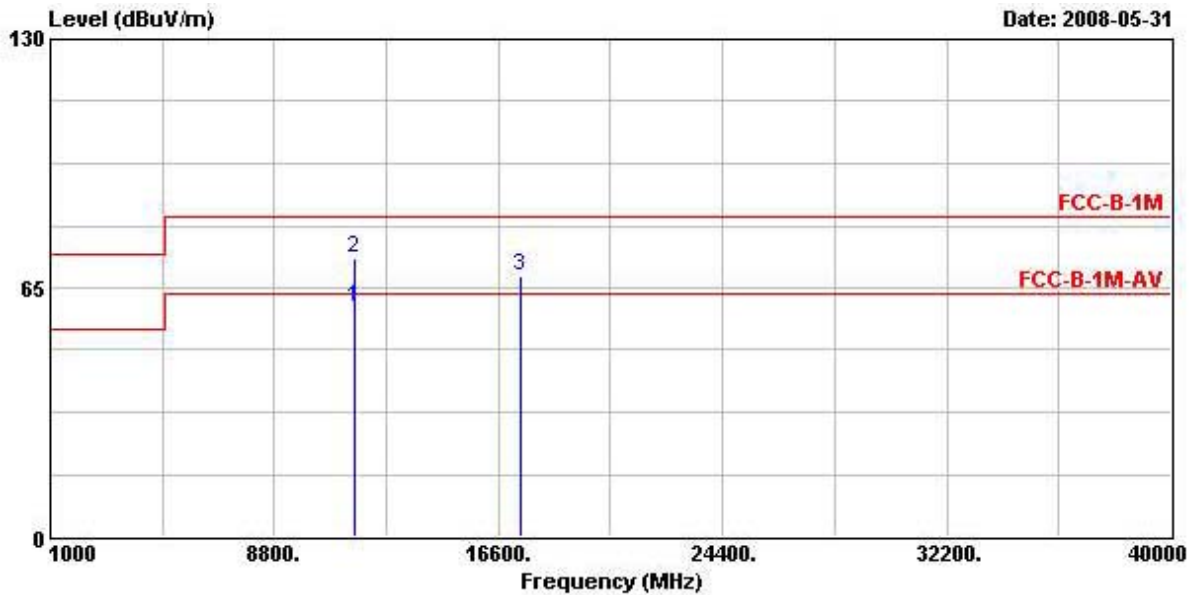


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	
1	11488.300	62.23	-1.31	63.54	48.08	39.68	6.78	32.31	AVERAGE
2	11488.300	74.98	-8.56	83.54	60.84	39.68	6.78	32.31	Peak
3	17235.000	66.97			44.46	43.26	7.80	28.55	PEAK

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°C	Humidity	54%
Test Engineer	Duncan	Configuration	5G 802.11n CH 157 (20MHz)

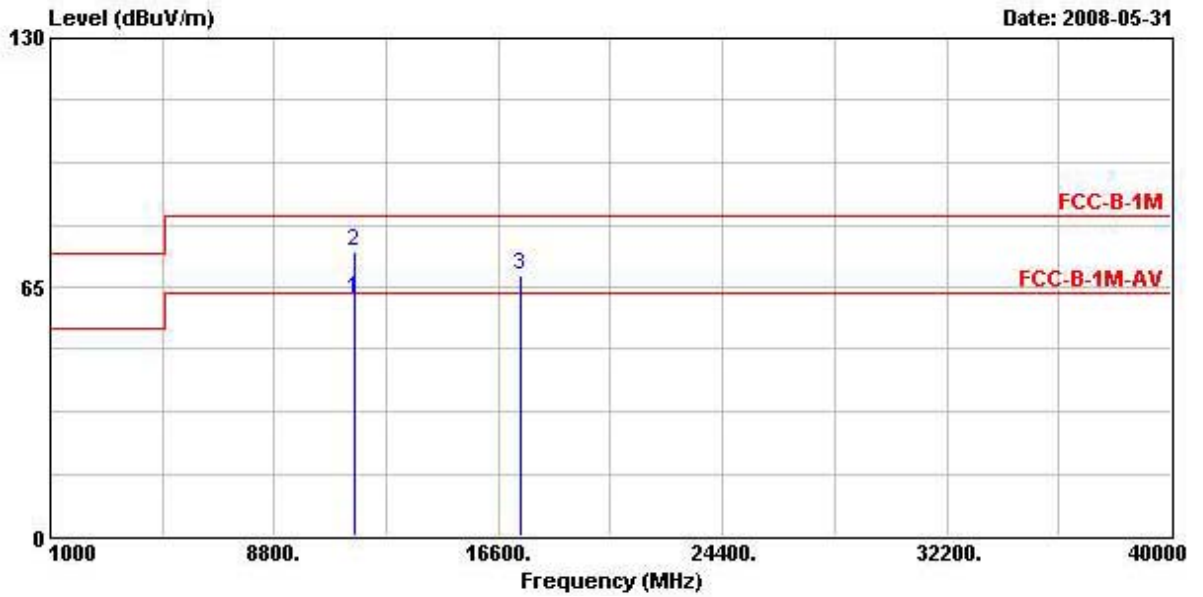
Horizontal



	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	11570.200	59.64	-3.90	63.54	45.85	39.63	6.68	32.52	AVERAGE
2	11570.200	72.68	-10.86	83.54	58.89	39.63	6.68	32.52	Peak
3	17351.000	68.06			44.56	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

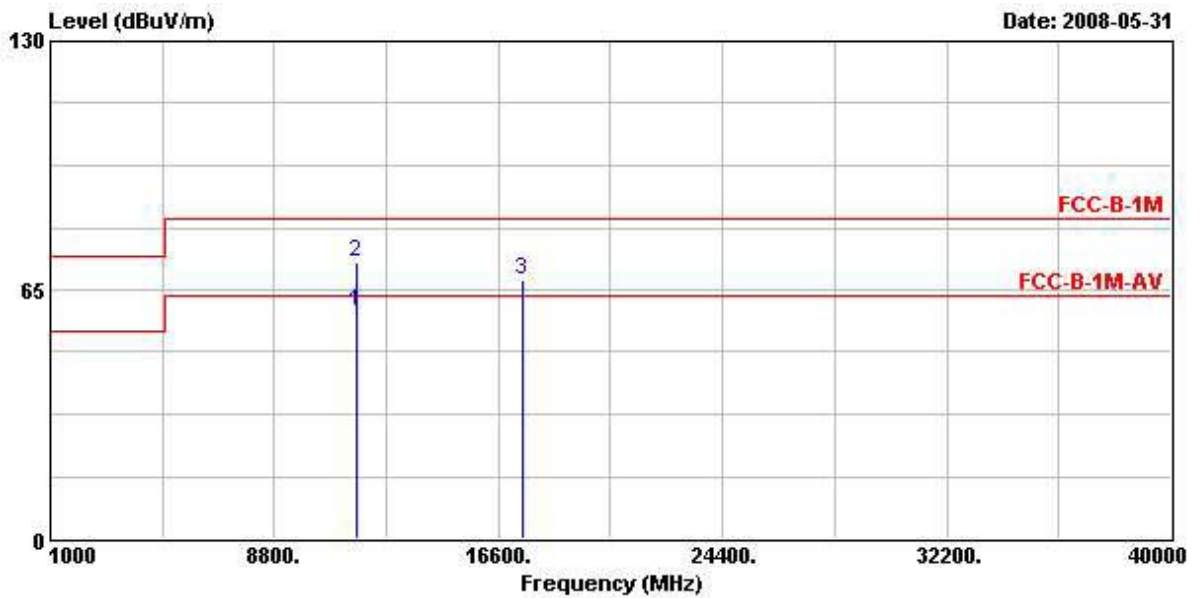


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11567.900	61.92	-1.62	63.54	48.11	39.63	6.68	32.49	AVERAGE
2	11567.900	74.34	-9.20	83.54	60.53	39.63	6.68	32.49	Peak
3	17355.000	67.84			44.34	44.24	7.82	28.56	PEAK

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°C	Humidity	54%
Test Engineer	Duncan	Configuration	5G 802.11n CH 165 (20MHz)

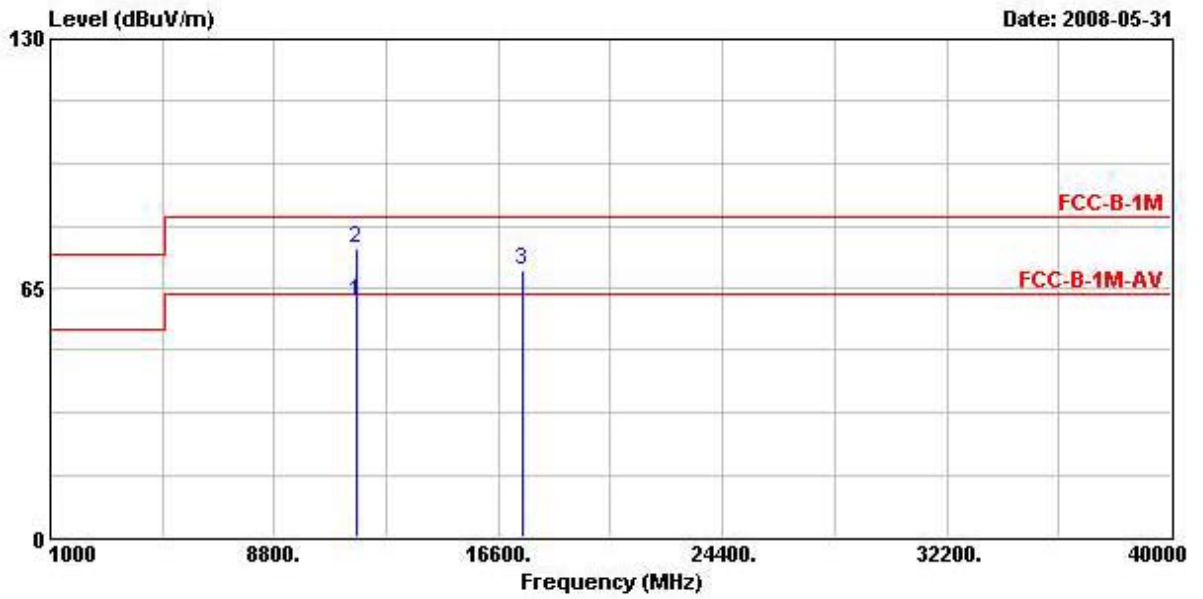
Horizontal



	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	11650.500	59.32	-4.22	63.54	45.78	39.56	6.57	32.59	AVERAGE
2	11650.500	72.11	-11.43	83.54	58.57	39.56	6.57	32.59	Peak
3	17471.000	67.73			43.25	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

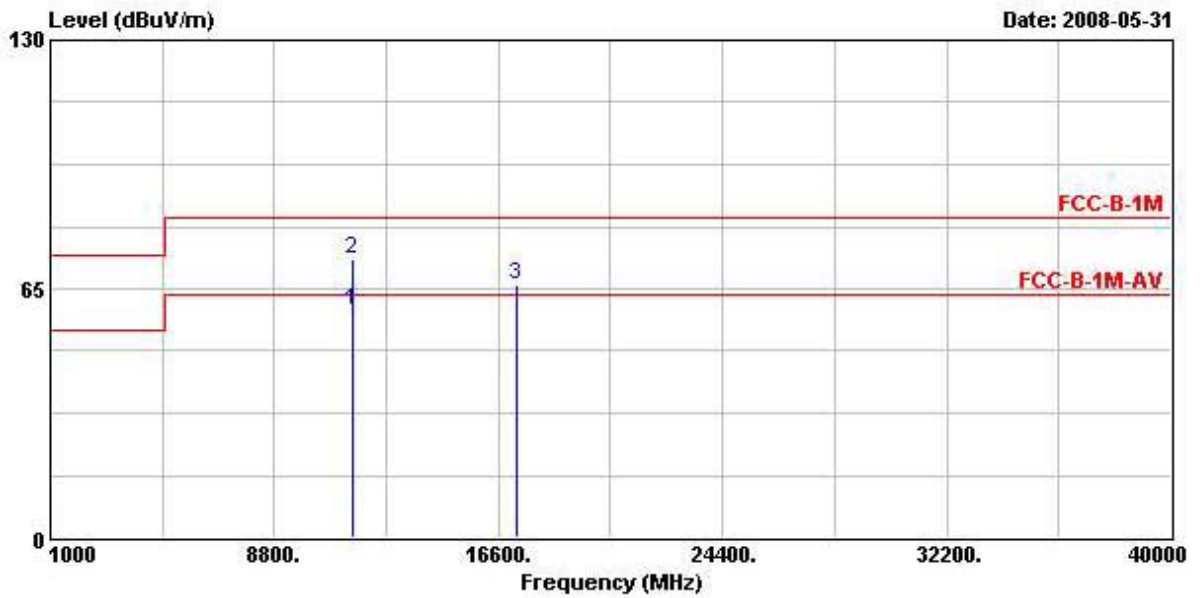


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11649.000	61.63	-1.91	63.54	48.08	39.56	6.57	32.59	AVERAGE
2	11649.000	75.07	-8.47	83.54	61.53	39.56	6.57	32.59	Peak
3	17471.000	69.61			45.13	45.22	7.84	28.57	PEAK

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°C	Humidity	54%
Test Engineer	Duncan	Configuration	5G 802.11n CH 151 (40MHz)

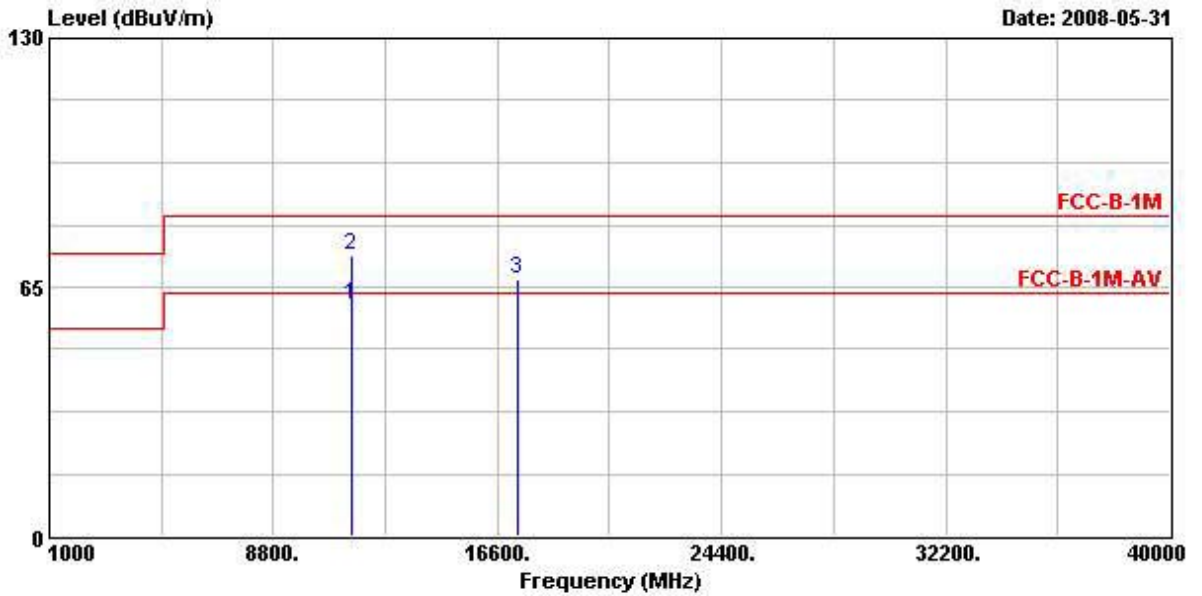
Horizontal



	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	11510.000	59.18	-4.36	63.54	45.20	39.70	6.73	32.45	AVERAGE
2	11510.000	72.84	-10.70	83.54	58.86	39.70	6.73	32.45	Peak
3	17265.000	66.08			43.28	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).

Vertical



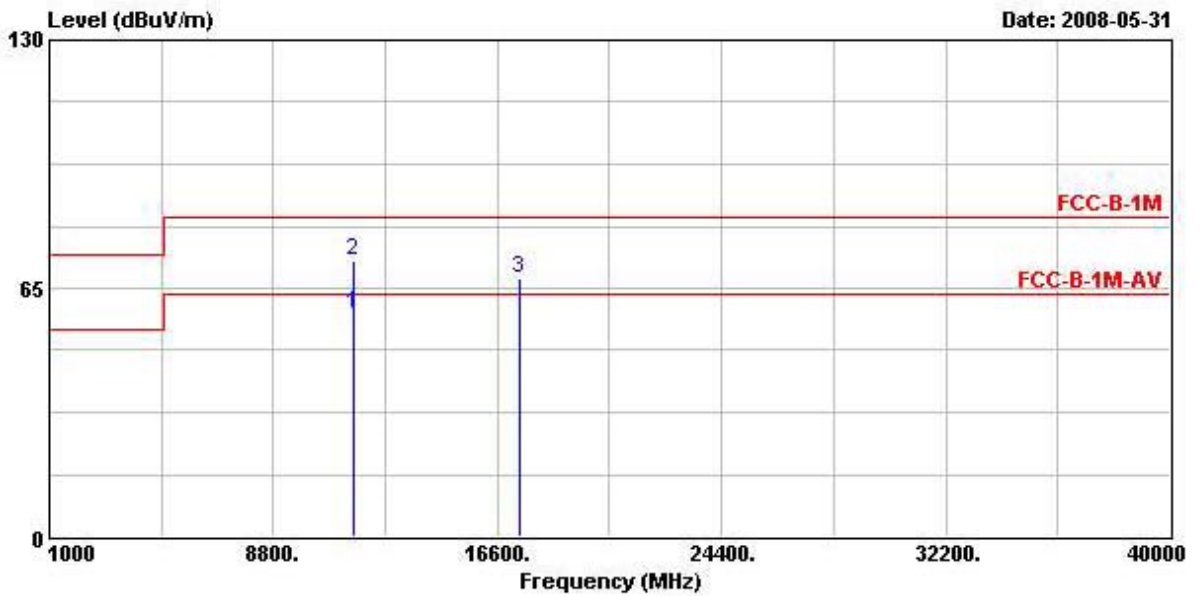
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11510.600	60.24	-3.30	63.54	46.26	39.70	6.73	32.45	AVERAGE
2	11510.600	73.13	-10.41	83.54	59.15	39.70	6.73	32.45	Peak
3	17269.000	67.05			44.25	43.54	7.81	28.55	PEAK

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).



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

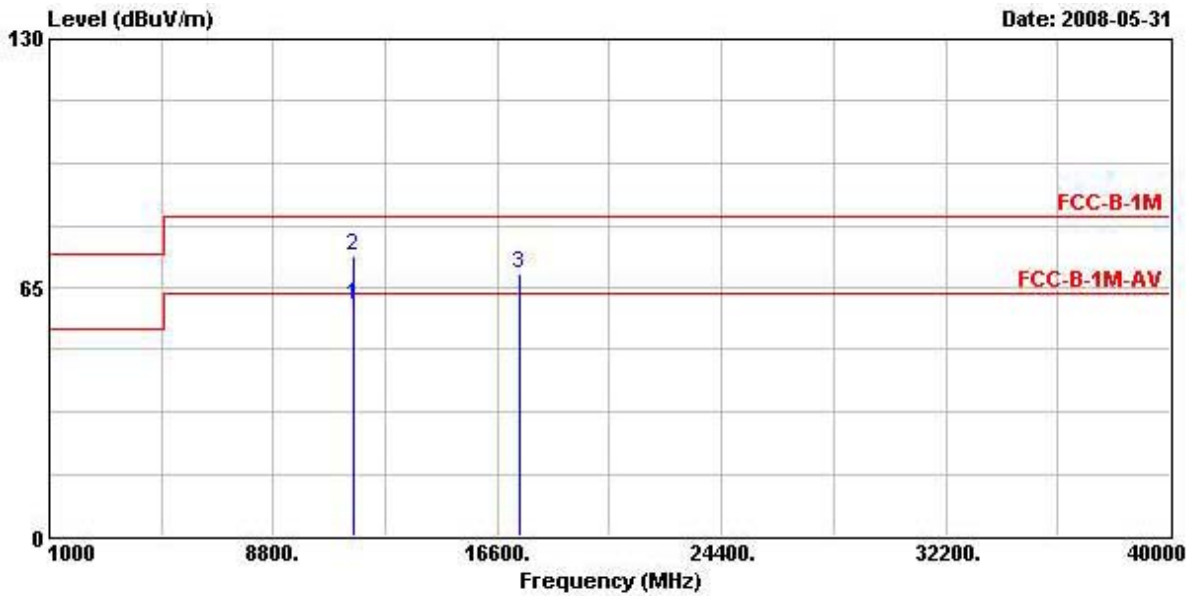
**Horizontal**



	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	11589.600	58.41	-5.13	63.54	44.69	39.61	6.62	32.52	AVERAGE
2	11589.600	72.01	-11.53	83.54	58.29	39.61	6.62	32.52	Peak
3	17385.000	67.60			43.82	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

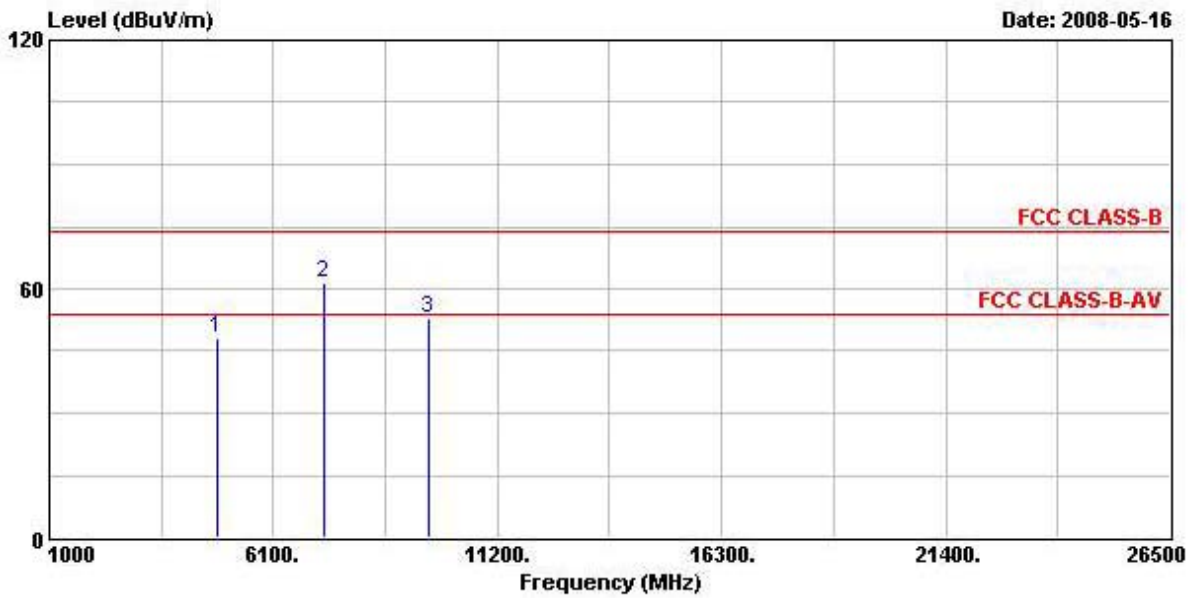


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	11589.800	60.45	-3.09	63.54	46.73	39.61	6.62	32.52	AVERAGE
2	11589.800	73.41	-10.13	83.54	59.69	39.61	6.62	32.52	Peak
3	17389.000	68.46			44.68	44.52	7.83	28.57	PEAK

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 16, 2008	Test Site No.	03CH03-HY
Temperature	26°C	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 1 (20MHz)

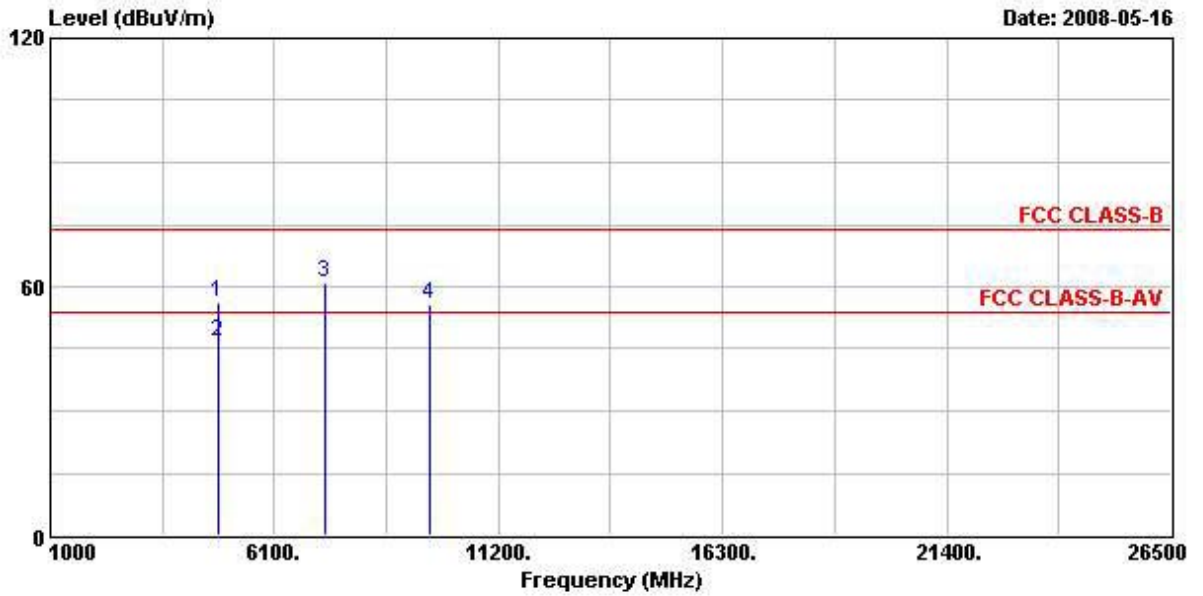
Horizontal



	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	4828.000	48.32	-5.68	54.00	43.71	33.06	4.03	32.47	PK
2	7236.000	61.52	-12.48	74.00	54.89	35.78	3.67	32.82	PEAK
3	9648.000	53.09			42.42	38.41	5.21	32.95	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

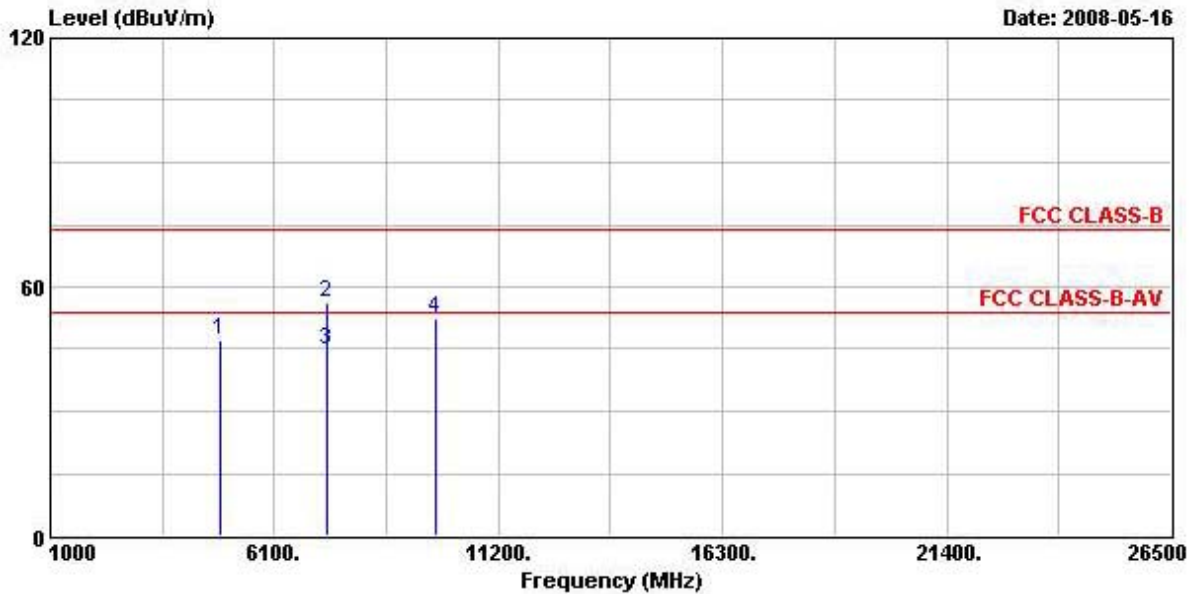


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4821.900	56.41	-17.59	74.00	51.80	33.06	4.03	32.47	Peak
2	4821.900	46.54	-7.46	54.00	41.93	33.06	4.03	32.47	AVERAGE
3	7236.000	60.76	-13.24	74.00	54.12	35.78	3.67	32.82	PEAK
4	9648.000	55.67			45.00	38.41	5.21	32.95	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 16, 2008	Test Site No.	03CH03-HY
Temperature	26°C	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 6 (20MHz)

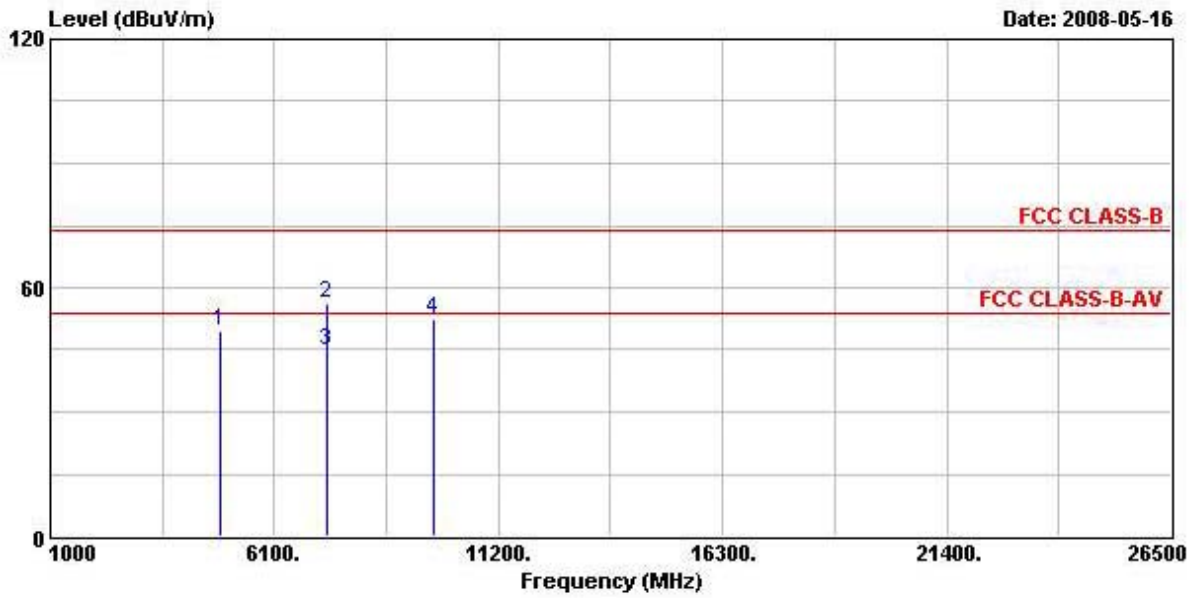
Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4882.000	47.28	-6.72	54.00	42.57	33.16	4.02	32.47	PK
2	7316.000	55.97	-18.03	74.00	48.94	35.99	3.91	32.87	PEAK
3	7316.000	44.62	-9.38	54.00	37.59	35.99	3.91	32.87	Average
4	9752.000	52.15			41.15	38.62	5.31	32.92	PEAK

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

Vertical

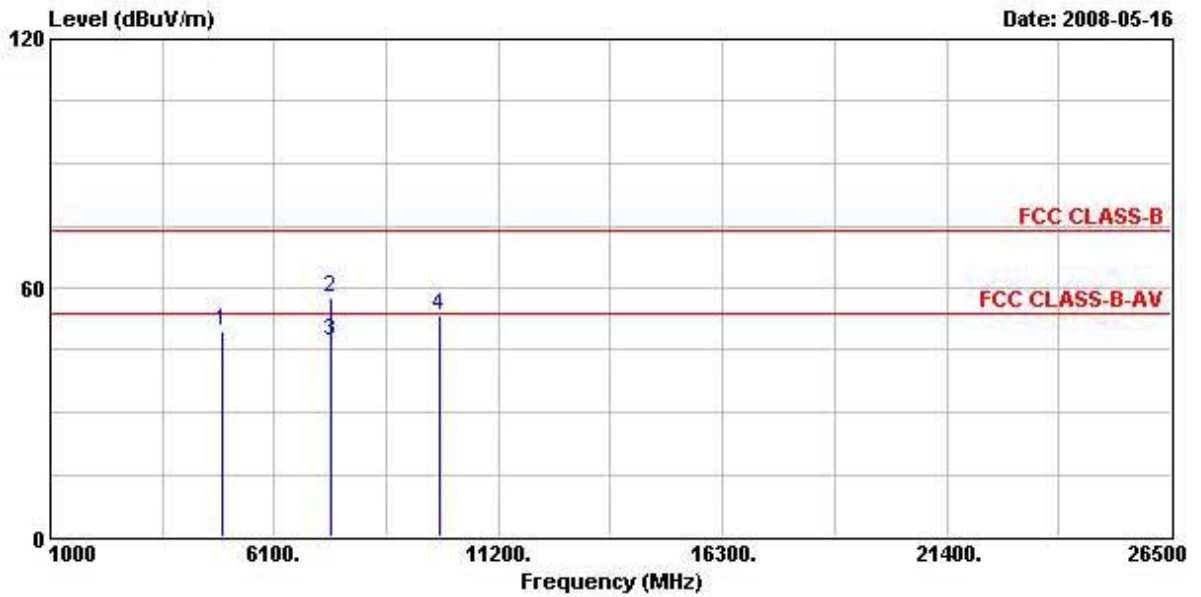


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	
1	4870.000	49.58	-4.42	54.00	44.86	33.16	4.02	32.47	PK
2	7308.000	56.23	-17.77	74.00	49.22	35.94	3.91	32.85	PEAK
3	7308.000	45.00	-9.00	54.00	37.99	35.94	3.91	32.85	Average
4	9744.000	52.48			41.51	38.58	5.31	32.92	PEAK

Note: An item 4 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 16, 2008	Test Site No.	03CH03-HY
Temperature	26°C	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 11 (20MHz)

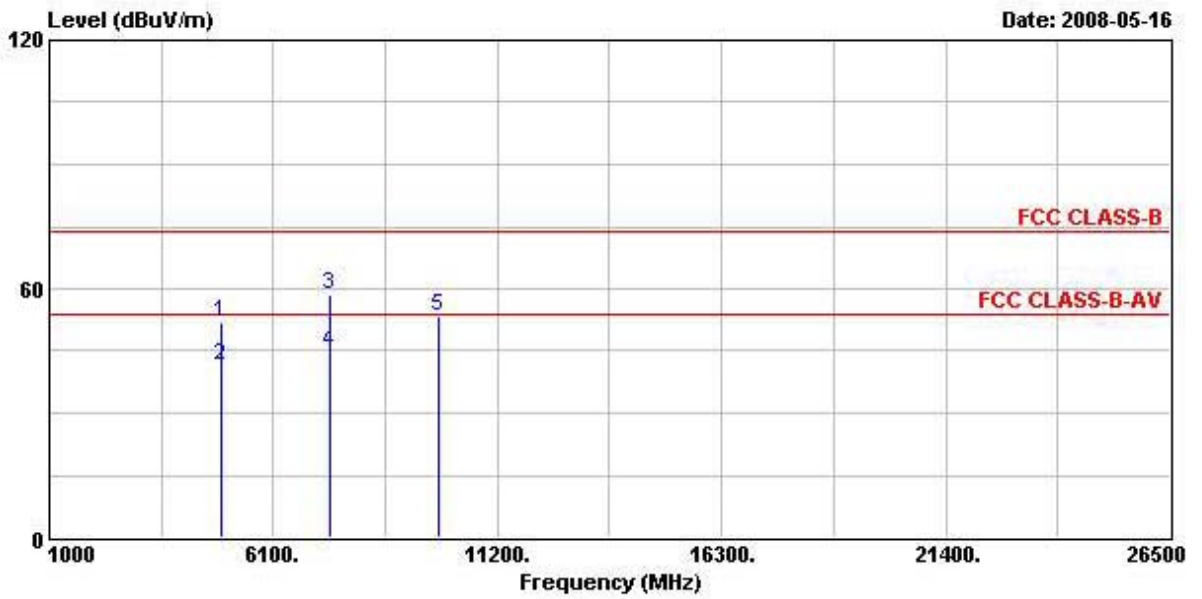
Horizontal



	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	4924.000	49.52	-4.48	54.00	44.70	33.26	4.02	32.46	PK
2	7384.000	57.50	-16.50	74.00	50.09	36.15	4.16	32.90	PEAK
3	7384.000	47.12	-6.88	54.00	39.71	36.15	4.16	32.90	Average
4	9852.000	53.44			42.05	38.82	5.47	32.89	PEAK

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

Vertical



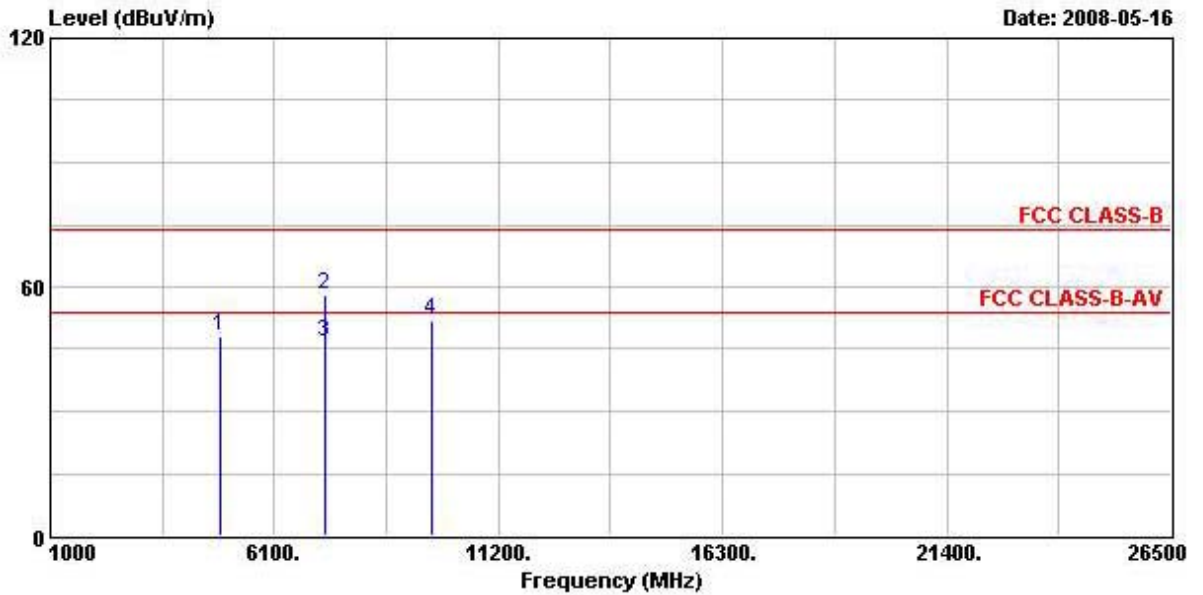
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4924.000	52.05	-21.95	74.00	47.24	33.26	4.02	32.46	PEAK
2	4924.000	41.43	-12.57	54.00	36.62	33.26	4.02	32.46	Average
3	7385.900	58.63	-15.37	74.00	51.22	36.15	4.16	32.90	Peak
4 @	7385.900	44.57	-9.43	54.00	37.17	36.15	4.16	32.90	AVERAGE
5	9848.000	53.37			42.00	38.79	5.47	32.89	PEAK

Note: An item 5 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 16, 2008	Test Site No.	03CH03-HY
Temperature	26°C	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 3 (40MHz)

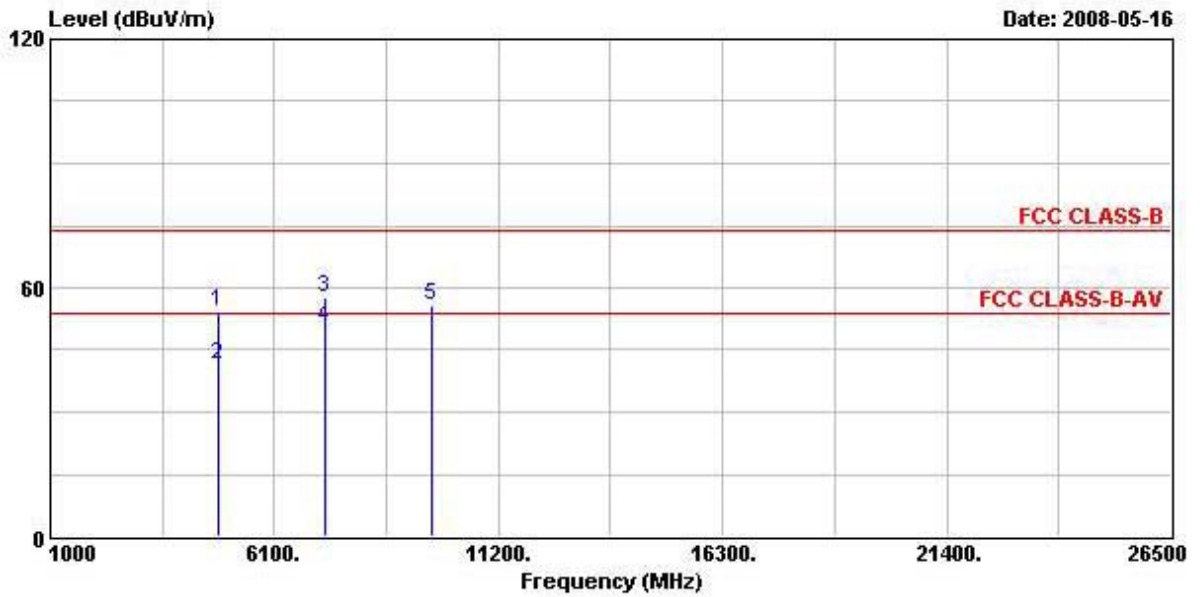
Horizontal



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Remark
	MHz	dBUV/m	Limit	Line	Level	Loss	Factor	
			dB	dBUV/m	dBuV	dB	dB	
1 @	4856.000	47.87	-6.13	54.00	43.19	33.12	4.02	32.47 PK
2	7264.000	58.17	-15.83	74.00	51.39	35.82	3.79	32.83 PEAK
3 @	7264.000	46.78	-7.22	54.00	40.00	35.82	3.79	32.83 Average
4	9684.000	51.88			41.07	38.48	5.26	32.94 PEAK

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

Vertical

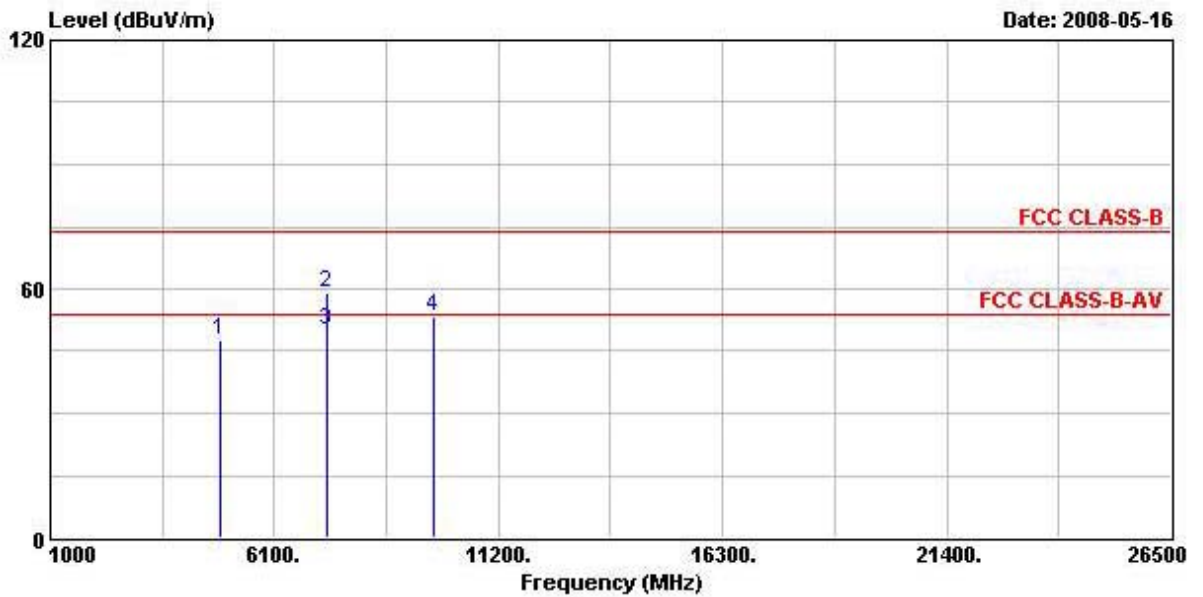


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4844.000	54.16	-19.84	74.00	49.52	33.09	4.02	32.47	PEAK
2	4844.000	41.34	-12.66	54.00	36.70	33.09	4.02	32.47	Average
3	7260.000	57.85	-16.15	74.00	51.06	35.82	3.79	32.82	PEAK
4 @	7260.000	50.69	-3.31	54.00	43.89	35.82	3.79	32.82	Average
5	9668.000	55.62			44.91	38.44	5.21	32.94	PEAK

Note: An item 5 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 16, 2008	Test Site No.	03CH03-HY
Temperature	26°C	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 6 (40MHz)

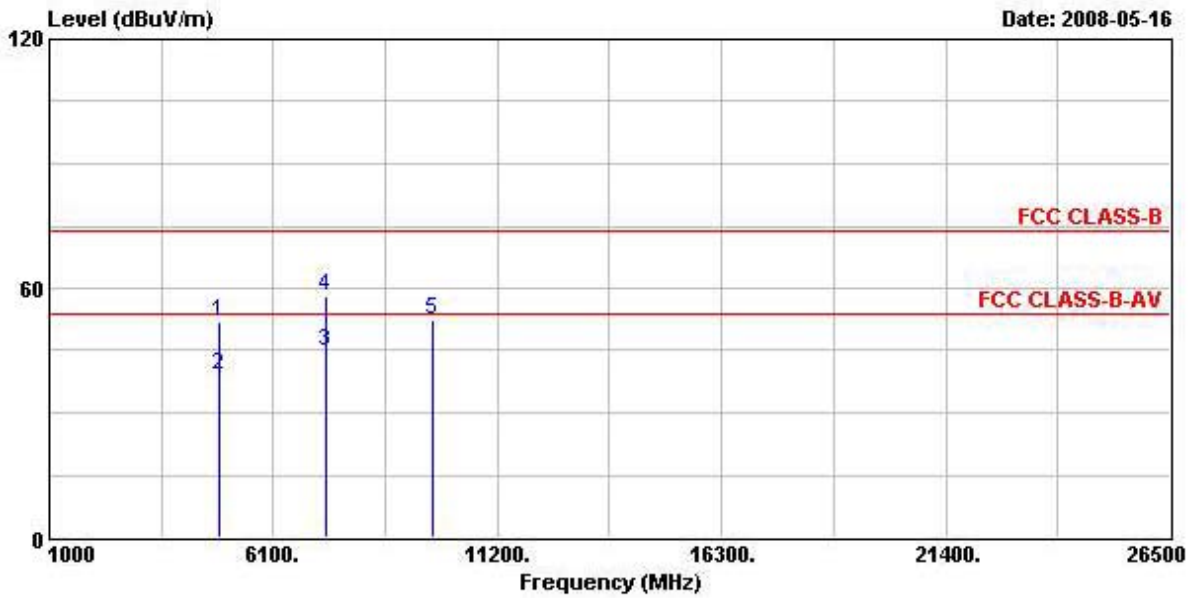
Horizontal



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	
			dB	dBuV/m	dBuV	dB	dB	
1	4878.000	47.73	-6.27	54.00	43.02	33.16	4.02	32.47 PK
2	7312.000	59.07	-14.93	74.00	52.08	35.94	3.91	32.87 PEAK
3	7312.000	49.80	-4.20	54.00	42.81	35.94	3.91	32.87 Average
4	9740.000	53.18			42.21	38.58	5.31	32.92 PEAK

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

Vertical

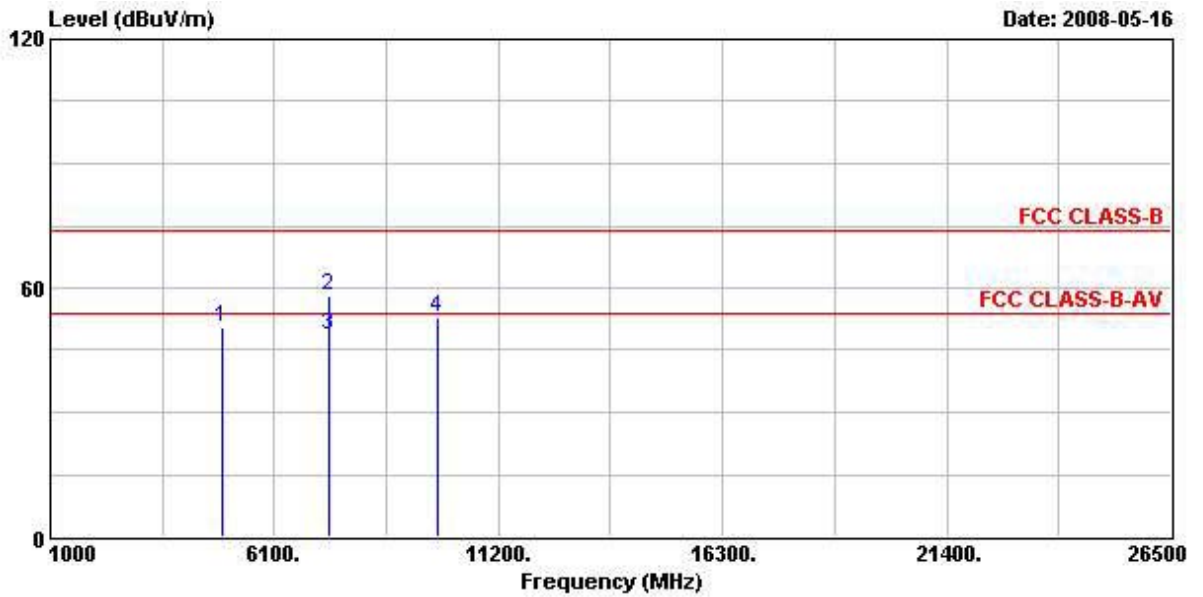


	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4876.000	51.97	-22.03	74.00	47.26	33.16	4.02	32.47	PEAK
2	4876.000	38.98	-15.02	54.00	34.26	33.16	4.02	32.47	Average
3 @	7310.000	44.89	-9.11	54.00	37.88	35.94	3.91	32.85	AVERAGE
4	7310.000	58.11	-15.89	74.00	51.10	35.94	3.91	32.85	Peak
5	9744.000	52.26			41.29	38.58	5.31	32.92	PEAK

Note: An item 5 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 17, 2008	Test Site No.	03CH03-HY
Temperature	26°C	Humidity	54%
Test Engineer	Duncan	Configuration	2.4G 802.11n CH 9 (40MHz)

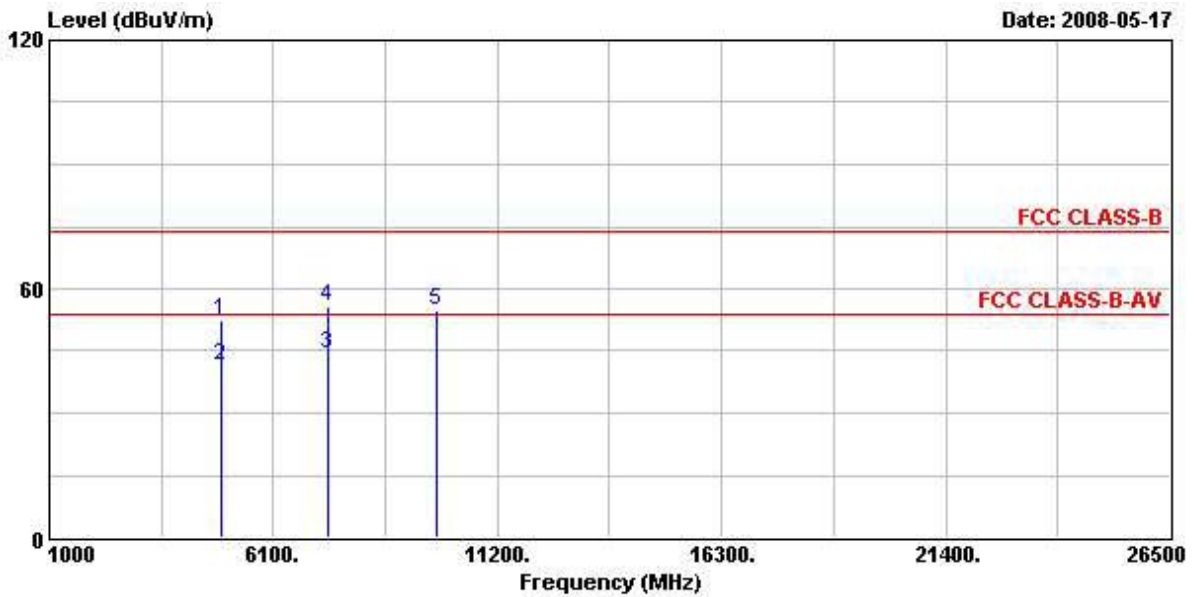
Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBUV/m	dB	dBUV/m	dBuV	dB/m	dB	dB	
1	4908.000	50.24	-3.76	54.00	45.46	33.23	4.02	32.47	PK
2	7352.000	58.18	-15.82	74.00	50.96	36.07	4.03	32.88	PEAK
3	7352.000	48.65	-5.35	54.00	41.43	36.07	4.03	32.88	Average
4	9812.000	52.81			41.58	38.72	5.42	32.90	PEAK

Note: An item 4 is on an 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	4900.000	52.32	-21.68	74.00	47.57	33.19	4.02	32.47	PEAK
2	4900.000	41.41	-12.59	54.00	36.66	33.19	4.02	32.47	Average
3 @	7350.000	44.47	-9.53	54.00	37.25	36.07	4.03	32.88	Average
4	7350.000	55.64	-18.36	74.00	48.42	36.07	4.03	32.88	PEAK
5	9808.000	54.65			43.43	38.72	5.42	32.91	PEAK

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

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.

**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 27, 2008	<b>Test Site No.</b>	03CH03-HY
<b>Temperature</b>	26°C	<b>Humidity</b>	54%
<b>Test Engineer</b>	Duncan	<b>Configuration</b>	2.4G 802.11n CH 1, 6, 11 (20MHz)

**Channel 1**

	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	67.65	-6.35	74.00	37.17	28.29	2.19	0.00	Peak
2 @	2417.540	108.84			78.33	28.33	2.19	0.00	Peak
1 @	2390.000	52.01	-1.99	54.00	21.53	28.29	2.19	0.00	Average
2 @	2417.540	99.53			69.02	28.33	2.19	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 @	2388.850	71.04	-2.96	74.00	40.56	28.29	2.19	0.00	Peak
2 @	2431.980	114.30			83.72	28.36	2.22	0.00	Peak
3	2485.370	64.45	-9.55	74.00	33.74	28.47	2.25	0.00	Peak
1 @	2390.000	51.55	-2.45	54.00	21.07	28.29	2.19	0.00	Average
2 @	2431.980	105.15			74.57	28.36	2.22	0.00	Average
3 @	2483.500	48.63	-5.37	54.00	17.92	28.47	2.25	0.00	Average

An item 2 is Fundamental Emissions.

**Channel 11**

	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 @	2461.810	111.43			80.78	28.43	2.22	0.00	Peak
2 @	2483.660	70.08	-3.92	74.00	39.37	28.47	2.25	0.00	Peak
1 @	2461.810	101.88			71.23	28.43	2.22	0.00	Average
2 @	2483.500	52.46	-1.54	54.00	21.75	28.47	2.25	0.00	Average

An item 1 is Fundamental Emissions.



<b>Test date</b>	May 23, 2008	<b>Test Site No.</b>	03CH03-HY
<b>Temperature</b>	26°C	<b>Humidity</b>	54%
<b>Test Engineer</b>	Duncan	<b>Configuration</b>	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 @	2388.660	69.66	-4.34	74.00	39.18	28.29	2.19	0.00	Peak
2 @	2424.380	103.51			72.93	28.36	2.22	0.00	Peak
1 @	2390.000	52.44	-1.56	54.00	21.96	28.29	2.19	0.00	Average
2 @	2424.380	93.76			63.18	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	66.59	-7.41	74.00	36.11	28.29	2.19	0.00	Peak
2 @	2428.370	106.06			75.48	28.36	2.22	0.00	Peak
3	2484.610	62.77	-11.23	74.00	32.06	28.47	2.25	0.00	Peak
1 @	2390.000	52.61	-1.39	54.00	22.13	28.29	2.19	0.00	Average
2 @	2428.370	96.82			66.24	28.36	2.22	0.00	Average
3 @	2484.610	48.97	-5.03	54.00	18.26	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 @	2446.610	102.63			72.02	28.40	2.22	0.00	Peak
2 @	2483.660	65.82	-8.18	74.00	35.11	28.47	2.25	0.00	Peak
1 @	2446.610	92.68		0	62.07	28.40	2.22	0.00	Average
2 @	2492.020	51.21	-2.79	54.00	20.46	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 24, 2008	<b>Test Site No.</b>	03CH03-HY
<b>Temperature</b>	26°C	<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**

	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	70.20	-3.80	74.00	39.72	28.29	2.19	0.00	Peak
2 @	2417.540	113.02			82.51	28.33	2.19	0.00	Peak
1 @	2390.000	52.62	-1.38	54.00	22.14	28.29	2.19	0.00	Average
2 @	2417.540	101.71			71.20	28.33	2.19	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 @	2386.570	68.86	-5.14	74.00	38.38	28.29	2.19	0.00	Peak
2 @	2436.540	117.79			87.18	28.40	2.22	0.00	Peak
3 @	2485.180	66.12	-7.88	74.00	35.41	28.47	2.25	0.00	Peak
1 @	2390.000	52.47	-1.53	54.00	21.99	28.29	2.19	0.00	Average
2 @	2435.780	106.86			76.28	28.36	2.22	0.00	Average
3 @	2483.500	51.75	-2.25	54.00	21.04	28.47	2.25	0.00	Average

An item 2 is Fundamental Emissions.

**Channel 11**

	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 @	2458.580	111.14			80.49	28.43	2.22	0.00	Peak
2 @	2483.660	68.38	-5.62	74.00	37.67	28.47	2.25	0.00	Peak
1 @	2458.580	100.26			69.61	28.43	2.22	0.00	Average
2 @	2483.500	52.54	-1.46	54.00	21.83	28.47	2.25	0.00	Average

An item 1 is Fundamental Emissions.

<b>Test date</b>	May 26, 2008	<b>Test Site No.</b>	03CH03-HY
<b>Temperature</b>	26°C	<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	67.22	-6.78	74.00	36.74	28.29	2.19	0.00	Peak
2 @	2412.980	105.58			75.07	28.33	2.19	0.00	Peak
1 @	2382.010	52.25	-1.75	54.00	21.84	28.26	2.16	0.00	Average
2 @	2412.980	95.00			64.49	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 @	2388.090	65.42	-8.58	74.00	34.94	28.29	2.19	0.00	Peak
2 @	2432.740	107.81			77.23	28.36	2.22	0.00	Peak
3	2485.180	63.29	-10.71	74.00	32.58	28.47	2.25	0.00	Peak
1 @	2390.000	51.58	-2.42	54.00	21.10	28.29	2.19	0.00	Average
2 @	2432.740	96.60			66.02	28.36	2.22	0.00	Average
3 @	2486.130	51.15	-2.85	54.00	20.44	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 @	2440.340	105.22			74.61	28.40	2.22	0.00	Peak
2 @	2483.500	67.44	-6.56	74.00	36.73	28.47	2.25	0.00	Peak
1 @	2440.340	93.66			63.05	28.40	2.22	0.00	Average
2 @	2492.020	52.40	-1.60	54.00	21.65	28.50	2.25	0.00	Average

An item 1 is Fundamental Emissions.

Note:

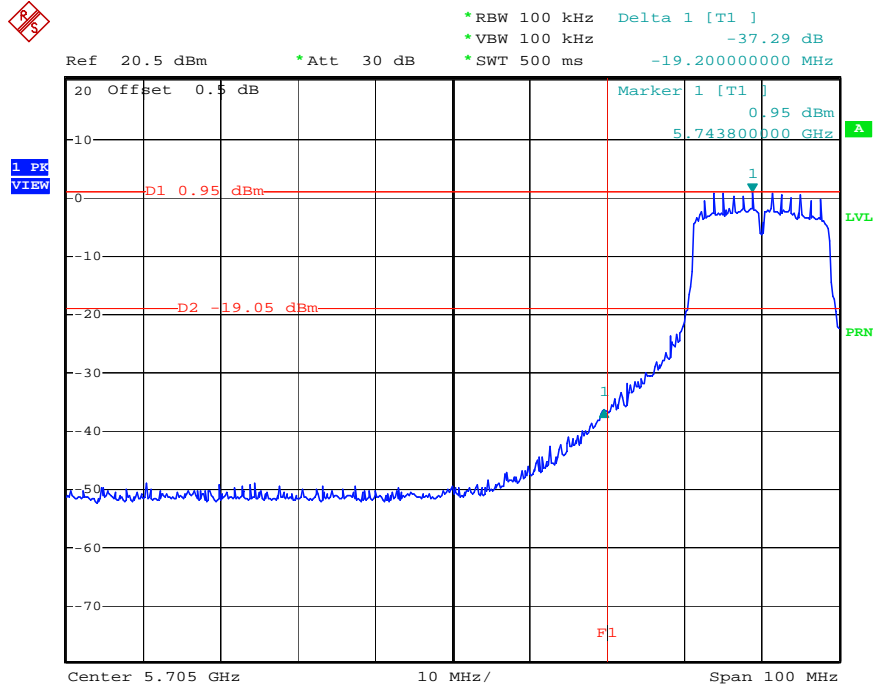
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

For Single Chain:

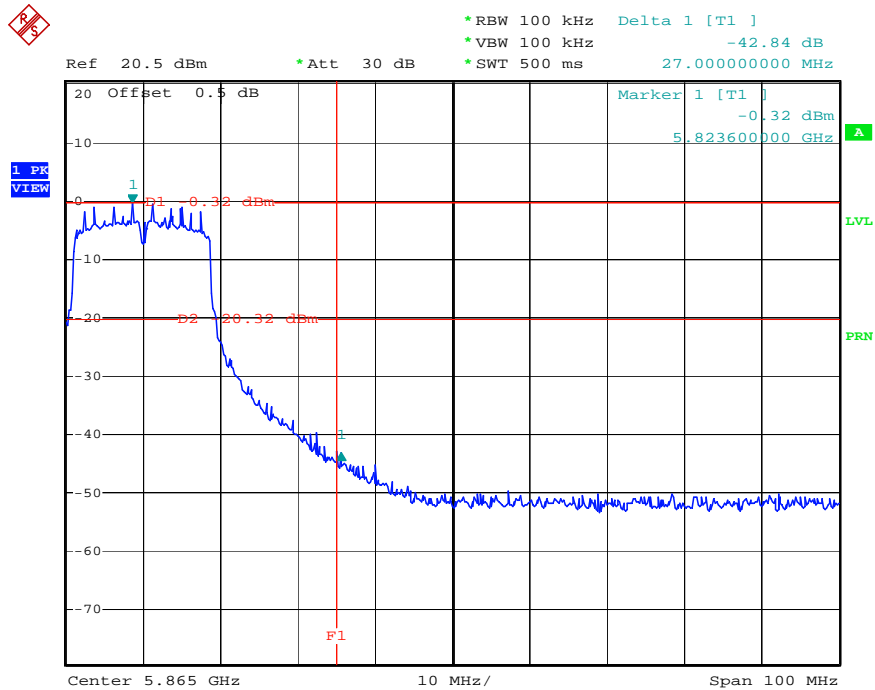
For Emission not in Restricted Band

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



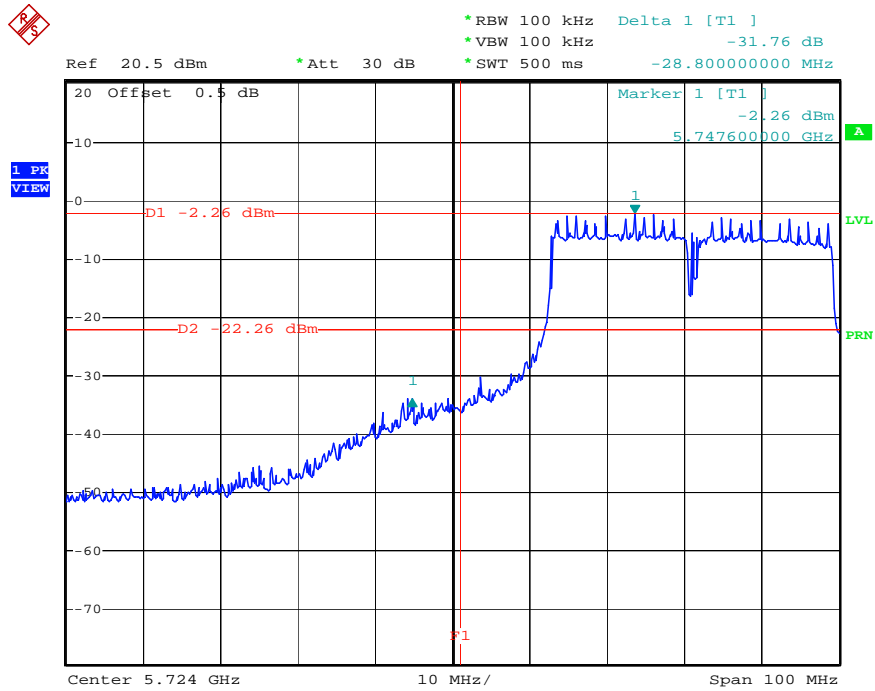
Date: 1.JUN.2008 06:15:13

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



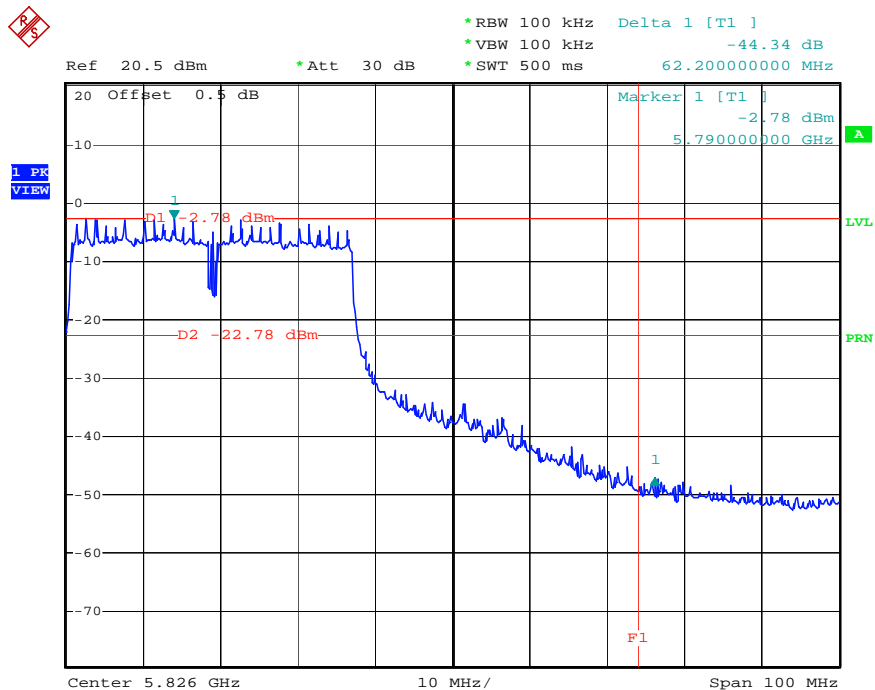
Date: 1.JUN.2008 06:25:47

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



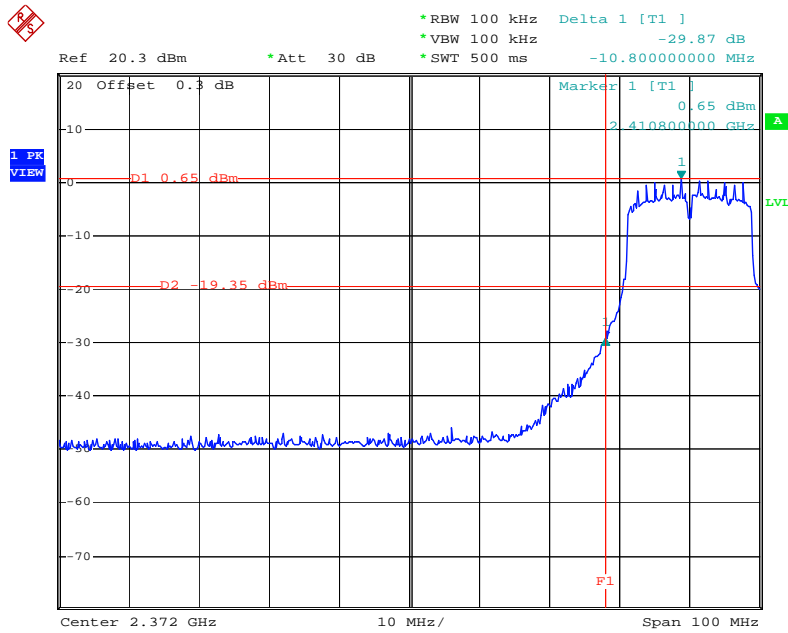
Date: 1.JUN.2008 06:39:11

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



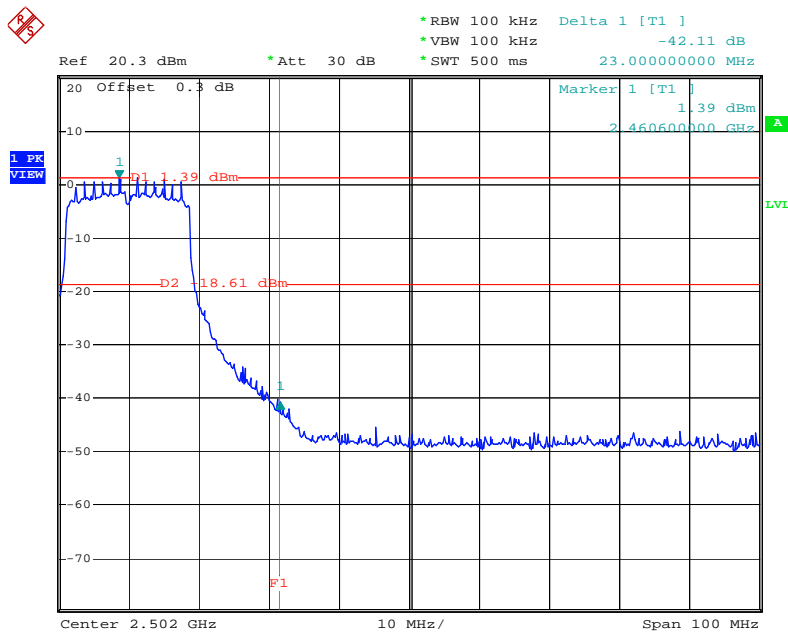
Date: 1.JUN.2008 06:48:14

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



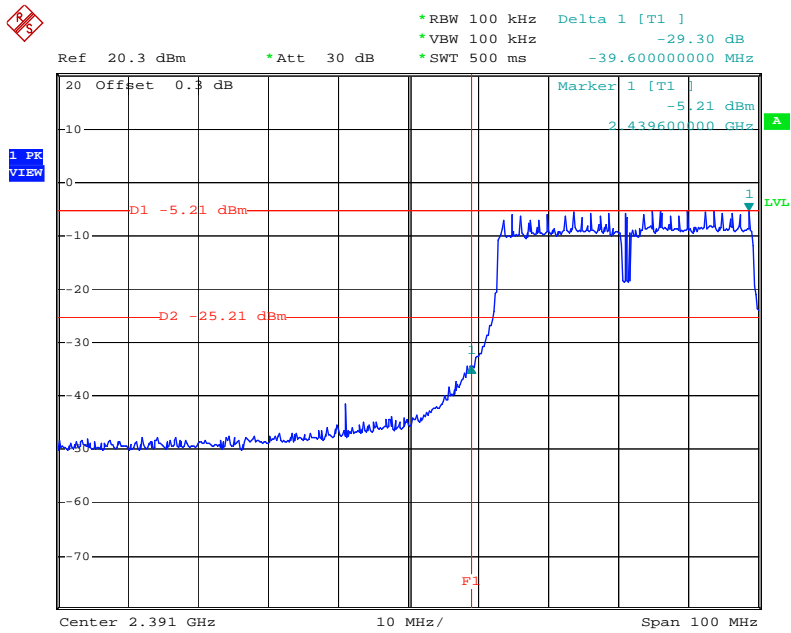
Date: 28.MAY.2008 10:28:03

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



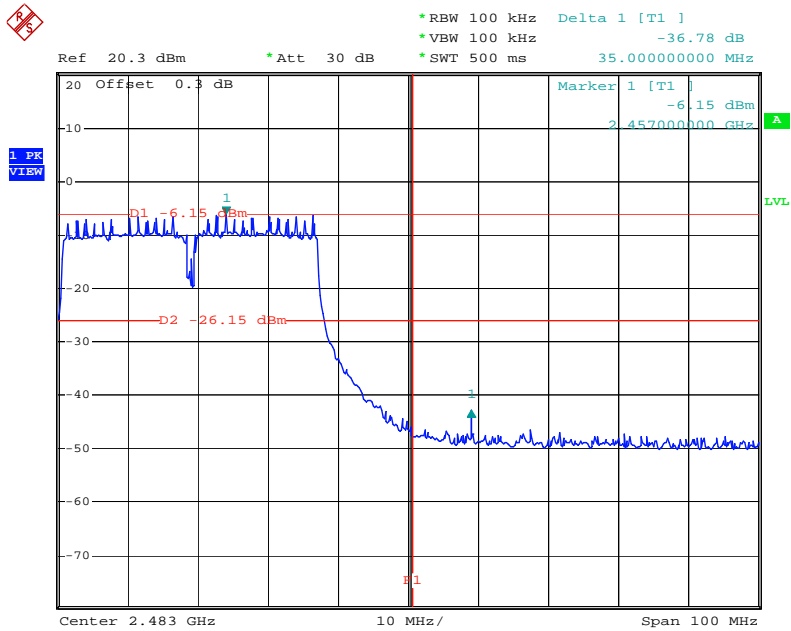
Date: 28.MAY.2008 10:35:48

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



Date: 28.MAY.2008 10:51:56

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

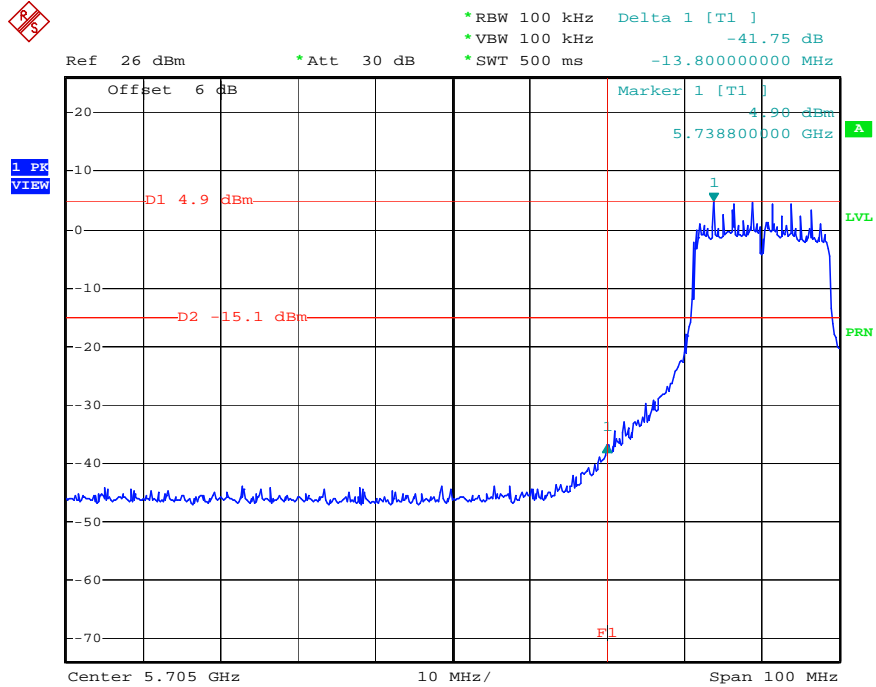


Date: 28.MAY.2008 10:44:24

For Two Chain:

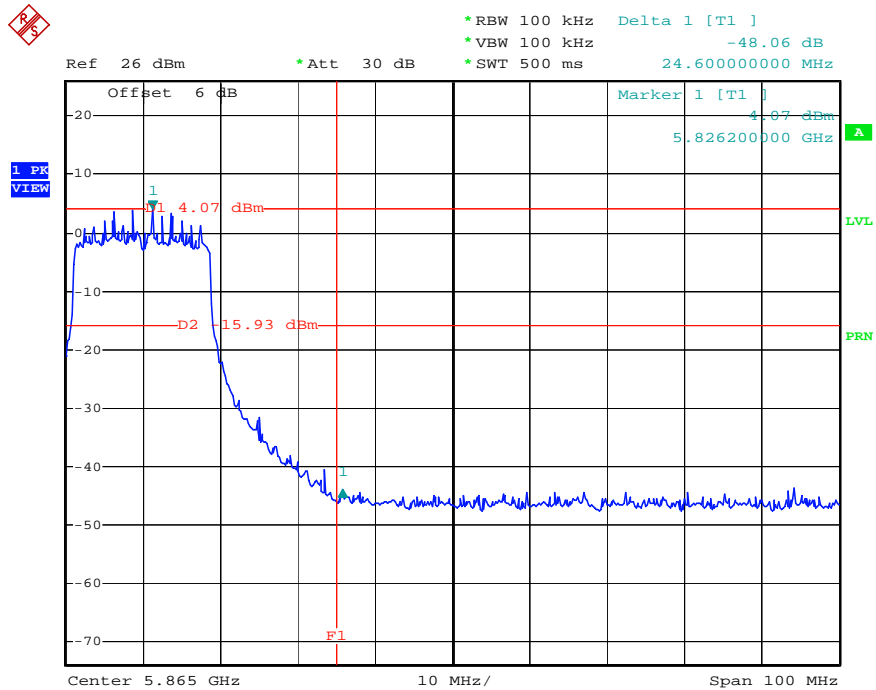
For Emission not in Restricted Band

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



Date: 1.JUN.2008 17:23:20

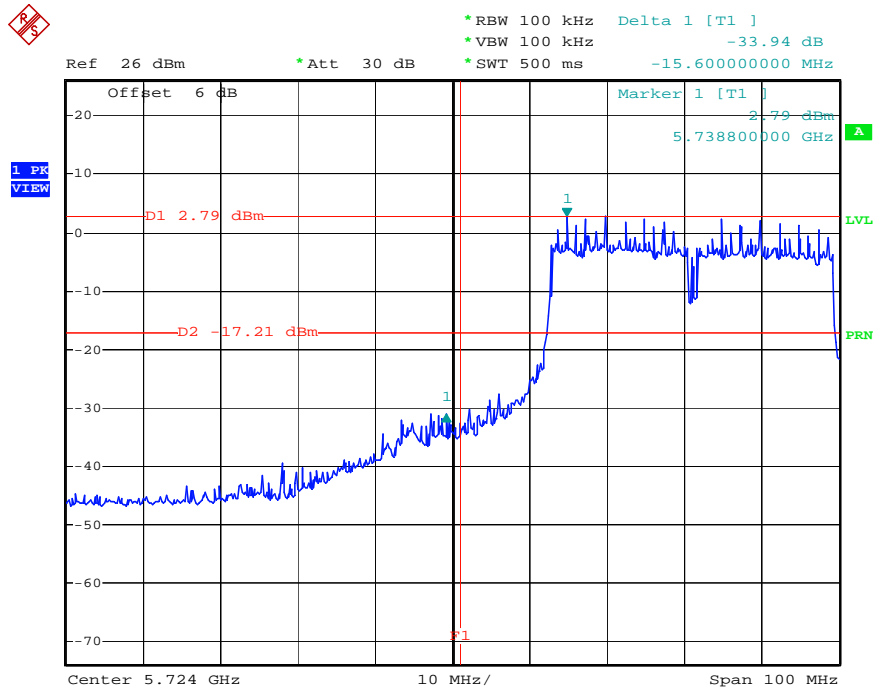
High Band Edge Plot on Configuration of IEEE 802.11n-5G Ant. A & B (20MHz) / 5825 MHz



Date: 1.JUN.2008 17:04:37

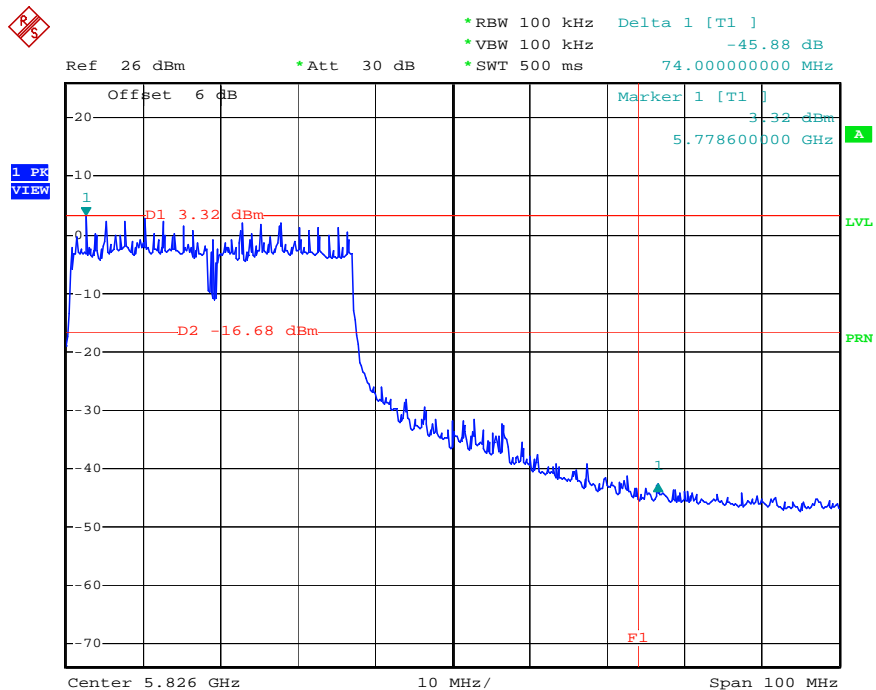


Low Band Edge Plot on Configuration of IEEE 802.11n-5G Ant. A & B (40MHz) / 5755 MHz



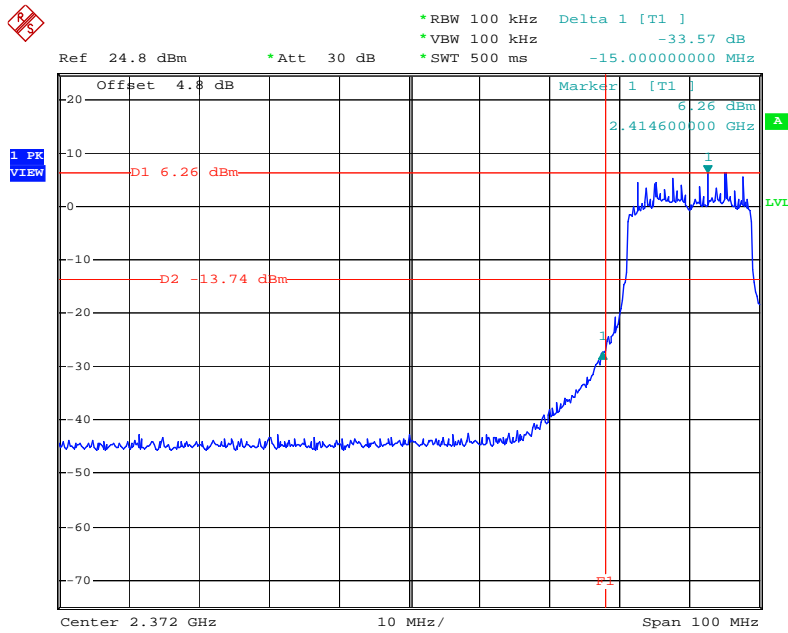
Date: 1.JUN.2008 17:41:12

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



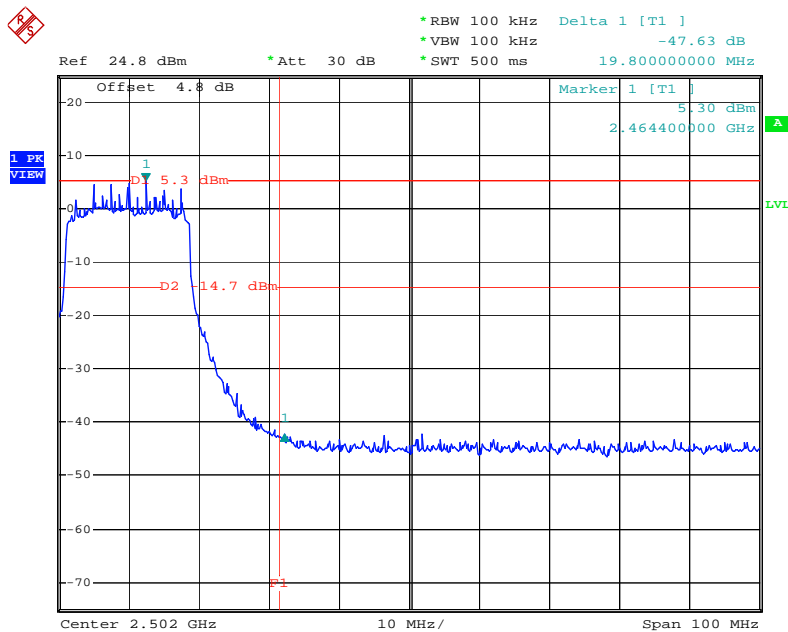
Date: 1.JUN.2008 17:40:09

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



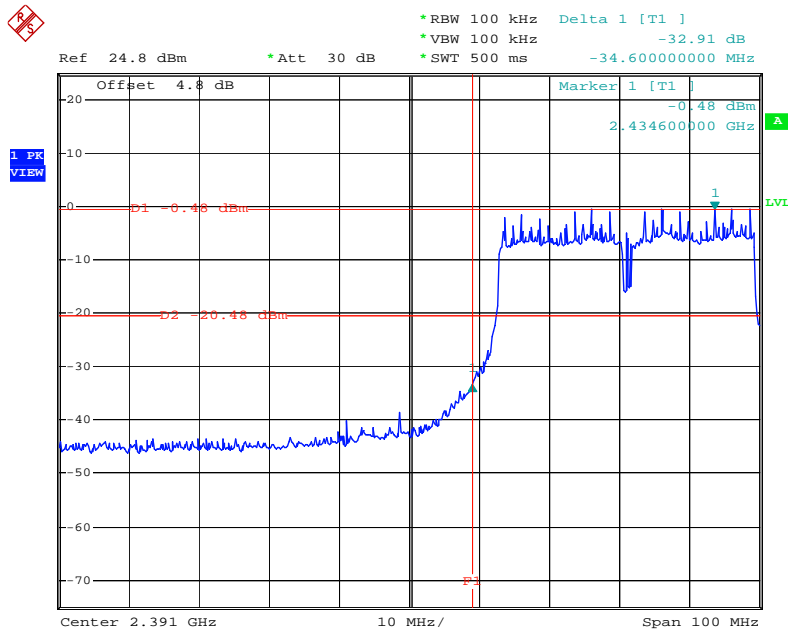
Date: 28.MAY.2008 11:11:39

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



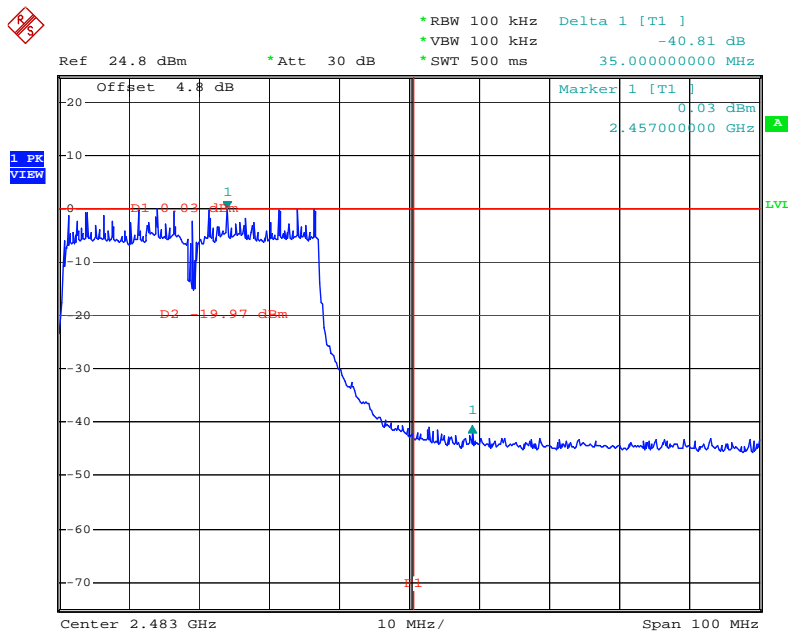
Date: 28.MAY.2008 11:17:47

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



Date: 28.MAY.2008 12:02:59

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



Date: 28.MAY.2008 12:26:08

### **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)
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)
Spectrum Analyzer	R&S	FSP40	100305	9 kHz - 40 GHz	Sep. 27, 2007	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 21, 2007	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.