4.4. 6dB Spectrum Bandwidth Measurement

4.4.1. Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

4.4.2. Measuring Instruments and Setting

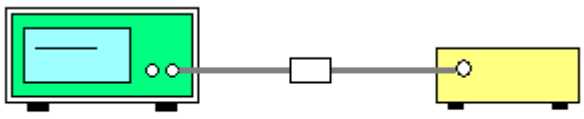
Please refer to section 5 of equipments list in this report. The following table is the setting of the Spectrum Analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
2. The resolution bandwidth of 100 kHz and the video bandwidth of 100 kHz were used.
3. Measured the spectrum width with power higher than 6dB below carrier.
4. Measuring multiple antennas, the connector is required to link with spectrum analyzer through a combiner.

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of 6dB Spectrum Bandwidth

Temperature	23°C	Humidity	61%
Test Engineer	Sam Chen	Configurations	Draft n

Configuration Draft n MCS8 20MHz Ant. A + Ant. C

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	17.64	17.60	500	Complies
6	2437 MHz	15.44	17.60	500	Complies
11	2462 MHz	17.68	17.60	500	Complies

Configuration Draft n MCS8 40MHz Ant. A + Ant. C

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	36.40	36.08	500	Complies
6	2437 MHz	36.40	36.00	500	Complies
9	2452 MHz	36.32	35.92	500	Complies

Temperature	23°C	Humidity	61%
Test Engineer	Sam Chen	Configurations	802.11b/g

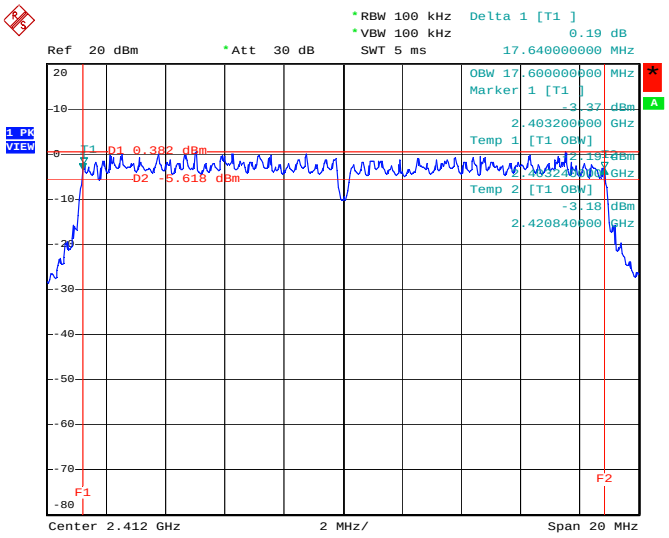
Configuration IEEE 802.11b Ant. C

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	12.24	15.28	500	Complies
6	2437 MHz	12.32	15.32	500	Complies
11	2462 MHz	12.40	15.28	500	Complies

Configuration IEEE 802.11g Ant. C

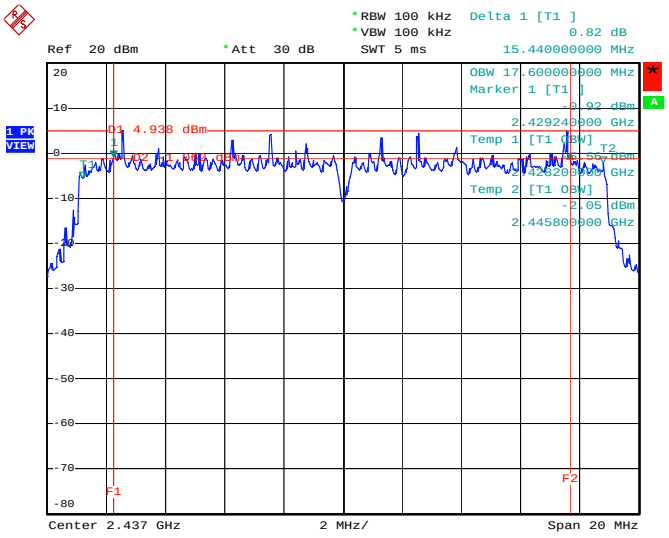
Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	16.56	16.44	500	Complies
6	2437 MHz	16.52	16.44	500	Complies
11	2462 MHz	16.56	16.48	500	Complies

6 dB Bandwidth Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. C / 2412 MHz



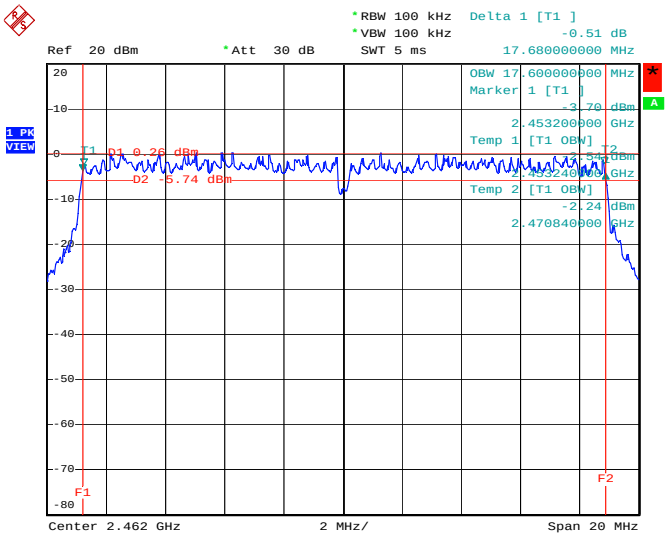
Date: 30.MAY.2008 17:27:36

6 dB Bandwidth Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. C / 2437 MHz



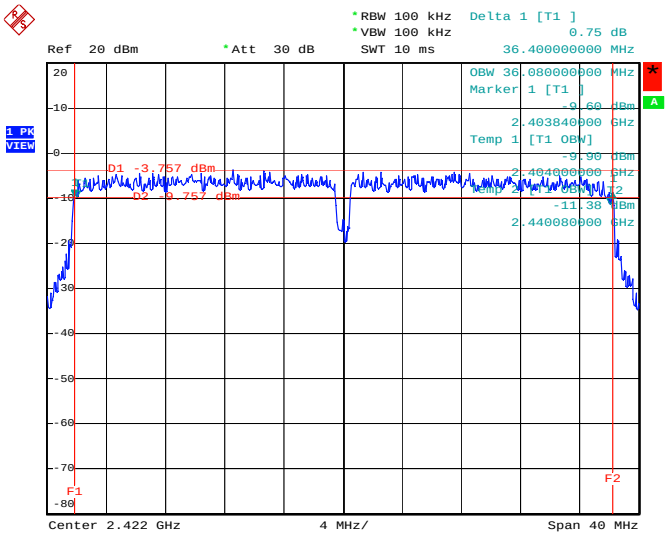
Date: 30.MAY.2008 17:28:40

6 dB Bandwidth Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. C / 2462 MHz



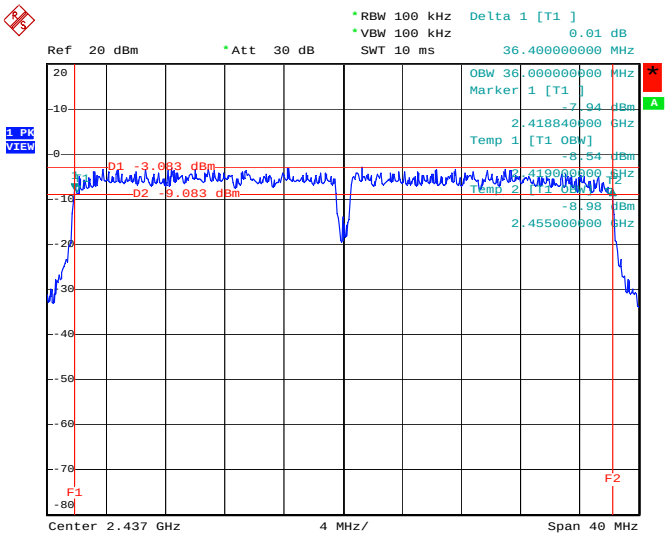
Date: 30.MAY.2008 17:29:27

6 dB Bandwidth Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. C / 2422 MHz

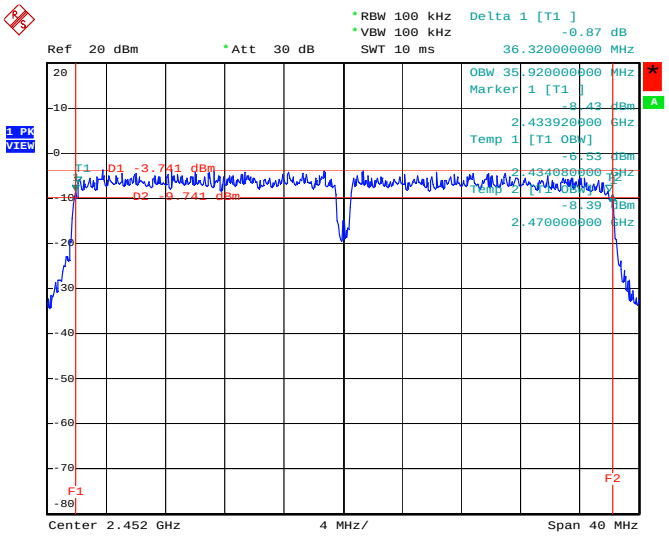


Date: 30.MAY.2008 17:26:18

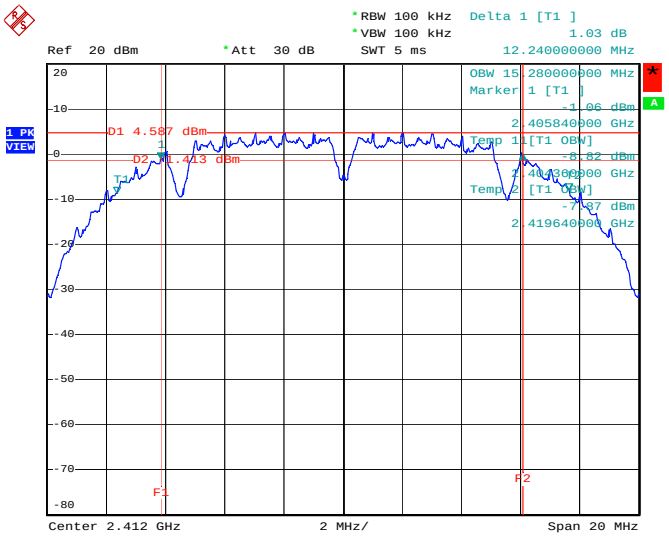
6 dB Bandwidth Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. C / 2437 MHz



6 dB Bandwidth Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. C / 2452 MHz

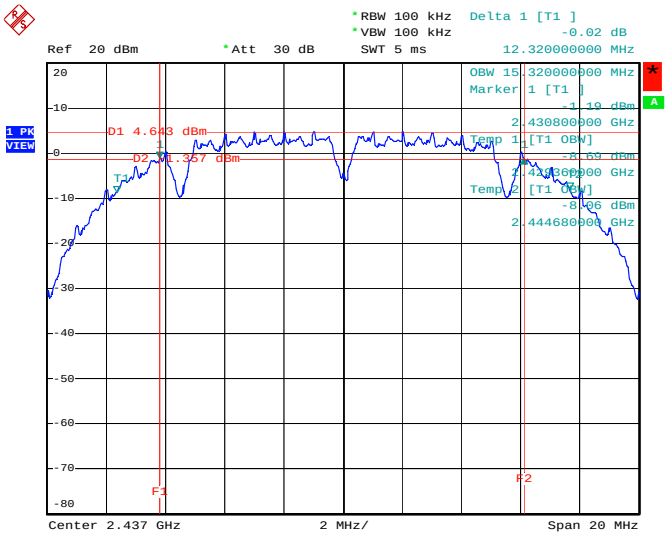


6 dB Bandwidth Plot on Configuration IEEE 802.11b Ant. C / 2412 MHz



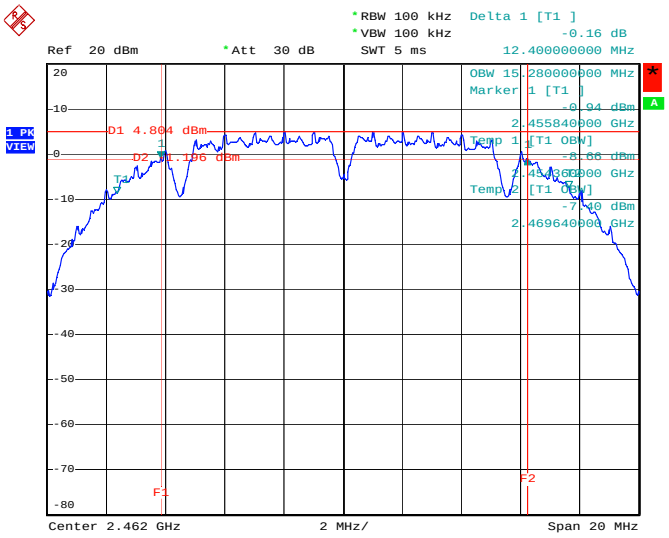
Date: 30.MAY.2008 17:34:49

6 dB Bandwidth Plot on Configuration IEEE 802.11b Ant. C / 2437 MHz



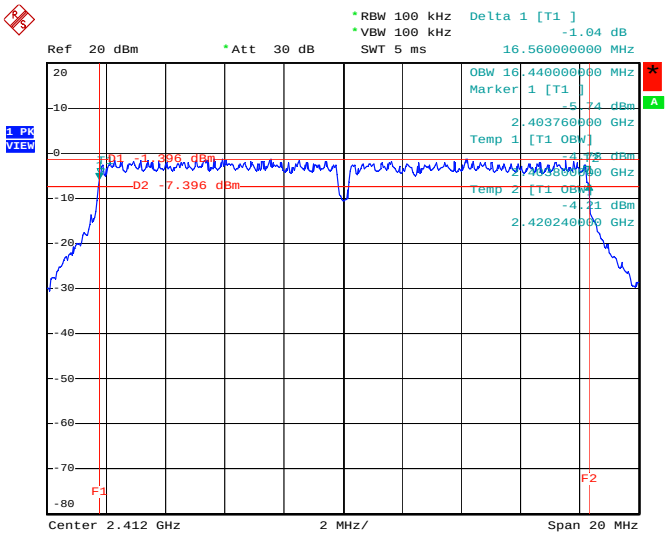
Date: 30.MAY.2008 17:35:47

6 dB Bandwidth Plot on Configuration IEEE 802.11b Ant. C / 2462 MHz



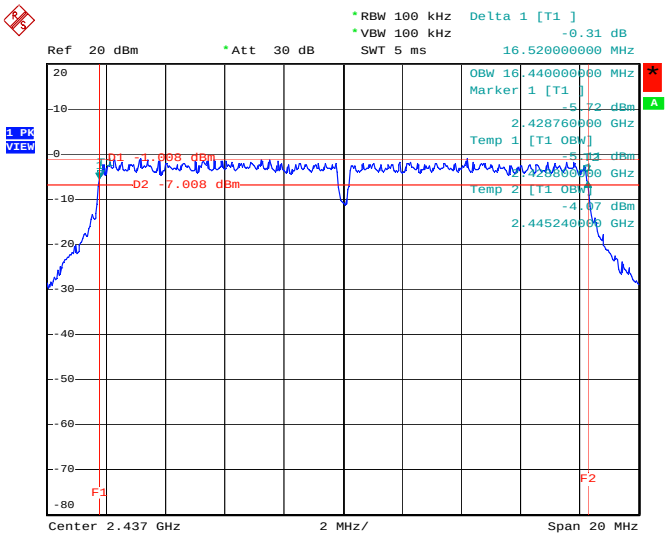
Date: 30.MAY.2008 17:36:32

6 dB Bandwidth Plot on Configuration IEEE 802.11g Ant. C / 2412 MHz



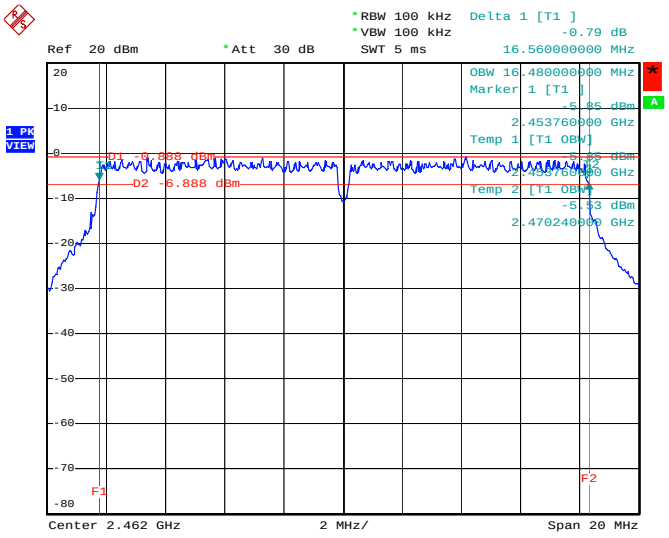
Date: 30.MAY.2008 17:33:47

6 dB Bandwidth Plot on Configuration IEEE 802.11g Ant. C / 2437 MHz



Date: 30.MAY.2008 17:33:05

6 dB Bandwidth Plot on Configuration IEEE 802.11g Ant. C / 2462 MHz



Date: 30.MAY.2008 17:32:08

4.5. Radiated Emissions Measurement

4.5.1. 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 (micorvolts/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

4.5.2. Measuring Instruments and Setting

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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	1000KHz / 1000KHz for peak

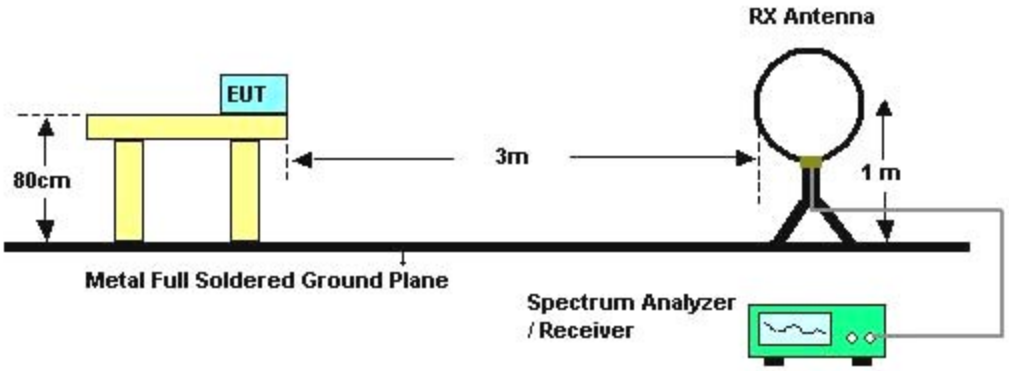
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.5.3. Test Procedures

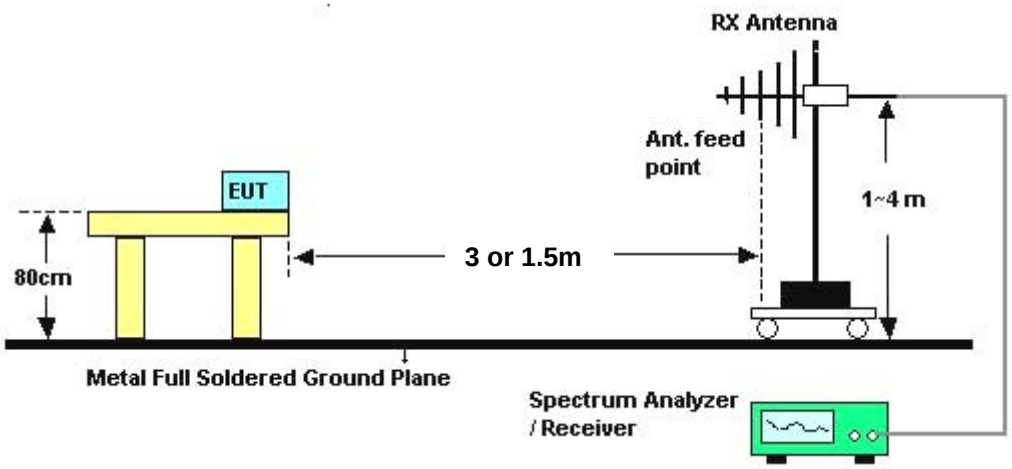
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 m to 4 m) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.5.4. Test Setup Layout

For radiated emissions below 30MHz



For radiated emissions above 30MHz



Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distanc [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Normal Link

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

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

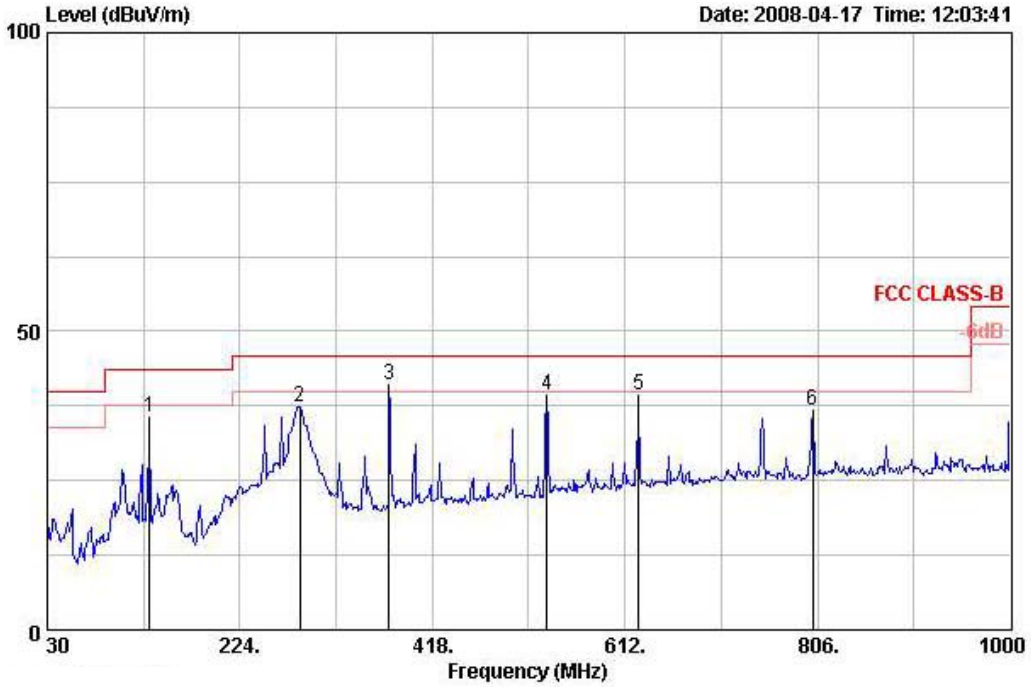
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

4.5.8. Results of Radiated Emissions (30MHz~1GHz)

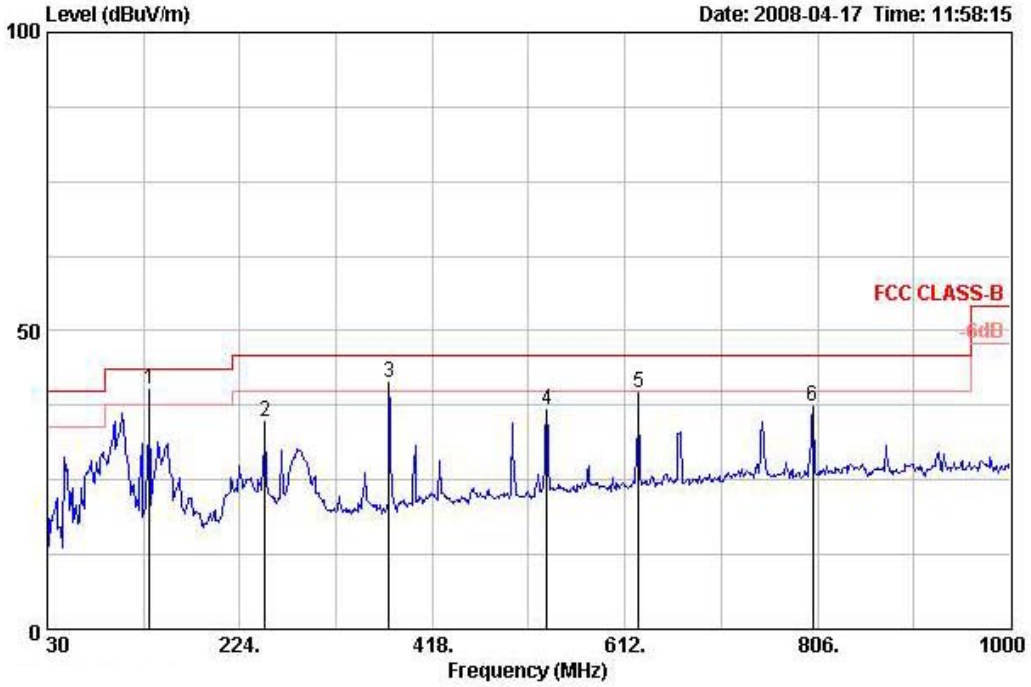
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Normal Link / Mode 1

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1	132.820	35.60	-7.90	43.50	50.33	11.37	27.43	1.33	Peak	0	100	HORIZONTAL
2	284.140	37.37	-8.63	46.00	49.72	12.54	26.93	2.04	Peak	0	100	HORIZONTAL
3 @	374.350	40.89	-5.11	46.00	51.27	14.79	27.42	2.25	Peak	0	100	HORIZONTAL
4	533.430	39.19	-6.81	46.00	46.54	17.99	28.10	2.77	Peak	0	100	HORIZONTAL
5 @	625.580	39.36	-6.64	46.00	45.34	19.05	28.07	3.05	Peak	0	100	HORIZONTAL
6	801.150	36.77	-9.23	46.00	41.12	19.95	27.60	3.30	Peak	0	100	HORIZONTAL

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1 @	132.820	40.04	-3.46	43.50	54.77	11.37	27.43	1.33	Peak	0	400	VERTICAL
2	249.220	34.64	-11.36	46.00	48.18	11.56	27.00	1.90	Peak	0	400	VERTICAL
3 @	374.350	41.27	-4.73	46.00	51.65	14.79	27.42	2.25	Peak	0	400	VERTICAL
4	533.430	36.82	-9.18	46.00	44.17	17.99	28.10	2.77	Peak	0	400	VERTICAL
5 @	625.580	39.53	-6.47	46.00	45.50	19.05	28.07	3.05	Peak	0	400	VERTICAL
6	801.150	37.18	-8.82	46.00	41.53	19.95	27.60	3.30	Peak	0	400	VERTICAL

Note:

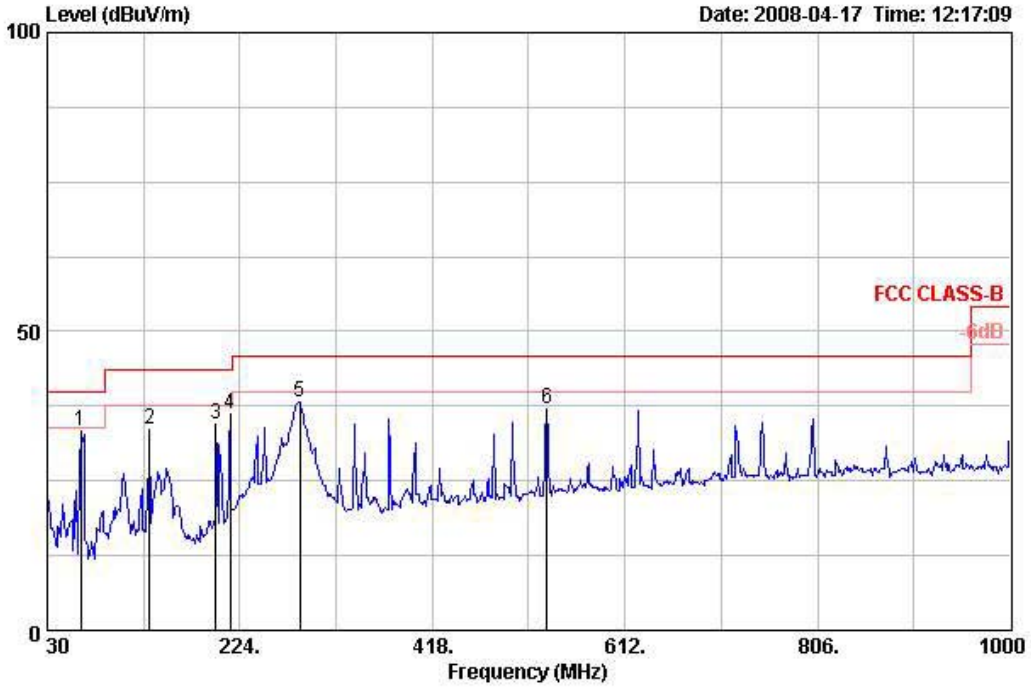
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

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

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

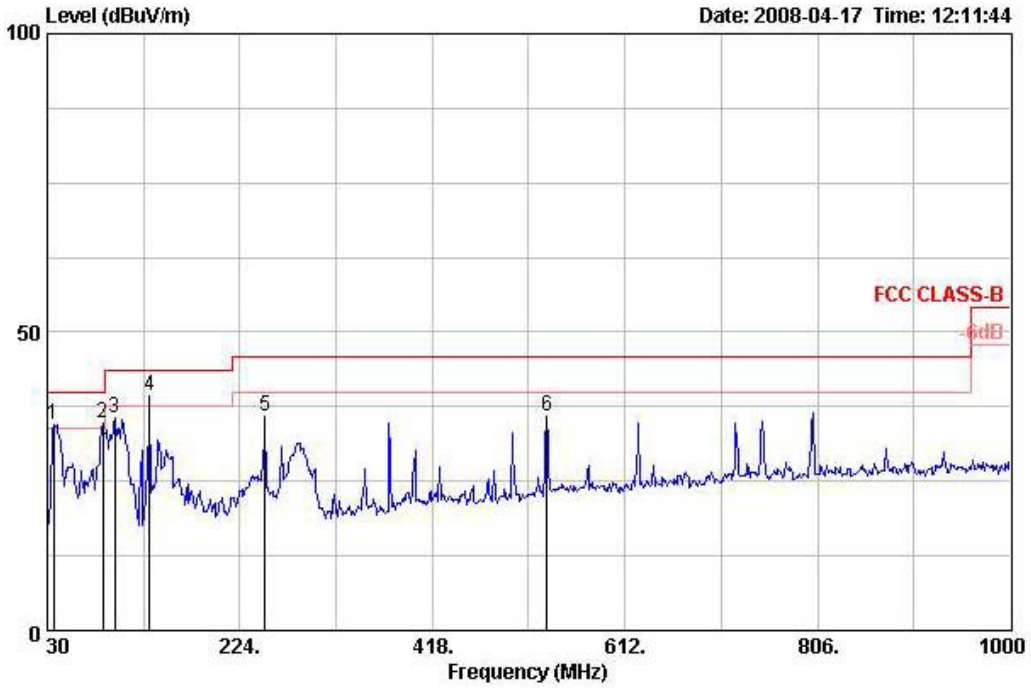
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Normal Link / Mode 2

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1 @	63.950	33.33	-6.67	40.00	55.44	4.75	27.74	0.88	Peak	0	100	HORIZONTAL
2	132.820	33.75	-9.75	43.50	48.49	11.37	27.43	1.33	Peak	0	100	HORIZONTAL
3	199.750	34.35	-9.15	43.50	50.85	8.90	27.10	1.70	Peak	0	100	HORIZONTAL
4	214.300	36.12	-7.38	43.50	53.01	8.43	27.07	1.76	Peak	0	100	HORIZONTAL
5	284.140	38.18	-7.82	46.00	50.54	12.54	26.93	2.04	Peak	0	100	HORIZONTAL
6	533.430	37.06	-8.94	46.00	44.41	17.99	28.10	2.77	Peak	0	100	HORIZONTAL

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1 @	36.790	34.45	-5.55	40.00	48.07	13.60	27.80	0.58	Peak	0	400	VERTICAL
2 @	86.260	34.76	-5.24	40.00	53.62	7.70	27.66	1.10	Peak	0	400	VERTICAL
3	97.900	35.71	-7.79	43.50	52.21	9.95	27.61	1.16	Peak	0	400	VERTICAL
4 @	132.820	39.41	-4.09	43.50	54.15	11.37	27.43	1.33	Peak	0	400	VERTICAL
5	249.220	35.90	-10.10	46.00	49.44	11.56	27.00	1.90	Peak	0	400	VERTICAL
6	533.430	35.89	-10.11	46.00	43.23	17.99	28.10	2.77	Peak	0	400	VERTICAL

Note:

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

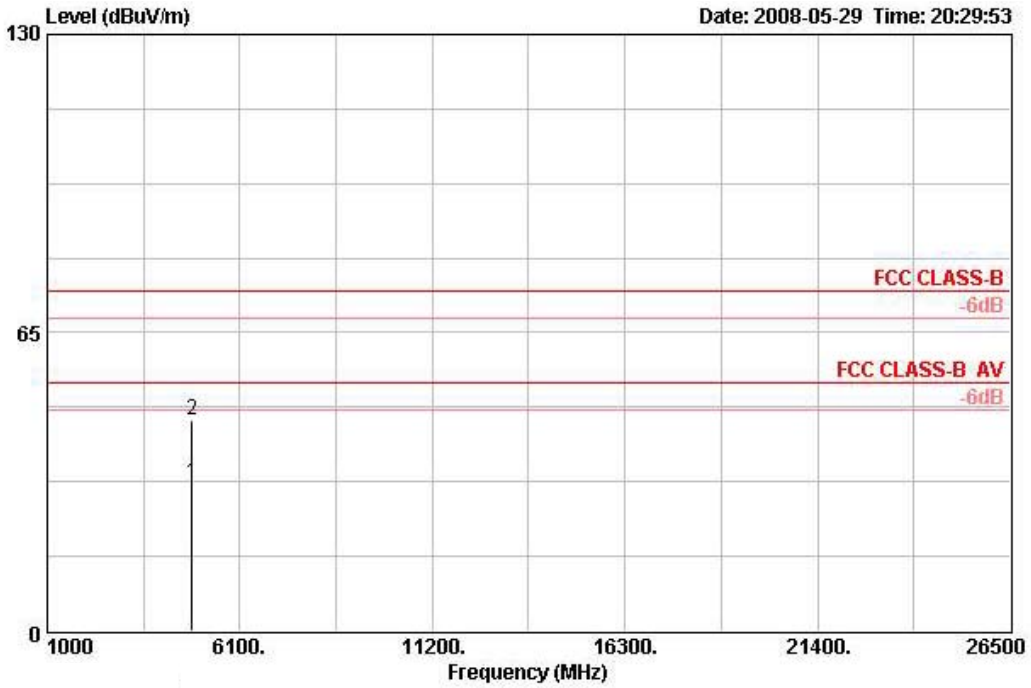
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

4.5.9. Results for Radiated Emissions (1GHz~10th Harmonic)

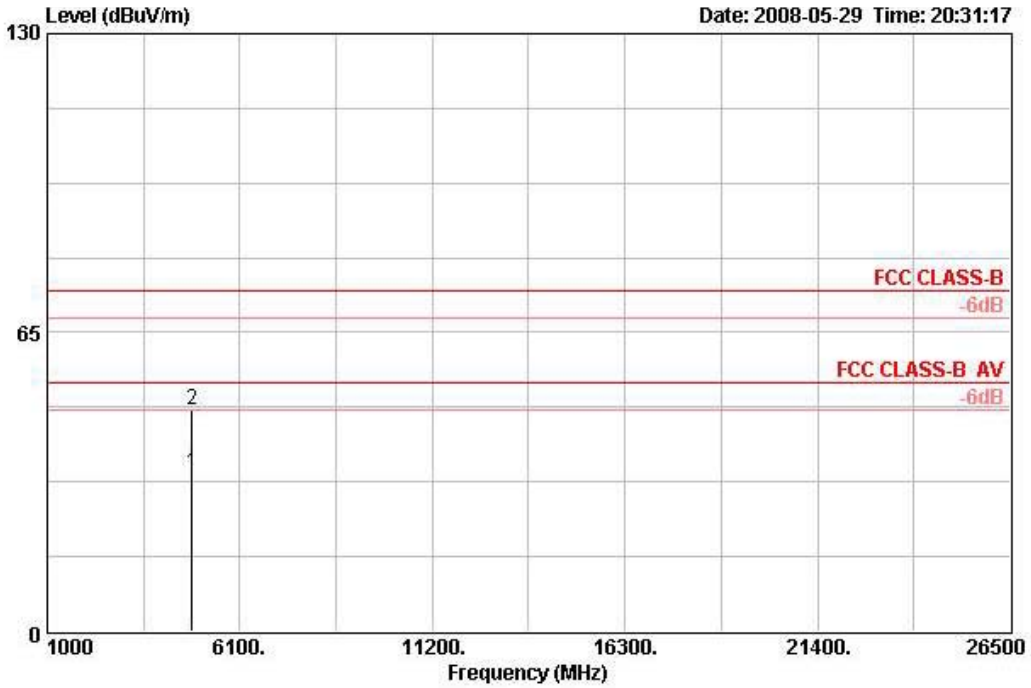
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Draft n MCS8 20MHz Ch 1 Ant. A + Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	4824.100	32.11	-21.89	54.00	30.29	33.06	3.94	35.16	AVERAGE	119	29	HORIZONTAL
2	4824.500	45.83	-28.17	74.00	44.01	33.06	3.94	35.16	PEAK	119	29	HORIZONTAL

Vertical

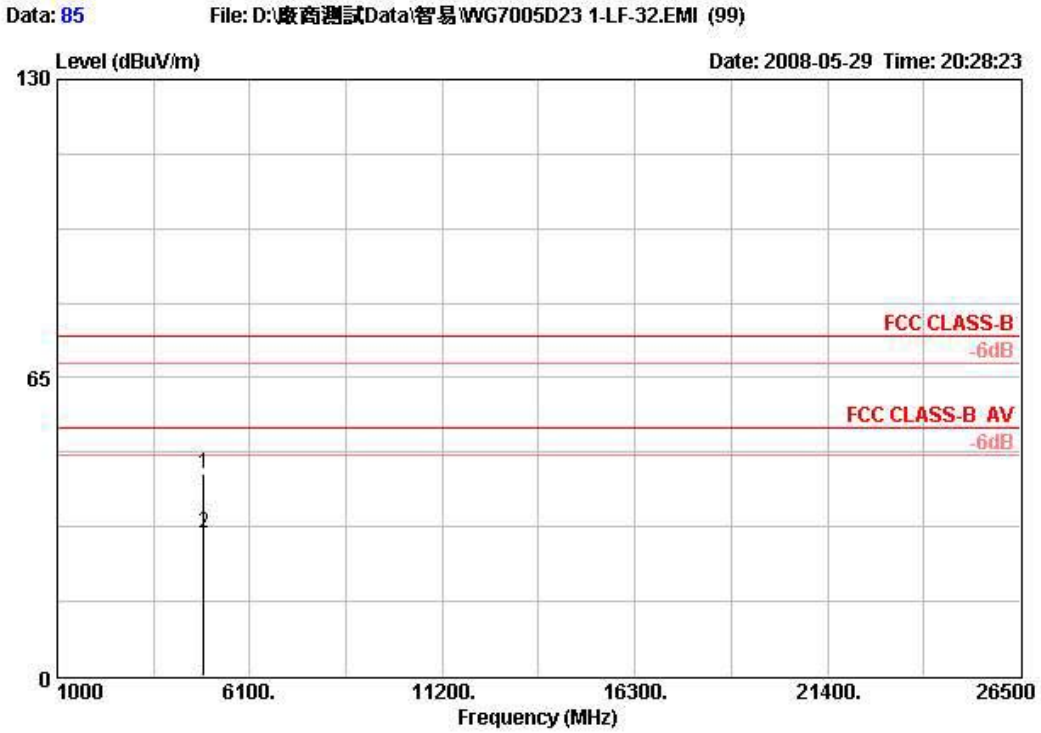


	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	4824.100	34.30	-19.70	54.00	32.48	33.06	3.94	35.16	AVERAGE	100	253	VERTICAL
2	4824.500	48.22	-25.78	74.00	46.40	33.06	3.94	35.16	PEAK	100	253	VERTICAL

Temperature	23℃	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Draft n MCS8 20MHz Ch 6 Ant. A + Ant. C

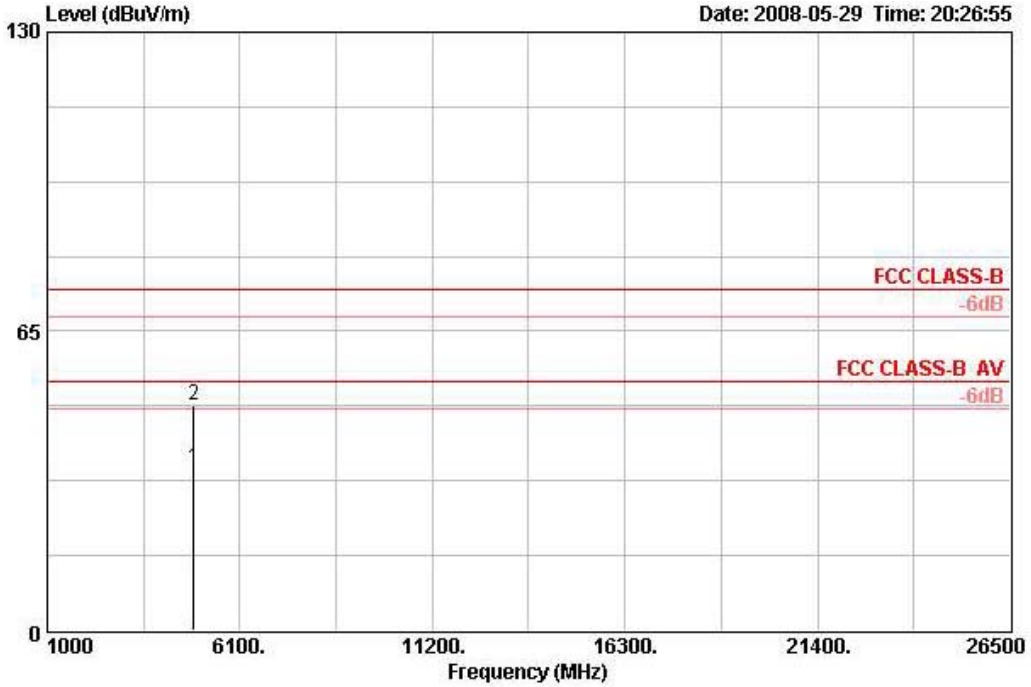
Horizontal

No.8,Lane 724,Bo Ai Street,Eheubei City,
Hsin Chu Hsien 302, Taiwan,R.O.C
TEL:03-656-9065 FAX:03-656-9085



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4868.200	44.20	-29.80	74.00	42.27	33.12	3.96	35.15	PEAK	118	27	HORIZONTAL
2	4872.300	31.11	-22.89	54.00	29.14	33.16	3.96	35.15	AVERAGE	118	27	HORIZONTAL

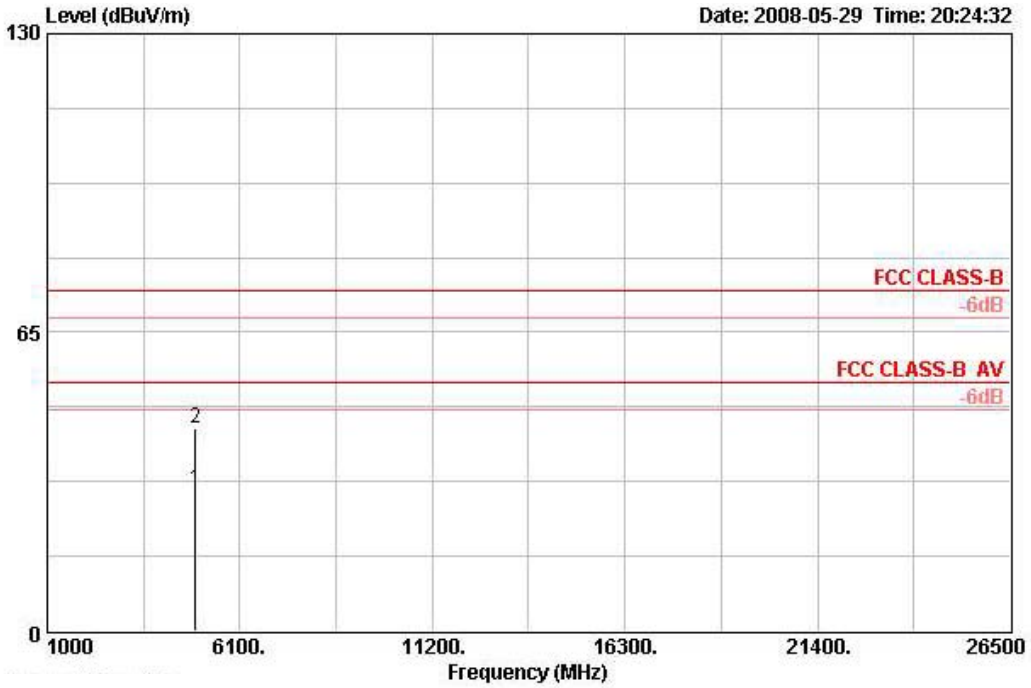
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	4874.100	35.37	-18.63	54.00	33.40	33.16	3.96	35.15	AVERAGE	112	253	VERTICAL
2	4875.800	48.82	-25.18	74.00	46.85	33.16	3.96	35.15	PEAK	112	253	VERTICAL

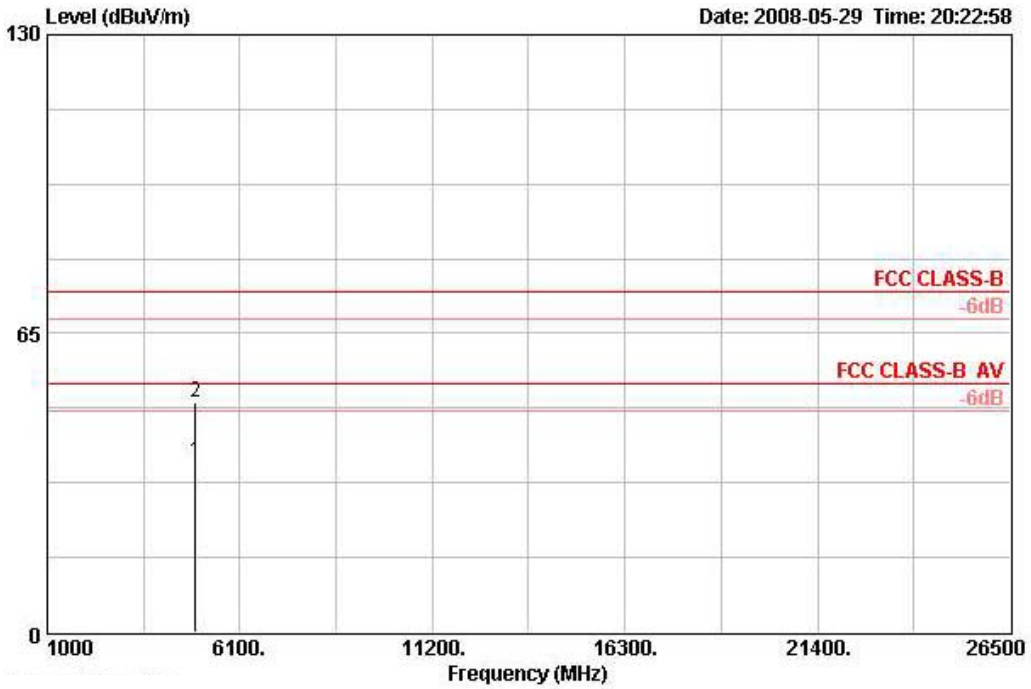
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Draft n MCS8 20MHz Ch11 Ant. A + Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4924.040	30.74	-23.26	54.00	28.64	33.26	3.98	35.14	AVERAGE	100	15	HORIZONTAL
2	4924.840	44.07	-29.93	74.00	41.97	33.26	3.98	35.14	PEAK	100	15	HORIZONTAL

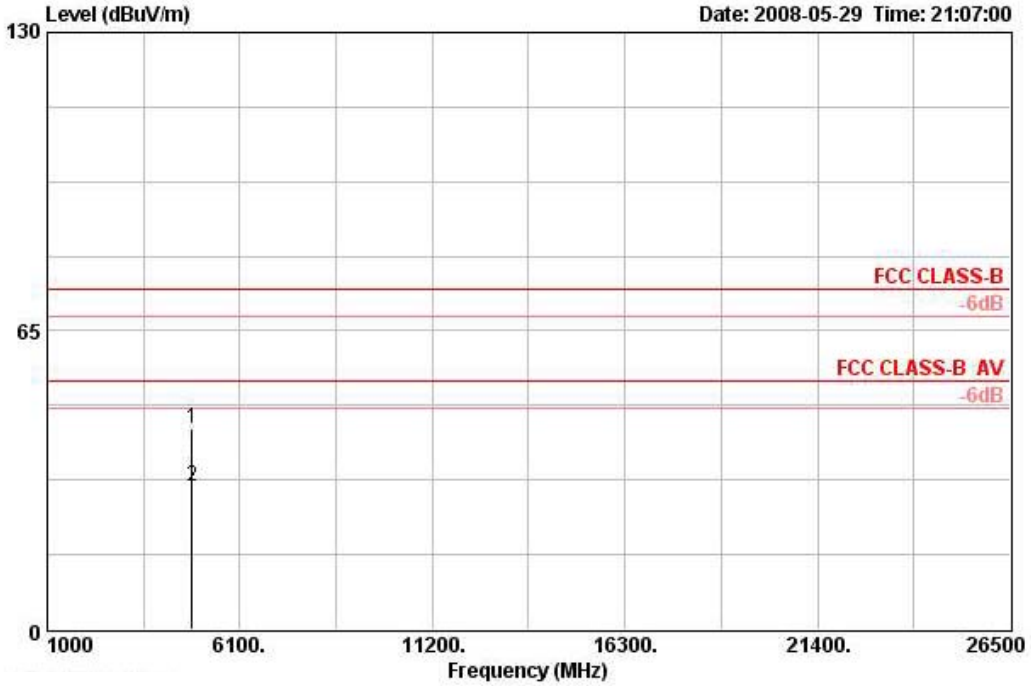
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	4923.740	36.91	-17.09	54.00	34.81	33.26	3.98	35.14	AVERAGE	109	250	VERTICAL
2	4924.740	50.11	-23.89	74.00	48.00	33.26	3.98	35.14	PEAK	109	250	VERTICAL

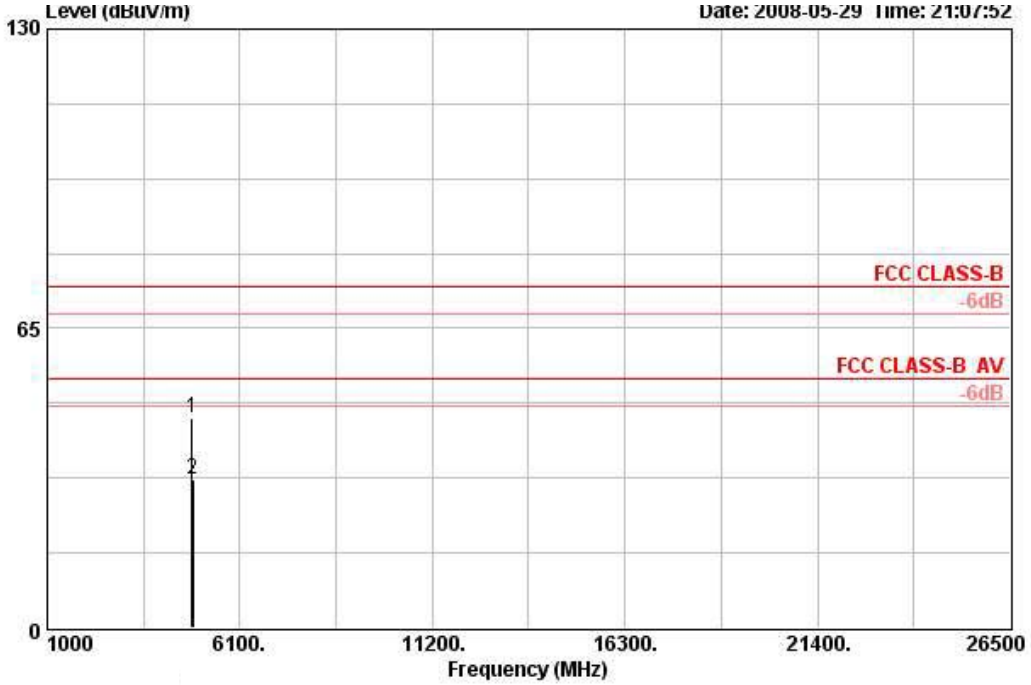
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Draft n MCS8 40MHz Ch 3 Ant. A + Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4837.440	43.76	-30.24	74.00	41.89	33.09	3.94	35.16	PEAK	100	241	HORIZONTAL
2	4844.560	30.97	-23.03	54.00	29.09	33.09	3.95	35.16	AVERAGE	100	241	HORIZONTAL

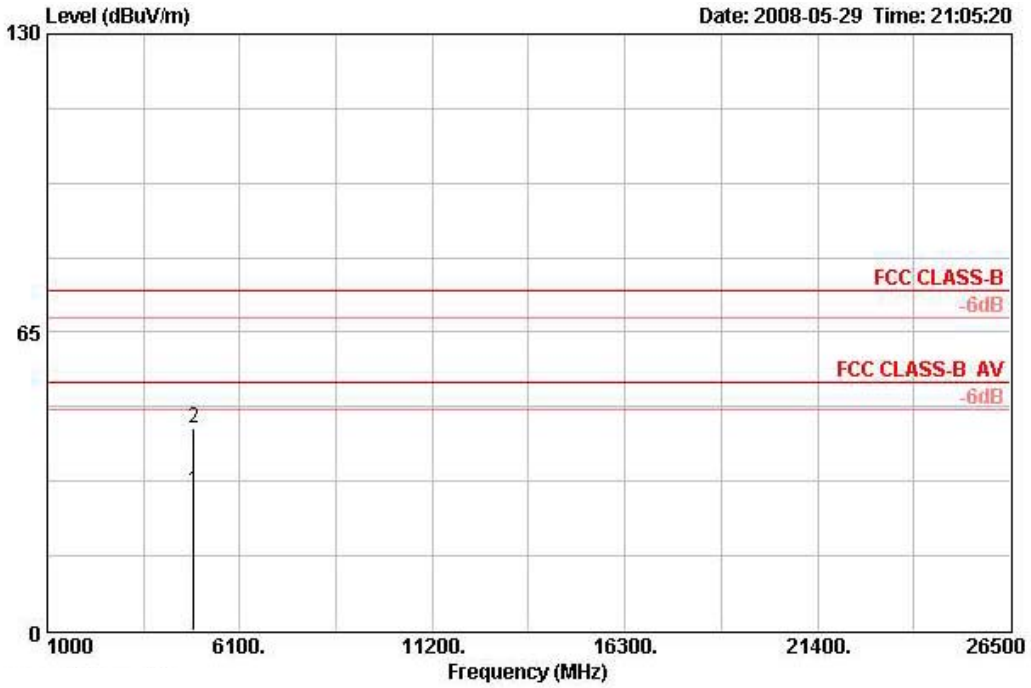
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4836.840	45.46	-28.54	74.00	43.60	33.09	3.94	35.16	PEAK	100	250	VERTICAL
2 @	4847.680	32.04	-21.96	54.00	30.16	33.09	3.95	35.16	AVERAGE	100	250	VERTICAL

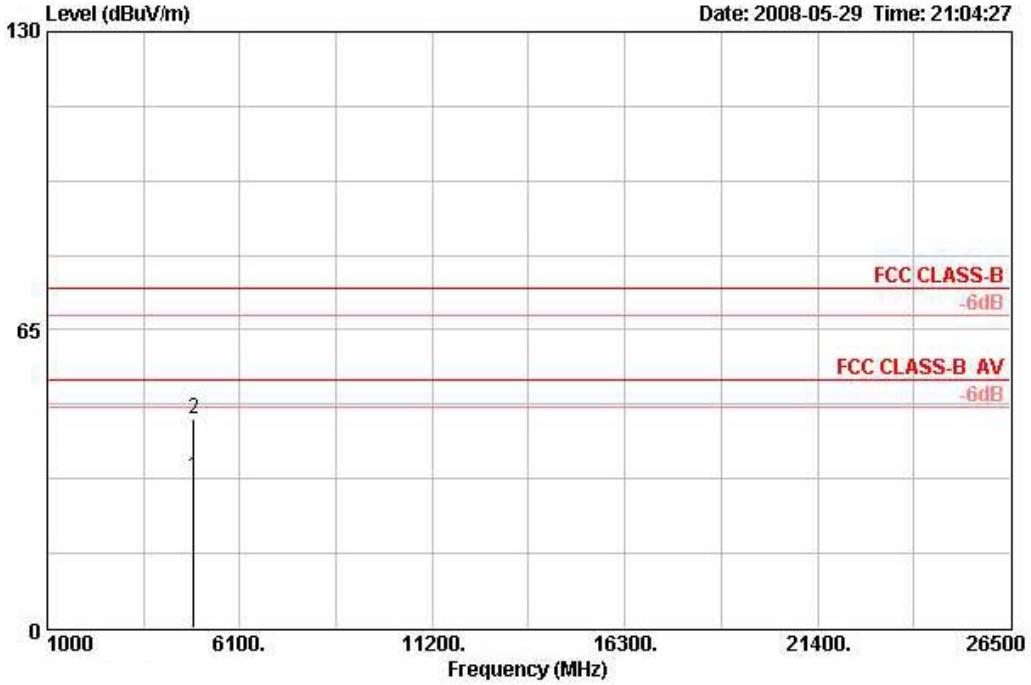
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Draft n MCS8 40MHz Ch 6 Ant. A + Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4874.880	30.37	-23.63	54.00	28.41	33.16	3.96	35.15	AVERAGE	119	119	HORIZONTAL
2	4874.920	44.23	-29.77	74.00	42.26	33.16	3.96	35.15	PEAK	119	119	HORIZONTAL

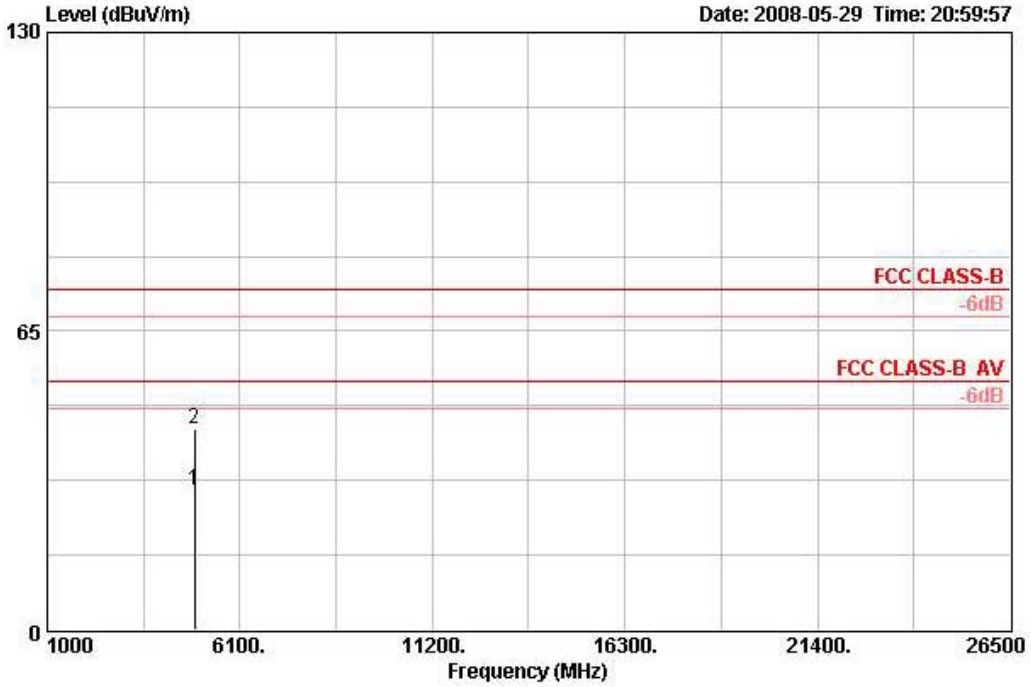
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	4869.600	32.84	-21.16	54.00	30.91	33.12	3.96	35.15	AVERAGE	100	239	VERTICAL
2	4878.000	45.46	-28.54	74.00	43.50	33.16	3.96	35.15	PEAK	100	239	VERTICAL

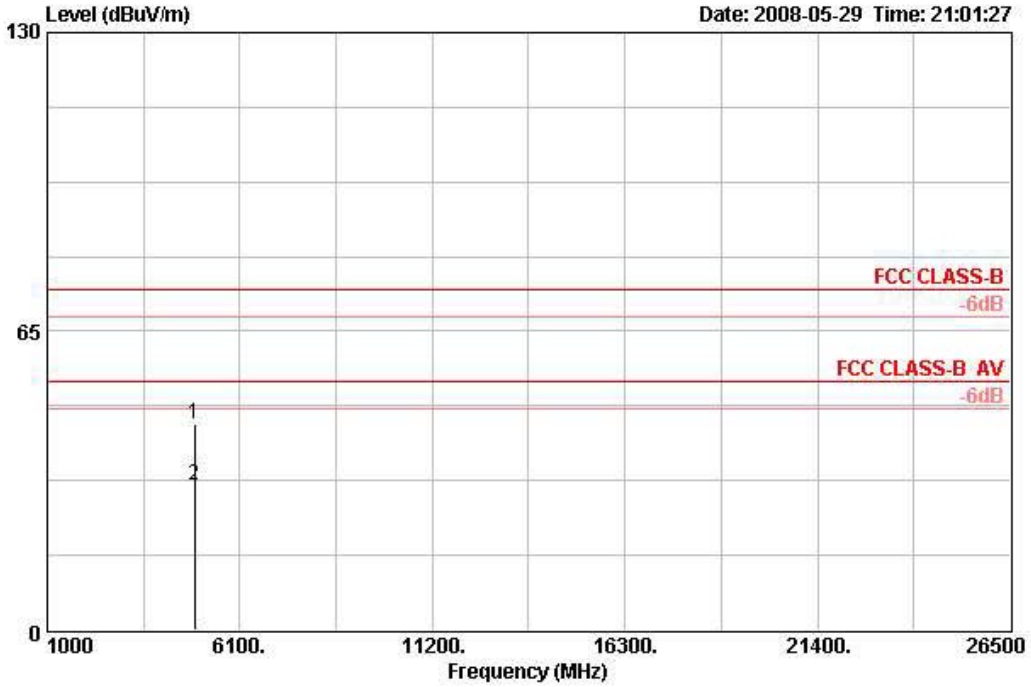
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Draft n MCS8 40MHz Ch 9 Ant. A + Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4904.680	30.37	-23.63	54.00	28.35	33.19	3.97	35.15	AVERAGE	122	277	HORIZONTAL
2	4904.940	43.61	-30.39	74.00	41.55	33.23	3.97	35.15	PEAK	122	277	HORIZONTAL

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4904.040	44.91	-29.09	74.00	42.89	33.19	3.97	35.15	PEAK	100	201	VERTICAL
2	4904.360	31.62	-22.38	54.00	29.60	33.19	3.97	35.15	AVERAGE	100	201	VERTICAL

Note:

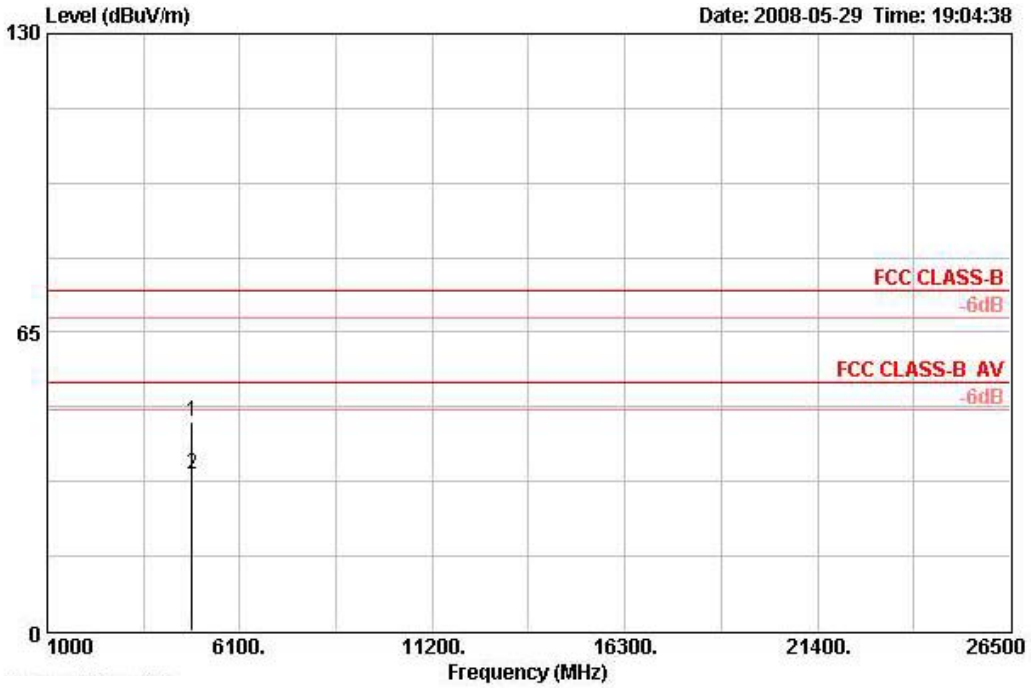
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

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

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

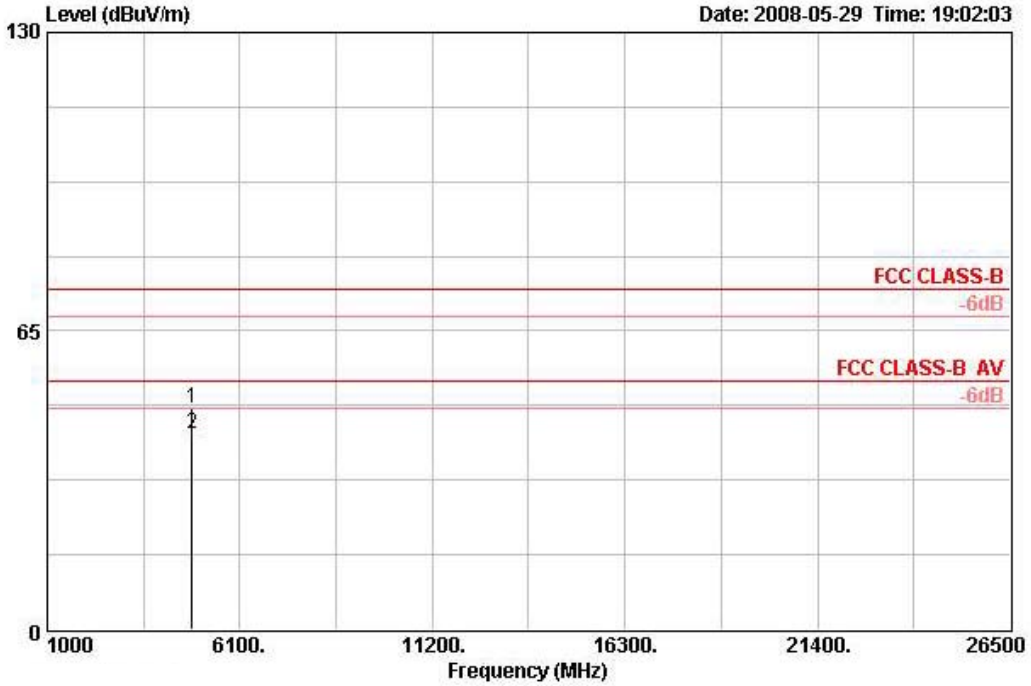
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	802.11b CH 1 Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4823.690	45.61	-28.39	74.00	43.78	33.06	3.94	35.16	PEAK	100	19	HORIZONTAL
2 @	4824.050	34.05	-19.95	54.00	32.22	33.06	3.94	35.16	AVERAGE	100	19	HORIZONTAL

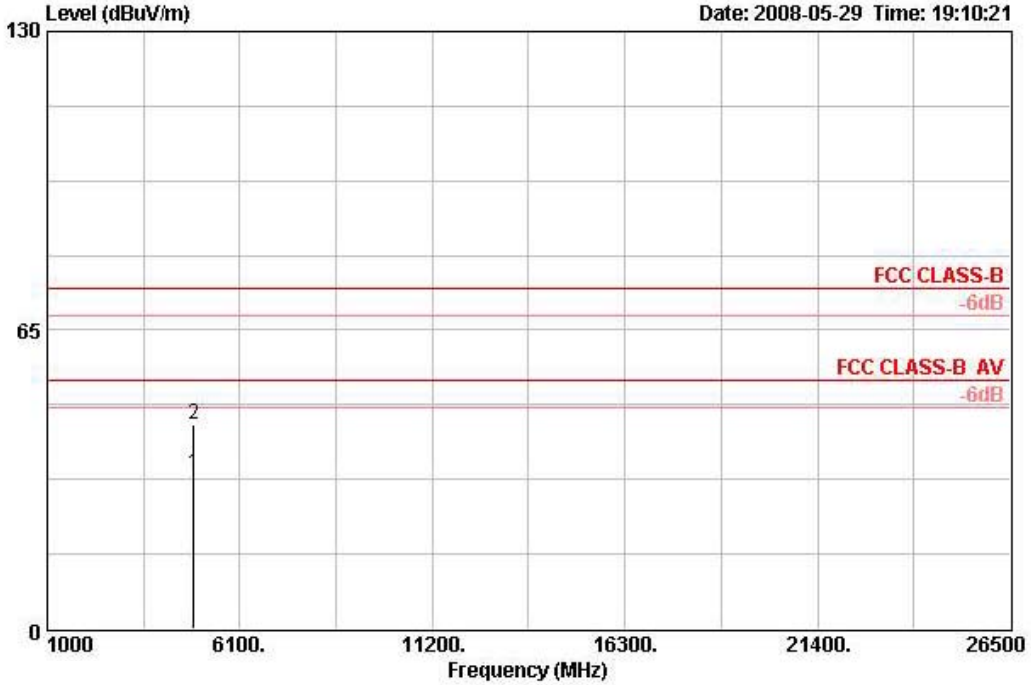
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4823.980	48.31	-25.69	74.00	46.49	33.06	3.94	35.16	PEAK	109	22	VERTICAL
2 @	4824.050	42.49	-11.51	54.00	40.66	33.06	3.94	35.16	AVERAGE	109	22	VERTICAL

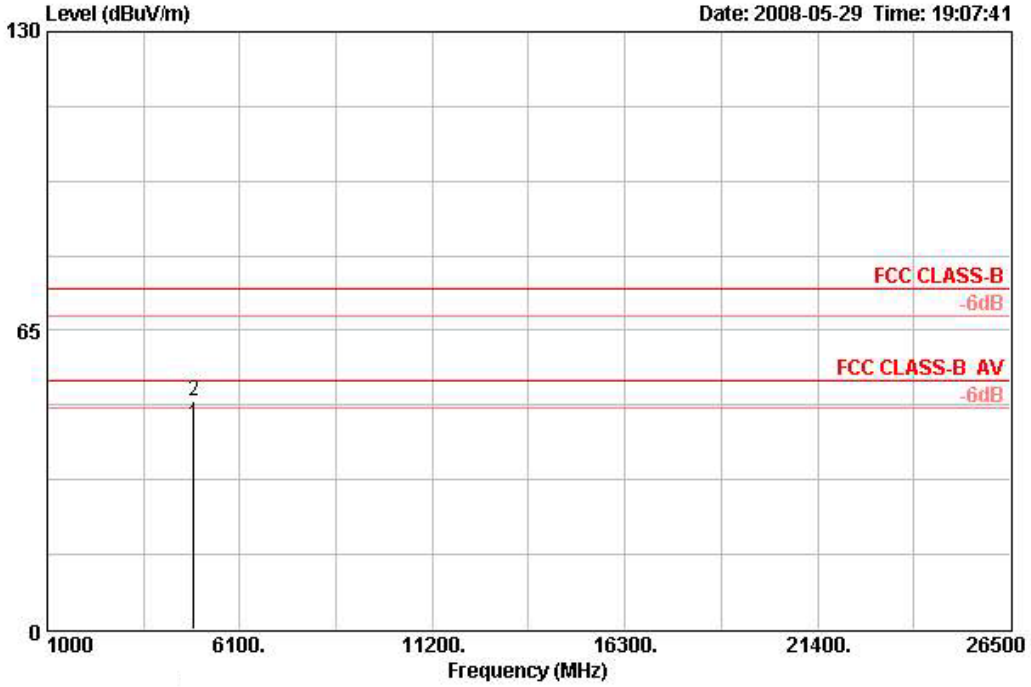
Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11b CH 6 Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	4874.070	33.73	-20.27	54.00	31.77	33.16	3.96	35.15	AVERAGE	100	245	HORIZONTAL
2	4874.090	44.39	-29.61	74.00	42.43	33.16	3.96	35.15	PEAK	100	245	HORIZONTAL

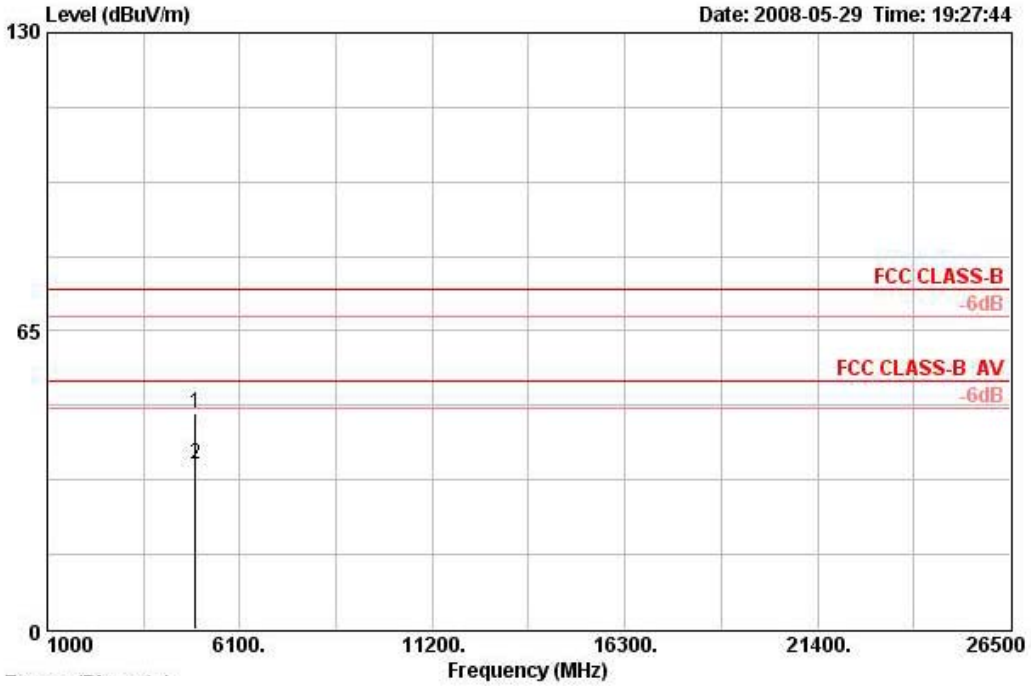
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	4874.030	44.42	-9.58	54.00	42.45	33.16	3.96	35.15	AVERAGE	100	177	VERTICAL
2	4874.030	49.72	-24.28	74.00	47.75	33.16	3.96	35.15	PEAK	100	177	VERTICAL

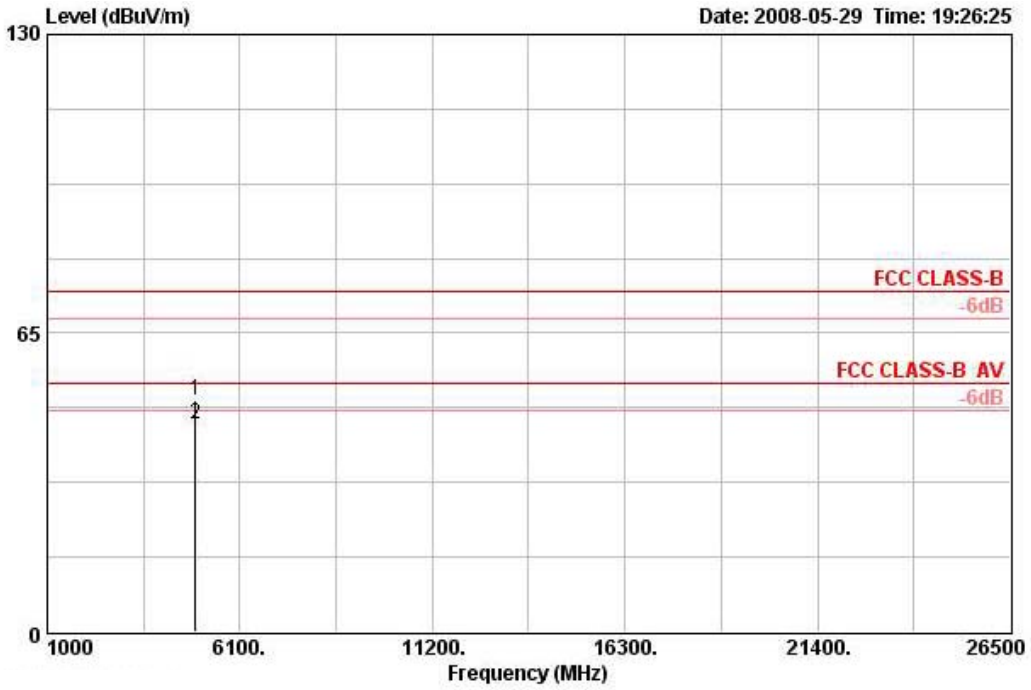
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	802.11b CH 11 Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4923.870	46.88	-27.12	74.00	44.78	33.26	3.98	35.14	PEAK	100	136	HORIZONTAL
2	4924.020	36.08	-17.92	54.00	33.98	33.26	3.98	35.14	AVERAGE	100	136	HORIZONTAL

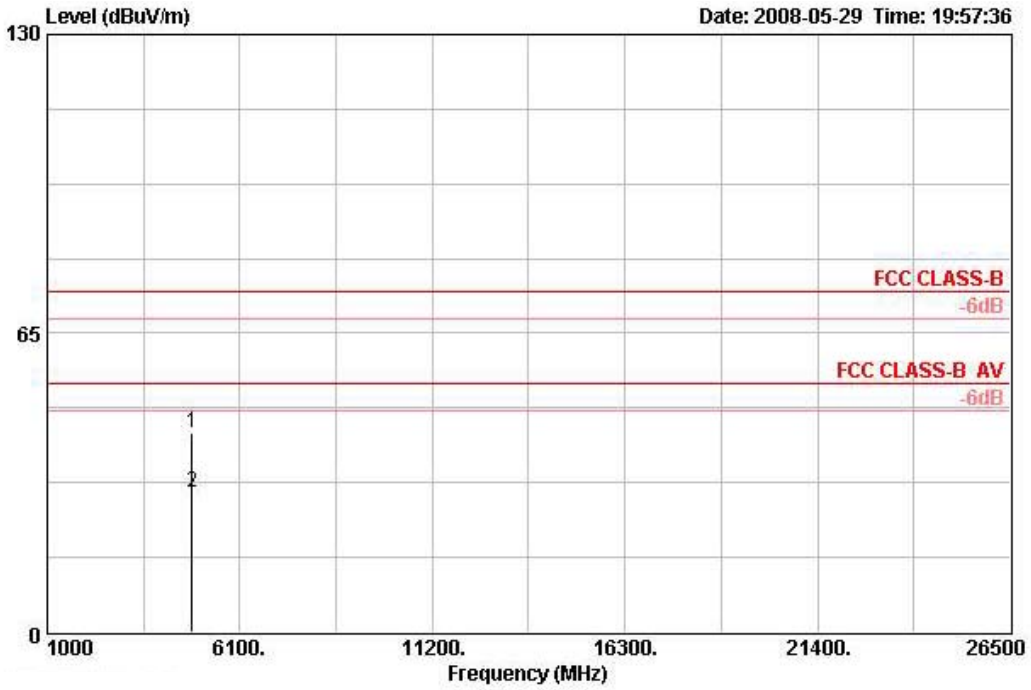
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4924.030	50.44	-23.56	74.00	48.33	33.26	3.98	35.14	PEAK	160	11	VERTICAL
2 @	4924.040	45.15	-8.85	54.00	43.04	33.26	3.98	35.14	AVERAGE	160	11	VERTICAL

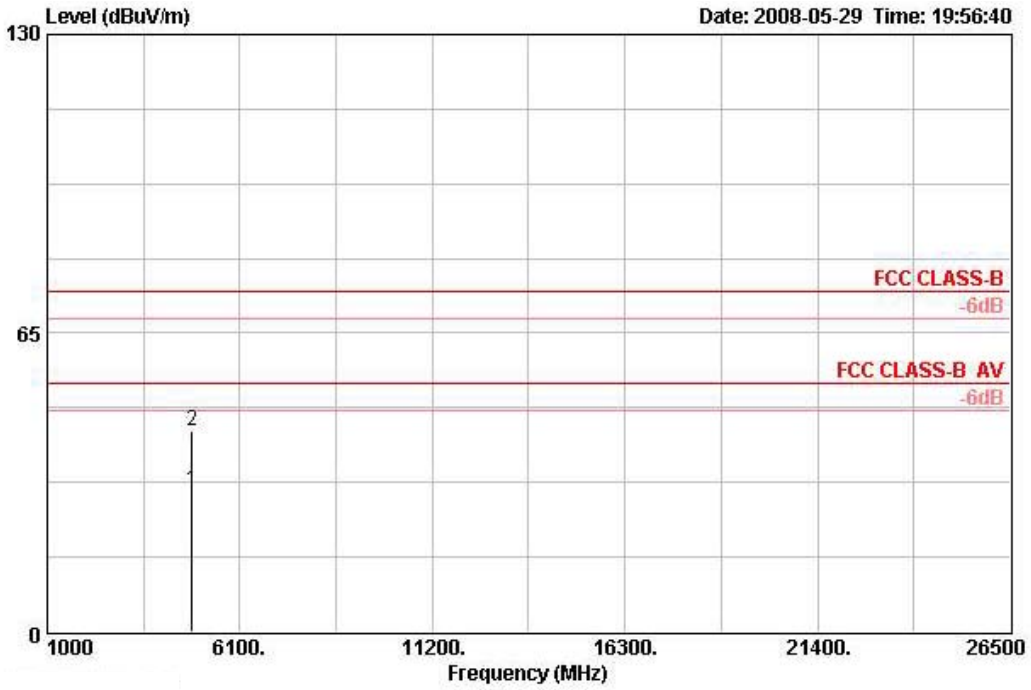
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	802.11g CH 1 Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4824.420	43.21	-30.79	74.00	41.38	33.06	3.94	35.16	PEAK	114	238	HORIZONTAL
2	4824.440	30.46	-23.54	54.00	28.63	33.06	3.94	35.16	AVERAGE	114	238	HORIZONTAL

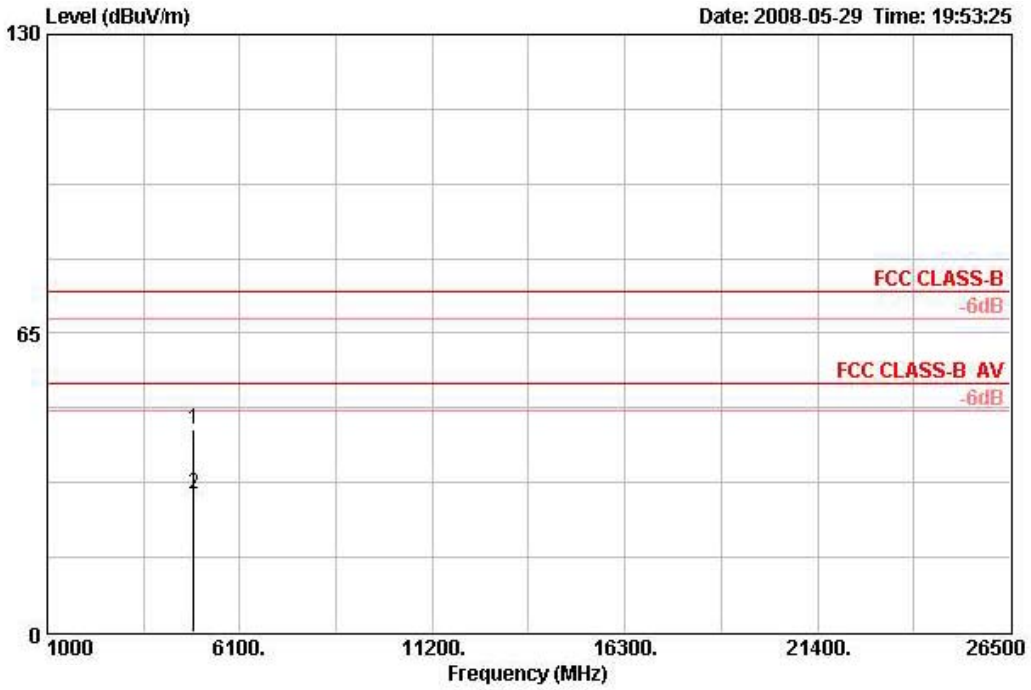
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4824.020	30.88	-23.12	54.00	29.06	33.06	3.94	35.16	AVERAGE	100	114	VERTICAL
2	4824.660	43.81	-30.19	74.00	41.98	33.06	3.94	35.16	PEAK	100	114	VERTICAL

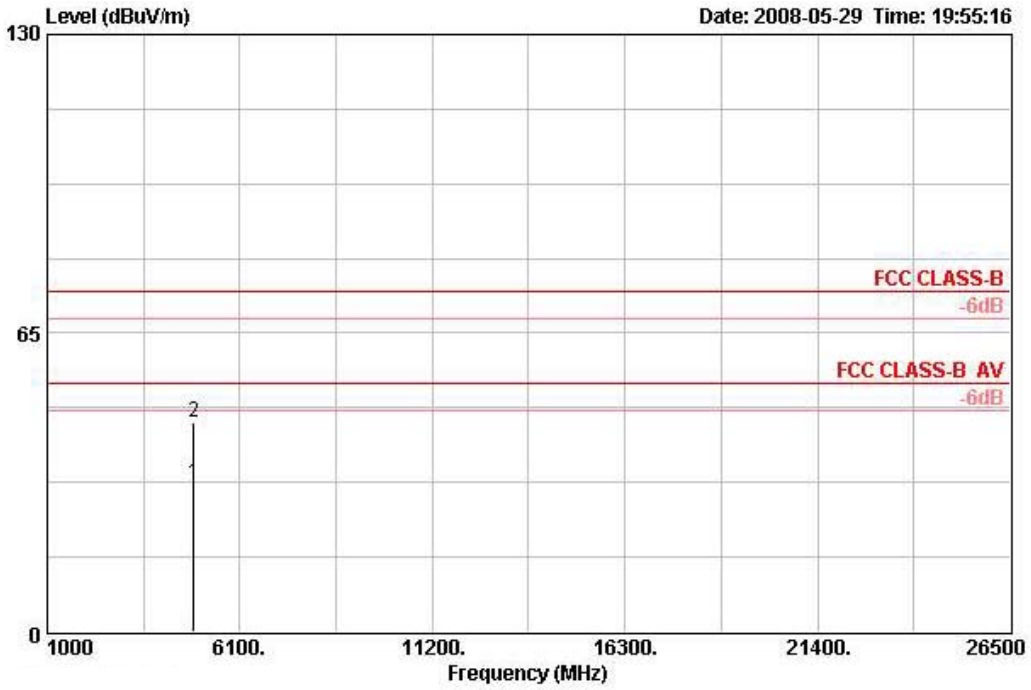
Temperature	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	802.11g CH 6 Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4871.860	43.95	-30.05	74.00	41.99	33.16	3.96	35.15	PEAK	100	328	HORIZONTAL
2	4874.060	30.18	-23.82	54.00	28.21	33.16	3.96	35.15	AVERAGE	100	328	HORIZONTAL

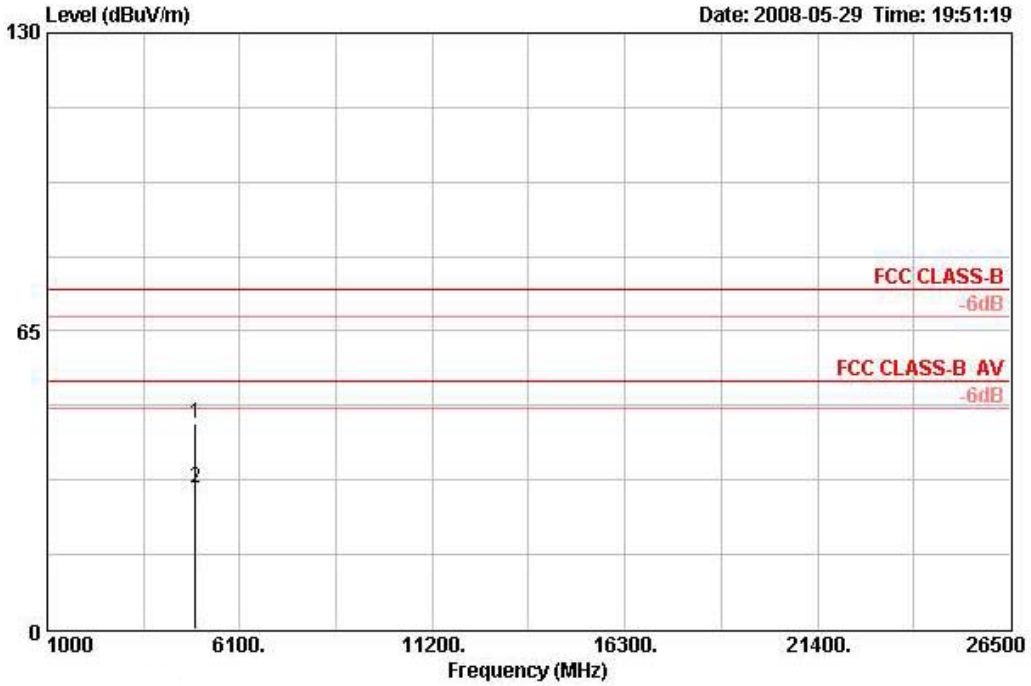
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	4874.800	32.22	-21.78	54.00	30.25	33.16	3.96	35.15	AVERAGE	100	178	VERTICAL
2	4874.800	45.61	-28.39	74.00	43.65	33.16	3.96	35.15	PEAK	100	178	VERTICAL

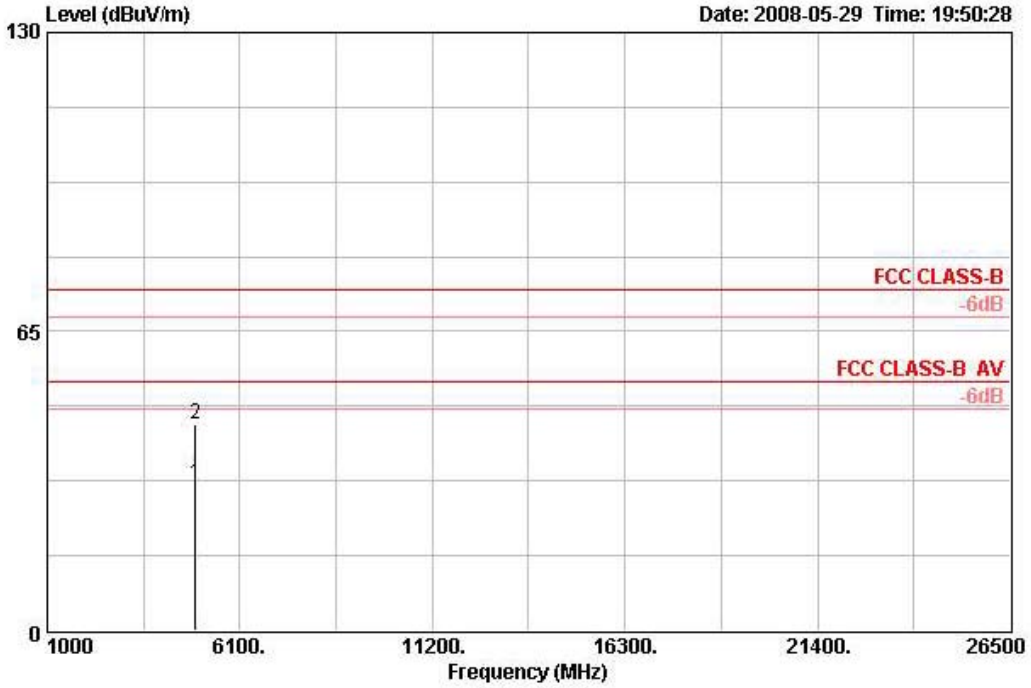
Temperature	23°C	Humidity	62%
Test Engineer	Jacky Ho	Configurations	802.11g CH 11 Ant. C

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4923.400	44.92	-29.08	74.00	42.82	33.26	3.98	35.14	PEAK	108	41	HORIZONTAL
2	4924.420	30.92	-23.08	54.00	28.81	33.26	3.98	35.14	AVERAGE	108	41	HORIZONTAL

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	4924.040	31.76	-22.24	54.00	29.65	33.26	3.98	35.14	AVERAGE	100	191	VERTICAL
2	4925.620	44.84	-29.16	74.00	42.74	33.26	3.98	35.14	PEAK	100	191	VERTICAL

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 (micorvolts/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)	1MHz / 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 freqeuncy 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	23°C	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Draft n MCS8 20MHz Ch 1, 6, 11 Ant. A + Ant. C
Test Date	May. 30, 2008		

Channel 1

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2389.000	64.67	-9.33	74.00	33.80	28.17	2.70	0.00	PEAK	100	137	VERTICAL
2 @	2390.000	51.65	-2.35	54.00	20.76	28.17	2.71	0.00	AVERAGE	100	137	VERTICAL
3 @	2404.600	100.69			69.77	28.21	2.71	0.00	AVERAGE	100	137	VERTICAL
4 @	2405.200	110.50			79.58	28.21	2.71	0.00	PEAK	100	137	VERTICAL

Item 3, 4 are the fundamental frequency at 2412 MHz

Channel 6

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2389.000	58.17	-15.83	74.00	27.30	28.17	2.70	0.00	PEAK	122	138	VERTICAL
2 @	2390.000	46.80	-7.20	54.00	15.92	28.17	2.71	0.00	AVERAGE	122	138	VERTICAL
3 @	2432.800	99.48			68.50	28.25	2.73	0.00	AVERAGE	122	138	VERTICAL
4 @	2435.400	109.80			78.78	28.29	2.73	0.00	PEAK	122	138	VERTICAL
5 @	2483.500	56.06	-17.94	74.00	24.93	28.37	2.76	0.00	PEAK	122	138	VERTICAL
6 @	2483.500	46.26	-7.74	54.00	15.13	28.37	2.76	0.00	AVERAGE	122	138	VERTICAL

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

Channel 11

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2465.800	98.28			67.21	28.33	2.74	0.00	AVERAGE	100	135	VERTICAL
2 @	2469.400	108.65			77.52	28.37	2.76	0.00	PEAK	100	135	VERTICAL
3 @	2483.500	52.03	-1.97	54.00	20.90	28.37	2.76	0.00	AVERAGE	100	135	VERTICAL
4 @	2483.700	65.78	-8.22	74.00	34.66	28.37	2.76	0.00	PEAK	100	135	VERTICAL

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

Temperature	23℃	Humidity	60%
Test Engineer	Jacky Ho	Configurations	Draft n MCS8 40MHz Ch 3, 6, 9 Ant. A + Ant. C
Test Date	May. 30, 2008		

Channel 3

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2382.800	66.79	-7.21	74.00	35.96	28.13	2.70	0.00	PEAK	100	140	VERTICAL
2 @	2389.600	53.50	-0.50	54.00	22.63	28.17	2.70	0.00	AVERAGE	100	140	VERTICAL
3 @	2406.400	106.47			75.55	28.21	2.71	0.00	PEAK	100	140	VERTICAL
4 @	2406.400	96.54			65.62	28.21	2.71	0.00	AVERAGE	100	140	VERTICAL

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

Channel 6

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2386.800	62.40	-11.60	74.00	31.53	28.17	2.70	0.00	PEAK	100	140	VERTICAL
2 @	2390.000	49.63	-4.37	54.00	18.74	28.17	2.71	0.00	AVERAGE	100	140	VERTICAL
3 @	2422.200	96.36			65.38	28.25	2.73	0.00	AVERAGE	100	140	VERTICAL
4 @	2423.800	104.98			74.00	28.25	2.73	0.00	PEAK	100	140	VERTICAL

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

Channel 9

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2449.200	96.83			65.80	28.29	2.74	0.00	AVERAGE	150	237	VERTICAL
2 @	2450.000	107.10			76.07	28.29	2.74	0.00	PEAK	150	237	VERTICAL
3 @	2484.300	53.44	-0.56	54.00	22.32	28.37	2.76	0.00	AVERAGE	150	237	VERTICAL
4 @	2485.900	66.78	-7.22	74.00	35.61	28.41	2.76	0.00	PEAK	150	237	VERTICAL

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

Note:

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

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

Temperature	23℃	Humidity	60%
Test Engineer	Jacky Ho	Configurations	802.11b CH 1, 6, 11 Ant. C
Test Date	May. 30, 2008		

Channel 1

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2387.400	52.06	-1.94	54.00	21.19	28.17	2.70	0.00	AVERAGE	100	140	VERTICAL
2 @	2388.400	61.62	-12.38	74.00	30.75	28.17	2.70	0.00	PEAK	100	140	VERTICAL
3 @	2409.400	105.85			74.92	28.21	2.71	0.00	AVERAGE	100	140	VERTICAL
4 @	2413.200	109.21			78.29	28.21	2.71	0.00	PEAK	100	140	VERTICAL

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

Channel 6

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2389.200	56.86	-17.14	74.00	25.99	28.17	2.70	0.00	PEAK	175	134	VERTICAL
2 @	2390.000	46.15	-7.85	54.00	15.26	28.17	2.71	0.00	AVERAGE	175	134	VERTICAL
3 @	2434.400	105.05			74.03	28.29	2.73	0.00	AVERAGE	175	134	VERTICAL
4 @	2435.600	108.32			77.30	28.29	2.73	0.00	PEAK	175	134	VERTICAL
5 @	2483.500	55.59	-18.41	74.00	24.46	28.37	2.76	0.00	PEAK	175	134	VERTICAL
6 @	2483.500	45.63	-8.37	54.00	14.50	28.37	2.76	0.00	AVERAGE	175	134	VERTICAL

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

Channel 11

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2464.800	101.94			70.87	28.33	2.74	0.00	AVERAGE	100	111	VERTICAL
2 @	2465.800	105.23			74.16	28.33	2.74	0.00	PEAK	100	111	VERTICAL
3 @	2487.300	52.74	-1.26	54.00	21.57	28.41	2.76	0.00	AVERAGE	100	111	VERTICAL
4 @	2488.500	61.48	-12.52	74.00	30.31	28.41	2.76	0.00	PEAK	100	111	VERTICAL

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

Temperature	23℃	Humidity	60%
Test Engineer	Jacky Ho	Configurations	802.11g CH 1, 6, 11 Ant. C
Test Date	May. 30, 2008		

Channel 1

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2389.400	64.56	-9.44	74.00	33.69	28.17	2.70	0.00	PEAK	100	139	VERTICAL
2 @	2390.000	49.89	-4.11	54.00	19.00	28.17	2.71	0.00	AVERAGE	100	139	VERTICAL
3 @	2404.800	99.77			68.85	28.21	2.71	0.00	AVERAGE	100	139	VERTICAL
4 @	2405.200	108.63			77.71	28.21	2.71	0.00	PEAK	100	139	VERTICAL

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

Channel 6

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2389.200	58.60	-15.40	74.00	27.73	28.17	2.70	0.00	PEAK	100	139	VERTICAL
2 @	2390.000	47.28	-6.72	54.00	16.39	28.17	2.71	0.00	AVERAGE	100	139	VERTICAL
3 @	2430.600	107.13			76.16	28.25	2.73	0.00	PEAK	100	139	VERTICAL
4 @	2433.000	97.84			66.86	28.25	2.73	0.00	AVERAGE	100	139	VERTICAL
5 @	2483.500	45.11	-8.89	54.00	13.98	28.37	2.76	0.00	AVERAGE	100	139	VERTICAL
6 @	2483.700	55.83	-18.17	74.00	24.71	28.37	2.76	0.00	PEAK	100	139	VERTICAL

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

Channel 11

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	2464.000	97.27			66.19	28.33	2.74	0.00	AVERAGE	100	91	VERTICAL
2 @	2465.000	106.30			75.23	28.33	2.74	0.00	PEAK	100	91	VERTICAL
3 @	2483.500	49.86	-4.14	54.00	18.73	28.37	2.76	0.00	AVERAGE	100	91	VERTICAL
4 @	2483.700	61.88	-12.12	74.00	30.75	28.37	2.76	0.00	PEAK	100	91	VERTICAL

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

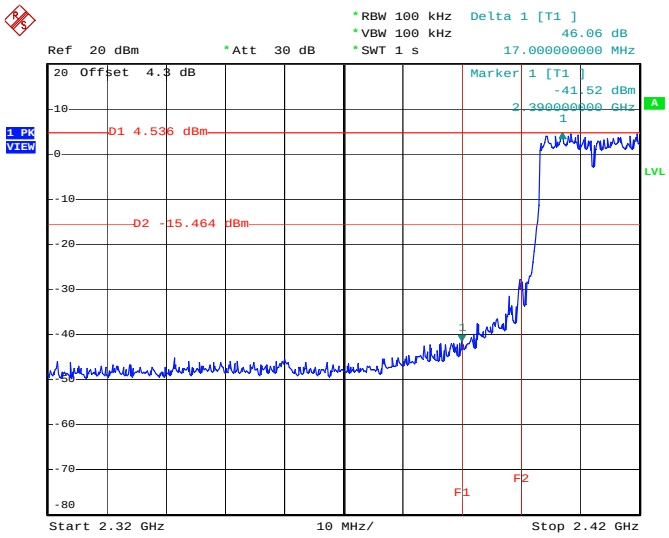
Note:

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

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

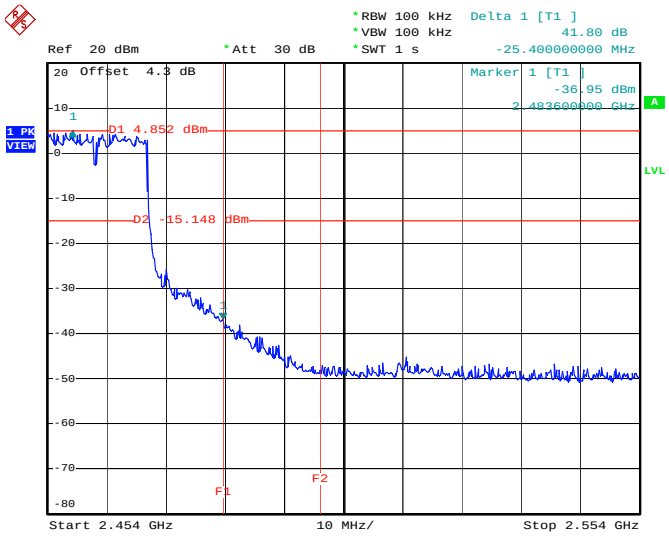
For Emission not in Restricted Band

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



Date: 30.MAY.2008 17:28:10

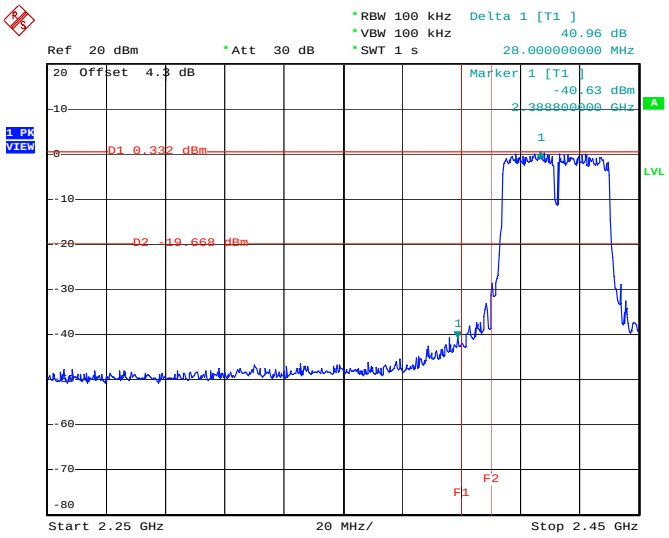
High Band Edge Plot on Configuration Draft n MCS8 20MHz Ant. A + Ant. C / 2462 MHz



Date: 30.MAY.2008 17:29:51

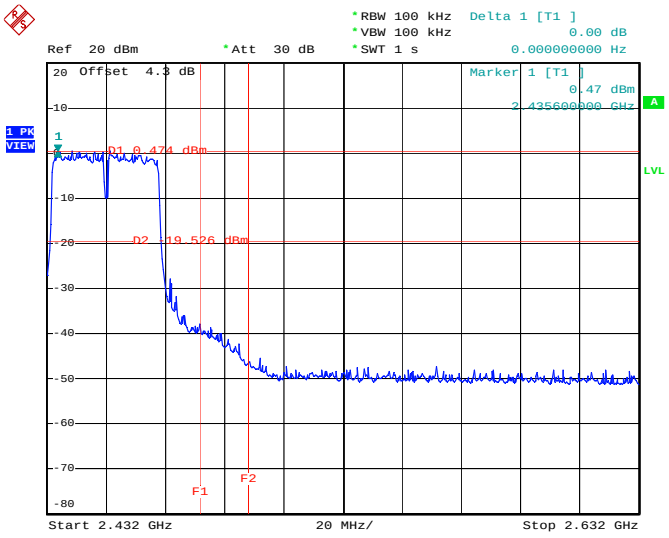
For Emission not in Restricted Band

Low Band Edge Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. C / 2422 MHz



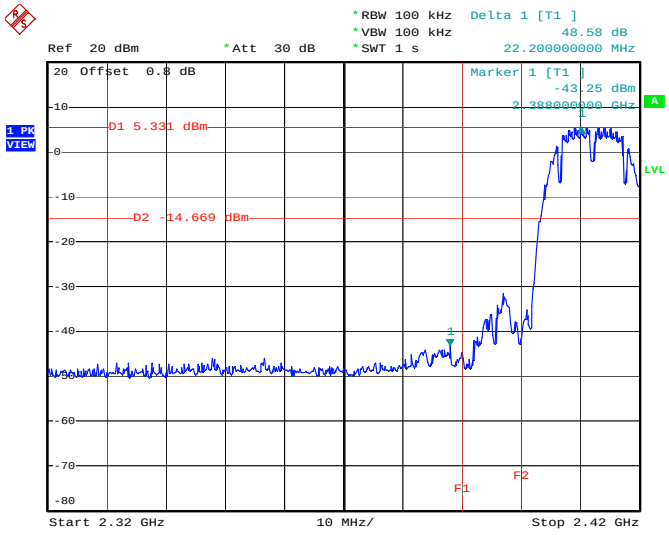
Date: 30.MAY.2008 17:26:52

High Band Edge Plot on Configuration Draft n MCS8 40MHz Ant. A + Ant. C / 2452 MHz



Date: 30.MAY.2008 17:24:56

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



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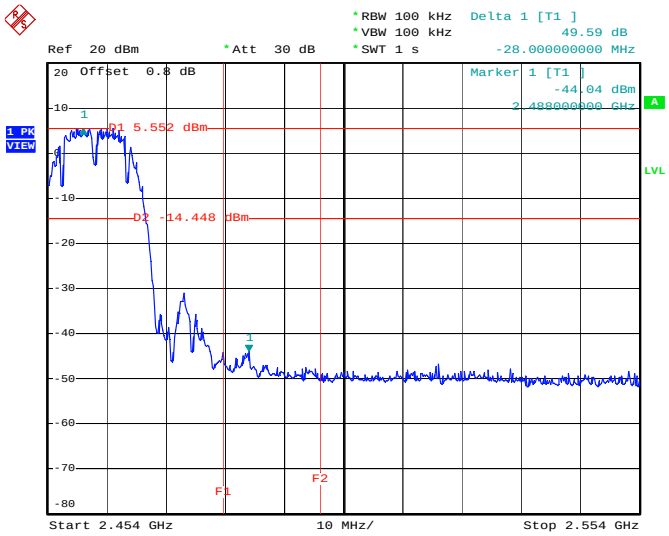
High Band Edge Plot on Configuration IEEE 802.11b Ant. C / 2462 MHz



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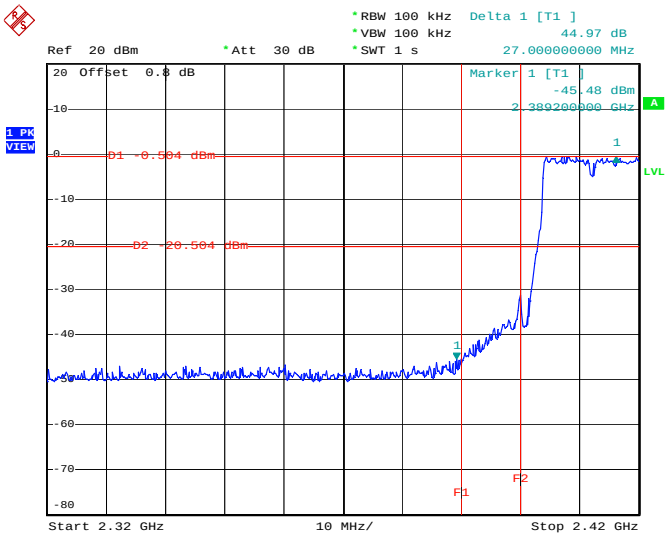
Low Band Edge Plot on Configuration IEEE 802.11g Ant. C / 2412 MHz



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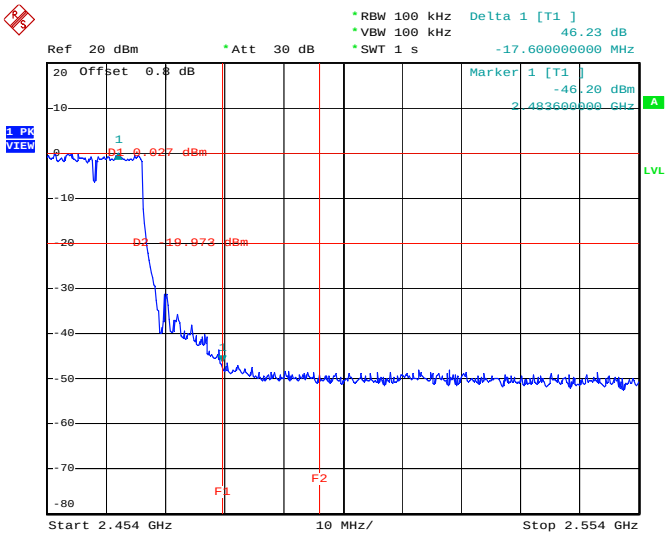

Date: 30.MAY.2008 17:32:31

4.7. Antenna Requirements

4.7.1. Limit

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

4.7.2. Antenna Connector Construction

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

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	Mar. 03, 2008	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2008	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2008	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2008	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz –30MHz	Mar. 27, 2008	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 14, 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)
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5 GHz - 40 GHz	Jan. 22, 2007*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP40	100305	9 kHz - 40 GHz	Sep. 27, 2007	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	May 23, 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	May 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)
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. 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)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	May 04, 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.

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 2nd Rd., Taipei 114, Taiwan, R.O.C.
	TEL	:	886-2-2794-8886
	FAX	:	886-2-2794-9777
JHUBEI	ADD	:	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.
	TEL	:	886-3-656-9065
	FAX	:	886-3-656-9085

7. TAF CERTIFICATE OF ACCREDITATION

Certificate No. : L1190-070110

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

Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

is accredited in respect of laboratory

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

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

P1, total 9 pages

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