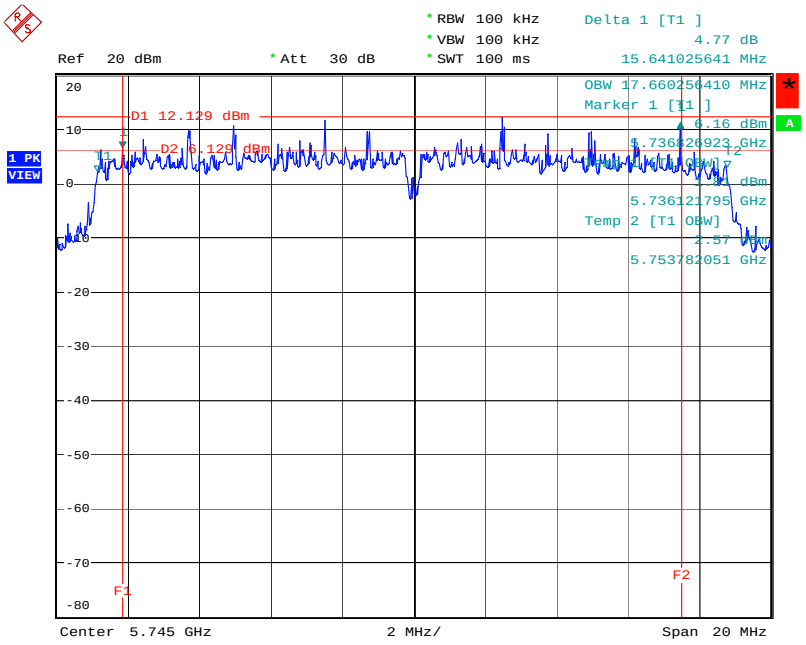
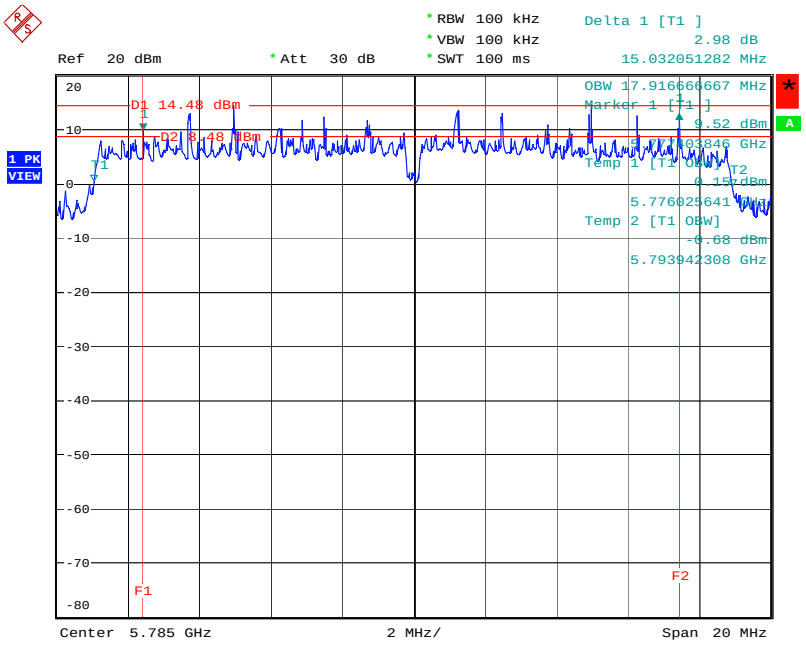
6 dB Bandwidth Plot on Configuration 11a Draft n MCS8 20MHz Ant. 7/ 5745 MHz



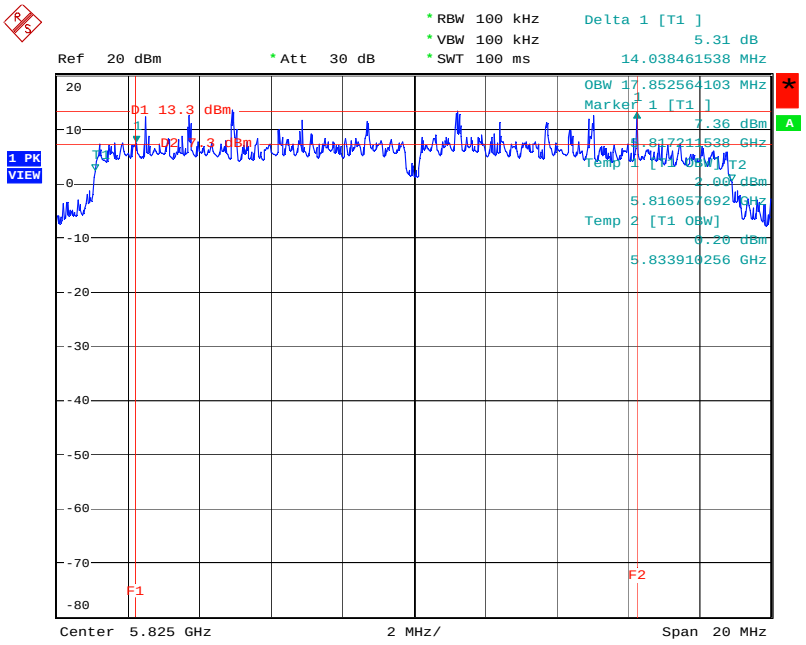
Date: 20.MAR.2008 21:36:55

6 dB Bandwidth Plot on Configuration 11a Draft n MCS8 20MHz Ant. 7/ 5785MHz



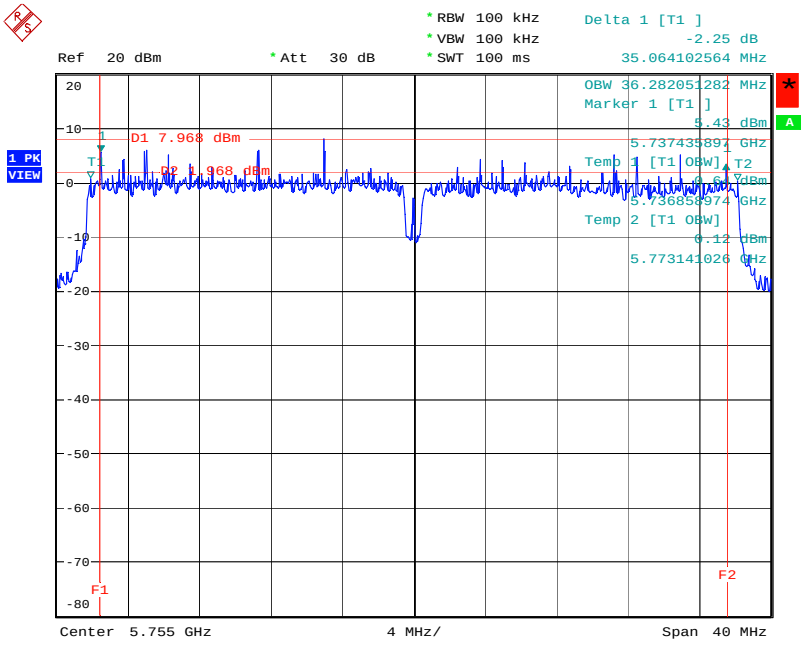
Date: 20.MAR.2008 21:37:55

6 dB Bandwidth Plot on Configuration 11a Draft n MCS8 20MHz Ant. 7/ 5825 MHz



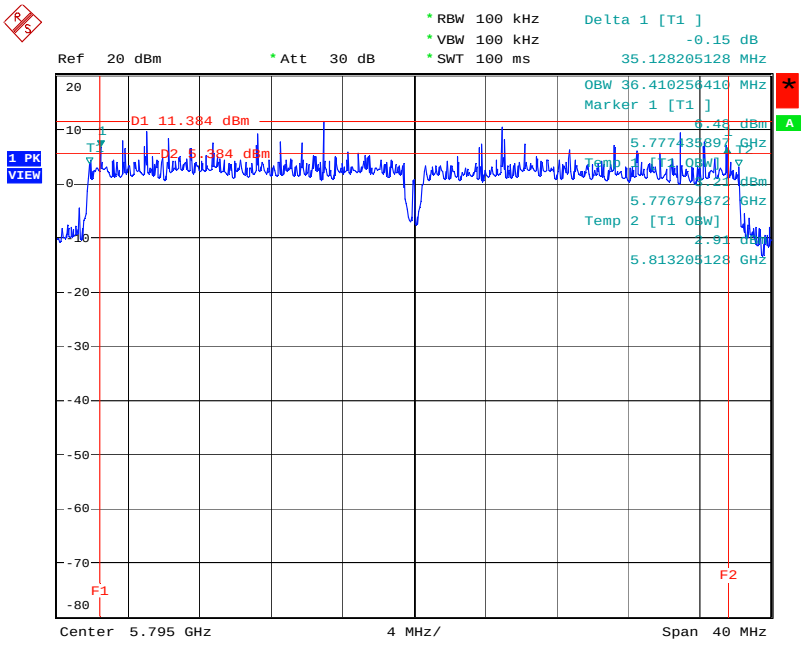
Date: 20.MAR.2008 21:38:49

6 dB Bandwidth Plot on Configuration 11a Draft n MCS8 40MHz Ant. 7/ 5755MHz



Date: 20.MAR.2008 20:40:21

6 dB Bandwidth Plot on Configuration 11a Draft n MCS8 40MHz Ant. 7/ 5795 MHz



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

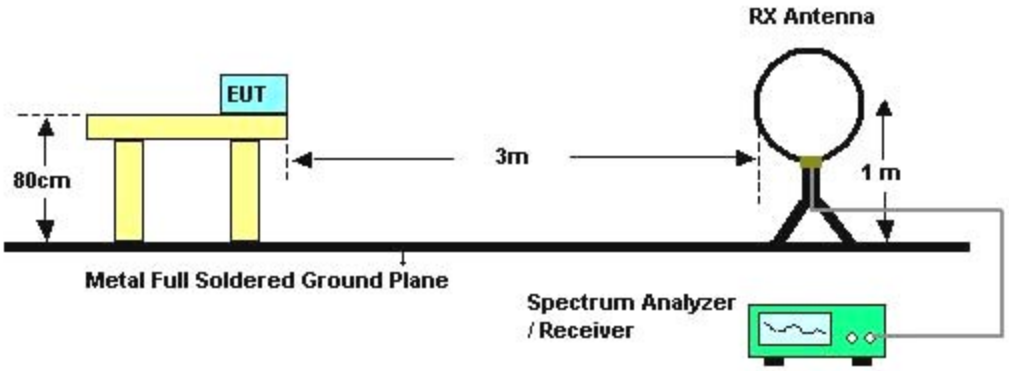
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.5.3. Test Procedures

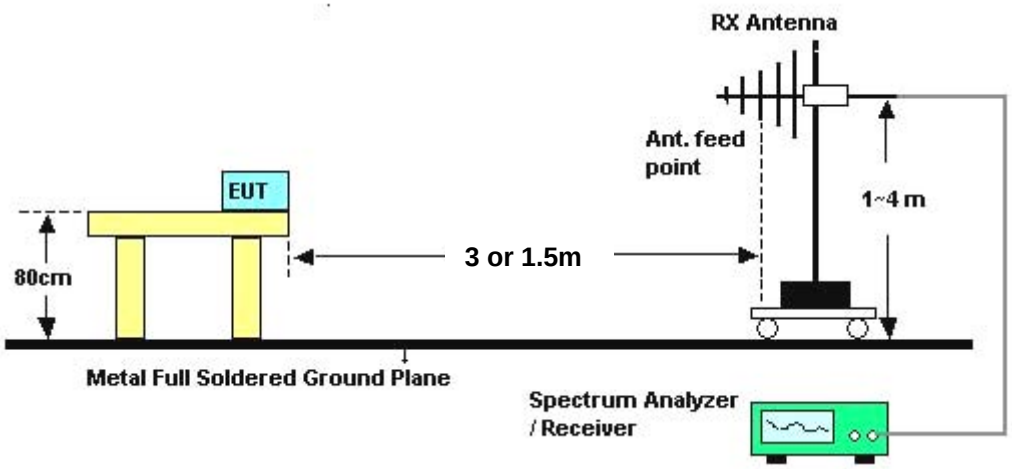
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting 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℃	Humidity	62%
Test Engineer	Jax Chen		

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.

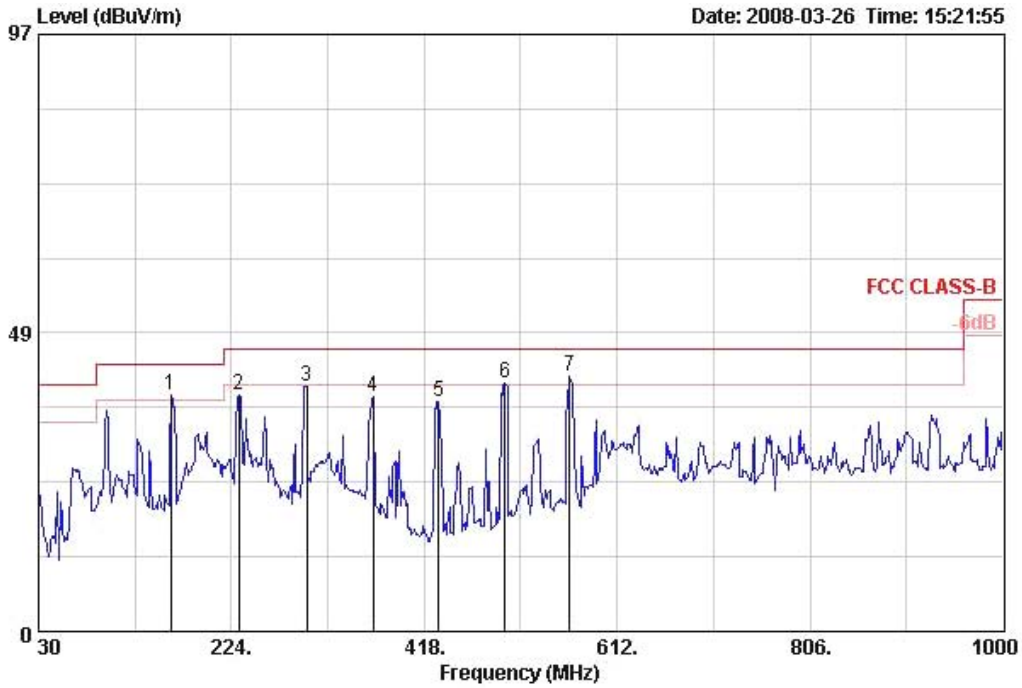
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

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

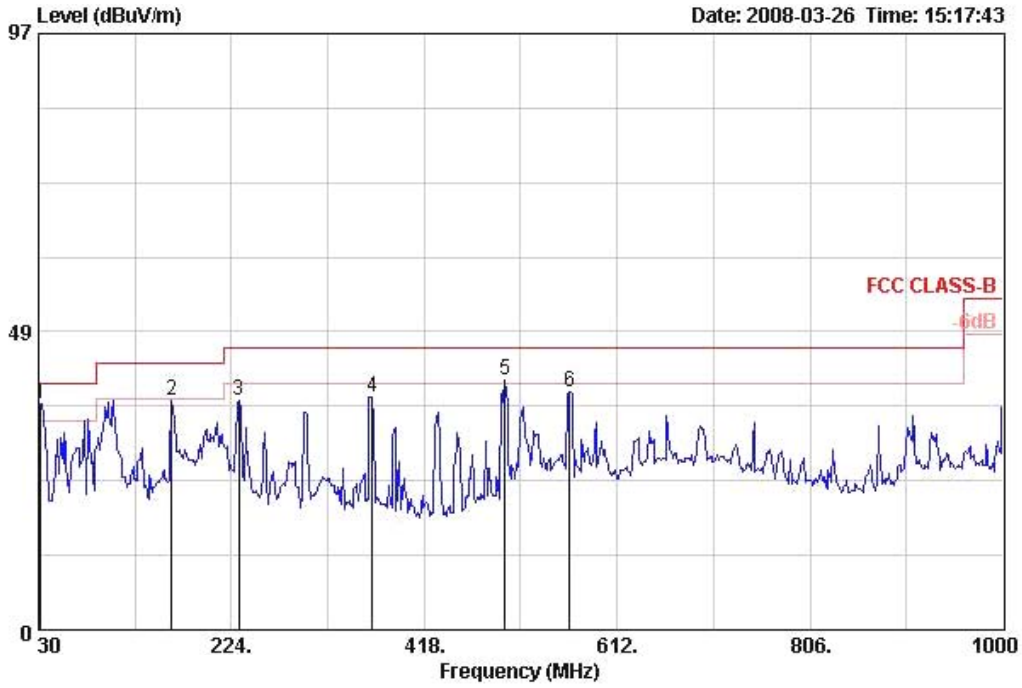
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	Normal Link / Ant. 1

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 !	162.890	38.33	-5.17	43.50	57.35	10.51	2.00	31.53	Peak	100	-1	HORIZONTAL
2	231.760	38.54	-7.46	46.00	56.41	11.30	2.21	31.38	Peak	100	-1	HORIZONTAL
3	299.660	39.92	-6.08	46.00	55.04	14.00	2.20	31.32	Peak	100	-1	HORIZONTAL
4	366.590	38.01	-7.99	46.00	50.88	15.80	2.50	31.17	Peak	100	-1	HORIZONTAL
5	432.550	37.21	-8.79	46.00	48.35	16.99	2.83	30.96	Peak	100	-1	HORIZONTAL
6 !	499.480	40.42	-5.58	46.00	50.19	17.89	3.28	30.94	Peak	100	-1	HORIZONTAL
7 @	564.470	41.45	-4.55	46.00	50.07	18.96	3.17	30.75	Peak	100	-1	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 @	31.940	36.76	-3.24	40.00	48.84	18.66	0.93	31.67	Peak	400	-1	VERTICAL
2	163.860	37.34	-6.16	43.50	56.39	10.48	2.00	31.53	Peak	400	-1	VERTICAL
3	231.760	37.18	-8.82	46.00	55.05	11.30	2.21	31.38	Peak	400	-1	VERTICAL
4	365.620	37.92	-8.08	46.00	50.83	15.78	2.49	31.17	Peak	400	-1	VERTICAL
5 !	499.480	40.52	-5.48	46.00	50.29	17.89	3.28	30.94	Peak	400	-1	VERTICAL
6	564.470	38.82	-7.18	46.00	47.44	18.96	3.17	30.75	Peak	400	-1	VERTICAL

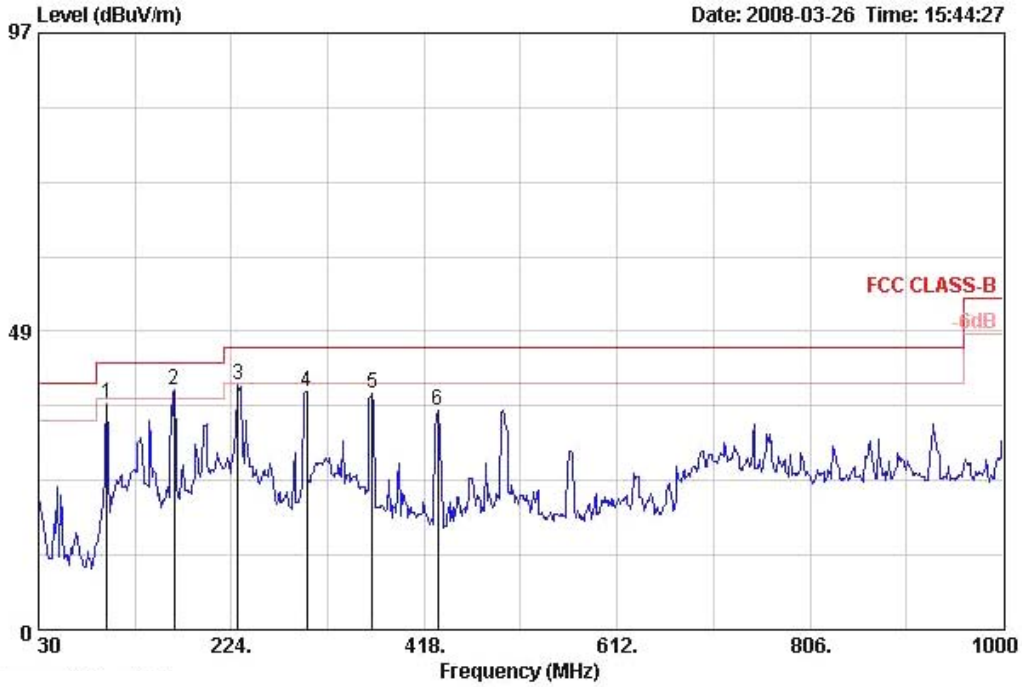
Note:

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

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

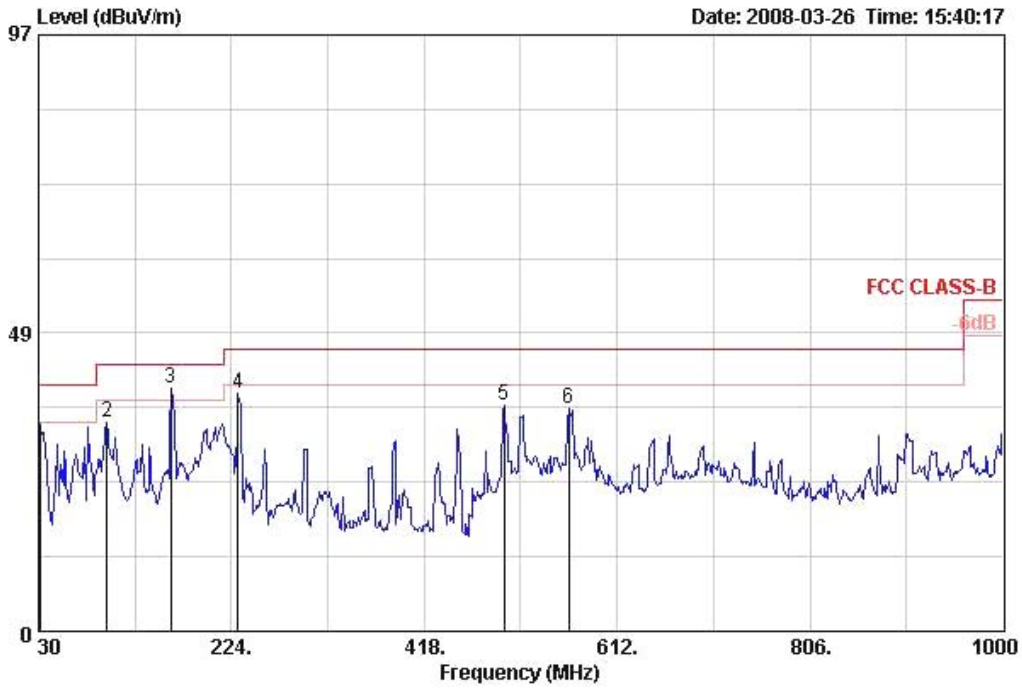
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	Normal Link / Ant. 2

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	98.870	36.73	-6.77	43.50	55.93	11.02	1.50	31.72	Peak	100	-4	HORIZONTAL
2 @	166.770	38.85	-4.65	43.50	58.01	10.39	2.00	31.55	Peak	100	-4	HORIZONTAL
3	230.790	39.68	-6.32	46.00	57.65	11.20	2.21	31.38	Peak	100	-4	HORIZONTAL
4	299.660	38.61	-7.39	46.00	53.73	14.00	2.20	31.32	Peak	100	-4	HORIZONTAL
5	365.620	38.37	-7.63	46.00	51.27	15.78	2.49	31.17	Peak	100	-4	HORIZONTAL
6	431.580	35.51	-10.49	46.00	46.66	16.98	2.83	30.96	Peak	100	-4	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	30.970	33.60	-6.40	40.00	45.09	19.38	0.80	31.67	Peak	400	-1	VERTICAL
2	98.870	34.12	-9.38	43.50	53.32	11.02	1.50	31.72	Peak	400	-1	VERTICAL
3 @	162.890	39.65	-3.85	43.50	58.67	10.51	2.00	31.53	Peak	400	-1	VERTICAL
4	230.790	38.62	-7.38	46.00	56.59	11.20	2.21	31.38	Peak	400	-1	VERTICAL
5	498.510	36.65	-9.35	46.00	46.43	17.87	3.28	30.94	Peak	400	-1	VERTICAL
6	563.500	36.22	-9.78	46.00	44.85	18.95	3.17	30.75	Peak	400	-1	VERTICAL

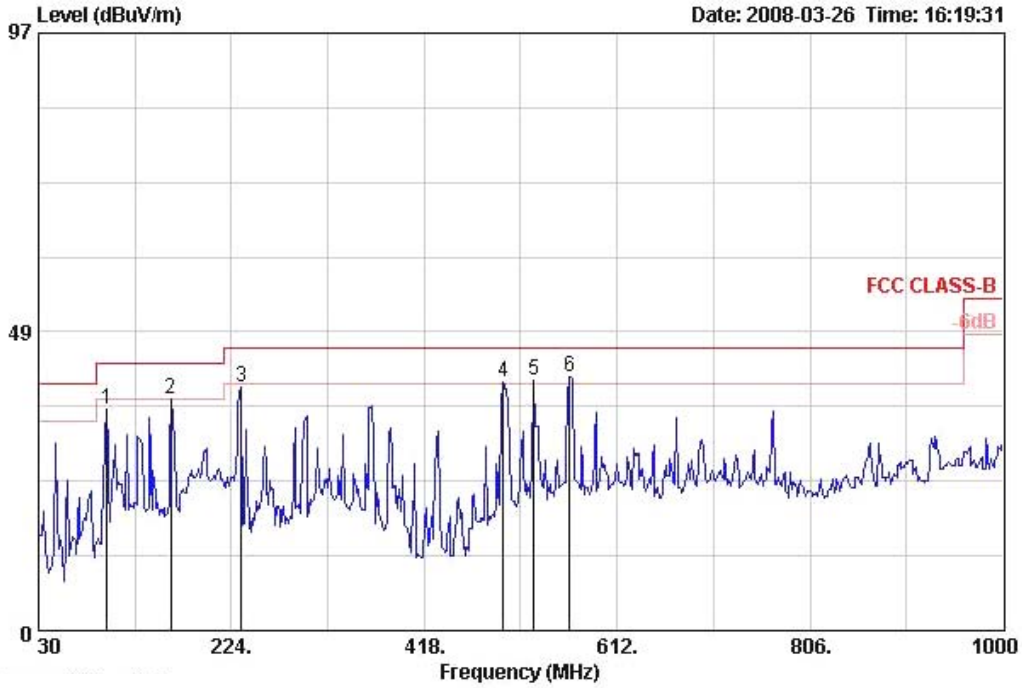
Note:

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

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

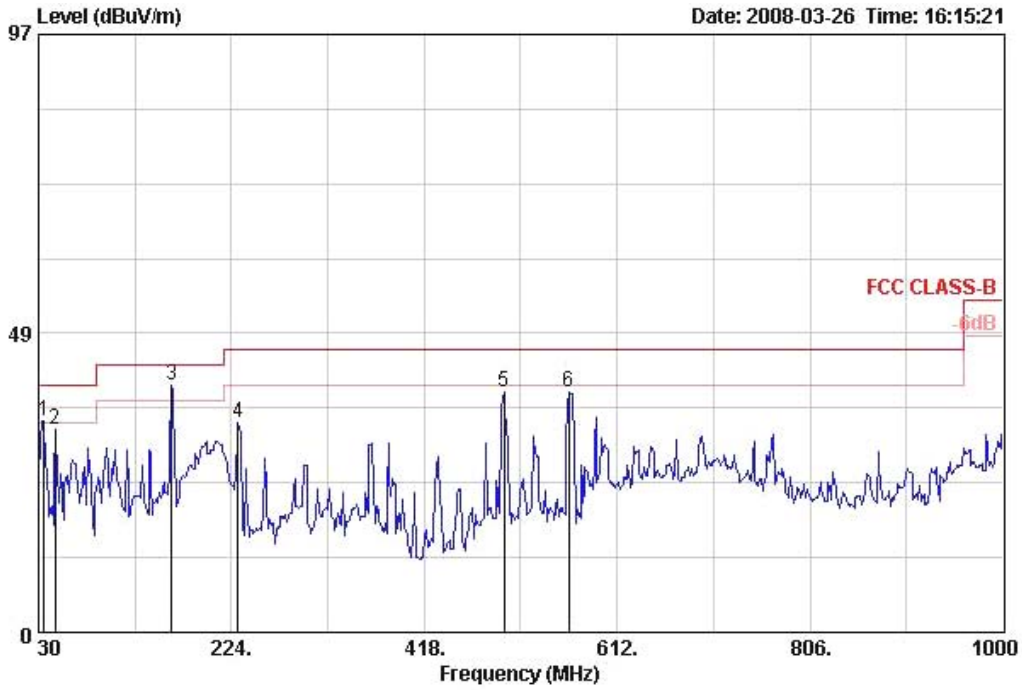
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	Normal Link / Ant. 3

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	98.870	36.00	-7.50	43.50	55.20	11.02	1.50	31.72	Peak	100	-1	HORIZONTAL
2 !	162.890	37.55	-5.95	43.50	56.57	10.51	2.00	31.53	Peak	100	-1	HORIZONTAL
3	233.700	39.50	-6.50	46.00	57.15	11.50	2.23	31.38	Peak	100	-1	HORIZONTAL
4 !	497.540	40.30	-5.70	46.00	50.11	17.86	3.27	30.94	Peak	100	-1	HORIZONTAL
5 !	528.580	40.74	-5.26	46.00	49.86	18.47	3.24	30.83	Peak	100	-1	HORIZONTAL
6 !	564.470	41.19	-4.81	46.00	49.81	18.96	3.17	30.75	Peak	100	-1	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 !	35.820	34.33	-5.67	40.00	48.85	15.98	1.20	31.70	Peak	400	-1	VERTICAL
2	46.490	32.86	-7.14	40.00	52.89	10.67	1.10	31.79	Peak	400	-1	VERTICAL
3 @	163.860	39.96	-3.54	43.50	59.01	10.48	2.00	31.53	Peak	400	-1	VERTICAL
4	230.790	33.89	-12.11	46.00	51.86	11.20	2.21	31.38	Peak	400	-1	VERTICAL
5	498.510	38.97	-7.03	46.00	48.75	17.87	3.28	30.94	Peak	400	-1	VERTICAL
6	563.500	38.86	-7.14	46.00	47.48	18.95	3.17	30.75	Peak	400	-1	VERTICAL

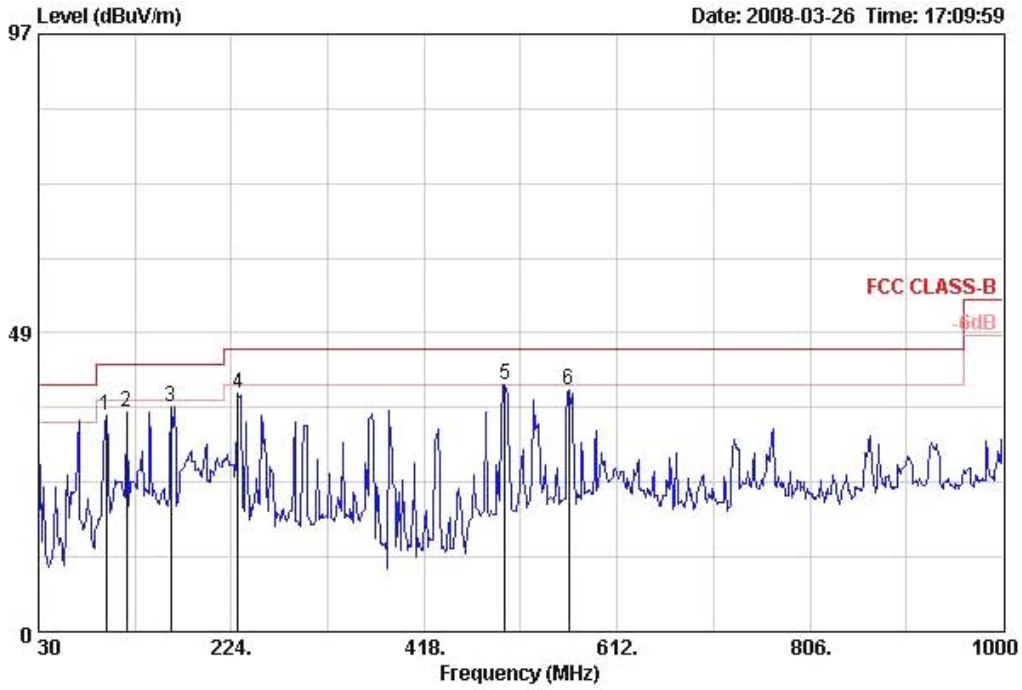
Note:

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

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

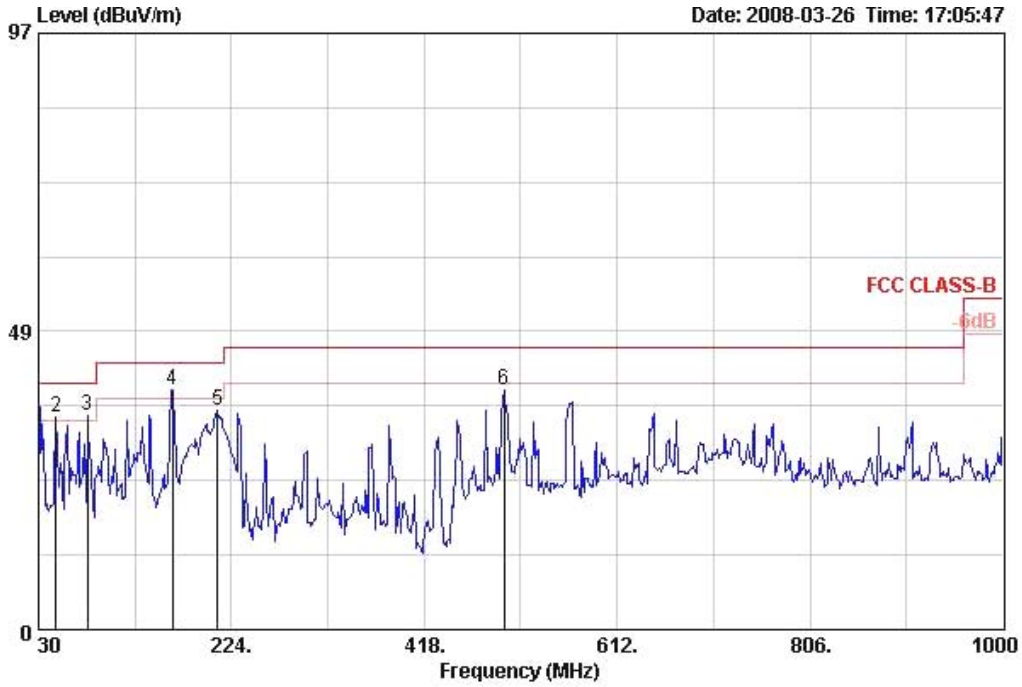
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	Normal Link / Ant. 4

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	97.900	35.03	-8.47	43.50	54.42	10.84	1.50	31.73	Peak	100	-4	HORIZONTAL
2	118.270	35.55	-7.95	43.50	52.86	12.88	1.57	31.76	Peak	100	-4	HORIZONTAL
3	162.890	36.55	-6.95	43.50	55.57	10.51	2.00	31.53	Peak	100	-4	HORIZONTAL
4	230.790	38.65	-7.35	46.00	56.62	11.20	2.21	31.38	Peak	100	-4	HORIZONTAL
5 !	499.480	40.14	-5.86	46.00	49.91	17.89	3.28	30.94	Peak	100	-4	HORIZONTAL
6	563.500	39.16	-6.84	46.00	47.78	18.95	3.17	30.75	Peak	100	-4	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 @	30.000	36.19	-3.81	40.00	46.96	20.10	0.80	31.67	Peak	400	-1	VERTICAL
2 !	47.460	34.56	-5.44	40.00	54.97	10.30	1.10	31.81	Peak	400	-1	VERTICAL
3 !	79.470	34.93	-5.07	40.00	57.87	7.51	1.30	31.75	Peak	400	-1	VERTICAL
4 !	164.830	39.06	-4.44	43.50	58.15	10.45	2.00	31.54	Peak	400	-1	VERTICAL
5	210.420	35.61	-7.89	43.50	54.37	10.60	2.06	31.42	Peak	400	-1	VERTICAL
6	498.510	38.86	-7.14	46.00	48.64	17.87	3.28	30.94	Peak	400	-1	VERTICAL

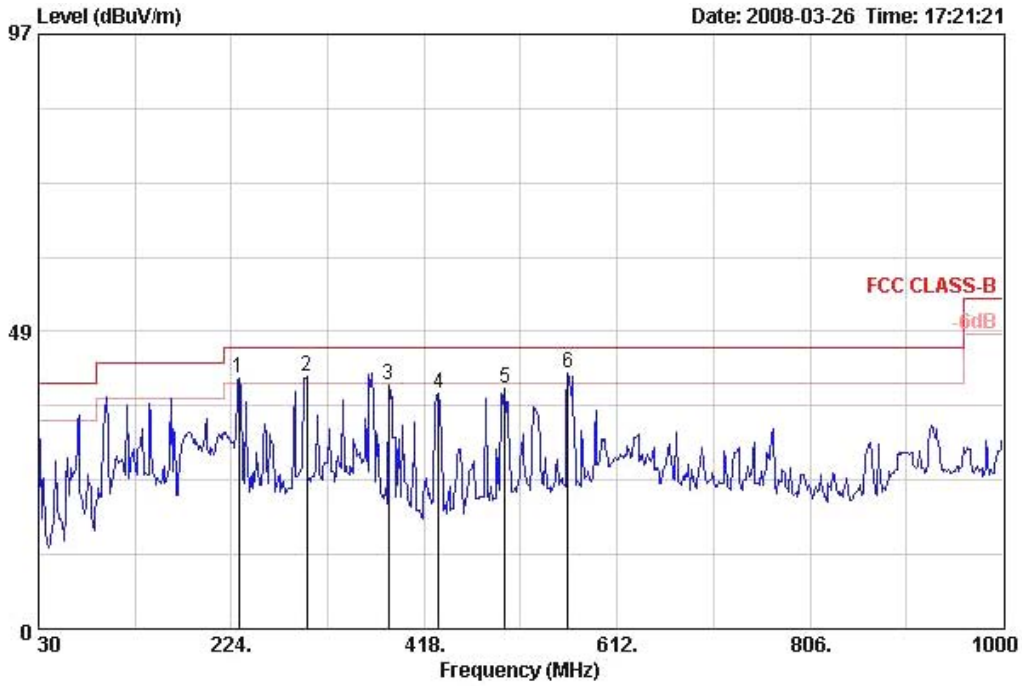
Note:

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

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

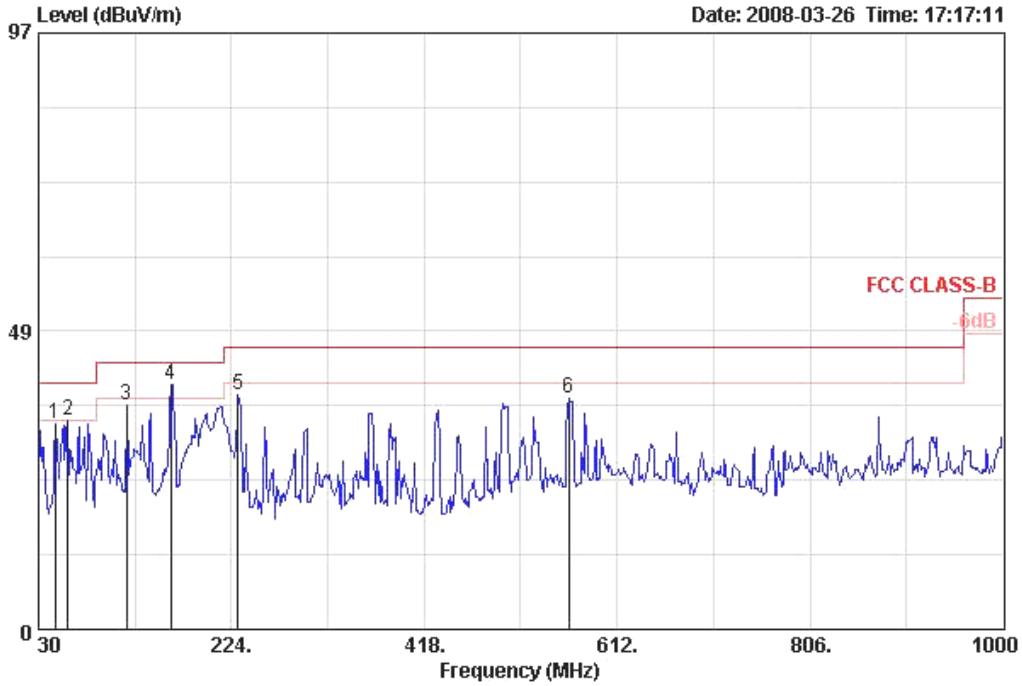
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	Normal Link / Ant. 5

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 !	231.760	40.85	-5.15	46.00	58.72	11.30	2.21	31.38	Peak	100	-5	HORIZONTAL
2 !	299.660	41.09	-4.91	46.00	56.21	14.00	2.20	31.32	Peak	100	-5	HORIZONTAL
3	382.110	39.90	-6.10	46.00	52.23	16.18	2.60	31.10	Peak	100	-5	HORIZONTAL
4	432.550	38.54	-7.46	46.00	49.68	16.99	2.83	30.96	Peak	100	-5	HORIZONTAL
5	499.480	39.35	-6.65	46.00	49.12	17.89	3.28	30.94	Peak	100	-5	HORIZONTAL
6 !	562.530	41.70	-4.30	46.00	50.32	18.95	3.18	30.75	Peak	100	-5	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	46.490	33.36	-6.64	40.00	53.38	10.67	1.10	31.79	Peak	400	-5	VERTICAL
2	59.100	34.00	-6.00	40.00	57.50	6.86	1.40	31.76	Peak	400	-5	VERTICAL
3	118.270	36.39	-7.11	43.50	53.69	12.88	1.57	31.76	Peak	400	-5	VERTICAL
4 @	162.890	39.87	-3.63	43.50	58.89	10.51	2.00	31.53	Peak	400	-5	VERTICAL
5	230.790	38.25	-7.75	46.00	56.22	11.20	2.21	31.38	Peak	400	-5	VERTICAL
6	563.500	37.47	-8.53	46.00	46.09	18.95	3.17	30.75	Peak	400	-5	VERTICAL

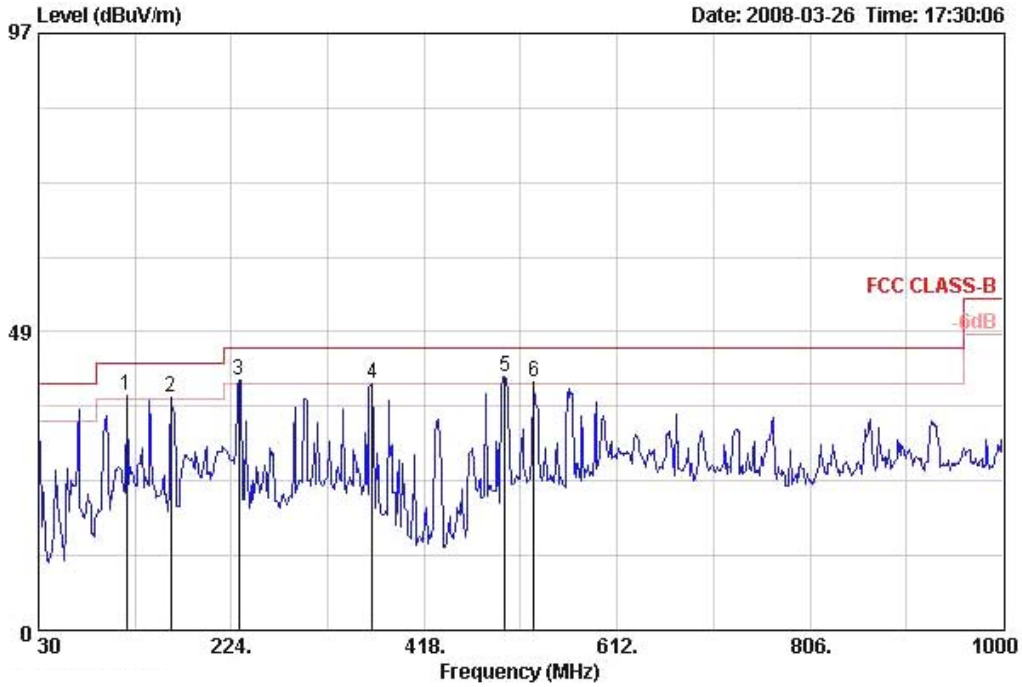
Note:

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

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

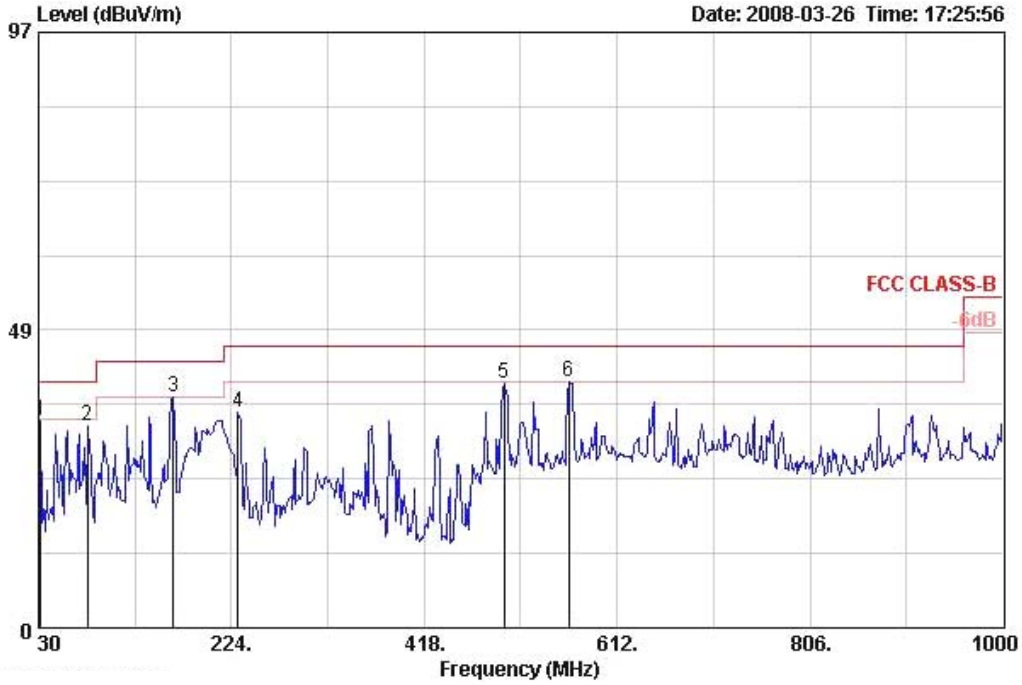
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	Normal Link / Ant. 6

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 !	118.270	38.16	-5.34	43.50	55.46	12.88	1.57	31.76	Peak	100	-1	HORIZONTAL
2 !	162.890	37.79	-5.71	43.50	56.81	10.51	2.00	31.53	Peak	100	-1	HORIZONTAL
3 !	231.760	40.66	-5.34	46.00	58.53	11.30	2.21	31.38	Peak	100	-1	HORIZONTAL
4	365.620	39.94	-6.06	46.00	52.85	15.78	2.49	31.17	Peak	100	-1	HORIZONTAL
5 @	499.480	41.31	-4.69	46.00	51.08	17.89	3.28	30.94	Peak	100	-1	HORIZONTAL
6 !	528.580	40.41	-5.59	46.00	49.53	18.47	3.24	30.83	Peak	100	-1	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	31.940	33.82	-6.18	40.00	45.90	18.66	0.93	31.67	Peak	400	-1	VERTICAL
2	79.470	32.81	-7.19	40.00	55.75	7.51	1.30	31.75	Peak	400	-1	VERTICAL
3 !	165.800	37.64	-5.86	43.50	56.76	10.42	2.00	31.55	Peak	400	-1	VERTICAL
4	230.790	35.22	-10.78	46.00	53.19	11.20	2.21	31.38	Peak	400	-1	VERTICAL
5	498.510	39.89	-6.11	46.00	49.67	17.87	3.28	30.94	Peak	400	-1	VERTICAL
6	563.500	39.96	-6.04	46.00	48.59	18.95	3.17	30.75	Peak	400	-1	VERTICAL

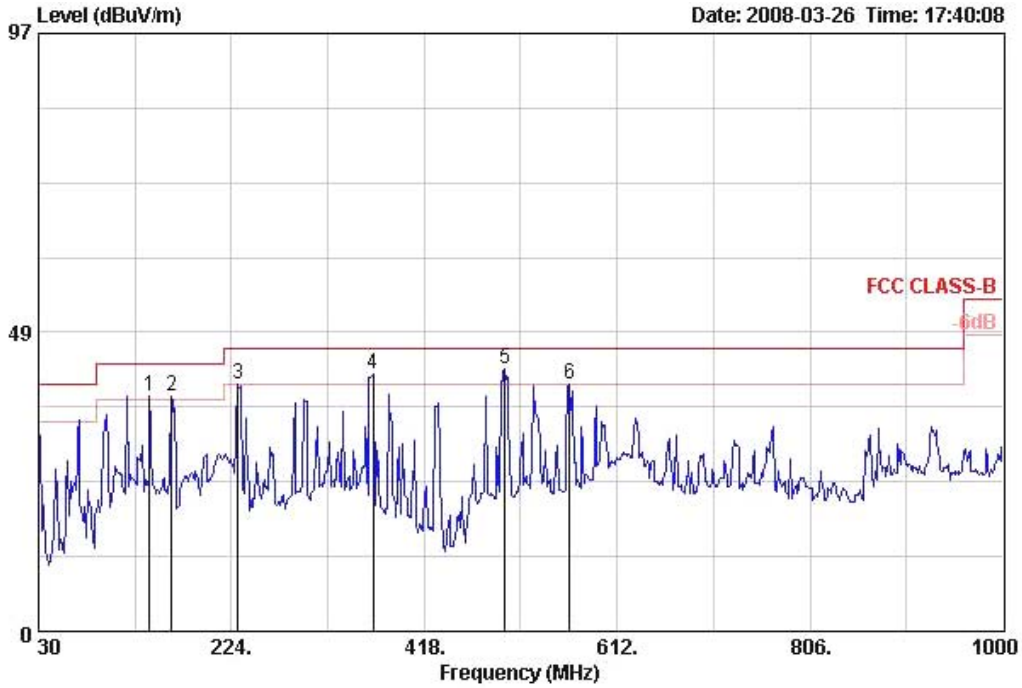
Note:

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

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

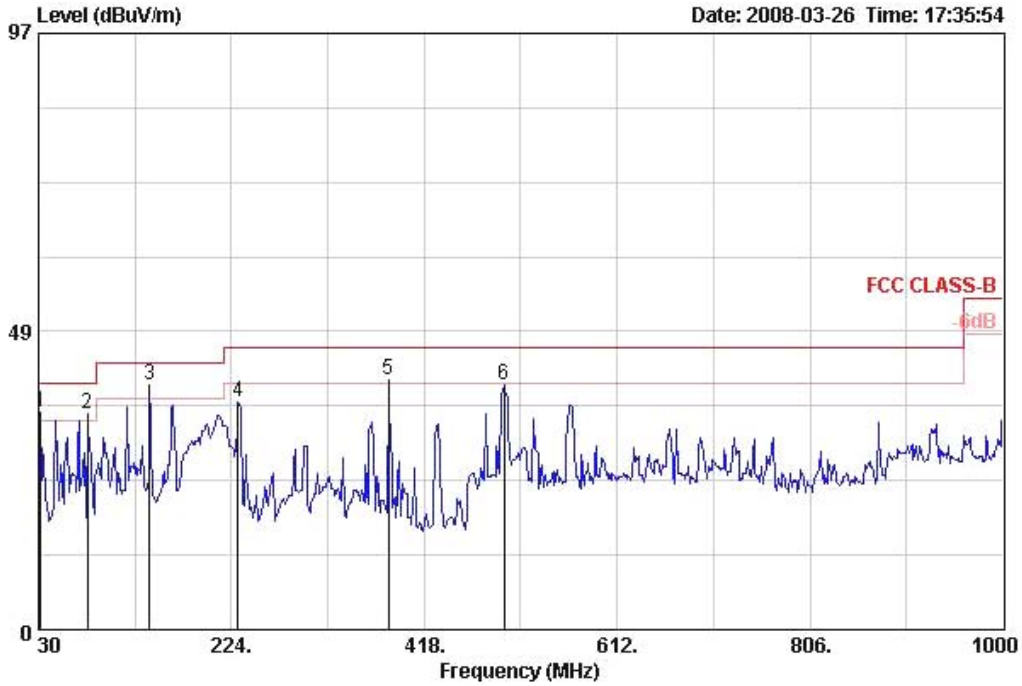
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	Normal Link / Ant. 7

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 !	141.550	38.25	-5.25	43.50	56.43	11.69	1.70	31.56	Peak	100	-1	HORIZONTAL
2 !	163.860	38.15	-5.35	43.50	57.21	10.48	2.00	31.53	Peak	100	-1	HORIZONTAL
3	230.790	39.97	-6.03	46.00	57.94	11.20	2.21	31.38	Peak	100	-1	HORIZONTAL
4 !	366.590	41.59	-4.41	46.00	54.46	15.80	2.50	31.17	Peak	100	-1	HORIZONTAL
5 @	499.480	42.62	-3.38	46.00	52.39	17.89	3.28	30.94	Peak	100	-1	HORIZONTAL
6	564.470	39.95	-6.05	46.00	48.57	18.96	3.17	30.75	Peak	100	-1	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 !	31.940	35.26	-4.74	40.00	47.34	18.66	0.93	31.67	Peak	400	-5	VERTICAL
2 !	79.470	35.05	-4.95	40.00	57.99	7.51	1.30	31.75	Peak	400	-5	VERTICAL
3 @	141.550	39.70	-3.80	43.50	57.88	11.69	1.70	31.56	Peak	400	-5	VERTICAL
4	230.790	37.12	-8.88	46.00	55.09	11.20	2.21	31.38	Peak	400	-5	VERTICAL
5 !	382.110	40.53	-5.47	46.00	52.86	16.18	2.60	31.10	Peak	400	-5	VERTICAL
6	498.510	39.71	-6.29	46.00	49.49	17.87	3.28	30.94	Peak	400	-5	VERTICAL

Note:

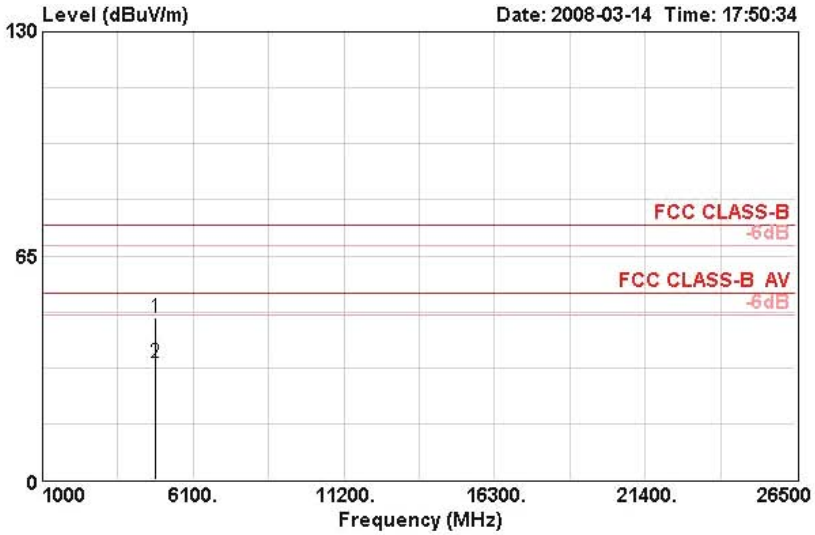
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

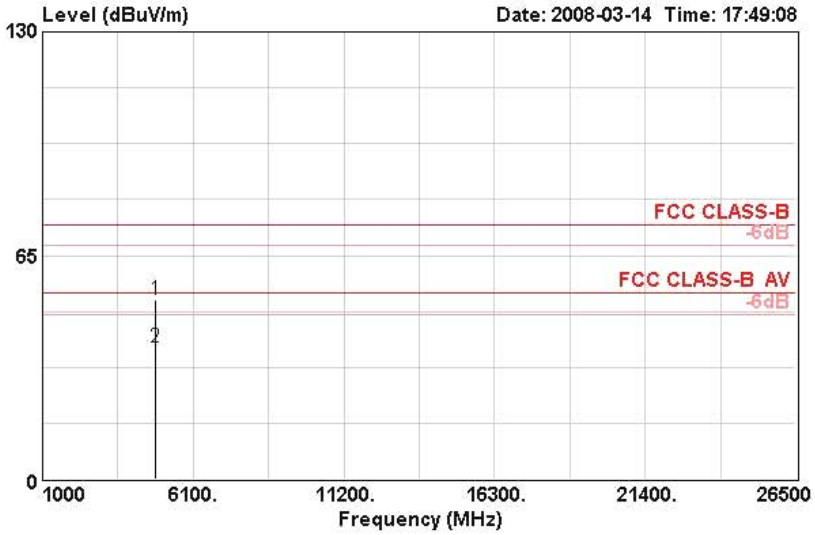
Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 20MHz Ch 1 Ant. 1

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	4817.520	46.93	-27.07	74.00	42.65	33.06	6.40	35.16	PEAK	100	39	HORIZONTAL
2	4827.440	33.87	-20.13	54.00	29.58	33.06	6.40	35.16	AVERAGE	100	39	HORIZONTAL

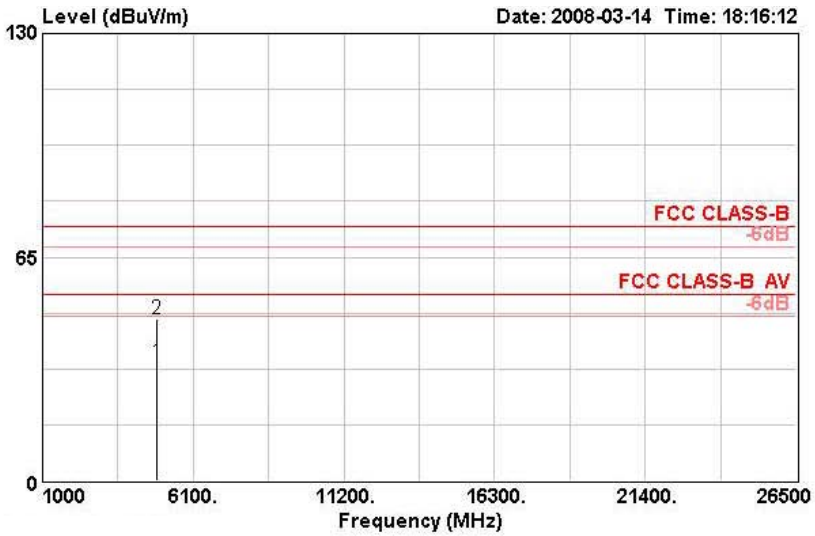
Vertical



	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	4824.200	52.33	-21.67	74.00	48.04	33.06	6.40	35.16	PEAK	125	306	VERTICAL
2 @	4824.480	38.36	-15.64	54.00	34.08	33.06	6.40	35.16	AVERAGE	125	306	VERTICAL

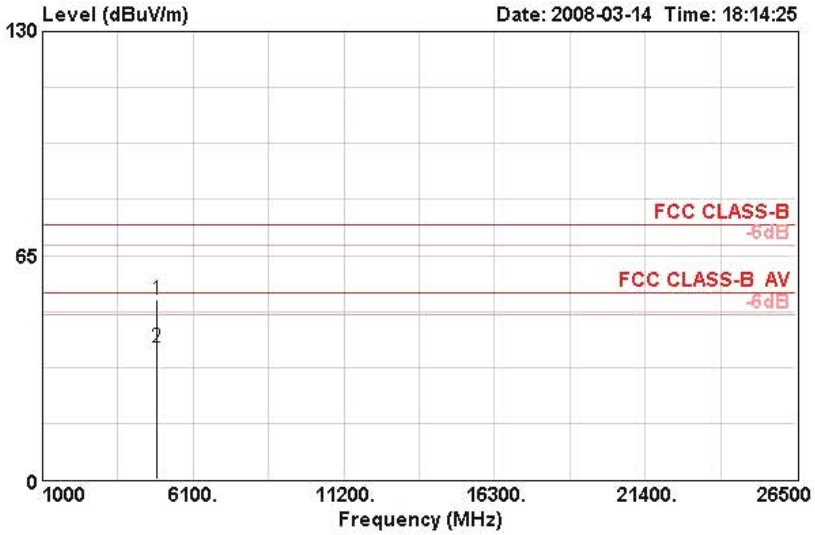
Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 20MHz Ch 6 Ant. 1

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	4872.860	34.45	-19.55	54.00	30.02	33.16	6.42	35.15	AVERAGE	100	87	HORIZONTAL
2	4873.200	47.11	-26.89	74.00	42.69	33.16	6.42	35.15	PEAK	100	87	HORIZONTAL

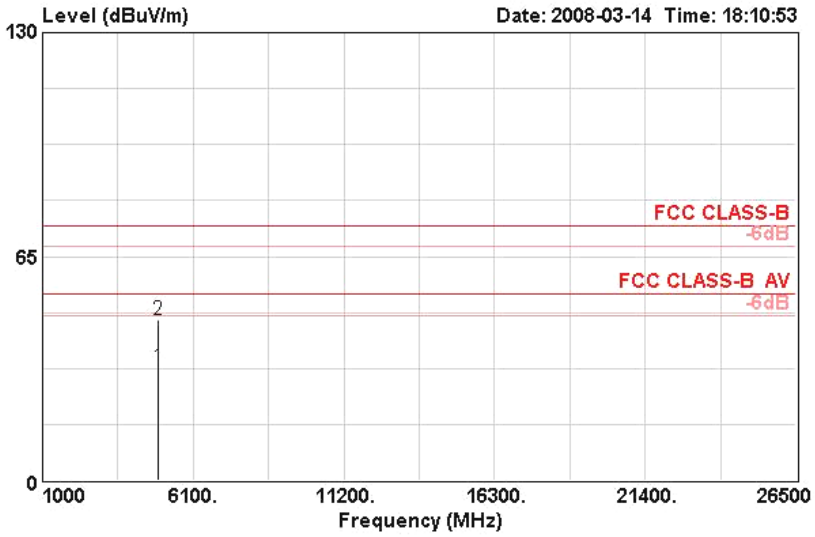
Vertical



	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	4872.840	52.21	-21.79	74.00	47.78	33.16	6.42	35.15	PEAK	100	165	VERTICAL
2 @	4872.900	38.47	-15.53	54.00	34.05	33.16	6.42	35.15	AVERAGE	100	165	VERTICAL

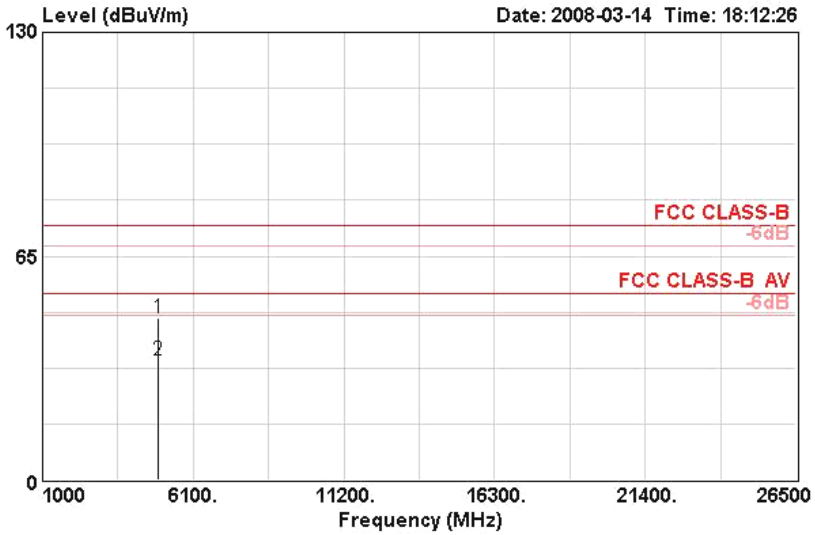
Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 20MHz Ch11 Ant. 1

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	4921.660	32.84	-21.16	54.00	28.28	33.26	6.44	35.14	AVERAGE	100	135	HORIZONTAL
2	4926.100	46.69	-27.31	74.00	42.13	33.26	6.44	35.14	PEAK	100	135	HORIZONTAL

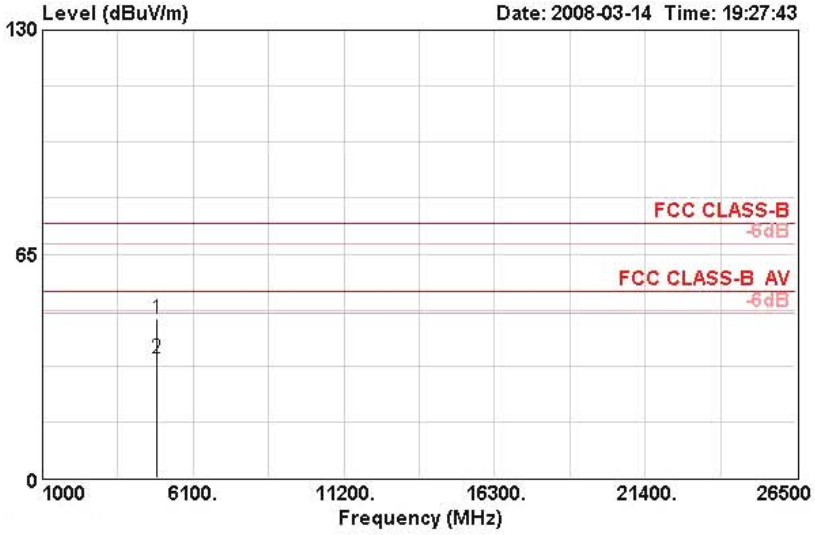
Vertical



	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	4927.800	46.92	-27.08	74.00	42.36	33.26	6.44	35.14	PEAK	147	305	VERTICAL
2 @	4930.500	34.64	-19.36	54.00	30.08	33.26	6.44	35.14	AVERAGE	147	305	VERTICAL

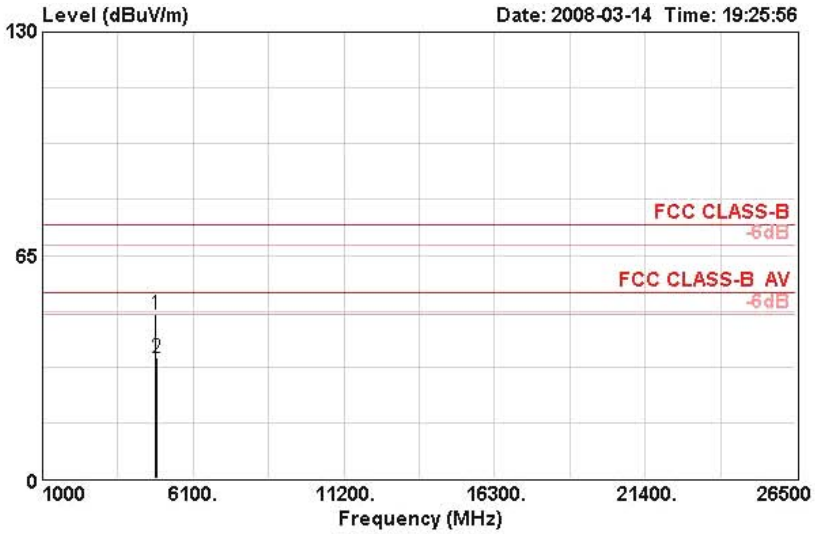
Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 40MHz Ch 3 Ant. 1

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	4844.040	46.34	-27.66	74.00	42.00	33.09	6.41	35.16	PEAK	100	151	HORIZONTAL
2 @	4848.740	34.60	-19.40	54.00	30.27	33.09	6.41	35.16	AVERAGE	100	151	HORIZONTAL

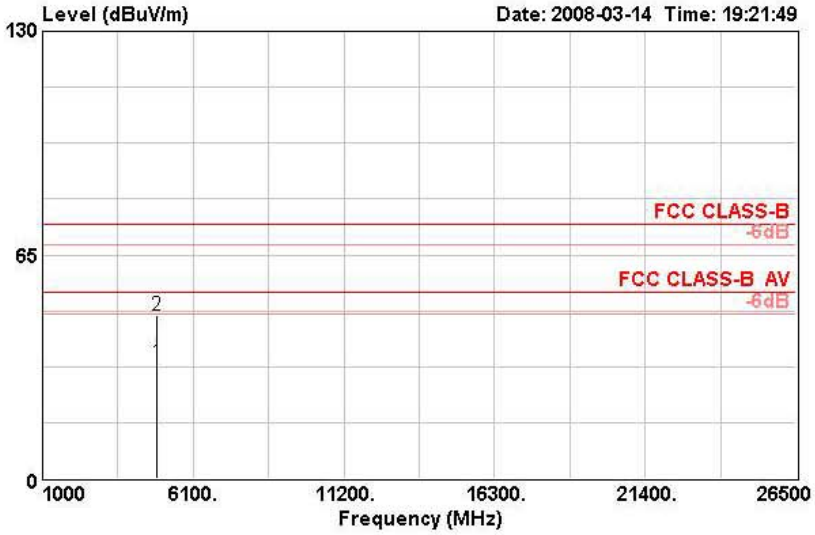
Vertical



	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	4839.180	47.79	-26.21	74.00	43.45	33.09	6.41	35.16	PEAK	134	245	VERTICAL
2 @	4846.420	35.27	-18.73	54.00	30.94	33.09	6.41	35.16	AVERAGE	134	245	VERTICAL

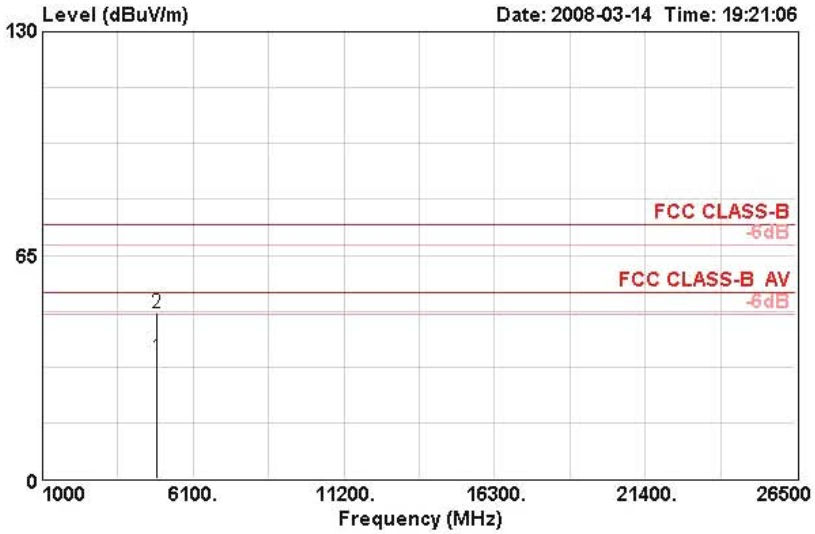
Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 40MHz Ch 6 Ant. 1

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	4872.840	33.41	-20.59	54.00	28.99	33.16	6.42	35.15	AVERAGE	100	360	HORIZONTAL
2	4878.240	47.35	-26.65	74.00	42.93	33.16	6.42	35.15	PEAK	100	360	HORIZONTAL

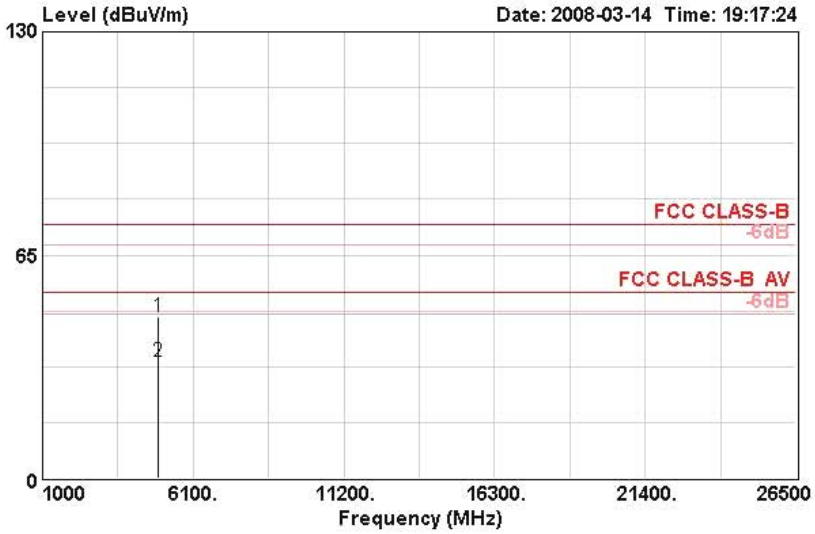
Vertical



	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 @	4872.560	35.24	-18.76	54.00	30.82	33.16	6.42	35.15	AVERAGE	128	310	VERTICAL
2	4874.120	48.33	-25.67	74.00	43.91	33.16	6.42	35.15	PEAK	128	310	VERTICAL

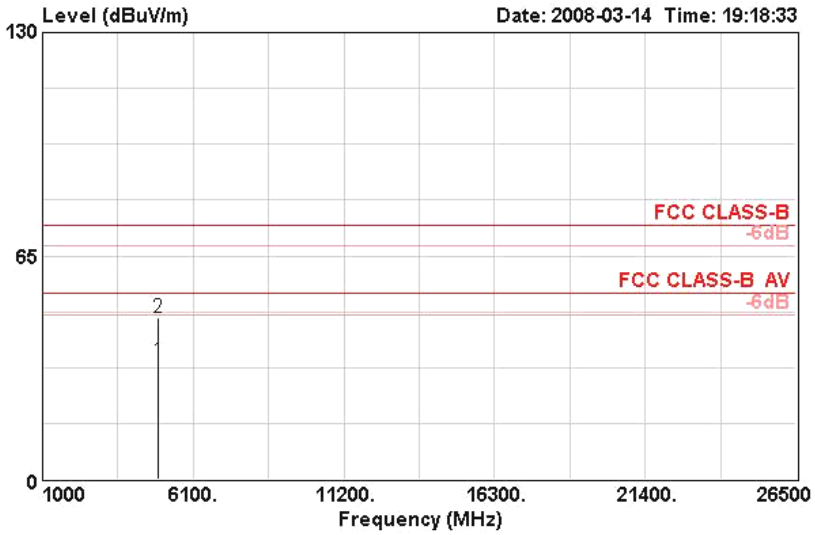
Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 40MHz Ch 9 Ant. 1

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	4901.420	46.87	-27.13	74.00	42.40	33.19	6.43	35.15	PEAK	100	132	HORIZONTAL
2	4907.460	33.95	-20.05	54.00	29.44	33.23	6.43	35.15	AVERAGE	100	132	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	4904.240	34.53	-19.47	54.00	30.03	33.23	6.43	35.15	AVERAGE	100	243	VERTICAL
2	4906.080	47.23	-26.77	74.00	42.72	33.23	6.43	35.15	PEAK	100	243	VERTICAL

Note:

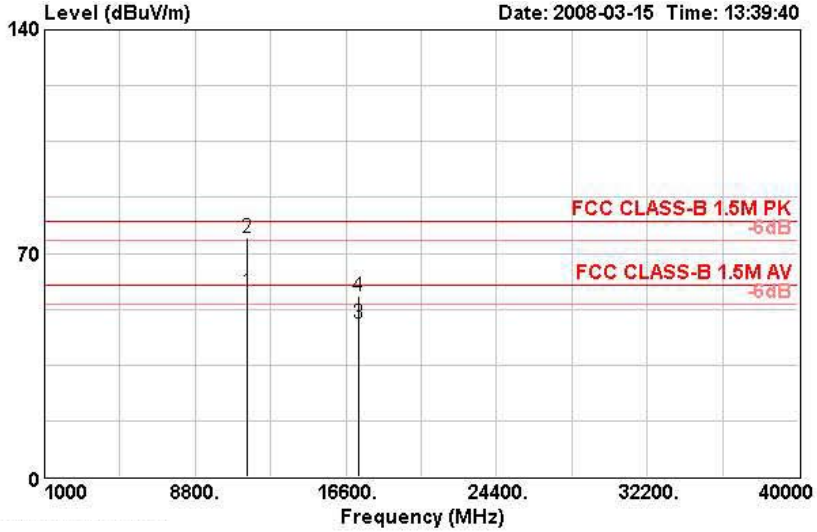
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

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

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

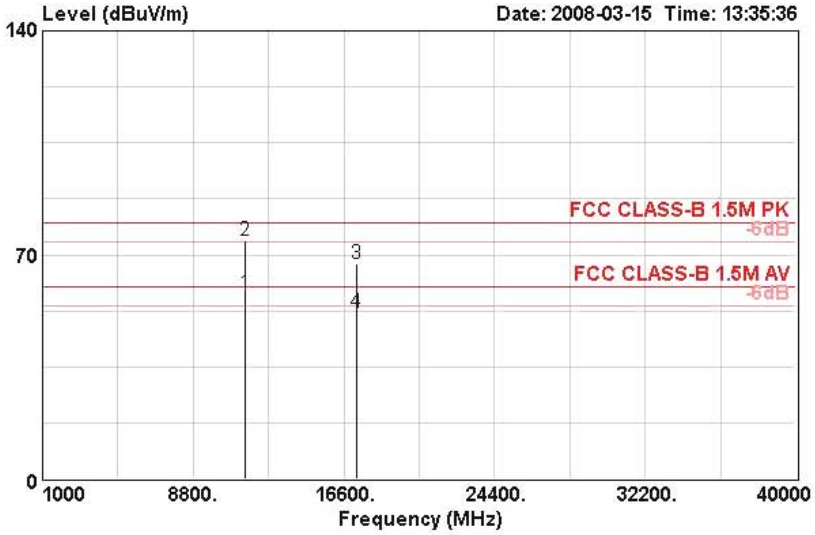
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	11a Draft n MCS8 20MHz CH 149 Ant. 1

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 !	11489.440	57.97	-2.03	60.00	44.39	38.78	9.78	34.98	AVERAGE	139	295	HORIZONTAL
2 !	11489.860	74.85	-5.15	80.00	61.27	38.78	9.78	34.98	PEAK	139	295	HORIZONTAL
3	17231.860	47.94	-12.06	60.00	28.48	42.11	12.28	34.92	AVERAGE	100	0	HORIZONTAL
4	17236.800	56.51	-23.49	80.00	37.04	42.11	12.28	34.92	PEAK	100	0	HORIZONTAL

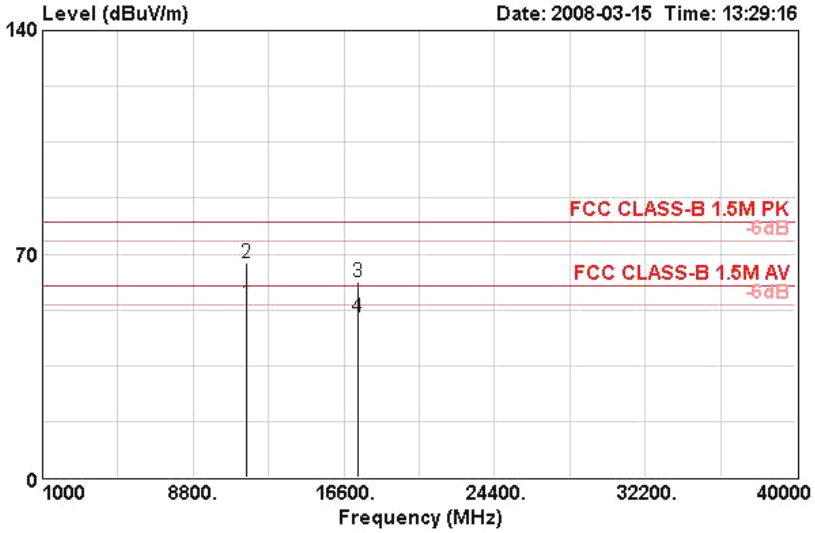
Vertical



	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 !	11489.300	57.95	-2.05	60.00	44.38	38.78	9.78	34.98	AVERAGE	136	229	VERTICAL
2 !	11489.980	74.42	-5.58	80.00	60.84	38.78	9.78	34.98	PEAK	136	229	VERTICAL
3	17230.180	67.41	-12.59	80.00	47.95	42.11	12.27	34.91	PEAK	126	279	VERTICAL
4	17231.860	51.90	-8.10	60.00	32.44	42.11	12.28	34.92	AVERAGE	126	279	VERTICAL

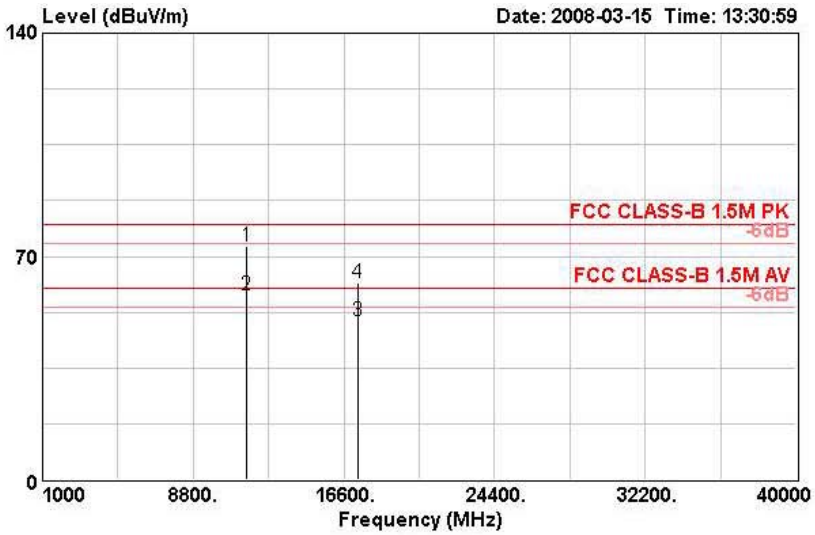
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	11a Draft n MCS8 20MHz CH 157 Ant. 1

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 !	11570.980	54.33	-5.67	60.00	40.70	38.83	9.80	35.00	AVERAGE	148	78	HORIZONTAL
2	11573.300	67.30	-12.70	80.00	53.68	38.83	9.80	35.00	PEAK	148	78	HORIZONTAL
3	17350.060	61.28	-18.72	80.00	41.18	42.76	12.31	34.96	PEAK	100	360	HORIZONTAL
4	17359.120	50.36	-9.64	60.00	30.25	42.76	12.31	34.97	AVERAGE	100	360	HORIZONTAL

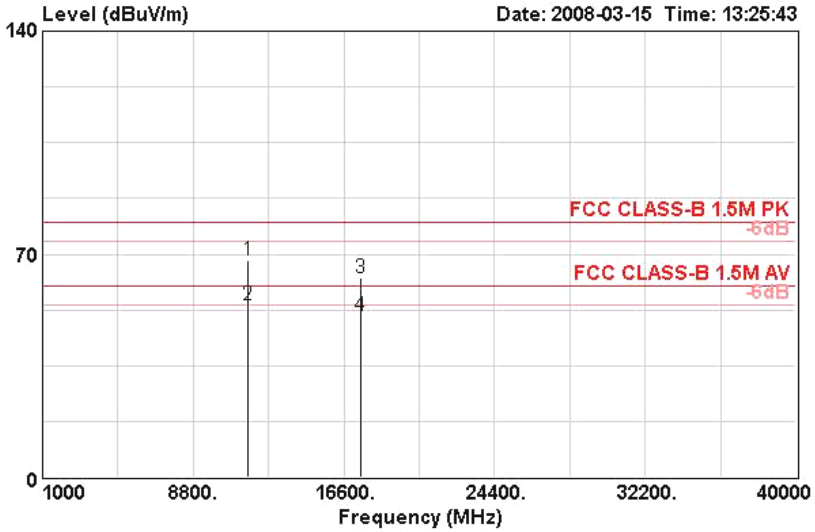
Vertical



	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	11569.900	73.41	-6.59	80.00	59.79	38.83	9.80	35.00	PEAK	125	223	VERTICAL
2 !	11570.900	57.68	-2.32	60.00	44.06	38.83	9.80	35.00	AVERAGE	125	223	VERTICAL
3	17351.600	49.66	-10.34	60.00	29.55	42.76	12.31	34.96	AVERAGE	100	0	VERTICAL
4	17357.880	61.89	-18.11	80.00	41.79	42.76	12.31	34.96	PEAK	100	0	VERTICAL

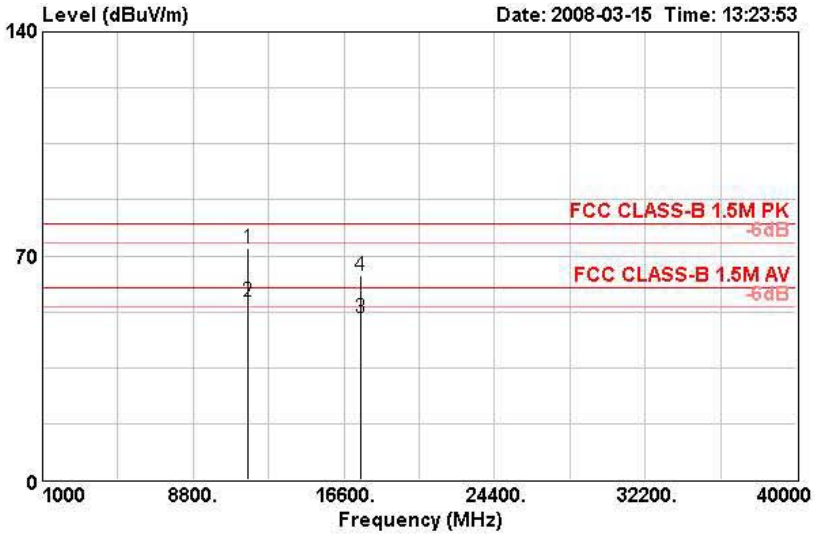
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	11a Draft n MCS8 20MHz CH 165 Ant. 1

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	11649.860	68.01	-11.99	80.00	54.34	38.86	9.82	35.01	PEAK	147	88	HORIZONTAL
2 !	11651.640	54.25	-5.75	60.00	40.58	38.86	9.82	35.01	AVERAGE	147	88	HORIZONTAL
3	17470.040	62.47	-17.53	80.00	41.72	43.41	12.34	35.00	PEAK	100	360	HORIZONTAL
4	17476.720	50.49	-9.51	60.00	29.74	43.41	12.34	35.00	AVERAGE	100	360	HORIZONTAL

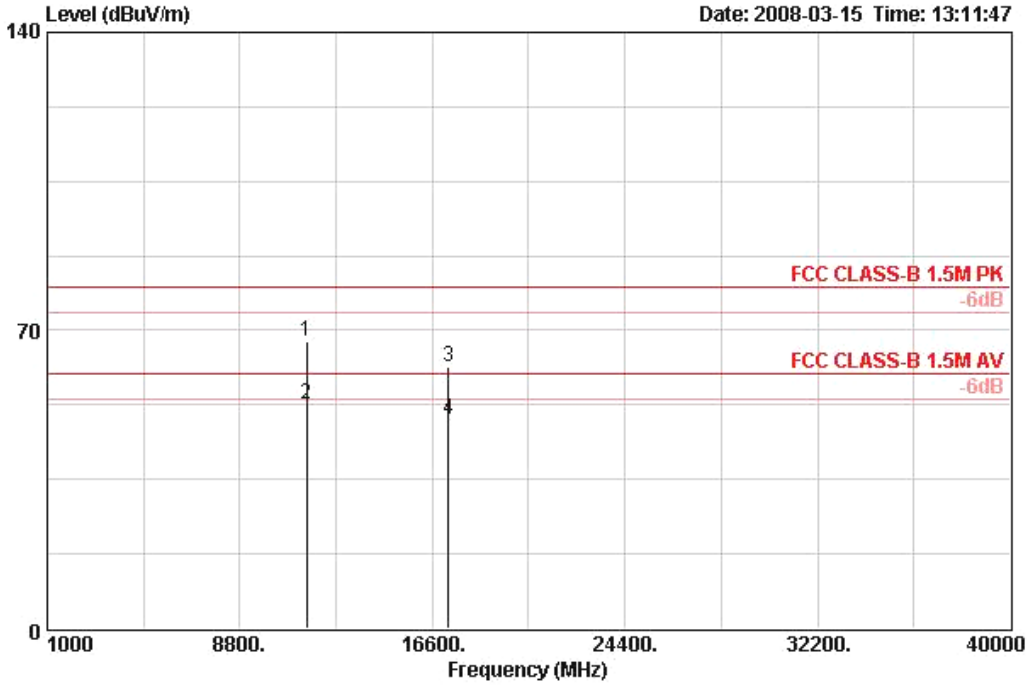
Vertical



	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	11649.940	72.40	-7.60	80.00	58.73	38.86	9.82	35.01	PEAK	120	194	VERTICAL
2 !	11650.120	55.74	-4.26	60.00	42.08	38.86	9.82	35.01	AVERAGE	120	194	VERTICAL
3	17471.200	50.61	-9.39	60.00	29.86	43.41	12.34	35.00	AVERAGE	100	0	VERTICAL
4	17479.300	63.89	-16.11	80.00	43.13	43.41	12.34	35.00	PEAK	100	0	VERTICAL

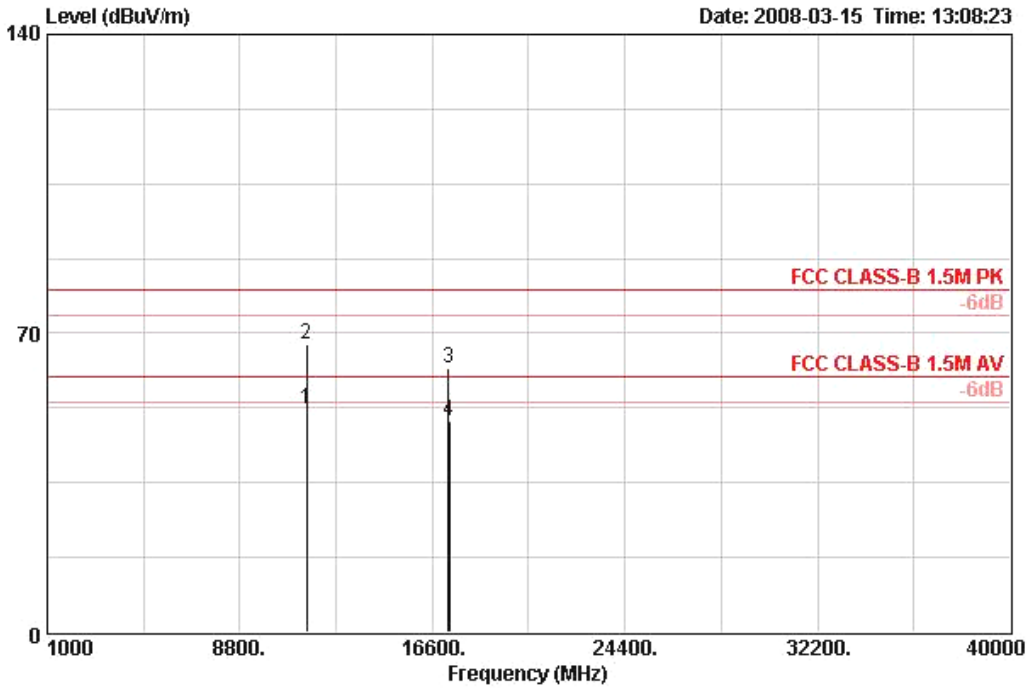
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	11a Draft n MCS8 40MHz CH 151 Ant. 1

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	11506.280	67.32	-12.68	80.00	53.74	38.80	9.78	35.00	PEAK	138	304	HORIZONTAL
2 @	11508.160	52.66	-7.34	60.00	39.07	38.80	9.78	35.00	AVERAGE	138	304	HORIZONTAL
3	17260.540	61.35	-18.65	80.00	41.70	42.29	12.28	34.93	PEAK	100	360	HORIZONTAL
4	17265.120	49.10	-10.90	60.00	29.46	42.29	12.28	34.93	AVERAGE	100	360	HORIZONTAL

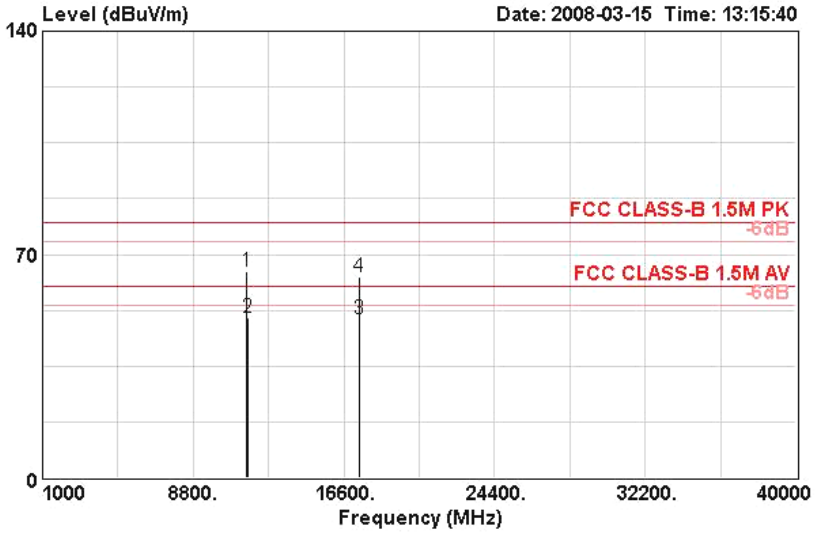
Vertical



	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	11508.560	52.43	-7.57	60.00	38.84	38.80	9.78	35.00	AVERAGE	136	232	VERTICAL
2	11509.940	67.40	-12.60	80.00	53.81	38.80	9.78	35.00	PEAK	136	232	VERTICAL
3	17260.320	61.98	-18.02	80.00	42.43	42.20	12.28	34.93	PEAK	100	0	VERTICAL
4	17267.780	49.48	-10.52	60.00	29.83	42.29	12.28	34.93	AVERAGE	100	0	VERTICAL

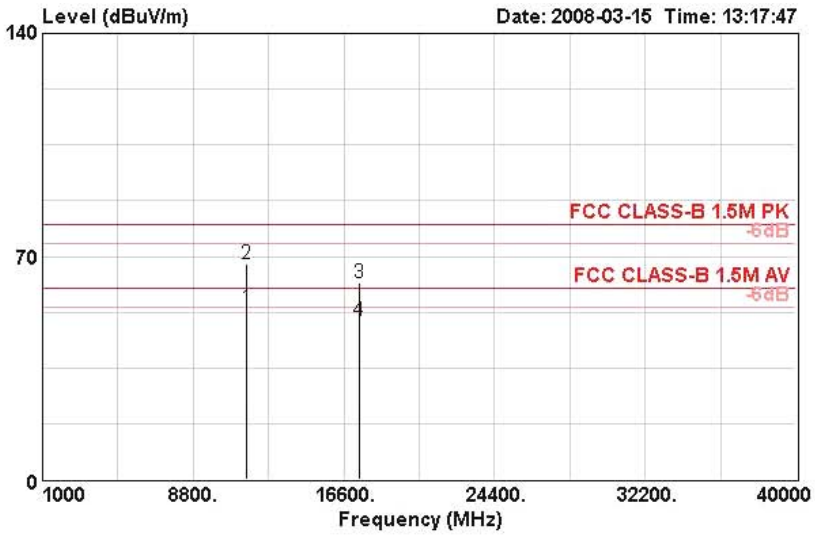
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	11a Draft n MCS8 40MHz CH 159 Ant. 1

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	11590.120	64.69	-15.31	80.00	51.06	38.83	9.80	35.00	PEAK	146	87	HORIZONTAL
2	11592.480	50.29	-9.71	60.00	36.66	38.83	9.80	35.00	AVERAGE	146	87	HORIZONTAL
3	17388.180	49.89	-10.11	60.00	29.60	42.95	12.32	34.97	AVERAGE	100	360	HORIZONTAL
4	17389.040	62.87	-17.13	80.00	42.58	42.95	12.32	34.97	PEAK	100	360	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	11587.280	53.42	-6.58	60.00	39.79	38.83	9.80	35.00	AVERAGE	115	185	VERTICAL
2	11589.980	67.83	-12.17	80.00	54.20	38.83	9.80	35.00	PEAK	115	185	VERTICAL
3	17380.180	61.88	-18.12	80.00	41.58	42.95	12.31	34.97	PEAK	100	0	VERTICAL
4	17388.180	49.81	-10.19	60.00	29.51	42.95	12.32	34.97	AVERAGE	100	0	VERTICAL

Note:

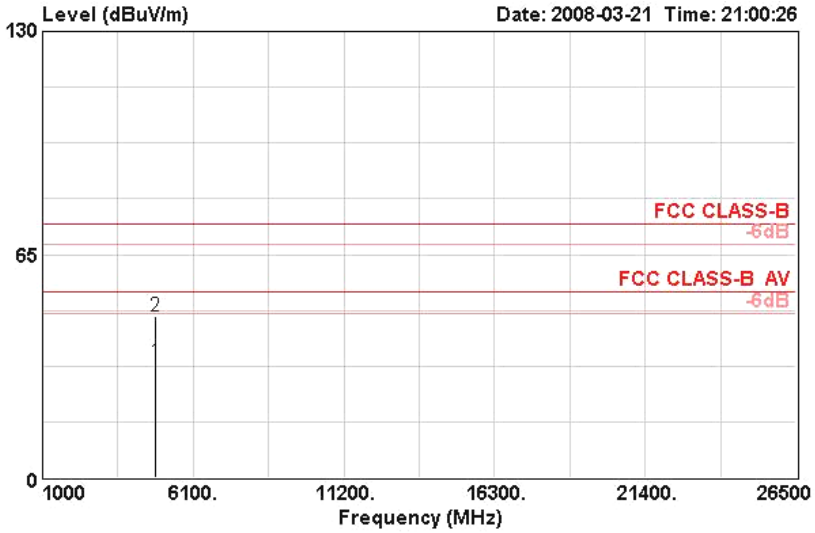
The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

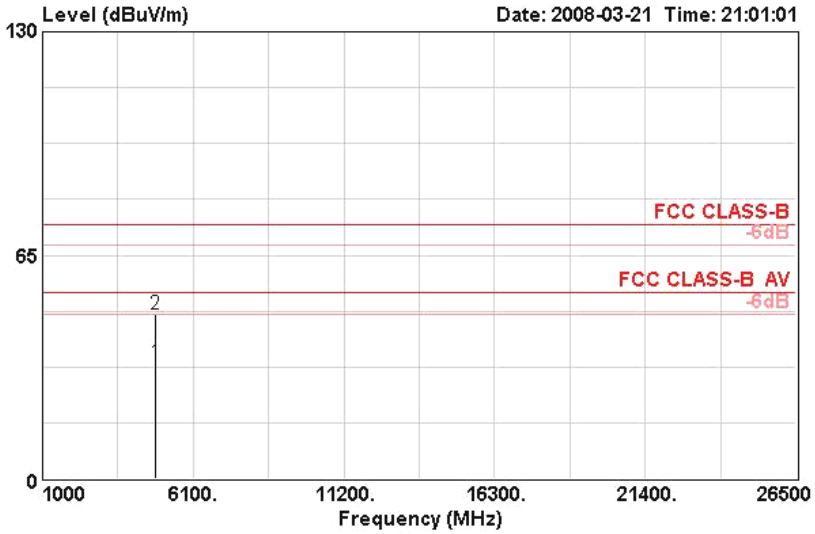
Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 20MHz Ch 1 Ant. 2

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	4822.620	33.48	-20.52	54.00	29.19	33.06	6.40	35.16	AVERAGE	120	133	HORIZONTAL
2	4825.140	47.04	-26.96	74.00	42.76	33.06	6.40	35.16	PEAK	120	133	HORIZONTAL

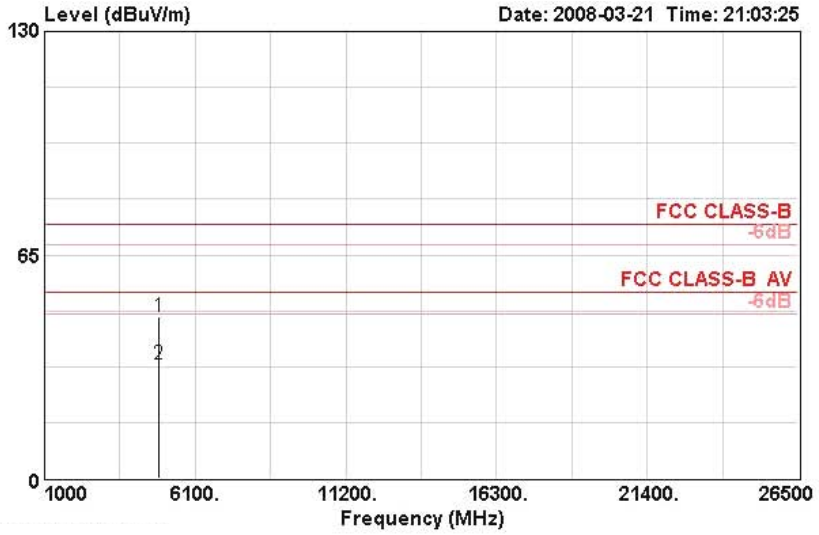
Vertical



	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	4822.700	33.61	-20.39	54.00	29.32	33.06	6.40	35.16	AVERAGE	100	195	VERTICAL
2	4825.240	47.65	-26.35	74.00	43.36	33.06	6.40	35.16	PEAK	100	195	VERTICAL

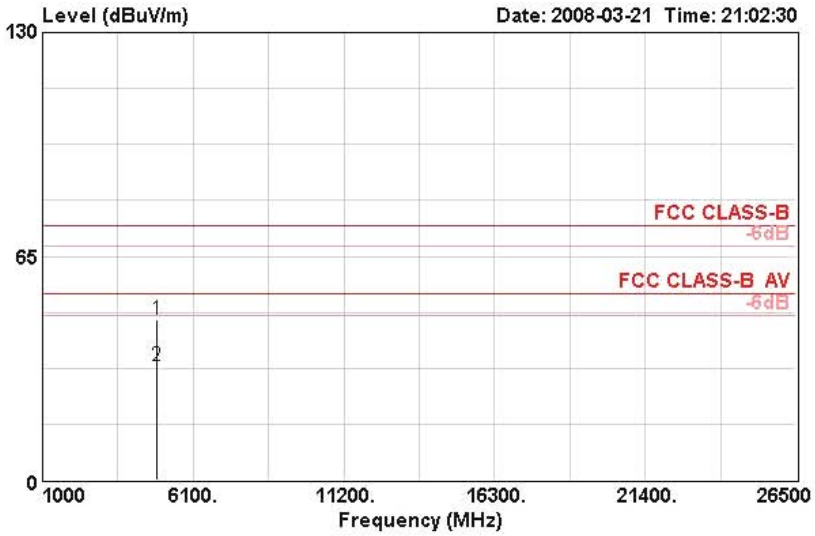
Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 20MHz Ch 6 Ant. 2

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	4874.130	46.95	-27.05	74.00	42.53	33.16	6.42	35.15	PEAK	115	166	HORIZONTAL
2	4876.360	33.39	-20.61	54.00	28.97	33.16	6.42	35.15	AVERAGE	115	166	HORIZONTAL

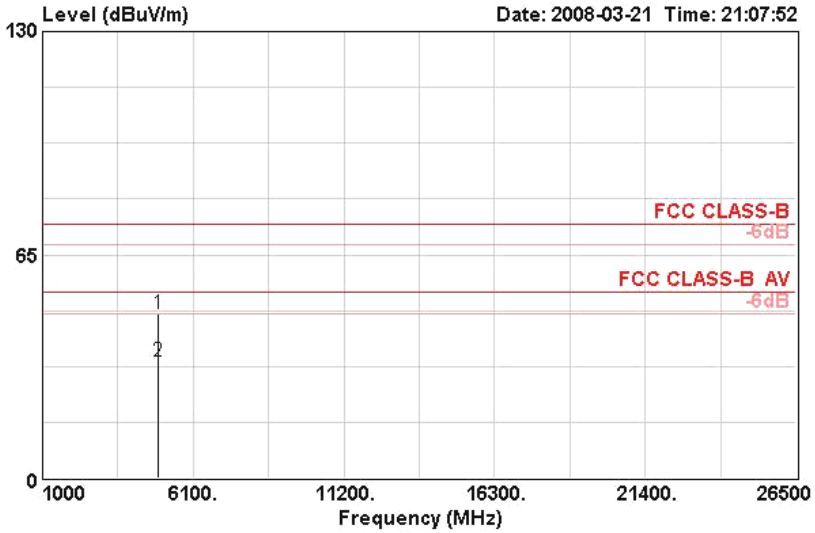
Vertical



	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	4873.520	46.53	-27.47	74.00	42.11	33.16	6.42	35.15	PEAK	100	216	VERTICAL
2	4876.440	33.39	-20.61	54.00	28.97	33.16	6.42	35.15	AVERAGE	100	216	VERTICAL

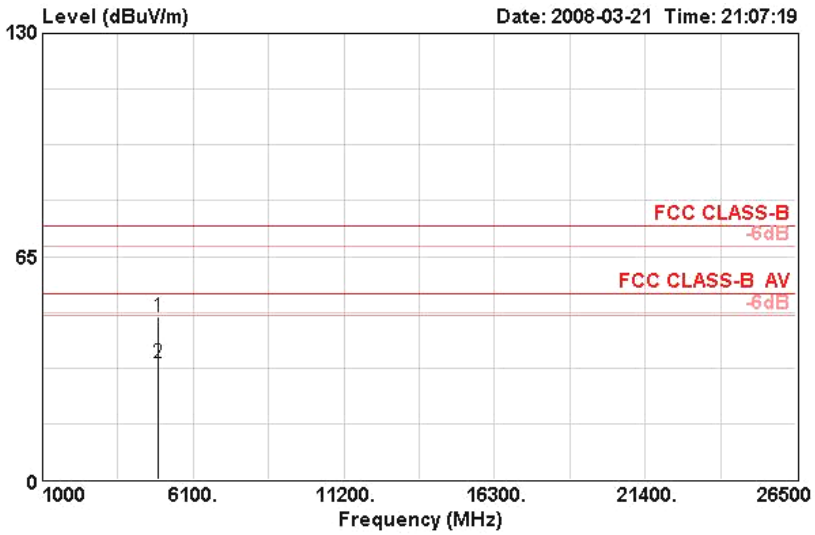
Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 20MHz Ch11 Ant. 2

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	4922.120	47.77	-26.23	74.00	43.21	33.26	6.44	35.14	PEAK	143	173	HORIZONTAL
2	4925.090	33.81	-20.19	54.00	29.25	33.26	6.44	35.14	AVERAGE	143	173	HORIZONTAL

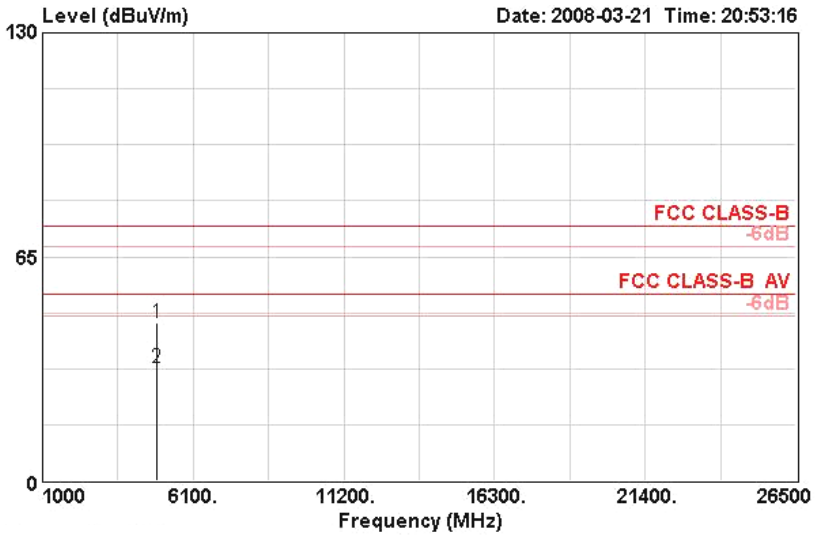
Vertical



	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	4923.210	47.30	-26.70	74.00	42.74	33.26	6.44	35.14	PEAK	100	204	VERTICAL
2	4925.090	33.87	-20.13	54.00	29.31	33.26	6.44	35.14	AVERAGE	100	204	VERTICAL

Temperature	23℃	Humidity	62%
Test Engineer	Sam Chen	Configurations	Draft n MCS8 40MHz Ch 3 Ant. 2

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	4842.290	45.99	-28.01	74.00	41.65	33.09	6.41	35.16	PEAK	113	142	HORIZONTAL
2	4844.130	32.91	-21.09	54.00	28.58	33.09	6.41	35.16	AVERAGE	113	142	HORIZONTAL