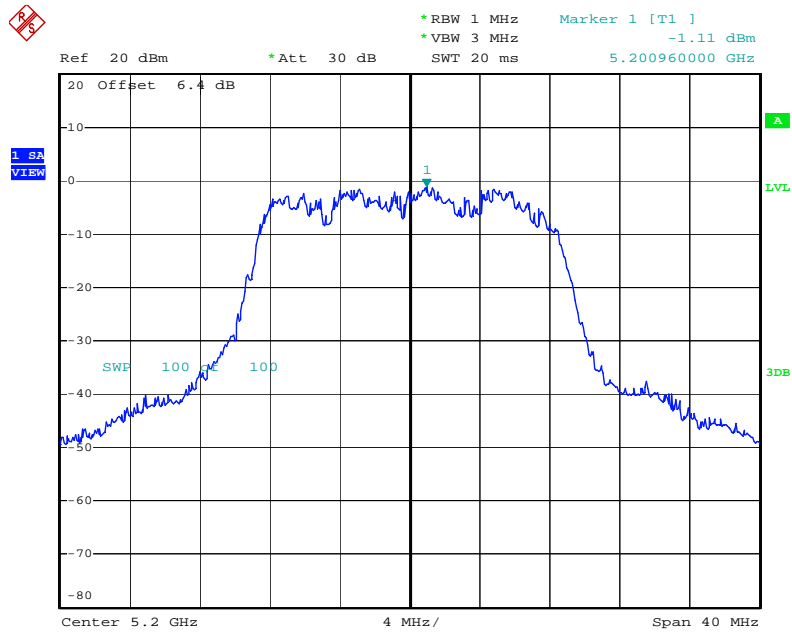
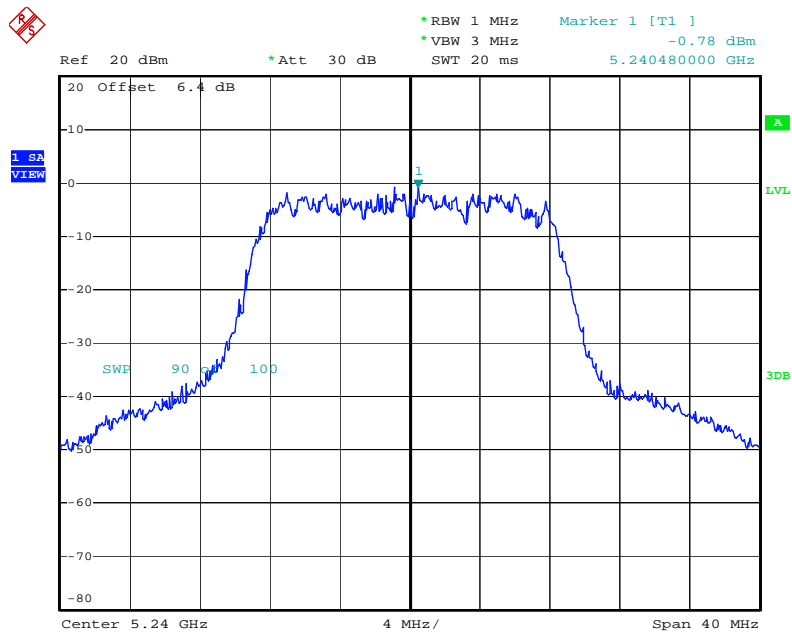


Power Density Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5200 MHz



Date: 4.JUL.2009 11:13:54

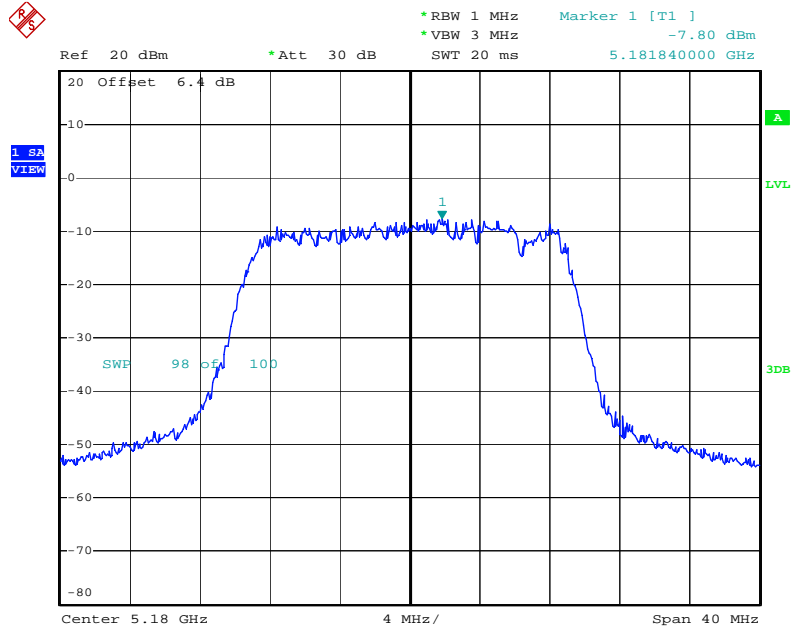
Power Density Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5240 MHz



Date: 4.JUL.2009 11:15:34

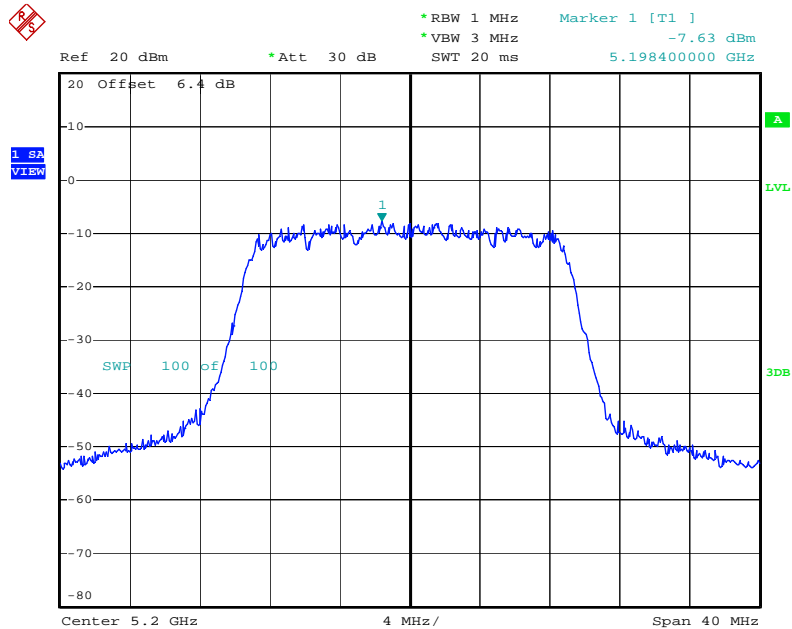
<For Antenna 2>:

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5180 MHz



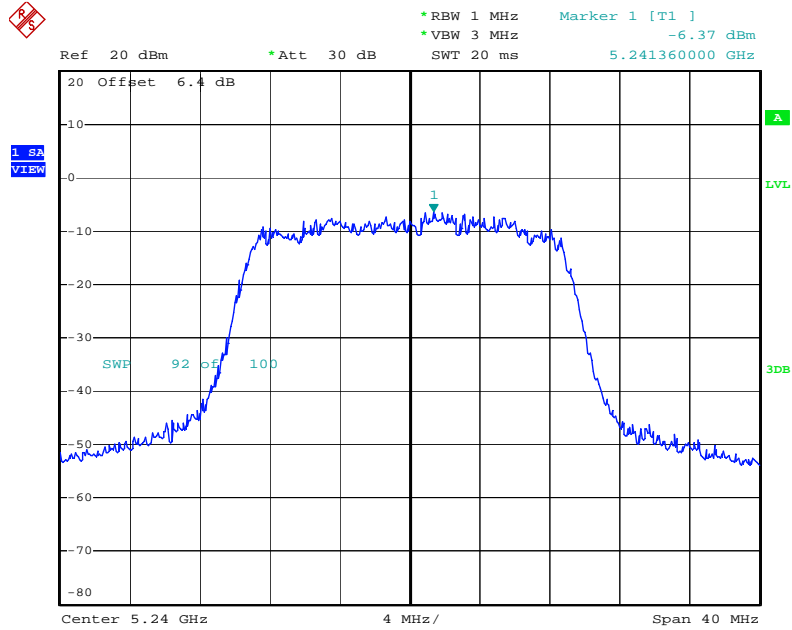
Date: 4.JUL.2009 12:50:46

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5200 MHz



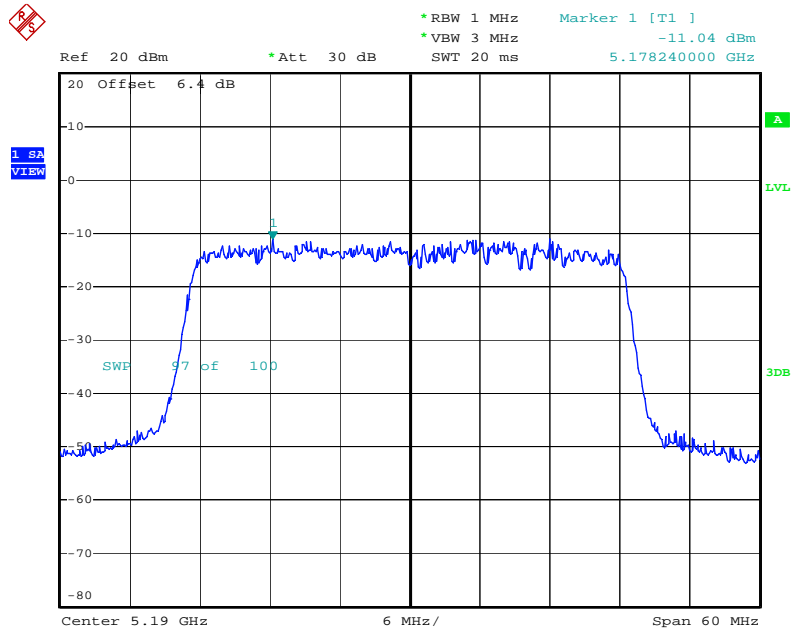
Date: 4.JUL.2009 12:53:05

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5240 MHz



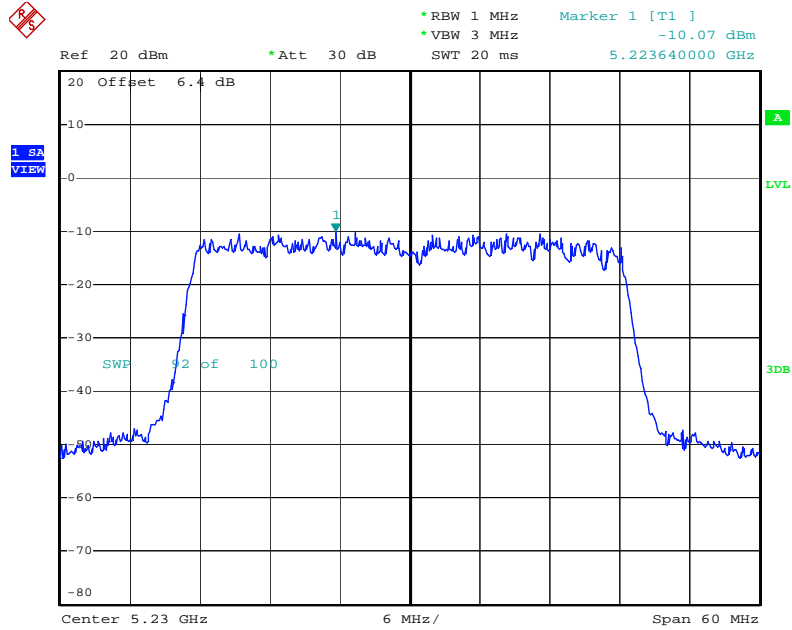
Date: 4.JUL.2009 12:54:16

Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5190 MHz



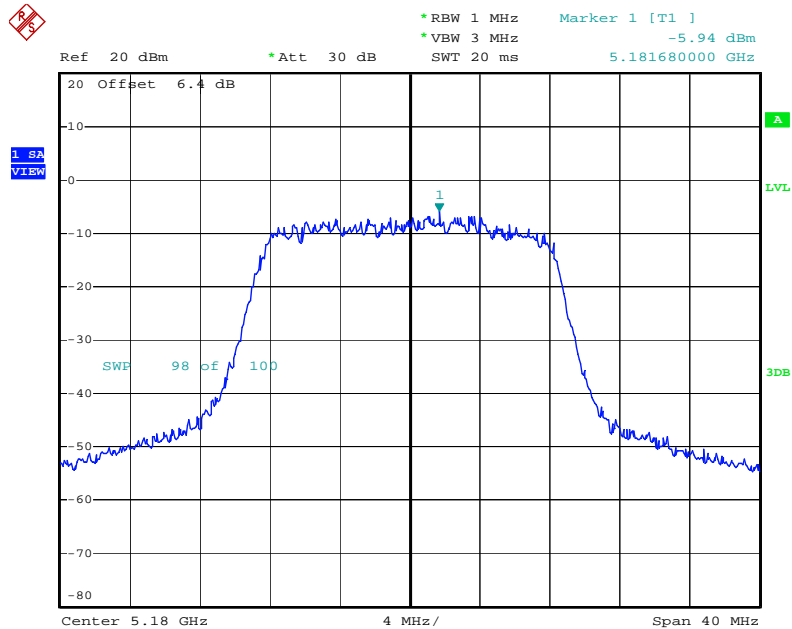
Date: 4.JUL.2009 13:09:29

Power Density Plot on Configuration Draft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5230 MHz



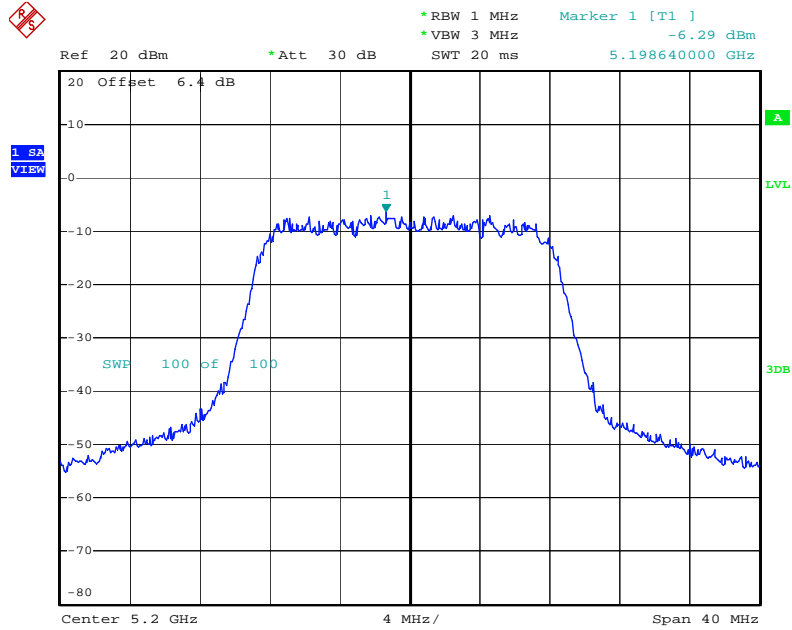
Date: 4.JUL.2009 13:11:05

Power Density Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5180 MHz



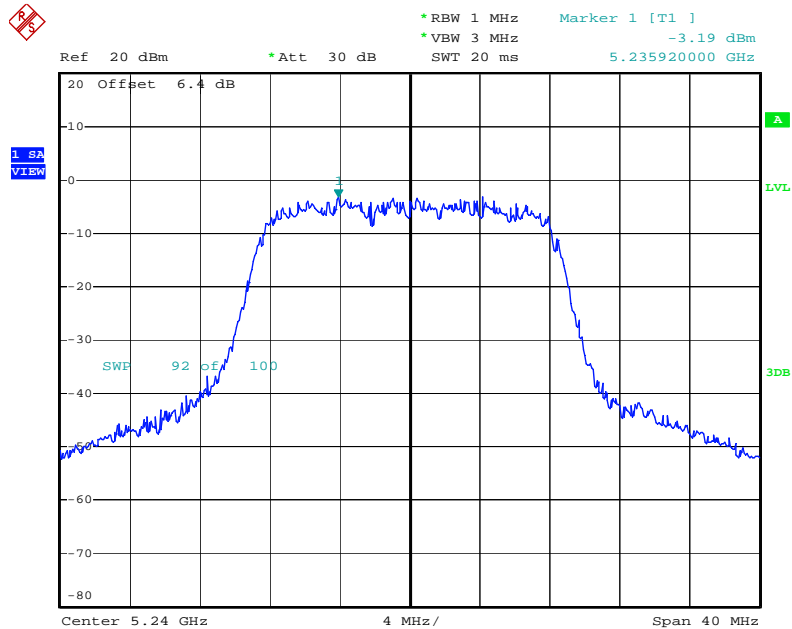
Date: 4.JUL.2009 12:16:57

Power Density Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5200 MHz



Date: 4.JUL.2009 12:20:29

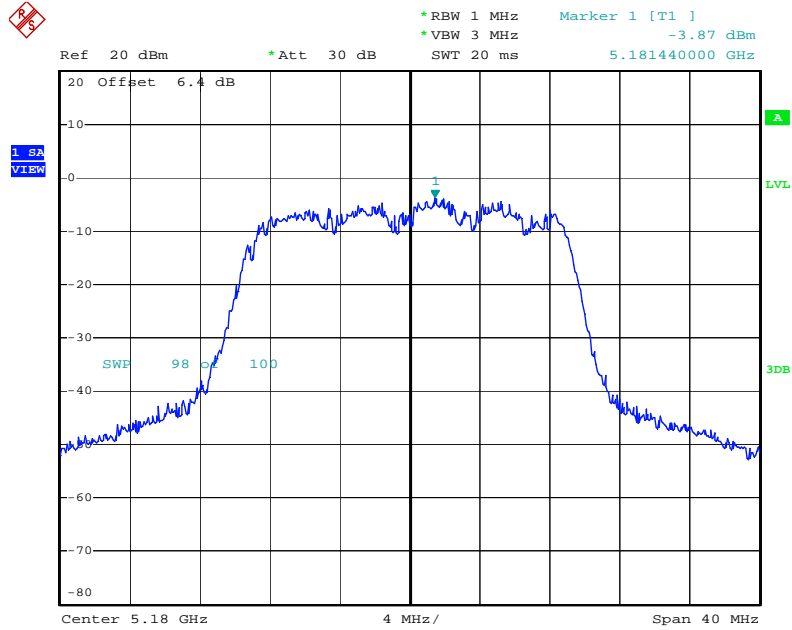
Power Density Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5240 MHz



Date: 4.JUL.2009 12:23:38

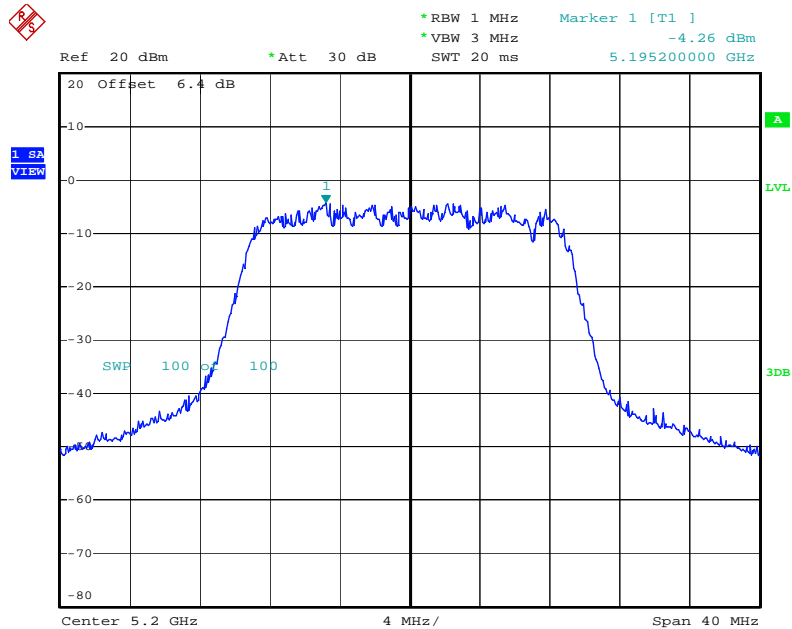
<For Antenna 3>:

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5180 MHz



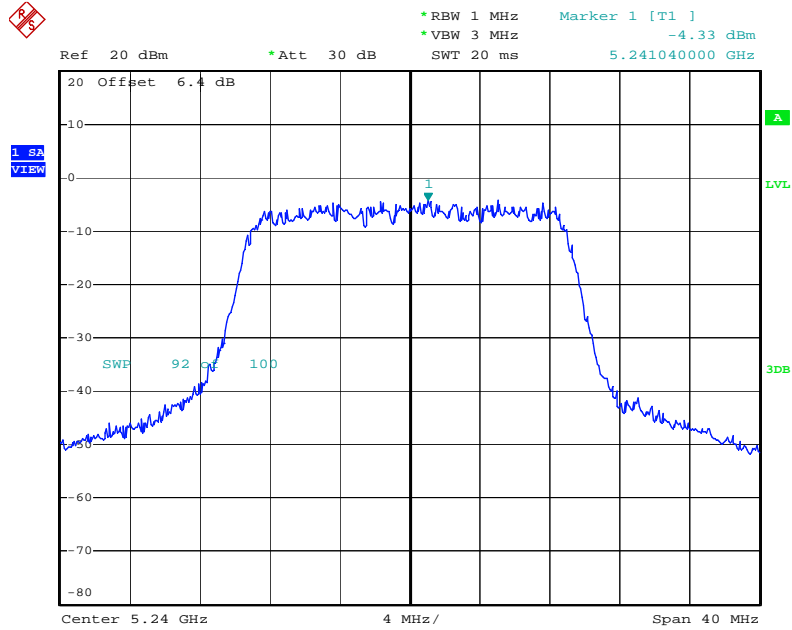
Date: 4.JUL.2009 13:34:19

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5200 MHz



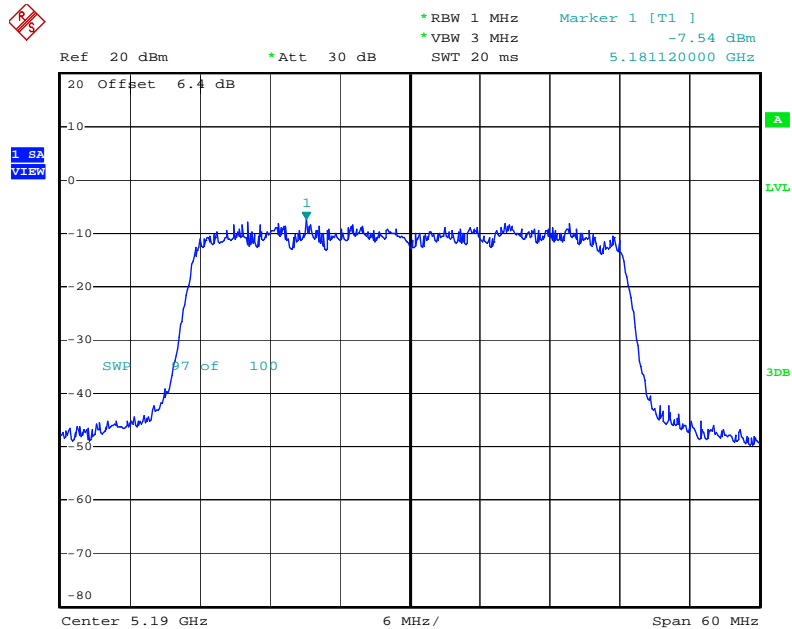
Date: 4.JUL.2009 13:35:38

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5240 MHz



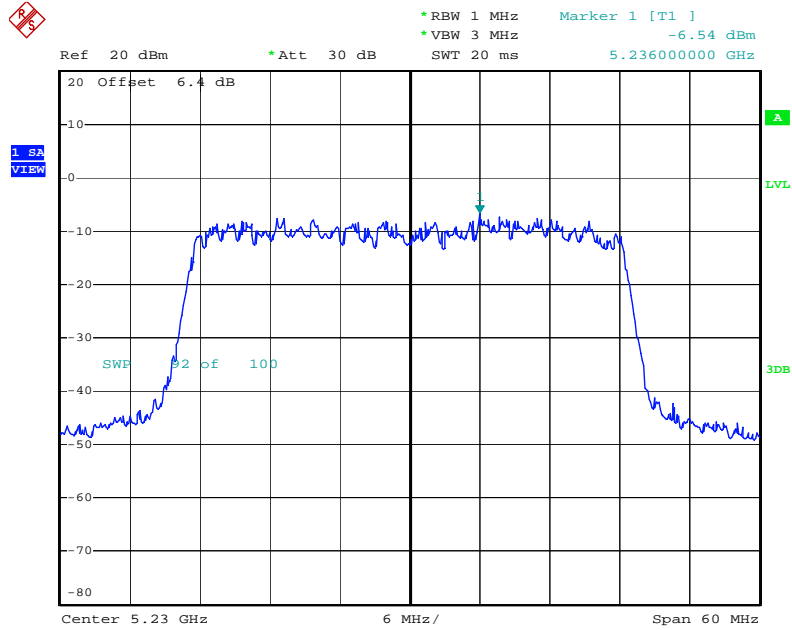
Date: 4.JUL.2009 13:36:50

Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5190 MHz



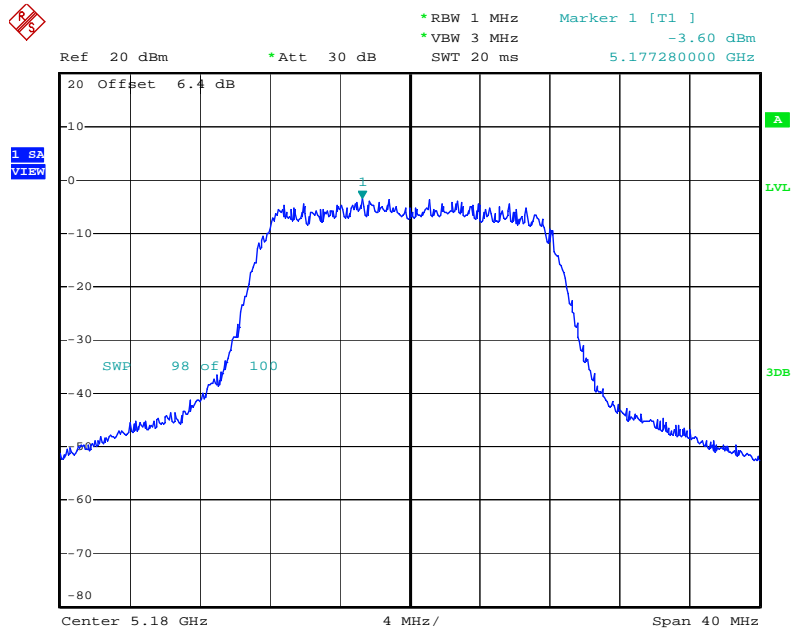
Date: 4.JUL.2009 13:47:42

Power Density Plot on Configuration Draft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5230 MHz



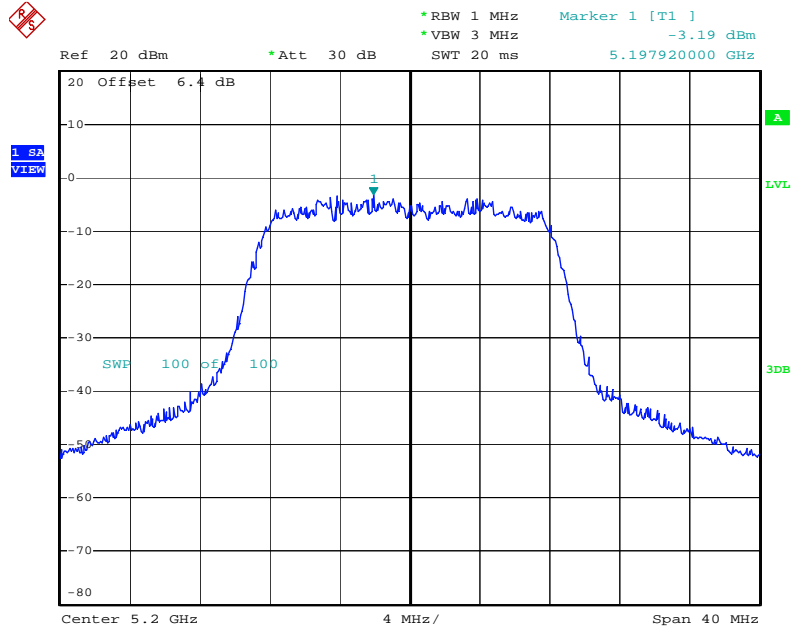
Date: 4.JUL.2009 13:49:35

Power Density Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5180 MHz



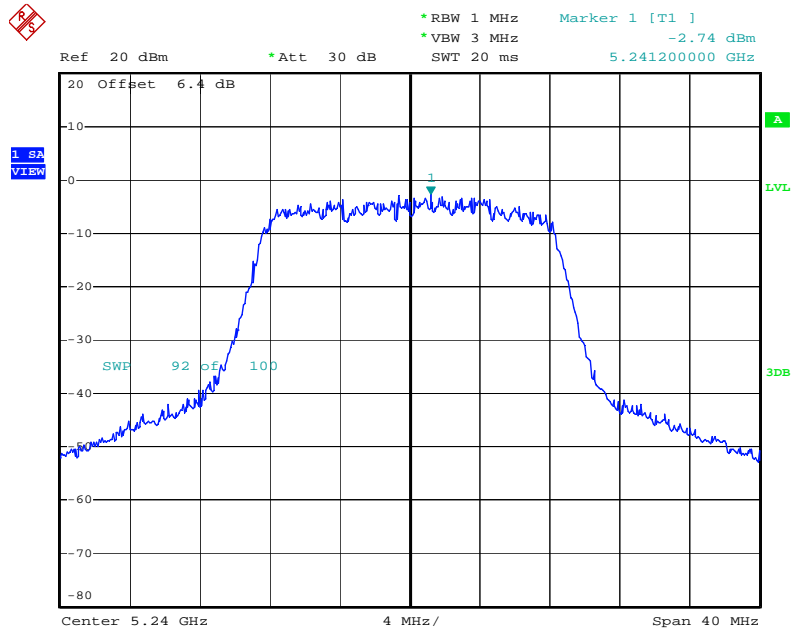
Date: 4.JUL.2009 12:18:05

Power Density Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5200 MHz



Date: 4.JUL.2009 12:19:13

Power Density Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5240 MHz



Date: 4.JUL.2009 12:30:00

4.5. Peak Excursion Measurement

4.5.1. Limit

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emissions bandwidth whichever is less.

4.5.2. Measuring Instruments and Setting

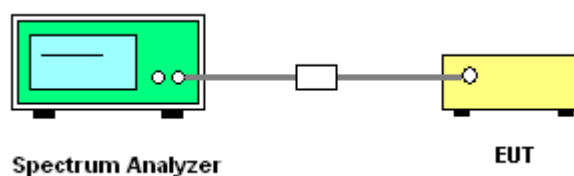
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	1000 kHz (Peak Trace) / 1000 kHz (Average Trace)
VB	3000 kHz (Peak Trace) / 300 kHz (Average Trace)
Detector	Peak (Peak Trace) / Sample (Average Trace)
Trace	Max Hold
Sweep Time	60s

4.5.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Set the spectrum analyzer span to view the entire emissions bandwidth. The largest difference between the following two traces (Peak Trace and Average Trace) must be ≤ 13 dB for all frequencies across the emissions bandwidth. Submit a plot.
3. Peak Trace: Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and max-hold settings.
4. Average Trace: Method #3—video averaging with max hold--and sum power across the band. Set span to encompass the entire emissions bandwidth (EBW) of the signal. Set sweep trigger to "free run". Set RBW = 1 MHz. Set VBW $\geq 1/T$ (Draft n VBW = 300kHz $\geq 1/4\mu$ s). Use sample detector mode if bin width (i.e., span/number of points in spectrum) < 0.5 RBW. Otherwise use peak detector mode. Set max hold. Allow max hold to run for 60 seconds.
5. Measuring multiple antennas, the connector is required to link with spectrum analyzer through a combiner.

4.5.4. Test Setup Layout



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. Test Result of Peak Excursion

<For Antenna 1>:

Temperature	21°C	Humidity	56%
Test Engineer	Sam Chen	Configurations	Draft n / Antenna 1

Configuration Draft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
36	5180 MHz	9.70	13	Complies
40	5200 MHz	9.70	13	Complies
48	5240 MHz	9.30	13	Complies

Configuration Draft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
38	5190 MHz	8.55	13	Complies
46	5230 MHz	8.50	13	Complies

Temperature	21°C	Humidity	56%
Test Engineer	Sam Chen	Configurations	802.11a / Antenna 1

Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
36	5180 MHz	9.74	13	Complies
40	5200 MHz	9.40	13	Complies
48	5240 MHz	9.88	13	Complies

<For Antenna 2>:

Temperature	21°C	Humidity	56%
Test Engineer	Sam Chen	Configurations	Draft n / Antenna 2

Configuration Draft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
36	5180 MHz	8.72	13	Complies
40	5200 MHz	9.37	13	Complies
48	5240 MHz	10.17	13	Complies

Configuration Draft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
38	5190 MHz	9.72	13	Complies
46	5230 MHz	9.01	13	Complies

Temperature	21°C	Humidity	56%
Test Engineer	Sam Chen	Configurations	802.11a / Antenna 2

Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
36	5180 MHz	8.68	13	Complies
40	5200 MHz	9.05	13	Complies
48	5240 MHz	8.47	13	Complies

<For Antenna 3>:

Temperature	21°C	Humidity	56%
Test Engineer	Sam Chen	Configurations	Draft n / Antenna 3

Configuration Draft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
36	5180 MHz	9.14	13	Complies
40	5200 MHz	10.51	13	Complies
48	5240 MHz	10.12	13	Complies

Configuration Draft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
38	5190 MHz	9.07	13	Complies
46	5230 MHz	8.97	13	Complies

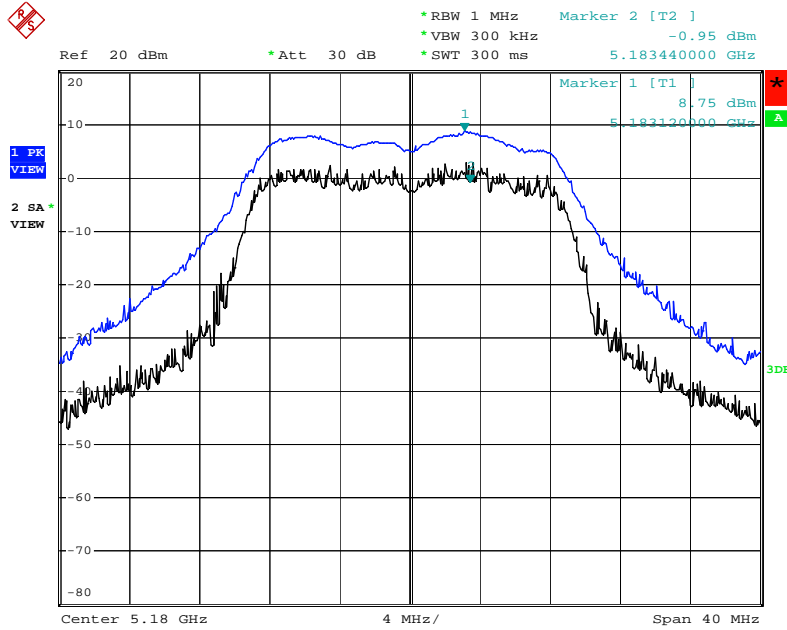
Temperature	21°C	Humidity	56%
Test Engineer	Sam Chen	Configurations	802.11a / Antenna 3

Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
36	5180 MHz	9.81	13	Complies
40	5200 MHz	9.09	13	Complies
48	5240 MHz	8.69	13	Complies

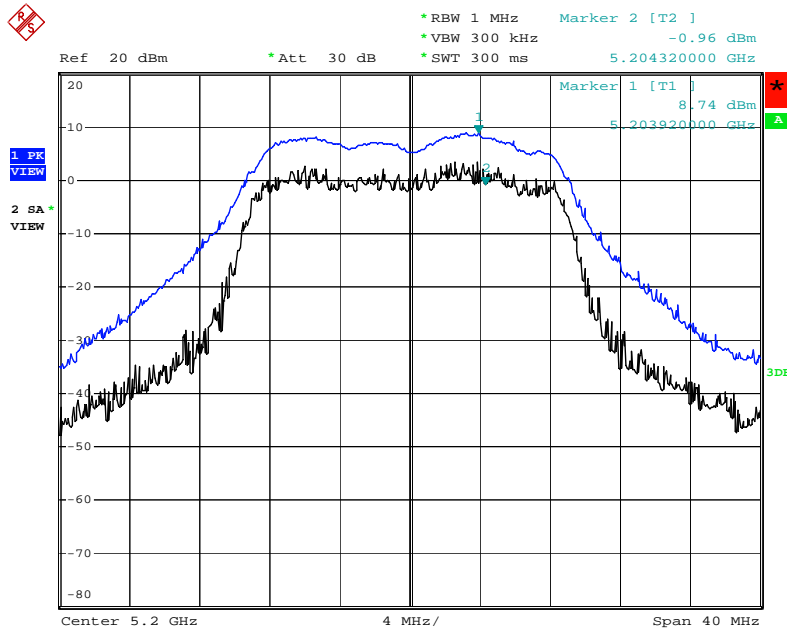
<For Antenna 1>:

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5180 MHz



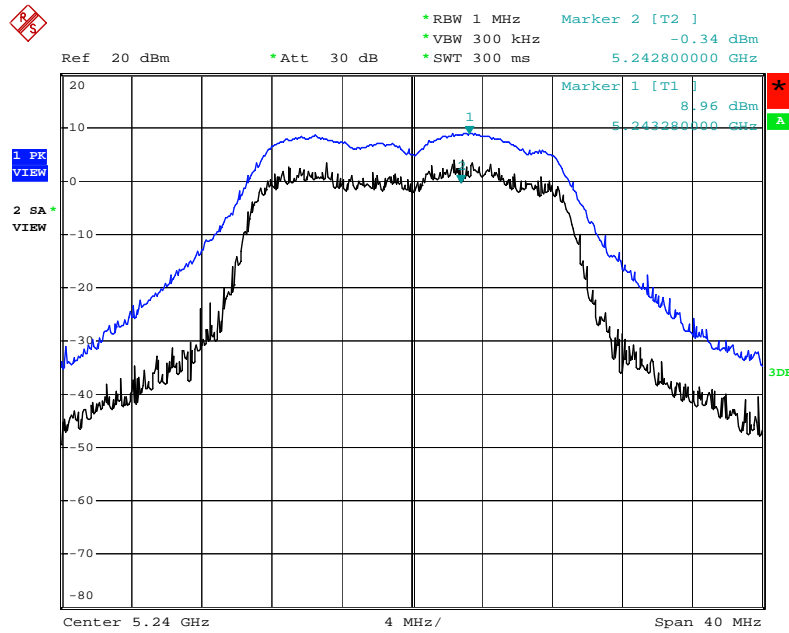
Date: 4.JUL.2009 11:30:08

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5200 MHz



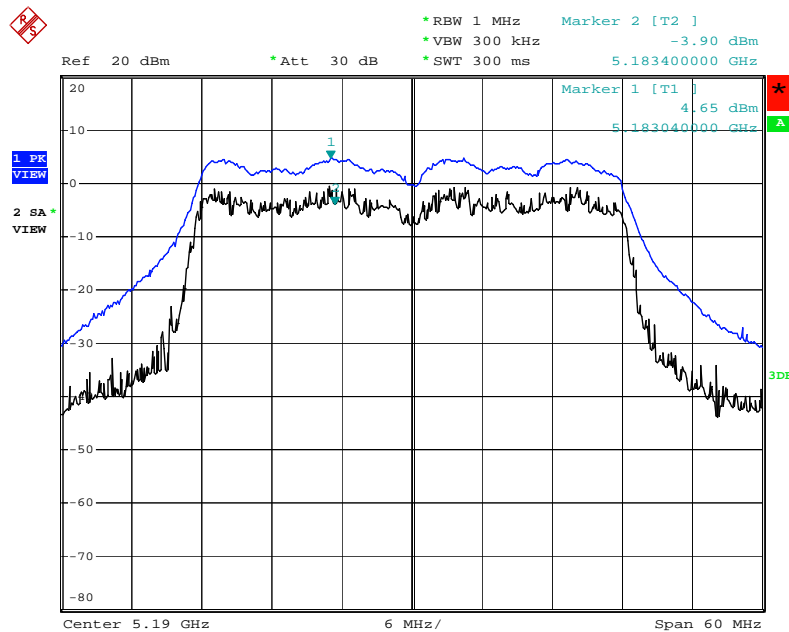
Date: 4.JUL.2009 11:32:34

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5240 MHz



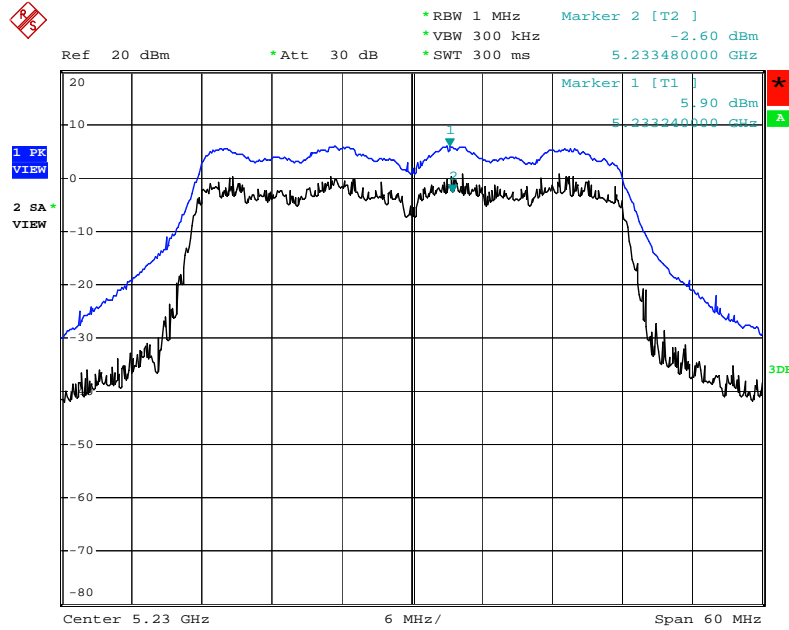
Date: 4.JUL.2009 14:30:31

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5190 MHz



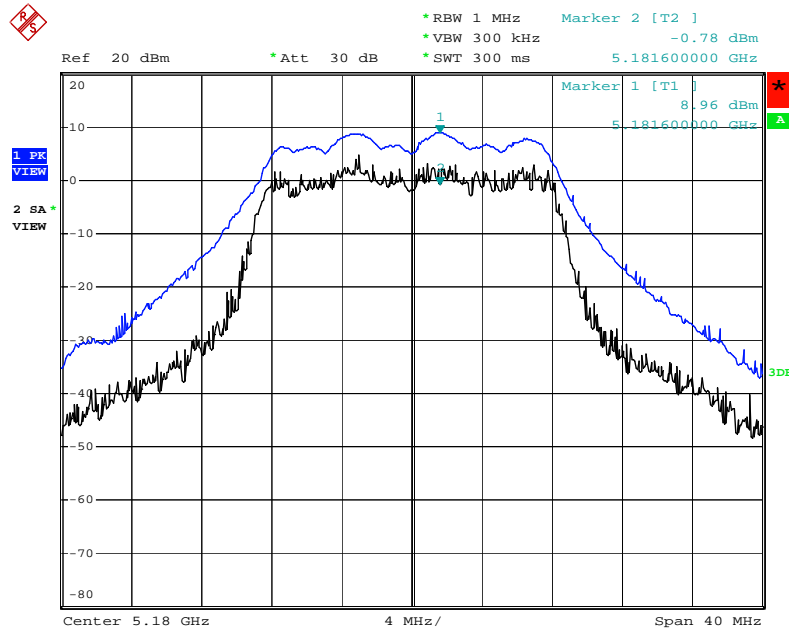
Date: 4.JUL.2009 11:56:31

Peak Excursion Plot on Configuration Draft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5230 MHz



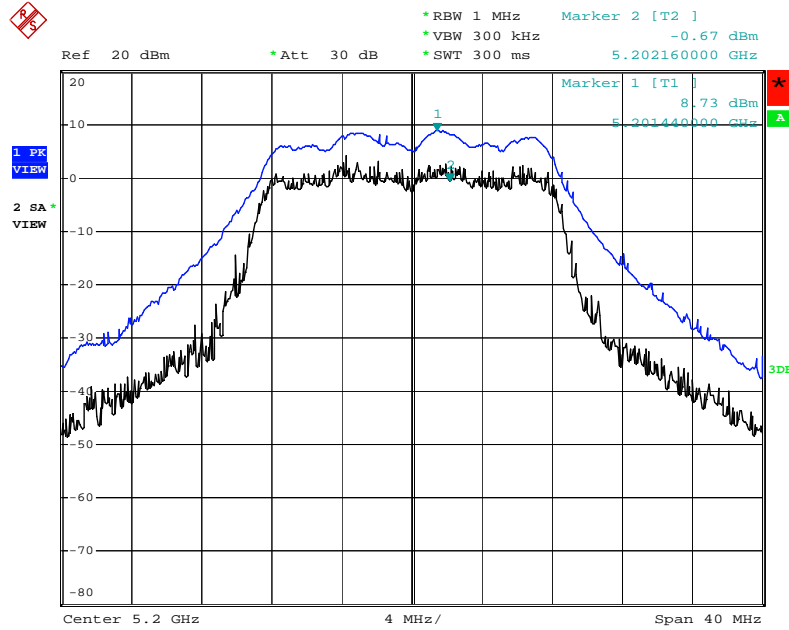
Date: 4.JUL.2009 11:59:53

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5180 MHz



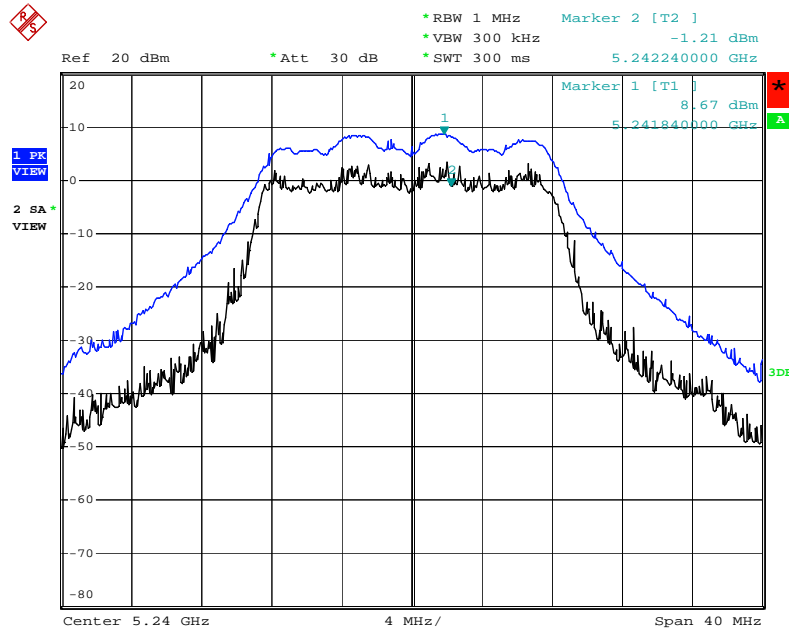
Date: 4.JUL.2009 10:47:28

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5200 MHz



Date: 4.JUL.2009 10:52:21

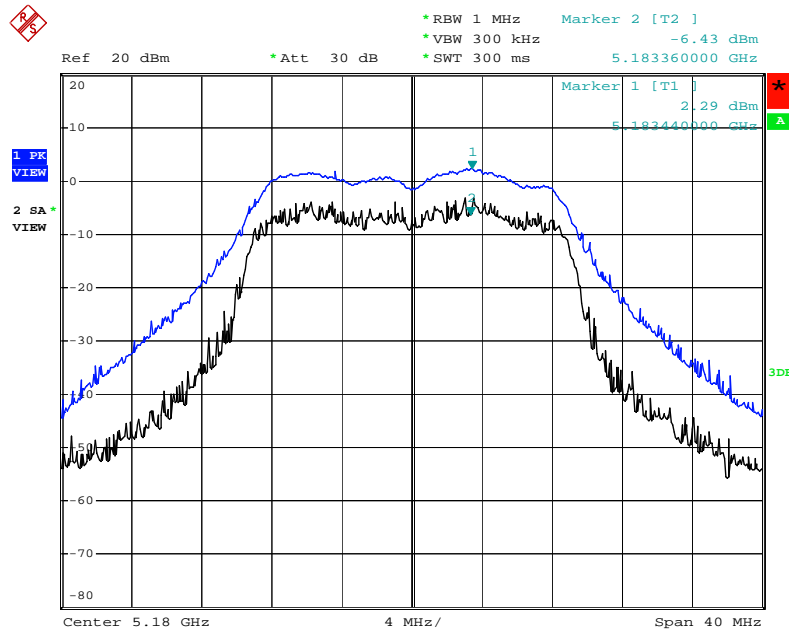
Peak Excursion Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5240 MHz



Date: 4.JUL.2009 11:15:15

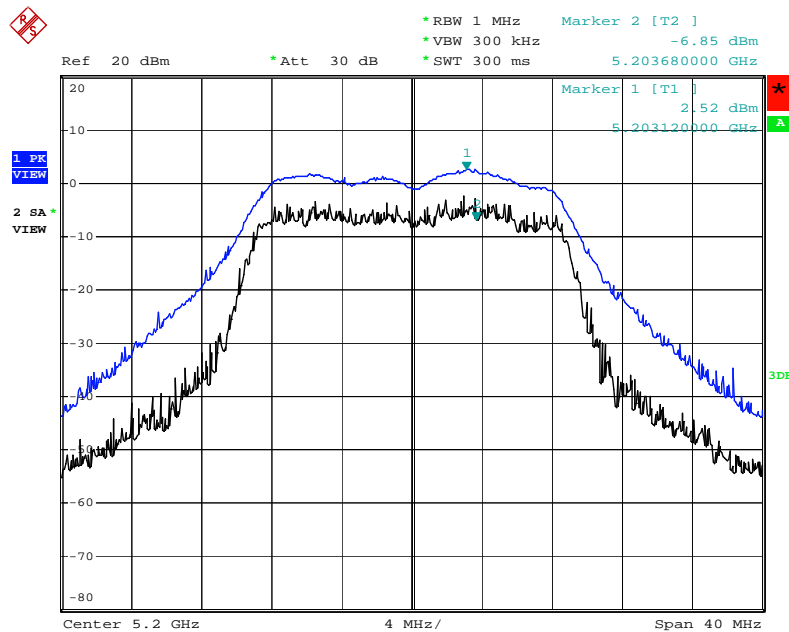
<For Antenna 2>:

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5180 MHz



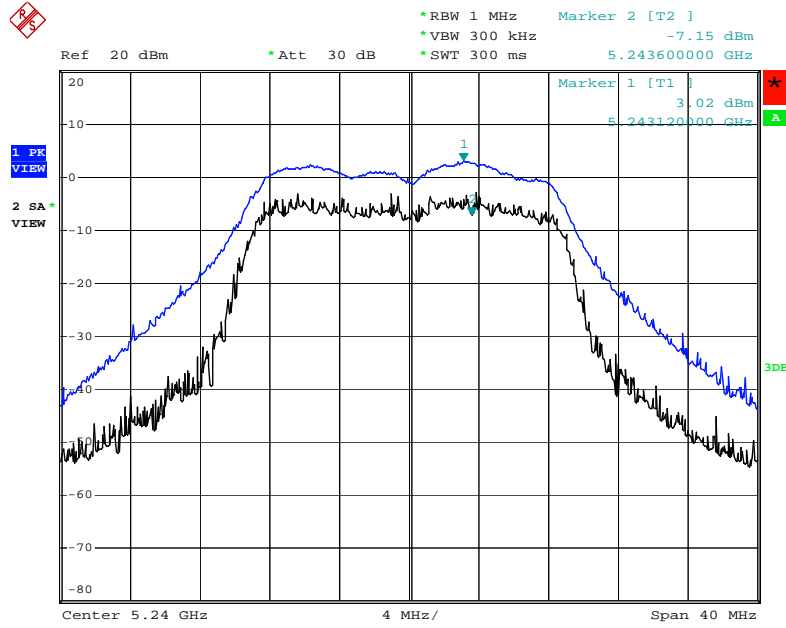
Date: 4.JUL.2009 12:51:41

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5200 MHz



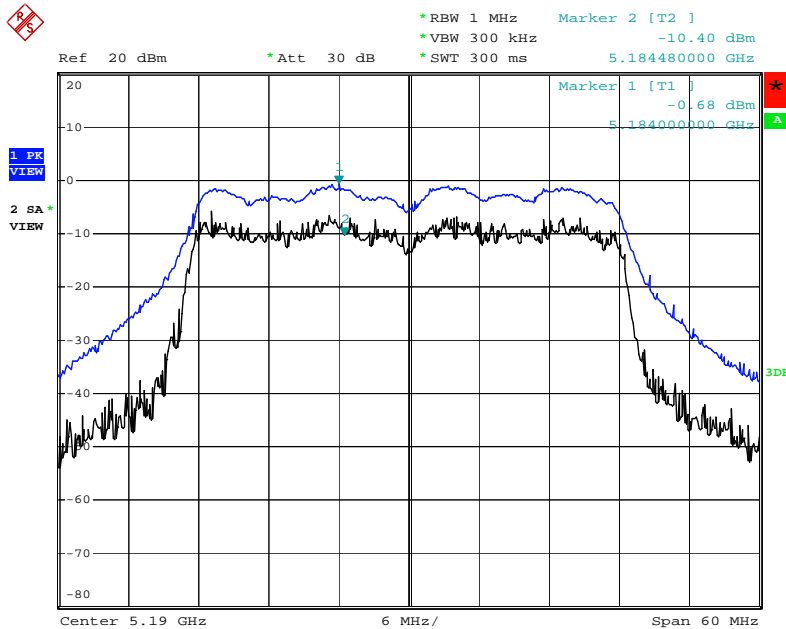
Date: 4.JUL.2009 12:53:38

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5240 MHz



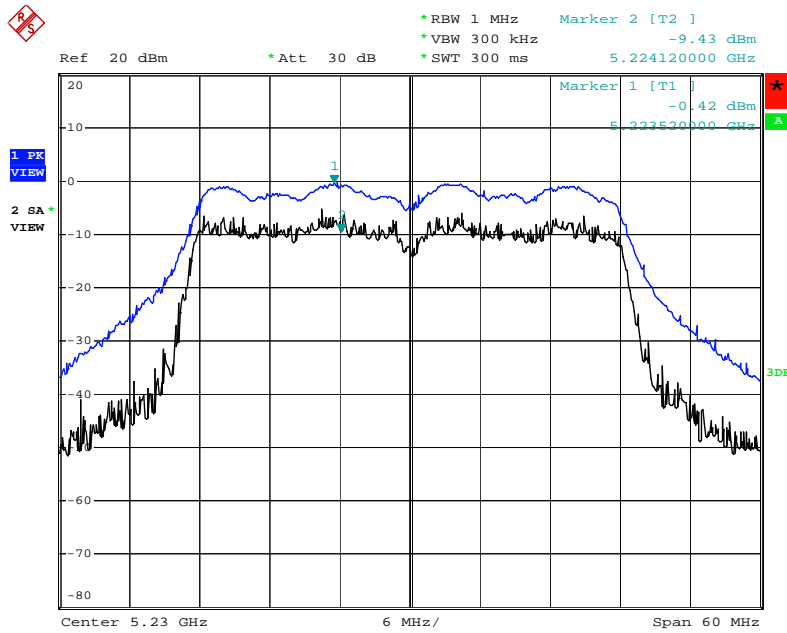
Date: 4.JUL.2009 12:54:50

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5190 MHz



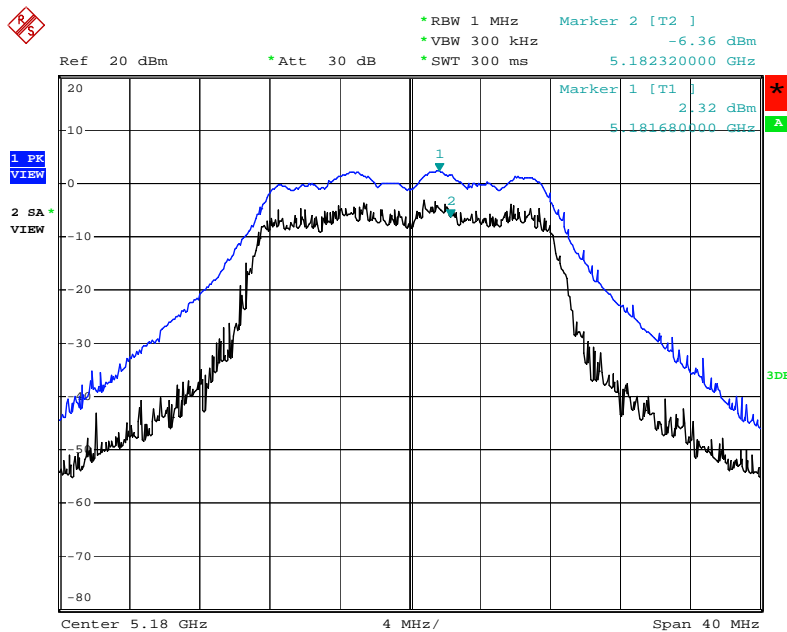
Date: 4.JUL.2009 13:10:02

Peak Excursion Plot on Configuration Draft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5230 MHz



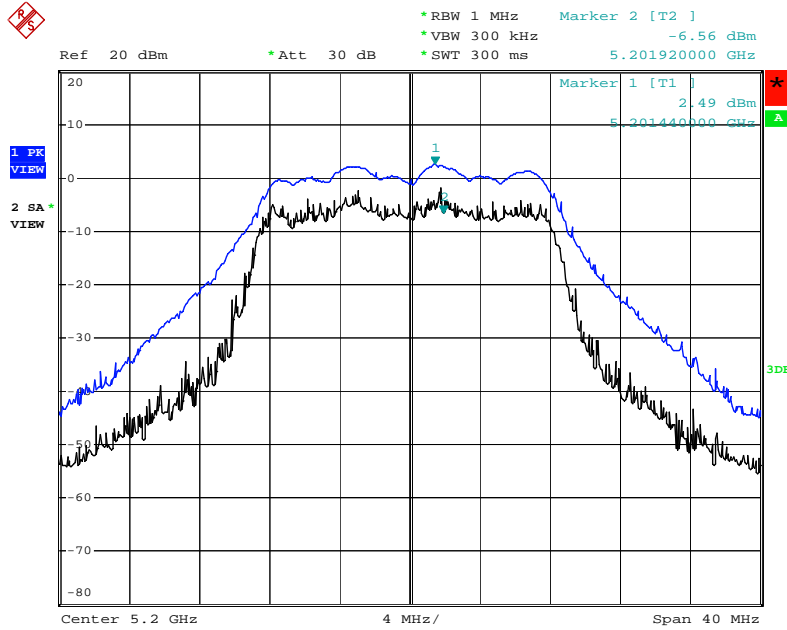
Date: 4.JUL.2009 13:11:58

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5180 MHz



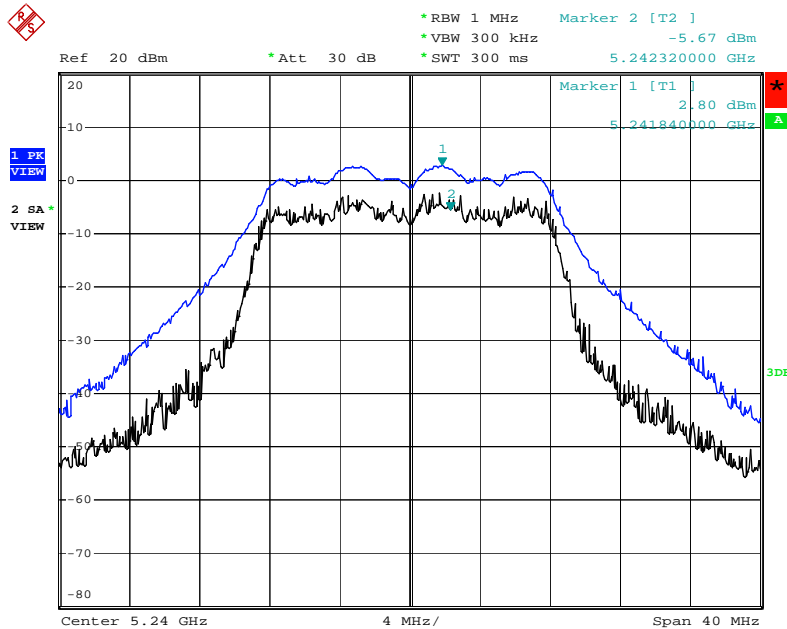
Date: 4.JUL.2009 10:54:29

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5200 MHz



Date: 4.JUL.2009 12:21:01

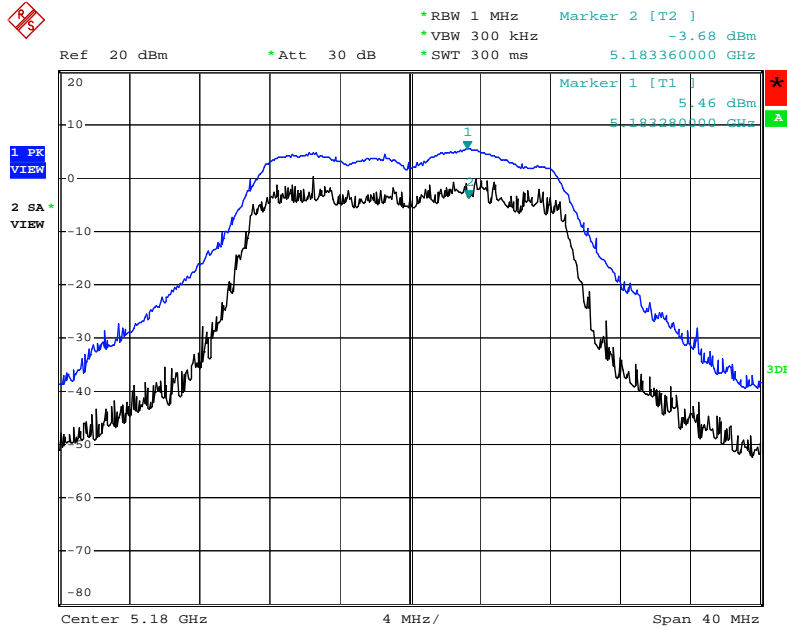
Peak Excursion Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5240 MHz



Date: 4.JUL.2009 12:22:33

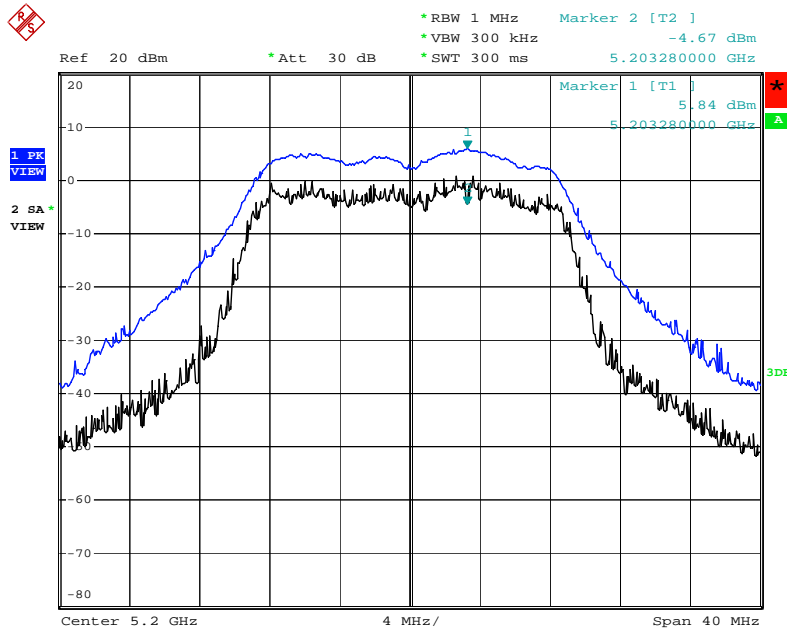
<For Antenna 3>:

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5180 MHz



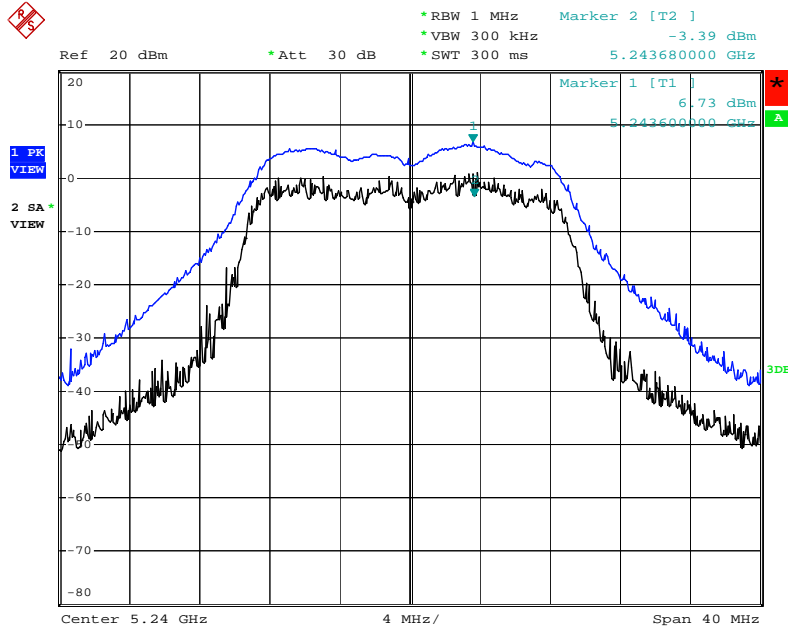
Date: 4.JUL.2009 13:34:56

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5200 MHz



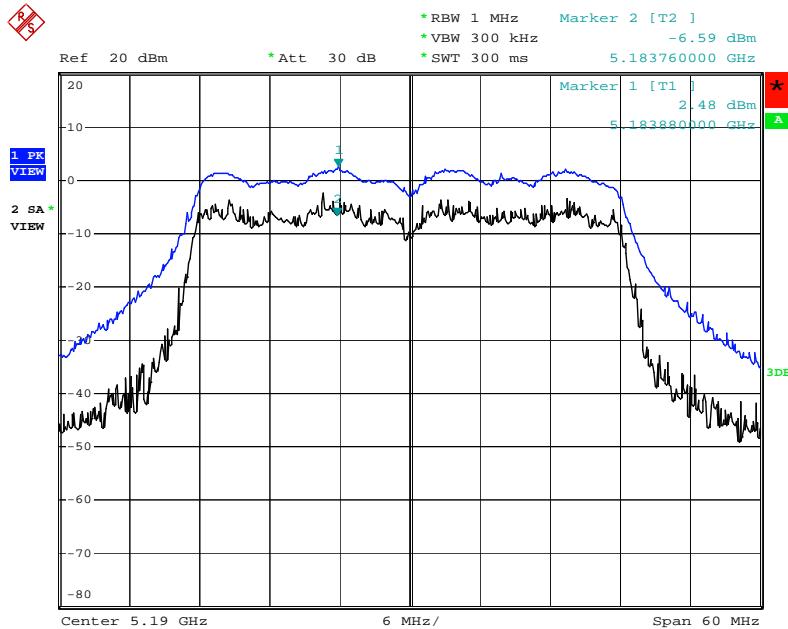
Date: 4.JUL.2009 13:36:14

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5240 MHz



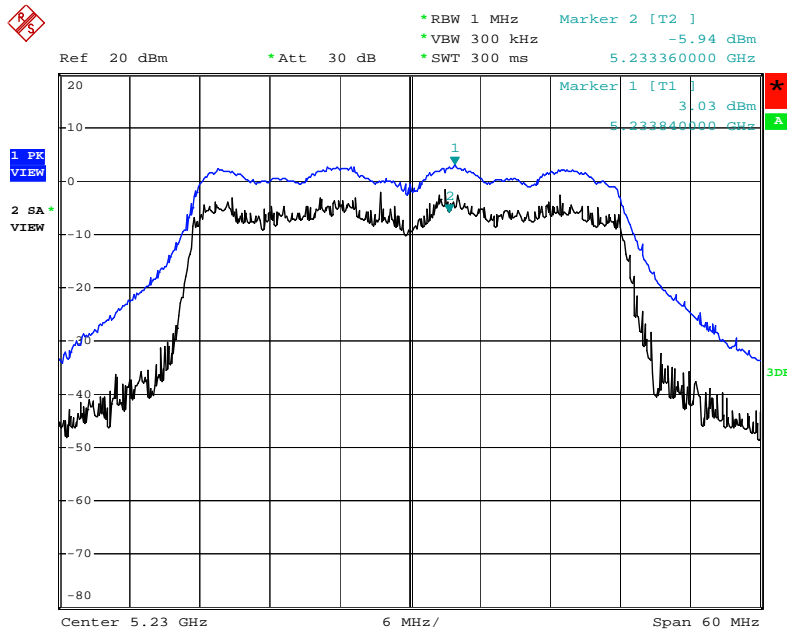
Date: 4.JUL.2009 13:37:23

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5190 MHz



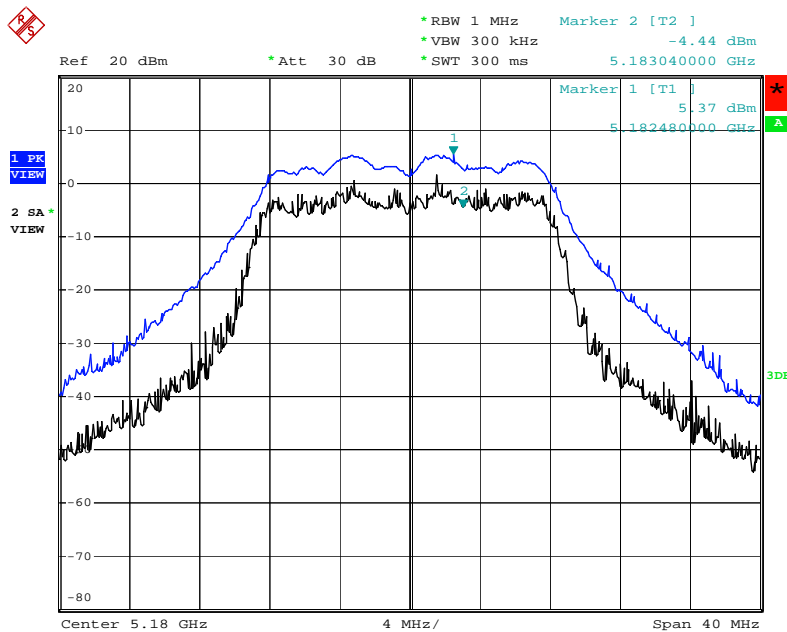
Date: 4.JUL.2009 13:48:19

Peak Excursion Plot on Configuration Draft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5230 MHz



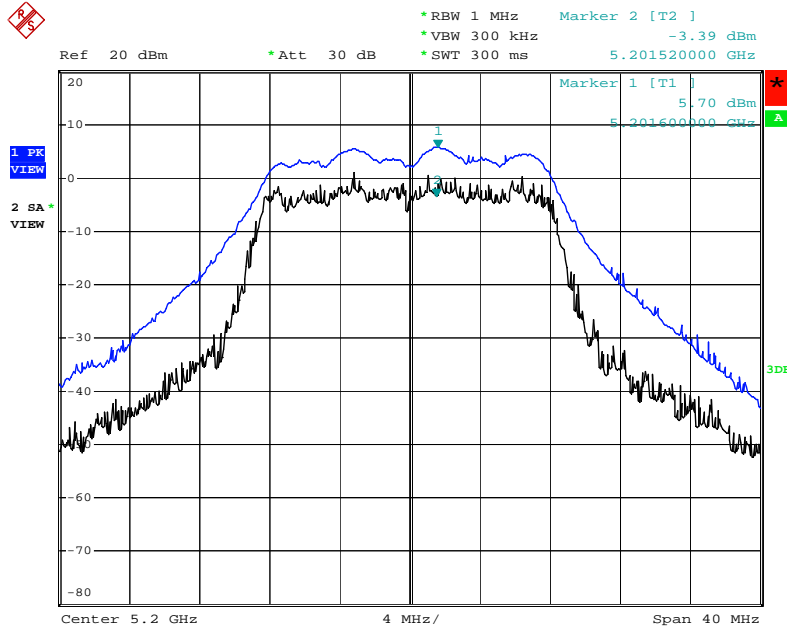
Date: 4.JUL.2009 13:50:09

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5180 MHz



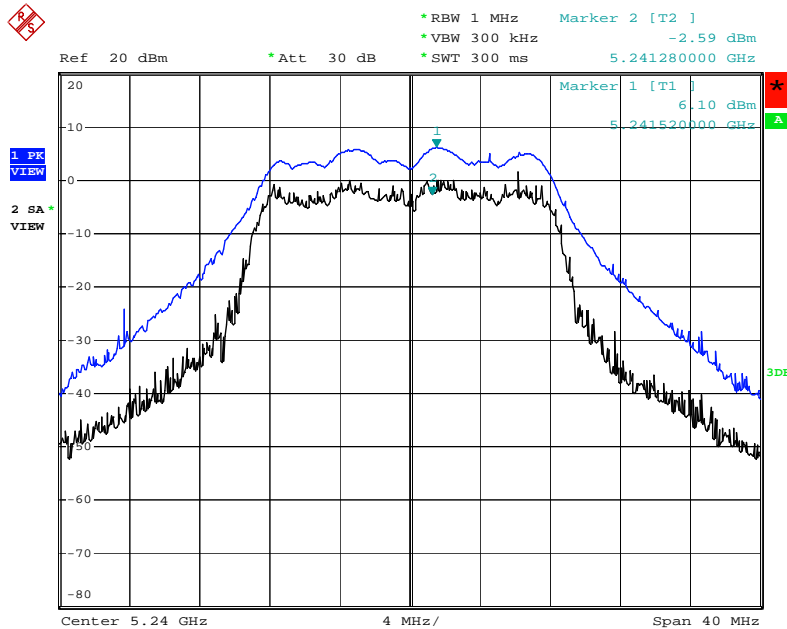
Date: 4.JUL.2009 11:00:06

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5200 MHz



Date: 4.JUL.2009 12:19:47

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5240 MHz



Date: 4.JUL.2009 12:24:21

4.6. Radiated Emissions Measurement

4.6.1. Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, in case the emission falls 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 (microrvolts/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 spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
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

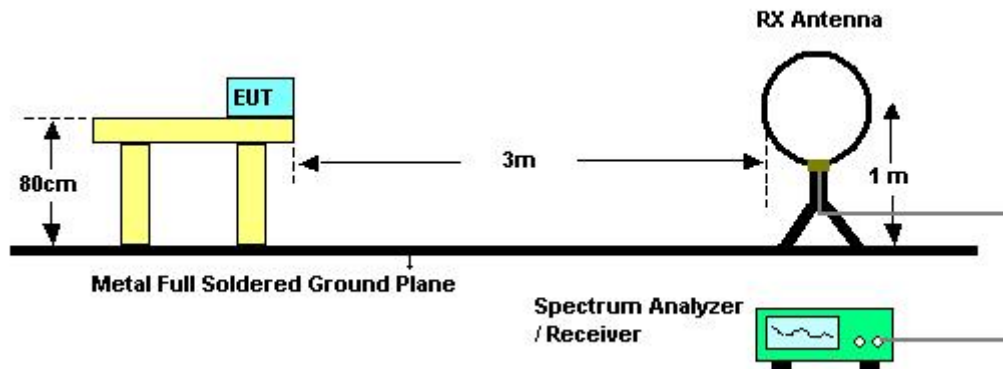
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.6.3. Test Procedures

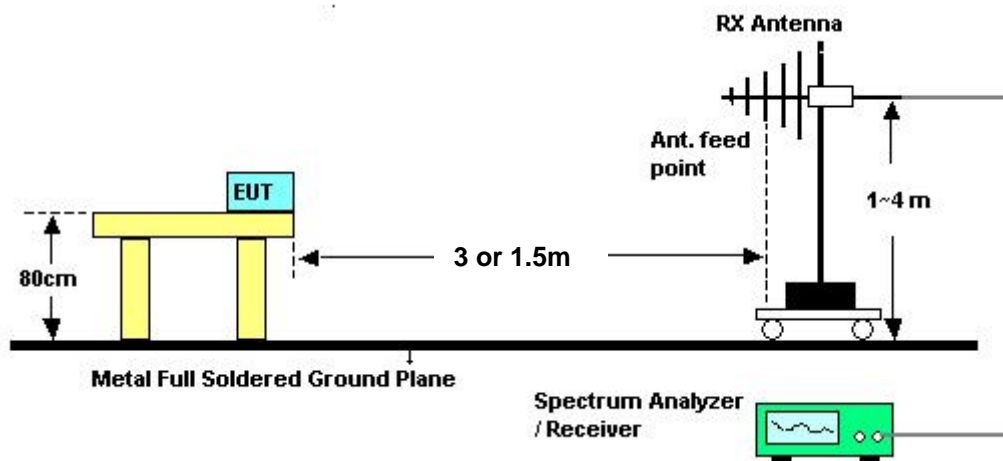
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting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

4.6.4. Test Setup Layout

For radiated emissions below 30MHz



For radiated emissions above 30MHz



Above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1.5m.

Distance extrapolation factor = $20 \log (\text{specific distance [3m]} / \text{test distance [1.5m]})$ (dB);

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

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

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Normal Link

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

Note:

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

Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB);

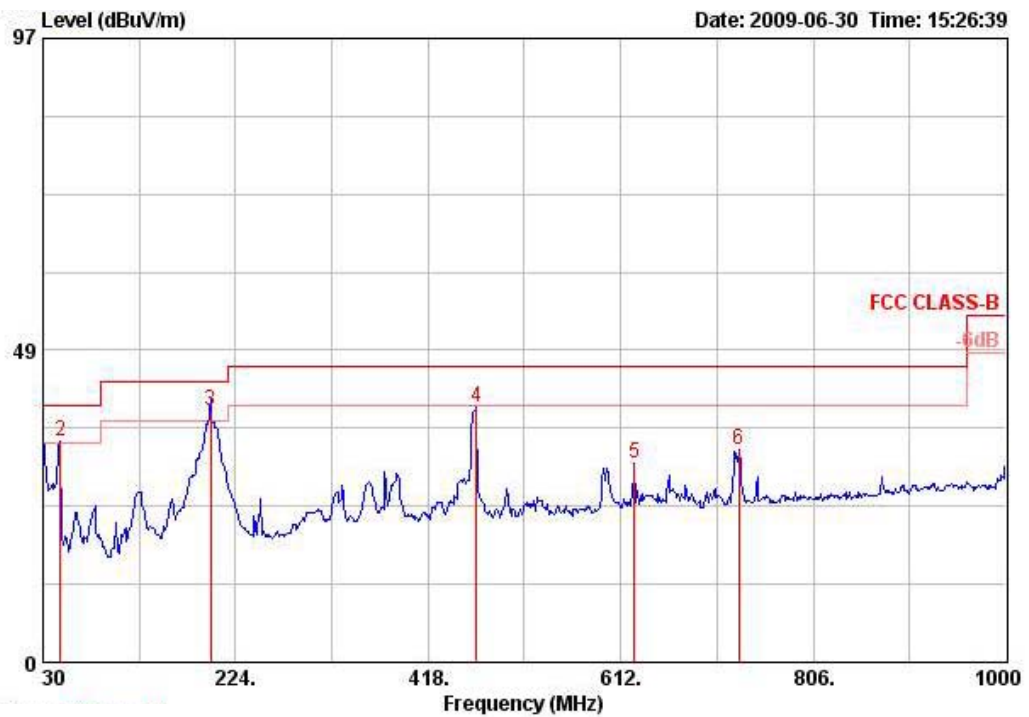
Limit line = specific limits (dBuV) + distance extrapolation factor.

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

<For Antenna 1>:

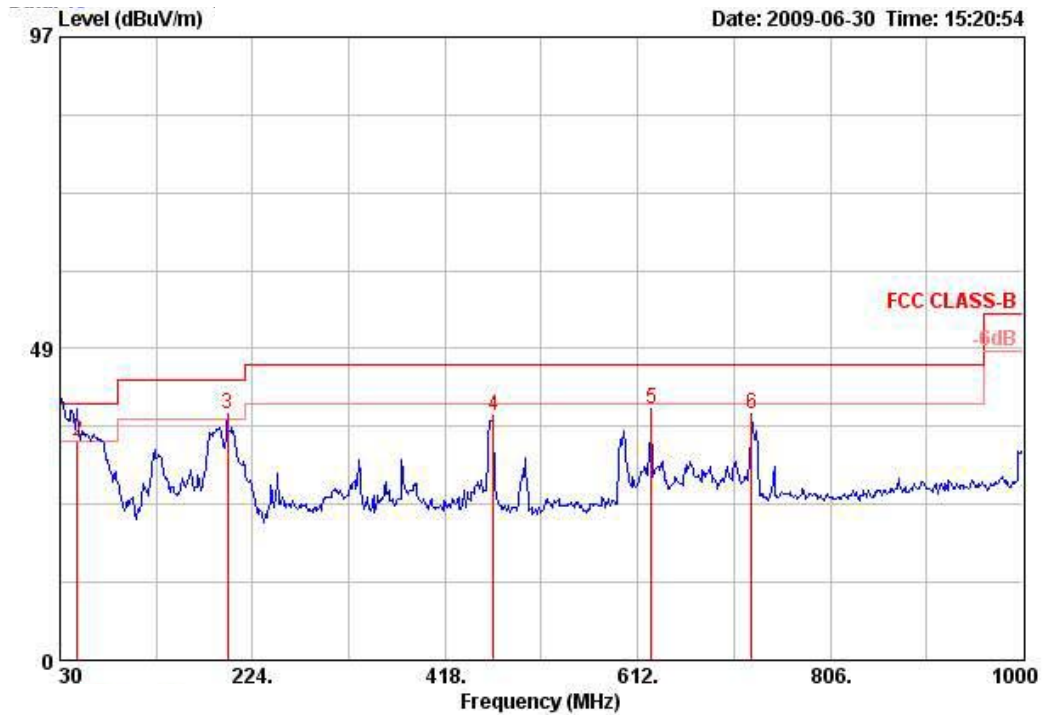
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Normal Link / Antenna 1

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	34.92	-5.08	40.00	43.46	18.76	0.50	27.80	Peak	100	0	HORIZONTAL
2 @	47.460	34.46	-5.54	40.00	52.14	9.42	0.70	27.80	Peak	100	0	HORIZONTAL
3 @	198.780	39.08	-4.42	43.50	55.24	9.25	1.70	27.11	QP	100	121	HORIZONTAL
4 @	466.500	39.74	-6.26	46.00	47.93	17.10	2.63	27.93	Peak	100	0	HORIZONTAL
5 @	625.580	31.03	-14.97	46.00	37.20	18.85	3.05	28.07	Peak	100	0	HORIZONTAL
6 @	731.310	32.96	-13.04	46.00	38.10	19.30	3.43	27.87	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 @	30.000	36.15	-3.85	40.00	44.69	18.76	0.50	27.80	QP	100	176	VERTICAL
2 @	47.460	34.13	-5.87	40.00	51.80	9.42	0.70	27.80	QP	100	172	VERTICAL
3 @	198.780	38.30	-5.20	43.50	54.46	9.25	1.70	27.11	Peak	400	0	VERTICAL
4 @	466.500	37.99	-8.01	46.00	46.19	17.10	2.63	27.93	Peak	400	0	VERTICAL
5 @	625.580	39.02	-6.98	46.00	45.19	18.85	3.05	28.07	Peak	400	0	VERTICAL
6 @	726.460	38.32	-7.68	46.00	43.53	19.27	3.41	27.89	Peak	400	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.

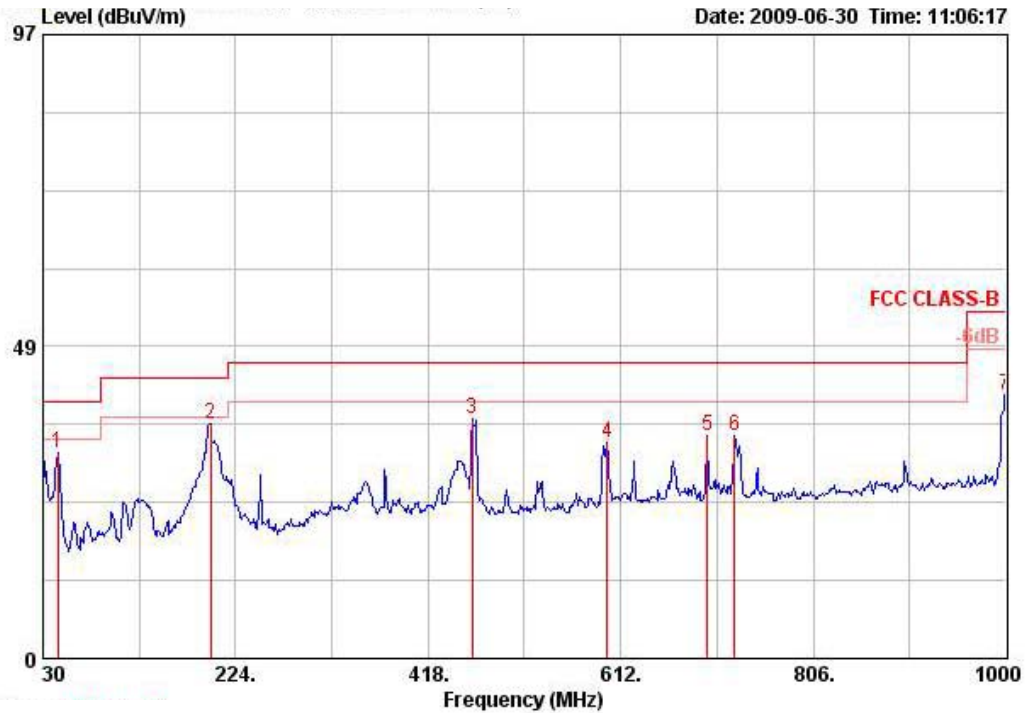
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

<For Antenna 2>:

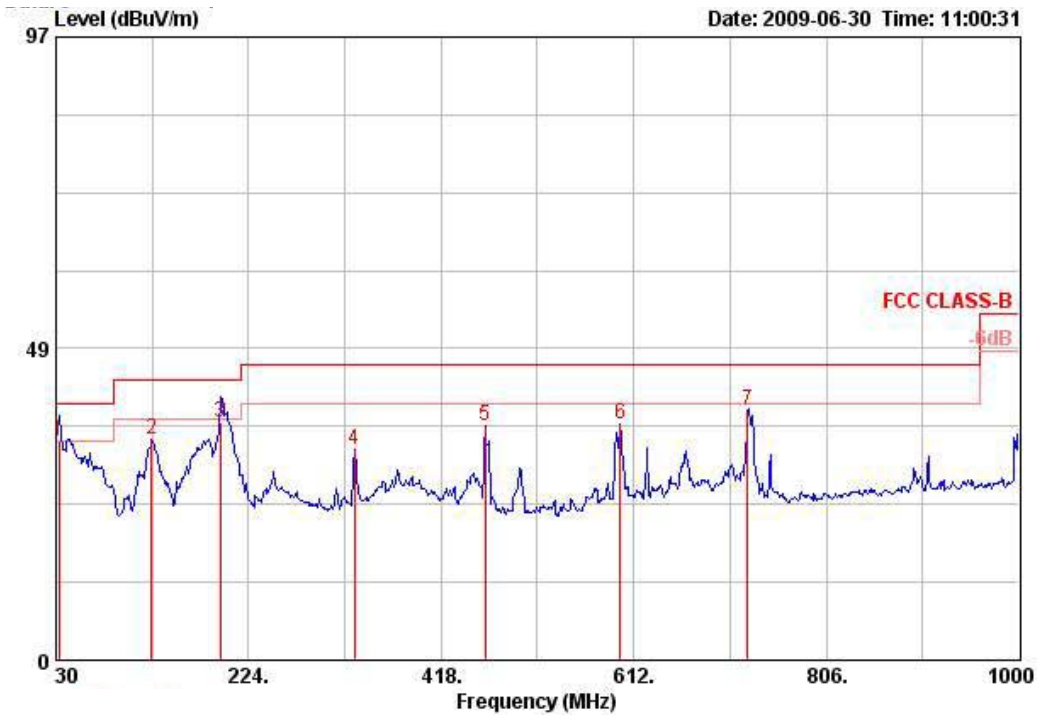
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Normal Link / Antenna 2

Horizontal



	Over	Limit	Read	Antenna	Cable	Preamp		Ant	Table			
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	44.550	32.10	-7.90	40.00	48.88	10.32	0.70	27.80	Peak	100	0	HORIZONTAL
2 @	198.780	36.55	-6.95	43.50	52.70	9.25	1.70	27.11	Peak	100	0	HORIZONTAL
3 @	462.620	37.37	-8.63	46.00	45.61	17.04	2.63	27.91	Peak	100	0	HORIZONTAL
4 @	598.420	33.65	-12.35	46.00	40.10	18.75	2.90	28.10	Peak	100	0	HORIZONTAL
5 @	699.300	34.67	-11.33	46.00	40.28	19.09	3.30	28.00	Peak	100	0	HORIZONTAL
6 @	726.460	34.62	-11.38	46.00	39.84	19.27	3.41	27.89	Peak	100	0	HORIZONTAL
7 @	1000.000	41.06	-12.94	54.00	43.07	21.29	3.70	27.00	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 @	32.910	34.06	-5.94	40.00	44.21	17.15	0.50	27.80	QP	100	178	VERTICAL
2 @	126.030	34.27	-9.23	43.50	48.26	12.22	1.26	27.47	Peak	400	0	VERTICAL
3 @	195.870	36.99	-6.51	43.50	52.56	9.87	1.68	27.12	QP	100	177	VERTICAL
4 @	330.700	32.71	-13.29	46.00	43.46	14.20	2.16	27.12	Peak	400	0	VERTICAL
5 @	462.620	36.44	-9.56	46.00	44.69	17.04	2.63	27.91	Peak	400	0	VERTICAL
6 @	598.420	36.71	-9.29	46.00	43.16	18.75	2.90	28.10	Peak	400	0	VERTICAL
7 @	726.460	38.87	-7.13	46.00	44.08	19.27	3.41	27.89	Peak	400	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.

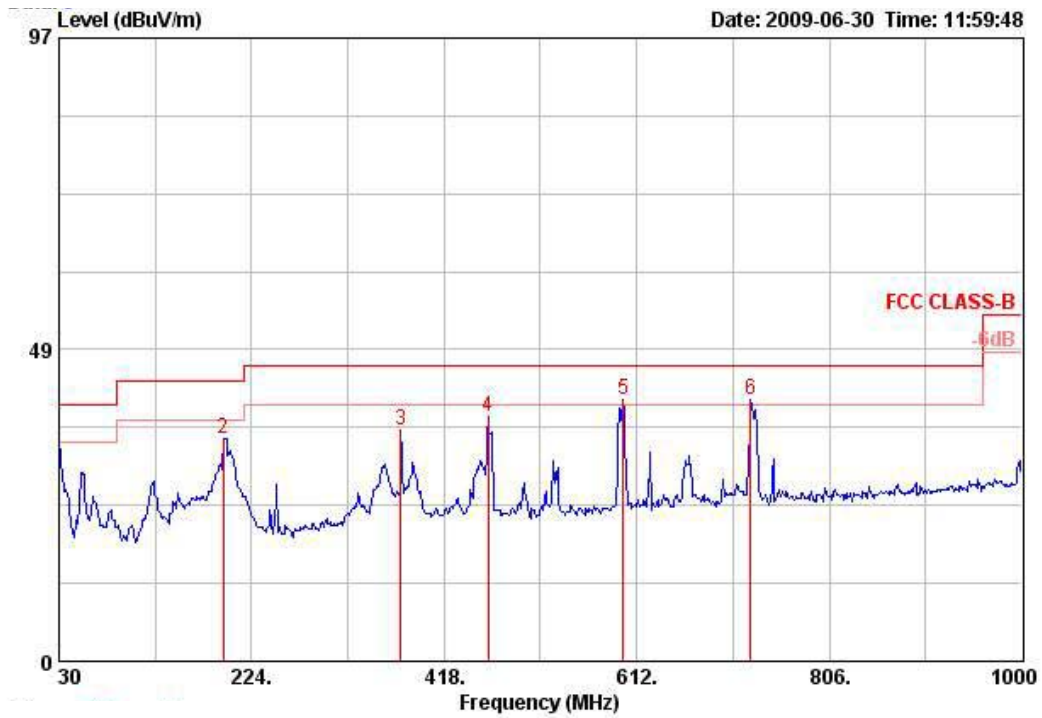
Emission level (dBUV/m) = 20 log Emission level (uV/m).

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

<For Antenna 3>:

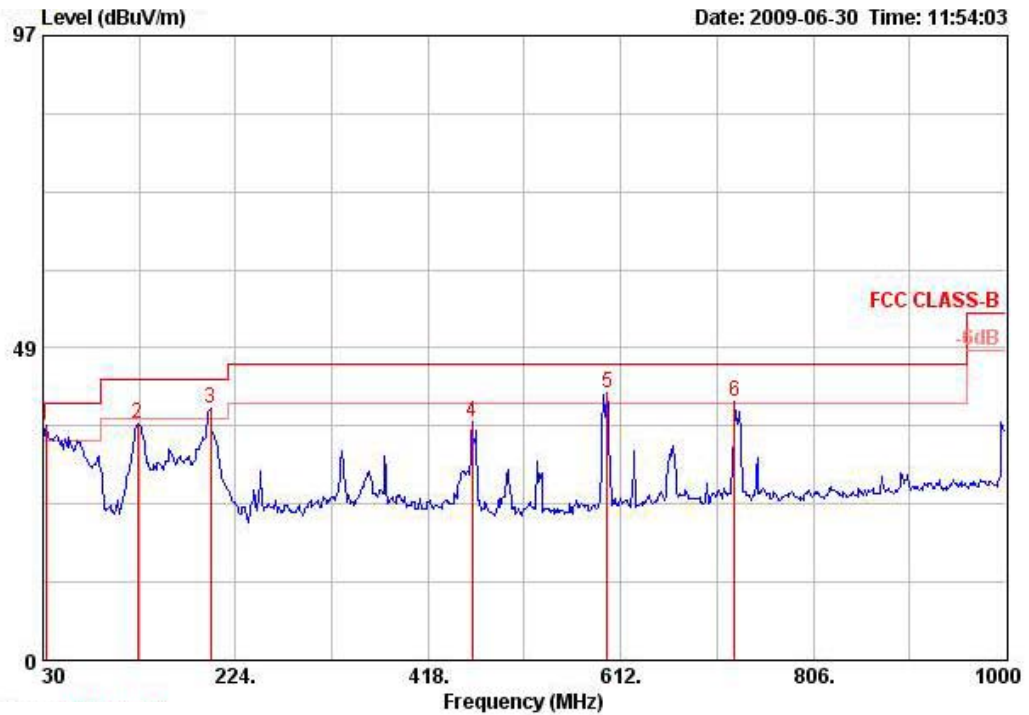
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Normal Link / Antenna 3

Horizontal



	Freq	Level	Over Limit	Limit Line	ReadAntenna 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	34.15	-5.85	40.00	42.69	18.76	0.50	27.80	Peak	100	0	HORIZONTAL
2 @	195.870	34.68	-8.82	43.50	50.25	9.87	1.68	27.12	Peak	100	0	HORIZONTAL
3 @	374.350	35.85	-10.15	46.00	45.64	15.38	2.25	27.42	Peak	100	0	HORIZONTAL
4 @	462.620	38.11	-7.89	46.00	46.35	17.04	2.63	27.91	Peak	100	0	HORIZONTAL
5 @	598.420	40.74	-5.26	46.00	47.20	18.75	2.90	28.10	Peak	100	0	HORIZONTAL
6 @	726.460	40.75	-5.25	46.00	45.97	19.27	3.41	27.89	Peak	100	0	HORIZONTAL

Vertical



	Over	Limit	Read	Antenna	Cable	Preamp		Ant	Table			
1	2	3	4	5	6	7	8	Pos	Pos			
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg			
1 @	32.910	36.56	-3.44	40.00	46.71	17.15	0.50	27.80	Peak	100	177	VERTICAL
2 @	125.060	36.62	-6.88	43.50	50.64	12.21	1.25	27.48	Peak	400	0	VERTICAL
3 @	198.780	39.08	-4.42	43.50	55.24	9.25	1.70	27.11	Peak	400	0	VERTICAL
4 @	462.620	37.01	-8.99	46.00	45.25	17.04	2.63	27.91	Peak	400	0	VERTICAL
5 @	598.420	41.59	-4.41	46.00	48.04	18.75	2.90	28.10	Peak	400	0	VERTICAL
6 @	726.460	40.13	-5.87	46.00	45.35	19.27	3.41	27.89	Peak	400	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).

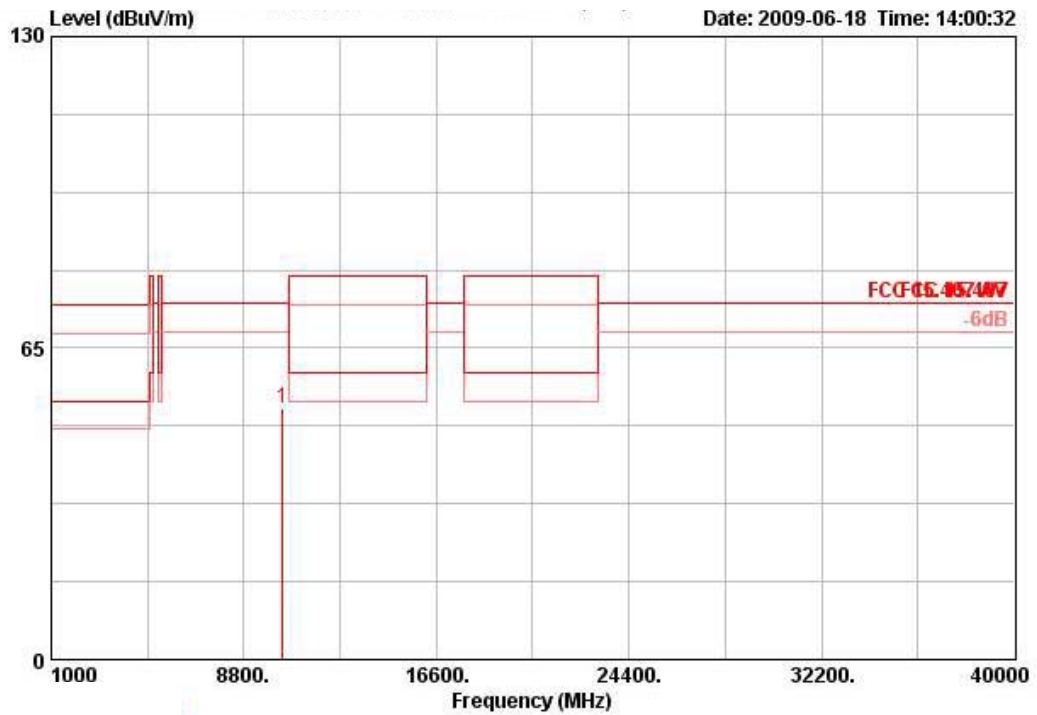
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6.9. Results for Radiated Emissions (1GHz~40GHz)

<For Antenna 1 >:

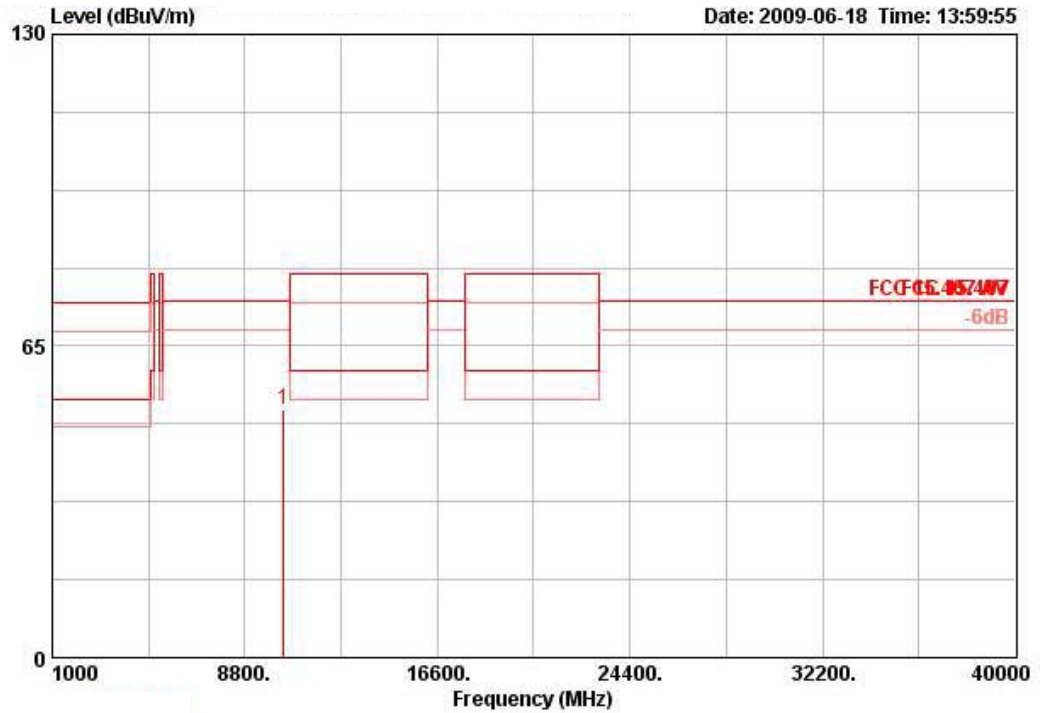
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 36 / Ant. 1

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBUV/m	dBUV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10359.990	52.39	74.30	-21.91	43.15	PEAK	6.49	35.62	38.37	0	100 HORIZONTAL

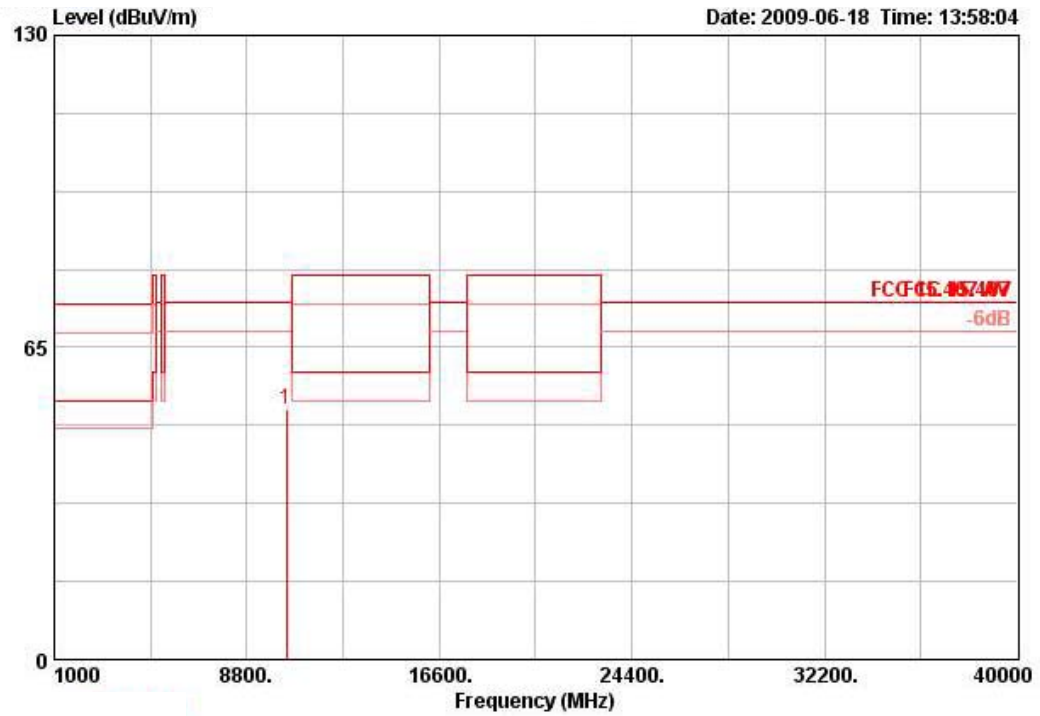
Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10360.020	51.86	74.30	-22.44	42.62	PEAK	6.49	35.62	38.37	360	100 VERTICAL

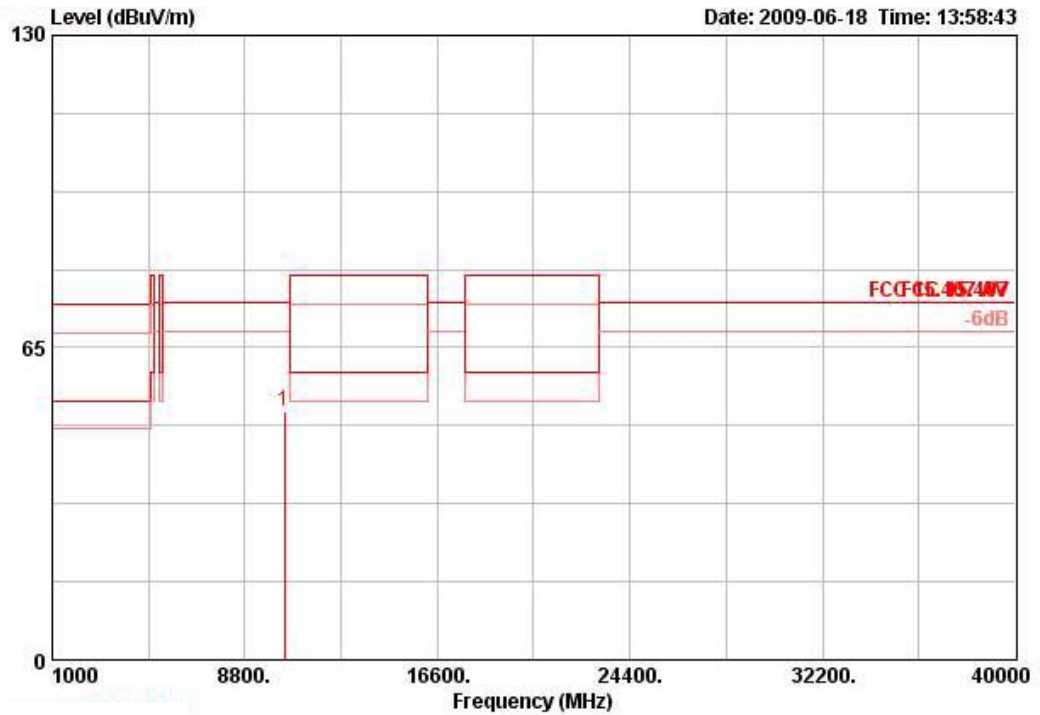
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 40 / Ant. 1

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBUV/m	dBUV/m	dB	dBUV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10399.990	51.96	74.30	-22.34	42.64	PEAK	6.52	35.58	38.38	360	100 HORIZONTAL

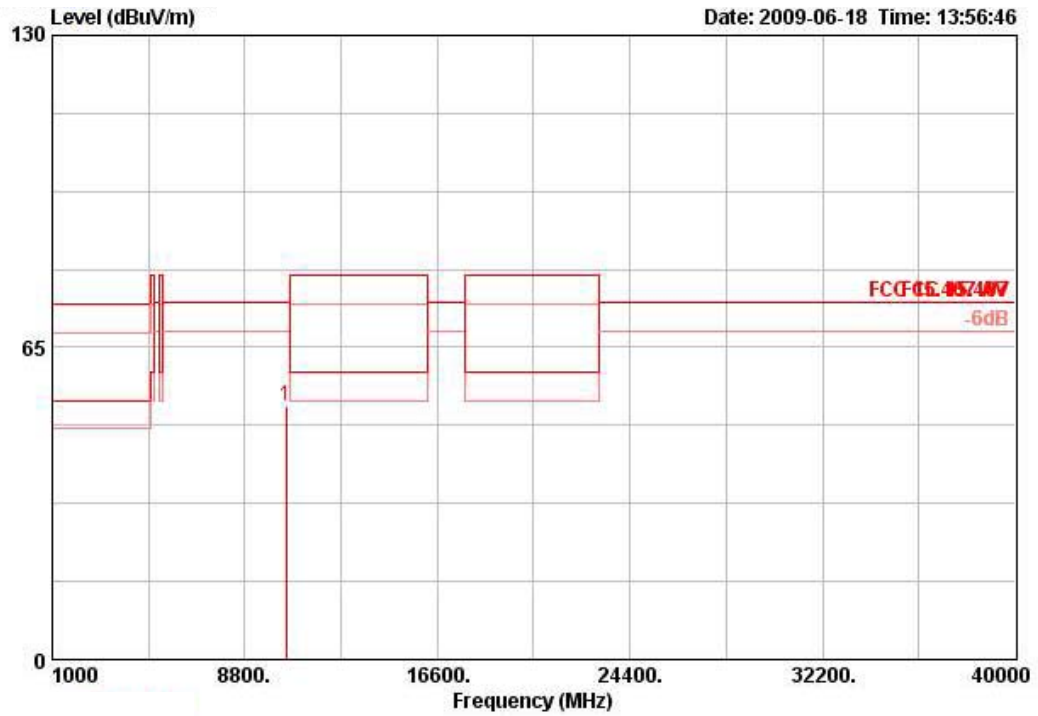
Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10400.010	51.79	74.30	-22.51	42.47	PEAK	6.52	35.58	38.38	0	100 VERTICAL

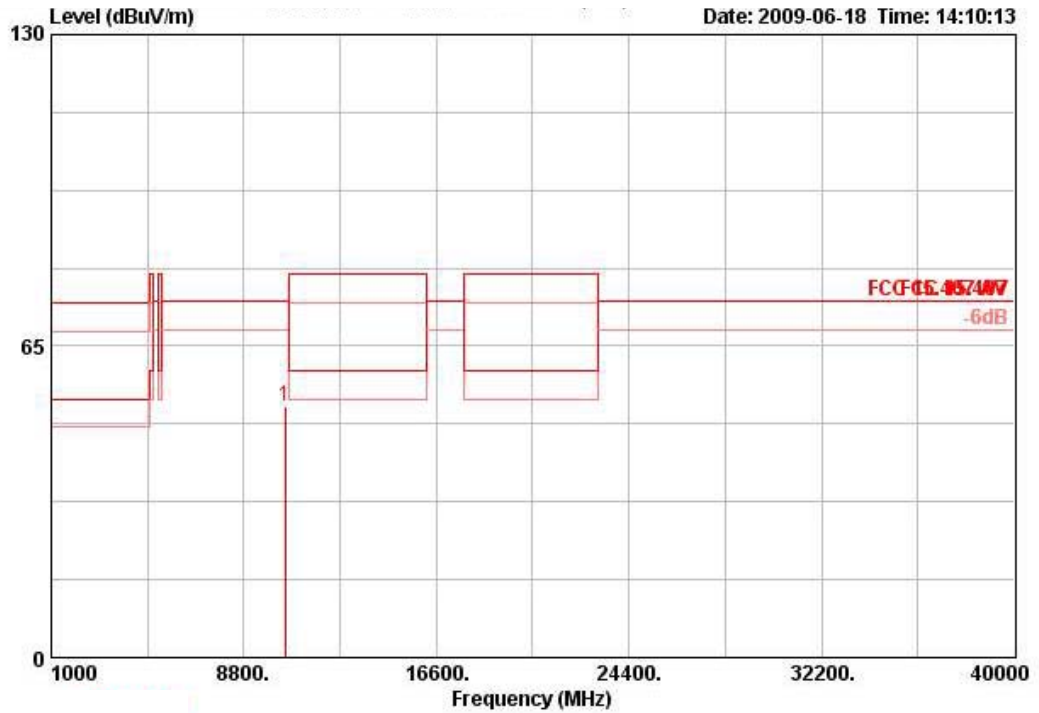
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 48 / Ant. 1

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10479.980	52.66	74.30	-21.64	43.23	PEAK	6.57	35.52	38.39	0	100 HORIZONTAL

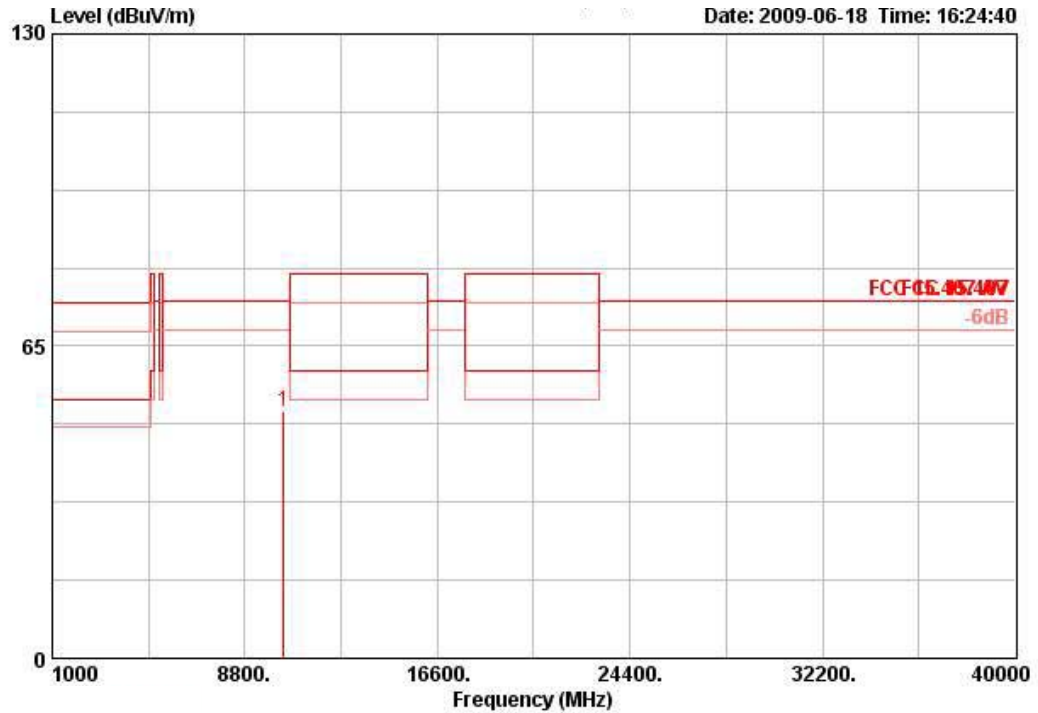
Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10479.990	52.52	74.30	-21.78	43.08	PEAK	6.57	35.52	38.40	360	100 VERTICAL

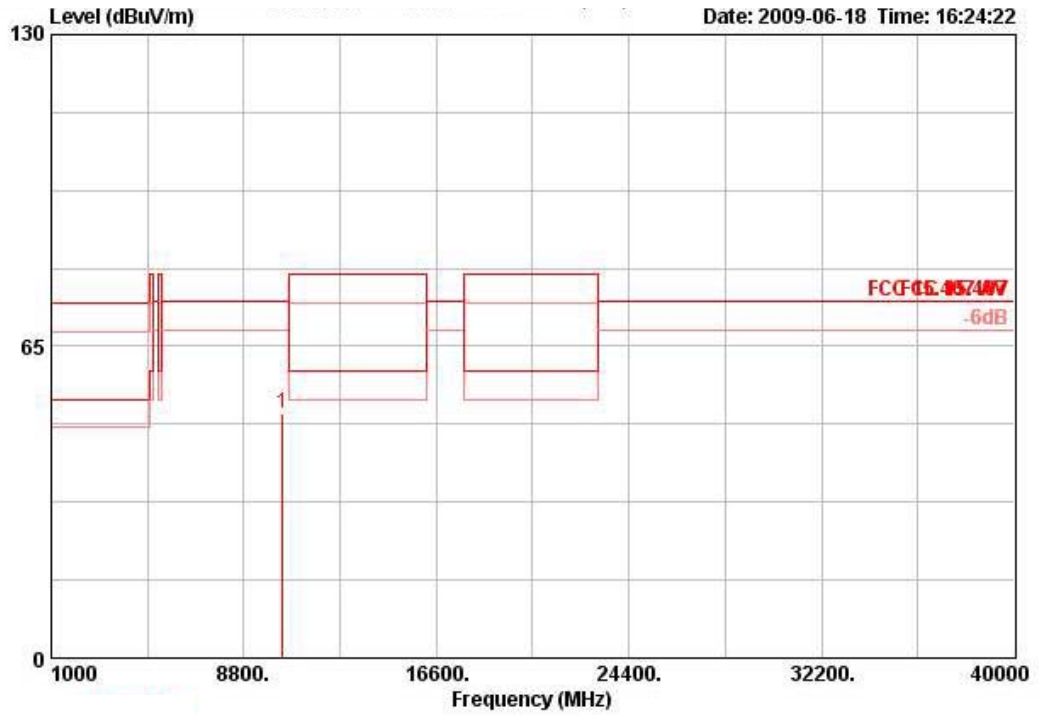
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 38 / Ant. 1

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1	10379.990	51.28	74.30	-23.02	42.00	PEAK	6.51	35.60	38.38	221	118	HORIZONTAL

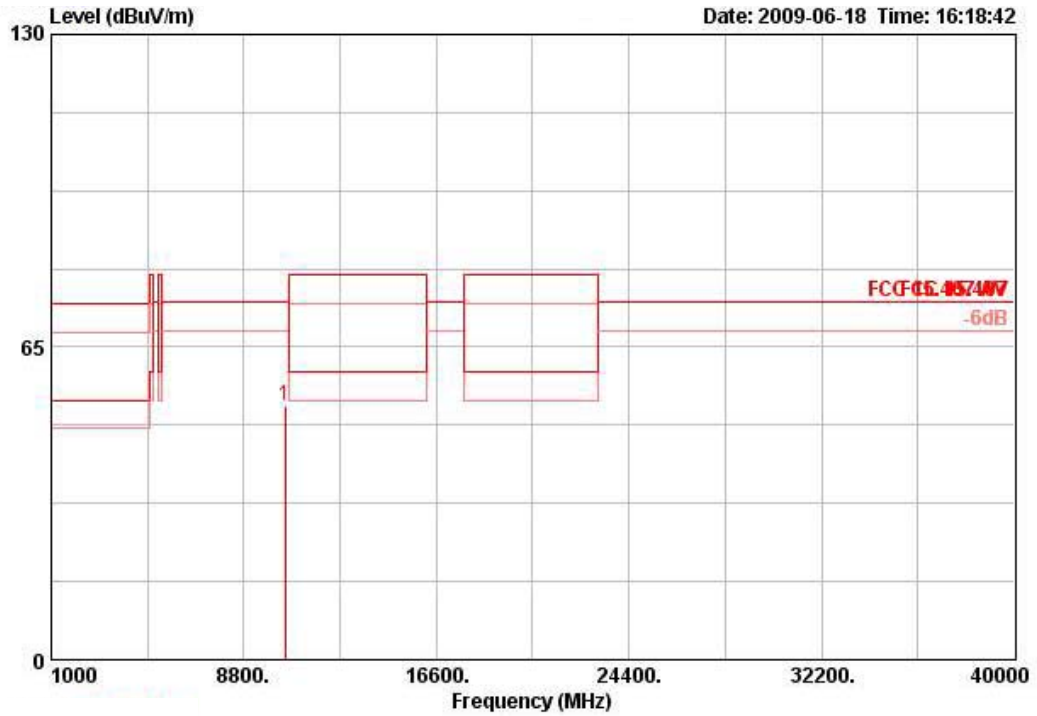
Vertical



	Freq	Level	Limit	Over	Read		Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV	Remark	Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10379.980	51.16	74.30	-23.14	41.88	PEAK	6.51	35.60	38.38	192	107 VERTICAL

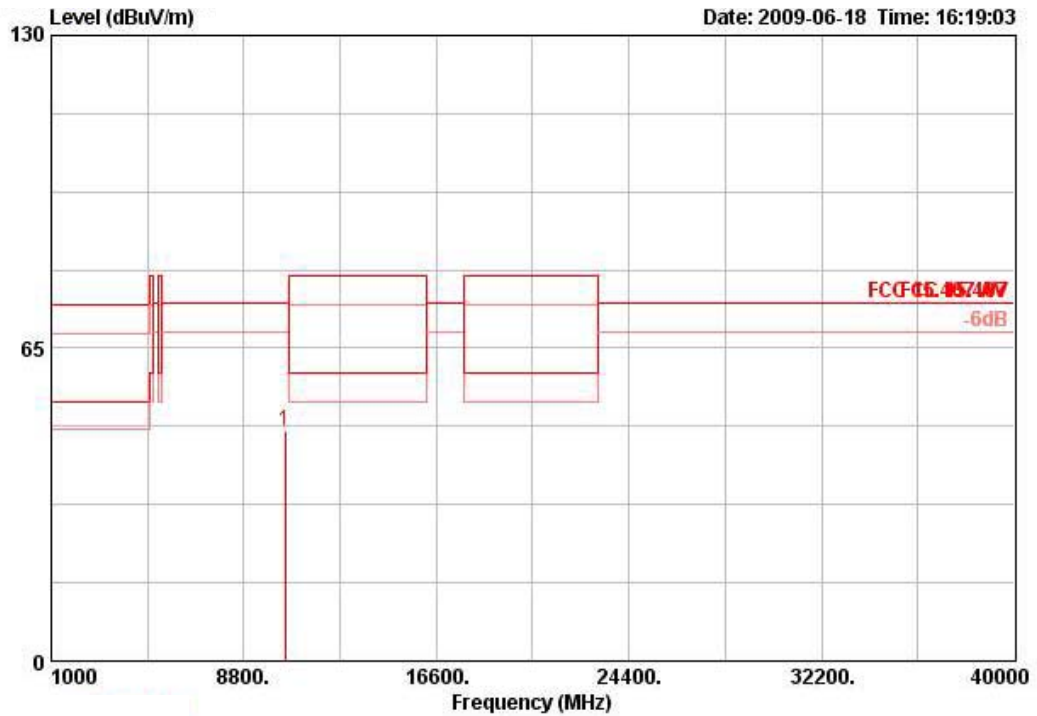
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 46 / Ant. 1

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10460.000	52.71	74.30	-21.59	43.31	PEAK	6.55	35.54	38.39	186	109 HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10459.980	47.97	74.30	-26.33	38.57	PEAK	6.55	35.54	38.39	147	120 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.

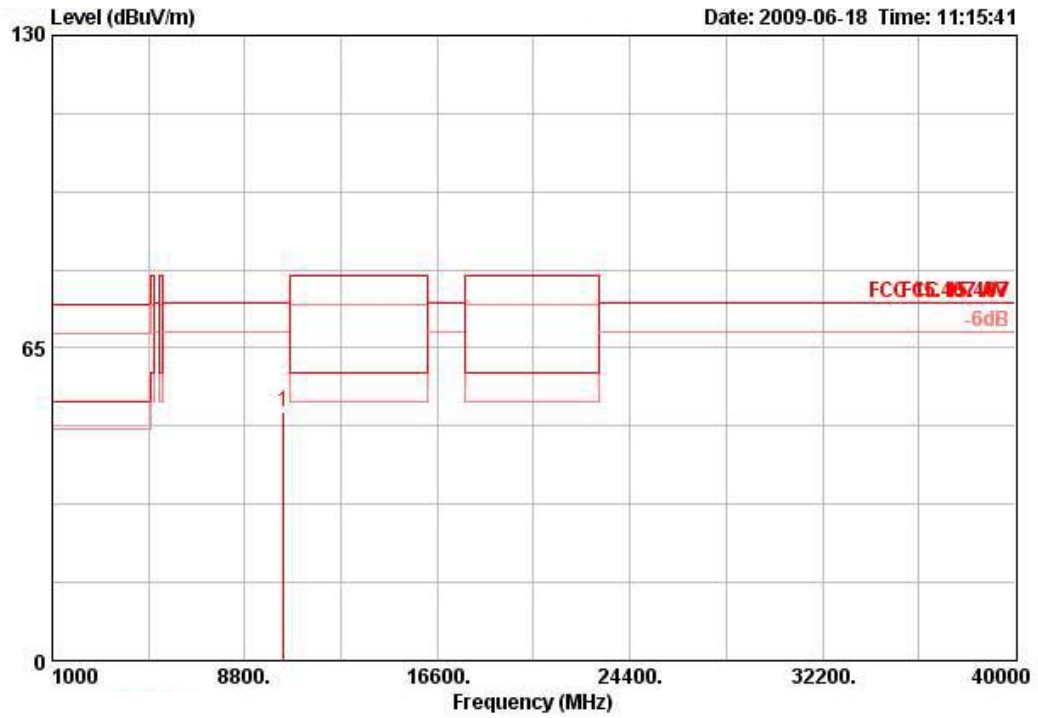
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

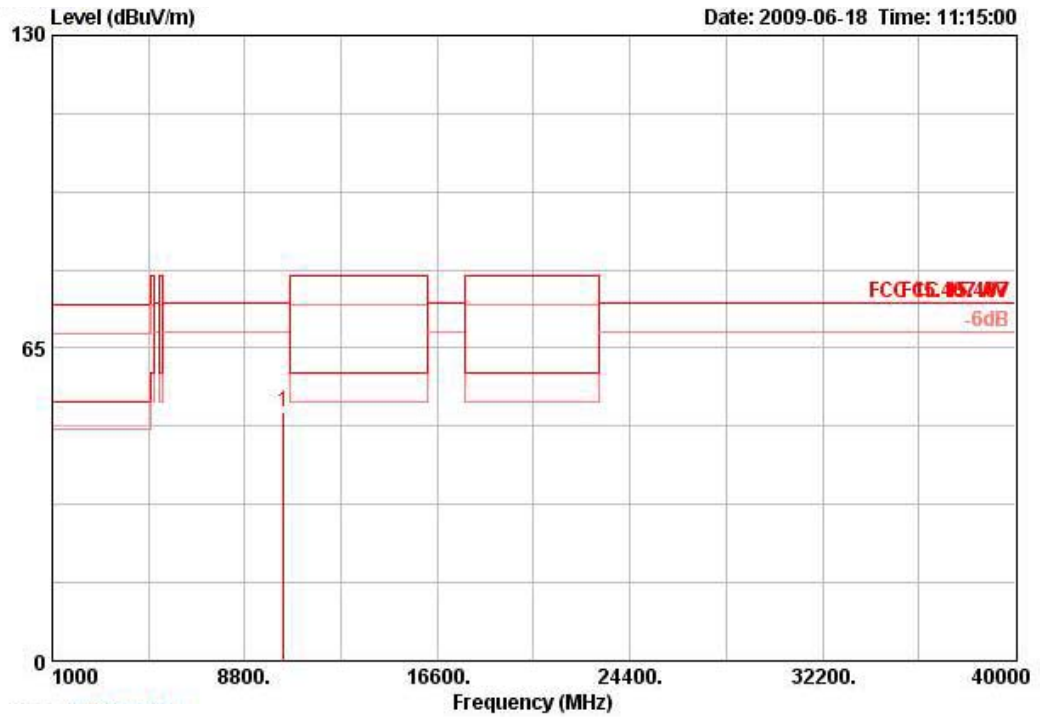
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 36 / Ant. 1

Horizontal



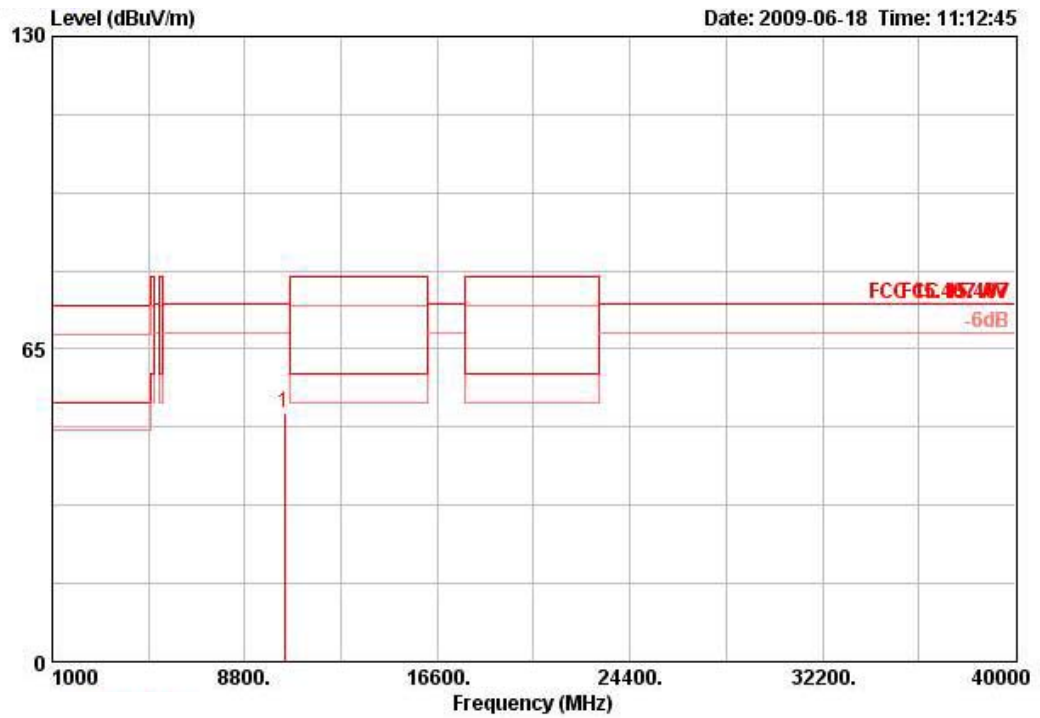
	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10359.990	51.86	74.30	-22.44	42.62	PEAK	6.49	35.62	38.37	0	100 HORIZONTAL

Vertical



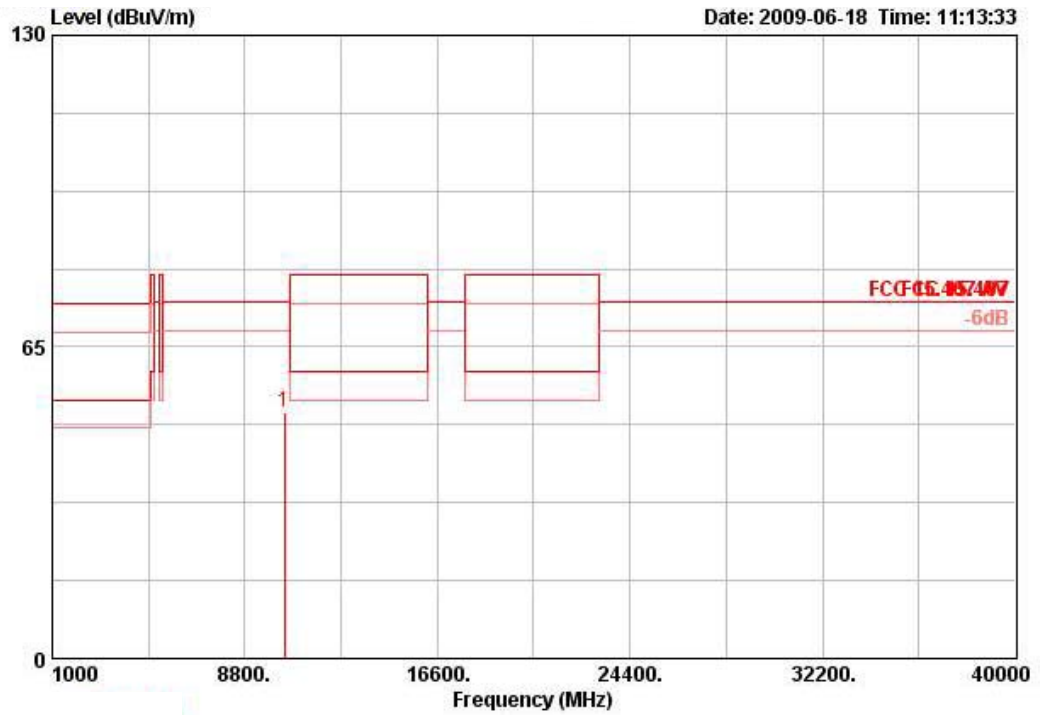
	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10360.010	51.82	74.30	-22.48	42.58	PEAK	6.49	35.62	38.37	360	100 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 40 / Ant. 1

Horizontal


	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10400.010	51.63	74.30	-22.67	42.31	PEAK	6.52	35.58	38.38	360	100 HORIZONTAL

Vertical

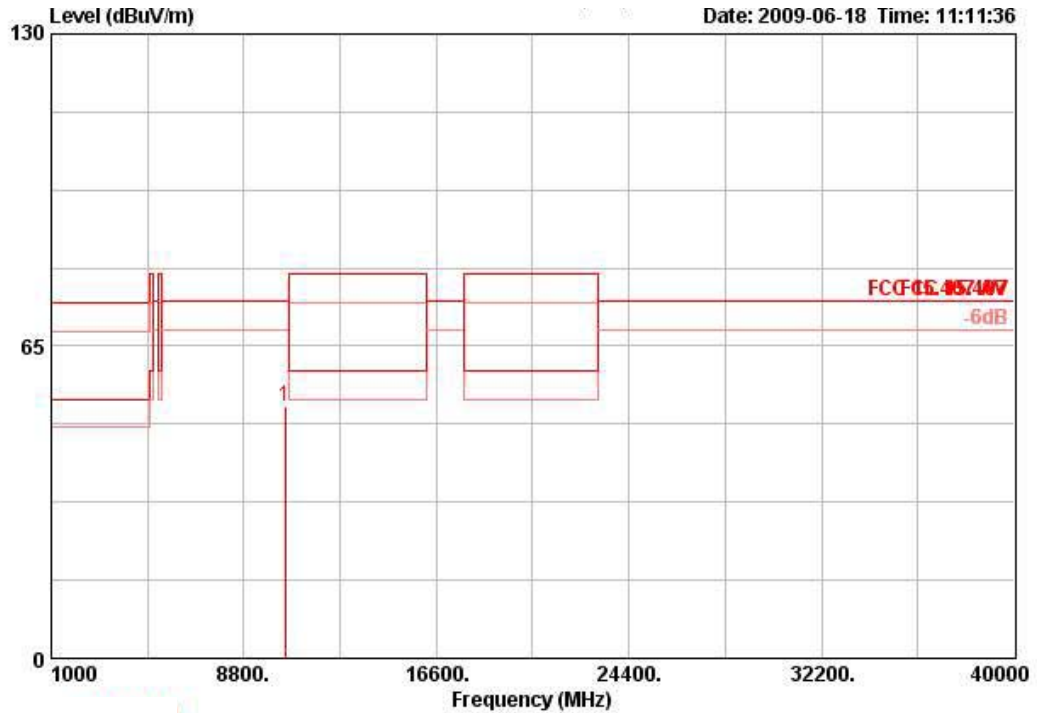


	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10399.990	51.36	74.30	-22.94	42.04	PEAK	6.52	35.58	38.38	0	100
											VERTICAL



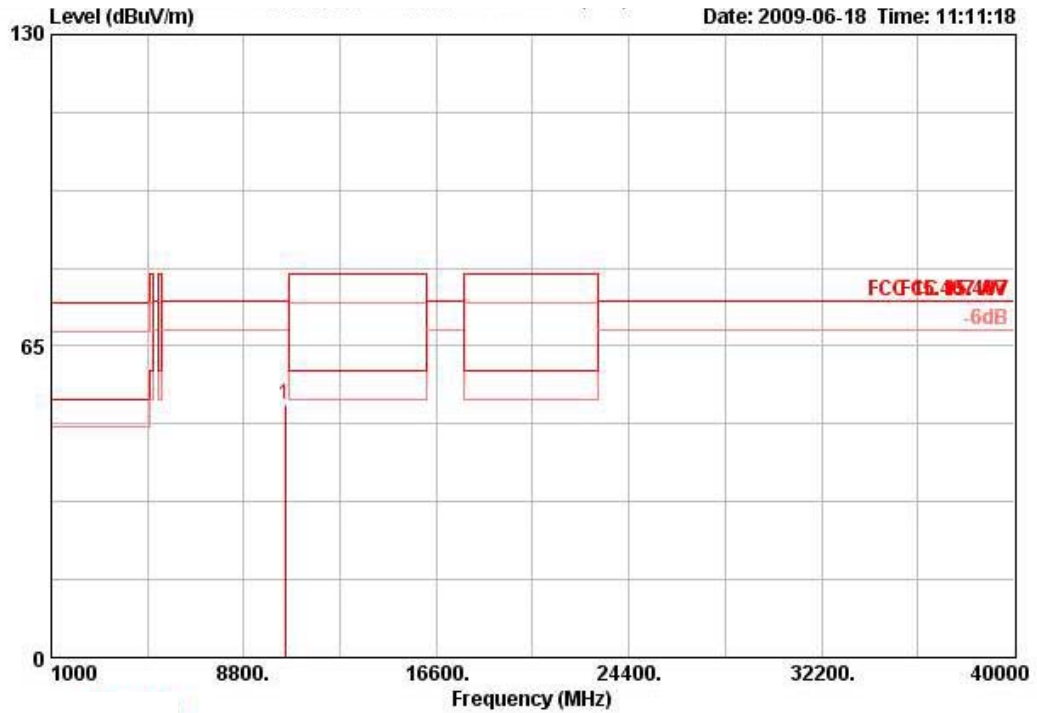
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 48 / Ant. 1

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10480.000	52.44	74.30	-21.86	43.00	PEAK	6.57	35.52	38.39	61	100 HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10480.010	52.95	74.30	-21.35	43.51	PEAK	6.57	35.52	38.40	11	100 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.

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

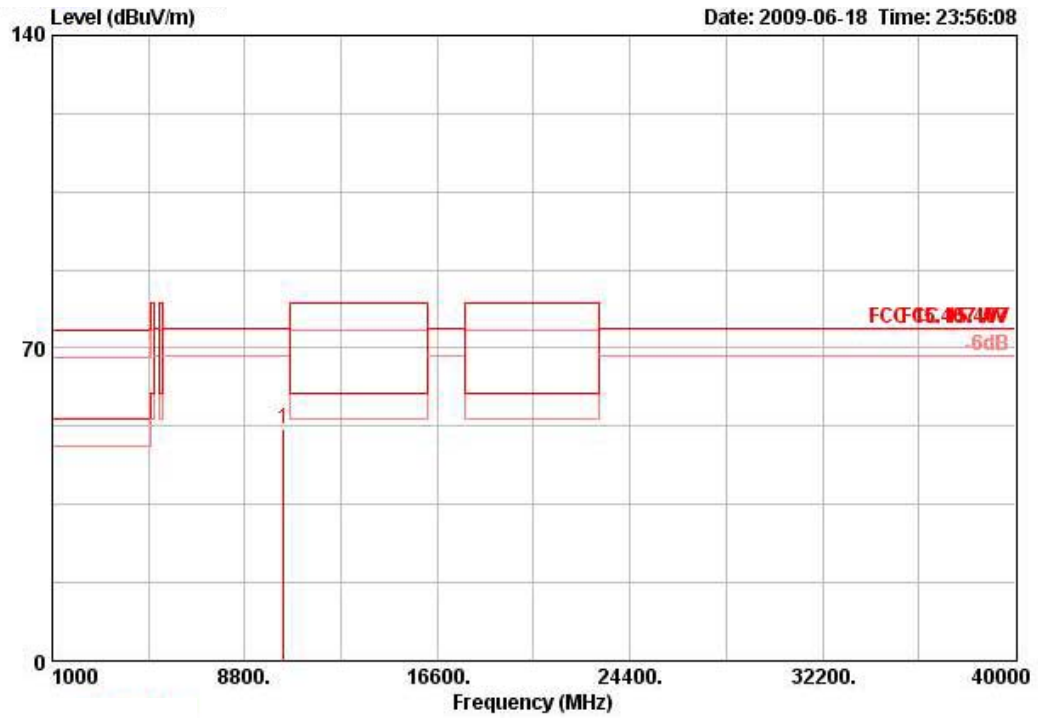
Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

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

<For Antenna 2>:

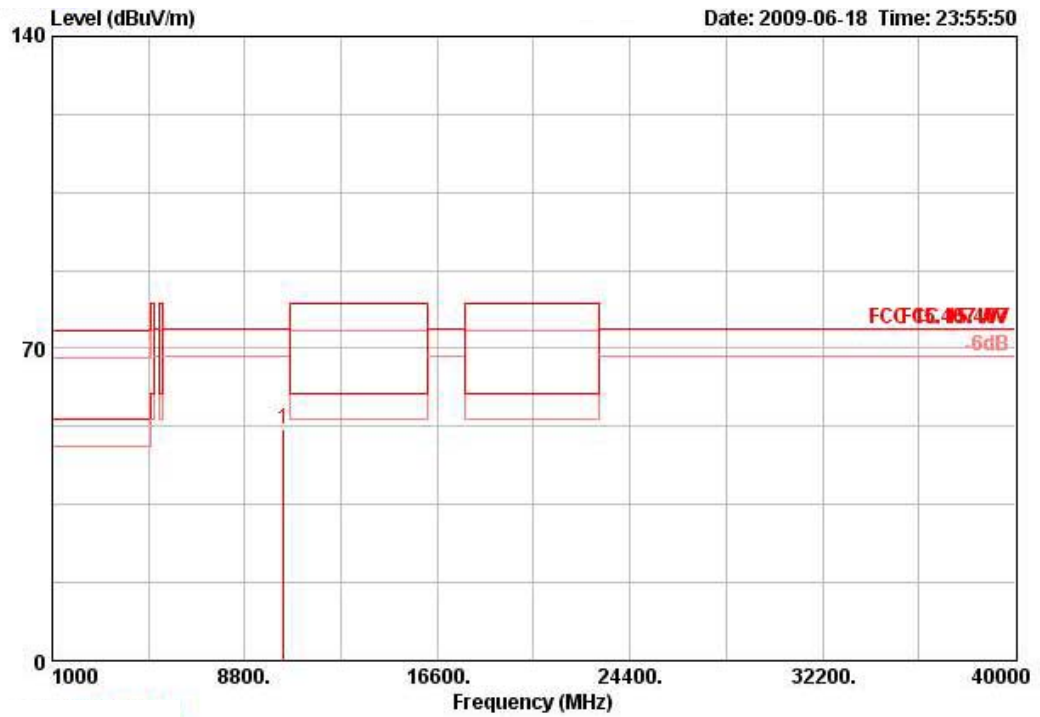
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 36 / Ant. 2

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10359.980	51.70	74.30	-22.60	42.45	PEAK	6.49	35.62	38.37	299	100 HORIZONTAL

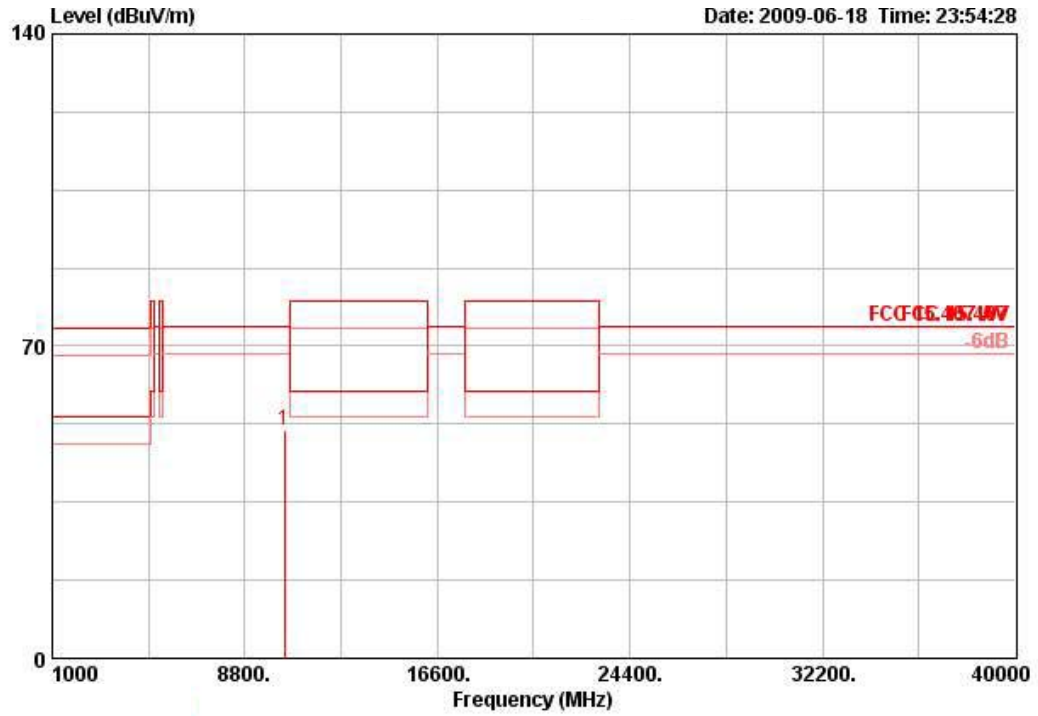
Vertical



	Freq	Level	Limit	Over	Read		Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV	Remark	Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10360.010	51.91	74.30	-22.39	42.67	PEAK	6.49	35.62	38.37	252	100 VERTICAL

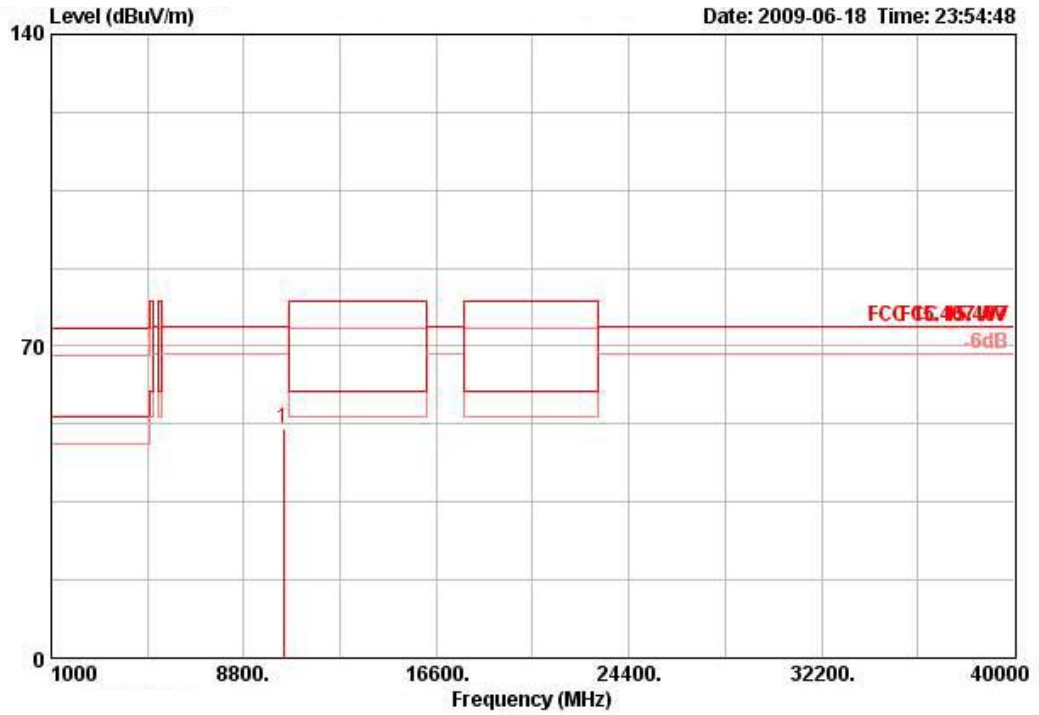
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 40 / Ant. 2

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1	10399.990	51.12	74.30	-23.18	41.80	PEAK	6.52	35.58	38.38	241	100	HORIZONTAL

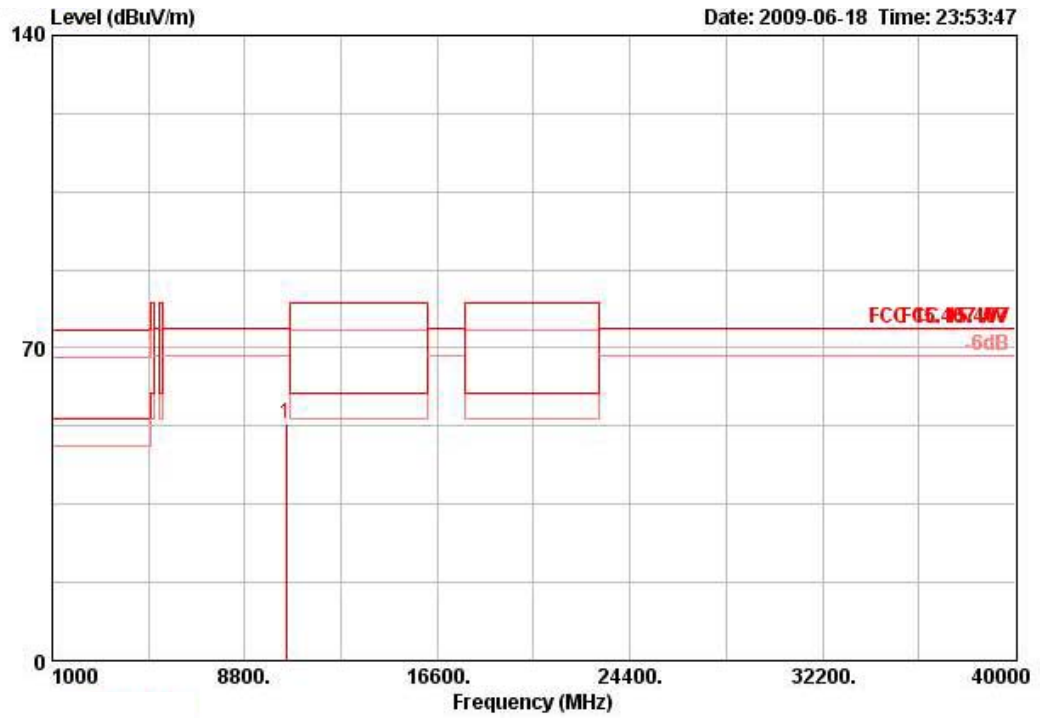
Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10400.010	51.62	74.30	-22.68	42.30	PEAK	6.52	35.58	38.38	323	100 VERTICAL

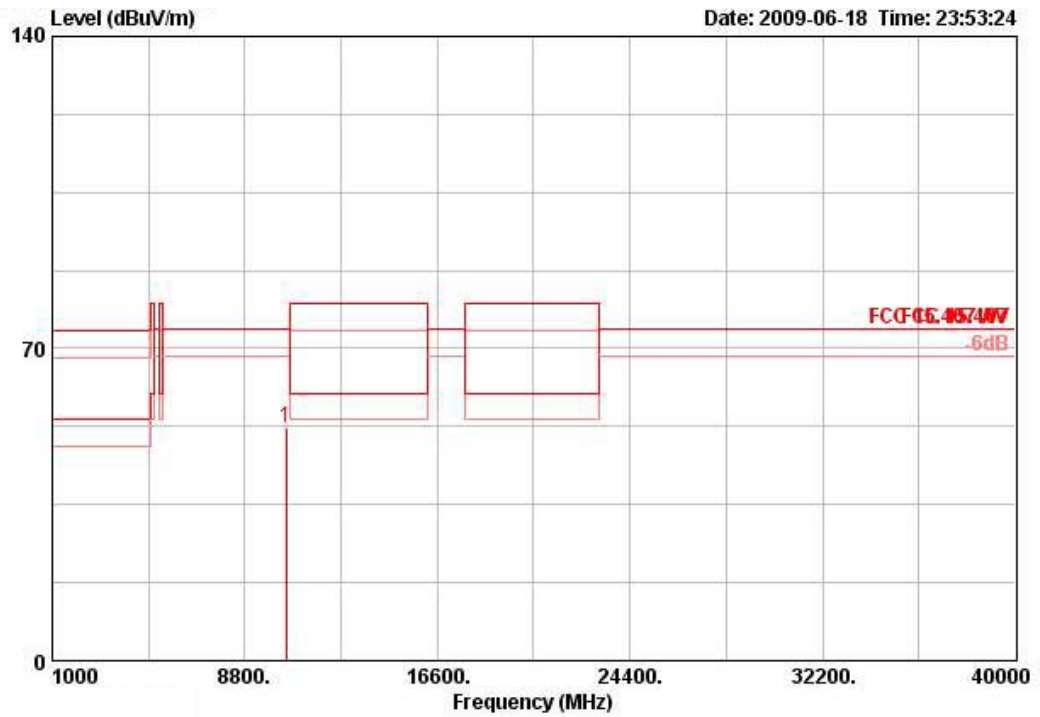
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 48 / Ant. 2

Horizontal



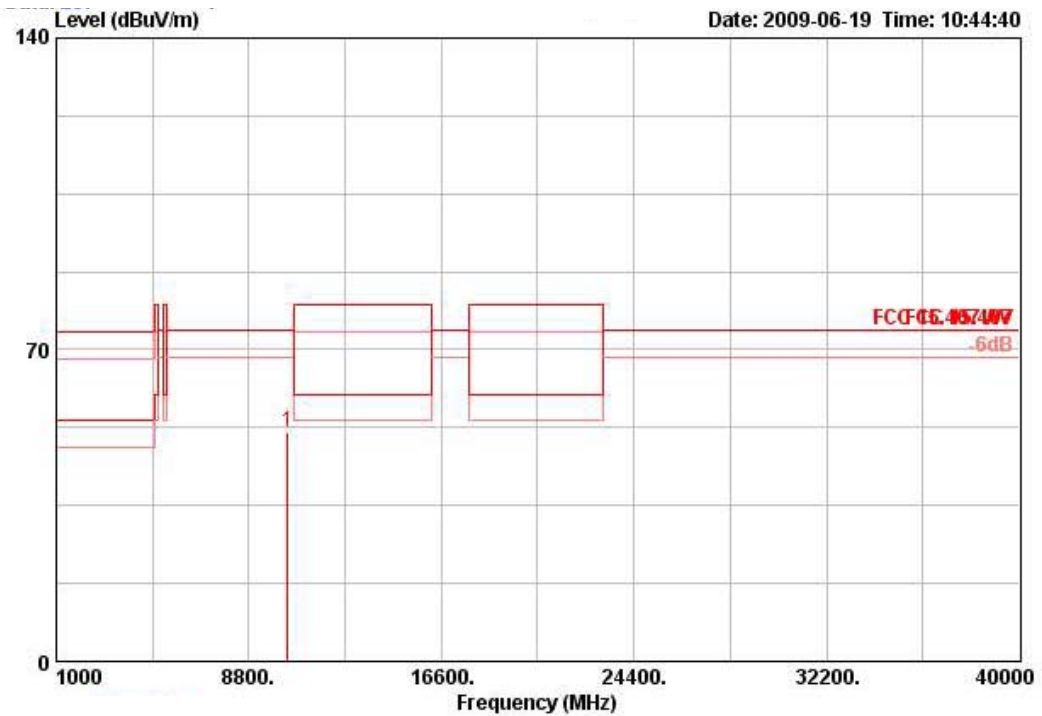
	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1	10480.010	53.03	74.30	-21.27	43.59	PEAK	6.57	35.52	38.39	192	100	HORIZONTAL

Vertical



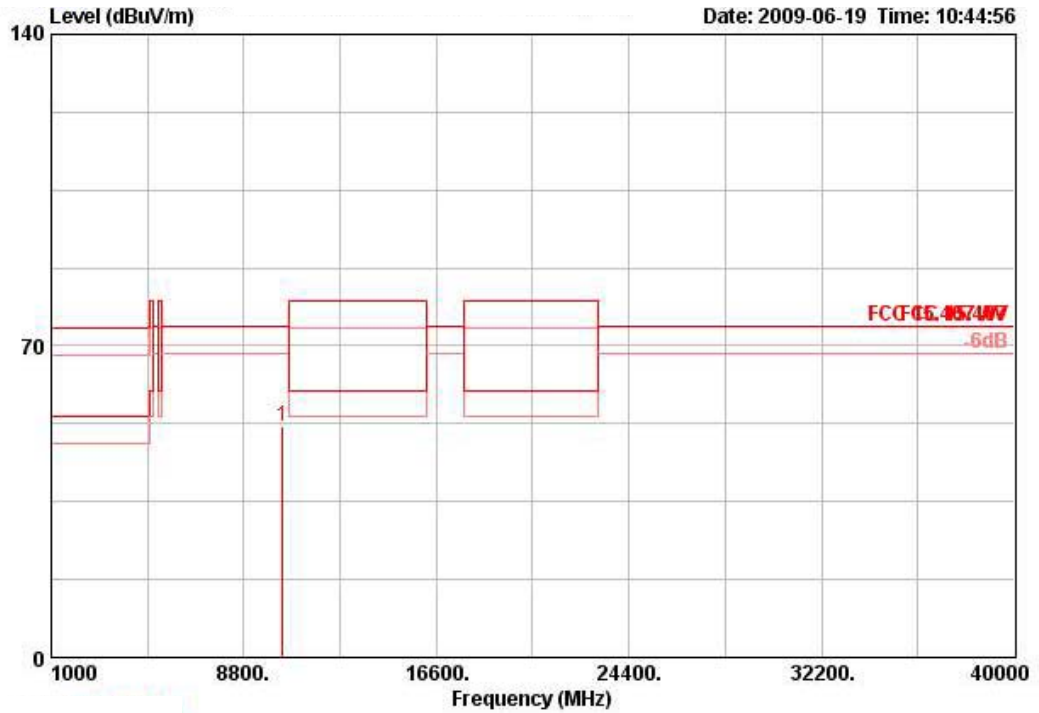
	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10479.990	52.35	74.30	-21.95	42.91	PEAK	6.57	35.52	38.40	321	100 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 38 / Ant. 2

Horizontal


	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10380.020	51.66	74.30	-22.64	42.38	PEAK	6.51	35.60	38.38	245	100 HORIZONTAL

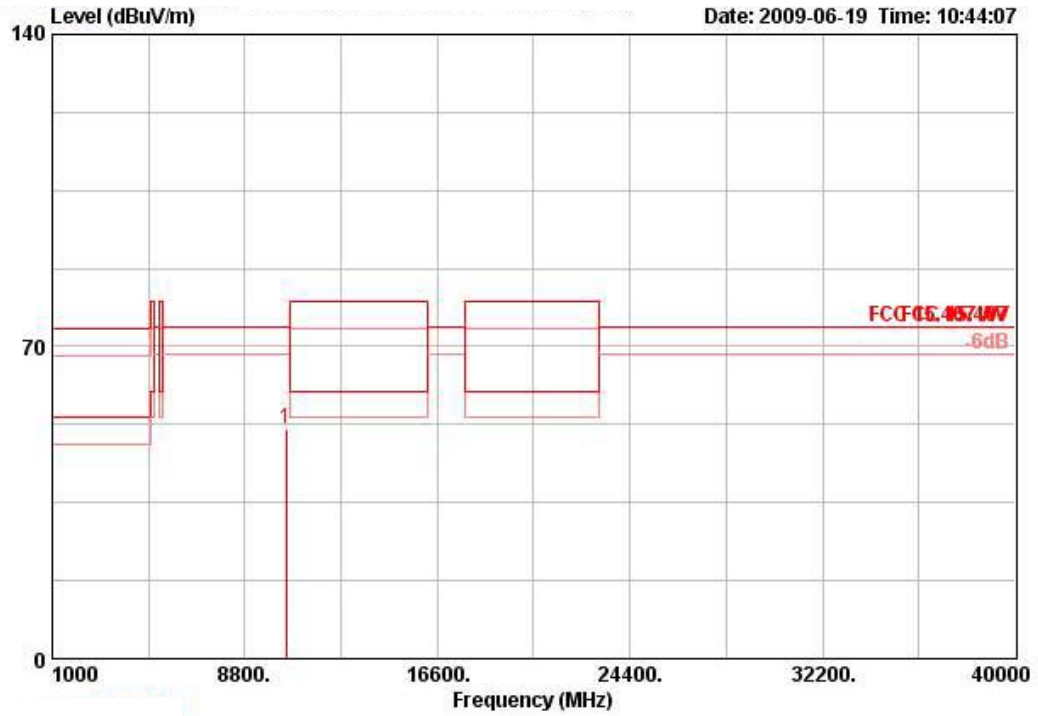
Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10380.010	52.06	74.30	-22.24	42.78	PEAK	6.51	35.60	38.38	182	100 VERTICAL

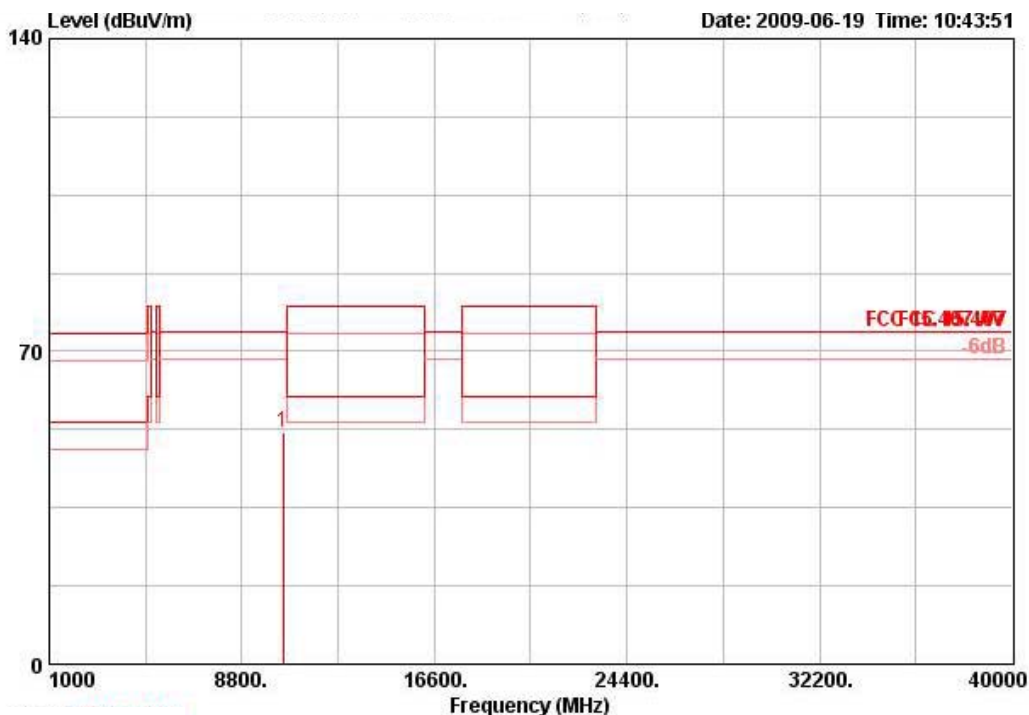
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 46 / Ant. 2

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10460.000	51.56	74.30	-22.74	42.16	PEAK	6.55	35.54	38.39	201	100 HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10459.990	51.91	74.30	-22.39	42.51	PEAK	6.55	35.54	38.39	277	100 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.

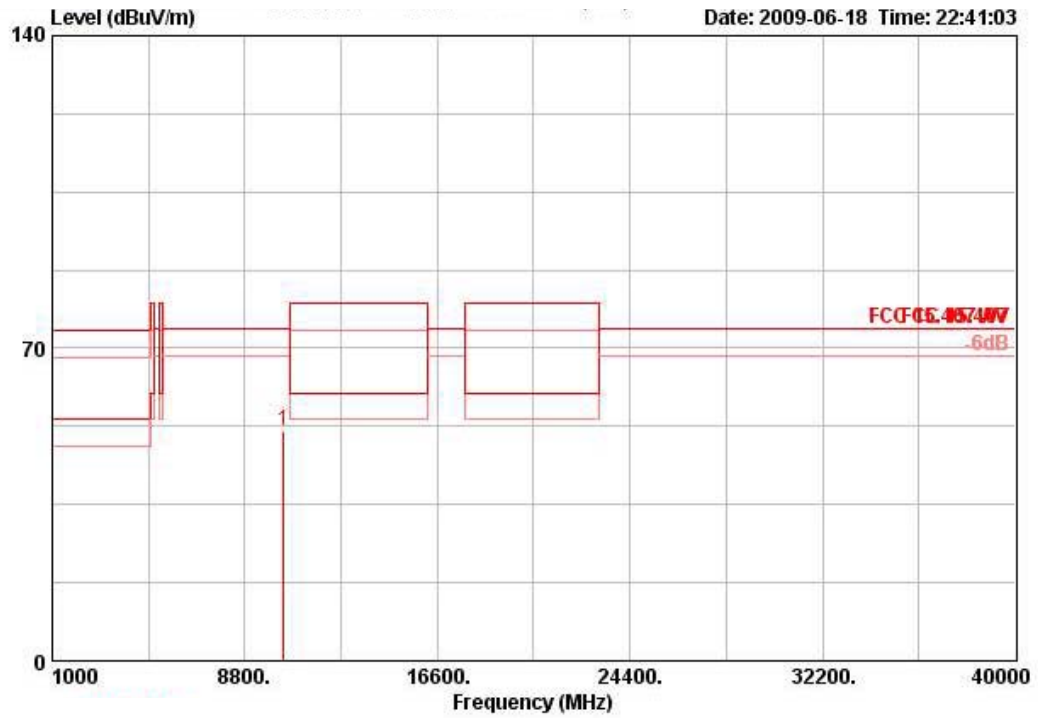
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

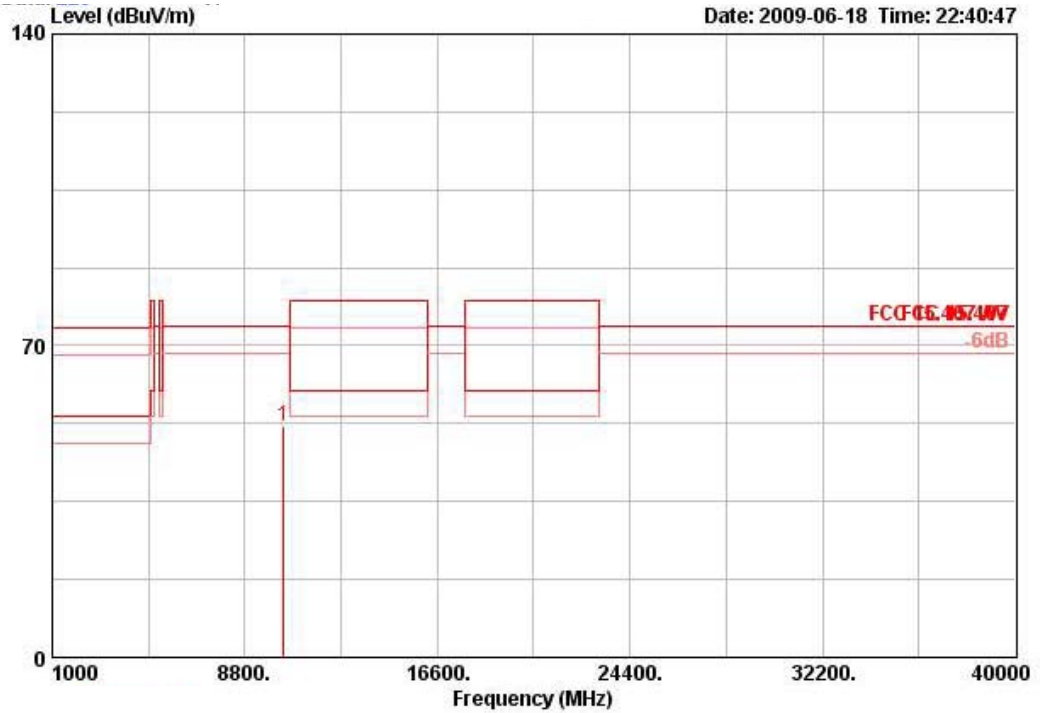
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 36 / Ant. 2

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10360.000	51.49	74.30	-22.81	42.25	PEAK	6.49	35.62	38.37	349	100 HORIZONTAL

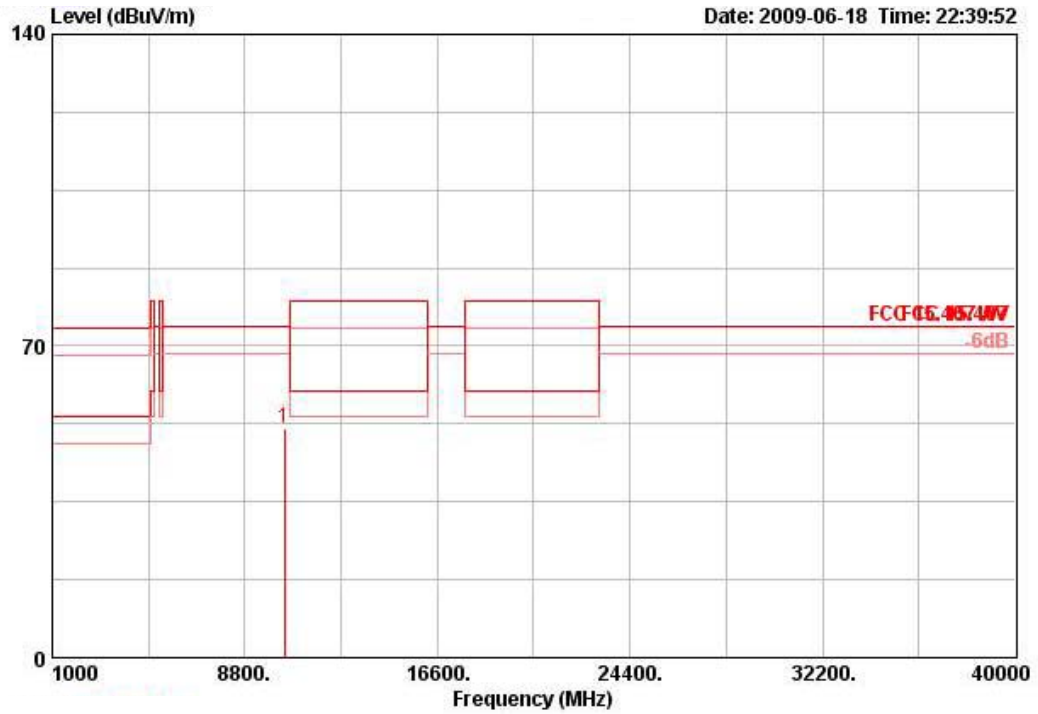
Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10359.990	51.95	74.30	-22.35	42.71	PEAK	6.49	35.62	38.37	277	100 VERTICAL

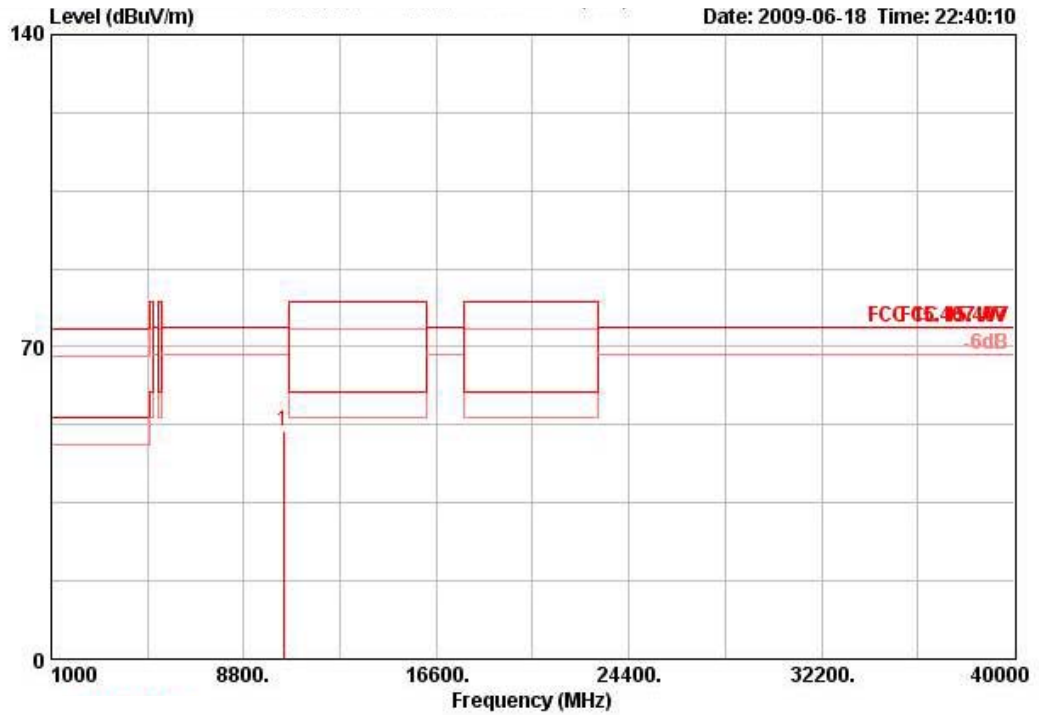
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 40 / Ant. 2

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10399.990	51.34	74.30	-22.96	42.02	PEAK	6.52	35.58	38.38	247	100 HORIZONTAL

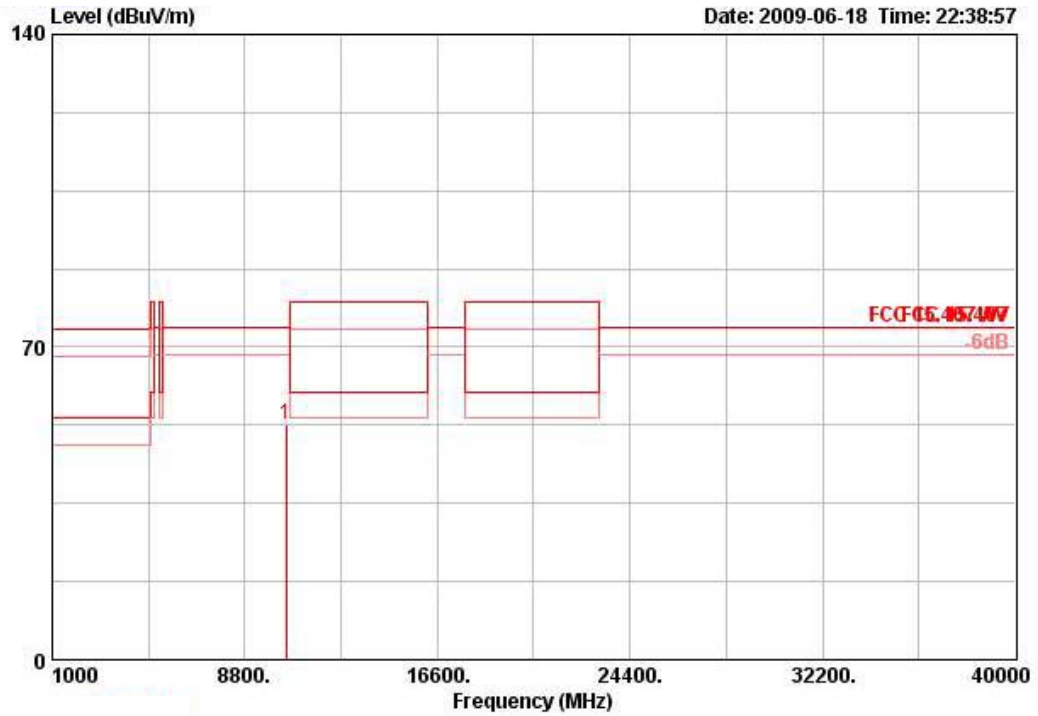
Vertical



	Freq	Level	Limit	Over	Read		Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV	Remark	Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10400.010	50.98	74.30	-23.32	41.66	PEAK	6.52	35.58	38.38	311	100 VERTICAL

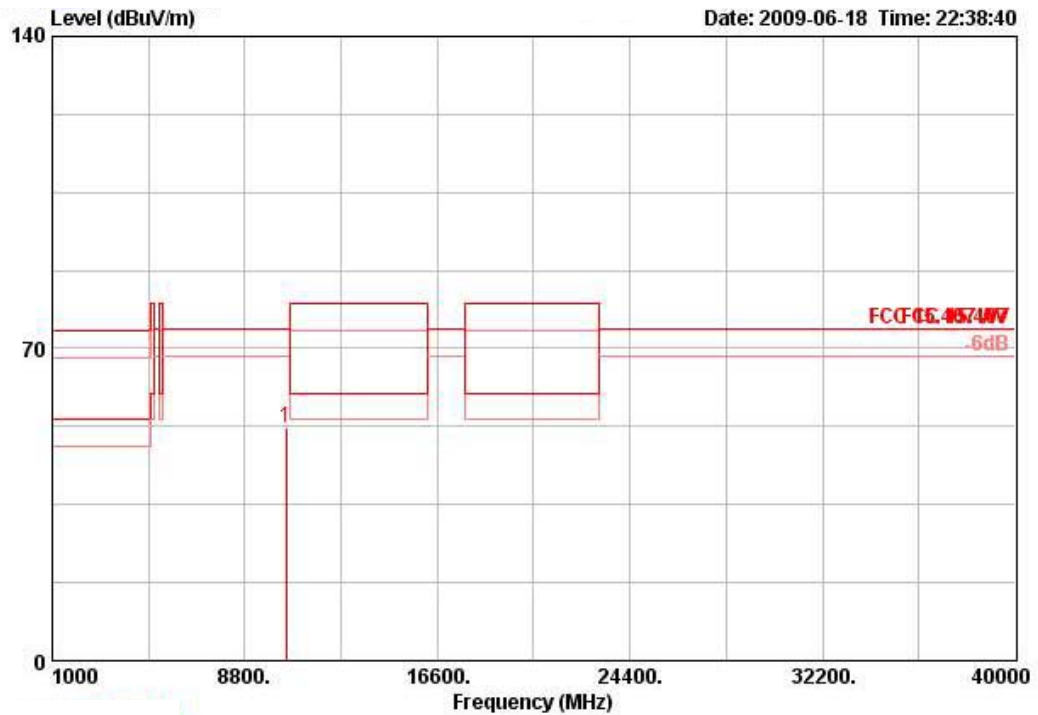
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 48 / Ant. 2

Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10480.010	52.69	74.30	-21.61	43.25	PEAK	6.57	35.52	38.39	215	100 HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos
							dB	dB	dB/m	deg	cm
1	10479.990	52.45	74.30	-21.85	43.01	PEAK	6.57	35.52	38.40	267	100 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.

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

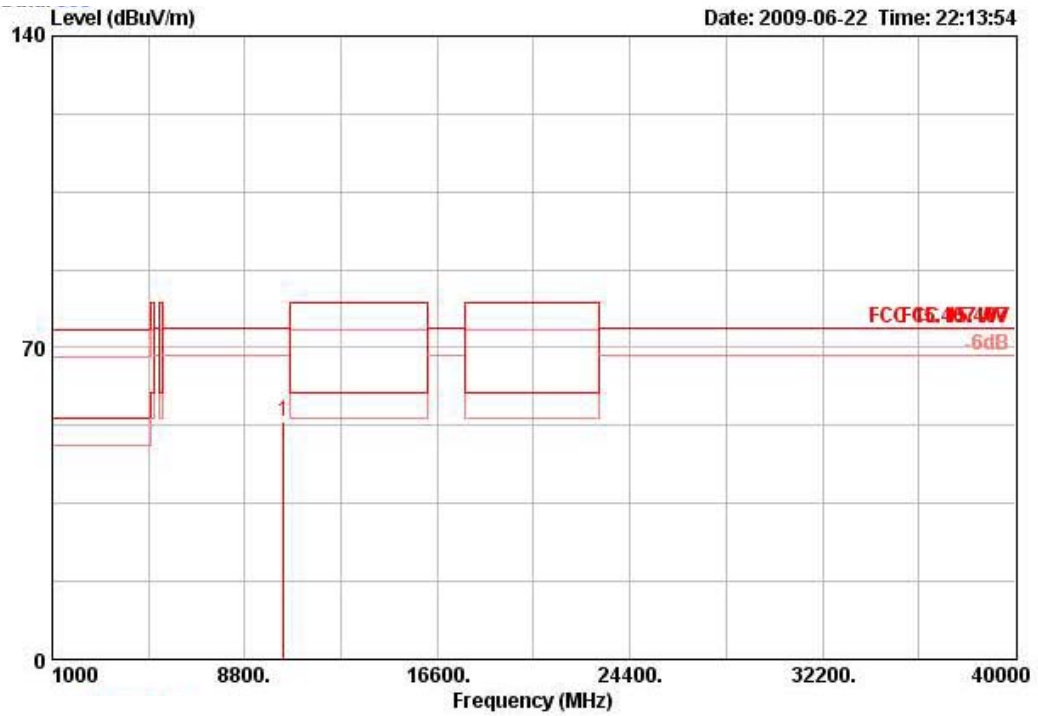
Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

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

<For Antenna 3>:

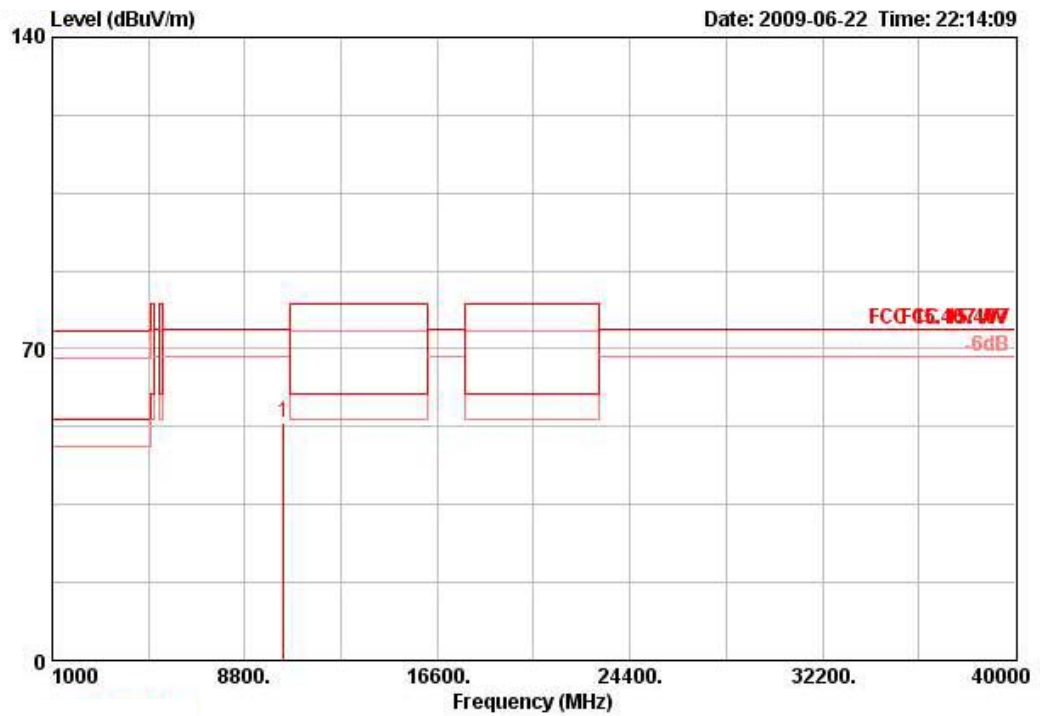
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 36 / Ant. 3

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10360.000	53.42	74.30	-20.88	44.18	6.49	35.62	38.37	157	100	PEAK	HORIZONTAL

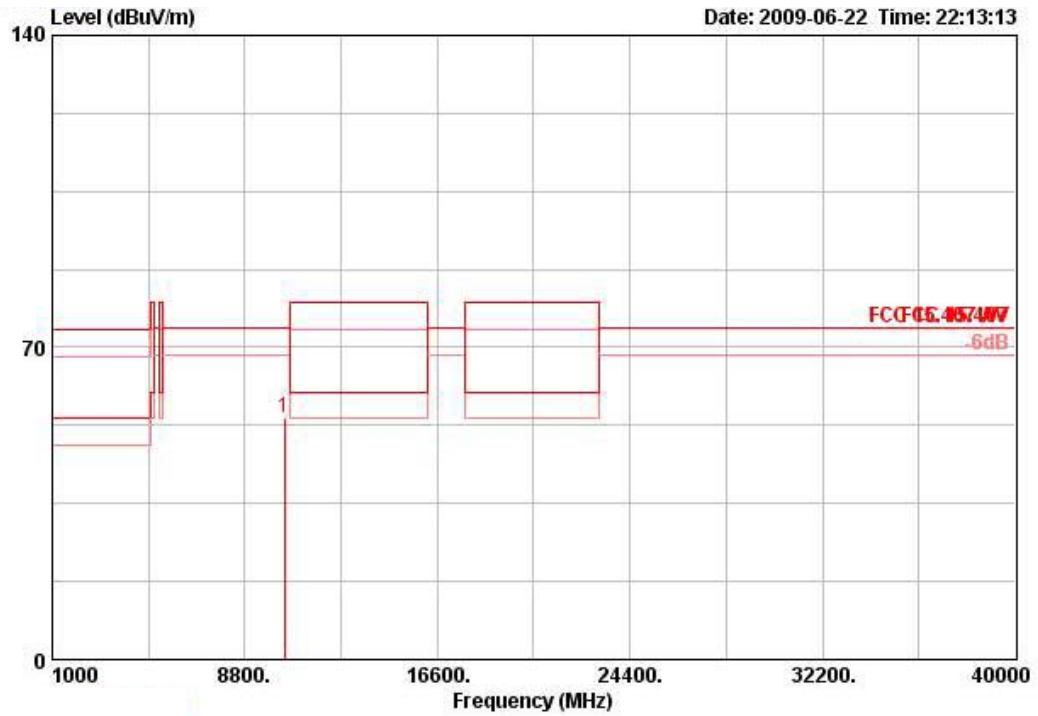
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10360.010	53.53	74.30	-20.77	44.29	6.49	35.62	38.37	76	100	PEAK	VERTICAL

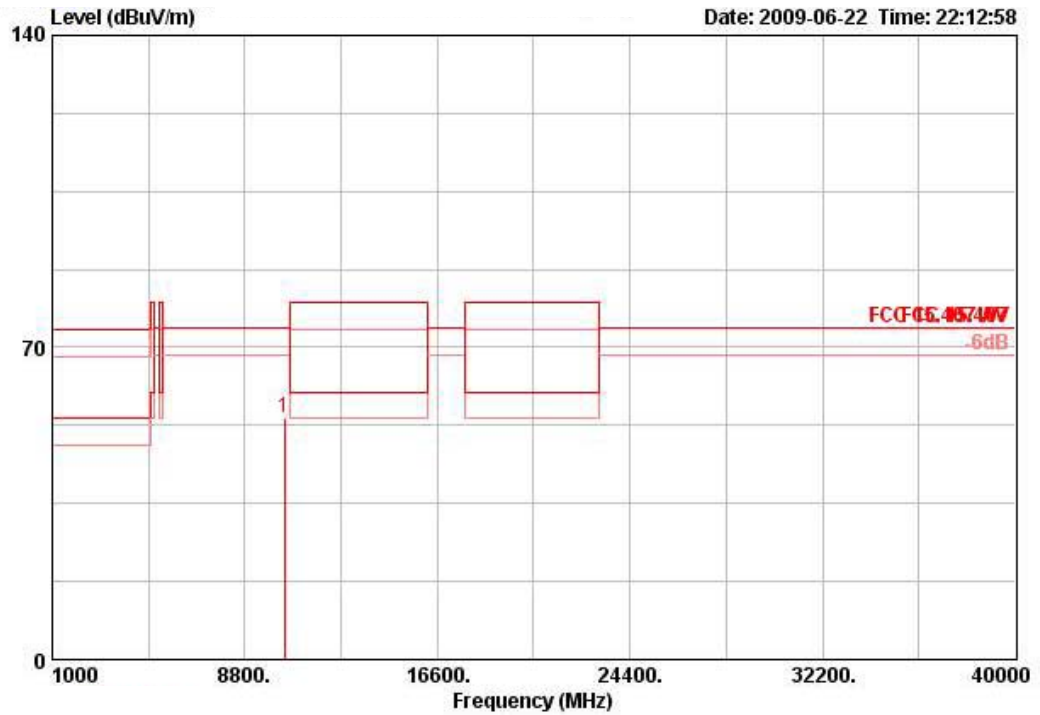
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 40 / Ant. 3

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10399.980	54.34	74.30	-19.96	45.02	6.52	35.58	38.38	121	100	PEAK	HORIZONTAL

Vertical

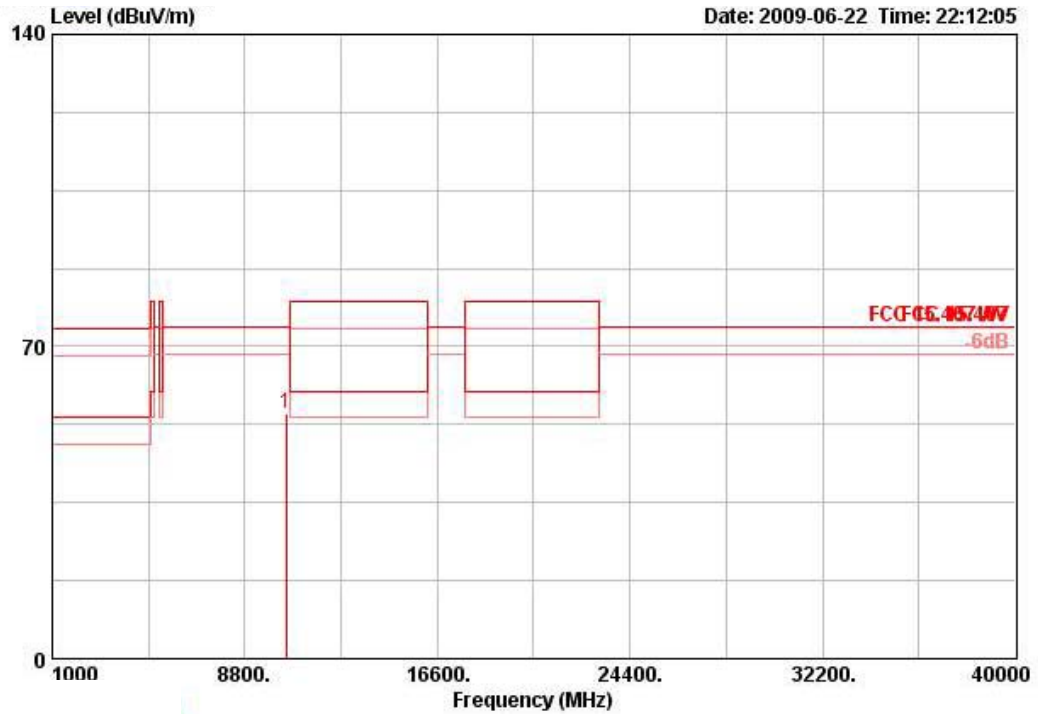


www.sporton.com

	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10399.980	54.11	74.30	-20.19	44.79	6.52	35.58	38.38	65	100	PEAK	VERTICAL

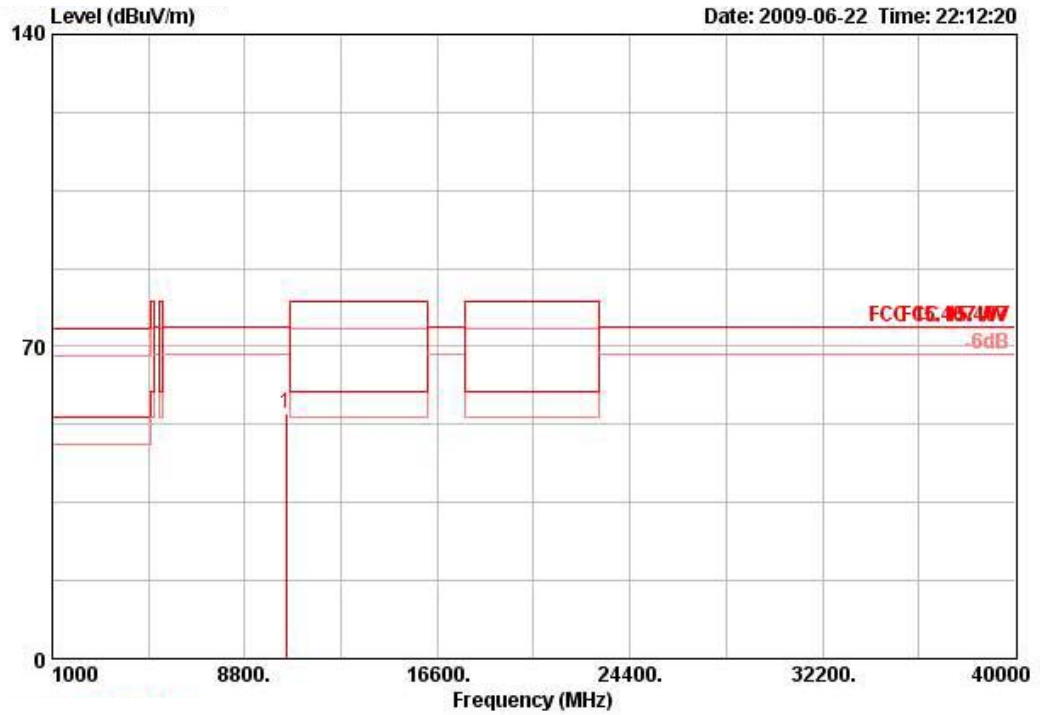
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 48 / Ant. 3

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10480.020	54.96	74.30	-19.34	45.53	6.57	35.52	38.39	173	100	PEAK	HORIZONTAL

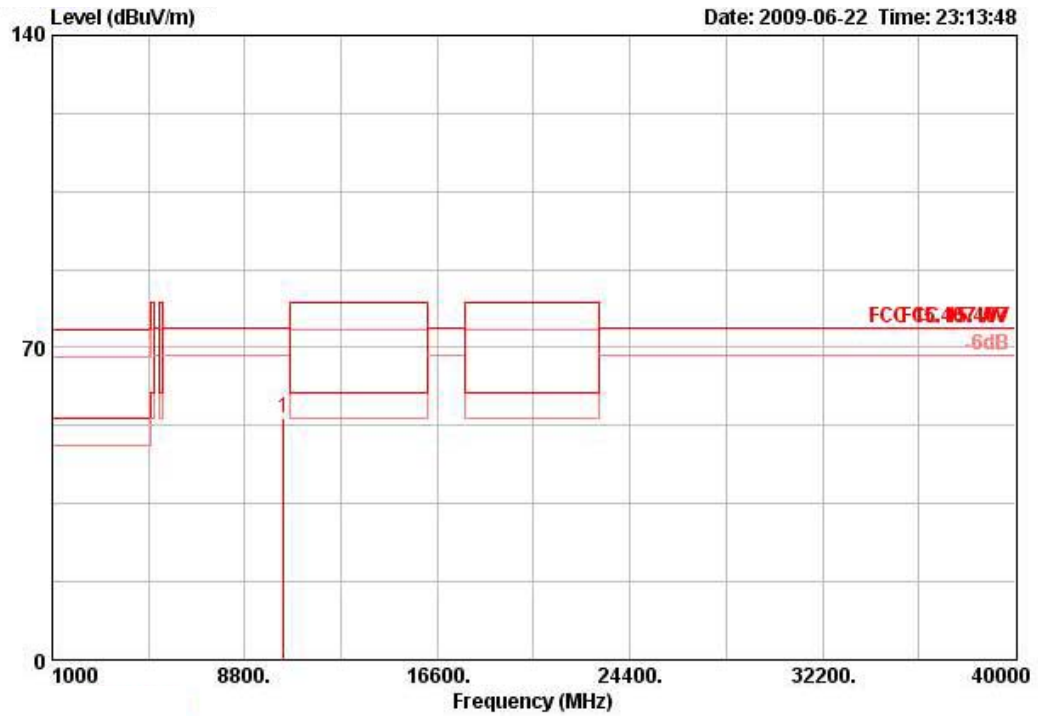
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10479.980	55.12	74.30	-19.18	45.67	6.57	35.52	38.40	119	100	PEAK	VERTICAL

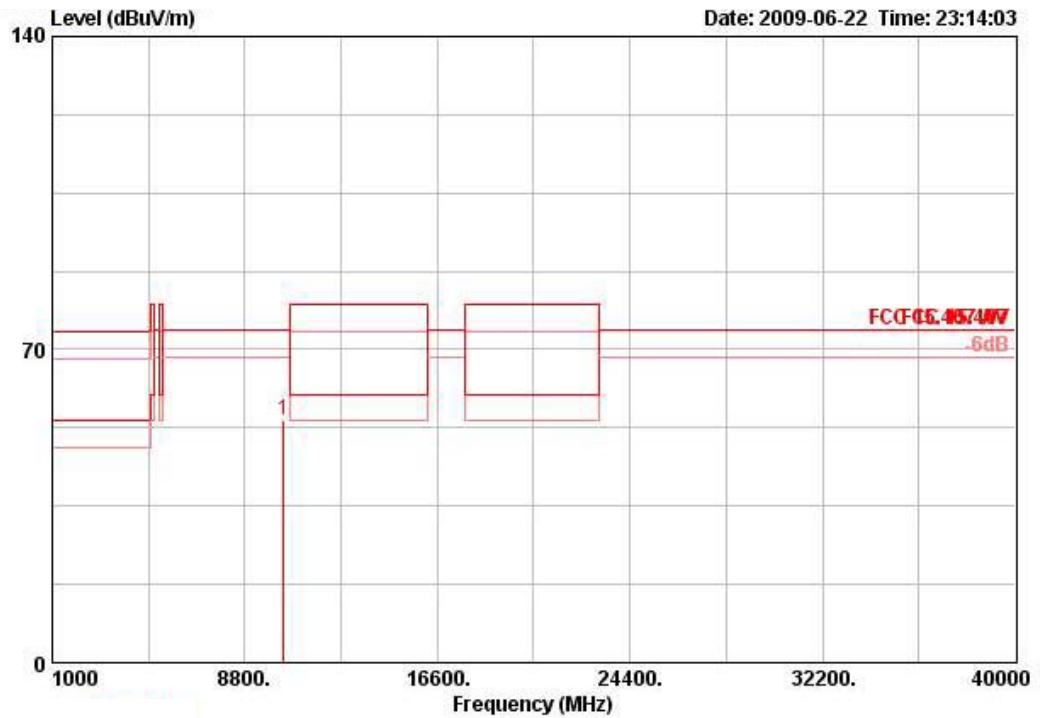
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 38 / Ant. 3

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10380.020	54.01	74.30	-20.29	44.73	6.51	35.60	38.38	106	100	PERK	HORIZONTAL

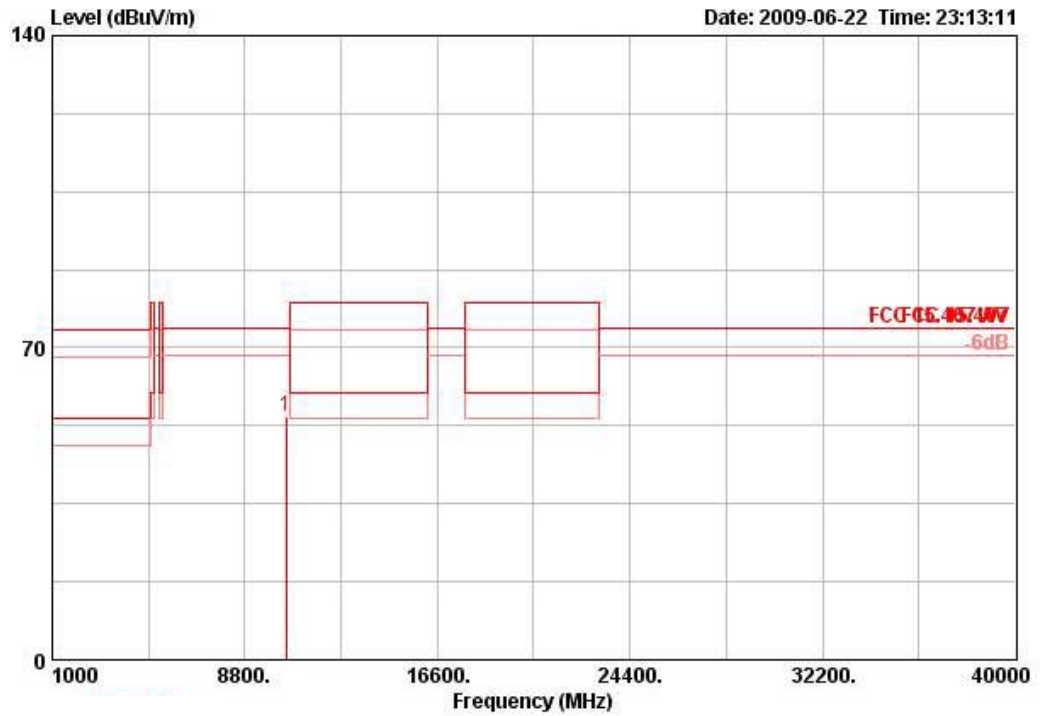
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBUV/m	dBUV/m	dB	dBUV	dB	dB	dB/m	deg	cm		
1	10379.990	54.05	74.30	-20.25	44.77	6.51	35.60	38.38	129	100	PEAK	VERTICAL

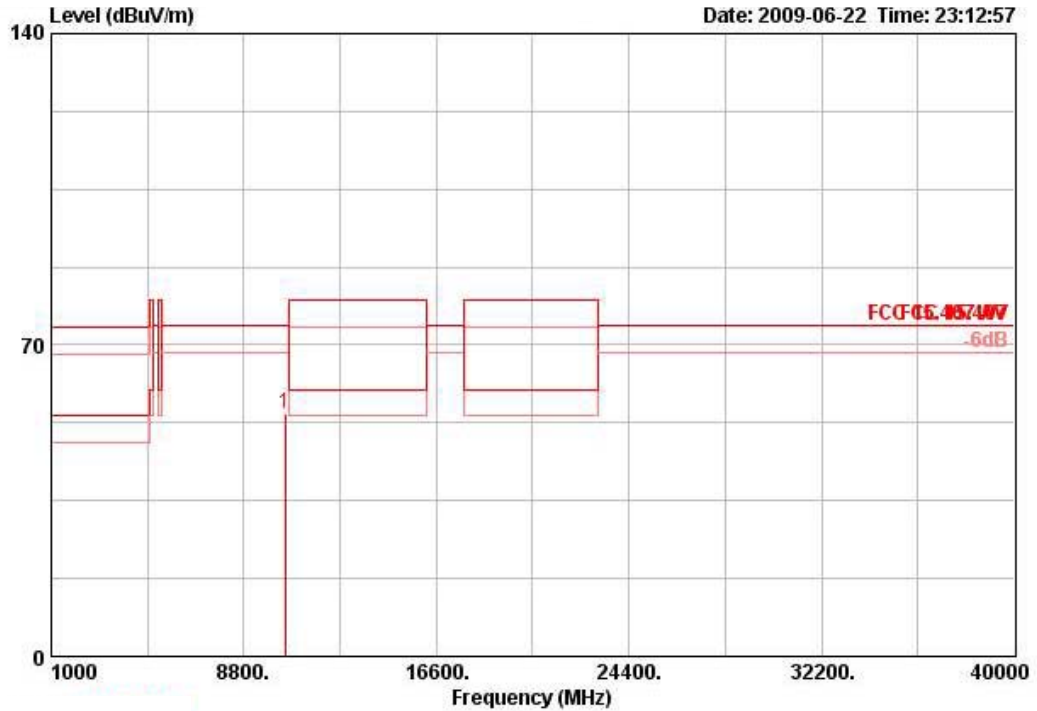
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 46 / Ant. 3

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10460.010	54.45	74.30	-19.85	45.05	6.55	35.54	38.39	174	100	PEAK	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10460.010	54.66	74.30	-19.64	45.26	6.55	35.54	38.39	251	100	PEAK	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.

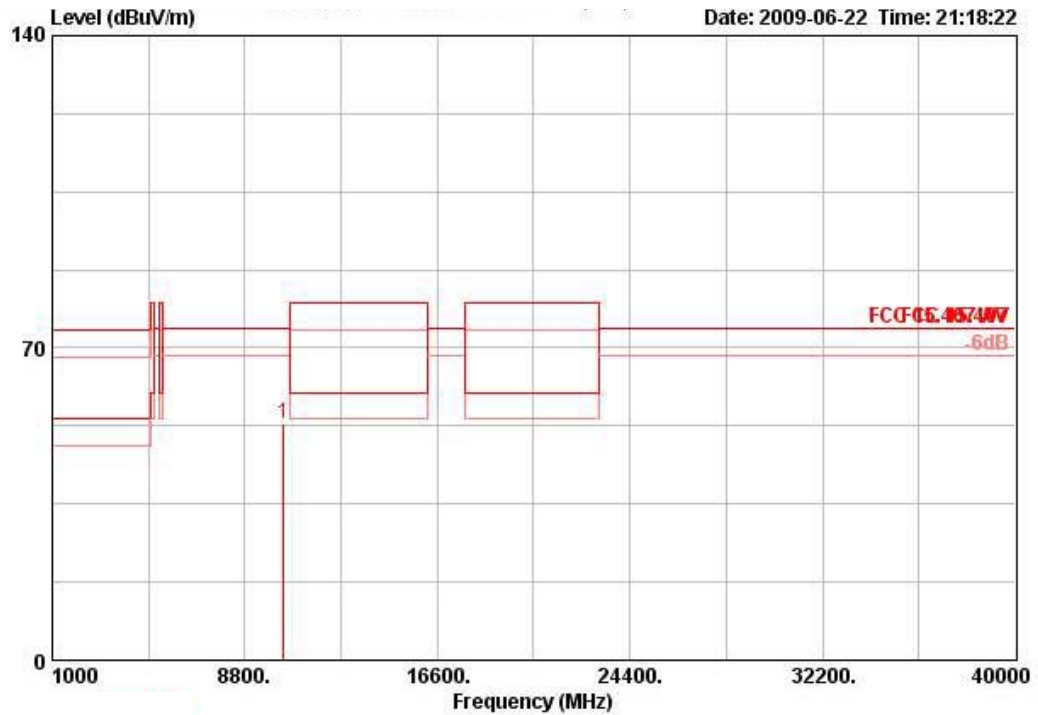
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

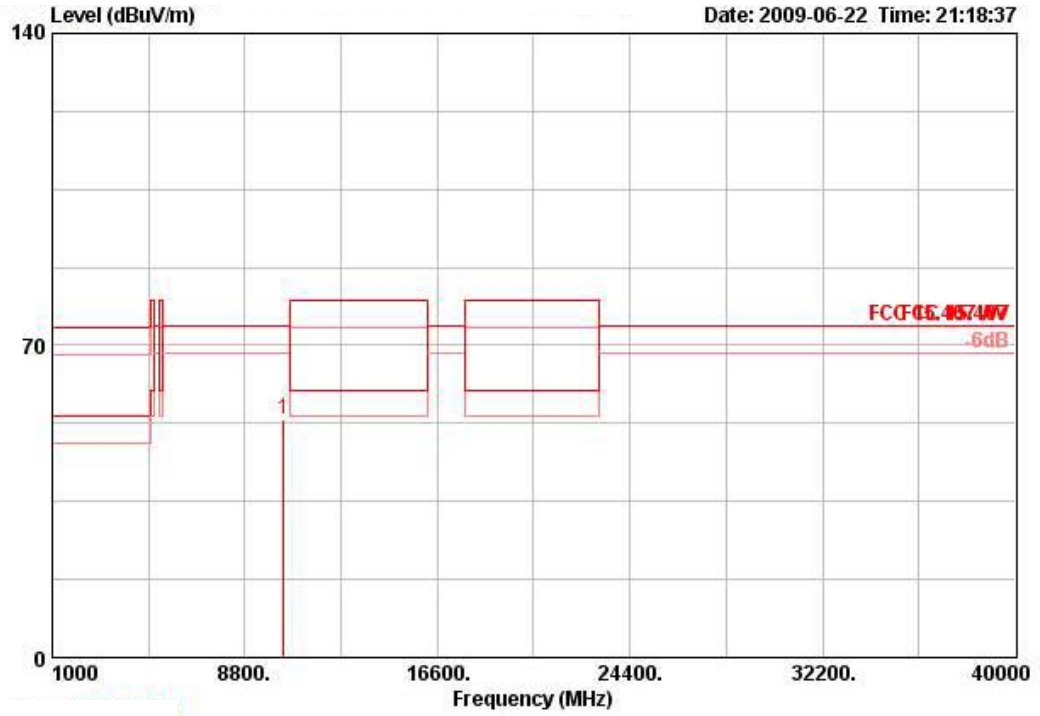
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 36 / Ant. 3

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant		
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm	Remark	Pol/Phase
1	10359.990	53.16	74.30	-21.14	43.91	6.49	35.62	38.37	148	100	PEAK	HORIZONTAL

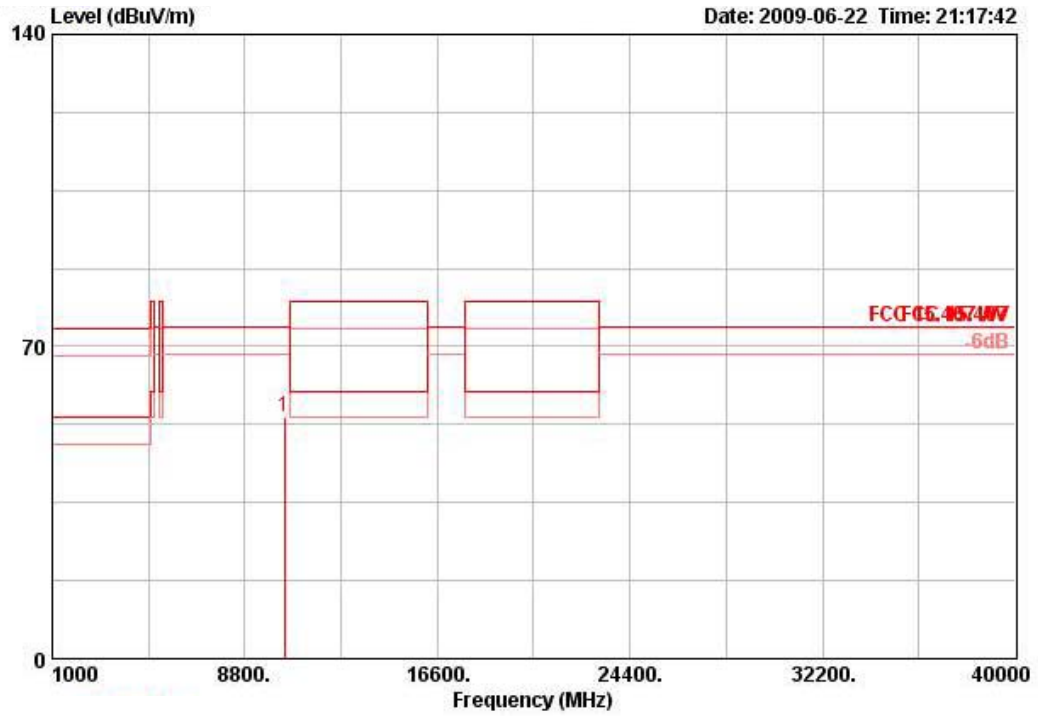
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10360.010	53.50	74.30	-20.80	44.26	6.49	35.62	38.37	194	100	PEAK	VERTICAL

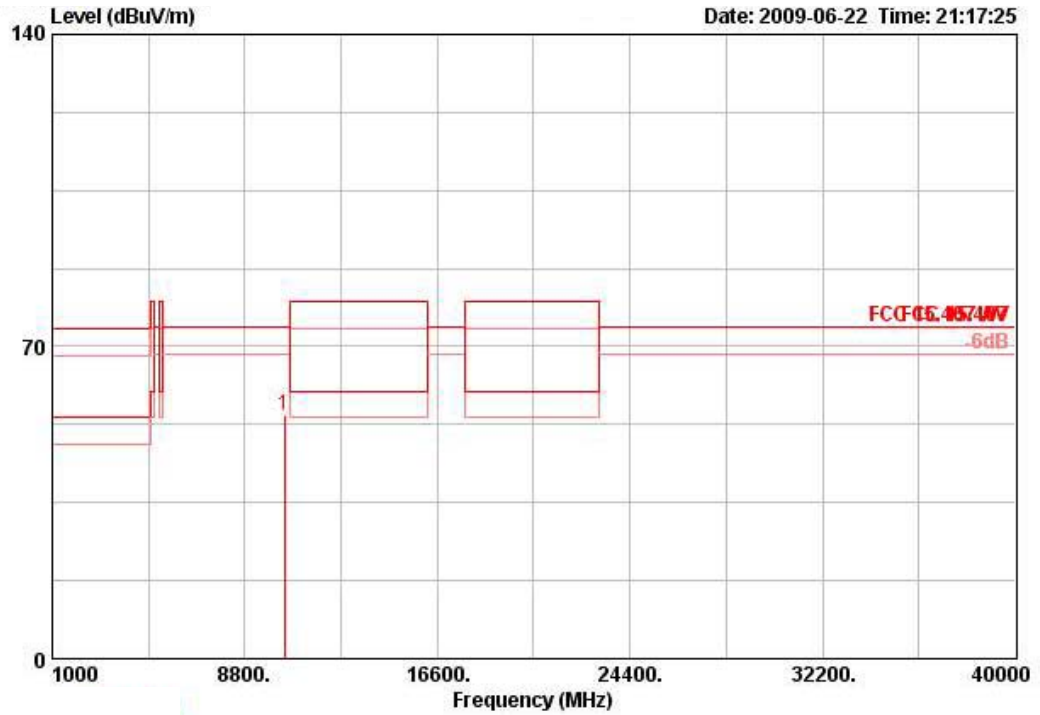
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 40 / Ant. 3

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10400.000	54.20	74.30	-20.10	44.88	6.52	35.58	38.38	105	100	PEAK	HORIZONTAL

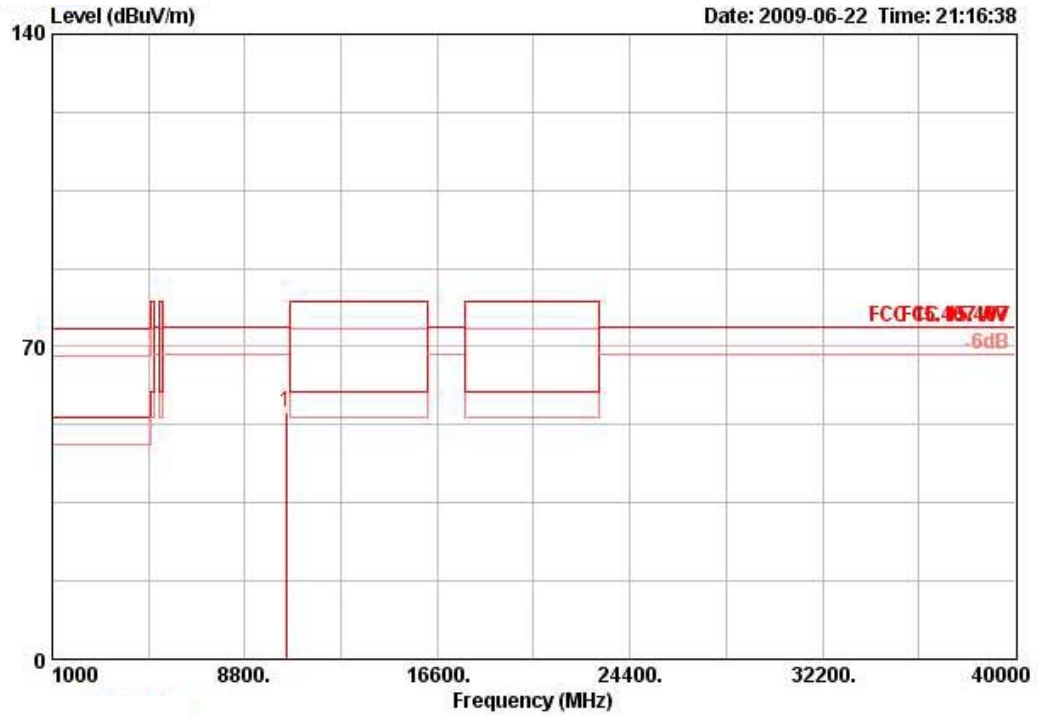
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10399.990	54.69	74.30	-19.61	45.37	6.52	35.58	38.38	196	100	PEAK	VERTICAL

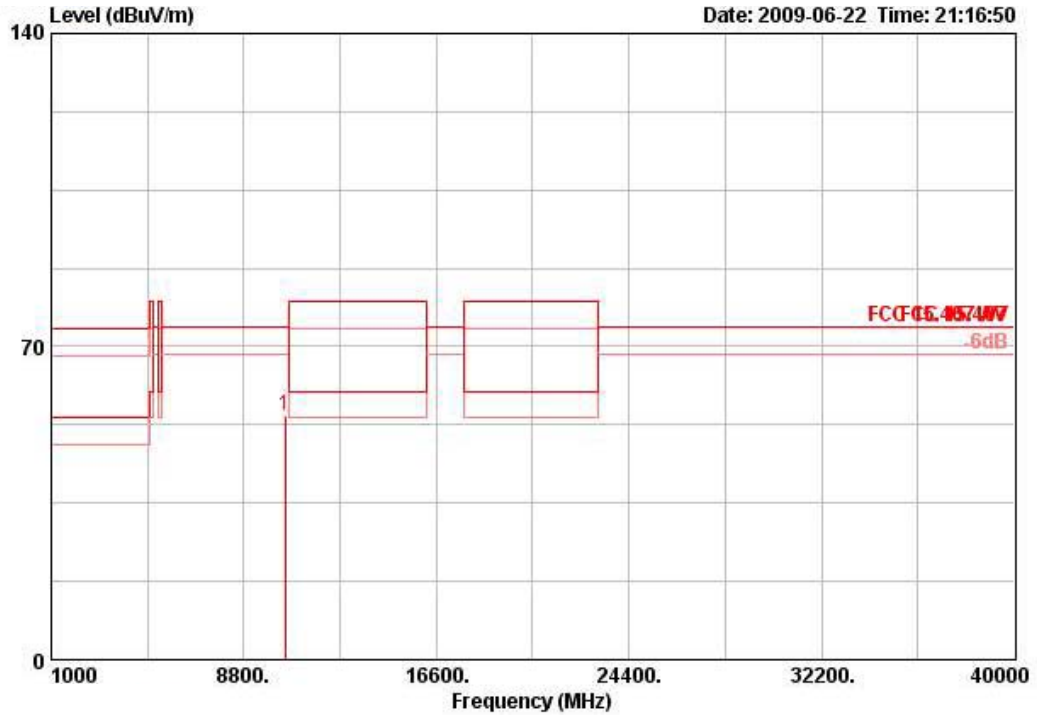
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 48 / Ant. 3

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10480.000	55.12	74.30	-19.18	45.69	6.57	35.52	38.39	226	100	PEAK	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10479.980	54.68	74.30	-19.62	45.23	6.57	35.52	38.40	155	100	PEAK	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.

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1.5m.

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

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

4.7. Band Edge Emissions Measurement

4.7.1. Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micovolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.7.2. Measuring Instruments and Setting

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

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

4.7.3. Test Procedures

1. The test procedure is the same as section 4.6.3, only the frequency range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

4.7.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.6.4.

4.7.5. Test Deviation

There is no deviation with the original standard.

4.7.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.7.7. Test Result of Band Edge and Fundamental Emissions

<For Antenna 1>:

Temperature	21°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 36, 40 / Ant. 1
Test Date	Jun. 18, 2009		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 ☺	5147.400	79.08	80.00	-0.92	41.34	PEAK	4.06	0.00	33.67	254	138	VERTICAL
2 ☺	5150.000	58.03	60.00	-1.97	20.30	AVERAGE	4.06	0.00	33.67	254	138	VERTICAL
3 ☺	5177.600	109.38			71.57	AVERAGE	4.08	0.00	33.73	254	138	VERTICAL
4 ☺	5178.400	121.81			84.00	PEAK	4.08	0.00	33.73	254	138	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 ☺	5150.000	56.00	60.00	-4.00	18.27	AVERAGE	4.06	0.00	33.67	253	135	VERTICAL
2 ☺	5150.000	67.82	80.00	-12.18	30.09	PEAK	4.06	0.00	33.67	253	135	VERTICAL
3 ☺	5197.800	115.77			77.92	AVERAGE	4.09	0.00	33.76	253	135	VERTICAL
4 ☺	5198.800	118.61			80.76	PEAK	4.09	0.00	33.76	253	135	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Temperature	21°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 38, 46 / Ant. 1
Test Date	Jun. 18, 2009		

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 @	5147.200	75.92	80.00	-4.08	38.18	PEAK	4.06	0.00	33.67	259	141	VERTICAL
2 @	5150.000	59.40	60.00	-0.60	21.66	AVERAGE	4.06	0.00	33.67	259	141	VERTICAL
3 @	5183.200	100.23			62.42	AVERAGE	4.08	0.00	33.73	259	141	VERTICAL
4 @	5194.800	114.64			76.79	PEAK	4.09	0.00	33.76	259	141	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 @	5141.600	70.74	80.00	-9.26	33.04	PEAK	4.06	0.00	33.64	228	140	VERTICAL
2 @	5150.000	55.84	60.00	-4.16	18.11	AVERAGE	4.06	0.00	33.67	228	140	VERTICAL
3 @	5234.800	120.05			82.12	PEAK	4.10	0.00	33.82	228	140	VERTICAL
4 @	5238.800	106.12			68.19	AVERAGE	4.12	0.00	33.82	228	140	VERTICAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Note:

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

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

The limits above 5GHz 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 distance [3m] / test distance [1.5m]) (dB);

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

Temperature	21°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 36, 40 / Ant. 1
Test Date	Jun. 18, 2009		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 @	5147.400	77.30	80.00	-2.70	39.57	PEAK	4.06	0.00	33.67	260	100	VERTICAL
2 @	5150.000	59.62	60.00	-0.38	21.89	AVERAGE	4.06	0.00	33.67	260	100	VERTICAL
3 @	5176.000	118.88			81.10	PEAK	4.08	0.00	33.70	260	100	VERTICAL
4 @	5177.400	107.47			69.70	AVERAGE	4.08	0.00	33.70	260	100	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 @	5148.400	67.71	80.00	-12.29	29.98	PEAK	4.06	0.00	33.67	258	138	VERTICAL
2 @	5150.000	55.39	60.00	-4.61	17.65	AVERAGE	4.06	0.00	33.67	258	138	VERTICAL
3 @	5202.000	112.99			75.14	AVERAGE	4.09	0.00	33.76	258	138	VERTICAL
4 @	5202.800	126.03			88.18	PEAK	4.09	0.00	33.76	258	138	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Note:

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

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

The limits above 5GHz 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 distance [3m] / test distance [1.5m]) (dB);

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

<For Antenna 2>:

Temperature	21°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 36, 40 / Ant. 2
Test Date	Jun. 18, 2009		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 @	5149.000	79.53	80.00	-0.47	41.79	PEAK	4.06	0.00	33.67	318	100	VERTICAL
2 @	5150.000	58.13	60.00	-1.87	20.40	AVERAGE	4.06	0.00	33.67	318	100	VERTICAL
3 @	5178.800	126.78			88.98	PEAK	4.08	0.00	33.73	318	100	VERTICAL
4 @	5181.400	115.16			77.36	AVERAGE	4.08	0.00	33.73	318	100	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 @	5150.000	78.49	80.00	-1.51	40.76	PEAK	4.06	0.00	33.67	320	100	VERTICAL
2 @	5150.000	59.55	60.00	-0.45	21.82	AVERAGE	4.06	0.00	33.67	320	100	VERTICAL
3 @	5201.400	123.16			85.31	AVERAGE	4.09	0.00	33.76	320	100	VERTICAL
4 @	5201.600	132.33			94.48	PEAK	4.09	0.00	33.76	320	100	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.



Temperature	21°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 38, 46 / Ant. 2
Test Date	Jun. 19, 2009		

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 @	5149.600	75.54	80.00	-4.46	37.81	PEAK	4.06	0.00	33.67	323	100	VERTICAL
2 @	5150.000	59.88	60.00	-0.12	22.15	AVERAGE	4.06	0.00	33.67	323	100	VERTICAL
3 @	5196.000	118.29			80.44	PEAK	4.09	0.00	33.76	323	100	VERTICAL
4 @	5203.200	106.30			68.45	AVERAGE	4.09	0.00	33.76	323	100	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 @	5134.400	59.49	60.00	-0.51	21.80	AVERAGE	4.05	0.00	33.64	317	100	VERTICAL
2 @	5145.200	72.06	80.00	-7.94	34.32	PEAK	4.06	0.00	33.67	317	100	VERTICAL
3 @	5237.200	115.87			77.95	AVERAGE	4.10	0.00	33.82	317	100	VERTICAL
4 @	5238.000	125.57			87.63	PEAK	4.12	0.00	33.82	317	100	VERTICAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Note:

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

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

The limits above 5GHz 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 distance [3m] / test distance [1.5m]) (dB);

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

Temperature	21°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 36, 40 / Ant. 2
Test Date	Jun. 19, 2009		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 ☒	5146.000	78.68	80.00	-1.32	40.95	PEAK	4.06	0.00	33.67	322	100	VERTICAL
2 ☒	5150.000	59.05	60.00	-0.95	21.32	AVERAGE	4.06	0.00	33.67	322	100	VERTICAL
3 ☒	5181.600	119.14			81.33	AVERAGE	4.08	0.00	33.73	322	100	VERTICAL
4 ☒	5181.800	128.33			90.52	PEAK	4.08	0.00	33.73	322	100	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1 ☒	5133.600	59.32	60.00	-0.68	21.63	AVERAGE	4.05	0.00	33.64	322	100	VERTICAL
2 ☒	5148.000	73.17	80.00	-6.83	35.44	PEAK	4.06	0.00	33.67	322	100	VERTICAL
3 ☒	5196.400	133.29			95.44	PEAK	4.09	0.00	33.76	322	100	VERTICAL
4 ☒	5201.600	123.37			85.52	AVERAGE	4.09	0.00	33.76	322	100	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Note:

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

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

The limits above 5GHz 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 distance [3m] / test distance [1.5m]) (dB);

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

<For Antenna 3>:

Temperature	21°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 36, 40 / Ant. 3
Test Date	Jun. 22, 2009		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5147.800	76.88	80.00	-3.12	39.15	4.06	0.00	33.67	149	106	PEAK	VERTICAL
2 @	5150.000	59.76	60.00	-0.24	22.03	4.06	0.00	33.67	149	106	AVERAGE	VERTICAL
3 @	5183.000	115.82			78.02	4.08	0.00	33.73	149	106	AVERAGE	VERTICAL
4 @	5183.200	124.54			86.74	4.08	0.00	33.73	149	106	PEAK	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5149.200	75.94	80.00	-4.06	38.21	4.06	0.00	33.67	150	115	PEAK	VERTICAL
2 @	5150.000	58.38	60.00	-1.62	20.65	4.06	0.00	33.67	150	115	AVERAGE	VERTICAL
3 @	5203.200	119.46			81.61	4.09	0.00	33.76	150	115	AVERAGE	VERTICAL
4 @	5204.000	127.86			90.01	4.09	0.00	33.76	150	115	PEAK	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Temperature	21°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 38, 46 / Ant. 3
Test Date	Jun. 22, 2009		

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5148.000	72.30	80.00	-7.70	34.56	4.06	0.00	33.67	150	103	PEAK	VERTICAL
2 @	5150.000	59.76	60.00	-0.24	22.03	4.06	0.00	33.67	150	103	AVERAGE	VERTICAL
3 @	5183.200	106.39			68.58	4.08	0.00	33.73	150	103	AVERAGE	VERTICAL
4 @	5193.600	115.57			77.75	4.09	0.00	33.73	150	103	PEAK	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5144.800	71.66	80.00	-8.34	33.93	4.06	0.00	33.67	150	112	PEAK	VERTICAL
2 @	5150.000	58.99	60.00	-1.01	21.26	4.06	0.00	33.67	150	112	AVERAGE	VERTICAL
3 @	5218.400	122.89			84.99	4.10	0.00	33.79	150	112	PEAK	VERTICAL
4 @	5223.200	113.53			75.64	4.10	0.00	33.79	150	112	AVERAGE	VERTICAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Note:

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

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

The limits above 5GHz 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 distance [3m] / test distance [1.5m]) (dB);

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

Temperature	21°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 36, 40 / Ant. 3
Test Date	Jun. 22, 2009		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5149.400	76.77	80.00	-3.23	39.04	4.06	0.00	33.67	150	132	PEAK	VERTICAL
2 @	5150.000	59.83	60.00	-0.17	22.10	4.06	0.00	33.67	150	132	AVERAGE	VERTICAL
3 @	5178.400	115.75			77.95	4.08	0.00	33.73	150	132	AVERAGE	VERTICAL
4 @	5183.400	125.00			87.20	4.08	0.00	33.73	150	132	PEAK	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5147.200	69.26	80.00	-10.74	31.52	4.06	0.00	33.67	150	100	PEAK	VERTICAL
2 @	5150.000	58.05	60.00	-1.95	20.32	4.06	0.00	33.67	150	100	AVERAGE	VERTICAL
3 @	5196.400	118.77			80.92	4.09	0.00	33.76	150	100	AVERAGE	VERTICAL
4 @	5201.600	127.45			89.60	4.09	0.00	33.76	150	100	PEAK	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Note:

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

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

The limits above 5GHz 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 distance [3m] / test distance [1.5m]) (dB);

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

4.8. Frequency Stability Measurement

4.8.1. Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user's manual or $\pm 20\text{ppm}$ (Draft n specification).

4.8.2. Measuring Instruments and Setting

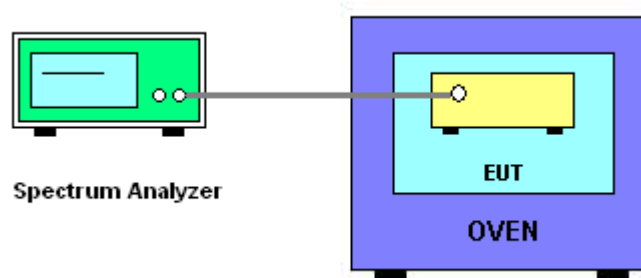
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

4.8.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f)/f_c \times 10^6$ ppm and the limit is less than $\pm 20\text{ppm}$ (Draft n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature rule is $-30^\circ\text{C} \sim 50^\circ\text{C}$.
8. Measuring multiple antennas, the connector is required to link with spectrum analyzer through a combiner.

4.8.4. Test Setup Layout



4.8.5. Test Deviation

There is no deviation with the original standard.

4.8.6. EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

4.8.7. Test Result of Frequency Stability

<For Antenna 1 >:

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200
126.50	5200.0190
110.00	5200.0288
93.50	5200.0268
Max. Deviation (MHz)	0.028826
Max. Deviation (ppm)	5.54

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5200
-30	5199.9855
-20	5199.9661
-10	5199.9543
0	5199.9510
10	5199.9547
20	5199.9556
30	5199.9545
40	5199.9517
50	5199.9556
Max. Deviation (MHz)	0.049000
Max. Deviation (ppm)	9.42

<For Antenna 2>:

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200
126.50	5200.0190
110.00	5200.0288
93.50	5200.0268
Max. Deviation (MHz)	0.028826
Max. Deviation (ppm)	5.54

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5200
-30	5199.9855
-20	5199.9661
-10	5199.9543
0	5199.9510
10	5199.9547
20	5199.9556
30	5199.9545
40	5199.9517
50	5199.9556
Max. Deviation (MHz)	0.049000
Max. Deviation (ppm)	9.42

<For Antenna 3>:

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200
126.50	5200.0190
110.00	5200.0288
93.50	5200.0268
Max. Deviation (MHz)	0.028826
Max. Deviation (ppm)	5.54

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5200
-30	5199.9855
-20	5199.9661
-10	5199.9543
0	5199.9510
10	5199.9547
20	5199.9556
30	5199.9545
40	5199.9517
50	5199.9556
Max. Deviation (MHz)	0.049000
Max. Deviation (ppm)	9.42

4.9. Antenna Requirements

4.9.1. 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.

4.9.2. Antenna Connector Construction

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

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	Apr. 15, 2009	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 23, 2009	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2009	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2009	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz – 30MHz	Jun. 11, 2009	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. 07, 2009	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	COA9231A	18667	9 kHz - 2 GHz	Jan. 23, 2009	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jul. 21, 2008	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5 GHz - 40 GHz	Apr. 06, 2009*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100023	9 kHz - 30 GHz	Feb. 02, 2009	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	Jul. 28, 2008*	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 12, 2008	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	Apr. 28, 2009	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	Jan.16, 2009	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSU26.5	100015	20Hz ~ 26.5GHz	Oct. 29, 2008	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jul. 11, 2008	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100458	DC ~ 30GHz	Jul. 11, 2008	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jul. 11, 2008	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	Jul. 12, 2009*	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 13, 2009	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-001	N/A	Jul. 18, 2008	Conducted (TH01-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2008	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2008	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Dec. 14, 2008	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 25, 2009	Conducted (TH01-HY)

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

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

Note: NCR means Non-Calibration required.

6. TEST LOCATION

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 886-2-2696-2468 FAX : 886-2-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
LINKOU	ADD : No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C TEL : 886-2-2601-1640 FAX : 886-2-2601-1695
DUNGHU	ADD : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : 886-2-2631-4739 FAX : 886-2-2631-9740
JUNGHE	ADD : 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. TEL : 886-2-8227-2020 FAX : 886-2-8227-2626
NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 nd 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

PI, total 9 pages

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