

## 4.4. Power Spectral Density Measurement

### 4.4.1. Limit

The power spectral density is defined as the highest level of power in dBm per MHz generated by the transmitter within the power envelope. The following table is power spectral density limits and decrease power density limit rule refer to section 4.3.1.

<For Antenna 1>:

Frequency Range	Power Spectral Density limit (dBm/MHz)
5.15~5.25 GHz	2
5.25-5.35 GHz	9
5470-5725	9

<For Antenna 2>:

Frequency Range	Power Spectral Density limit (dBm/MHz)
5.15~5.25 GHz	-3.50
5.25-5.35 GHz	3.50
5470-5725	3.50

<For Antenna 3>:

Frequency Range	Power Spectral Density limit (dBm/MHz)
5.15~5.25 GHz	-0.70
5.25-5.35 GHz	6.30
5470-5725	6.30

<For Antenna 4>:

Frequency Range	Power Spectral Density limit (dBm/MHz)
5.25-5.35 GHz	-6.50
5470-5725	-6.50

### 4.4.2. Measuring Instruments and Setting

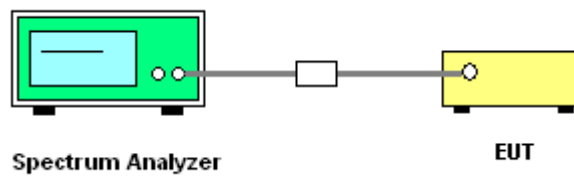
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

#### 4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Set RBW of spectrum analyzer to 1000kHz and VBW to 3000kHz. Set Detector to Peak, Trace to Max Hold. Mark the frequency with maximum peak power as the center of the display of the spectrum.
3. Measuring multiple antennas, the connector is required to link with spectrum analyzer through a combiner.

#### 4.4.4. Test Setup Layout



#### 4.4.5. Test Deviation

There is no deviation with the original standard.

#### 4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

#### 4.4.7. Test Result of Power Spectral Density

<For Antenna 1>:

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

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

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	5.31	9.00	Complies
60	5300 MHz	7.10	9.00	Complies
64	5320 MHz	1.12	9.00	Complies
100	5500 MHz	1.64	9.00	Complies
116	5580 MHz	5.30	9.00	Complies
140	5700 MHz	1.15	9.00	Complies

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

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
54	5270 MHz	1.96	9.00	Complies
62	5310 MHz	-2.13	9.00	Complies
102	5510MHz	-3.87	9.00	Complies
110	5550 MHz	0.54	9.00	Complies
134	5670 MHz	-0.71	9.00	Complies

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

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

<b>Channel</b>	<b>Frequency</b>	<b>Power Density (dBm)</b>	<b>Max. Limit (dBm)</b>	<b>Result</b>
52	5260 MHz	6.48	9.00	<b>Complies</b>
60	5300 MHz	6.49	9.00	<b>Complies</b>
64	5320 MHz	3.41	9.00	<b>Complies</b>
100	5500 MHz	2.50	9.00	<b>Complies</b>
116	5580 MHz	5.09	9.00	<b>Complies</b>
140	5700 MHz	1.49	9.00	<b>Complies</b>

<For Antenna 2>:

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

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

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	0.43	3.50	Complies
60	5300 MHz	1.13	3.50	Complies
64	5320 MHz	0.11	3.50	Complies
100	5500 MHz	0.07	3.50	Complies
116	5580 MHz	0.47	3.50	Complies
140	5700 MHz	-1.35	3.50	Complies

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

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
54	5270 MHz	-3.35	3.50	Complies
62	5310 MHz	-4.77	3.50	Complies
102	5510MHz	-7.79	3.50	Complies
110	5550 MHz	-4.37	3.50	Complies
134	5670 MHz	-3.33	3.50	Complies

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

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

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	0.86	3.50	Complies
60	5300 MHz	1.39	3.50	Complies
64	5320 MHz	1.23	3.50	Complies
100	5500 MHz	1.52	3.50	Complies
116	5580 MHz	0.41	3.50	Complies
140	5700 MHz	-0.68	3.50	Complies

<For Antenna 3>:

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

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

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	3.83	6.30	Complies
60	5300 MHz	4.02	6.30	Complies
64	5320 MHz	0.11	6.30	Complies
100	5500 MHz	0.07	6.30	Complies
116	5580 MHz	1.59	6.30	Complies
140	5700 MHz	-2.70	6.30	Complies

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

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
54	5270 MHz	-0.08	6.30	Complies
62	5310 MHz	-7.03	6.30	Complies
102	5510MHz	-5.88	6.30	Complies
110	5550 MHz	-0.65	6.30	Complies
134	5670 MHz	-4.20	6.30	Complies

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

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

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	2.81	6.30	Complies
60	5300 MHz	3.85	6.30	Complies
64	5320 MHz	1.65	6.30	Complies
100	5500 MHz	2.29	6.30	Complies
116	5580 MHz	2.35	6.30	Complies
140	5700 MHz	-2.01	6.30	Complies



<For Antenna 4>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Sam Chen	<b>Configurations</b>	Draft n / Antenna 4

Configuration Draft n MCS0 20MHz Ant. 4-1 + Ant. 4-3

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	-10.15	-6.50	Complies
60	5300 MHz	-9.22	-6.50	Complies
64	5320 MHz	-9.33	-6.50	Complies
100	5500 MHz	-10.24	-6.50	Complies
116	5580 MHz	-10.29	-6.50	Complies
140	5700 MHz	-9.14	-6.50	Complies

Configuration Draft n MCS0 40MHz Ant. 4-1 + Ant. 4-3

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
54	5270 MHz	-12.99	-6.50	Complies
62	5310 MHz	-12.77	-6.50	Complies
102	5510MHz	-13.18	-6.50	Complies
110	5550 MHz	-14.66	-6.50	Complies
134	5670 MHz	-13.65	-6.50	Complies

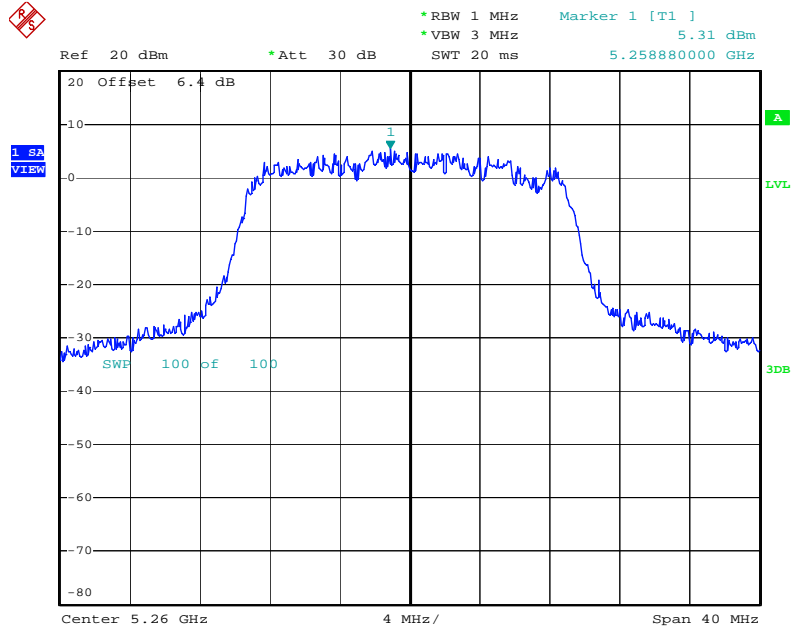
<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Sam Chen	<b>Configurations</b>	802.11a / Antenna 4

**Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3**

Channel	Frequency	Power Density (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	-9.19	-6.50	<b>Complies</b>
60	5300 MHz	-9.58	-6.50	<b>Complies</b>
64	5320 MHz	-10.22	-6.50	<b>Complies</b>
100	5500 MHz	-9.53	-6.50	<b>Complies</b>
116	5580 MHz	-10.11	-6.50	<b>Complies</b>
140	5700 MHz	-9.95	-6.50	<b>Complies</b>

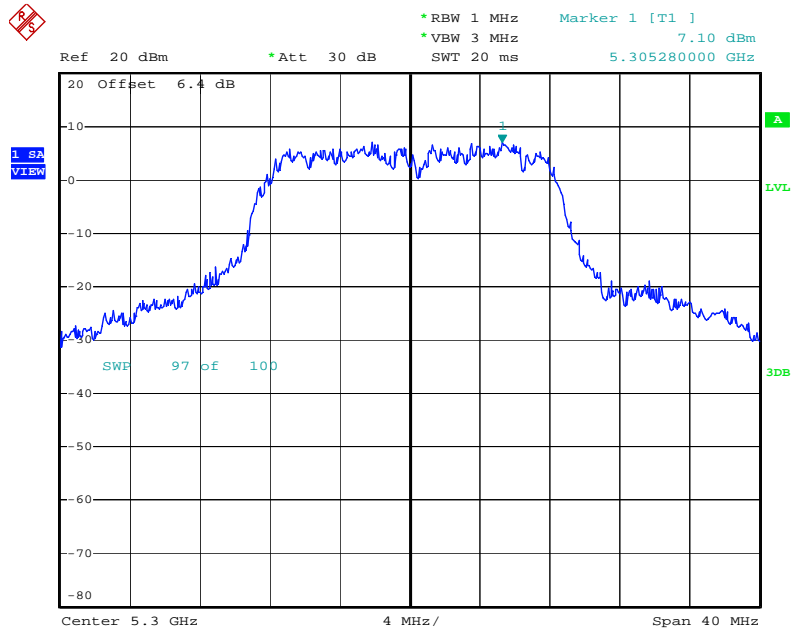
<For Antenna 1>:

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5260 MHz



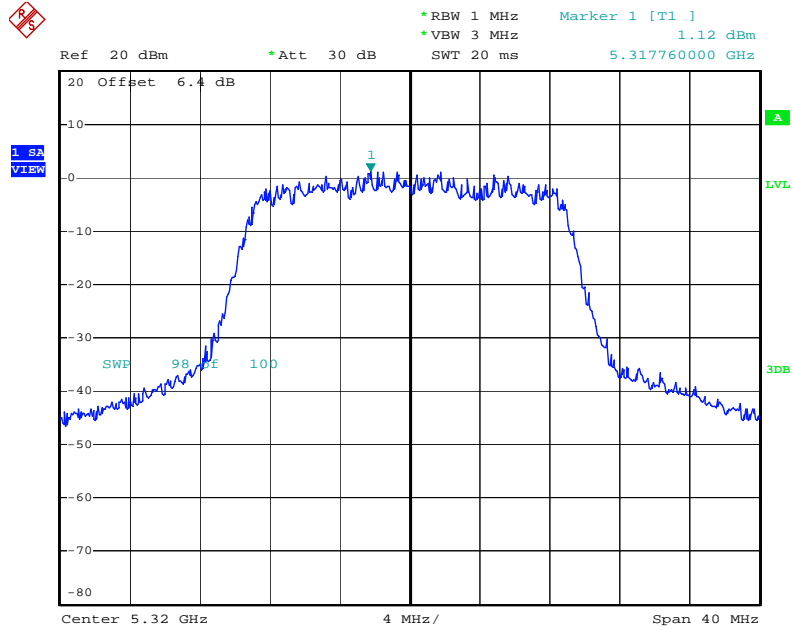
Date: 4.JUL.2009 11:34:41

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5300 MHz



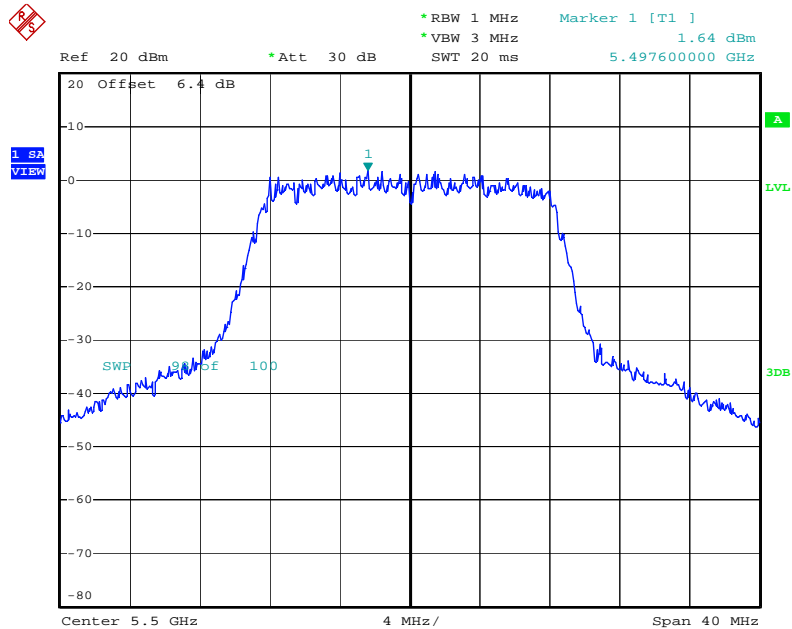
Date: 4.JUL.2009 14:59:25

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5320 MHz**



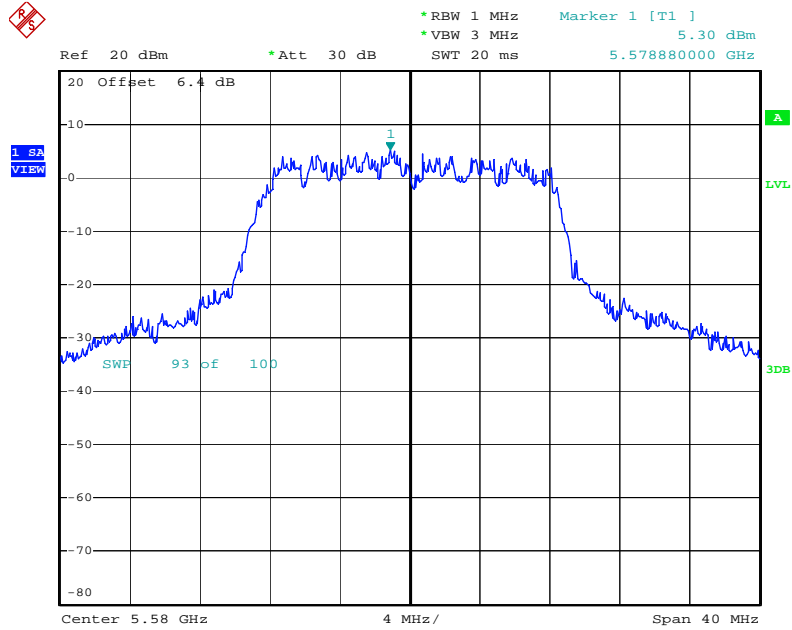
Date: 4.JUL.2009 11:36:24

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5500 MHz**



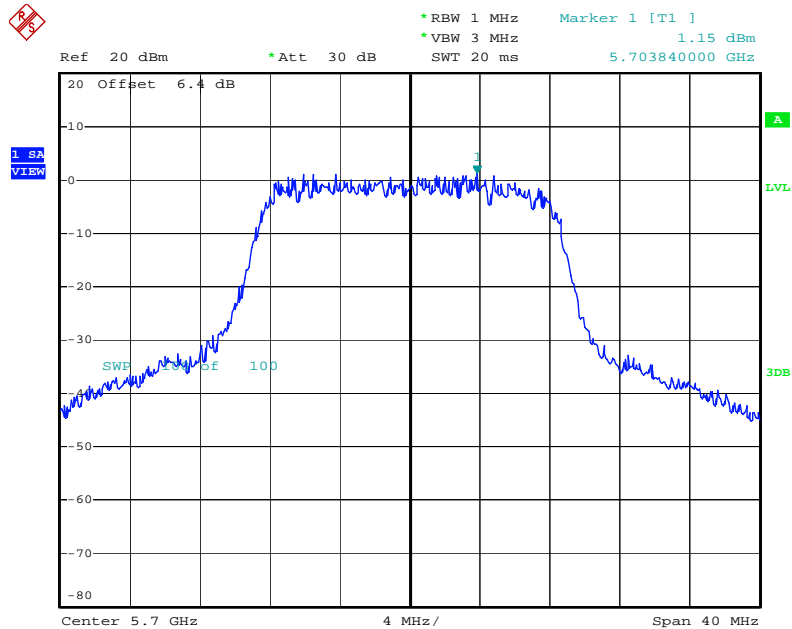
Date: 4.JUL.2009 11:37:59

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5580 MHz**



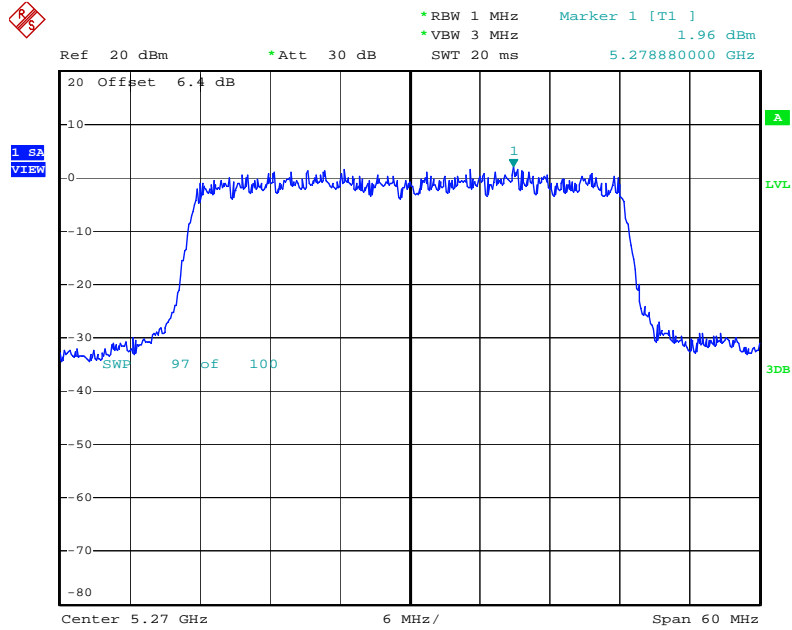
Date: 4.JUL.2009 11:39:51

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5700 MHz**



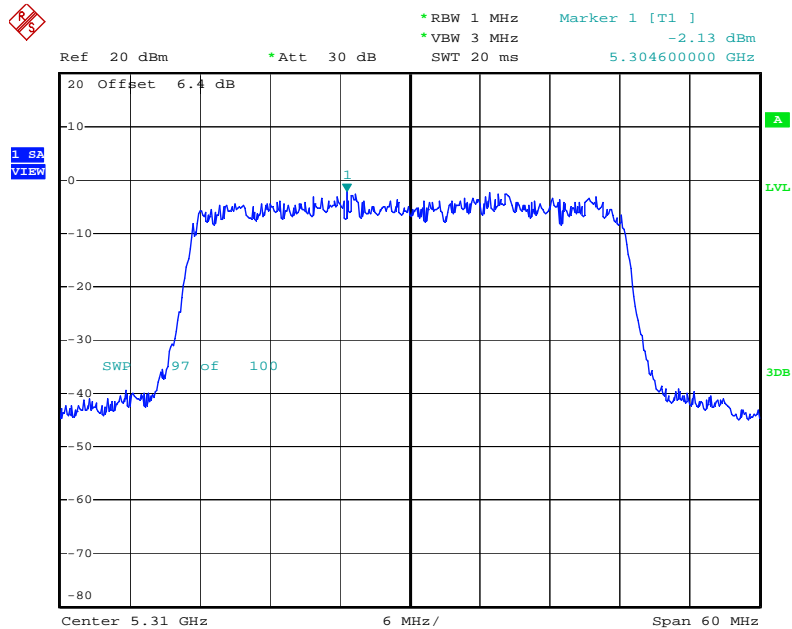
Date: 4.JUL.2009 11:41:25

**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5270 MHz**



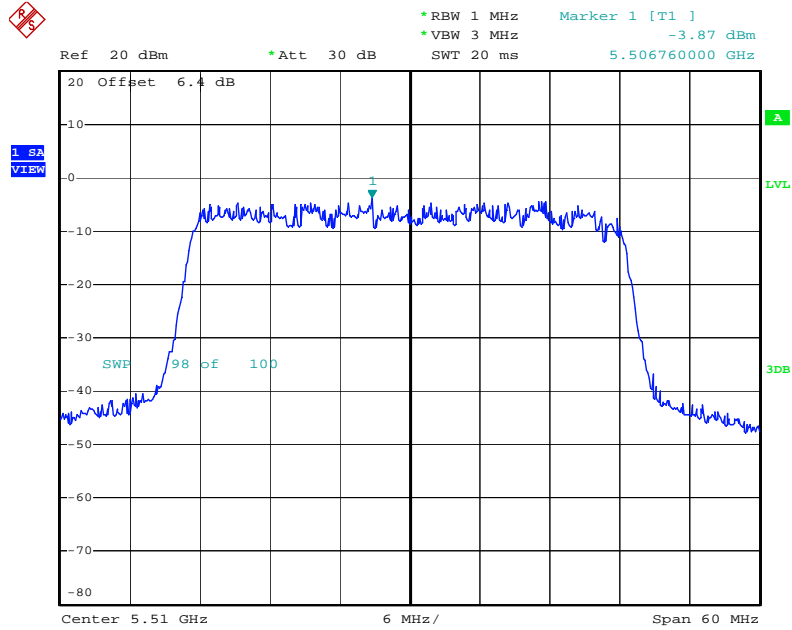
Date: 4.JUL.2009 12:01:07

**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5310 MHz**



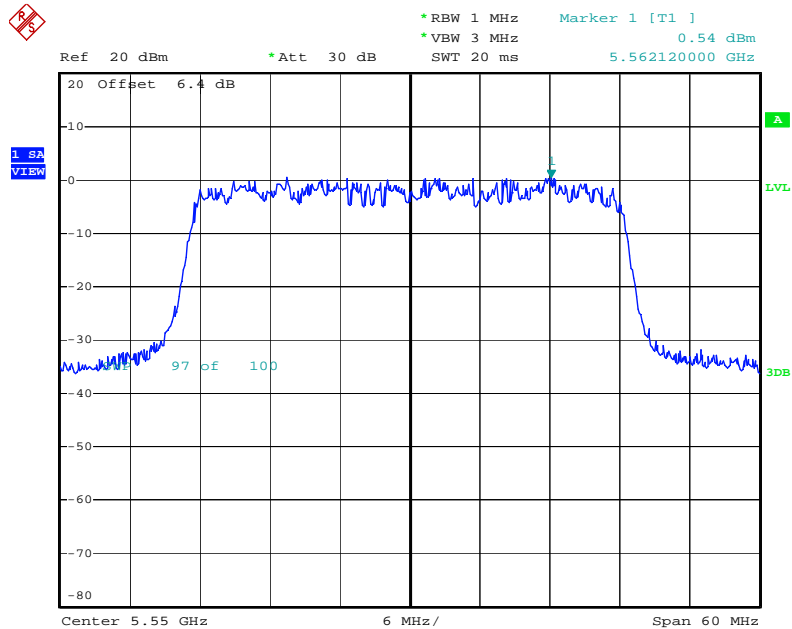
Date: 4.JUL.2009 12:02:20

**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5510MHz**



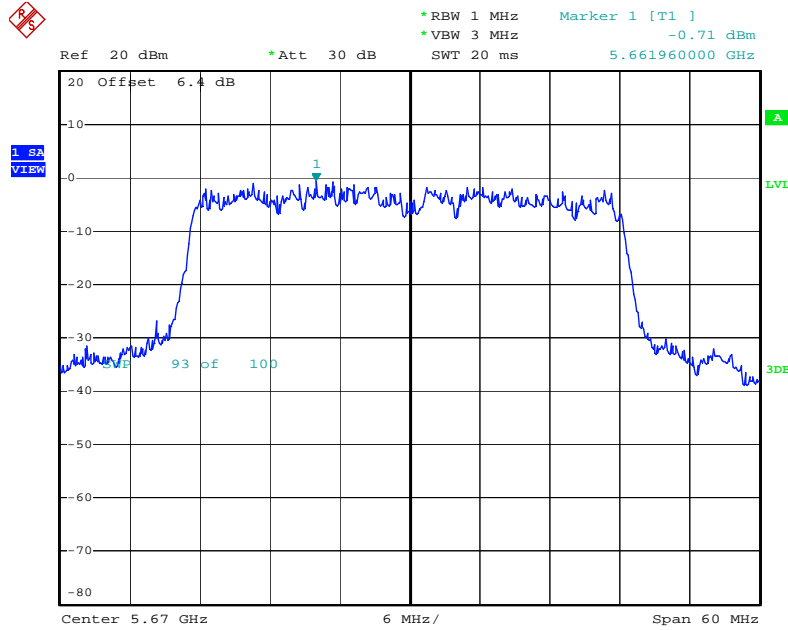
Date: 4.JUL.2009 12:03:49

**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5550 MHz**



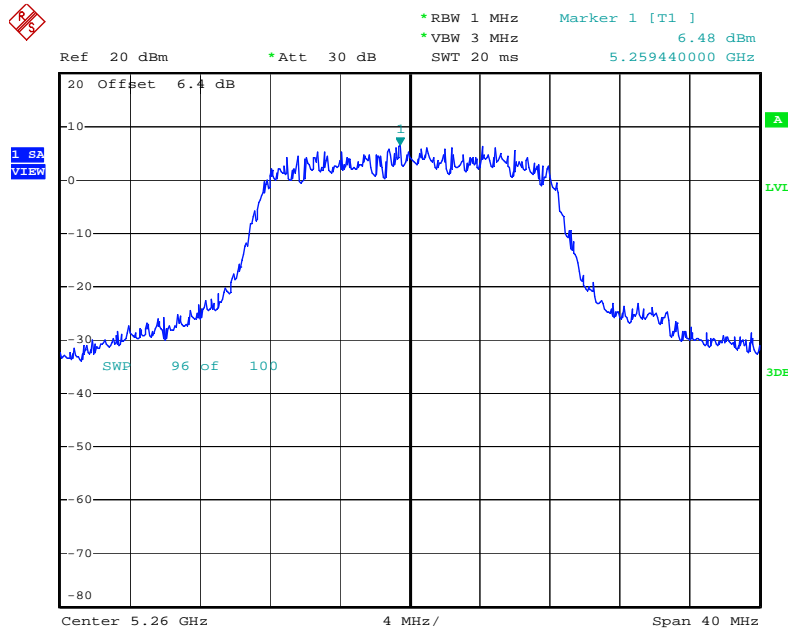
Date: 4.JUL.2009 12:07:58

**Power Density Plot on Configuration Draft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5670 MHz**



Date: 4.JUL.2009 12:09:57

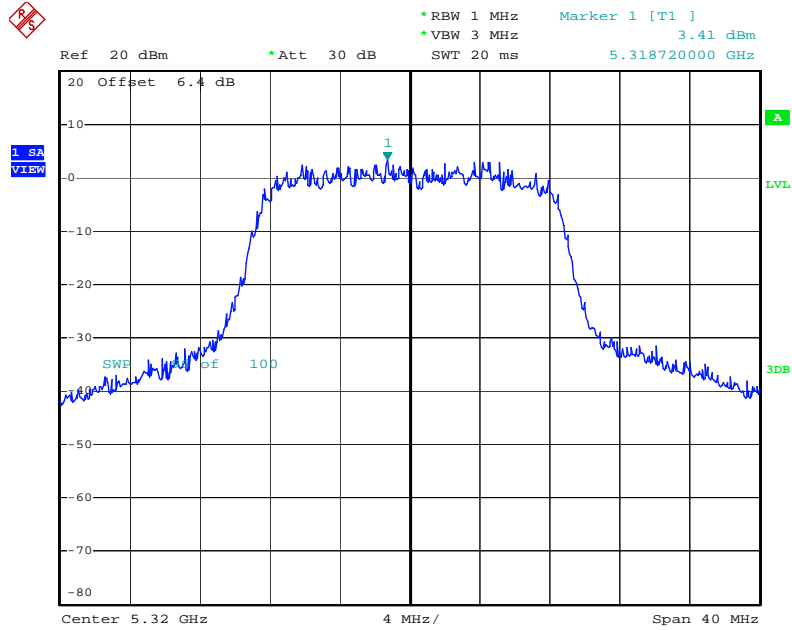
**Power Density Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5260 MHz**



Date: 4.JUL.2009 11:17:26

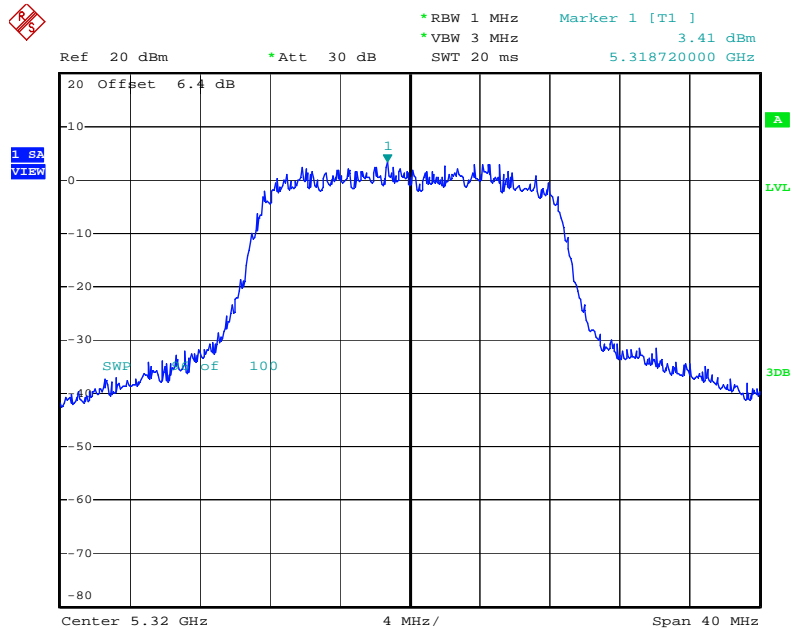


**Power Density Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5300 MHz**



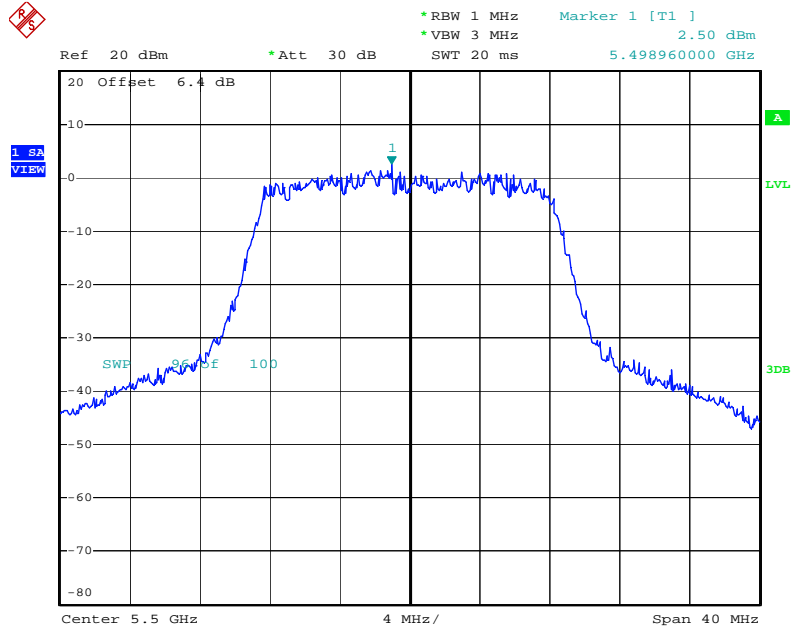
Date: 4.JUL.2009 11:21:19

**Power Density Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5320 MHz**



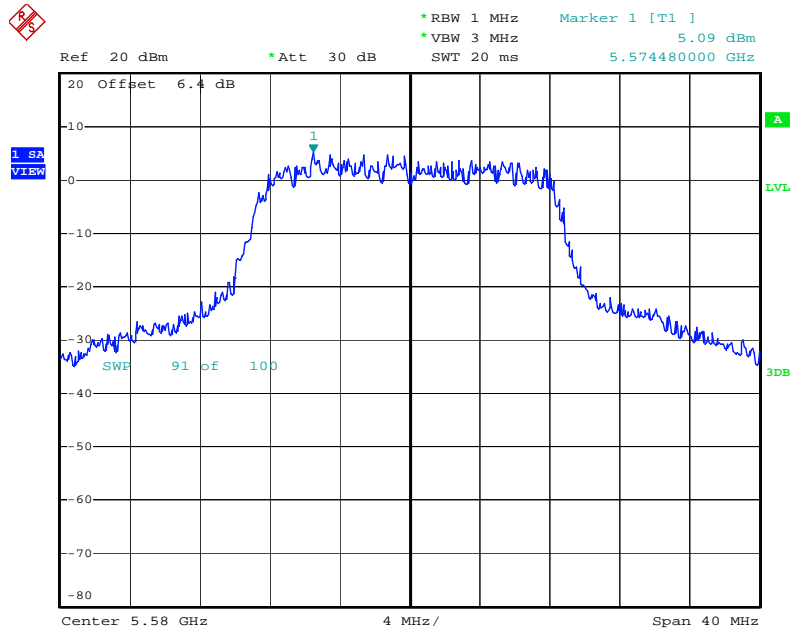
Date: 4.JUL.2009 11:21:19

Power Density Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5500 MHz



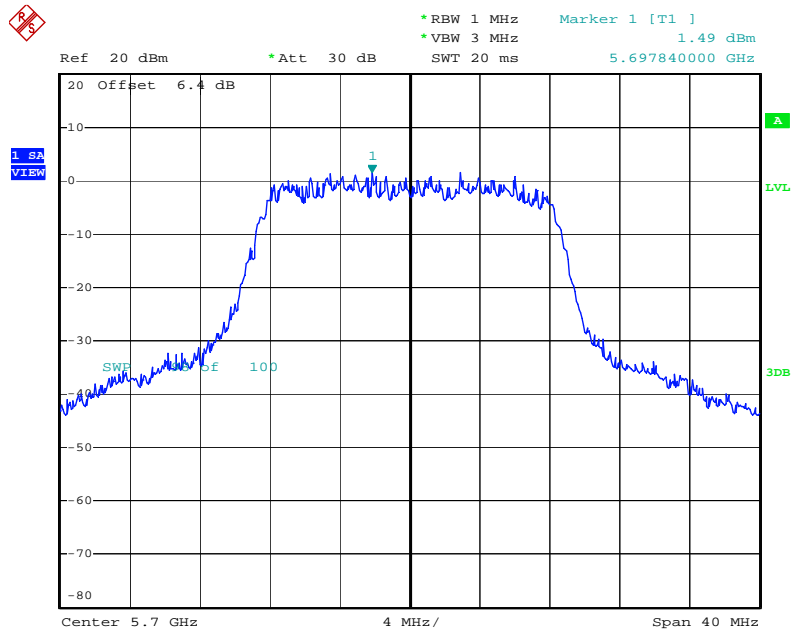
Date: 4.JUL.2009 11:22:49

Power Density Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5580 MHz



Date: 4.JUL.2009 11:24:40

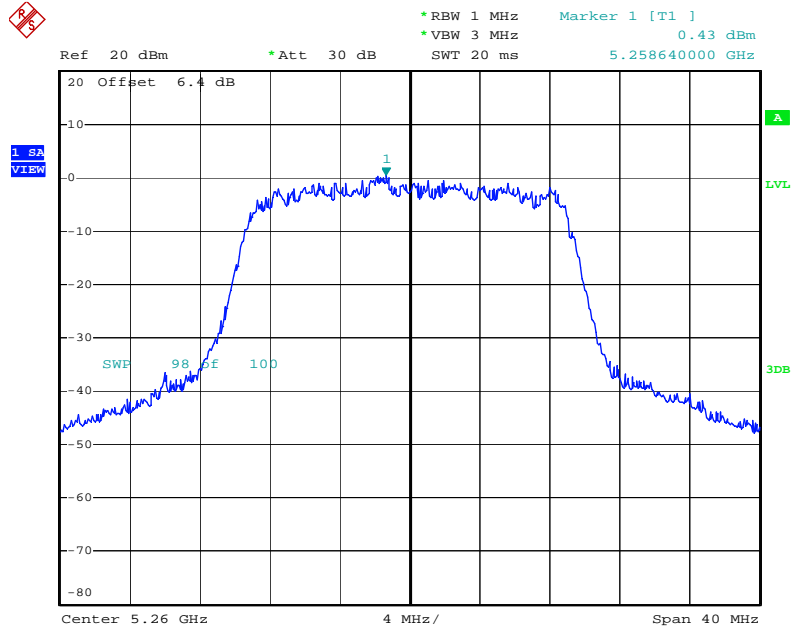
### Power Density Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5700 MHz



Date: 4.JUL.2009 11:25:58

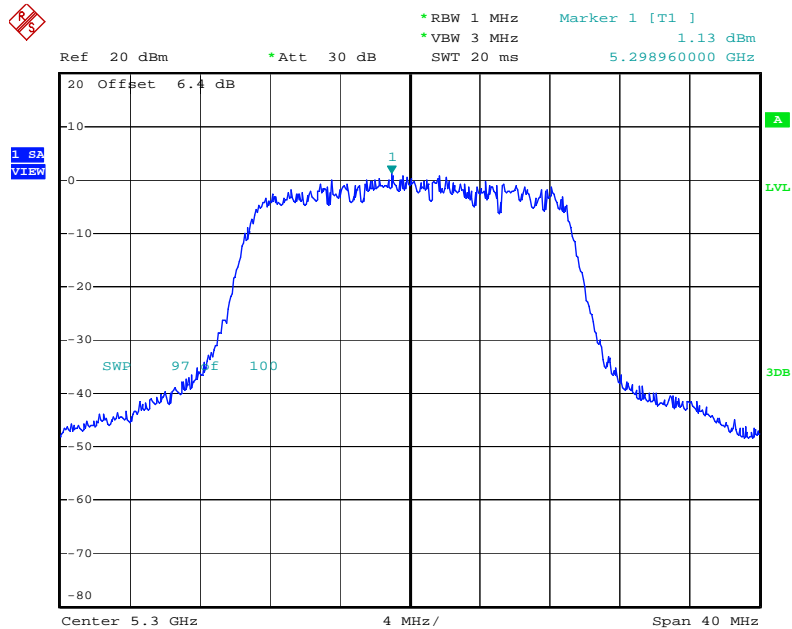
<For Antenna 2>:

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5260 MHz



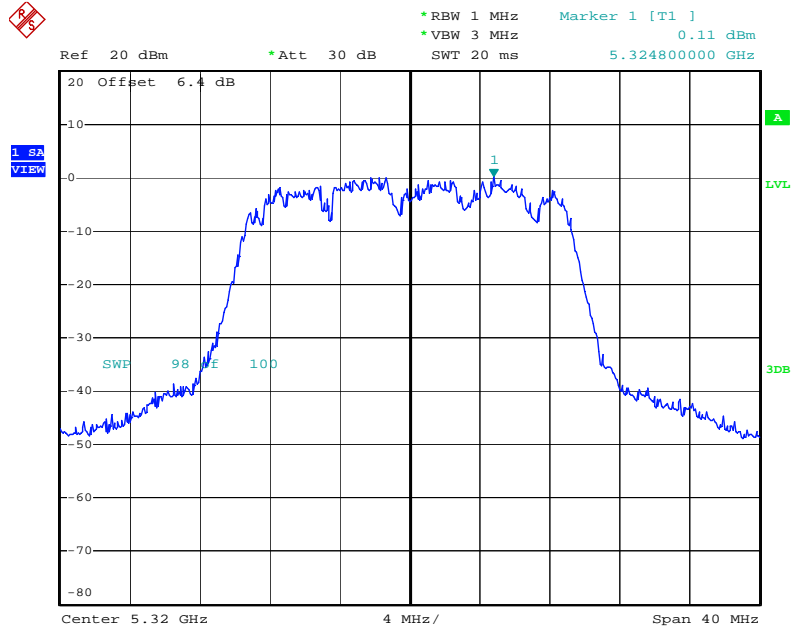
Date: 4.JUL.2009 12:55:40

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5300 MHz



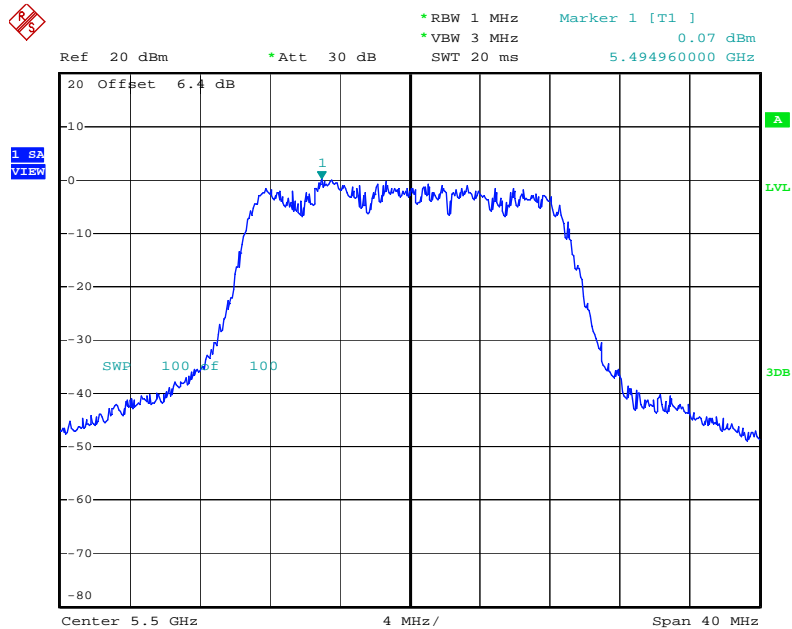
Date: 4.JUL.2009 12:57:06

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5320 MHz**



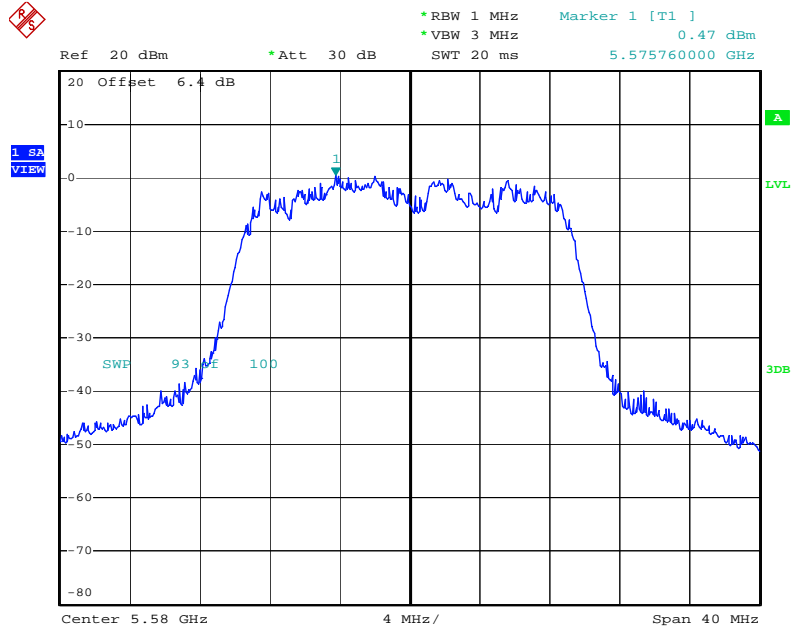
Date: 4.JUL.2009 12:58:59

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5500 MHz**



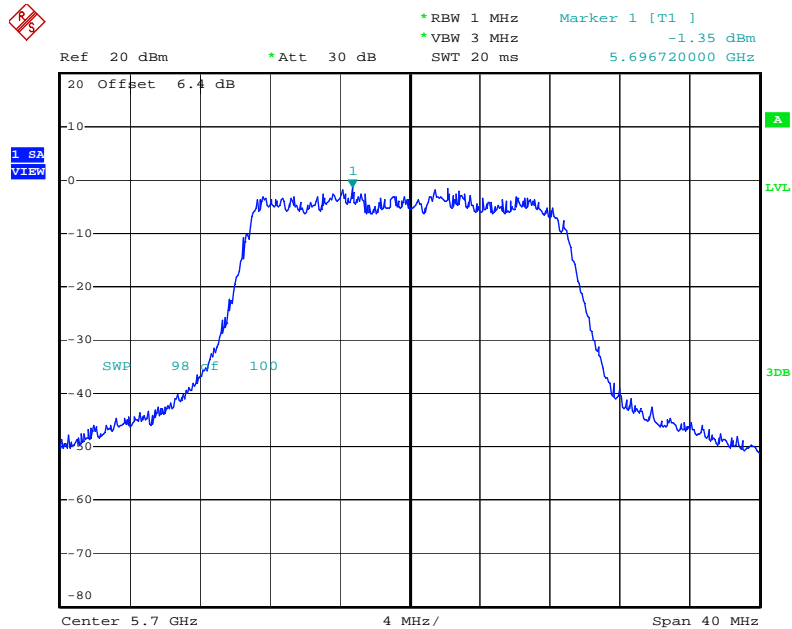
Date: 4.JUL.2009 13:00:35

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5580 MHz**



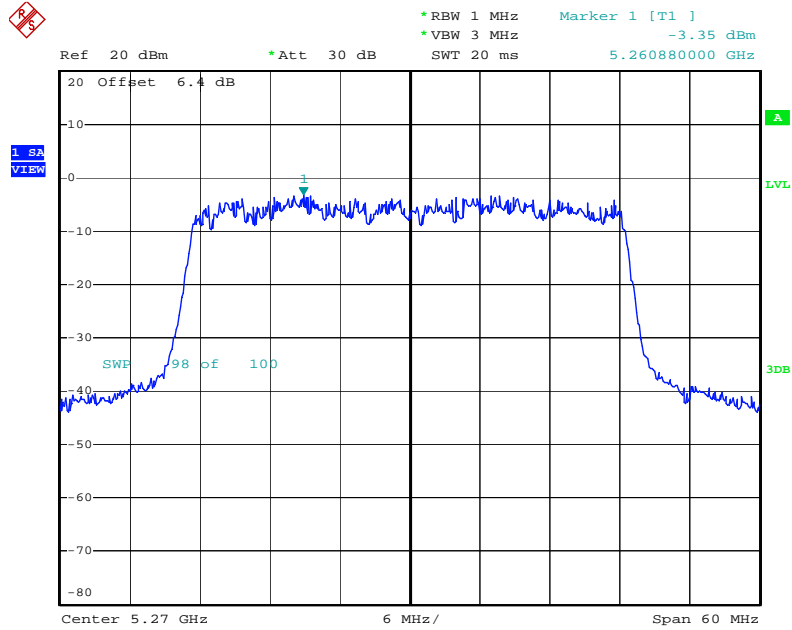
Date: 4.JUL.2009 13:02:52

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5700 MHz**



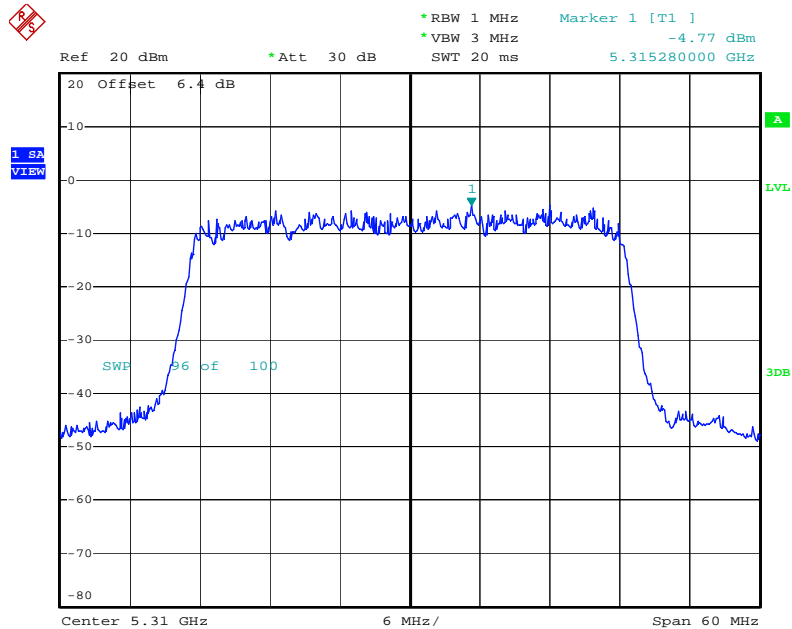
Date: 4.JUL.2009 13:04:47

Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5270 MHz



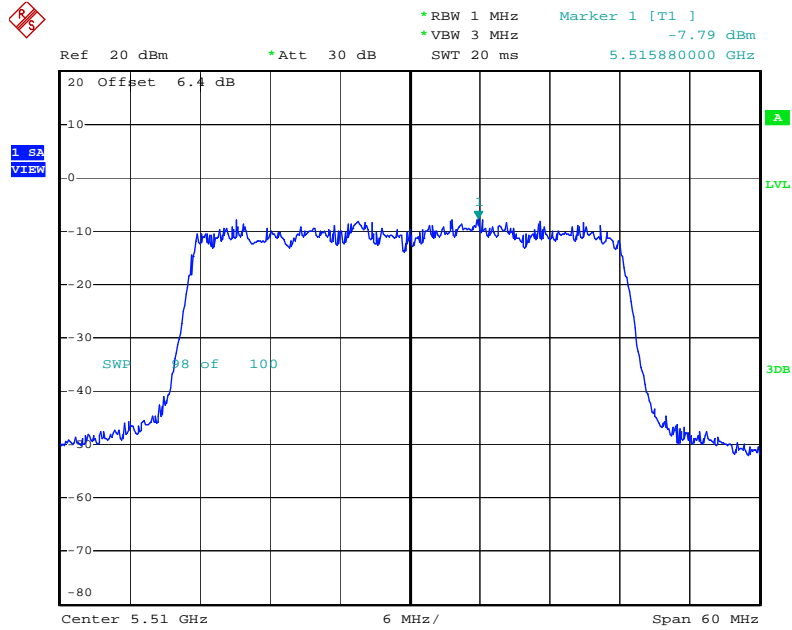
Date: 4.JUL.2009 13:13:04

Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5310 MHz



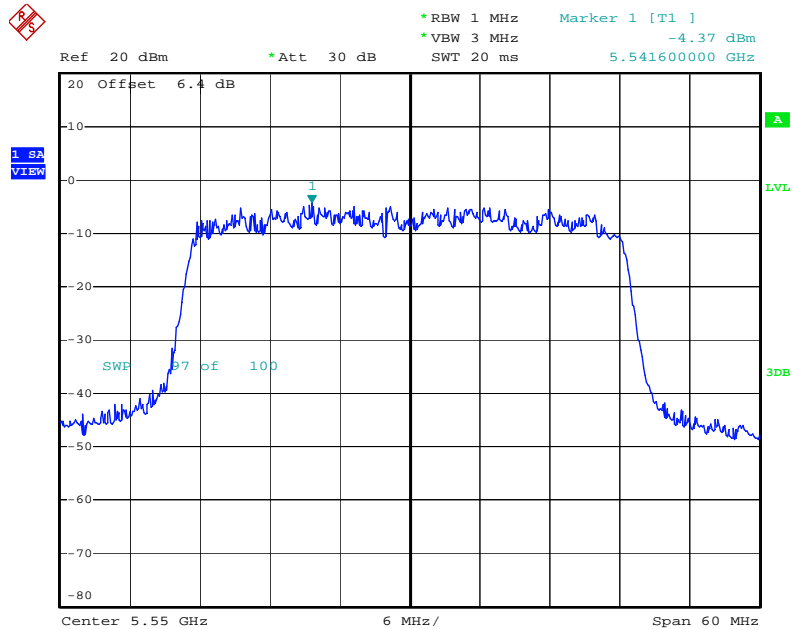
Date: 4.JUL.2009 13:15:09

**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5510MHz**



Date: 4.JUL.2009 13:16:40

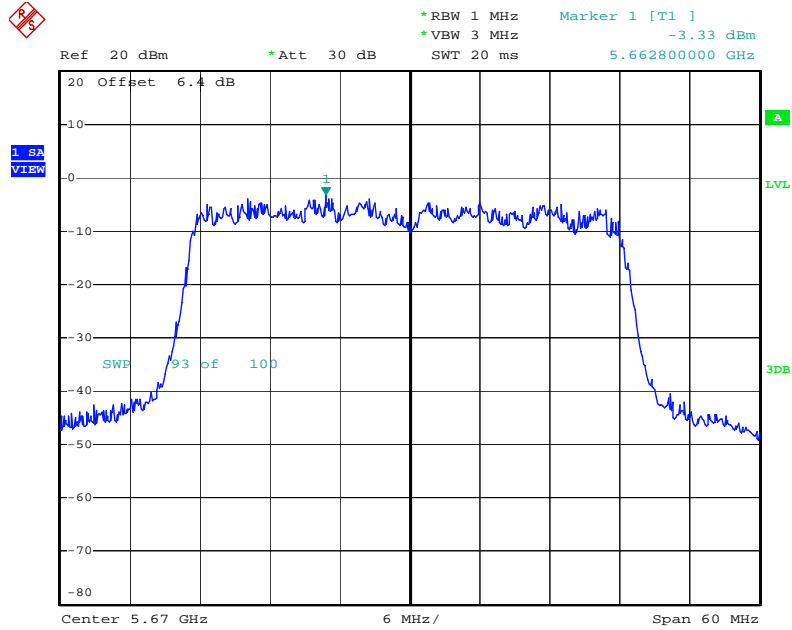
**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5550 MHz**



Date: 4.JUL.2009 13:17:59

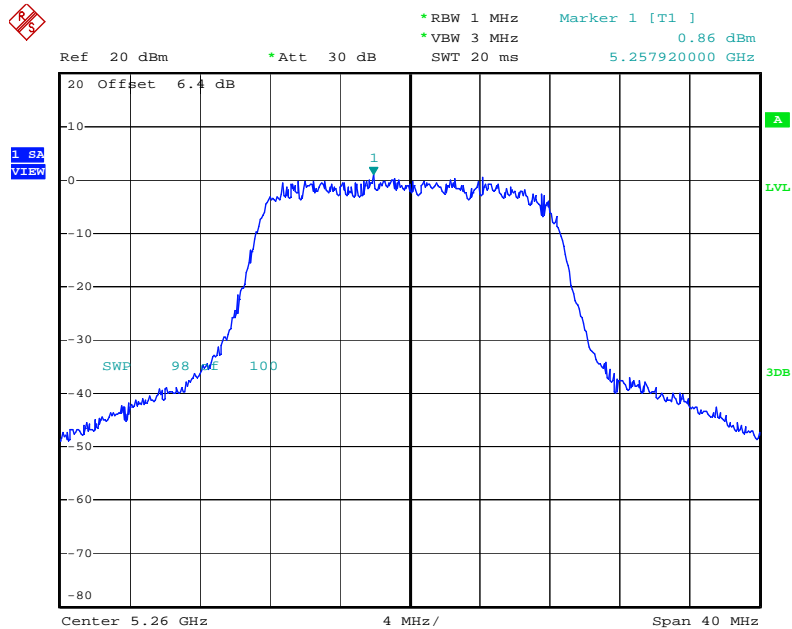


**Power Density Plot on Configuration Draft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5670 MHz**



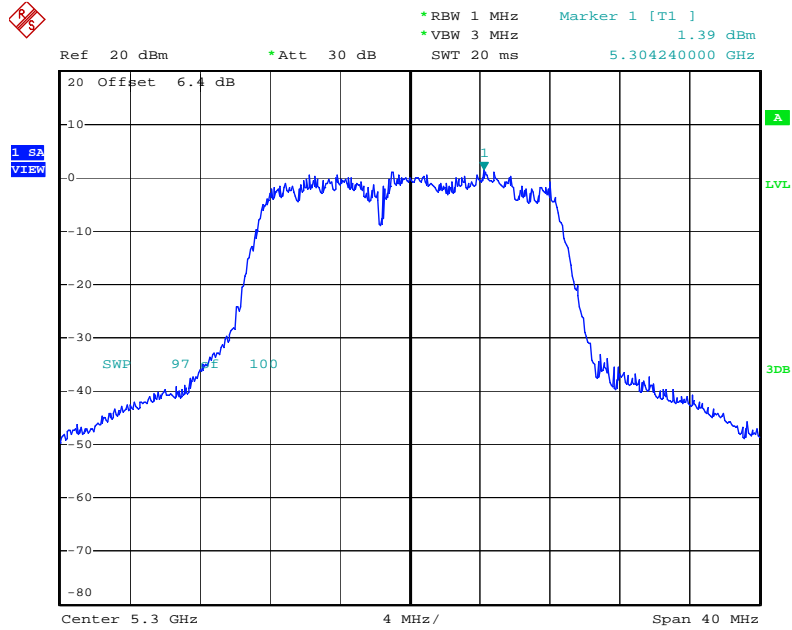
Date: 4.JUL.2009 13:19:34

**Power Density Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5260 MHz**



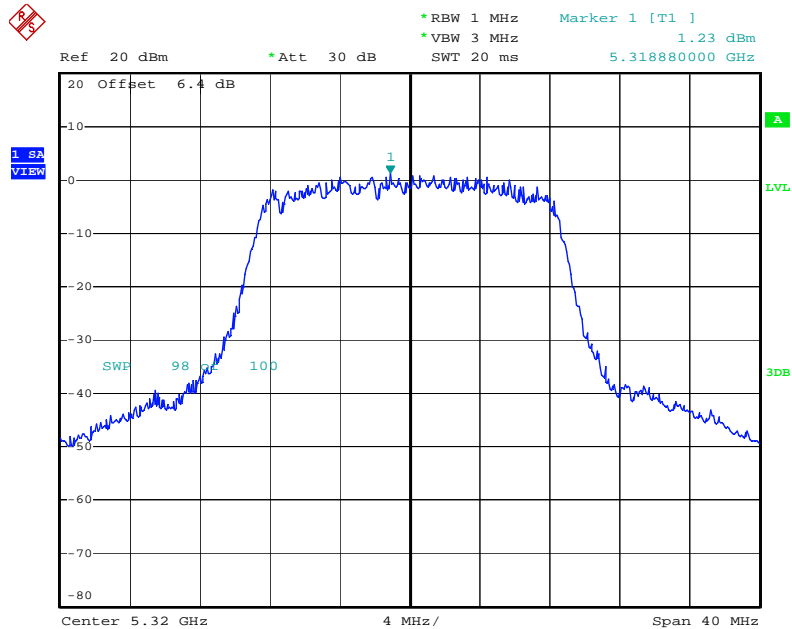
Date: 4.JUL.2009 12:26:26

**Power Density Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5300 MHz**



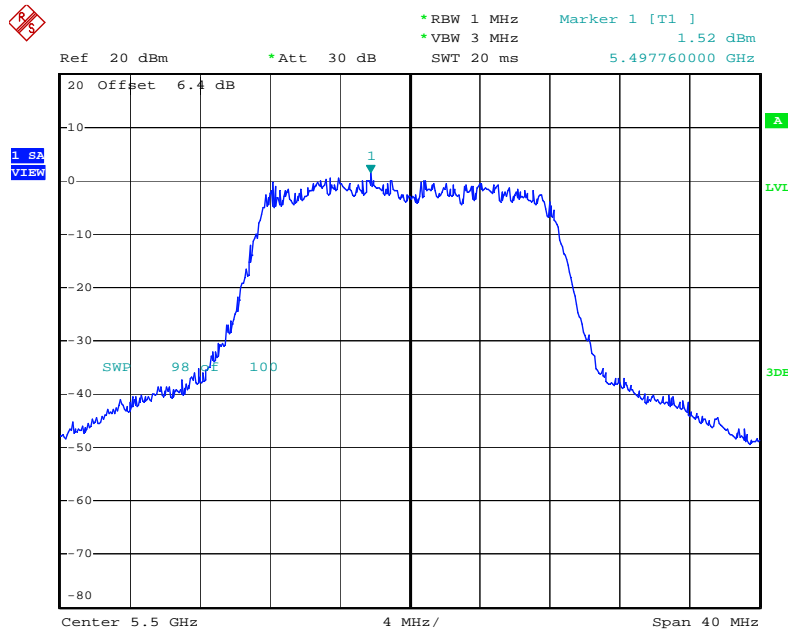
Date: 4.JUL.2009 12:36:58

**Power Density Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5320 MHz**



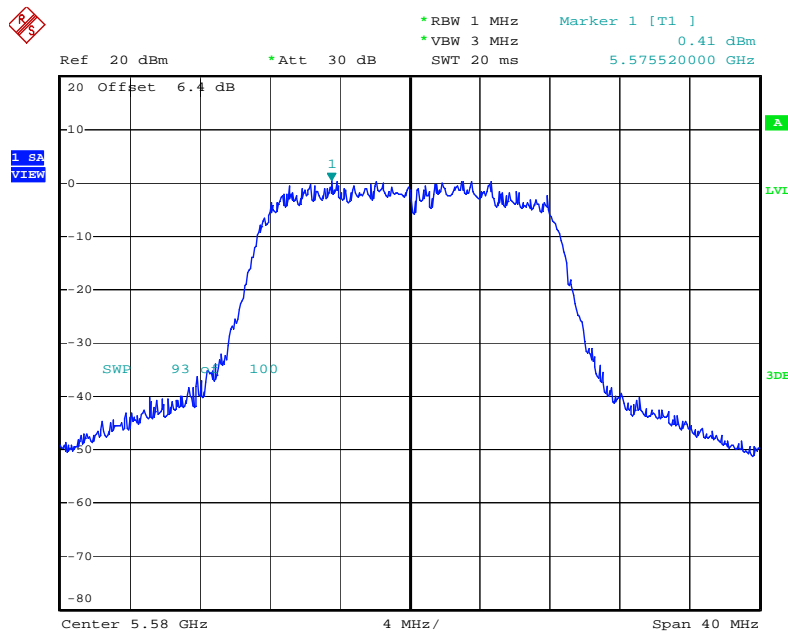
Date: 4.JUL.2009 12:38:33

Power Density Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5500 MHz



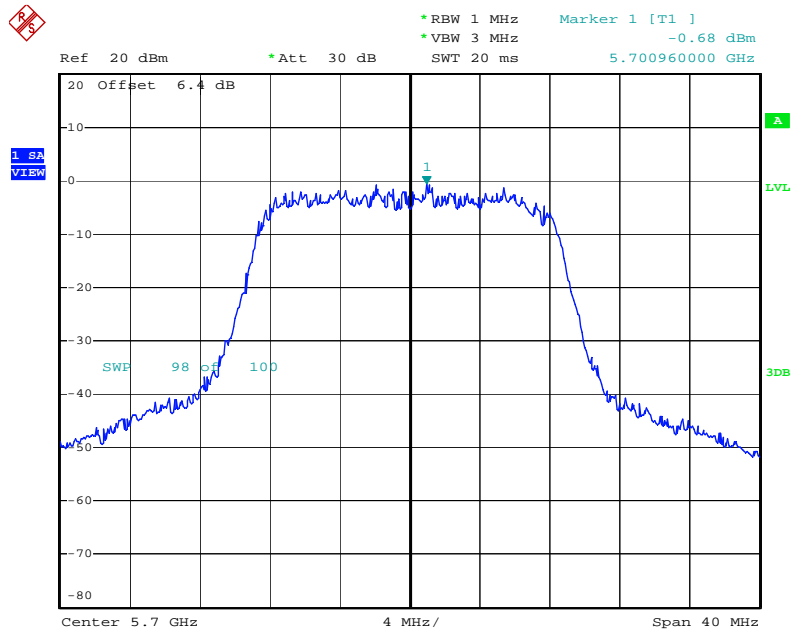
Date: 4.JUL.2009 12:46:42

Power Density Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5580 MHz



Date: 4.JUL.2009 12:48:00

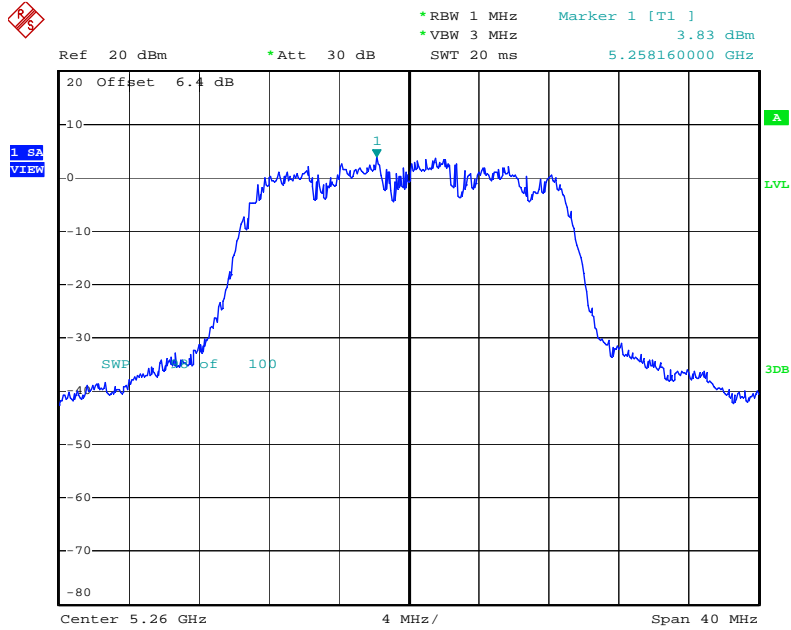
### Power Density Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5700 MHz



Date: 4.JUL.2009 12:49:18

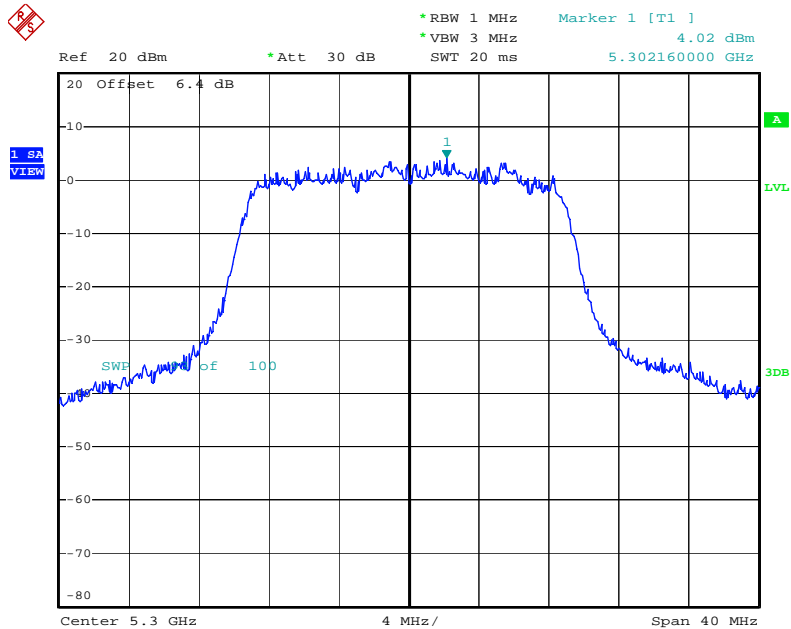
<For Antenna 3>:

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5260 MHz



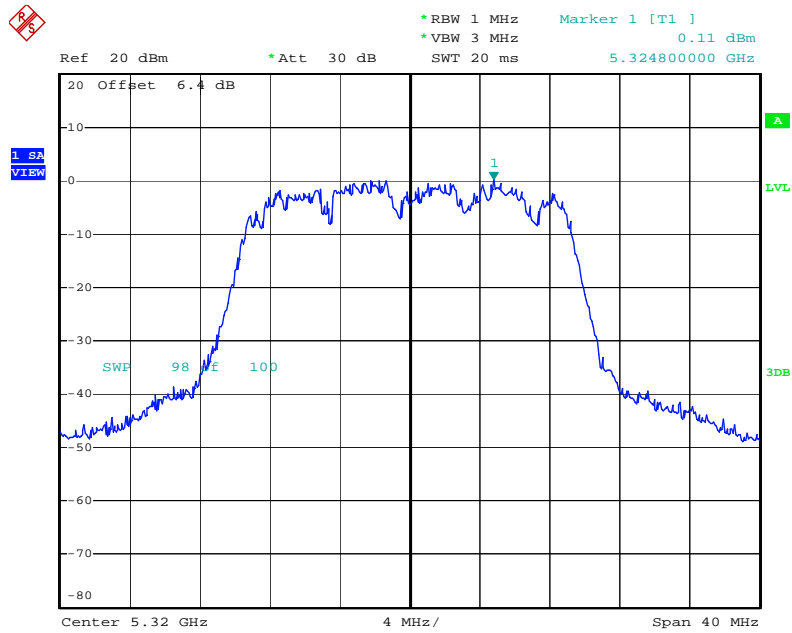
Date: 4.JUL.2009 13:37:52

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5300 MHz



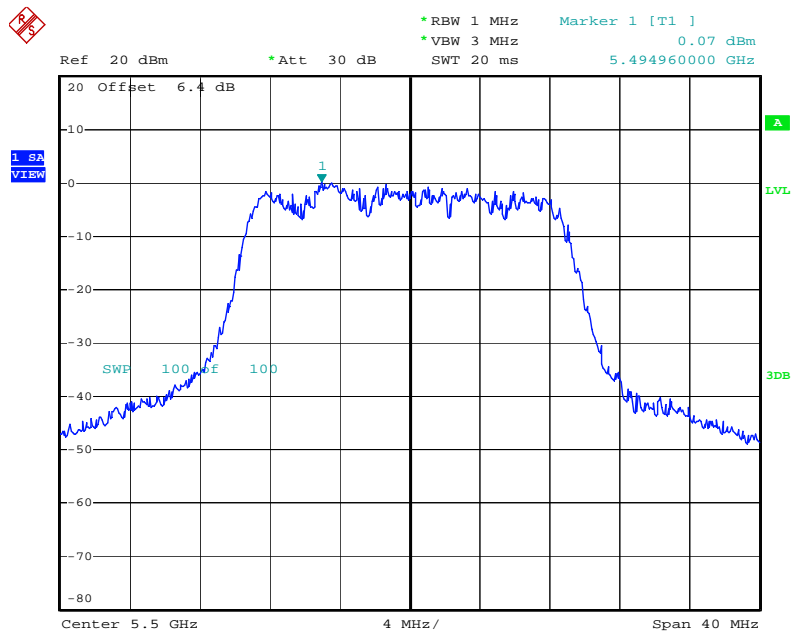
Date: 4.JUL.2009 13:39:21

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5320 MHz**



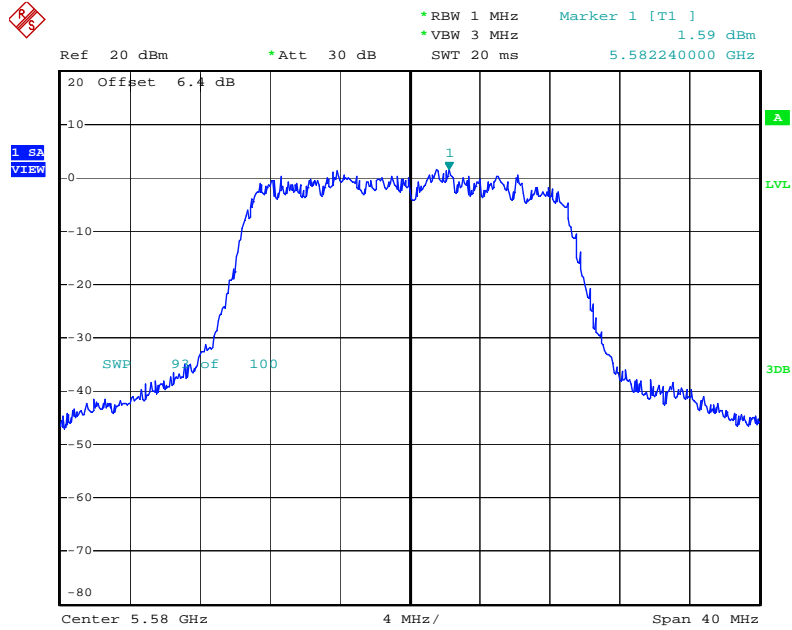
Date: 4.JUL.2009 12:58:59

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5500 MHz**



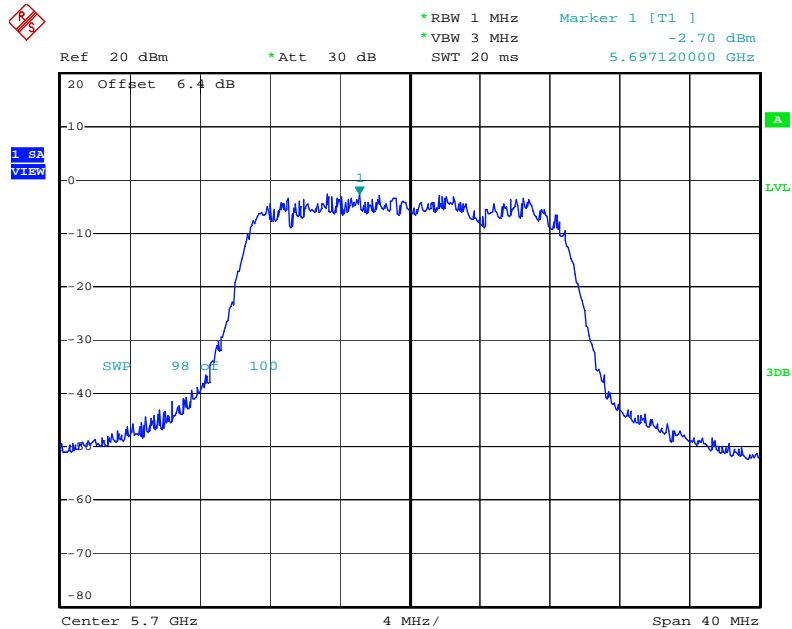
Date: 4.JUL.2009 13:00:35

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5580 MHz**



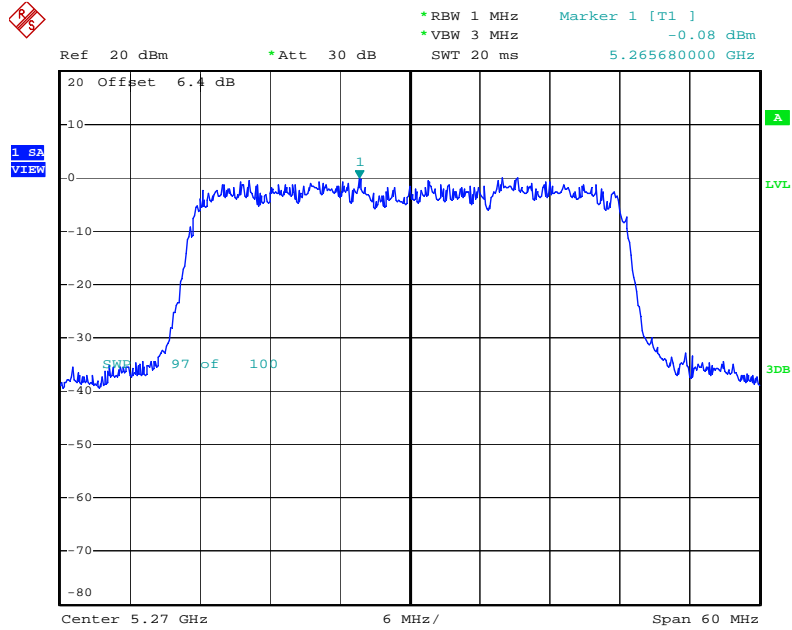
Date: 4.JUL.2009 13:44:23

**Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5700 MHz**



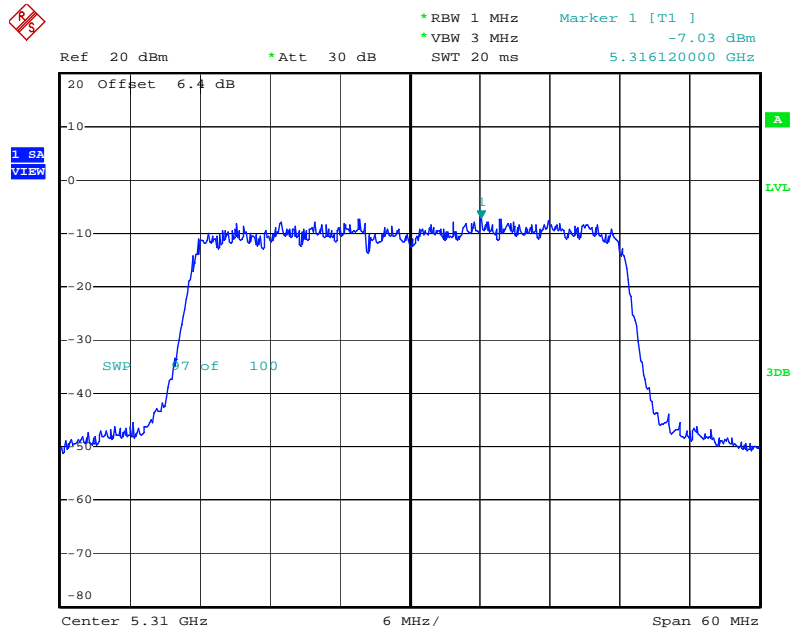
Date: 4.JUL.2009 13:45:55

**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5270 MHz**



Date: 4.JUL.2009 13:50:39

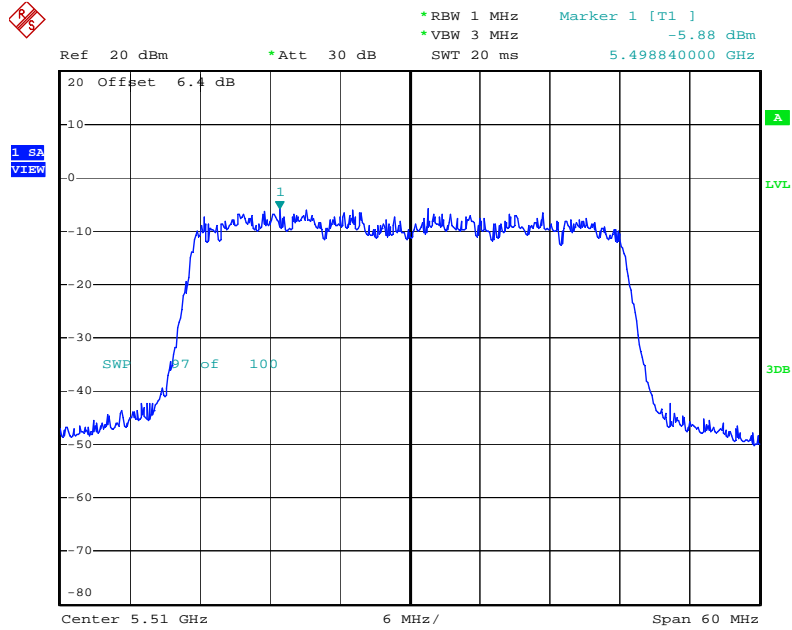
**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5310 MHz**



Date: 4.JUL.2009 13:51:35

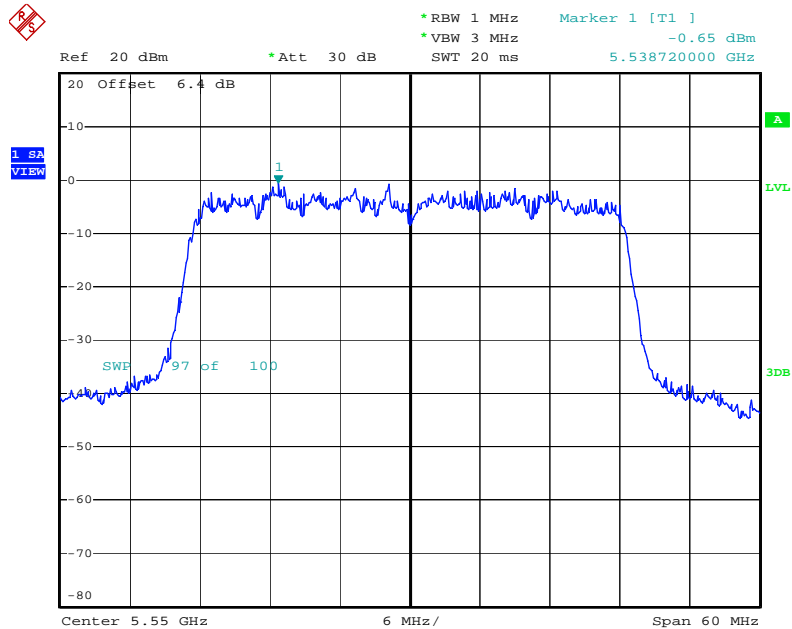


**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5510MHz**



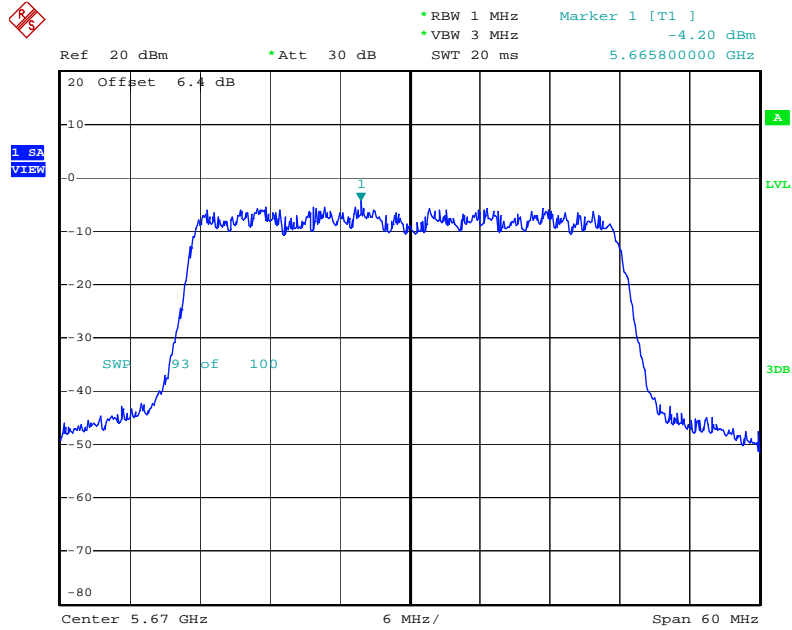
Date: 4.JUL.2009 13:52:56

**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5550 MHz**



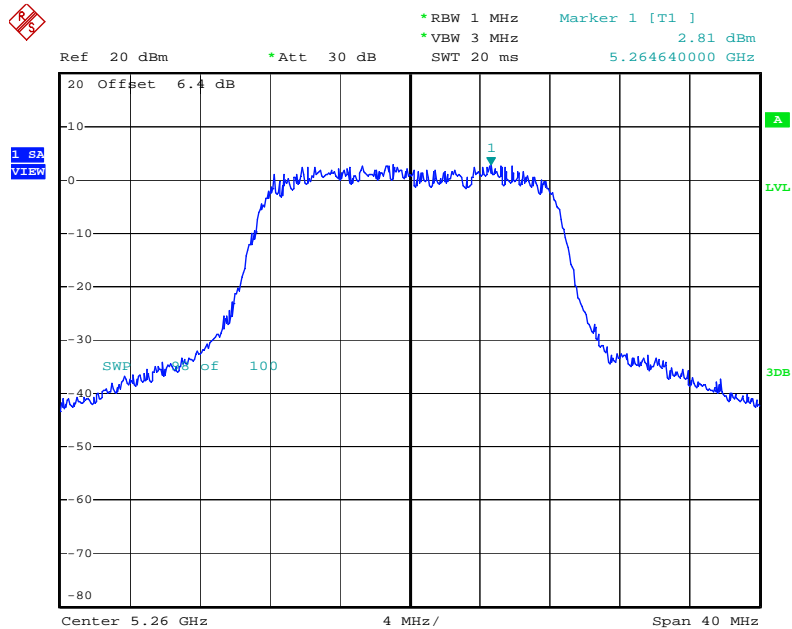
Date: 4.JUL.2009 13:53:58

**Power Density Plot on Configuration Draft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5670 MHz**



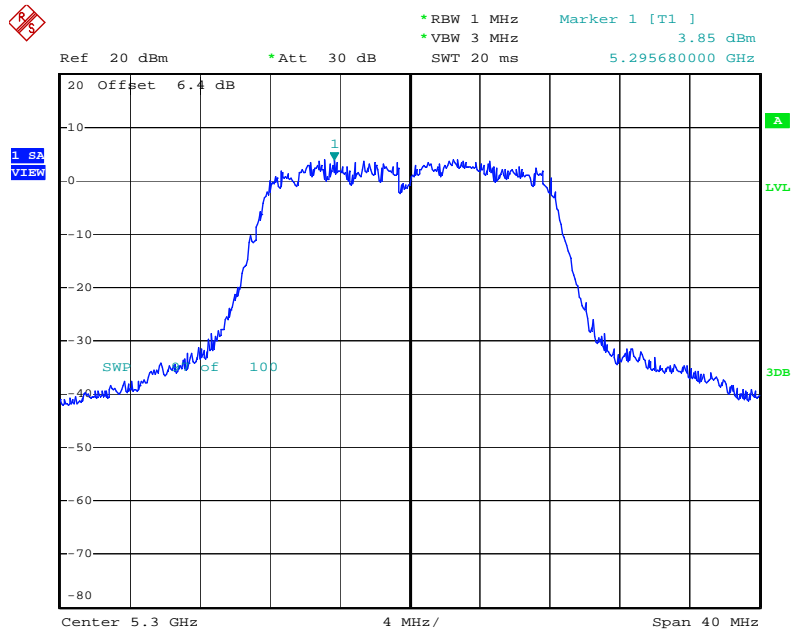
Date: 4.JUL.2009 13:55:19

**Power Density Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5260 MHz**



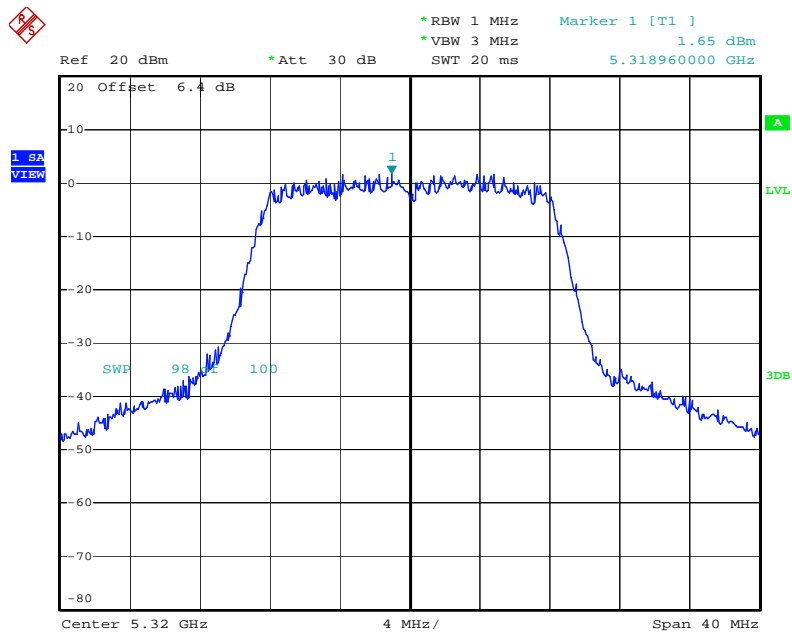
Date: 4.JUL.2009 12:25:15

Power Density Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5300 MHz



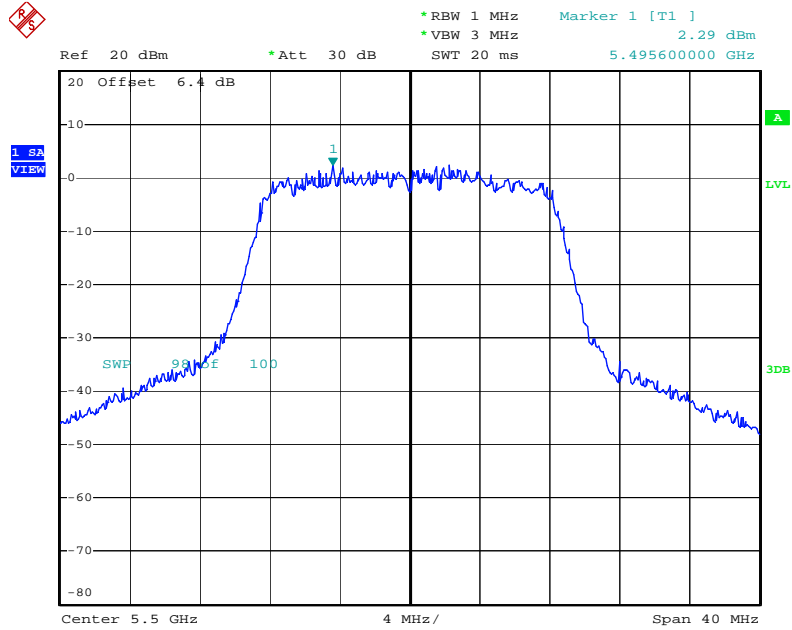
Date: 4.JUL.2009 12:35:31

Power Density Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5320 MHz



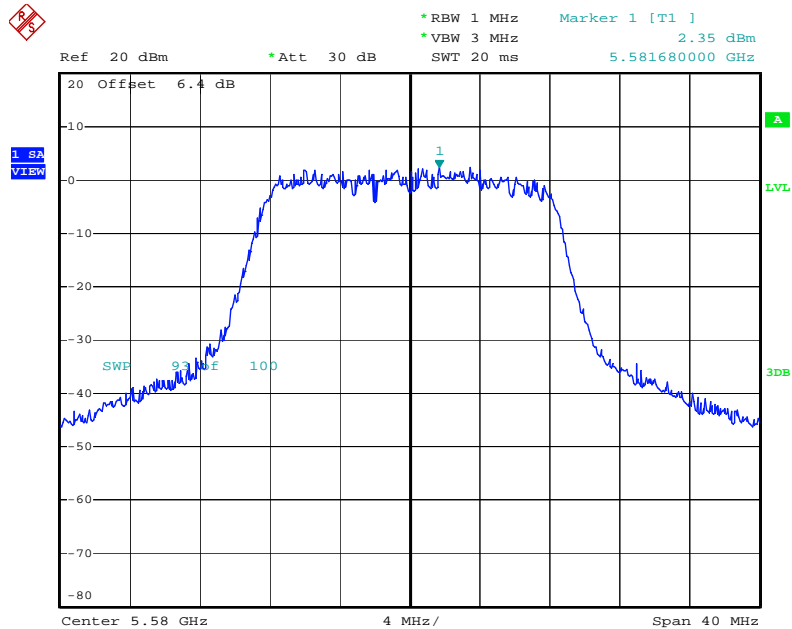
Date: 4.JUL.2009 12:43:00

**Power Density Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5500 MHz**



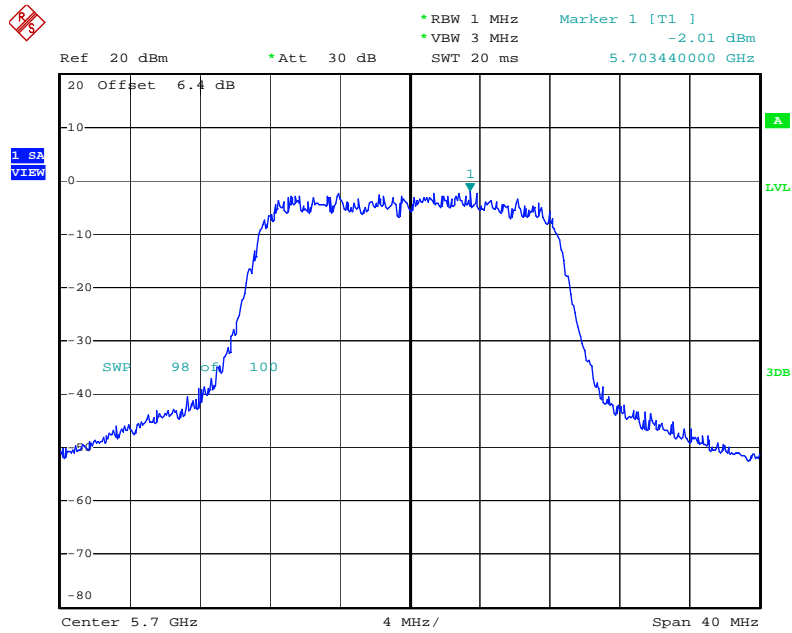
Date: 4.JUL.2009 13:28:08

**Power Density Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5580 MHz**



Date: 4.JUL.2009 13:30:40

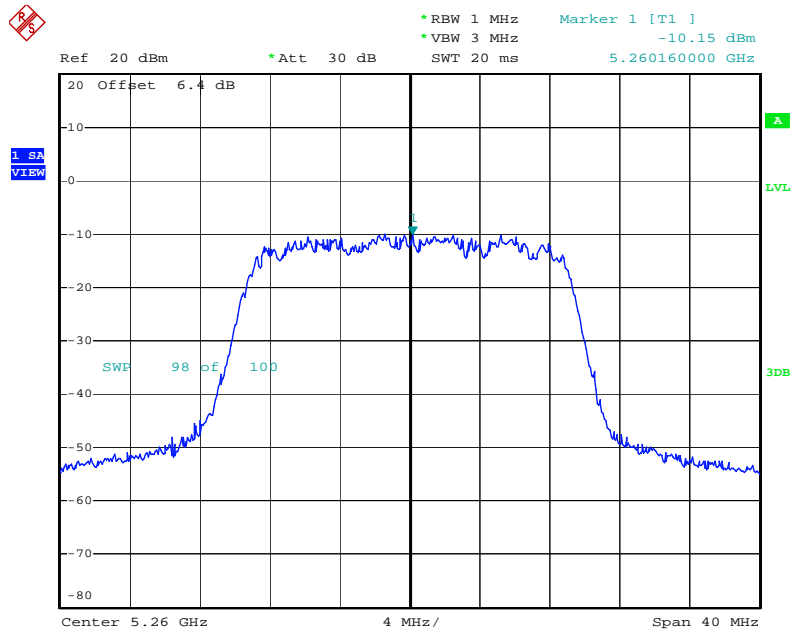
### Power Density Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5700 MHz



Date: 4.JUL.2009 13:31:53

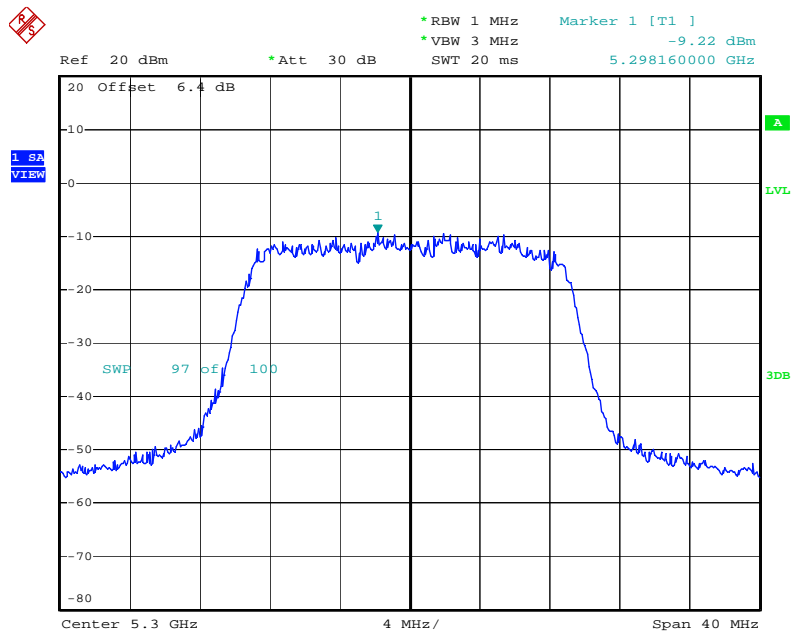
<For Antenna 4>:

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5260 MHz



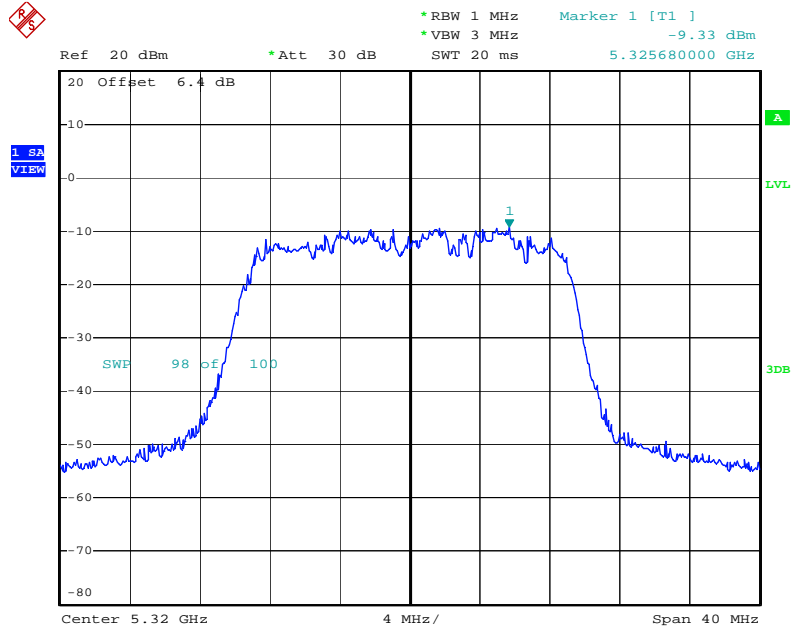
Date: 4.JUL.2009 14:41:54

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5300 MHz



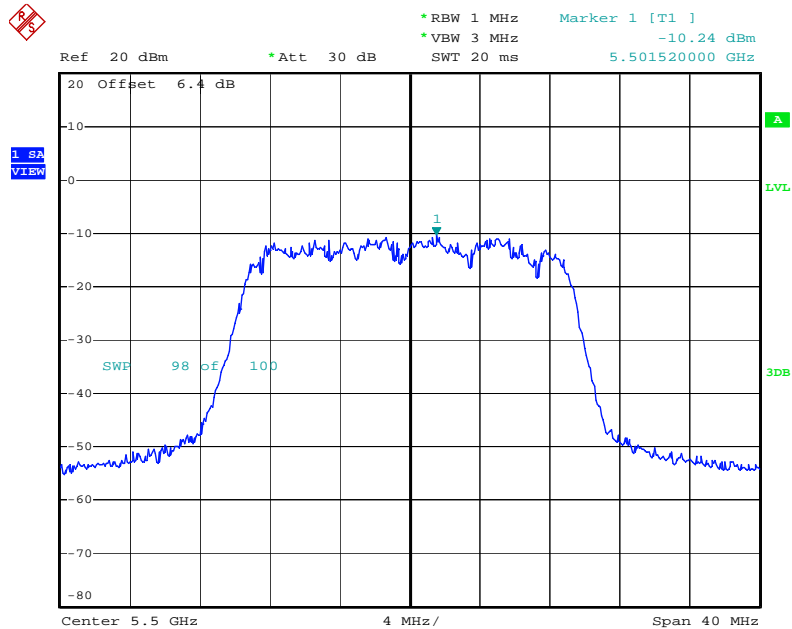
Date: 4.JUL.2009 14:33:33

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5320 MHz



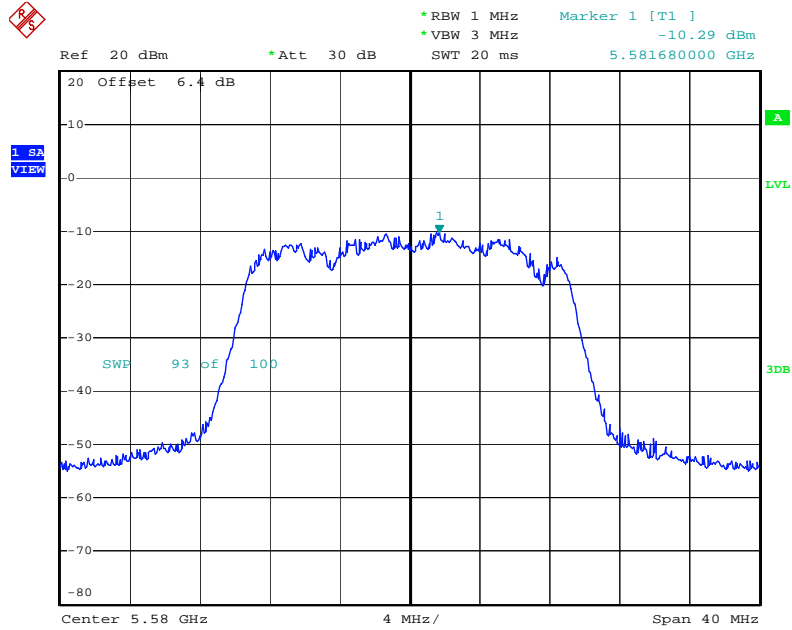
Date: 4.JUL.2009 14:36:58

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5500 MHz



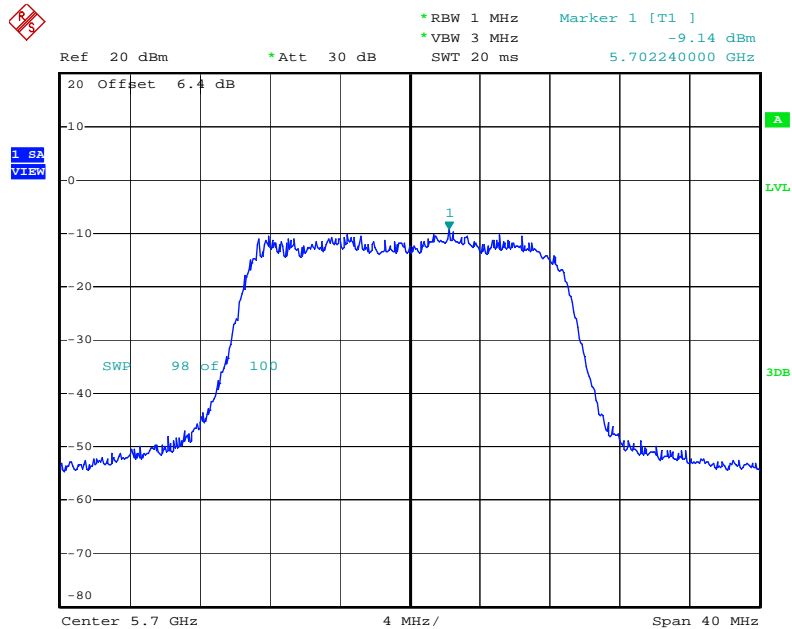
Date: 4.JUL.2009 14:38:34

Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5580 MHz



Date: 4.JUL.2009 14:50:18

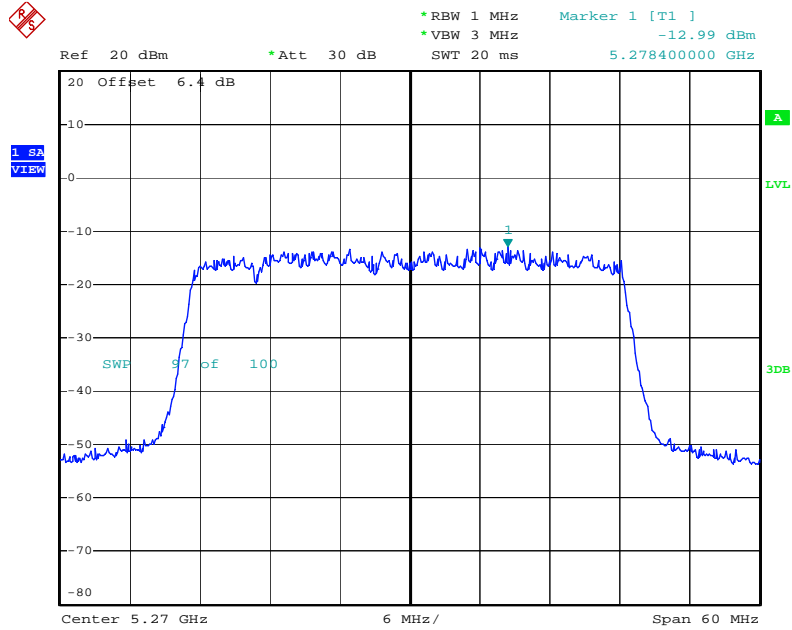
Power Density Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5700 MHz



Date: 4.JUL.2009 15:09:43

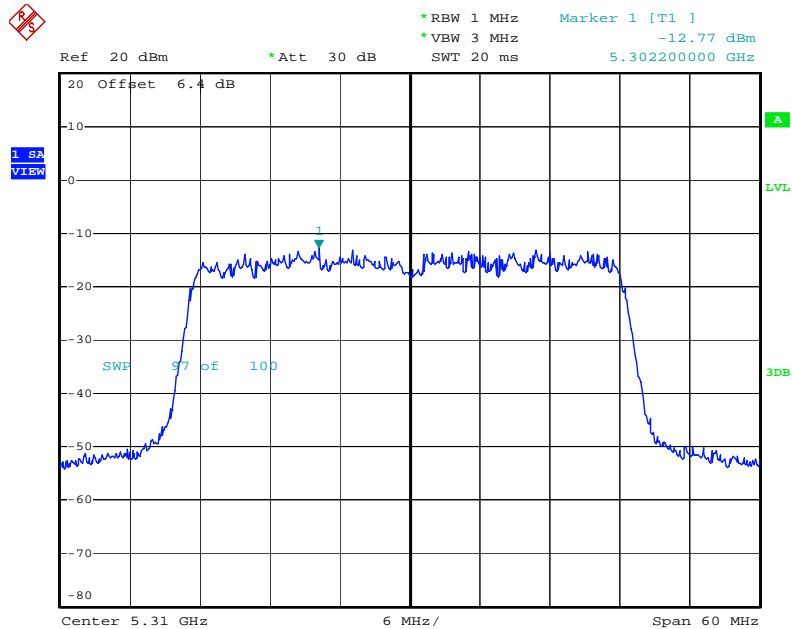


**Power Density Plot on Configuration Draft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5270 MHz**



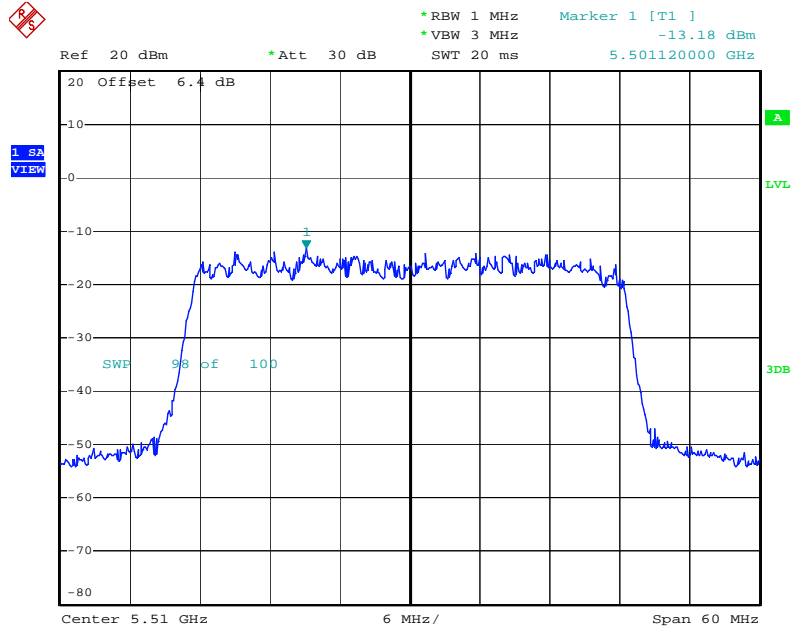
Date: 4.JUL.2009 14:43:04

**Power Density Plot on Configuration Draft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5310 MHz**



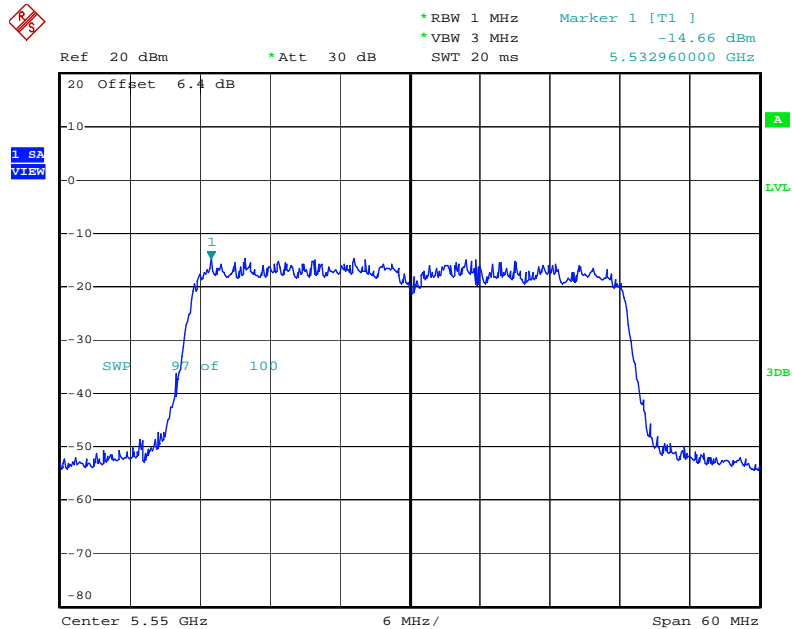
Date: 4.JUL.2009 14:44:25

**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5510MHz**



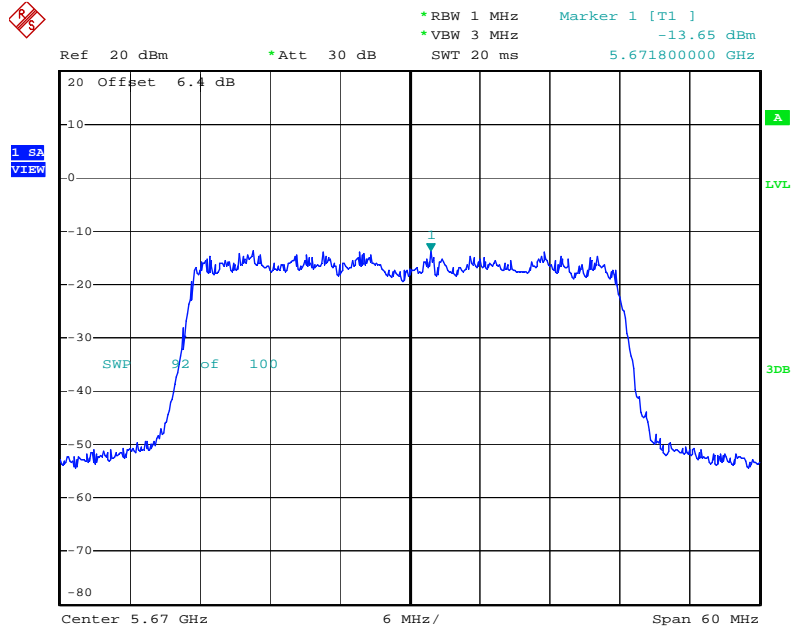
Date: 4.JUL.2009 14:45:44

**Power Density Plot on Configuration Drafft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5550 MHz**



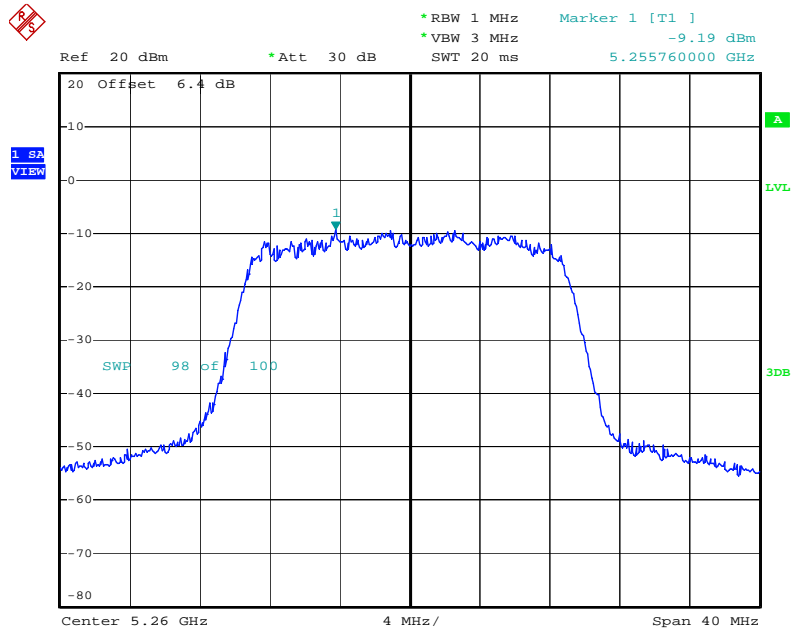
Date: 4.JUL.2009 14:46:46

**Power Density Plot on Configuration Draft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5670 MHz**



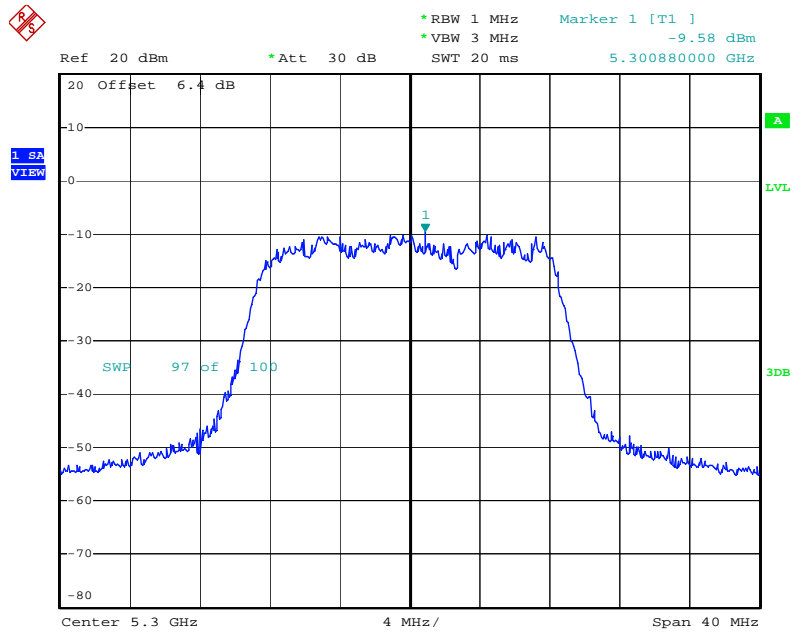
Date: 4.JUL.2009 14:47:52

**Power Density Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5260 MHz**



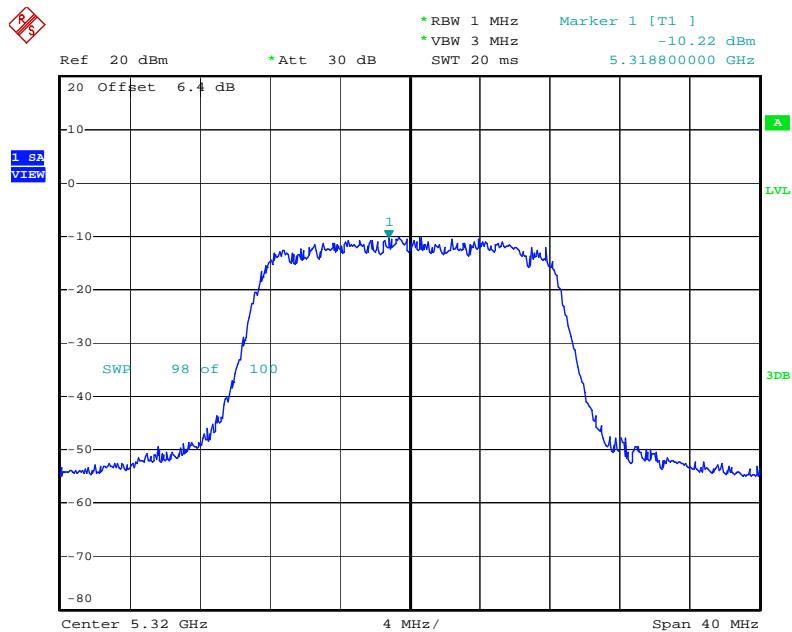
Date: 4.JUL.2009 14:32:06

**Power Density Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5300 MHz**



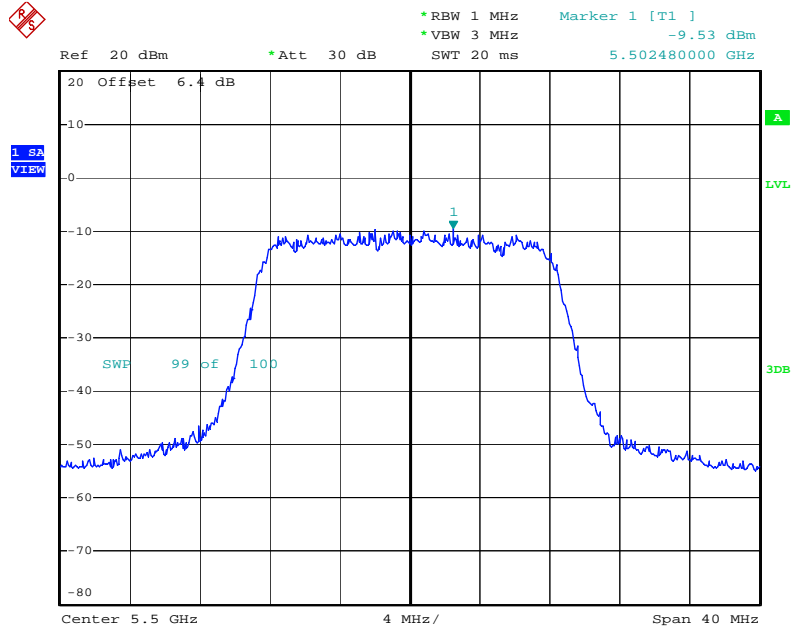
Date: 4.JUL.2009 12:33:39

**Power Density Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5320 MHz**



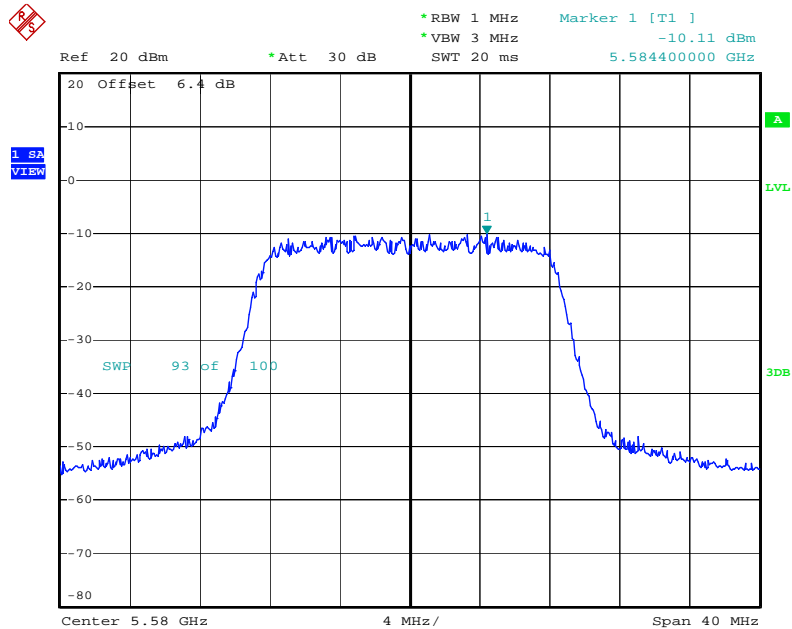
Date: 4.JUL.2009 12:43:53

Power Density Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5500 MHz



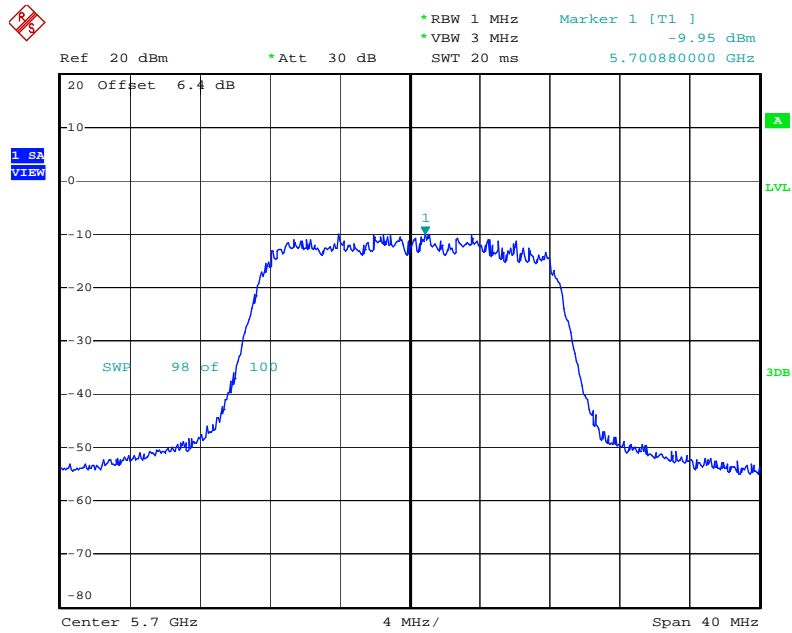
Date: 4.JUL.2009 14:03:21

Power Density Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5580 MHz



Date: 4.JUL.2009 14:05:35

### Power Density Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5700 MHz



Date: 4.JUL.2009 14:07:19

## 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

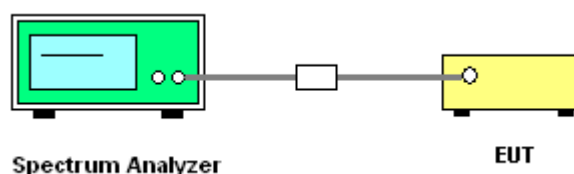
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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  $\leq 13$  dB for all frequencies across the emissions bandwidth. Submit a plot.
3. Peak Trace: Set RBW = 1 MHz, VBW  $\geq 3$  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>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Sam Chen	<b>Configurations</b>	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
52	5260 MHz	8.63	13	Complies
60	5300 MHz	9.85	13	Complies
64	5320 MHz	9.24	13	Complies
100	5500 MHz	9.44	13	Complies
116	5580 MHz	8.17	13	Complies
140	5700 MHz	8.36	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
54	5270 MHz	9.12	13	Complies
62	5310 MHz	8.34	13	Complies
102	5510MHz	8.47	13	Complies
110	5550 MHz	9.63	13	Complies
134	5670 MHz	10.40	13	Complies



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

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

<b>Channel</b>	<b>Frequency</b>	<b>Peak Excursion (dB)</b>	<b>Max. Limit (dB)</b>	<b>Result</b>
52	5260 MHz	8.86	13	<b>Complies</b>
60	5300 MHz	9.40	13	<b>Complies</b>
64	5320 MHz	8.66	13	<b>Complies</b>
100	5500 MHz	9.49	13	<b>Complies</b>
116	5580 MHz	9.29	13	<b>Complies</b>
140	5700 MHz	9.75	13	<b>Complies</b>

<For Antenna 2>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Sam Chen	<b>Configurations</b>	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
52	5260 MHz	8.86	13	Complies
60	5300 MHz	9.97	13	Complies
64	5320 MHz	8.56	13	Complies
100	5500 MHz	9.36	13	Complies
116	5580 MHz	8.66	13	Complies
140	5700 MHz	8.92	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
54	5270 MHz	9.19	13	Complies
62	5310 MHz	9.24	13	Complies
102	5510MHz	9.73	13	Complies
110	5550 MHz	9.42	13	Complies
134	5670 MHz	9.30	13	Complies

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Sam Chen	<b>Configurations</b>	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
52	5260 MHz	10.23	13	Complies
60	5300 MHz	10.16	13	Complies
64	5320 MHz	7.99	13	Complies
100	5500 MHz	9.28	13	Complies
116	5580 MHz	8.46	13	Complies
140	5700 MHz	9.03	13	Complies

<For Antenna 3>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Sam Chen	<b>Configurations</b>	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
52	5260 MHz	8.61	13	Complies
60	5300 MHz	8.66	13	Complies
64	5320 MHz	8.56	13	Complies
100	5500 MHz	9.36	13	Complies
116	5580 MHz	8.57	13	Complies
140	5700 MHz	10.15	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
54	5270 MHz	10.25	13	Complies
62	5310 MHz	10.05	13	Complies
102	5510MHz	8.97	13	Complies
110	5550 MHz	9.39	13	Complies
134	5670 MHz	8.03	13	Complies

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Sam Chen	<b>Configurations</b>	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
52	5260 MHz	9.16	13	Complies
60	5300 MHz	8.98	13	Complies
64	5320 MHz	8.72	13	Complies
100	5500 MHz	9.10	13	Complies
116	5580 MHz	8.16	13	Complies
140	5700 MHz	8.87	13	Complies

<For Antenna 4>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Sam Chen	<b>Configurations</b>	Draft n / Antenna 4

Configuration Draft n MCS0 20MHz Ant. 4-1 + Ant. 4-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
52	5260 MHz	10.01	13	Complies
60	5300 MHz	9.97	13	Complies
64	5320 MHz	8.90	13	Complies
100	5500 MHz	8.97	13	Complies
116	5580 MHz	10.08	13	Complies
140	5700 MHz	10.02	13	Complies

Configuration Draft n MCS0 40MHz Ant. 4-1 + Ant. 4-3

Channel	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
54	5270 MHz	10.75	13	Complies
62	5310 MHz	9.18	13	Complies
102	5510MHz	9.74	13	Complies
110	5550 MHz	10.54	13	Complies
134	5670 MHz	8.75	13	Complies

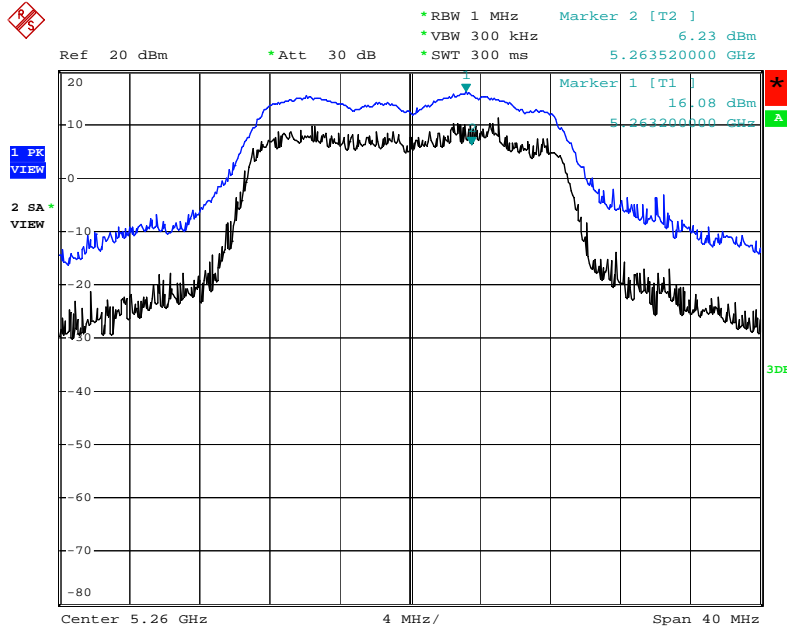
<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Sam Chen	<b>Configurations</b>	802.11a / Antenna 4

**Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3**

<b>Channel</b>	<b>Frequency</b>	<b>Peak Excursion (dB)</b>	<b>Max. Limit (dB)</b>	<b>Result</b>
52	5260 MHz	9.72	13	<b>Complies</b>
60	5300 MHz	9.60	13	<b>Complies</b>
64	5320 MHz	10.00	13	<b>Complies</b>
100	5500 MHz	9.89	13	<b>Complies</b>
116	5580 MHz	10.38	13	<b>Complies</b>
140	5700 MHz	8.84	13	<b>Complies</b>

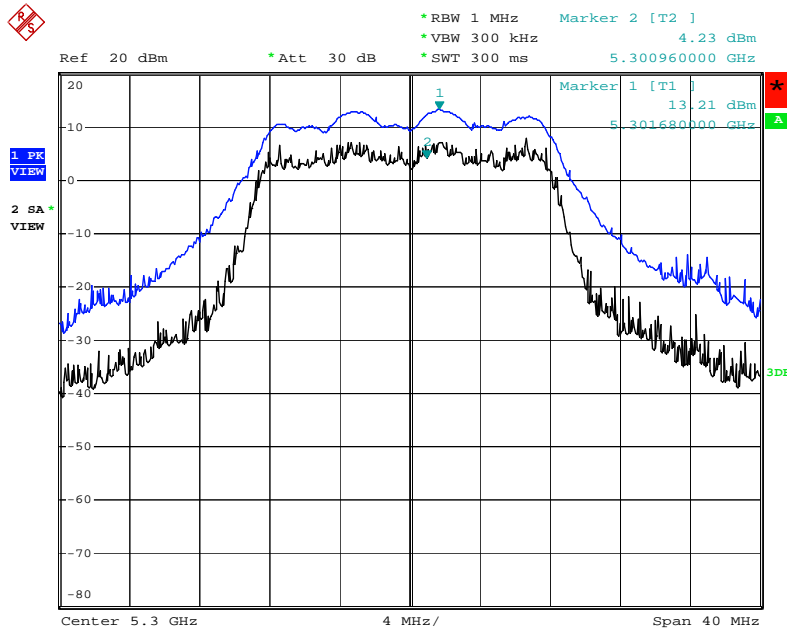
<For Antenna 1>:

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5260 MHz



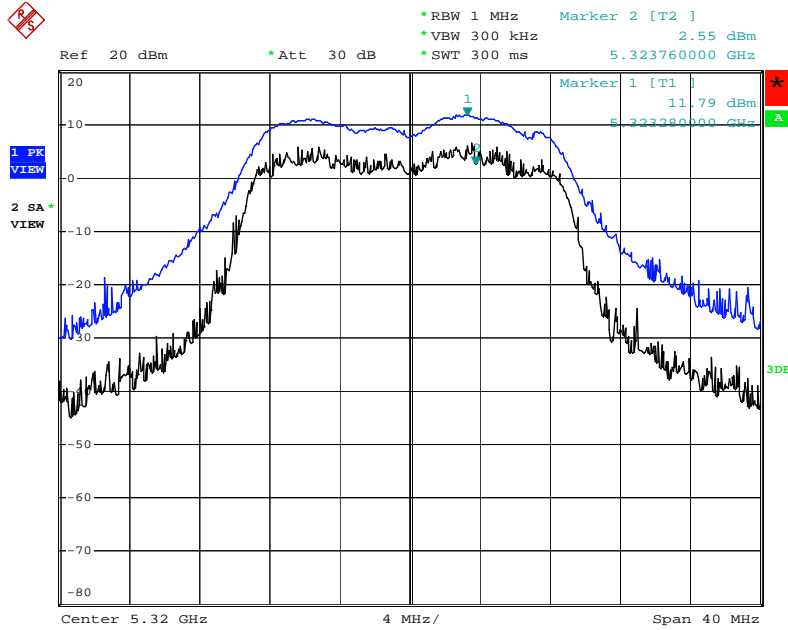
Date: 4.JUL.2009 11:35:44

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5300 MHz



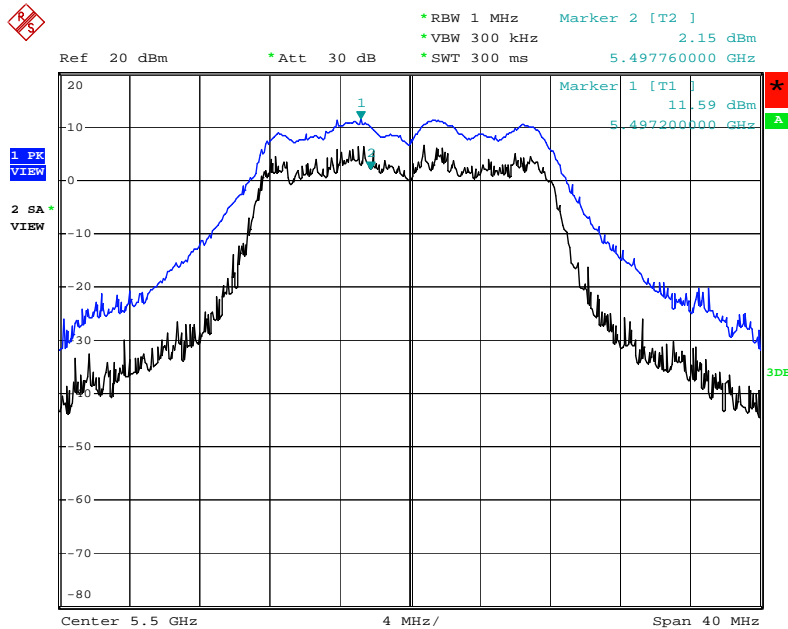
Date: 4.JUL.2009 12:36:09

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5320 MHz



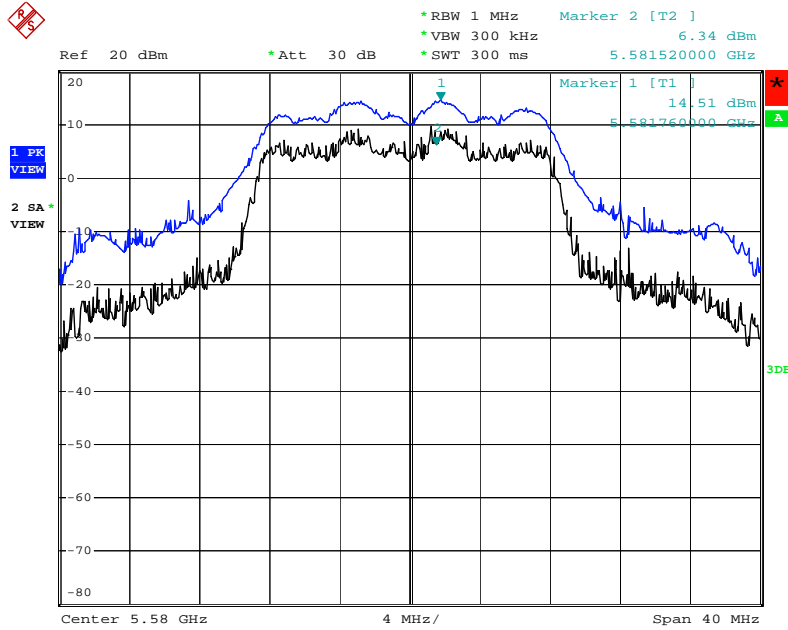
Date: 4.JUL.2009 11:37:05

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5500 MHz



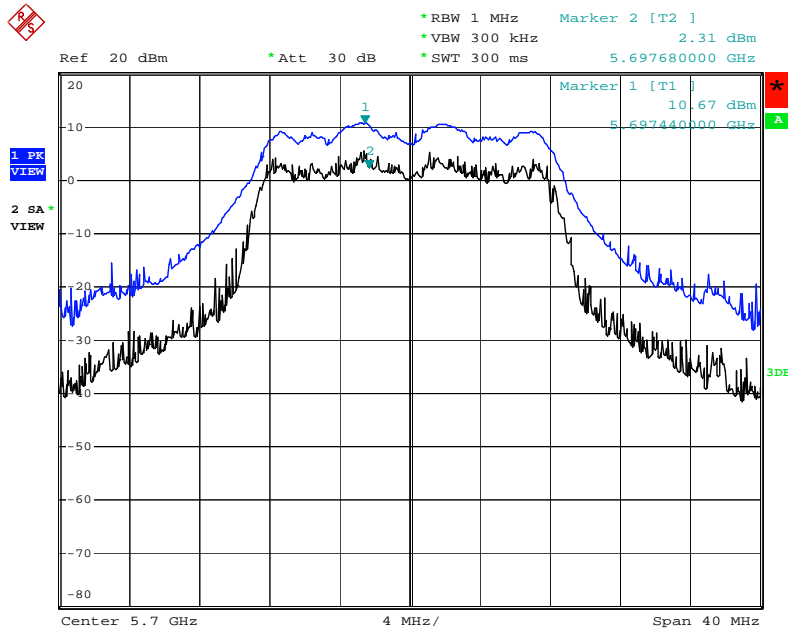
Date: 4.JUL.2009 11:38:53

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5580 MHz



Date: 4.JUL.2009 11:40:28

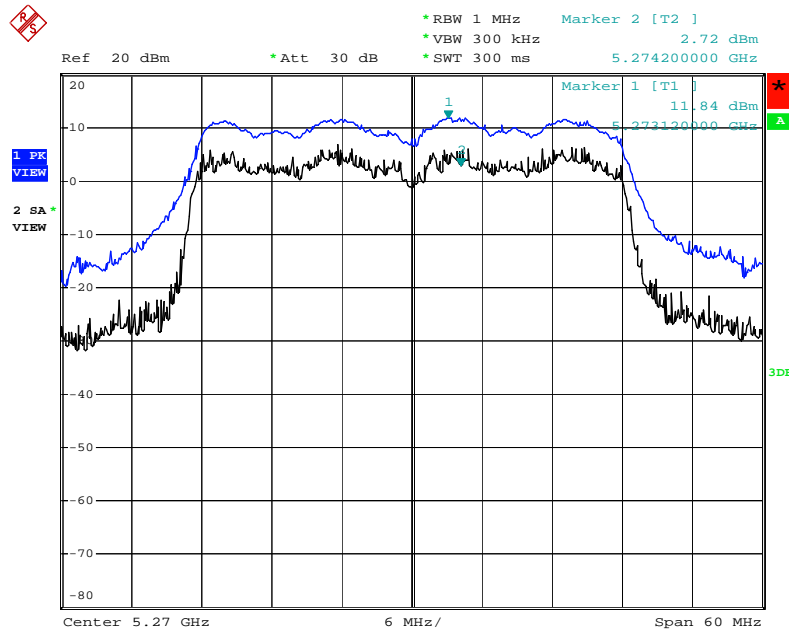
Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5700 MHz



Date: 4.JUL.2009 11:42:03

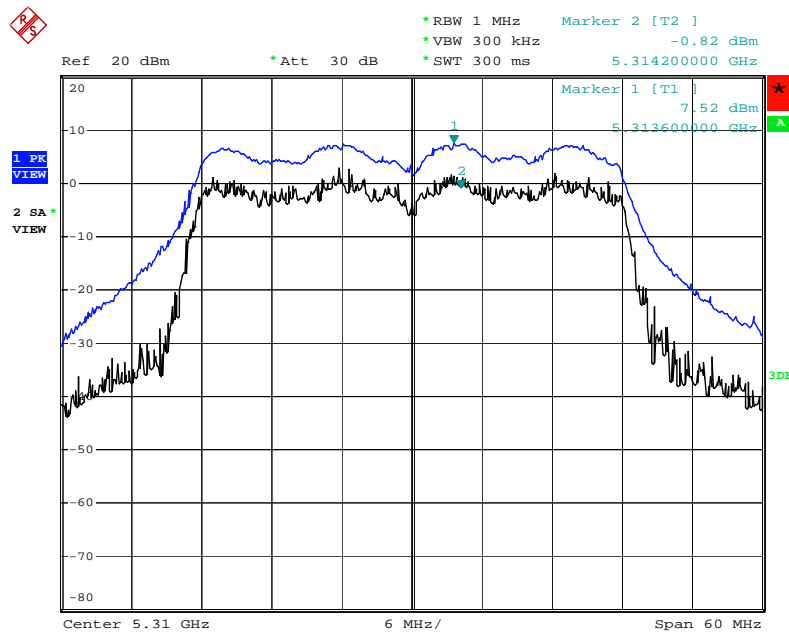


Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5270 MHz



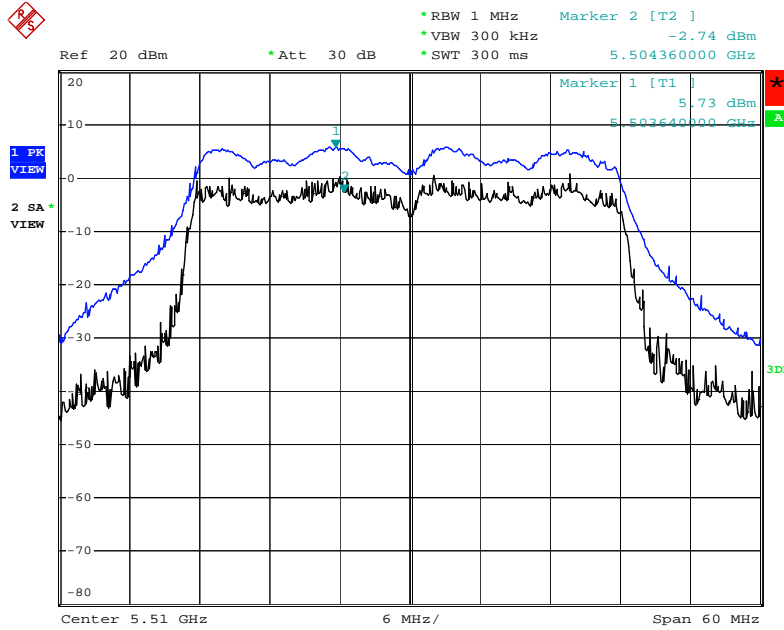
Date: 4.JUL.2009 12:01:44

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5310 MHz



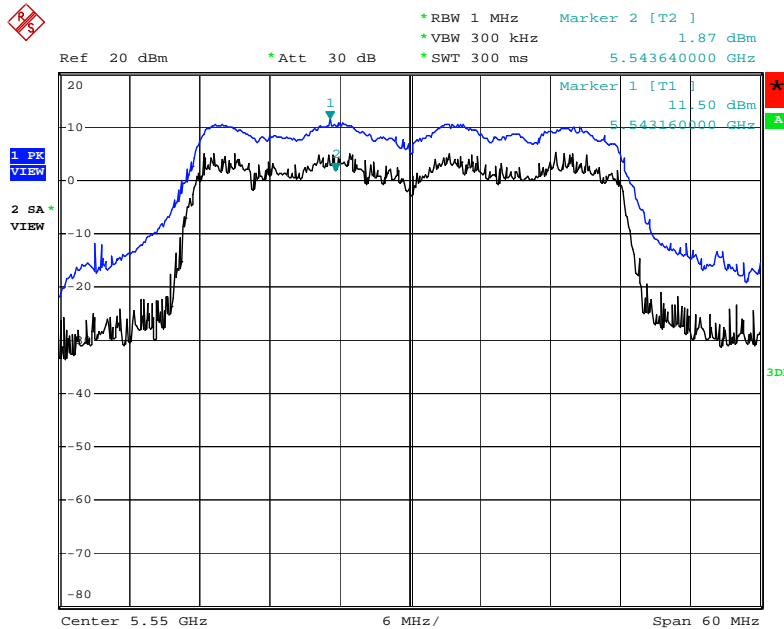
Date: 4.JUL.2009 12:03:15

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5510MHz



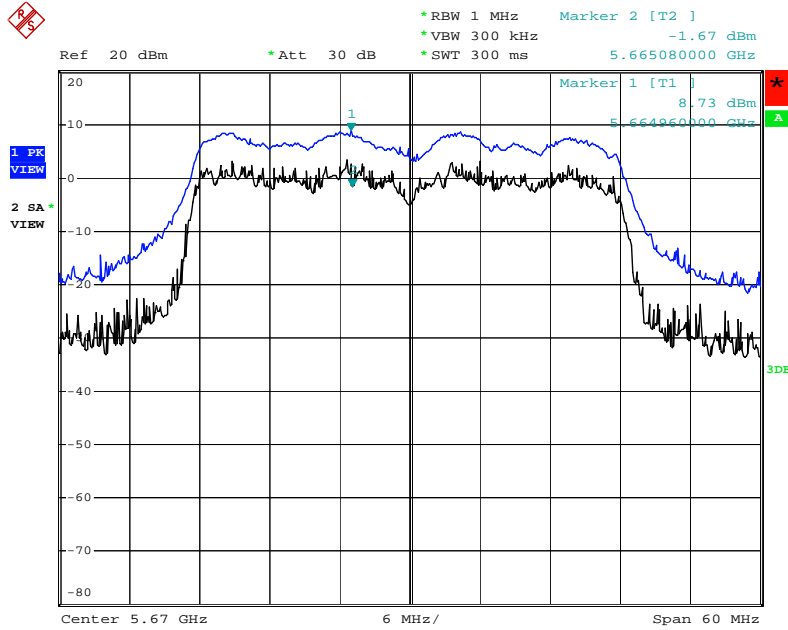
Date: 4.JUL.2009 12:04:53

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5550 MHz



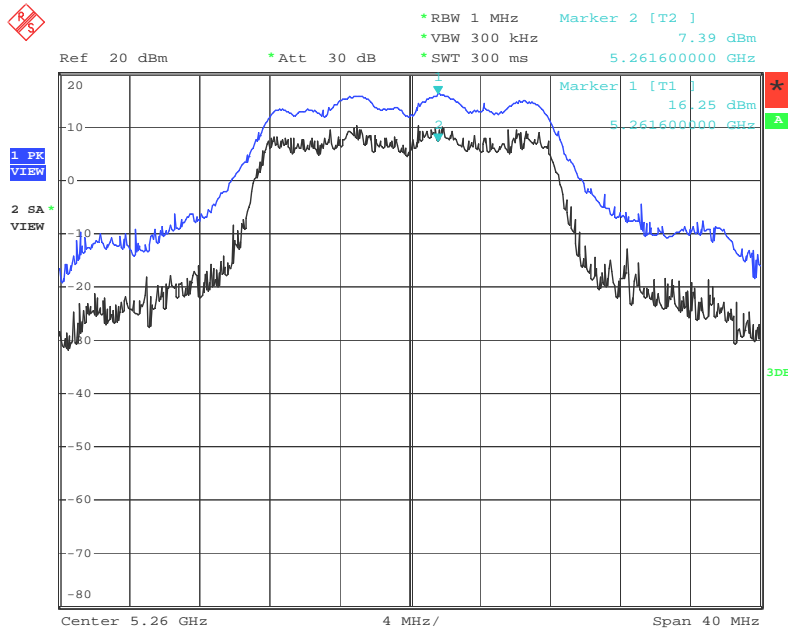
Date: 4.JUL.2009 12:08:32

**Peak Excursion Plot on Configuration Draft n MCS0 40MHz Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5670 MHz**



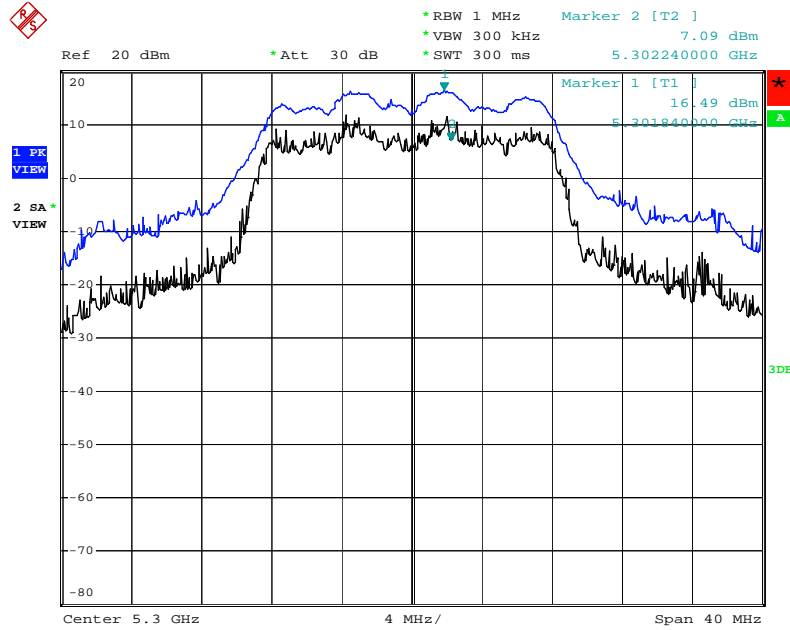
Date: 4.JUL.2009 12:10:30

**Peak Excursion Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5260 MHz**



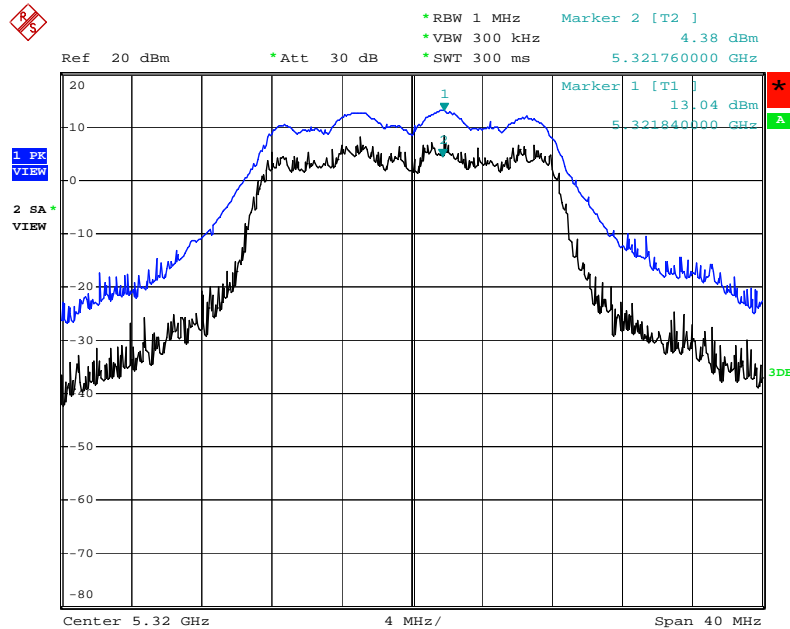
Date: 4.JUL.2009 11:17:06

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5300 MHz



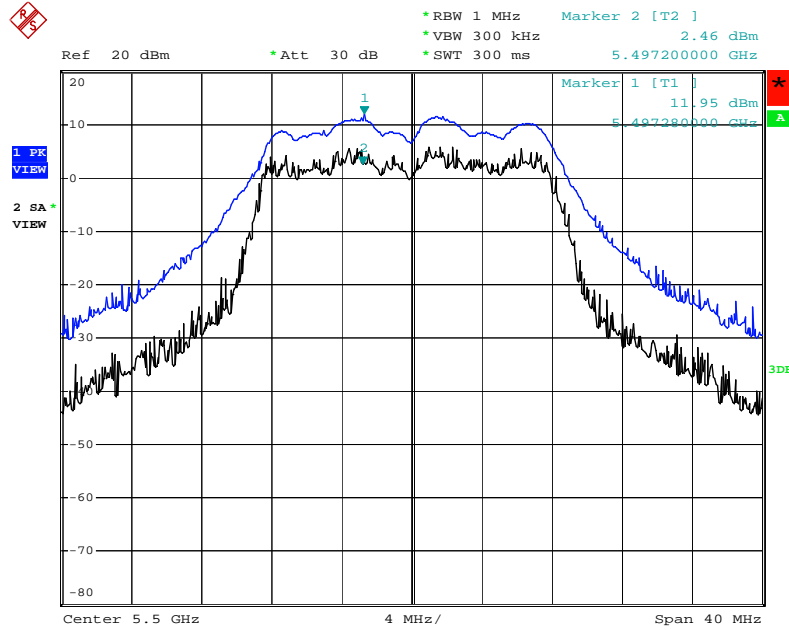
Date: 4.JUL.2009 11:20:38

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5320 MHz



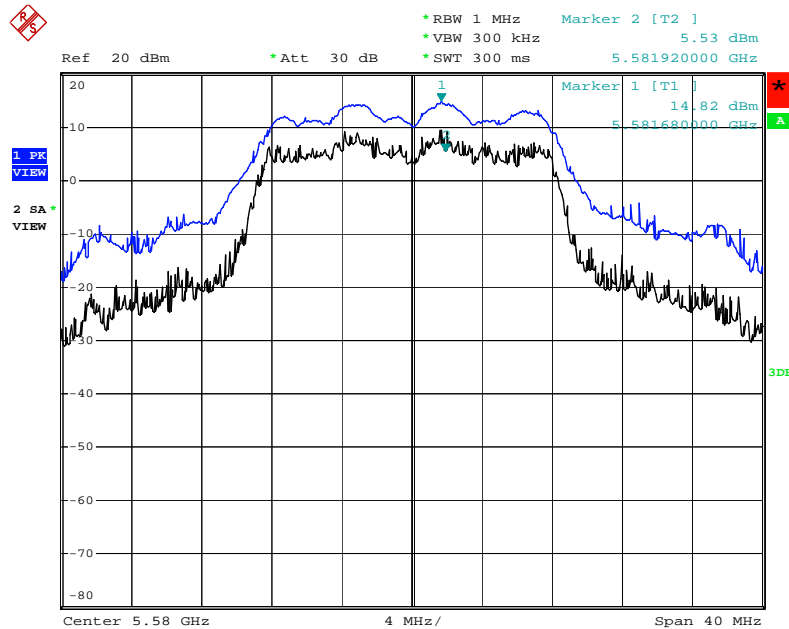
Date: 4.JUL.2009 11:21:57

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5500 MHz



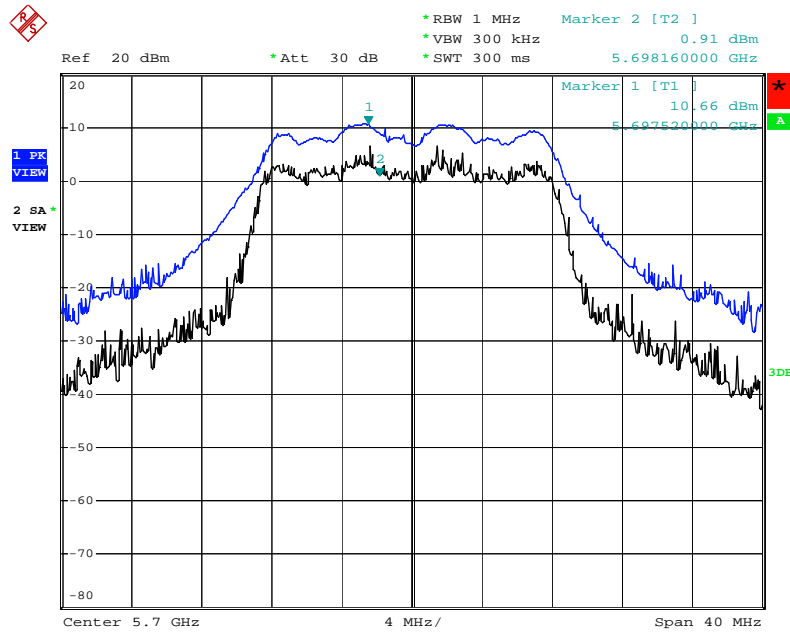
Date: 4.JUL.2009 11:23:46

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5580 MHz



Date: 4.JUL.2009 11:25:15

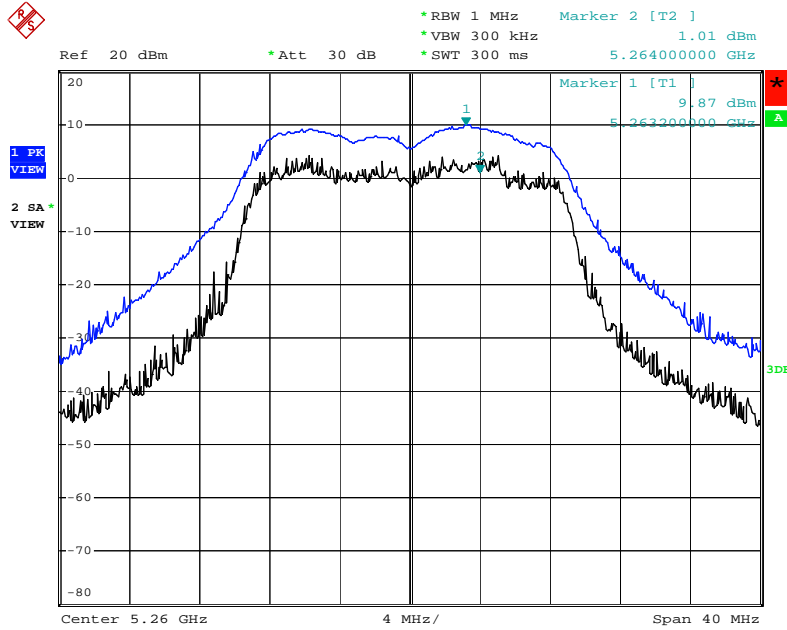
Peak Excursion Plot on Configuration IEEE 802.11a Ant. 1-1 + Ant. 1-2 + Ant. 1-3 / 5700 MHz



Date: 4.JUL.2009 11:26:55

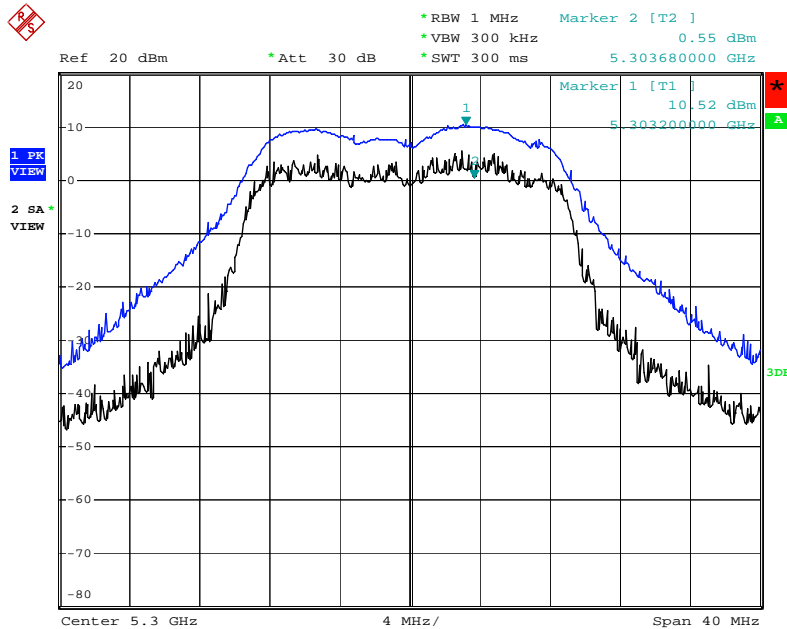
<For Antenna 2>:

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5260 MHz



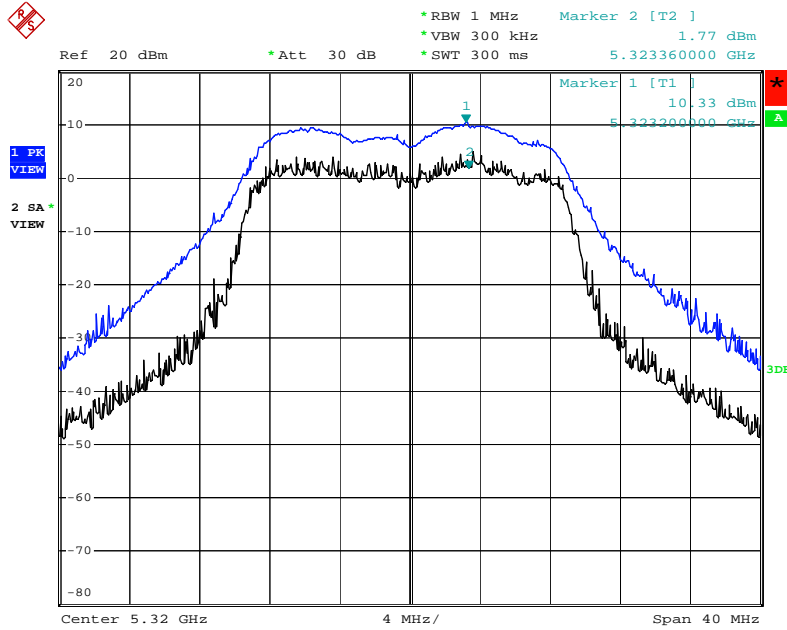
Date: 4.JUL.2009 12:56:25

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5300 MHz



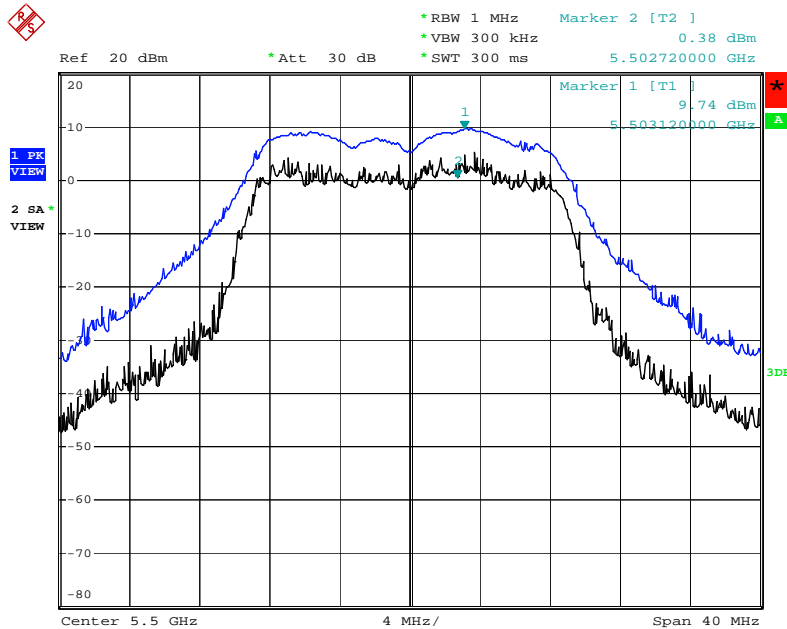
Date: 4.JUL.2009 12:57:57

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5320 MHz



Date: 4.JUL.2009 12:59:48

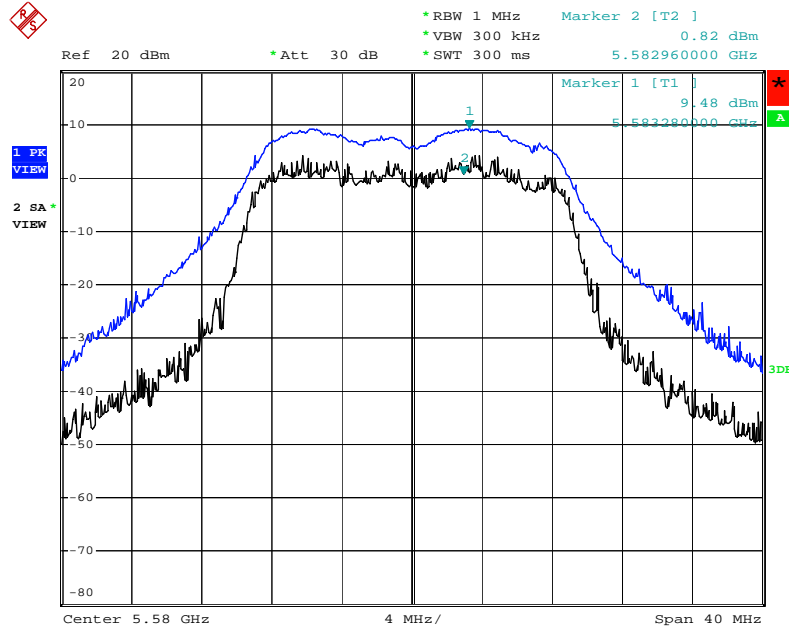
Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5500 MHz



Date: 4.JUL.2009 13:02:04

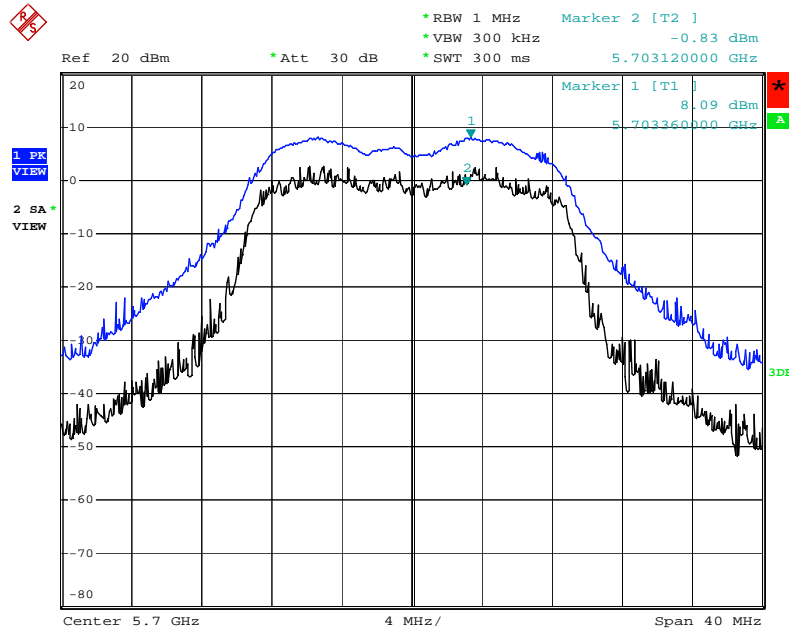


Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5580 MHz



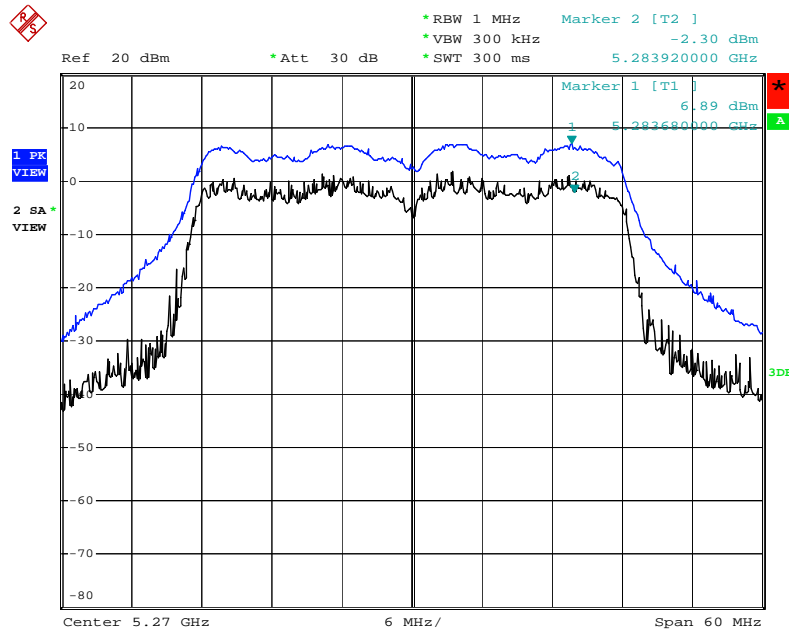
Date: 4.JUL.2009 13:03:30

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5700 MHz



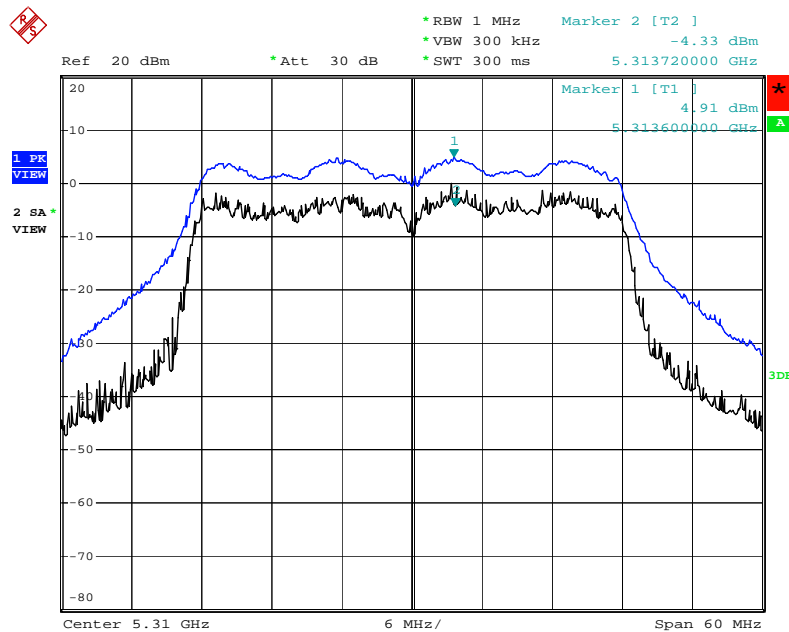
Date: 4.JUL.2009 13:05:24

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5270 MHz



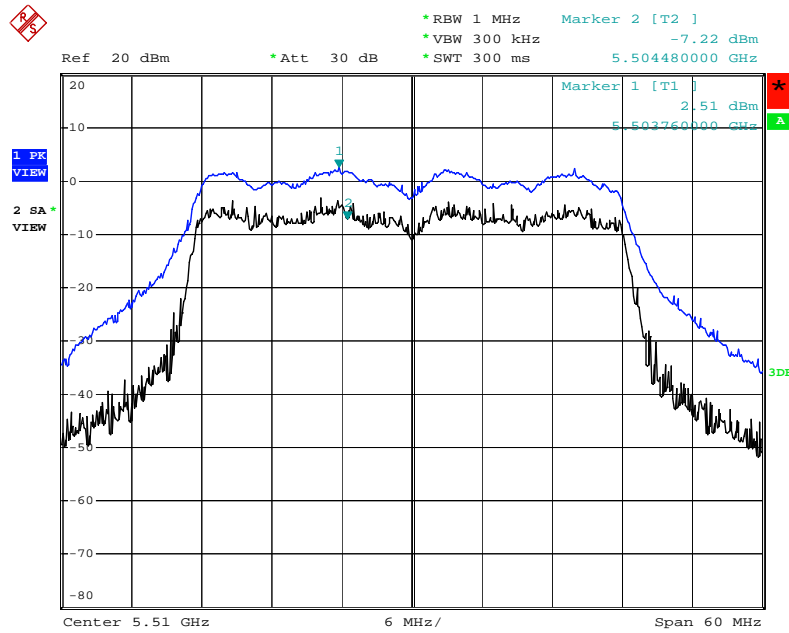
Date: 4.JUL.2009 13:14:17

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5310 MHz



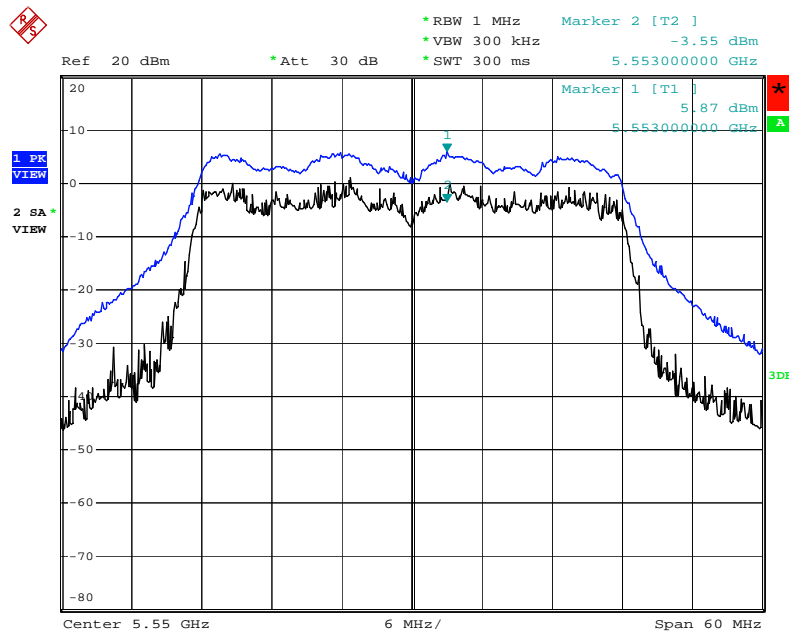
Date: 4.JUL.2009 13:15:45

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5510MHz



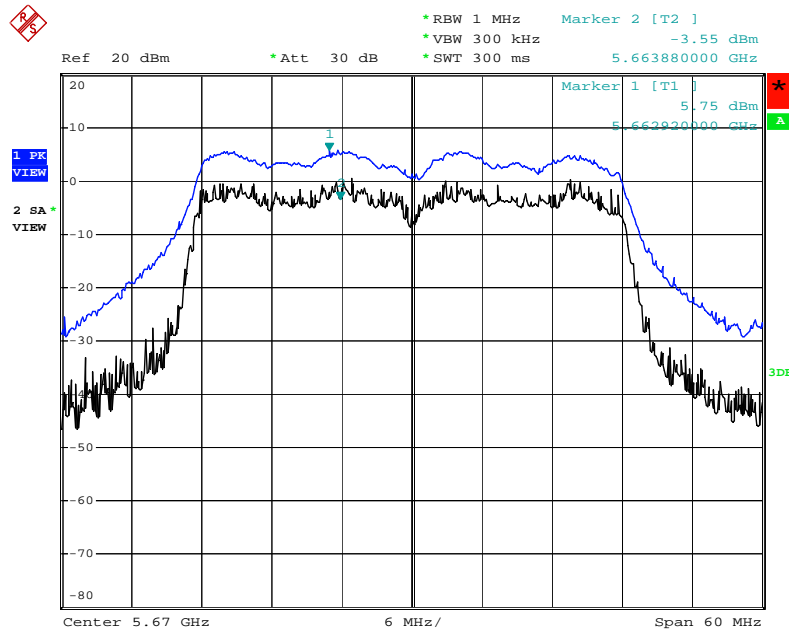
Date: 4.JUL.2009 13:17:14

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5550 MHz



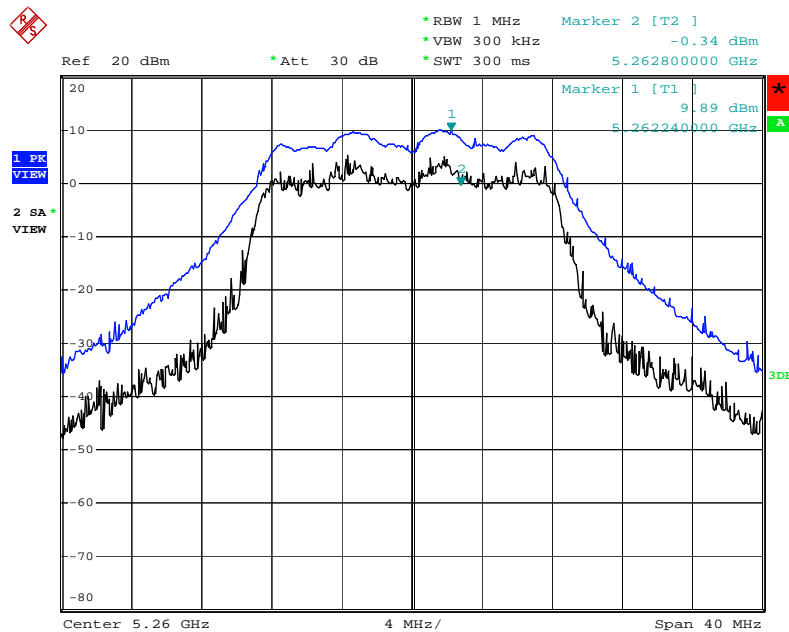
Date: 4.JUL.2009 13:18:38

Peak Excursion Plot on Configuration Draft n MCS0 40MHz Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5670 MHz



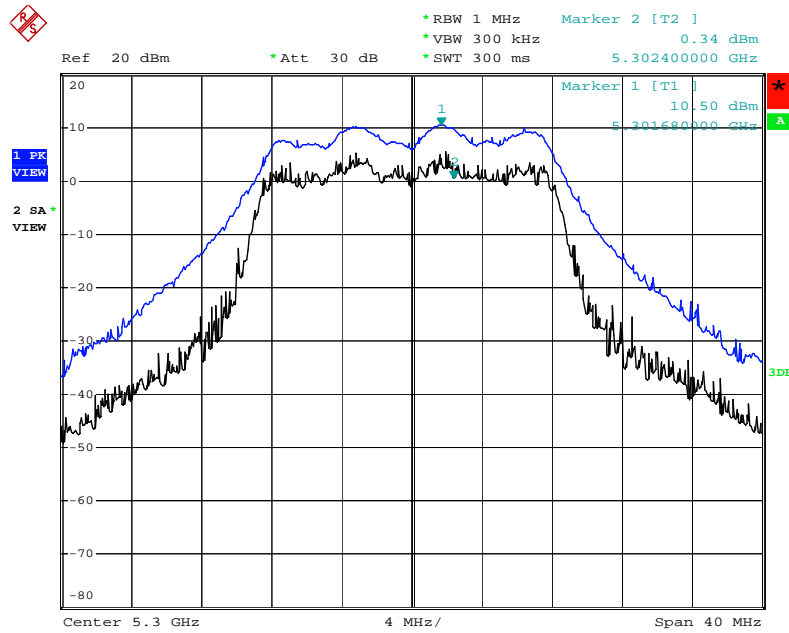
Date: 4.JUL.2009 13:20:09

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5260 MHz



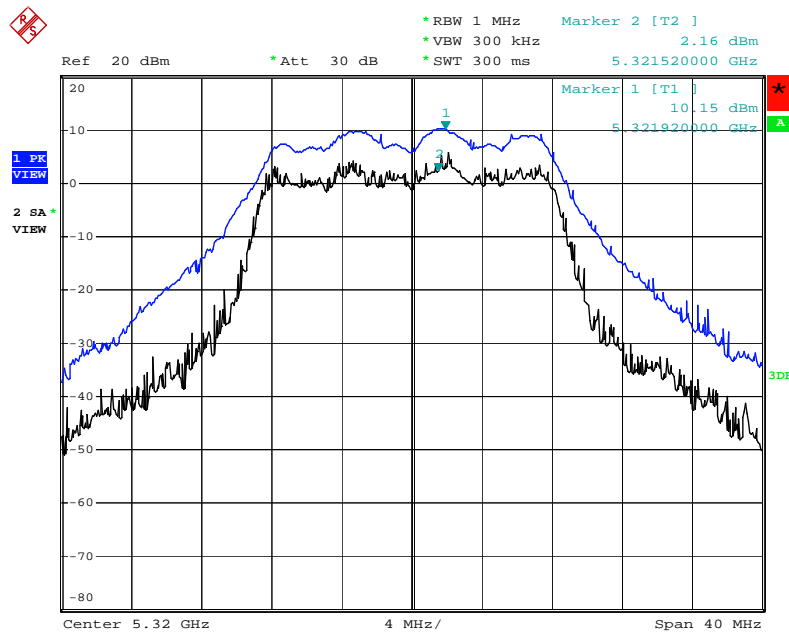
Date: 4.JUL.2009 12:27:01

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5300 MHz



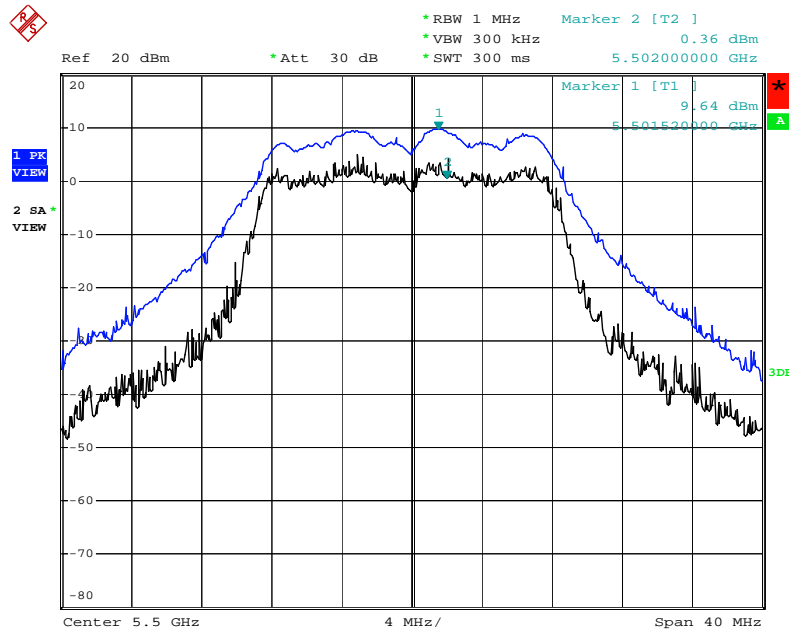
Date: 4.JUL.2009 12:37:35

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5320 MHz



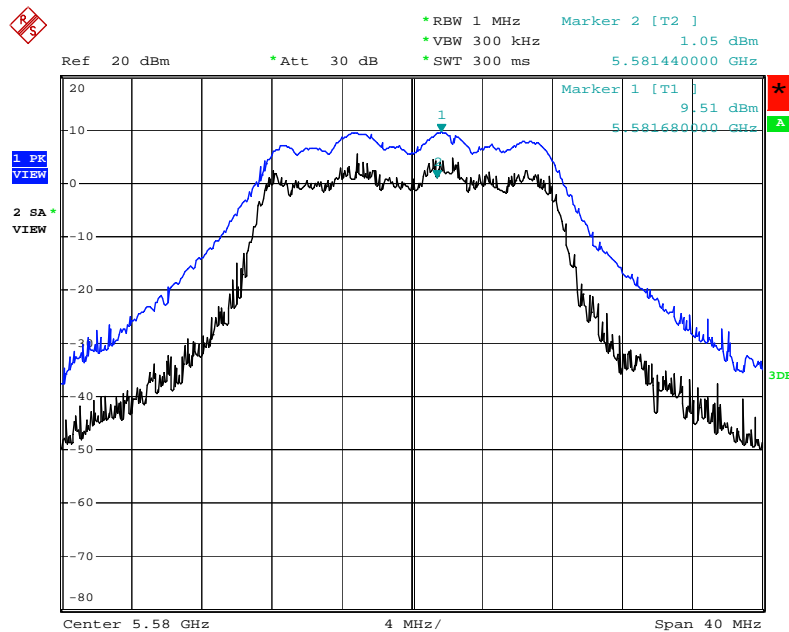
Date: 4.JUL.2009 12:39:21

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5500 MHz



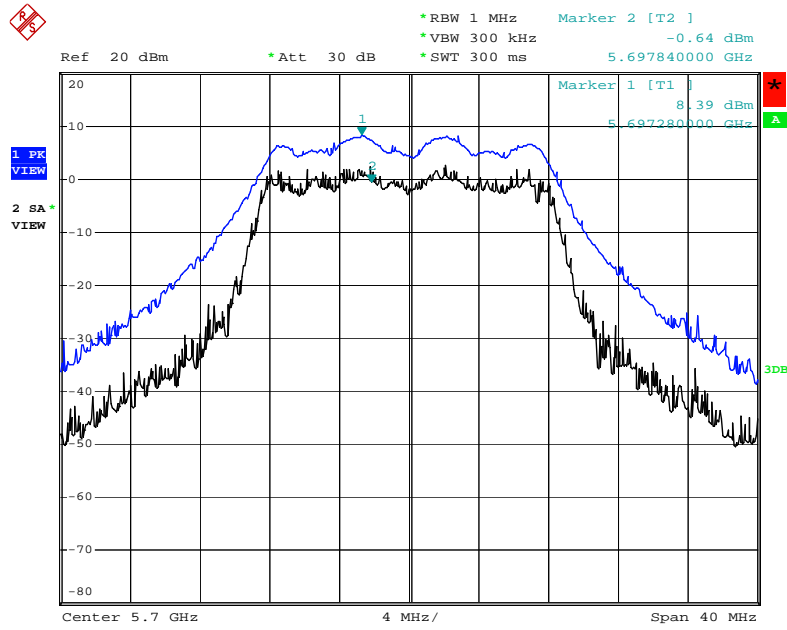
Date: 4.JUL.2009 12:47:19

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5580 MHz



Date: 4.JUL.2009 12:48:34

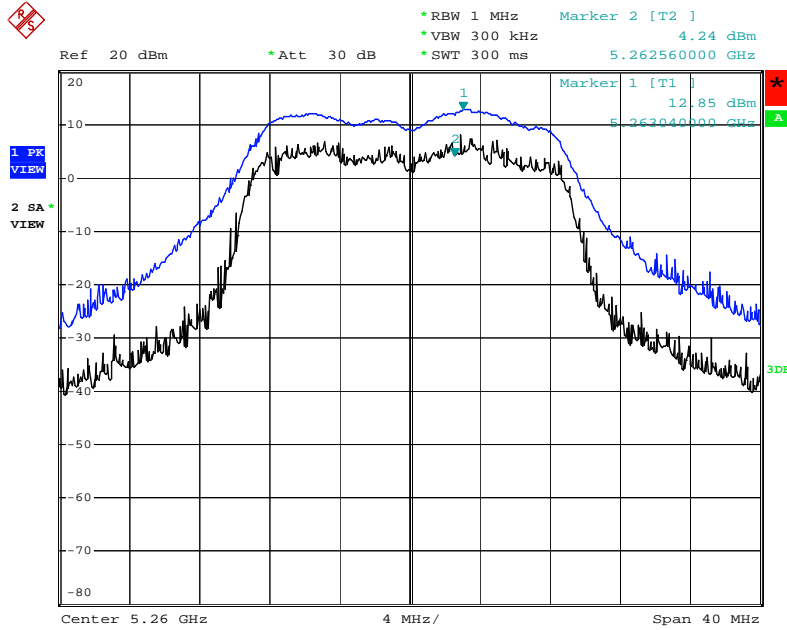
Peak Excursion Plot on Configuration IEEE 802.11a Ant. 2-1 + Ant. 2-2 + Ant. 2-3 / 5700 MHz



Date: 4.JUL.2009 12:49:54

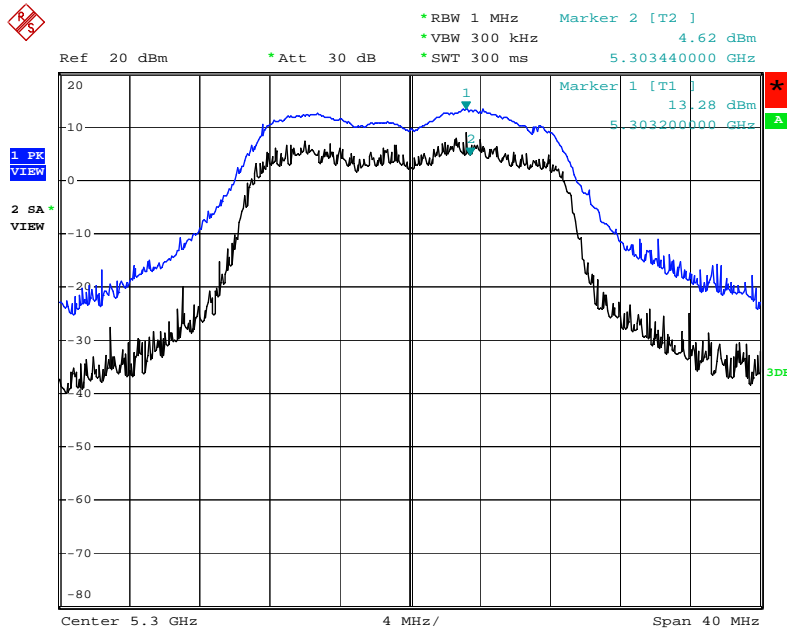
<For Antenna 3>:

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5260 MHz



Date: 4.JUL.2009 13:38:31

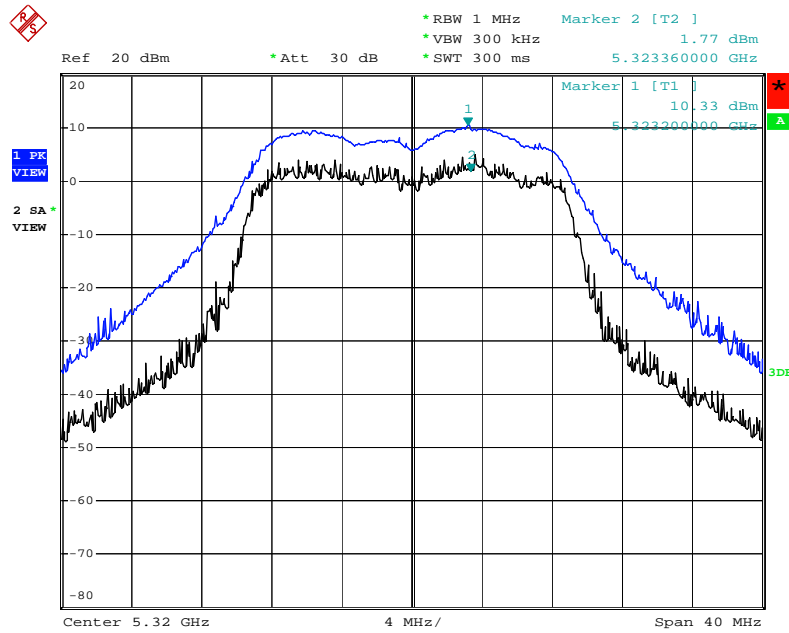
Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5300 MHz



Date: 4.JUL.2009 13:40:36

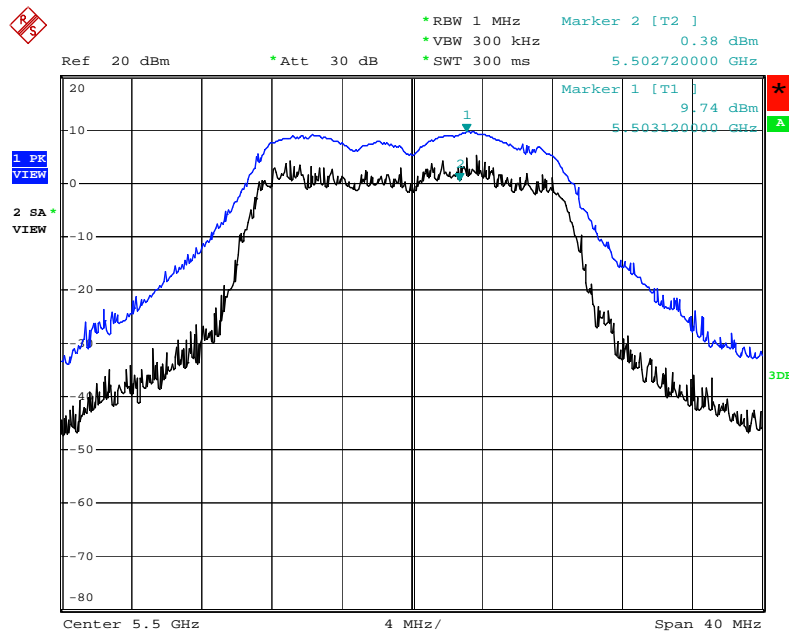


Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5320 MHz



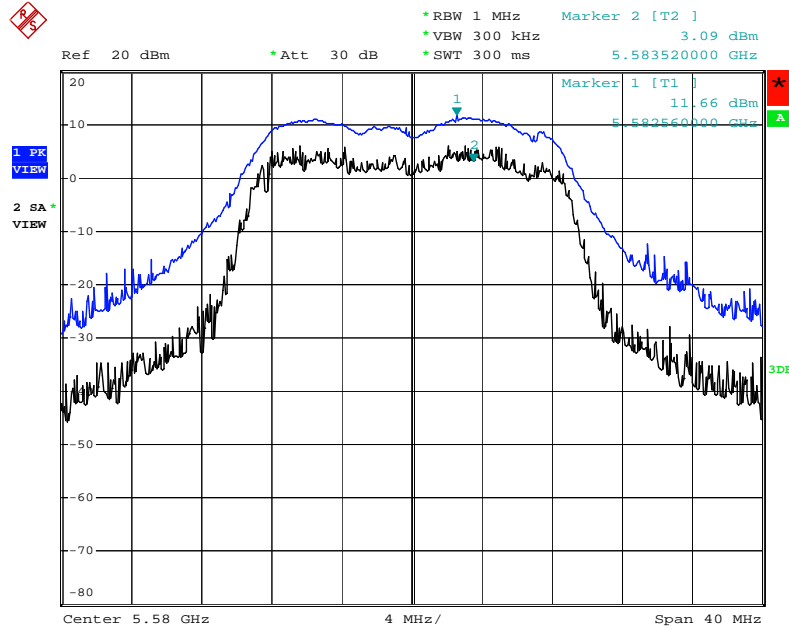
Date: 4.JUL.2009 12:59:48

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5500 MHz



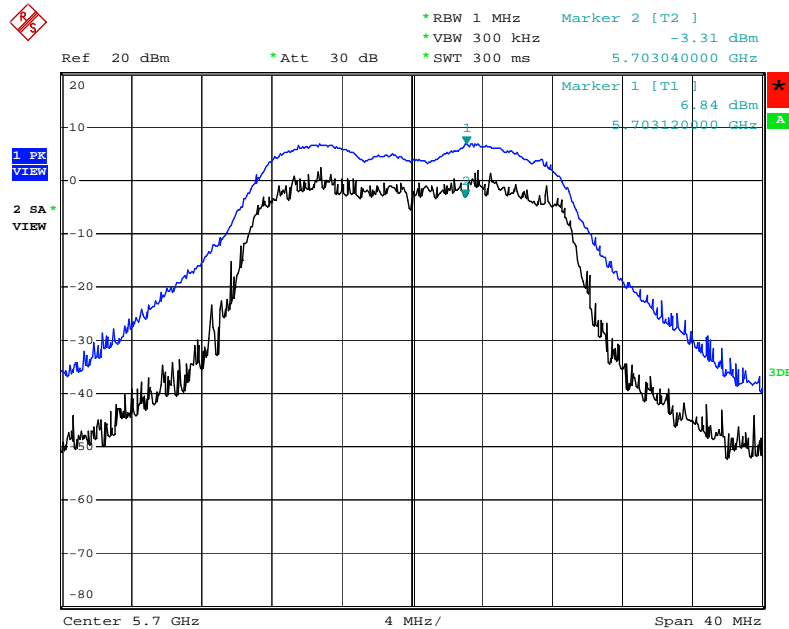
Date: 4.JUL.2009 13:02:04

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5580 MHz



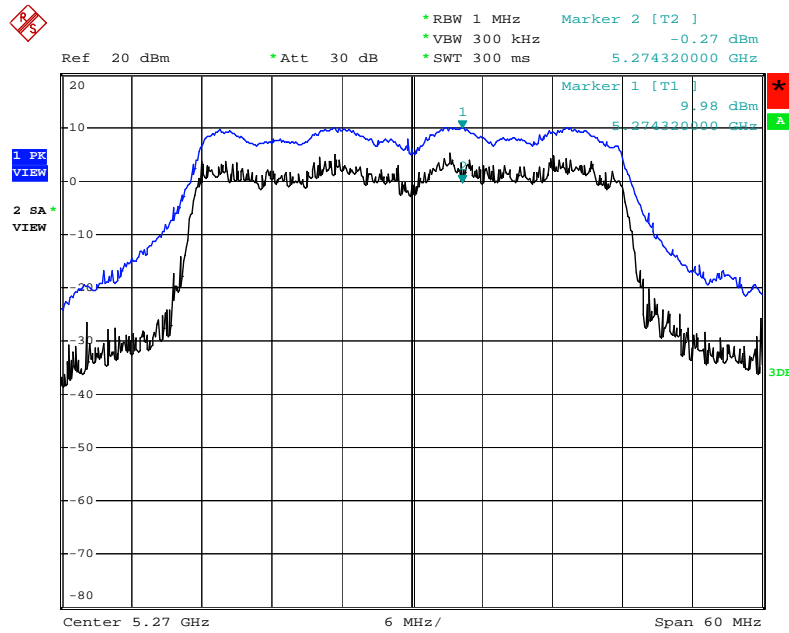
Date: 4.JUL.2009 13:45:00

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5700 MHz



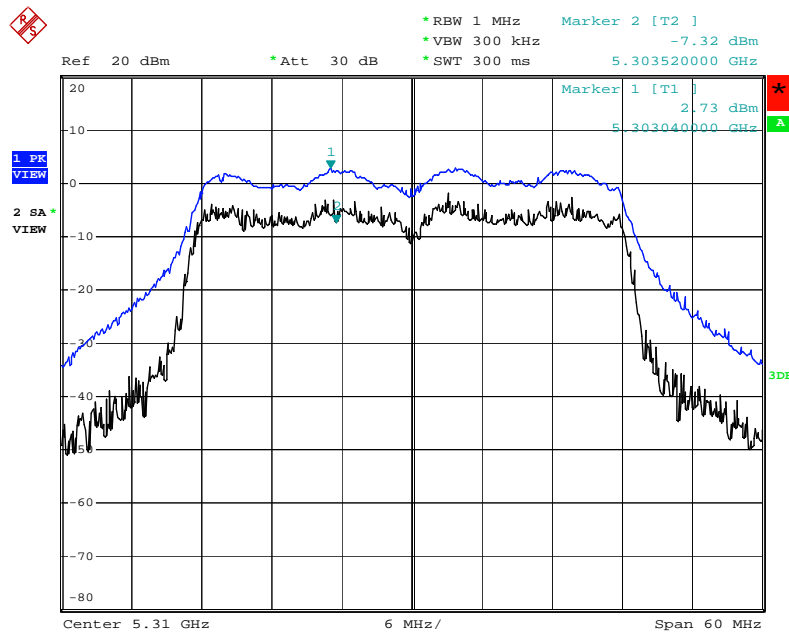
Date: 4.JUL.2009 13:46:38

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5270 MHz



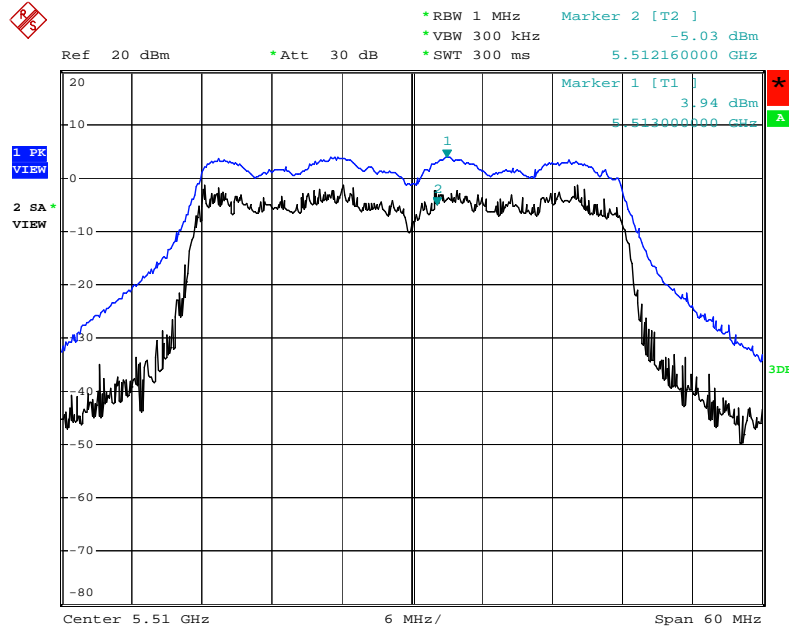
Date: 4.JUL.2009 13:51:14

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5310 MHz



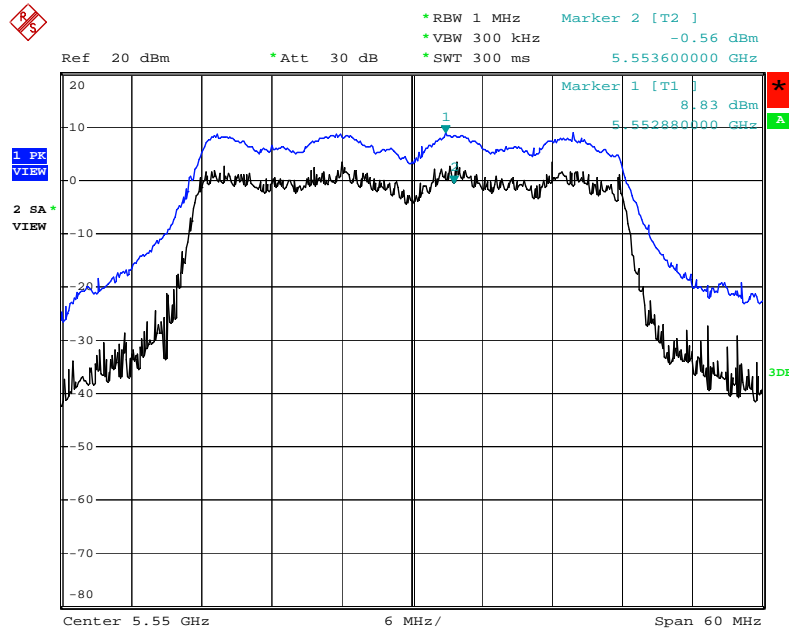
Date: 4.JUL.2009 13:52:16

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5510MHz



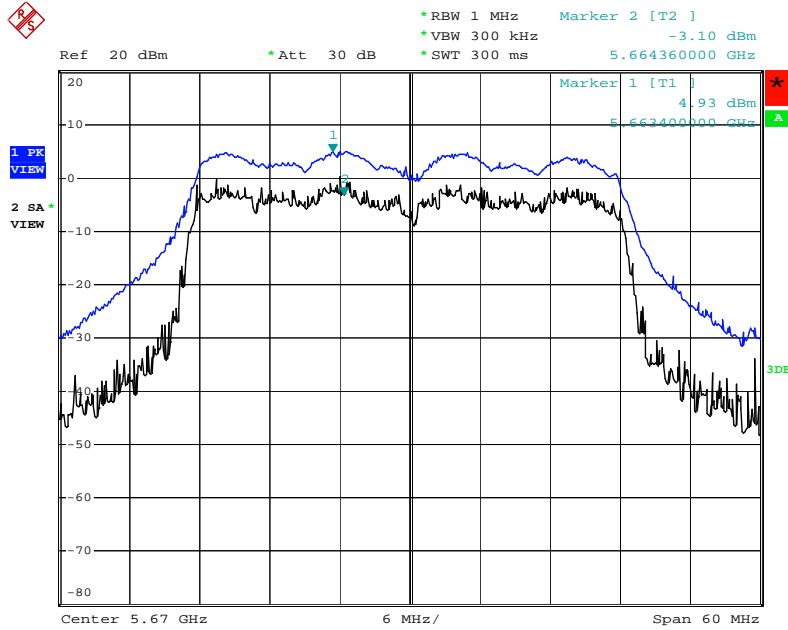
Date: 4.JUL.2009 13:53:31

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5550 MHz



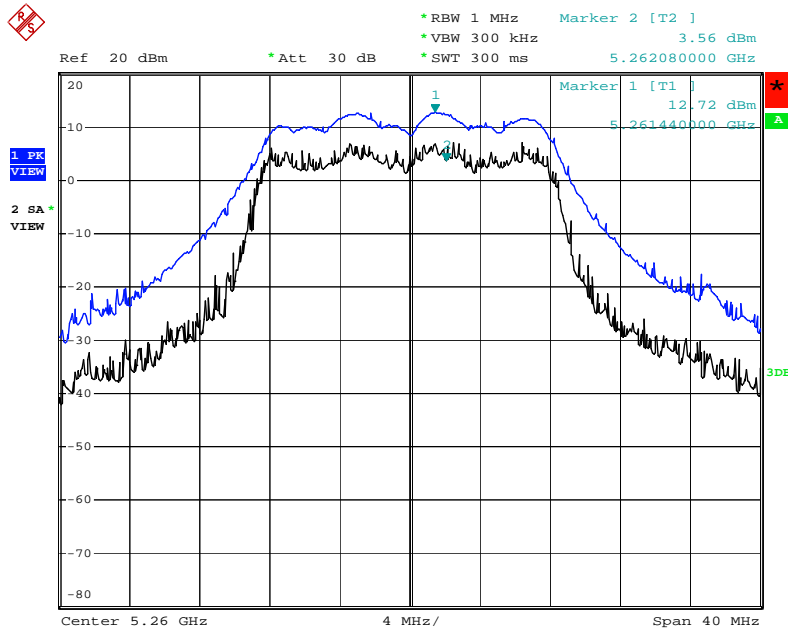
Date: 4.JUL.2009 13:54:48

**Peak Excursion Plot on Configuration Draft n MCS0 40MHz Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5670 MHz**



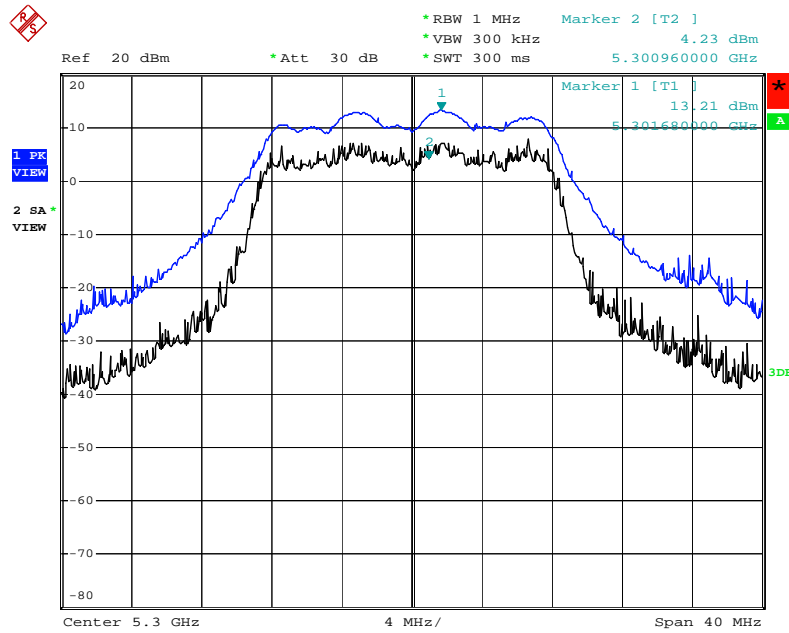
Date: 4.JUL.2009 13:56:09

**Peak Excursion Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5260 MHz**



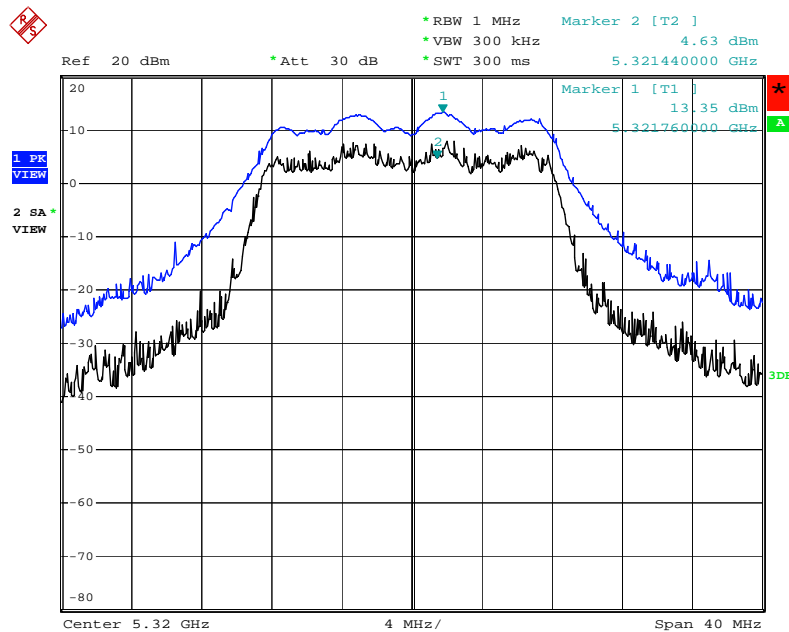
Date: 4.JUL.2009 12:25:48

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5300 MHz



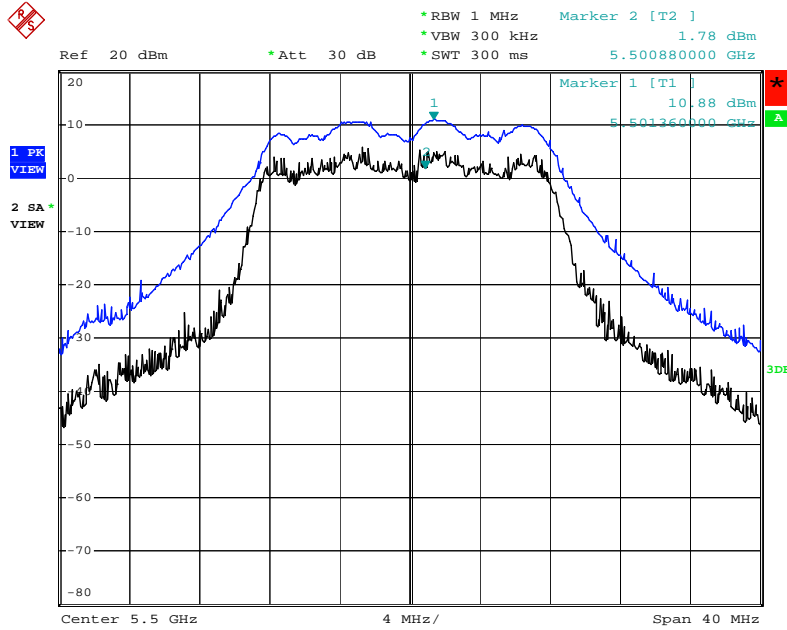
Date: 4.JUL.2009 12:36:09

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5320 MHz



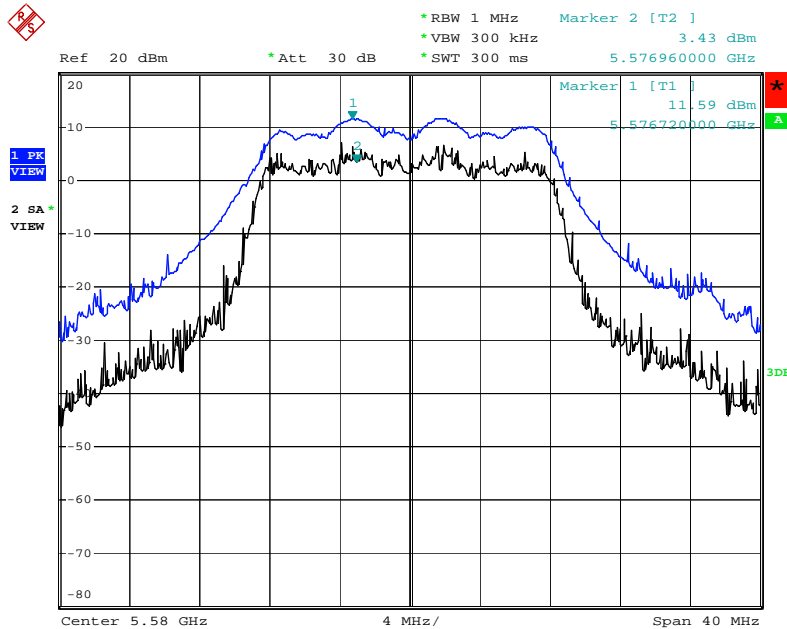
Date: 4.JUL.2009 12:40:32

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5500 MHz



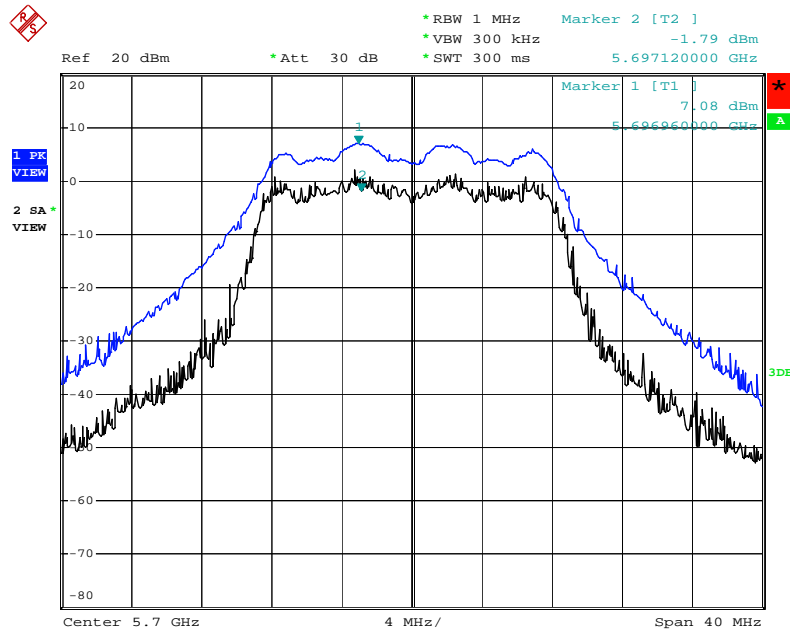
Date: 4.JUL.2009 13:28:59

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5580 MHz



Date: 4.JUL.2009 13:31:16

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 3-1 + Ant. 3-2 + Ant. 3-3 / 5700 MHz

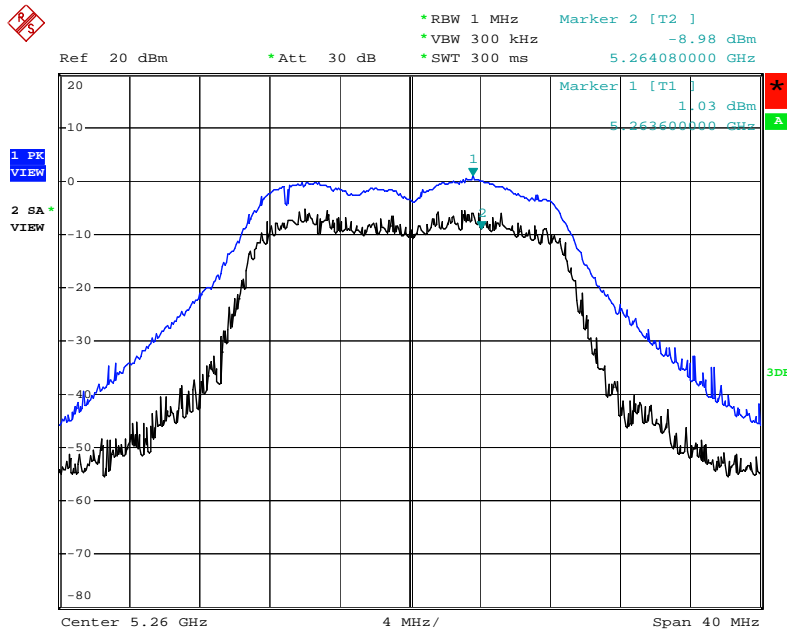


Date: 4.JUL.2009 13:32:29



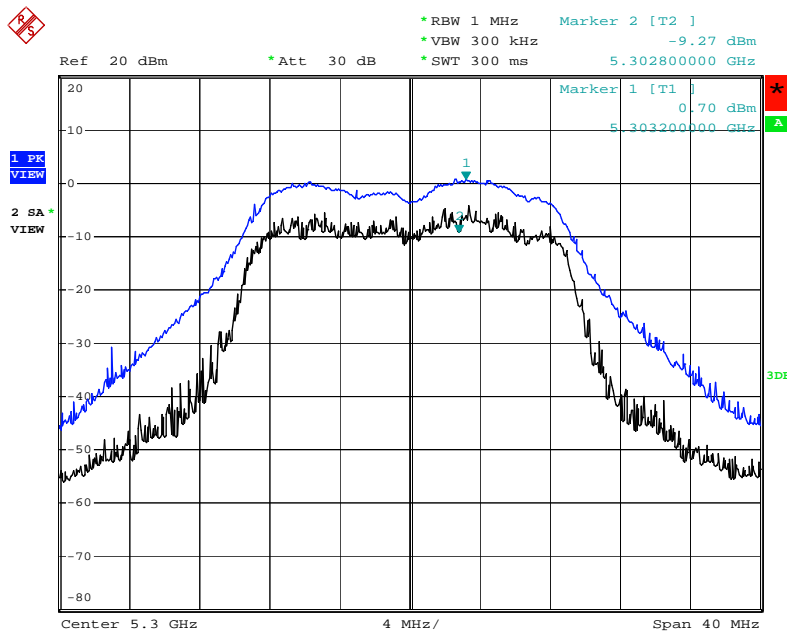
<For Antenna 4>:

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5260 MHz



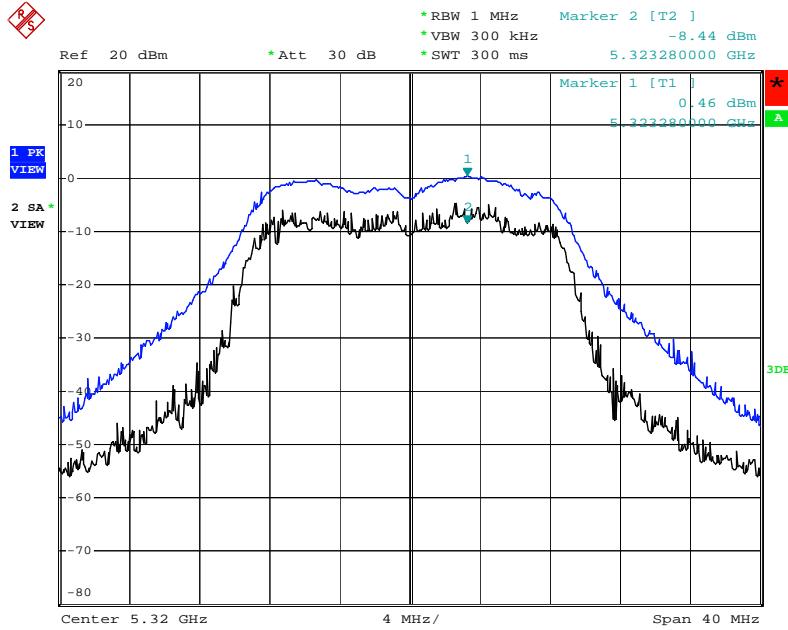
Date: 4.JUL.2009 14:32:49

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5300 MHz



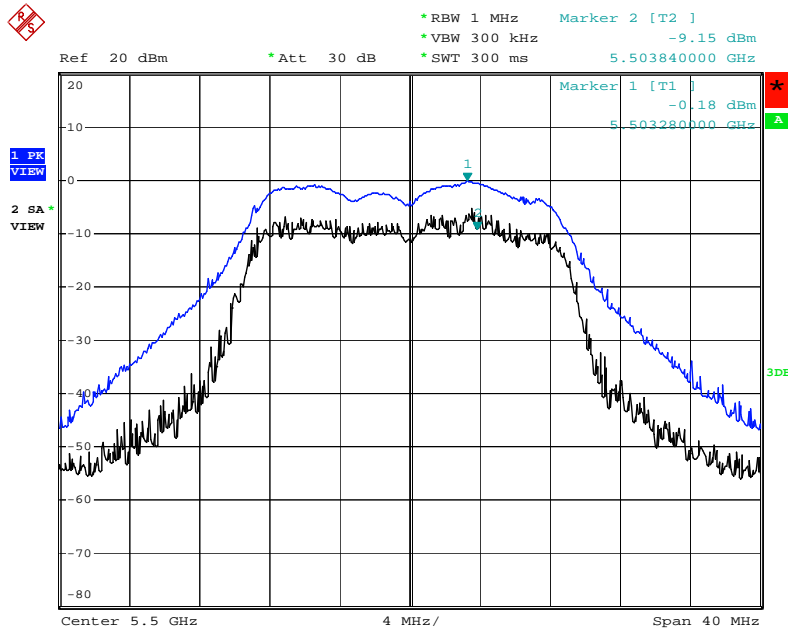
Date: 4.JUL.2009 14:34:08

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5320 MHz



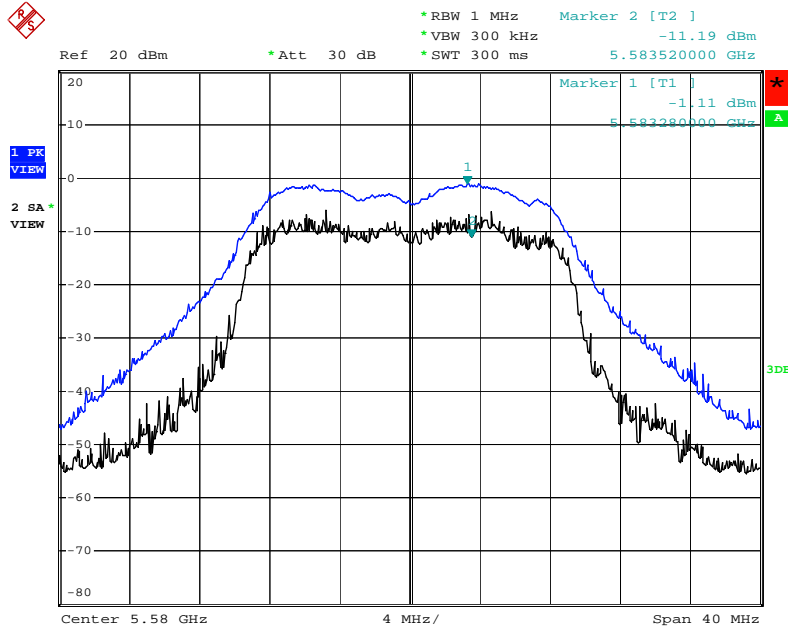
Date: 4.JUL.2009 14:37:36

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5500 MHz



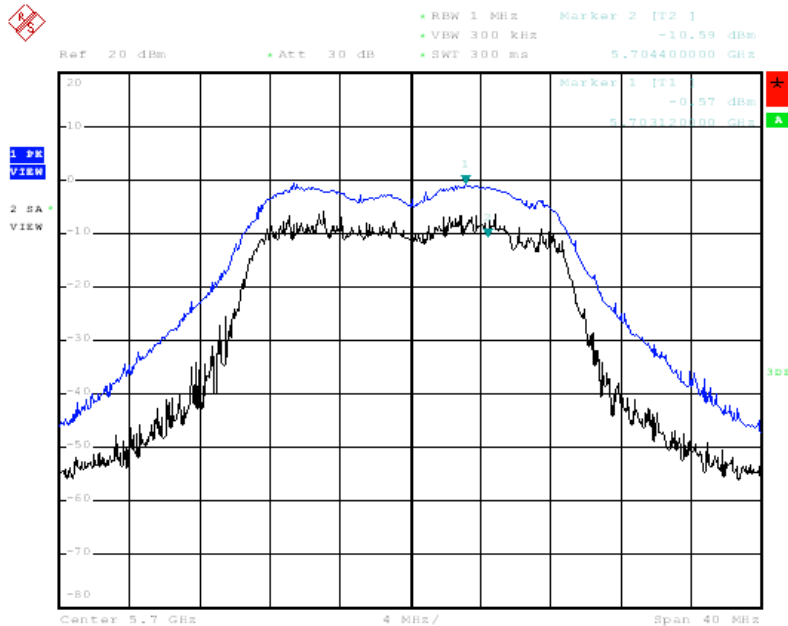
Date: 4.JUL.2009 14:39:11

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5580 MHz



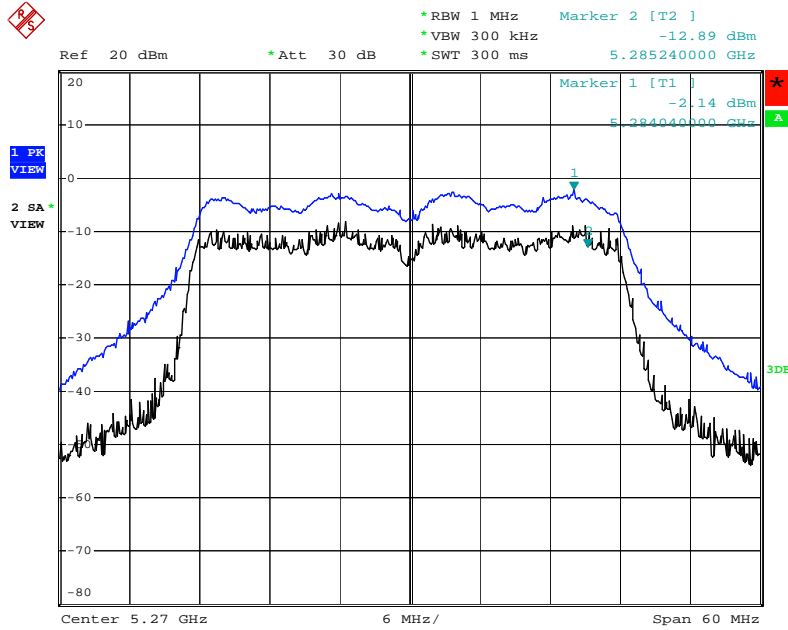
Date: 4.JUL.2009 14:50:53

Peak Excursion Plot on Configuration Drafft n MCS0 20MHz Ant. 4-1 + Ant. 4-3 / 5700 MHz



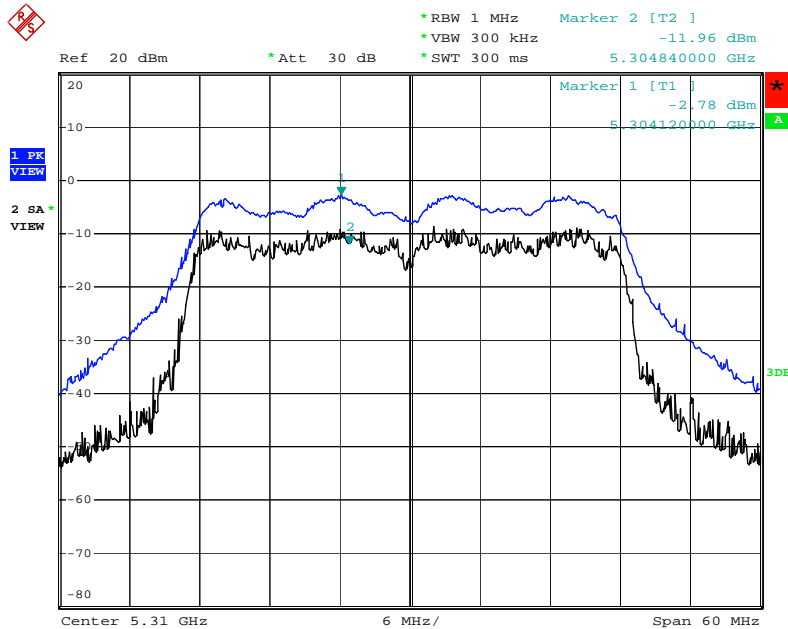
Date: 4.JUL.2009 14:40:18

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5270 MHz



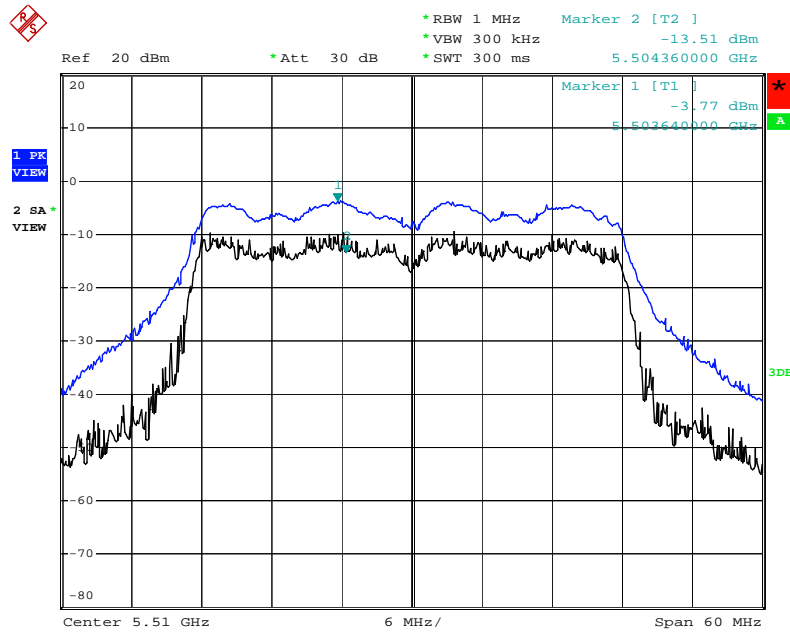
Date: 4.JUL.2009 14:43:37

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5310 MHz



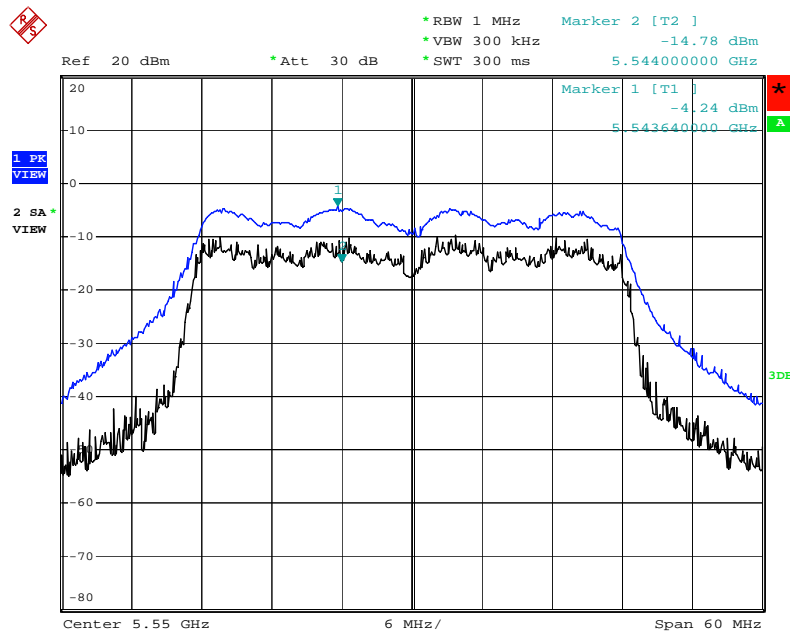
Date: 4.JUL.2009 14:45:05

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5510MHz



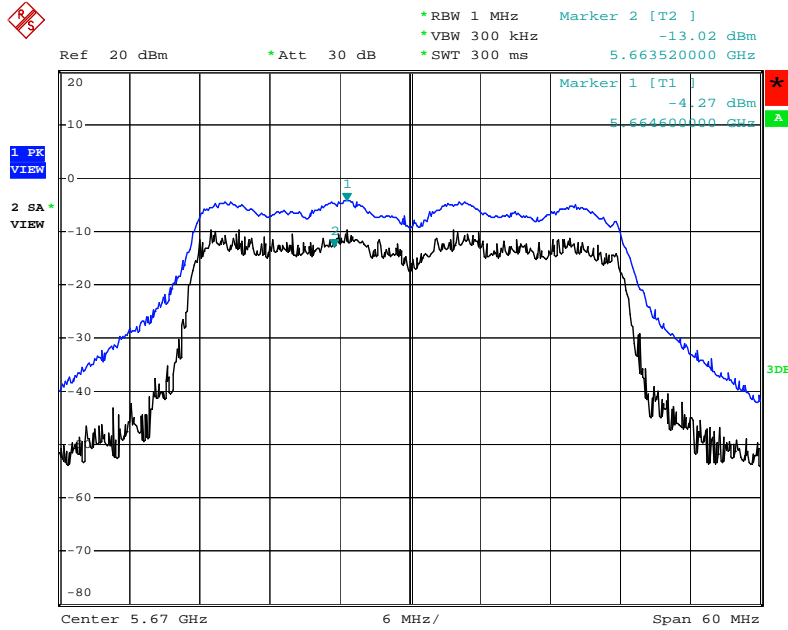
Date: 4.JUL.2009 14:46:20

Peak Excursion Plot on Configuration Drafft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5550 MHz



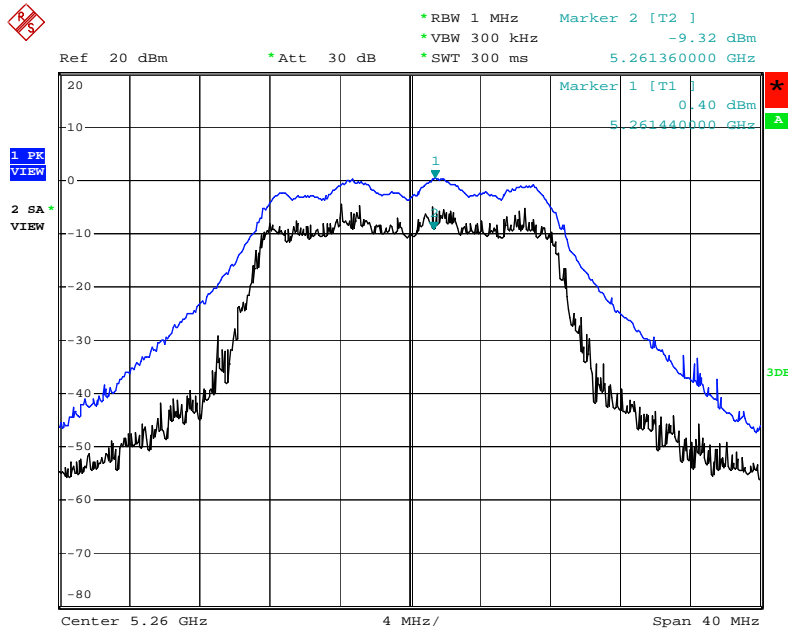
Date: 4.JUL.2009 14:47:20

Peak Excursion Plot on Configuration Draft n MCS0 40MHz Ant. 4-1 + Ant. 4-3 / 5670 MHz



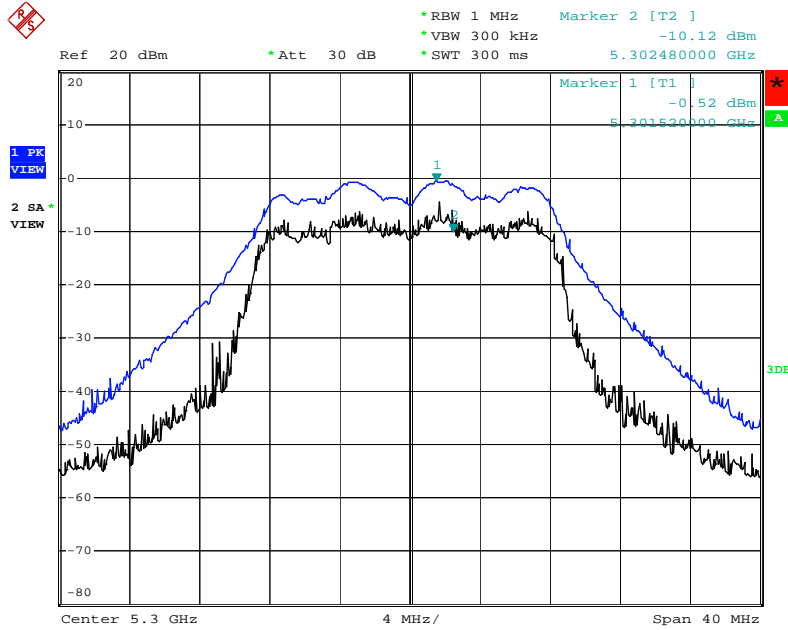
Date: 4.JUL.2009 14:48:33

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5260 MHz



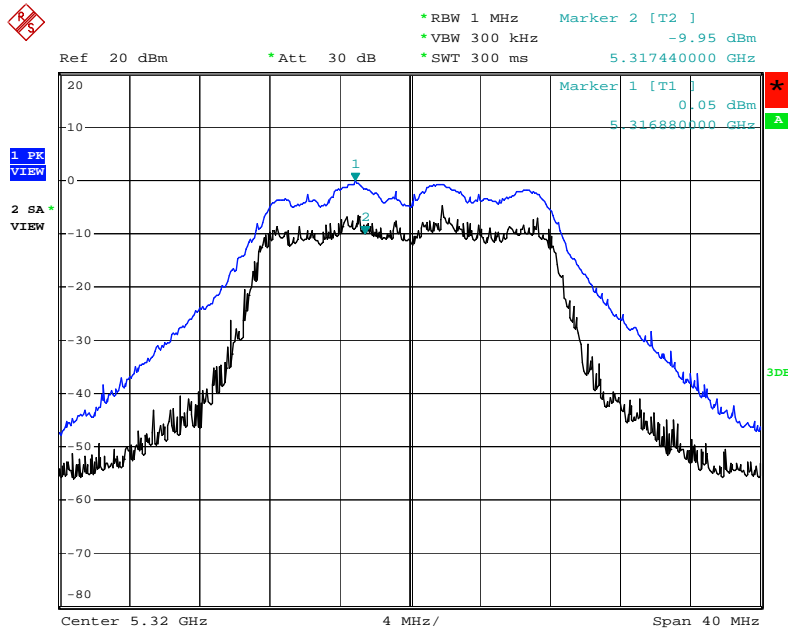
Date: 4.JUL.2009 12:32:54

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5300 MHz



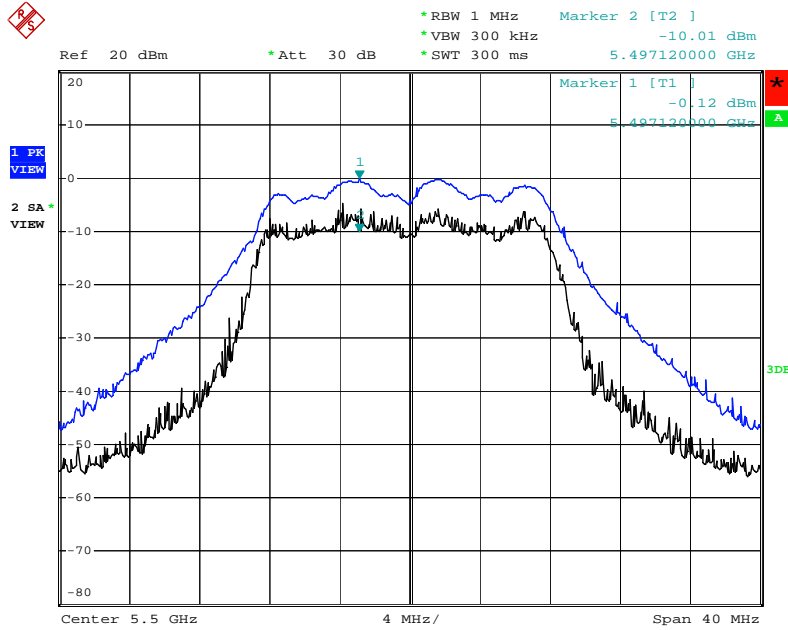
Date: 4.JUL.2009 12:34:36

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5320 MHz



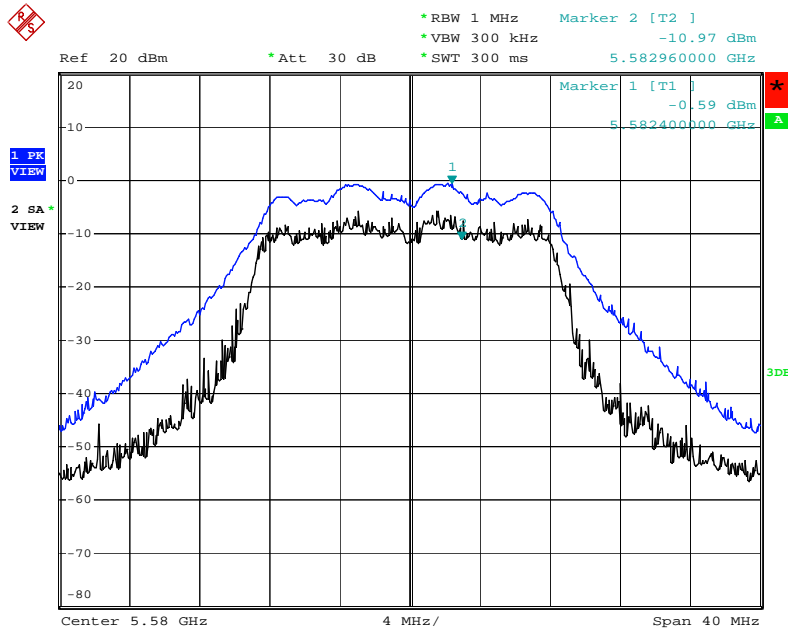
Date: 4.JUL.2009 12:41:52

Peak Excursion Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5500 MHz



Date: 4.JUL.2009 14:04:09

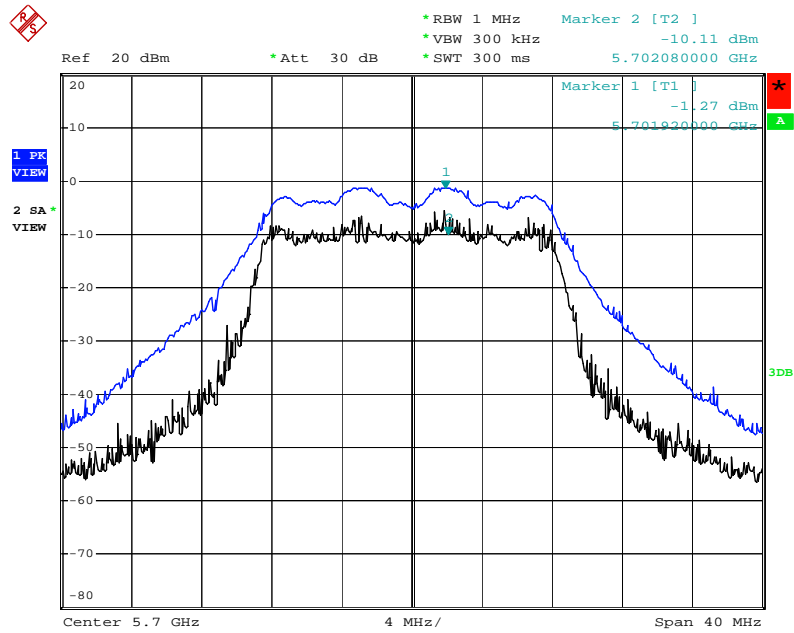
Peak Excursion Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5580 MHz



Date: 4.JUL.2009 14:06:22



Peak Excursion Plot on Configuration IEEE 802.11a Ant. 4-1 + Ant. 4-3 / 5700 MHz



Date: 4.JUL.2009 14:07:53

## 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

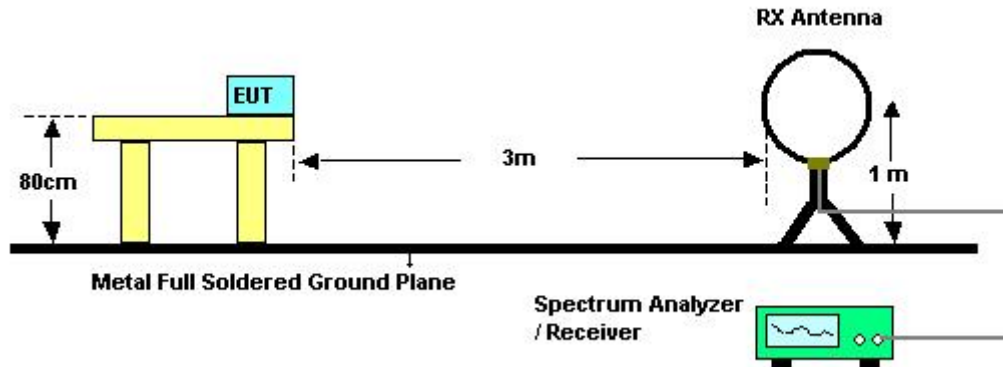
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

#### 4.6.3. Test Procedures

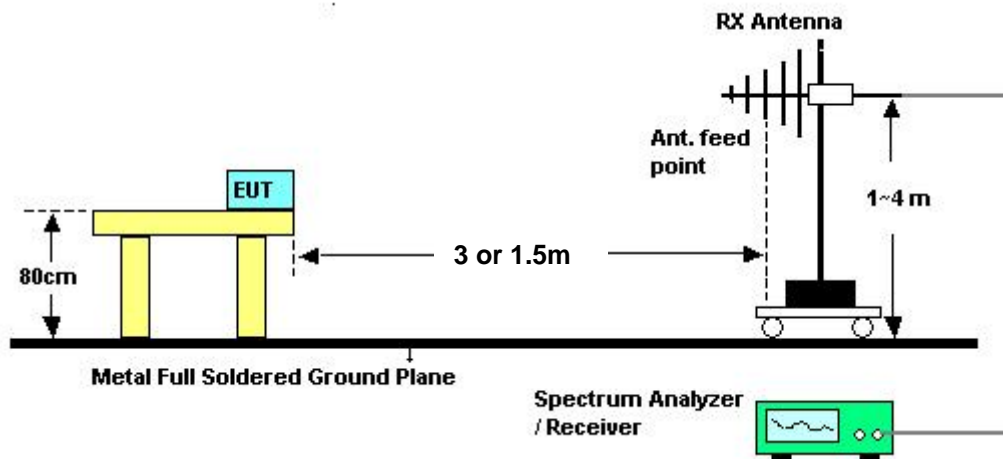
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting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

<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	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);

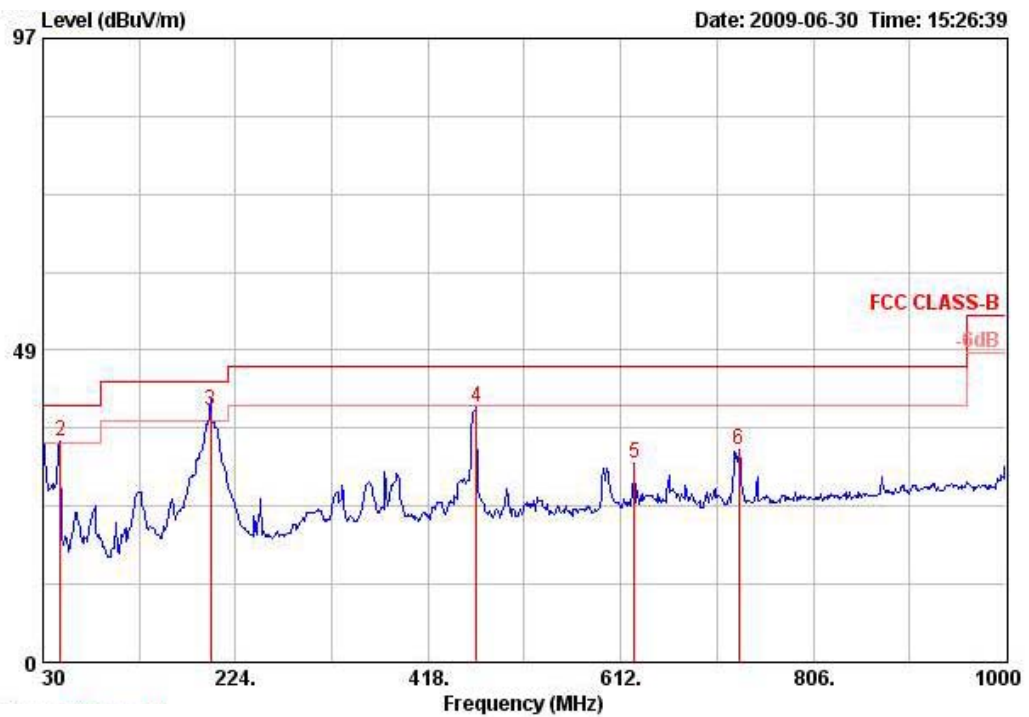
Limit line = specific limits (dBuV) + distance extrapolation factor.

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

<For Antenna 1>:

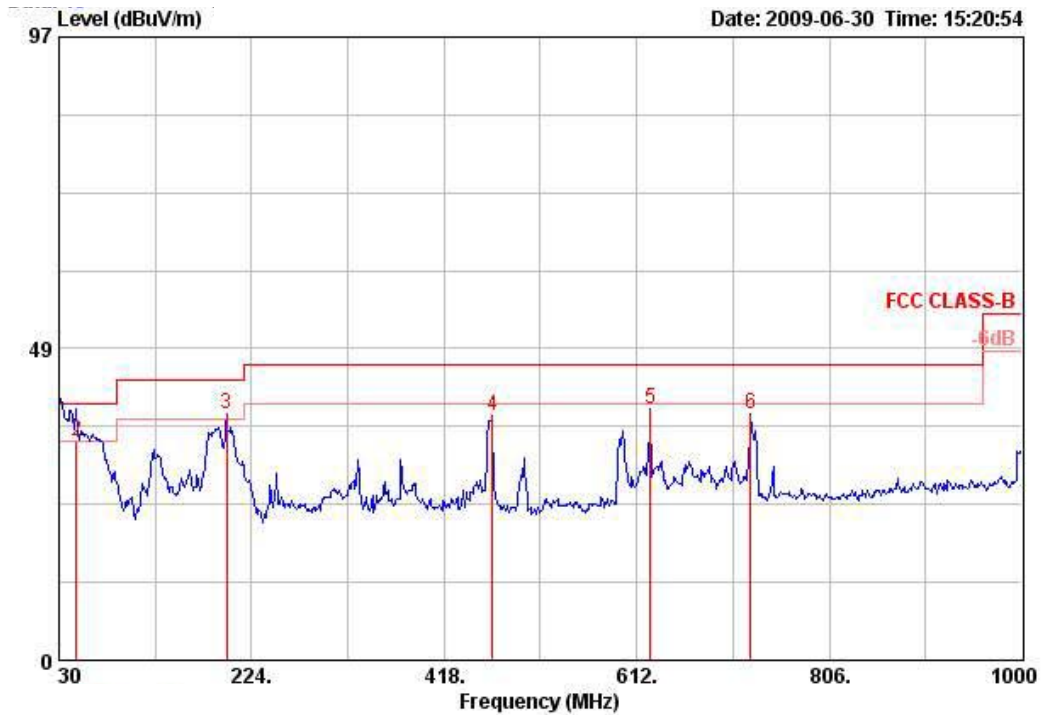
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Normal Link / Antenna 1

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.

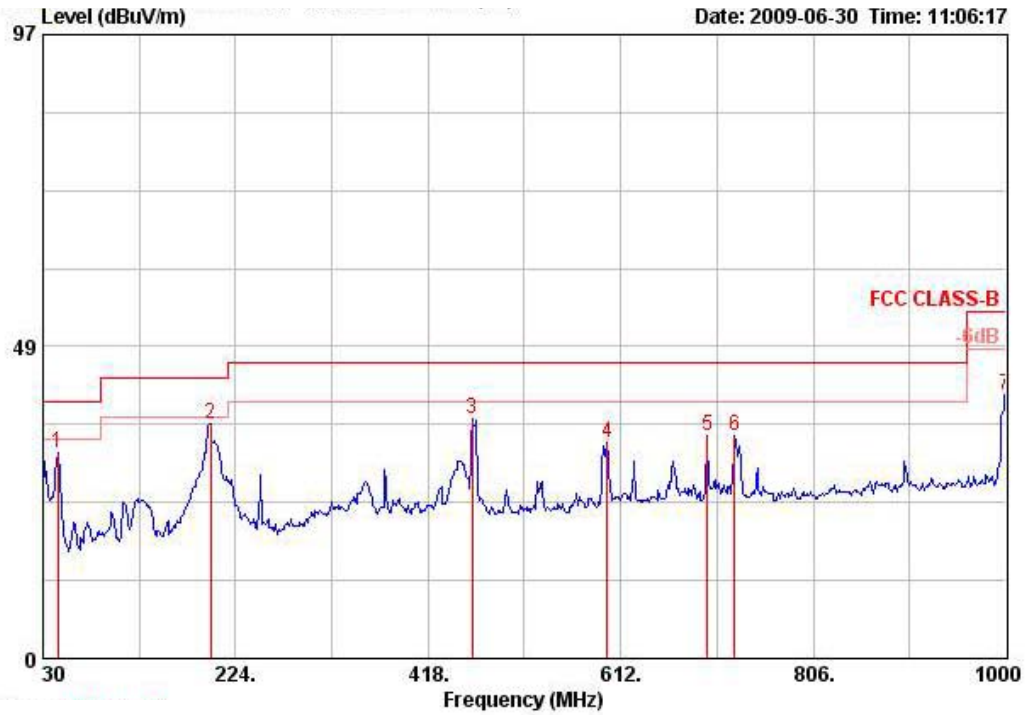
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

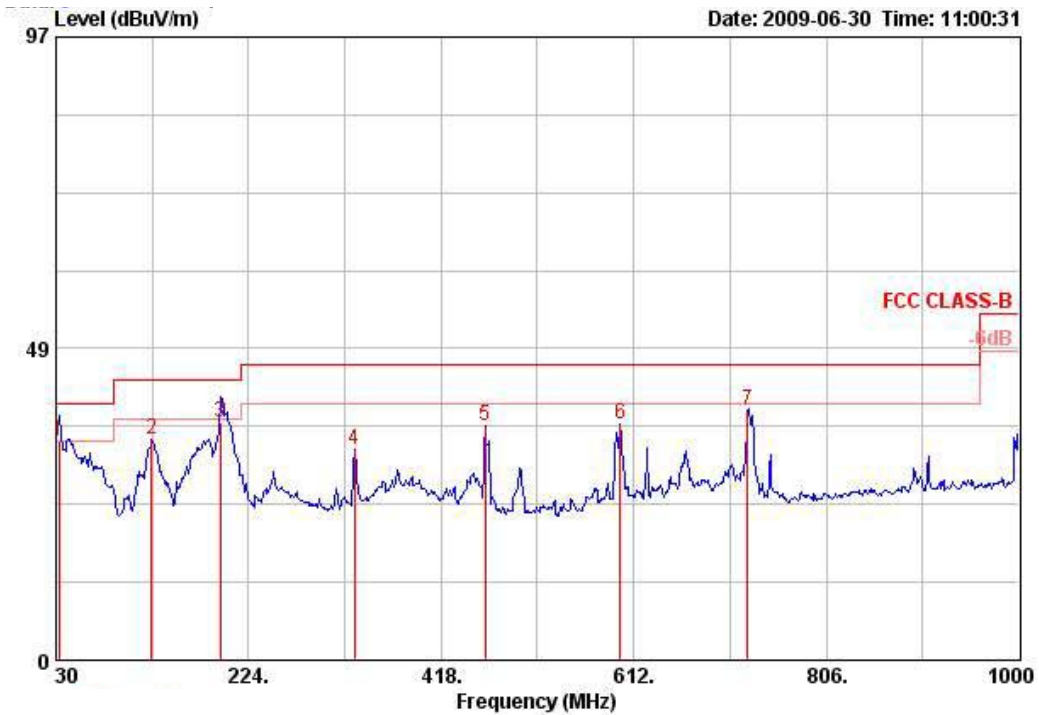
**Horizontal**



	Freq	Level	Over Limit	Limit Line	Read Antenna 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 @	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.

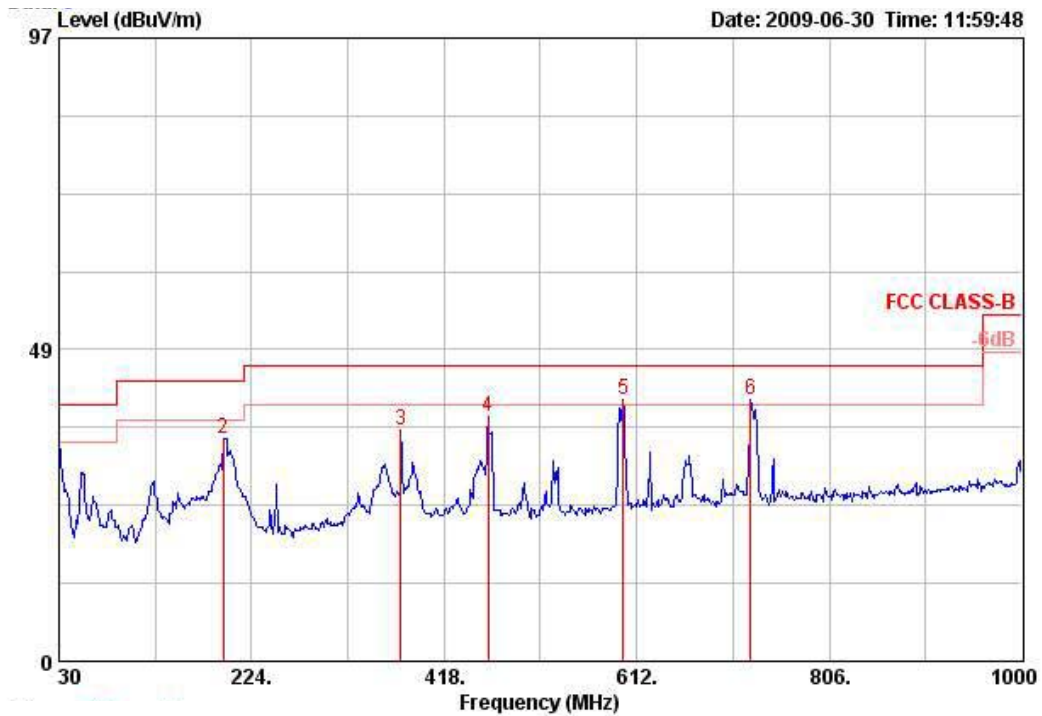
Emission level (dBUV/m) = 20 log Emission level (uV/m).

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

<For Antenna 3>:

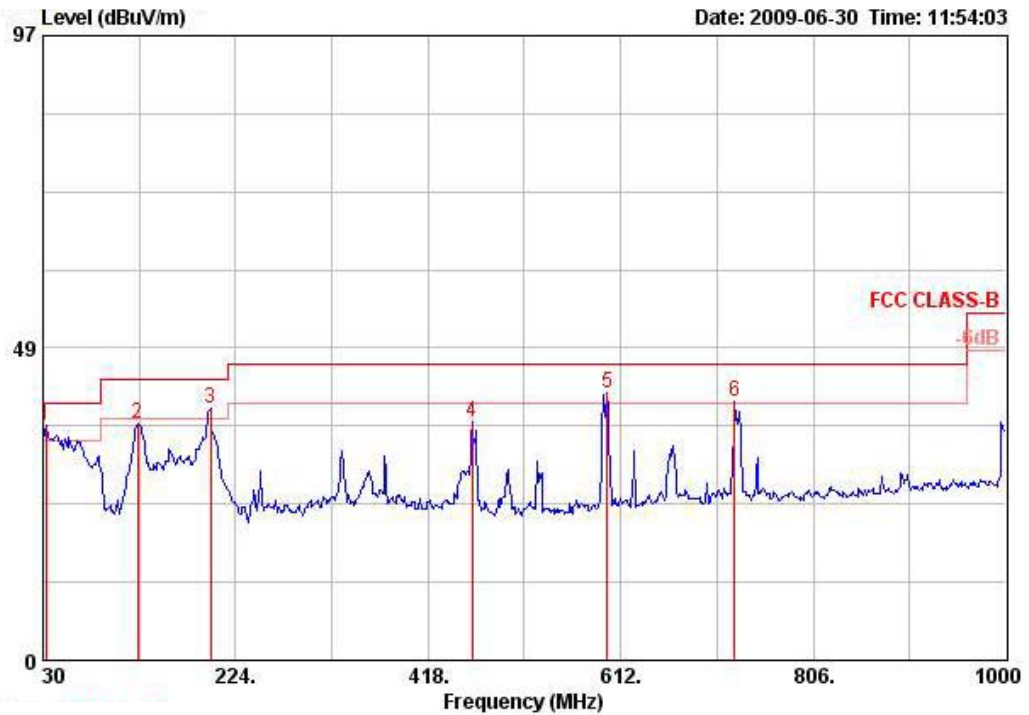
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Normal Link / Antenna 3

**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			
Freq	Level	Limit	Line	Level	Factor	Loss	Factor	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.

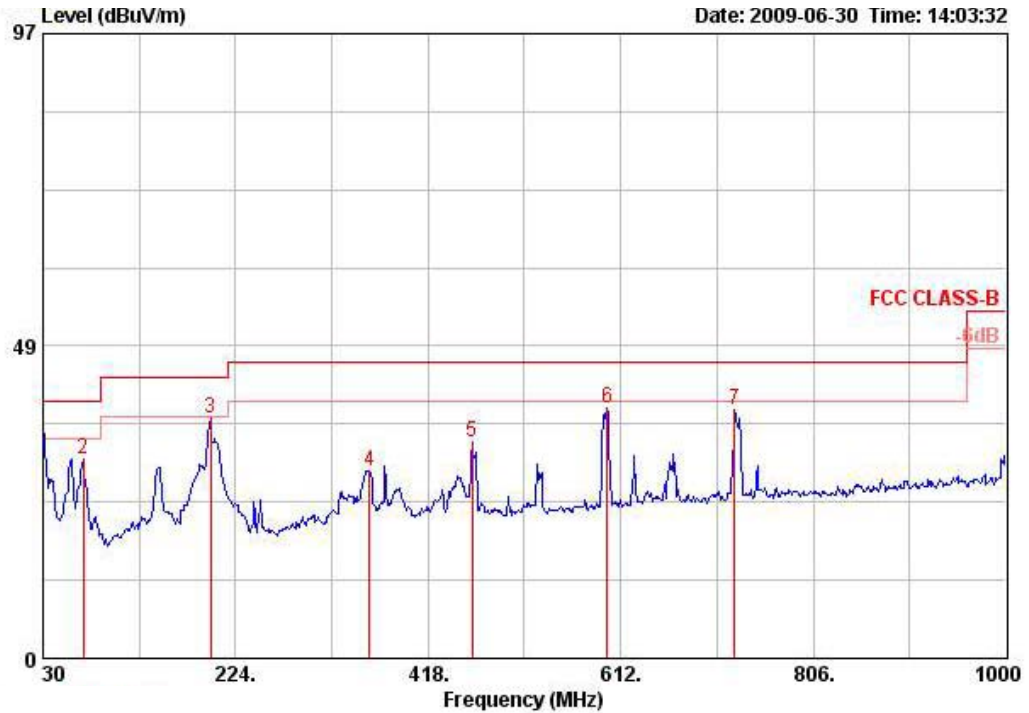
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

<For Antenna 4>:

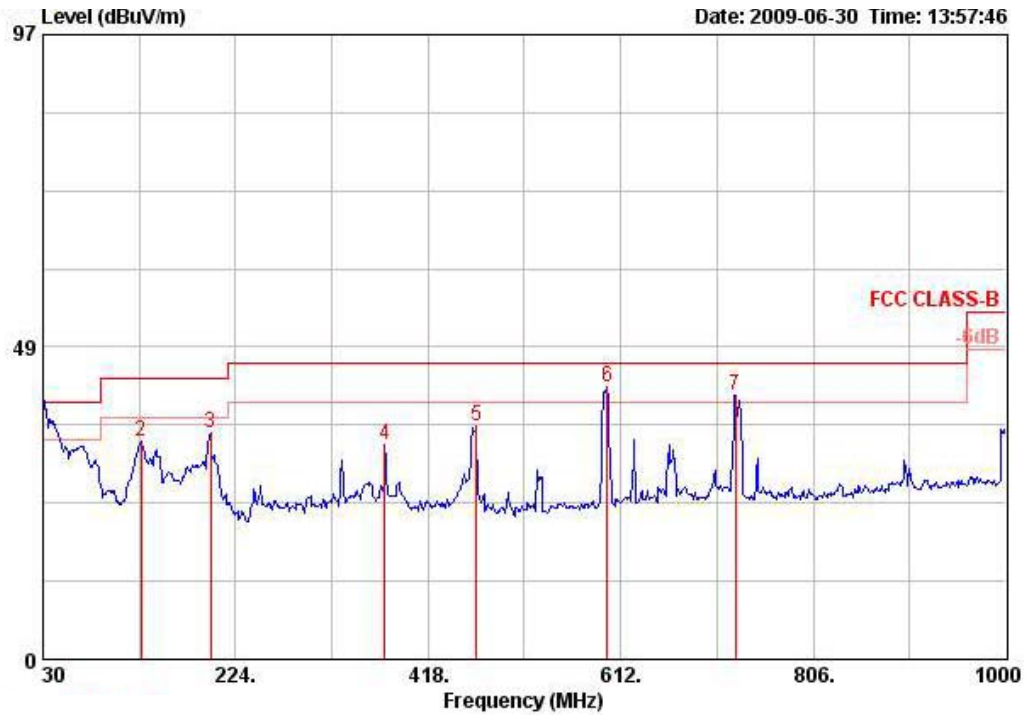
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Normal Link / Antenna 4

**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	36.00	-4.00	40.00	44.54	18.76	0.50	27.80	Peak	100	0	HORIZONTAL
2 @	70.740	30.84	-9.16	40.00	51.05	6.69	0.82	27.72	Peak	100	0	HORIZONTAL
3 @	198.780	37.20	-6.30	43.50	53.35	9.25	1.70	27.11	Peak	100	0	HORIZONTAL
4 @	358.830	29.13	-16.87	46.00	39.26	14.96	2.22	27.31	Peak	100	0	HORIZONTAL
5 @	462.620	33.48	-12.52	46.00	41.72	17.04	2.63	27.91	Peak	100	0	HORIZONTAL
6 @	598.420	38.91	-7.09	46.00	45.37	18.75	2.90	28.10	Peak	100	0	HORIZONTAL
7 @	726.460	38.47	-7.53	46.00	43.69	19.27	3.41	27.89	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	34.72	-5.28	40.00	43.26	18.76	0.50	27.80	QP	100	177	VERTICAL
2 @	128.940	33.71	-9.79	43.50	47.62	12.25	1.29	27.45	Peak	400	0	VERTICAL
3 @	198.780	35.08	-8.42	43.50	51.23	9.25	1.70	27.11	Peak	400	0	VERTICAL
4 @	374.350	33.24	-12.76	46.00	43.04	15.38	2.25	27.42	Peak	400	0	VERTICAL
5 @	466.500	36.29	-9.71	46.00	44.49	17.10	2.63	27.93	Peak	400	0	VERTICAL
6 @	598.420	42.38	-3.62	46.00	48.83	18.75	2.90	28.10	Peak	100	133	VERTICAL
7 @	727.430	40.93	-5.07	46.00	46.13	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).

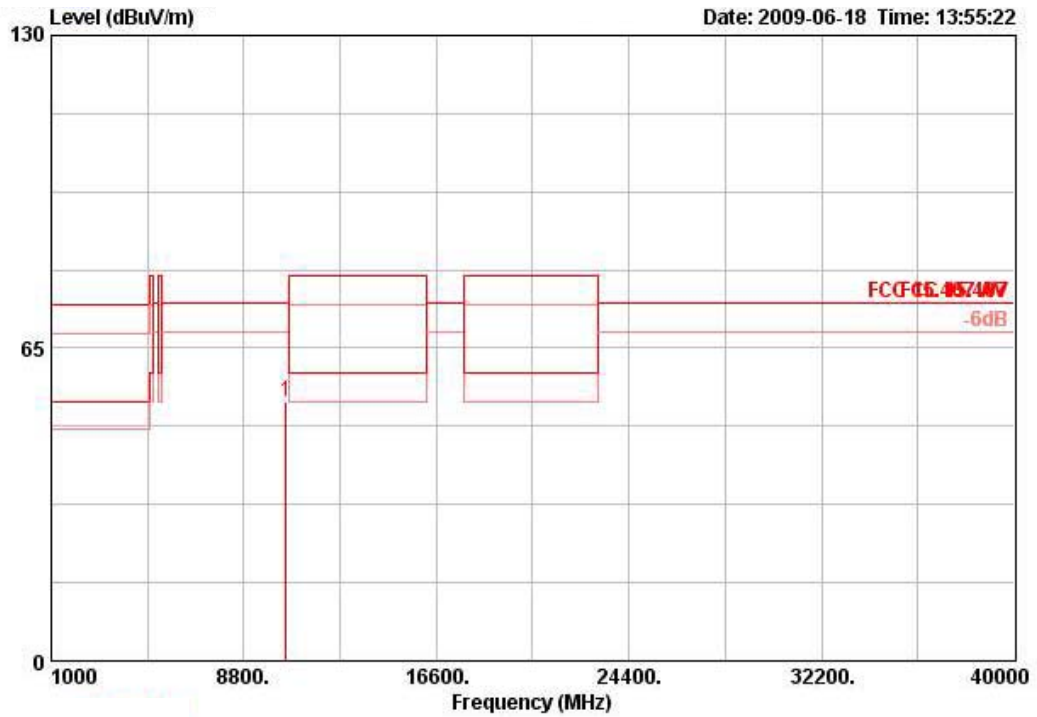
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

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

<For Antenna 1 >:

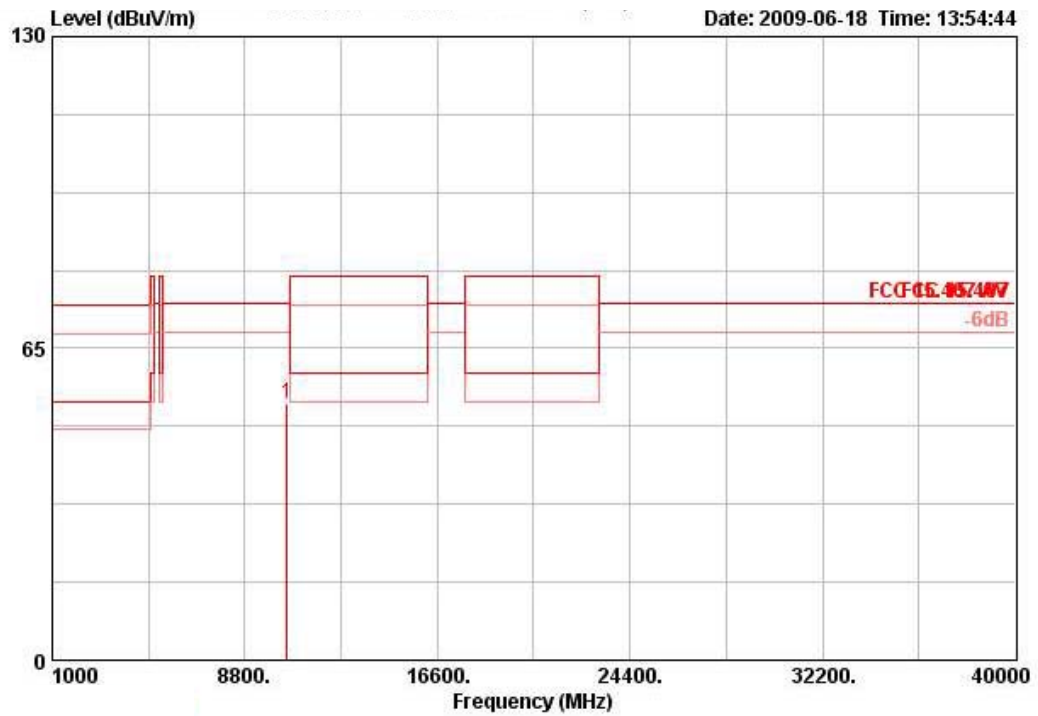
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 52 / Ant. 1

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	10519.990	53.72	74.30	-20.58	44.24	PEAK	6.58	35.50	38.40	360	100 HORIZONTAL

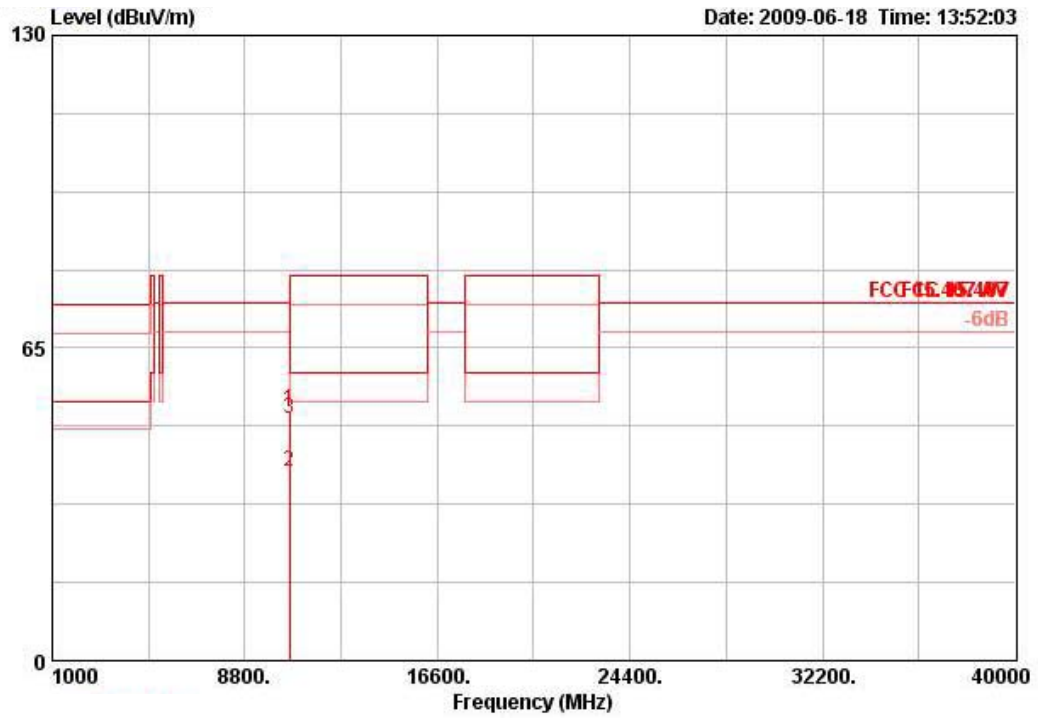
Vertical



	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	10519.980	53.48	74.30	-20.82	44.01	PEAK	6.58	35.50	38.39	-1	100 VERTICAL

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 60 / Ant. 1

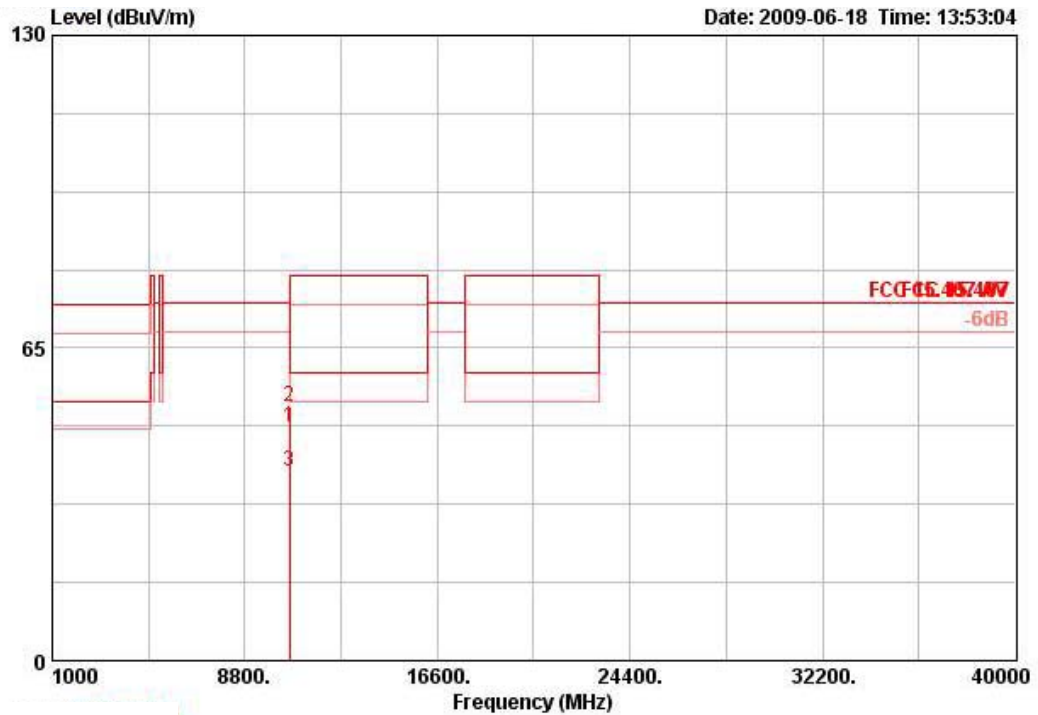
**Horizontal**



	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	10599.990	52.07	74.30	-22.23	42.50	PEAK	6.61	35.42	38.38	0	100
2	10600.000	39.36	60.00	-20.64	29.79	AVERAGE	6.61	35.42	38.38	0	100
3	10600.000	50.39	80.00	-29.61	40.83	PEAK	6.61	35.42	38.38	0	100



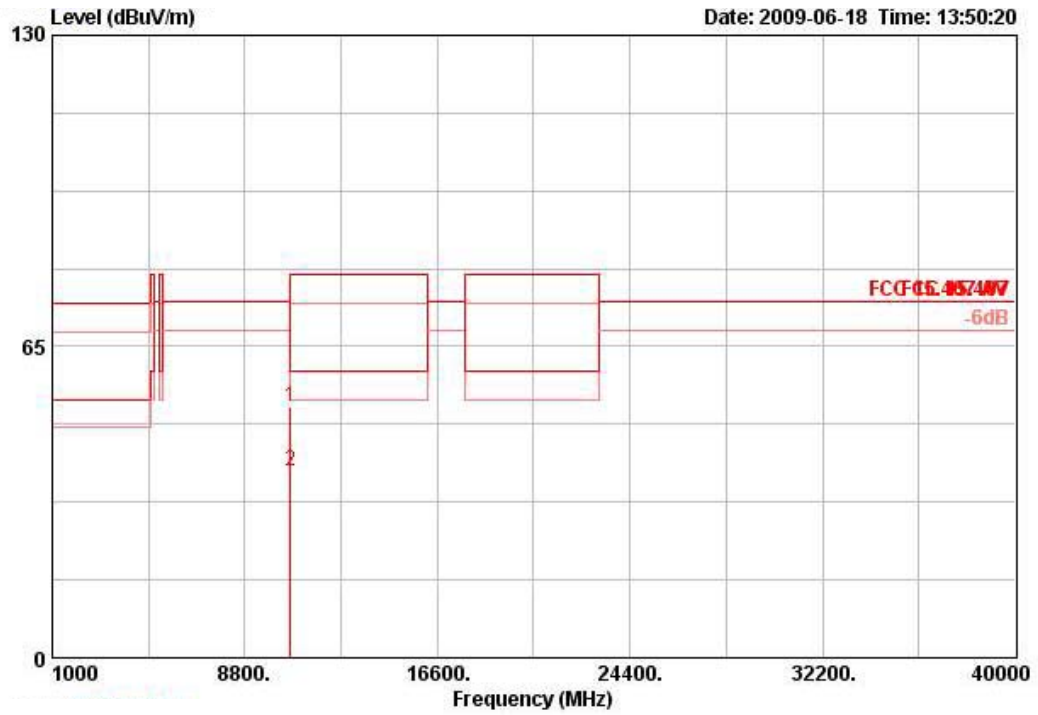
Vertical



	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	10599.980	48.41	74.30	-25.89	38.84	PEAK	6.61	35.42	38.38	360	100
2	10600.000	52.95	80.00	-27.05	43.38	PEAK	6.61	35.42	38.38	360	100
3	10600.030	39.32	60.00	-20.68	29.75	AVERAGE	6.61	35.42	38.38	360	100

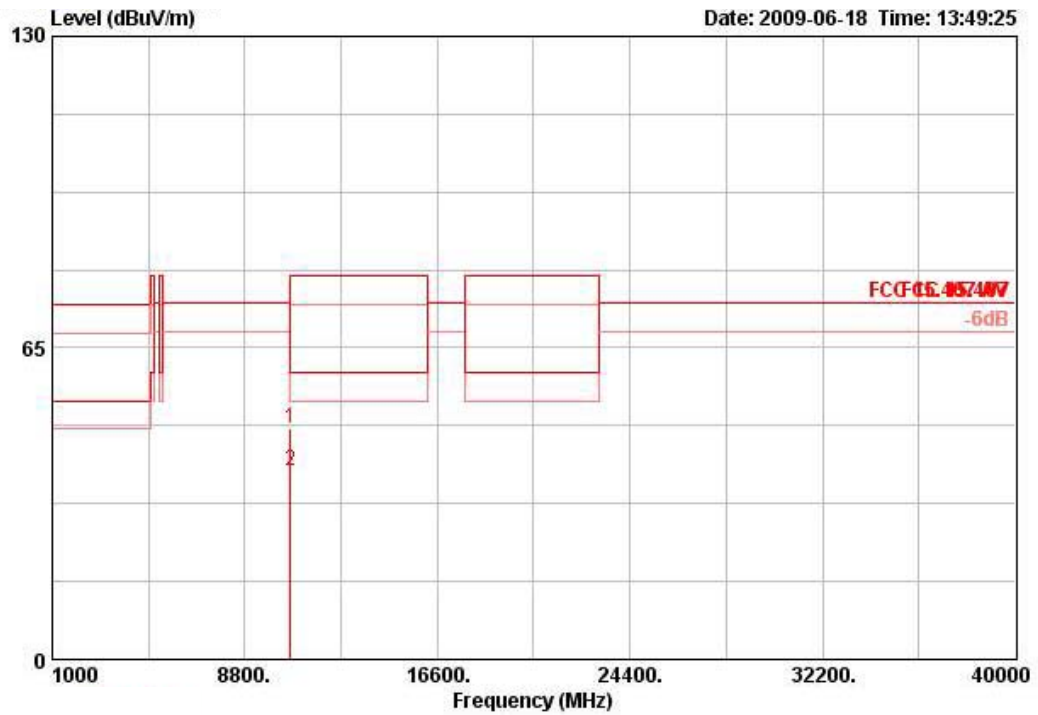
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 64 / Ant. 1

**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	10640.020	52.54	80.00	-27.46	42.94	PEAK	6.62	35.39	38.37	360	100 HORIZONTAL
2	10640.030	39.12	60.00	-20.88	29.52	AVERAGE	6.62	35.39	38.37	360	100 HORIZONTAL

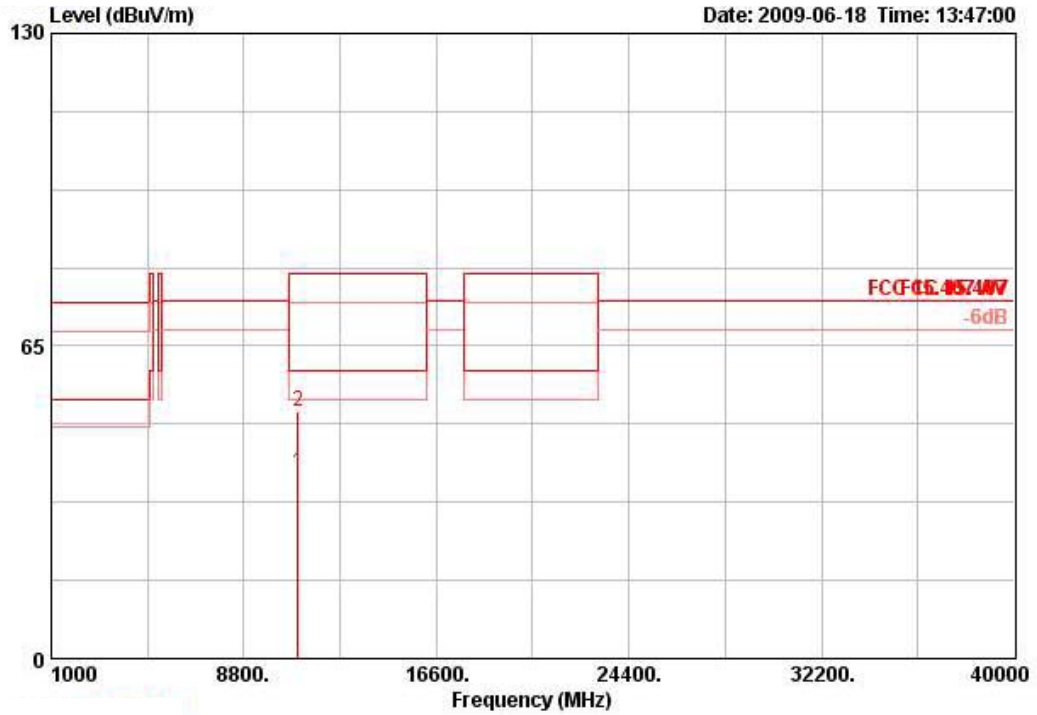
Vertical



	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	10639.980	48.05	80.00	-31.95	38.45	PEAK	6.62	35.39	38.37	0	100
2	10640.030	39.16	60.00	-20.84	29.56	AVERAGE	6.62	35.39	38.37	0	100

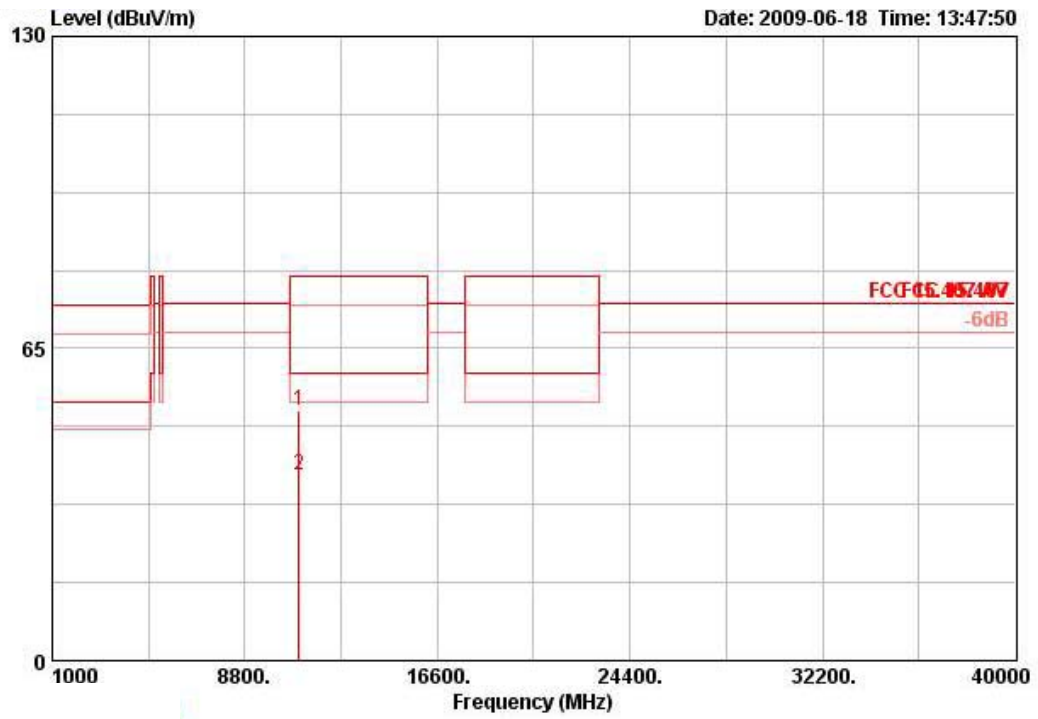
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 100 / Ant. 1

**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	10999.990	38.49	60.00	-21.51	28.53	AVERAGE	6.74	35.10	38.32	0	100 HORIZONTAL
2	11000.020	51.51	80.00	-28.49	41.56	PEAK	6.74	35.10	38.32	0	100 HORIZONTAL

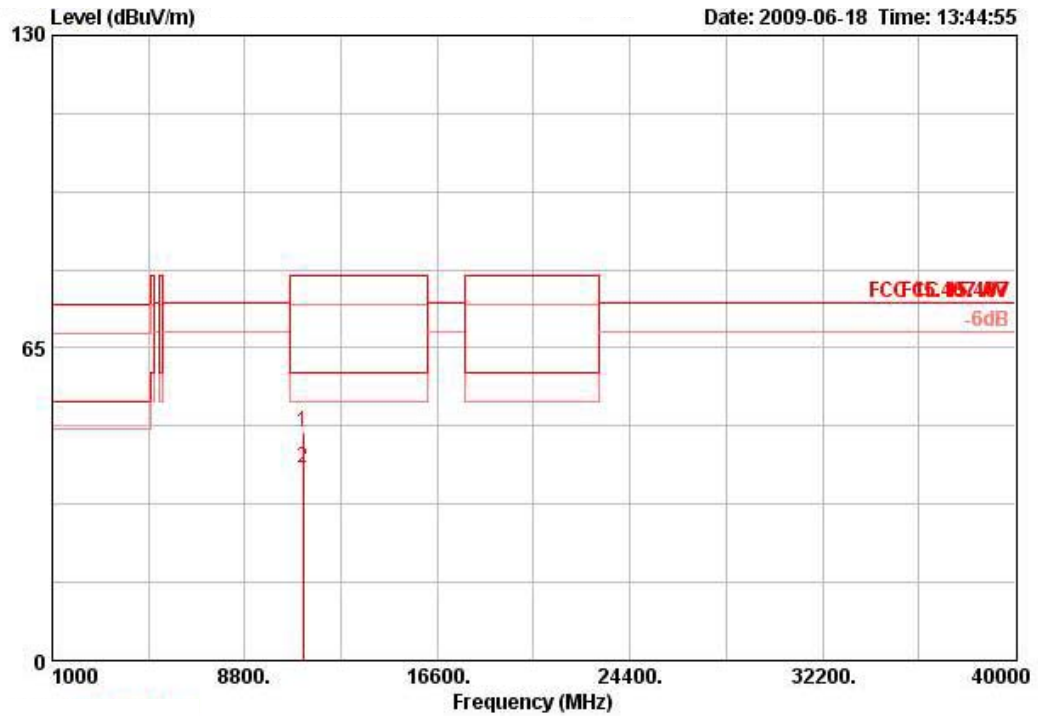
Vertical



	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	11000.020	52.11	80.00	-27.89	42.17	PEAK	6.74	35.10	38.30	360	100 VERTICAL
2	11000.030	38.47	60.00	-21.53	28.53	AVERAGE	6.74	35.10	38.30	360	100 VERTICAL

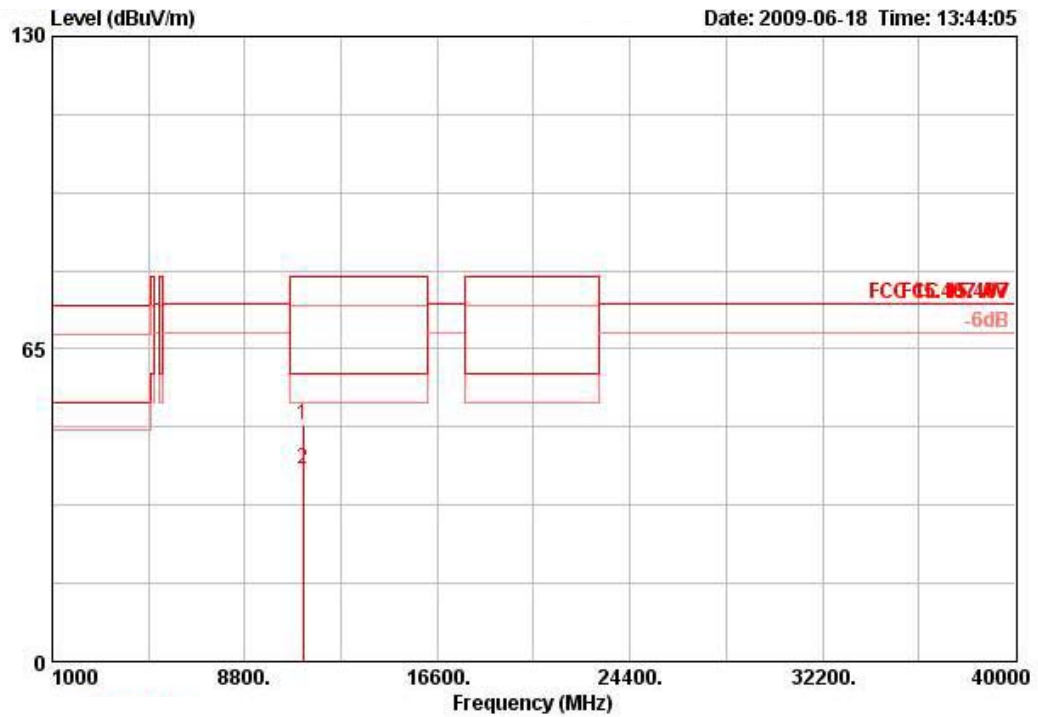
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 116 / Ant. 1

**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	11159.980	47.41	80.00	-32.59	37.37	PEAK	6.74	35.17	38.47	360	100 HORIZONTAL
2	11160.010	39.89	60.00	-20.11	29.85	AVERAGE	6.74	35.17	38.47	360	100 HORIZONTAL

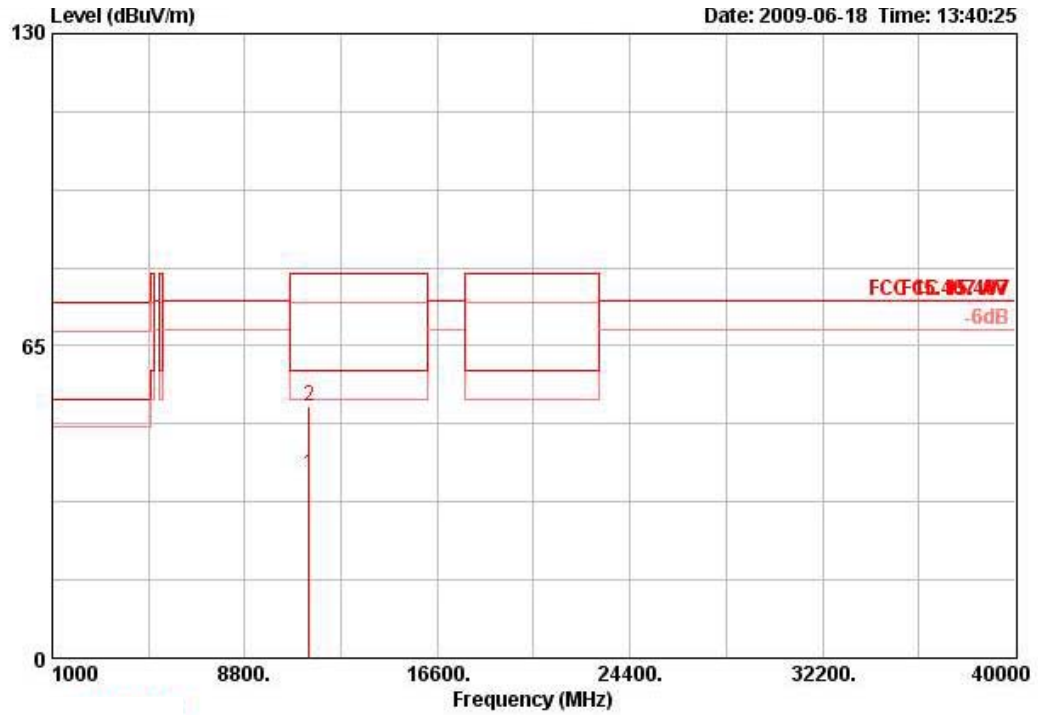
Vertical



	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	11159.980	49.16	80.00	-30.84	39.13	PEAK	6.74	35.17	38.47	0	100
2	11160.010	39.92	60.00	-20.08	29.88	AVERAGE	6.74	35.17	38.47	0	100

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 140 / Ant. 1

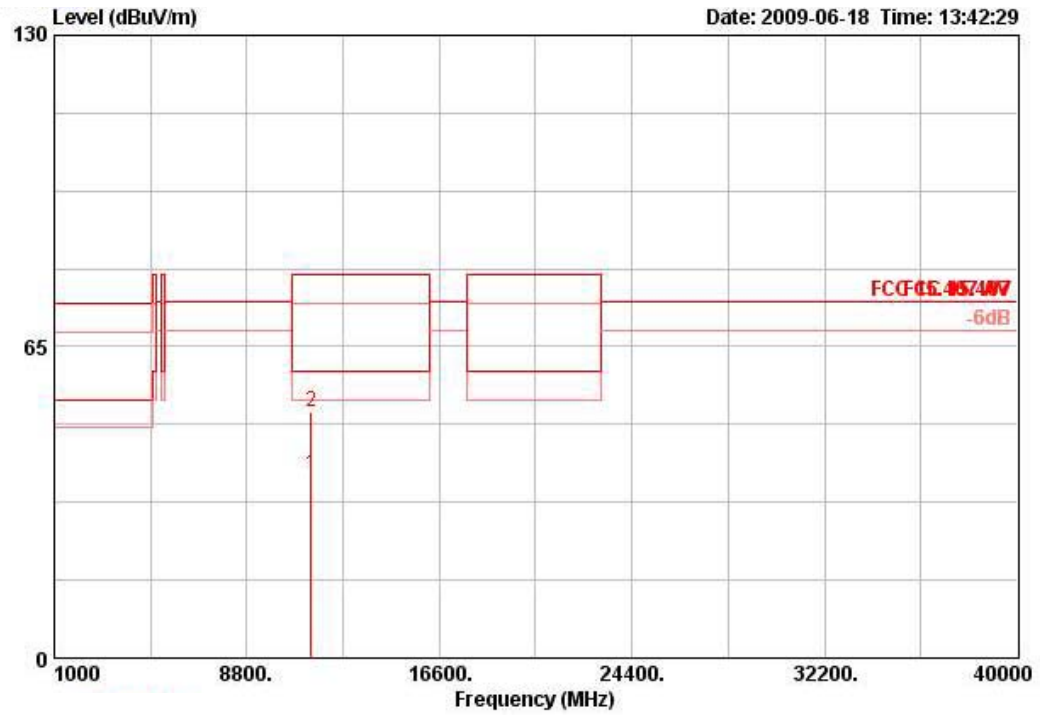
**Horizontal**



	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	11399.970	38.33	60.00	-21.67	28.14	AVERAGE	6.74	35.26	38.70	1	100 HORIZONTAL
2	11400.000	52.31	80.00	-27.69	42.12	PEAK	6.74	35.26	38.70	1	100 HORIZONTAL



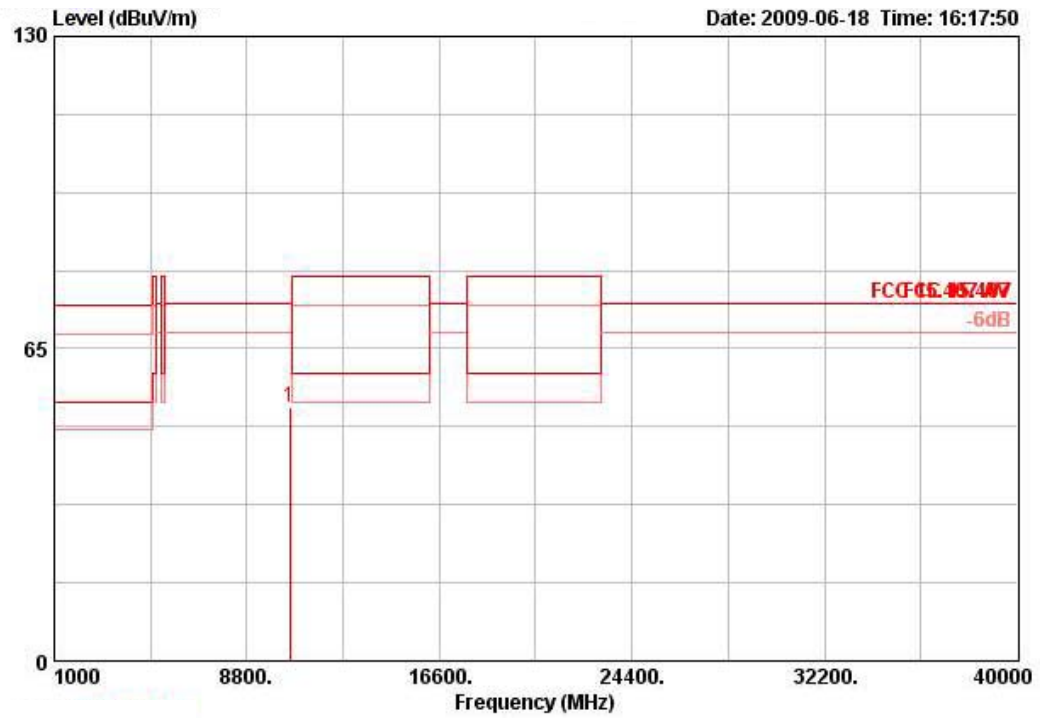
**Vertical**



	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	11399.970	38.30	60.00	-21.70	28.12	AVERAGE	6.74	35.26	38.70	360	100
2	11400.000	51.51	80.00	-28.49	41.33	PEAK	6.74	35.26	38.70	360	100

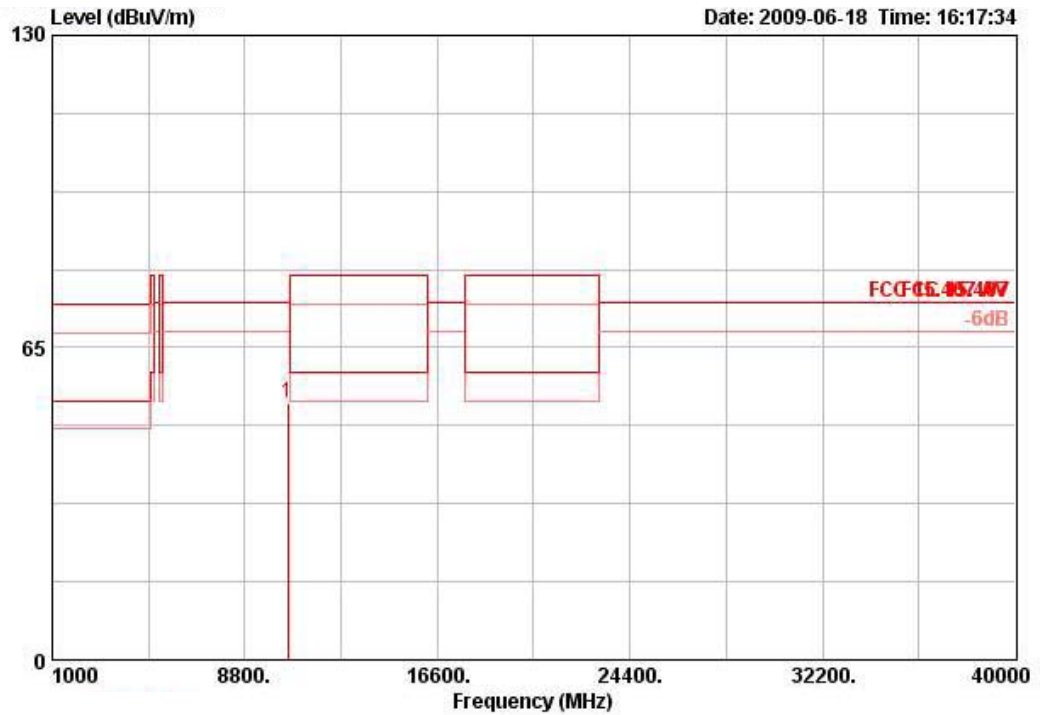
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 54 / Ant. 1

**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	10540.020	52.93	74.30	-21.37	43.43	PEAK	6.59	35.48	38.39	318	100 HORIZONTAL

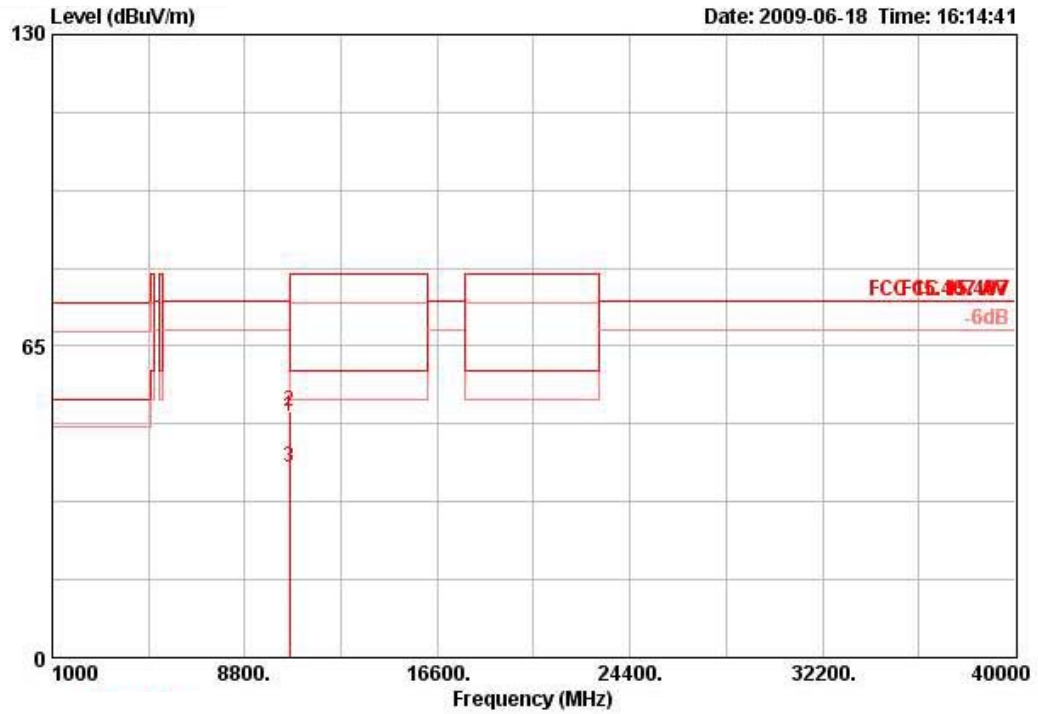
**Vertical**



	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	10540.000	53.45	74.30	-20.85	43.95	PEAK	6.59	35.48	38.39	360	100 VERTICAL

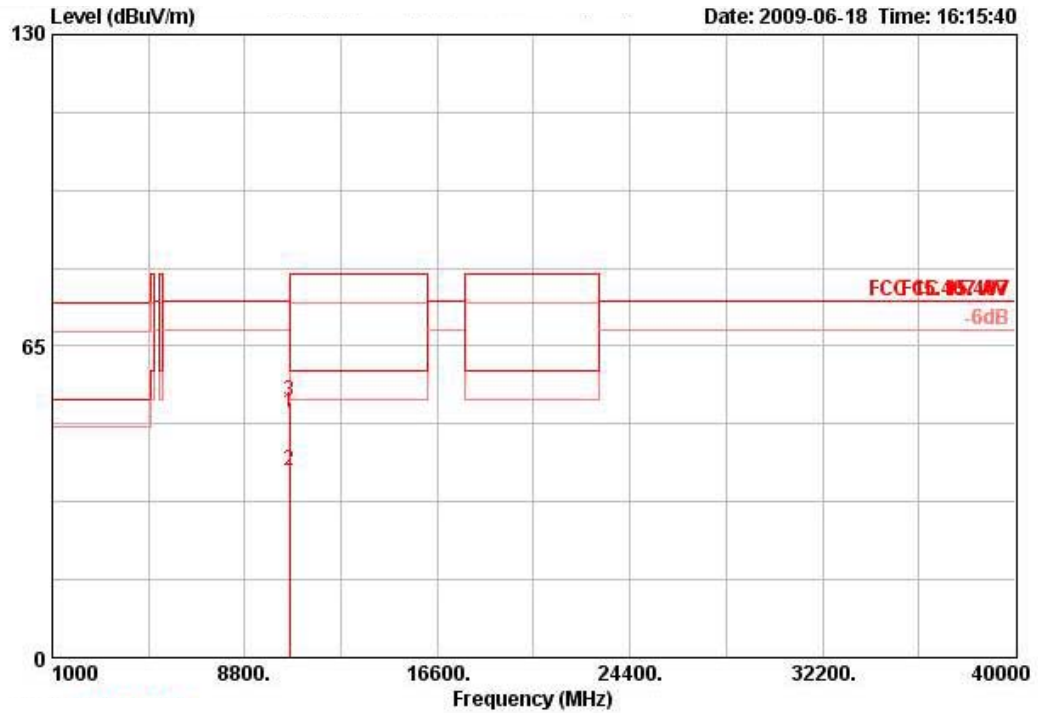
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 62 / Ant. 1

**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	10599.950	50.33	74.30	-23.97	40.76	PEAK	6.61	35.42	38.38	104	100
2	10619.990	51.22	80.00	-28.78	41.65	PEAK	6.61	35.42	38.38	104	100
3	10620.020	39.63	60.00	-20.37	30.05	AVERAGE	6.61	35.42	38.38	104	100

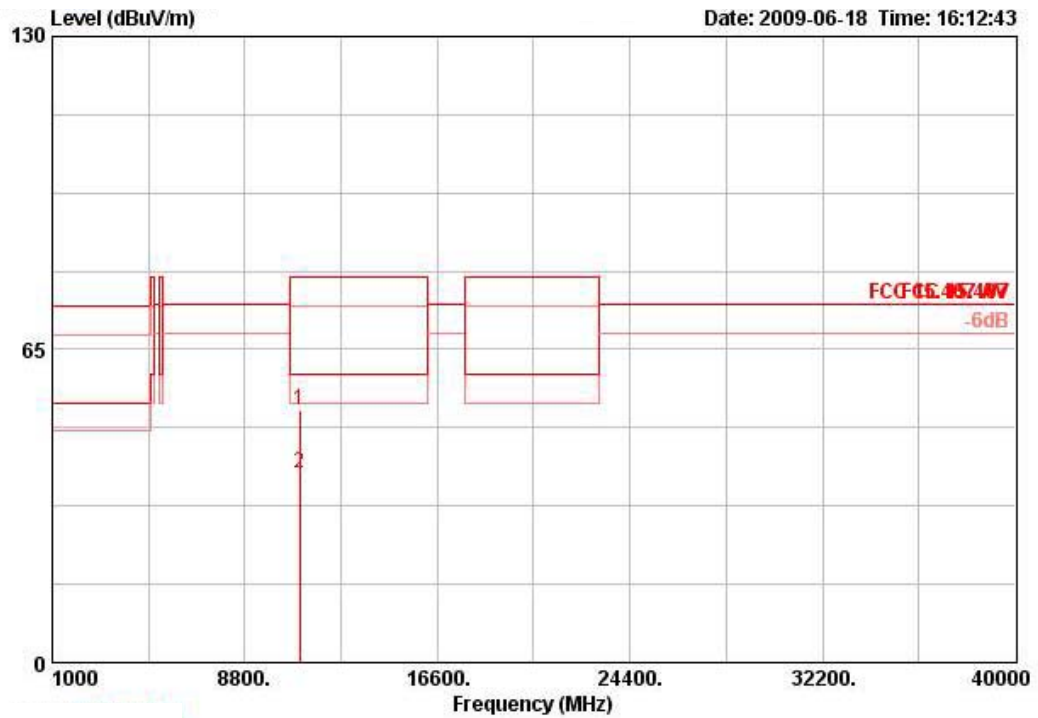
Vertical



	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	10599.150	51.09	74.30	-23.21	41.52	PEAK	6.61	35.42	38.38	175	100 VERTICAL
2	10619.970	38.80	60.00	-21.20	29.23	AVERAGE	6.61	35.42	38.38	175	100 VERTICAL
3	10619.990	53.47	80.00	-26.53	43.90	PEAK	6.61	35.42	38.38	175	100 VERTICAL

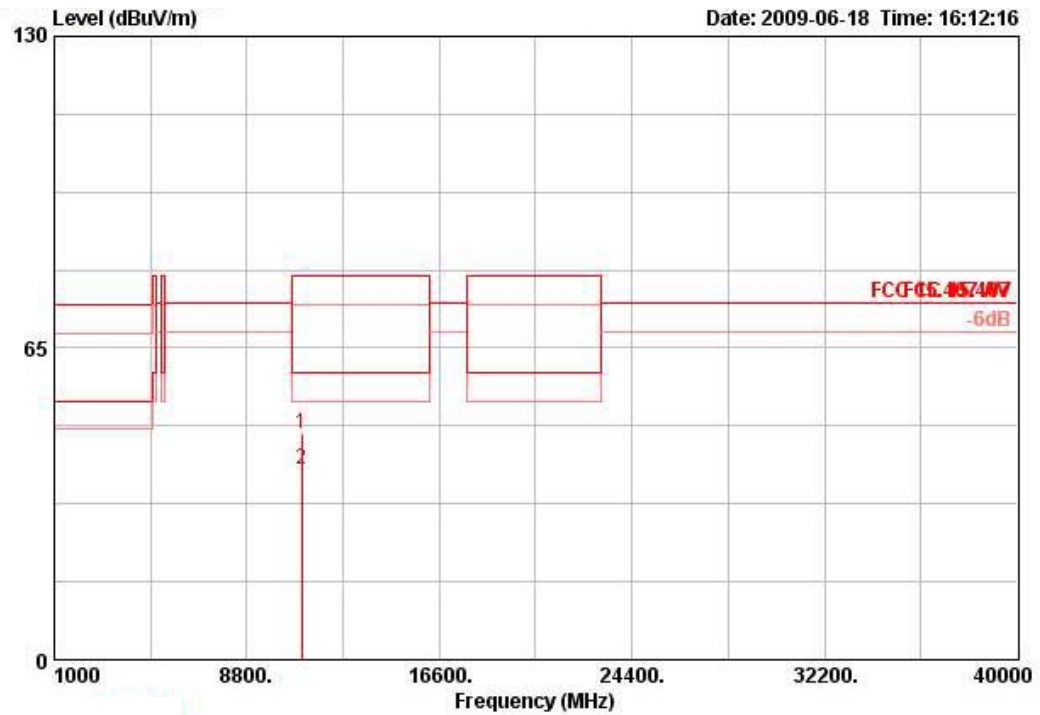
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 102 / Ant. 1

**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	11020.000	52.46	80.00	-27.54	42.50	PEAK	6.74	35.11	38.33	182	100	HORIZONTAL
2	11020.000	39.48	60.00	-20.52	29.51	AVERAGE	6.74	35.11	38.33	182	100	HORIZONTAL

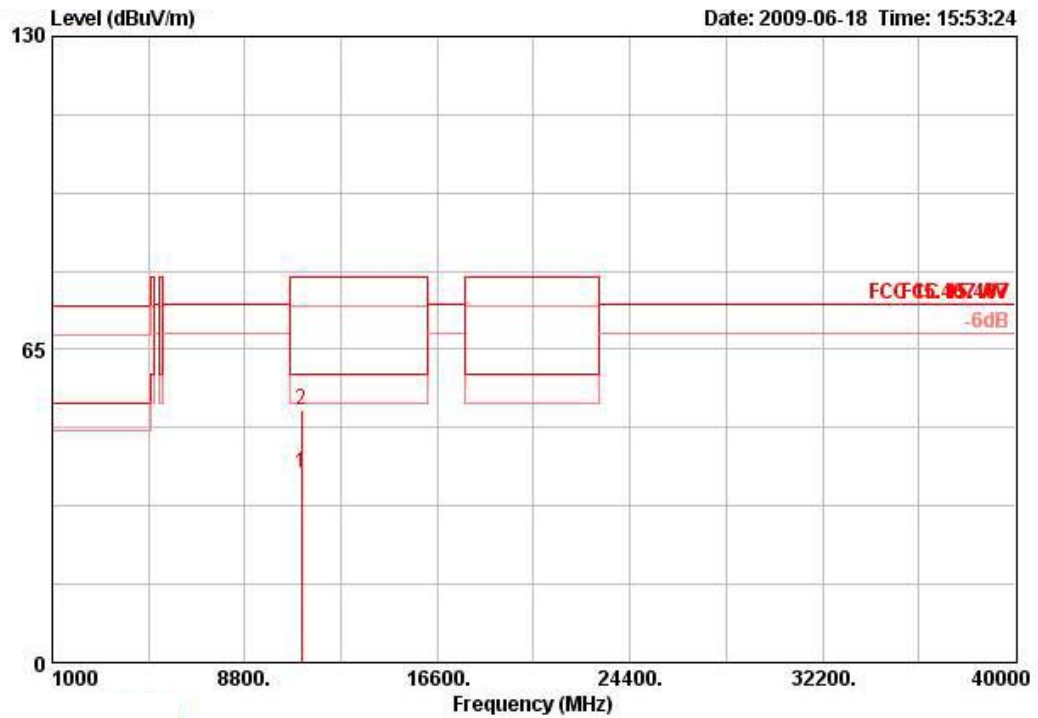
Vertical



	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	11019.980	47.05	80.00	-32.95	37.11	PEAK	6.74	35.11	38.32	271	100
2	11019.990	39.54	60.00	-20.46	29.60	AVERAGE	6.74	35.11	38.32	271	100

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 110 / Ant. 1

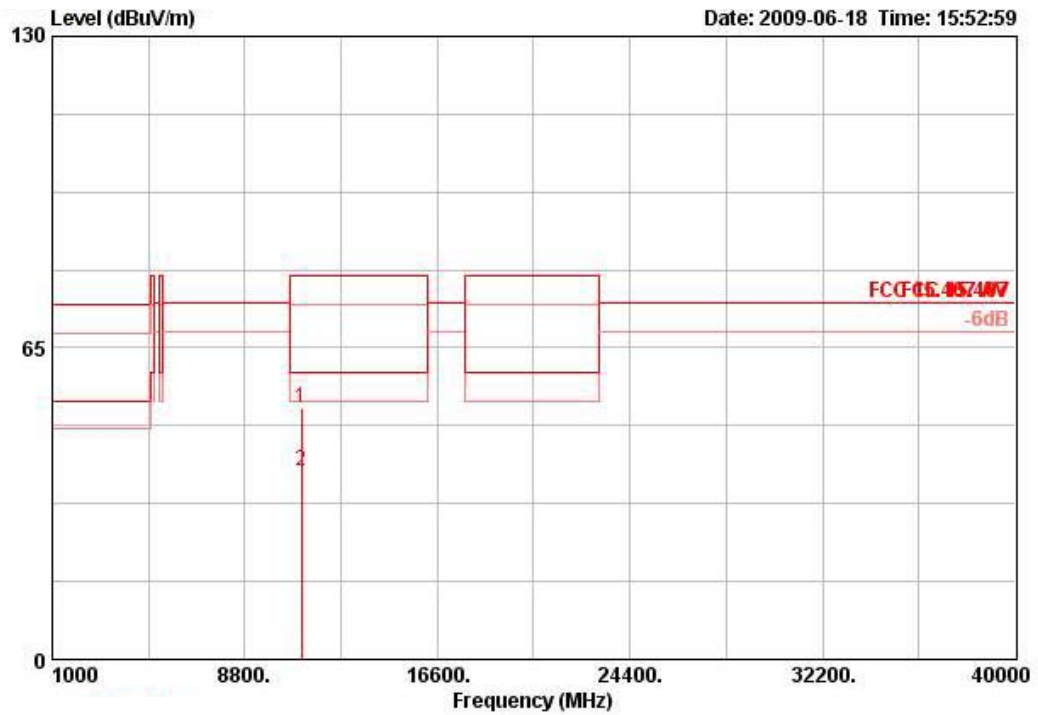
**Horizontal**



	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Ant Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1	11097.560	39.23	60.00	-20.77	29.23	AVERAGE	6.74	35.14	38.40	294	107	HORIZONTAL
2	11100.120	52.54	80.00	-27.46	42.54	PEAK	6.74	35.14	38.40	294	107	HORIZONTAL



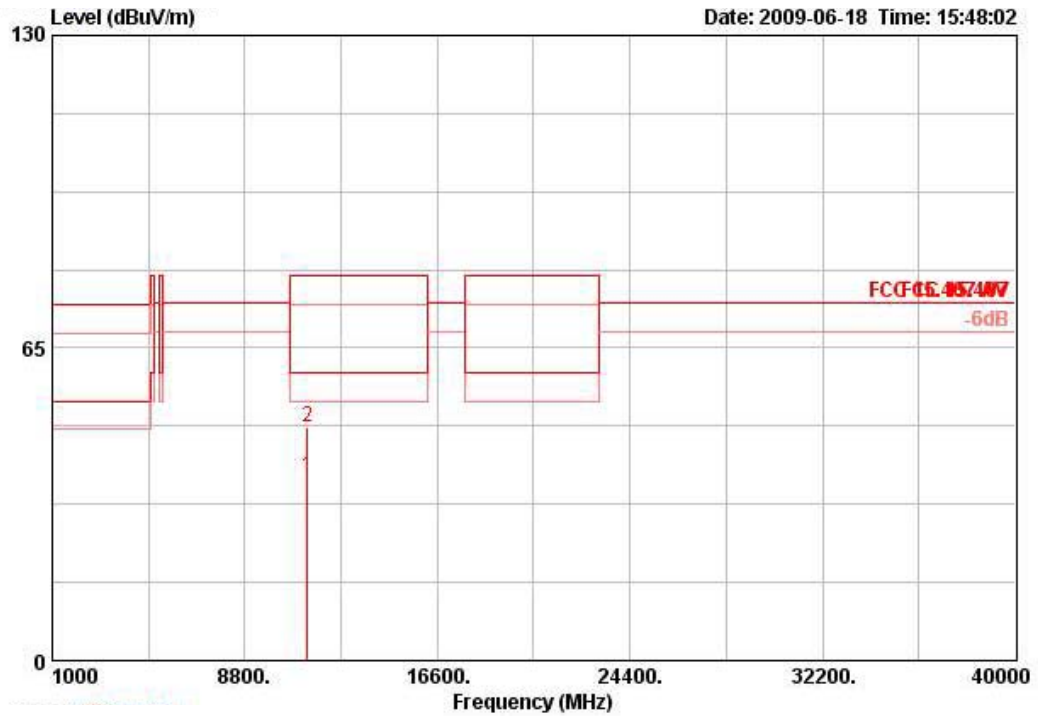
Vertical



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos Pol/Phase
1	11099.910	52.26	80.00	-27.74	42.26	PEAK	6.74	35.14	38.40	203	110 VERTICAL
2	11100.450	39.22	60.00	-20.78	29.22	AVERAGE	6.74	35.14	38.40	203	110 VERTICAL

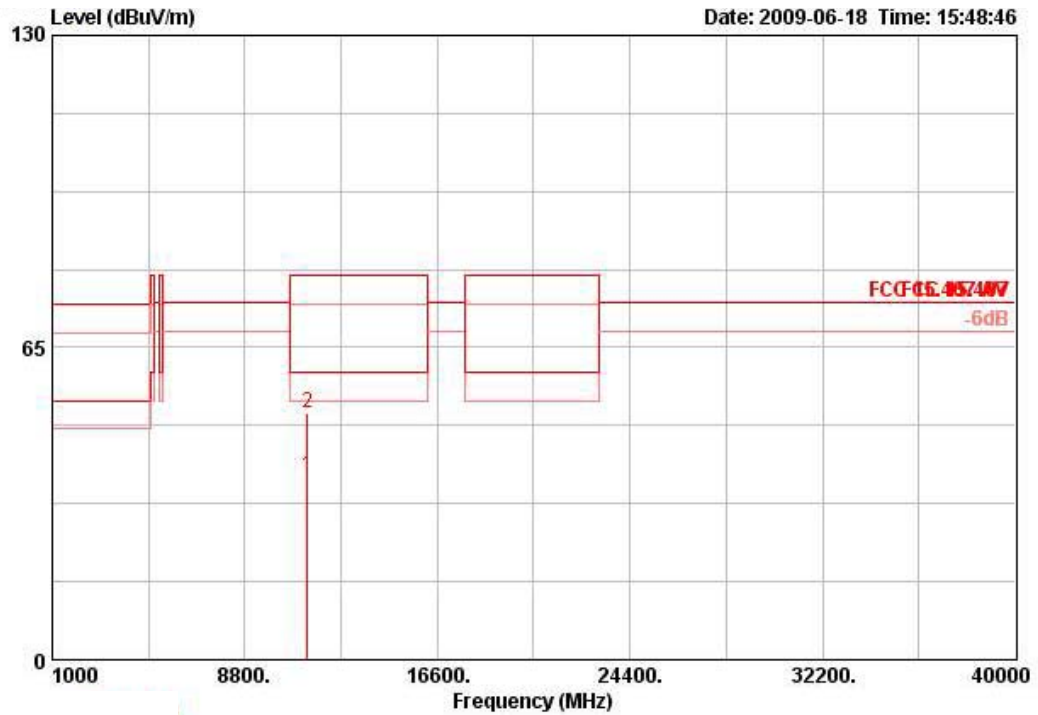
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 40MHz Ch 134 / Ant. 1

**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	11335.500	38.28	60.00	-21.72	28.14	AVERAGE	6.74	35.23	38.63	108	117	HORIZONTAL
2	11337.120	48.51	80.00	-31.49	38.37	PEAK	6.74	35.24	38.63	108	117	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	11340.430	38.23	60.00	-21.77	28.10	AVERAGE	6.74	35.24	38.63	136	112
2	11340.930	51.46	80.00	-28.54	41.32	PEAK	6.74	35.24	38.63	136	112

**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.

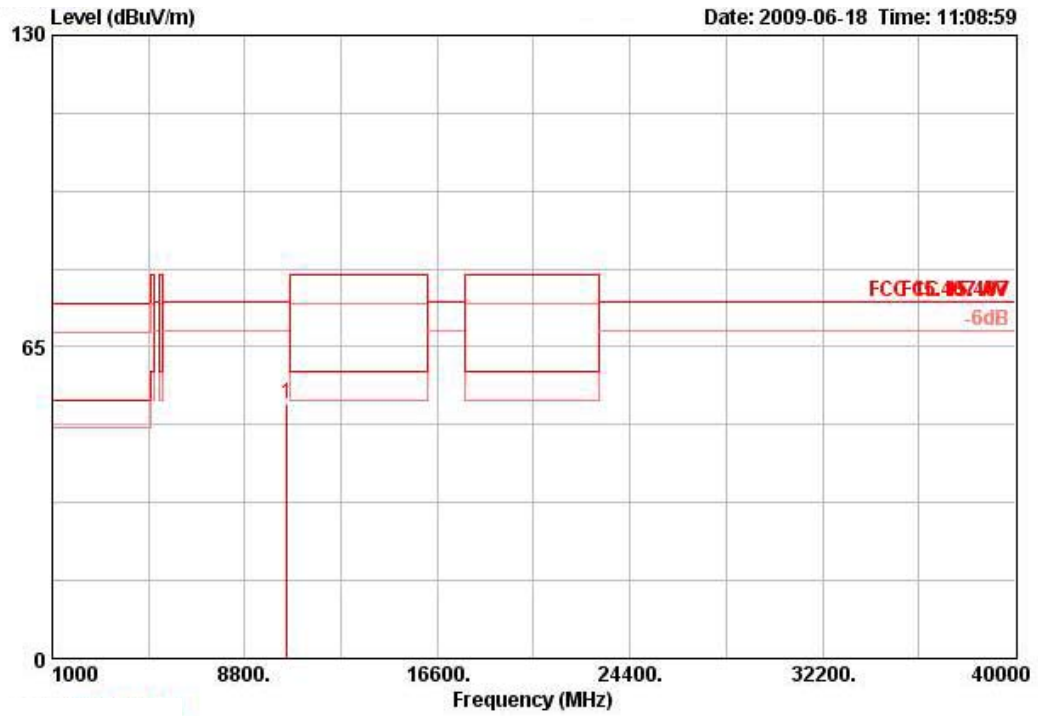
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

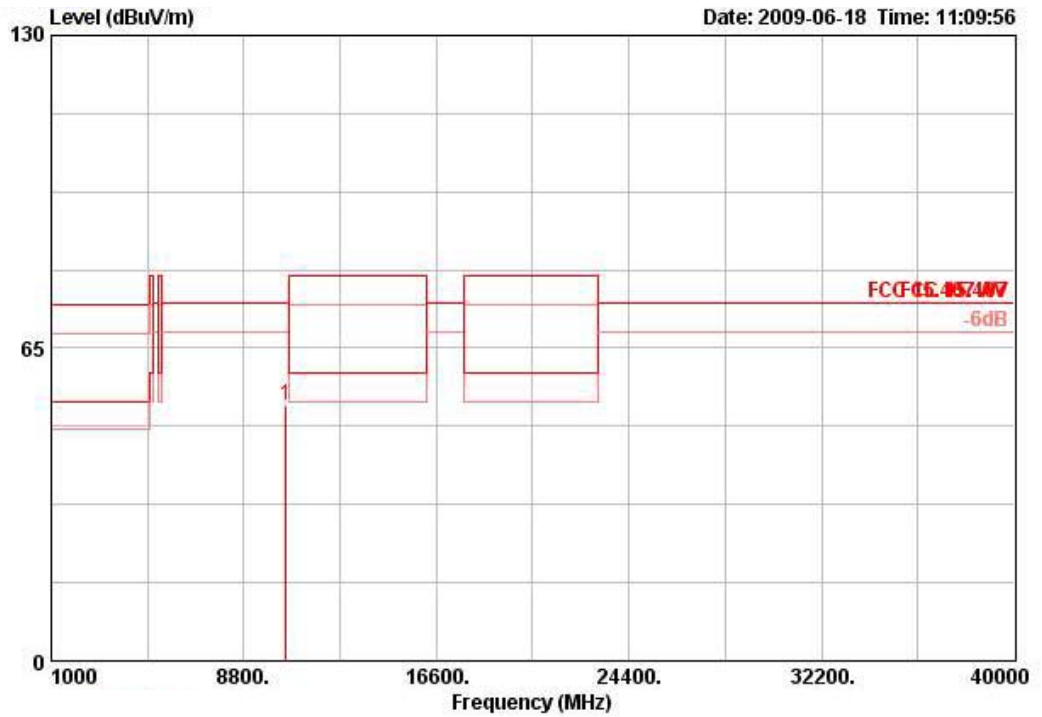
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 52 / Ant. 1

**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	10520.020	53.15	74.30	-21.15	43.67	PEAK	6.58	35.50	38.40	0	100	HORIZONTAL

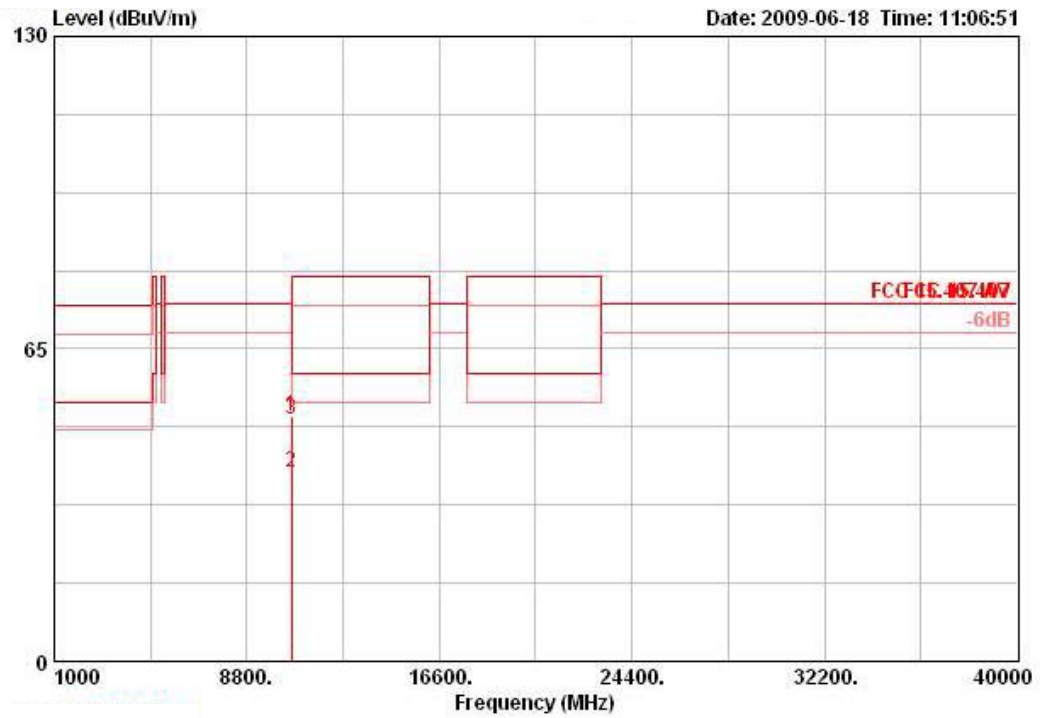
Vertical



	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	10520.010	53.25	74.30	-21.05	43.77	PEAK	6.58	35.50	38.39	360	100
											VERTICAL

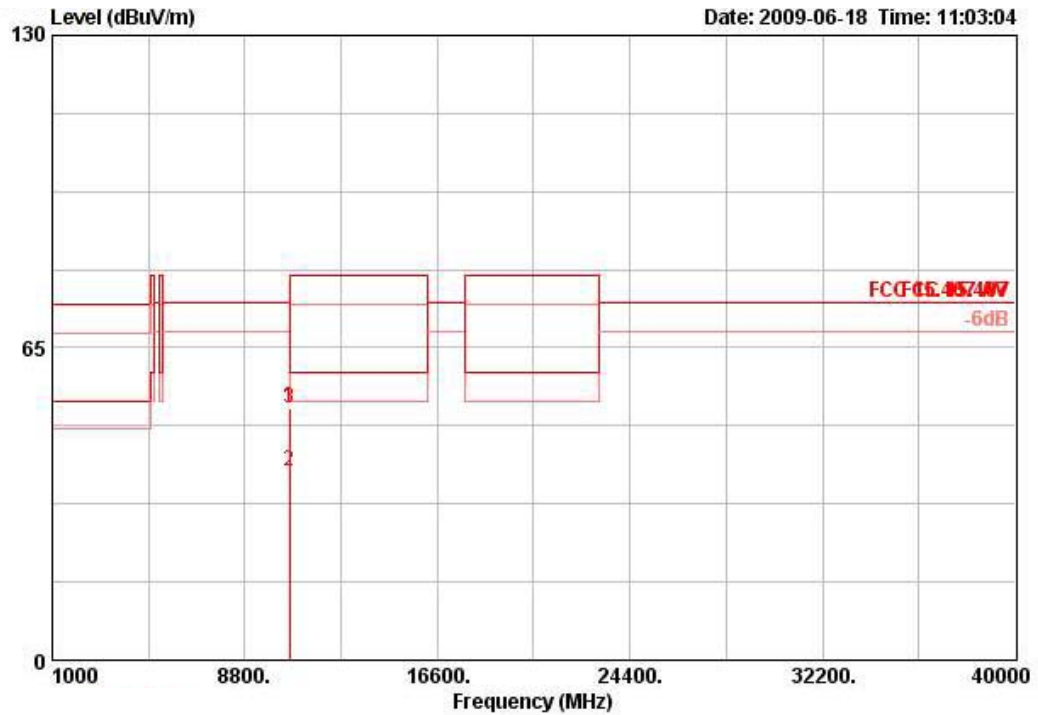
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 60 / Ant. 1

**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	10599.830	51.01	74.30	-23.29	41.44	6.61	35.42	38.38	360	100	PEAK	HORIZONTAL
2	10600.000	39.20	60.00	-20.80	29.63	6.61	35.42	38.38	360	100	AVERAGE	HORIZONTAL
3	10600.020	50.38	80.00	-29.62	40.81	6.61	35.42	38.38	360	100	PEAK	HORIZONTAL

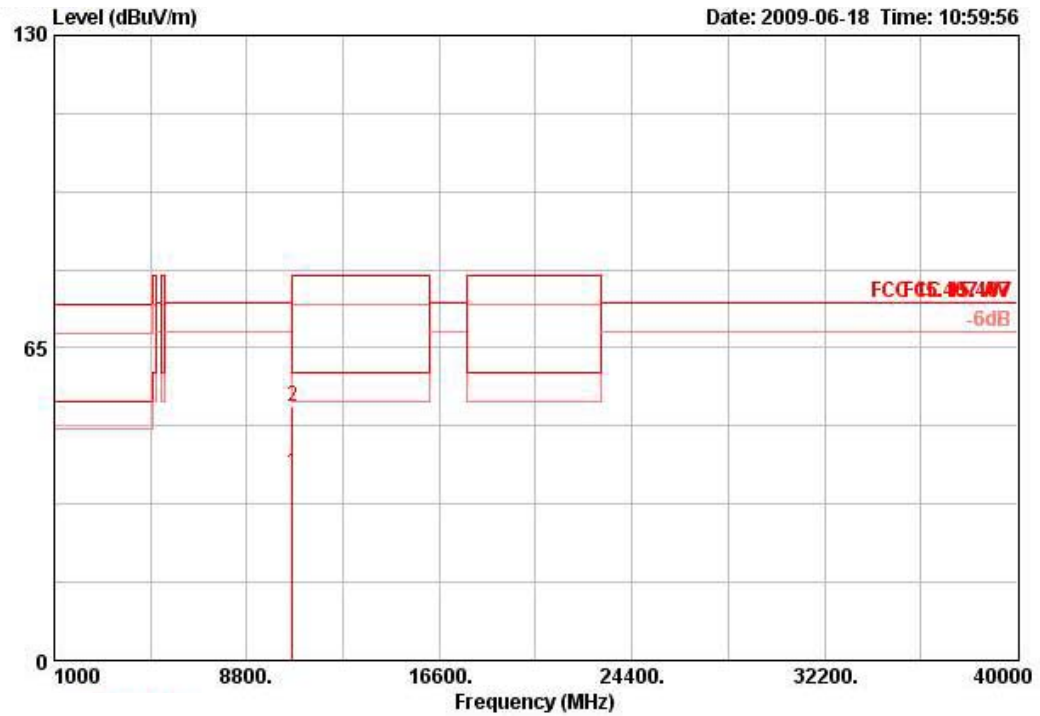
Vertical



	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	10599.990	52.44	74.30	-21.86	42.87	PEAK	6.61	35.42	38.38	360	100
2	10600.010	39.28	60.00	-20.72	29.71	AVERAGE	6.61	35.42	38.38	360	100
3	10600.020	52.37	80.00	-27.63	42.80	PEAK	6.61	35.42	38.38	360	100

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 64 / Ant. 1

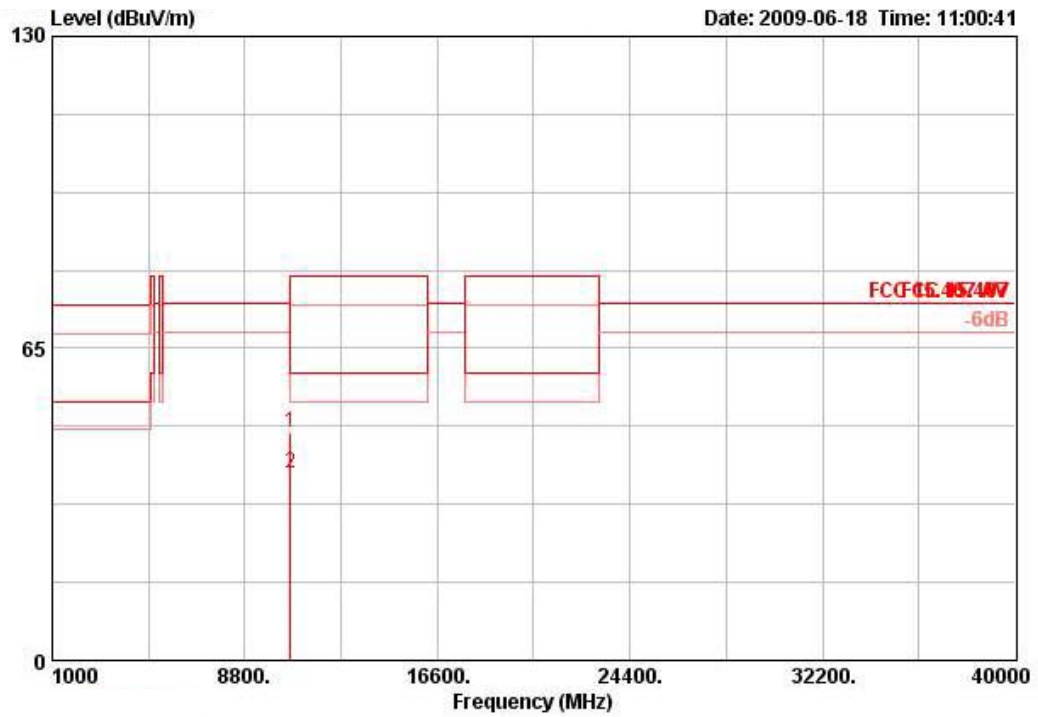
**Horizontal**



	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	10640.010	39.03	60.00	-20.97	29.43	AVERAGE	6.62	35.39	38.37	360	100 HORIZONTAL
2	10640.020	52.67	80.00	-27.33	43.07	PEAK	6.62	35.39	38.37	360	100 HORIZONTAL



Vertical

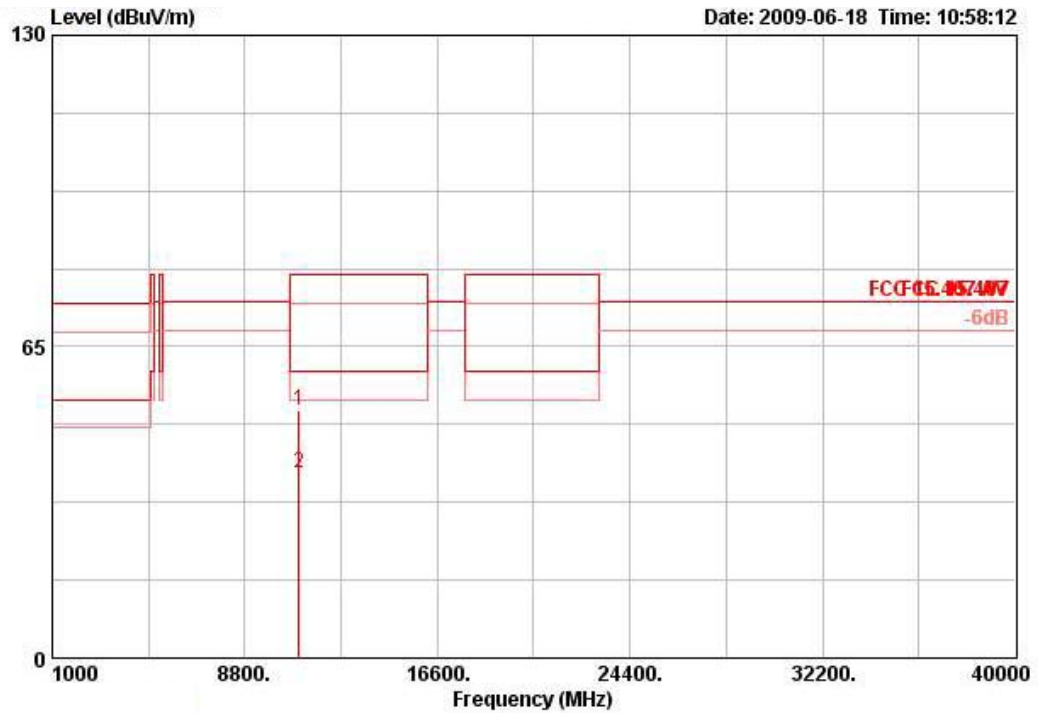


www.sportonlab.com

	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	10639.990	47.31	80.00	-32.69	37.71	PEAK	6.62	35.39	38.37	0	100
2	10640.010	39.04	60.00	-20.96	29.44	AVERAGE	6.62	35.39	38.37	0	100

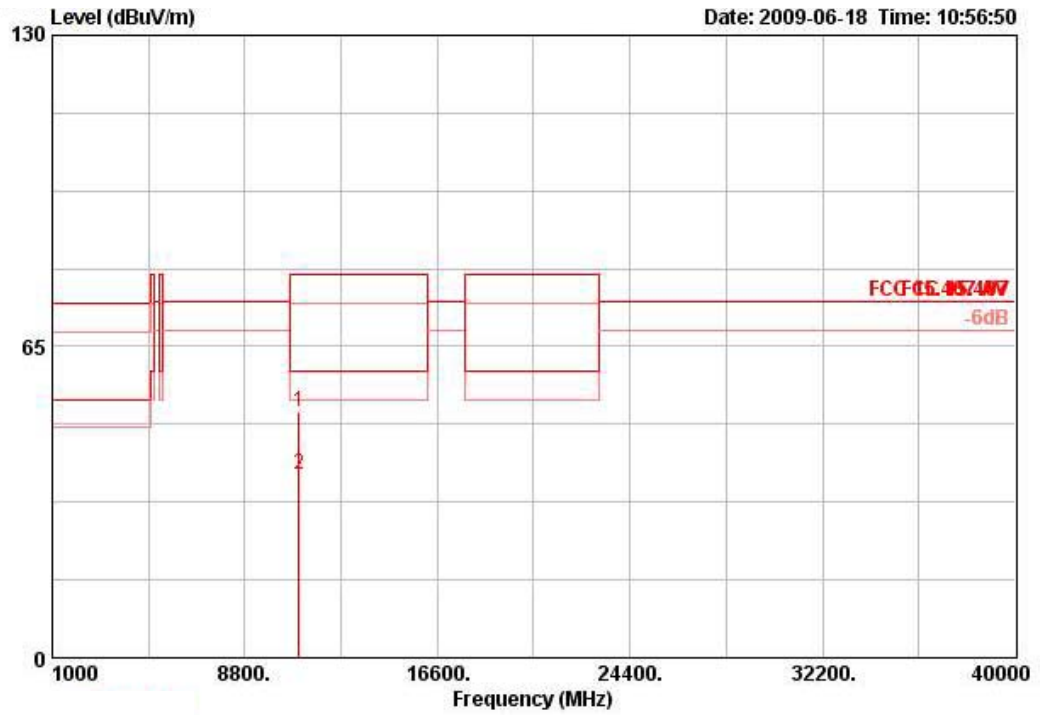
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 100 / Ant. 1

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	10999.990	51.60	80.00	-28.40	41.64	PEAK	6.74	35.10	38.32	0	100 HORIZONTAL
2	11000.010	38.44	60.00	-21.56	28.48	AVERAGE	6.74	35.10	38.32	0	100 HORIZONTAL

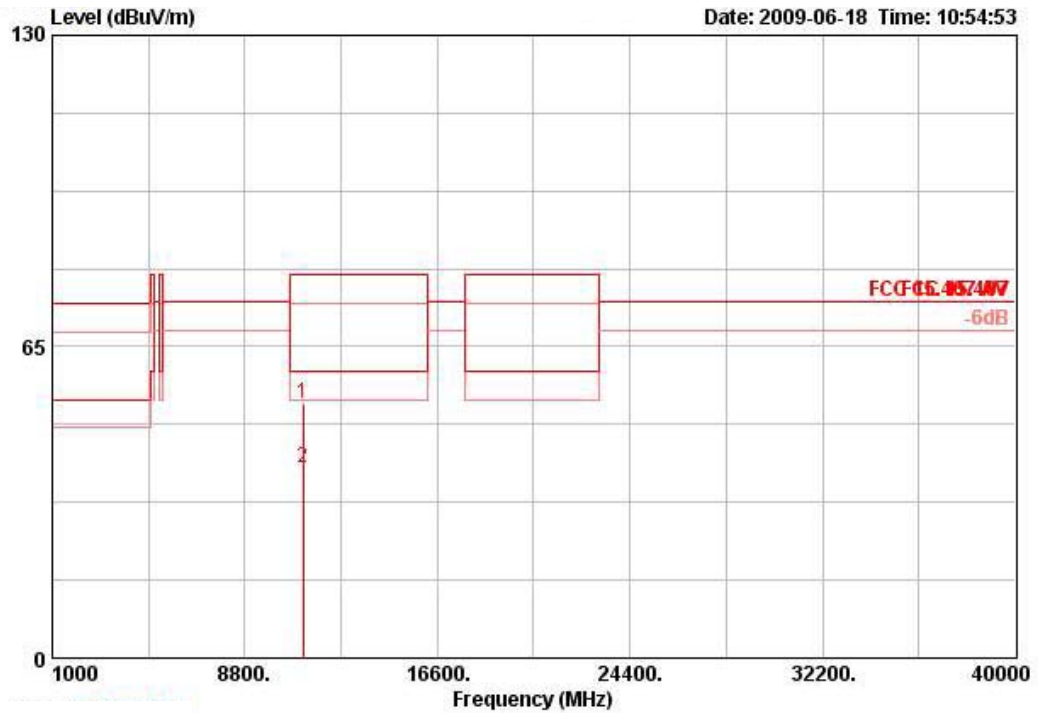
Vertical



	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	10999.990	51.32	80.00	-28.68	41.38	PEAK	6.74	35.10	38.30	360	100	VERTICAL
2	11000.030	38.38	60.00	-21.62	28.44	AVERAGE	6.74	35.10	38.30	360	100	VERTICAL

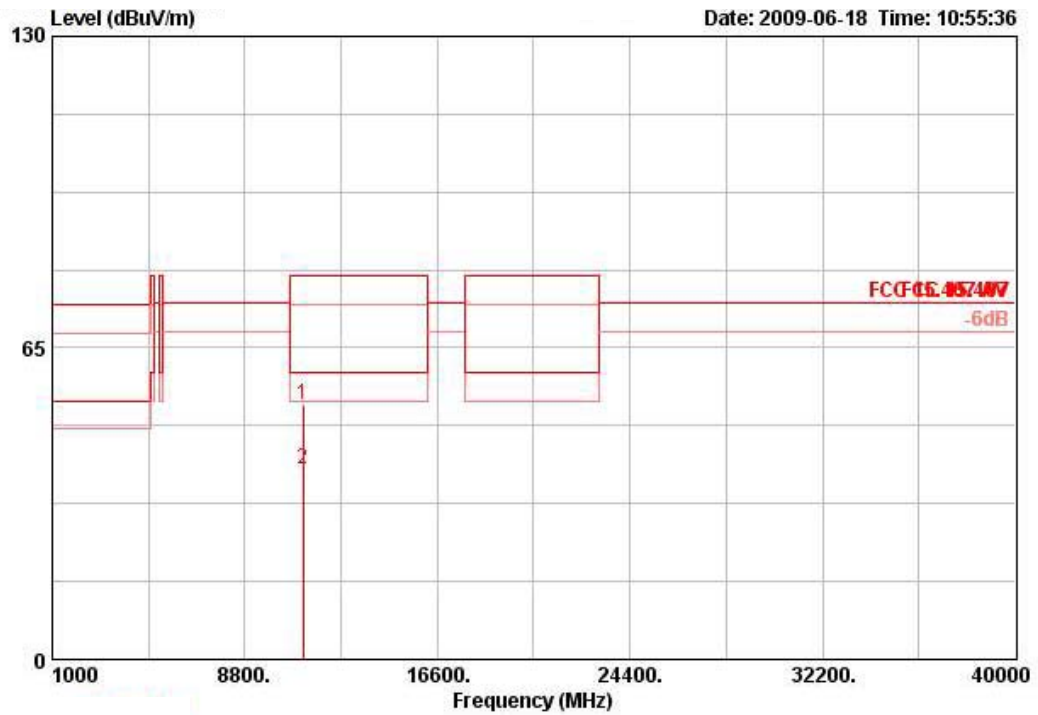
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 116 / Ant. 1

**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	11160.020	53.05	80.00	-26.95	43.01	PEAK	6.74	35.17	38.47	360	100 HORIZONTAL
2	11160.030	39.59	60.00	-20.41	29.55	AVERAGE	6.74	35.17	38.47	360	100 HORIZONTAL

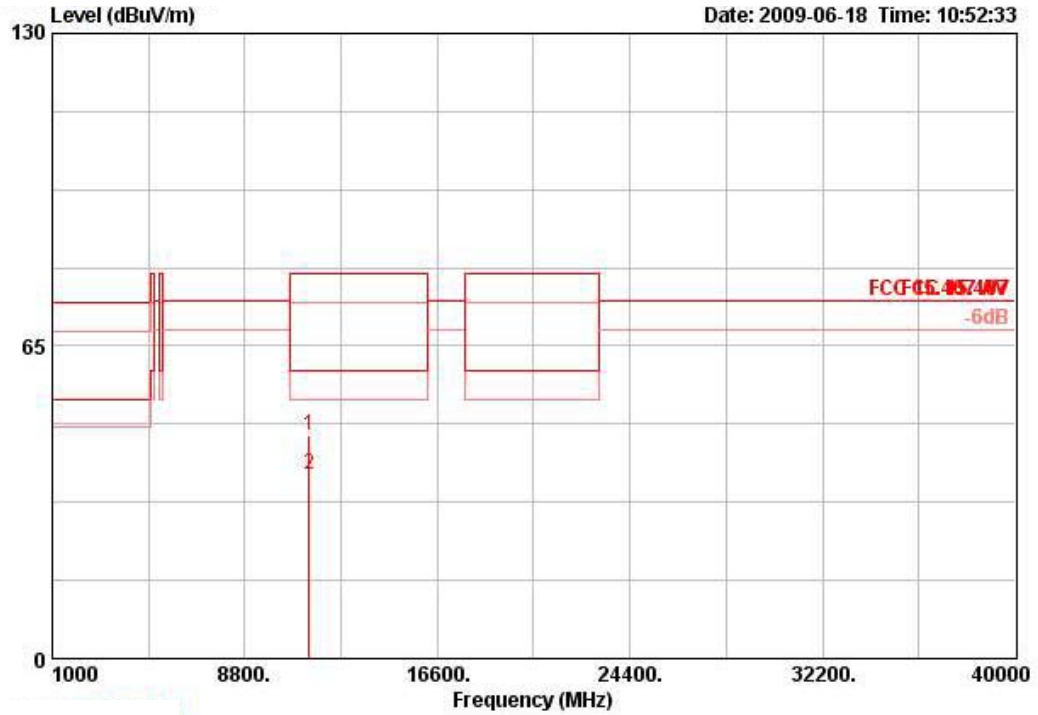
Vertical



	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	11160.020	52.96	80.00	-27.04	42.93	PEAK	6.74	35.17	38.47	0	100
2	11160.030	39.65	60.00	-20.35	29.62	AVERAGE	6.74	35.17	38.47	0	100

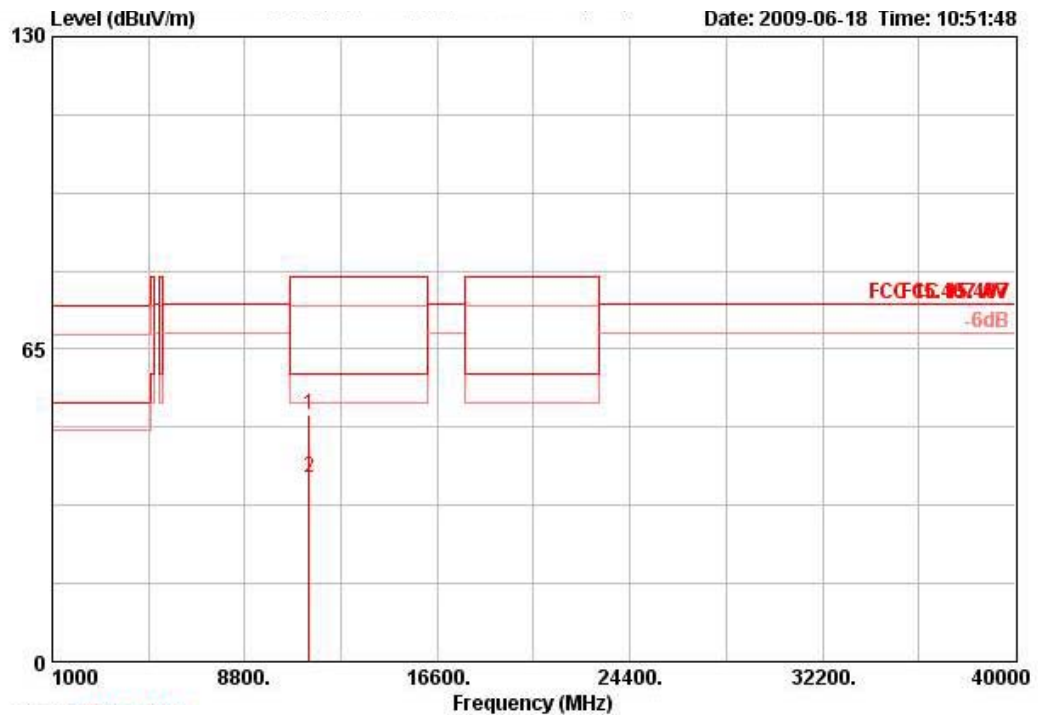
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	802.11a Ch 140 / Ant. 1

**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	11399.980	46.27	80.00	-33.73	36.08	PEAK	6.74	35.26	38.70	0	100 HORIZONTAL
2	11400.010	38.11	60.00	-21.89	27.92	AVERAGE	6.74	35.26	38.70	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	11400.000	51.50	80.00	-28.50	41.32	PEAK	6.74	35.26	38.70	360	100
2	11400.030	38.13	60.00	-21.87	27.95	AVERAGE	6.74	35.26	38.70	360	100

**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.

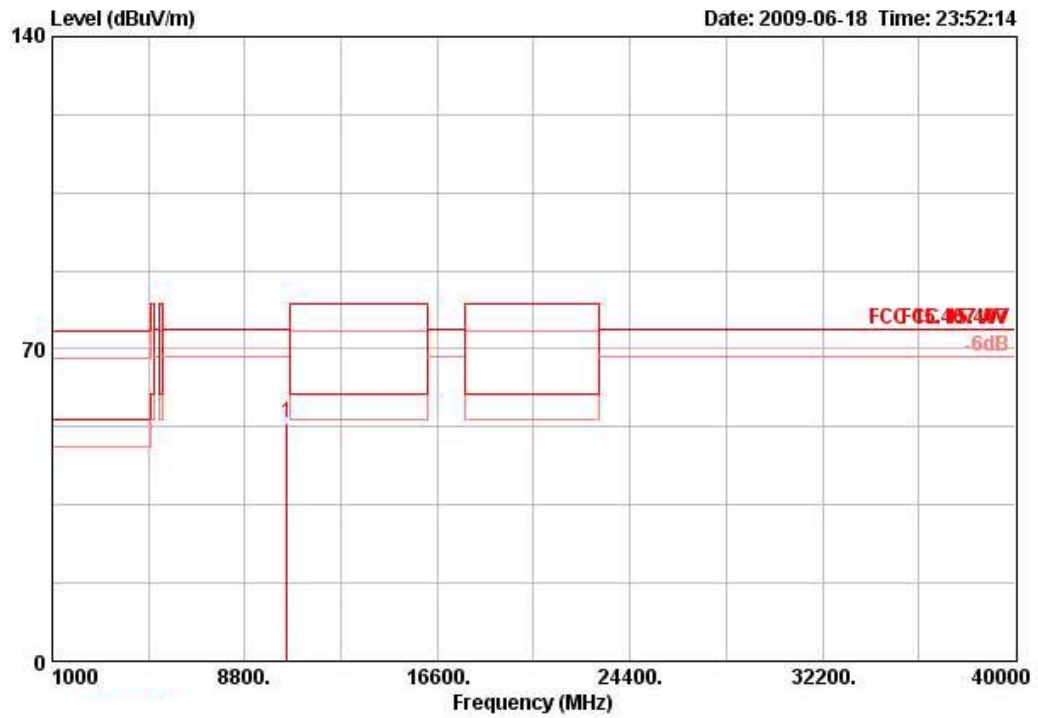
Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

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

<For Antenna 2>:

<b>Temperature</b>	25.6°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Allen Liu	<b>Configurations</b>	Draft n MCS0 20MHz Ch 52 / Ant. 2

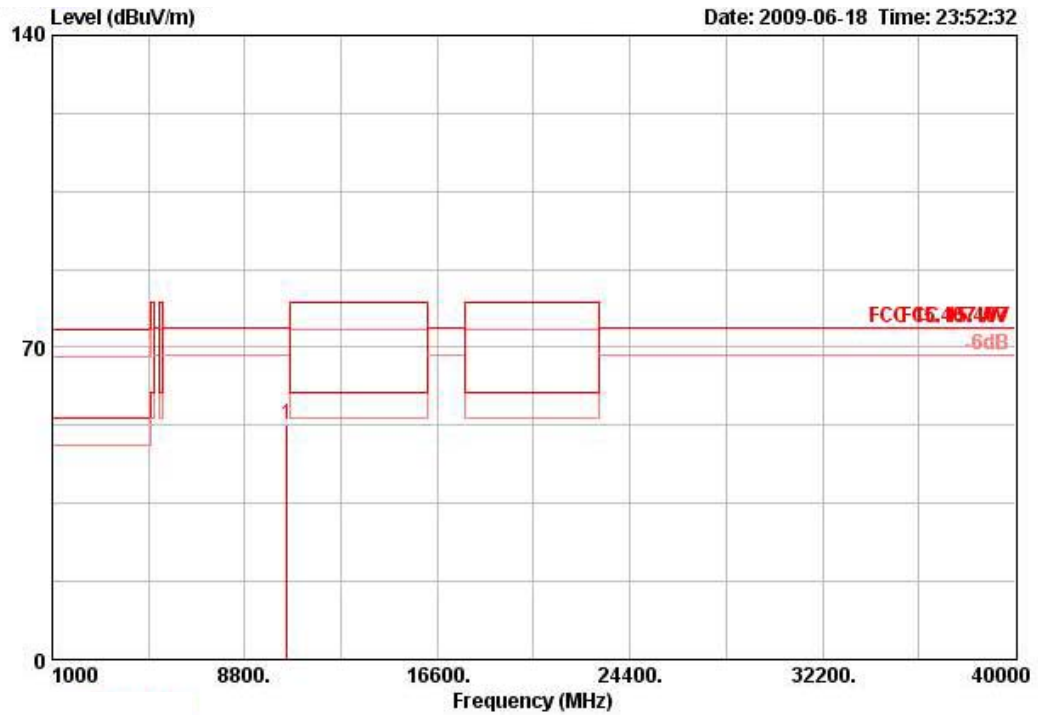
*Horizontal*



	Freq	Level	Limit Line	Over Limit	Read Level	Remark	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Ant Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm	
1	10520.020	53.59	74.30	-20.71	44.12	PEAK	6.58	35.50	38.40	306	100	HORIZONTAL



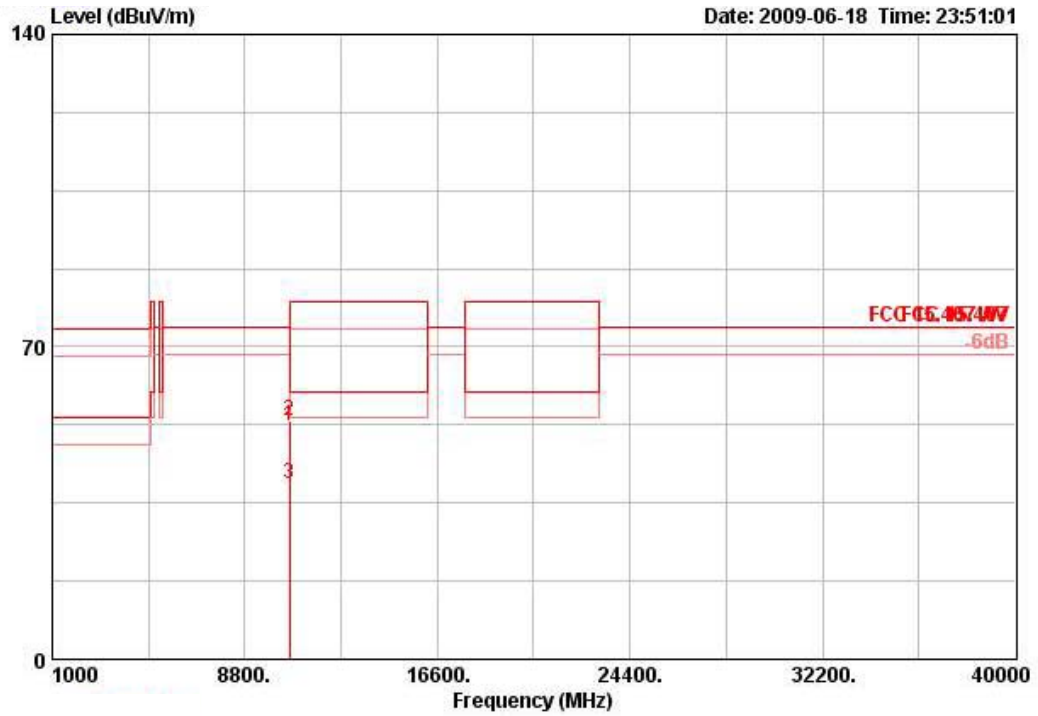
**Vertical**



	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	10519.980	52.83	74.30	-21.47	43.36	PEAK	6.58	35.50	38.39	269	100 VERTICAL

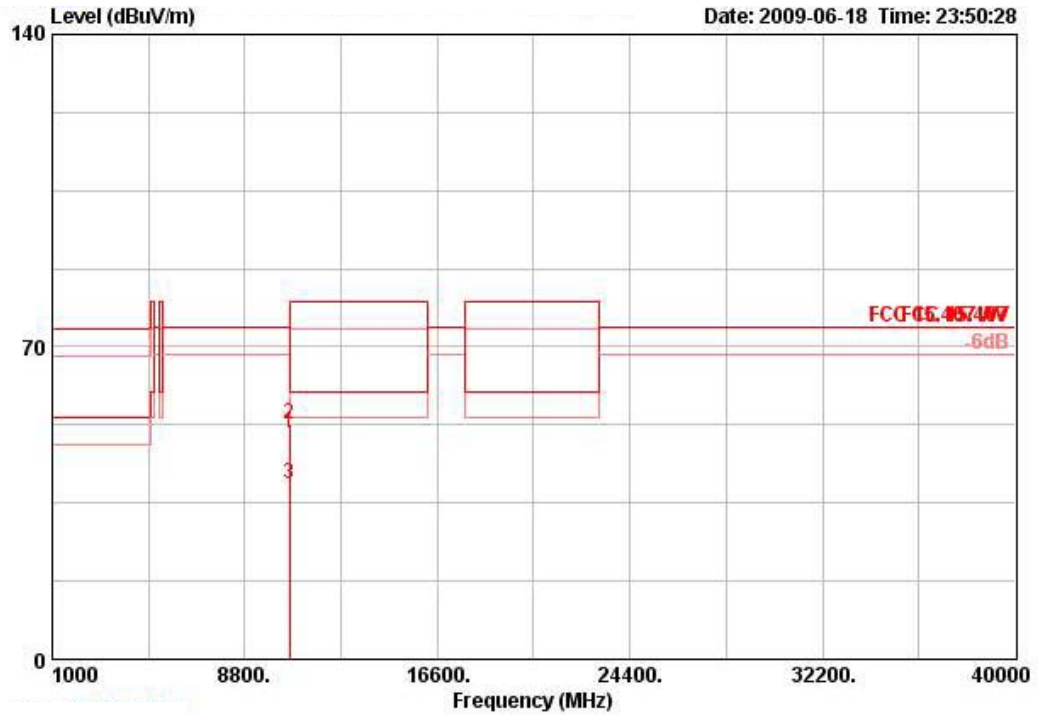
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 60 / Ant. 2

**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	10599.990	52.17	74.30	-22.13	42.60	PEAK	6.61	35.42	38.38	262	100 HORIZONTAL
2	10600.010	53.35	80.00	-26.65	43.78	PEAK	6.61	35.42	38.38	262	100 HORIZONTAL
3	10600.030	39.30	60.00	-20.70	29.73	AVERAGE	6.61	35.42	38.38	262	100 HORIZONTAL

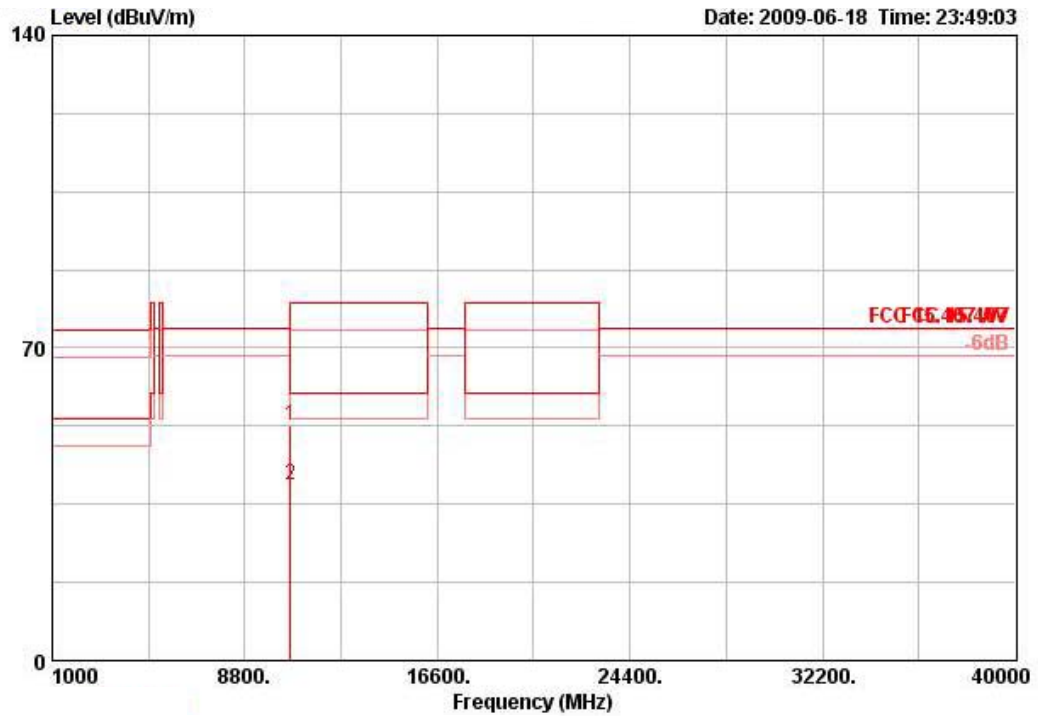
Vertical



	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	10599.980	50.64	74.30	-23.66	41.07	PEAK	6.61	35.42	38.38	326	100 VERTICAL
2	10600.000	52.61	80.00	-27.39	43.04	PEAK	6.61	35.42	38.38	326	100 VERTICAL
3	10600.030	39.31	60.00	-20.69	29.74	AVERAGE	6.61	35.42	38.38	326	100 VERTICAL

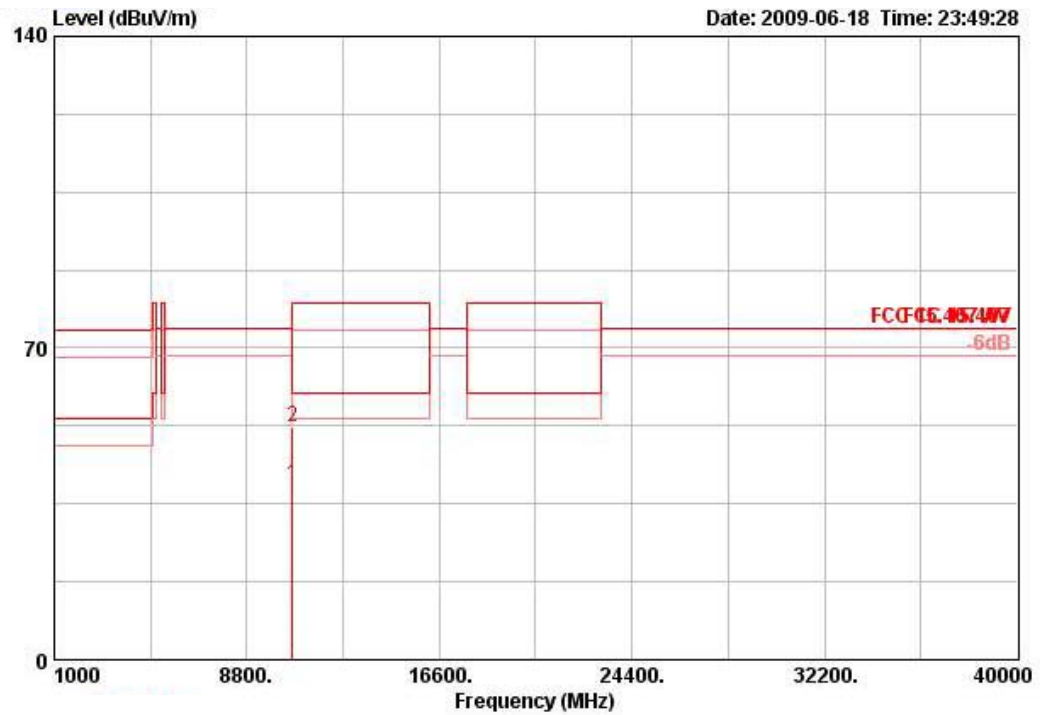
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 64 / Ant. 2

**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	10639.990	52.52	80.00	-27.48	42.92	PEAK	6.62	35.39	38.37	360	100 HORIZONTAL
2	10640.030	39.19	60.00	-20.81	29.59	AVERAGE	6.62	35.39	38.37	360	100 HORIZONTAL

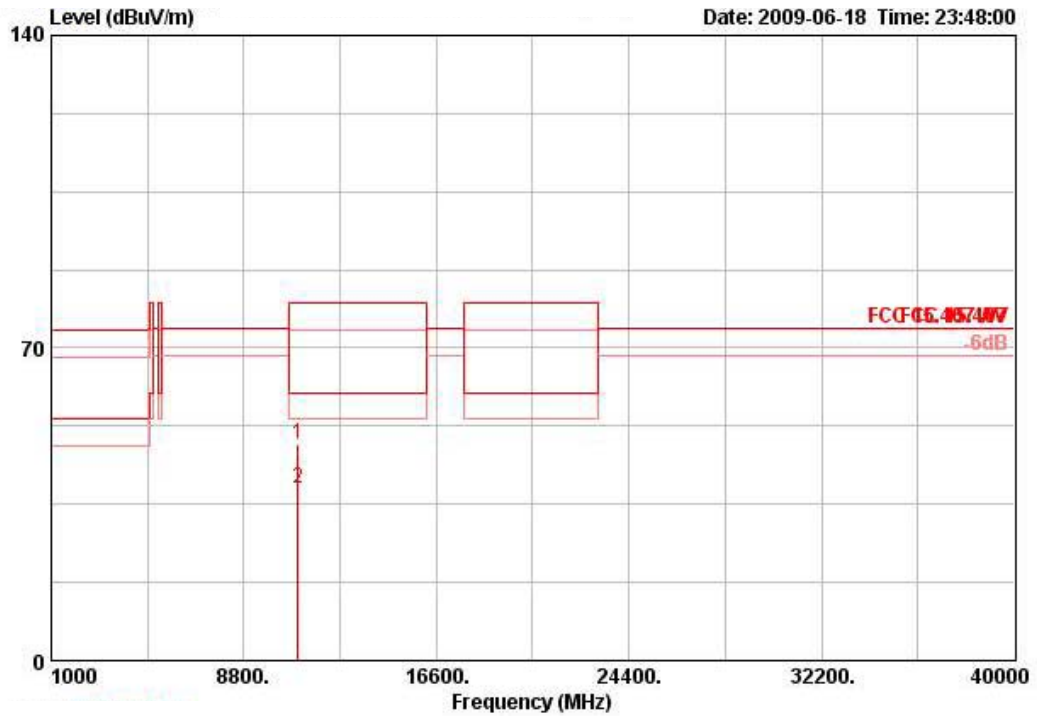
Vertical



	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	10639.970	39.12	60.00	-20.88	29.52	AVERAGE	6.62	35.39	38.37	284	100
2	10639.990	52.34	80.00	-27.66	42.75	PEAK	6.62	35.39	38.37	284	100

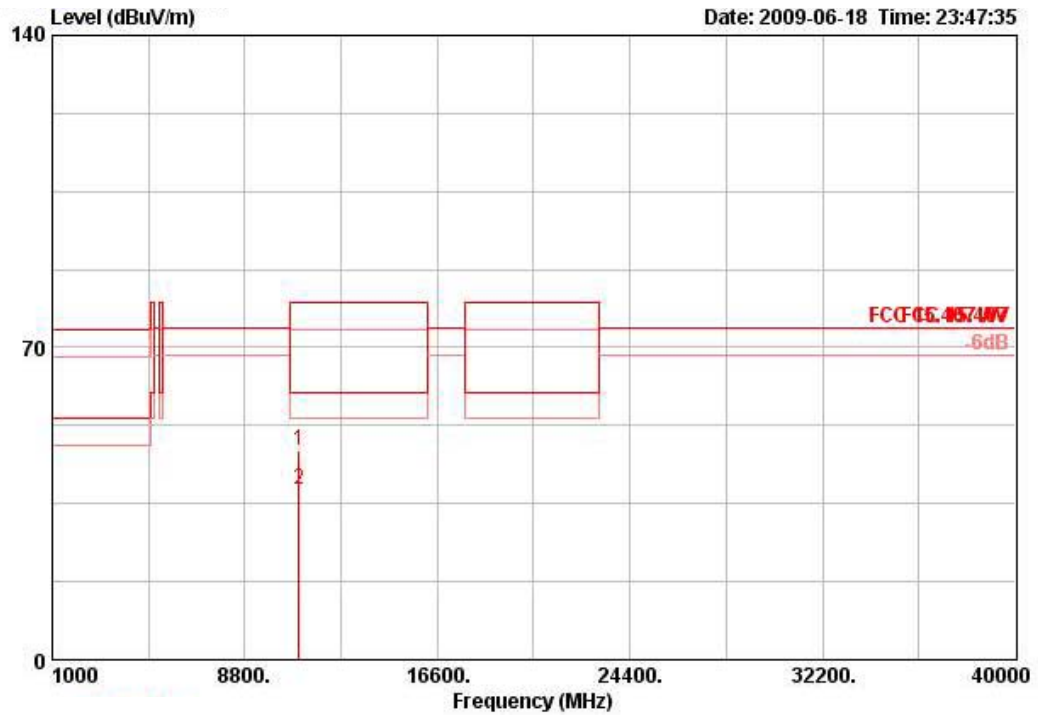
Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 100 / Ant. 2

**Horizontal**



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	Line	Limit	Level		Loss	Factor	Factor	Pos	Pos
			dBuV/m	dB	dBuV		dB	dB	dB/m	deg	cm
1	10999.980	48.30	80.00	-31.70	38.34	PEAK	6.74	35.10	38.32	318	100 HORIZONTAL
2	11000.030	38.34	60.00	-21.66	28.38	AVERAGE	6.74	35.10	38.32	318	100 HORIZONTAL

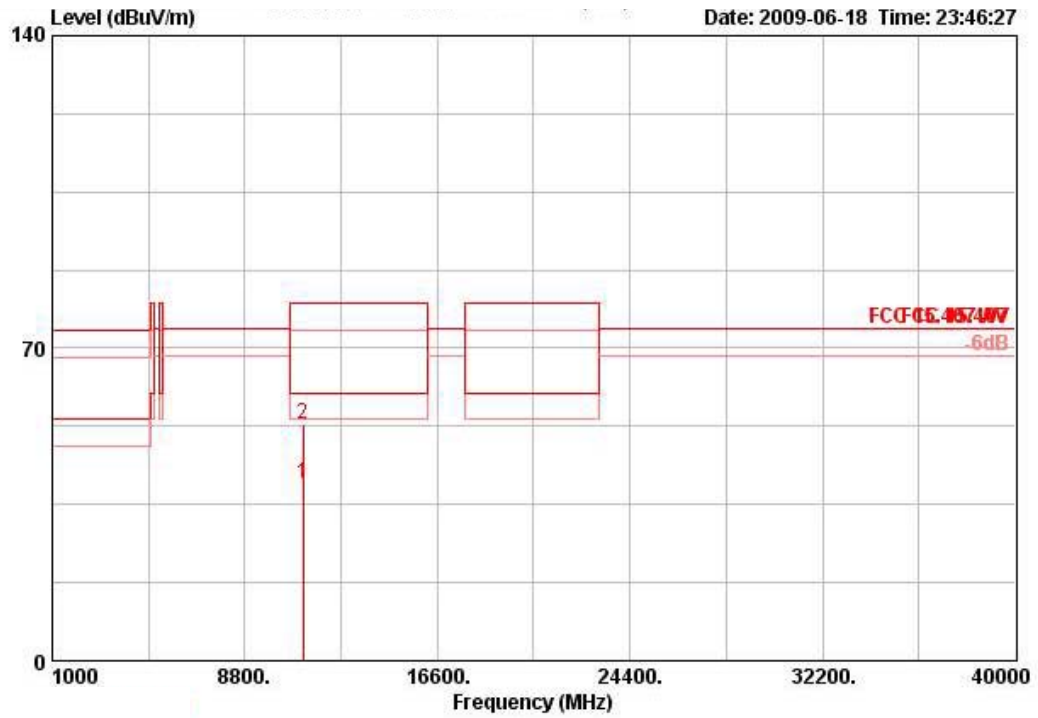
Vertical



	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	10999.980	46.90	80.00	-33.10	36.96	PEAK	6.74	35.10	38.30	236	100
2	11000.010	38.31	60.00	-21.69	28.37	AVERAGE	6.74	35.10	38.30	236	100

Temperature	25.6°C	Humidity	56%
Test Engineer	Allen Liu	Configurations	Draft n MCS0 20MHz Ch 116 / Ant. 2

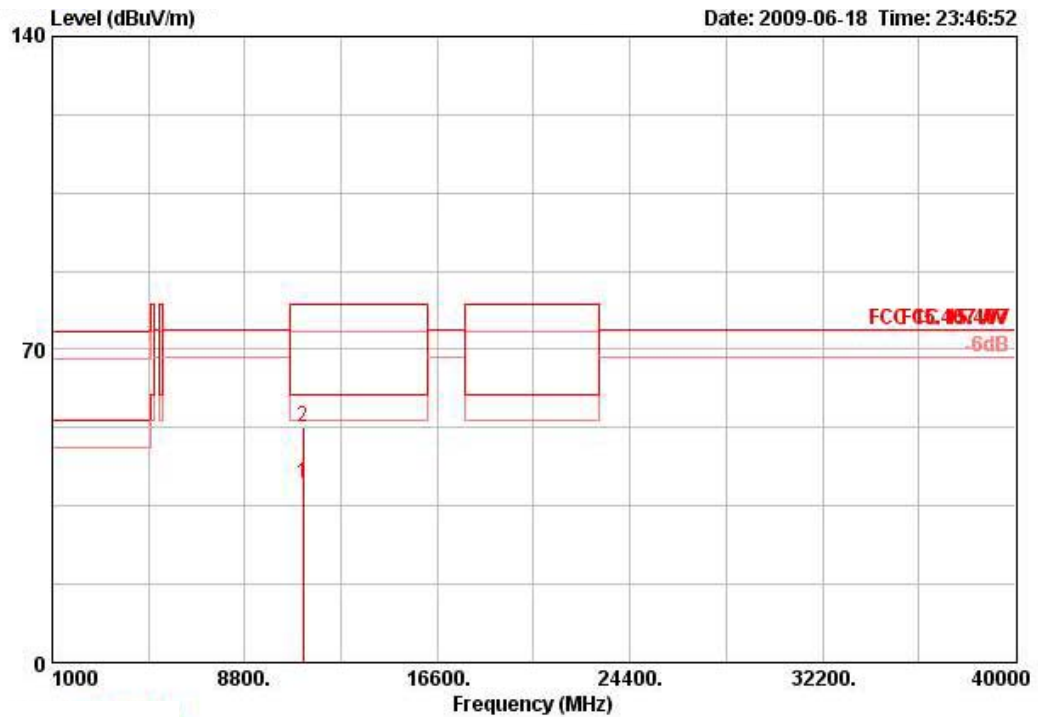
Horizontal



	Freq	Level	Limit	Over	Read	Remark	Cable	Preamp	Antenna	Table	Ant
	MHz	dBuV/m	dBuV/m	dB	dBuV		Loss	Factor	Factor	Pos	Pos Pol/Phase
1	11159.970	39.84	60.00	-20.16	29.80	AVERAGE	6.74	35.17	38.47	339	100 HORIZONTAL
2	11160.000	53.04	80.00	-26.96	43.00	PEAK	6.74	35.17	38.47	339	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	11159.970	39.87	60.00	-20.13	29.83	AVERAGE	6.74	35.17	38.47	280	100
2	11159.990	52.79	80.00	-27.21	42.76	PEAK	6.74	35.17	38.47	280	100