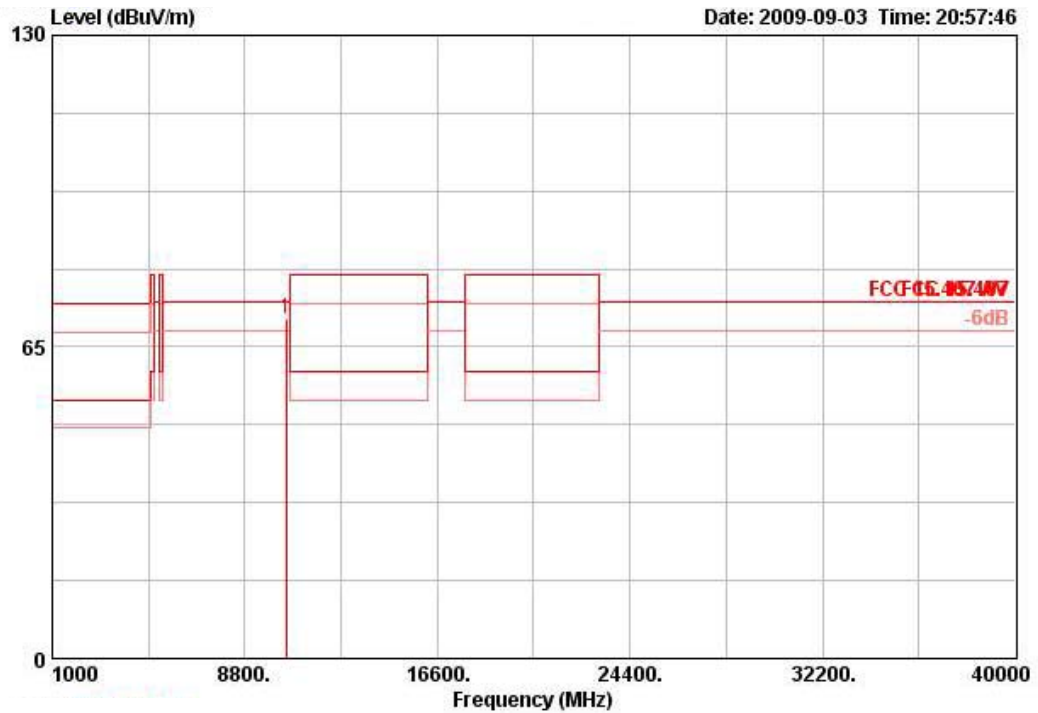


**Vertical**



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10459.960	70.76	74.30	-3.54	61.35	6.55	35.54	38.39	4	127	PEAK	VERTICAL

**Note:**

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

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

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

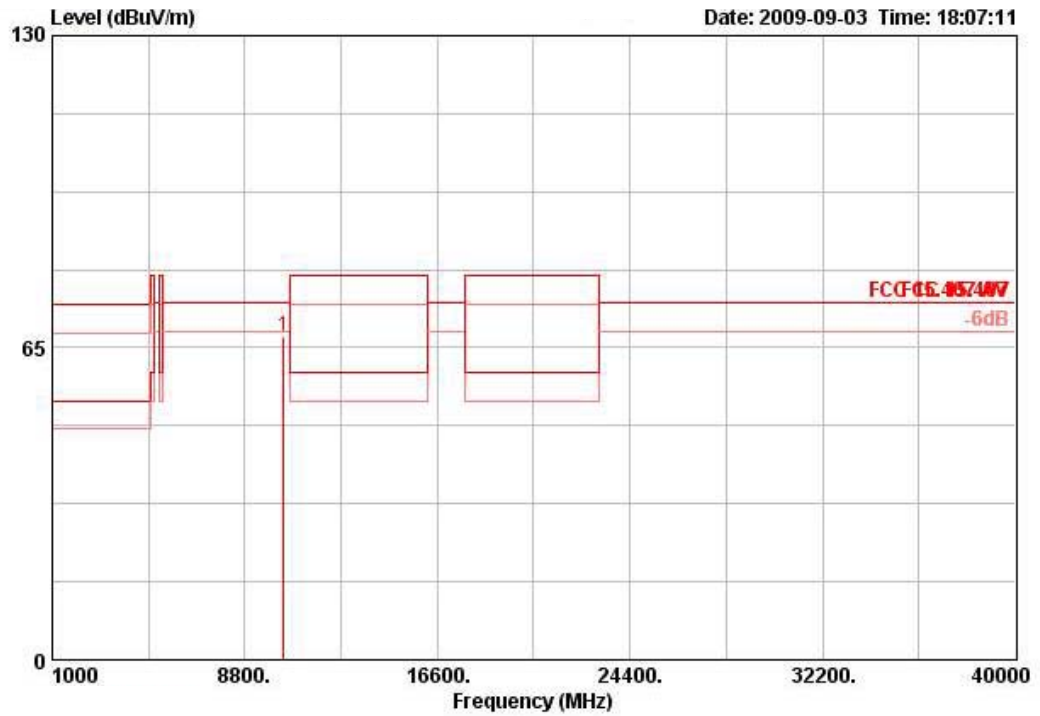
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

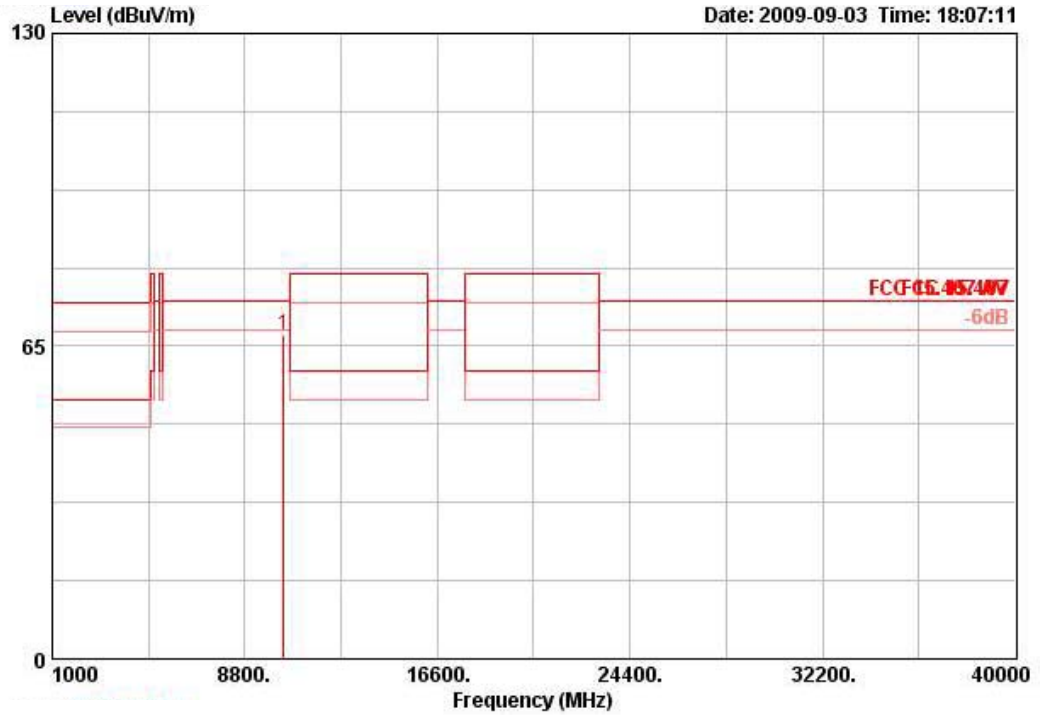
Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 36 / Ant. 5

**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	10355.640	67.45	74.30	-6.85	58.21	6.49	35.62	38.37	25	116	PERK	HORIZONTAL

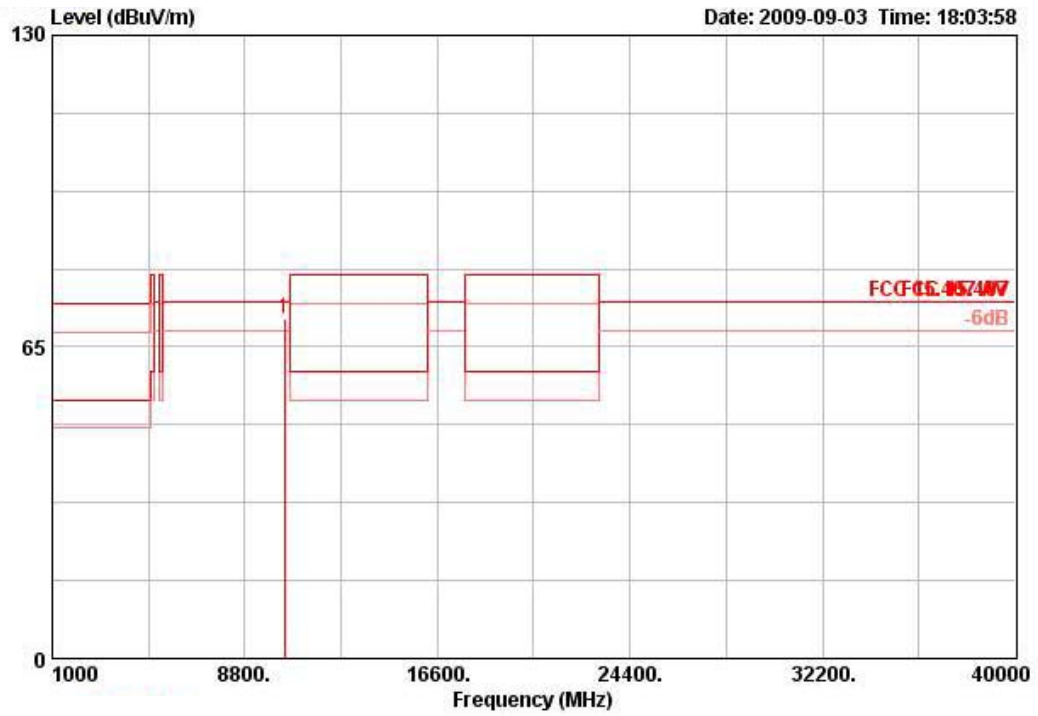
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10355.640	67.45	74.30	-6.85	58.21	6.49	35.62	38.37	25	116	PEAK	HORIZONTAL

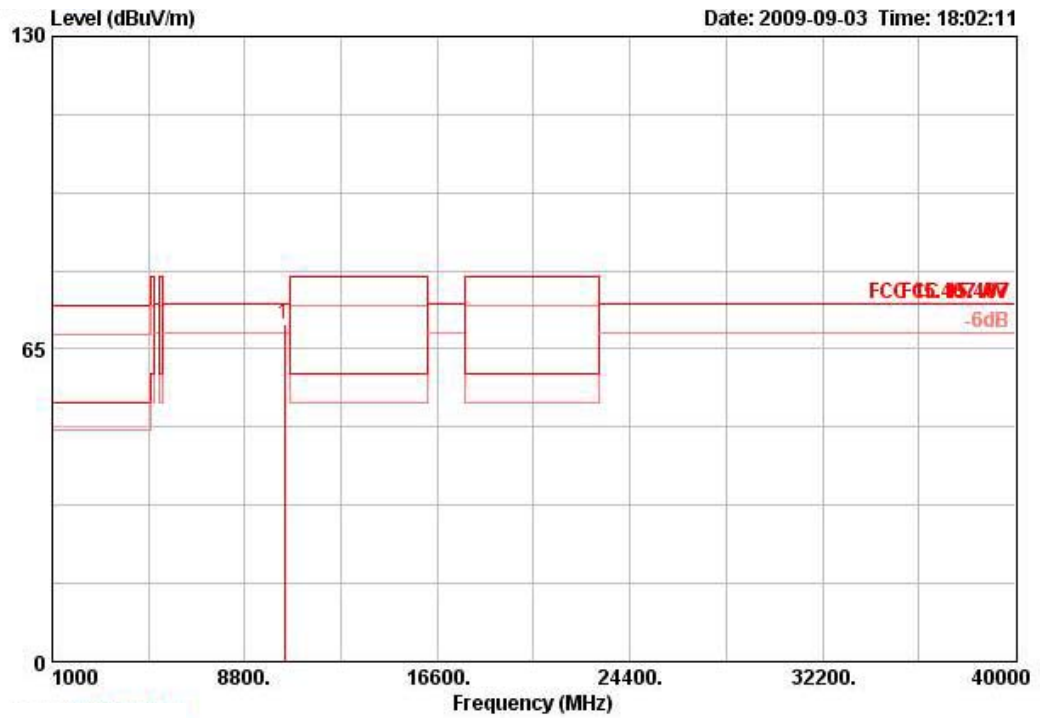
Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 40 / Ant. 5

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBUV/m	dBUV/m	dB	dBUV	dB	dB	dB/m	deg	cm		
1	10399.280	70.87	74.30	-3.43	61.55	6.52	35.58	38.38	6	114	PEAK	HORIZONTAL

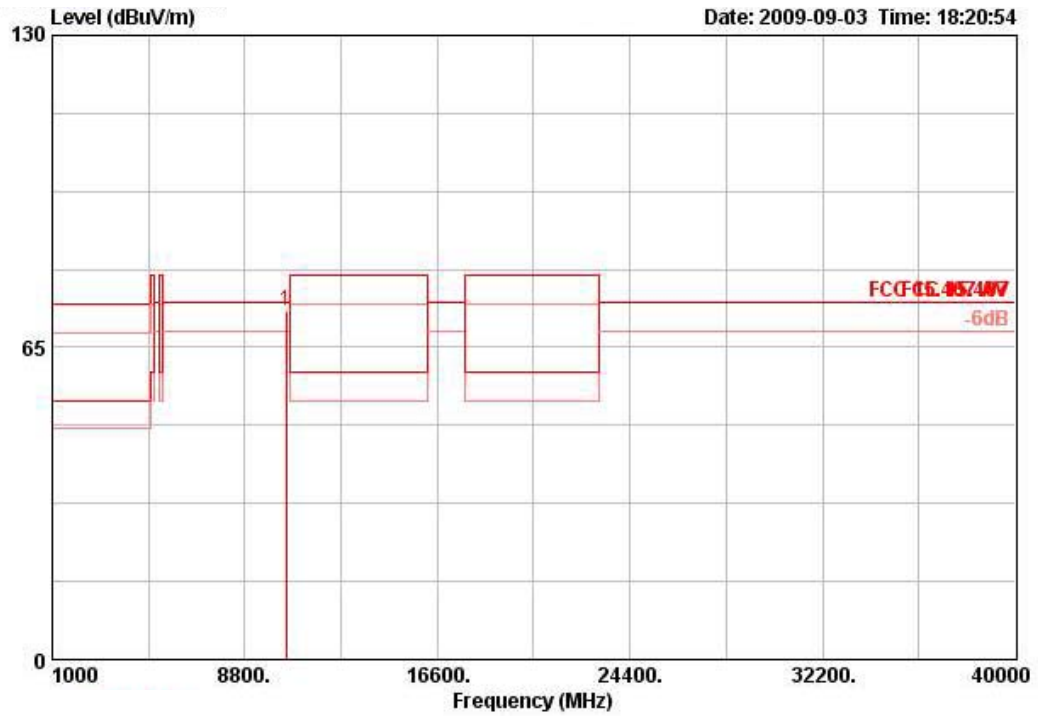
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant		
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm	Remark	Pol/Phase
1	10400.320	70.26	74.30	-4.04	60.94	6.52	35.58	38.38	235	115	PEAK	VERTICAL

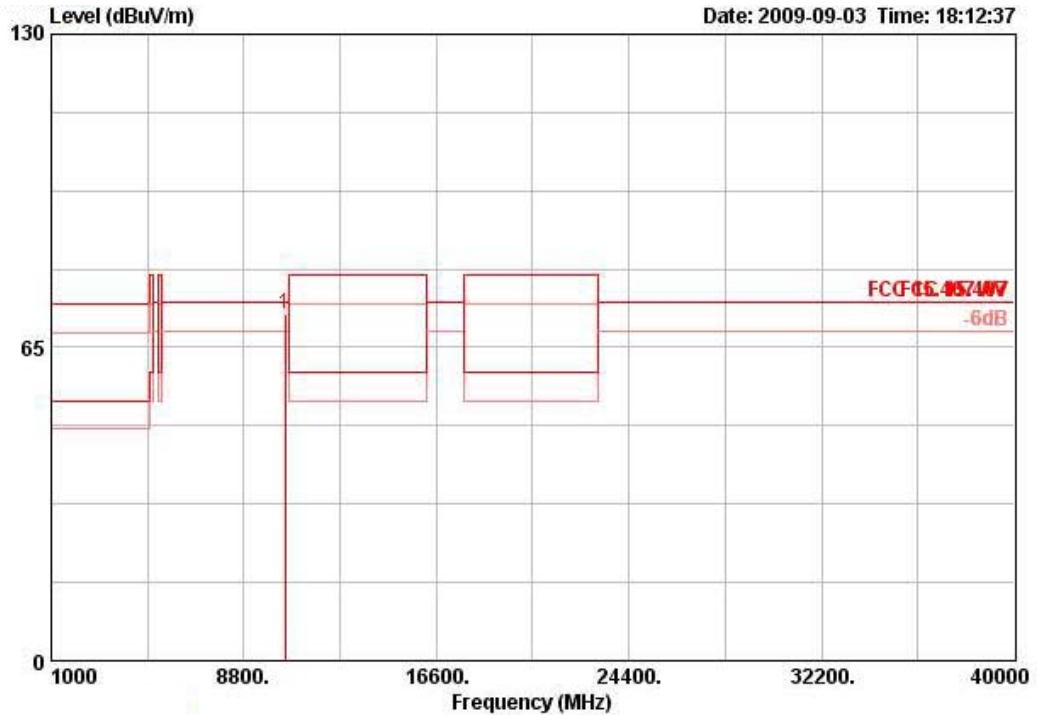
Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 48 / Ant. 5

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	10478.720	72.57	74.30	-1.73	63.14	6.57	35.52	38.39	17	115	PEAK	HORIZONTAL

**Vertical**



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10479.400	72.04	74.30	-2.26	62.59	6.57	35.52	38.40	221	116	PEAK	VERTICAL

**Note:**

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

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

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

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

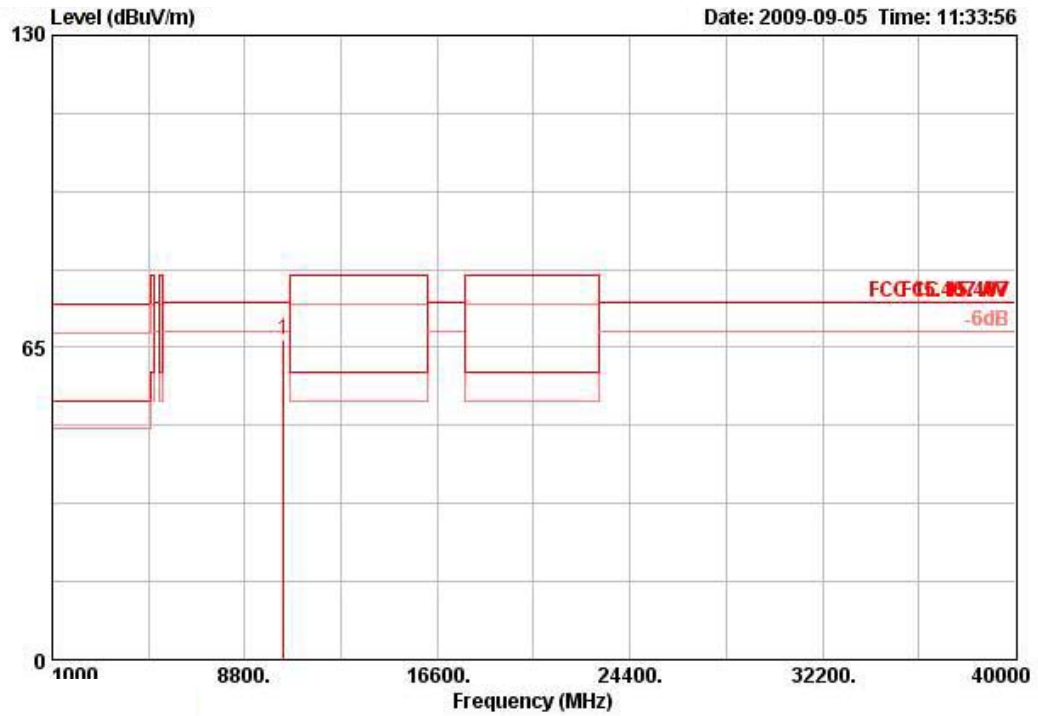
Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

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

<For Antenna 6>:

Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	Draft n MCS8 20MHz Ch 36 / Ant. 6

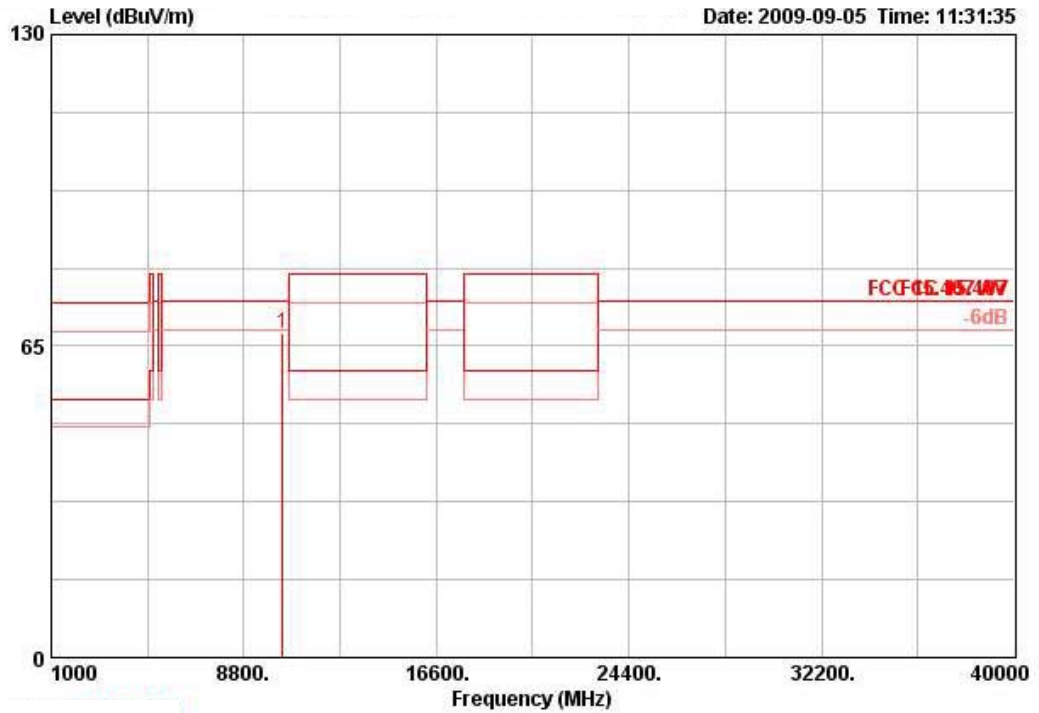
Horizontal



	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	10358.880	66.45	74.30	-7.85	57.20	6.49	35.62	38.37	49	100	PEAK	HORIZONTAL



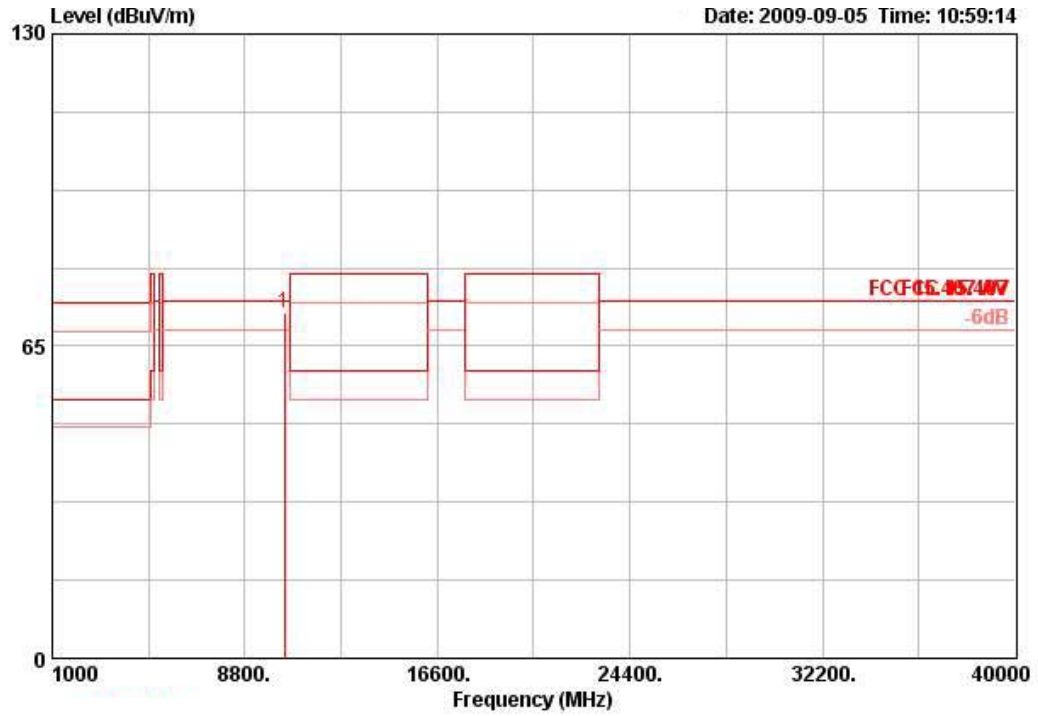
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10358.800	67.52	74.30	-6.78	58.27	6.49	35.62	38.37	246	100	PEAK	VERTICAL

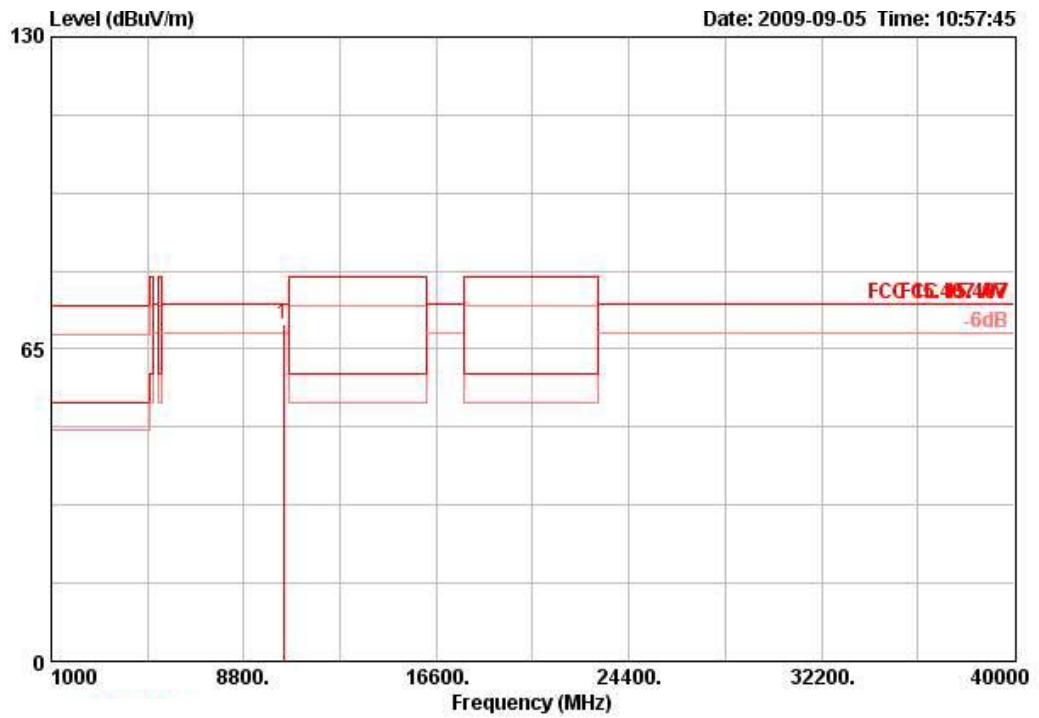
Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	Draft n MCS8 20MHz Ch 40 / Ant. 6

**Horizontal**



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	10398.720	72.08	74.30	-2.22	62.76	6.52	35.58	38.38	44	119	PEAK	HORIZONTAL

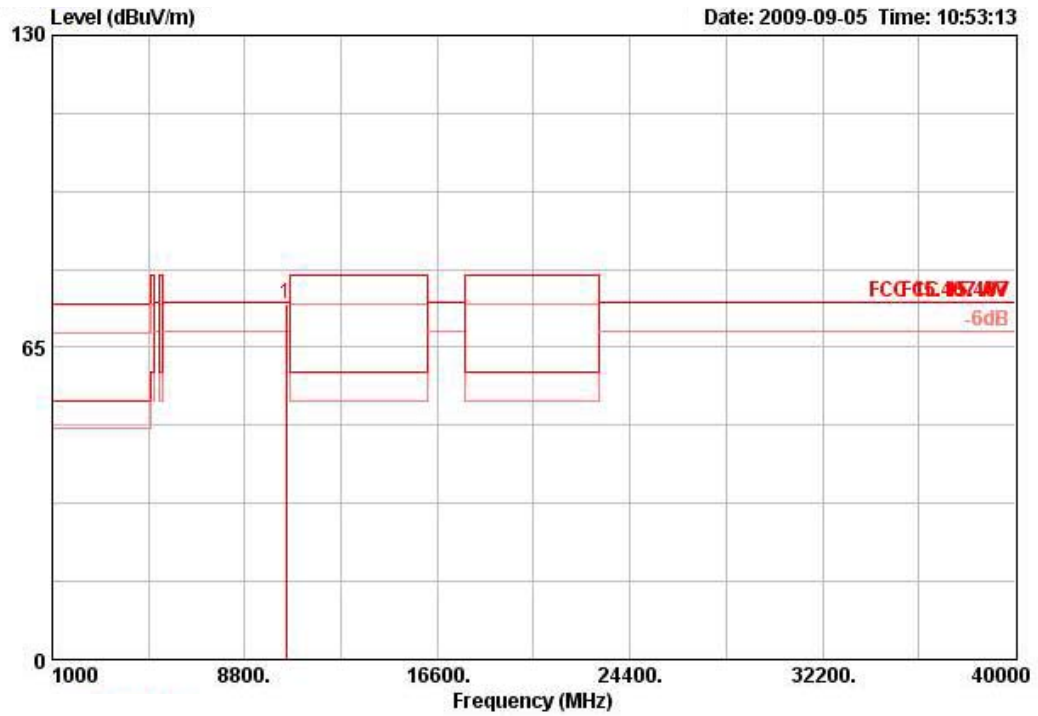
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant		
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm	Remark	Pol/Phase
1 !	10398.840	70.28	74.30	-4.02	60.96	6.52	35.58	38.38	256	117	PEAK	VERTICAL

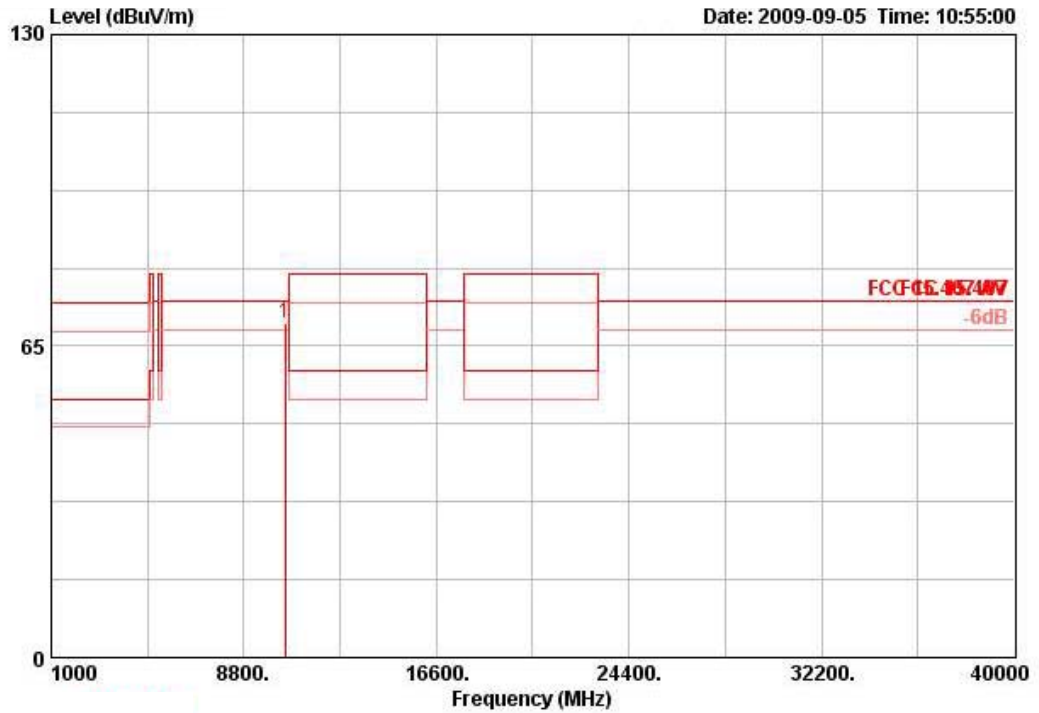
Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	Draft n MCS8 20MHz Ch 48 / Ant. 6

**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 !	10478.600	74.06	74.30	-0.24	64.62	6.57	35.52	38.39	291	111	PEAK	HORIZONTAL

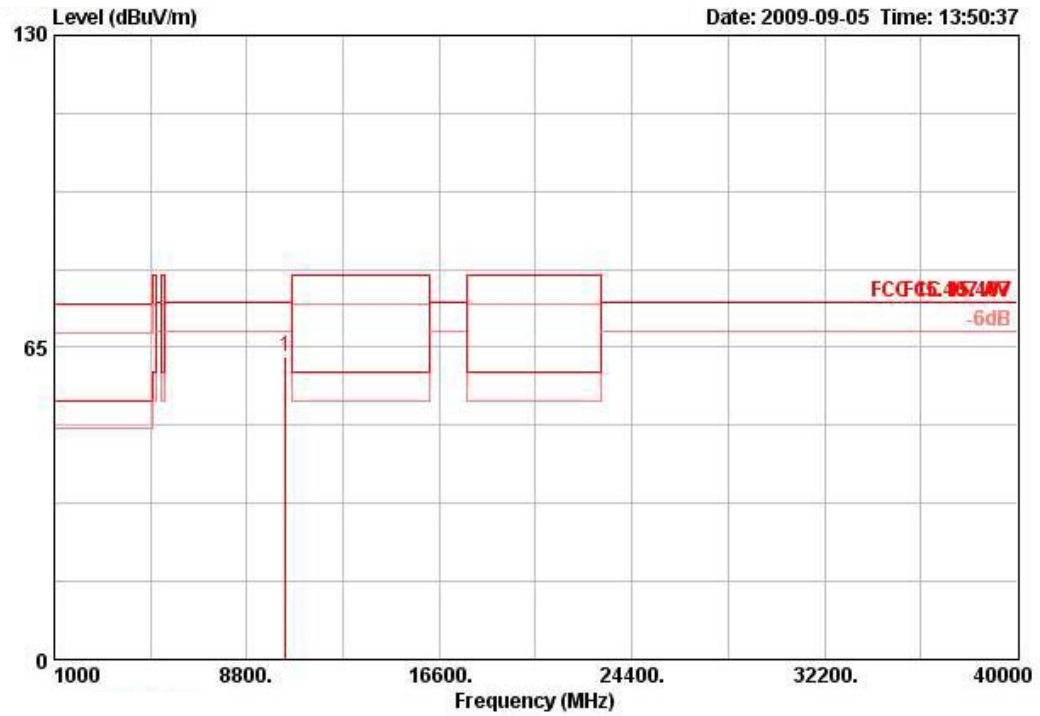
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	10477.400	69.80	74.30	-4.50	60.36	6.57	35.52	38.40	81	111	PEAK	VERTICAL

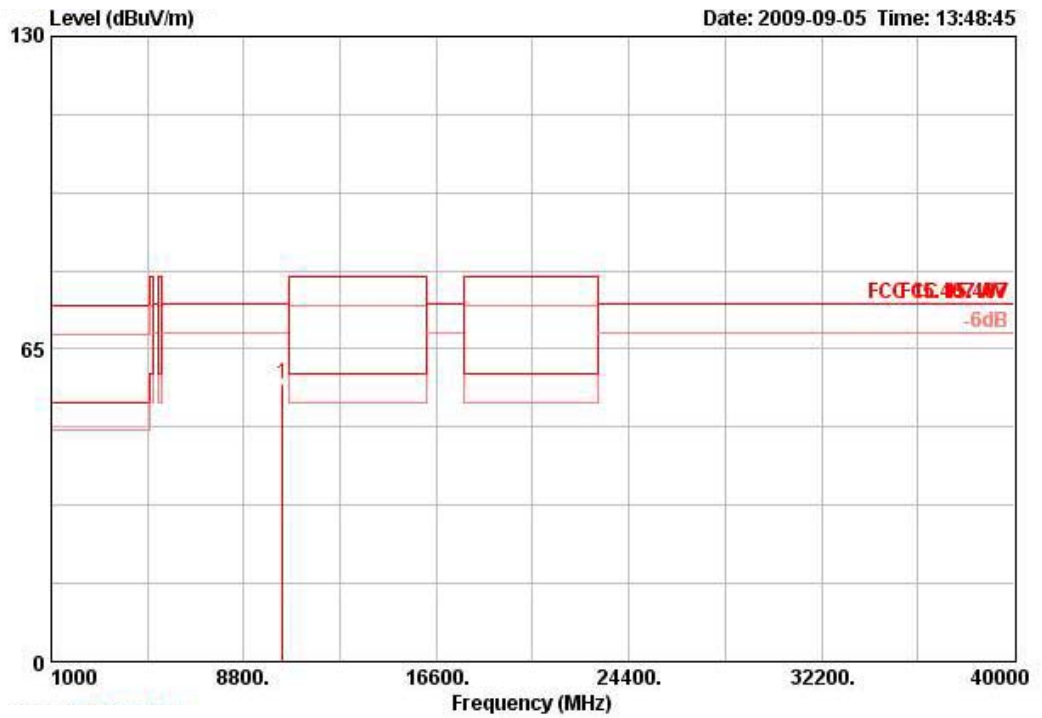
Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	Draft n MCS8 40MHz Ch 38 / Ant. 6

**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	10379.900	62.89	74.30	-11.41	53.39	6.59	35.48	38.39	288	109	PEAK	HORIZONTAL

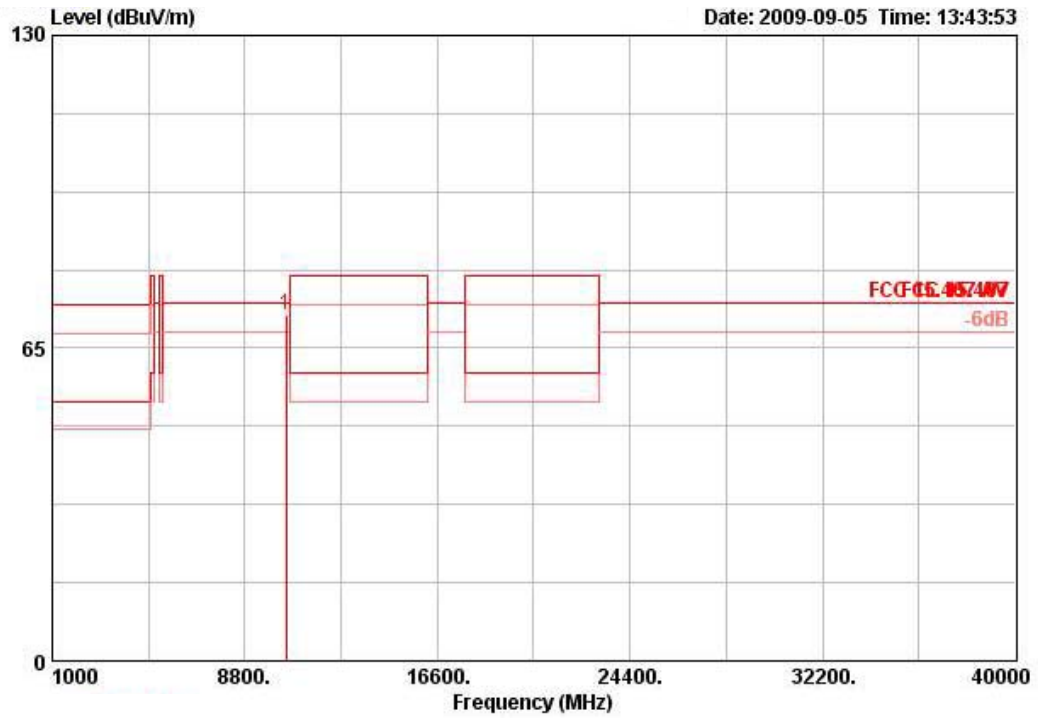
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant		
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm	Remark	Pol/Phase
1	10379.800	57.89	74.30	-16.41	48.39	6.59	35.48	38.39	81	100	PEAK	VERTICAL

Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	Draft n MCS8 40MHz Ch 46 / Ant. 6

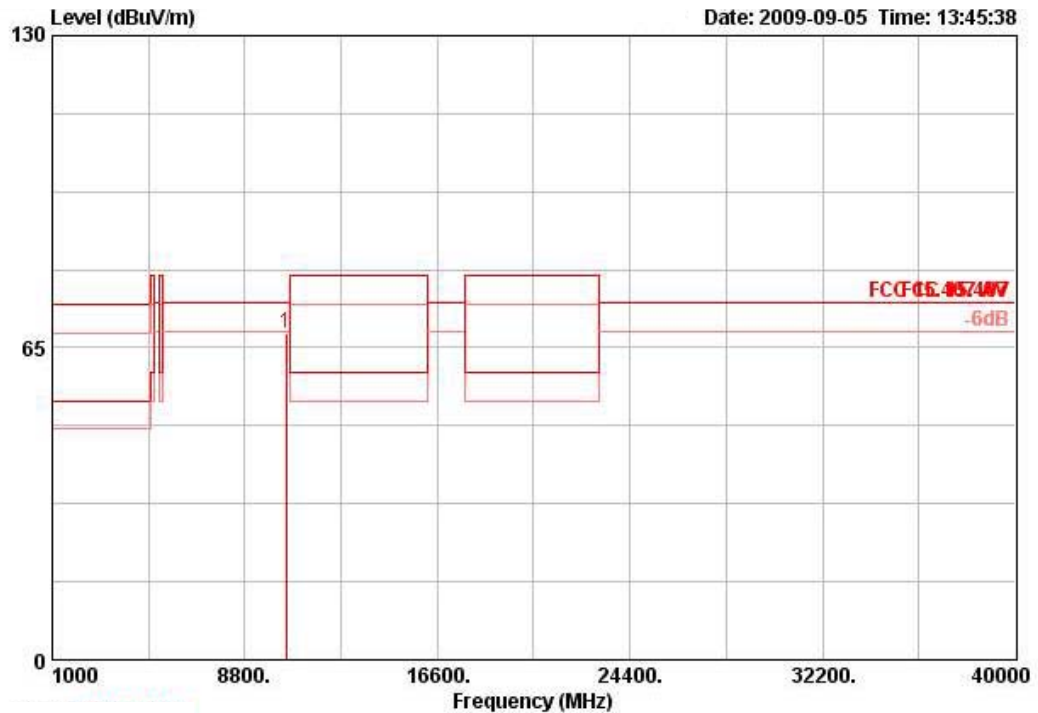
**Horizontal**



	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 !	10459.900	71.89	74.30	-2.41	62.49	6.55	35.54	38.39	285	107	PEAK	HORIZONTAL



**Vertical**



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant		
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm	Remark	Pol/Phase
1	10459.920	67.89	74.30	-6.41	58.38	6.59	35.48	38.39	85	100	PEAK	VERTICAL

**Note:**

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

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

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

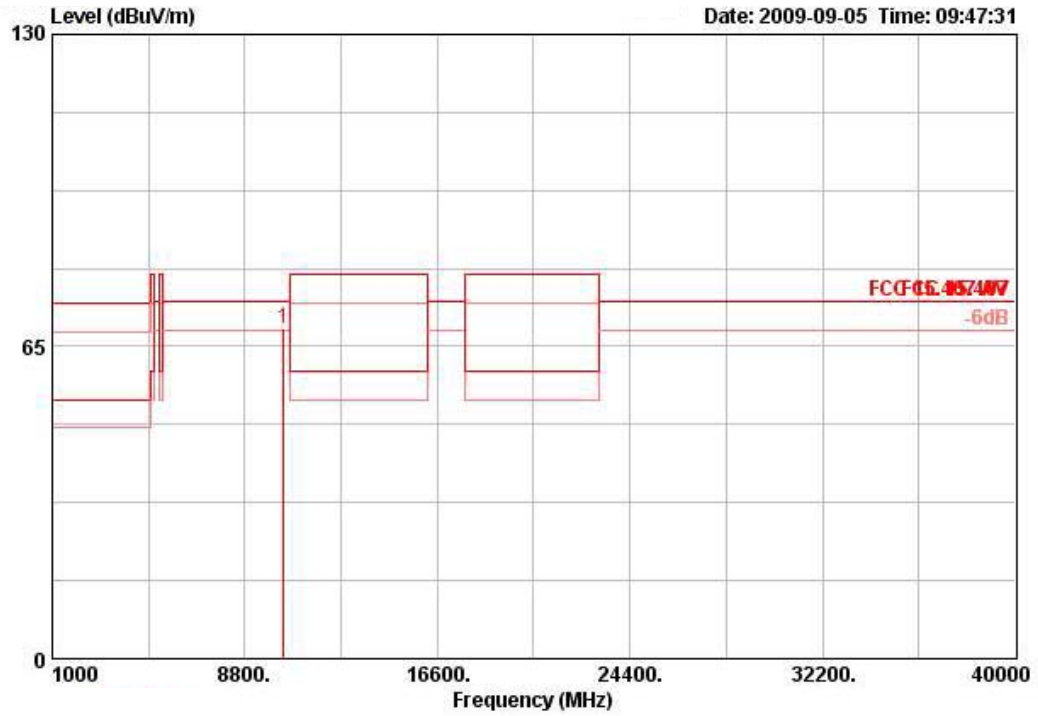
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

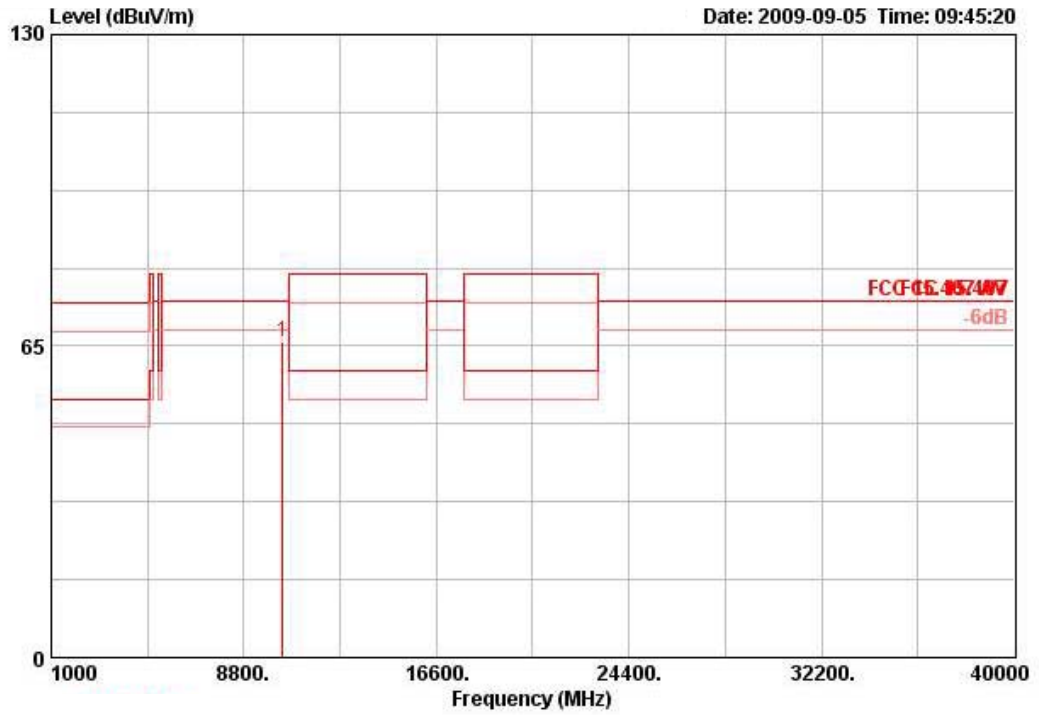
Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 36 / Ant. 6

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	10360.360	68.71	74.30	-5.59	59.47	6.49	35.62	38.37	41	117	PEAK	HORIZONTAL

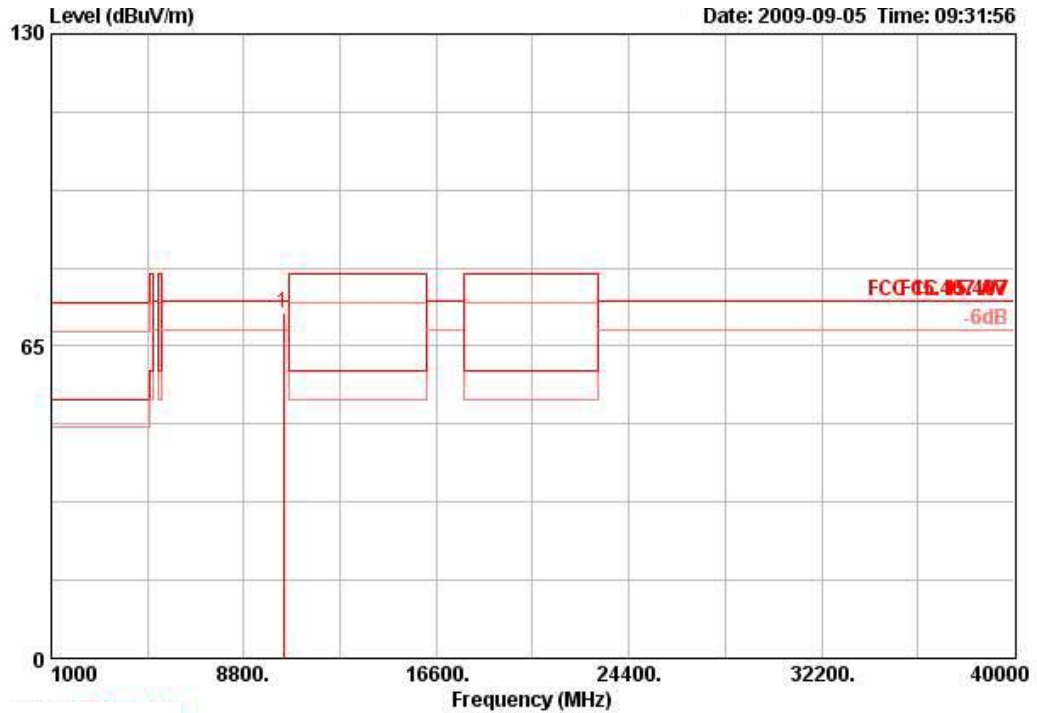
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10358.400	65.85	74.30	-8.45	56.60	6.49	35.62	38.37	263	108	PEAK	VERTICAL

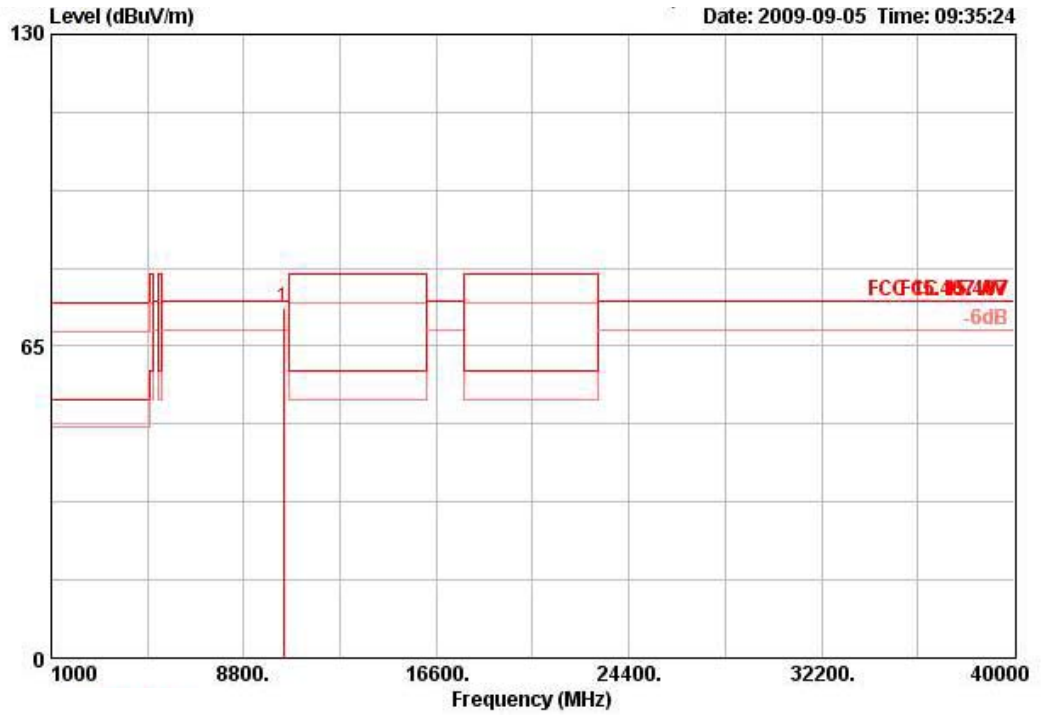
Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 40 / Ant. 6

**Horizontal**



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	10399.220	71.90	74.30	-2.40	62.58	6.52	35.58	38.38	213	107	PEAK	HORIZONTAL

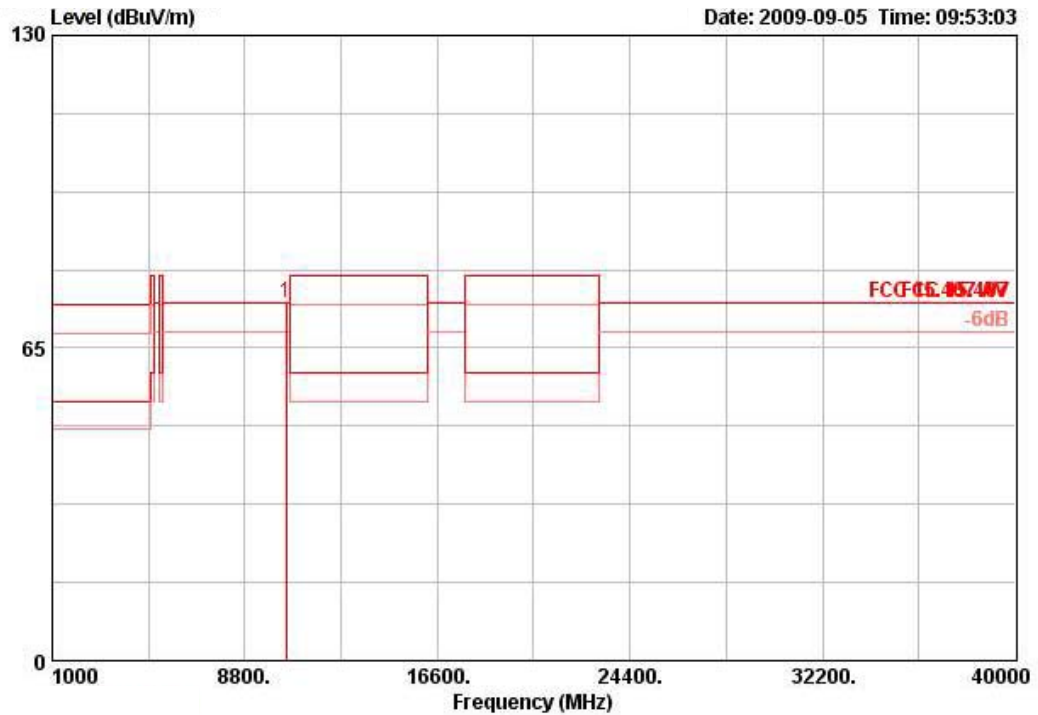
Vertical



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	10398.300	73.05	74.30	-1.25	63.73	6.52	35.58	38.38	257	112	PEAK	VERTICAL

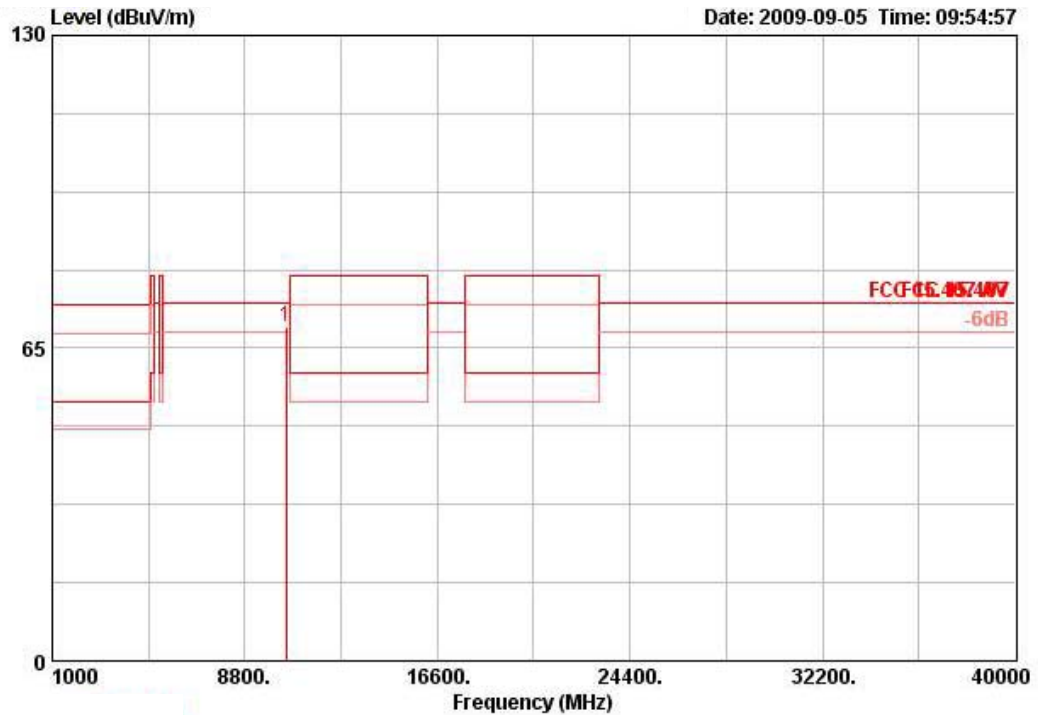
Temperature	26.8°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 48 / Ant. 6

**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 !	10478.440	74.26	74.30	-0.04	64.82	6.57	35.52	38.39	289	108	PEAK	HORIZONTAL

**Vertical**



1 !	Freq MHz	Level dBUV/m	Limit Line dBUV/m	Over Limit dB	Read Level dBUV	Cable Loss dB	Preamp Factor dB	Antenna Factor dB/m	Table Pos deg	Ant Pos cm	Remark	Pol/Phase
	10482.080	69.55	74.30	-4.75	60.10	6.57	35.52	38.40	73	109	PEAK	VERTICAL

**Note:**

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

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

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

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

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

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

## 4.7. Band Edge Emissions Measurement

### 4.7.1. Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, in case the emission 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 (micovolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

### 4.7.2. Measuring Instruments and Setting

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

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

### 4.7.3. Test Procedures

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

### 4.7.4. Test Setup Layout

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



#### 4.7.5. Test Deviation

There is no deviation with the original standard.

#### 4.7.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

#### 4.7.7. Test Result of Band Edge and Fundamental Emissions

<For Antenna 1>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 20MHz Ch 36, 40 / Ant. 1
<b>Test Date</b>	Sep. 10, 2009		

##### Channel 36

	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant		
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Pos	Pos	Remark	Pol/Phase
			dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5150.000	59.13	60.00	-0.87	21.40	4.06	0.00	33.67	58	107	AVERAGE	VERTICAL
2 @	5150.000	72.17	80.00	-7.83	34.44	4.06	0.00	33.67	58	107	PEAK	VERTICAL
3 @	5176.200	109.51			71.74	4.08	0.00	33.70	58	107	AVERAGE	VERTICAL
4 @	5181.400	122.28			84.48	4.08	0.00	33.73	58	107	PEAK	VERTICAL

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

##### Channel 40

	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	Table	Ant		
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Pos	Pos	Remark	Pol/Phase
			dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5150.000	57.23	60.00	-2.77	19.50	4.06	0.00	33.67	52	111	AVERAGE	VERTICAL
2 @	5150.000	71.23	80.00	-8.77	33.50	4.06	0.00	33.67	52	111	PEAK	VERTICAL
3 @	5194.800	112.22			74.37	4.09	0.00	33.76	52	111	AVERAGE	VERTICAL
4 @	5201.600	124.16			86.31	4.09	0.00	33.76	52	111	PEAK	VERTICAL

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

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 40MHz Ch 38, 46 / Ant. 1
<b>Test Date</b>	Sep. 10, 2009		

**Channel 38**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5149.200	73.34	80.00	-6.66	35.61	4.06	0.00	33.67	54	107	PEAK	VERTICAL
2 @	5150.000	59.86	60.00	-0.14	22.13	4.06	0.00	33.67	54	107	AVERAGE	VERTICAL
3 @	5183.200	102.54			64.73	4.08	0.00	33.73	54	107	AVERAGE	VERTICAL
4 @	5183.600	114.61			76.80	4.08	0.00	33.73	54	107	PEAK	VERTICAL

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

**Channel 46**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5149.200	59.12	60.00	-0.88	21.39	4.06	0.00	33.67	170	100	AVERAGE	VERTICAL
2 @	5150.000	72.98	80.00	-7.02	35.25	4.06	0.00	33.67	170	100	PEAK	VERTICAL
3 @	5215.200	121.30			83.41	4.10	0.00	33.79	170	100	PEAK	VERTICAL
4 @	5215.200	108.12			70.22	4.10	0.00	33.79	170	100	AVERAGE	VERTICAL

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

Note:

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

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

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

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

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



<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	802.11a Ch 36, 40 / Ant. 1
<b>Test Date</b>	Sep. 10, 2009		

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 ☺	5149.200	59.85	60.00	-0.15	22.12	4.06	0.00	33.67	215	100	AVERAGE	VERTICAL
2 ☺	5149.600	79.02	80.00	-0.98	41.28	4.06	0.00	33.67	215	100	PEAK	VERTICAL
3 ☺	5178.800	123.08			85.27	4.08	0.00	33.73	215	100	PEAK	VERTICAL
4 ☺	5178.800	112.75			74.94	4.08	0.00	33.73	215	100	AVERAGE	VERTICAL

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

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 ☺	5148.000	74.27	80.00	-5.73	36.53	4.06	0.00	33.67	306	100	PEAK	VERTICAL
2 ☺	5148.000	58.13	60.00	-1.87	20.40	4.06	0.00	33.67	306	100	AVERAGE	VERTICAL
3 ☺	5201.600	117.59			79.74	4.09	0.00	33.76	306	100	AVERAGE	VERTICAL
4 ☺	5202.400	127.86			90.02	4.09	0.00	33.76	306	100	PEAK	VERTICAL

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

Note:

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

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

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

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

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

<For Antenna 2>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 20MHz Ch 36, 40 / Ant. 2
<b>Test Date</b>	Sep. 02, 2009		

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.42	60.00	-0.58	21.69	4.06	0.00	33.67	163	141	AVERAGE	VERTICAL
2	5150.000	71.71	80.00	-8.29	33.98	4.06	0.00	33.67	163	141	PEAK	VERTICAL
3	5178.600	106.76			68.95	4.08	0.00	33.73	163	141	AVERAGE	VERTICAL
4 ☺	5182.800	118.58			80.77	4.08	0.00	33.73	163	141	PEAK	VERTICAL

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

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	5150.000	64.58	80.00	-15.42	26.85	4.06	0.00	33.67	161	138	PEAK	VERTICAL
2 !	5150.000	55.53	60.00	-4.47	17.80	4.06	0.00	33.67	161	138	AVERAGE	VERTICAL
3	5197.200	108.15			70.30	4.09	0.00	33.76	161	138	AVERAGE	VERTICAL
4 ☺	5202.800	119.26			81.41	4.09	0.00	33.76	161	138	PEAK	VERTICAL

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



<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 40MHz Ch 38, 46 / Ant. 2
<b>Test Date</b>	Sep. 02, 2009		

**Channel 38**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.77	60.00	-0.23	22.04	4.06	0.00	33.67	161	134	AVERAGE	VERTICAL
2 !	5150.000	77.36	80.00	-2.64	39.62	4.06	0.00	33.67	161	134	PEAK	VERTICAL
3	5184.000	100.01			62.21	4.08	0.00	33.73	161	134	AVERAGE	VERTICAL
4	5196.000	112.76			74.91	4.09	0.00	33.76	161	134	PEAK	VERTICAL

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

**Channel 46**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	5147.600	72.34	80.00	-7.66	34.61	4.06	0.00	33.67	156	135	PEAK	VERTICAL
2 !	5150.000	58.02	60.00	-1.98	20.29	4.06	0.00	33.67	156	135	AVERAGE	VERTICAL
3	5213.200	115.91			78.02	4.10	0.00	33.79	156	135	PEAK	VERTICAL
4	5222.800	103.82			65.92	4.10	0.00	33.79	156	135	AVERAGE	VERTICAL

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

Note:

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

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

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

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

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



Temperature	21°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 36, 40 / Ant. 2
Test Date	Sep. 02, 2009		

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Rnt Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.96	60.00	-0.04	22.22	4.06	0.00	33.67	169	146	AVERAGE	VERTICAL
2 !	5150.000	76.77	80.00	-3.23	39.03	4.06	0.00	33.67	169	146	PEAK	VERTICAL
3	5174.800	107.46			69.69	4.08	0.00	33.70	169	146	AVERAGE	VERTICAL
4 ☺	5175.200	117.64			79.86	4.08	0.00	33.70	169	146	PEAK	VERTICAL

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

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Rnt Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	55.96	60.00	-4.04	18.22	4.06	0.00	33.67	163	138	AVERAGE	VERTICAL
2	5150.000	67.69	80.00	-12.31	29.96	4.06	0.00	33.67	163	138	PEAK	VERTICAL
3 ☺	5200.800	121.73			83.88	4.09	0.00	33.76	163	138	PEAK	VERTICAL
4	5201.200	111.49			73.64	4.09	0.00	33.76	163	138	AVERAGE	VERTICAL

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

Note:

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

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

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

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

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

<For Antenna 3>:

Temperature	21°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	Draft n MCS8 20MHz Ch 36, 40 / Ant. 3
Test Date	Sep. 06, 2009		

#### Channel 36

	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 !	5149.000	75.56	80.00	-4.44	37.83	4.06	0.00	33.67	62	115	PEAK	HORIZONTAL
2 !	5150.000	59.14	60.00	-0.86	21.41	4.06	0.00	33.67	62	115	AVERAGE	HORIZONTAL
3 ☺	5174.800	120.50			82.72	4.08	0.00	33.70	62	115	PEAK	HORIZONTAL
4	5182.000	107.70			69.89	4.08	0.00	33.73	62	115	AVERAGE	HORIZONTAL

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

#### Channel 40

	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	5146.000	69.80	80.00	-10.20	32.07	4.06	0.00	33.67	71	118	PEAK	HORIZONTAL
2 !	5150.000	55.43	60.00	-4.57	17.70	4.06	0.00	33.67	71	118	AVERAGE	HORIZONTAL
3	5198.400	109.82			71.97	4.09	0.00	33.76	71	118	AVERAGE	HORIZONTAL
4 ☺	5202.800	120.44			82.59	4.09	0.00	33.76	71	118	PEAK	HORIZONTAL

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

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 40MHz Ch 38, 46 / Ant. 3
<b>Test Date</b>	Sep. 06, 2009		

**Channel 38**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5144.800	75.05	80.00	-4.95	37.32	4.06	0.00	33.67	309	115	PEAK	HORIZONTAL
2 !	5150.000	59.97	60.00	-0.03	22.24	4.06	0.00	33.67	309	115	AVERAGE	HORIZONTAL
3	5201.200	114.44			76.59	4.09	0.00	33.76	309	115	PEAK	HORIZONTAL
4	5201.200	101.97			64.12	4.09	0.00	33.76	309	115	AVERAGE	HORIZONTAL

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

**Channel 46**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5147.600	74.01	80.00	-5.99	36.27	4.06	0.00	33.67	33	118	PEAK	HORIZONTAL
2 !	5150.000	59.33	60.00	-0.67	21.59	4.06	0.00	33.67	33	118	AVERAGE	HORIZONTAL
3	5226.800	106.17			68.28	4.10	0.00	33.79	33	118	AVERAGE	HORIZONTAL
4 B	5228.400	119.10			81.21	4.10	0.00	33.79	33	118	PEAK	HORIZONTAL

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

Note:

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

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

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

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

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



Temperature	21°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 36, 40 / Ant. 3
Test Date	Sep. 06, 2009		

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5149.400	78.16	80.00	-1.84	40.43	4.06	0.00	33.67	295	116	PEAK	HORIZONTAL
2 !	5150.000	59.20	60.00	-0.80	21.46	4.06	0.00	33.67	295	116	AVERAGE	HORIZONTAL
3 ☺	5174.400	120.47			82.69	4.08	0.00	33.70	295	116	PEAK	HORIZONTAL
4	5179.200	110.25			72.44	4.08	0.00	33.73	295	116	AVERAGE	HORIZONTAL

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

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	5145.600	71.66	80.00	-8.34	33.93	4.06	0.00	33.67	80	118	PEAK	HORIZONTAL
2 !	5150.000	56.71	60.00	-3.29	18.97	4.06	0.00	33.67	80	118	AVERAGE	HORIZONTAL
3 ☺	5194.800	122.04			84.19	4.09	0.00	33.76	80	118	PEAK	HORIZONTAL
4	5195.200	112.17			74.32	4.09	0.00	33.76	80	118	AVERAGE	HORIZONTAL

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

Note:

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

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

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

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

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

<For Antenna 4>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 20MHz Ch 36, 40 / Ant. 4
<b>Test Date</b>	Sep. 08, 2009		

**Channel 36**

	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 !	5150.000	74.56	80.00	-5.44	36.83	4.06	0.00	33.67	143	106	PEAK	VERTICAL
2 !	5150.000	59.91	60.00	-0.09	22.18	4.06	0.00	33.67	143	106	AVERAGE	VERTICAL
3	5175.600	119.74			81.96	4.08	0.00	33.70	143	106	PEAK	VERTICAL
4	5181.200	107.52			69.72	4.08	0.00	33.73	143	106	AVERAGE	VERTICAL

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

**Channel 40**

	Freq	Level	Over	Limit	Read	Antenna	Preamp	Cable	Table	Ant	Remark	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	deg	cm		
1 !	5150.000	57.51	-2.49	60.00	19.78	33.67	0.00	4.06	AVERAGE	VERTICAL	143	107
2	5150.000	73.06	-6.94	80.00	35.33	33.67	0.00	4.06	PEAK	VERTICAL	143	107
3 @	5202.400	125.14			87.29	33.76	0.00	4.09	PEAK	VERTICAL	143	107
4	5203.200	113.18			75.34	33.76	0.00	4.09	AVERAGE	VERTICAL	143	107

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

Temperature	21°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	Draft n MCS8 40MHz Ch 38, 46 / Ant. 4
Test Date	Sep. 08, 2009		

**Channel 38**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.86	60.00	-0.14	22.13	4.06	0.00	33.67	141	119	AVERAGE	VERTICAL
2 !	5150.000	75.73	80.00	-4.27	38.00	4.06	0.00	33.67	141	119	PEAK	VERTICAL
3	5183.200	102.41			64.60	4.08	0.00	33.73	141	119	AVERAGE	VERTICAL
4	5193.200	114.66			76.84	4.09	0.00	33.73	141	119	PEAK	VERTICAL

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

**Channel 46**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.26	60.00	-0.74	21.52	4.06	0.00	33.67	324	101	AVERAGE	VERTICAL
2	5150.000	72.49	80.00	-7.51	34.76	4.06	0.00	33.67	324	101	PEAK	VERTICAL
3	5238.000	120.64			82.71	4.12	0.00	33.82	324	101	PEAK	VERTICAL
4	5238.400	108.26			70.32	4.12	0.00	33.82	324	101	AVERAGE	VERTICAL

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

Note:

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

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

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

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

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

Temperature	21°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 36, 40 / Ant. 4
Test Date	Sep. 07, 2009		

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.90	60.00	-0.10	22.16	4.06	0.00	33.67	143	100	AVERAGE	VERTICAL
2 !	5150.000	78.88	80.00	-1.12	41.15	4.06	0.00	33.67	143	100	PEAK	VERTICAL
3	5185.000	111.31			73.50	4.08	0.00	33.73	143	100	AVERAGE	VERTICAL
4 ☺	5185.400	121.55			83.75	4.08	0.00	33.73	143	100	PEAK	VERTICAL

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

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.43	60.00	-0.57	21.70	4.06	0.00	33.67	144	100	AVERAGE	VERTICAL
2 !	5150.000	75.27	80.00	-4.73	37.53	4.06	0.00	33.67	144	100	PEAK	VERTICAL
3 ☺	5195.600	125.84			87.99	4.09	0.00	33.76	144	100	PEAK	VERTICAL
4 !	5200.400	115.80			77.95	4.09	0.00	33.76	144	100	AVERAGE	VERTICAL

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

Note:

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

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

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

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

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

<For Antenna 5>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 20MHz Ch 36, 40 / Ant. 5
<b>Test Date</b>	Sep. 03, 2009		

#### Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5149.400	74.79	80.00	-5.21	37.06	4.06	0.00	33.67	15	113	PEAK	VERTICAL
2 @	5150.000	59.64	60.00	-0.36	21.91	4.06	0.00	33.67	15	113	AVERAGE	VERTICAL
3 @	5181.400	109.15			71.34	4.08	0.00	33.73	15	113	AVERAGE	VERTICAL
4 @	5183.200	121.36			83.55	4.08	0.00	33.73	15	113	PEAK	VERTICAL

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

#### Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5147.600	71.21	80.00	-8.79	33.47	4.06	0.00	33.67	338	112	PEAK	VERTICAL
2 @	5150.000	57.04	60.00	-2.96	19.31	4.06	0.00	33.67	338	112	AVERAGE	VERTICAL
3 @	5201.200	125.84			87.99	4.09	0.00	33.76	338	112	PEAK	VERTICAL
4 @	5201.600	113.47			75.62	4.09	0.00	33.76	338	112	AVERAGE	VERTICAL

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



<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 40MHz Ch 38, 46 / Ant. 5
<b>Test Date</b>	Sep. 03, 2009		

**Channel 38**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5147.600	73.40	80.00	-6.60	35.66	4.06	0.00	33.67	355	109	PEAK	VERTICAL
2 @	5150.000	59.81	60.00	-0.19	22.08	4.06	0.00	33.67	355	109	AVERAGE	VERTICAL
3 @	5198.800	101.25			63.41	4.09	0.00	33.76	355	109	AVERAGE	VERTICAL
4 @	5204.000	113.58			75.73	4.09	0.00	33.76	355	109	PEAK	VERTICAL

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

**Channel 46**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5144.000	73.49	80.00	-6.51	35.76	4.06	0.00	33.67	338	106	PEAK	VERTICAL
2 @	5150.000	59.24	60.00	-0.76	21.50	4.06	0.00	33.67	338	106	AVERAGE	VERTICAL
3 @	5222.800	107.84			69.95	4.10	0.00	33.79	338	106	AVERAGE	VERTICAL
4 @	5238.400	120.52			82.58	4.12	0.00	33.82	338	106	PEAK	VERTICAL

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

Note:

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

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

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

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

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



<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	802.11a Ch 36, 40 / Ant. 5
<b>Test Date</b>	Sep. 03, 2009		

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5149.000	77.64	80.00	-2.36	39.90	4.06	0.00	33.67	342	104	PEAK	VERTICAL
2 @	5150.000	59.49	60.00	-0.51	21.76	4.06	0.00	33.67	342	104	AVERAGE	VERTICAL
3 @	5179.000	111.68			73.87	4.08	0.00	33.73	342	104	AVERAGE	VERTICAL
4 @	5183.800	121.79			83.98	4.08	0.00	33.73	342	104	PEAK	VERTICAL

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

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 @	5150.000	58.97	60.00	-1.03	21.24	4.06	0.00	33.67	0	114	AVERAGE	VERTICAL
2 @	5150.000	74.76	80.00	-5.24	37.03	4.06	0.00	33.67	0	114	PEAK	VERTICAL
3 @	5198.800	126.72			88.87	4.09	0.00	33.76	0	114	PEAK	VERTICAL
4 @	5204.400	116.19			78.35	4.09	0.00	33.76	0	114	AVERAGE	VERTICAL

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

Note:

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

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

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

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

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

<For Antenna 6>:

<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 20MHz Ch 36, 40 / Ant. 6
<b>Test Date</b>	Sep. 05, 2009		

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.84	60.00	-0.16	22.11	4.06	0.00	33.67	298	104	AVERAGE	HORIZONTAL
2 !	5150.000	74.35	80.00	-5.65	36.62	4.06	0.00	33.67	298	104	PEAK	HORIZONTAL
3	5175.200	123.30			85.53	4.08	0.00	33.70	298	104	PEAK	HORIZONTAL
4	5181.800	111.42			73.62	4.08	0.00	33.73	298	104	AVERAGE	HORIZONTAL

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

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	57.77	60.00	-2.23	20.04	4.06	0.00	33.67	300	104	AVERAGE	HORIZONTAL
2	5150.000	70.53	80.00	-9.47	32.80	4.06	0.00	33.67	300	104	PEAK	HORIZONTAL
3 @	5200.800	127.31			89.46	4.09	0.00	33.76	300	104	PEAK	HORIZONTAL
4	5202.000	114.96			77.11	4.09	0.00	33.76	300	104	AVERAGE	HORIZONTAL

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





<b>Temperature</b>	21°C	<b>Humidity</b>	56%
<b>Test Engineer</b>	Beck Wu	<b>Configurations</b>	Draft n MCS8 40MHz Ch 38, 46 / Ant. 6
<b>Test Date</b>	Sep. 05, 2009		

**Channel 38**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1	5150.000	72.32	80.00	-7.68	34.59	4.06	0.00	33.67	43	100	PEAK	HORIZONTAL
2 !	5150.000	59.28	60.00	-0.72	21.55	4.06	0.00	33.67	43	100	AVERAGE	HORIZONTAL
3	5178.000	102.11			64.30	4.08	0.00	33.73	43	100	AVERAGE	HORIZONTAL
4	5178.000	115.11			77.31	4.08	0.00	33.73	43	100	PEAK	HORIZONTAL

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

**Channel 46**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.11	60.00	-0.89	21.38	4.06	0.00	33.67	295	100	AVERAGE	HORIZONTAL
2	5150.000	72.89	80.00	-7.11	35.16	4.06	0.00	33.67	295	100	PEAK	HORIZONTAL
3	5236.400	122.84			84.92	4.10	0.00	33.82	295	100	PEAK	HORIZONTAL
4	5244.400	109.91			71.97	4.12	0.00	33.82	295	100	AVERAGE	HORIZONTAL

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

Note:

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

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

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

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

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



Temperature	21°C	Humidity	56%
Test Engineer	Beck Wu	Configurations	802.11a Ch 36, 40 / Ant. 6
Test Date	Sep. 05, 2009		

**Channel 36**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5150.000	59.87	60.00	-0.13	22.14	4.06	0.00	33.67	44	100	AVERAGE	HORIZONTAL
2 !	5150.000	79.27	80.00	-0.73	41.54	4.06	0.00	33.67	44	100	PEAK	HORIZONTAL
3 ☺	5174.600	124.07			86.30	4.08	0.00	33.70	44	100	PEAK	HORIZONTAL
4	5184.400	112.93			75.13	4.08	0.00	33.73	44	100	AVERAGE	HORIZONTAL

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

**Channel 40**

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Table Pos	Ant Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	deg	cm		
1 !	5147.200	78.58	80.00	-1.42	40.85	4.06	0.00	33.67	43	100	PEAK	HORIZONTAL
2 !	5147.430	59.83	60.00	-0.17	22.10	4.06	0.00	33.67	43	100	AVERAGE	HORIZONTAL
3 ☺	5201.600	129.32			91.47	4.09	0.00	33.76	43	100	PEAK	HORIZONTAL
4	5201.600	118.52			80.67	4.09	0.00	33.76	43	100	AVERAGE	HORIZONTAL

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

Note:

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

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

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

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

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

## 4.8. Frequency Stability Measurement

### 4.8.1. Limit

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

### 4.8.2. Measuring Instruments and Setting

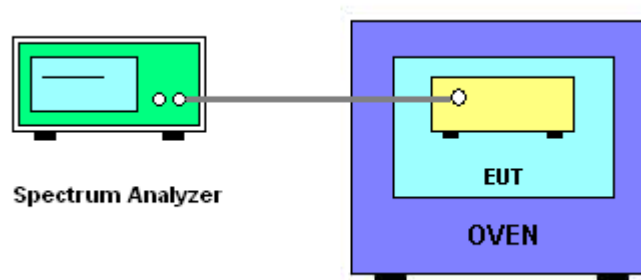
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

### 4.8.3. Test Procedures

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

### 4.8.4. Test Setup Layout



#### 4.8.5. Test Deviation

There is no deviation with the original standard.

#### 4.8.6. EUT Operation during Test

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

#### 4.8.7. Test Result of Frequency Stability

<For Antenna 1 >:

##### Voltage vs. Frequency Stability

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

##### Temperature vs. Frequency Stability

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

<For Antenna 2>:

**Voltage vs. Frequency Stability**

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

**Temperature vs. Frequency Stability**

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

<For Antenna 3>:

**Voltage vs. Frequency Stability**

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

**Temperature vs. Frequency Stability**

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

<For Antenna 4>:

**Voltage vs. Frequency Stability**

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

**Temperature vs. Frequency Stability**

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

<For Antenna 5>:

**Voltage vs. Frequency Stability**

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

**Temperature vs. Frequency Stability**

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



<For Antenna 6>:

**Voltage vs. Frequency Stability**

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

**Temperature vs. Frequency Stability**

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

## 4.9. Antenna Requirements

### 4.9.1. Limit

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

### 4.9.2. Antenna Connector Construction

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

## 5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	Apr. 15, 2009	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 23, 2009	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2009	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2009	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz – 30MHz	Jun. 11, 2009	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 07, 2009	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	COA9231A	18667	9 kHz - 2 GHz	Jan. 23, 2009	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jul. 21, 2009	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5 GHz - 40 GHz	Apr. 06, 2009*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100305	9 kHz - 40 GHz	Feb. 03, 2009	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	Jul. 28, 2008*	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 18, 2009	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	Apr. 28, 2009	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	Jan.16, 2009	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSU26.5	100015	20Hz ~ 26.5GHz	Oct. 28, 2008	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jul. 31, 2009	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100666	DC ~ 30GHz	Aug. 05, 2009	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jul. 31, 2009	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	Jul. 12, 2009*	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 13, 2009	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-001	N/A	Aug. 06, 2009	Conducted (TH01-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2008	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2008	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Feb. 13, 2009	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 25, 2009	Conducted (TH01-HY)

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

\* Calibration Interval of instruments listed above is two year.

NCR means Non-Calibration required.

## 6. TEST LOCATION

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 886-2-2696-2468 FAX : 886-2-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
LINKOU	ADD : No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C TEL : 886-2-2601-1640 FAX : 886-2-2601-1695
DUNGHU	ADD : No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. TEL : 886-2-2631-4739 FAX : 886-2-2631-9740
JUNGHE	ADD : 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. TEL : 886-2-8227-2020 FAX : 886-2-8227-2626
NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 <sup>nd</sup> Rd., Taipei 114, Taiwan, R.O.C. TEL : 886-2-2794-8886 FAX : 886-2-2794-9777
JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

## 7. TAF CERTIFICATE OF ACCREDITATION



Certificate No. : L1190-070110

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

### Certificate of Accreditation

This is to certify that

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

**is accredited in respect of laboratory**

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



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

PI, total 9 pages

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