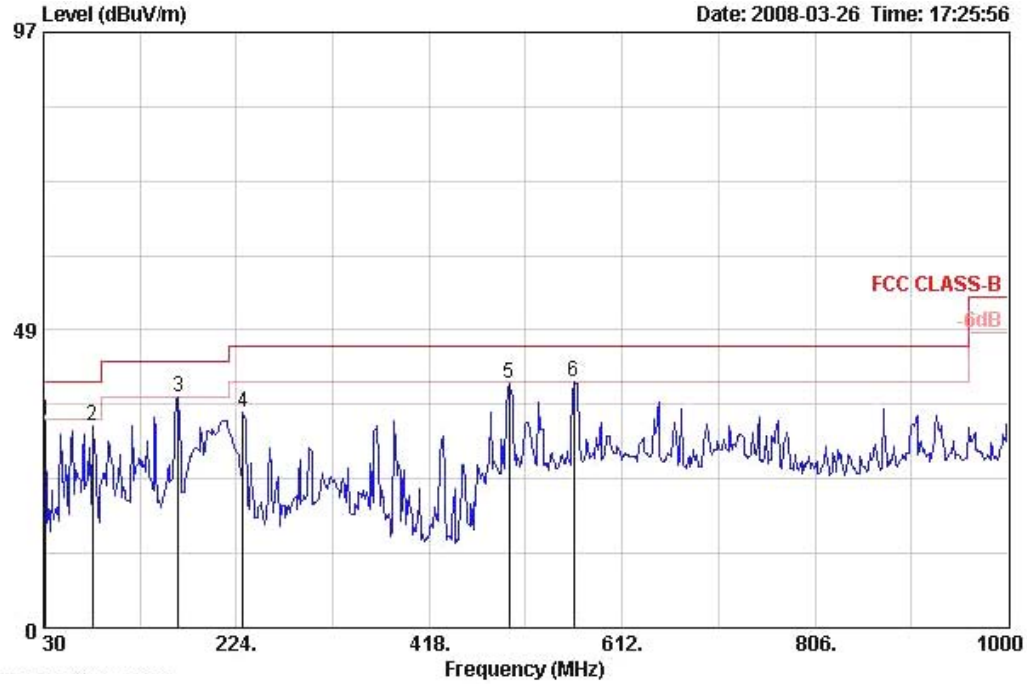
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	31.940	33.82	-6.18	40.00	45.90	18.66	0.93	31.67	Peak	400	-1	VERTICAL
2	79.470	32.81	-7.19	40.00	55.75	7.51	1.30	31.75	Peak	400	-1	VERTICAL
3 !	165.800	37.64	-5.86	43.50	56.76	10.42	2.00	31.55	Peak	400	-1	VERTICAL
4	230.790	35.22	-10.78	46.00	53.19	11.20	2.21	31.38	Peak	400	-1	VERTICAL
5	498.510	39.89	-6.11	46.00	49.67	17.87	3.28	30.94	Peak	400	-1	VERTICAL
6	563.500	39.96	-6.04	46.00	48.59	18.95	3.17	30.75	Peak	400	-1	VERTICAL

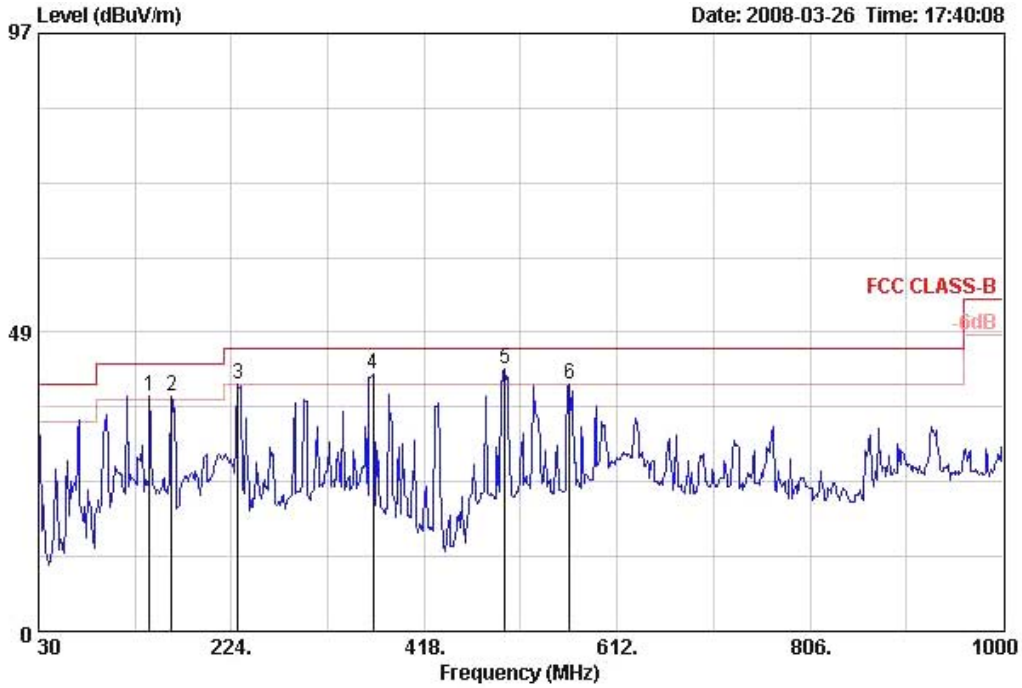
Note:

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

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

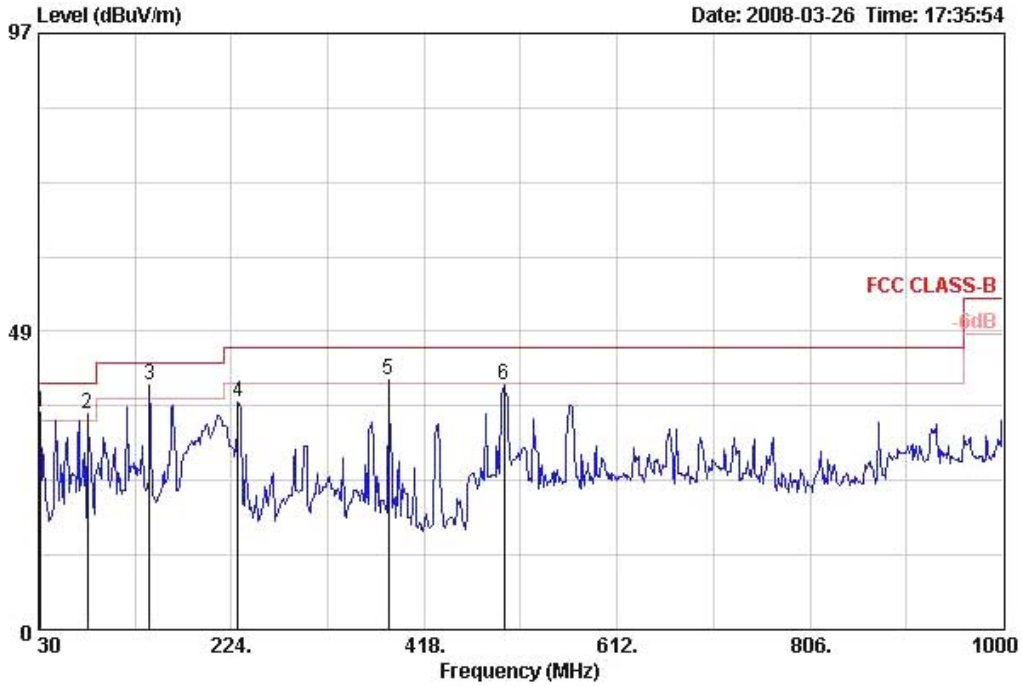
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	Normal Link / Ant. 7

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 !	141.550	38.25	-5.25	43.50	56.43	11.69	1.70	31.56	Peak	100	-1	HORIZONTAL
2 !	163.860	38.15	-5.35	43.50	57.21	10.48	2.00	31.53	Peak	100	-1	HORIZONTAL
3	230.790	39.97	-6.03	46.00	57.94	11.20	2.21	31.38	Peak	100	-1	HORIZONTAL
4 !	366.590	41.59	-4.41	46.00	54.46	15.80	2.50	31.17	Peak	100	-1	HORIZONTAL
5 @	499.480	42.62	-3.38	46.00	52.39	17.89	3.28	30.94	Peak	100	-1	HORIZONTAL
6	564.470	39.95	-6.05	46.00	48.57	18.96	3.17	30.75	Peak	100	-1	HORIZONTAL

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 !	31.940	35.26	-4.74	40.00	47.34	18.66	0.93	31.67	Peak	400	-5	VERTICAL
2 !	79.470	35.05	-4.95	40.00	57.99	7.51	1.30	31.75	Peak	400	-5	VERTICAL
3 @	141.550	39.70	-3.80	43.50	57.88	11.69	1.70	31.56	Peak	400	-5	VERTICAL
4	230.790	37.12	-8.88	46.00	55.09	11.20	2.21	31.38	Peak	400	-5	VERTICAL
5 !	382.110	40.53	-5.47	46.00	52.86	16.18	2.60	31.10	Peak	400	-5	VERTICAL
6	498.510	39.71	-6.29	46.00	49.49	17.87	3.28	30.94	Peak	400	-5	VERTICAL

Note:

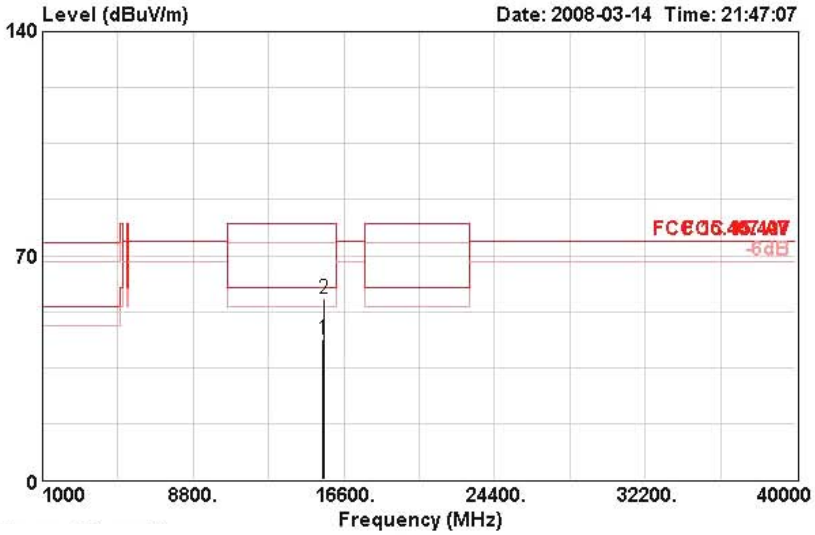
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

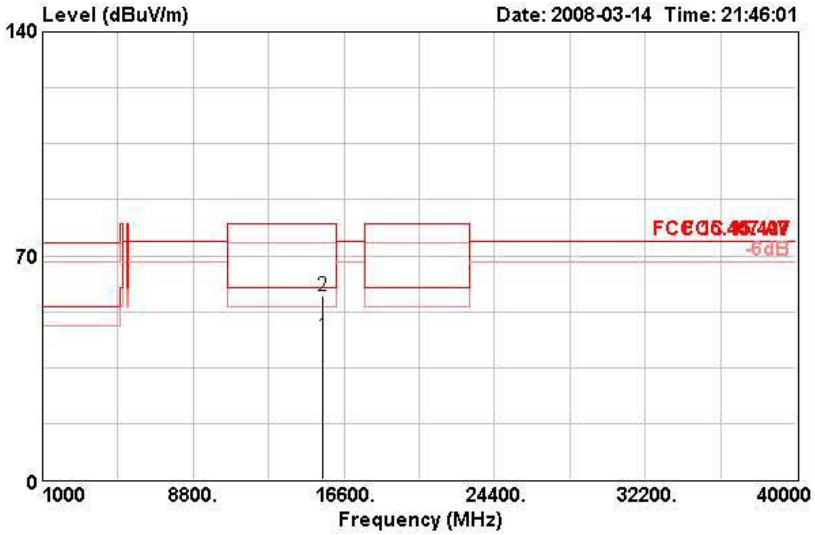
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 36 / Ant. 1

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	15532.440	43.92	-16.08	60.00	30.02	37.67	11.52	35.28	AVERAGE	130	307	HORIZONTAL
2	15543.720	56.77	-23.23	80.00	42.89	37.65	11.52	35.28	PEAK	130	307	HORIZONTAL

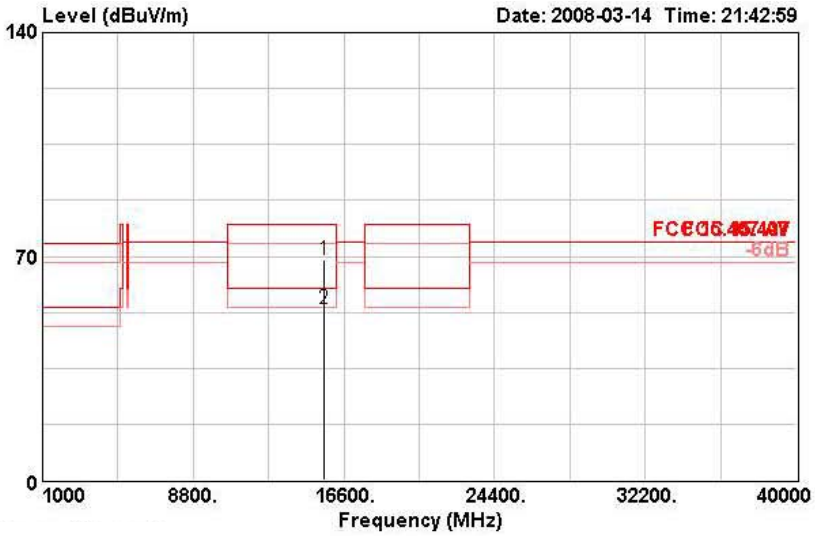
Vertical



	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	15532.360	44.66	-15.34	60.00	30.76	37.67	11.52	35.28	AVERAGE	110	184	VERTICAL
2	15532.520	57.41	-22.59	80.00	43.51	37.67	11.52	35.28	PEAK	110	184	VERTICAL

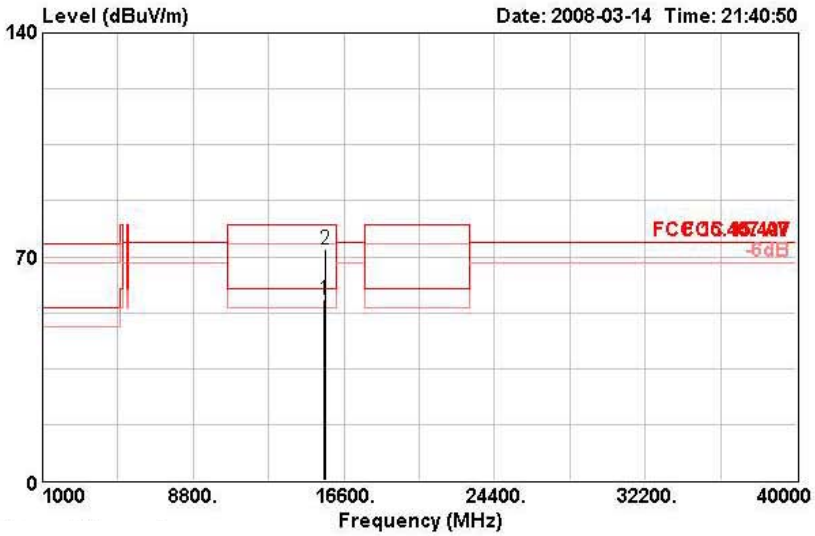
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 40 / Ant. 1

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	15590.080	69.13	-10.87	80.00	55.30	37.61	11.52	35.30	PEAK	128	304	HORIZONTAL
2	15601.000	53.76	-6.24	60.00	39.96	37.60	11.52	35.31	AVERAGE	128	304	HORIZONTAL

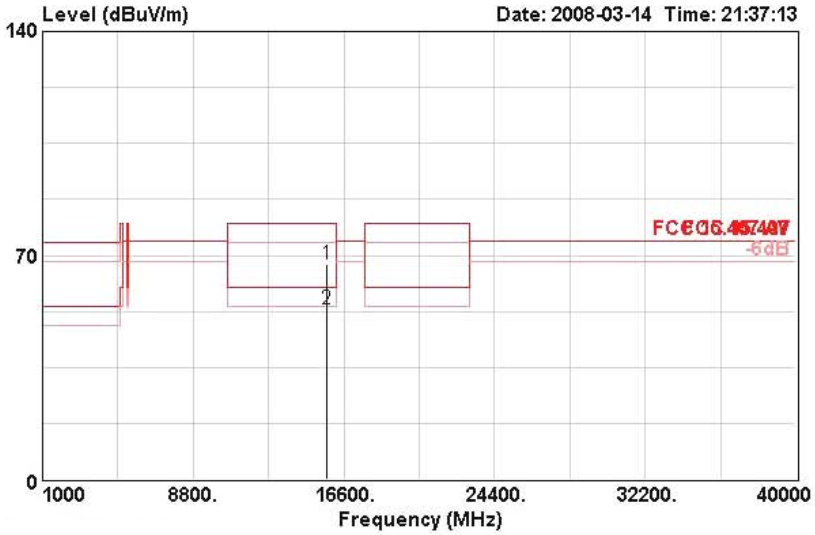
Vertical



	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 !	15600.880	56.72	-3.28	60.00	42.92	37.60	11.52	35.31	AVERAGE	106	196	VERTICAL
2	15607.040	72.47	-7.53	80.00	58.67	37.60	11.52	35.31	PEAK	106	196	VERTICAL

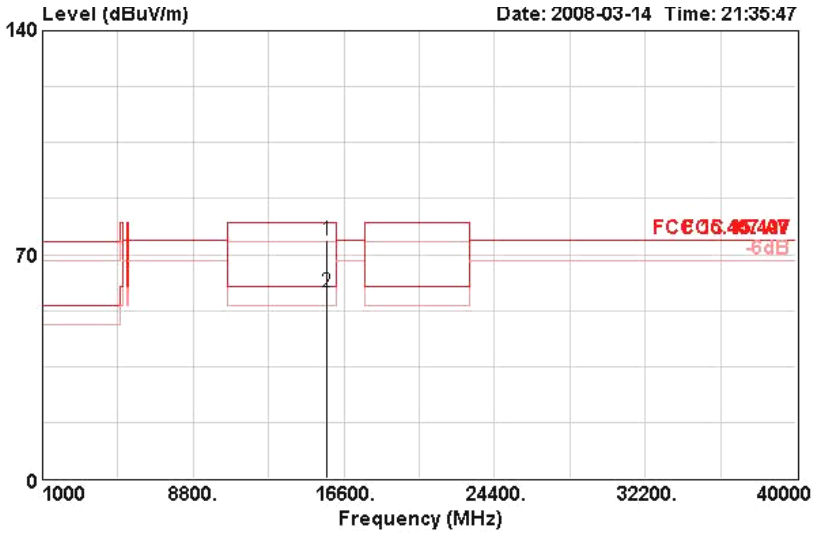
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 48 / Ant. 1

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	15715.160	67.45	-12.55	80.00	53.81	37.48	11.51	35.35	PEAK	127	295	HORIZONTAL
2	15717.560	53.10	-6.90	60.00	39.46	37.48	11.51	35.35	AVERAGE	127	295	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 !	15717.720	74.46	-5.54	80.00	60.82	37.48	11.51	35.35	PEAK	108	177	VERTICAL
2 !	15720.360	58.31	-1.69	60.00	44.67	37.48	11.51	35.35	AVERAGE	108	177	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.

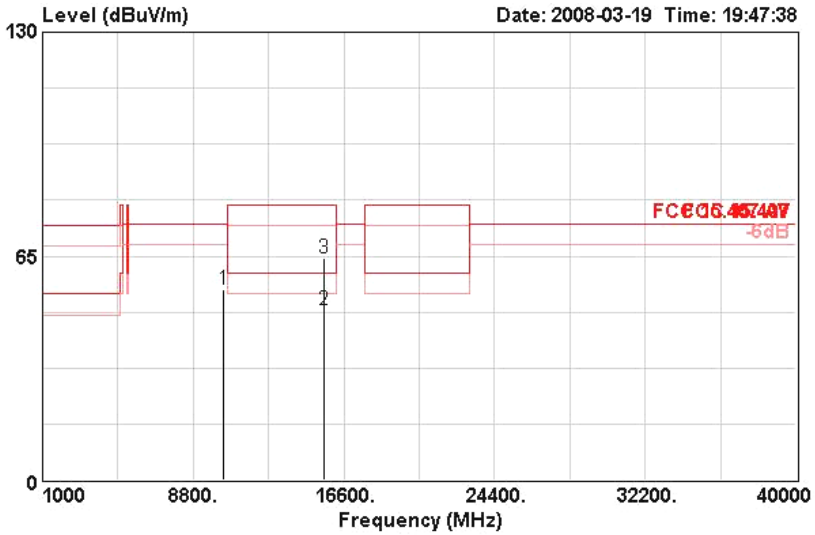
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

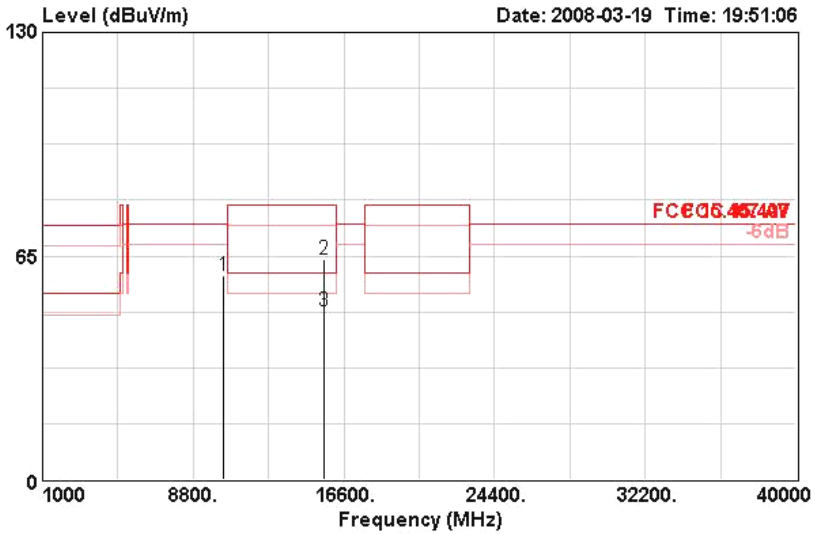
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 36 / Ant. 5

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	10360.100	55.38	-18.92	74.30	42.81	38.37	9.32	35.12	PEAK	100	86	HORIZONTAL
2 @	15538.080	49.55	-10.45	60.00	35.65	37.67	11.52	35.28	AVERAGE	138	270	HORIZONTAL
3	15540.400	64.59	-15.41	80.00	50.68	37.67	11.52	35.28	PEAK	138	270	HORIZONTAL

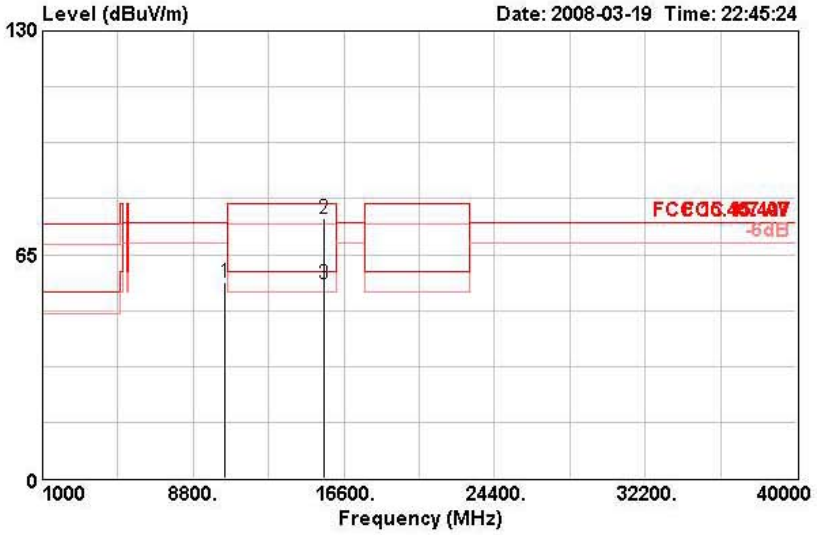
Vertical



	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	10359.920	59.38	-14.92	74.30	46.80	38.37	9.32	35.12	PEAK	122	235	VERTICAL
2	15537.960	64.00	-16.00	80.00	50.10	37.67	11.52	35.28	PEAK	136	274	VERTICAL
3 @	15542.540	49.00	-11.00	60.00	35.09	37.67	11.52	35.28	AVERAGE	136	274	VERTICAL

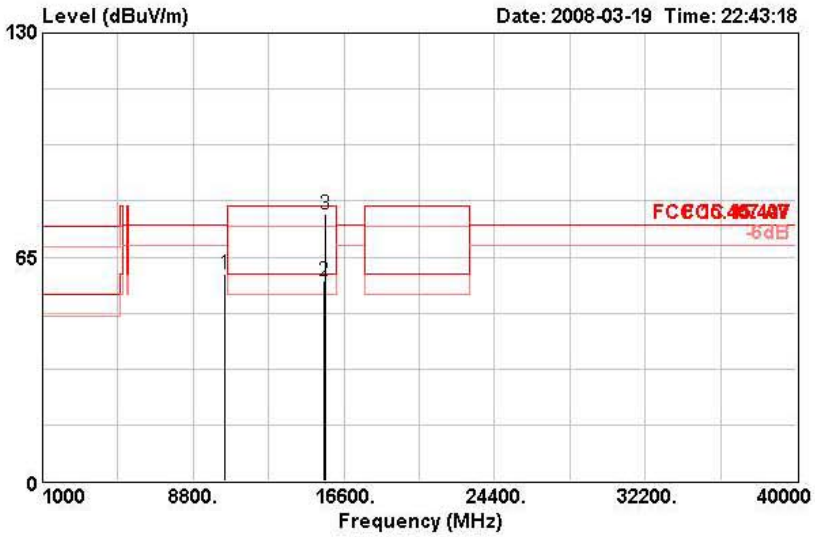
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 40 / Ant. 5

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	10397.240	56.74	-17.56	74.30	44.06	38.38	9.36	35.05	PEAK	148	138	HORIZONTAL
2 @	15595.320	75.41	-4.59	80.00	61.59	37.60	11.52	35.30	PEAK	136	265	HORIZONTAL
3 @	15599.560	56.65	-3.35	60.00	42.85	37.60	11.52	35.31	AVERAGE	136	265	HORIZONTAL

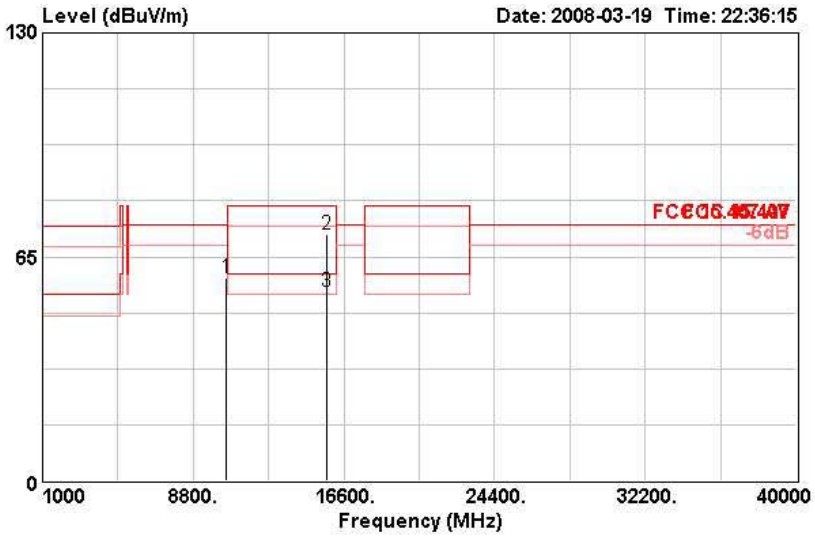
Vertical



	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 @	10395.760	60.24	-14.06	74.30	47.61	38.38	9.34	35.09	PEAK	124	120	VERTICAL
2 @	15599.360	58.19	-1.81	60.00	44.39	37.60	11.52	35.31	AVERAGE	119	266	VERTICAL
3 @	15606.640	77.30	-2.70	80.00	63.49	37.60	11.52	35.31	PEAK	119	266	VERTICAL

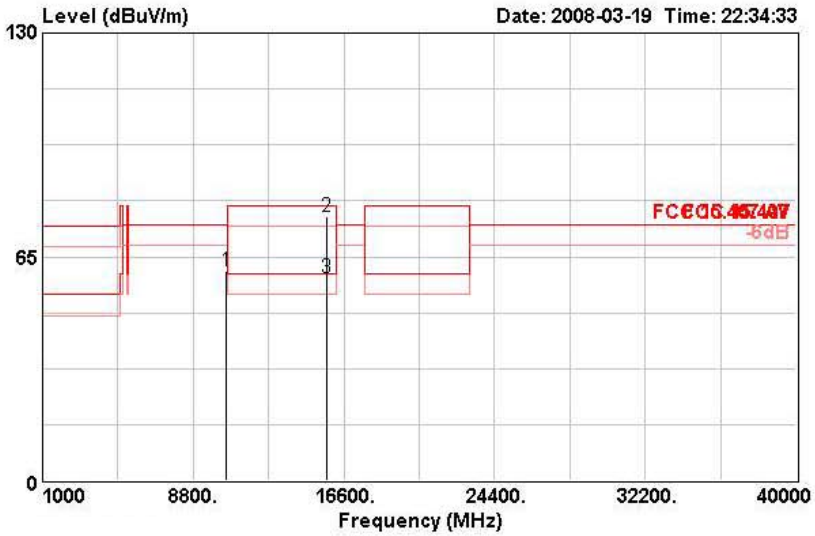
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 48 / Ant. 5

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1	10477.720	58.98	-15.32	74.30	46.13	38.40	9.41	34.96	PEAK	148	132	HORIZONTAL
2 @	15715.560	71.67	-8.33	80.00	58.03	37.48	11.51	35.35	PEAK	133	262	HORIZONTAL
3 @	15718.460	54.99	-5.01	60.00	41.34	37.48	11.51	35.35	AVERAGE	133	262	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 @	10485.240	60.79	-13.51	74.30	47.94	38.40	9.41	34.96	PEAK	129	263	VERTICAL
2 @	15715.120	76.84	-3.16	80.00	63.19	37.48	11.51	35.35	PEAK	122	263	VERTICAL
3 @	15721.040	58.79	-1.21	60.00	45.14	37.48	11.51	35.35	AVERAGE	122	263	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.

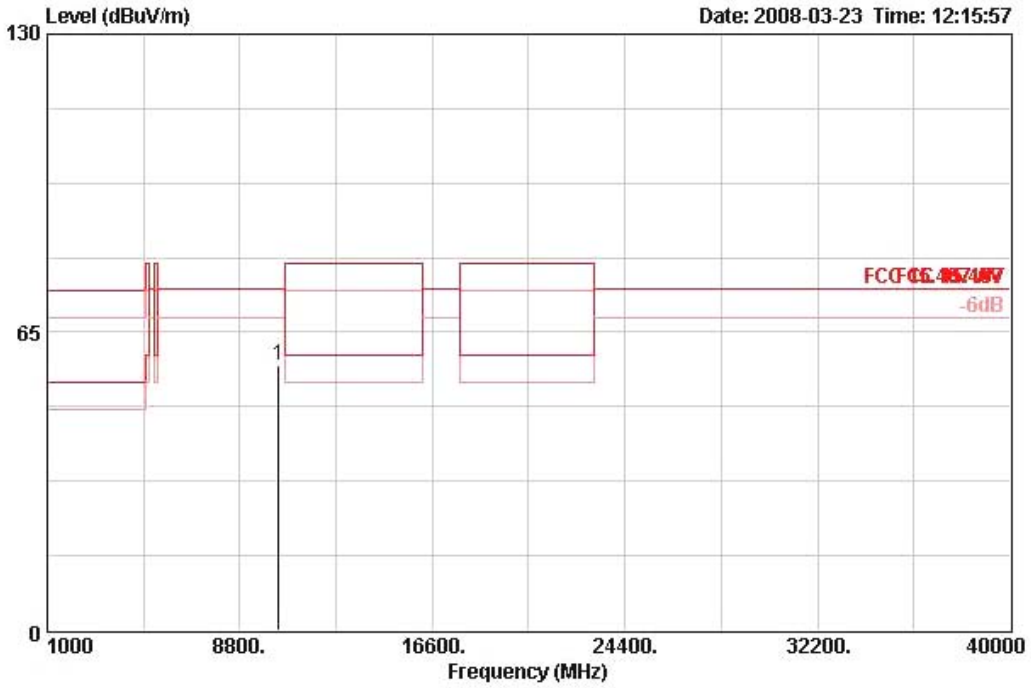
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

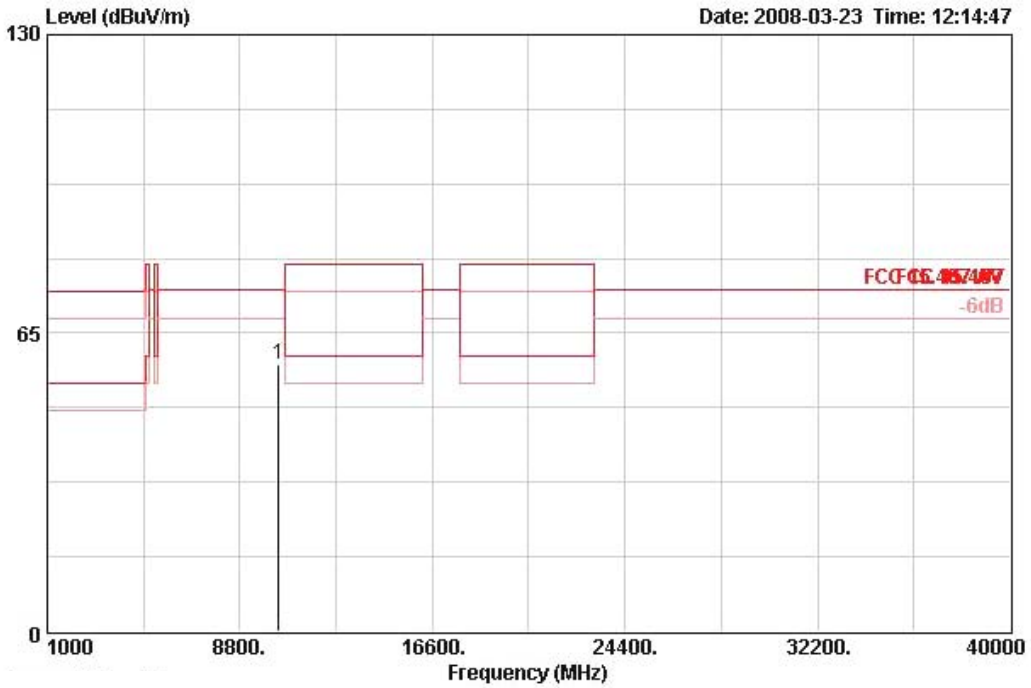
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 36 / Ant. 6

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1	10361.260	57.75	-16.55	74.30	44.40	38.49	35.36	10.22	PEAK	0	100	HORIZONTAL

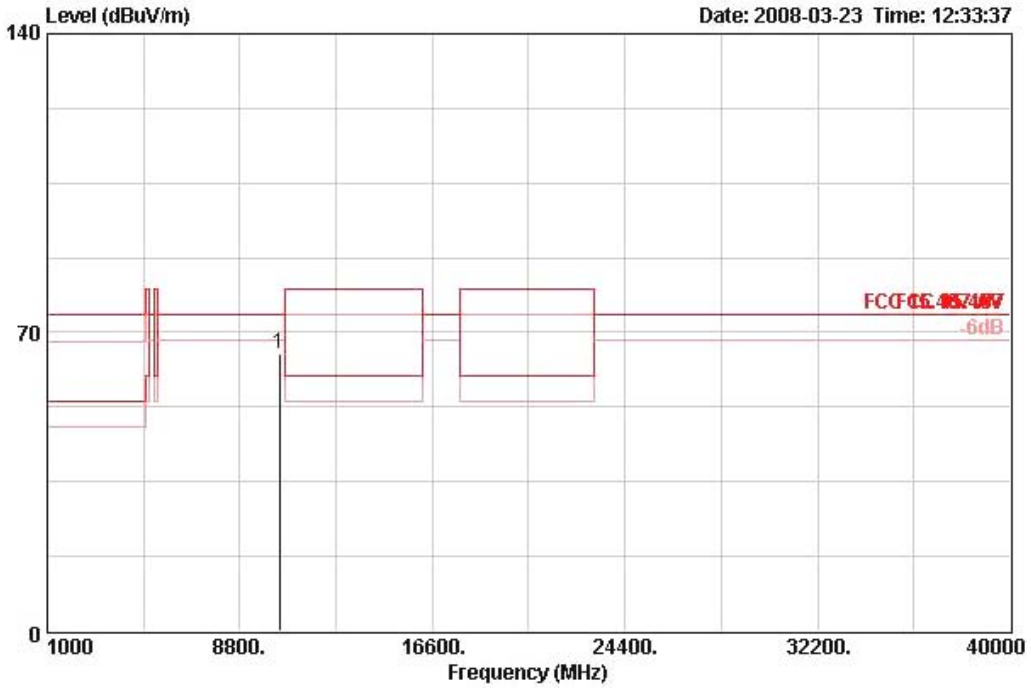
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1	10360.900	58.24	-16.06	74.30	44.89	38.49	35.36	10.22	PEAK	360	100	VERTICAL

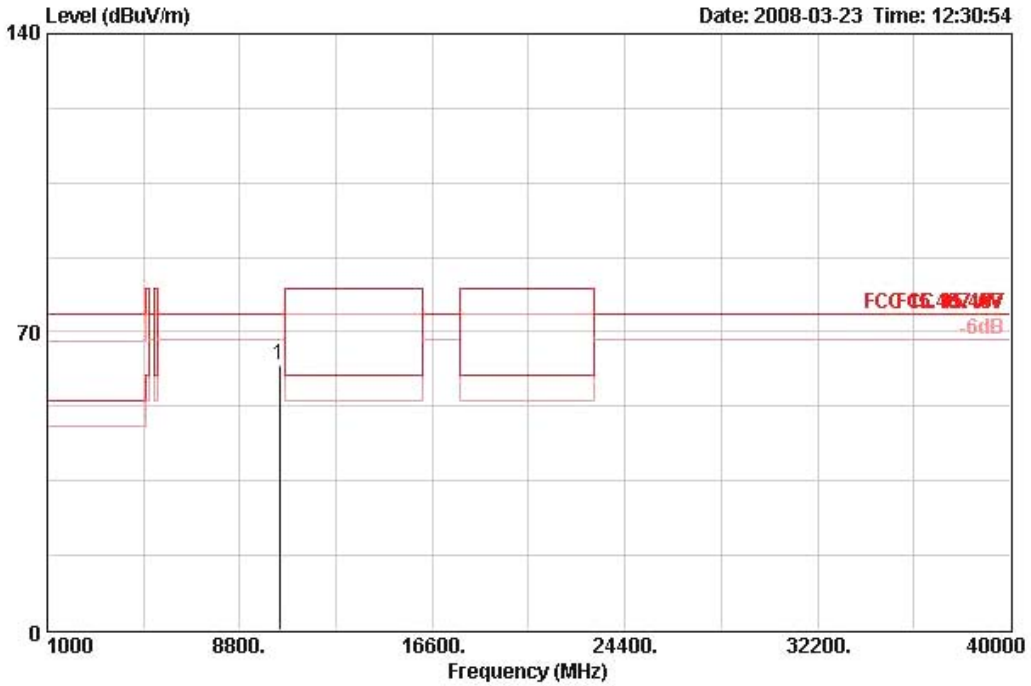
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 40 / Ant. 6

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1	10395.320	64.91	-9.39	74.30	51.48	38.52	35.33	10.25	PEAK	311	107	HORIZONTAL

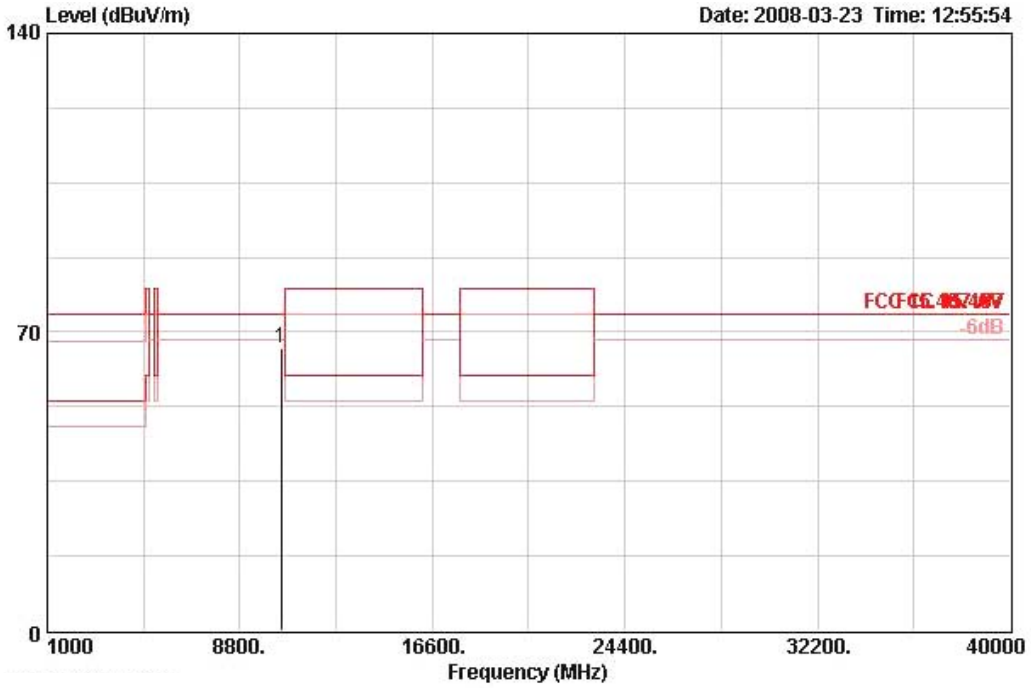
Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1	10395.400	62.26	-12.04	74.30	48.83	38.52	35.33	10.25	PEAK	327	107	VERTICAL

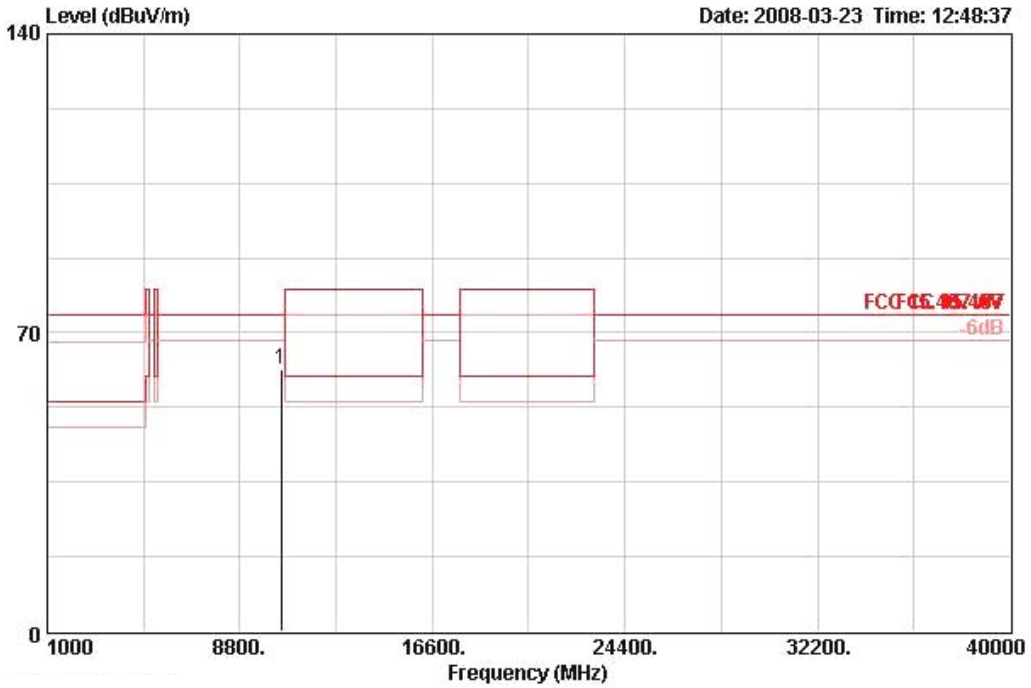
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 48 / Ant. 6

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1	10475.000	66.09	-8.21	74.30	52.38	38.57	35.21	10.35	PEAK	316	109	HORIZONTAL

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1	10484.800	61.31	-12.99	74.30	47.59	38.59	35.21	10.35	PEAK	310	100	VERTICAL

Note:

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

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

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

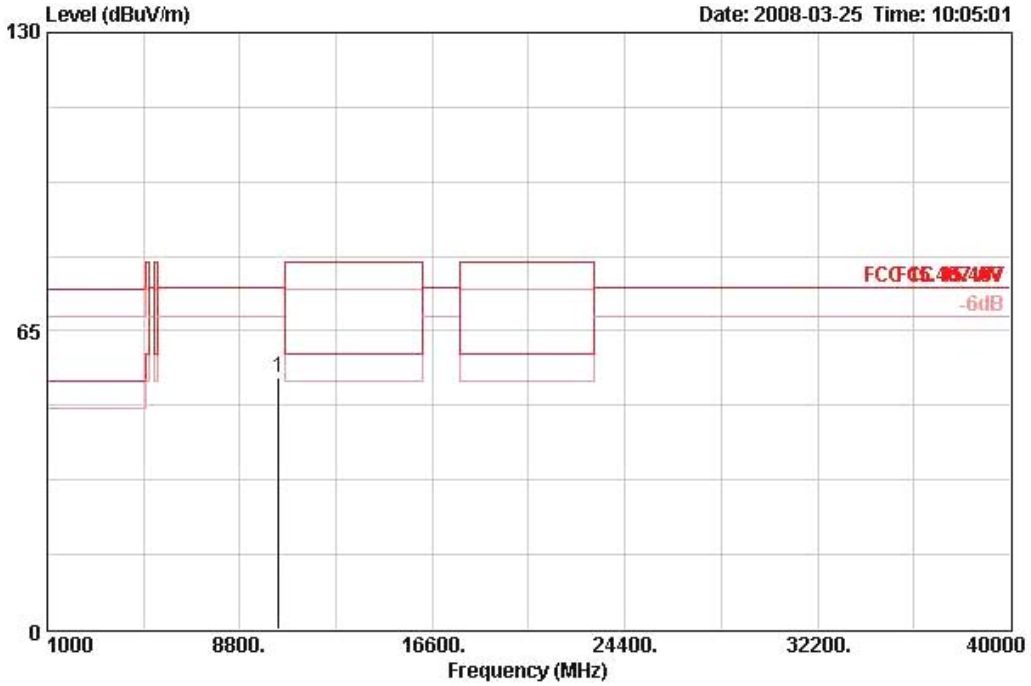
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

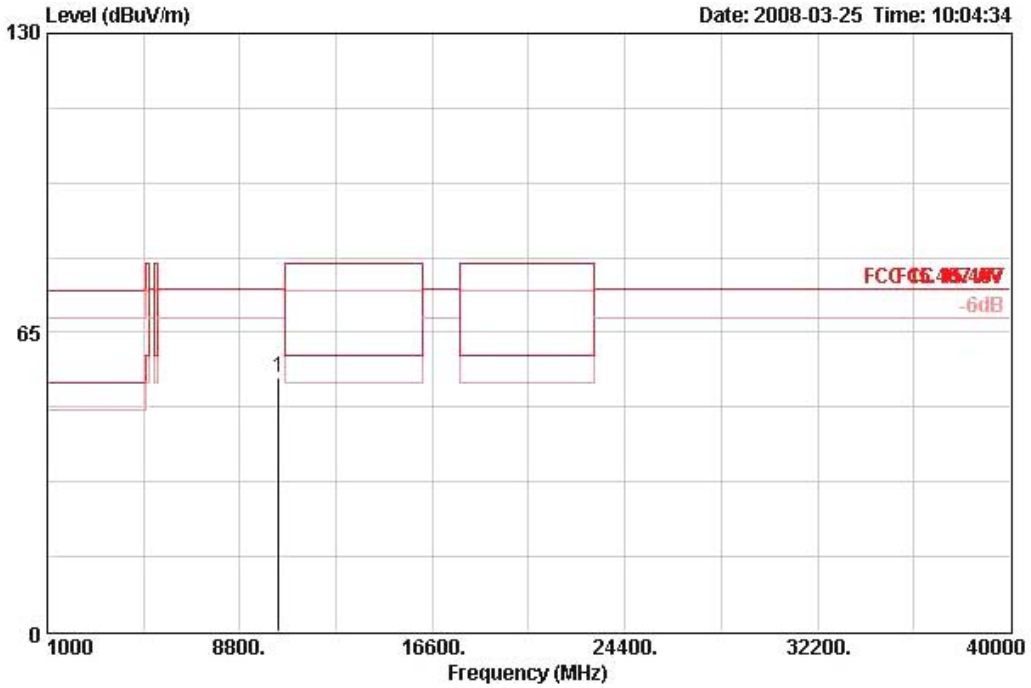
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 36 / Ant. 7

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	10358.620	55.00	-19.30	74.30	42.42	38.37	9.32	35.12	PEAK	100	0	HORIZONTAL

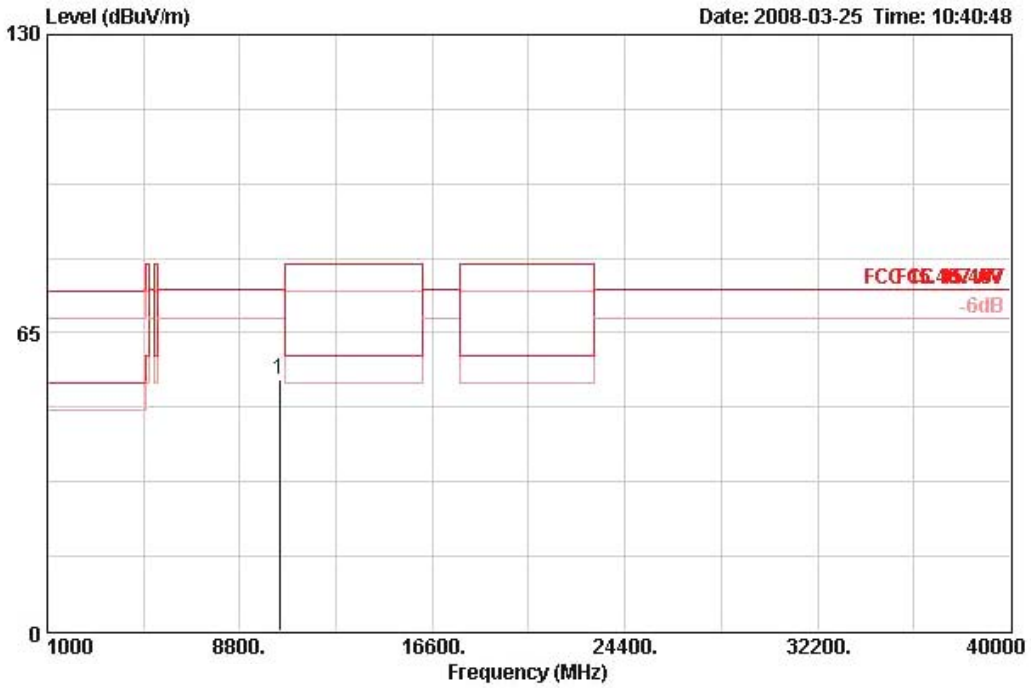
Vertical



	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 @	10357.790	55.13	-19.17	74.30	42.56	38.37	9.32	35.12	PEAK	100	101	VERTICAL

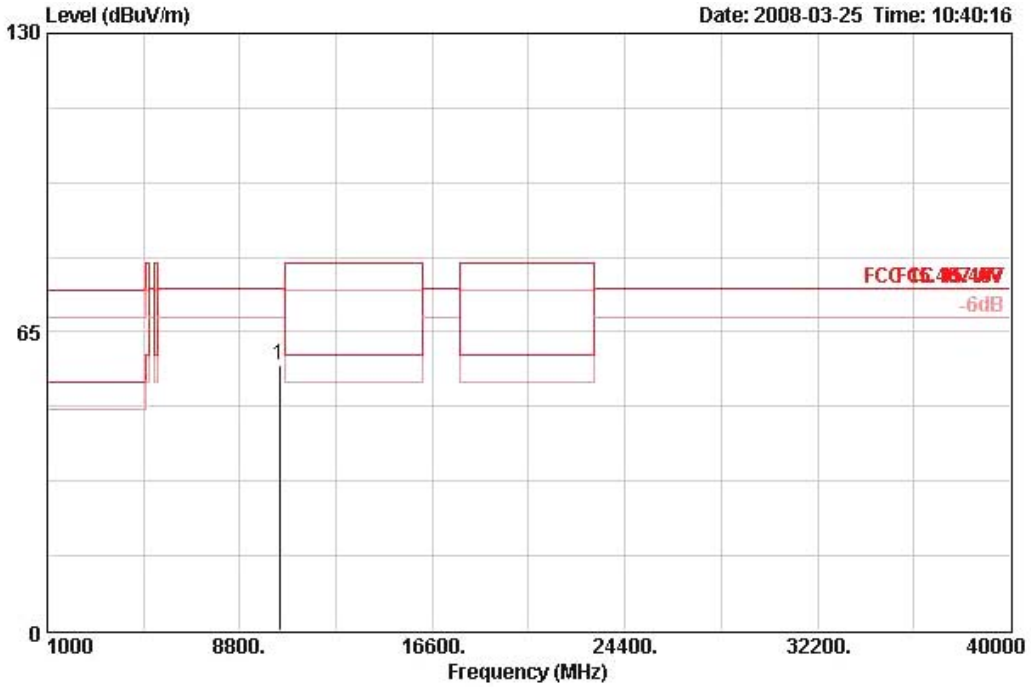
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 40 / Ant. 7

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	10398.740	54.92	-19.38	74.30	42.24	38.38	9.36	35.05	PEAK	100	361	HORIZONTAL

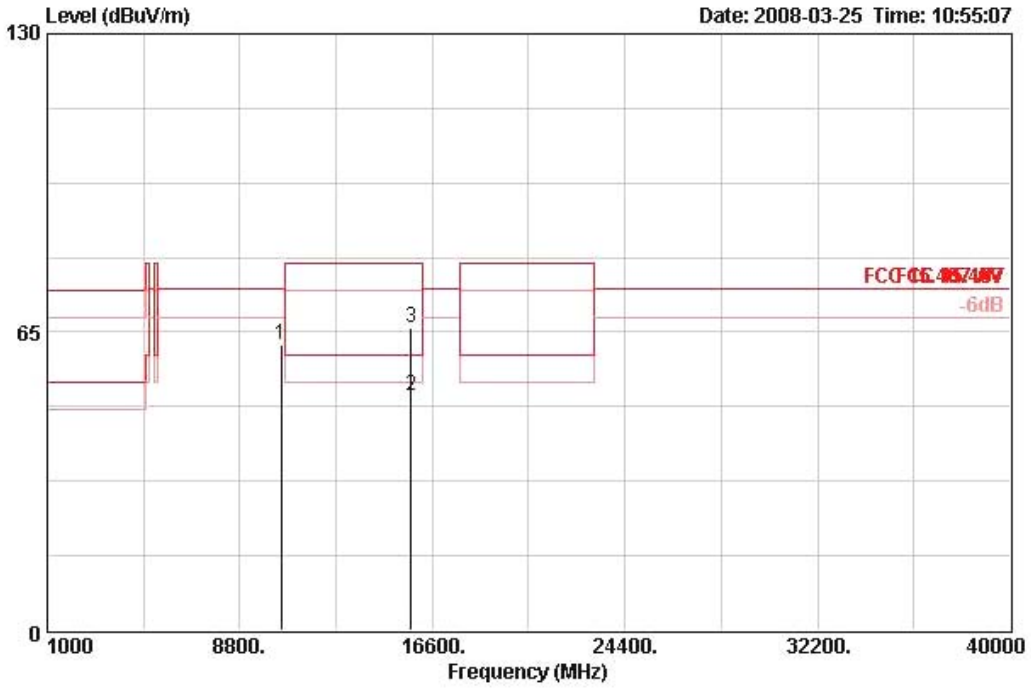
Vertical



	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 @	10398.980	57.67	-16.63	74.30	44.99	38.38	9.36	35.05	PEAK	134	266	VERTICAL

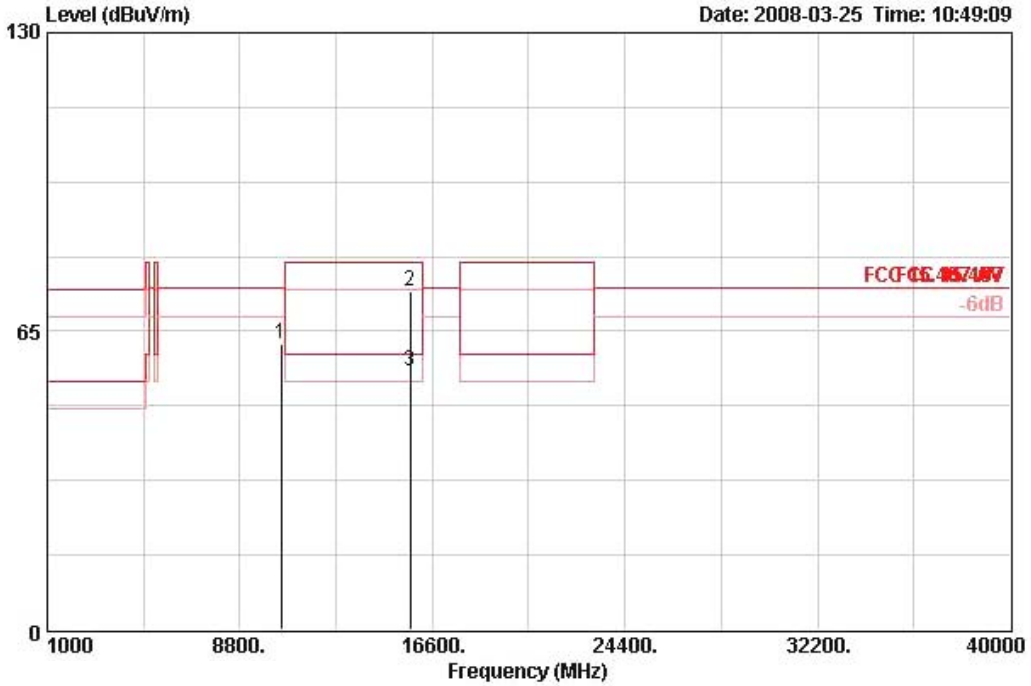
Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 48 / Ant. 7

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	10486.160	62.19	-12.11	74.30	49.35	38.40	9.41	34.96	PEAK	129	112	HORIZONTAL
2 @	15721.240	50.96	-9.04	60.00	37.31	37.48	11.51	35.35	AVERAGE	120	157	HORIZONTAL
3 @	15724.040	66.09	-13.91	80.00	52.44	37.48	11.51	35.35	PEAK	120	157	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 @	10475.160	62.40	-11.90	74.30	49.56	38.39	9.41	34.96	PEAK	135	107	VERTICAL
2 @	15715.560	73.58	-6.42	80.00	59.94	37.48	11.51	35.35	PEAK	122	154	VERTICAL
3 @	15718.400	56.37	-3.63	60.00	42.72	37.48	11.51	35.35	AVERAGE	122	154	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 5.15-5.25 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

4.7.2. 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

11. The test procedure is the same as section 4.6.3, only the frequency range investigated is limited to 100MHz around bandedges.
12. 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

Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 36, 40 / Ant. 1

Channel 36

	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 !	5149.000	79.57	-0.43	80.00	39.35	33.67	6.54	0.00	PEAK	116	310	VERTICAL
2 !	5150.000	59.22	-0.78	60.00	19.01	33.67	6.54	0.00	AVERAGE	116	310	VERTICAL
3	5178.200	112.57			72.28	33.73	6.55	0.00	AVERAGE	116	310	VERTICAL
4	5181.000	124.51			84.22	33.73	6.55	0.00	PEAK	116	310	VERTICAL

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

Channel 40

	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 !	5150.000	59.28	-0.72	60.00	19.07	33.67	6.54	0.00	AVERAGE	114	233	VERTICAL
2 !	5150.000	77.08	-2.92	80.00	36.87	33.67	6.54	0.00	PEAK	114	233	VERTICAL
3	5196.800	118.12			77.79	33.76	6.57	0.00	AVERAGE	114	233	VERTICAL
4 @	5198.800	130.07			89.74	33.76	6.57	0.00	PEAK	114	233	VERTICAL

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

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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	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 36, 40 / Ant. 5

Channel 36

	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 @	5149.600	79.54	-0.46	80.00	39.33	33.67	6.54	0.00	PEAK	131	189	VERTICAL
2 @	5150.000	59.50	-0.50	60.00	19.28	33.67	6.54	0.00	AVERAGE	131	189	VERTICAL
3 @	5174.400	108.65			68.37	33.73	6.55	0.00	AVERAGE	131	189	VERTICAL
4 @	5178.600	120.66			80.37	33.73	6.55	0.00	PEAK	131	189	VERTICAL

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

Channel 40

	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 @	5146.400	72.12	-7.88	80.00	31.91	33.67	6.54	0.00	PEAK	141	189	VERTICAL
2 @	5150.000	57.82	-2.18	60.00	17.60	33.67	6.54	0.00	AVERAGE	141	189	VERTICAL
3 @	5196.000	108.83			68.50	33.76	6.57	0.00	AVERAGE	141	189	VERTICAL
4 @	5198.800	120.14			79.81	33.76	6.57	0.00	PEAK	141	189	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].

Temperature	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 36, 40 / Ant. 6

Channel 36

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1 !	5148.000	77.73	-2.27	80.00	40.24	33.04	0.00	4.44	PEAK	360	100	VERTICAL
2 !	5150.000	58.26	-1.74	60.00	20.77	33.04	0.00	4.44	AVERAGE	360	100	VERTICAL
3 @	5177.400	115.75			78.22	33.09	0.00	4.43	AVERAGE	360	100	VERTICAL
4 @	5178.200	128.12			90.59	33.09	0.00	4.43	PEAK	360	100	VERTICAL

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

Channel 40

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Table Pos	Ant Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		deg	cm	
1 !	5150.000	59.48	-0.52	60.00	21.99	33.04	0.00	4.44	AVERAGE	360	100	VERTICAL
2 !	5150.000	77.40	-2.60	80.00	39.92	33.04	0.00	4.44	PEAK	360	100	VERTICAL
3 @	5197.600	133.41			95.87	33.12	0.00	4.43	PEAK	360	100	VERTICAL
4 @	5198.200	120.34			82.79	33.12	0.00	4.43	AVERAGE	360	100	VERTICAL

Item 3, 4 are the fundamental frequency at 520MHz.

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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	23℃	Humidity	62%
Test Engineer	Jax Chen	Configurations	802.11a Ch 36, 4060, 64 / Ant. 7

Channel 36

	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 !	5149.400	79.84	-0.16	80.00	39.63	33.67	6.54	0.00	PEAK	100	267	VERTICAL
2 !	5150.000	59.27	-0.73	60.00	19.05	33.67	6.54	0.00	AVERAGE	100	267	VERTICAL
3 @	5182.200	123.54			83.26	33.73	6.55	0.00	PEAK	100	267	VERTICAL
4	5183.000	111.19			70.90	33.73	6.55	0.00	AVERAGE	100	267	VERTICAL

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

Channel 40

	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 @	5150.000	58.58	-1.42	60.00	18.37	33.67	6.54	0.00	AVERAGE	100	257	VERTICAL
2 @	5150.000	75.02	-4.98	80.00	34.81	33.67	6.54	0.00	PEAK	100	257	VERTICAL
3 @	5203.000	126.11			85.78	33.76	6.57	0.00	PEAK	100	257	VERTICAL
4 @	5204.000	113.23			72.90	33.76	6.57	0.00	AVERAGE	100	257	VERTICAL

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

Note:

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

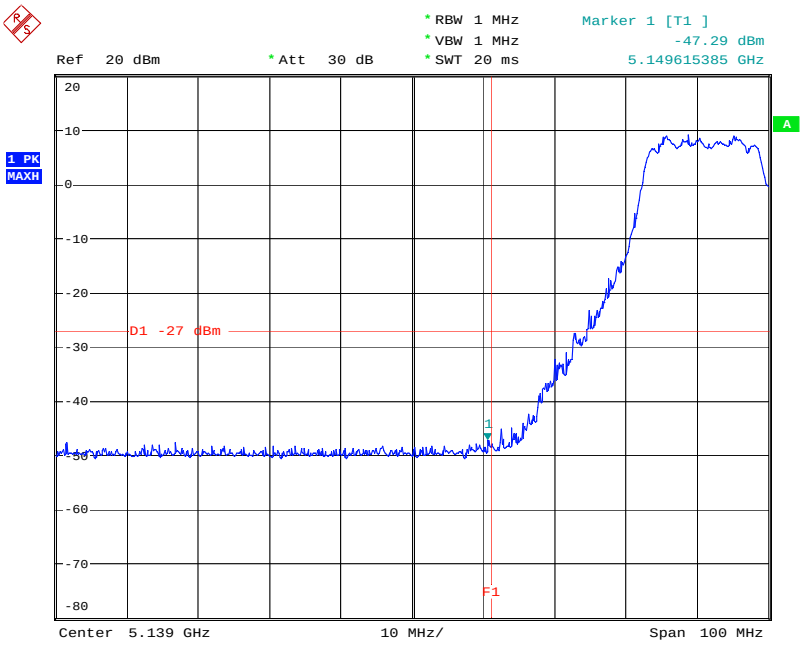
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

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);

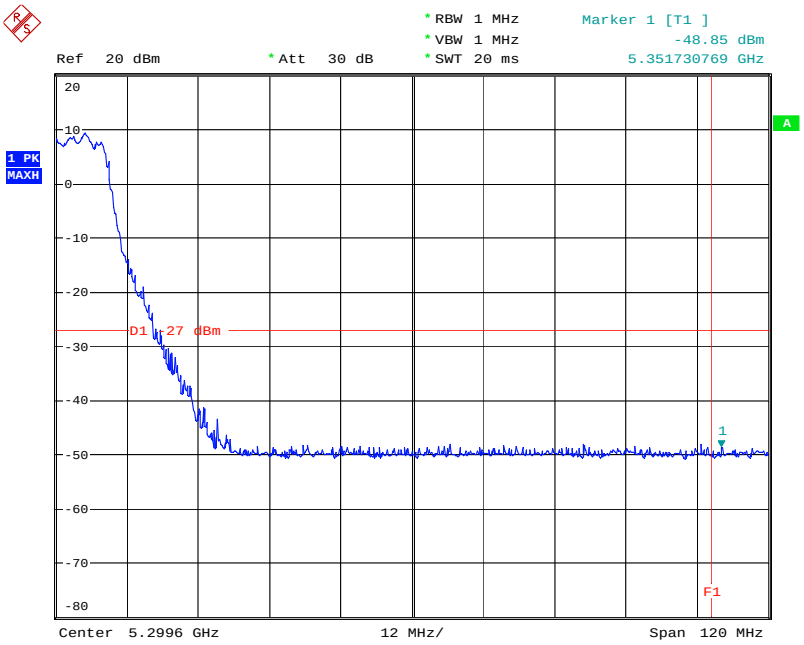
Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

EIRP Emission in Band on Configuration IEEE 802.11a Ant. 1 / 5180 MHz



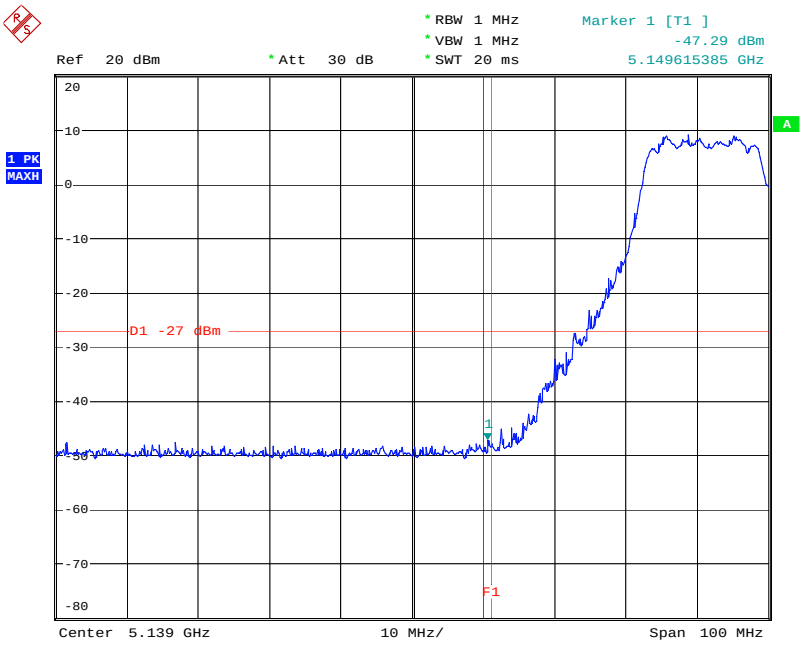
Date: 20.MAR.2008 20:04:03

EIRP Emission in Band on Configuration IEEE 802.11a Ant. 1 / 5240 MHz



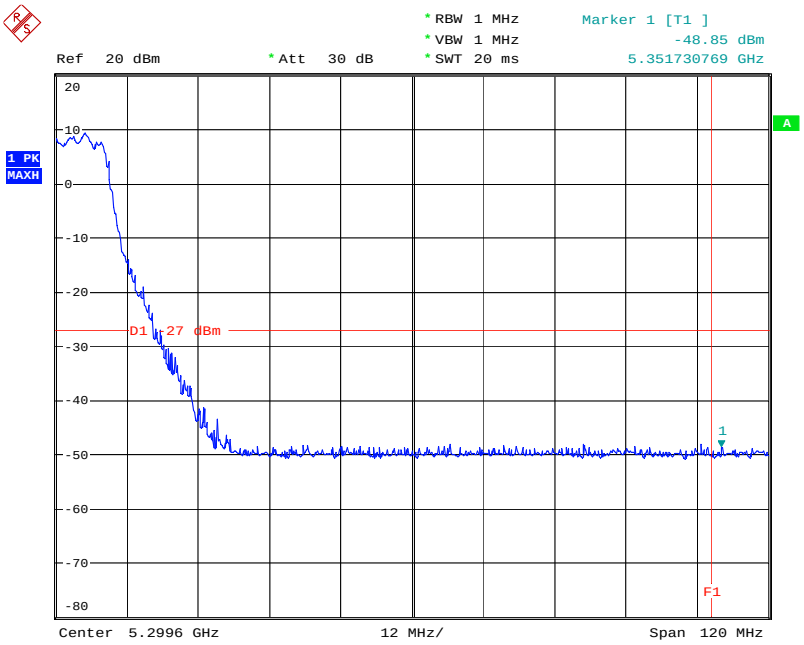
Date: 20.MAR.2008 20:07:17

EIRP Emission in Band on Configuration IEEE 802.11a Ant. 5 / 5180 MHz



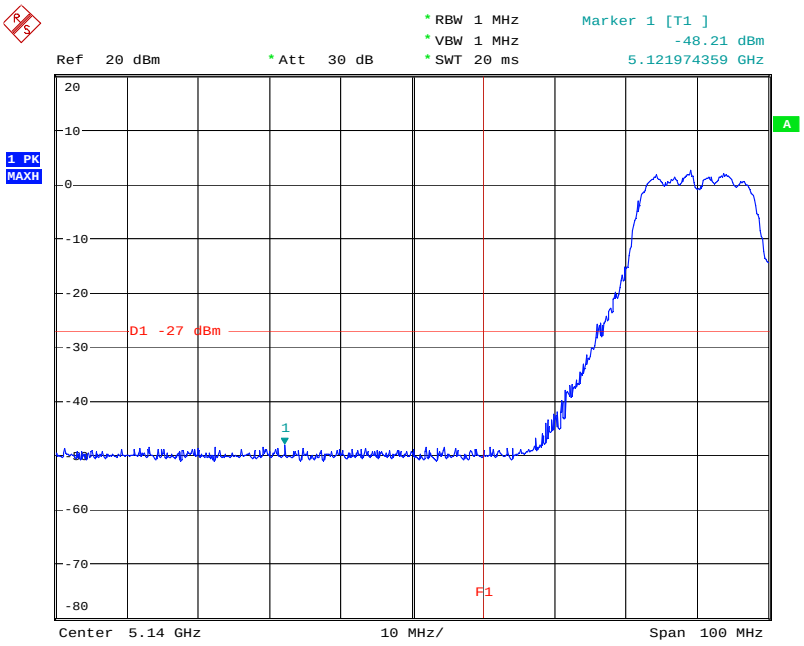
Date: 20.MAR.2008 20:04:03

EIRP Emission in Band on Configuration IEEE 802.11a Ant. 5 / 5240 MHz



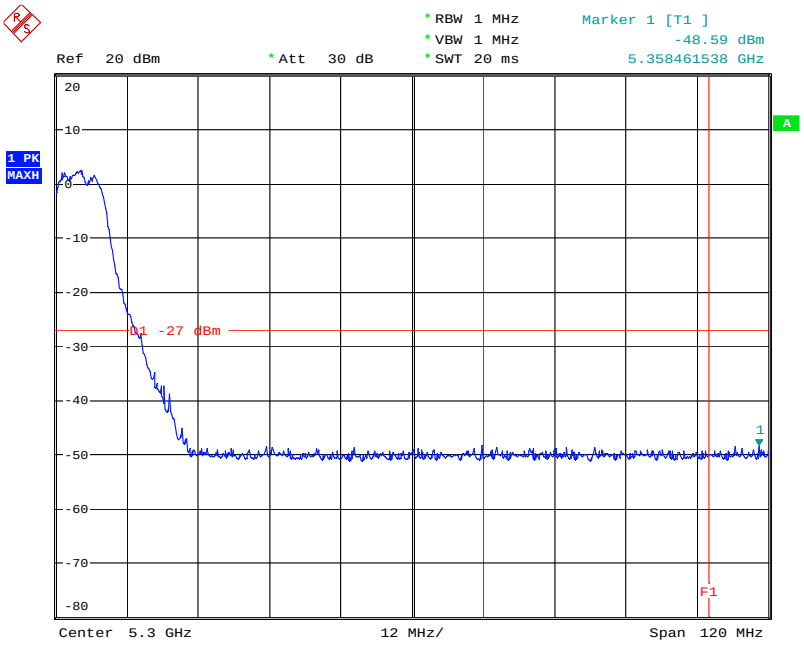
Date: 20.MAR.2008 20:07:17

EIRP Emission in Band on Configuration IEEE 802.11a Ant. 6 / 5180 MHz



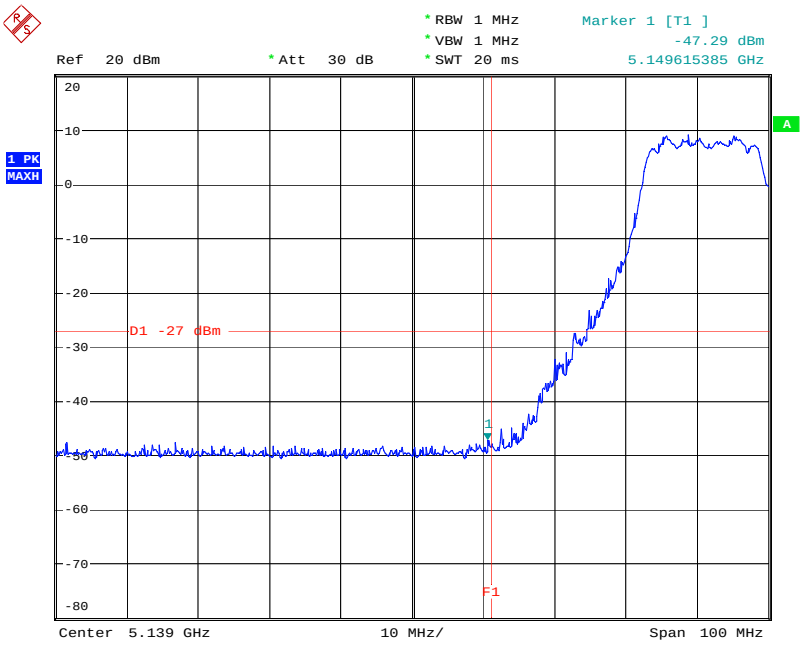
Date: 25.MAR.2008 15:08:02

EIRP Emission in Band on Configuration IEEE 802.11a Ant. 6 / 5240 MHz



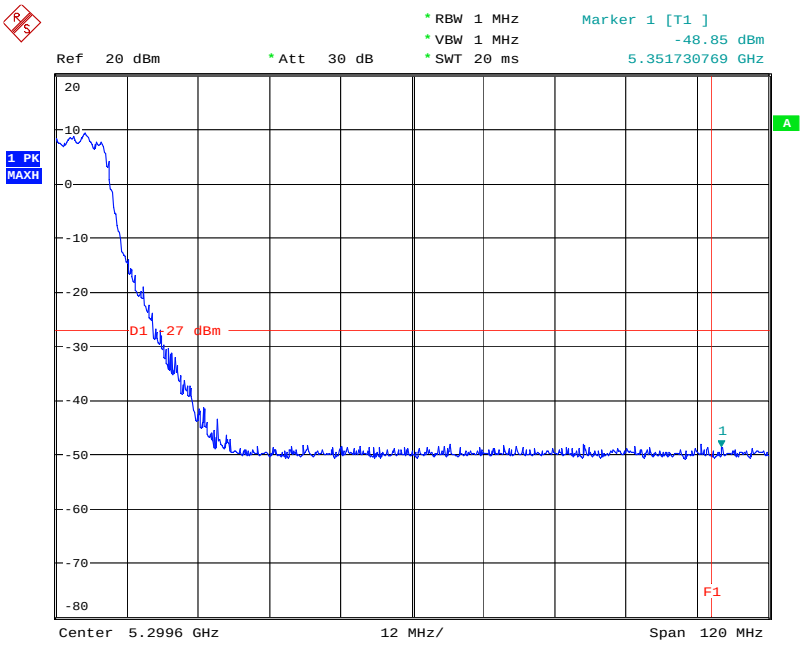
Date: 25.MAR.2008 15:07:12

EIRP Emission in Band on Configuration IEEE 802.11a Ant. 7 / 5180 MHz



Date: 20.MAR.2008 20:04:03

EIRP Emission in Band on Configuration IEEE 802.11a Ant. 7 / 5240 MHz



Date: 20.MAR.2008 20:07:17

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 ±20ppm (IEEE 802.11a specification).

4.8.2. Measuring Instruments and Setting

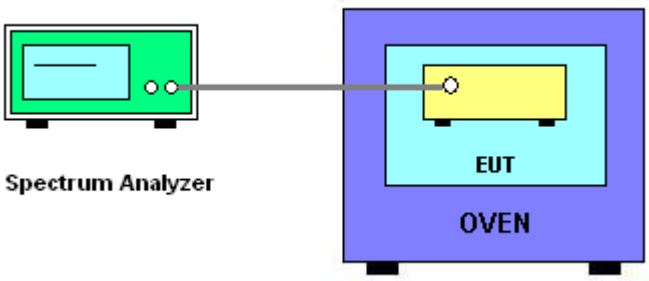
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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 analyser.
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. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 10^6 ppm and the limit is less than ±20ppm (IEEE 802.11a 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°C~50°C.
8. Measuring multiple antennas, the connector is required to link with Power Meter 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 MHz
126.50	5200.0451
110.00	5200.0322
93.50	5200.0211
Max. Deviation (MHz)	**0.045100**
Max. Deviation (ppm)	**8.67**

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(℃)	5200 MHz
-30	5200.0512
-20	5200.0412
-10	5200.0315
0	5200.0211
10	5200.0101
20	5200.0001
30	5199.9981
40	5199.9885
50	5199.9648
Max. Deviation (MHz)	**0.051200**
Max. Deviation (ppm)	**9.85**

For Antenna 5

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200 MHz
126.50	5200.0451
110.00	5200.0322
93.50	5200.0211
Max. Deviation (MHz)	**0.045100**
Max. Deviation (ppm)	**8.67**

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(℃)	5200 MHz
-30	5200.0512
-20	5200.0412
-10	5200.0315
0	5200.0211
10	5200.0101
20	5200.0001
30	5199.9981
40	5199.9885
50	5199.9648
Max. Deviation (MHz)	**0.051200**
Max. Deviation (ppm)	**9.85**

For Antenna 6

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200 MHz
126.50	5200.0451
110.00	5200.0322
93.50	5200.0211
Max. Deviation (MHz)	**0.045100**
Max. Deviation (ppm)	**8.67**

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(℃)	5200 MHz
-30	5200.0275
-20	5200.0269
-10	5200.0254
0	5200.0153
10	5200.0043
20	5199.9984
30	5199.9778
40	5199.9674
50	5199.9668
Max. Deviation (MHz)	**0.033200**
Max. Deviation (ppm)	**6.38**

For Antenna 7

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200 MHz
126.50	5200.0451
110.00	5200.0322
93.50	5200.0211
Max. Deviation (MHz)	**0.045100**
Max. Deviation (ppm)	**8.67**

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(℃)	5200 MHz
-30	5200.0512
-20	5200.0412
-10	5200.0315
0	5200.0211
10	5200.0101
20	5200.0001
30	5199.9981
40	5199.9885
50	5199.9648
Max. Deviation (MHz)	**0.051200**
Max. Deviation (ppm)	**9.85**

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	Mar. 03, 2008	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2008	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2008	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2007	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz –30MHz	Mar. 27, 2008	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	Conduction (CO04-HY)
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30 MHz - 1 GHz 3m	Jun. 14, 2007	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	COA9231A	18667	9 kHz - 2 GHz	Jan. 14, 2008	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jun. 07, 2007	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5 GHz - 40 GHz	Jan. 22, 2007*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP40	100305	9 kHz - 40 GHz	Sep. 27, 2007	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	May 23, 2006*	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 21, 2007	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	May 04, 2007	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	Jan.18, 2008	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Dec. 03, 2007	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Dec. 03, 2007	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100023	9kHz ~ 30GHz	Jan. 10, 2008	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100458	DC ~ 30GHz	Jun. 27, 2007	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jun. 27, 2007	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	May 04, 2007*	Conducted (TH01-HY)
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 13, 2008	Conducted (TH01-HY)
Temp. and Humidity Chamber	KSON	THS-C3L	612	N/A	Oct. 01, 2007	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2007	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2007	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Nov. 14, 2007	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 10, 2008	Conducted (TH01-HY)

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

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

6. TEST LOCATION

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

7. TAF CERTIFICATE OF ACCREDITATION

Certificate No. : L1190-070110

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

Certificate of Accreditation

This is to certify that

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

is accredited in respect of laboratory

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

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

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