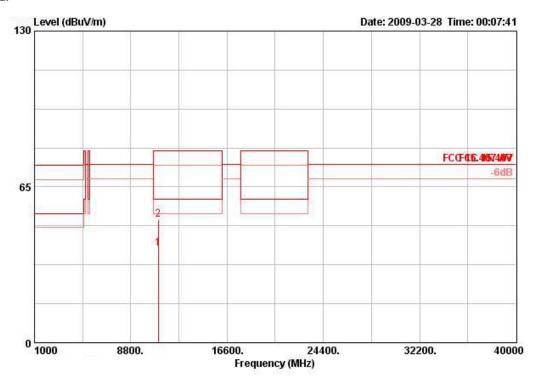




Temperature	24.3°C	Humidity	56%
Test Engineer	Doy Hugna	Configurations	Draft n MCS0 40MHz Ch 102
Test Engineer	Roy Huang	Configurations	/ Ant. 1 + Ant. 2

### Horizontal



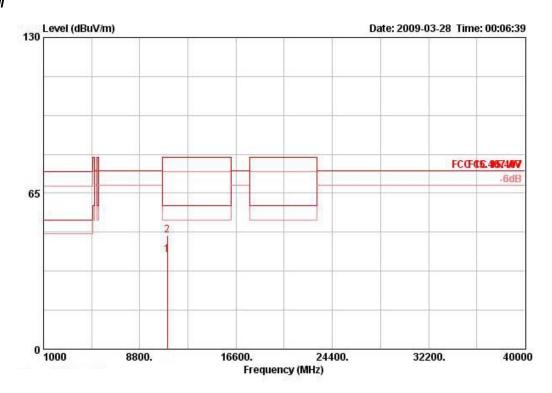
			0ver	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	69 30	————	deg	
1 @	11015.160	39.41	-20.59	60.00	29.95	38.40	5.75	34.69	AVERAGE	100	0	HORIZONTAL
2 @	11021.160	51.51	-28.49	80.00	42.05	38.40	5.75	34.69	PEAK	100	0	HORIZONTAL

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	Freq	Level				Antenna Factor			Preamp Factor Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	×		deg	
1 @	11015.180	39.47	-20.53	60.00	30.01	38.40	5.75	34.69	AVERAGE	100	360	VERTICAL
2 @	11016.020	47.36	-32.64	80.00	37.89	38.40	5.75	34.69	PEAK	100	360	VERTICAL

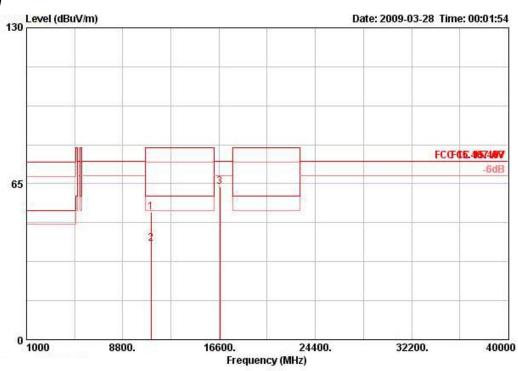
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Temperature	24.3°C	Humidity	56%
Test Engineer	Pov Hugna	Configurations	Draft n MCS0 40MHz Ch 110
	Roy Huang	Configurations	/ Ant. 1 + Ant. 2

#### Horizontal

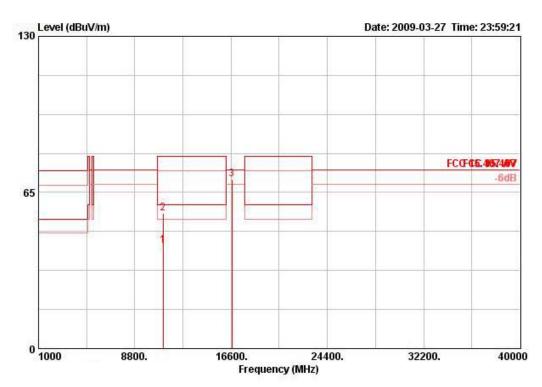


						Antenna				Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	uV/m dBuV	dB/m	dB	dB	×3====================================	cm	deg	\$*************************************
1 @	11100.860	53.02	-26.98	80.00	43.54	38.42	5.76	34.70	PEAK	100	0	HORIZONTAL
2 @	11105.000	39.89	-20.11	60.00	30.41	38.42	5.76	34.70	AVERAGE	100	0	HORIZONTAL
3 0	16649 000	63 67	-10 63	24 30	50 96	40 12	7 94	34 65	DEVK	108	287	HODTZONTAL

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			Over	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dВ	dB	-		deg	
1 @	11100.340	42.75	-17.25	60.00	33.27	38.42	5.76	34.70	AVERAGE	100	276	VERTICAL
2 @	11101.340	56.20	-23.80	80.00	46.72	38.42	5.76	34.70	PEAK	100	276	VERTICAL
3 @	16648.400	70.38	-3.92	74.30	57.74	40.05	7.24	34.65	PEAK	100	276	VERTICAL

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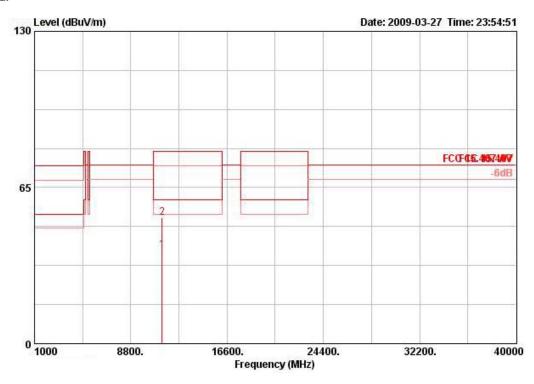
 FCC ID: HZB-USABGNR01
 Issued Date
 : Apr. 28, 2009





Temperature	24.3°C	Humidity	56%
Test Engineer	Dov Hugna	Configurations	Draft n MCS0 40MHz Ch 134
Test Engineer	Roy Huang	Configurations	/ Ant. 1 + Ant. 2

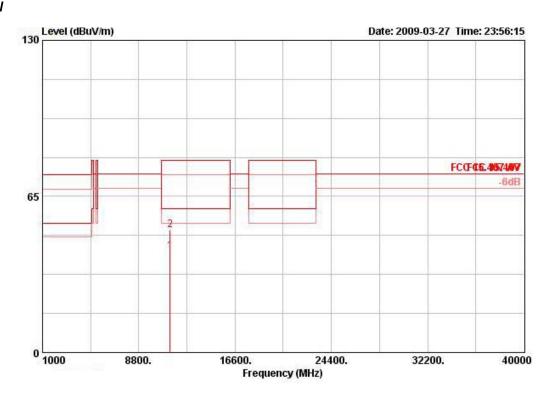
### Horizontal



			0ver	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	Мнг	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	-		deg	
1 @	11339.870	39.07	-20.93	60.00	29.54	38.47	5.79	34.73	AVERAGE	100	0	HORIZONTAL
2 @	11340.450	52.28	-27.72	80.00	42.75	38.47	5.79	34.73	PEAK	100	0	HORIZONTAL

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#### Vertical



	Freq	Level				Antenna Factor			Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBu∀	dB/m	dB	dB	×9		deg	¥
1 @	11335.800	42.29	-17.71	60.00	32.77	38.47	5.79	34.73	AVERAGE	100	286	VERTICAL
2 @	11336.180	50.93	-29.07	80.00	41.40	38.47	5.79	34.73	PEAK	100	286	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].

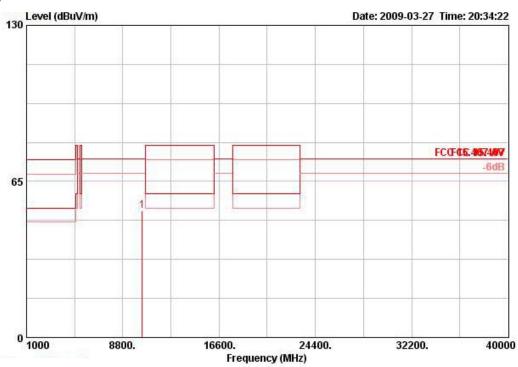
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Temperature	24.3°C	Humidity	56%
Test Engineer	Pov Hugna	Configurations	802.11a Ch 36
Test Engineer	Roy Huang	Configurations	/ Ant. 1 + Ant. 2

#### Horizontal

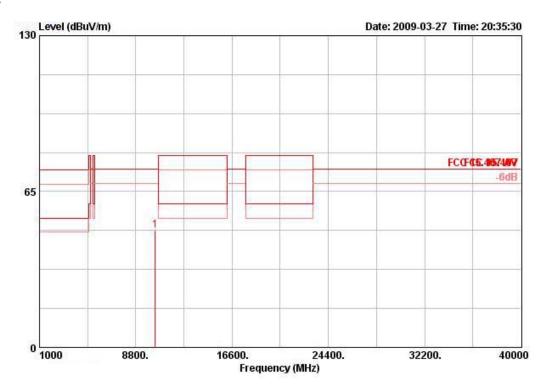


	Freq	Level				Antenna Factor				Ant Pos	Table Pos I	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	·	- cm	deg -	3%
1 @	10362.350	52.62	-21.68	74.30	43.71	38.52	5.75	35.36	PEAK	100	0 1	HORIZONTAL

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	Freq	Level				Antenna Factor			Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBu∀	dB/m	dB	dB	S		deg	Ş <u></u>
1 @	10358.220	48.82	-25.48	74.30	39.92	38.51	5.75	35.36	PEAK	100	360	VERTICAL

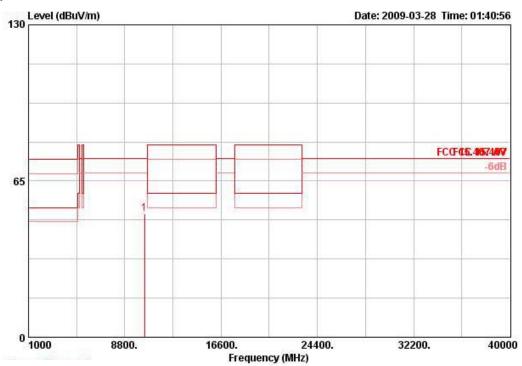
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Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 40 / Ant. 1 + Ant. 2

### Horizontal



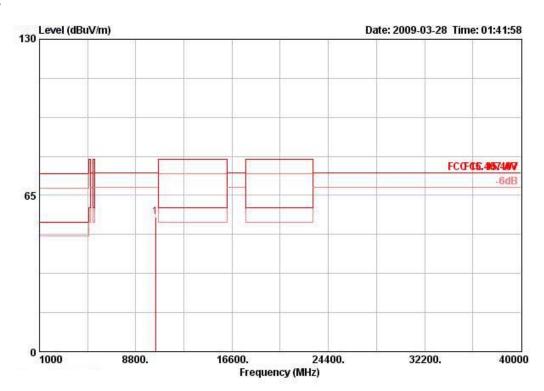
	Freq	Level		Limit Line					Remark	Ant Pos	Table Pos Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB dB	dB -	cm	deg
1 @	10397.120	51.37	-22.93	74.30	42.36	38.54	5.77	35.30	PEAK	100	360 HORIZONTAL

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	Freq	Level		Limit Line					Remark	Ant Pos	Table Pos Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB dB	B	can.	deg
1 @	10395.920	55.94	-18.36	74.30	46.97	38.54	5.76	35.33	PEAK	100	0 VERTICAL

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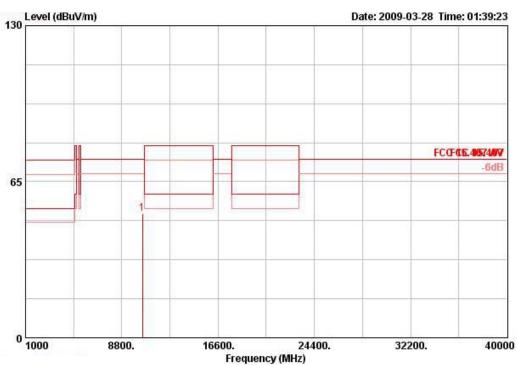
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Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 48 / Ant. 1 + Ant. 2

### Horizontal



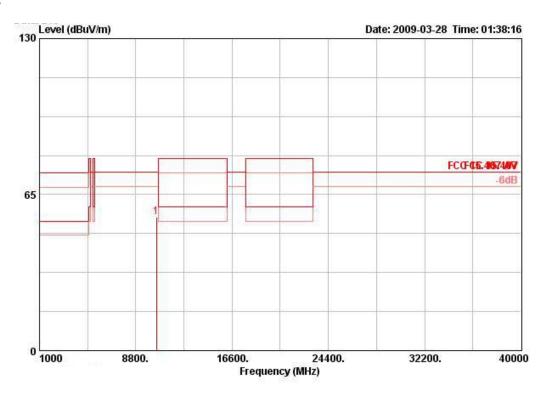
			Over	Limit	ReadA	ReadAntenna (		Preamp		Ant	Table			
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase		
	MHz	dBuV/m	dBuV/m	dBuV/m	dB	dBuV/m	ďBuV	dB/m	dB	dB		cm.	deg	<u> </u>
10	10480.040	51.82	-22.48	74.30	42.63	38.59	5.81	35.21	PEAK	100	0	HORTZONTAL		

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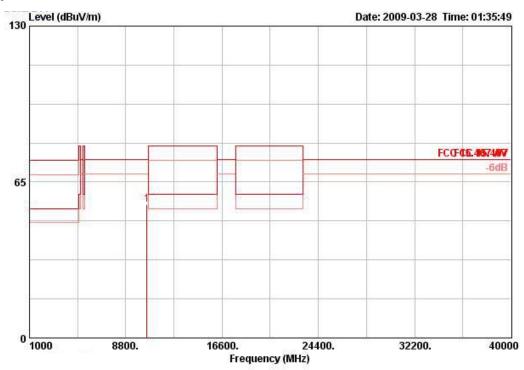
	Freq	Level		Limit Line		Intenna Factor		e Preamp s Factor Re			Table Pos Pol/Phase
	Mtz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	7		deg
1 @	10481.920	55.59	-18.71	74.30	46.40	38.59	5.81	35.21 F	PEAK	100	360 VERTICAL

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Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 52 / Ant. 1 + Ant. 2

# Horizontal



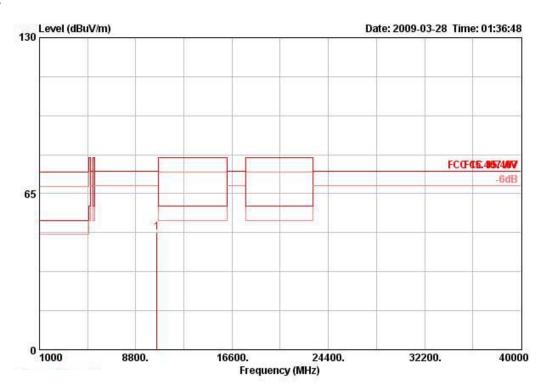
	Freq	Level		Limit Line		Intenna Factor			Remark	Ant Pos	Table Pos Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	6.0	cm	deg
1 @	10518.540	55.70	-18.60	74.30	46.47	38.59	5.82	35.18	PEAK	100	360 HORIZONTAL

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			Over	Limit	Readi	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm.	deg	Ş
1 @	10515.040	48.99	-25.31	74.30	39.76	38.59	5.82	35.18	PEAK	100	0	VERTICAL

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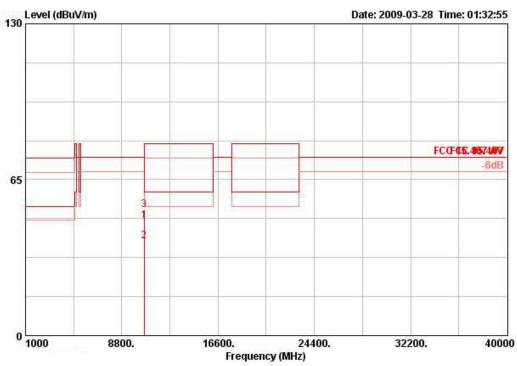
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Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 60 / Ant. 1 + Ant. 2

# Horizontal

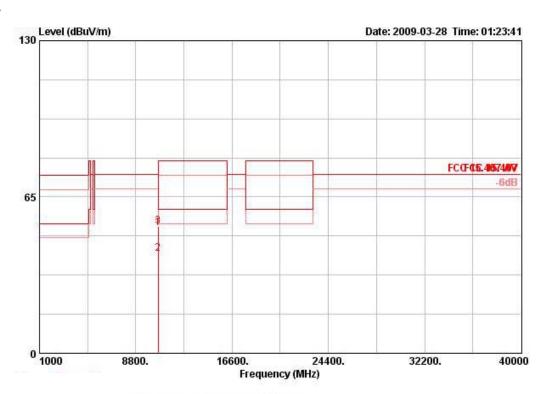


			0ver	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	9		deg	¥**
1 @	10595.840	47.71	-26.59	74.30	38.44	38.57	5.81	35.10	PEAK	100	0	HORIZONTAL
2 @	10600.000	39.45	-20.55	60.00	30.19	38.56	5.81	35.10	AVERAGE	100	0	HORIZONTAL
3 @	10600.000	52.51	-27.49	80.00	43.24	38.56	5.81	35.10	PEAK	100	0	HORIZONTAL

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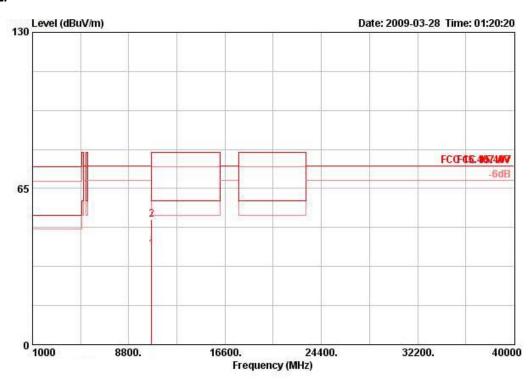
	Freq	Level				Antenna Factor				Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB			deg	
1 @	10599.980	51.93	-22.37	74.30	42.67	38.56	5.81	35.10	PEAK	100	360	VERTICAL
2 @	10603.040	41.43	-18.57	60.00	32.14	38.56	5.81	35.08	AVERAGE	100	360	VERTICAL
3 @	10603.320	52.83	-27.17	80.00	43.54	38.56	5.81	35.08	PEAK	100	360	VERTICAL

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Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 64 / Ant. 1 + Ant. 2

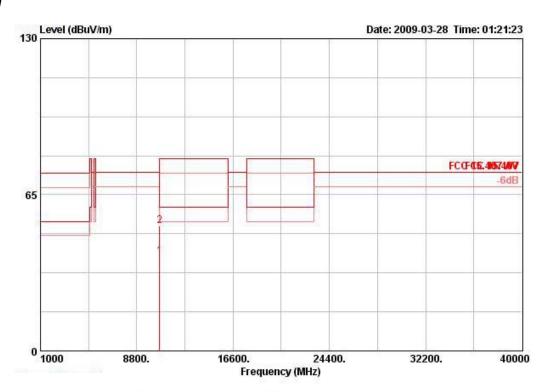
### Horizontal



	Freq	Level				Antenna Factor				Ant Pos	Table Pos	Pol/Phase
	МНг	dBuV/m	dB	dBuV/m	ďBu∀	dB/m	dB	dB	2	cm	deg	-
<b>1</b> @	10638.940	39.62	-20.38	60.00	30.32	38.54	5.80	35.05	AVERAGE	100	360	HORIZONTAL
2 @	10642.960	52.00	-28.00	80.00	42.70	38.54	5.80	35.05	PEAK	100	360	HORIZONTAL

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	Freq	Level				Antenna Factor				Ant Pos	Table Pos Po	1/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	·	can.	deg	
1 @	10635.180	39.34	-20.66	60.00	30.04	38.54	5.80	35.05	AVERAGE	100	0 VE	RTICAL
2 @	10640.520	51.98	-28.02	80.00	42.68	38.54	5.80	35.05	PEAK	100	0 VE	RTICAL

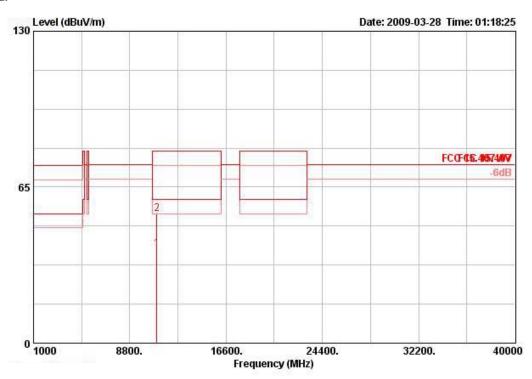
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Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 100 / Ant. 1 + Ant. 2

### Horizontal

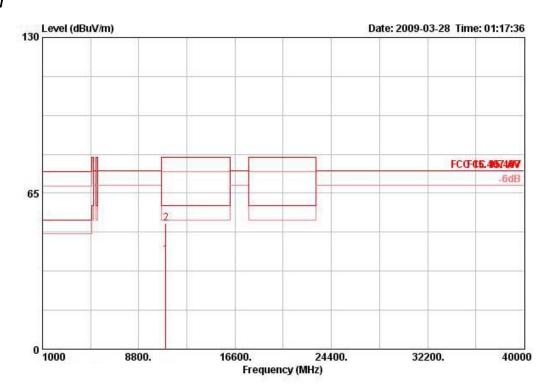


	Freq	Level				Antenna Factor			Remark	Ant Pos	Table Pos I	ol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	10997.700	39.31	-20.69	60.00	29.85	38.40	5.75	34.69	AVERAGE	100	0 H	ORIZONTAL
2 @	10998.680	53.96	-26.04	80.00	44.50	38.40	5.75	34.69	PEAK	100	0 H	ORIZONTAL

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	Freq	Level		Limit Line		Antenna Factor				Ant Pos	Table Pos Po	1/Phase
	MHz	dBuV/m	dB	dBuV/m	dBu∀	dB/m	dB	dB	392	cm	deg	
1 @	11003.440	39.29	-20.71	60.00	29.83	38.40	5.75	34.69	AVERAGE	100	0 VE	RTICAL
2 @	11004.080	52.27	-27.73	80.00	42.81	38.40	5.75	34.69	PEAK	100	0 VE	RTICAL

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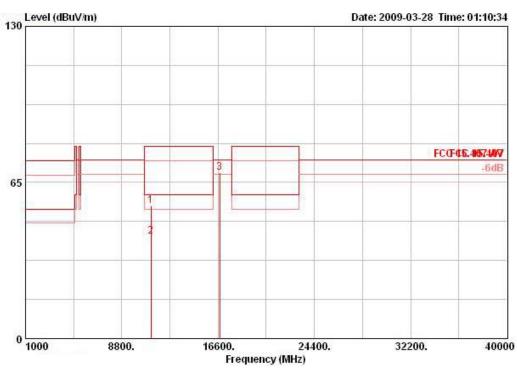
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Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 116 / Ant. 1 + Ant. 2

### Horizontal

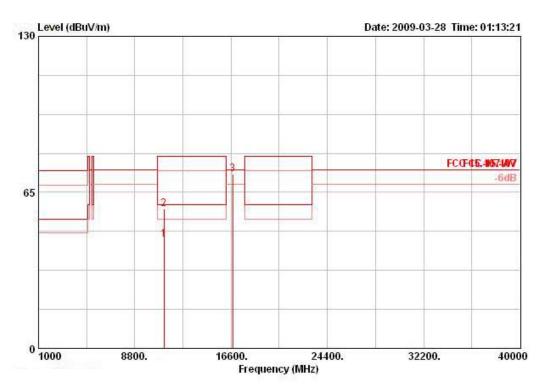


	Freq	Level		Limit Line		Antenna Factor				Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	1 <u>2</u>	cm	deg	
1	11157.740	55.21	-24.79	80.00	45.72	38.43	5.77	34.71	PEAK	100	272	HORIZONTAL
2	11162.540	42.45	-17.55	60.00	32.96	38.43	5.77	34.71	AVERAGE	100	272	HORIZONTAL
3 @	16735.600	69.19	-5.11	74.30	55.92	40.47	7.33	34.52	PEAK	105	283	HORIZONTAL

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			0ver	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	2		deg	S
1	11160.480	45.29	-14.71	60.00	35.79	38.43	5.77	34.71	AVERAGE	100	272	VERTICAL
2	11160.840	58.18	-21.82	80.00	48.69	38.43	5.77	34.71	PEAK	100	272	VERTICAL
3 @	16741.920	72.60	-1.70	74.30	59.33	40.47	7.33	34.52	PEAK	100	272	VERTICAL

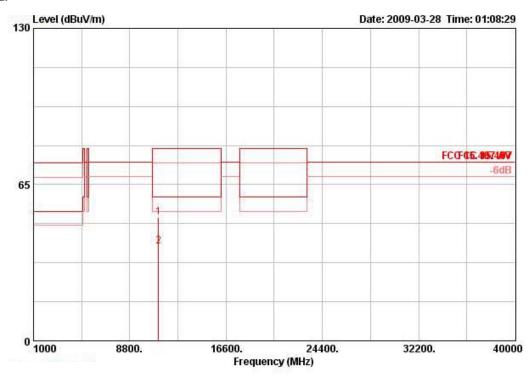
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Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 140 / Ant. 1 + Ant. 2

### Horizontal

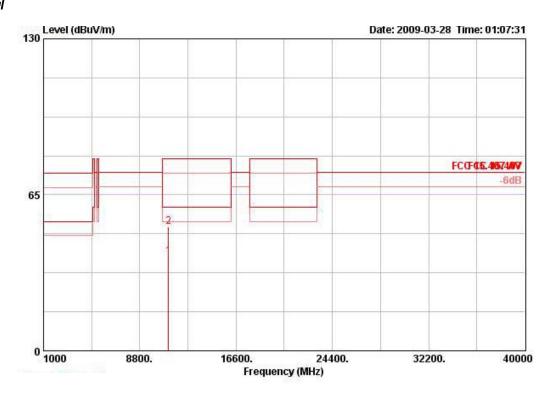


	From	Lerrel				Antenna		Preamp Factor H	Demark	Ant Pos	Table	Pol/Phase
	rreq	Dever	Line	LINE	Devel	ractor	Luss	ractor r	KCIIII K	103	103	TOT/THOSE
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	
1 @	11138.470	51.43	-28.57	80.00	41.95	38.43	5.77	34.71 1	PEAK	100	360	HORIZONTAL
2 @	11140.330	39.28	-20.72	60.00	29.79	38.43	5.77	34.71 7	AVERAGE	100	360	HORIZONTAL

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#### Vertical



	Freq	Level		Limit Line		Antenna Factor			Remark	Ant Pos	Table Pos Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	Y <u>s - 10</u>	cm.	deg
1 @	11137.360	39.29	-20.71	60.00	29.80	38.43	5.77	34.71	AVERAGE	100	0 VERTICAL
2 @	11139.280	51.85	-28.15	80.00	42.36	38.43	5.77	34.71	PEAK	100	0 VERTICAL

#### Note:

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

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

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

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].

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## 4.7. Band Edge Emissions Measurement

#### 4.7.1. Limit

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

Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(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

- 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

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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	24.3°C	Humidity	56%
Tost Engineer	Pov Hugna	Configurations	Draft n MCS0 20MHz Ch 36, 40 /
Test Engineer	Roy Huang	Configurations	Ant. 1 + Ant. 2
Test Date	Mar. 27, 2009		

#### Channel 36

	Freq	Level	Over Limit			Antenna Factor		Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	S 2	cm	deg	
1 @	5146.400	77.18	-2.82	80.00	40.68	33.07	3.43	0.00	PEAK	115	85	VERTICAL
2 @	5150.000	59.05	-0.95	60.00	22.55	33.07	3.43	0.00	AVERAGE	115	85	VERTICAL
3 @	5177.000	119.19			82.62	33.13	3.44	0.00	PEAK	115	85	VERTICAL
4 @	5179.000	106.89			70.33	33.13	3.44	0.00	AVERAGE	115	85	VERTICAL

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

			0ver	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBu∀	dB/m	dВ	dB	S		deg	
<b>1</b> @	5149.600	75.88	-4.12	80.00	39.38	33.07	3.43	0.00	PEAK	114	77	VERTICAL
2 @	5150.000	58.62	-1.38	60.00	22.12	33.07	3.43	0.00	AVERAGE	114	77	VERTICAL
3 @	5196.800	122.31			85.71	33.16	3.44	0.00	PEAK	114	77	VERTICAL
4 @	5197.600	110.49			73.89	33.16	3.44	0.00	AVERAGE	114	77	VERTICAL

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



Temperature	24.3°C	Humidity	56%
Tost Engineer	Pov Hugna	Configurations	Draft n MCS0 20MHz Ch 60, 64 /
Test Engineer	Roy Huang	Configurations	Ant. 1 + Ant. 2
Test Date	Mar. 27, 2009		

			0ver	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dВ	dBuV/m	dBu∀	dB/m	dВ	dB			deg	
1 @	5297.600	110.51			73.71	33.34	3.45	0.00	AVERAGE	119	75	VERTICAL
2 @	5298.800	122.75			85.96	33.34	3.45	0.00	PEAK	119	75	VERTICAL
3 @	5350.000	59.08	-0.92	60.00	22.19	33.43	3.46	0.00	AVERAGE	119	75	VERTICAL
4 @	5354.400	76.76	-3.24	80.00	39.86	33.43	3.46	0.00	PEAK	119	75	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

	Freq	Level	Over Limit			Antenna Factor		Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	× 0	cm	deg	38
1	5317.800	118.15			81.33	33.37	3.45	0.00	PEAK	119	96	VERTICAL
2 @	5323.200	105.86			69.03	33.37	3.46	0.00	AVERAGE	119	96	VERTICAL
<b>3</b> @	5350.000	59.19	-0.81	60.00	22.30	33.43	3.46	0.00	AVERAGE	119	96	VERTICAL
4 @	5354.000	77.74	-2.26	80.00	40.84	33.43	3.46	0.00	PEAK	119	96	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.



Temperature	24.3°C	Humidity	56%
Test Engineer	Pov Hugna	Configurations	Draft n MCS0 20MHz Ch 100, 140 /
lesi Engineei	Roy Huang	Cornigulations	Ant. 1 + Ant. 2
Test Date	Mar. 27, 2009		

		Freq	Level	Over Limit			Antenna Factor		Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
		MHz	dBuV/m	dB	dBuV/m	dBu∀	dB/m	dB	dB			deg	
1	@	5460.000	67.80	-12.20	80.00	30.72	33.61	3.48	0.00	PEAK	114	93	VERTICAL
2	@	5460.000	55.18	-4.82	60.00	18.09	33.61	3.48	0.00	AVERAGE	114	93	VERTICAL
3	@	5469.200	73.62	-0.68	74.30	36.50	33.64	3.48	0.00	PEAK	114	93	VERTICAL
4	@	5503.200	104.91			67.72	33.70	3.49	0.00	AVERAGE	114	93	VERTICAL
5	<b>e</b>	5505.600	116.57			79.37	33.70	3.49	0.00	PEAK	114	93	VERTICAL

Item 4, 5 are the fundamental frequency at 5500 MHz.

	Freq	Level	Over Limit			Antenna Factor				Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	g <u>ia</u>		deg	
1 @	5697.800	116.92			79.06	34.27	3.59	0.00	PEAK	117	95	VERTICAL
2	5703.000	104.65			66.73	34.32	3.59	0.00	AVERAGE	117	95	VERTICAL
3 @	5725.200	73.52	-0.78	74.30	35.54	34.37	3.61	0.00	PEAK	117	95	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.



Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	Draft n MCS0 40MHz Ch 38, 46 /
lesi Engineer	Roy Huding	Cornigurations	Ant. 1 + Ant. 2
Test Date	Mar. 27, 2009		

			0ver	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dВ	dB	<u> </u>		deg	<u> </u>
1 @	5148.000	75.23	-4.77	80.00	38.73	33.07	3.43	0.00	PEAK	113	89	VERTICAL
2 @	5150.000	58.68	-1.32	60.00	22.18	33.07	3.43	0.00	AVERAGE	113	89	VERTICAL
3	5179.200	111.93			75.36	33.13	3.44	0.00	PEAK	113	89	VERTICAL
4 @	5190.400	100.00			63.44	33.13	3.44	0.00	AVERAGE	113	89	VERTICAL

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

	Freq	Level		Limit Line		Antenna Factor			Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	3	cm	deg	58
1 @	5150.000	59.14	-0.86	60.00	22.64	33.07	3.43	0.00	AVERAGE	114	87	VERTICAL
2 @	5150.000	72.74	-7.26	80.00	36.24	33.07	3.43	0.00	PEAK	114	87	VERTICAL
3 @	5218.000	118.45			81.82	33.19	3.44	0.00	PEAK	114	87	VERTICAL
4 @	5221.600	105.30			68.66	33.19	3.44	0.00	AVERAGE	114	87	VERTICAL

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



Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	Draft n MCS0 40MHz Ch 54, 62 /
lesi Engineer	Roy Huding	Cornigurations	Ant. 1 + Ant. 2
Test Date	Mar. 27, 2009		

			0ver	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dВ	dB	S		deg	<u> </u>
1 @	5277.600	116.62			79.86	33.31	3.45	0.00	PEAK	118	73	VERTICAL
2 @	5279.200	104.18			67.42	33.31	3.45	0.00	AVERAGE	118	73	VERTICAL
3 @	5350.000	59.25	-0.75	60.00	22.36	33.43	3.46	0.00	AVERAGE	118	73	VERTICAL
4 @	5350.000	73.78	-6.22	80.00	36.89	33.43	3.46	0.00	PEAK	118	73	VERTICAL

Item 1, 2 are the fundamental frequency at 5270 MHz.

				0ver	Limit	Read	Antenna	Cable	Preamp		Ant	Table	
		Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
		Mtz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	9 <u> </u>		deg	<u> </u>
1	. @	5319.600	111.65			74.83	33.37	3.45	0.00	PEAK	119	77	VERTICAL
2	. e	5321.200	99.15			62.32	33.37	3.45	0.00	AVERAGE	119	77	VERTICAL
3	e	5350.000	58.69	-1.31	60.00	21.80	33.43	3.46	0.00	AVERAGE	119	77	VERTICAL
4	. e	5356.400	72.52	-7.48	80.00	35.62	33.43	3.46	0.00	PEAK	119	77	VERTICAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	Draft n MCS0 40MHz Ch 102, 110, 134 /
			Ant. 1 + Ant. 2
Test Date	Mar. 27, 2009		

#### Channel 102

		Freq	Level	Over Limit			Antenna Factor		Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	S		deg	
1	. @	5460.000	56.10	-3.90	60.00	19.02	33.61	3.48	0.00	AVERAGE	151	266	HORIZONTAL
2	<b>e</b>	5460.000	68.33	-11.67	80.00	31.24	33.61	3.48	0.00	PEAK	151	266	HORIZONTAL
3	<b>e</b>	5470.000	73.24	-1.06	74.30	36.12	33.64	3.48	0.00	PEAK	151	266	HORIZONTAL
4	<b>e</b>	5498.800	111.07			73.89	33.70	3.48	0.00	PEAK	151	266	HORIZONTAL
5	<b>e</b>	5504.800	98.74			61.55	33.70	3.49	0.00	AVERAGE	151	266	HORIZONTAL

Item 4, 5 are the fundamental frequency at 5510MHz.

#### Channel 110

	Freq	Level	Over Limit			Antenna Factor		Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBu∀	dB/m	dВ	dB	Y <u>e</u>	cm	deg	9.5
1 @	5459.600	71.27	-8.73	80.00	34.18	33.61	3.48	0.00	PEAK	148	266	HORIZONTAL
2 @	5460.000	57.92	-2.08	60.00	20.84	33.61	3.48	0.00	AVERAGE	148	266	HORIZONTAL
3 @	5470.000	73.64	-0.66	74.30	36.52	33.64	3.48	0.00	PEAK	148	266	HORIZONTAL
4 @	5538.000	118.97			81.66	33.80	3.51	0.00	PEAK	148	266	HORIZONTAL
5 @	5544.400	105.35			68.04	33.80	3.51	0.00	AVERAGE	148	266	HORIZONTAL

Item 4, 5 are the fundamental frequency at 5550 MHz.

#### Channel 134

	Freq	Level		Limit Line		Antenna Factor				Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm.	deg	£ <u>.</u>
1 @	5664.000	100.86			63.11	34.17	3.58	0.00	AVERAGE	116	94	VERTICAL
2	5676.800	115.05			77.26	34.22	3.58	0.00	PEAK	116	94	VERTICAL
3 @	5725.000	74.09	-0.21	74.30	36.11	34.37	3.61	0.00	PEAK	116	94	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

#### Note:

Emission level (dBuV/m) =  $20 \log \text{ Emission level (uV/m)}$ 

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].

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Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 36, 40 / Ant. 1 + Ant. 2
Test Date	Mar. 27, 2009		

	Freq	Level I	Over Limit			Antenna Factor			Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	dВ	dBuV/m	dBuV	dB/m	dB	dB	0 <u>0</u>		deg	
1 @	5147.800	76.38	-3.62	80.00	39.88	33.07	3.43	0.00	PEAK	114	76	VERTICAL
2 @	5150.000	59.24	-0.76	60.00	22.74	33.07	3.43	0.00	AVERAGE	114	76	VERTICAL
3 @	5177.000	118.88			82.32	33.13	3.44	0.00	PEAK	114	76	VERTICAL
4	5178.600	107.49			70.92	33.13	3.44	0.00	AVERAGE	114	76	VERTICAL

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

			0ver			Antenna				Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	₫BuV	dB/m	dВ	dB	S.	cm	deg	
1 @	5149.200	76.14	-3.86	80.00	39.64	33.07	3.43	0.00	PEAK	116	84	VERTICAL
<b>2</b> @	5150.000	59.22	-0.78	60.00	22.71	33.07	3.43	0.00	AVERAGE	116	84	VERTICAL
3 @	5194.800	122.45			85.85	33.16	3.44	0.00	PEAK	116	84	VERTICAL
4 @	5199,200	109.62			73.02	33.16	3.44	0.00	AVERAGE	116	84	VERTICAL

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



Temperature	24.3°C	Humidity	56%
Test Engineer	Roy Huang	Configurations	802.11a Ch 60, 64 / Ant. 1 + Ant. 2
Test Date	Mar. 27, 2009		

				0ver					Preamp		Ant	Table	
		Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dВ	dB	6 <u>8</u>		deg	3
1	. @	5302.000	110.04			73.24	33.34	3.45	0.00	AVERAGE	119	76	VERTICAL
2	@	5302.400	121.68			84.89	33.34	3.45	0.00	PEAK	119	76	VERTICAL
3	@	5350.000	59.24	-0.76	60.00	22.35	33.43	3.46	0.00	AVERAGE	119	76	VERTICAL
4	@	5350.800	73.97	-6.03	80.00	37.08	33.43	3.46	0.00	PEAK	119	76	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

### Channel 64

			0ver					Preamp		Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos	Pol/Phase
	MHz	dBuV/m	dB	dBuV/m	dBu∀	dB/m	dB	dB	di <u>.</u>	cm	deg	
<b>1</b> @	5321.200	107.31			70.48	33.37	3.45	0.00	AVERAGE	118	73	VERTICAL
2	5322.400	119.05			82.22	33.37	3.46	0.00	PEAK	118	73	VERTICAL
3 @	5350.000	59.63	-0.37	60.00	22.74	33.43	3.46	0.00	AVERAGE	8995	73	VERTICAL
4 @	5350.000	75.51	-4.49	80.00	38.62	33.43	3.46	0.00	PEAK	118	73	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

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Temperature	24.3°C	Humidity	56%	
Tost Engineer	Doy Huana	Configurations	802.11a Ch 100, 140	
Test Engineer	Roy Huang	Configurations	/ Ant. 1 + Ant. 2	
Test Date	Mar. 27, 2009			

#### Channel 100

		Freq	Level	Over Limit			Antenna Factor		Preamp Factor	Remark	Ant Pos	Table Pos	Pol/Phase
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	3	cm	deg	7
1	@	5460.000	55.24	-4.76	60.00	18.15	33.61	3.48	0.00	AVERAGE	123	92	VERTICAL
2	@	5460.000	66.64	-13.36	80.00	29.56	33.61	3.48	0.00	PEAK	123	92	VERTICAL
3	@	5469.600	73.33	-0.97	74.30	36.21	33.64	3.48	0.00	PEAK	123	92	VERTICAL
4	@	5501.200	106.28			69.09	33.70	3.49	0.00	AVERAGE	123	92	VERTICAL
5	e e	5501.800	118.13			80.94	33.70	3.49	0.00	PEAK	123	92	VERTICAL

Item 4, 5 are the fundamental frequency at 5500 MHz.

#### Channel 140

	Freq	Level	Over Limit			Antenna Factor			Remark	Ant Pos	Table Pos	Pol/Phase
	MHz	dBuV/m	//m dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg	<u> </u>
1 @	5699.400	116.25			78.39	34.27	3.59	0.00	PEAK	124	91	VERTICAL
2	5702.400	105.74			67.83	34.32	3.59	0.00	AVERAGE	124	91	VERTICAL
3 @	5726.600	73.35	-0.95	74.30	35.37	34.37	3.61	0.00	PEAK	124	91	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 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 ±20ppm (Draft n specification).

#### 4.8.2. Measuring Instruments and Setting

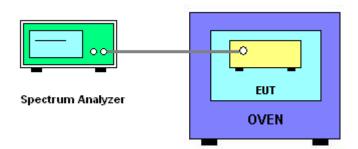
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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 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  $\times$  10<sup>6</sup> ppm and the limit is less than  $\pm$ 20ppm (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°C~50°C.
- 8. Measuring multiple antennas, the connector is required to link with spectrum analyser through a combiner.

#### 4.8.4. Test Setup Layout



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### 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

# Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5300
126.50	5300.014150
110.00	5300.023720
93.50	5300.022000
Max. Deviation (MHz)	0.023720
Max. Deviation (ppm)	4.48

### Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5300
-30	5300.054400
-20	5300.052100
-10	5300.043200
0	5300.012900
10	5300.003800
20	5299.998700
30	5299.987200
40	5299.971000
50	5299.961900
Max. Deviation (MHz)	0.054400
Max. Deviation (ppm)	10.2642

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## 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.

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# 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, 2008	Conduction (CO04-HY)
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, 2008	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 13, 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, 2008	Radiation (03CH03-HY)
Amplifier	SCHAFFNER	COA9231A	18667	9 kHz - 2 GHz	Jan. 23, 2009	Radiation (03CH03-HY)
Amplifier	Agilent	8449B	3008A02120	1 GHz - 26.5 GHz	Jul. 21, 2008	Radiation (03CH03-HY)
Amplifier	MITEQ	AMF-6F-260400	9121372	26.5 GHz - 40 GHz	Apr. 06, 2008*	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSP30	100023	9 kHz - 30 GHz	Feb. 02, 2009	Radiation (03CH03-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz - 30 MHz	Jul. 28, 2008*	Radiation (03CH03-HY)
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30 MHz – 1 GHz	Jul. 12, 2008	Radiation (03CH03-HY)
Horn Antenna	EMCO	3115	6741	1GHz ~ 18GHz	Apr. 29, 2008	Radiation (03CH03-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	15 GHz - 40 GHz	Jan. 16, 2009	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30 MHz - 1 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	1 GHz - 40 GHz	Jan. 05, 2009	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 – 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
Spectrum Analyzer	R&S	FSU26.5	100015	20Hz ~ 26.5GHz	Oct. 29, 2008	Conducted (TH01-HY)
Power Meter	R&S	NRVS	100444	DC ~ 40GHz	Jul. 11, 2008	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z51	100458	DC ~ 30GHz	Jul. 11, 2008	Conducted (TH01-HY)
Power Sensor	R&S	NRV-Z32	100057	30MHz ~ 6GHz	Jul. 11, 2008	Conducted (TH01-HY)
AC Power Source	HPC	HPA-500W	HPA-9100024	AC 0 ~ 300V	May 30, 2008*	Conducted (TH01-HY)

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Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
DC Power Source	G.W.	GPC-6030D	C671845	DC 1V ~ 60V	Mar. 13, 2009	Conducted (TH01-HY)
Temp. and Humidity Chamber	Giant Force	GTH-225-20-S	MAB0103-001	N/A	Jul. 18, 2008	Conducted (TH01-HY)
RF CABLE-1m	Jye Bao	RG142	CB034-1m	20MHz ~ 7GHz	Dec. 01, 2008	Conducted (TH01-HY)
RF CABLE-2m	Jye Bao	RG142	CB035-2m	20MHz ~ 1GHz	Dec. 01, 2008	Conducted (TH01-HY)
Vector Signal Generator	R&S	SMU200A	102098	100kHz ~ 6GHz	Dec. 14, 2008	Conducted (TH01-HY)
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Mar. 25, 2009	Conducted (TH01-HY)
Oscilloscope	Tektonix	TDS380	B016197	400MHz/ 2GS/s	Jun. 27, 2008	Conducted (TH01-HY)

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

NCR means Non-Calibration required.

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<sup>\*</sup> 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	:	7FI., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C.
	TEL	:	886-2-8227-2020
	FAX	:	886-2-8227-2626
NEIHU	ADD	:	4FI., 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

Accreditation Program for Designated Testing Laboratory

Specific Accreditation Program

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.

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