

Site : CO01-HY  
 Condition : CNS/VCCI/CISPR-B 2003 2001/008 NEUTRAL  
 EUT : WLAN b+g AP  
 Power : 120Vac/60Hz  
 Model : FD542927  
 Memo : USB + Ping

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.162	38.95	-26.41	65.36	38.84	0.10	0.01	QP
2	0.162	25.42	-29.94	55.36	25.31	0.10	0.01	Average
3	0.228	43.65	-18.87	62.52	43.54	0.10	0.01	QP
4	0.228	24.37	-28.15	52.52	24.26	0.10	0.01	Average
5	0.354	18.81	-30.06	48.87	18.68	0.10	0.03	Average
6	0.354	31.84	-27.03	58.87	31.71	0.10	0.03	QP
7	0.472	27.31	-29.16	56.47	27.18	0.10	0.03	QP
8	0.472	19.51	-26.96	46.47	19.38	0.10	0.03	Average
9	1.910	19.23	-26.77	46.00	19.08	0.10	0.05	Average
10	1.910	29.58	-26.42	56.00	29.43	0.10	0.05	QP
11	10.070	30.51	-29.49	60.00	30.18	0.20	0.13	QP
12	10.070	25.45	-24.55	50.00	25.12	0.20	0.13	Average

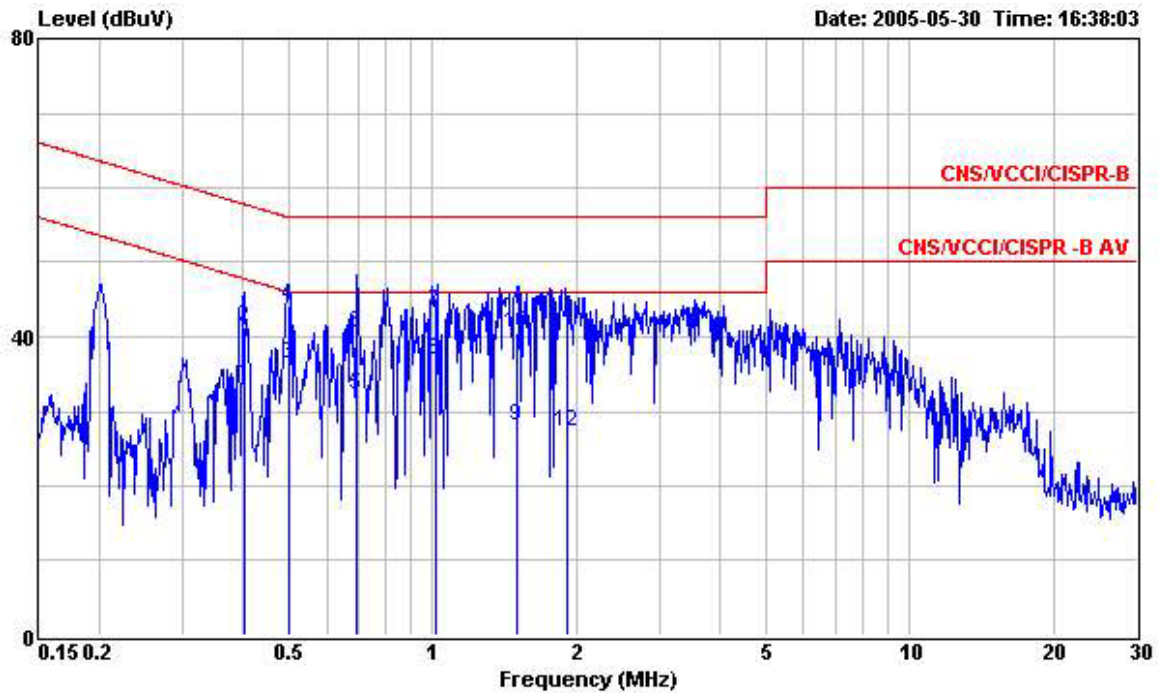
Test Engineer : Jay  
 Jay



5.4.3 Frequency Range of Test : 150kHz to 30 MHz

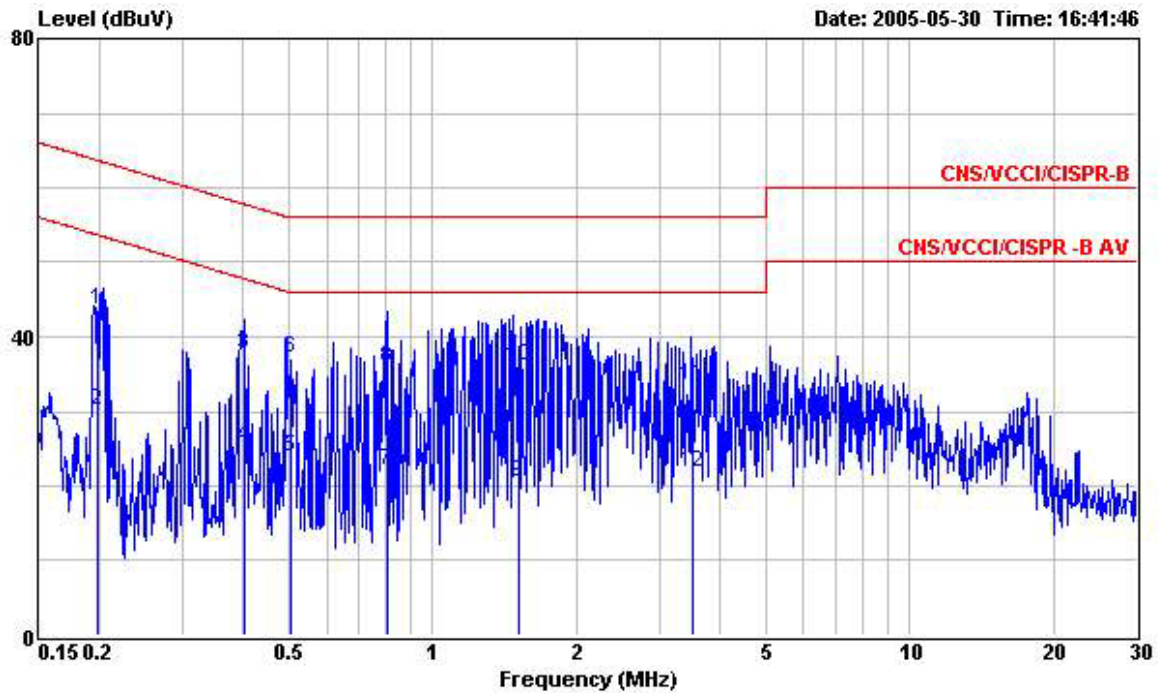
- Test Mode : Mode 2
- Temperature : 24°C
- Relative Humidity : 52%

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY  
 Condition : CNS/VCCI/CISPR-B 2005 2001/008 LINE  
 EUT : WLAN b+g AP  
 Power : 120Vac/60Hz  
 Model : FD542927  
 Memo : Ping+DVE

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.405	33.50	-14.26	47.76	33.35	0.10	0.05	Average
2	0.405	41.42	-16.34	57.76	41.27	0.10	0.05	QP
3	0.499	36.34	-9.68	46.02	36.19	0.10	0.05	Average
4	0.499	44.07	-11.95	56.02	43.92	0.10	0.05	QP
5	0.696	32.23	-13.77	46.00	32.09	0.10	0.04	Average
6	0.696	40.53	-15.47	56.00	40.39	0.10	0.04	QP
7	1.017	43.39	-12.61	56.00	43.25	0.10	0.04	QP
<b>8</b>	<b>1.017</b>	<b>36.96</b>	<b>-9.04</b>	<b>46.00</b>	<b>36.82</b>	<b>0.10</b>	<b>0.04</b>	<b>Average</b>
9	1.505	27.97	-18.03	46.00	27.82	0.10	0.05	Average
10	1.505	40.55	-15.45	56.00	40.40	0.10	0.05	QP
11	1.913	40.12	-15.88	56.00	39.96	0.10	0.06	QP
12	1.913	27.22	-18.78	46.00	27.06	0.10	0.06	Average



Site : CO01-HY  
 Condition : CNS/VCCI/CISPR-B 2005 2001/008 NEUTRAL  
 EUT : WLAN b+g AP  
 Power : 120Vac/60Hz  
 Model : FD542927  
 Memo : Ping+DVE

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.198	43.55	-20.13	63.68	43.43	0.10	0.02	QP
2	0.198	30.17	-23.51	53.68	30.05	0.10	0.02	Average
3	0.402	37.78	-20.03	57.81	37.63	0.10	0.05	QP
4	0.402	25.22	-22.59	47.81	25.07	0.10	0.05	Average
5	0.502	23.91	-22.09	46.00	23.76	0.10	0.05	Average
6	0.502	37.20	-18.80	56.00	37.05	0.10	0.05	QP
7	0.801	22.06	-23.94	46.00	21.92	0.10	0.04	Average
8	0.801	35.84	-20.16	56.00	35.70	0.10	0.04	QP
9	1.522	20.53	-25.47	46.00	20.38	0.10	0.05	Average
10	1.522	36.01	-19.99	56.00	35.86	0.10	0.05	QP
11	3.497	33.42	-22.58	56.00	33.19	0.18	0.05	QP
12	3.497	21.88	-24.12	46.00	21.65	0.18	0.05	Average

Test Engineer : Jay

Jay

## 5.7 Radiated Emission Measurement

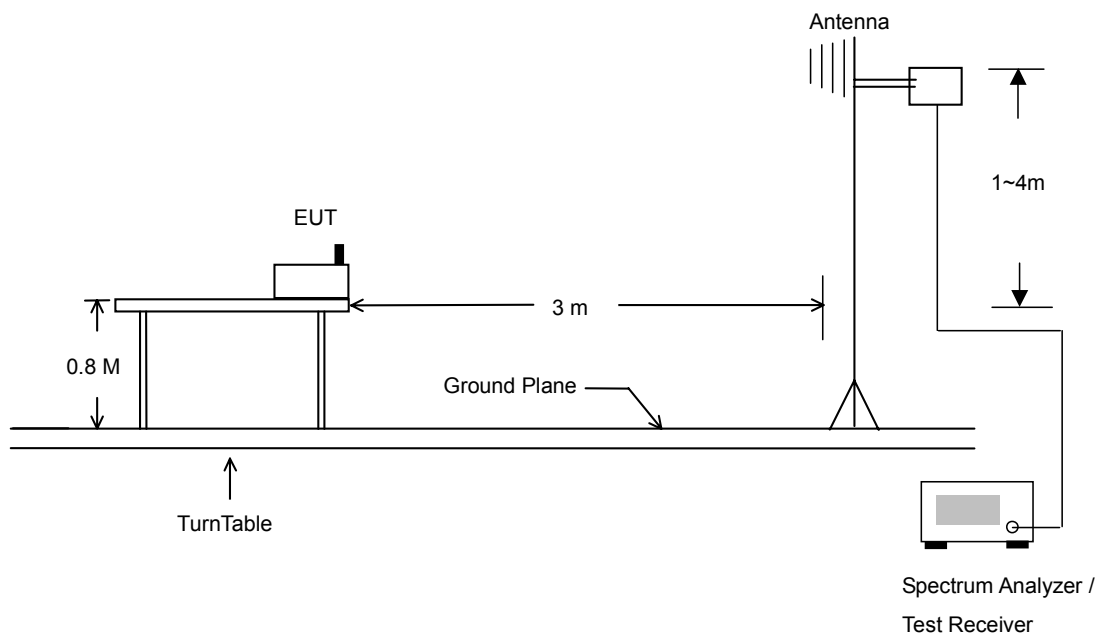
### 5.7.1 Measuring Instruments

As described in chapter 6 of this Report.

### 5.7.2 Test Procedures

1. The EUT was placed on a rotatable table top 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. For testing below 1GHz, If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
8. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

### 5.7.3 Typical Test Setup Layout of Radiated Emission







5.7.4 Test Data

- Temperature : 26°C
- Relating Humidity : 58%
- Test Enginner :     Jay
- Test Mode : Mode 1
- Polarization : Horizontal

**The test that passed at minimum margin was marked by the frame in the following table.**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	1844.00	58.96	-15.04	74.00	61.39	29.51	35.34	3.40	Peak	---	---
2	1844.00	53.45	-0.55	54.00	55.88	29.51	35.34	3.40	Average	100	147
3	2390.00	43.51	-10.49	54.00	44.44	30.48	35.46	4.04	Average	---	---
4	2390.00	58.37	-15.63	74.00	59.31	30.48	35.46	4.04	Peak	---	---
5	2412.00	105.50			106.45	30.47	35.46	4.04	Peak	---	---
6	2412.00	98.60			99.55	30.47	35.46	4.04	Average	100	147
7	2478.00	42.94	-11.06	54.00	43.90	30.41	35.51	4.13	Average	---	---
8	2478.00	54.97	-19.03	74.00	55.93	30.41	35.51	4.13	Peak	---	---

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3214.00	48.18	-25.82	74.00	48.69	30.22	35.56	4.84	Peak	200	0
2	3214.00	43.06	-10.94	54.00	43.57	30.22	35.56	4.84	Average	100	23
3	4824.00	49.17	-24.83	74.00	45.87	33.21	36.12	6.21	Peak	200	0
4	4824.00	46.48	-7.52	54.00	43.18	33.21	36.12	6.21	Average	124	56

- Polarization : Vertical

**The test that passed at minimum margin was marked by the frame in the following table.**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2390.00	63.55	-10.45	74.00	64.48	30.48	35.46	4.04	Peak	100	0
2	2390.00	45.45	-8.55	54.00	46.38	30.48	35.46	4.04	Average	100	0
3	2412.00	109.36			110.31	30.47	35.46	4.04	Peak	100	0
4	2412.00	101.55			102.50	30.47	35.46	4.04	Average	100	180
5	2488.00	54.90	-19.10	74.00	55.87	30.40	35.51	4.13	Peak	100	0
6	2488.00	43.04	-10.96	54.00	44.02	30.40	35.51	4.13	Average	100	---

Remark: # 3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3214.00	51.19	-22.81	74.00	51.69	30.22	35.56	4.84	Peak	200	0
2	3214.00	45.78	-8.22	54.00	46.29	30.22	35.56	4.84	Average	100	55
3	4824.00	50.16	-23.84	74.00	46.86	33.21	36.12	6.21	Peak	200	0
4	4824.00	44.93	-9.07	54.00	41.63	33.21	36.12	6.21	Average	119	65



- Test Mode : Mode 2
- Polarization : Horizontal

**The test that passed at minimum margin was marked by the frame in the following table.**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	2390.00	57.38	-16.62	74.00	58.31	30.48	35.46	4.04	Peak	---	---
2 @	2390.00	46.12	-7.88	54.00	47.05	30.48	35.46	4.04	Average	100	198
3 @	2437.00	111.87			112.81	30.46	35.47	4.07	Peak	---	---
4 @	2437.00	103.95			104.90	30.46	35.47	4.07	Average	---	---
5 @	2488.00	56.30	-17.70	74.00	57.27	30.40	35.51	4.13	Peak	---	---
6 @	2488.00	44.12	-9.88	54.00	45.10	30.40	35.51	4.13	Average	---	---

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	3248.00	42.37	-31.63	74.00	42.89	30.20	35.57	4.85	Peak	---	---
2 @	3248.00	36.98	-17.02	54.00	37.50	30.20	35.57	4.85	Average	---	---

- Polarization : Vertical

**The test that passed at minimum margin was marked by the frame in the following table.**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	2390.00	57.41	-16.59	74.00	58.34	30.48	35.46	4.04	Peak	---	---
2 @	2390.00	46.52	-7.48	54.00	47.45	30.48	35.46	4.04	Average	---	---
3 @	2437.00	112.11			113.06	30.46	35.47	4.07	Peak	---	---
4 @	2437.00	104.25			105.20	30.46	35.47	4.07	Average	100	197
5 @	2488.00	55.32	-18.68	74.00	56.29	30.40	35.51	4.13	Peak	---	---
6 @	2488.00	45.51	-8.49	54.00	46.49	30.40	35.51	4.13	Average	---	---

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	3248.00	50.20	-23.80	74.00	50.71	30.20	35.57	4.85	Peak	---	---
2 @	3248.00	44.92	-9.08	54.00	45.44	30.20	35.57	4.85	Average	---	---
3 @	4874.00	49.03	-24.97	74.00	45.54	33.39	36.16	6.26	Peak	---	---
4 @	4874.00	45.62	-8.38	54.00	42.13	33.39	36.16	6.26	Average	---	---



- Test Mode : Mode 3
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2364.00	43.06	-10.94	54.00	43.99	30.51	35.42	3.98	Average	100	148
2	2364.00	54.42	-19.58	74.00	55.36	30.51	35.42	3.98	Peak	100	0
3 X	2462.00	107.08			108.04	30.43	35.49	4.10	Peak	100	0
4 @	2462.00	100.34			101.30	30.43	35.49	4.10	Average	100	148
5	2483.50	58.41	-15.59	74.00	59.37	30.41	35.51	4.13	Peak	100	0
6	2483.50	47.95	-6.05	54.00	48.91	30.41	35.51	4.13	Average	100	148

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3284.00	46.93	-27.07	74.00	47.44	30.19	35.58	4.88	Peak	200	0
2	3284.00	41.87	-12.13	54.00	42.38	30.19	35.58	4.88	Average	100	26

- Polarization : Vertical

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2384.00	54.28	-19.72	74.00	55.22	30.50	35.44	4.01	Peak	---	---
2	2384.00	42.85	-11.15	54.00	43.78	30.50	35.44	4.01	Average	101	27
3 X	2464.00	103.74			104.70	30.43	35.49	4.10	Peak	---	---
4 @	2464.00	101.24			102.20	30.43	35.49	4.10	Average	101	27
5	2483.50	60.61	-13.39	74.00	61.58	30.41	35.51	4.13	Peak	---	---
6 1	2483.50	53.72	-0.28	54.00	54.68	30.41	35.51	4.13	Average	101	27

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3284.00	44.43	-29.57	74.00	49.83	30.19	35.58	0.00	Peak	200	0
2	3284.00	39.90	-14.10	54.00	45.29	30.19	35.58	0.00	Average	100	56





- Test Mode : Mode 4
- Polarization : Horizontal

**The test that passed at minimum margin was marked by the frame in the following table.**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2390.00	53.48	-0.52	54.00	54.41	30.48	35.46	4.04	Average	---	---
2	2390.00	64.73	-9.27	74.00	65.66	30.48	35.46	4.04	Peak	---	---
3	2412.00	109.41			110.36	30.47	35.46	4.04	Peak	---	---
4	2412.00	102.07			103.02	30.47	35.46	4.04	Average	---	---
5	2494.00	38.46	-15.54	54.00	39.42	30.41	35.51	4.13	Average	---	---
6	2494.00	50.42	-23.58	74.00	51.38	30.40	35.53	4.17	Peak	---	---

Remark: #3 and #4 Fundamental Signal.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3214.00	50.68	-23.32	74.00	51.18	30.22	35.56	4.84	Peak	---	---
2	4824.00	50.71	-23.29	74.00	47.41	33.21	36.12	6.21	Peak	---	---

- Polarization : Vertical

**The test that passed at minimum margin was marked by the frame in the following table.**

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2390.00	47.42	-6.58	54.00	48.35	30.48	35.46	4.04	Average	---	---
2	2390.00	60.42	-13.58	74.00	61.35	30.48	35.46	4.04	Peak	---	---
3	2412.00	105.33			106.28	30.47	35.46	4.04	Peak	---	---
4	2412.00	96.50			97.45	30.47	35.46	4.04	Average	---	---
5	2483.50	38.05	-15.95	54.00	39.01	30.41	35.51	4.13	Average	---	---
6	2483.50	48.17	-25.83	74.00	49.13	30.41	35.51	4.13	Peak	---	---

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3214.00	53.24	-20.76	74.00	53.75	30.22	35.56	4.84	Peak	---	---
2	3214.00	47.27	-6.73	54.00	47.78	30.22	35.56	4.84	Average	---	---
3	4824.00	52.19	-21.81	74.00	48.89	33.21	36.12	6.21	Peak	---	---





- Test Mode : Mode 5
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB		cm	deg
1 @	2258.00	57.14	-16.86	74.00	58.05	30.59	35.35	3.85 Peak	---	---
2 @	2258.00	48.35	-5.65	54.00	49.26	30.59	35.35	3.85 Average	100	49
3 @	2384.00	44.00	-10.00	54.00	44.93	30.50	35.44	4.01 Average	100	64
4 @	2384.00	55.15	-18.85	74.00	56.08	30.50	35.44	4.01 Peak	---	---
5 @	2462.00	103.34			104.30	30.43	35.49	4.10 Average	100	64
6 @	2462.00	106.15			107.11	30.43	35.49	4.10 Peak	---	---
7 @	2483.50	53.80	-0.20	54.00	54.76	30.41	35.51	4.13 Average	100	64
8 @	2483.50	60.27	-13.73	74.00	61.23	30.41	35.51	4.13 Peak	---	---

Remark: #5 and #6 Fundamental Signal.

- Polarization : Vertical

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB		cm	deg
1 @	2378.00	54.39	-19.61	74.00	55.33	30.50	35.44	4.01 Peak	---	---
2 @	2378.00	42.58	-11.42	54.00	43.51	30.50	35.44	4.01 Average	103	29
3 @	2462.00	104.46			105.42	30.43	35.49	4.10 Peak	---	---
4 @	2462.00	101.04			102.00	30.43	35.49	4.10 Average	103	29
5 @	2483.50	60.08	-13.92	74.00	61.04	30.41	35.51	4.13 Peak	---	---
6 @	2483.50	53.85	-0.15	54.00	54.81	30.41	35.51	4.13 Average	103	29

Remark: #3 and #4 Fundamental Signal



- Test Mode : Mode 6
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2390.00	72.08	-1.92	74.00	73.01	30.48	35.46	4.04	Peak	---	---
2	2390.00	53.94	-0.06	54.00	54.87	30.48	35.46	4.04	Average	100	51
3	2414.00	105.61			106.56	30.47	35.46	4.04	Peak	---	---
4	2414.00	96.57			97.52	30.47	35.46	4.04	Average	100	51
5	2494.00	54.90	-19.11	74.00	55.86	30.40	35.53	4.17	Peak	---	---
6	2494.00	43.39	-10.61	54.00	44.35	30.40	35.53	4.17	Average	100	51

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3214.00	48.60	-25.40	74.00	49.11	30.22	35.56	4.84	Peak	---	---
2	3214.00	43.07	-10.93	54.00	43.58	30.22	35.56	4.84	Average	100	32

Polarization : Vertical

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2390.00	53.57	-0.43	54.00	54.50	30.48	35.46	4.04	Average	100	351
2	2390.00	73.10	-0.90	74.00	74.03	30.48	35.46	4.04	Peak	---	---
3	2408.00	106.91			107.86	30.47	35.46	4.04	Peak	---	---
4	2408.00	96.33			97.28	30.47	35.46	4.04	Average	100	351
5	2494.00	55.57	-18.43	74.00	56.53	30.40	35.53	4.17	Peak	---	---
6	2494.00	43.36	-10.64	54.00	44.32	30.40	35.53	4.17	Average	100	351

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3214.00	50.77	-23.23	74.00	51.28	30.22	35.56	4.84	Peak	---	---
2	3214.00	45.73	-8.27	54.00	46.24	30.22	35.56	4.84	Average	100	59



- Test Mode : Mode 7
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	32.43	31.68	-8.32	40.00	44.76	17.73	31.58	0.77	Peak	400	0
2	249.78	33.69	-12.31	46.00	50.73	11.73	30.92	2.16	Peak	400	0
3	257.88	36.01	-9.99	46.00	52.17	12.67	31.02	2.19	Peak	400	0

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	551.30	33.34	-12.66	46.00	41.21	18.68	30.61	4.06	Peak	100	0
2	918.80	34.11	-11.89	46.00	38.57	20.50	30.15	5.20	Peak	100	0
3 @	959.40	37.46	-8.54	46.00	40.76	21.73	30.38	5.34	Peak	100	0

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2384.00	55.56	-18.44	74.00	56.50	30.50	35.44	4.01	Peak	100	0
2	2384.00	42.76	-11.24	54.00	43.69	30.50	35.44	4.01	Average	102	33
3 @	2437.00	107.49			108.43	30.46	35.47	4.07	Peak	100	0
4 @	2437.00	95.70			96.65	30.46	35.47	4.07	Average	102	33
5	2484.00	57.12	-16.88	74.00	58.08	30.41	35.51	4.13	Peak	100	0
6	2484.00	43.27	-10.73	54.00	44.23	30.41	35.51	4.13	Average	102	33

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3248.00	49.09	-24.91	74.00	49.60	30.20	35.57	4.85	Peak	200	0
2	3248.00	43.87	-10.13	54.00	44.38	30.20	35.57	4.85	Average	100	23

- Polarization : Vertical

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	31.62	39.76	-0.24	40.00	52.48	18.07	31.55	0.76	QP	100	360
2 @	34.59	37.63	-2.37	40.00	51.39	17.07	31.64	0.80	QP	100	360
3 @	60.78	34.71	-5.29	40.00	58.51	6.54	31.42	1.08	Peak	400	0



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	498.80	34.44	-11.56	46.00	44.31	17.10	30.50	3.53	Peak	100	0
2	565.30	35.76	-10.24	46.00	43.91	18.46	30.68	4.08	Peak	100	0
3	959.40	35.14	-10.86	46.00	38.44	21.73	30.38	5.34	Peak	100	0

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2390.00	58.48	-15.52	74.00	59.41	30.48	35.46	4.04	Peak	100	0
2 @	2390.00	46.59	-7.41	54.00	47.52	30.48	35.46	4.04	Average	100	54
3 @	2437.00	110.82			111.78	30.44	35.47	4.07	Peak	100	0
4 @	2437.00	102.14			103.10	30.44	35.47	4.07	Average	100	54
5	2484.00	55.76	-18.24	74.00	56.72	30.41	35.51	4.13	Peak	100	0
6 @	2484.00	44.97	-9.03	54.00	45.93	30.41	35.51	4.13	Average	100	54

Remark: #3 and #4 Fundamental Signal

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	3248.00	47.17	-26.83	74.00	47.68	30.20	35.57	4.85	Peak	200	0
2	3248.00	41.77	-12.23	54.00	42.28	30.20	35.57	4.85	Average	100	45





- Test Mode : Mode 8
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	56.19	24.69	-15.31	40.00	47.22	7.86	1.05	31.44	400	0	Peak
2	118.83	18.47	-25.03	43.50	35.74	12.72	1.57	31.55	400	0	Peak
3	276.24	23.62	-22.38	46.00	39.53	12.92	2.26	31.10	400	0	Peak

Remark: #3 and #4 Fundamental Signal.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	644.40	36.98	-9.02	46.00	44.90	18.42	4.21	30.56	100	0	Peak
2	749.40	40.64	-5.36	46.00	46.18	20.46	4.70	30.71	100	0	Peak
3	875.40	31.79	-14.21	46.00	37.19	20.42	4.74	30.56	100	0	Peak

- Polarization : Vertical

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	53.49	36.63	-3.37	40.00	58.16	8.88	1.03	31.45	100	360	QP
2	114.24	34.89	-8.61	43.50	52.39	12.15	1.58	31.22	400	0	Peak
3	167.43	31.68	-11.82	43.50	51.33	9.82	1.94	31.40	400	0	Peak

Remark: #3 and #4 Fundamental Signal.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	498.80	33.99	-12.01	46.00	43.86	17.10	3.53	30.50	100	0	Peak
2	644.40	36.98	-9.02	46.00	44.90	18.42	4.21	30.56	100	0	Peak
3 @	749.40	40.79	-5.21	46.00	46.34	20.46	4.70	30.71	100	0	Peak



- Test Mode : Mode 8
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	2390.00	53.50	-20.50	74.00	54.44	30.48	35.46	4.04	Peak	---	---
2 @	2390.00	45.19	-8.81	54.00	46.12	30.48	35.46	4.04	Average	100	17
3 @	2462.00	104.05			105.00	30.43	35.51	4.13	Peak	---	---
4 @	2462.00	94.87			95.83	30.43	35.49	4.10	Average	100	17
5 @	2483.50	53.11	-0.89	54.00	54.07	30.41	35.51	4.13	Average	100	17
6 @	2483.50	69.05	-4.95	74.00	70.01	30.41	35.51	4.13	Peak	---	---

Remark: #3 and #4 Fundamental Signal.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	3284.00	49.81	-24.19	74.00	50.32	30.19	35.58	4.88	Peak	200	0
2 @	3284.00	44.78	-29.22	74.00	45.29	30.19	35.58	4.88	Peak	100	26

- Polarization : Vertical

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	2390.00	54.91	-19.09	74.00	55.85	30.48	35.46	4.04	Peak	---	---
2 @	2390.00	47.61	-6.39	54.00	48.54	30.48	35.46	4.04	Average	100	240
3 @	2462.00	107.97			108.93	30.43	35.49	4.10	Peak	---	---
4 @	2462.00	97.64			98.60	30.43	35.49	4.10	Average	100	240
5 @	2483.50	53.67	-0.33	54.00	54.63	30.41	35.51	4.13	Average	100	240
6 @	2483.50	72.27	-1.73	74.00	73.23	30.41	35.51	4.13	Peak	---	240

Remark: #3 and #4 Fundamental Signal.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	3284.00	51.83	-22.17	74.00	52.34	30.19	35.58	4.88	Peak	200	0
2 @	3284.00	44.88	-9.12	54.00	45.39	30.19	35.58	4.88	Average	100	56



- Test Mode : Mode 9
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	1658.00	49.07	-24.93	74.00	53.42	27.93	35.53	3.25	Peak	---	---
2	2390.00	53.70	-0.30	54.00	54.63	30.48	35.46	4.04	Average	100	27
3	2390.00	73.22	-0.78	74.00	74.15	30.48	35.46	4.04	Peak	---	---
4	2412.00	107.67			108.62	30.47	35.46	4.04	Peak	---	---
5	2412.00	97.50			98.45	30.47	35.46	4.04	Average	100	27
6	2483.50	50.46	-23.54	74.00	51.42	30.41	35.51	4.13	Peak	---	---
7	2483.50	41.52	-12.48	54.00	42.48	30.41	35.51	4.13	Average	100	27

Remark: #4 and #5 Fundamental Signal.

- Polarization : Vertical

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	2390.00	71.01	-2.99	74.00	71.95	30.48	35.46	4.04	Peak	---	---
2	2390.00	51.22	-2.78	54.00	52.15	30.48	35.46	4.04	Average	100	356
3	2412.00	104.03			104.97	30.47	35.46	4.04	Peak	---	---
4	2412.00	94.83			95.78	30.47	35.46	4.04	Average	100	356
5	2498.00	48.42	-25.58	74.00	49.38	30.40	35.53	4.17	Peak	---	---
6	2498.00	39.49	-14.51	54.00	40.45	30.40	35.53	4.17	Average	100	356

Remark: #3 and #4 Fundamental Signal.



- Test Mode : Mode 9
- Polarization : Horizontal

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	2388.00	44.98	-9.02	54.00	45.93	30.48	35.44	4.01	Average	122	65
2 @	2388.00	56.09	-17.91	74.00	57.04	30.48	35.44	4.01	Peak	---	---
3 @	2462.00	107.91			108.87	30.43	35.49	4.10	Peak	---	---
4 @	2462.00	99.74			100.70	30.43	35.49	4.10	Average	122	65
5 @	2483.50	70.47	-3.53	74.00	71.44	30.41	35.51	4.13	Peak	---	---
6 @	2483.50	53.94	-0.06	54.00	54.90	30.41	35.51	4.13	Average	122	65

Remark: #3 and #4 Fundamental Signal.

- Polarization : Vertical

The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Preamp Factor	Cable Loss	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1 @	2384.00	55.19	-18.81	74.00	56.12	30.50	35.44	4.01	Peak	---	---
2 @	2384.00	43.36	-10.64	54.00	44.29	30.50	35.44	4.01	Average	101	27
3 @	2462.00	105.59			106.55	30.43	35.49	4.10	Peak	---	---
4 @	2462.00	97.76			98.72	30.43	35.49	4.10	Average	101	27
5 @	2483.50	70.04	-3.96	74.00	71.00	30.41	35.51	4.13	Peak	---	---
6 @	2483.50	53.74	-0.26	54.00	54.70	30.41	35.51	4.13	Average	101	27

Remark: #3 and #4 Fundamental Signal.

Remark: The spurious emission except listed above is too low to be taken.





## **5.8 Antenna Requirements**

### **5.8.1 Standard Applicable**

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no other antenna except assembled by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi.

### **5.8.2 Antenna Connected Construction**

The antennas used in this product are fixed dipole and PCB antenna without connector and it is considered to meet antenna requirement of FCC.

### **5.8.3 Antenna Gain**

The antenna gain of EUT is less than 6dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

**6. List of Measuring Equipments Used**

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100132	9kHz – 2.75GHz	Jun. 23, 2004	Jun. 23, 2005	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/009	9kHz – 30MHz	Apr. 26, 2005	Apr. 26, 2006	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	99081	9kHz – 30MHz	Dec. 17, 2004	Dec. 17, 2005	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0 – 60Hz	N/A	N/A	Conduction (CO01-HY)
RF Cable-CON	Suhner Switzerland	RG223/U	CB029	9kHz – 30MHz	Dec. 23, 2004	Dec. 23, 2005	Conduction (CO01-HY)
Spectrum analyzer	Agilent	E4408B	MY44211030	9KHz-26.5GHz	Jul. 27, 2004	Jul. 26, 2005	Radiation (03CH06-HY)
Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul,09,2004	Jul, 10,2005	Radiation (03CH06-HY)
Controller	CT	SC100	N/A	N/A	N/A	N/A	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Nov. 22, 2004	Nov. 21, 2005	Radiation (03CH06-HY)
Horn Antenna	Com-Power	AH118	071025	1G-18G	Feb. 22, 2005	Feb. 22, 2006	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-249	14G - 40G	Jun. 22, 2004	Jun. 22, 2005	Radiation (03CH06-HY)
HF Amplifier	MITEQ	AFS44	973248	0.1G - 26.5G	May 20, 2004	May 20, 2005	Radiation (03CH06-HY)
Amplifier	MITEQ	AMF-6F	997165	26G - 40G	Jun. 24, 2004	Jun. 24, 2005	Radiation (03CH06-HY)
Turn Table	HD	DS 420	420/650/00	0 ~ 360 degree	N/A	N/A	Radiation (03CH06-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	N/A	Radiation (03CH06-HY)
Base Station Emulator	Agilent	E5515C	GB43460754	Qual-band	Jan. 12, 2004	Jan. 12, 2006	Base Station



## 7. Uncertainty Evaluation

### Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Contribution	Uncertainty of $x_i$		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.10	Normal(k=2)	0.05
Cable loss	0.10	Normal(k=2)	0.05
AMN insertion loss	2.50	Rectangular	0.63
Receiver Spec	1.50	Rectangular	0.43
Site imperfection	1.39	Rectangular	0.80
Mismatch	+0.34/-0.35	U-shape	0.24
<b>combined standard uncertainty Uc(y)</b>	<b>1.13</b>		
<b>Measuring uncertainty for a level of confidence of 95% U=2Uc(y)</b>	<b>2.26</b>		

### Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Contribution	Uncertainty of $x_i$		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.41	Normal(k=2)	0.21
Antenna factor calibration	0.83	Normal(k=2)	0.42
Cable loss calibration	0.25	Normal(k=2)	0.13
Pre Amplifier Gain calibration	0.27	Normal(k=2)	0.14
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.43	Rectangular	0.83
Mismatch	+0.39/-0.41	U-shaped	0.28
<b>combined standard uncertainty Uc(y)</b>	<b>1.27</b>		
<b>Measuring uncertainty for a level of confidence of 95% U=2Uc(y)</b>	<b>2.54</b>		



**Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)**

Contribution	Uncertainty of $x_i$		$u(x_i)$	$C_i$	$C_i * u(x_i)$
	dB	Probability Distribution			
Receiver reading	±0.10	Normal(k=1)	0.10	1	0.10
Antenna factor calibration	±1.70	Normal(k=2)	0.85	1	0.85
Cable loss calibration	±0.50	Normal(k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20 \log(1 - \Gamma_1 * \Gamma_2 * \Gamma_3)$	+0.34/-0.35	U-shaped	0.244	1	0.244
<b>Combined standard uncertainty <math>U_c(y)</math></b>	<b>2.36</b>				
<b>Measuring uncertainty for a level of confidence of 95% <math>U = 2U_c(y)</math></b>	<b>4.72</b>				