Product Name:	Bluetooth Headset
Model Number:	BTHS-6XXX-E, BTHS-3XXX-E, BLH-1100 (X=0~9 or A~Z)
Brand Name:	Cellink
Applicant:	CELLINK CO.,LTD. 11F,No. 102,Sec.1,Hsin Tai Wu Rd., Hsi-Chih, Taipei, Taiwan, R.O.C.
Date of Receipt:	Jun 01, 2006
Finished date of Test:	Jun 16, 2006
Applicable Standards:	47 CFR Part 15, Subpart C ANSI C63.4:2003 DA 00-705

We, **Spectrum Research & Testing Laboratory Inc.**, hereby certify that one sample of the above was tested in our laboratory with positive results according to the above-mentioned standards. The records in the report are an accurate account of the results. Details of the results are given in the subsequent pages of this report.

We have to explain Class II changed. The main difference is in IC update.

Original report FCCA05090702 has been granted on Dec. 07, 2005 by FCC.

Checked By: Mao Feng Hsu , Date: Jun. 16. 2006
(Mao Fen Hsu)

Approved By : James Lee Date: Jun. 16, 2006
(Johnson Ho, Director)

NVLAP®
Lab Code: 200099-0

TABLE OF CONTENTS

1. DOCUMENT POLICY AND TEST STATEMENT

1.1 DOCUMENT POLICY

- The report shall not be reproduced except in full, without the written approval of SRT Lab, Inc.

1.2 TEST STATEMENT

- The test results in the report apply only to the unit tested by SRT Lab.
- There was no deviation from the requirements of test standards during the test.
- AC power source, 120 VAC/60 Hz, was used during the test.

1.3 EUT MODIFICATION

- No modification in SRT Lab.

2. DESCRIPTION OF EUT AND TEST MODE

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Bluetooth Headset
BRAND NAME	Cellink
MODEL NO.	BTHS-6XXX-E, BTHS-3XXX-E, BLH-1100 (X=0~9 or A~Z)
POWER SUPPLY	3.7Vdc, 20mA
CABLE	N/A
I/O PORT	N/A
FREQUENCY BAND	2400~2483.5MHz
CARRIER FREQUENCY	CH0: 2402MHz~CH78: 2480MHz
NUMBER OF CHANNEL	79
CHANNEL SPACING	1MHz
RATED RF OUTPUT POWER	0~-6 dBm
I.F. & L.O.	I.F.: 0MHz, L.O.: MHz
MODULATION TYPE	GFSK
MODE OF OPERATION	Duplex
DUTY CYCLE	50%
BIT RATE OF TRANSMISSION	723Kbps
ANTENNA TYPE	PCB antenna
ANTENNA GAIN	-3 dBi
ADAPTER	Brand Name: Cellink Model: CEL05D500 Input: 100-240V~50/60Hz, 0.15A Output: 5V, 0.5A

NOTE：

BTHS-6XXX-E, BTHS-3XXX-E and BLH-1100 (X=0~9 or A~Z) are identical in all aspects except for exterior and OEM customer.

2.2 DESCRIPTION OF SUPPORT UNIT

The transmitter part of EUT was tested with a PC system and configured by the requirement of ANSI C63.4. All interface ports were connected to the appropriate support units via specific cables. The support units and cables are listed below.

NO	DEVICE	BRAND	MODEL #	FCC ID/DOC	CABLE
1	NOTEBOOK	COMPAQ	Presario 2100	DOC	1.5m unshielded power cord
2	PRINTER	EPSON	STYLUS C20SX	DOC	1.5m unshielded power cord 1.2m shielded data cable
3	MODEM	ACEEX	DM-1414	DOC	1.5m unshielded DC power cable 1.2m shielded data cable
4	DC SUPPLY	N/A	RPS1512MB	N/A	1.5m unshielded power cord
5	DC SUPPLY	N/A	LPS-161A	N/A	1.5m unshielded power cord

NOTE : For the actual test configuration, please refer to the photos of testing.

2.3 DESCRIPTION OF TEST MODE

This EUT is a FHSS system, we use BlueTest to control the EUT with RS232, Let EUT hopping on and transmit at every channel with highest power, Only output power use conducted method, others are using radiated method. After Sirfdemo330R1 send the command to EUT, it can be removed, and the EUT keep hopping.79 channels are provided by EUT. The 3 channels of lower, medium and higher were chosen for test.

Channel	Frequency(MHz)
0	2402
39	2441
78	2480

NOTE :

1. Below 1 GHz, the channel 0, 39 and 78 were pre-tested in chamber. The channel 78, worst case one, was chosen for conducted and radiated emission test.
2. Above 1 GHz, the channel 0, 39 and 78 were tested individually.

3. DESCRIPTION OF APPLIED STANDARDS

The EUT is a kind of wireless product and to be connected with a PC system for normal use. According to the specifications provided by the applicant, it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C

ANSI C63.4: 2003

Public DA00-705 (March 2000)

All tests have been performed and recorded as the above standards.

4 CONDUCTED EMISSION TEST

4.1 CONDUCTED EMISSION LIMIT

FREQUENCY (MHz)	Class A (dBμV)		Class B (dBμV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.5 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

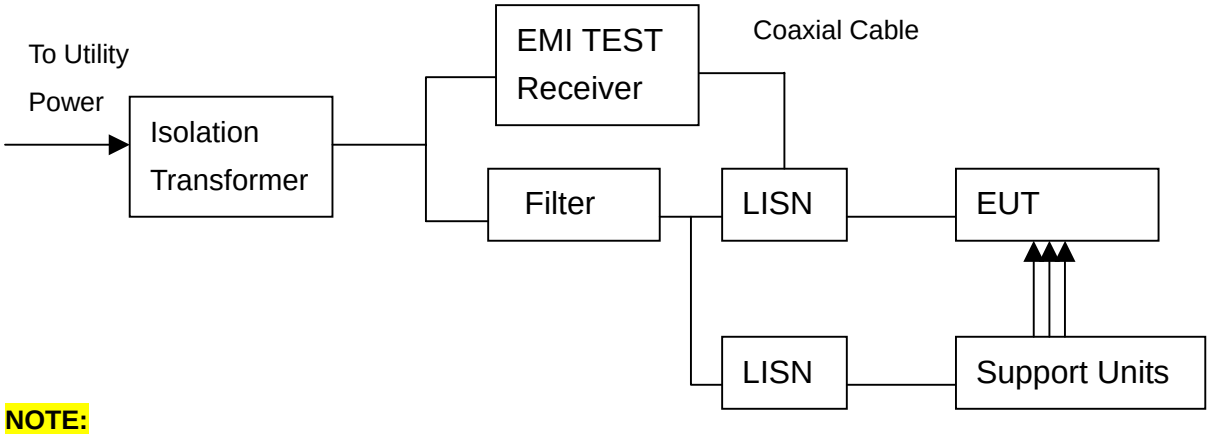
4.1.2 TEST EQUIPMENT

The following test equipment was used for the test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER	9 kHz TO 30 MHz	ROHDE & SCHWARZ	ESHS30/ 826003/008	AUG. 2006 ETC
LISN (for EUT)	50 μH, 50 ohm	FCC	FCC-LISN-50-25-2/ 01017	NOV. 2006 ETC
LISN (for Peripheral)	50μH, 50 ohm	FCC	FCC-LISN-50-25-2/ 01018	NOV. 2006 ETC
50 ohm TERMINATOR	50 ohm	HP	11593A/ 2	OCT. 2006 ETC
COAXIAL CABLE	3m	SUNCITY	J400/ 3M	JUL. 2006 SRT
ISOLATION TRANSFORMER	N/A	APC	AFC-11015/ F102040016	N/A
FILTER	2 LINE, 30A	FIL.COIL	FC-943/ 771	N/A
GROUND PLANE	2.3M (H) x 2.4M (W)	SRT	N/A	N/A
GROUND PLANE	2.4M (H) x 2.4M (W)	SRT	N/A	N/A

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

4.1.3 TEST SETUP



NOTE:

1. The EUT was put on a wooden table with 0.8m heights above ground plane, and 0.4m away from reference ground plane (> 2mx2m).
2. For the actual test configuration, please refer to the photos of testing.
3. The serial no. of the LISN connected to EUT is 01017.
4. The serial no. of the LISN connected to support units is 01018.

4.1.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4:2003 and CISPR22:2003. The frequency spectrum from 0.15 MHz to 30 MHz was investigated. The LISN used was 50 ohm/50µH as specified. All readings were quasi-peak and average values with 10 kHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. Both lines of the power mains of EUT were measured and the cables connected to EUT and support units were moved to find the maximum emission levels for each frequency.
First, find the margin or higher points at least 6 points by software, then use manual to find the maximum data. The procedure is referred on the test procedure of SRT LAB.

4.1.5 TEST RESULT

Temperature:	27 °C	Humidity:	58%RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	Link
Receiver Detector:	Q.P. and AV.	Tested By:	Jess Wu
Tested Result:	Pass	Tested Date:	Jun. 12, 2006

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.150	0.30	51.88	28.40	52.18	28.70	65.98	55.98	-13.80	-27.28
0.156	0.30	46.54	25.16	46.84	25.46	65.66	55.66	-18.82	-30.20
1.201	0.14	33.42	24.69	33.56	24.83	56.00	46.00	-22.44	-21.17
3.220	0.18	37.34	29.51	37.52	29.69	56.00	46.00	-18.48	-16.31
9.130	0.23	35.08	29.36	35.31	29.59	60.00	50.00	-24.69	-20.41
27.925	0.45	26.06	19.86	26.51	20.31	60.00	50.00	-33.49	-29.69

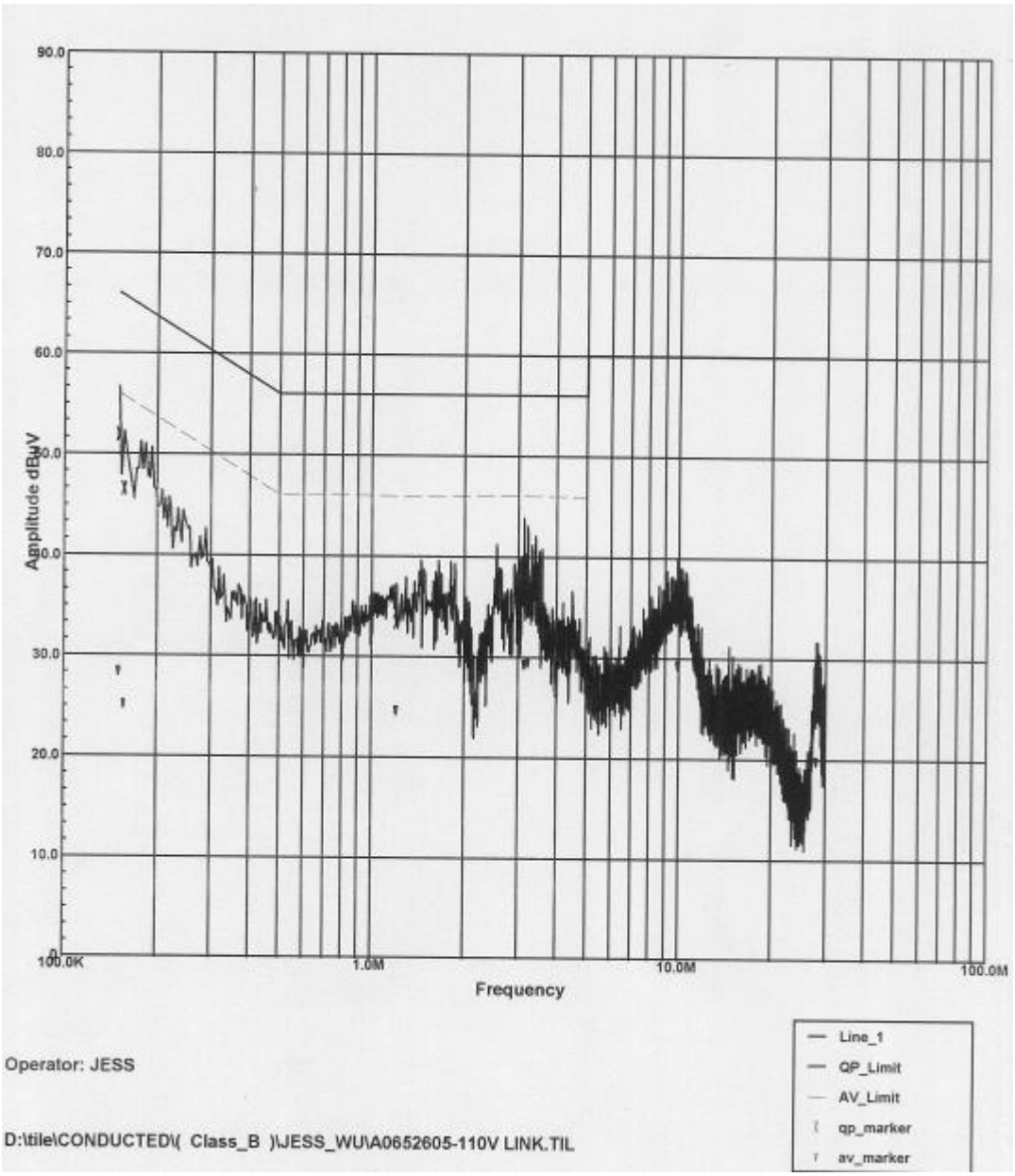
Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.150	0.30	51.02	28.86	51.32	29.16	65.98	55.98	-14.66	-26.82
0.189	0.30	42.80	28.54	43.10	28.84	64.06	54.06	-20.96	-25.22
1.177	0.14	31.60	22.52	31.74	22.66	56.00	46.00	-24.26	-23.34
3.368	0.19	35.50	27.30	35.69	27.49	56.00	46.00	-20.31	-18.51
9.963	0.23	28.62	28.62	28.85	28.85	60.00	50.00	-31.15	-21.15
18.649	0.29	25.74	19.34	26.03	19.63	60.00	50.00	-33.97	-30.37

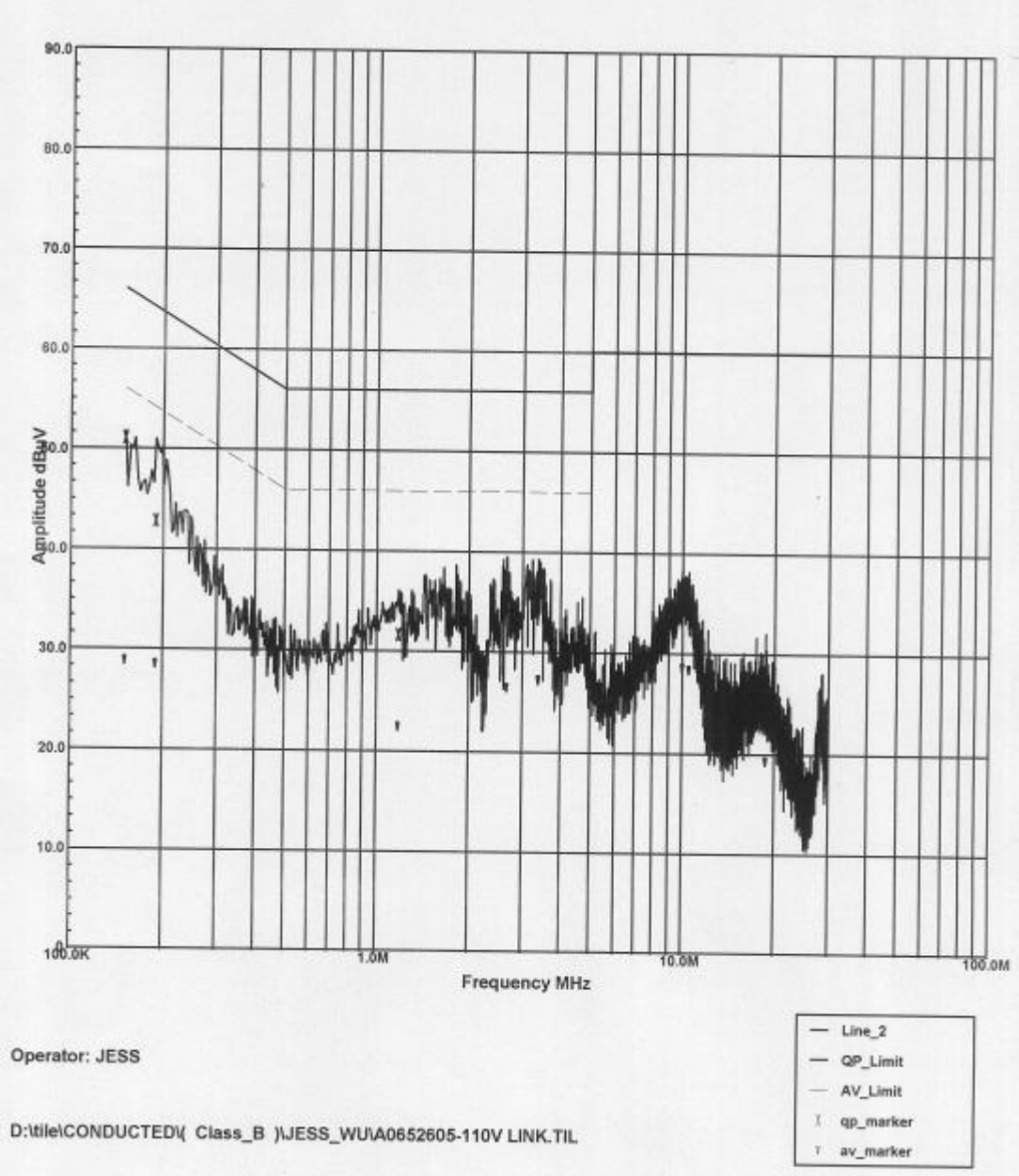
NOTE :

1. Measurement uncertainty is +/-1.32dB
2. Emission level = Reading valus + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
4. Margin value = Emission level - Limit
5. The emission of other frequencies were very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

Line


90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0
Amplitude dBuV
100.0K
1.0M
10.0M
100.0M
Frequency
Operator: JESS
D:\tile\CONDUCTED\(Class_B)\JESS_WU\A0652605-110V LINK.TIL
Line_1
QP_Limit
AV_Limit
qp_marker
av_marker

Neutral:


90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0
Amplitude dBuV
100.0K
1.0M
10.0M
100.0M
Frequency MHz
Operator: JESS
D:\tile\CONDUCTED\(Class_B)\JESS_WU\A0652605-110V LINK.TIL
Line_2
QP_Limit
AV_Limit
qp_marker
av_marker

Temperature:	27 °C	Humidity:	58%RH
Frequency Range:	0.15 – 30 MHz	Tested Mode:	Charge
Receiver Detector:	Q.P. and AV.	Tested By:	Jess Wu
Tested Result:	Pass	Tested Date:	Jun. 12, 2006

Power Line Measured : Line

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.390	0.27	50.32	39.46	50.59	39.73	58.05	48.05	-7.46	-8.32
0.501	0.24	49.16	32.22	49.40	32.46	56.00	46.00	-6.60	-13.54
0.519	0.24	50.84	36.08	51.08	36.32	56.00	46.00	-4.92	-9.68
1.319	0.15	42.52	21.44	42.67	21.59	56.00	46.00	-13.33	-24.41
5.000	0.22	36.10	21.84	36.32	22.06	56.00	46.00	-19.68	-23.94
15.369	0.26	14.94	4.37	15.20	4.63	60.00	50.00	-44.80	-45.37

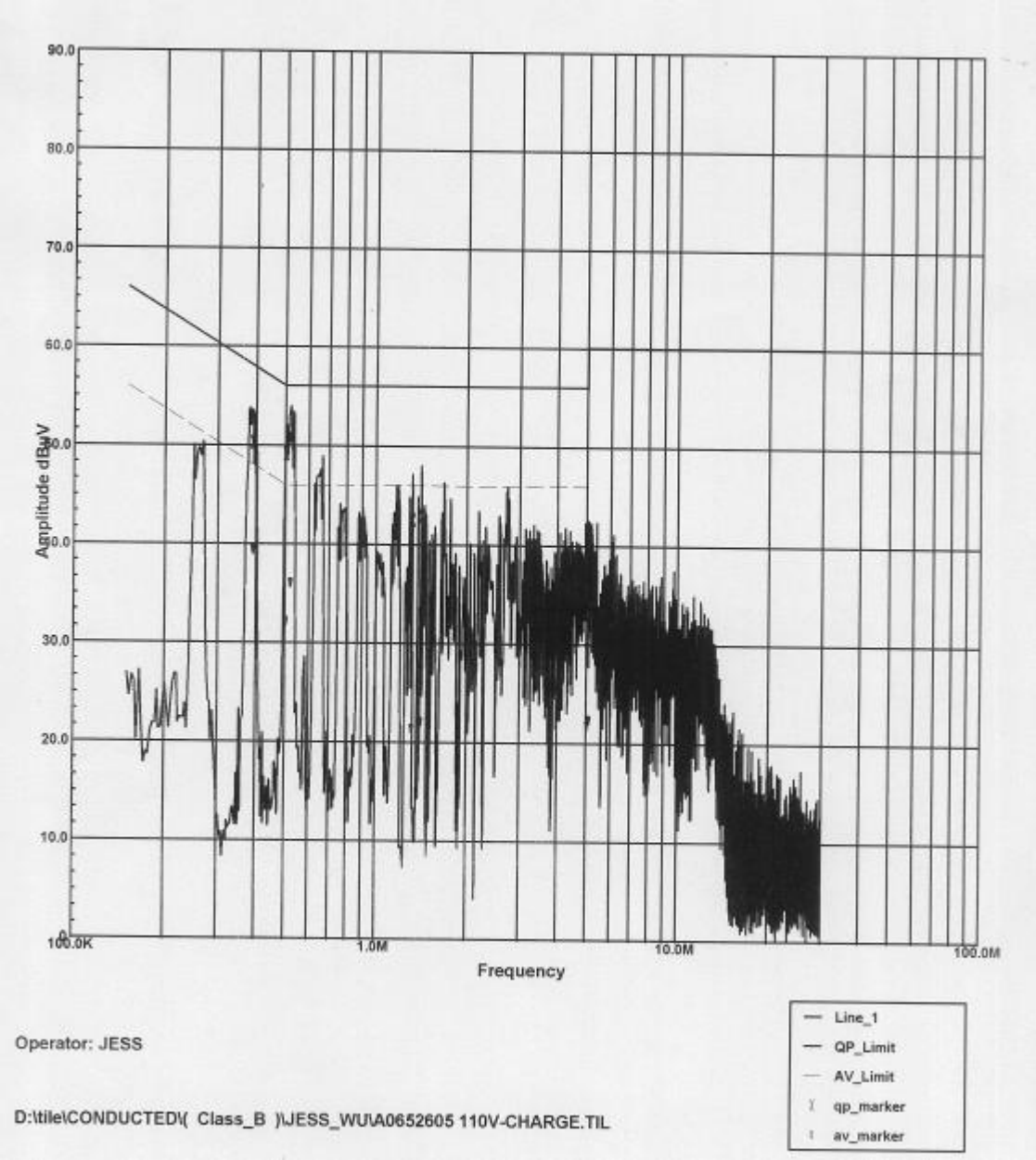
Power Line Measured : Neutral

Freq. (MHz)	Correct. Factor (dB)	Reading Value (dBμV)		Emission Level (dBμV)		Limit (dBμV)		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.399	0.27	49.62	33.07	49.89	33.34	57.86	47.86	-7.97	-14.52
0.501	0.24	48.58	31.68	48.82	31.92	56.00	46.00	-7.18	-14.08
0.519	0.24	50.46	35.30	50.70	35.54	56.00	46.00	-5.30	-10.46
1.378	0.15	41.68	20.14	41.83	20.29	56.00	46.00	-14.17	-25.71
5.700	0.22	30.26	13.90	30.48	14.12	60.00	50.00	-29.52	-35.88
16.865	0.28	18.06	1.85	18.34	2.13	60.00	50.00	-41.66	-47.87

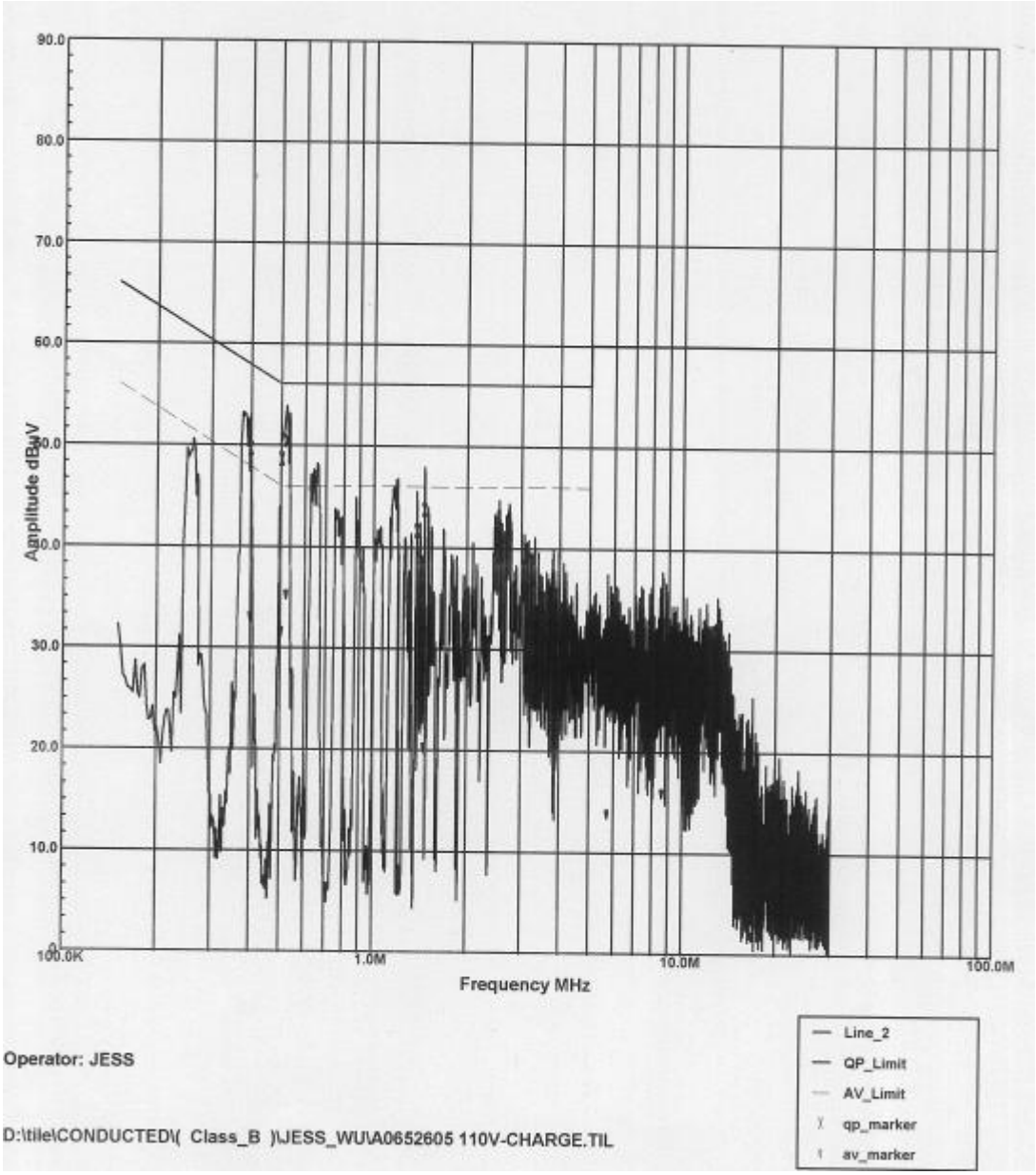
NOTE :

1. Measurement uncertainty is +/-1.32dB
2. Emission level = Reading valus + Correction factor
3. Correction Factor = Cable loss + Insertion loss of LISN
4. Margin value = Emission level - Limit
5. The emission of other frequencies were very low against the limit.
6. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.

Line


90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0
Amplitude dBuV
100.0K
1.0M
10.0M
100.0M
Frequency
Operator: JESS
D:\tile\CONDUCTED\(Class_B)\JESS_WU\A0652605 110V-CHARGE.TIL
Line_1
QP_Limit
AV_Limit
qp_marker
av_marker

Neutral


90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0
Amplitude dBuV
100.0K
1.0M
10.0M
100.0M
Frequency MHz
Operator: JESS
D:\tile\CONDUCTED\(Class_B)\JESS_WU\A0652605 110V-CHARGE.TIL
Line_2
QP_Limit
AV_Limit
qp_marker
av_marker

5. TECHNICAL CHARACTERISTICS TEST

5.1 CHANNEL SEPARATION TEST

5.1.1 LIMIT

FCC Part15, Subpart C Section 15.247(a)(1). Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

FREQUENCY RANGE (MHz)	Limit(kHz)
902-928	>25kHz
2400-2483.5	>25kHz
5725-5850	>25kHz

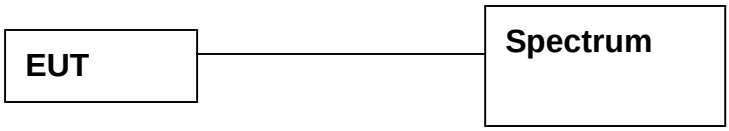
5.1.2 TEST EQUIPMENT

The following test equipment was used during the radiated emission test：

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
SPECTRUM	9kHz-7GHz	ROHDE & SCHWARZ	FSP7/ 839511/010	APR. 2007 R&S

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

5.1.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

5.1.4 TEST PROCEDURE

The EUT was operating in hopping mode or could be controlled its channel.
Printed out the test result from the spectrum by hard copy function.

5.1.5 EUT OPERATING CONDITION

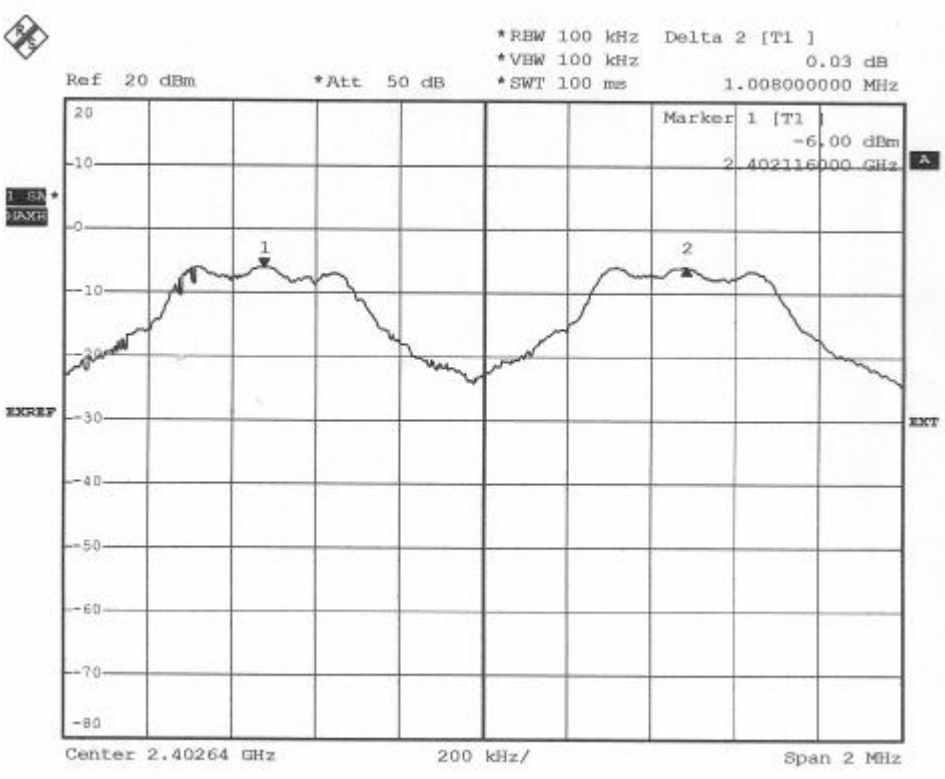
1. Set the EUT under transmission condition continuously at a specific channel frequency.
2. Under Windows XP ran “BLUE TEST” programs, PC sent "H" pattern or accessed the following peripherals:
   - RS232
   - Printer
   - FDD
   - HDD

5.1.6 TEST RESULT

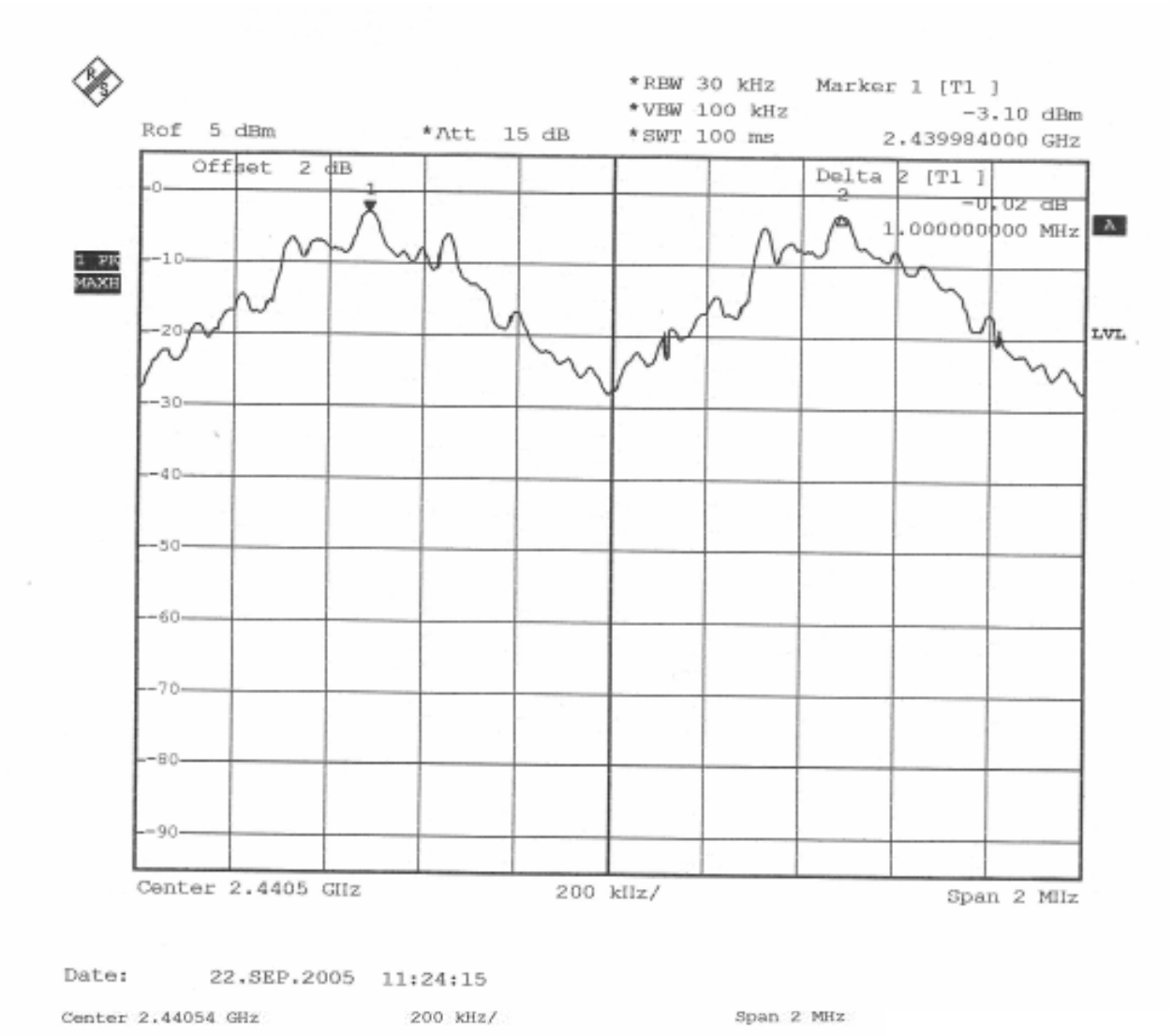
Temperature:	21°C	Humidity:	72 %RH
Spectrum Detector:	PK	Tested by:	Jess Wu
Test Result:	PASS	Tested Date:	Jun 07, 2006

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	SEPARATION READ VALUE (kHz)	SEPARATION LIMIT (kHz)
0	2402	1008	>25kHz
39	2441	1012	>25kHz
78	2480	1000	>25kHz

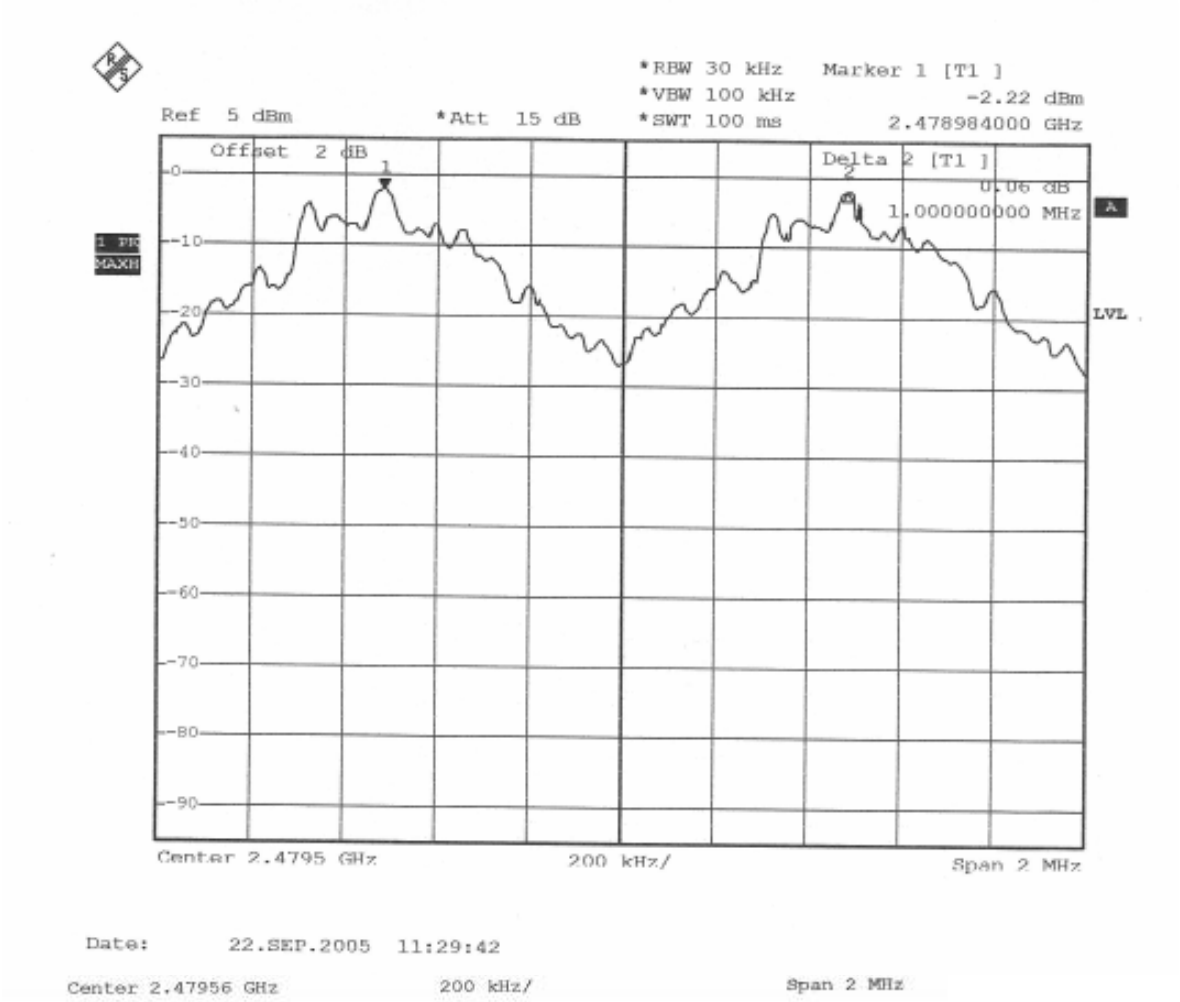
CH0:


*RBW 100 kHz
*VBW 100 kHz
*SWT 100 ms
Delta 2 [T1]
0.03 dB
1.008000000 MHz
Ref 20 dBm
*Att 50 dB
Marker 1 [T1]
-6.00 dBm
2.402116000 GHz
1
2
Center 2.40264 GHz
200 kHz/
Span 2 MHz

CH39:


*RBW 30 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
-3.10 dBm
2.439984000 GHz
Rof 5 dBm
*Att 15 dB
Offset 2 dB
Delta 2 [T1]
-0.02 dB
1.000000000 MHz
1 PK
MAXH
A
LVL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.4405 GHz
200 kHz/
Span 2 MHz
Date: 22.SEP.2005 11:24:15
Center 2.44054 GHz
200 kHz/
Span 2 MHz

CH78:


*RBW 30 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
-2.22 dBm
2.478984000 GHz
Ref 5 dBm
*Att 15 dB
Offset 2 dB
Delta 2 [T1]
0.06 dB
1.000000000 MHz
1 PK
MAXH
A
LVL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.4795 GHz
200 kHz/
Span 2 MHz
Date: 22.SEP.2005 11:29:42
Center 2.47956 GHz
200 kHz/
Span 2 MHz

5.2 20dB Bandwidth

5.2.1 LIMIT

Frequency Range (MHz)	Limit(kHz)				
	Quantity of Hopping Channel	50	25	15	75
902-928		<250	>250	NA	NA
2400-2483.5		NA	NA	>1000	<1000

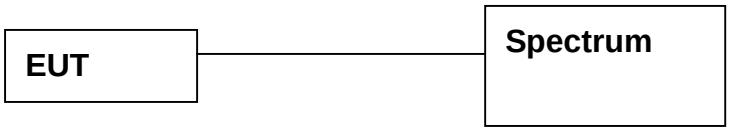
5.2.2 TEST EQUIPMENT

The following test equipment was used during the test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
SPECTRUM	9kHz-7GHz	ROHDE & SCHWARZ	FSP7/ 839511/010	APR. 2007 R&S

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

5.2.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

5.2.4 TEST PROCEDURE

The EUT was operating in hopping mode or could be controlled its channel.
Printed out the test result from the spectrum by hard copy function.

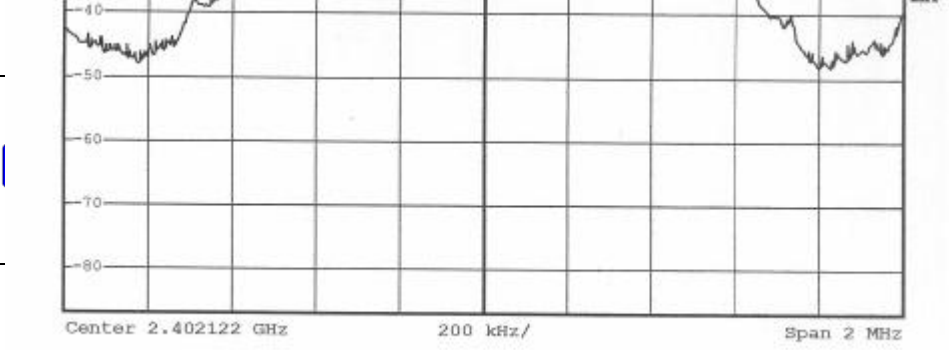
5.2.5 EUT OPERATING CONDITION

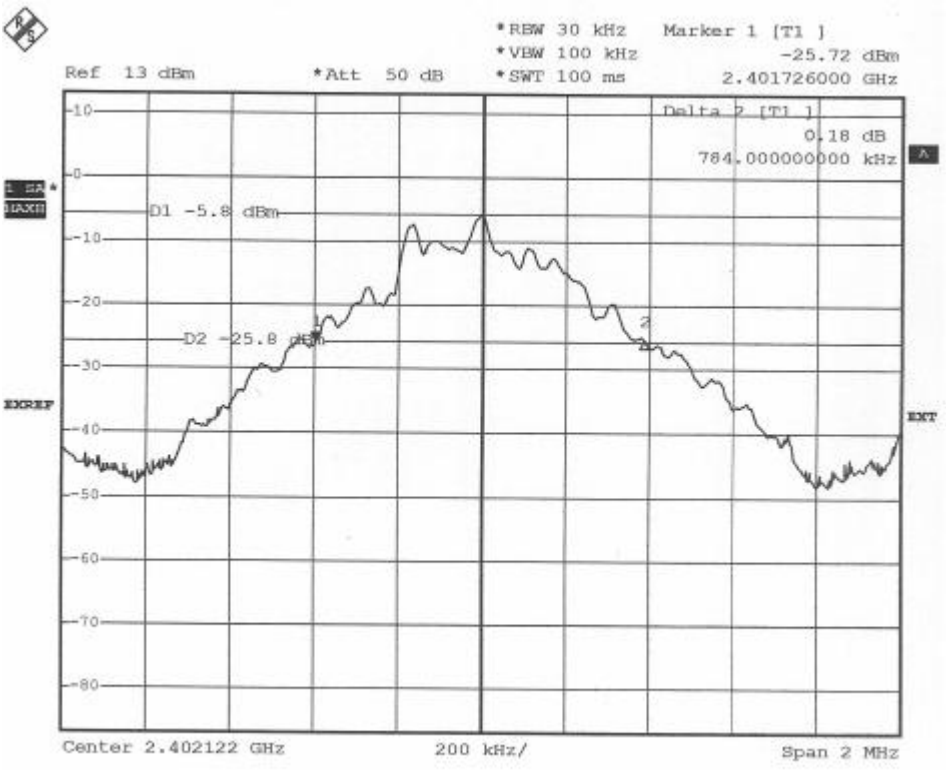
Same as section 4.1.5 of this report.

5.2.6 TEST RESULT

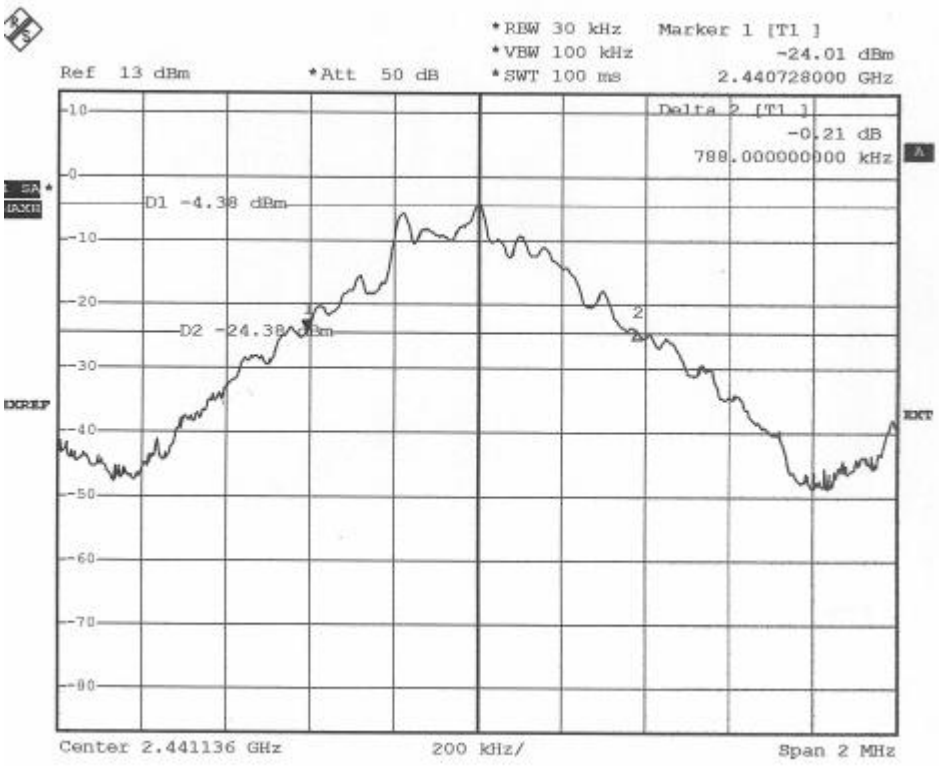
Temperature:	21°C	Humidity:	72%RH
Spectrum Detector:	PK	Tested by:	Jess Wu
Test Result:	PASS	Tested Date:	Jun. 07, 2006

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	20dB DOWN BW (kHz)
0	2402	784.00
39	2441	788.00
78	2480	804.00

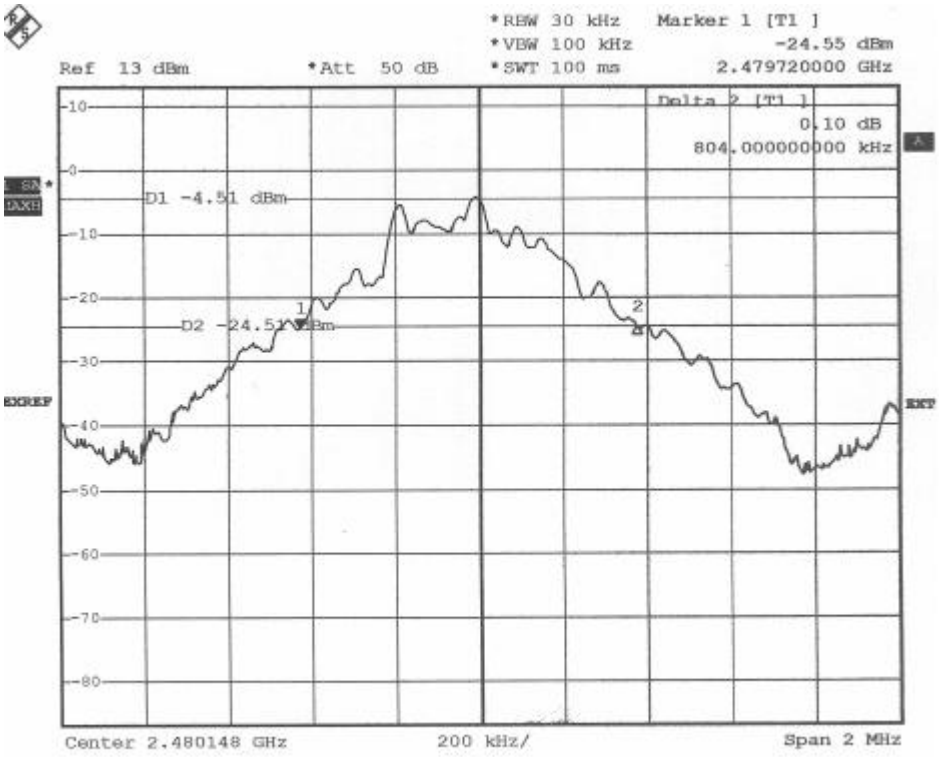

-40
-50
-60
-70
-80
Center 2.402122 GHz
200 kHz/
Span 2 MHz


*RBW 30 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
-25.72 dBm
2.401726000 GHz
Delta 2 [T1]
0.18 dB
784.000000000 kHz
Ref 13 dBm
*Att 50 dB
D1 -5.8 dBm
D2 -25.8 dBm
-10
0
-10
-20
-30
-40
-50
-60
-70
-80
EXT
Center 2.402122 GHz
200 kHz/
Span 2 MHz

Ch39:


*RBW 30 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
-24.01 dBm
2.440728000 GHz
Delta 2 [T1]
-0.21 dB
788.000000000 kHz
Ref 13 dBm
*Att 50 dB
D1 -4.38 dBm
D2 -24.38 dBm
Center 2.441136 GHz
200 kHz/
Span 2 MHz

CH78:


*RBW 30 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
-24.55 dBm
2.479720000 GHz
Delta 2 [T1]
0.10 dB
804.000000000 kHz
Ref 13 dBm
*Att 50 dB
D1 -4.51 dBm
D2 -24.51 dBm
Center 2.480148 GHz
200 kHz/
Span 2 MHz

5.3 QUANTITY OF HOPPING CHANNEL TEST

5.3.1 LIMIT

FCC Part15, Subpart C Section 15.247.

FREQUENCY RANGE (MHz)	Limit (Quantity of Hopping Channel)			
	20dB bandwidth <250kHZ	20dB bandwidth >250kHZ	20dB bandwidth <1MHz	20dB bandwidth >1MHz
902-928	50	25	N/A	N/A
2400-2483.5	N/A	N/A	75	15
5725-5850	N/A	N/A	75	N/A

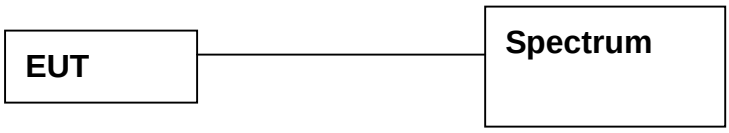
5.3.2 TEST EQUIPMENT

The following test equipment was used during the test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
SPECTRUM	9kHz-7GHz	ROHDE & SCHWARZ	FSP7/ 839511/010	APR. 2007 R&S

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

5.3.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

5.3.4 TEST PROCEDURE

The EUT was operating in hopping mode or could be controlled its channel.
Printed out the test result from the spectrum by hard copy function.

5.3.5 EUT OPERATING CONDITION

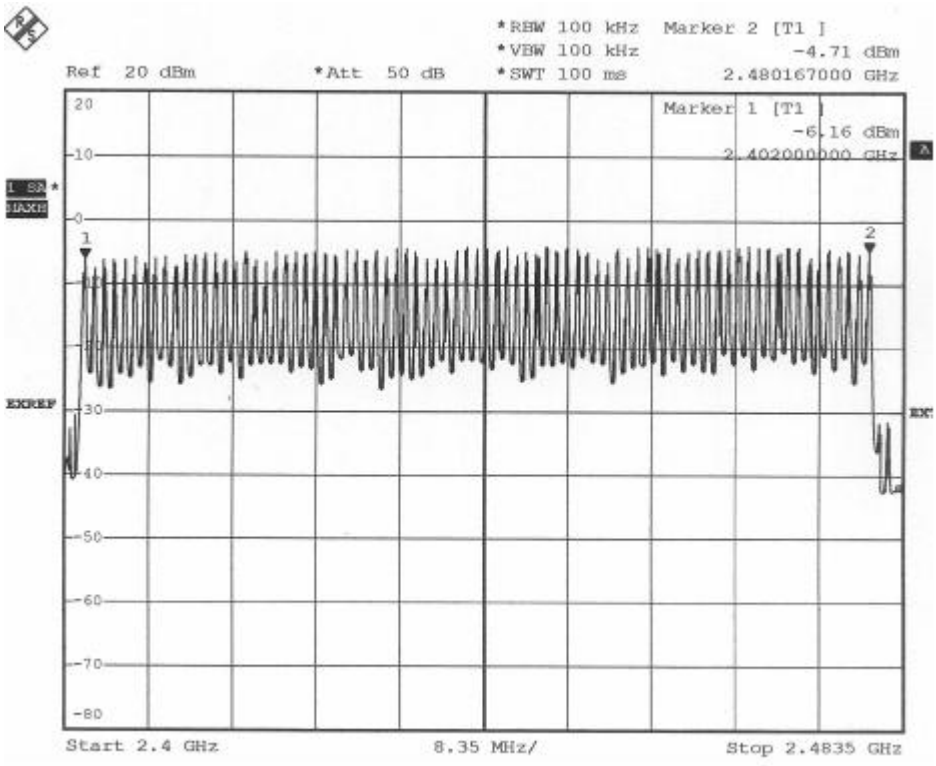
Same as section 4.1.5 of this report.

5.3.6 TEST RESULT

Temperature:	21°C	Humidity:	72%RH
Spectrum Detector:	PK	Tested by:	Jess Wu
Test Result:	PASS	Tested Date:	Jun. 07, 2006

HOPPING CHANNEL FREQUENCY RANGE	QUANTITY OF HOPPING CHANNEL READ VALUE	QUANTITY OF HOPPING CHANNEL LIMIT
2402~2480	79	79

CH0-CH78



5.4 Time of occupancy (Dwell Time)

5.4.1 LIMIT

FCC Part15, Subpart C Section 15.247.

FREQUENCY RANGE (MHz)	LIMIT (ms)		
	20dB bandwidth <250kHZ(50Channel)	20dB bandwidth >250kHZ(25Channel)	20dB bandwidth <1MHz(75Channel)
902-928	400(20s)	400(10s)	NA
2400-2483.5	NA	NA	400(30s)
5725-5850	NA	NA	400(30s)

NOTE: The "()" is all channel's average time of occupancy.

5.4.2 TEST EQUIPMENT

The following test equipment was used during the test:

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
SPECTRUM	9kHz-7GHz	ROHDE & SCHWARZ	FSP7/ 839511/010	APR. 2006 R&S

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

5.4.3 TEST SET-UP

The EUT was connected to a spectrum through a 50Ω RF cable.

5.4.4 TEST PROCEDURE

The EUT was operating in hopping mode or could be controlled its channel.
Printed out the test result from the spectrum by hard copy function.

5.4.5 EUT OPERATING CONDITION

Same as section 4.1.5 of this report.

5.4.6 TEST RESULT

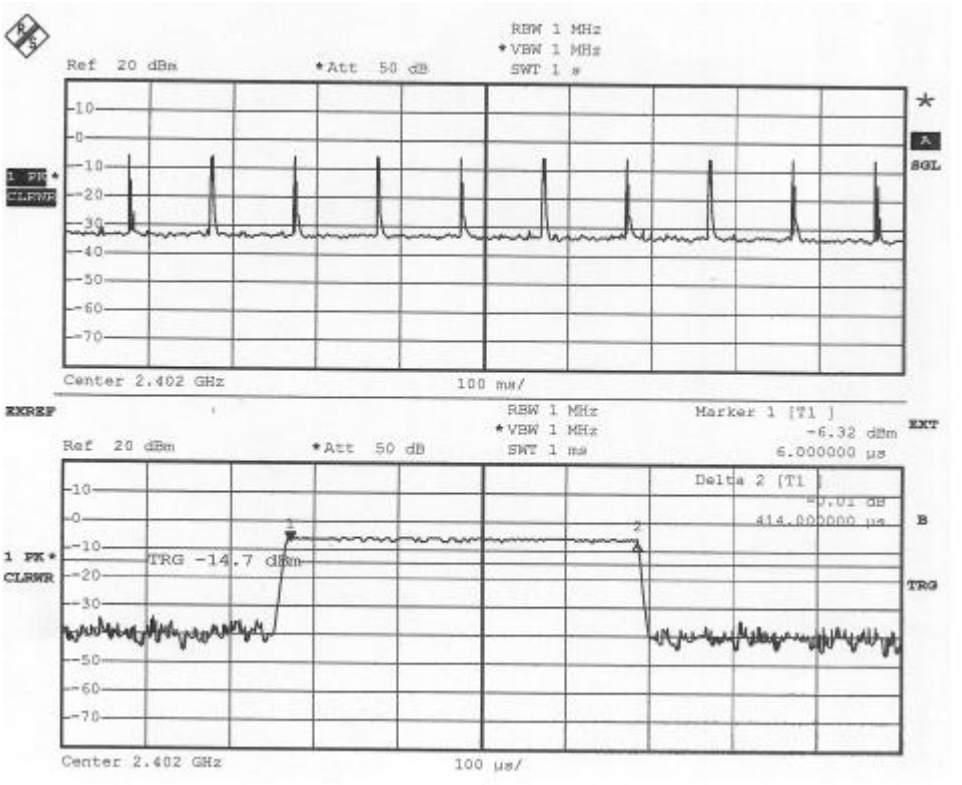
Temperature:	21°C	Humidity:	72%RH
Spectrum Detector:	PK	Tested by:	Jess Wu
Test Result:	PASS	Tested Date:	Jun. 09, 2006

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	Pulse Time (µs)	Burts (in 1 sec.)	Time of occupancy (Dwell Time) (ms)	Average time of occupancy LIMIT (ms)
0	2402.00	414	10	124.2	400
39	2441.00	414	10	124.2	400
78	2480.00	414	10	124.2	400

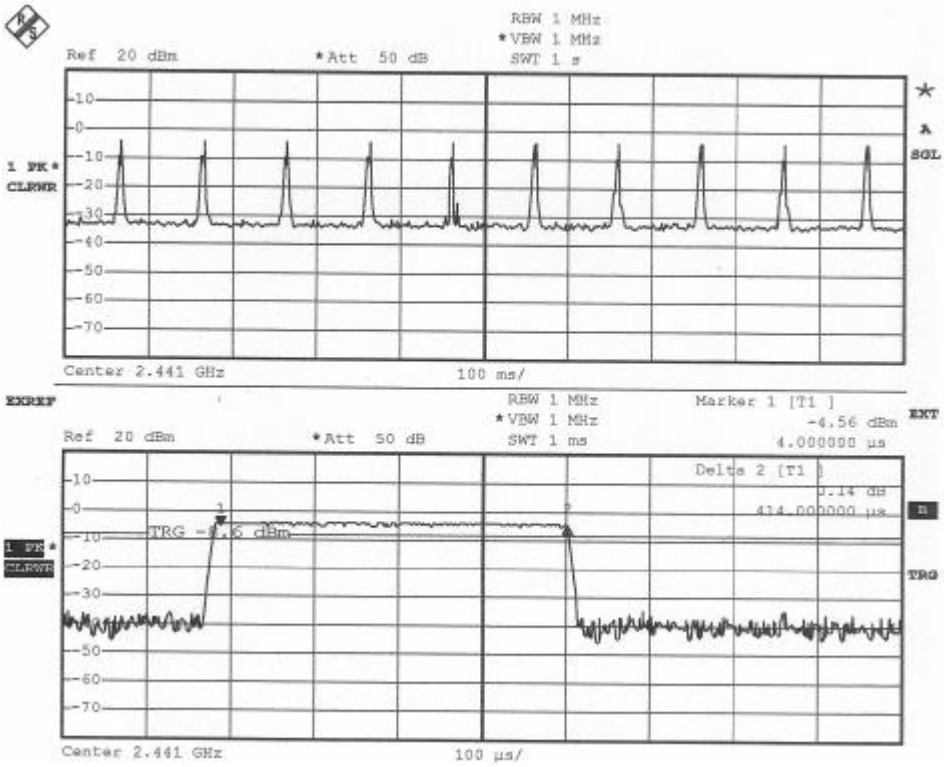
Note:
Dwell Time:

Pulse Time*Burts* 30

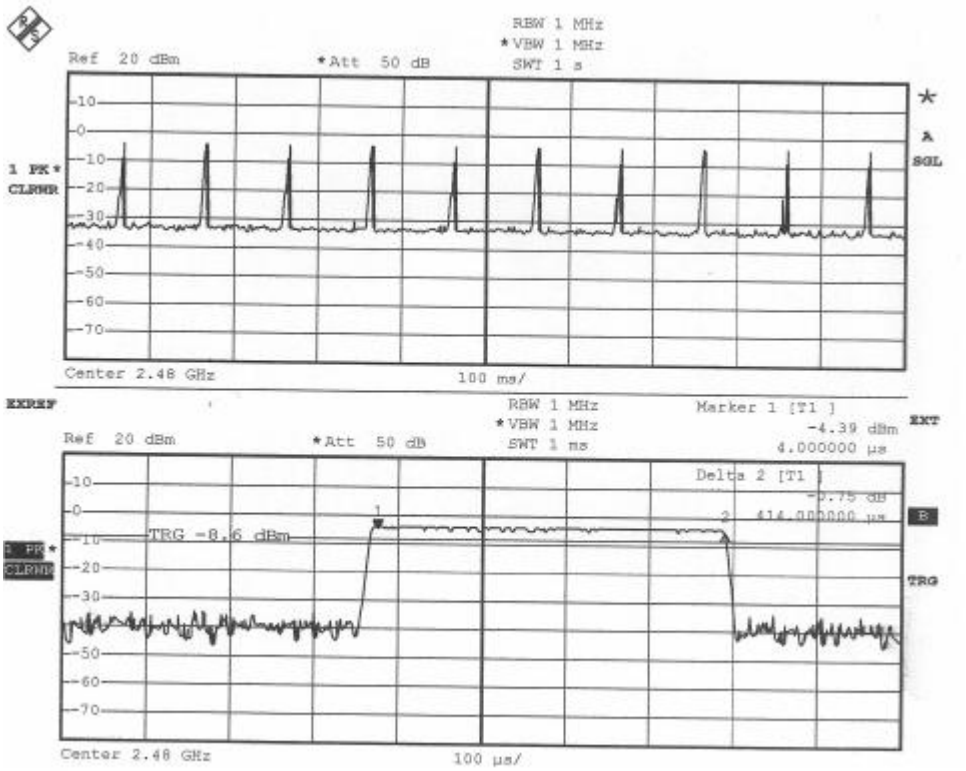
CH0:


RBW 1 MHz
*VBW 1 MHz
SWT 1 s
Ref 20 dBm
*Att 50 dB
Center 2.402 GHz
100 ms/
RBW 1 MHz
*VBW 1 MHz
SWT 1 ms
Marker 1 [T1]
-6.32 dBm
6.000000 µs
Delta 2 [T1]
Ref 20 dBm
*Att 50 dB
TRG -14.7 dBm
Center 2.402 GHz
100 µs/

Ch39:


RBW 1 MHz
*VBW 1 MHz
Ref 20 dBm
*Att 50 dB
SWT 1 s
1 PK*
CLRWR
SGL
Center 2.441 GHz
100 ms/
EXTREF
RBW 1 MHz
*VBW 1 MHz
Marker 1 [T1]
-4.56 dBm
Ref 20 dBm
*Att 50 dB
SWT 1 ms
4.000000 µs
Delta 2 [T1]
0.14 dB
414.000000 µs
EXT
TRG
Center 2.441 GHz
100 µs/

CH78:


RBW 1 MHz
*VBW 1 MHz
SWT 1 s
Ref 20 dBm
*Att 50 dB
1 PK*
CLRWR
A
SGL
Center 2.48 GHz
100 ms/
EXTREF
RBW 1 MHz
*VBW 1 MHz
SWT 1 ms
Marker 1 [T1]
-4.39 dBm
4.000000 µs
EXT
Ref 20 dBm
*Att 50 dB
Delta 2 [T1]
-0.75 dB
414.000000 µs
TRG -8.6 dBm
B
TRG
Center 2.48 GHz
100 µs/

5.5 PEAK POWER TEST

5.5.1 LIMIT

FCC Part15, Subpart C Section 15.247.

FREQUENCY RANGE (MHz)	LIMIT (W)				
	Quantity of Hopping Channel	50	25	15	75
902-928		1(30dBm)	0.125(21dBm)	NA	NA
2400-2483.5		NA	NA	0.125(21dBm)	1(30dBm)
5725-5850		NA	NA	NA	1(30dBm)

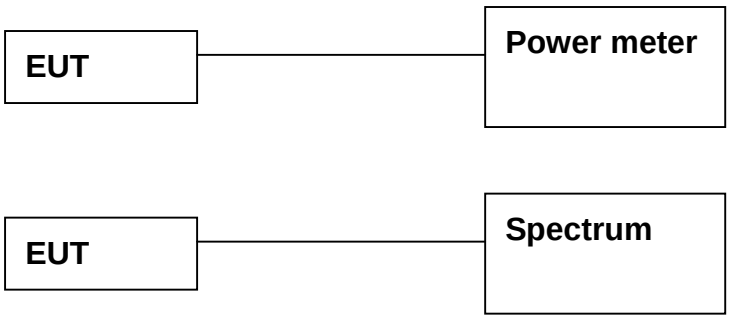
5.5.2 TEST EQUIPMENT

The following test equipment was used during the test：

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
SPECTRUM	9kHz-7GHz	ROHDE & SCHWARZ	FSP7/ 839511/010	APR. 2007 R&S
POWER METER	N/A	BOONTON	4232A/ 29001	MAY 2007 ETC
POWER SENSOR	DC-18GHz 0.3μW-100mW 50Ω	BOONTON	51011-EMC/ 31184	JUN. 2007 ETC

NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

5.5.3 TEST SET-UP



The EUT was connected to a spectrum through a 50Ω RF cable.

5.5.4 TEST PROCEDURE

The EUT was operating in hopping mode or could control its channel.
Printed out the test result from the spectrum by hard copy function.
Recorded the read value of the power meter.

5.5.5 EUT OPERATING CONDITION

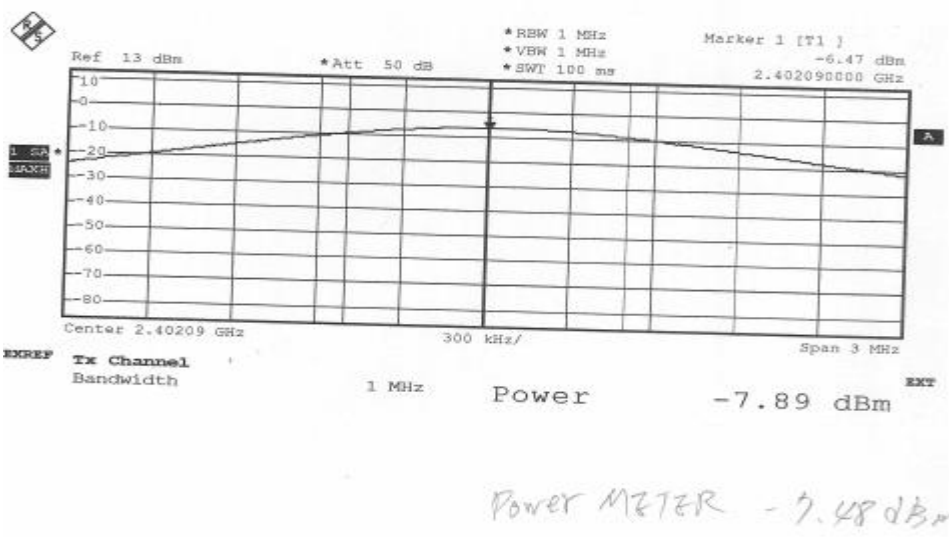
Same as section 4.1.5 of this report.

5.5.6 TEST RESULT

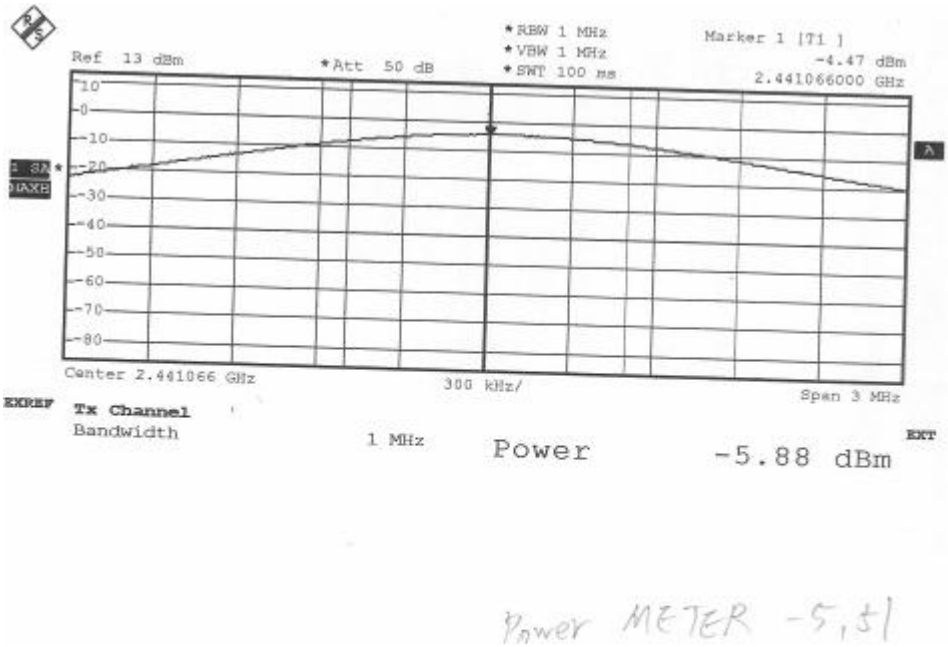
Temperature:	21°C	Humidity:	72%RH
Spectrum Detector:	PK	Tested by:	Jess Wu
Test Result:	PASS	Tested Date:	Jun. 07, 2006

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)
0	2402.0000	-7.89	30
39	2441.0000	-5.88	30
78	2480.0000	-5.69	30

CH0:

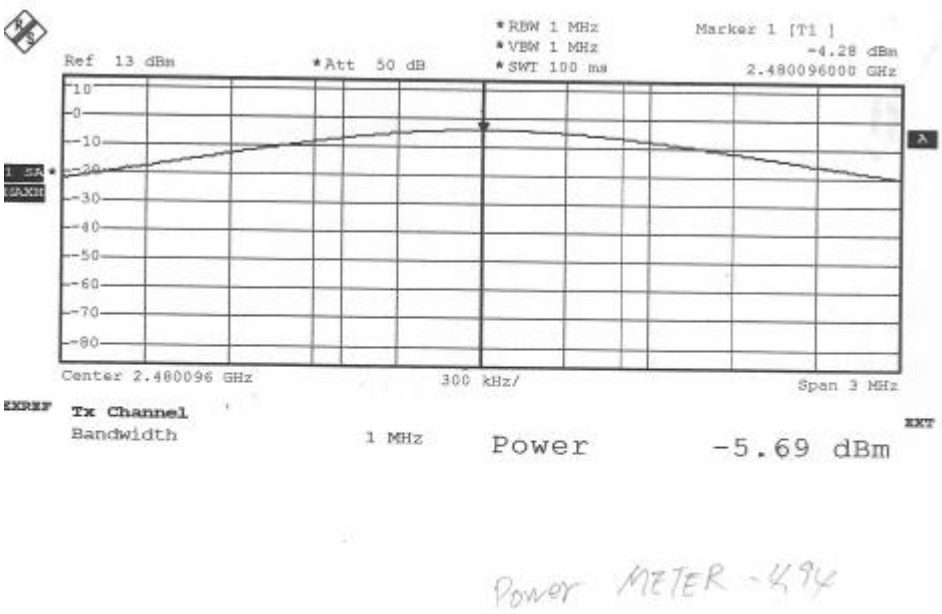

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-6.47 dBm
2.402090000 GHz
Ref 13 dBm
*Att 50 dB
Center 2.40209 GHz
300 kHz/
Span 3 MHz
Tx Channel
Bandwidth
1 MHz
Power
-7.89 dBm
Power METER -7.48 dBm

CH39:



Power METER -5.81

CH78


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-4.28 dBm
2.480096000 GHz
Ref 13 dBm
*Att 50 dB
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.480096 GHz
300 kHz/
Span 3 MHz
Tx Channel
Bandwidth
1 MHz
Power
-5.69 dBm
Power METER -4.9

5.6 BAND EDGE TEST

5.6.1 LIMIT

FCC Part15, Subpart C Section 15.247. In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

OPERATING FREQUENCY RANGE (MHz)	SPURIOUS EMISSION FREQUENCY (MHz)	LIMIT	
		Peak power ration to emission(dBc)	Emission level(dBuV/m)
902-928	<902	>20	NA
	>928	>20	NA
	960-1240	NA	54
2400-2483.5	<2400	>20	NA
	>2483.5-2500	NA	54
5725-5850	<5350-5460	NA	54
	<5725	>20	NA
	>5850	>20	NA

5.6.2 TEST EQUIPMENT

The following test equipment was used during the test：

EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
SPECTRUM	9kHz-7GHz	ROHDE & SCHWARZ	FSP7/ 839511/010	APR. 2007 R&S
EMI TEST RECEIVER	9 kHz TO 2750 MHz	ROHDE & SCHWARZ	ESCS30/ 830245/012	OCT. 2006 ETC
SPECTRUM	9KHz-26.5GHz	HP	8953E/ 3710A03220	MAY 2007 ETC
PRE-AMPLIFIER	1GHz-26.5GHz Gain:30dB	HP	8449B/ 3008A01019	NOV. 2006 ETC
BI-LOG ANTENNA	25 MHz TO 2 GHz	EMCO	3142/ 9701-1124	FEB. 2007 SRT
HORN ANTENNA	1GHz to 18GHz	EMCO	3115/ 9602-4681	DEC. 2006 ETC
OATS	3 - 10 M measurement	SRT	SRT-1	APR. 2007 SRT

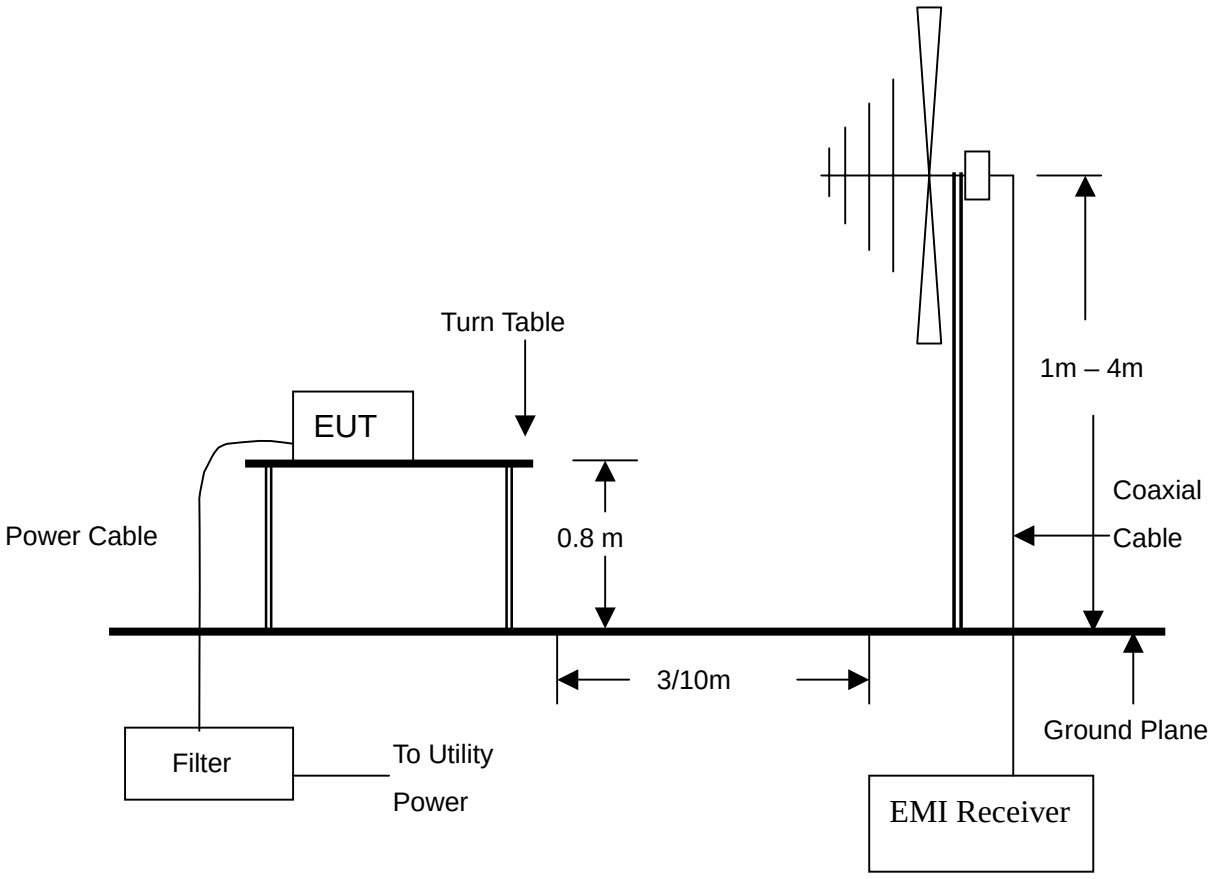
NOTE: The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.

5.6.3 TEST SET-UP

FOR RF CONDUCTED TEST (dBc)

The EUT was connected to the spectrum through a 50Ω RF cable.

FOR RADIATED EMISSION TEST



NOTE :

1. The EUT system was put on a wooden table with 0.8m heights above a ground plane.
2. For the actual test configuration, please refer to the photos of testing.

5.6.4 TEST PROCEDURE

1. The EUT was operating in hopping mode or could be controlled its channel. Printed out the test result from the spectrum by hard copy function.
2. The EUT was tested according to the requirement of ANSI C63.4 and CISPR 22. The measurements were made at an open area test site with 10 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz. Under 1 GHz. All readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak and average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency.

5.6.5 EUT OPERATING CONDITION

Same as section 4.1.5 of this report.

5.6.6 TEST RESULT

Temperature:	21°C	Humidity:	72%RH
Spectrum Detector:	PK & AV	Tested by:	Jess Wu
Test Result:	PASS	Tested Date:	Jun. 07, 2006

1.Conducted test

Frequency (MHz)	PEAK POWER OUTPUT (dBm)	Emission read Value(dBm)	Result of Band edge (dBc)	Band edge LIMIT (dBc)
<2400	-7.89	-37.65	34.40	>20dBc
>2483.5	-5.69	-42.36	37.53	>20dBc

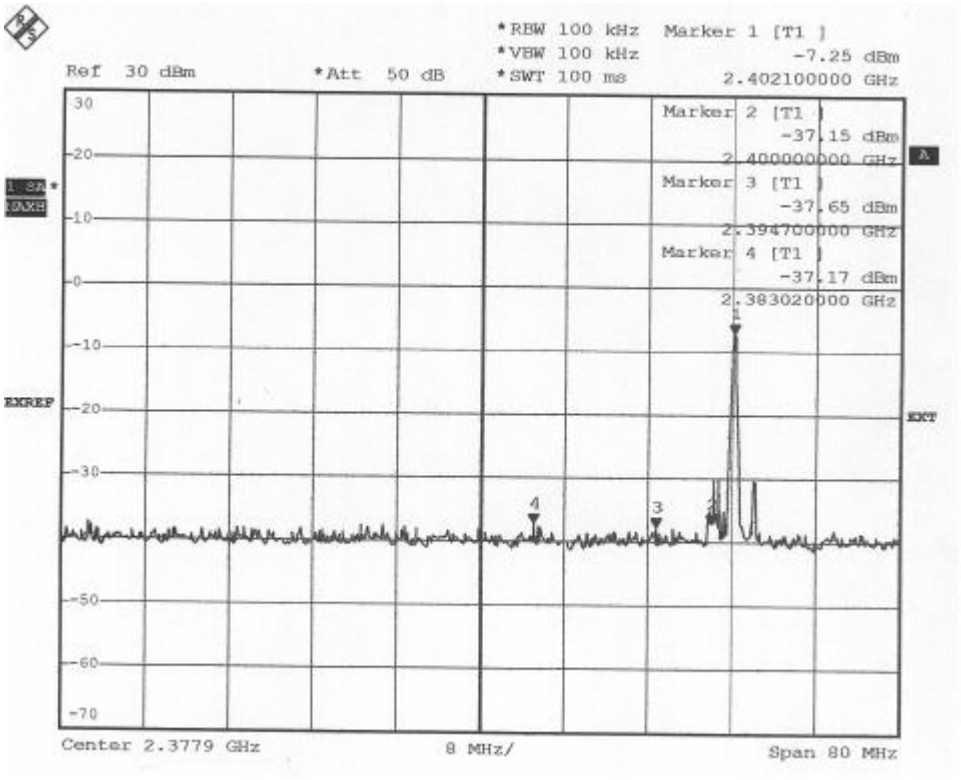
2.Radiated emission test

Frequency (MHz)	Antenna polarization (H/V)	Reading (dBuV)		Emission (dBuV/m)		Band edge Limit (dBuV/m)	
		PK	AV	PK	AV	PK	AV
CH0	H	54.5	44.4	50.3	40.2	74.0	54.0
CH78	V	56.0	43.8	52.0	39.8	74.0	54.0

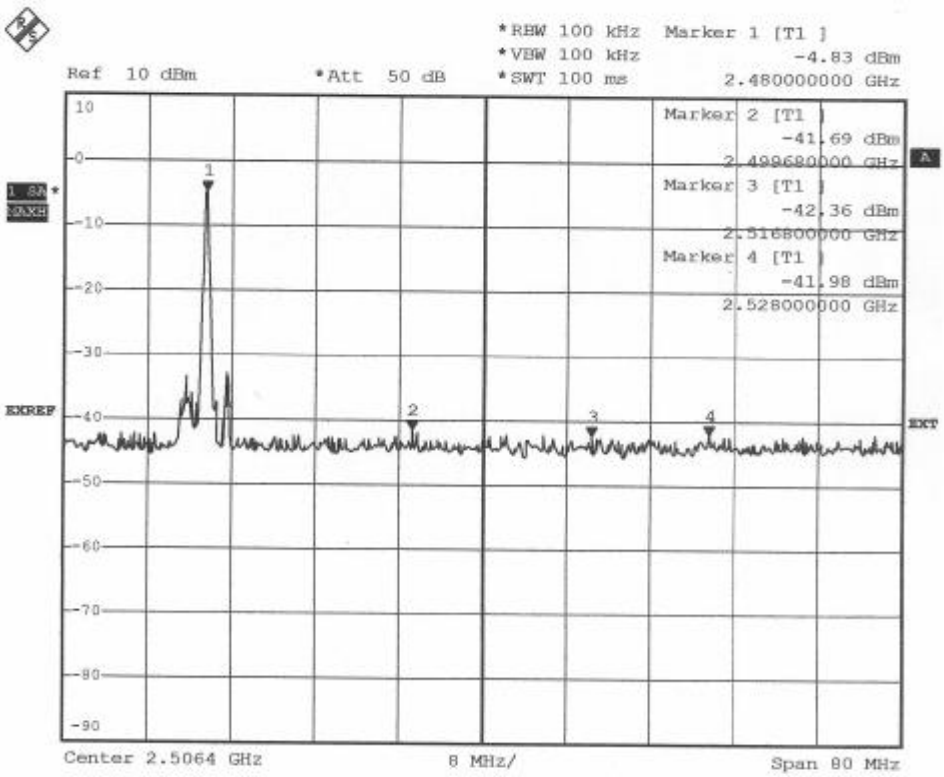
Note:

1. "*": Measurement does not apply for this frequency.

<2400MHz:


*RBW 100 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
-7.25 dBm
2.402100000 GHz
Ref 30 dBm
*Att 50 dB
Marker 2 [T1]
-37.15 dBm
2.400000000 GHz
Marker 3 [T1]
-37.65 dBm
2.394700000 GHz
Marker 4 [T1]
-37.17 dBm
2.383020000 GHz
30
20
10
0
-10
-20
-30
-50
-60
-70
EXREF
EXT
Center 2.3779 GHz
8 MHz/
Span 80 MHz

>2483.5MHz


*RBW 100 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
-4.83 dBm
2.480000000 GHz
Ref 10 dBm
*Att 50 dB
Marker 2 [T1]
-41.69 dBm
2.499680000 GHz
Marker 3 [T1]
-42.36 dBm
2.516800000 GHz
Marker 4 [T1]
-41.98 dBm
2.528000000 GHz
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
EXTREF
EXT
Center 2.5064 GHz
8 MHz/
Span 80 MHz

5.7 SPURIOUS RADIATED EMISSION TEST

5.7.1 LIMIT

FCC Part15, Subpart C Section 15.209 limit of radiated emission for frequency below1000MHz. The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

FREQUENCY (MHz)	DISTANCE (m)	FIELD STRENGTH (dBμV/m)
30 - 88	3	40.0
88 - 216	3	43.5
216 - 960	3	46.0
ABOVE 960	3	54.0

NOTE : 1. In the emission tables above , the tighter limit applies at the band edges.
2. Distance refers to the distance between measuring instrument , antenna , and the closest point of any part of the device or system.

FCC Part 15, Section15.35(b) limit of radiated emission for frequency above 1000 MHz

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0

FCC Part 15, Subpart C Section 15.249. The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

FUNDAMENTAL FREQUENCY (MHz)	FILED STRENGTH OF FUNDAMENTAL (dBuV/m) (at 3m)		FIELD STRENGTH OF HARMONICS (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
902-928	114	94	74.0	54.0
2400-2483.5	114	94	74.0	54.0
5725-5875	114	94	74.0	54.0
24000-24250	128	108	88.0	68.0

5.7.2 TEST EQUIPMENT

The following test equipment was used during the radiated emission test：

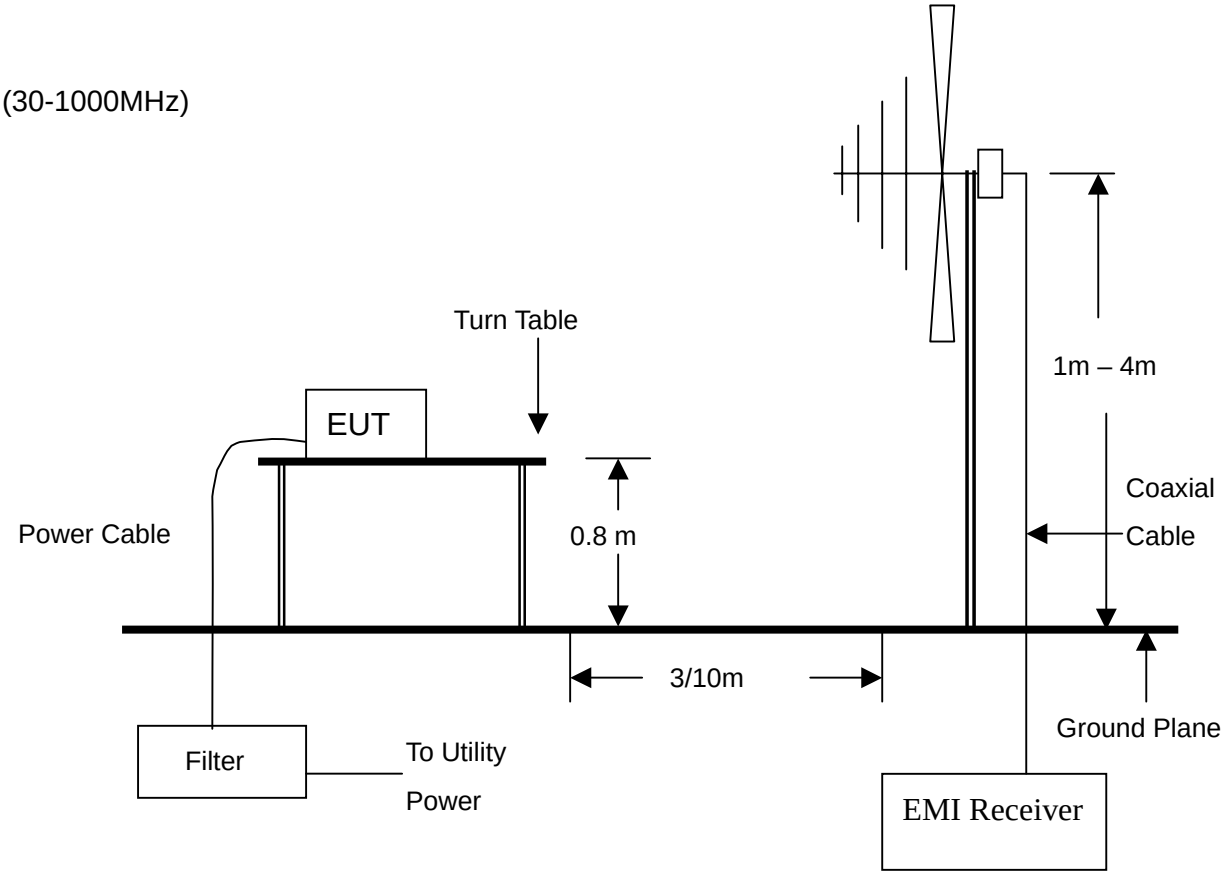
EQUIPMENT/ FACILITIES	SPECIFICATIONS	MANUFACTURER	MODEL#/ SERIAL#	DUE DATE OF CAL. & CAL. CENTER
EMI TEST RECEIVER	20 kHz TO 1 GHz	ROHDE & SCHWARZ	ESCS30/ 830245/012	OCT. 2006 ETC
BI-LOG ANTENNA	25 MHz TO 2 GHz	EMCO	3142/ 9701-1124	FEB. 2007 SRT
OATS	3 – 10 M MEASUREMENT	SRT	SRT-1	DEC. 2006 SRT
COAXIAL CABLE	25M	SUNCITY	J400/ 25M	AUG. 2006 SRT
FILTER	2 LINE, 30A	FIL.COIL	FC-943/ 869	N/A
FREQUENCY CONVERTER	N/A	APC	AFC-2KBB/ F100030031	AUG. 2006 SRT

NOTE:

1. The calibration interval of the above test equipment is one year and the calibrations are traceable to NML/ROC and NIST/USA.
2. The Open Area Test Site (SRT-1) is registered by FCC with No. 90957 and VCCI with No. R-1081.
3. The Open Area Test Site (SRT-2) is registered by FCC with No. 98458 and VCCI with No. R-1168.

5.7.3 TEST SET-UP

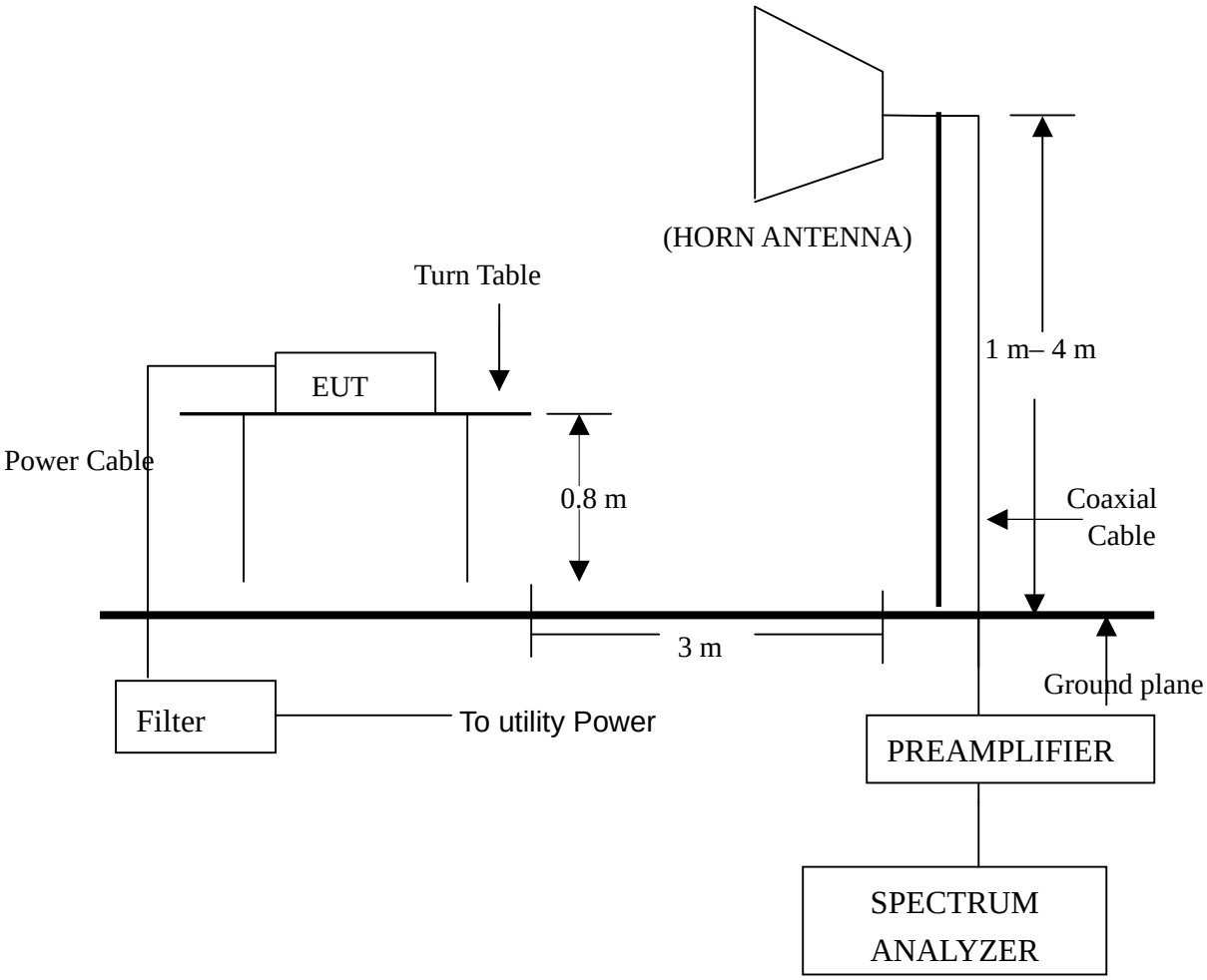
(30-1000MHz)



NOTE :

1. The EUT system was put on a wooden table with 0.8m heights above a ground plane.
2. For the actual test configuration, please refer to the photos of testing.

(1-25GHz)



NOTE :

1. The EUT system was put on a wooden table with 0.8m heights above a ground plane.
2. For the actual test configuration, please refer to the photos of testing.

5.7.4 TEST PROCEDURE

The EUT was tested according to the requirement of ANSI C63.4 and CISPR 22. The measurements were made at an open area test site with 10 meter measurement distance under 1 GHz and with 3m distance above 1GHz. The frequency spectrum measured started from 30 MHz. Under 1 GHz. All readings were quasi-peak values with 120 kHz resolution bandwidth of the test receiver. Above 1 GHz, the measurements were made at an open area test site with 3 meter measurement distance and all readings were peak and average values with 1 MHz resolution bandwidth of the test receiver. The EUT system was operated in all typical methods by users. The cables connected to EUT and support units were moved to find the maximum emission levels for each frequency.

5.7.5 EUT OPERATING CONDITION

Same as section 4.1.5 of this report.

5.7.6 TEST RESULT

Temperature:	24 °C	Humidity:	68 %RH
Frequency Range:	30 – 1000 MHz	Measured Distance:	3m
Receiver Detector:	Q.P.	Tested Mode:	Link
Tested By:	Jess Wu	Tested Date:	Jun. 16, 2006

Antenna Polarization:Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
164.6100	2.26	9.64	8.8	20.7	43.5	-22.8	224.0	1.2
196.7400	2.47	10.16	7.4	20.0	43.5	-23.5	256.0	1.5
232.7300	2.67	10.88	8.0	21.6	46.0	-24.4	287.0	1.2
349.1300	3.27	14.78	5.9	23.9	46.0	-22.1	127.0	1.3
666.2200	4.85	19.78	6.8	31.4	46.0	-14.6	213.0	1.3
733.3850	5.14	21.30	4.3	30.7	46.0	-15.3	115.0	1.2

Antenna Polarization:Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
164.9300	2.26	9.64	7.2	19.1	43.5	-24.4	211.0	1.4
230.6900	2.66	10.80	6.2	19.7	46.0	-26.3	89.0	1.2
298.8900	3.01	13.61	5.5	22.1	46.0	-23.9	355.0	1.1
499.3800	4.12	16.10	5.6	25.8	46.0	-20.2	294.0	1.2
566.3100	4.44	16.96	5.1	26.5	46.0	-19.5	325.0	1.0
697.3600	5.01	20.89	5.1	31.0	46.0	-15.0	229.0	1.3

NOTE :

1. Measurement uncertainty is +/-2dB.
2. "*": Measurement does not apply for this frequency.
3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss.
3. The field strength of other emission frequencies were very low against the limit.

Temperature:	24 °C	Humidity:	68 %RH
Frequency Range:	30 – 1000 MHz	Measured Distance:	3m
Receiver Detector:	Q.P.	Tested Mode:	Charge
Tested By:	Jess Wu	Tested Date:	Jun. 16, 2006

Antenna Polarization:Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
196.7300	2.47	10.16	5.6	18.2	43.5	-25.3	192.0	1.1
292.7700	2.98	13.35	5.6	21.9	46.0	-24.1	176.0	1.2
419.8400	3.70	15.94	4.9	24.5	46.0	-21.5	183.0	1.2
490.6500	4.07	16.08	5.3	25.5	46.0	-20.5	221.0	1.0
662.3400	4.82	19.63	5.4	29.9	46.0	-16.1	273.0	1.1
800.0800	5.33	21.90	3.8	31.0	46.0	-15.0	228.0	1.0

Antenna Polarization:Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	AZ(°)	EL(m)
231.6600	2.67	10.84	6.4	19.9	46.0	-26.1	327.0	1.1
298.5900	3.01	13.61	5.5	22.1	46.0	-23.9	89.0	1.2
491.6500	4.08	16.08	5.3	25.5	46.0	-20.5	236.0	1.1
597.3500	4.59	17.36	5.4	27.3	46.0	-18.7	112.0	1.2
733.1500	5.14	21.30	4.3	30.7	46.0	-15.3	210.0	1.3
842.7000	5.54	22.15	3.6	31.3	46.0	-14.7	108.0	1.1

NOTE :

1. Measurement uncertainty is +/-2dB.
2. "*": Measurement does not apply for this frequency.
3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss.
4. The field strength of other emission frequencies were very low against the limit.

Temperature:	24 °C	Humidity:	68 %RH
Frequency Range:	1 – 25 GHz	Measured Distance:	3m
Receiver Detector:	PK. or AV.	Tested Mode:	CH0: 2402MHz
Tested By:	Jess Wu	Tested Date:	Jun 16, 2006

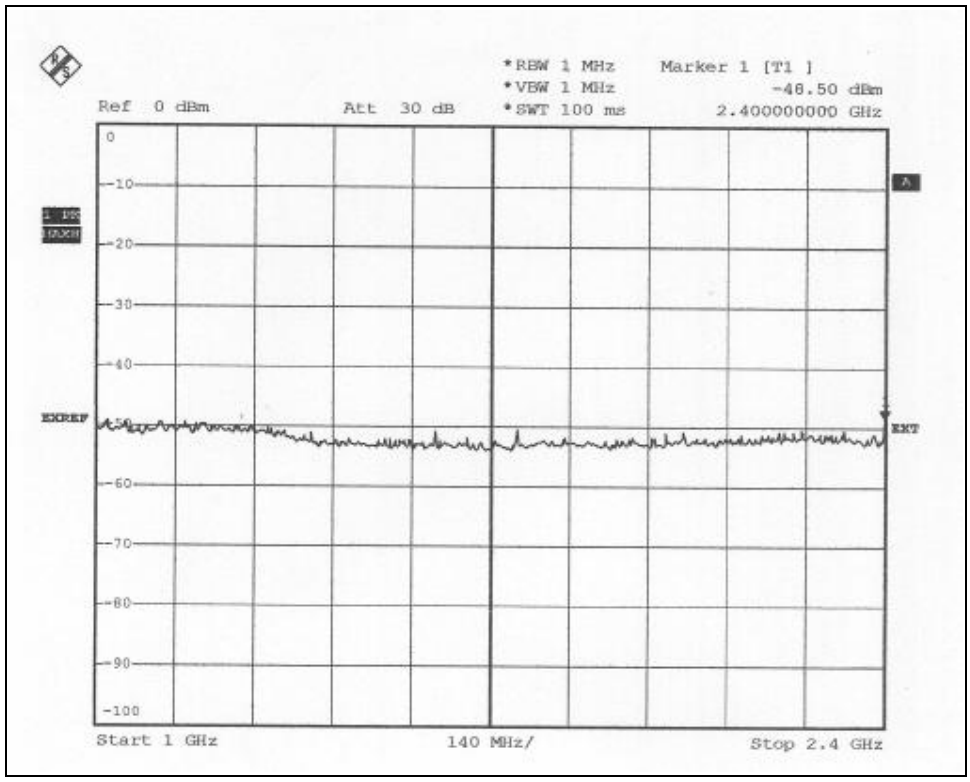
Antenna Polarization: Horizontal

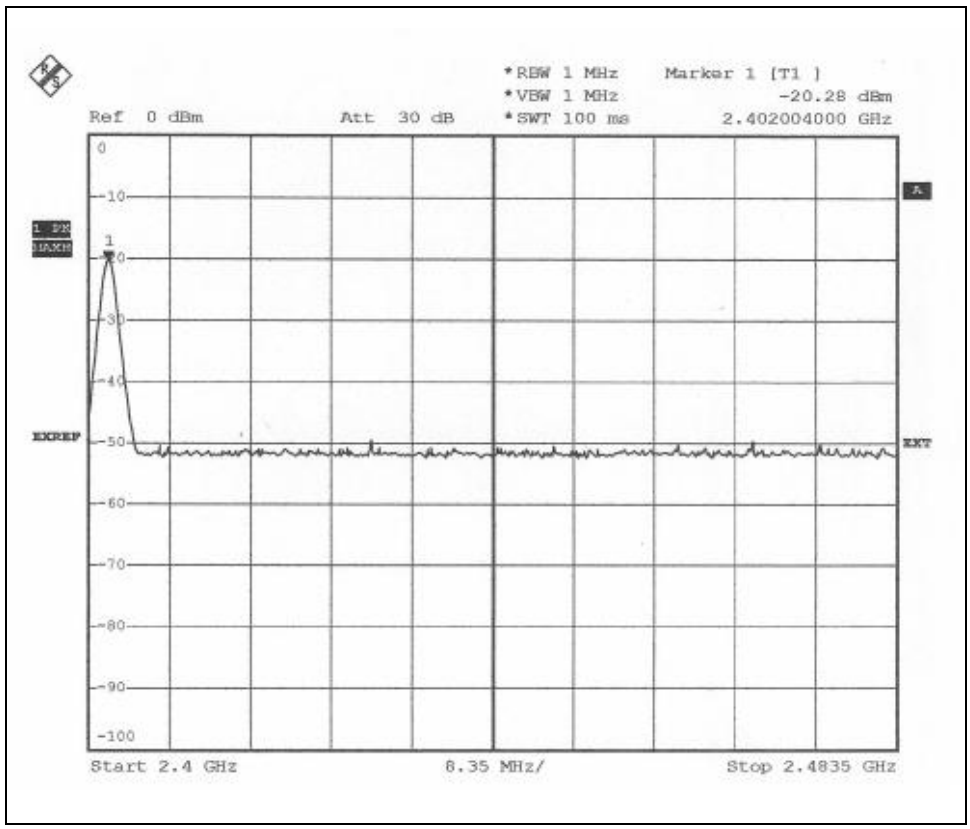
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m		Limit (dBμV/m)		Margin (dB)		AZ(°)	EL(m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2402.00	-32.16	28.54	80.5	80.2	76.9	76.6	N/A	N/A	N/A	N/A	171	1.4
4804.00	-30.47	33.64	57.5	41.2	60.7	44.4	74.0	54.0	-13.3	-9.6	154	1.2
7206.00	-28.90	36.26	61.5	40.6	68.9	48.0	74.0	54.0	-5.1	-6.0	229	1.3
2400.00	-32.16	28.00	56.2	51.5	52.0	47.3	74.0	54.0	-22.0	-6.7	54	1.3
2396.00	-32.18	27.99	54.5	44.4	50.3	40.2	74.0	54.0	-23.7	-13.8	33	1.2
2406.00	-32.17	28.01	54.2	44.0	50.0	39.8	74.0	54.0	-24.0	-14.2	145	1.2
9608.0000	*	*	*	*	*	*	*	*	*	*	*	*
12010.0000	*	*	*	*	*	*	*	*	*	*	*	*
14412.0000	*	*	*	*	*	*	*	*	*	*	*	*
16814.0000	*	*	*	*	*	*	*	*	*	*	*	*
19216.0000	*	*	*	*	*	*	*	*	*	*	*	*
21618.0000	*	*	*	*	*	*	*	*	*	*	*	*
24020.0000	*	*	*	*	*	*	*	*	*	*	*	*

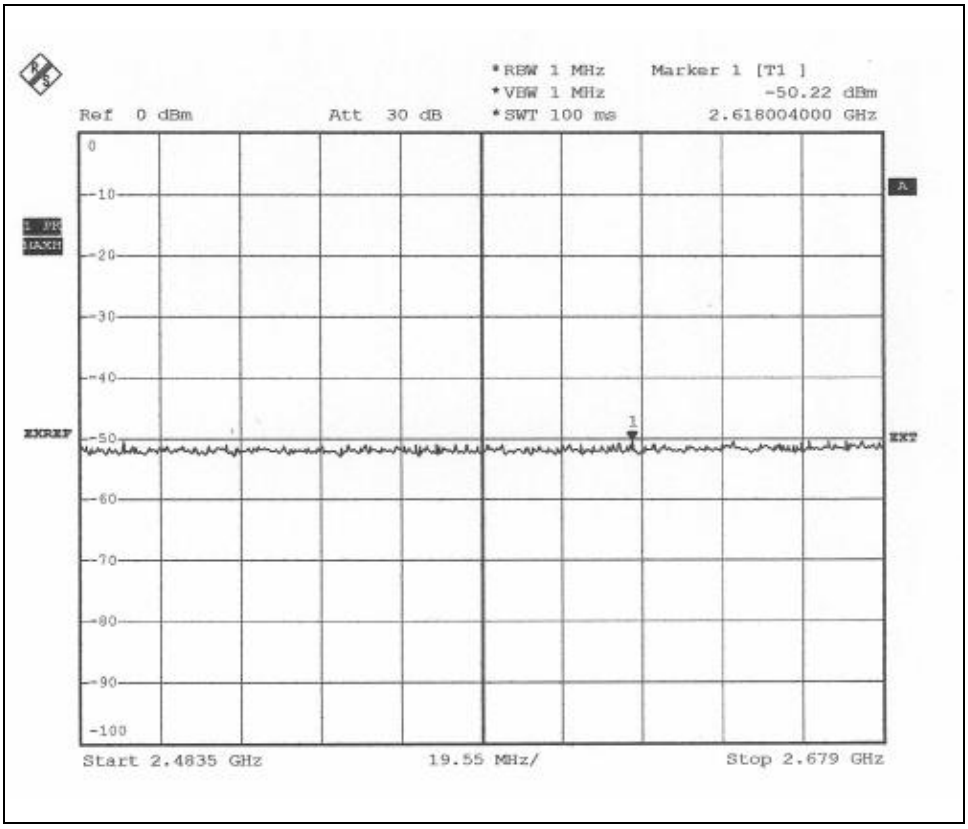
NOTE :

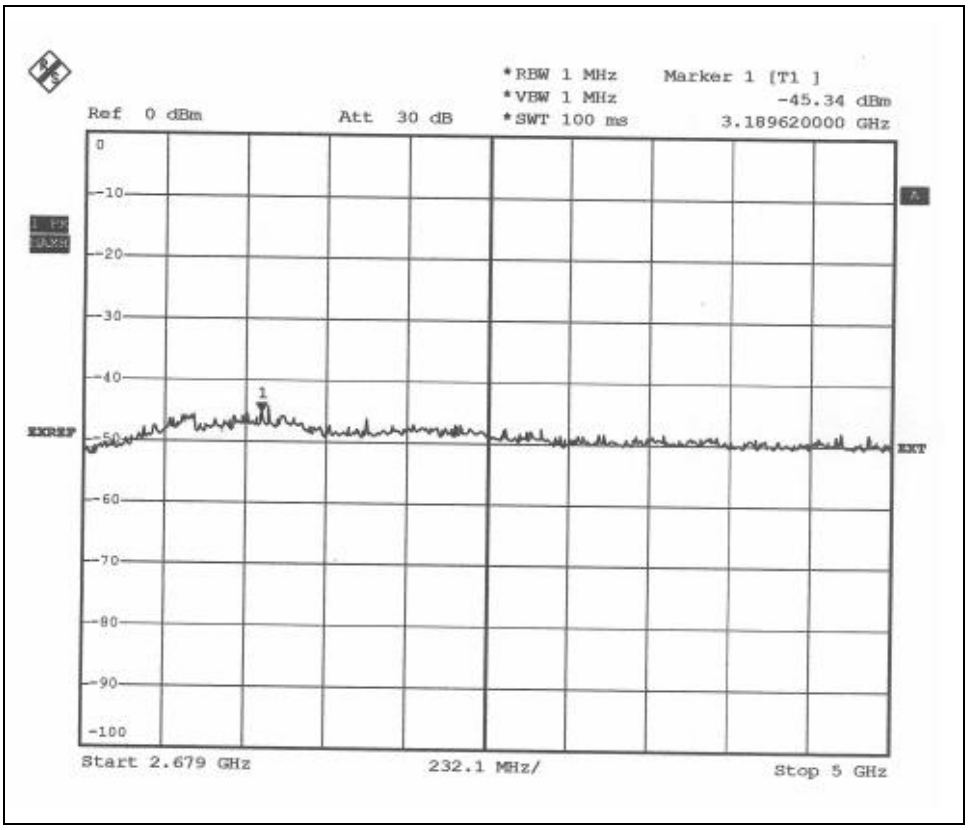
1. Measurement uncertainty is +/-2dB.
2. "*": Measurement does not apply for this frequency.
3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss.
4. Margin=Emission-Limit
5. The field strength of other emission frequencies (Above 8GHz)were very low against the limit.

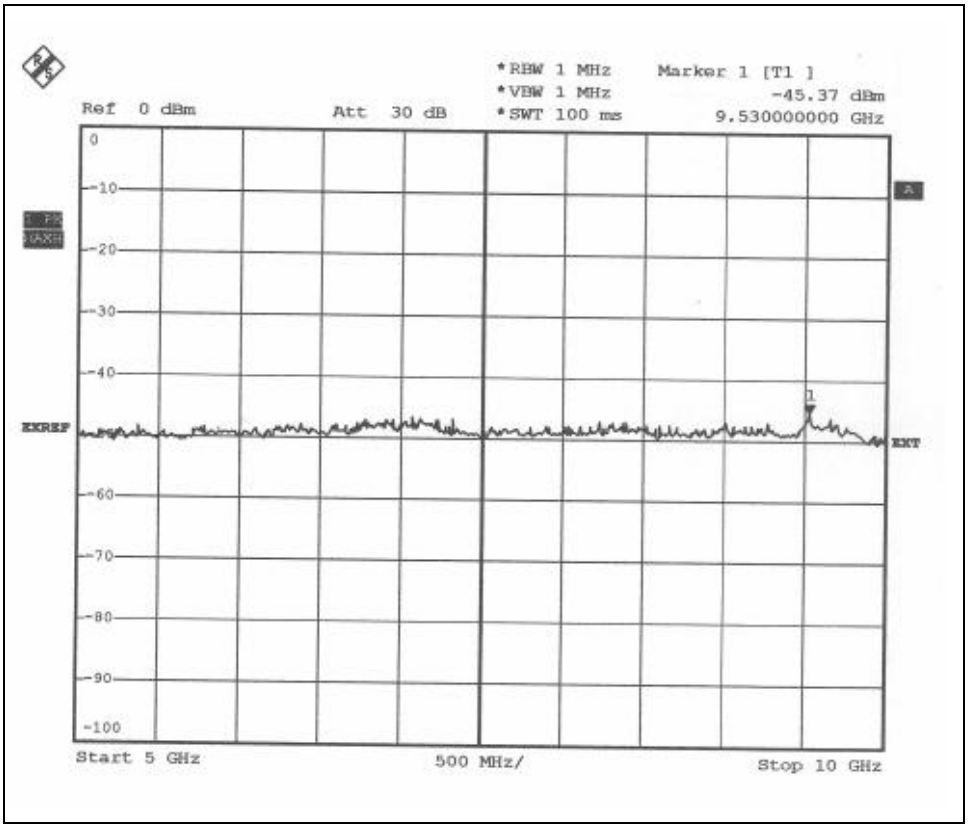
-CH0-H

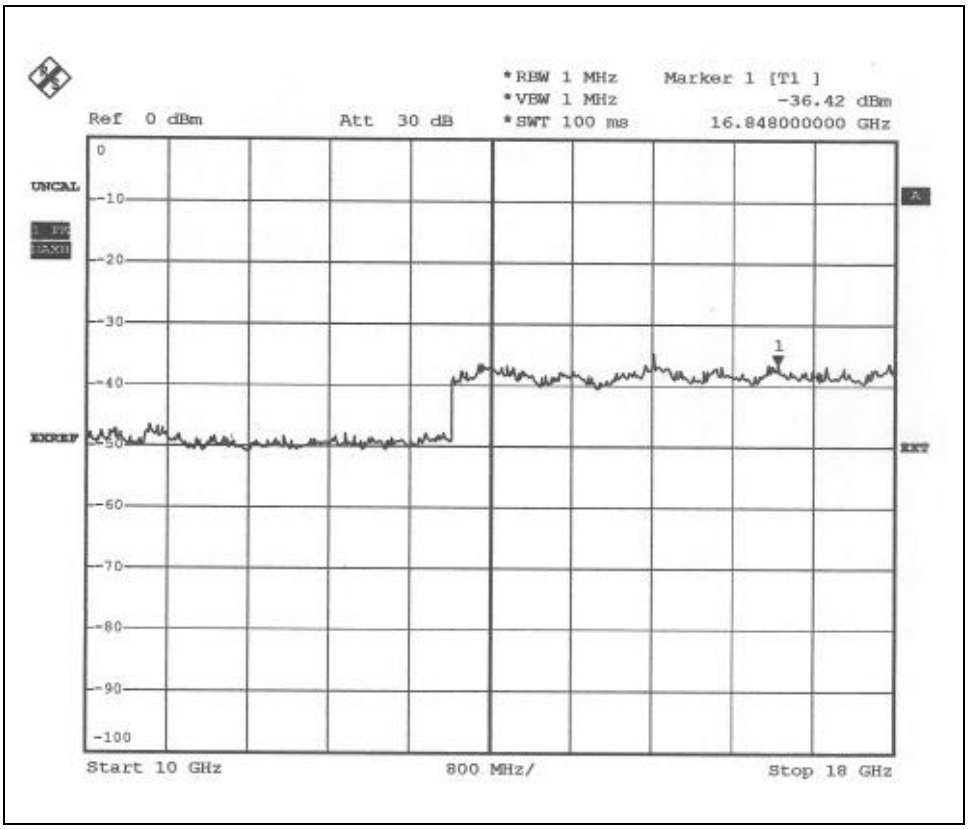

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-48.50 dBm
2.400000000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 1 GHz
140 MHz/
Stop 2.4 GHz

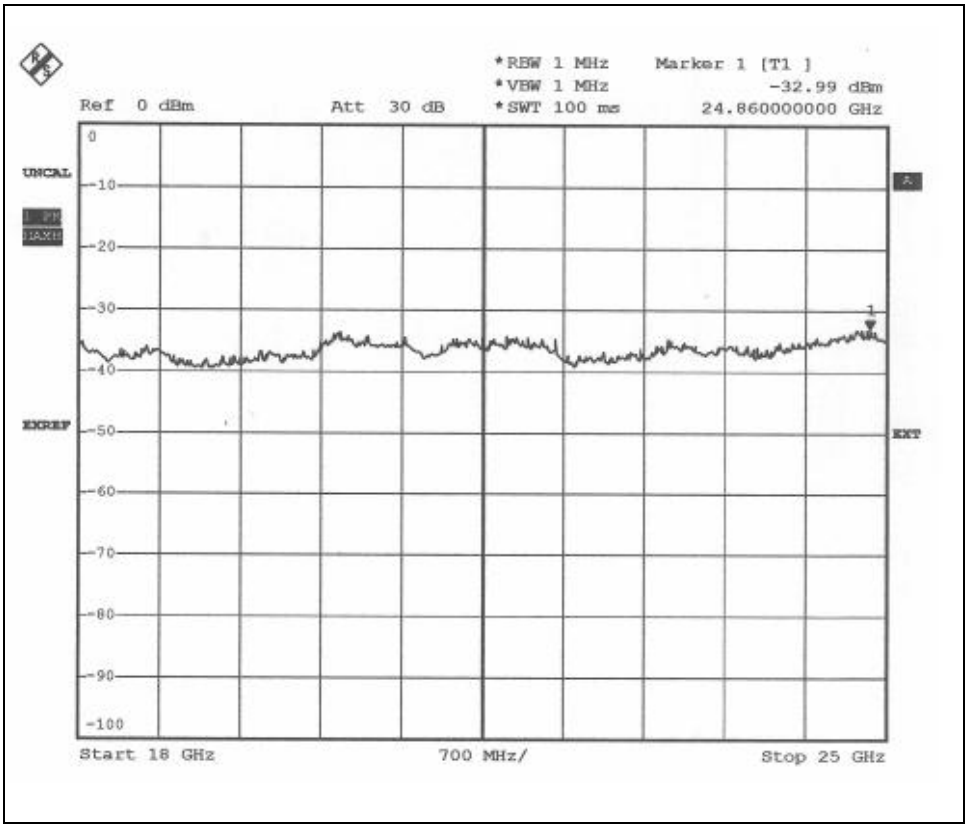

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-20.28 dBm
2.402004000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 2.4 GHz
8.35 MHz/
Stop 2.4835 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-50.22 dBm
2.618004000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 2.4835 GHz
19.55 MHz/
Stop 2.679 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-45.34 dBm
3.189620000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 2.679 GHz
232.1 MHz/
Stop 5 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-45.37 dBm
9.530000000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 5 GHz
500 MHz/
Stop 10 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-36.42 dBm
16.848000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 10 GHz
800 MHz/
Stop 18 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-32.99 dBm
24.860000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
EXTREF
EXT
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 18 GHz
700 MHz/
Stop 25 GHz

Temperature:	24 °C	Humidity:	68 %RH
Frequency Range:	1 – 25 GHz	Test mode:	TX:CH0
Receiver Detector:	PK. or AV.	Measured Distance:	3m
Tested by:	Jess Wu	Tested Date:	Jun. 16, 2006

Antenna Polarization: Vertical

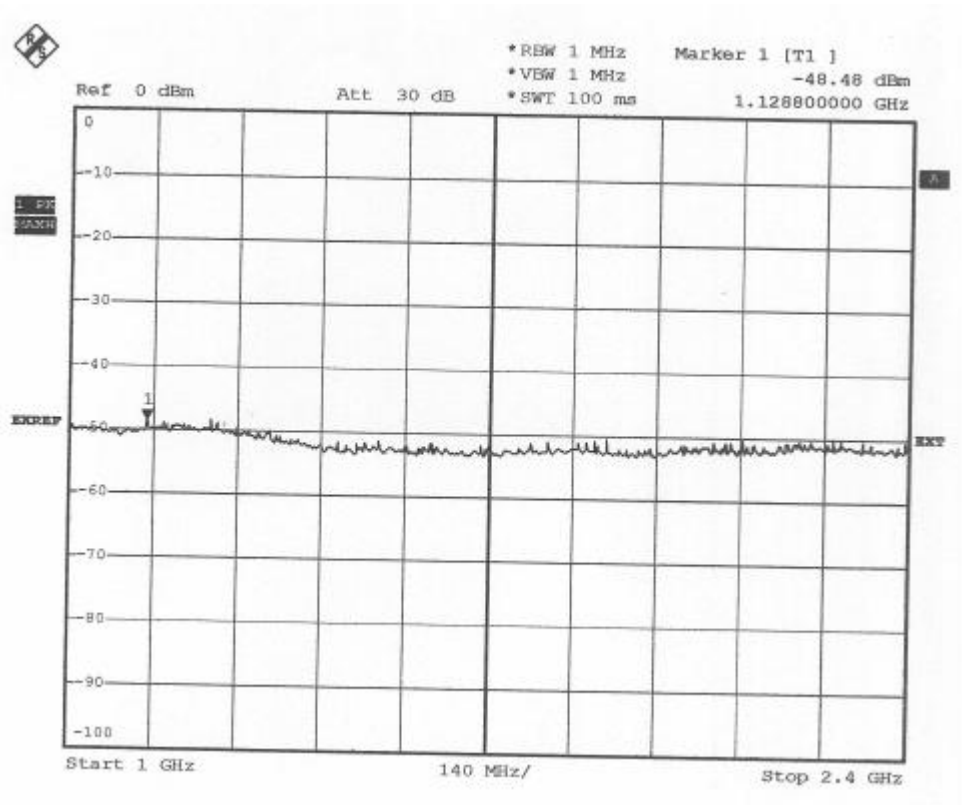
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m		Limit (dBμV/m)		Margin (dB)		AZ(°)	EL(m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2402.00	-32.16	28.00	89.8	86.5	85.6	82.3	N/A	N/A	N/A	N/A	254	1.0
4804.00	-30.47	33.64	56.9	40.1	60.1	43.3	74.0	54.0	-13.9	-10.7	330	1.2
7206.00	-28.90	36.26	60.0	39.8	67.4	47.2	74.0	54.0	-6.6	-6.8	47	1.2
2400.00	-32.16	28.00	64.1	45.2	59.9	41.0	74.0	54.0	-14.1	-13.0	46	1.1
2396.00	-32.18	27.99	55.1	43.8	50.9	39.6	74.0	54.0	-23.1	-14.4	12	1.0
2406.00	-32.17	28.01	55.4	45.4	51.2	41.2	74.0	54.0	-22.8	-12.8	25	1.3
9608.0000	*	*	*	*	*	*	*	*	*	*	*	*
12010.0000	*	*	*	*	*	*	*	*	*	*	*	*
14412.0000	*	*	*	*	*	*	*	*	*	*	*	*
16814.0000	*	*	*	*	*	*	*	*	*	*	*	*
19216.0000	*	*	*	*	*	*	*	*	*	*	*	*
21618.0000	*	*	*	*	*	*	*	*	*	*	*	*
24020.0000	*	*	*	*	*	*	*	*	*	*	*	*

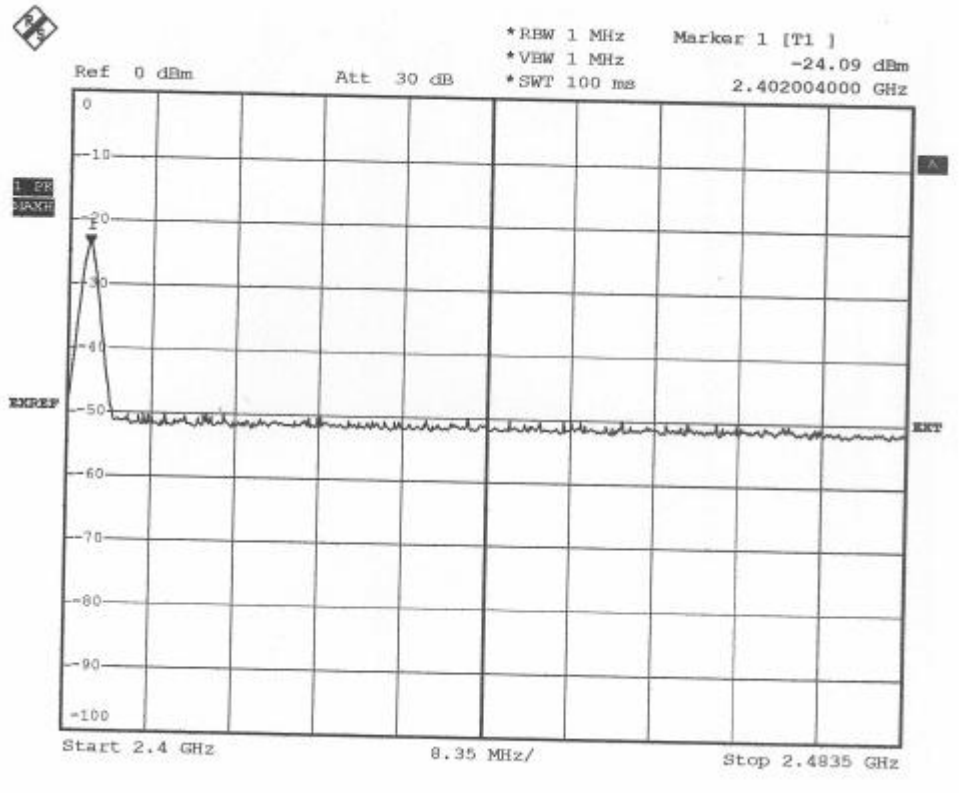
NOTE :

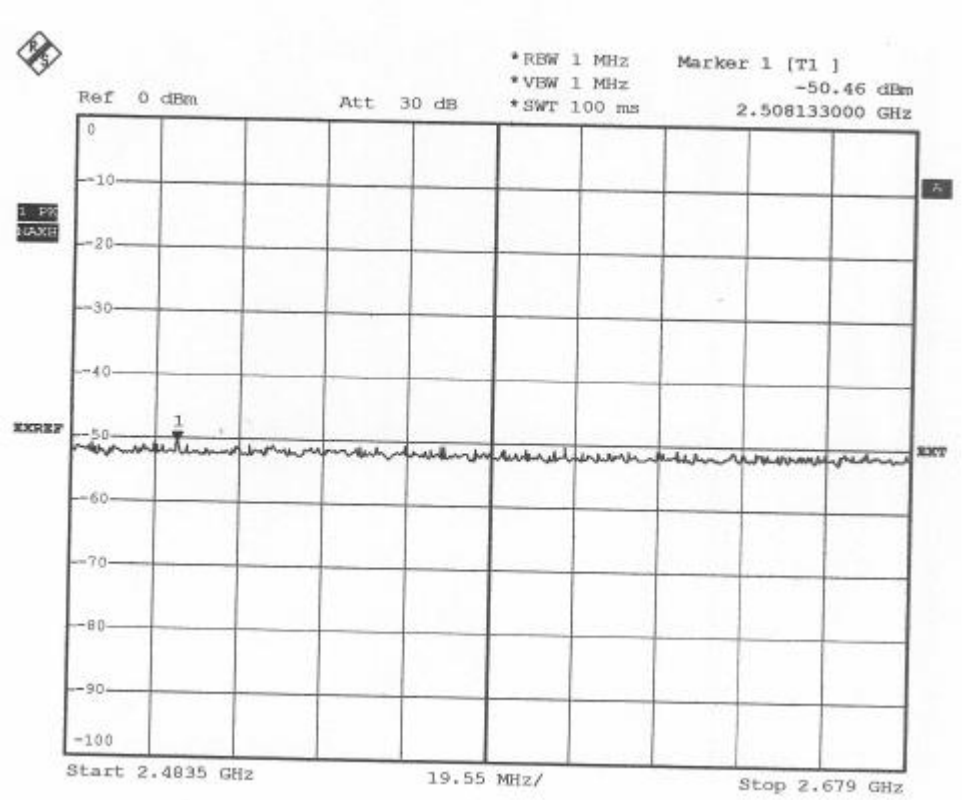
1. Measurement uncertainty is +/-2dB.
2. "*": Measurement does not apply for this frequency.
1. Emissiom Level = Reading Value + Ant. Factor + Cable Loss.
2. Margin=Emission-Limit

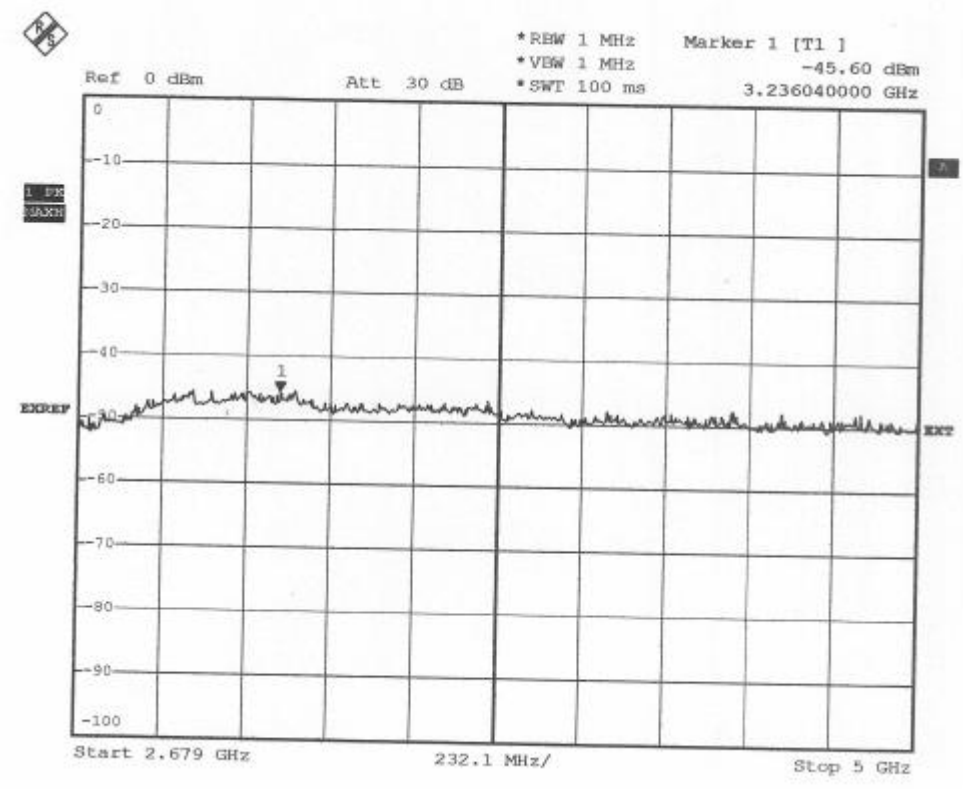
5. The field strength of other emission frequencies (Above 8GHz)were very low against the limit.

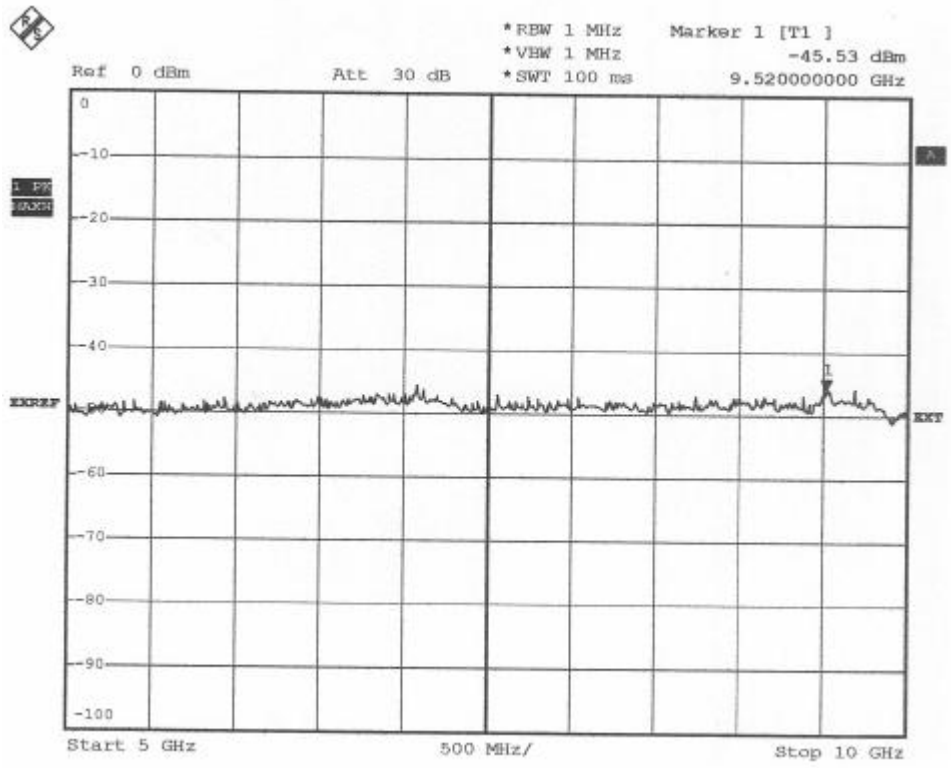
CH0- Vertical

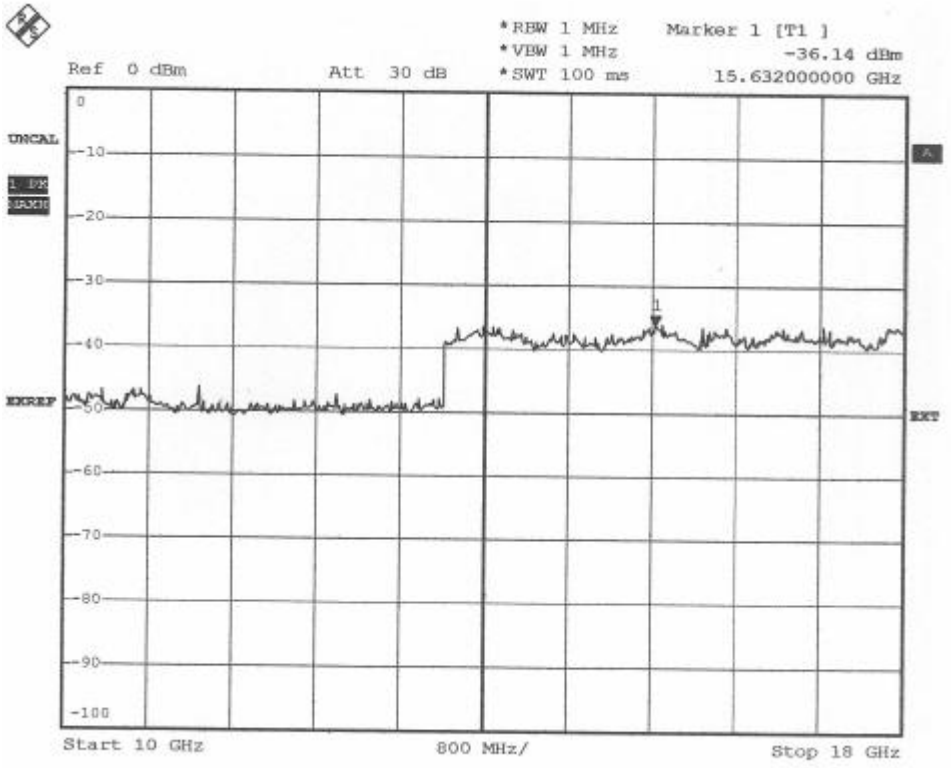


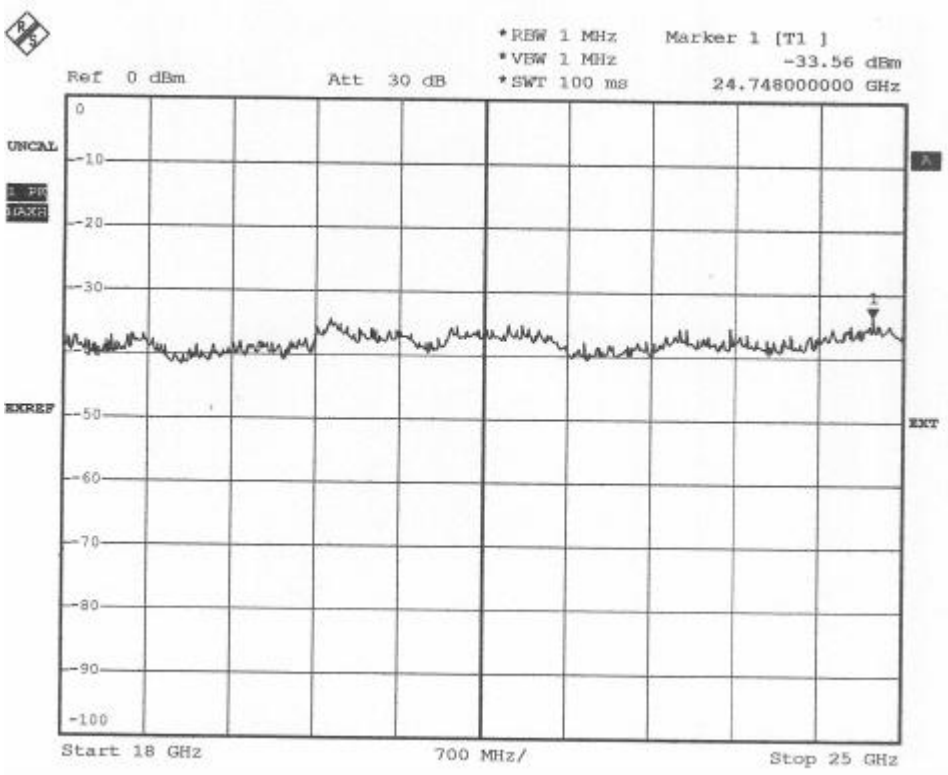



*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-50.46 dBm
2.508133000 GHz
Ref 0 dBm
Att 30 dB
1 PK MAXH
EXREF
EXT
Start 2.4835 GHz
19.55 MHz/
Stop 2.679 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-45.60 dBm
3.236040000 GHz
Ref 0 dBm
Att 30 dB
1 PK MAXH
EXREF
EXT
Start 2.679 GHz
232.1 MHz/
Stop 5 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-45.53 dBm
9.520000000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXREF
EXT
Start 5 GHz
500 MHz/
Stop 10 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-36.14 dBm
15.632000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXREF
EXT
Start 10 GHz
800 MHz/
Stop 18 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-33.56 dBm
24.748000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
EXREF
EXT
0
-10
-20
-30
-50
-60
-70
-80
-90
-100
Start 18 GHz
700 MHz/
Stop 25 GHz

Temperature:	24°C	Humidity:	68 %RH
Frequency Range:	1 – 25 GHz	Test mode:	TX:CH39
Receiver Detector:	PK. or AV.	Measured Distance:	3m
Tested by:	Jess Wu	Tested Date:	Jun. 16, 2006

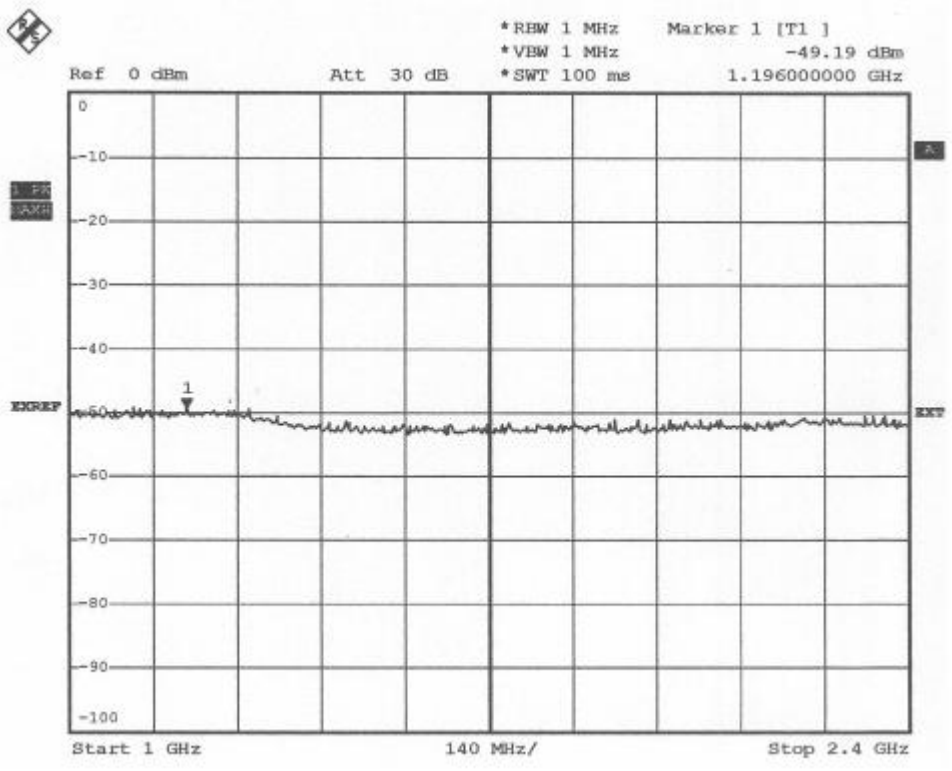
Antenna Polarization: Horizontal

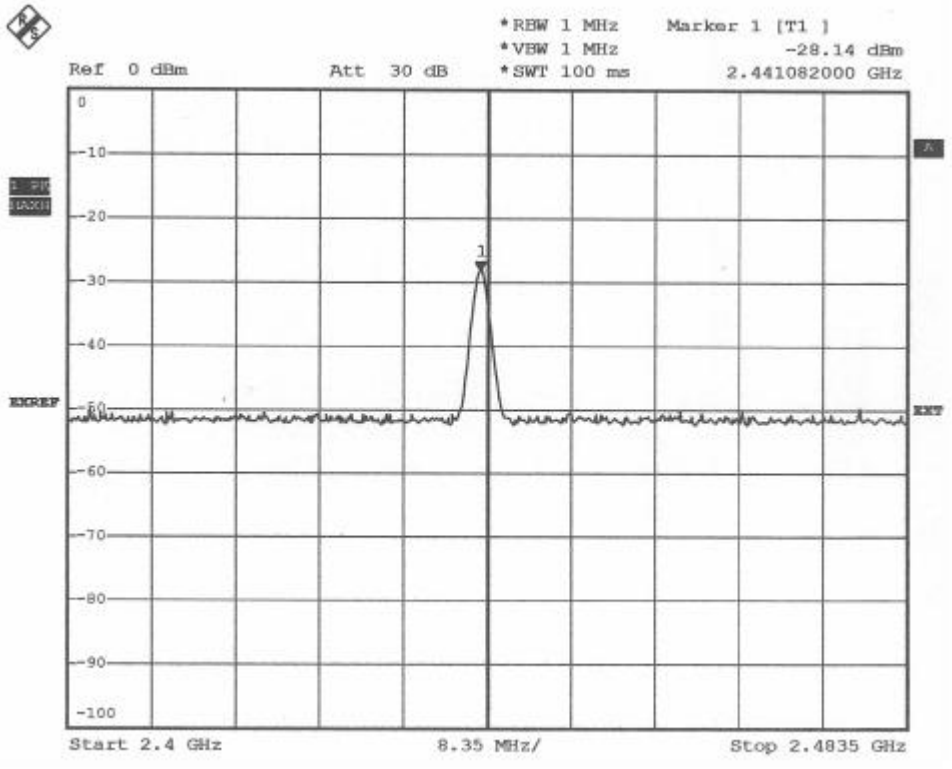
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m		Limit (dBμV/m)		Margin (dB)		AZ(°)	EL(m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2441.00	-32.23	28.62	74.0	72.9	70.4	69.3	N/A	N/A	N/A	N/A	54	1.7
4880.00	-30.27	33.70	57.9	42.5	61.3	45.9	74.0	54.0	-12.7	-8.1	212	1.2
7320.00	-29.05	36.36	58.0	39.5	65.3	46.8	74.0	54.0	-8.7	-7.2	65	1.1
2437.00	-32.22	28.07	54.1	44.3	50.0	40.2	74.0	54.0	-24.0	-13.8	335	1.2
2436.00	-32.22	28.07	55.4	44.0	51.3	39.9	74.0	54.0	-22.7	-14.1	224	1.4
2442.00	-32.23	28.08	55.2	44.1	51.1	40.0	74.0	54.0	-22.9	-14.0	114	1.2
9764.0000	*	*	*	*	*	*	*	*	*	*	*	*
12205.0000	*	*	*	*	*	*	*	*	*	*	*	*
14646.0000	*	*	*	*	*	*	*	*	*	*	*	*
17087.0000	*	*	*	*	*	*	*	*	*	*	*	*
19528.0000	*	*	*	*	*	*	*	*	*	*	*	*
21969.0000	*	*	*	*	*	*	*	*	*	*	*	*
24410.0000	*	*	*	*	*	*	*	*	*	*	*	*

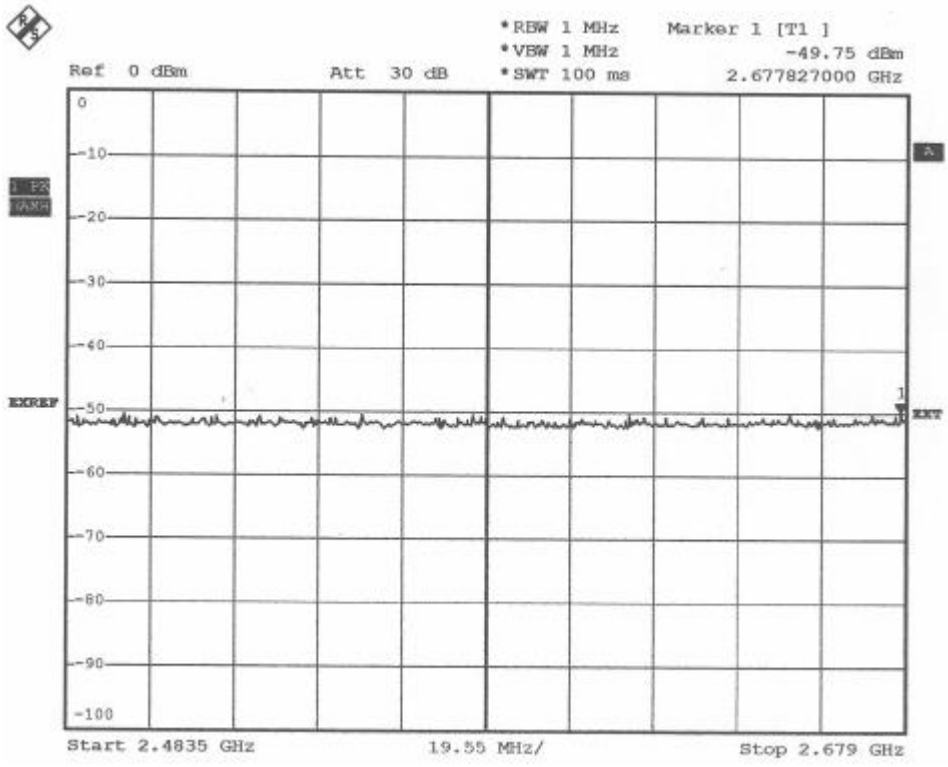
NOTE :

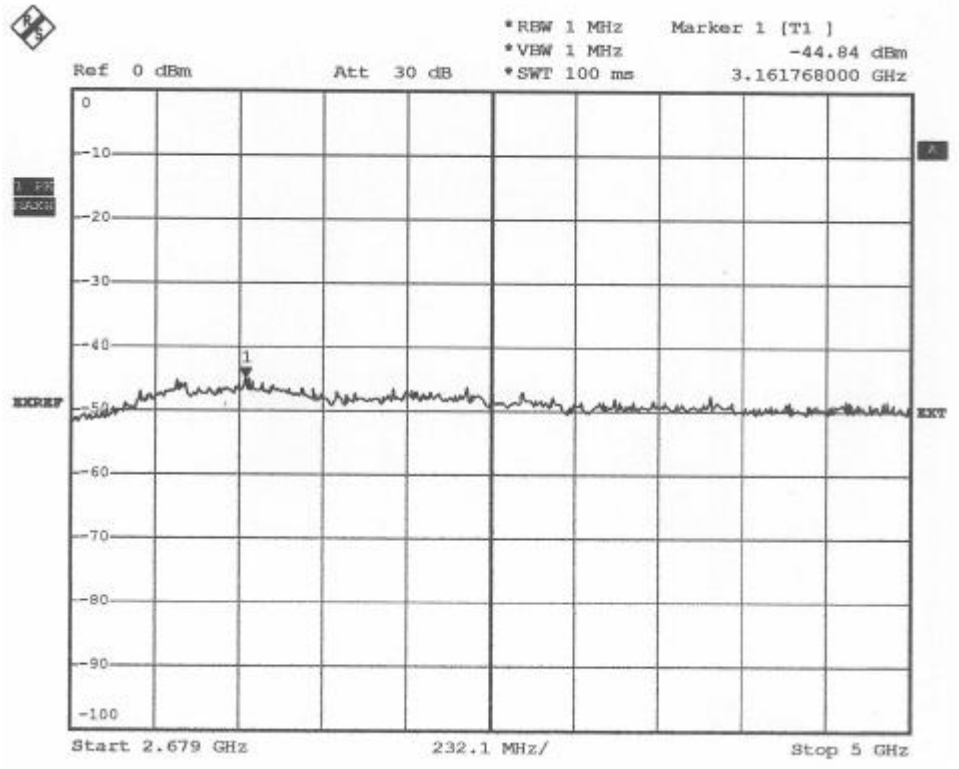
1. Measurement uncertainty is +/-2dB.
2. "*": Measurement does not apply for this frequency.
3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss.
4. Margin=Emission-Limit
5. The field strength of other emission frequencies (Above 8GHz)were very low against the limit.

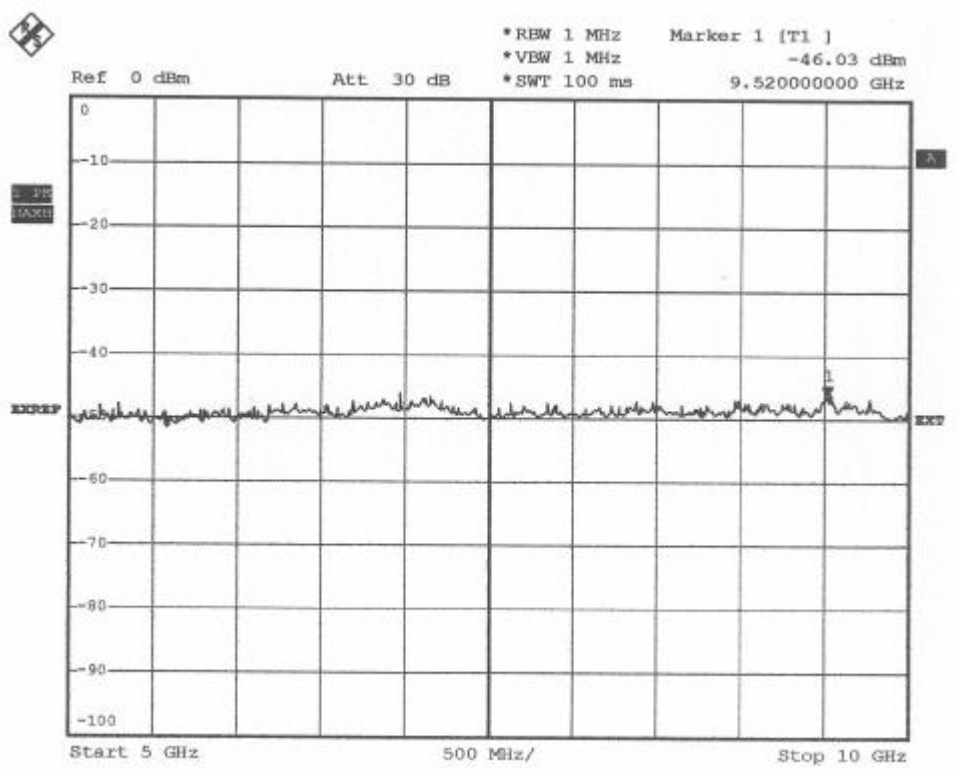
-CH39-H

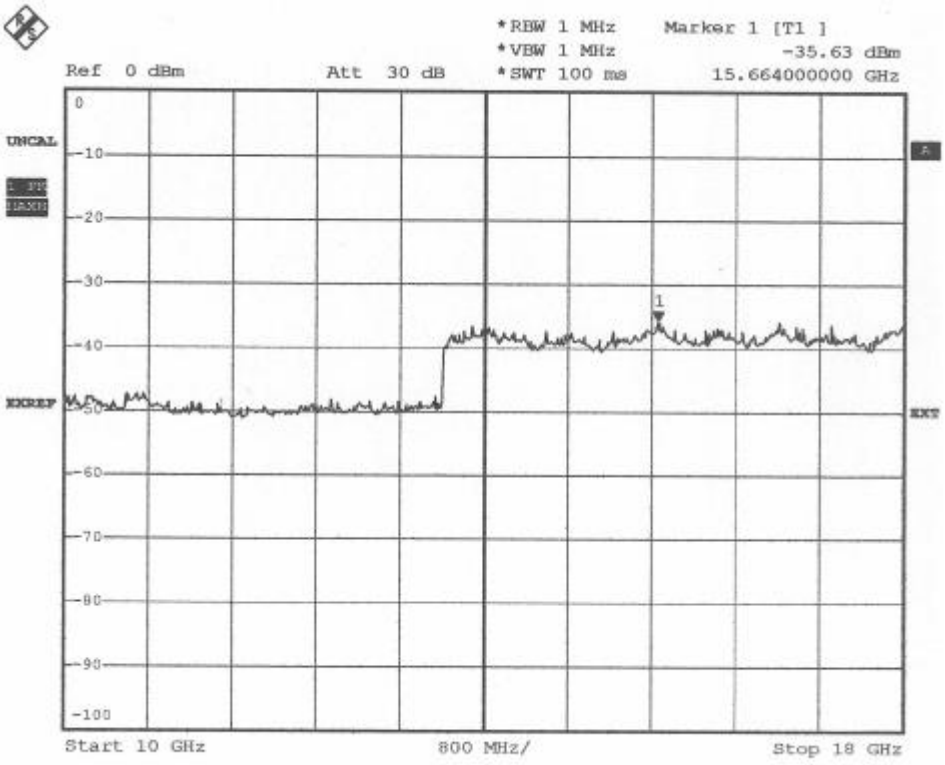

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-49.19 dBm
1.196000000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 1 GHz
140 MHz/
Stop 2.4 GHz

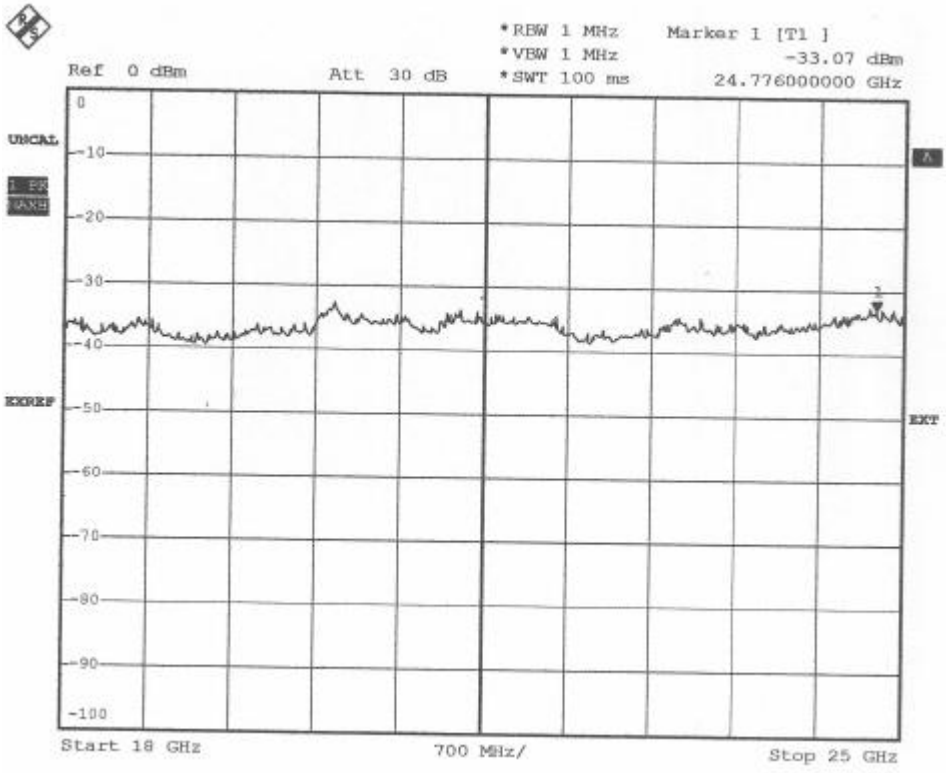

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-28.14 dBm
2.441082000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 2.4 GHz
8.35 MHz/
Stop 2.4835 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-49.75 dBm
2.677827000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 2.4835 GHz
19.55 MHz/
Stop 2.679 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-44.84 dBm
3.161768000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 2.679 GHz
232.1 MHz/
Stop 5 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-46.03 dBm
9.520000000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 5 GHz
500 MHz/
Stop 10 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-35.63 dBm
15.664000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 10 GHz
800 MHz/
Stop 18 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-33.07 dBm
24.776000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
EXREF
EXT
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 18 GHz
700 MHz/
Stop 25 GHz

Temperature:	24°C	Humidity:	68 %RH
Frequency Range:	1 – 25 GHz	Test mode:	TX:CH39
Receiver Detector:	PK. or AV.	Measured Distance:	3m
Tested by:	Jess Wu	Tested Date:	Jun. 16, 2006

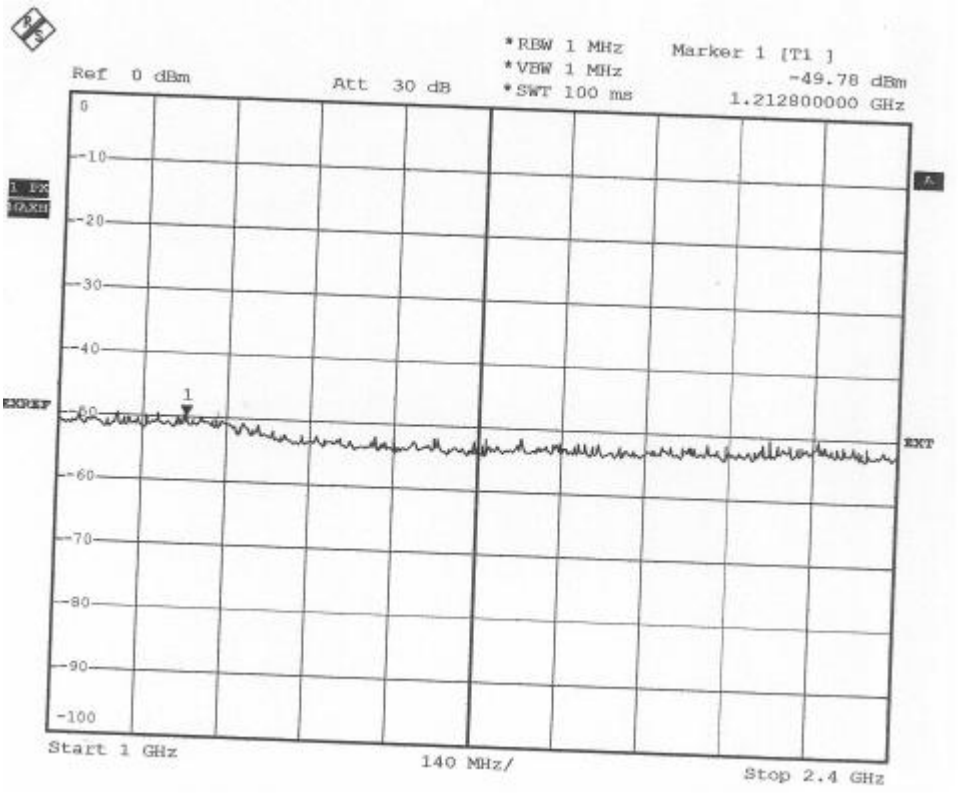
Antenna Polarization: Vertical

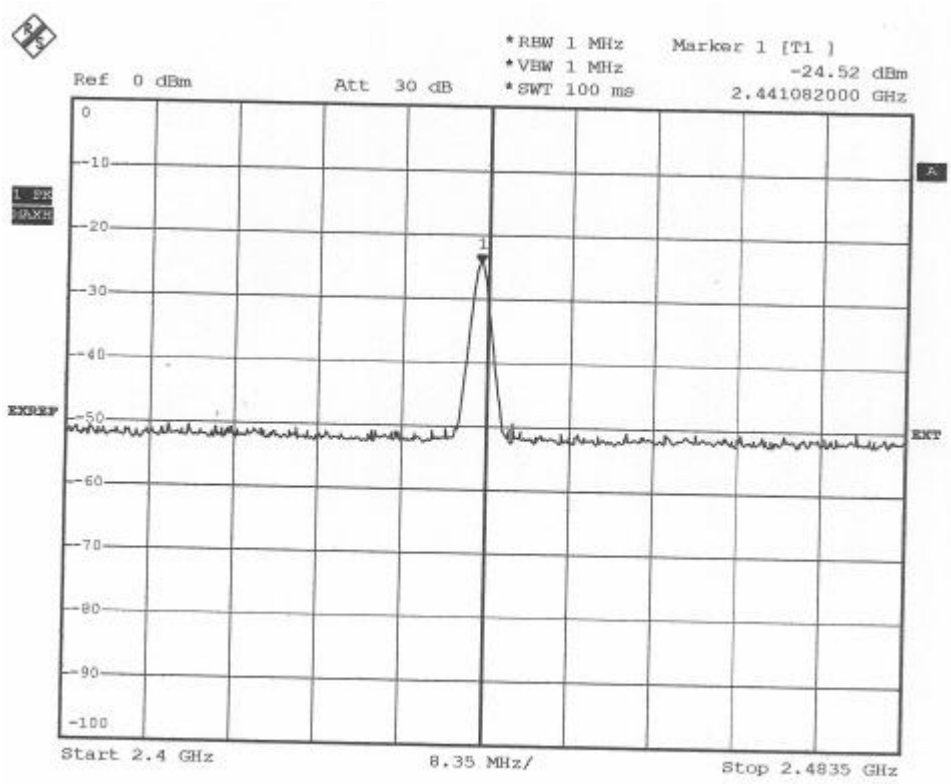
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m		Limit (dBμV/m)		Margin (dB)		AZ(°)	EL(m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2441.00	-32.23	28.08	75.7	67.6	71.6	63.5	N/A	N/A	N/A	N/A	117	1.1
4880.00	-30.27	33.70	57.2	43.0	60.6	46.4	74.0	54.0	-13.4	-7.6	101	1.2
7320.00	-29.05	36.36	58.3	39.2	65.6	46.5	74.0	54.0	-8.4	-7.5	35	1.3
2437.00	-32.22	28.07	55.0	44.1	50.9	40.0	74.0	54.0	-23.1	-14.0	28	1.2
2436.00	-32.22	28.07	55.3	43.9	51.2	39.8	74.0	54.0	-22.8	-14.2	77	1.0
2442.00	-32.23	28.08	56.0	43.8	51.9	39.7	74.0	54.0	-22.1	-14.3	20	1.3
9764.0000	*	*	*	*	*	*	*	*	*	*	*	*
12205.0000	*	*	*	*	*	*	*	*	*	*	*	*
14646.0000	*	*	*	*	*	*	*	*	*	*	*	*
17087.0000	*	*	*	*	*	*	*	*	*	*	*	*
19528.0000	*	*	*	*	*	*	*	*	*	*	*	*
21969.0000	*	*	*	*	*	*	*	*	*	*	*	*
24410.0000	*	*	*	*	*	*	*	*	*	*	*	*

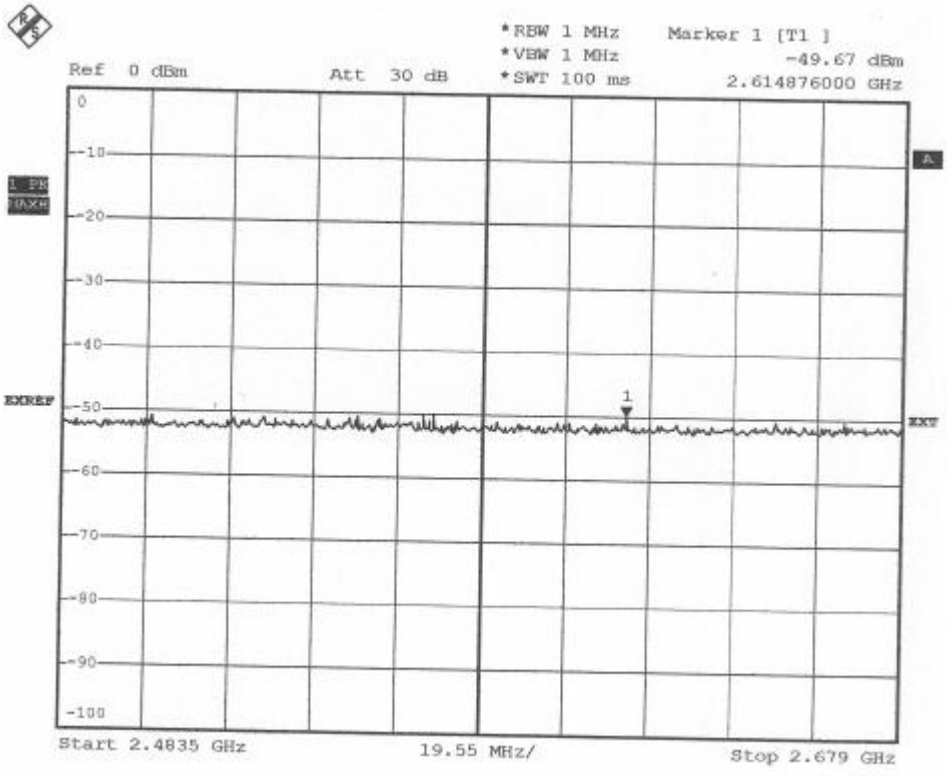
NOTE :

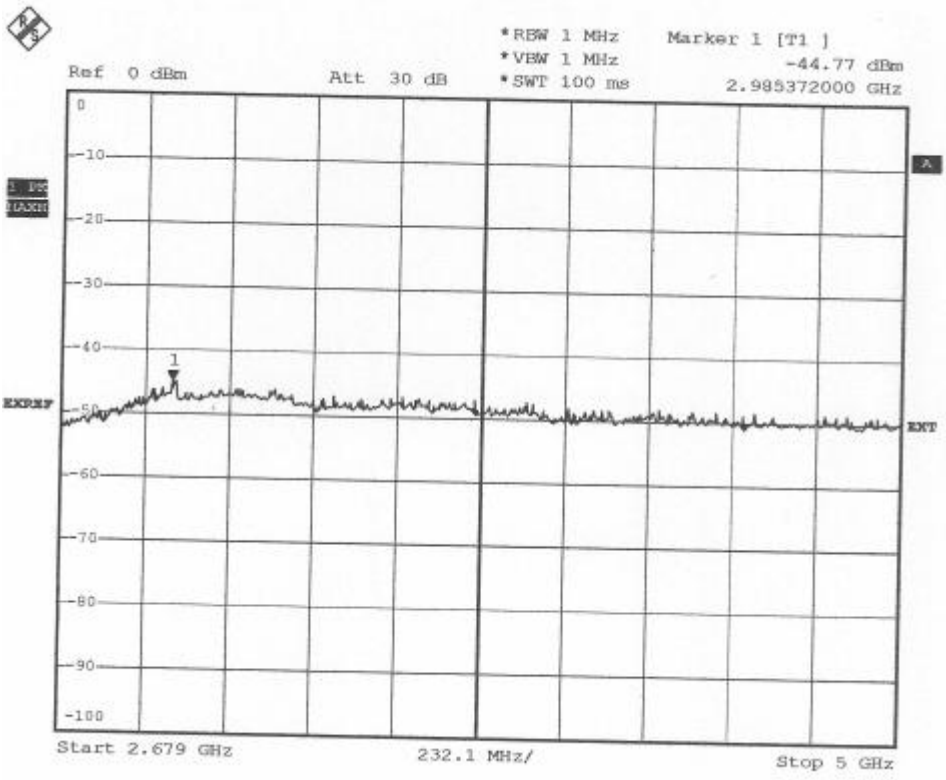
1. Measurement uncertainty is +/-2dB.
2. "*": Measurement does not apply for this frequency.
3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss.
4. Margin=Emission-Limit
5. The field strength of other emission frequencies (Above 8GHz)were very low against the limit.

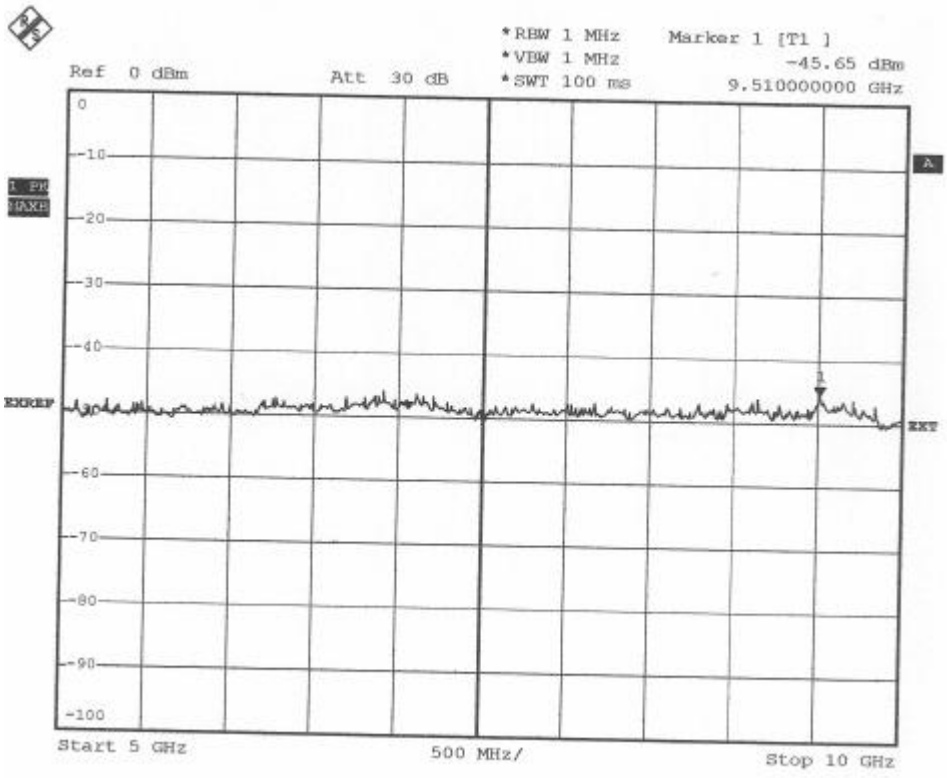
-CH39-V

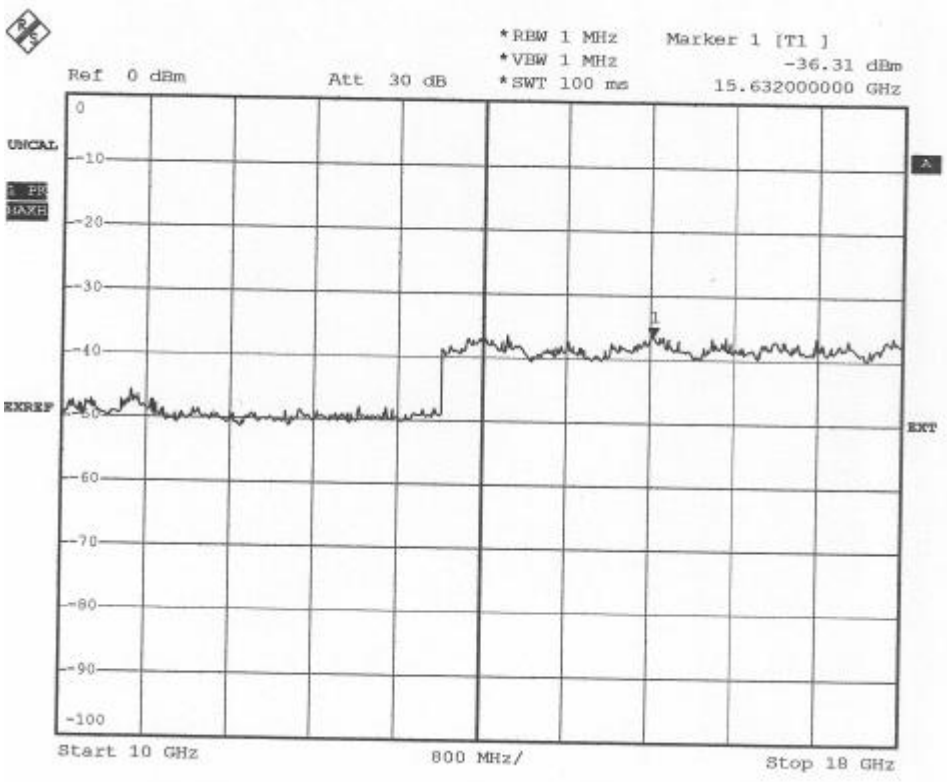

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-49.78 dBm
1.212800000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXT
Start 1 GHz
140 MHz/
Stop 2.4 GHz

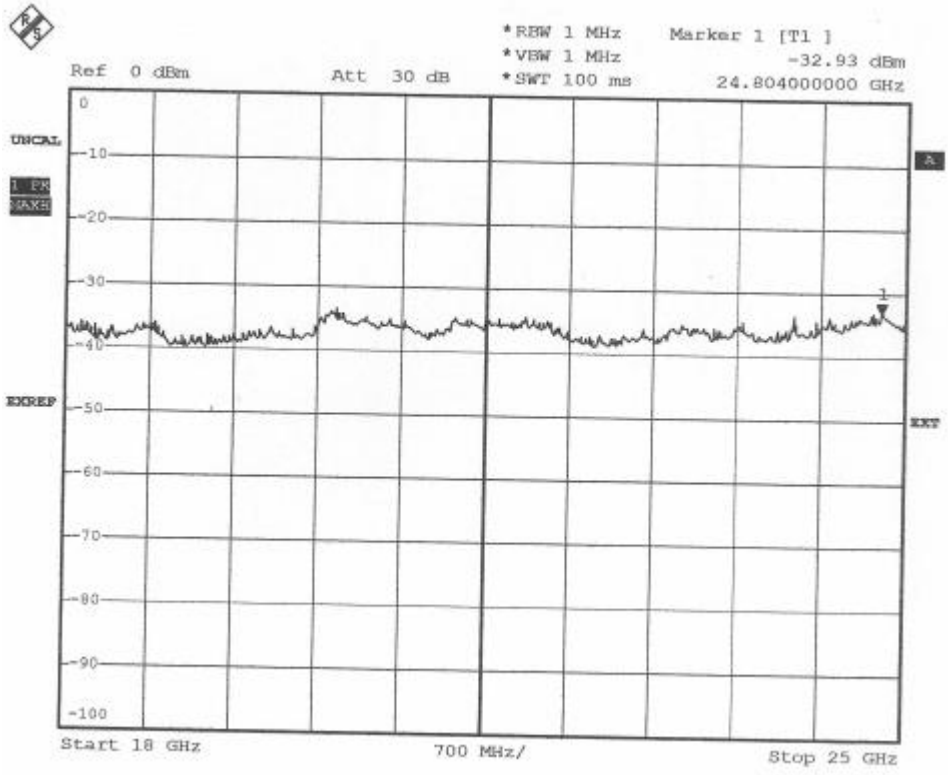

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-24.52 dBm
2.441082000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXT
Start 2.4 GHz
8.35 MHz/
Stop 2.4835 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-49.67 dBm
2.614876000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
1
Start 2.4835 GHz
19.55 MHz/
Stop 2.679 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-44.77 dBm
2.985372000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
1
Start 2.679 GHz
232.1 MHz/
Stop 5 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-45.65 dBm
9.510000000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 5 GHz
500 MHz/
Stop 10 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-36.31 dBm
15.632000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 10 GHz
800 MHz/
Stop 18 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-32.93 dBm
24.804000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
1 PK
MAXH
EXCREP
A
EXT
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
1
Start 18 GHz
700 MHz/
Stop 25 GHz

Temperature:	24°C	Humidity:	68 %RH
Frequency Range:	1 – 25 GHz	Test mode:	TX:CH78
Receiver Detector:	PK. or AV.	Measured Distance:	3m
Tested by:	Jess Wu	Tested Date:	Jun. 16, 2006

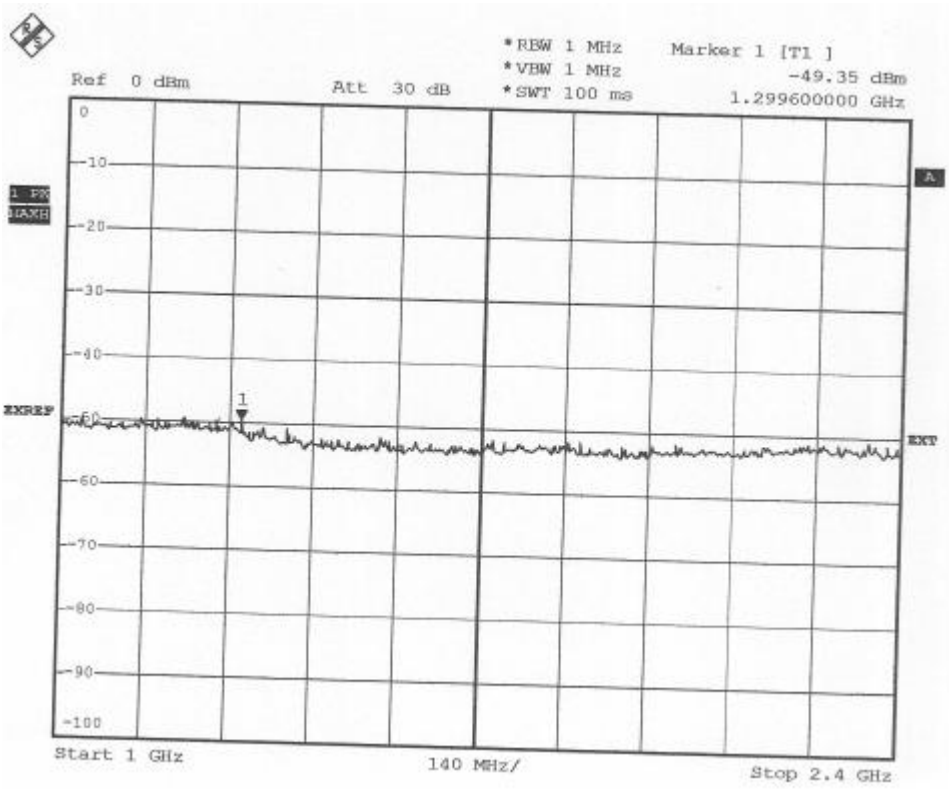
Antenna Polarization: Horizontal

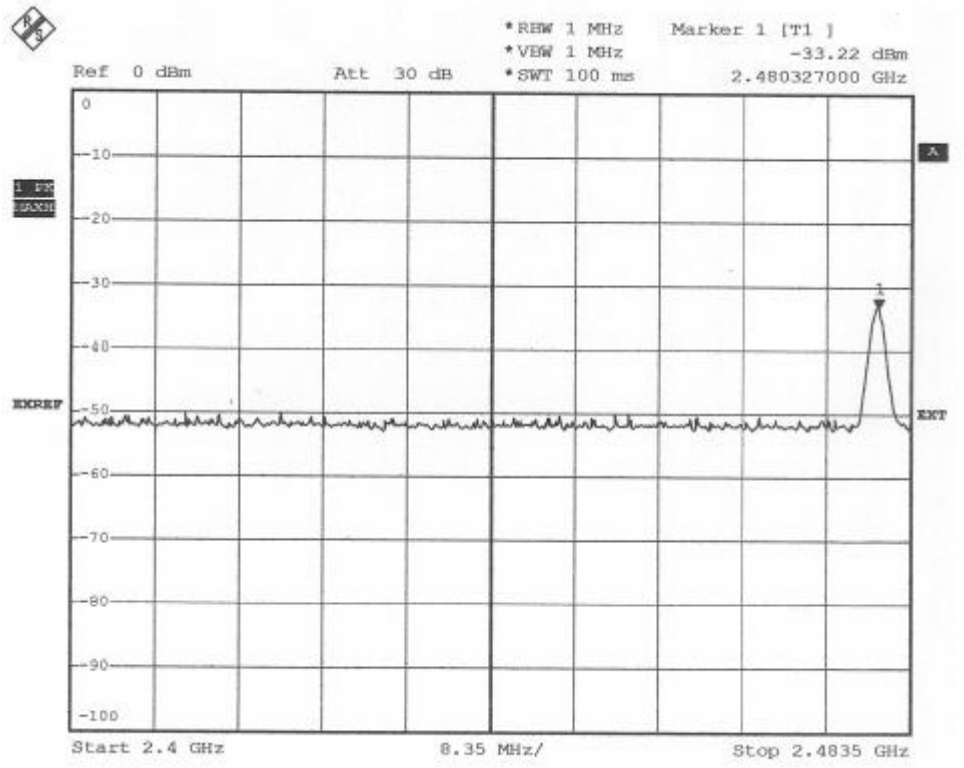
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m		Limit (dBμV/m)		Margin (dB)		AZ(°)	EL(m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2480.00	-32.19	28.73	74.0	72.9	70.5	69.4	N/A	N/A	N/A	N/A	129	1.1
4960.00	-30.26	33.77	57.9	46.7	61.4	50.2	74.0	54.0	-12.6	-3.8	76	1.2
7440.00	-28.95	36.45	58.0	39.6	65.5	47.1	74.0	54.0	-8.5	-6.9	233	1.1
2483.00	-32.19	28.17	54.0	44.3	50.0	40.3	74.0	54.0	-24.0	-13.7	226	1.3
2474.00	-32.20	28.15	55.4	44.0	51.3	39.9	74.0	54.0	-22.7	-14.1	45	1.2
2486.00	-32.18	28.17	55.2	44.0	51.2	40.0	74.0	54.0	-22.8	-14.0	216	1.3
9920.0000	*	*	*	*	*	*	*	*	*	*	*	*
12400.0000	*	*	*	*	*	*	*	*	*	*	*	*
14880.0000	*	*	*	*	*	*	*	*	*	*	*	*
17360.0000	*	*	*	*	*	*	*	*	*	*	*	*
19840.0000	*	*	*	*	*	*	*	*	*	*	*	*
22320.0000	*	*	*	*	*	*	*	*	*	*	*	*
24800.0000	*	*	*	*	*	*	*	*	*	*	*	*

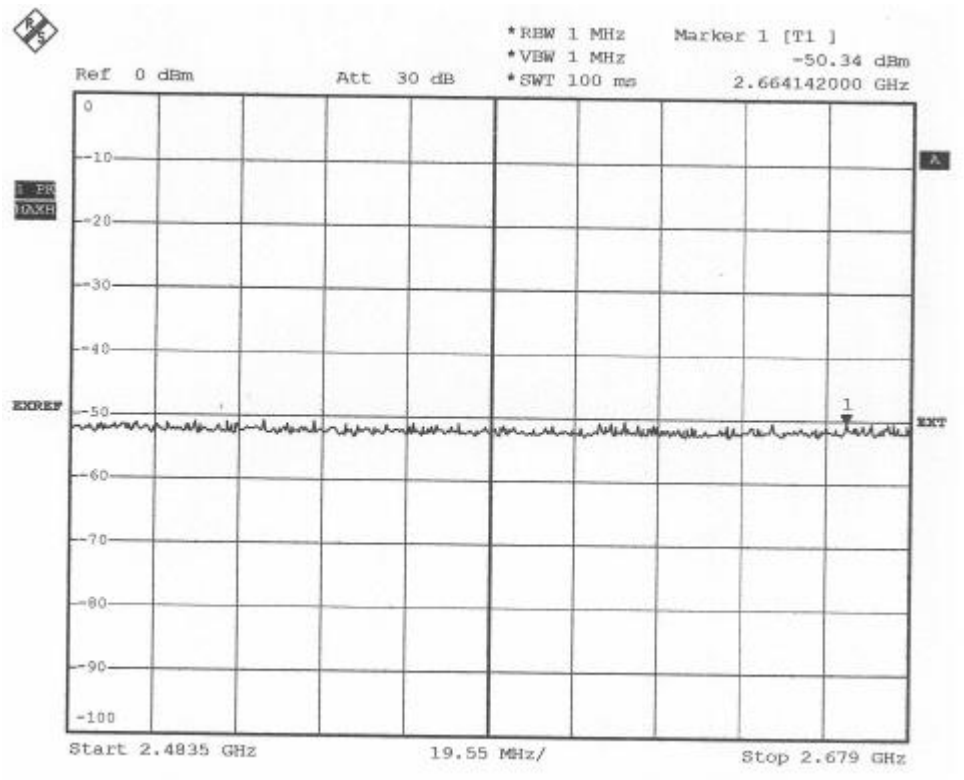
NOTE :

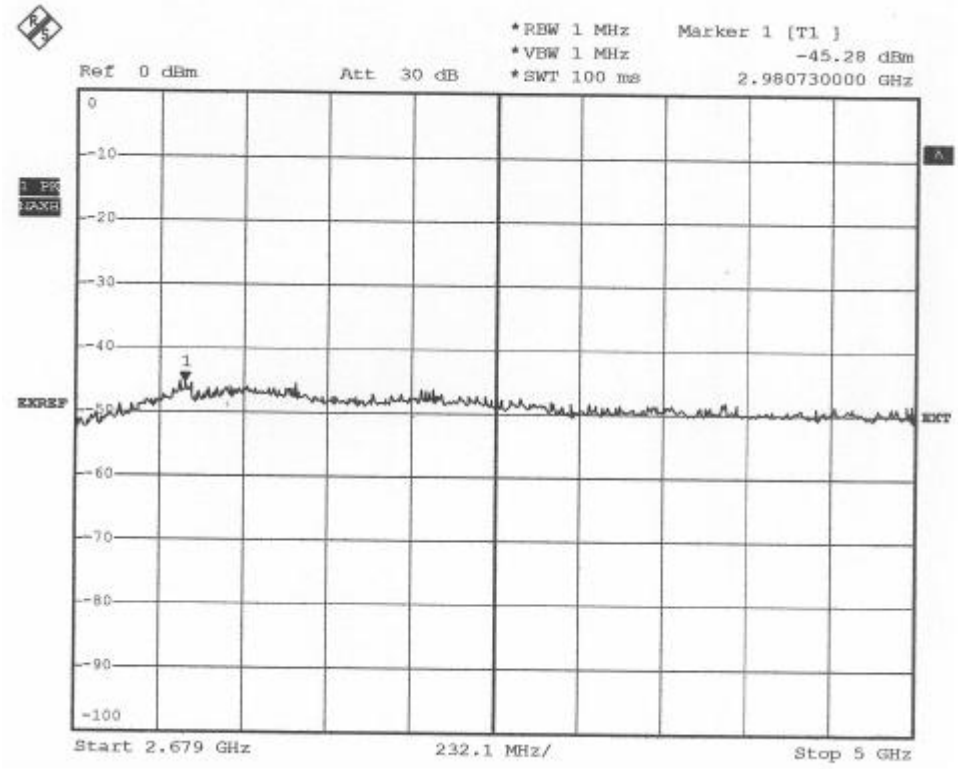
1. Measurement uncertainty is +/-2dB.
2. "*": Measurement does not apply for this frequency.
3. Emissiom Level = Reading Value + Ant. Factor + Cable Loss.
4. Margin=Emission-Limit
5. The field strength of other emission frequencies (Above 8GHz)were very low against the limit.

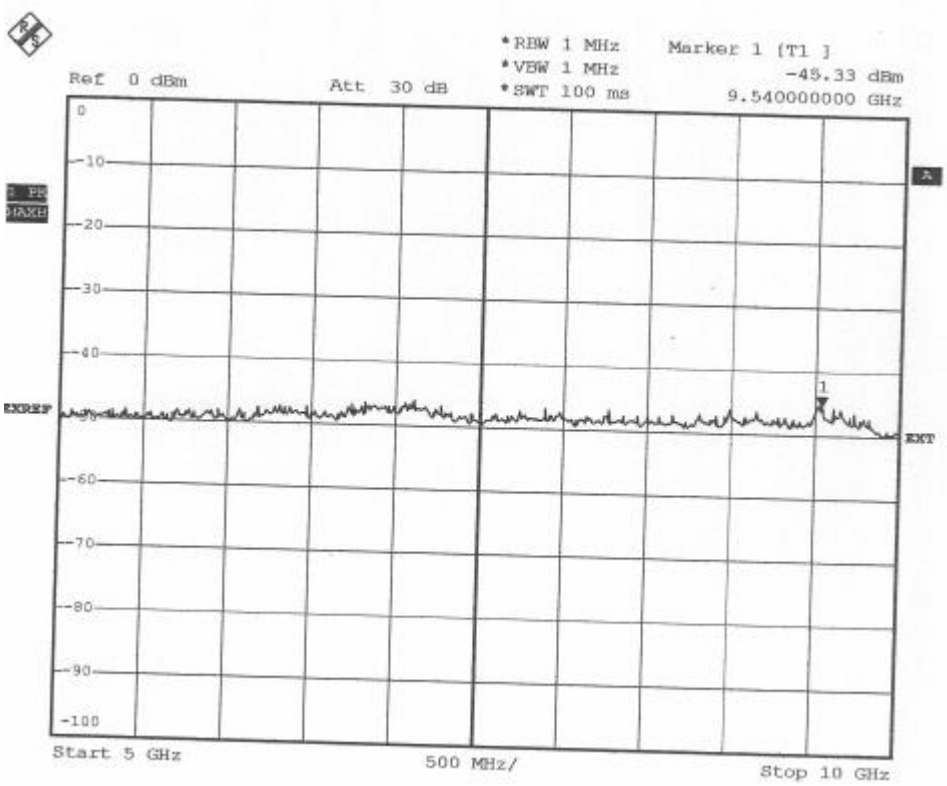
CH78- H

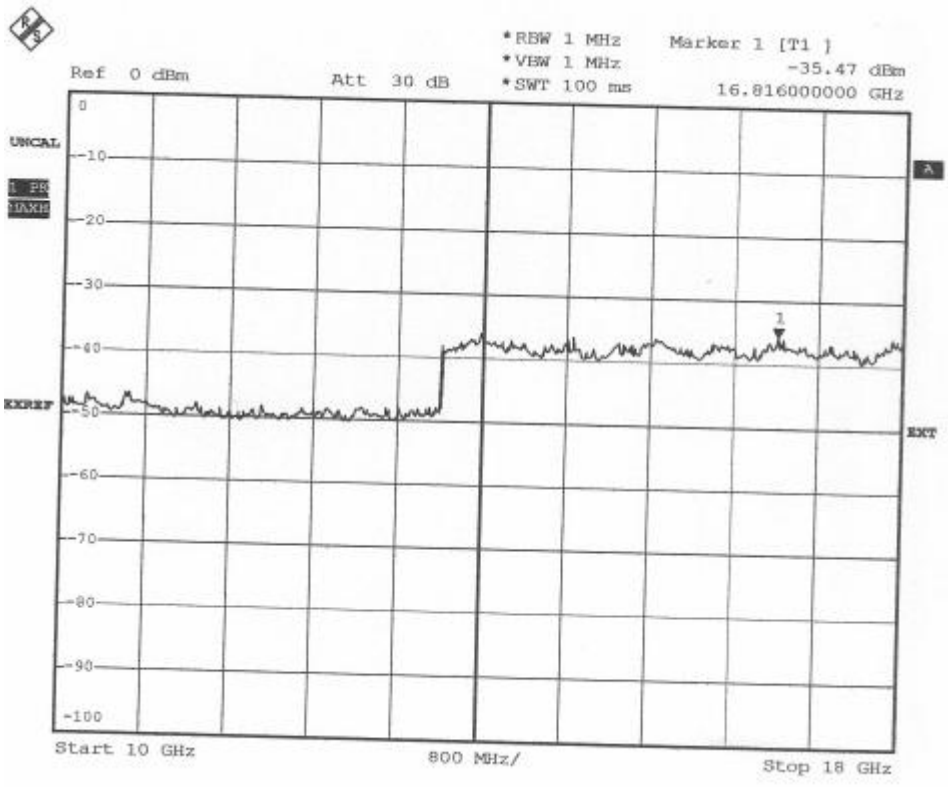

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-49.35 dBm
1.299600000 GHz
Ref 0 dBm
Att 30 dB
1 PK
MAXH
A
EXTREF
EXT
1
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 1 GHz
140 MHz/
Stop 2.4 GHz

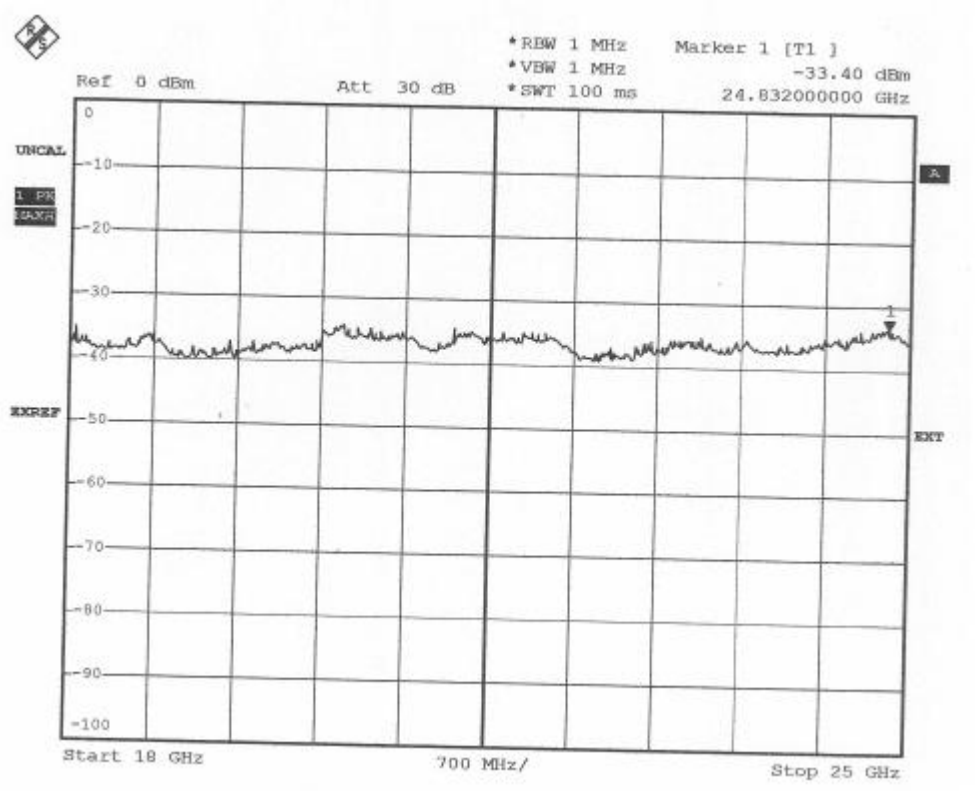

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-33.22 dBm
2.480327000 GHz
Ref 0 dBm
Att 30 dB
1 PK
MAXH
A
EXTREF
EXT
1
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 2.4 GHz
8.35 MHz/
Stop 2.4835 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-50.34 dBm
2.664142000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 2.4835 GHz
19.55 MHz/
Stop 2.679 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-45.28 dBm
2.980730000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 2.679 GHz
232.1 MHz/
Stop 5 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-45.33 dBm
9.540000000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXT
Start 5 GHz
500 MHz/
Stop 10 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-35.47 dBm
16.816000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXT
Start 10 GHz
800 MHz/
Stop 18 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-33.40 dBm
24.832000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
EXREF
EXT
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 18 GHz
700 MHz/
Stop 25 GHz

Temperature:	24°C	Humidity:	68 %RH
Frequency Range:	1 – 25 GHz	Test mode:	TX:CH78
Receiver Detector:	PK. or AV.	Measured Distance:	3m
Tested by:	Jess Wu	Tested Date:	Jun. 16, 2006

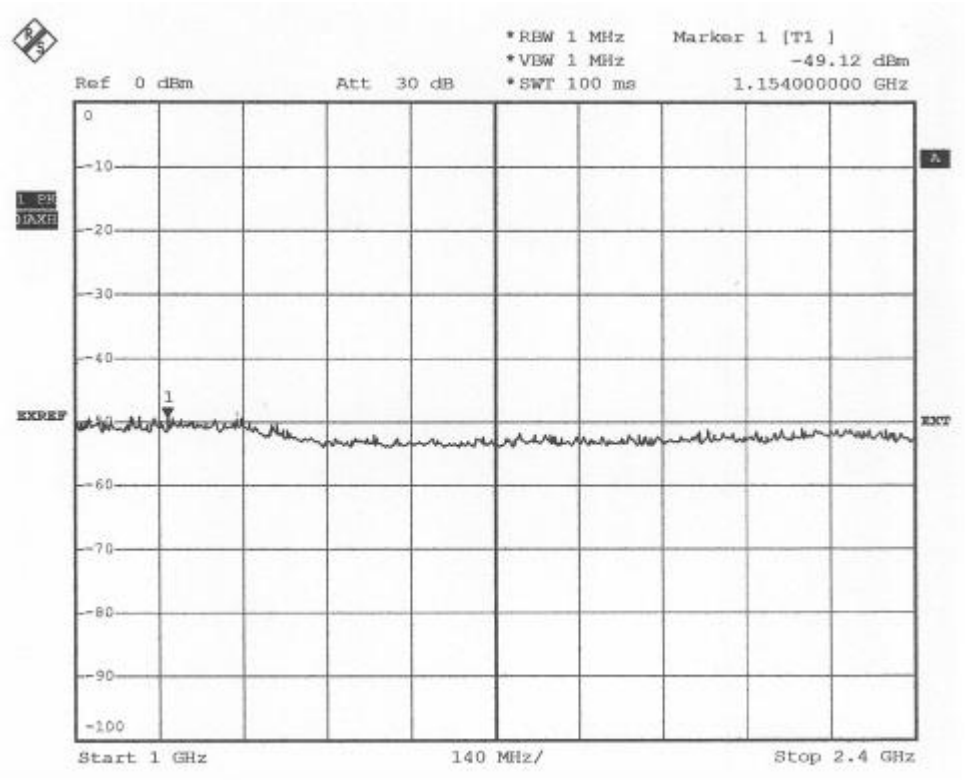
Antenna Polarization: Vertical

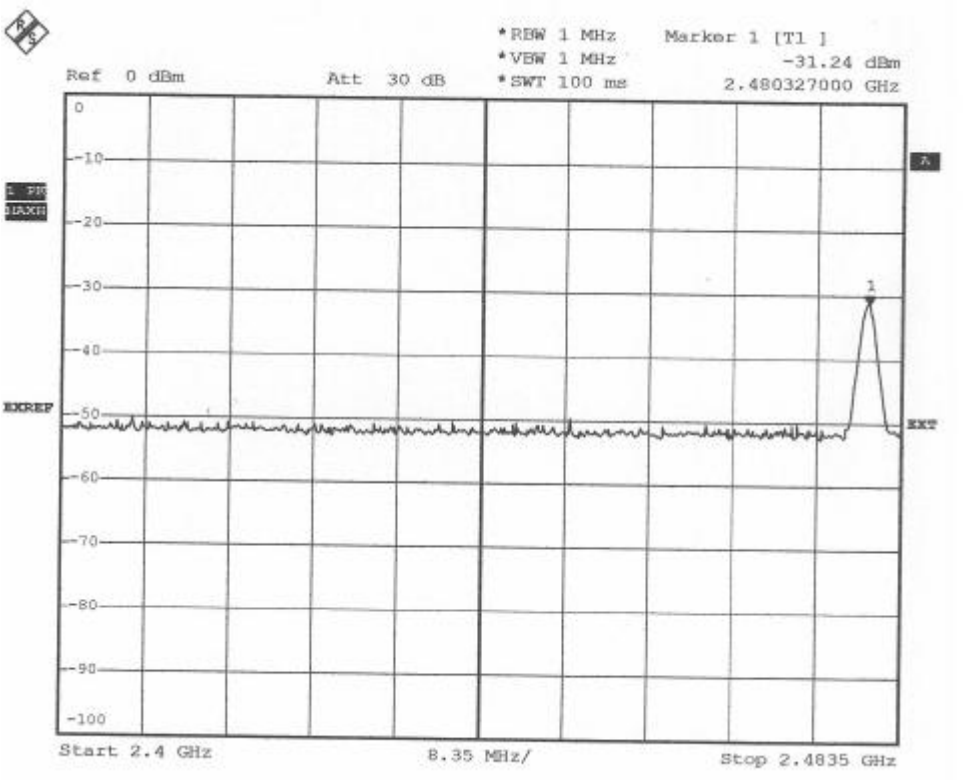
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Reading Data (dBμV)		Emission Level (dBμV/m		Limit (dBμV/m)		Margin (dB)		AZ(°)	EL(m)
			PK.	AV.	PK.	AV.	PK.	AV.	PK.	AV.		
2480.00	-32.19	28.16	75.7	67.6	71.7	63.6	N/A	N/A	N/A	N/A	87	1.4
4960.00	-30.26	33.77	57.2	42.0	60.7	45.5	74.0	54.0	-13.3	-8.5	56	1.3
7440.00	-28.95	36.45	58.3	38.0	65.8	45.5	74.0	54.0	-8.2	-8.5	321	1.2
2483.00	-32.19	28.17	55.0	44.1	51.0	40.1	74.0	54.0	-23.0	-13.9	334	1.3
2474.00	-32.20	28.15	55.3	43.9	51.2	39.8	74.0	54.0	-22.8	-14.2	89	1.2
2486.00	-32.18	28.17	56.0	43.8	52.0	39.8	74.0	54.0	-22.0	-14.2	128	1.4
9920.0000	*	*	*	*	*	*	*	*	*	*	*	*
12400. 0000	*	*	*	*	*	*	*	*	*	*	*	*
14880.0000	*	*	*	*	*	*	*	*	*	*	*	*
17360. 0000	*	*	*	*	*	*	*	*	*	*	*	*
19840. 0000	*	*	*	*	*	*	*	*	*	*	*	*
22320.0000	*	*	*	*	*	*	*	*	*	*	*	*
24800.0000	*	*	*	*	*	*	*	*	*	*	*	*

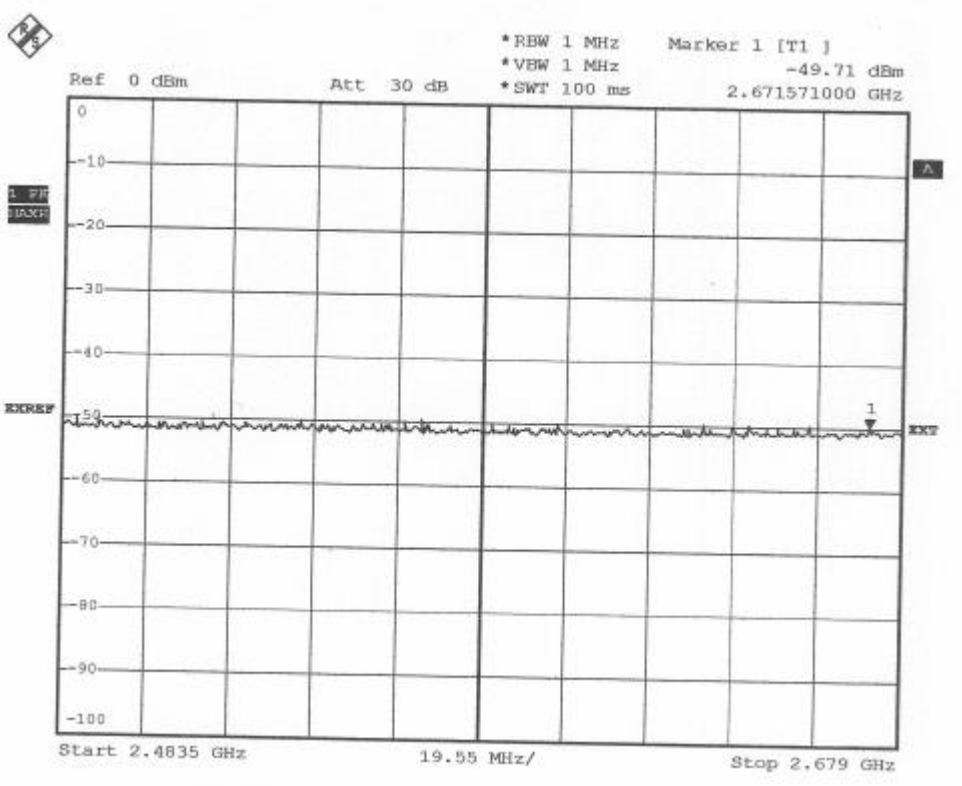
NOTE :

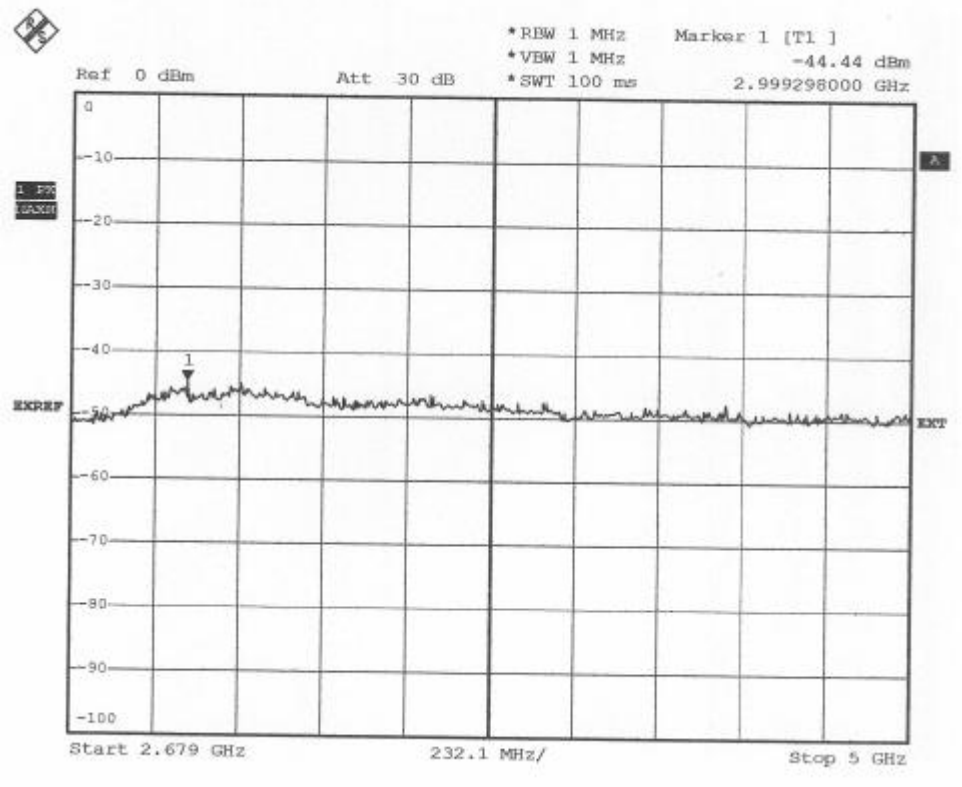
1. Measurement uncertainty is +/-2dB.
2. "*": Measurement does not apply for this frequency.
3.Emissiom Level = Reading Value + Ant. Factor + Cable Loss.
4.Margin=Emission-Limit
5. The field strength of other emission frequencies (Above 8GHz)were very low against the limit.

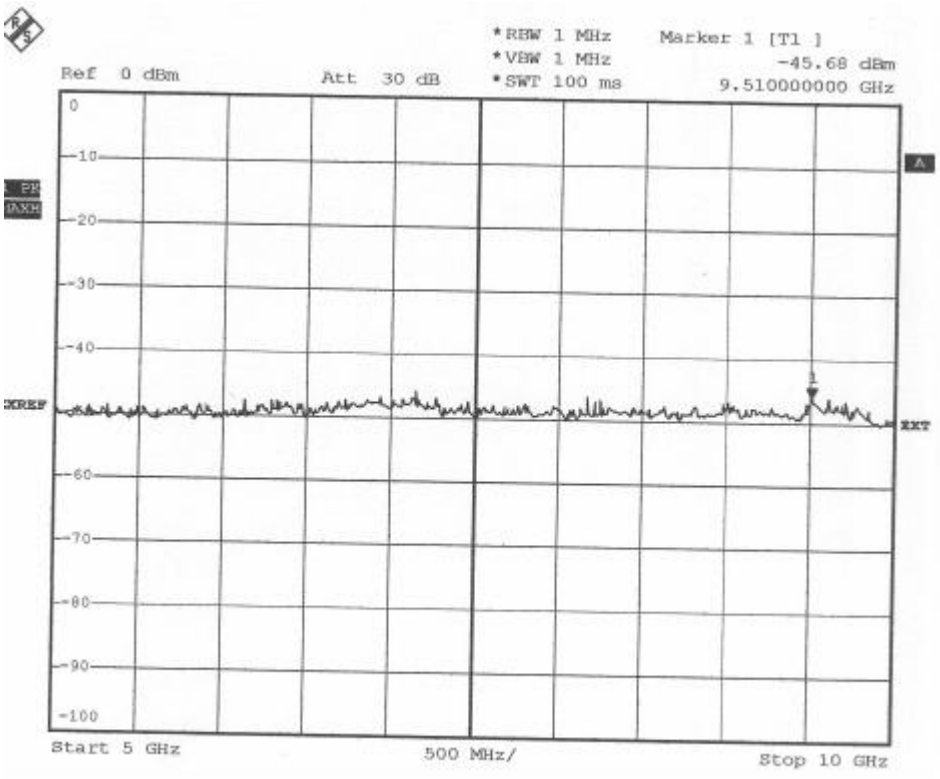
CH78- V

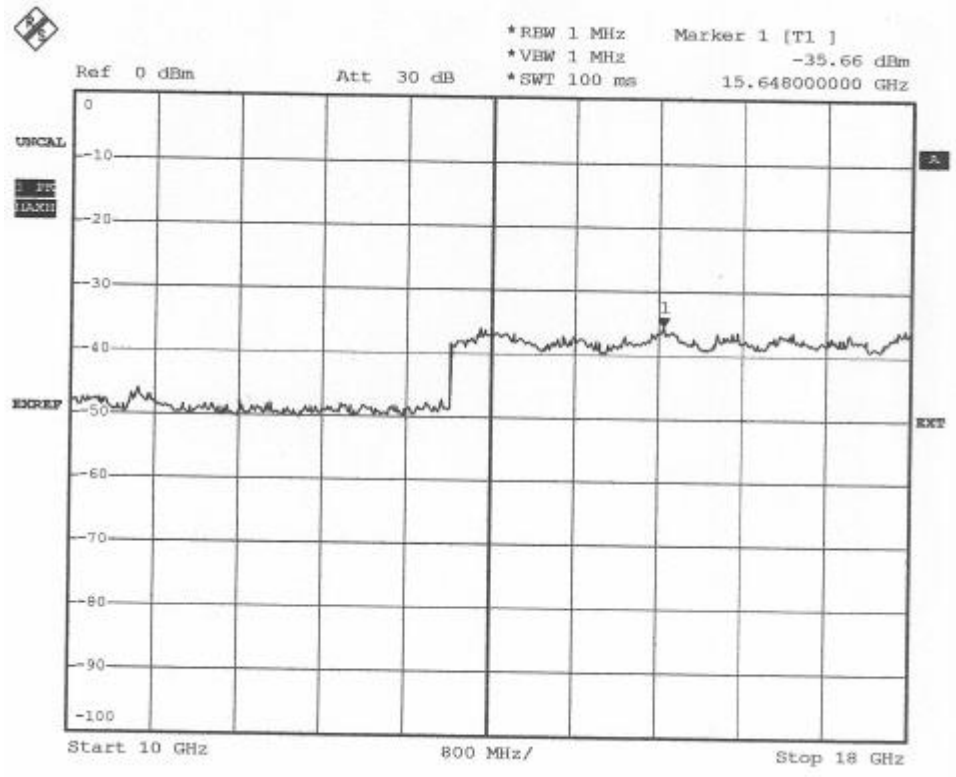

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-49.12 dBm
1.154000000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXREF
EXT
Start 1 GHz
140 MHz/
Stop 2.4 GHz

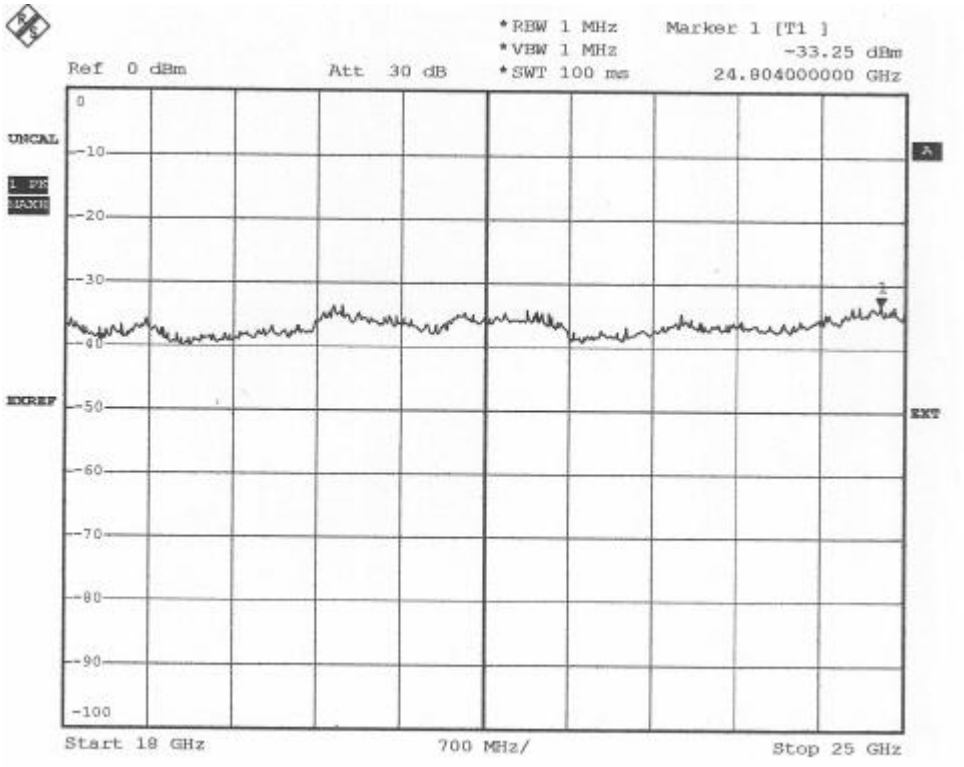

*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-31.24 dBm
2.480327000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXREF
EXT
Start 2.4 GHz
8.35 MHz/
Stop 2.4835 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-49.71 dBm
2.671571000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 2.4835 GHz
19.55 MHz/
Stop 2.679 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-44.44 dBm
2.999296000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXTREF
EXT
Start 2.679 GHz
232.1 MHz/
Stop 5 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-45.68 dBm
9.510000000 GHz
Ref 0 dBm
Att 30 dB
0
-10
-20
-30
-40
-60
-70
-80
-90
-100
EXT
Start 5 GHz
500 MHz/
Stop 10 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-35.66 dBm
15.648000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
EXT
Start 10 GHz
800 MHz/
Stop 18 GHz


*RBW 1 MHz
*VBW 1 MHz
*SWT 100 ms
Marker 1 [T1]
-33.25 dBm
24.804000000 GHz
Ref 0 dBm
Att 30 dB
UNCAL
EXT REF
EXT
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 18 GHz
700 MHz/
Stop 25 GHz

6 Antenna application

6.1 Antenna requirement

The EUT's antenna is met the requirement of FCC part15C section15.203 and 15.204.

FCC part15C section15.247 requirement:
Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

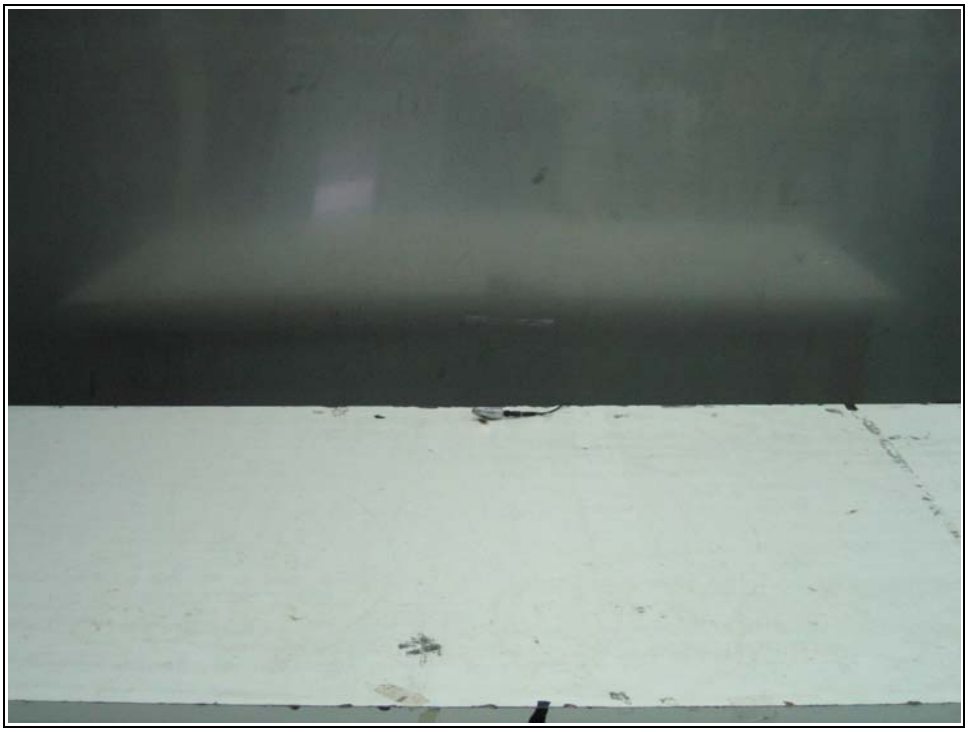
6.2 Result

The EUT's antenna used a chip antenna and integrated on PCB. The antenna's gain is -3dBi and meets the requirement.

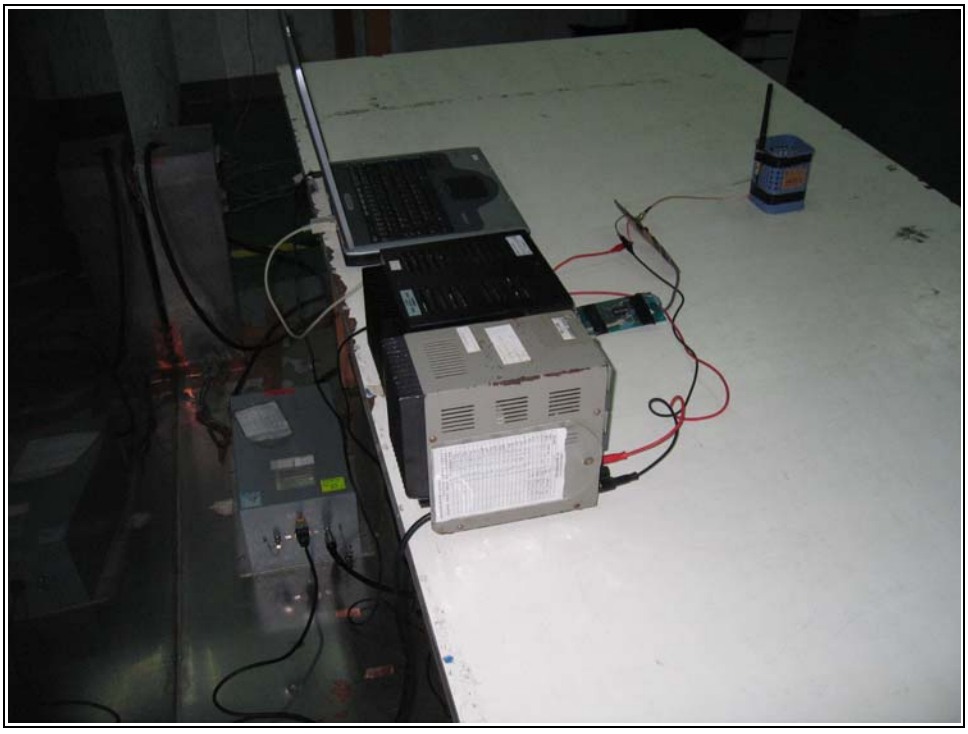
7. PHOTOS OF TESTING

- Conducted test-Link

- Conducted test-charge

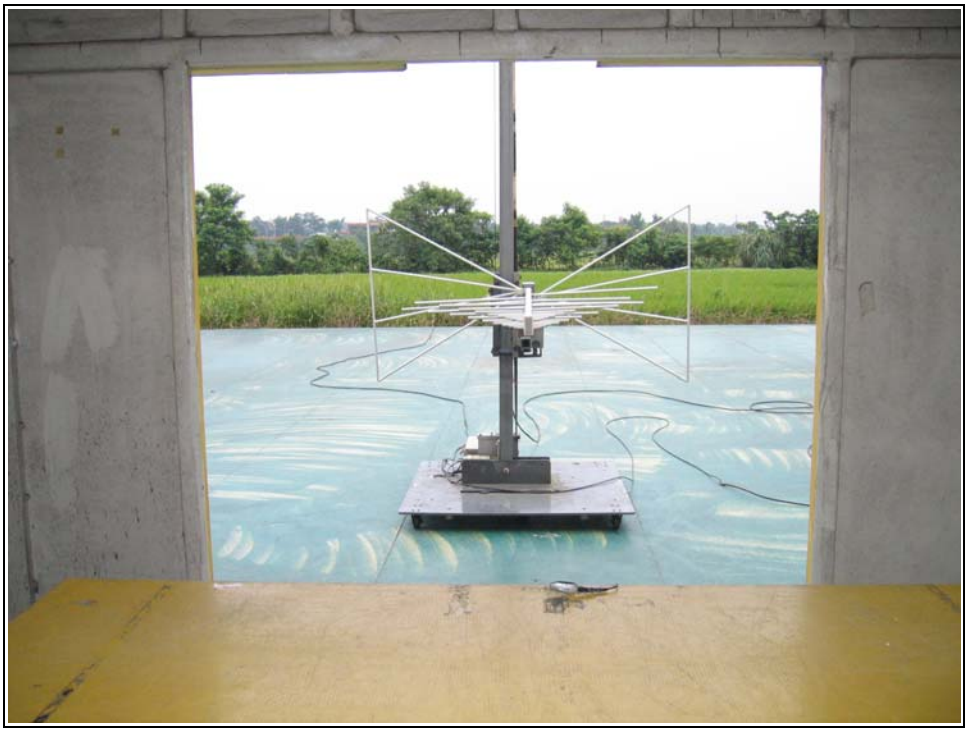


- Conducted test-TX

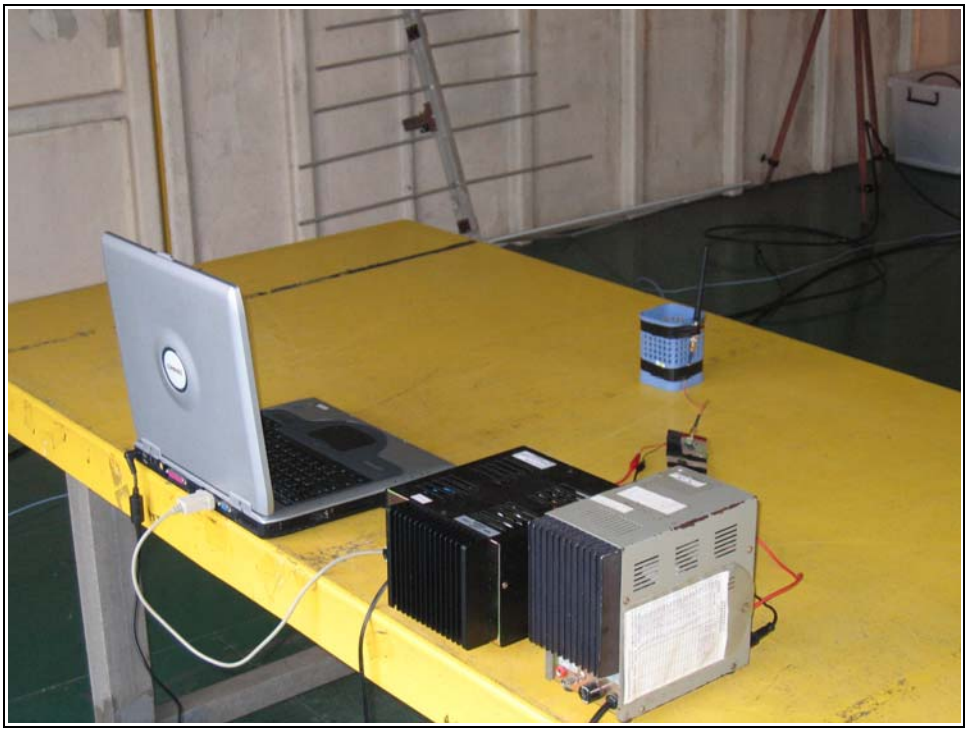


- Radiated test-Link

- Radiated test-Charge



- Radiated test-TX



7. TERMS OF ABRIVATION

AV.	Average detection
AZ(°)	Turn table azimuth
Correct.	Correction
EL(m)	Antenna height (meter)
EUT	Equipment Under Test
Horiz.	Horizontal direction
LISN	Line Impedance Stabilization Network
NSA	Normalized Site Attenuation
Q.P.	Quasi-peak detection
SRT Lab	Spectrum Research & Testing Laboratory, Inc.
Vert.	Vertical direction