5.6 FREQUENCY STABILITY

5.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

5.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Feb. 09, 2005
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W981030	July 18, 2005

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

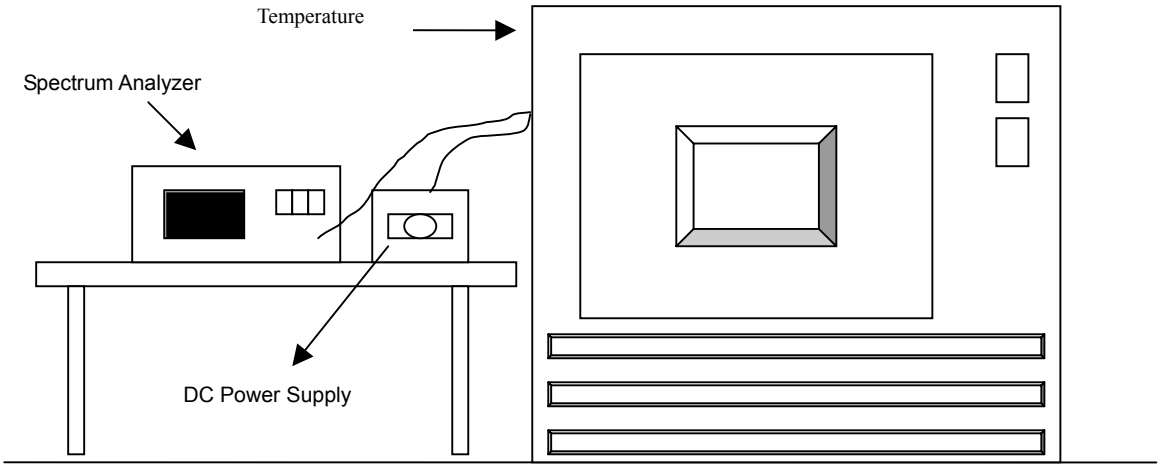
5.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation.

5.6.5 TEST SETUP



5.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6.

5.6.7 TEST RESULTS

Operating frequency: 5320MHz				Limit : ± 0.01%			
Temp. (℃)	Power supply (Vdc)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	93.5	5319.9933	-0.0001259	5319.9936	-0.0001203	5319.9939	-0.0001147
	110.0	5319.9936	-0.0001203	5319.9936	-0.0001203	5319.9939	-0.0001147
	126.5	5319.9936	-0.0001203	5319.9936	-0.0001203	5319.9939	-0.0001147
40	93.5	5319.9963	-0.0000695	5319.9956	-0.0000827	5319.9953	-0.0000883
	110.0	5319.9996	-0.0000075	5319.9956	-0.0000827	5319.9953	-0.0000883
	126.5	5319.9996	-0.0000075	5319.9953	-0.0000883	5319.9949	-0.0000959
30	93.5	5319.9980	-0.0000376	5319.9976	-0.0000451	5319.9973	-0.0000508
	110.0	5319.9976	-0.0000451	5319.9973	-0.0000508	5319.9970	-0.0000564
	126.5	5319.9976	-0.0000451	5319.9973	-0.0000508	5319.9970	-0.0000564
20	93.5	5319.9983	-0.0000320	5319.9990	-0.0000188	5320.0000	0.0000000
	110.0	5319.9986	-0.0000263	5319.9980	-0.0000376	5320.0000	0.0000000
	126.5	5319.9990	-0.0000188	5319.9996	-0.0000075	5320.0003	0.0000056
10	93.5	5320.0060	0.0001128	5320.0063	0.0001184	5320.0066	0.0001241
	110.0	5320.0063	0.0001184	5320.0063	0.0001184	5320.0066	0.0001241
	126.5	5320.0063	0.0001184	5320.0066	0.0001241	5320.0070	0.0001316
0	93.5	5320.0150	0.0002820	5320.0153	0.0002876	5320.0157	0.0002951
	110.0	5320.0153	0.0002876	5320.0153	0.0002876	5320.0157	0.0002951
	126.5	5320.0153	0.0002876	5320.0157	0.0002951	5320.0160	0.0003008
-10	93.5	5320.0223	0.0004192	5320.0223	0.0004192	5320.0223	0.0004192
	110.0	5320.0223	0.0004192	5320.0223	0.0004192	5320.0223	0.0004192
	126.5	5320.0223	0.0004192	5320.0223	0.0004192	5320.0223	0.0004192
-20	93.5	5320.0226	0.0004248	5320.0226	0.0004248	5320.0226	0.0004248
	110.0	5320.0226	0.0004248	5320.0222	0.0004173	5320.0226	0.0004248
	126.5	5320.0226	0.0004248	5320.0222	0.0004173	5320.0222	0.0004173
-30	93.5	5320.0209	0.0003929	5320.0206	0.0003872	5320.0202	0.0003797
	110.0	5320.0209	0.0003929	5320.0206	0.0003872	5320.0202	0.0003797
	126.5	5320.0206	0.0003872	5320.0202	0.0003797	5320.0200	0.0003759

5.7 BAND EDGES MEASUREMENT

5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 1MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

5.7.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

5.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.35GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

The spectrum plots (Peak RBW=VBW=1MHz; Average RBW=1MHz, VBW=10Hz) are attached on the following pages.

Normal Mode

The band edge emission plot on the following 1st image shows 47.49dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 102.10dBuV/m (Peak), so the maximum field strength in restrict band is 102.10-47.49=54.61dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the following 2nd image shows 51.53Bc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 102.10dBuV/m (Average), so the maximum field strength in restrict band is 102.10-51.53=50.57dBuV/m which is under 54dBuV/m limit.

The band edge emission plot on the following 4th image shows 46.75dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 103.51dBuV/m (Peak), so the maximum field strength in restrict band is 103.51-46.75=56.76dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the following 5th image shows 51.61dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 103.51dBuV/m (Average), so the maximum field strength in restrict band is 103.51-51.61=51.90dBuV/m which is under 54dBuV/m limit.

Turbo Mode

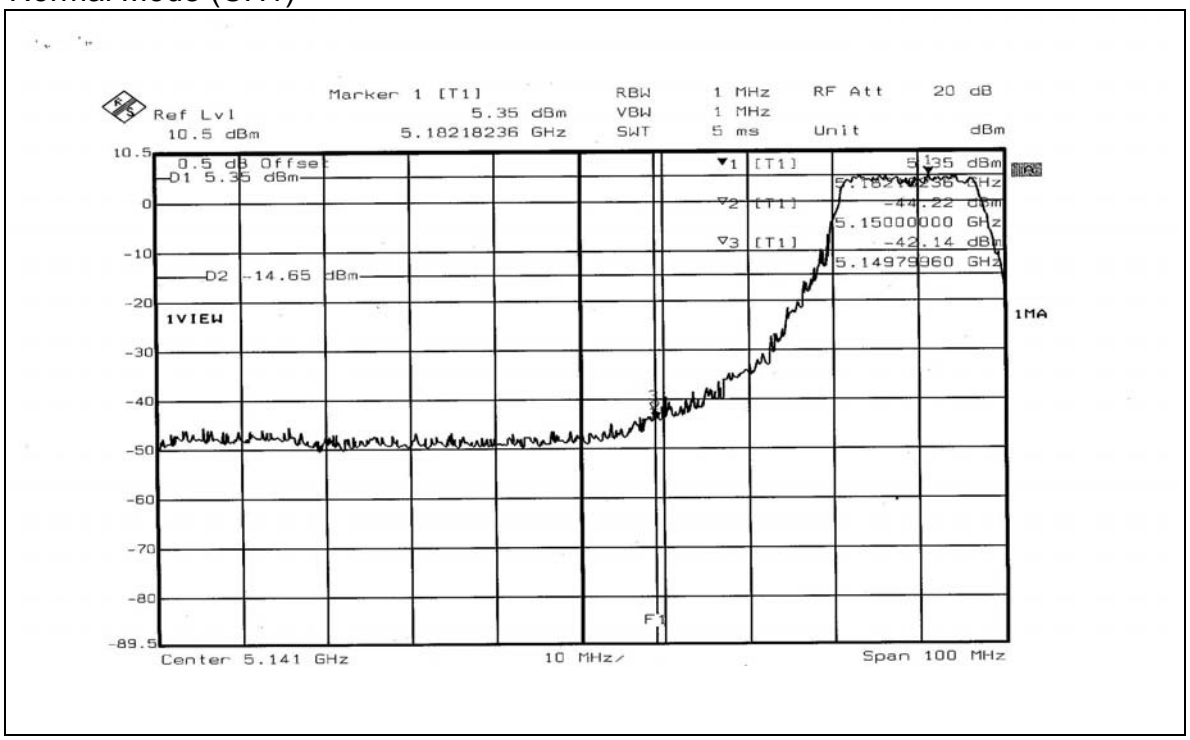
The band edge emission plot on the following 7th image shows 42.18dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 101.08dBuV/m (Peak), so the maximum field strength in restrict band is 101.08-42.18=58.90dBuV/m which is under 74dBuV/m limit.

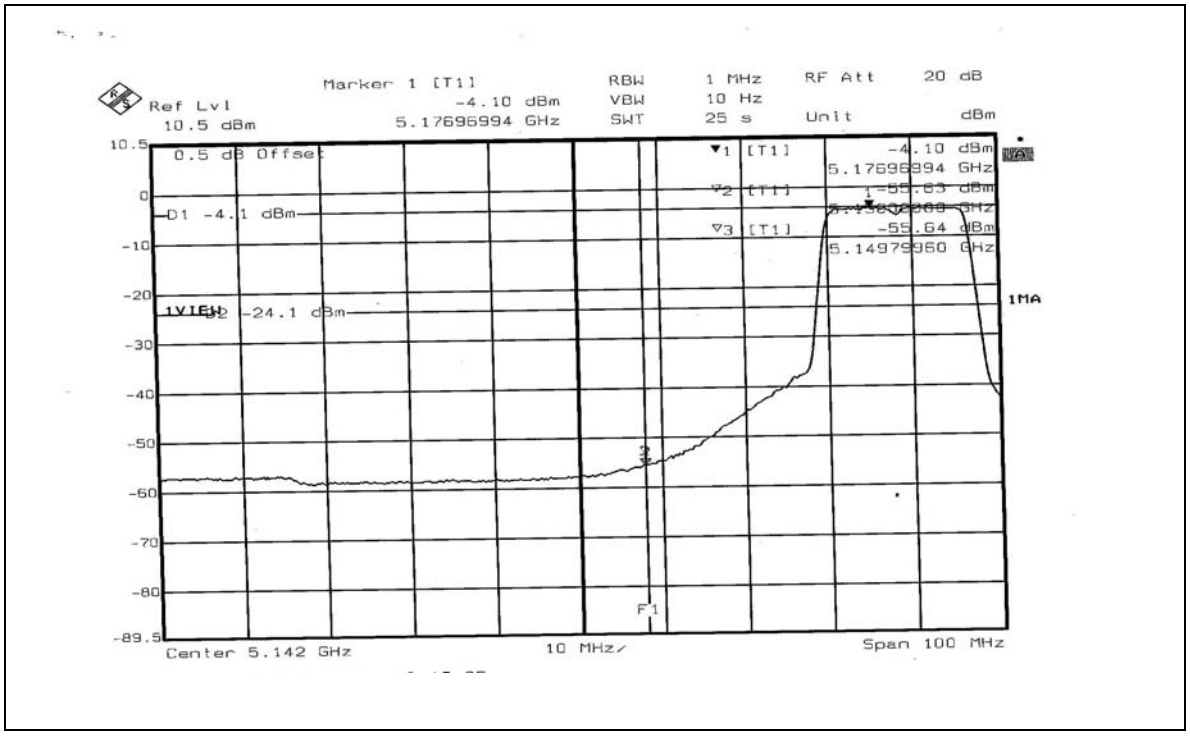
The band edge emission plot on the following 8th image shows 48.58dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 101.08dBuV/m (Average), so the maximum field strength in restrict band is 101.08-48.58=52.50dBuV/m which is under 54dBuV/m limit.

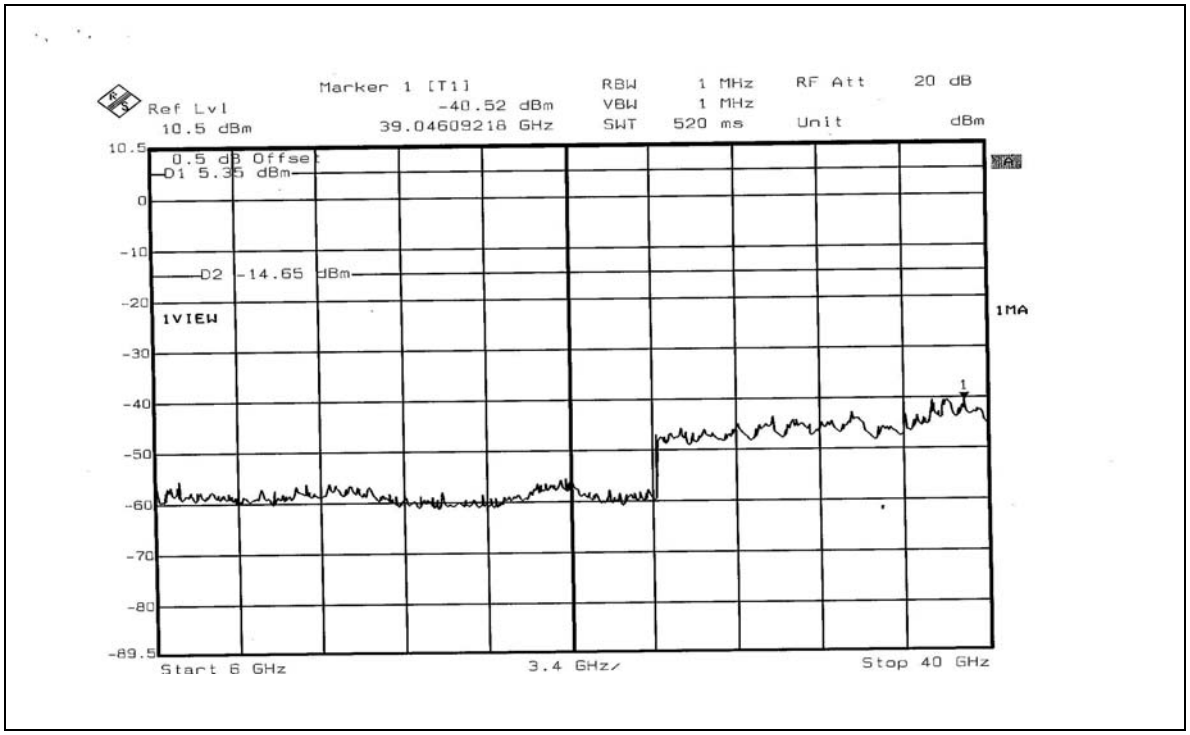
The band edge emission plot on the following 10th image shows 46.53dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 3 is 101.88dBuV/m (Peak), so the maximum field strength in restrict band is 101.88-46.53=55.35dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the following 11th image shows 49.14dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 3 is 101.88dBuV/m (Average), so the maximum field strength in restrict band is 101.88-49.14=52.74dBuV/m which is under 54dBuV/m limit.

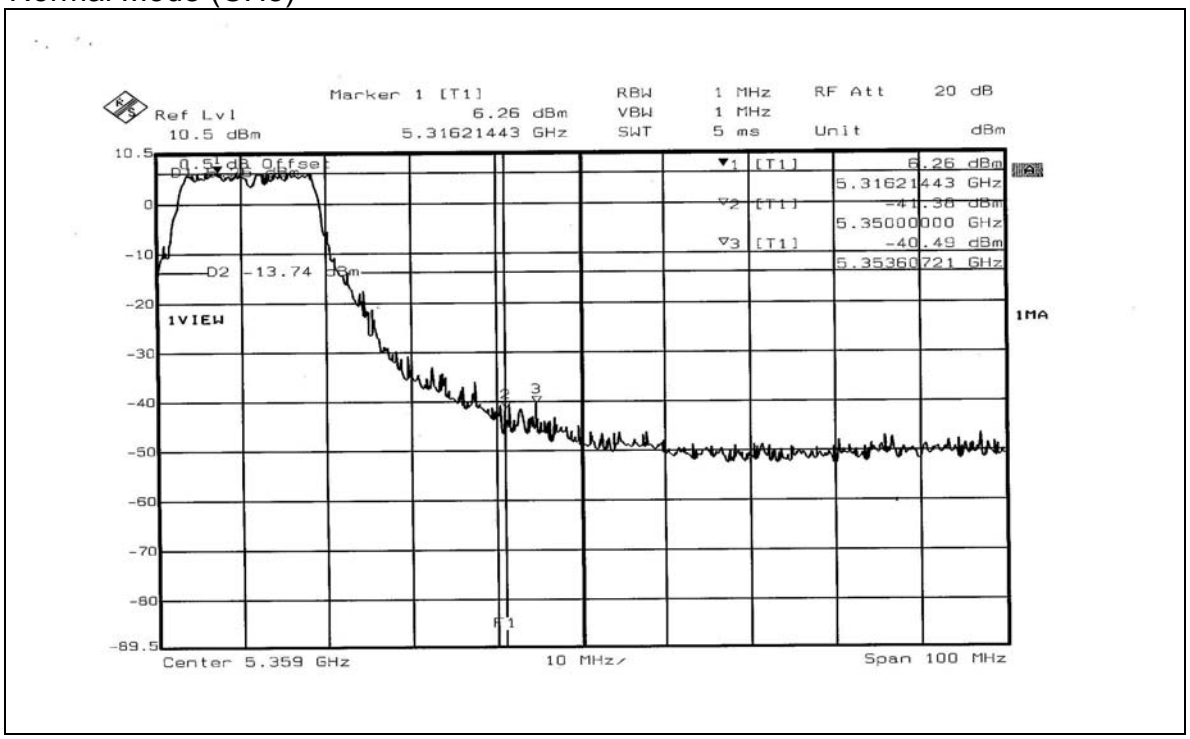
Normal Mode (CH1)

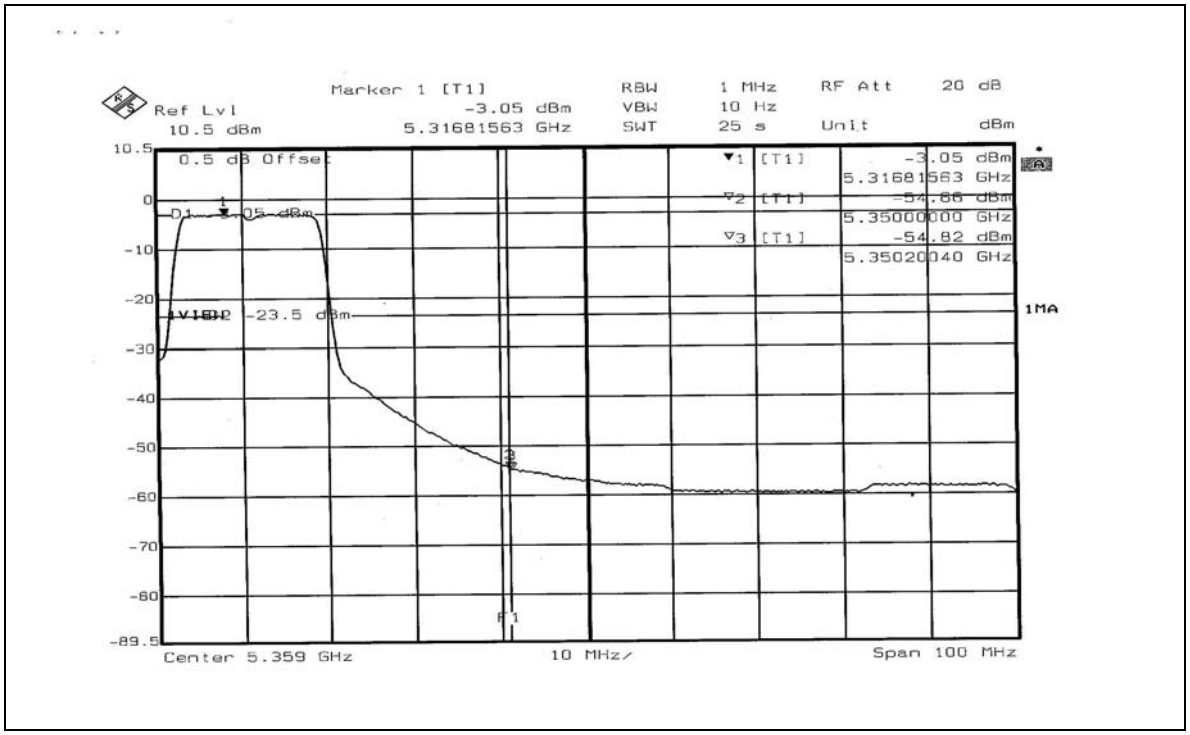


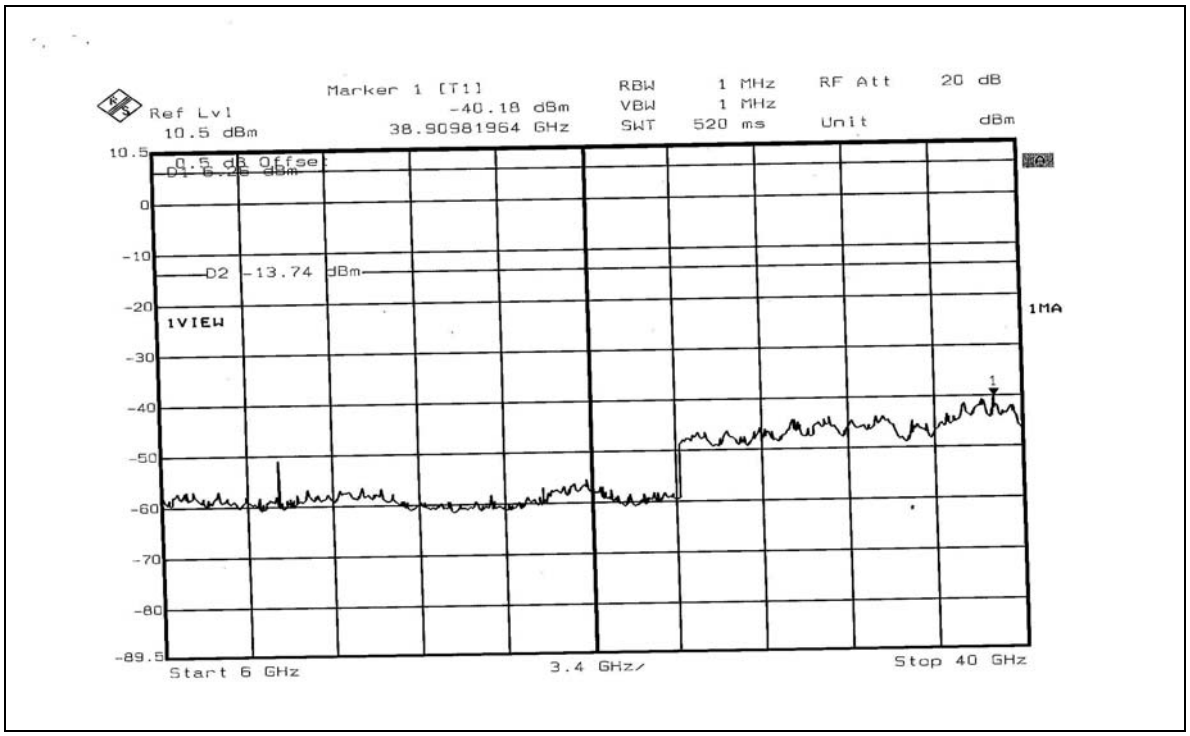




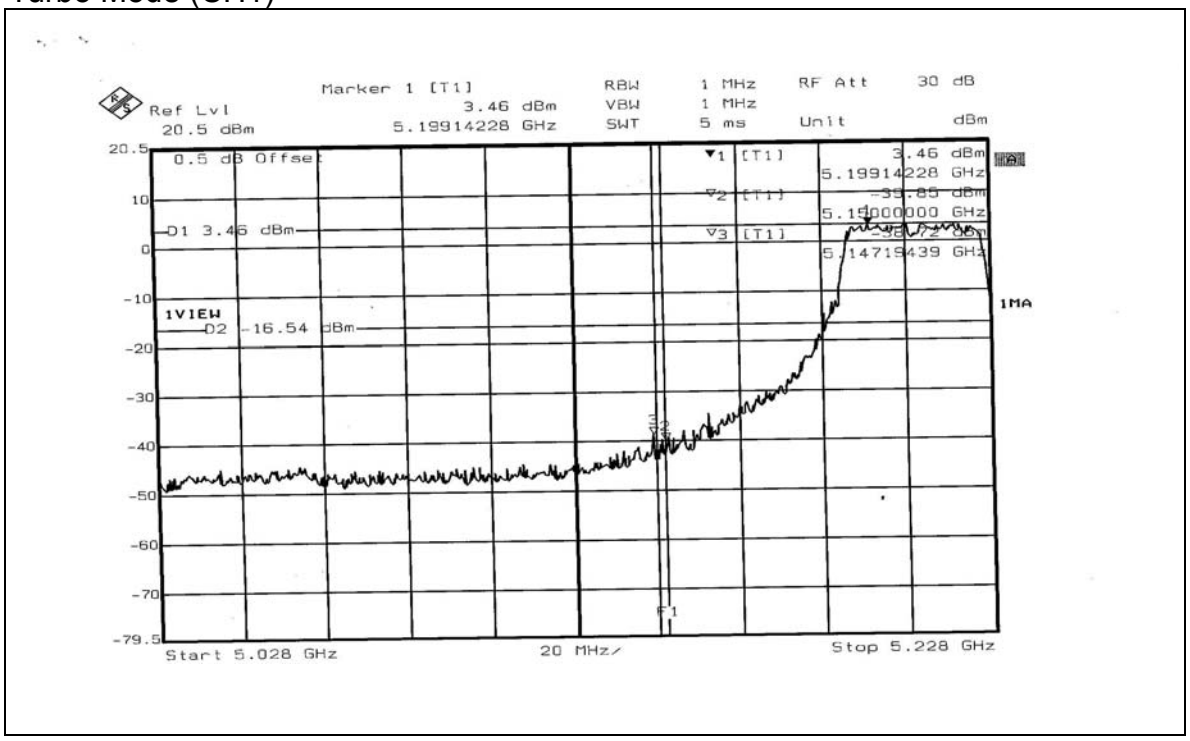
Normal Mode (CH8)

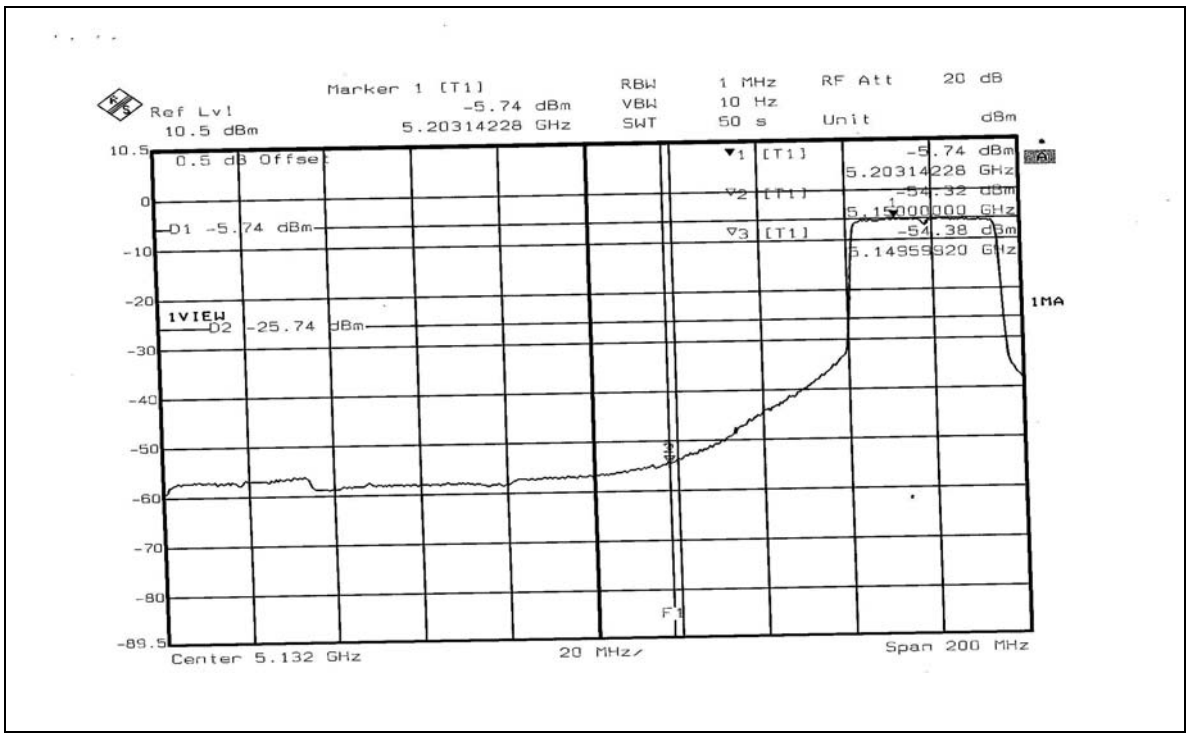


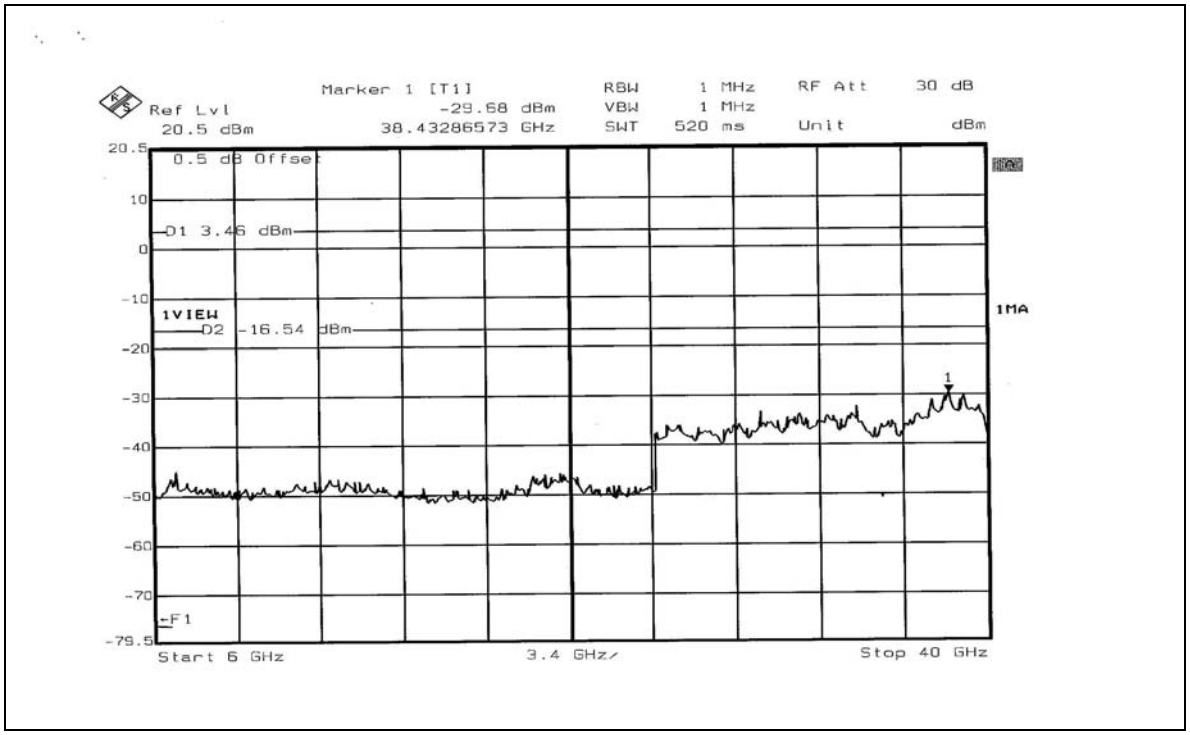

Marker 1 [T1]
-3.05 dBm
5.31681563 GHz
RBW 1 MHz
VBW 10 Hz
SWT 25 s
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
D1 -3.05 dBm
D2 -23.5 dBm
1VIEW
1MA
Center 5.359 GHz
10 MHz/
Span 100 MHz


Marker 1 [T1]
-40.18 dBm
38.90981964 GHz
RBW 1 MHz
VBW 1 MHz
SWT 520 ms
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
D2 -13.74 dBm
1VIEW
1MA
Start 6 GHz
3.4 GHz/
Stop 40 GHz

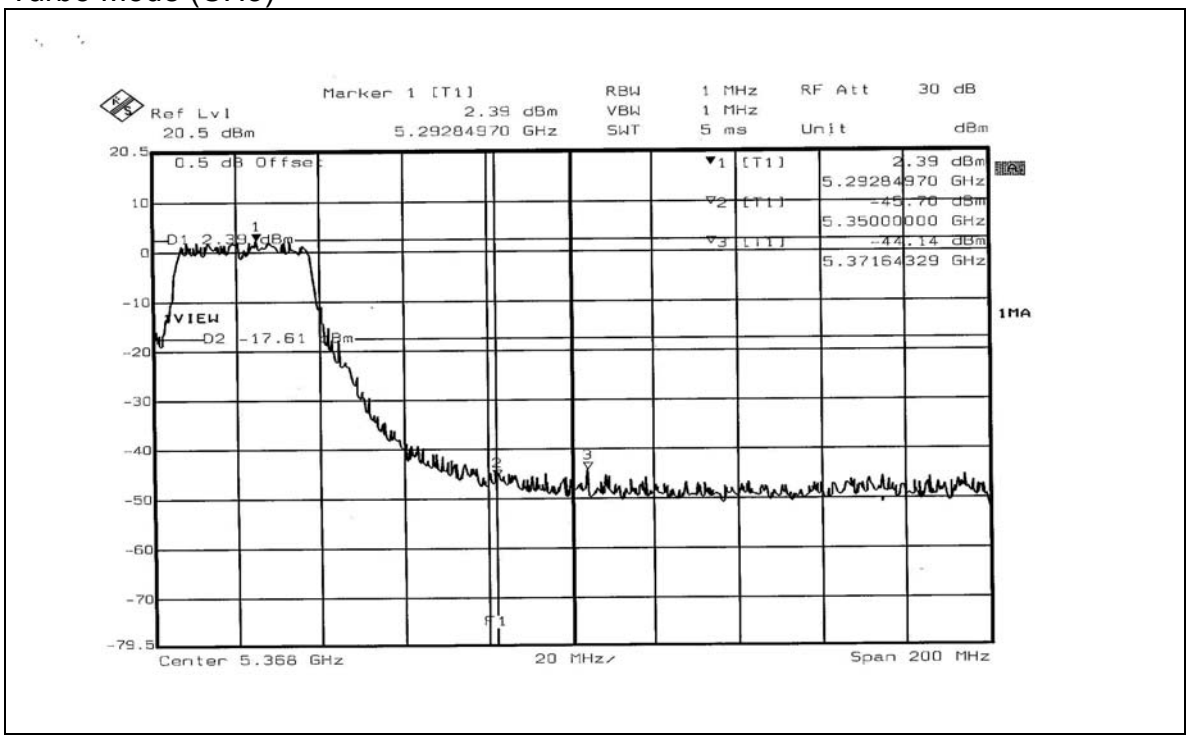
Turbo Mode (CH1)

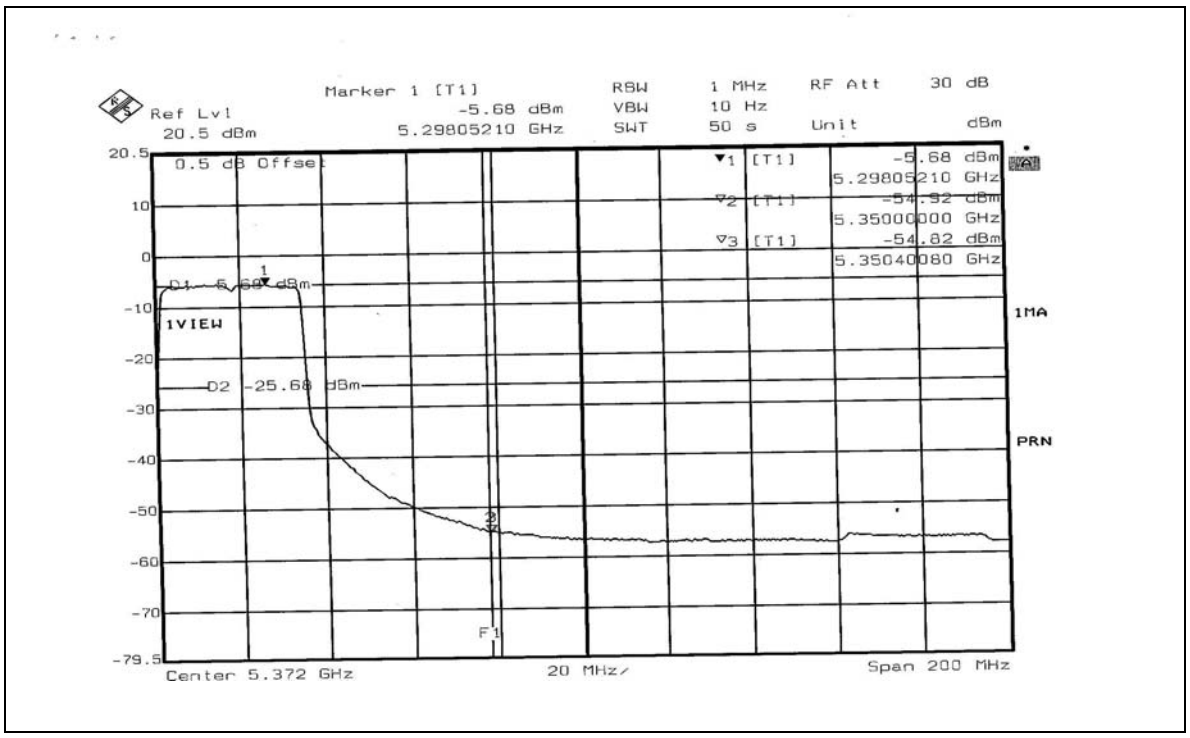


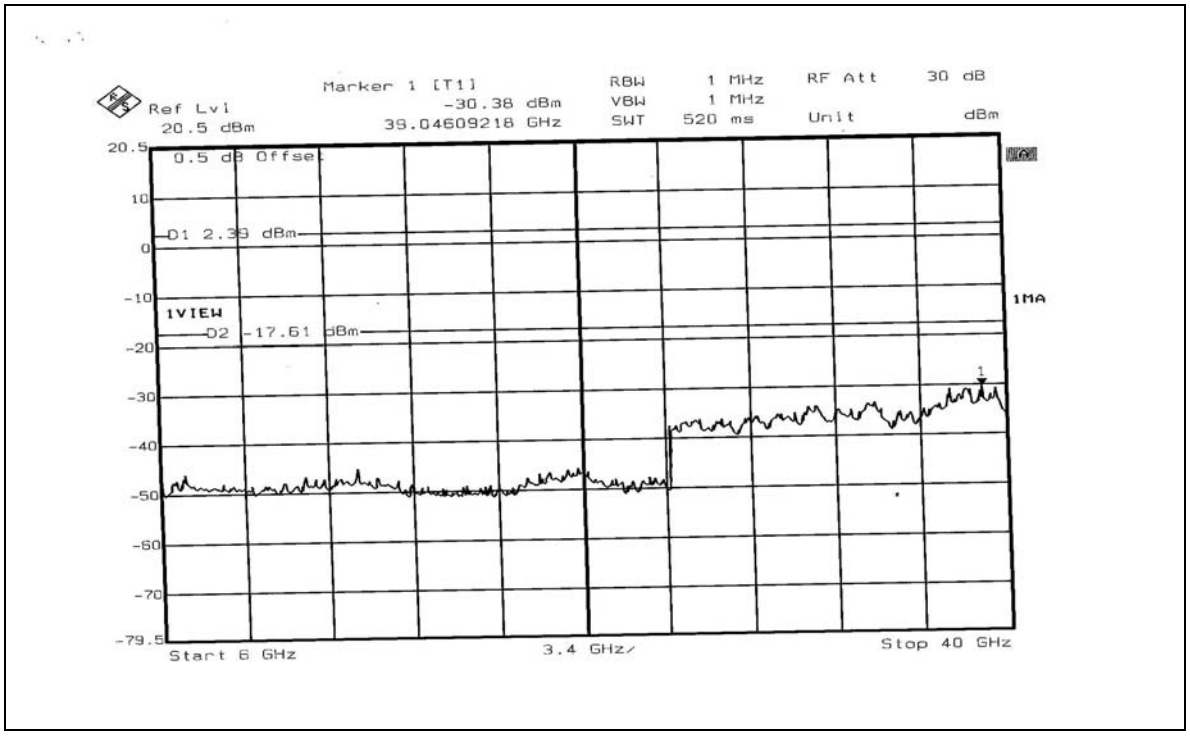




Turbo Mode (CH3)




Marker 1 [T1]
-5.68 dBm
5.29805210 GHz
RBW 1 MHz
VBW 10 Hz
SWT 50 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
▼1 [T1] -5.68 dBm
5.29805210 GHz
▽2 [T1] -54.32 dBm
5.35000000 GHz
▽3 [T1] -54.82 dBm
5.35040080 GHz
D1 -5.68 dBm
1VIEW
D2 -25.68 dBm
1MA
PRN
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
F1
Center 5.372 GHz
20 MHz/
Span 200 MHz


Marker 1 [T1]
-30.38 dBm
39.04609218 GHz
RBW 1 MHz
VBW 1 MHz
SWT 520 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 2.38 dBm
1VIEW
D2 -17.61 dBm
1MA
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Start 6 GHz
3.4 GHz/
Stop 40 GHz

5.8 ANTENNA REQUIREMENT

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 antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.407(a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

5.8.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is dipole antenna with UFL antenna connector. The maximum Gain of the antenna is 3dBi.

FOR FREQUENCY 5.725~5.850GHz

5.9 CONDUCTED EMISSION MEASUREMENT

5.9.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	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.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

5.9.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Nov. 06, 2005
RF signal cable Woken	5D-FB	Cable-HyC02-01	Mar. 07, 2005
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Mar. 10, 2005
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Mar. 04, 2005
Software ADT	ADT_Cond_V3	NA	NA

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 2.

3. The VCCI Site Registration No. is C-2047.

5.9.3 TEST PROCEDURES

d. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

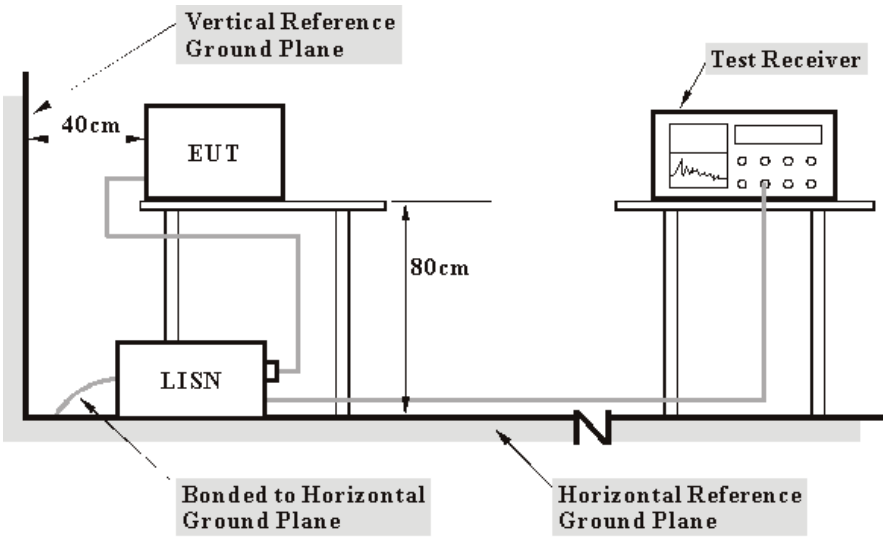
e. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

f. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

5.9.4 DEVIATION FROM TEST STANDARD

No deviation

5.9.5 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.9.6 EUT OPERATING CONDITIONS

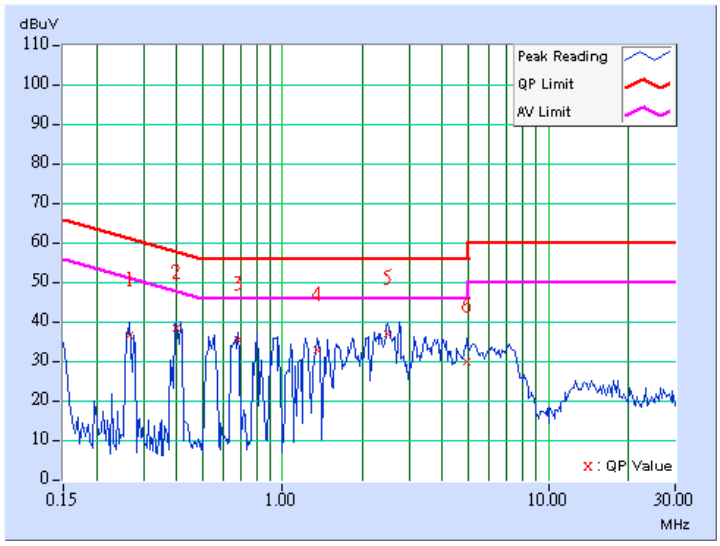
Same as 4.1.6.

5.9.7 TEST RESULTS

EUT	Dual-Band Wireless A+G Router	MODEL	F6D3230-4
INPUT POWER (SYSTEM)	120Vac, 60 Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	24 deg. C, 64% RH, 991 hPa	PHASE	Line (L)
TESTED BY	Leo Hung		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.267	0.10	36.39	-	36.49	-	61.20	51.20	-24.71	-
2	0.400	0.11	38.11	-	38.22	-	57.85	47.85	-19.63	-
3	0.681	0.18	35.02	-	35.20	-	56.00	46.00	-20.80	-
4	1.352	0.25	32.78	-	33.03	-	56.00	46.00	-22.97	-
5	2.488	0.27	36.72	-	36.99	-	56.00	46.00	-19.01	-
6	4.953	0.35	29.49	-	29.84	-	56.00	46.00	-26.16	-

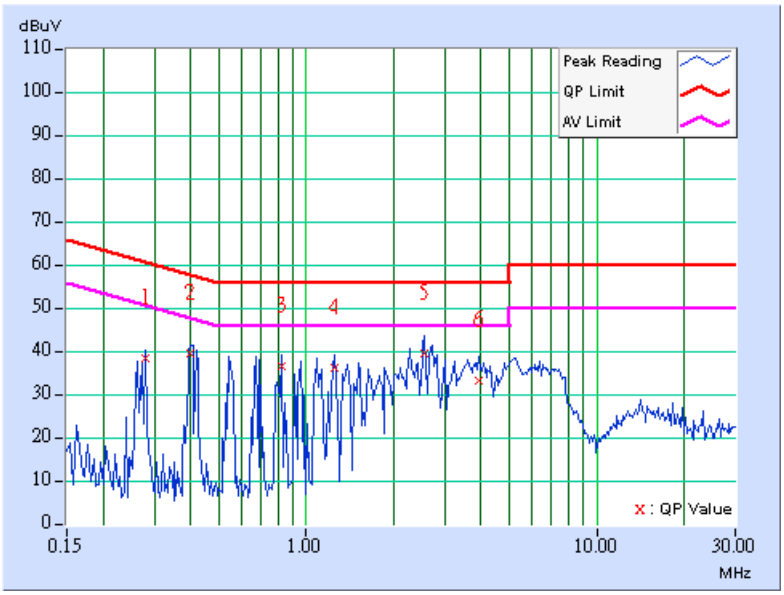
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	24 deg. C, 64% RH, 991 hPa	**PHASE**	Neutral (N)
TESTED BY	Leo Hung		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.279	0.11	38.34	-	38.45	-	60.85	50.85	-22.40	-
2	0.400	0.11	39.24	-	39.35	-	57.85	47.85	-18.50	-
3	0.822	0.20	36.54	-	36.74	-	56.00	46.00	-19.26	-
4	1.254	0.24	36.00	-	36.24	-	56.00	46.00	-19.76	-
5	**2.555**	**0.26**	**39.49**	**-**	**39.75**	**-**	**56.00**	**46.00**	**-16.25**	**-**
6	3.910	0.30	33.13	-	33.43	-	56.00	46.00	-22.57	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



5.10 RADIATED EMISSION MEASUREMENT

5.10.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

4. The lower limit shall apply at the transition frequencies.
5. Emission level (dBuV/m) = 20 log Emission level (uV/m).
6. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

5.10.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESIB7	100188	Jan. 13, 2005
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Nov. 21, 2005
BILOG Antenna SCHWARZBECK	VULB9168	9168-157	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-407	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA 9170241	Feb. 23, 2005
Preamplifier Agilent	8449B	3008A01961	Nov. 09, 2005
Preamplifier Agilent	8447D	2944A10629	Nov. 09, 2005
RF signal cable HUBER+SUHNER	SUCOFLEX 104	218182/4	Mar. 04, 2005
RF signal cable HUBER+SUHNER	SUCOFLEX 104	218194/4	Mar. 04, 2005
Software ADT.	ADT_Radiated_V5.14	NA	NA
Antenna Tower ADT.	AT100	AT93021702	NA
Turn Table ADT.	TT100.	TT93021702	NA
Controller ADT.	SC100.	SC93021702	NA

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 1.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The IC Site Registration No. is IC4924-2.

5.10.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

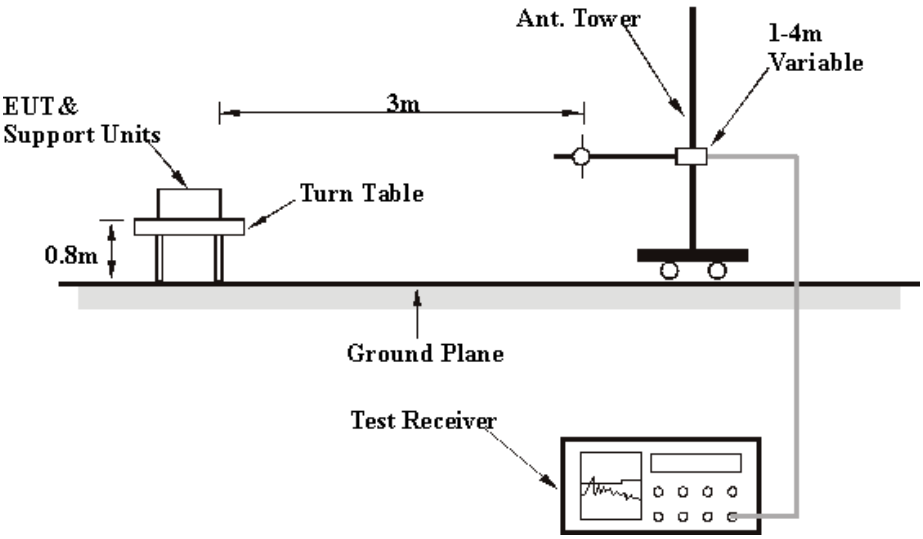
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

5.10.4 DEVIATION FROM TEST STANDARD

No deviation.

5.10.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.10.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

5.10.7 TEST RESULTS

EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
CHANNEL	Channel 11	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22 deg. C, 60% RH, 991 hPa	**TESTED BY**	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	59.16	27.99 QP	40.00	-12.01	2.00 H	214	14.20	13.79
2	105.81	30.05 QP	43.50	-13.45	1.50 H	55	18.48	11.58
3	146.63	33.92 QP	43.50	-9.58	2.00 H	268	19.35	14.58
4	199.12	29.91 QP	43.50	-13.59	1.50 H	40	18.45	11.46
5	249.66	43.21 QP	46.00	-2.79	1.00 H	10	30.00	13.22
6	300.20	28.11 QP	46.00	-17.89	1.00 H	7	13.61	14.50
7	348.80	31.47 QP	46.00	-14.53	1.00 H	13	15.84	15.62
8	399.34	32.92 QP	46.00	-13.08	1.00 H	10	16.18	16.74
9	479.04	33.45 QP	46.00	-12.55	1.50 H	19	15.00	18.45
10	550.96	31.00 QP	46.00	-15.00	2.00 H	19	11.29	19.72
11	599.56	36.48 QP	46.00	-9.52	1.00 H	178	15.48	21.00
12	650.10	28.83 QP	46.00	-17.17	2.00 H	10	7.15	21.68
13	681.20	31.19 QP	46.00	-14.81	2.00 H	13	9.12	22.07
14	751.18	33.06 QP	46.00	-12.94	1.00 H	37	9.52	23.54
15	799.78	31.28 QP	46.00	-14.72	1.00 H	166	7.46	23.82
16	875.59	31.45 QP	46.00	-14.55	1.50 H	52	6.79	24.66

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
CHANNEL	Channel 11	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22 deg. C, 60% RH, 991 hPa	**TESTED BY**	Match Tsui

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48.12	38.56 QP	40.00	-1.44	1.00 V	223	23.63	14.93
2	86.37	33.87 QP	40.00	-6.13	1.00 V	316	23.76	10.12
3	146.63	37.73 QP	43.50	-5.77	1.00 V	325	23.15	14.58
4	199.12	32.05 QP	43.50	-11.45	1.00 V	331	20.60	11.46
5	249.66	44.64 QP	46.00	-1.36	1.00 V	319	31.42	13.22
6	329.36	33.75 QP	46.00	-12.25	1.50 V	286	18.57	15.18
7	399.34	31.09 QP	46.00	-14.91	1.00 V	229	14.36	16.74
8	440.16	29.07 QP	46.00	-16.93	1.00 V	46	11.26	17.81
9	500.42	30.02 QP	46.00	-15.98	1.50 V	310	11.28	18.74
10	550.96	35.08 QP	46.00	-10.92	1.00 V	94	15.36	19.72
11	599.56	36.38 QP	46.00	-9.62	1.00 V	82	15.38	21.00
12	650.10	30.79 QP	46.00	-15.21	1.00 V	286	9.11	21.68
13	681.20	32.12 QP	46.00	-13.88	1.00 V	259	10.06	22.07
14	751.18	33.94 QP	46.00	-12.06	1.00 V	16	10.40	23.54
15	875.59	33.12 QP	46.00	-12.88	1.00 V	304	8.46	24.66
16	990.28	37.97 QP	54.00	-16.03	1.00 V	280	12.20	25.77

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

EUT	Dual-Band Wireless A+G Router	MODEL	F6D3230-4
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	1 ~ 40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#1100.00	45.60 PK	74.00	-28.40	1.20 H	100	18.90	26.70
1	#1100.00	40.60 AV	54.00	-13.40	1.20 H	100	13.90	26.70
2	#3830.00	52.46 PK	74.00	-21.54	1.21 H	200	16.12	36.34
2	#3830.00	43.28 AV	54.00	-10.72	1.21 H	200	6.94	36.34
3	*5745.00	110.57 PK			1.20 H	25	69.67	40.90
3	*5745.00	99.65 AV			1.20 H	25	58.75	40.90
4	#11490.00	59.34 PK	74.00	-14.66	1.20 H	45	11.96	47.38
4	#11490.00	48.24 AV	54.00	-5.76	1.20 H	45	0.86	47.38

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#1100.00	49.51 PK	74.00	-24.49	1.30 V	200	22.81	26.70
1	#1100.00	45.11 AV	54.00	-8.89	1.30 V	200	18.41	26.70
2	#3830.00	54.31 PK	74.00	-19.69	1.00 V	142	17.97	36.34
2	#3830.00	48.29 AV	54.00	-5.71	1.00 V	142	11.95	36.34
3	*5745.00	115.21 PK			1.12 V	200	74.31	40.90
3	*5745.00	105.34 AV			1.12 V	200	64.44	40.90
4	#11490.00	64.80 PK	74.00	-9.20	1.10 V	261	17.42	47.38
4	#11490.00	51.10 AV	54.00	-2.90	1.10 V	261	3.72	47.38

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.
7. The limit value is defined as per 15.247

EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
MODE	Normal Mode	**CHANNEL**	11
FREQUENCY RANGE	1 ~ 40 GHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#3858.00	52.67 PK	74.00	-21.33	1.03 H	46	16.23	36.44
1	#3858.00	40.46 AV	54.00	-13.54	1.03 H	46	4.02	36.44
2	*5785.00	103.10 PK			1.04 H	156	62.05	41.05
2	*5785.00	93.65 AV			1.04 H	156	52.60	41.05
3	#11570.00	62.38 PK	74.00	-11.62	1.04 H	147	14.91	47.47
3	#11570.00	49.19 AV	54.00	-4.81	1.04 H	147	1.72	47.47

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#1100.00	46.25 PK	74.00	-27.75	1.10 V	120	19.55	26.70
1	#1100.00	41.80 AV	54.00	-12.20	1.10 V	120	15.10	26.70
2	#3858.00	53.46 PK	74.00	-20.54	1.02 V	276	17.02	36.44
2	#3858.00	46.78 AV	54.00	-7.22	1.02 V	276	10.34	36.44
3	*5785.00	117.42 PK			1.00 V	300	76.37	41.05
3	*5785.00	105.37 AV			1.00 V	300	64.32	41.05
4	#11570.00	64.18 PK	74.00	-9.82	1.10 V	258	16.71	47.47
4	#11570.00	50.90 AV	54.00	-3.10	1.10 V	258	3.43	47.47

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.
7. The limit value is defined as per 15.247

EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
MODE	Normal Mode	**CHANNEL**	13
FREQUENCY RANGE	1 ~ 40 GHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#1100.00	44.25 PK	74.00	-29.75	1.00 H	120	17.55	26.70
1	#1100.00	37.42 AV	54.00	-16.58	1.00 H	120	10.72	26.70
2	#3883.00	52.43 PK	74.00	-21.57	1.04 H	300	15.91	36.52
2	#3883.00	42.15 AV	54.00	-11.85	1.04 H	300	5.63	36.52
3	*5825.00	102.42 PK			1.00 H	310	61.47	40.95
3	*5825.00	92.34 AV			1.00 H	310	51.39	40.95
4	#11645.00	54.18 PK	74.00	-19.82	1.05 H	240	6.48	47.70
4	#11645.00	43.61 AV	54.00	-10.39	1.05 H	240	-4.09	47.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#1100.00	48.51 PK	74.00	-25.49	1.06 V	45	21.81	26.70
1	#1100.00	41.36 AV	54.00	-12.64	1.06 V	45	14.66	26.70
2	#3883.00	53.14 PK	74.00	-20.86	1.05 V	269	16.62	36.52
2	#3883.00	43.49 AV	54.00	-10.51	1.05 V	269	6.97	36.52
3	*5825.00	114.29 PK			1.20 V	196	73.34	40.95
3	*5825.00	104.52 AV			1.20 V	196	63.57	40.95
4	#11645.00	64.28 PK	74.00	-9.72	1.10 V	250	16.58	47.70
4	#11645.00	50.43 AV	54.00	-3.57	1.10 V	250	2.73	47.70

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.
7. The limit value is defined as per 15.247

EUT	Dual-Band Wireless A+G Router	MODEL	F6D3230-4
MODE	Turbo Mode	CHANNEL	4
FREQUENCY RANGE	1 ~40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#1100.00	44.52 PK	74.00	-29.48	1.10 H	250	17.82	26.70
1	#1100.00	39.54 AV	54.00	-14.46	1.10 H	250	12.84	26.70
2	#1320.00	44.59 PK	74.00	-29.41	1.21 H	250	17.16	27.43
2	#1320.00	38.69 AV	54.00	-15.31	1.21 H	250	11.26	27.43
3	#3840.00	51.69 PK	74.00	-22.31	1.00 H	79	15.31	36.38
3	#3840.00	42.59 AV	54.00	-11.41	1.00 H	79	6.21	36.38
4	*5760.00	110.51 PK			1.12 H	45	69.55	40.96
4	*5760.00	99.47 AV			1.12 H	45	58.51	40.96
5	#11520.00	60.47 PK	74.00	-13.53	1.20 H	165	13.06	47.41
5	#11520.00	48.59 AV	54.00	-5.41	1.20 H	165	1.18	47.41

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#1100.00	47.26 PK	74.00	-26.74	1.00 V	210	20.56	26.70
1	#1100.00	43.29 AV	54.00	-10.71	1.00 V	210	16.59	26.70
2	#1320.00	47.56 PK	74.00	-26.44	1.10 V	189	20.13	27.43
2	#1320.00	36.58 AV	54.00	-17.42	1.10 V	189	9.15	27.43
3	#3840.00	53.18 PK	74.00	-20.82	1.40 V	123	16.80	36.38
3	#3840.00	47.59 AV	54.00	-6.41	1.40 V	123	11.21	36.38
4	*5760.00	114.65 PK			1.04 V	300	73.69	40.96
4	*5760.00	104.28 AV			1.04 V	300	63.32	40.96
5	#11520.00	65.47 PK	74.00	-8.53	1.12 V	190	18.06	47.41
5	**#11520.00**	**52.90 AV**	**54.00**	**-1.10**	**1.12 V**	**190**	**5.49**	**47.41**

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.
7. The limit value is defined as per 15.247

EUT	Dual-Band Wireless A+G Router	MODEL	F6D3230-4
MODE	Turbo Mode	CHANNEL	5
FREQUENCY RANGE	1 ~ 40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Match Tsui		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#1100.00	44.25 PK	74.00	-29.75	1.41 H	220	17.55	26.70
1	#1100.00	39.54 AV	54.00	-14.46	1.41 H	220	12.84	26.70
2	#1320.00	45.21 PK	74.00	-28.79	1.20 H	200	17.78	27.43
2	#1320.00	38.59 AV	54.00	-15.41	1.20 H	200	11.16	27.43
3	#3867.00	51.68 PK	74.00	-22.32	1.10 H	120	15.21	36.47
3	#3867.00	42.44 AV	54.00	-11.56	1.10 H	120	5.97	36.47
4	*5800.00	104.60 PK			1.20 H	210	63.49	41.11
4	*5800.00	94.52 AV			1.20 H	210	53.41	41.11
5	#11600.00	60.14 PK	74.00	-13.86	1.10 H	120	12.64	47.50
5	#11600.00	49.50 AV	54.00	-4.50	1.10 H	120	2.00	47.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	#1100.00	47.24 PK	74.00	-26.76	1.20 V	140	20.54	26.70
1	#1100.00	42.69 AV	54.00	-11.31	1.20 V	140	15.99	26.70
2	#1320.00	47.60 PK	74.00	-26.40	1.00 V	110	20.17	27.43
2	#1320.00	37.14 AV	54.00	-16.86	1.00 V	110	9.71	27.43
3	#3876.00	56.38 PK	74.00	-17.62	1.02 V	47	19.88	36.50
3	#3876.00	52.10 AV	54.00	-1.90	1.02 V	47	15.60	36.50
4	*5800.00	114.10 PK			1.15 V	355	72.99	41.11
4	*5800.00	105.30 AV			1.15 V	355	64.19	41.11
5	#11600.00	66.52 PK	74.00	-7.48	1.00 V	178	19.02	47.50
5	#11600.00	52.81 AV	54.00	-1.19	1.00 V	178	5.31	47.50

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB).
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.
7. The limit value is defined as per 15.247

5.11 6dB BANDWIDTH MEASUREMENT

5.11.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.11.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

NOTES: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.11.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

5.11.4 DEVIATION FROM TEST STANDARD

No deviation

5.11.5 TEST SETUP

5.11.6 EUT OPERATING CONDITIONS

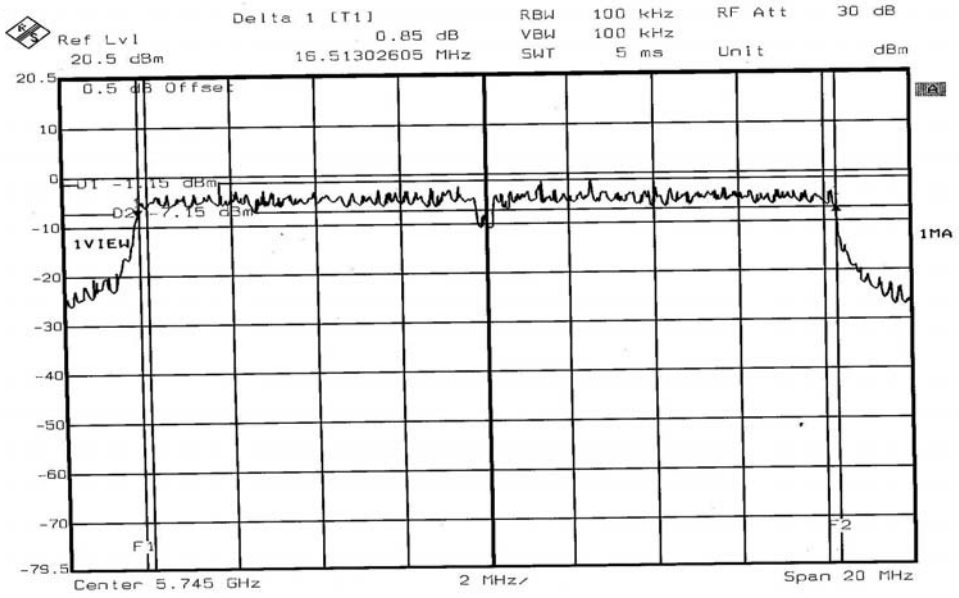
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

5.11.7 TEST RESULTS

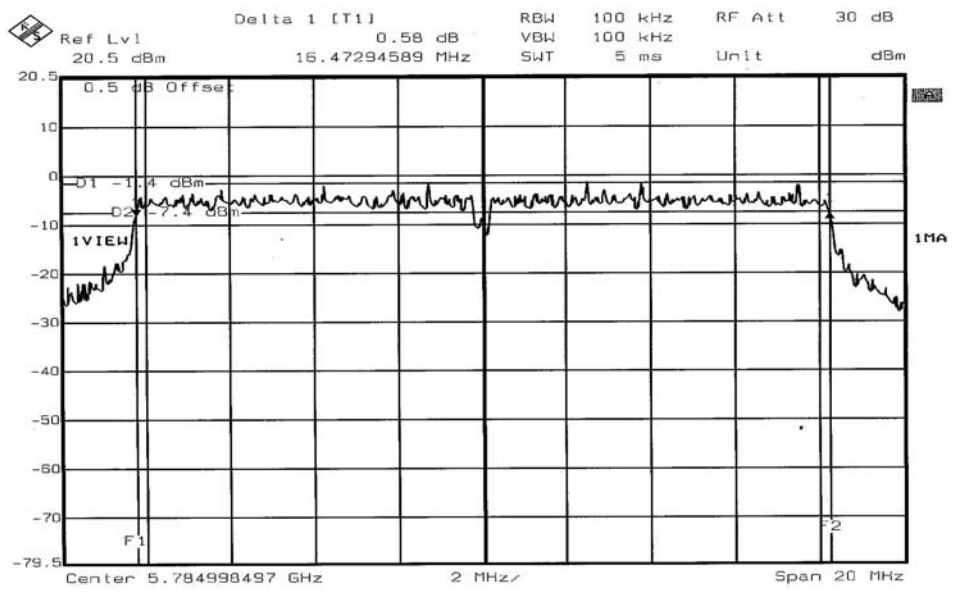
EUT	Dual-Band Wireless A+G Router	MODEL	F6D3230-4
MODE	Normal	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24 deg. C, 64% RH, 991 hPa	TESTED BY	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
9	5745	16.51	0.5	PASS
11	5785	16.47	0.5	PASS
13	5825	16.47	0.5	PASS

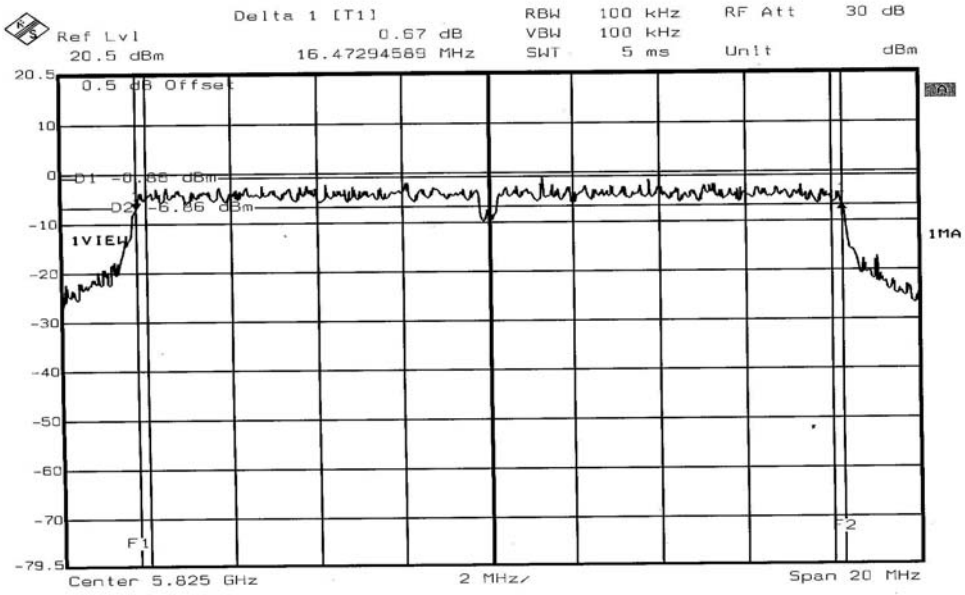
CH9


Delta 1 [T1]
0.85 dB
16.51302605 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 -1.15 dBm
D2 -7.15 dBm
1VIEW
1MA
F1
F2
Center 5.745 GHz
2 MHz/
Span 20 MHz

CH11


Delta 1 [T1]
0.58 dB
16.47294589 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 -1.4 dBm
D2 -7.4 dBm
1VIEW
1MA
F1
F2
Center 5.784998497 GHz
2 MHz/
Span 20 MHz

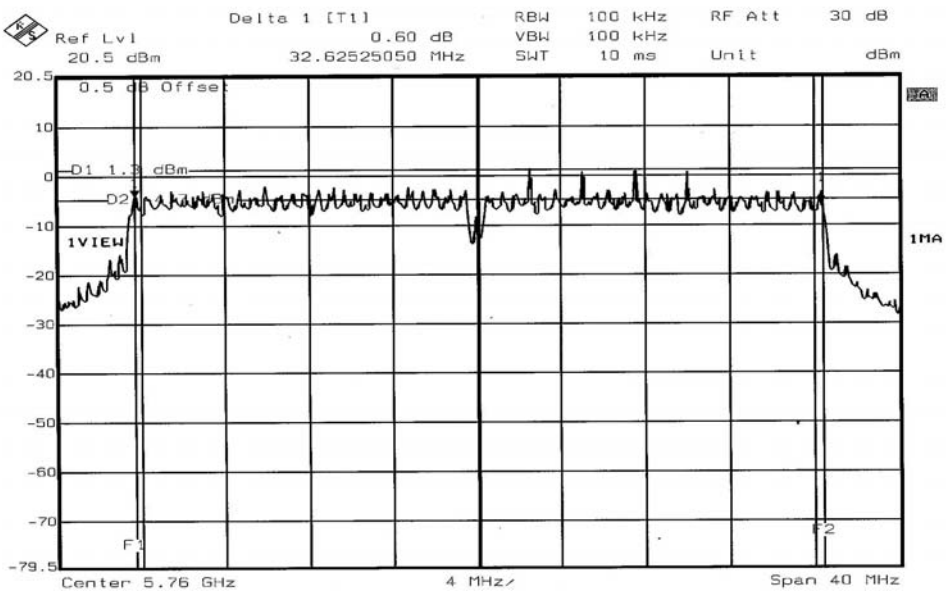
CH13


Delta 1 [T1]
0.67 dB
16.47294589 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 -0.68 dBm
D2 -6.86 dBm
1VIEW
1MA
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
F1
F2
Center 5.825 GHz
2 MHz/
Span 20 MHz

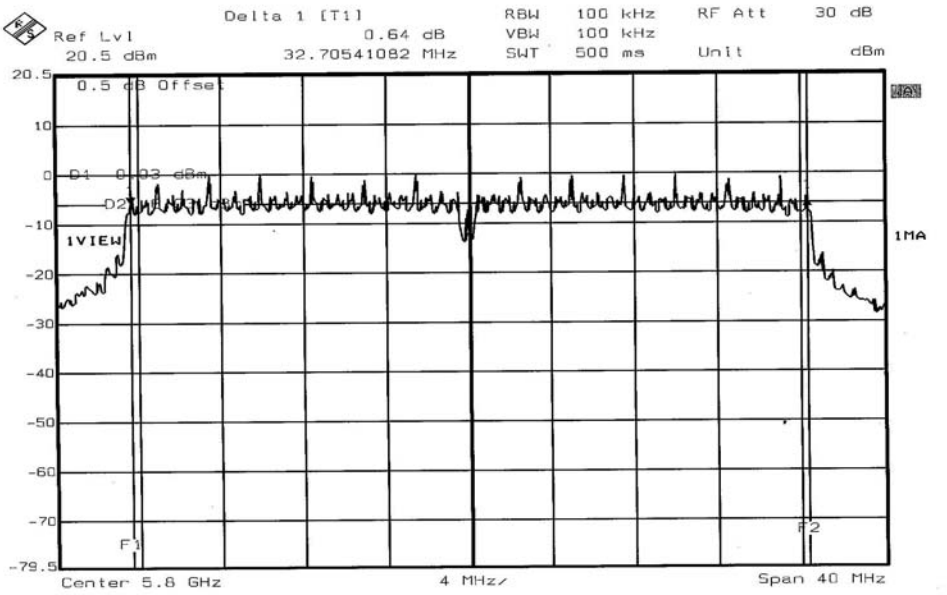
EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24 deg. C, 64% RH, 991 hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
4	5760	32.63	0.5	PASS
5	5800	32.71	0.5	PASS

CH4


Delta 1 [T1]
0.60 dB
32.62525050 MHz
RBW 100 kHz
VBW 100 kHz
SWT 10 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 1.3 dBm
D2
1VIEW
1MA
F1
F2
Center 5.76 GHz
4 MHz/
Span 40 MHz

CH5


Delta 1 [T1]
0.64 dB
32.70541082 MHz
RBW 100 kHz
VBW 100 kHz
SWT 500 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 0.03 dBm
D2
1VIEW
1MA
F1
F2
Center 5.8 GHz
4 MHz/
Span 40 MHz

5.12 MAXIMUM PEAK OUTPUT POWER

5.12.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

5.12.2 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 31, 2004
TEKTRONIX OSCILLOSCOPE	TDS 1012	C019167	Feb. 01, 2005
NARDA DETECTOR	4503A	FSCM99899	NA

NOTE:
The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA..

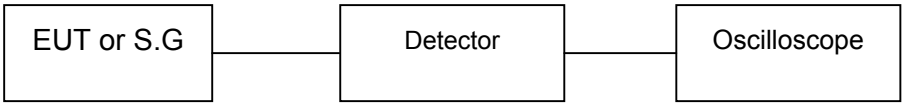
5.12.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the response of the detector.
2. Replaced the EUT by the signal generator . The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same reading on oscilloscope. Record the power level.

5.12.4 DEVIATION FROM TEST STANDARD

No deviation.

5.12.5 TEST SETUP



5.12.6 EUT OPERATING CONDITIONS

Same as Item 5.9.6.

5.12.7 TEST RESULTS

EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
ENVIRONMENTAL CONDITIONS	24 deg. C, 64% RH, 991 hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
9	5745	20.091	13.03	30	PASS
11	5785	20.324	13.08	30	PASS
13	5825	20.184	13.05	30	PASS

EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
ENVIRONMENTAL CONDITIONS	24 deg. C, 64% RH, 991 hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
4	5760	20.184	13.05	30	PASS
5	5800	20.277	13.07	30	PASS

5.13 POWER SPECTRAL DENSITY MEASUREMENT

5.13.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.13.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

NOTES:
The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

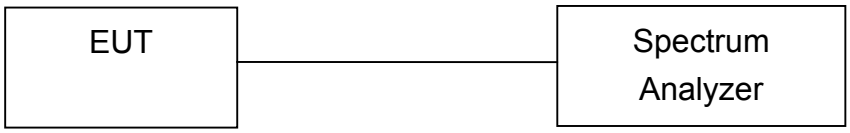
5.13.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time = span/3 kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3 kHz for a full response of the mixer in the spectrum analyzer.

5.13.4 DEVIATION FROM TEST STANDARD

No deviation.

5.13.5 TEST SETUP



5.13.6 EUT OPERATING CONDITION

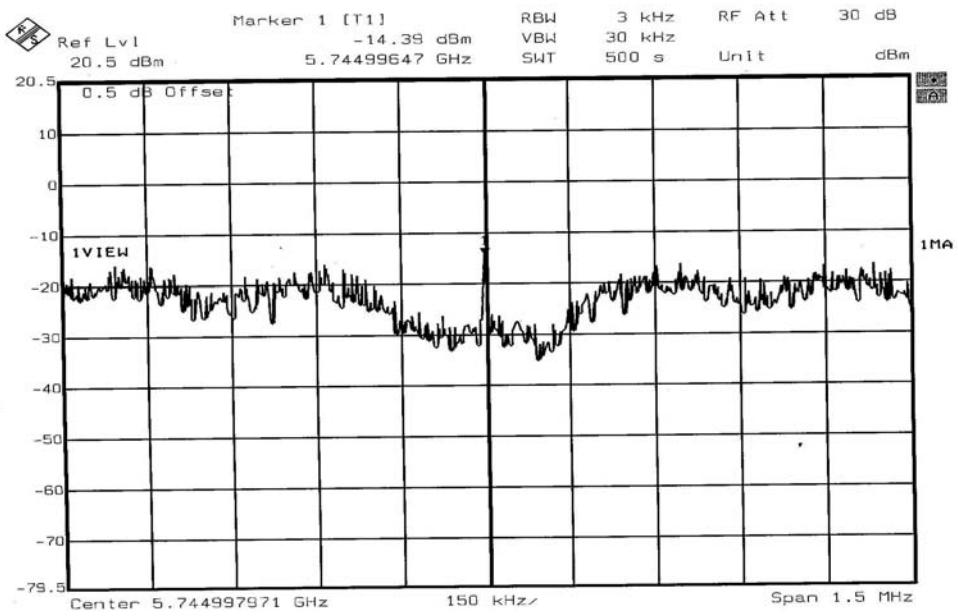
Same as Item 5.9.6.

5.13.7 TEST RESULTS

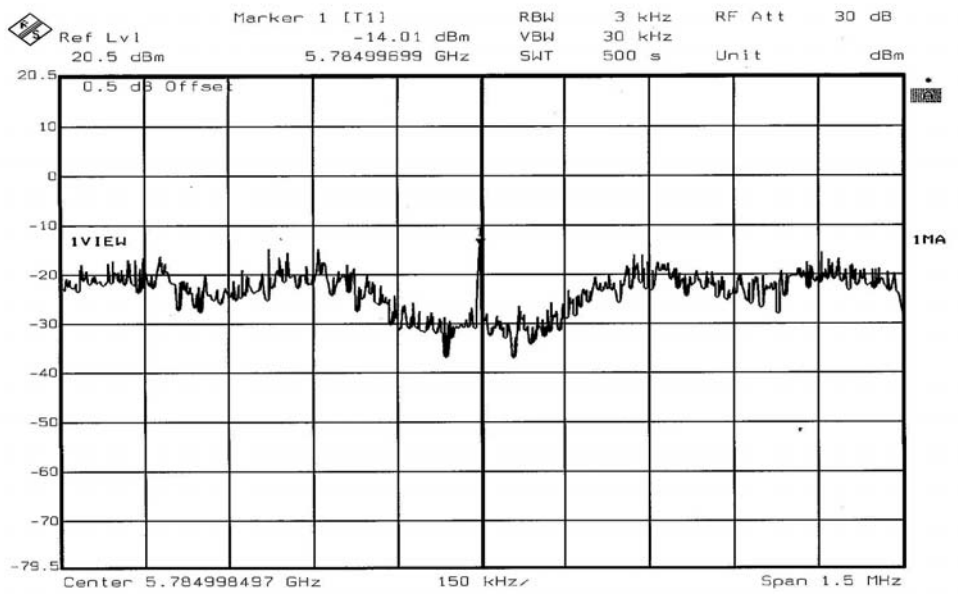
EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24 deg. C, 6% RH, 991 hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
9	5745	-14.39	8	PASS
11	5785	-14.01	8	PASS
13	5825	-13.98	8	PASS

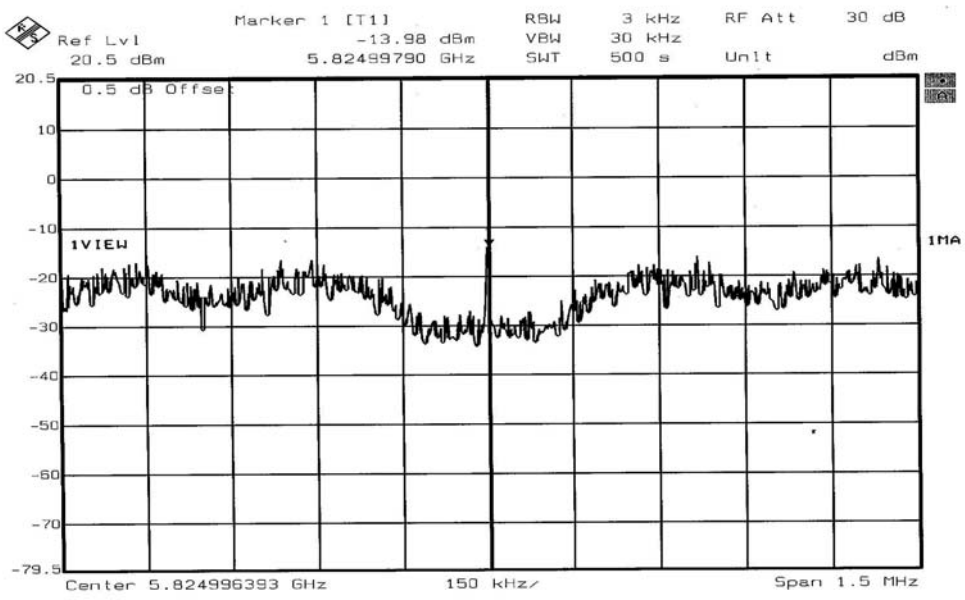
CH9


Marker 1 [T1]
-14.39 dBm
5.74499647 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
1VIEW
1MA
Center 5.744997971 GHz
150 kHz/
Span 1.5 MHz

CH11


Marker 1 [T1]
-14.01 dBm
5.78499699 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
1VIEW
1MA
Center 5.784998497 GHz
150 kHz/
Span 1.5 MHz

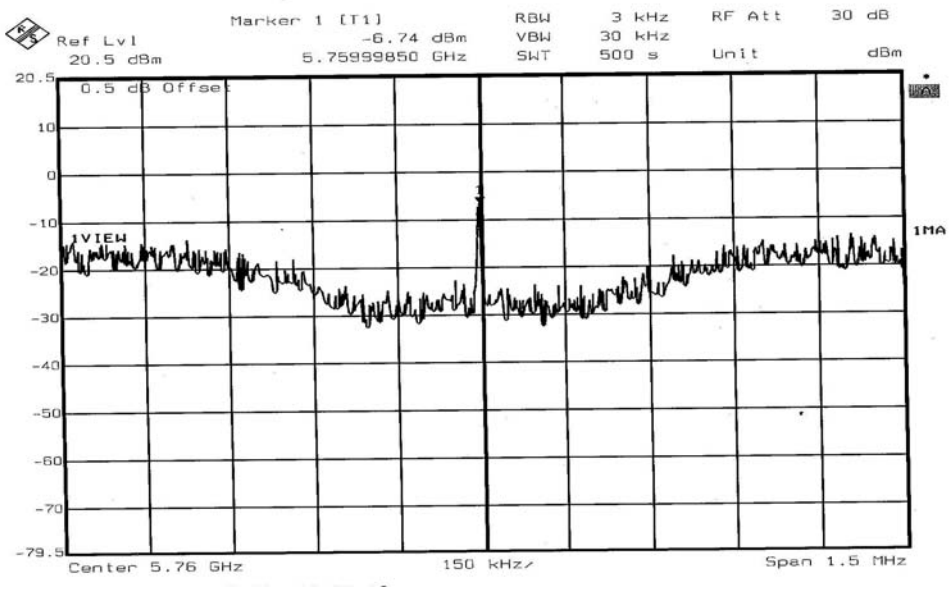
CH13


Marker 1 [T1]
-13.98 dBm
5.82499790 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
1VIEW
1MA
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Center 5.824996393 GHz
150 kHz/
Span 1.5 MHz

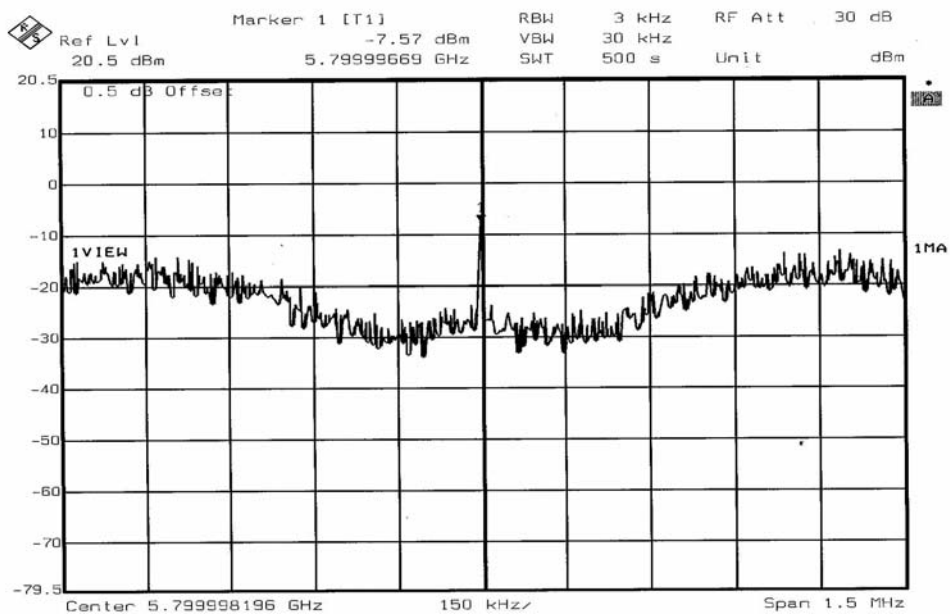
EUT	Dual-Band Wireless A+G Router	**MODEL**	F6D3230-4
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24 deg. C, 64% RH, 991 hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
4	5760	-6.74	8	PASS
5	5800	-7.57	8	PASS

CH4


Marker 1 [T1]
-6.74 dBm
5.75999850 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
1VIEW
1MA
Center 5.76 GHz
150 kHz/
Span 1.5 MHz

CH5


Marker 1 [T1]
-7.57 dBm
5.79999669 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
1VIEW
1MA
Center 5.799998196 GHz
150 kHz/
Span 1.5 MHz

5.14 BAND EDGES MEASUREMENT

5.14.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

5.14.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

NOTES:
The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.14.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100 kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

5.14.4 DEVIATION FROM TEST STANDARD

No deviation.

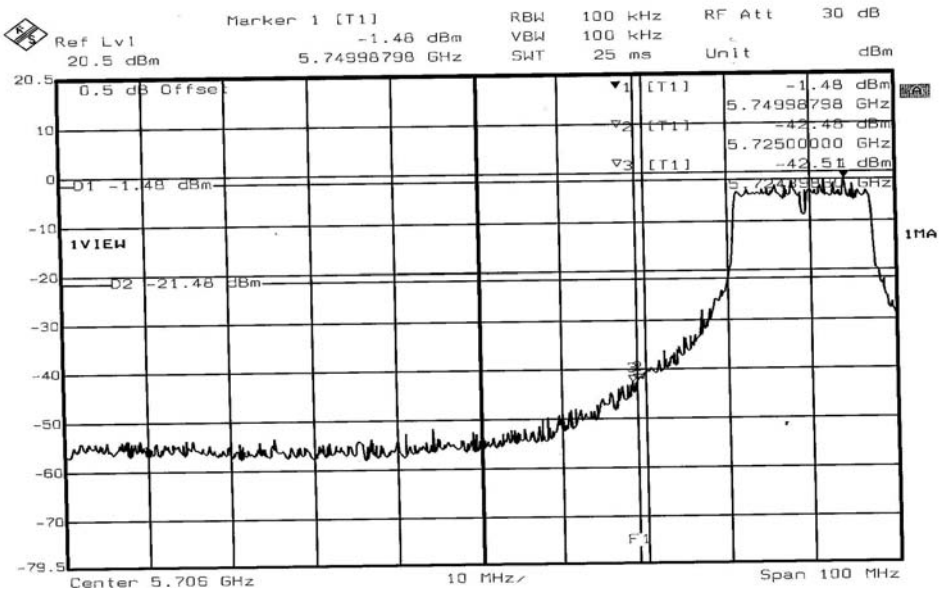
5.14.5 EUT OPERATING CONDITION

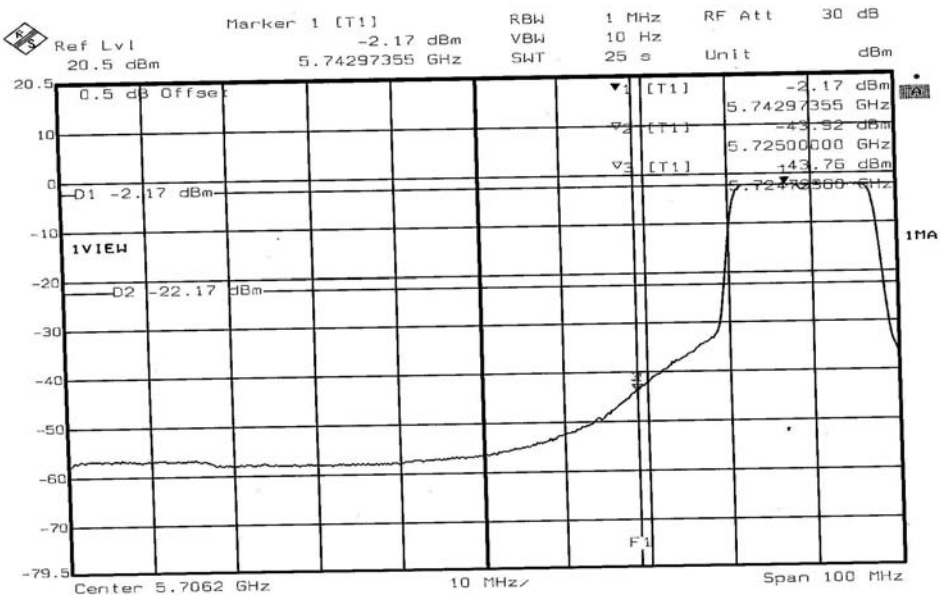
Same as Item 5.9.6.

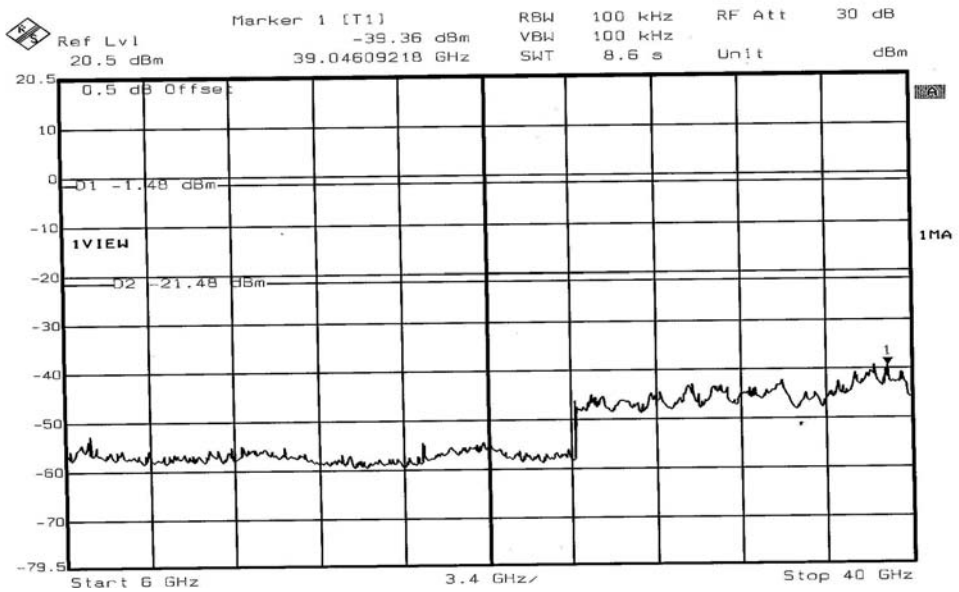
5.14.6 TEST RESULTS

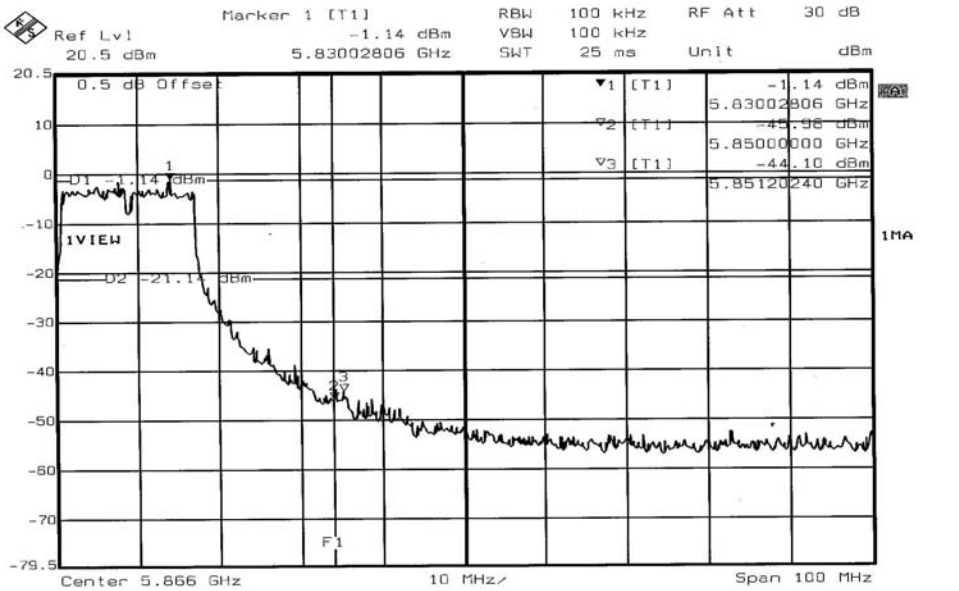
The spectrum plots are attached on the following pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(d).

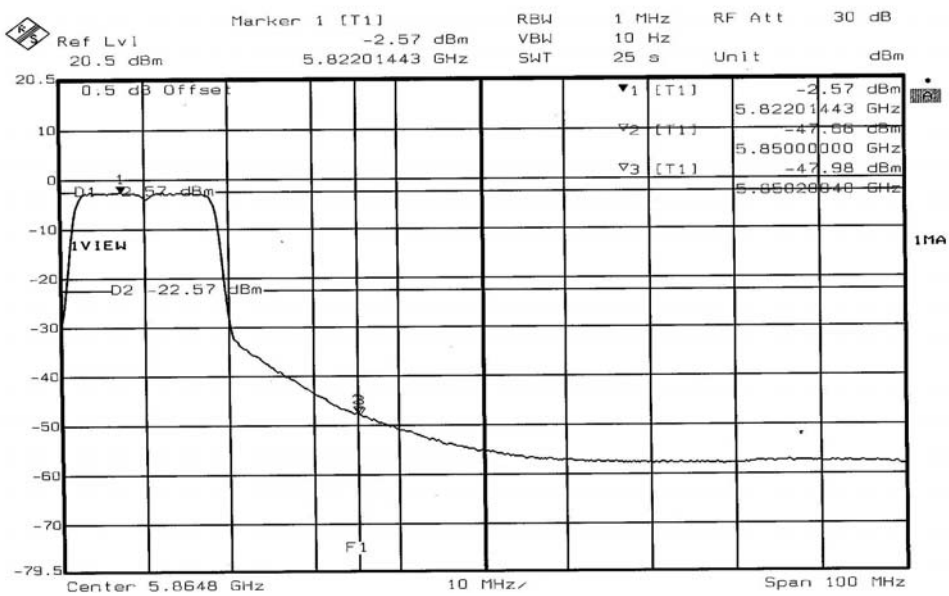
Normal Mode

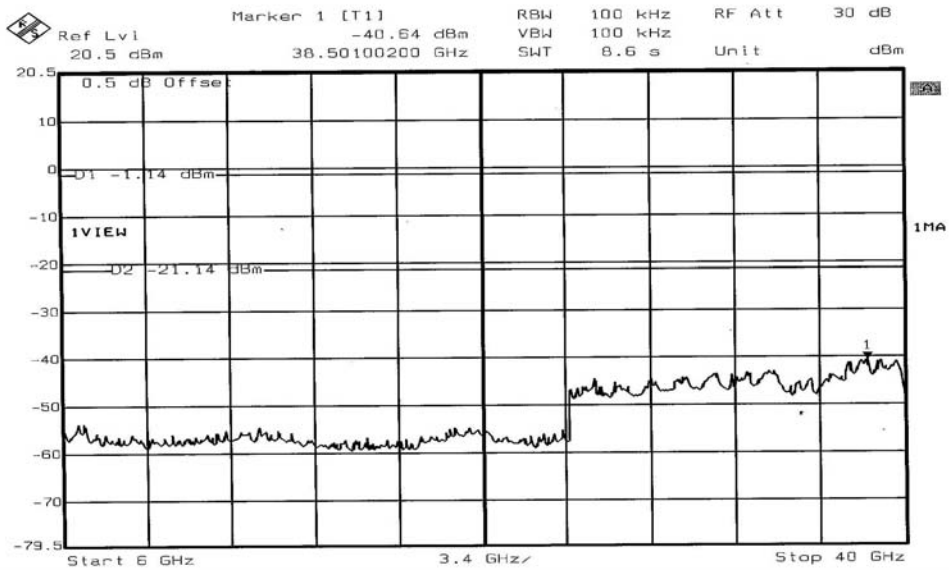

Marker 1 [T1]
-1.48 dBm
5.74998798 GHz
RBW 100 kHz
VBW 100 kHz
SWT 25 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 -1.48 dBm
D2 -21.48 dBm
1VIEW
1MA
Center 5.705 GHz
10 MHz/
Span 100 MHz


Marker 1 [T1]
-2.17 dBm
5.74297355 GHz
RBW 1 MHz
VBW 10 Hz
SWT 25 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 -2.17 dBm
D2 -22.17 dBm
1VIEW
1MA
Center 5.7062 GHz
10 MHz/
Span 100 MHz

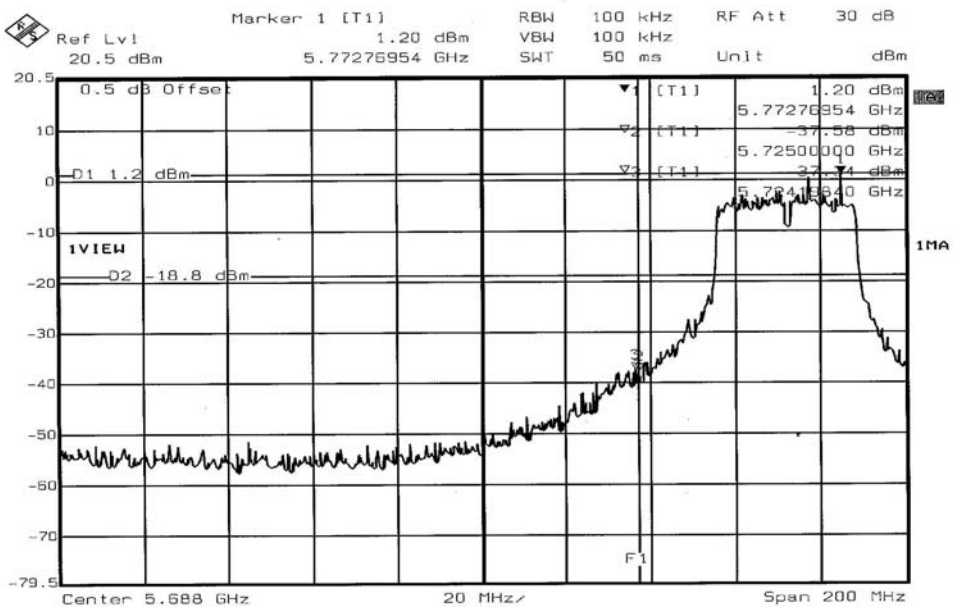

Marker 1 [T1]
-39.36 dBm
39.04609218 GHz
RBW 100 kHz
VBW 100 kHz
SWT 8.6 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 -1.48 dBm
1VIEW
D2 -21.48 dBm
1MA
Start 6 GHz
3.4 GHz/
Stop 40 GHz

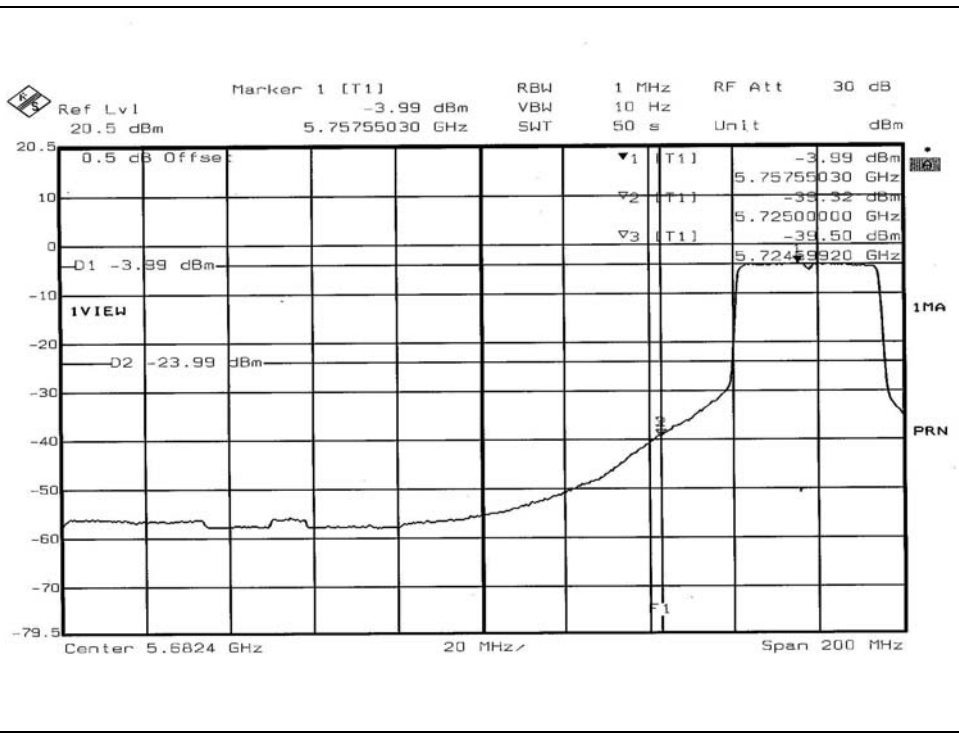

Marker 1 [T1]
-1.14 dBm
5.83002806 GHz
RBW 100 kHz
VBW 100 kHz
SWT 25 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
T1 [T1] -1.14 dBm 5.83002806 GHz
T2 [T1] -45.98 dBm 5.85000000 GHz
T3 [T1] -44.10 dBm 5.85120240 GHz
D1 -1.14 dBm
1VIEW
D2 -21.14 dBm
1MA
F1
Center 5.866 GHz
10 MHz/
Span 100 MHz

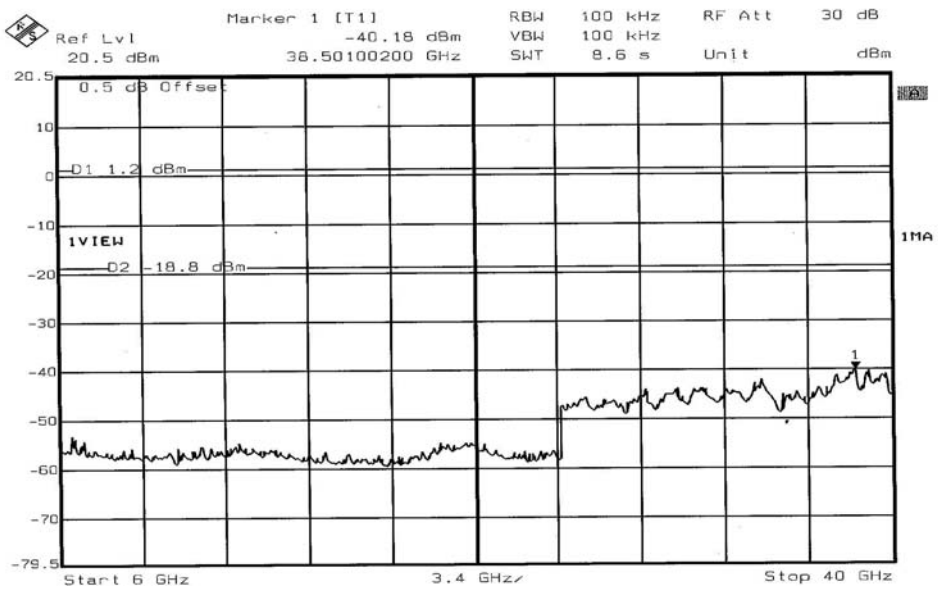

Marker 1 [T1]
RBW 1 MHz
RF Att 30 dB
Ref Lvl
-2.57 dBm
VBW 10 Hz
20.5 dBm
5.82201443 GHz
SWT 25 s
Unit dBm
0.5 dB Offset
▼1 [T1] -2.57 dBm
5.82201443 GHz
▽2 [T1] -47.66 dBm
5.85000000 GHz
▽3 [T1] -47.98 dBm
5.85020040 GHz
D1 -2.57 dBm
1VIEW
D2 -22.57 dBm
1MA
F1
Center 5.8648 GHz
10 MHz/
Span 100 MHz

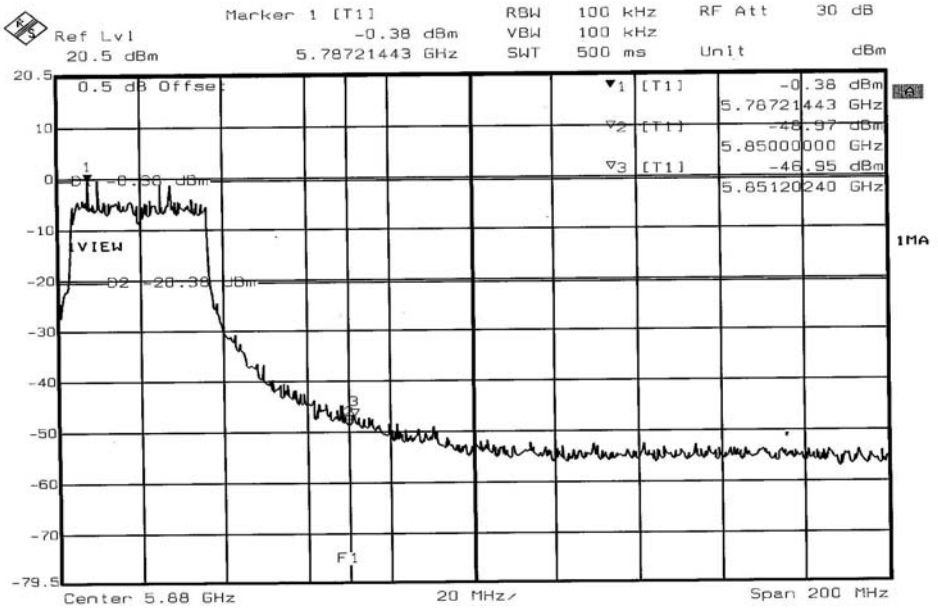

Marker 1 [T1]
RBW 100 kHz
RF Att 30 dB
Ref Lvl
-40.64 dBm
VBW 100 kHz
20.5 dBm
38.50100200 GHz
SWT 8.6 s
Unit dBm
0.5 dB Offset
D1 -1.14 dBm
1VIEW
D2 -21.14 dBm
1MA
Start 6 GHz
3.4 GHz/
Stop 40 GHz

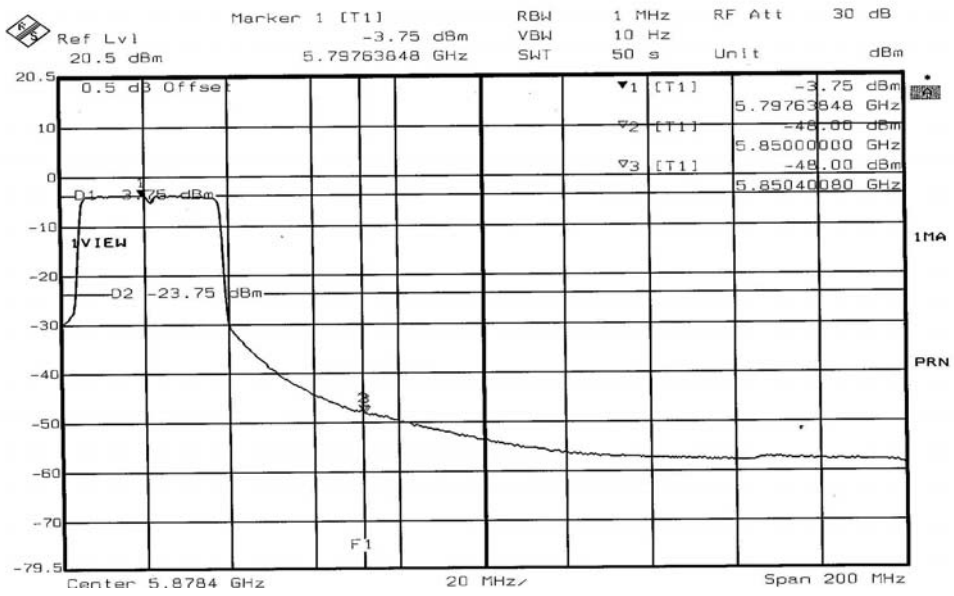
Turbo Mode

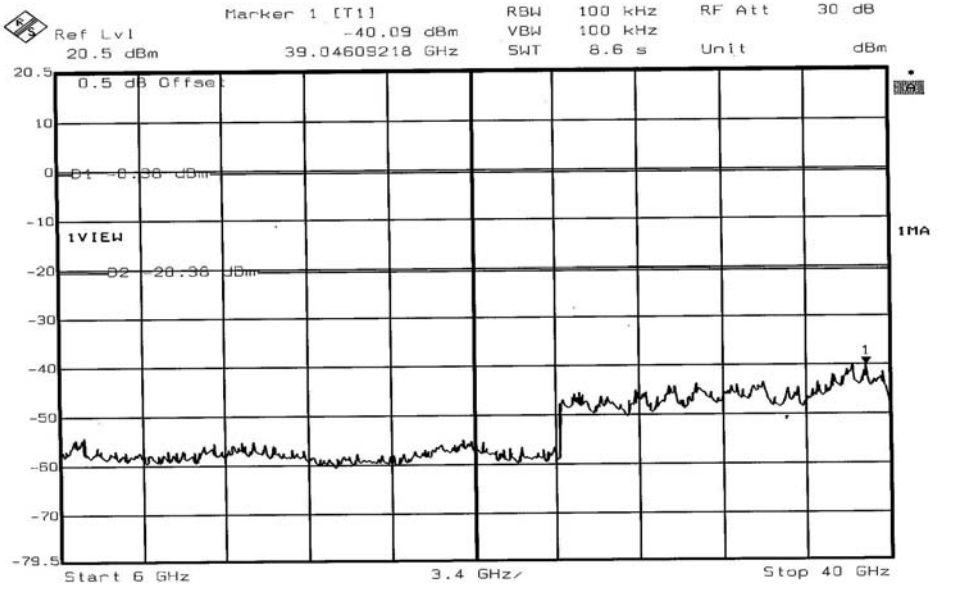

Marker 1 [T1]
RBW 100 kHz
RF Att 30 dB
Ref Lvl
1.20 dBm
VBW 100 kHz
20.5 dBm
5.77276954 GHz
SWT 50 ms
Unit dBm
0.5 dB Offset
1.20 dBm
5.77276954 GHz
-37.58 dBm
5.72500000 GHz
D1 1.2 dBm
1VIEW
D2 -18.8 dBm
1MA
F1
Center 5.688 GHz
20 MHz/
Span 200 MHz


Marker 1 [T1]
RBW 1 MHz
RF Att 30 dB
Ref Lvl
-3.99 dBm
VBW 10 Hz
20.5 dBm
5.75755030 GHz
SWT 50 s
Unit dBm
0.5 dB Offset
-3.99 dBm
5.75755030 GHz
-39.32 dBm
5.72500000 GHz
-39.50 dBm
D1 -3.99 dBm
1VIEW
D2 -23.99 dBm
1MA
PRN
F1
Center 5.6824 GHz
20 MHz/
Span 200 MHz


Marker 1 [T1]
-40.18 dBm
38.50100200 GHz
RBW 100 kHz
VBW 100 kHz
SWT 8.6 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 1.2 dBm
1VIEW
D2 -18.8 dBm
1MA
Start 6 GHz
3.4 GHz/
Stop 40 GHz


Marker 1 [T1]
-0.38 dBm
5.78721443 GHz
RBW 100 kHz
VBW 100 kHz
SWT 500 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
1 [T1] -0.38 dBm
5.78721443 GHz
2 [T1] -48.97 dBm
5.85000000 GHz
3 [T1] -46.95 dBm
5.85120240 GHz
D1 -0.38 dBm
1VIEW
D2 -20.38 dBm
1MA
F1
Center 5.88 GHz
20 MHz/
Span 200 MHz


Marker 1 [T1]
-3.75 dBm
5.79763848 GHz
RBW 1 MHz
VBW 10 Hz
SWT 50 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 -3.75 dBm
D2 -23.75 dBm
1VIEW
1MA
PRN
F1
Center 5.8784 GHz
20 MHz/
Span 200 MHz


Marker 1 [T1]
-40.09 dBm
39.04609218 GHz
RBW 100 kHz
VBW 100 kHz
SWT 8.6 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 -8.38 dBm
D2 -28.38 dBm
1VIEW
1MA
Start 6 GHz
3.4 GHz/
Stop 40 GHz

5.15 ANTENNA REQUIREMENT

5.15.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And according to FCC 47 CFR Section 15.247(a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

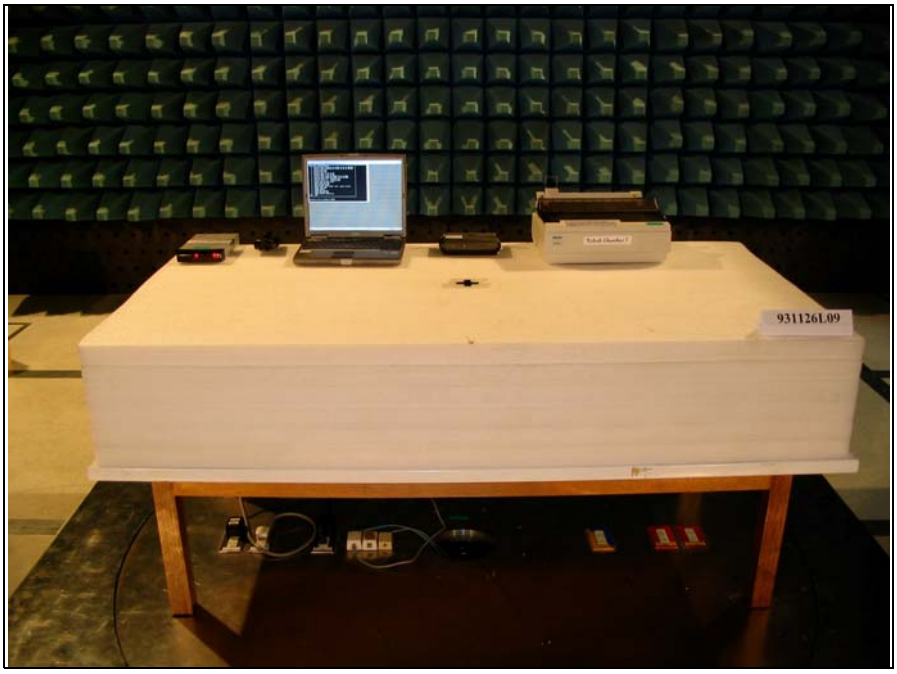
5.15.2 ANTENNA CONNECTED CONSTRUCTION

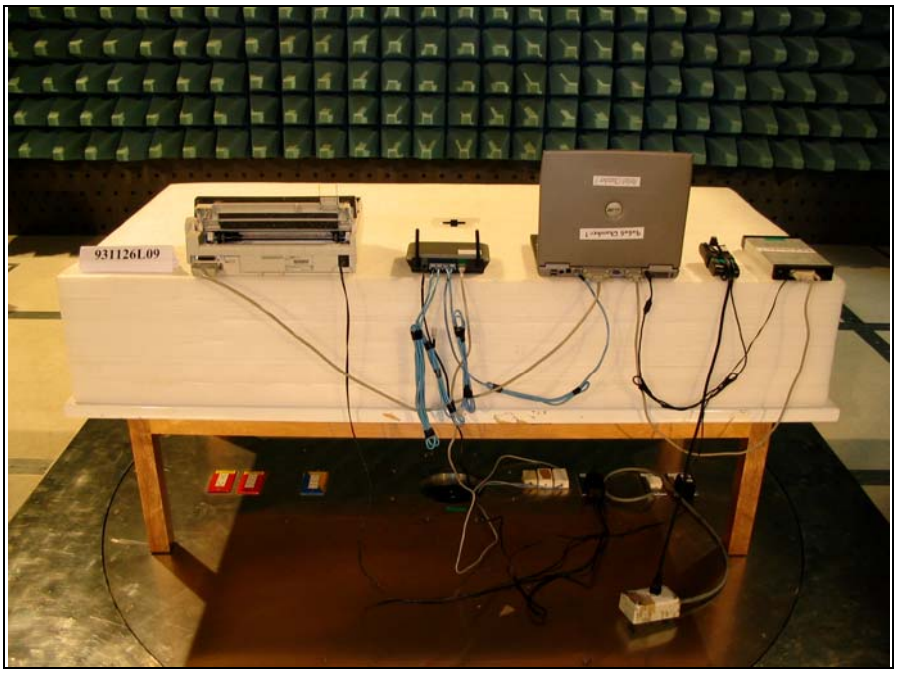
The antenna used in this product is dipole antenna with UFL antenna connector. The maximum Gain of the antenna is 3dBi.

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

Conducted Emission Test

Radiated Emission Test





7. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:

USA	FCC, NVLAP, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB , GOST-ASIA(MOU)
Russia	CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

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Fax: 886-2-26052943

Hsin Chu EMC/RF Lab
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Email: service@adt.com.tw
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The address and road map of all our labs can be found in our web site also