



4.6 FREQUENCY STABILITY

4.6.1 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.

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Aug. 12, 2005
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	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.

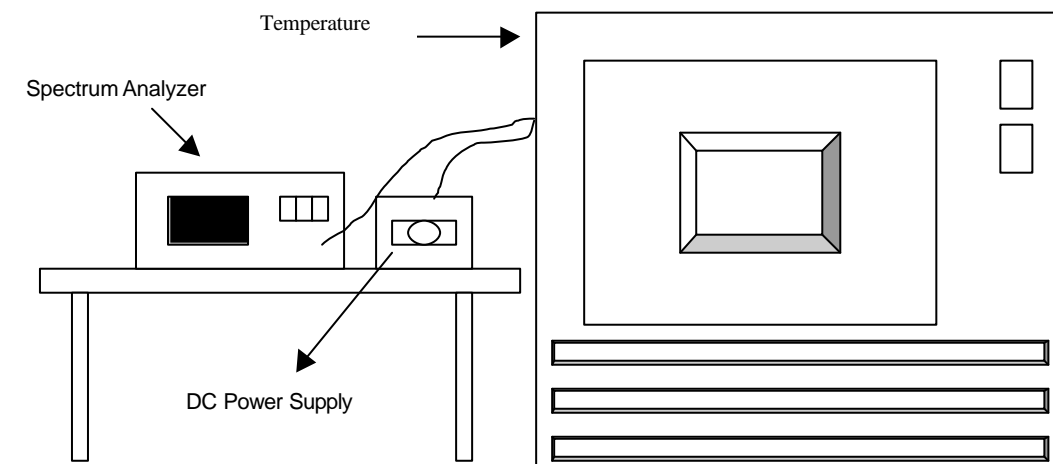
4.6.3 TEST PROCEDURE

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.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6



4.6.7 TEST RESULTS

		Operating frequency: 5320MHz				Limit : ± 0.01%	
Temp. ()	Power supply (Vac)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	138	5319.9882	-0.0002211	5319.9882	-0.0002211	5319.9982	-0.0000331
	120	5319.9882	-0.0002211	5319.9882	-0.0002211	5319.9882	-0.0002211
	102	5319.9882	-0.0002211	5319.9882	-0.0002211	5319.9882	-0.0002211
40	138	5319.9881	-0.0002242	5319.9886	-0.0002148	5319.9886	-0.0002148
	120	5319.9881	-0.0002242	5319.9886	-0.0002148	5319.9886	-0.0002148
	102	5319.9988	-0.0000224	5319.9886	-0.0002148	5319.9886	-0.0002148
30	138	5319.9873	-0.0002383	5319.9873	-0.0002383	5319.9871	-0.0002432
	120	5319.9873	-0.0002383	5319.9873	-0.0002383	5319.9871	-0.0002432
	102	5319.9873	-0.0002383	5319.9873	-0.0002383	5319.9871	-0.0002432
20	138	5319.9912	-0.0001662	5319.9912	-0.0001662	5319.9912	-0.0001662
	120	5319.9912	-0.0001662	5319.9912	-0.0001662	5319.9912	-0.0001662
	102	5319.9912	-0.0001662	5319.9912	-0.0001662	5319.9912	-0.0001662
10	138	5319.9961	-0.0000737	5319.9969	-0.0000583	5319.9965	-0.0000660
	120	5319.9961	-0.0000737	5319.9969	-0.0000583	5319.9965	-0.0000660
	102	5319.9961	-0.0000737	5319.9969	-0.0000583	5319.9965	-0.0000660
0	138	5320.0018	0.0000346	5320.0018	0.0000346	5320.0024	0.0000442
	120	5320.0018	0.0000346	5320.0018	0.0000346	5320.0024	0.0000442
	102	5320.0018	0.0000346	5320.0018	0.0000346	5320.0024	0.0000442
-10	138	5320.0054	0.0001006	5320.0051	0.0000959	5320.0056	0.0001053
	120	5320.0054	0.0001006	5320.0051	0.0000959	5320.0056	0.0001053
	102	5320.0054	0.0001006	5320.0051	0.0000959	5320.0056	0.0001053
-20	138	5320.0031	0.0000583	5320.0031	0.0000583	5320.0031	0.0000583
	120	5320.0031	0.0000583	5320.0031	0.0000583	5320.0031	0.0000583
	102	5320.0031	0.0000583	5320.0031	0.0000583	5320.0031	0.0000583
-30	138	5319.9976	-0.0000453	5319.9978	-0.0000406	5319.9973	-0.0000500
	120	5319.9976	-0.0000453	5319.9978	-0.0000406	5319.9973	-0.0000500
	102	5319.9976	-0.0000453	5319.9978	-0.0000406	5319.9973	-0.0000500



4.7 BAND EDGES MEASUREMENT

4.7.1 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.

4.7.2 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.

4.7.3 EUT OPERATING CONDITION

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

4.7.4 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:**

Channel 1 (5180MHz)

The band edge emission plot on the pages 82 ~ 84 shows 43.29dBc (Peak) / 51.22Bc (Average) 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 97.42dBuV/m, so the maximum field strength in restrict band is $97.42-51.22=46.20$ dBuV/m which is under 54dBuV/m limit.

Channel 8 (5320MHz)

The band edge emission plot on the pages 85 ~ 87 shows 47.27dBc (Peak) / 54.39dBc (Average) 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 97.06BuV/m, so the maximum field strength in restrict band is $97.06-54.39=42.67$ dBuV/m which is under 54dBuV/m limit.

Turbo Mode :

Channel 1 (5210MHz)

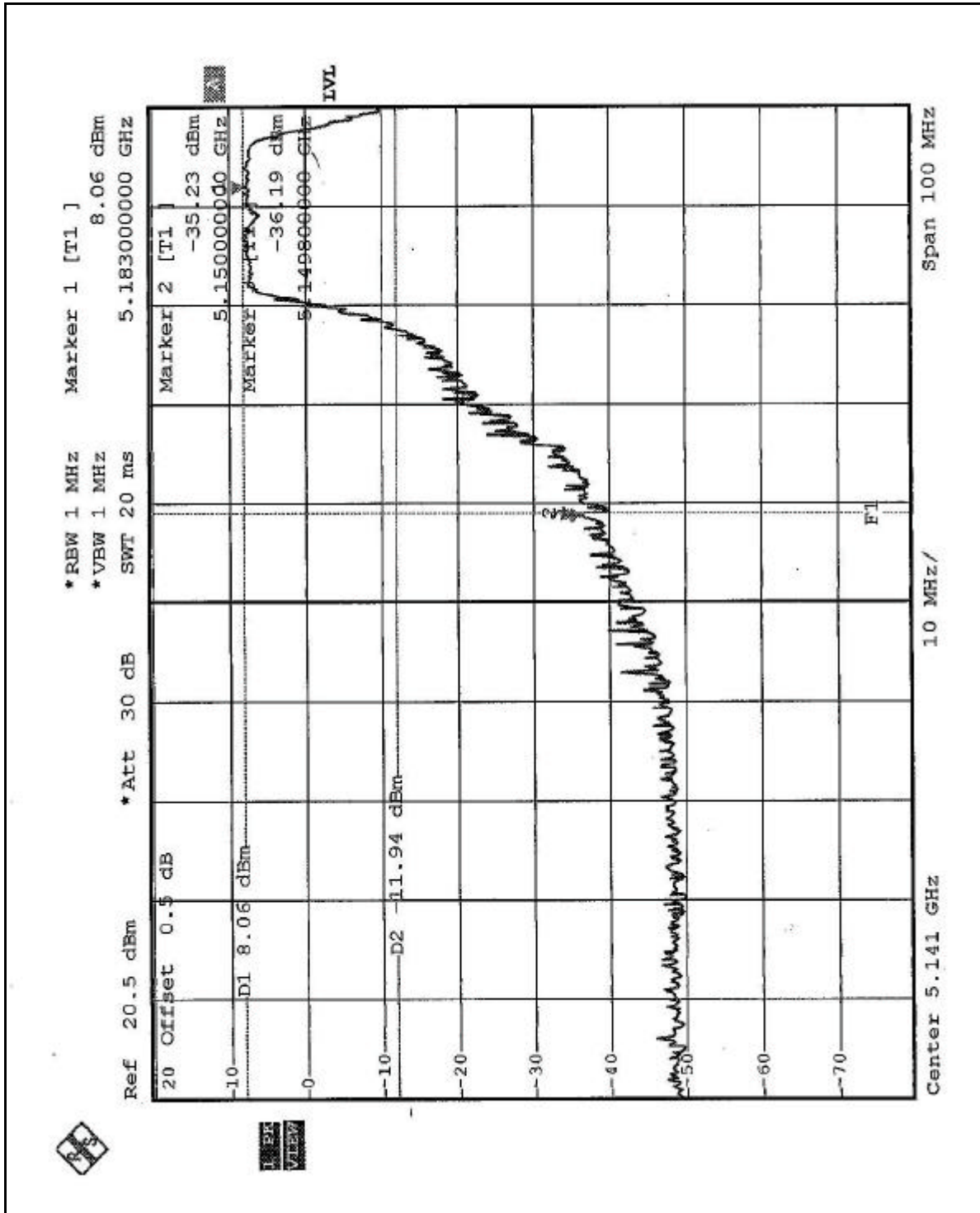
The band edge emission plot on the pages 88 ~90 shows 41.45dBc (Peak) / 47.75dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 93.95dBuV/m, so the maximum field strength in restrict band is $93.95-47.75=46.20$ dBuV/m which is under 54dBuV/m limit.

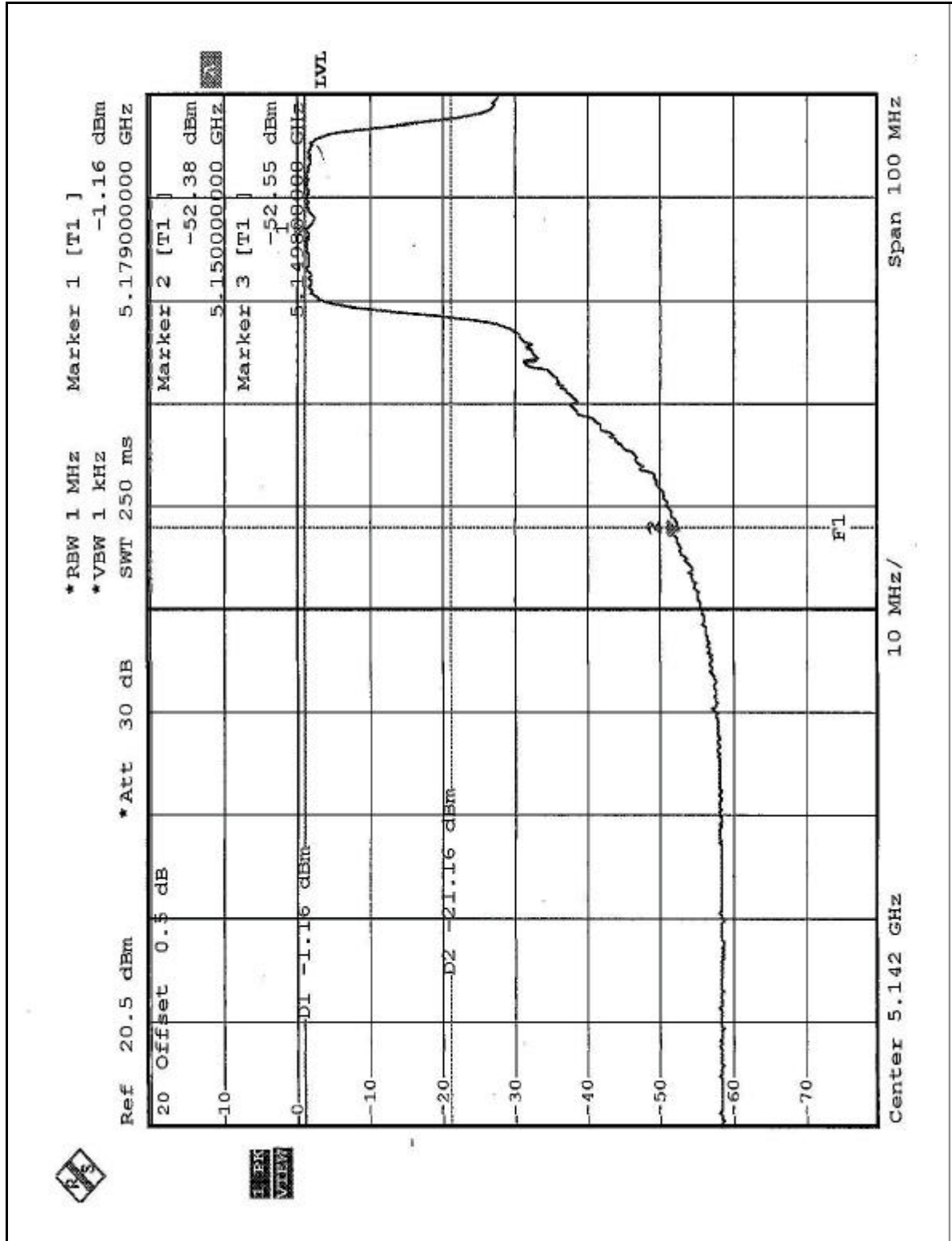
Channel 3 (5290MHz)

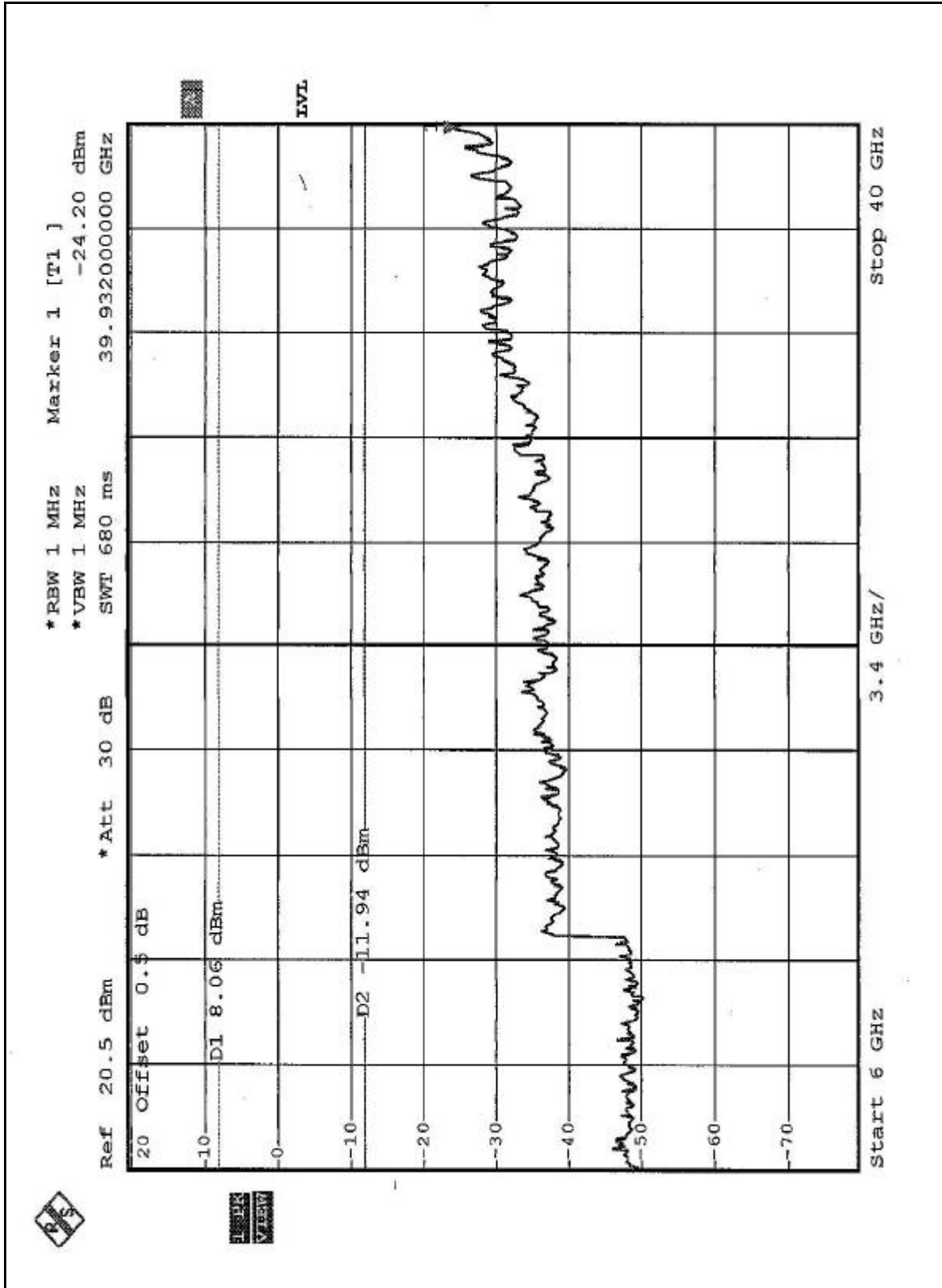
The band edge emission plot on the pages 91~93 shows 43.13dBc (Peak) / 50.58dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 3 is 95.13dBuV/m, so the maximum field strength in restrict band is $95.13-50.58=44.55$ dBuV/m which is under 54dBuV/m limit.



Normal Mode (CH1)

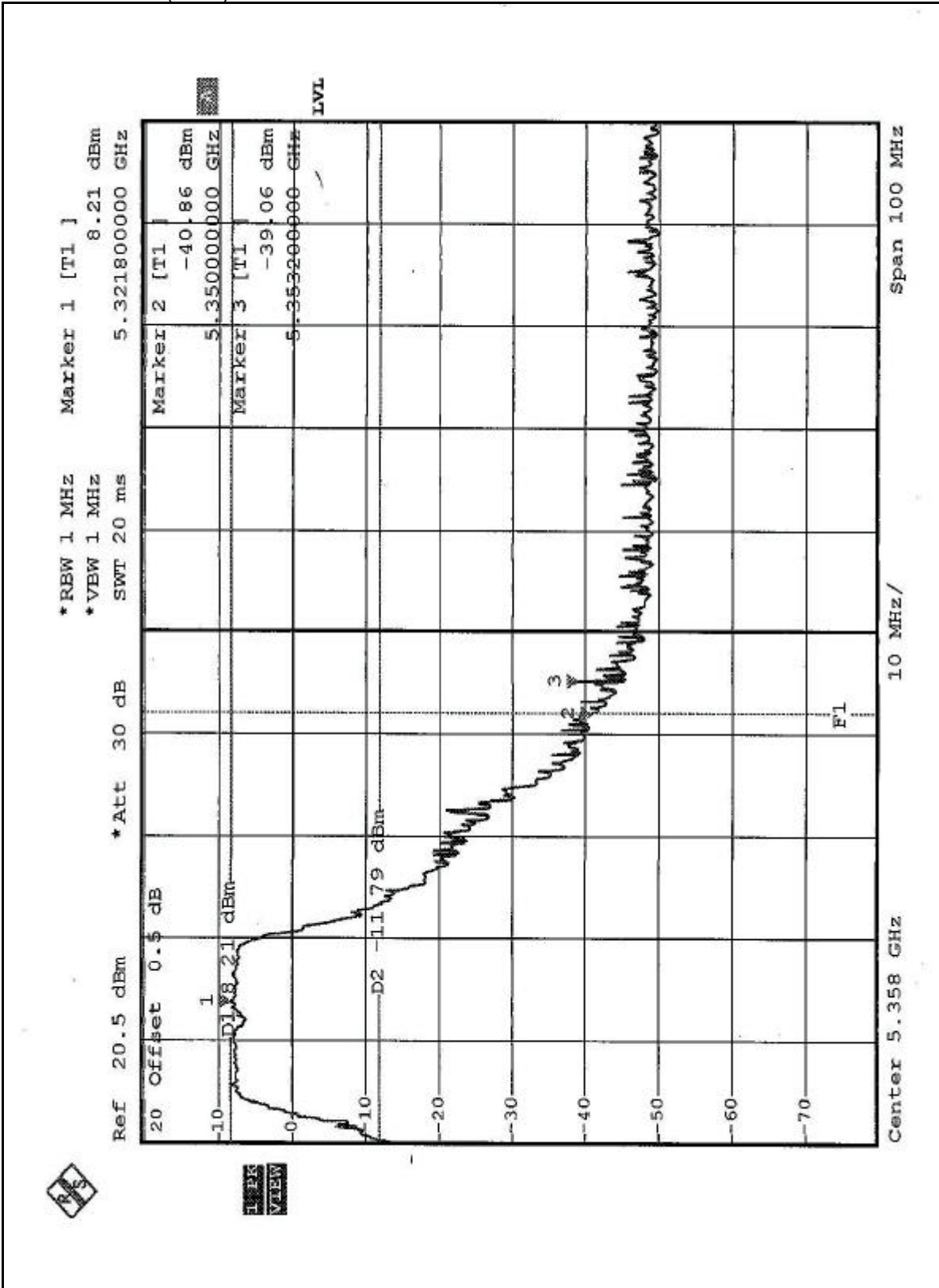


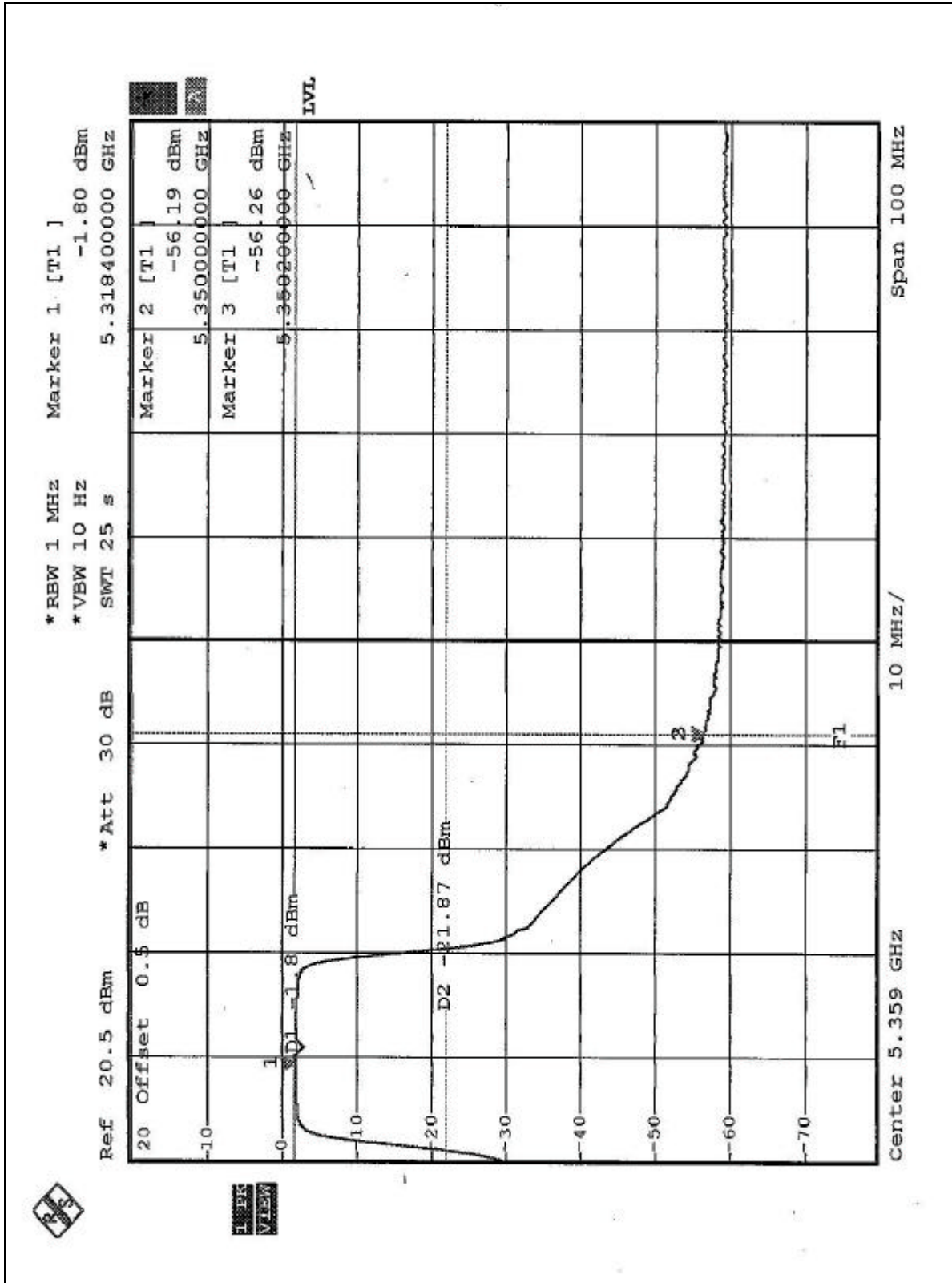


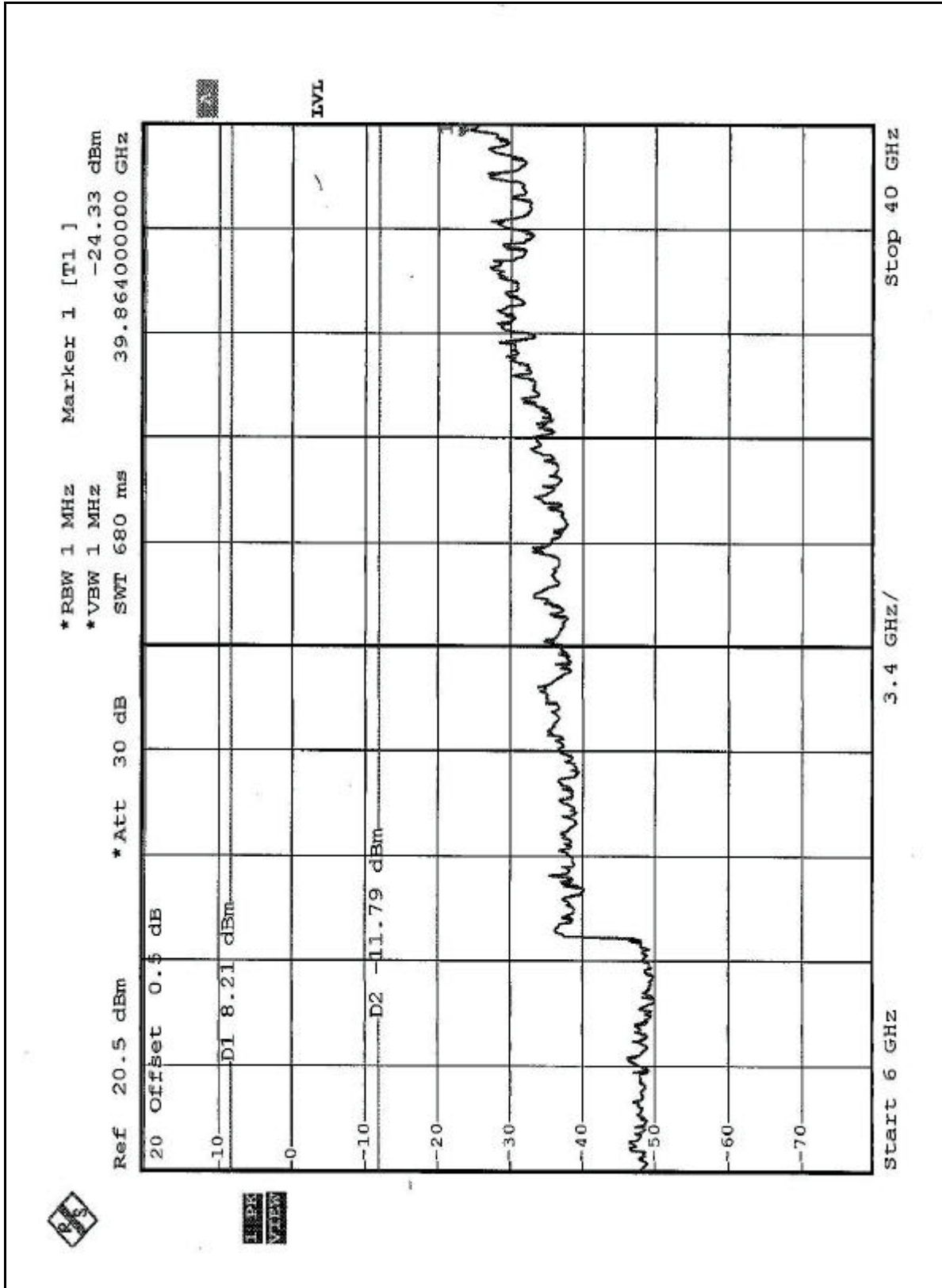




Normal Mode (CH8)

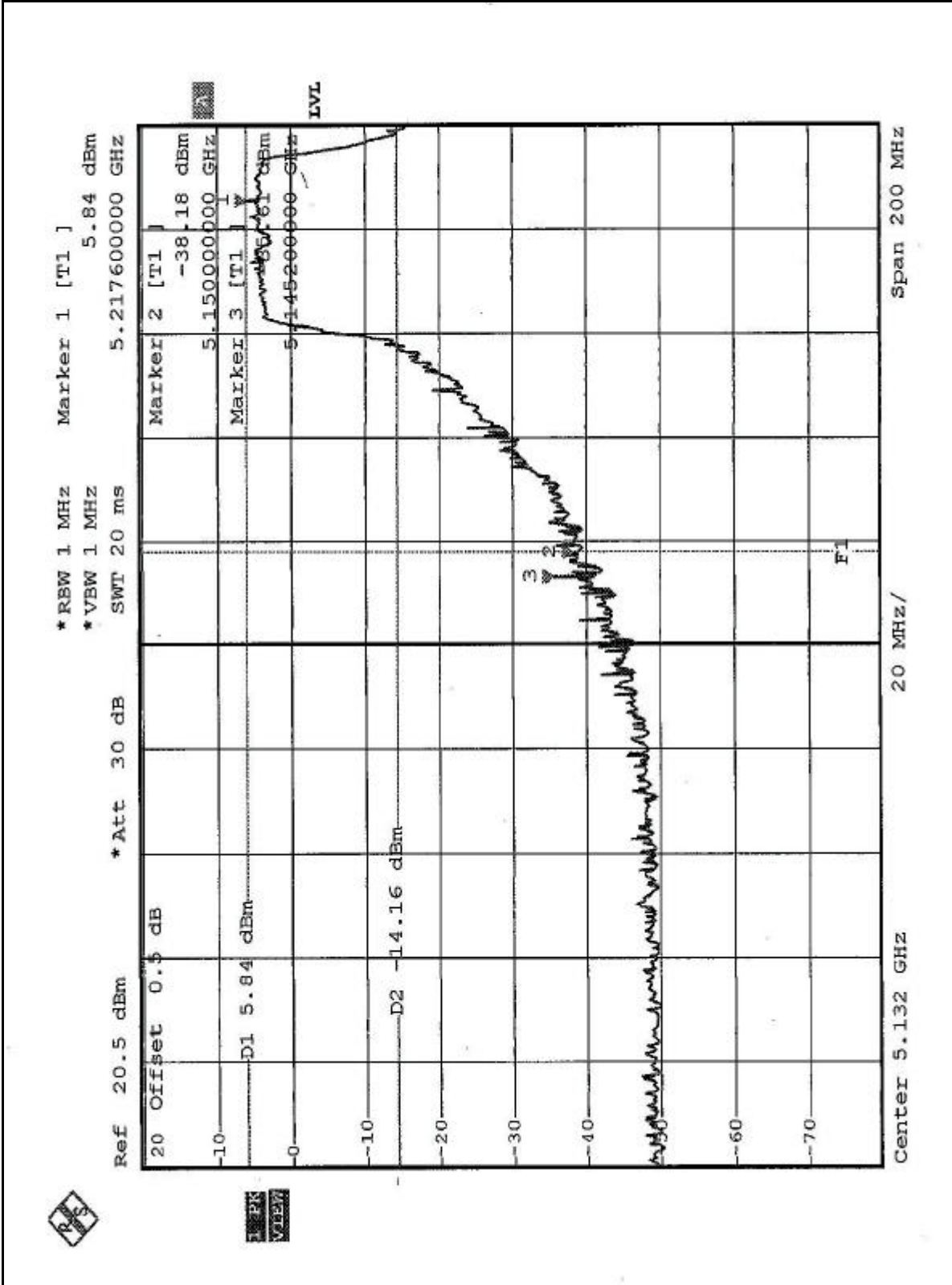


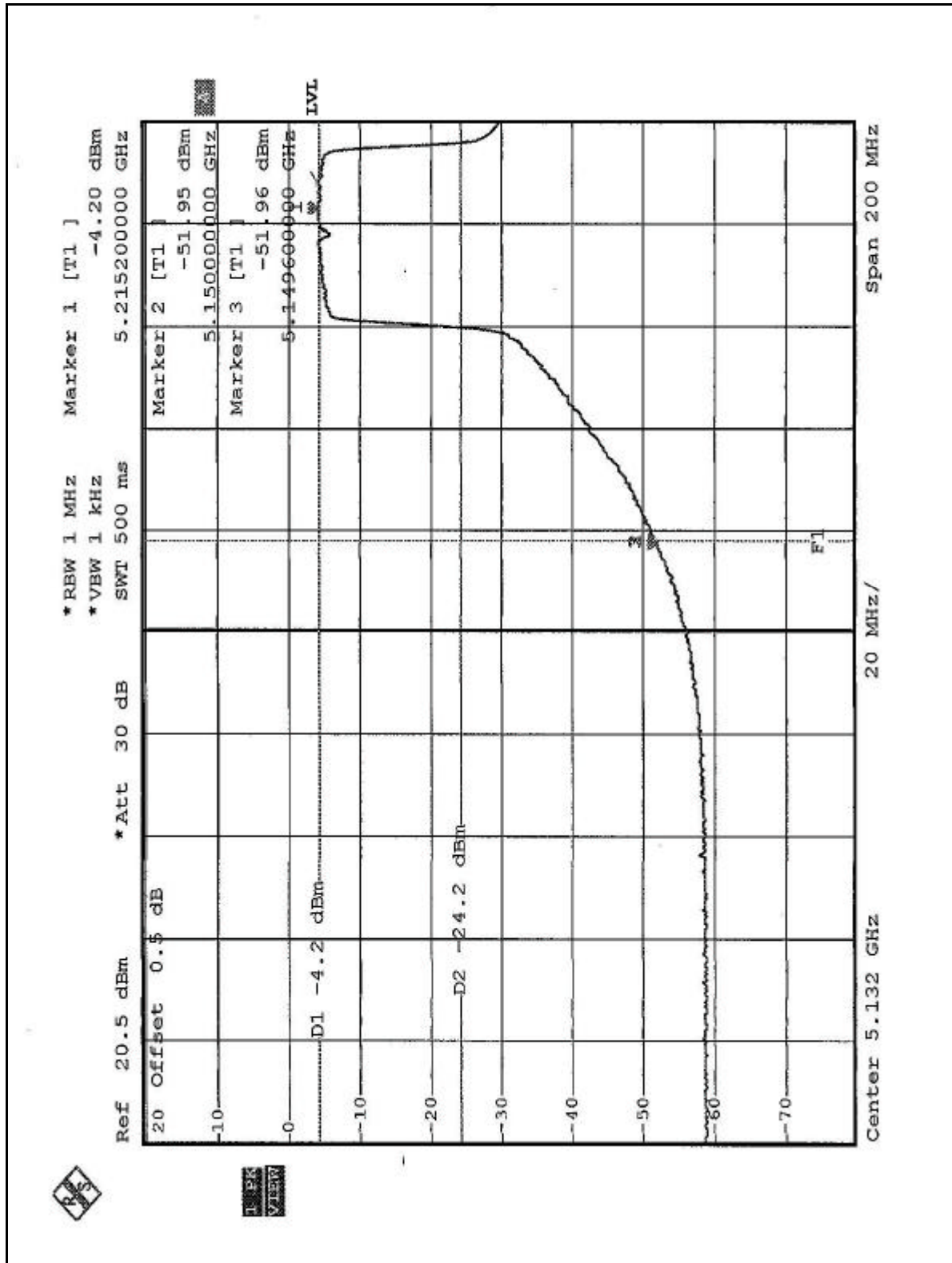


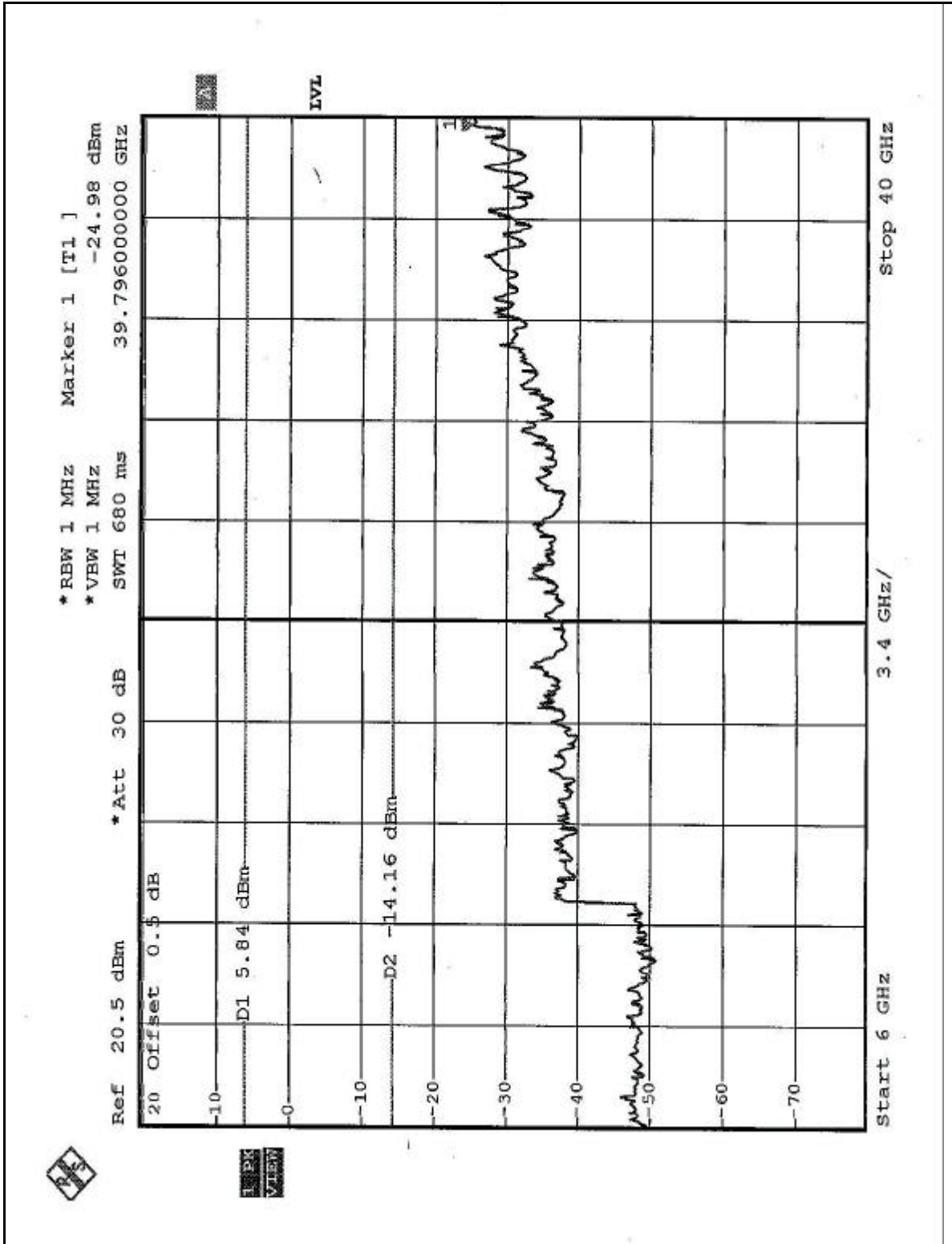




Turbo Mode (CH1)

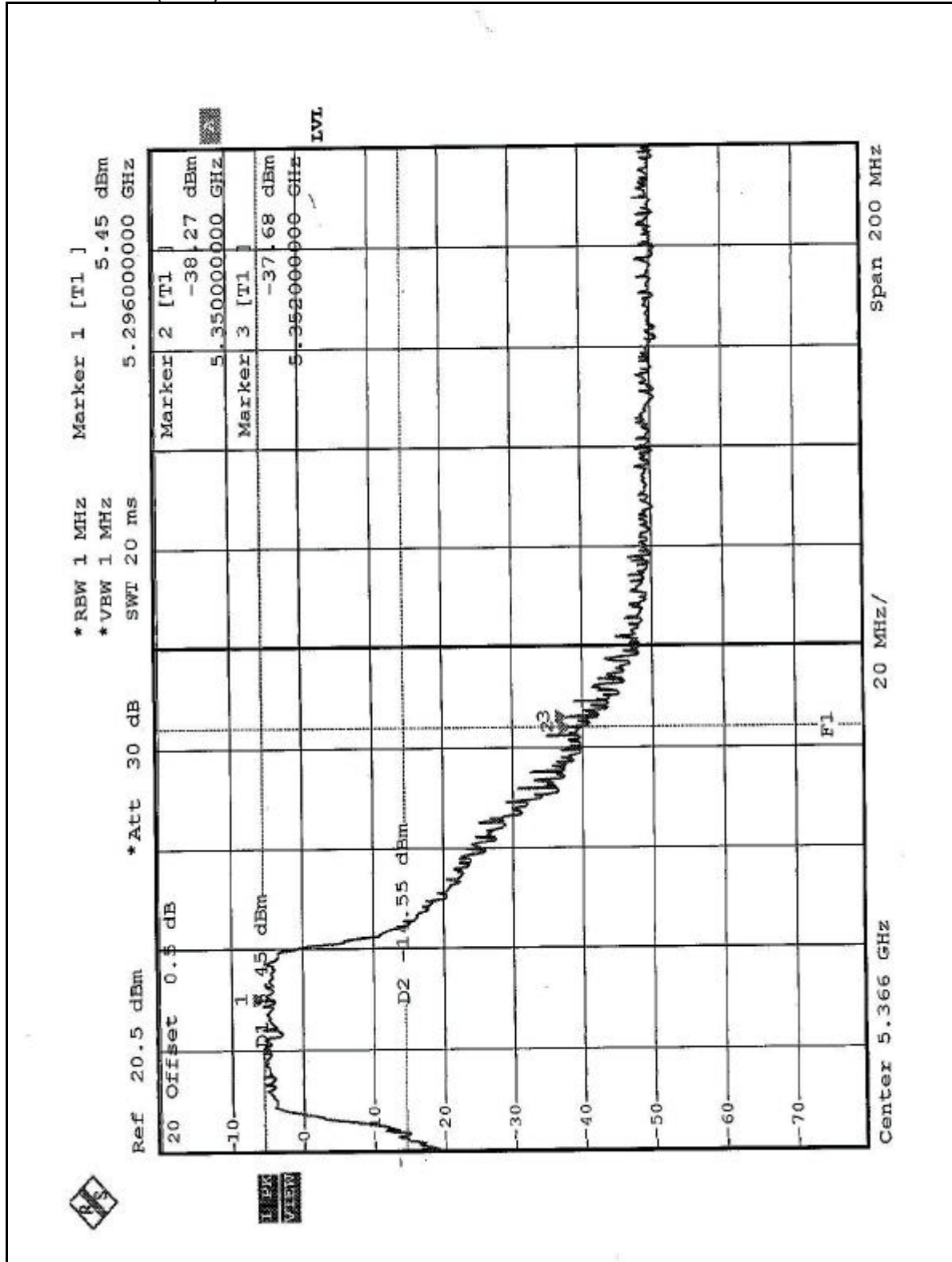


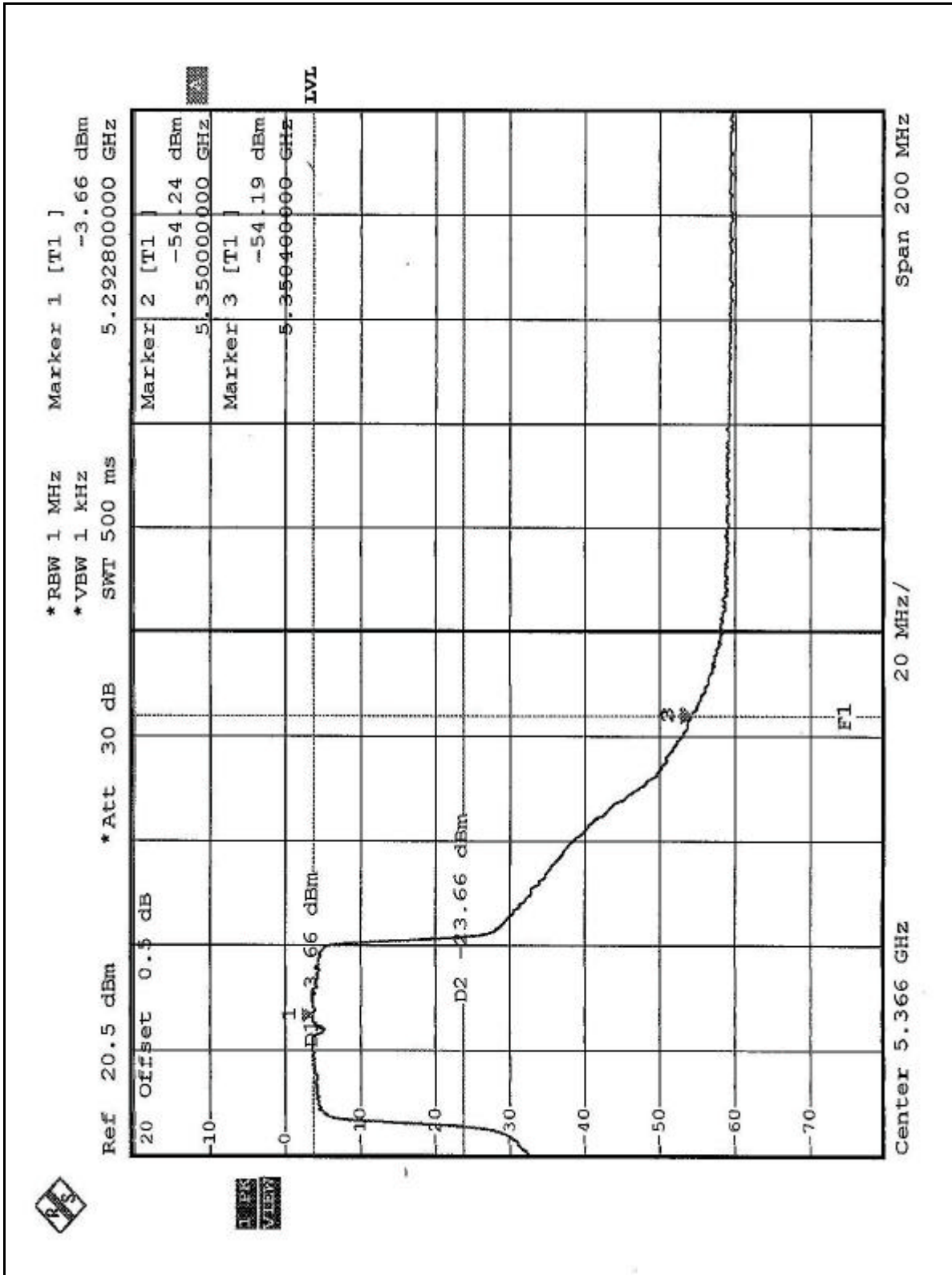


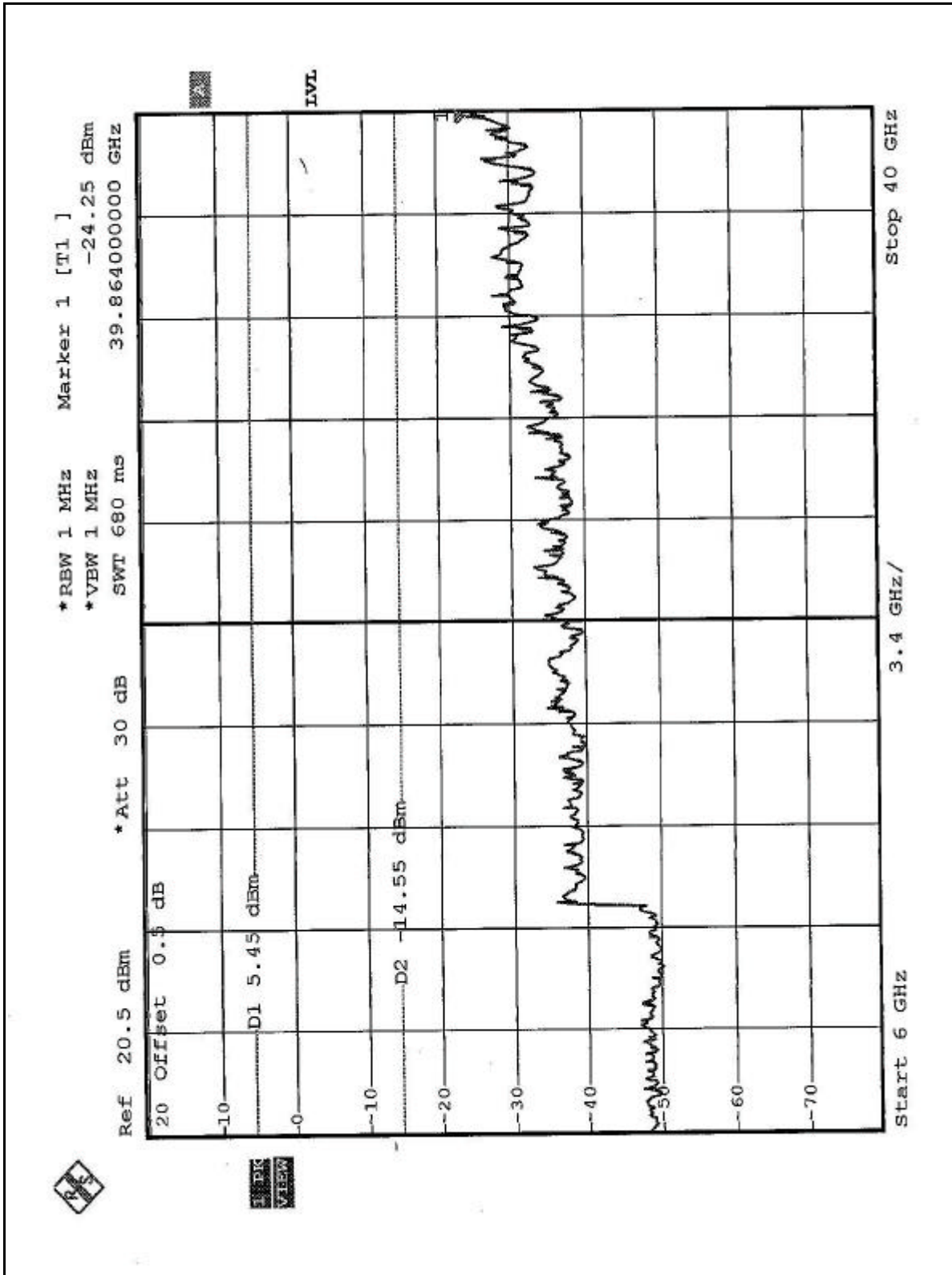




Turbo Mode (CH3)









4.8 ANTENNA REQUIREMENT

4.8.1 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.

4.8.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is Printed antenna with UFL antenna connector. The maximum Gain of the antenna is 2.7dBi.



FOR FREQUENCY 5.725~5.850GHz

4.9 CONDUCTED EMISSION MEASUREMENT

4.9.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	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.

4.9.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Nov. 16, 2005
RF signal cable Woken	5D-FB	Cable-HYC01-01	Mar. 02, 2005
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Mar. 03, 2005
LISN ROHDE & SCHWARZ	ESH2-Z5	100104	Mar. 02, 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 1.
 3. The VCCI Site Registration No. is C-2040.



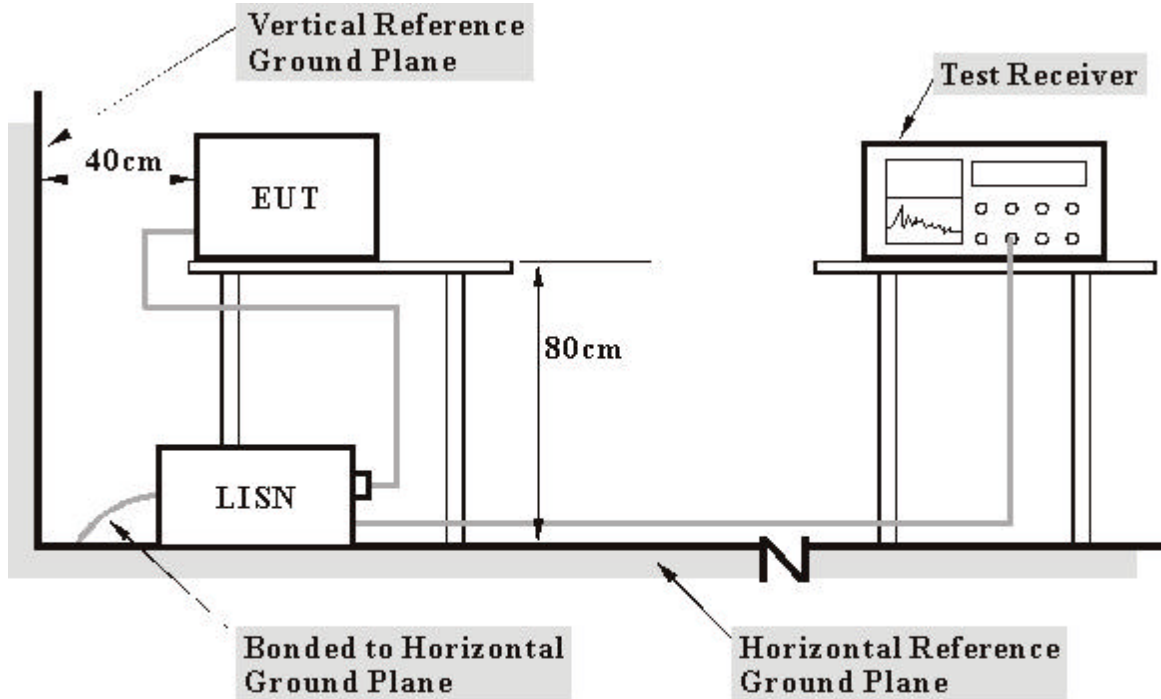
4.9.3 TEST PROCEDURES

- 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.

4.9.4 DEVIATION FROM TEST STANDARD

No deviation

4.9.5 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.

4.9.6 EUT OPERATING CONDITIONS

Same as 4.1.6

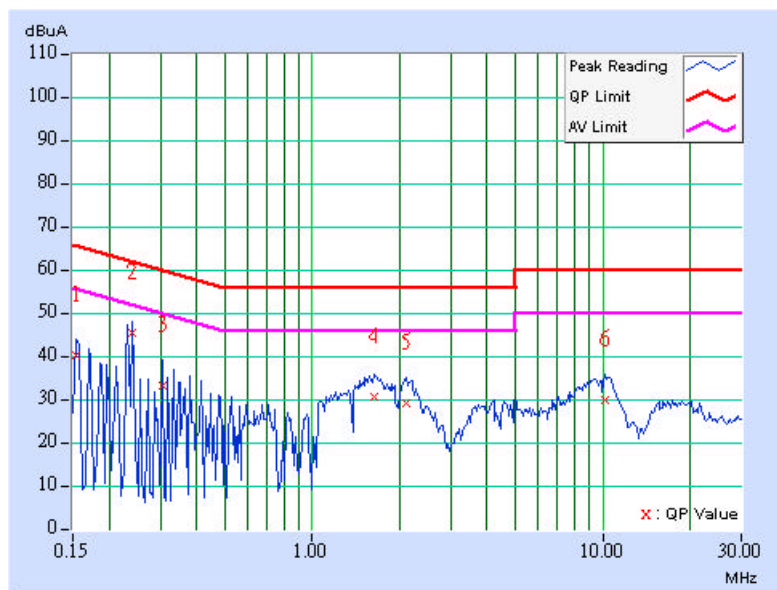


4.9.7 TEST RESULTS

EUT	802.11a mini-PCI Module	MODEL	WMIA-105A
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH, 991hPa	TESTED BY: Steven Lu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.154	0.11	39.99	-	40.10	-	65.79	55.79	-25.69	-
2	0.240	0.12	45.29	-	45.41	-	62.10	52.10	-16.69	-
3	0.306	0.12	32.94	-	33.06	-	60.07	50.07	-27.01	-
4	1.629	0.16	30.32	-	30.48	-	56.00	46.00	-25.52	-
5	2.113	0.16	28.98	-	29.14	-	56.00	46.00	-26.86	-
6	10.176	0.32	29.56	-	29.88	-	60.00	50.00	-30.12	-

- 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.

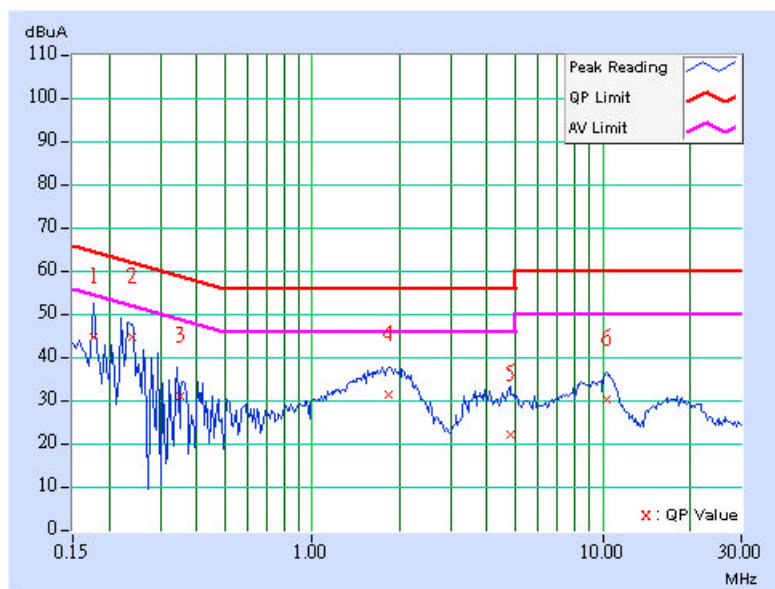




EUT	802.11a mini-PCI Module	MODEL	WMIA-105A
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH, 991hPa	TESTED BY: Steven Lu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
	1	0.177	0.11	44.70	-	44.81	-	64.61	54.61	-19.80
2	0.240	0.11	44.37	-	44.48	-	62.10	52.10	-17.62	-
3	0.351	0.12	30.92	-	31.04	-	58.94	48.94	-27.91	-
4	1.840	0.16	31.34	-	31.50	-	56.00	46.00	-24.50	-
5	4.816	0.22	21.94	-	22.16	-	56.00	46.00	-33.84	-
6	10.277	0.30	29.98	-	30.28	-	60.00	50.00	-29.72	-

- 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.





4.10 RADIATED EMISSION MEASUREMENT

4.10.1 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.



4.10.2 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	Dec. 15, 2004
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.



4.10.3 TEST PROCEDURES

- g. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- h. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- i. 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.
- j. 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.
- k. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- l. 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.

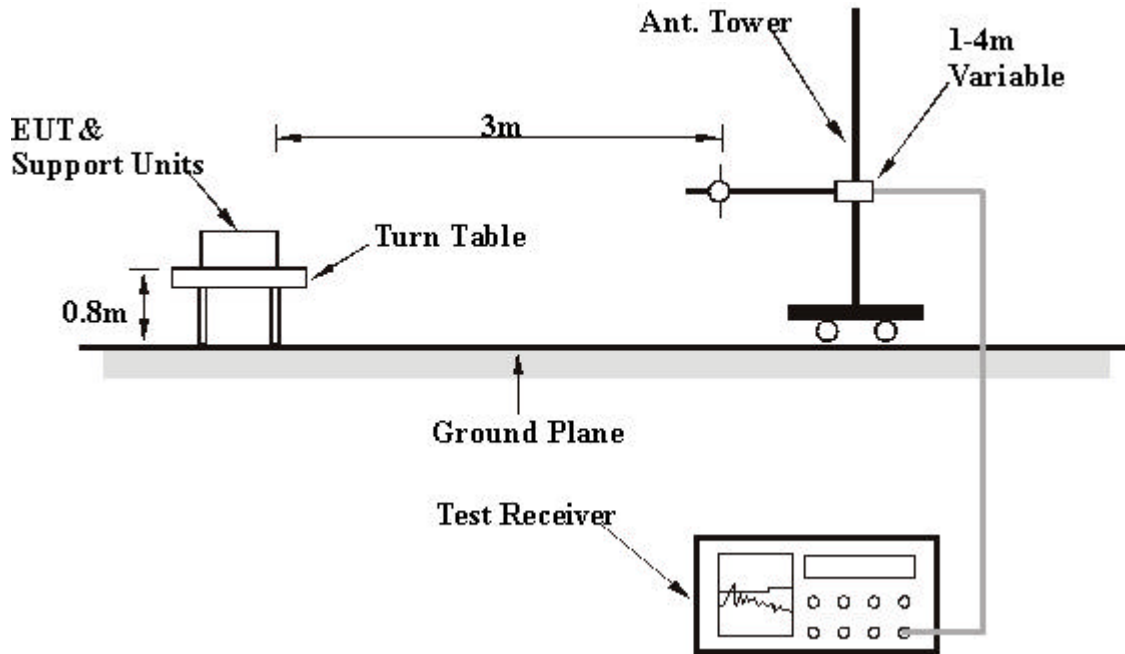
NOTE:

4. 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.
5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
6. 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.

4.10.4 DEVIATION FROM TEST STANDARD

No deviation

4.10.5 TEST SETUP



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

4.10.6 EUT OPERATING CONDITIONS

Same as 4.1.6



4.10.7 TEST RESULTS

EUT	802.11a mini-PCI Module	MODEL	WMIA-105A
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 55%RH, 991hPa	DETECTOR FUNCTION	Quasi-Peak
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	98.04	34.17 QP	43.50	-9.33	2.00 H	22	23.34	10.83
2	114.14	40.41 QP	43.50	-3.09	1.49 H	238	27.98	12.43
3	164.13	39.19 QP	43.50	-4.31	1.50 H	196	24.69	14.49
4	199.12	40.95 QP	43.50	-2.55	1.50 H	241	29.49	11.46
5	232.16	32.05 QP	46.00	-13.95	1.25 H	259	19.46	12.59
6	265.21	37.66 QP	46.00	-8.34	1.25 H	337	24.08	13.58
7	300.20	38.48 QP	46.00	-7.52	1.00 H	337	23.97	14.50
8	333.25	42.61 QP	46.00	-3.39	1.00 H	346	27.34	15.26
9	395.45	35.21 QP	46.00	-10.79	1.00 H	313	18.56	16.65
10	465.43	39.22 QP	46.00	-6.78	1.75 H	247	20.95	18.27
11	533.47	28.76 QP	46.00	-17.24	1.25 H	289	9.39	19.37
12	640.38	33.15 QP	46.00	-12.85	1.25 H	148	11.60	21.55
13	665.65	35.66 QP	46.00	-10.34	1.25 H	49	13.79	21.87
14	799.78	33.39 QP	46.00	-12.61	2.00 H	181	9.57	23.82
15	906.69	30.60 QP	46.00	-15.40	2.00 H	187	5.42	25.18

- 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	802.11a mini-PCI Module	MODEL	WMIA-105A
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 55%RH, 991hPa	DETECTOR FUNCTION	Quasi-Peak
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	64.99	29.15 QP	40.00	-10.85	1.25 V	94	16.00	13.15
2	99.98	29.87 QP	43.50	-13.63	1.50 V	169	18.89	10.98
3	115.53	33.53 QP	43.50	-9.97	1.00 V	262	20.96	12.57
4	168.02	33.73 QP	43.50	-9.77	1.50 V	175	19.61	14.12
5	201.06	35.18 QP	43.50	-8.32	1.75 V	142	23.77	11.41
6	265.21	33.49 QP	46.00	-12.51	1.75 V	178	19.92	13.58
7	333.25	33.55 QP	46.00	-12.45	1.25 V	304	18.29	15.26
8	379.90	34.03 QP	46.00	-11.97	1.00 V	334	17.72	16.31
9	449.88	31.60 QP	46.00	-14.40	1.00 V	313	13.53	18.07
10	465.43	37.81 QP	46.00	-8.19	1.00 V	310	19.54	18.27
11	531.52	30.97 QP	46.00	-15.03	1.00 V	337	11.63	19.34
12	597.62	28.68 QP	46.00	-17.32	1.00 V	250	7.73	20.95
13	665.65	36.12 QP	46.00	-9.88	1.50 V	223	14.25	21.87
14	799.78	29.89 QP	46.00	-16.11	1.75 V	202	6.07	23.82
15	935.85	31.66 QP	46.00	-14.34	1.25 V	259	6.17	25.49

- 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	802.11a mini-PCI Module	MODEL	WMIA-105A
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	1 ~ 40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	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	#3830.00	49.29 PK	74.00	-24.71	1.29 H	202	12.95	36.34
2	*5745.00	106.73 PK			1.07 H	185	65.83	40.90
2	*5745.00	97.14 AV			1.07 H	185	56.24	40.90
3	#11490.00	58.03 PK	74.00	-15.97	1.21 H	316	10.65	47.38
3	#11490.00	45.35 AV	54.00	-8.65	1.21 H	316	-2.03	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	#3830.00	48.88 PK	74.00	-25.12	1.24 V	316	12.54	36.34
2	*5745.00	102.84 PK			1.05 V	119	61.94	40.90
2	*5745.00	92.82 AV			1.05 V	119	51.92	40.90
3	#11490.00	57.32 PK	74.00	-16.68	1.15 V	202	9.94	47.38
3	#11490.00	45.16 AV	54.00	-8.84	1.15 V	202	-2.22	47.38

NOTE:

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.
5. “ * “ : Fundamental frequency.
- 6.“#” The radiated frequency falling in the restricted band.
- 7.The limit value is defined as per 15.247



EUT	802.11a mini-PCI Module	MODEL	WMIA-105A
MODE	Normal Mode	CHANNEL	11
FREQUENCY RANGE	1 ~ 40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	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	#3856.00	49.82 PK	74.00	-24.18	1.00 H	193	13.39	36.43
1	#3856.00	40.64 AV	54.00	-13.36	1.00 H	193	4.21	36.43
2	*5785.00	106.46 PK			1.04 H	87	65.41	41.05
2	*5785.00	96.20 AV			1.04 H	87	55.15	41.05
3	#11570.00	57.83 PK	74.00	-16.17	1.04 H	360	10.36	47.47
3	#11570.00	44.88 AV	54.00	-9.12	1.04 H	360	-2.59	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	#3856.00	49.13 PK	74.00	-24.87	1.06 V	252	12.70	36.43
1	#3856.00	38.13 AV	54.00	-15.87	1.06 V	252	1.70	36.43
2	*5785.00	101.22 PK			1.30 V	42	60.17	41.05
2	*5785.00	91.72 AV			1.30 V	42	50.67	41.05
3	#11570.00	57.20 PK	74.00	-16.80	1.05 V	360	9.73	47.47
3	#11570.00	44.98 AV	54.00	-9.02	1.05 V	360	-2.49	47.47

NOTE:

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.
5. “ * “ : Fundamental frequency.
- 6.“#” The radiated frequency falling in the restricted band.
- 7.The limit value is defined as per 15.247



EUT	802.11a mini-PCI Module	MODEL	WMIA-105A
MODE	Normal Mode	CHANNEL	13
FREQUENCY RANGE	1 ~ 40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	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	#3883.00	51.59 PK	74.00	-22.41	1.11 H	199	15.07	36.52
1	#3883.00	43.92 AV	54.00	-10.08	1.11 H	199	7.40	36.52
2	*5825.00	106.72 PK			1.27 H	128	65.77	40.95
2	*5825.00	97.14 AV			1.27 H	128	56.19	40.95
3	7766.00	54.47 PK	74.00	-19.53	1.12 H	156	11.09	43.38
3	7766.00	43.45 AV	54.00	-10.55	1.12 H	156	0.07	43.38
4	#11650.00	57.99 PK	74.00	-16.01	1.21 H	156	10.27	47.72
4	#11650.00	45.89 AV	54.00	-8.11	1.21 H	156	-1.83	47.72

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	#3883.00	49.29 PK	74.00	-24.71	1.36 V	277	12.77	36.52
1	#3883.00	38.56 AV	54.00	-15.44	1.36 V	277	2.04	36.52
2	*5825.00	99.18 PK			1.41 V	123	58.23	40.95
2	*5825.00	89.69 AV			1.41 V	123	48.74	40.95
3	7766.00	54.18 PK	74.00	-19.82	1.16 V	350	10.80	43.38
3	7766.00	41.98 AV	54.00	-12.02	1.16 V	350	-1.40	43.38
4	#11650.00	56.60 PK	74.00	-17.40	1.23 V	216	8.88	47.72
4	#11650.00	44.43 AV	54.00	-9.57	1.23 V	216	-3.29	47.72

NOTE:

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.
5. “ * “ : Fundamental frequency.
6. “#” The radiated frequency falling in the restricted band.
7. The limit value is defined as per 15.247



EUT	802.11a mini-PCI Module	MODEL	WMIA-105A
MODE	Turbo Mode	CHANNEL	4
FREQUENCY RANGE	1 ~40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	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	#3840.00	50.11 PK	74.00	-23.89	1.28 H	204	13.74	36.38
1	#3840.00	40.40 AV	54.00	-13.60	1.28 H	204	4.03	36.38
2	*5760.00	104.85 PK			1.29 H	129	63.89	40.96
2	*5760.00	95.70 AV			1.29 H	129	54.74	40.96
3	#11520.00	57.63 PK	74.00	-16.37	1.16 H	241	10.21	47.41
3	#11520.00	45.14 AV	54.00	-8.86	1.16 H	241	-2.28	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	#3840.00	49.01 PK	74.00	-24.99	1.07 V	251	12.64	36.38
1	#3840.00	38.60 AV	54.00	-15.40	1.07 V	251	2.23	36.38
2	*5760.00	97.45 PK			1.12 V	216	56.49	40.96
2	*5760.00	88.53 AV			1.12 V	216	47.57	40.96
3	#11520.00	57.13 PK	74.00	-16.87	1.10 V	75	9.71	47.41
3	#11520.00	44.83 AV	54.00	-9.17	1.10 V	75	-2.59	47.41

NOTE:

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.
5. “ * “ : Fundamental frequency.
- 6.“#” The radiated frequency falling in the restricted band.
7. The limit value is defined as per 15.247



EUT	802.11a mini-PCI Module	MODEL	WMIA-105A
MODE	Turbo Mode	CHANNEL	5
FREQUENCY RANGE	1 ~ 40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	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	#3866.00	50.50 PK	74.00	-23.50	1.12 H	197	14.04	36.46
1	#3866.00	41.93 AV	54.00	-12.07	1.12 H	197	5.47	36.46
2	*5800.00	103.57 PK			1.00 H	130	62.46	41.11
2	*5800.00	94.03 AV			1.00 H	130	52.92	41.11
3	#11600.00	58.42 PK	74.00	-15.58	1.07 H	264	10.92	47.50
3	#11600.00	45.63 AV	54.00	-8.37	1.07 H	264	-1.87	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	#3866.00	49.32 PK	74.00	-24.68	1.05 V	256	12.86	36.46
1	#3866.00	40.42 AV	54.00	-13.58	1.05 V	256	3.96	34.46
2	*5800.00	97.64 PK			1.14 V	217	56.53	41.11
2	*5800.00	88.35 AV			1.14 V	217	47.24	41.11
3	#11600.00	57.36 PK	74.00	-16.64	1.13 V	145	9.86	47.50
3	#11600.00	44.94 AV	54.00	-9.06	1.13 V	145	-2.56	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