FCC TEST REPORT

REPORT NO.:	RF930303R02
MODEL NO.:	Gateway 7001 802.11A+G Wireless Access Point
RECEIVED:	Mar. 3, 2004
TESTED:	Mar. 11 ~ Mar. 19, 2004

APPLICANT:	Alpha Networks Inc.
ADDRESS:	No.8, Li-shing 7th Rd., Science-based Industrial Park, Hsinchu, Taiwan, R.O.C.

ISSUED BY:	Advance Data Technology Corporation
LAB LOCATION:	47 14th Lin, Chiapau Tsun, Linko, Taipei, Taiwan, R.O.C.

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1 CERTIFICATION

PRODUCT :	802.11A+G Wireless Access Point
BRAND NAME :	Gateway
MODEL NO. :	Gateway 7001 802.11A+G Wireless Access Point
TEST ITEM:	ENGINEERING SAMPLE
APPLICANT :	Alpha Networks Inc.
STANDARDS :	FCC Part 15, Subpart C (Section 15.247), Subpart E (Section 15.247), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Mar. 11, 2004 to Mar. 19, 2004. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

PREPARED BY: Wendy Liao , **DATE:** Mar. 25, 2004

APPROVED BY: Ellis Wu / Manager , **DATE:** Mar. 25, 2004

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –16.95dB at 0.177MHz.
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(c)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is –1.13dB at 2688.00MHz.
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(c)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

NOTE: The information of measurement uncertainty is available upon the customer's request

APPLIED STANDARD: FCC Part 15, Subpart E			
Standard Section	**Test Type**	**Result**	**REMARK**
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –16.95dB at 0.177MHz.
15.407(b/1/2/3)(b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is –2.62dB at 5350.00MHz.
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.

NOTE: The information of measurement uncertainty is available upon the customer's request

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	802.11A+G Wireless Access Point
MODEL NO.	Gateway 7001 802.11A+G Wireless Access Point
POWER SUPPLY	5Vdc from power adapter
MODULATION TYPE	BPSK, QPSK, CCK, 16QAM, 64QAM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11a: 54/48/36/24/18/12/9/6Mbps
FREQUENCY RANGE	802.11b and 802.11g: 2412~2462MHz 802.11a: 5.15~5.35GHz and 5.725~5.825GHz
NUMBER OF CHANNEL	802.11b , 802.11g: 11 802.11a: 13
CHANNEL SPACING	802.11b and 802.11g: 5MHz 802.11a: 20MHz
OUTPUT POWER	802.11b 16.00dBm, 802.11g: 16.50dBm 802.11a: 18.87dBm
DATA CABLE	NA
ANTENNA TYPE	*refer to note3
I/O PORTS	RJ45
ASSOCIATED DEVICES	NA

NOTE:

1. There are twp approved LAN Card installed in the EUT, and will be in simultaneous transmission. Both of them have its own FCC ID which are RRK2003060017-1 and RRK2003060017-2.
2. The EUT was powered by the following adapter:

Brand:	JENTEC TECHNOLOGY CO., LTD.
Model:	JTA0302B
Input:	100-120Vac, 0.5A, 50-60Hz
Output:	+5.0Vdc, 2.5A

3. The EUT operates in both the 5GHz and 2.4GHz Bands and compatibility with 802.11a and 802.11b, 802.11g technology.
4. This EUT is capable of providing data rates of up to 108Mbps in Turbo Mode depending upon reception quality.
5. There are two types of antennas provided to this EUT:

Antenna Gain (dBi)	**Antenna Type**	**Antenna Gain (dBi)**
2.4GHz	Dipole	2.0 dBi
	PIFA	-3.0 dBi
5GHz	PIFA	2.0 dBi

6. For more detailed features description, please refer to the manufacturer's specifications or User's manual.

3.2 DESCRIPTION OF TEST MODES

802.11b and 802.11g: Eleven channels are provided to this EUT.

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

NOTE:

1. Below 1GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test.
2. Above 1GHz, the channel 1, 6, and 11 were tested individually.
3. Transfer rate of 11Mbps with CCK technique and 6Mbps with OFDM technique, the worst cases were chosen for final test.

For 802.11a: Thirteen channels are provided to this EUT for Normal mode.

Channel	Frequency	Channel	Frequency
1	5180 MHz	8	5320 MHz
2	5200 MHz	9	5745 MHz
3	5220 MHz	10	5765 MHz
4	5240 MHz	11	5785 MHz
5	5260 MHz	12	5805 MHz
6	5280 MHz	13	5825 MHz
7	5300 MHz		

NOTE:

1. “Normal Mode” allows data rates of up to 54Mbps. The device was, therefore, tested in Normal mode at the data rate that produced the highest output power for normal mode (6Mbps).
2. Channel 1, 4, 5, 8, 9, 11 and 13 are the closest frequencies to the band edge, were chosen for final test.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 802.11A+G Wireless Access Point. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C. (15.247),
Subpart E (15.407). ANSI C63.4 : 1992

All test items have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

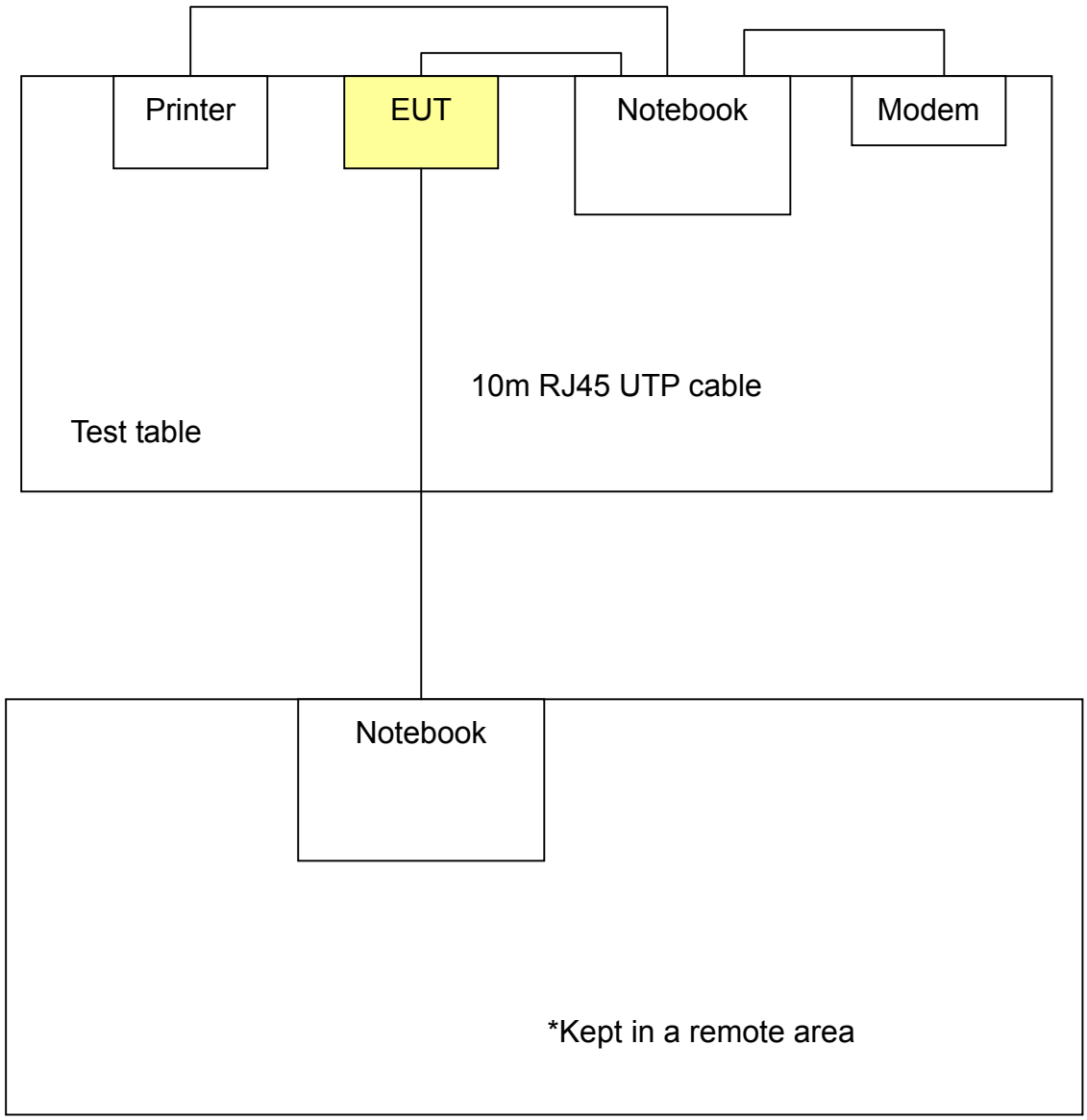
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	PP01L	TW-0791UH-12800-11A-1063	FCC DoC Approved
2	NOTEBOOK	DELL	PP01L	TW-0791UH-12800-123-5423	FCC DoC Approved
3	PRINTER	EPSON	LQ-300+	DCGY017058	FCC DoC Approved
4	MODEM	ACEEX	1414	980020516	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core
4	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.

NOTE: 1. All power cords of the above support units are non shielded (1.8m).

2. Item 2 act as a communication partner to transfer data.

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4 TEST TYPES AND RESULTS (FOR PART 802.11b & 802.11g)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 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.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	838251/021	Jan. 04, 2005
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100220	Dec. 09, 2004
*ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 19, 2004
*ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 19, 2004
Software	Cond-V2M3	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	May 01, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010770	Feb. 28, 2005
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Feb. 28, 2005

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. "*": These equipment are used for conducted telecom port test only (if tested).
3. The test was performed in ADT Shielded Room No. 10.
4. The VCCI Site Registration No. is C-1312.

4.1.3 TEST PROCEDURES

a. 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.

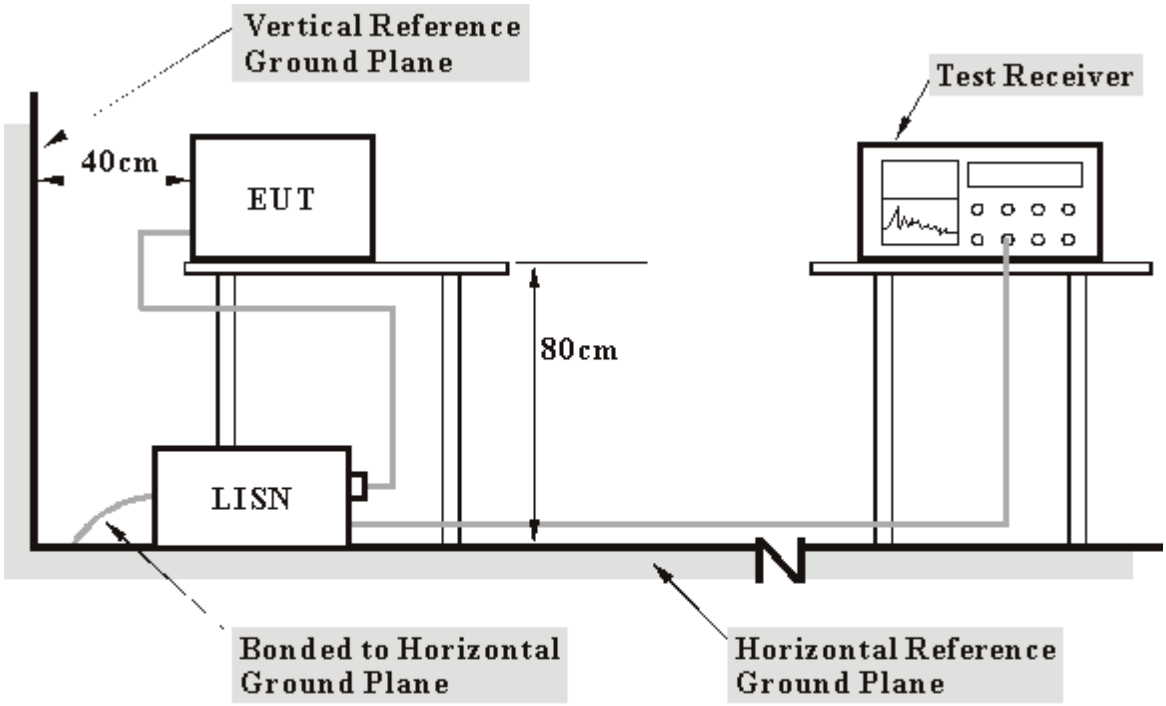
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 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.

4.1.6 EUT OPERATING CONDITIONS

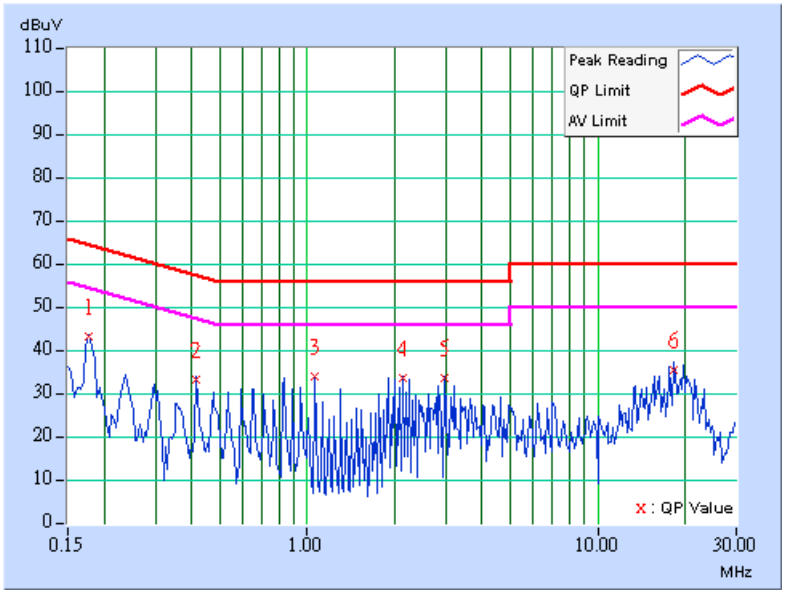
a. Plug the EUT into the notebook system placed on a testing table.
b. The notebook system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.
c. The computer system sent "H" messages to its screen.
d. The computer system sent “H” messages to modem.
e. The computer system sent "H" messages to printer, and the printer prints them on paper.
f. Repeated c ~ e.

4.1.7 TEST RESULTS

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**TESTED BY**: Jamison Chan	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.177	0.10	42.60	-	42.70	-	64.61	54.61	-21.91	-
2	0.416	0.10	32.53	-	32.63	-	57.54	47.54	-24.90	-
3	1.066	0.20	33.15	-	33.35	-	56.00	46.00	-22.65	-
4	2.129	0.21	32.80	-	33.01	-	56.00	46.00	-22.99	-
5	2.961	0.25	32.91	-	33.16	-	56.00	46.00	-22.84	-
6	18.367	0.87	34.82	-	35.69	-	60.00	50.00	-24.31	-

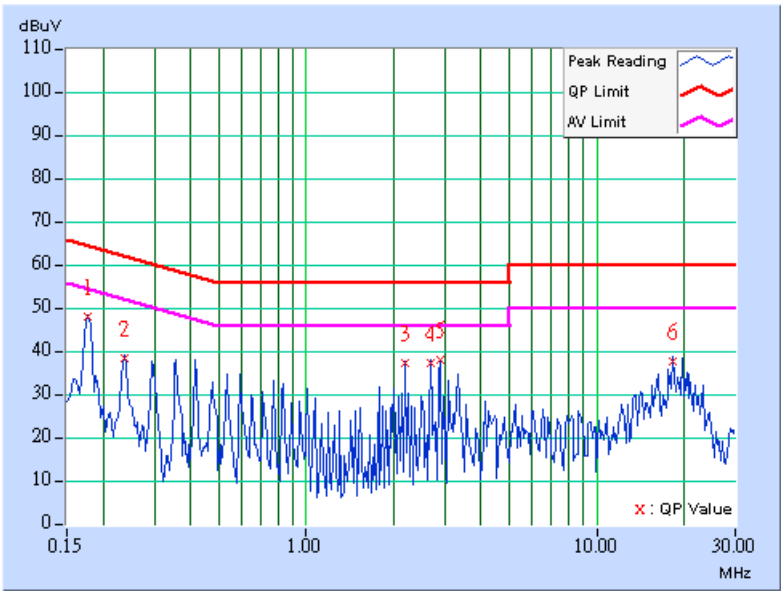
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**TESTED BY**: Jamison Chan	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.177**	**0.10**	**47.56**	**-**	**47.66**	**-**	**64.61**	**54.61**	**-16.95**	**-**
2	0.236	0.10	37.88	-	37.98	-	62.24	52.24	-24.26	-
3	2.191	0.21	36.75	-	36.96	-	56.00	46.00	-19.04	-
4	2.668	0.23	36.82	-	37.05	-	56.00	46.00	-18.95	-
5	2.902	0.25	37.51	-	37.76	-	56.00	46.00	-18.24	-
6	18.242	0.76	37.16	-	37.92	-	60.00	50.00	-22.08	-

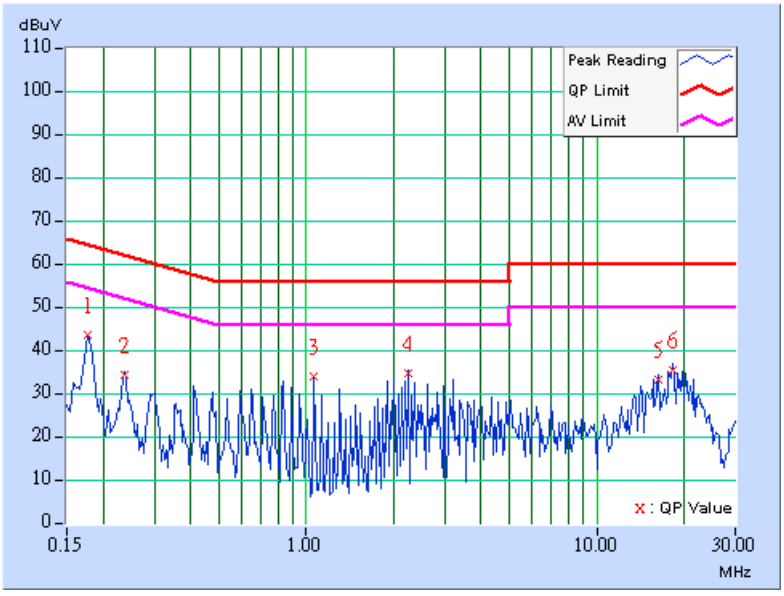
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**TESTED BY**: Jamison Chan	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.177	0.10	42.72	-	42.82	-	64.61	54.61	-21.79	-
2	0.236	0.10	33.43	-	33.53	-	62.24	52.24	-28.71	-
3	1.066	0.20	33.28	-	33.48	-	56.00	46.00	-22.52	-
4	2.250	0.21	34.05	-	34.26	-	56.00	46.00	-21.74	-
5	16.230	0.82	32.57	-	33.39	-	60.00	50.00	-26.61	-
6	18.367	0.87	34.70	-	35.57	-	60.00	50.00	-24.43	-

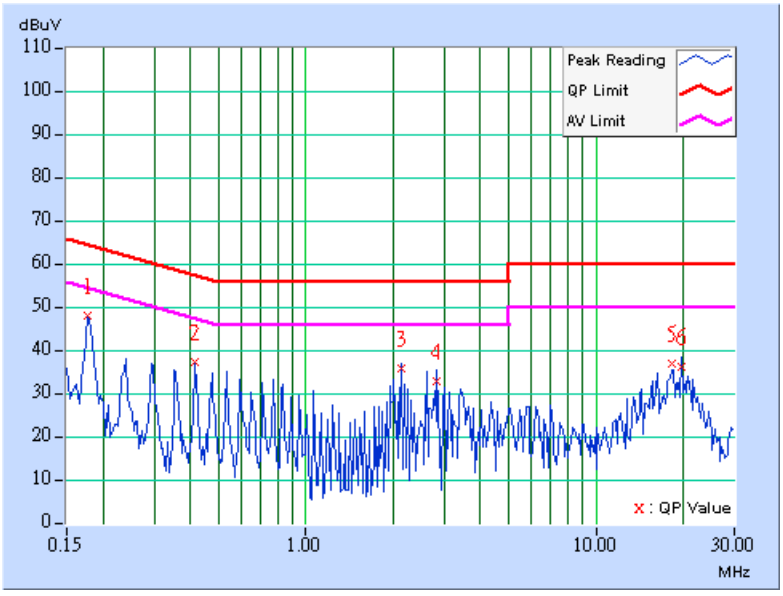
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**TESTED BY**: Jamison Chan	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.177	0.10	47.35	-	47.45	-	64.61	54.61	-17.16	-
2	0.416	0.10	36.53	-	36.63	-	57.54	47.54	-20.90	-
3	2.133	0.21	34.98	-	35.19	-	56.00	46.00	-20.81	-
4	2.840	0.24	32.02	-	32.26	-	56.00	46.00	-23.74	-
5	18.246	0.76	36.13	-	36.89	-	60.00	50.00	-23.11	-
6	19.707	0.79	35.57	-	36.36	-	60.00	50.00	-23.64	-

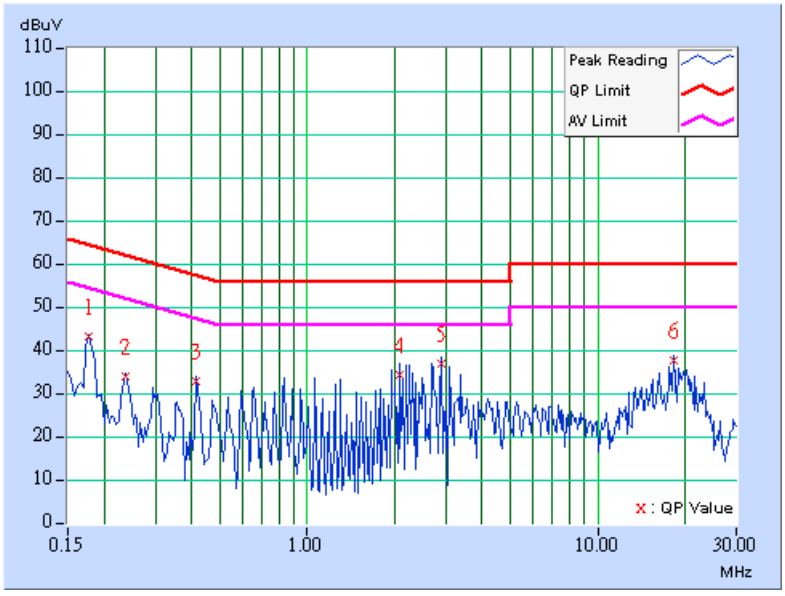
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**TESTED BY**: Jamison Chan	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.177	0.10	42.56	-	42.66	-	64.61	54.61	-21.95	-
2	0.236	0.10	33.39	-	33.49	-	62.24	52.24	-28.75	-
3	0.416	0.10	32.27	-	32.37	-	57.54	47.54	-25.16	-
4	2.074	0.20	33.74	-	33.94	-	56.00	46.00	-22.06	-
5	2.902	0.25	36.10	-	36.35	-	56.00	46.00	-19.65	-
6	18.242	0.86	37.06	-	37.92	-	60.00	50.00	-22.08	-

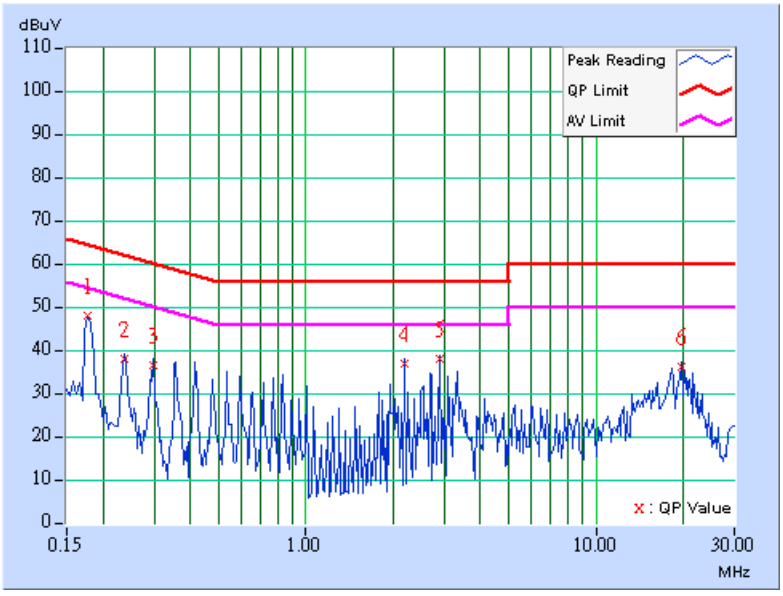
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**TESTED BY**: Jamison Chan	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.177	0.10	47.41	-	47.51	-	64.61	54.61	-17.10	-
2	0.236	0.10	37.53	-	37.63	-	62.24	52.24	-24.61	-
3	0.298	0.10	35.82	-	35.92	-	60.29	50.29	-24.37	-
4	2.195	0.21	36.21	-	36.42	-	56.00	46.00	-19.58	-
5	2.906	0.25	37.29	-	37.54	-	56.00	46.00	-18.46	-
6	19.707	0.79	35.59	-	36.38	-	60.00	50.00	-23.62	-

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.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 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:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1GHz, 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.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
*HP Spectrum Analyzer	8593E	3911A07465	Jul. 07, 2004
*HP Preamplifier	8447D	2944A10386	Aug. 12, 2004
* HP Preamplifier	8449B	3008A01292	Aug. 11, 2004
SCHAFFNER Tunable Dipole Antenna	VHBA 9123	459	Jun. 26, 2004
SCHWARZBECK Tunable Dipole Antenna	UHA 9105	977	
*SCHAFFNER TEST RECEIVER	SCR 3501	409	Nov. 06, 2004
* SCHAFFNER BILOG Antenna	CBL6111C	2727	Jul. 15, 2004
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jun 30, 2004
* ADT. Turn Table	TT100	0201	NA
* ADT. Tower	AT100	0201	NA
* Software	ADT_Radiated_V 5.14	NA	NA
* ANRITSU RF Switches	MP59B	6100237246	Oct. 17, 2004
* TIMES RF cable	LMR-600	CABLE-ST10-01	Oct. 17, 2004

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. "*" = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. 10.
5. The VCCI Site Registration No. is R-1625.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. 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 10 dB 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 10 dB margin would be re-tested one by one using the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

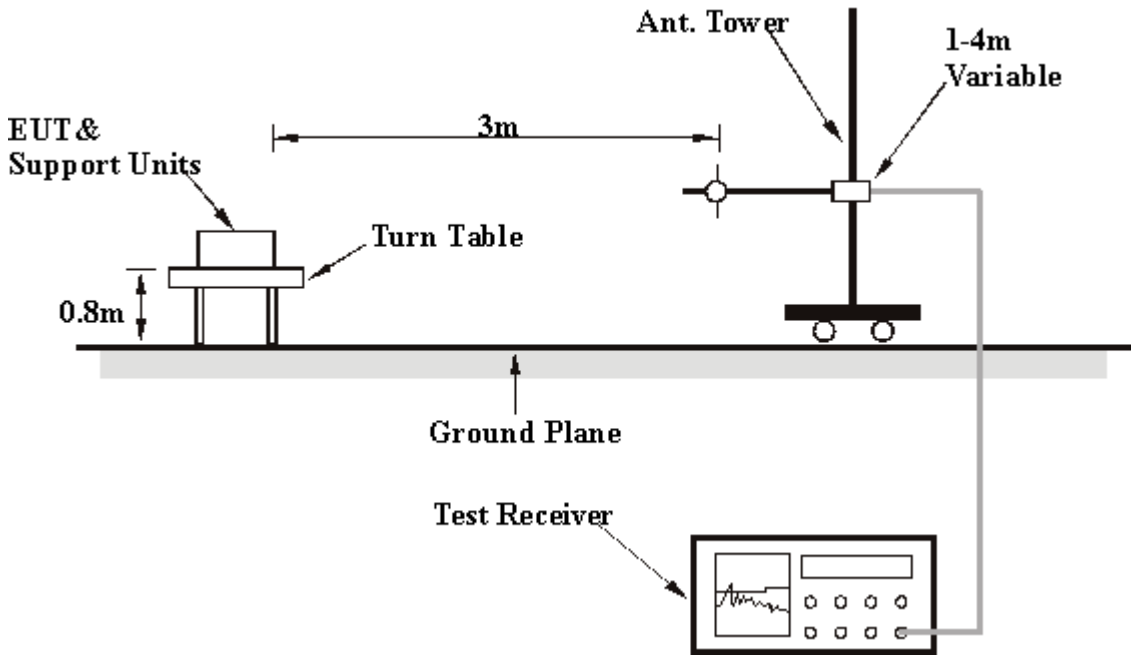
NOTE:

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
CHANNEL	Channel 11	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**TESTED BY**: Martin Lee	

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	34.76	34.42 QP	40.00	-5.58	1.00 H	71	17.75	16.67
2	124.99	26.94 QP	43.50	-16.56	1.55 H	231	14.48	12.46
3	130.89	28.45 QP	43.50	-15.05	1.97 H	214	15.97	12.48
4	207.10	25.43 QP	43.50	-18.07	1.62 H	3	14.47	10.96
5	251.60	33.59 QP	46.00	-12.41	1.57 H	250	19.42	14.17
6	330.40	38.52 QP	46.00	-7.48	1.21 H	232	21.63	16.89
7	406.80	37.16 QP	46.00	-8.84	1.80 H	21	17.61	19.55
8	477.90	36.02 QP	46.00	-9.98	1.45 H	334	14.80	21.22
9	532.80	34.23 QP	46.00	-11.77	1.65 H	122	11.39	22.84
10	655.30	41.13 QP	46.00	-4.87	1.37 H	35	15.47	25.66
11	788.30	35.92 QP	46.00	-10.08	1.54 H	315	8.68	27.24

REMARKS: 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

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
CHANNEL	Channel 11	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**TESTED BY**: Martin Lee	

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	34.23	37.16 QP	40.00	-2.84	1.00 V	209	20.05	17.11
2	53.90	32.03 QP	40.00	-7.97	1.52 V	88	24.95	7.08
3	85.90	29.50 QP	40.00	-10.50	1.00 V	7	20.96	8.54
4	111.31	26.95 QP	43.50	-16.55	1.65 V	98	15.34	11.61
5	125.01	35.68 QP	43.50	-7.82	1.24 V	33	23.21	12.47
6	135.98	29.84 QP	43.50	-13.66	1.39 V	287	17.34	12.50
7	191.60	24.66 QP	43.50	-18.84	1.66 V	171	14.35	10.31
8	250.30	26.71 QP	46.00	-19.29	1.52 V	235	12.74	13.97
9	429.50	30.13 QP	46.00	-15.87	1.00 V	0	10.15	19.98
10	594.00	36.35 QP	46.00	-9.65	1.38 V	232	12.03	24.32
11	643.00	37.46 QP	46.00	-8.54	1.87 V	117	11.99	25.47
12	723.50	38.58 QP	46.00	-7.42	1.26 V	309	11.95	26.63
13	844.20	35.97 QP	46.00	-10.03	1.00 V	218	6.98	28.99

REMARKS:
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

EUT	802.11A+G Wireless Access Point	MODEL	Gateway 7001 802.11A+G Wireless Access Point
CHANNEL	Channel 1	FREQUENCY RANGE	1-25GHz
MODE	CCK		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	TESTED BY: Martin Lee	

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	2390.00	47.25 PK	74.00	-26.75	1.00 H	64	17.46	29.79
1	2390.00	38.78 AV	54.00	-15.22	1.00 H	64	8.99	29.79
2	*2412.00	100.75 PK			1.00 H	64	71.00	29.75
2	*2412.00	92.28 AV			1.00 H	64	62.53	29.75
3	2688.00	46.54 PK	74.00	-27.46	1.12 H	35	15.90	30.64
3	2688.00	42.04 AV	54.00	-11.96	1.12 H	35	11.40	30.64
4	4824.00	47.85 PK	74.00	-26.15	1.30 H	242	12.90	34.96
4	4824.00	39.35 AV	54.00	-14.65	1.30 H	242	4.40	34.96
5	7236.00	50.94 PK	74.00	-23.06	1.02 H	96	9.48	41.46
5	7236.00	39.27 AV	54.00	-14.73	1.02 H	96	-2.19	41.46

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	2390.00	54.14 PK	74.00	-19.86	1.63 V	258	24.35	29.79
1	2390.00	46.92 AV	54.00	-7.08	1.63 V	258	17.13	29.79
2	*2412.00	107.64 PK	74.00	33.64	1.63 V	258	77.89	29.75
2	*2412.00	100.42 AV	54.00	46.42	1.63 V	258	70.67	29.75
3	2688.00	56.37 PK	74.00	-17.63	1.43 V	293	25.73	30.64
3	2688.00	52.50 AV	54.00	-1.50	1.43 V	293	21.86	30.64
4	4824.00	52.41 PK	74.00	-21.59	1.00 V	64	17.46	34.96
4	4824.00	41.85 AV	54.00	-12.15	1.00 V	64	6.90	34.96

REMARKS:
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
CHANNEL	Channel 6	**FREQUENCY RANGE**	1 ~ 25GHz
MODE	CCK		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**TESTED BY**: Martin Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	*2437.00	100.14 PK			1.04 H	20	70.30	29.84
1	*2437.00	89.52 AV			1.04 H	20	59.68	29.84
2	2688.00	47.35 PK	74.00	-26.65	1.00 H	25	16.71	30.64
2	2688.00	43.12 AV	54.00	-10.88	1.00 H	25	12.48	30.64
3	4874.00	51.30 PK	74.00	-22.70	1.52 H	104	16.16	35.14
3	4874.00	37.58 AV	54.00	-16.42	1.52 H	104	2.44	35.14
4	7311.00	51.18 PK	74.00	-22.82	1.12 H	36	9.63	41.55
4	7311.00	40.28 AV	54.00	-13.72	1.12 H	36	-1.27	41.55

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	*2437.00	108.84 PK			1.52 V	104	79.00	29.84
1	*2437.00	100.04 AV			1.52 V	104	70.20	29.84
2	2688.00	56.70 PK	74.00	-17.30	1.45 V	282	26.06	30.64
2	**2688.00**	**52.87 AV**	**54.00**	**-1.13**	**1.45 V**	**282**	**22.23**	**30.64**
3	4874.00	55.37 PK	74.00	-18.63	1.43 V	29	20.23	35.14
3	4874.00	43.93 AV	54.00	-10.07	1.43 V	29	8.79	35.14
4	7311.00	51.03 PK	74.00	-22.97	1.00 V	254	9.49	41.55
4	7311.00	38.93 AV	54.00	-15.07	1.00 V	254	-2.61	41.55

REMARKS:
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
CHANNEL	Channel 11	**FREQUENCY RANGE**	1 ~ 25GHz
MODE	CCK		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**TESTED BY**: Martin Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	*2462.00	101.60 PK			1.06 H	73	71.67	29.93
1	*2462.00	92.43 AV			1.06 H	73	62.50	29.93
2	2483.50	48.26 PK	74.00	-25.74	1.06 H	73	18.25	30.01
2	2483.50	39.09 AV	54.00	-14.91	1.06 H	73	9.08	30.01
3	2688.00	50.04 PK	74.00	-23.96	1.00 H	310	19.40	30.64
3	2688.00	46.54 AV	54.00	-7.46	1.00 H	310	15.90	30.64
4	4924.00	49.55 PK	74.00	-24.45	1.16 H	357	14.23	35.32
4	4924.00	37.55 AV	54.00	-16.45	1.16 H	357	2.23	35.32

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	*2462.00	106.76 PK			1.46 V	288	76.83	29.93
1	*2462.00	98.76 AV			1.46 V	288	68.83	29.93
2	2483.50	53.42 PK	74.00	-20.58	1.46 V	288	23.41	30.01
2	2483.50	45.42 AV	54.00	-8.58	1.46 V	288	15.41	30.01
3	2688.00	55.87 PK	74.00	-18.13	1.00 V	26	25.23	30.64
3	**2688.00**	**52.87 AV**	**54.00**	**-1.13**	**1.00 V**	**26**	**22.23**	**30.64**
4	4924.00	52.21 PK	74.00	-21.79	1.00 V	158	16.89	35.32
4	4924.00	41.24 AV	54.00	-12.76	1.00 V	158	5.92	35.32

REMARKS:
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
CHANNEL	Channel 1	**FREQUENCY RANGE**	1 ~ 25GHz
MODE	OFDM		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**TESTED BY**: Martin Lee	

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	2390.00	53.73 PK	74.00	-20.27	1.14 H	304	23.94	29.79
1	2390.00	44.58 AV	54.00	-9.42	1.14 H	304	14.79	29.79
2	*2412.00	99.73 PK			1.14 H	304	69.98	29.75
2	*2412.00	90.58 AV			1.14 H	304	60.83	29.75
3	2688.00	49.54 PK	74.00	-24.46	1.36 H	107	18.90	30.64
3	2688.00	45.70 AV	54.00	-8.30	1.36 H	107	15.06	30.64
4	4824.00	49.35 PK	74.00	-24.65	1.00 H	0	14.40	34.96
4	4824.00	41.88 AV	54.00	-12.12	1.00 H	0	6.93	34.96
5	7242.00	55.92 PK	74.00	-18.08	1.31 H	311	14.46	41.46
5	7242.00	42.62 AV	54.00	-11.38	1.31 H	311	1.16	41.46

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	2390.00	55.95 PK	74.00	-18.05	1.01 V	264	26.16	29.79
1	2390.00	52.85 AV	54.00	-1.15	1.01 V	264	23.06	29.79
2	*2412.00	100.95 PK			1.01 V	66	71.20	29.75
2	*2412.00	97.85 AV			1.01 V	66	68.10	29.75
3	2688.00	53.37 PK	74.00	-20.63	1.01 V	66	22.73	30.64
3	2688.00	51.20 AV	54.00	-2.80	1.01 V	66	20.56	30.64
4	4824.00	54.35 PK	74.00	-19.65	1.00 V	180	19.40	34.96
4	4824.00	48.69 AV	54.00	-5.31	1.00 V	180	13.74	34.96

REMARKS:
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
CHANNEL	Channel 6	**FREQUENCY RANGE**	1 ~ 25GHz
MODE	OFDM		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**TESTED BY**: Martin Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	*2437.00	103.34 PK			1.12 H	145	73.50	29.84
1	*2437.00	96.34 AV			1.12 H	145	66.50	29.84
2	4874.00	48.37 PK	74.00	-25.63	1.00 H	36	13.23	35.14
2	4874.00	42.53 AV	54.00	-11.47	1.00 H	36	7.39	35.14
3	7311.00	59.35 PK	74.00	-14.65	1.14 H	254	17.80	41.55
3	7311.00	42.88 AV	54.00	-11.12	1.14 H	254	1.33	41.55

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	*2437.00	107.51 PK			1.00 V	249	77.67	29.84
1	*2437.00	100.34 AV			1.00 V	249	70.50	29.84
2	2688.00	54.70 PK	74.00	-19.30	1.00 V	249	24.06	30.64
2	2688.00	51.04 AV	54.00	-2.96	1.00 V	249	20.40	30.64
3	4874.00	55.50 PK	74.00	-18.50	1.45 V	21	20.36	35.14
3	4874.00	52.03 AV	54.00	-1.97	1.45 V	21	16.89	35.14
4	7311.00	53.35 PK	74.00	-20.65	1.19 V	117	11.81	41.55
4	7311.00	40.30 AV	54.00	-13.70	1.19 V	117	-1.24	41.55

REMARKS:
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11A+G Wireless Access Point	MODEL	Gateway 7001 802.11A+G Wireless Access Point
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODE	OFDM		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	TESTED BY: Martin Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	*2462.00	102.76 PK			1.01 H	264	72.83	29.93
1	*2462.00	95.73 AV			1.01 H	264	65.80	29.93
2	2483.50	56.26 PK	74.00	-17.74	1.01 H	264	26.25	30.01
2	2483.50	49.23 AV	54.00	-4.77	1.01 H	264	19.22	30.01
3	2688.00	46.87 PK	74.00	-27.13	1.61 H	77	16.23	30.64
3	2688.00	43.54 AV	54.00	-10.46	1.61 H	77	12.90	30.64
4	4824.00	50.62 PK	74.00	-23.38	1.35 H	258	15.67	34.96
4	4824.00	45.02 AV	54.00	-8.98	1.35 H	258	10.07	34.96
5	7382.00	56.44 PK	74.00	-17.56	1.08 H	50	14.72	41.73
5	7382.00	41.34 AV	54.00	-12.66	1.08 H	50	-0.38	41.73

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	*2462.00	104.10 PK			1.54 V	351	74.17	29.93
1	*2462.00	99.26 AV			1.54 V	351	69.33	29.93
2	2483.50	57.60 PK	74.00	-16.40	1.54 V	351	27.59	30.01
2	2483.50	52.76 AV	54.00	-1.24	1.54 V	351	22.75	30.01
3	2688.00	56.20 PK	74.00	-17.80	1.54 V	351	25.56	30.64
3	2688.00	51.20 AV	54.00	-2.80	1.54 V	351	20.56	30.64
4	4824.00	51.69 PK	74.00	-22.31	1.21 V	27	16.74	34.96
4	4824.00	45.19 AV	54.00	-8.81	1.21 V	27	10.24	34.96
5	7386.00	55.21 PK	74.00	-18.79	1.00 V	20	13.47	41.74
5	7386.00	39.45 AV	54.00	-14.55	1.00 V	20	-2.29	41.74

REMARKS:
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK 30	100049	Aug. 12, 2004

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

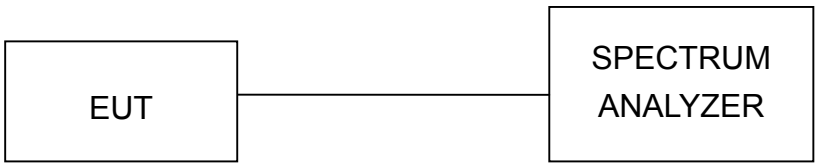
4.3.3 TEST PROCEDURE

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.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

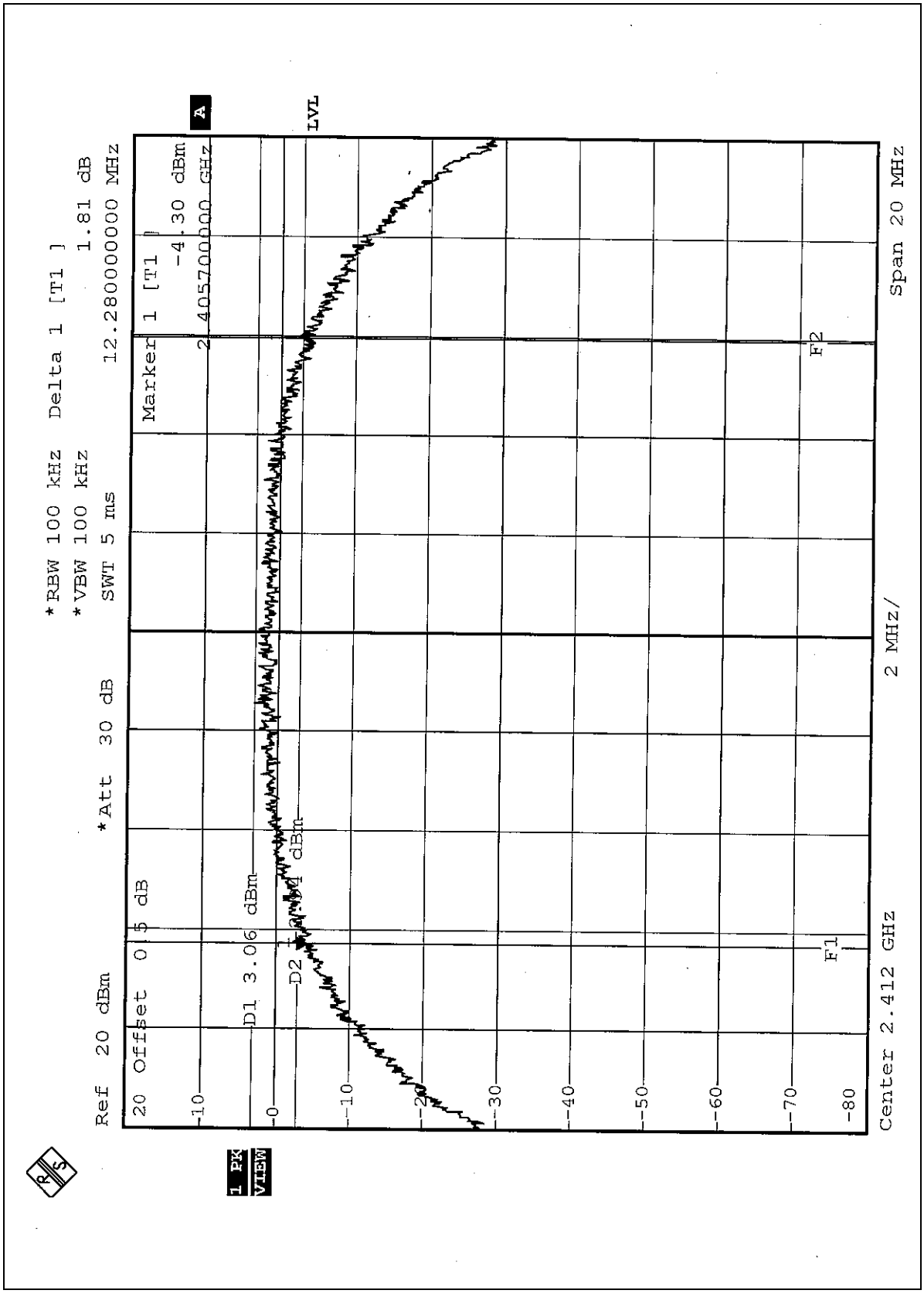
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

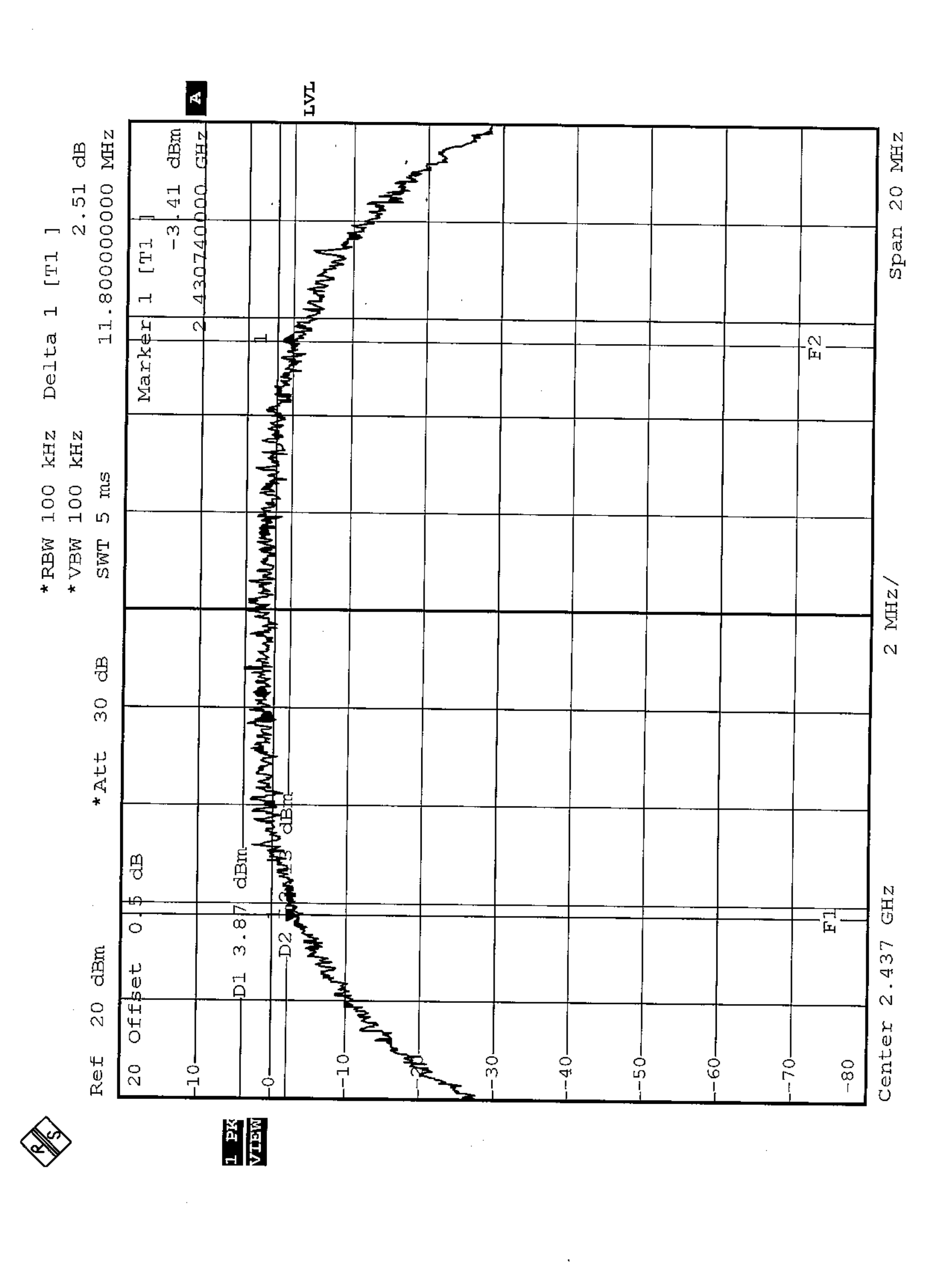
EUT	802.11A+G Wireless Access Point	MODEL	Gateway 7001 802.11A+ G Wireless Access Point
MODE	CCK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	TESTED BY	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	12.28	0.5	PASS
6	2437	11.80	0.5	PASS
11	2462	11.88	0.5	PASS

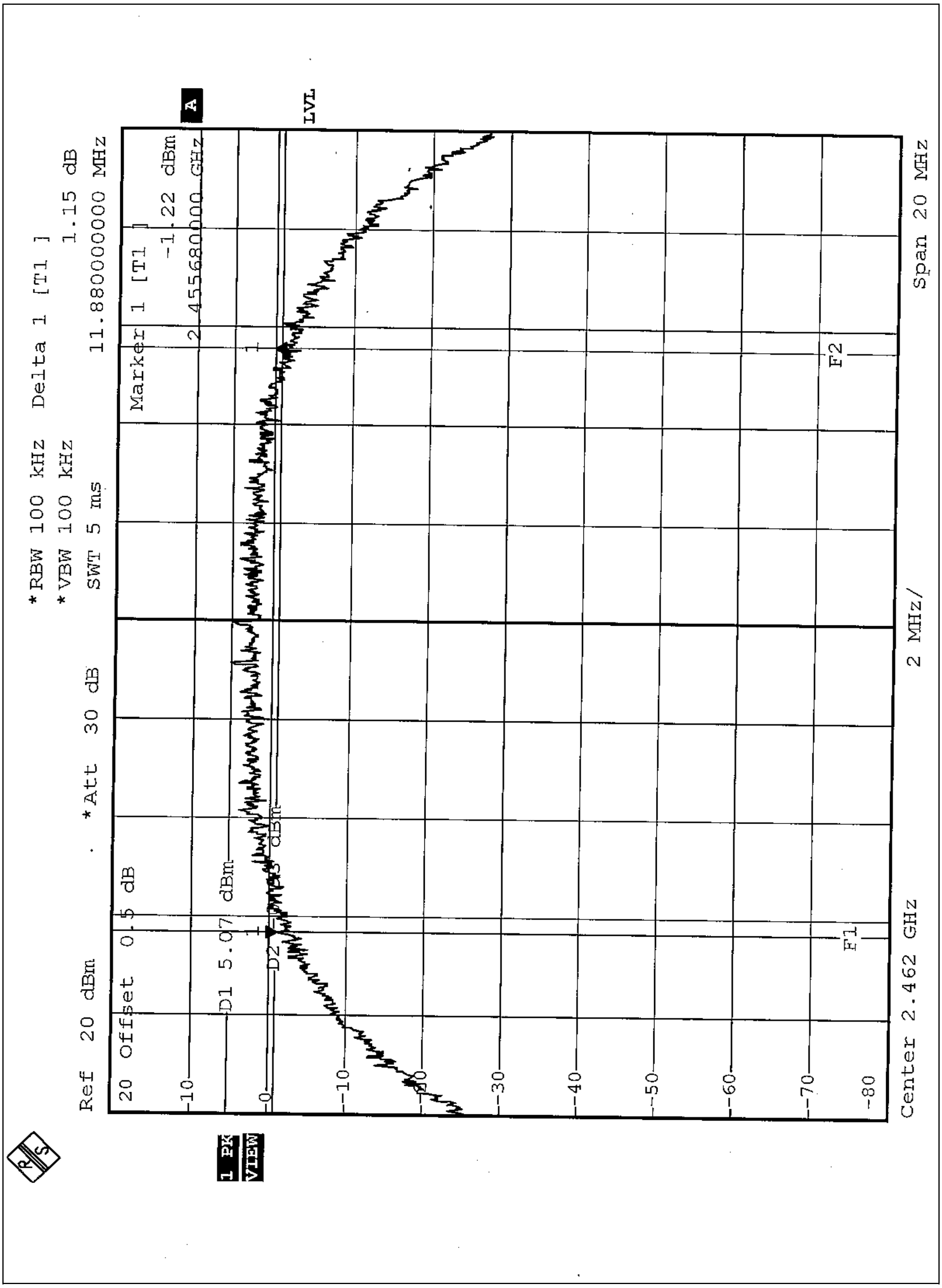
CH1


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
1.81 dB
12.280000000 MHz
Marker 1 [T1]
-4.30 dBm
2.405700000 GHz
Ref 20 dBm
Offset 0
5 dB
Att 30 dB
D1 3.06 dBm
D2 -3.00 dBm
LVL
F1
F2
Center 2.412 GHz
2 MHz/
Span 20 MHz
1 PK
VIEW

CH6


*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
2.51 dB
11.80000000 MHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-3.41 dBm
2.430740000 GHz
D1 3.87 dBm
D2 -2.13 dBm
LVL
A
1 PK
VIEW
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

CH11

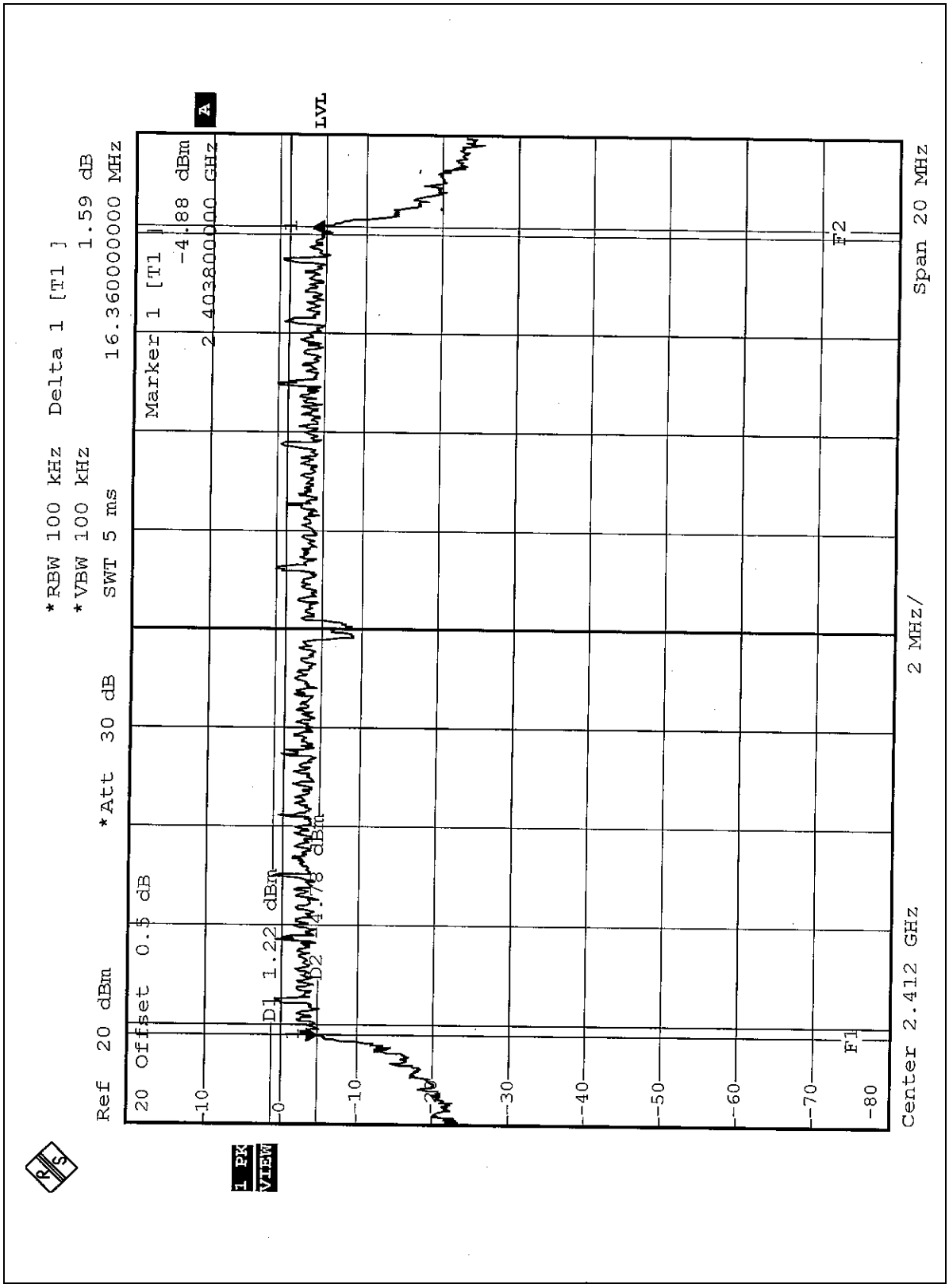


Ref 20 dBm
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
1.15 dB
11.88000000 MHz
Marker 1 [T1]
-1.22 dBm
2.45568000 GHz
Offset 0.5 dB
D1 5.07 dBm
LVL
A
F1
F2
1 PK VIEW
Center 2.462 GHz
2 MHz/
Span 20 MHz

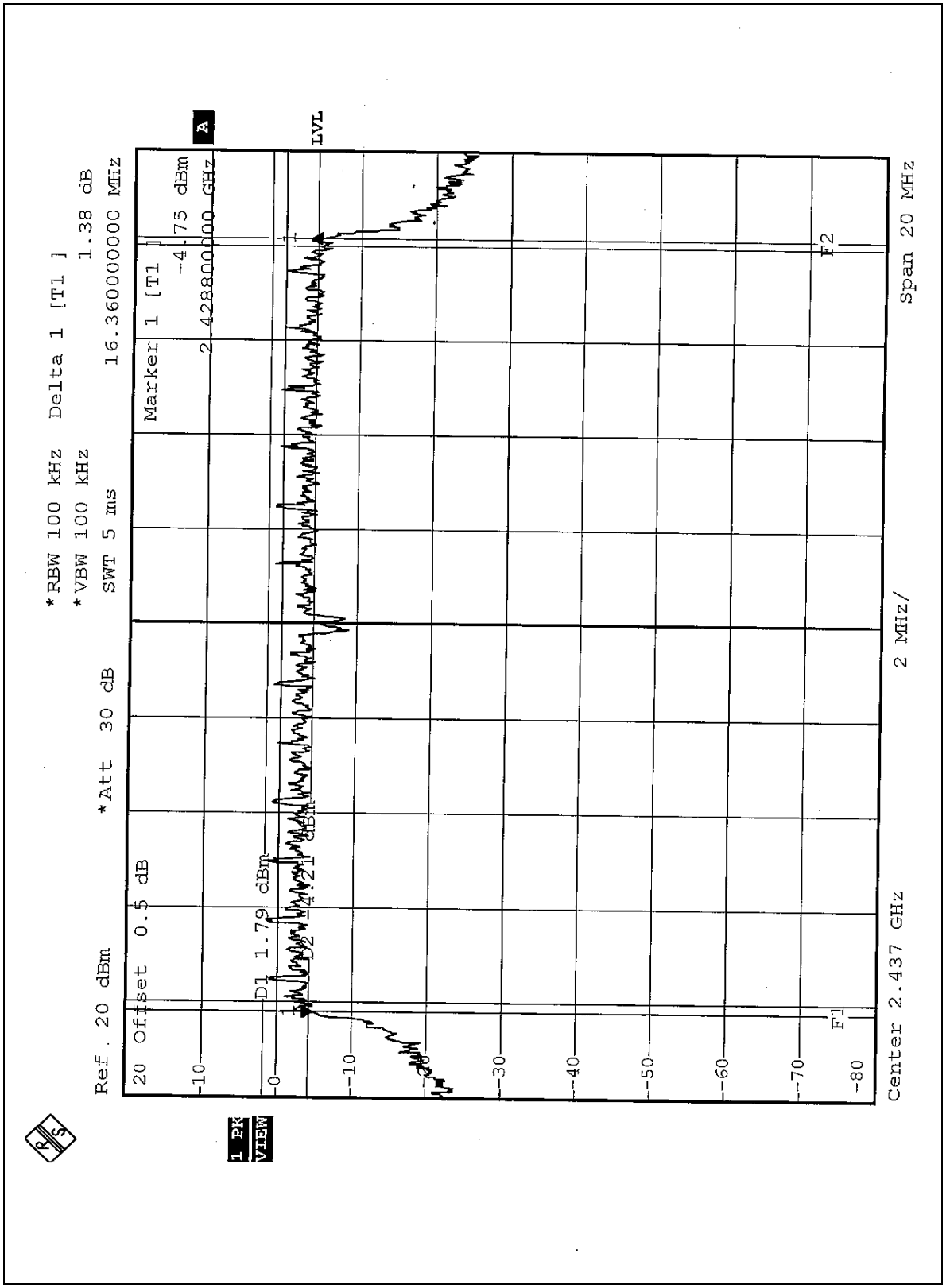
EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
MODE	OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**TESTED BY**	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.36	0.5	PASS
6	2437	16.36	0.5	PASS
11	2462	16.36	0.5	PASS

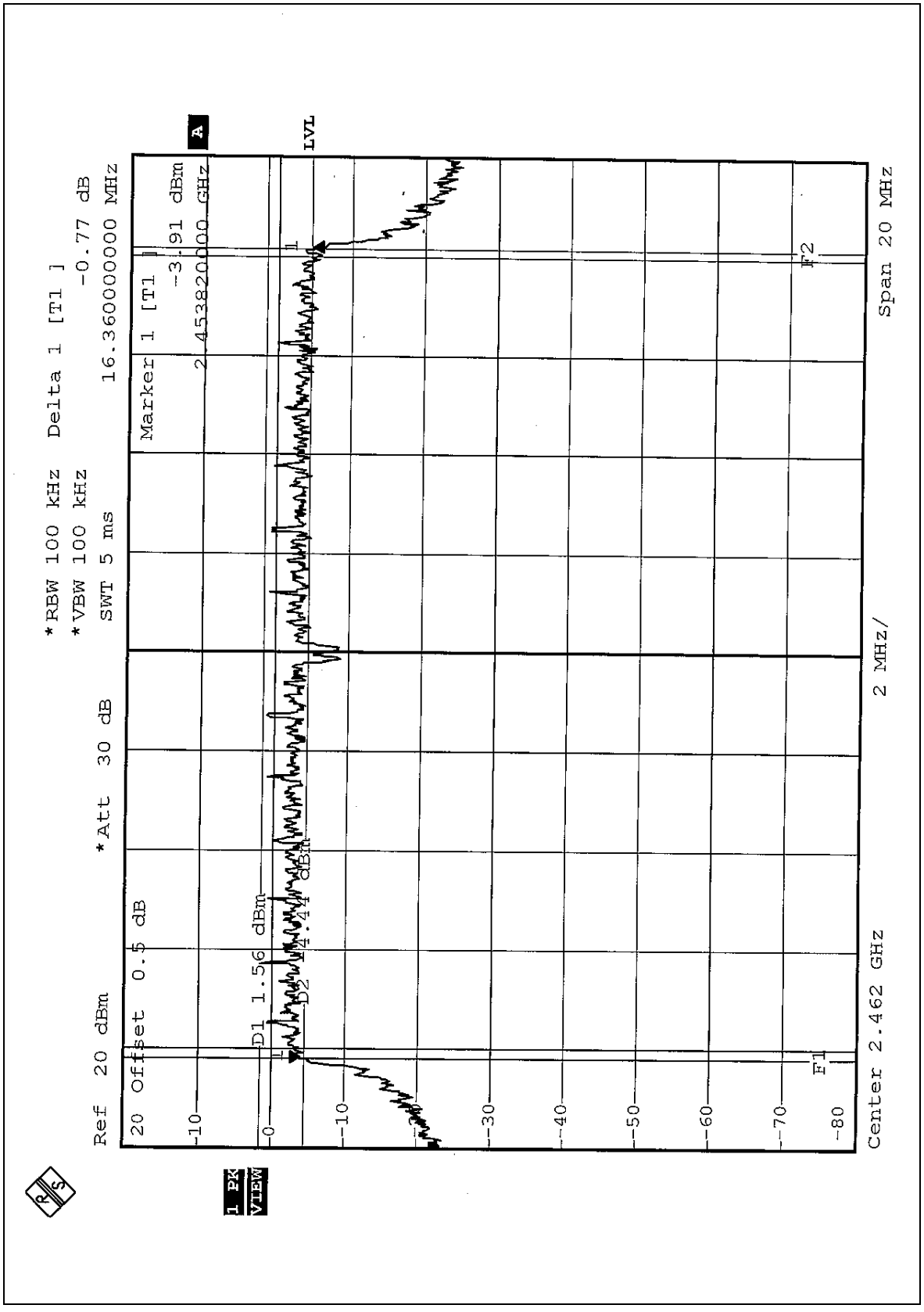
CH1


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
1.59 dB
16.360000000 MHz
Marker 1 [T1]
-4.88 dBm
2.403800000 GHz
Ref 20 dBm
Offset 0.5 dB
Att 30 dB
D1 1.22 dBm
D2 -4.78 dBm
Center 2.412 GHz
2 MHz/
Span 20 MHz
LVL
1 PK VIEW

CH6


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
1.38 dB
16.360000000 MHz
Marker 1 [T1]
-4.75 dBm
2.428800000 GHz
Ref 20 dBm
20 Offset 0.5 dB
Att 30 dB
D1 1.79 dBm
Center 2.437 GHz
2 MHz/
Span 20 MHz
F1
F2
LVL
1 PK VIEW

CH11


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.77 dB
16.360000000 MHz
Marker 1 [T1]
-3.91 dBm
2.453820000 GHz
Ref 20 dBm
Offset 0.5 dB
Att 30 dB
D1 1.56 dBm
D2 -4.41 dBm
Center 2.462 GHz
2 MHz/
Span 20 MHz
LVL
1 PK
VIEW

4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004
R&S SIGNAL GENERATOR	SMP04	100011	May 28, 2004
TEKTRONIX OSCILLOSCOPE	TDS 220	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..

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4.4.3 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.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	20deg.C, 75%RH, 991hPa
MODE	CCK	**TESTED BY**	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	14.79	30	PASS
6	2437	15.53	30	PASS
11	2462	16.00	30	PASS

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	20deg.C, 75%RH, 991hPa
MODE	OFDM	**TESTED BY**	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	15.50	30	PASS
6	2437	16.50	30	PASS
11	2462	16.00	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

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

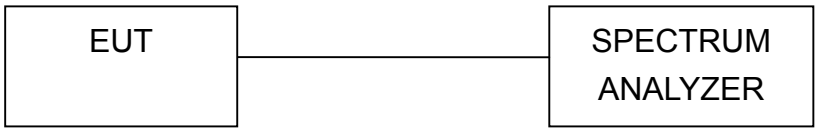
4.5.3 TEST PROCEDURE

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 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

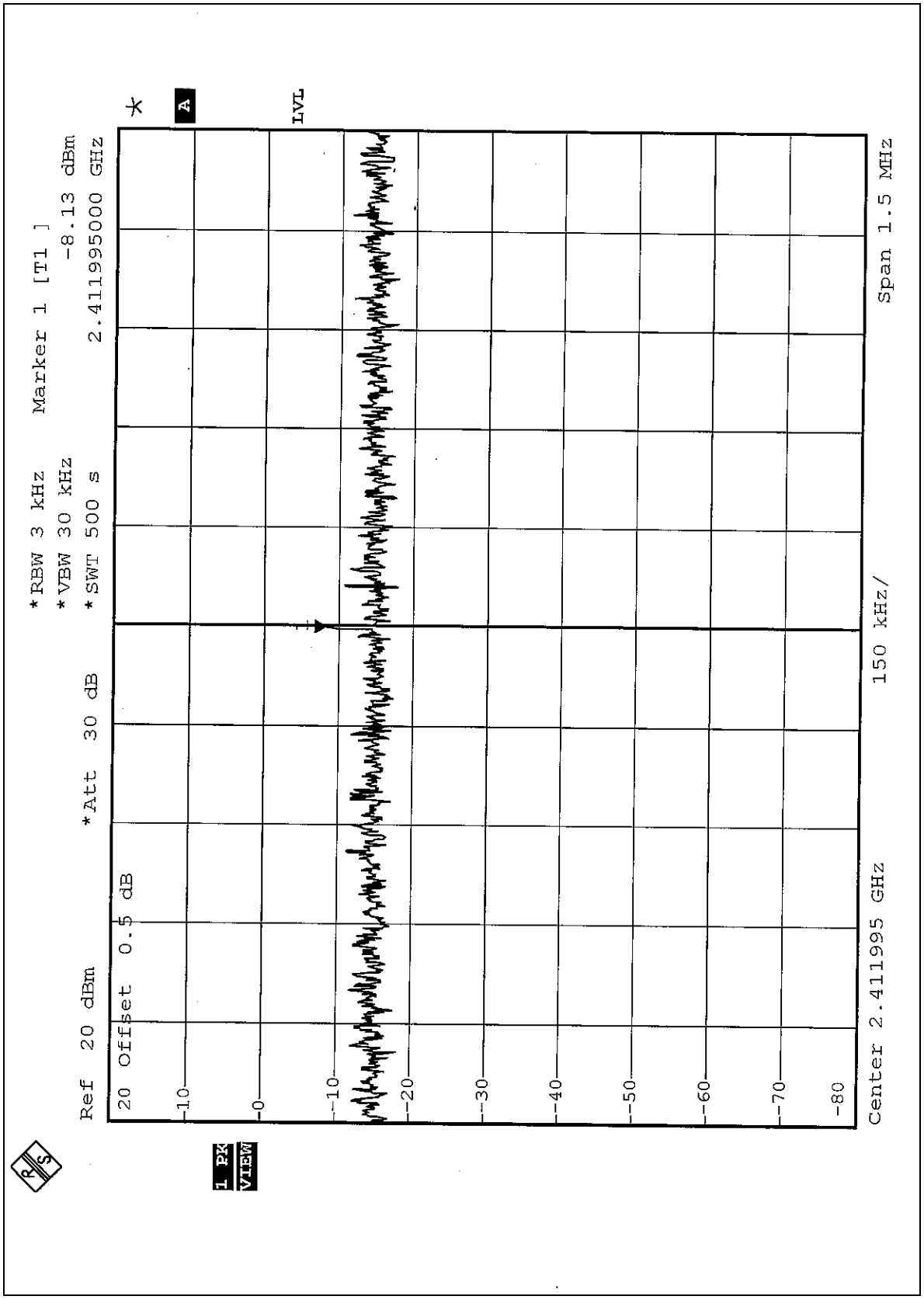
Same as Item 4.3.6

4.5.7 TEST RESULTS

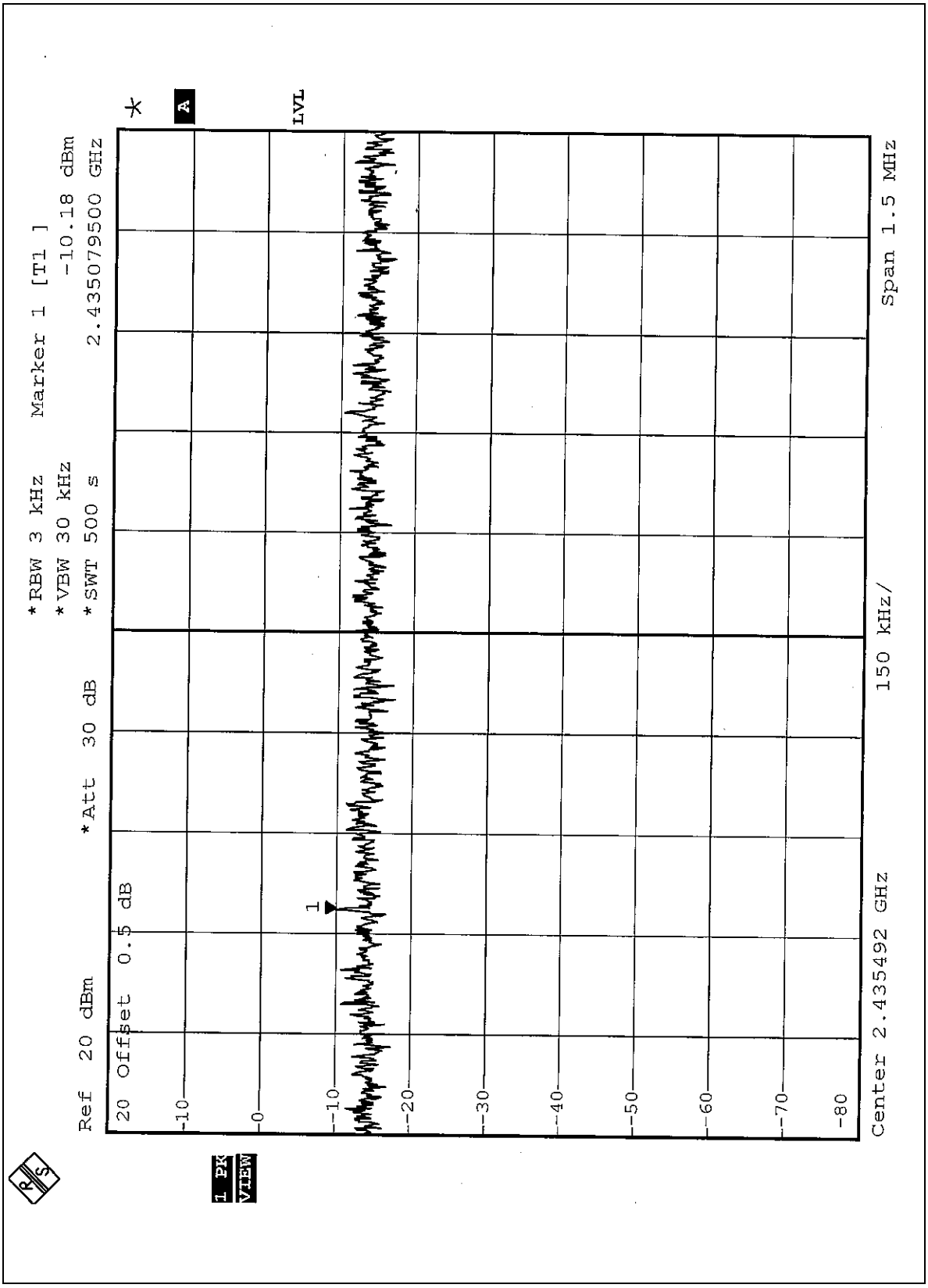
EUT	802.11A+G Wireless Access Point	MODEL	Gateway 7001 802.11A+G Wireless Access Point
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg.C, 75%RH, 991hPa
MODE	CCK	TESTED BY	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-8.13	8	PASS
6	2437	-10.18	8	PASS
11	2462	-10.22	8	PASS

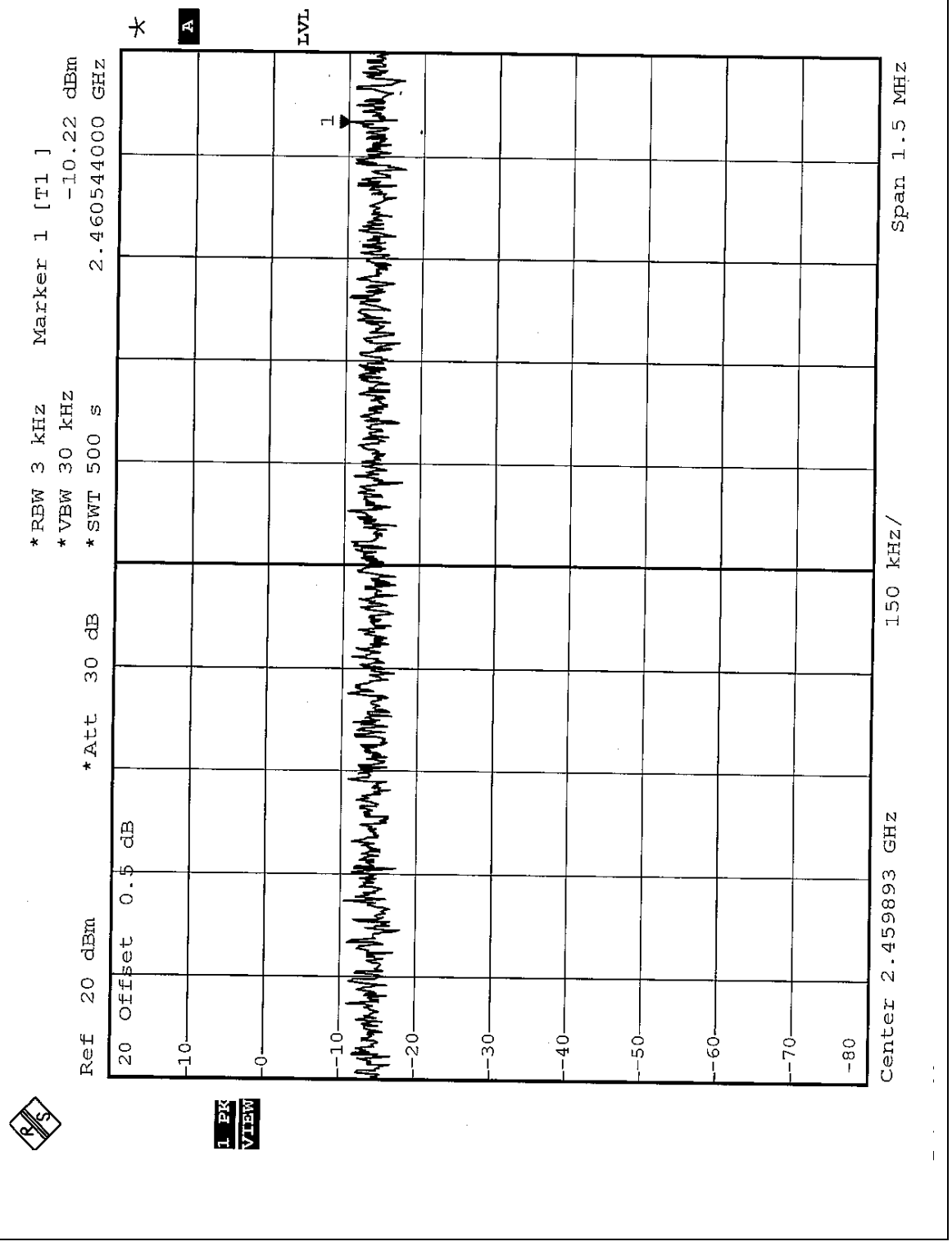
CH1


Marker 1 [T1]
-8.13 dBm
2.411995000 GHz
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
*Att 30 dB
Ref 20 dBm
20 Offset 0.5 dB
1 PK
VIEW
A
LVL
Center 2.411995 GHz
150 kHz/
Span 1.5 MHz
10
0
-10
-20
-30
-40
-50
-60
-70
-80

CH6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1]
-10.18 dBm
2.435079500 GHz
Ref 20 dBm
Offset 0.5 dB
Att 30 dB
LVL
Center 2.435492 GHz
150 kHz/
Span 1.5 MHz
1 PK
VIEW

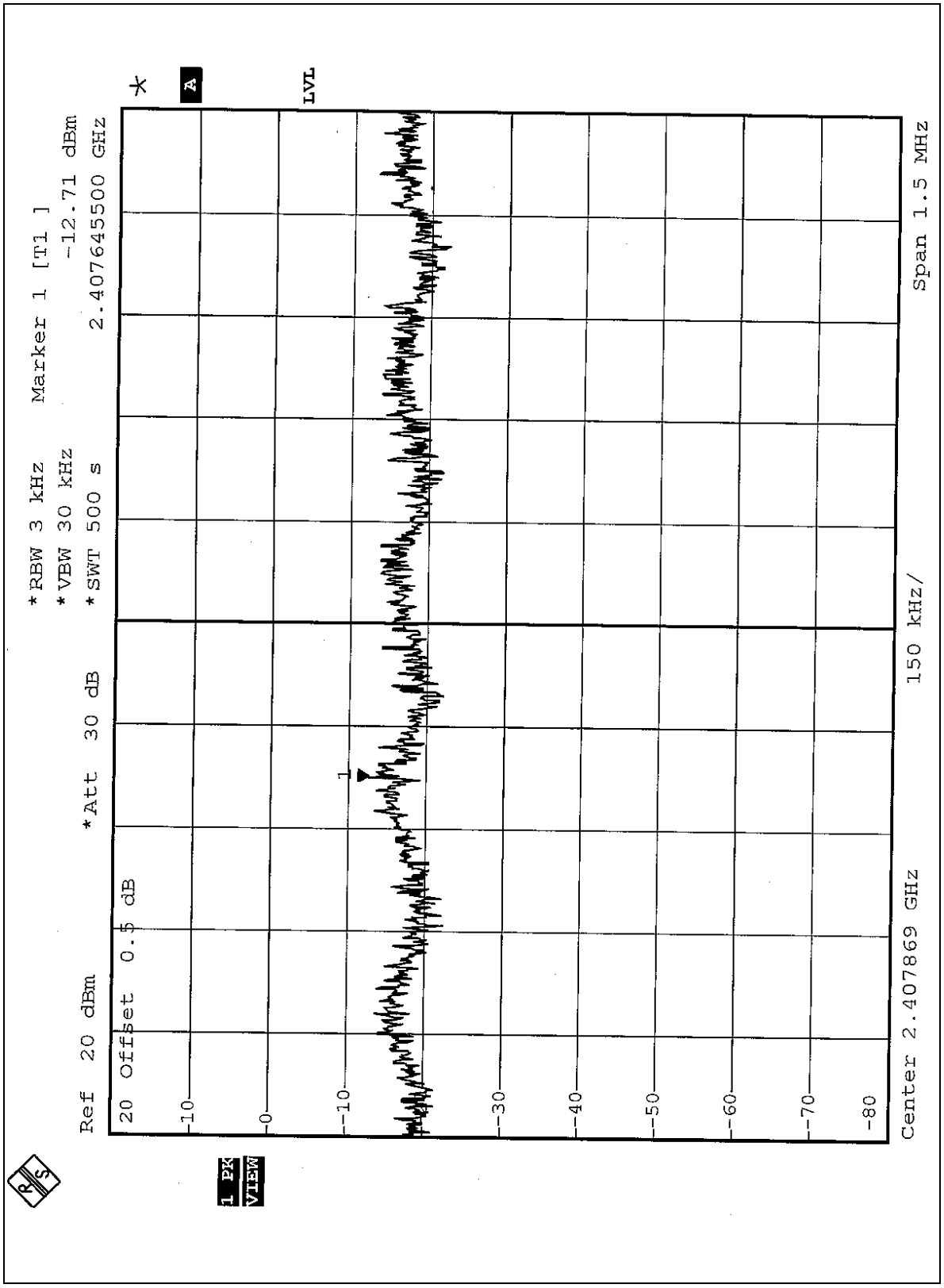
CH11


Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-10.22 dBm
2.46054000 GHz
Center 2.459893 GHz
150 kHz/
Span 1.5 MHz
1 PK VIEW
LVL
A

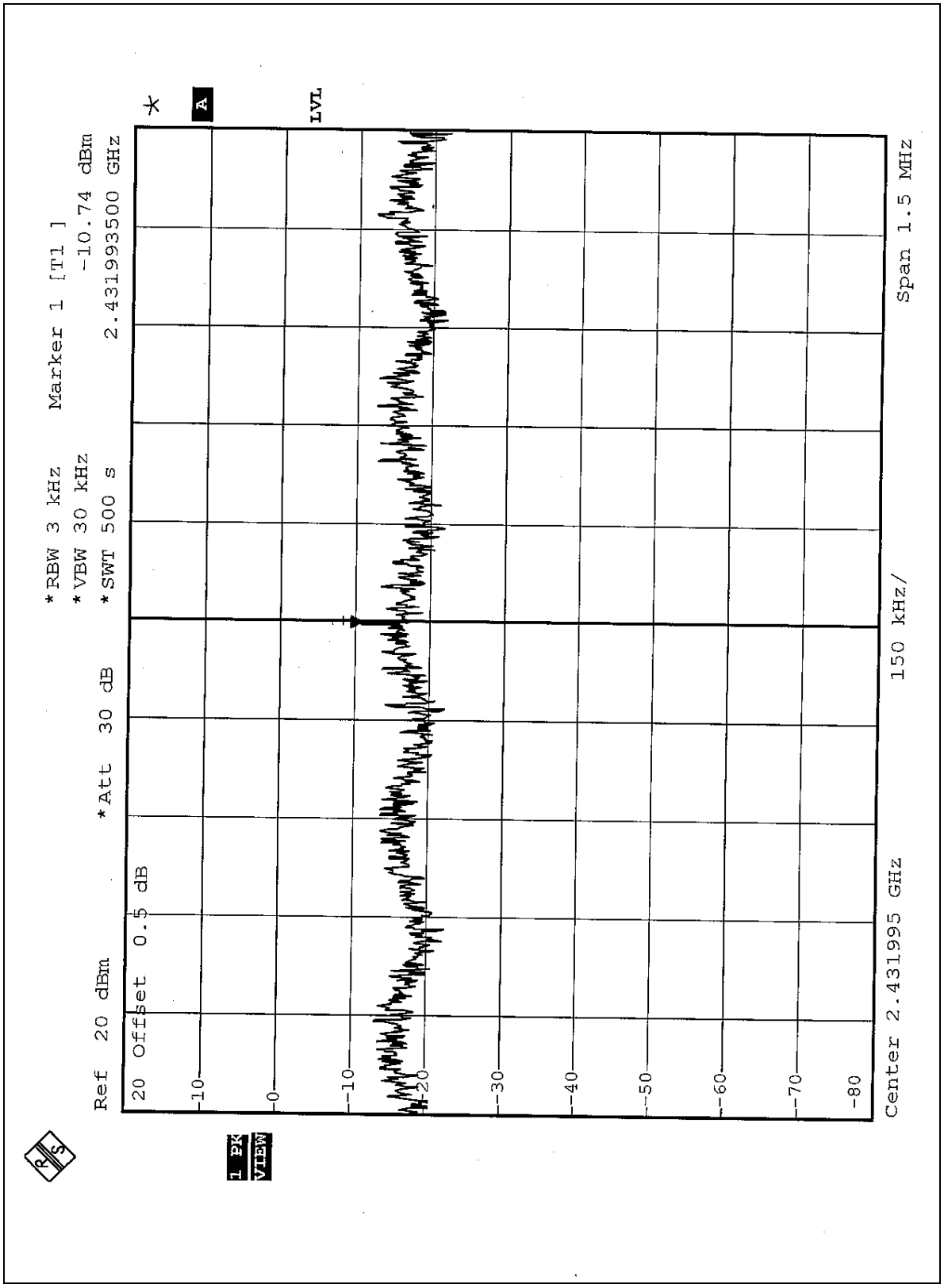
EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	20deg. C, 75%RH, 991hPa
MODE	OFDM	**TESTED BY**	Jamison Chan

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-12.71	8	PASS
6	2437	-10.74	8	PASS
11	2462	-11.22	8	PASS

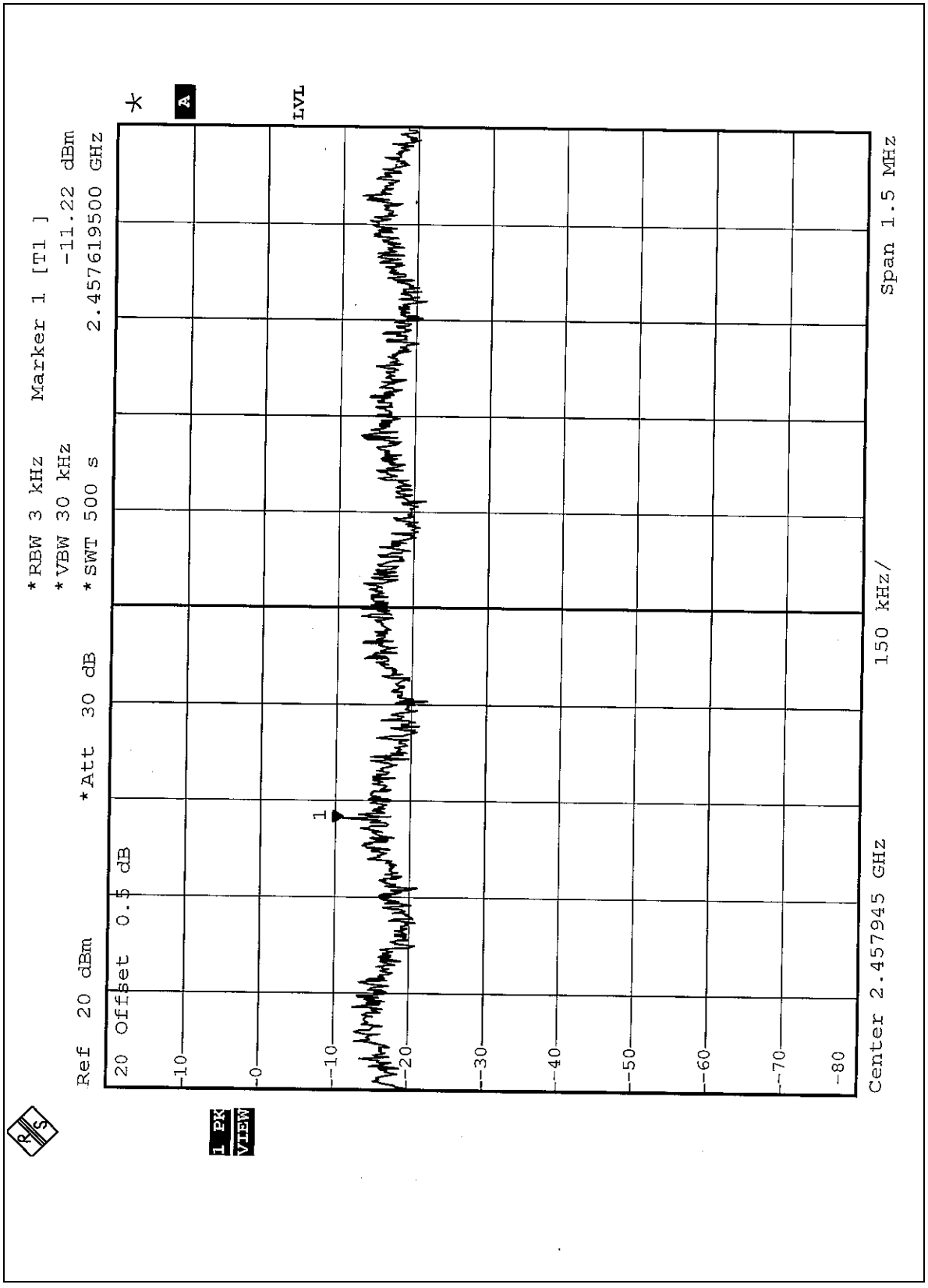
CH1


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-12.71 dBm
2.407645500 GHz
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
LVL
1 PK VIEW
Center 2.407869 GHz
150 kHz/
Span 1.5 MHz

CH6


Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-10.74 dBm
2.431993500 GHz
1 PK
VIEW
A
LVL
Center 2.431995 GHz
150 kHz/
Span 1.5 MHz
10
0
-10
-20
-30
-40
-50
-60
-70
-80

CH11


RBW 3 kHz
VBW 30 kHz
SWT 500 s
Marker 1 [T1]
-11.22 dBm
2.457619500 GHz
Att 30 dB
Ref 20 dBm
Offset 0.5 dB
Center 2.457945 GHz
150 kHz/
Span 1.5 MHz
1 PK VIEW

4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	8564EC	4208A00660	August 12, 2004

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

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 1MHz and 10Hz, 1MHz and 1MHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.6 TEST RESULTS

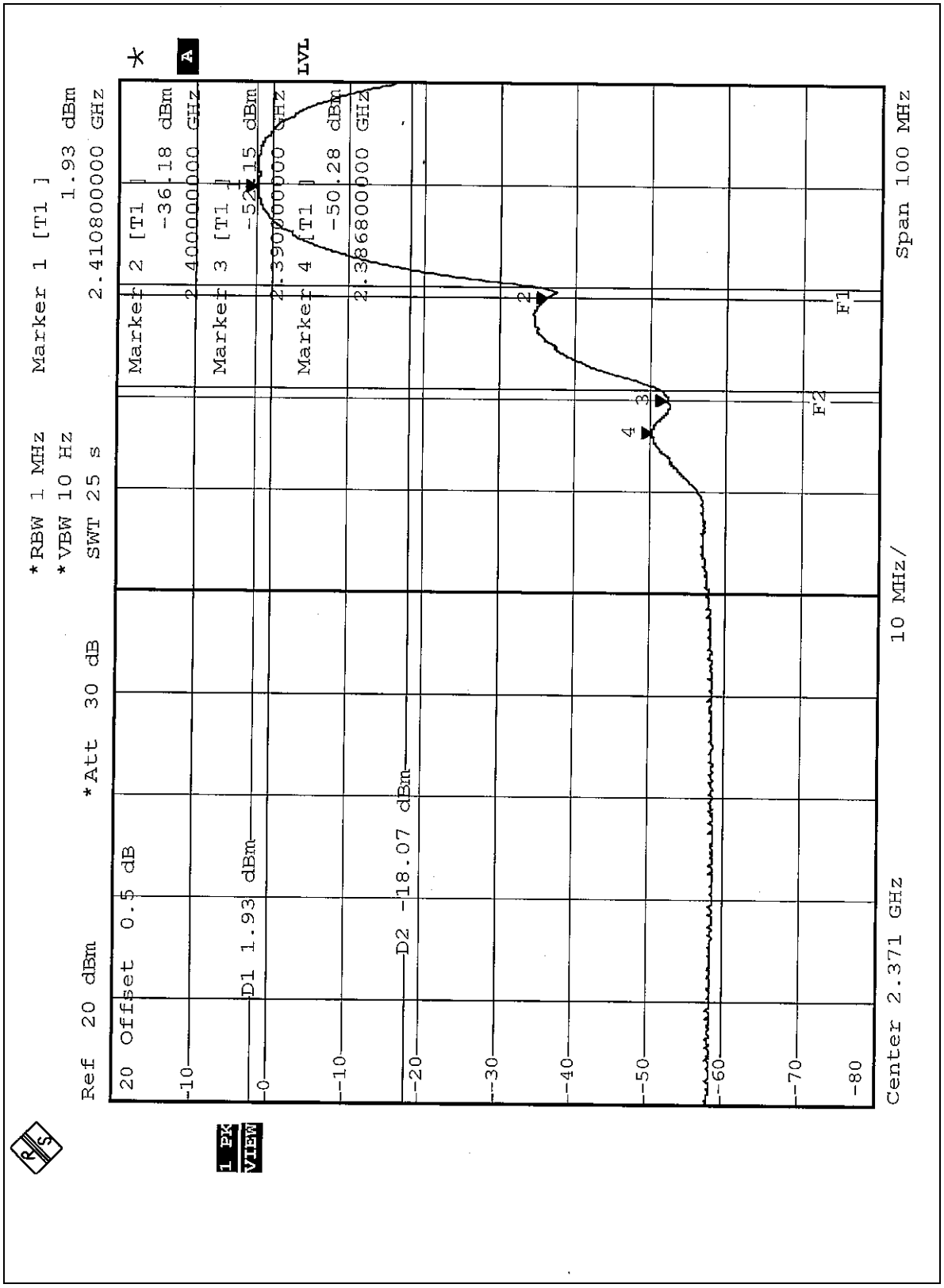
The spectrum plots are attached on the following 8 pages. D2 line indicates the highest level, and D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

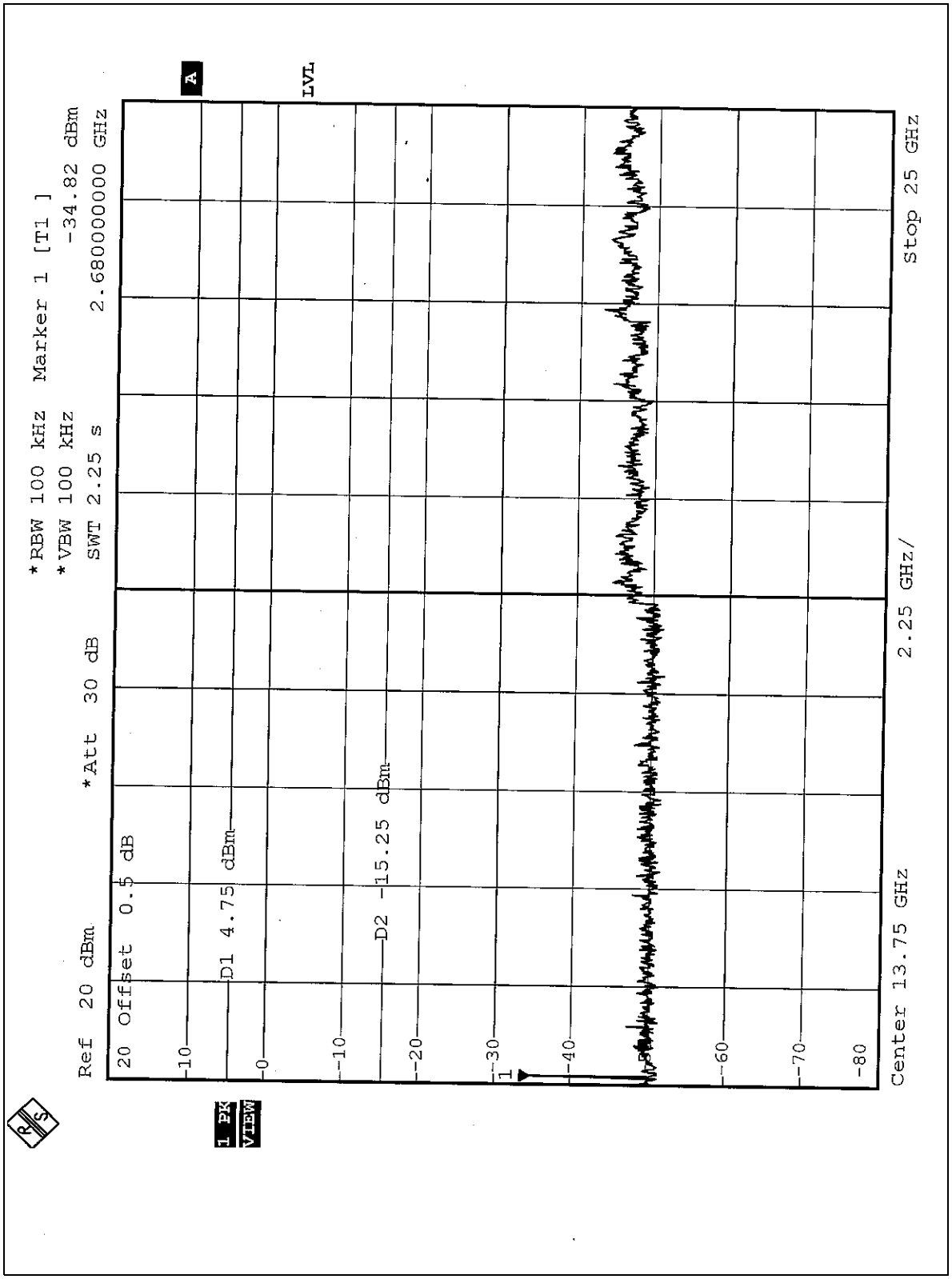
NOTE 1: The band edge emission plot of CCK technique on the following 1-2 pages show 52.21dB delta between carrier maximum power and local maximum emission in restrict band (2.3868GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 100.42dBuV/m, so the maximum field strength in restrict band is 100.42-52.21=48.21dBuV/m which is under 54dBuV/m limit.

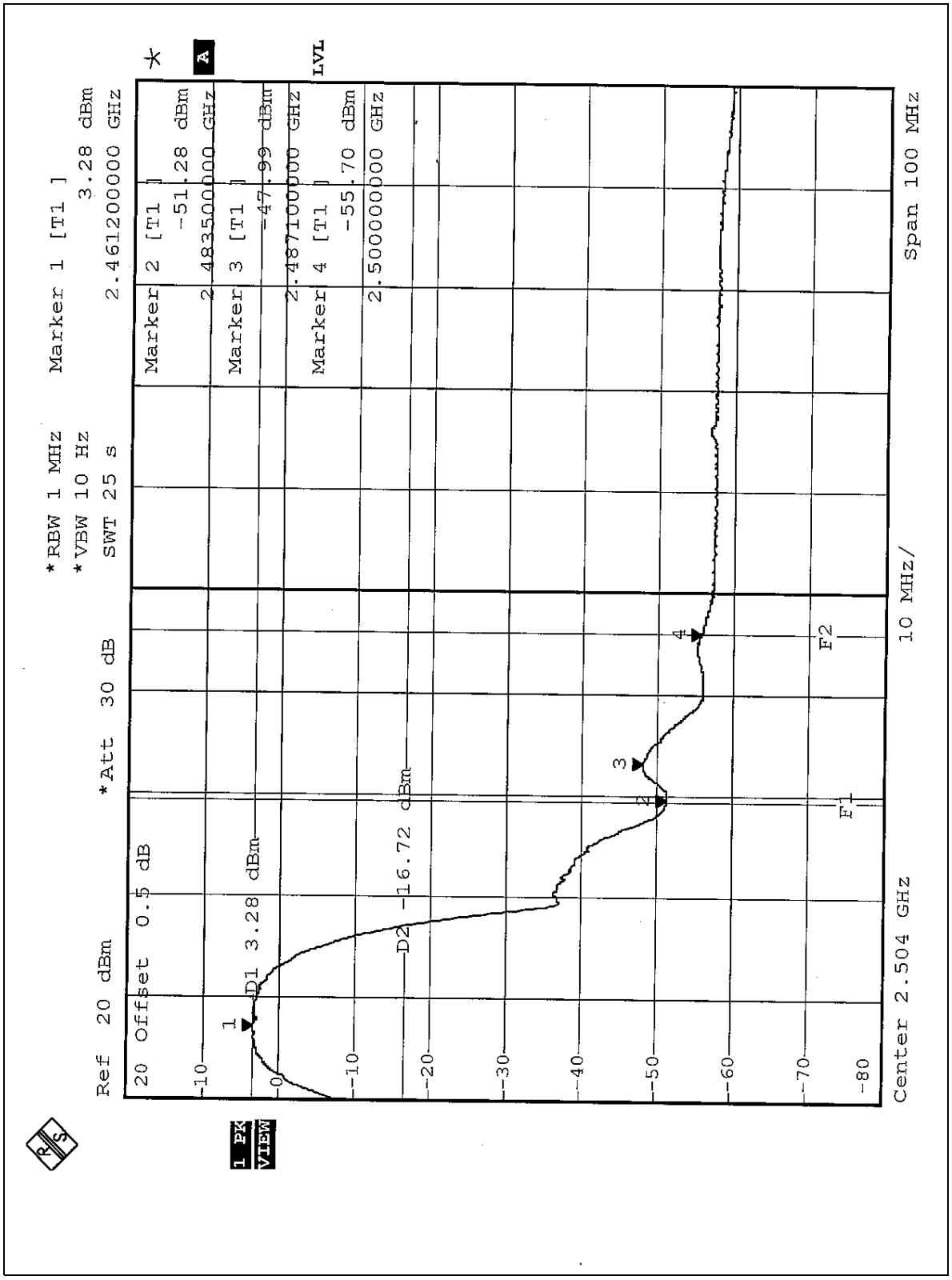
NOTE 2: The band edge emission plot of CCK technique on the following 3-4 pages show 51.27dB delta between carrier maximum power and local maximum emission in restrict band (2.4871GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 98.76dBuV/m, so the maximum field strength in restrict band is 98.76-51.27=47.49dBuV/m which is under 54dBuV/m limit.

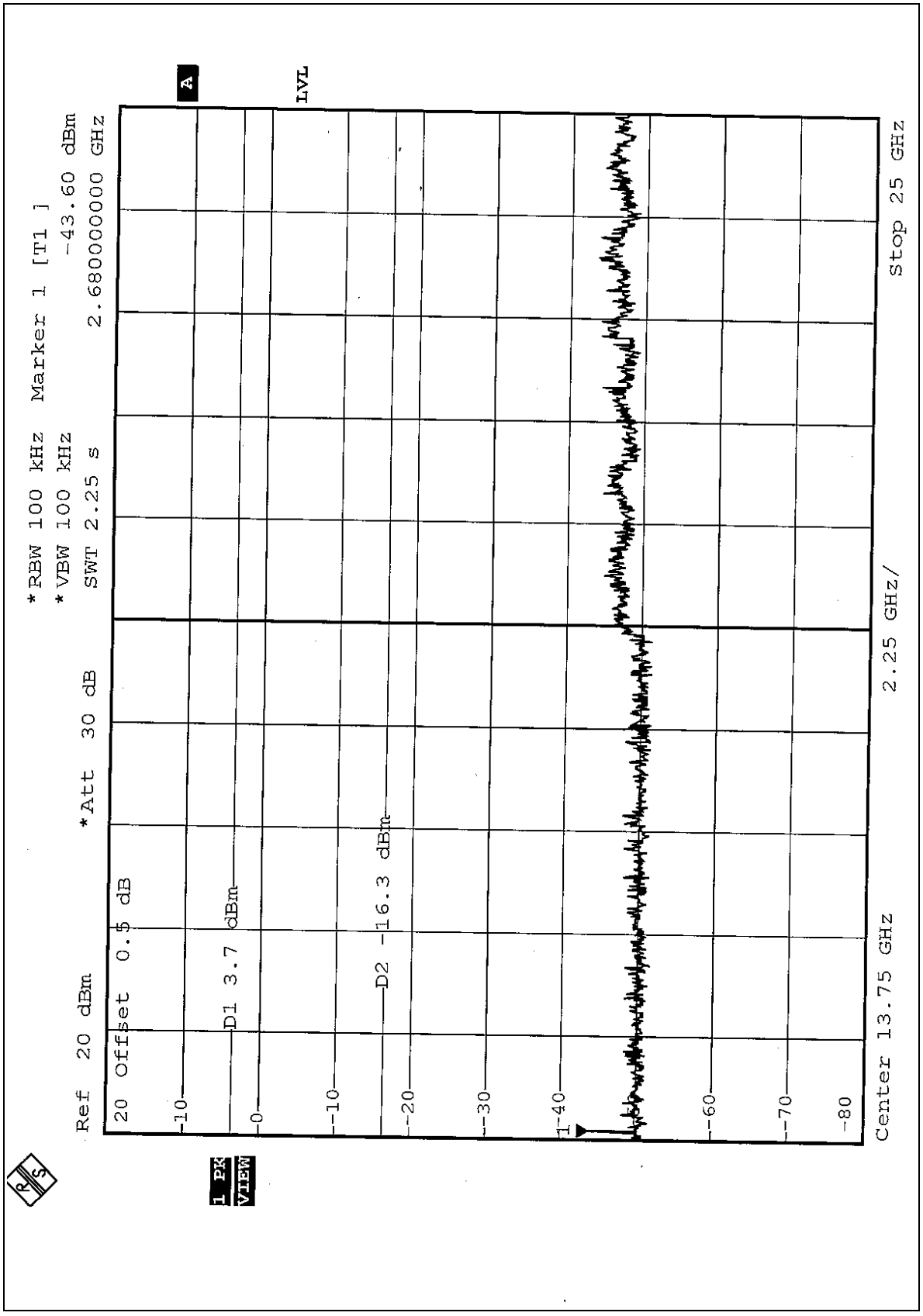
NOTE 3: The band edge emission plot of OFDM technique on the following 5-6 pages show 44.10dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 97.85dBuV/m, so the maximum field strength in restrict band is 97.85-44.10=53.75dBuV/m which is under 54dBuV/m limit.

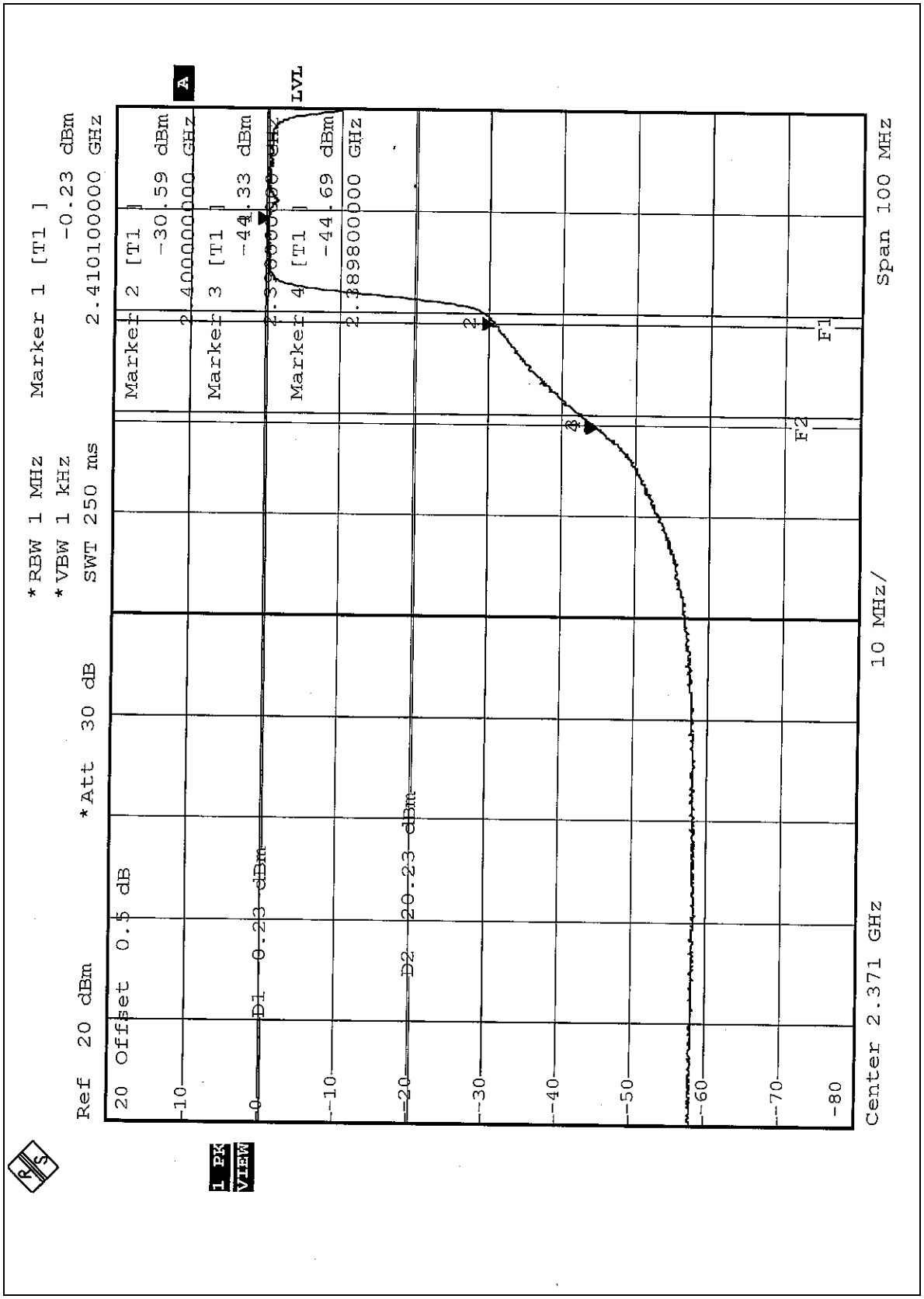
NOTE 4: The band edge emission plot of OFDM technique on the following 7-8 pages show 46.60dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 99.26dBuV/m, so the maximum field strength in restrict band is 99.26-46.60=52.66dBuV/m which is under 54dBuV/m limit.

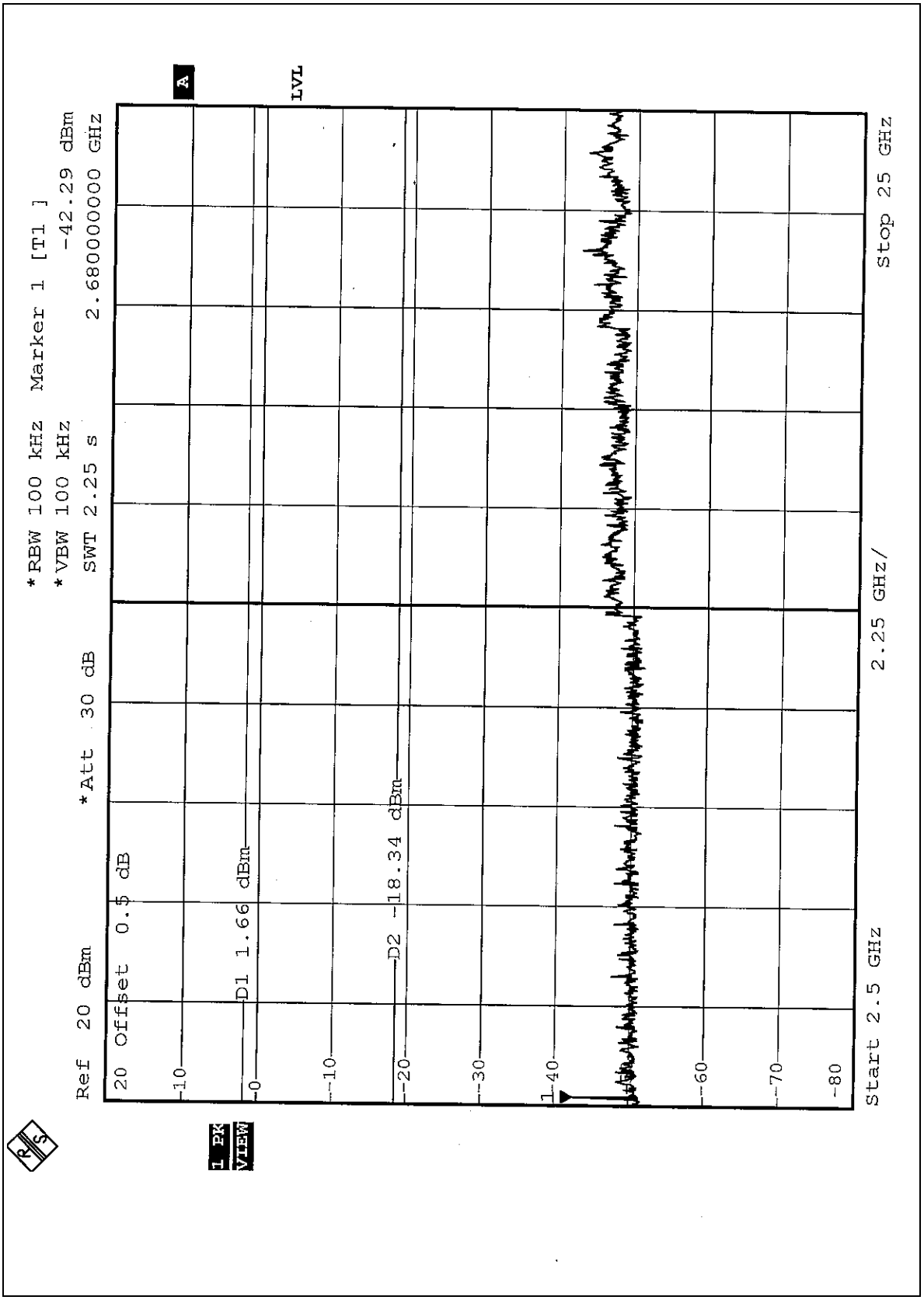

Marker 1 [T1]
1.93 dBm
2.41080000 GHz
*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
*Att 30 dB
Ref 20 dBm
Offset 0.5 dB
D1 1.93 dBm
D2 -18.07 dBm
Center 2.371 GHz
10 MHz/
Span 100 MHz
Marker 2 [T1]
-36.18 dBm
2.40000000 GHz
Marker 3 [T1]
-52.15 dBm
2.39000000 GHz
Marker 4 [T1]
-50.28 dBm
2.38600000 GHz
LVL
A
1 PK
VIEW
F1
F2

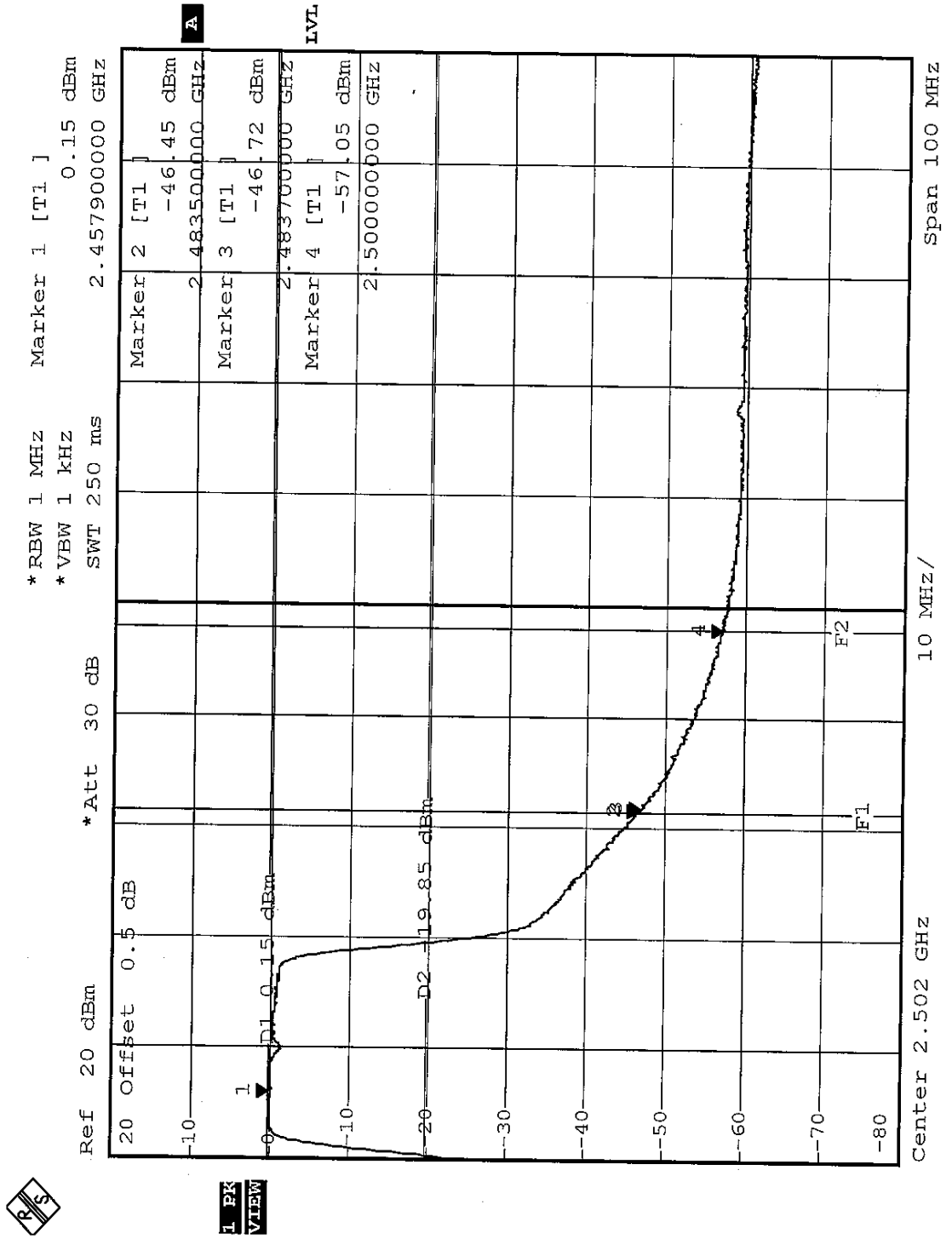

*RBW 100 kHz
*VBW 100 kHz
SWT 2.25 s
Marker 1 [T1]
-34.82 dBm
2.68000000 GHz
*Att 30 dB
Ref 20 dBm
20 Offset 0.5 dB
D1 4.75 dBm
D2 -15.25 dBm
A
LVL
1 PK
VIEW
Center 13.75 GHz
2.25 GHz/
Stop 25 GHz

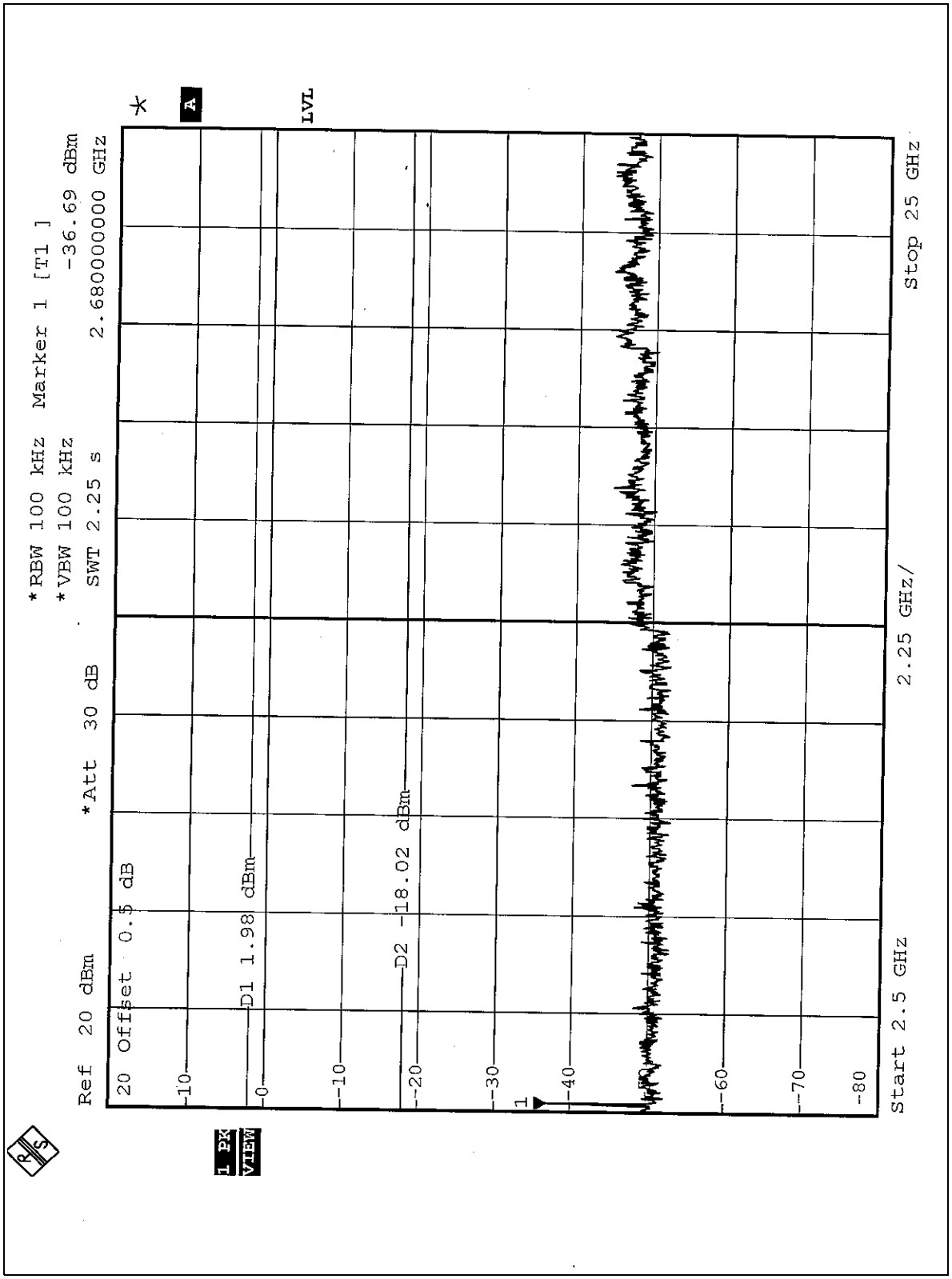

RBW 1 MHz
VBW 10 Hz
SWT 25 s
Marker 1 [T1]
3.28 dBm
2.461200000 GHz
Marker 2 [T1]
-51.28 dBm
2.483500000 GHz
Marker 3 [T1]
-47.99 dBm
2.487100000 GHz
Marker 4 [T1]
-55.70 dBm
2.500000000 GHz
LVL
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
D1 3.28 dBm
D2 -16.72 dBm
F1
F2
Center 2.504 GHz
10 MHz/
Span 100 MHz
1 PK
VIEW


*RBW 100 kHz
*VBW 100 kHz
SWT 2.25 s
Marker 1 [T1]
-43.60 dBm
2.68000000 GHz
*Att 30 dB
Ref 20 dBm
Offset 0.5 dB
D1 3.7 dBm
D2 -16.3 dBm
Center 13.75 GHz
2.25 GHz/
Stop 25 GHz
1 PK
VIEW
A
LVL


RBW 1 MHz
VBW 1 kHz
SWT 250 ms
Marker 1 [T1]
-0.23 dBm
2.410100000 GHz
Ref 20 dBm
Offset 0.5 dB
Att 30 dB
Marker 2 [T1]
-30.59 dBm
2.400000000 GHz
Marker 3 [T1]
-44.33 dBm
2.390000000 GHz
Marker 4 [T1]
-44.69 dBm
2.389800000 GHz
D1 -0.23 dBm
D2 -20.23 dBm
Center 2.371 GHz
10 MHz/
Span 100 MHz
F1
F2
LVL
1 PK VIEW


A
LVL
*RBW 100 kHz
*VBW 100 kHz
SWT 2.25 s
Marker 1 [T1]
-42.29 dBm
2.680000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
D1 1.66 dBm
D2 -18.34 dBm
1 PK VIEW
Start 2.5 GHz
2.25 GHz/
Stop 25 GHz


RBW 1 MHz
VBW 1 kHz
SWT 250 ms
Marker 1 [T1]
0.15 dBm
2.457900000 GHz
Att 30 dB
Ref 20 dBm
Offset 0.5 dB
Marker 2 [T1]
-46.45 dBm
2.483500000 GHz
Marker 3 [T1]
-46.72 dBm
2.483700000 GHz
Marker 4 [T1]
-57.05 dBm
2.500000000 GHz
LVL
D1 0.15 dBm
D2 -19.85 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
1 PK
VIEW


*RBW 100 kHz
*VBW 100 kHz
*Att 30 dB
SWT 2.25 s
Marker 1 [T1]
-36.69 dBm
2.680000000 GHz
Ref 20 dBm
20 Offset 0.5 dB
D1 1.98 dBm
D2 -18.02 dBm
Start 2.5 GHz
2.25 GHz/
Stop 25 GHz
1 PK VIEW
A
LVL

4.7 ANTENNA REQUIREMENT

4.7.1 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 (b), 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.

4.7.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is Dipole antenna with UFL antenna connector. The maximum Gain of the antenna is 2dBi.

5 TEST TYPES AND RESULTS (FOR PART 802.11a)

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 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.

5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	838251/021	Jan. 04, 2005
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100220	Dec. 09, 2004
*ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 19, 2004
*ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 19, 2004
Software	Cond-V2M3	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	May 01, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010770	Feb. 28, 2005
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Feb. 28, 2005

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. "*": These equipment are used for conducted telecom port test only (if tested).
3. The test was performed in ADT Shielded Room No. 10.
4. The VCCI Site Registration No. is C-1312.

5.1.3 TEST PROCEDURES

a. 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.

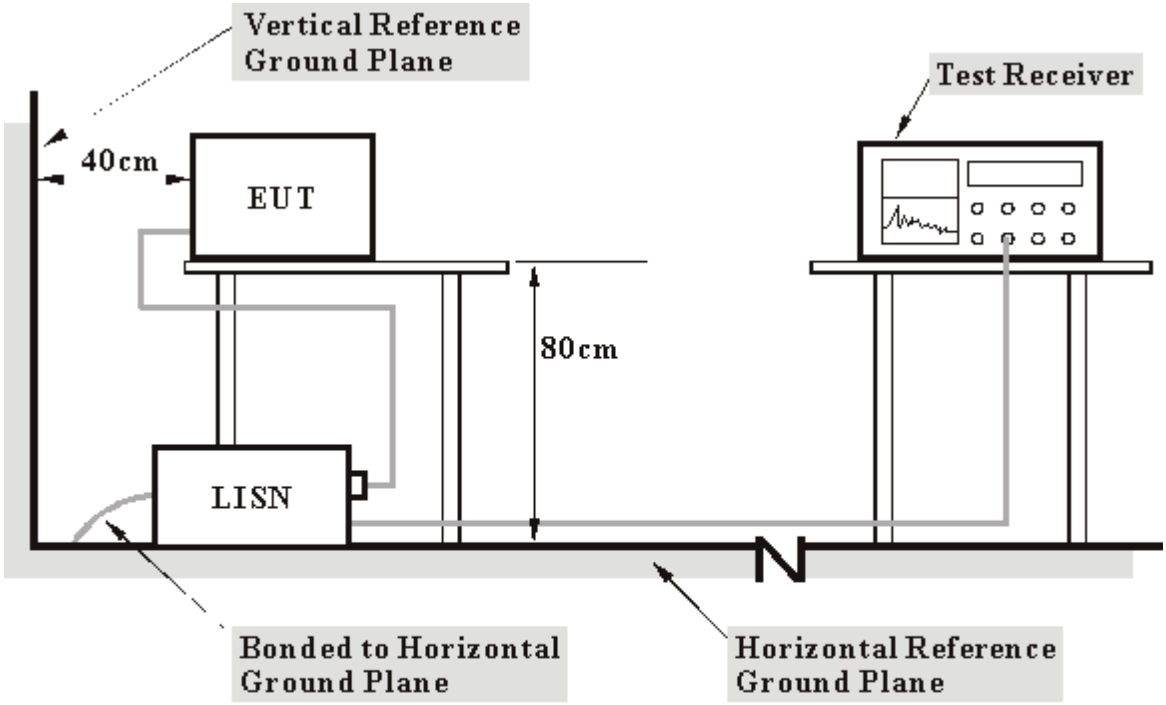
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 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.

5.1.6 EUT OPERATING CONDITIONS

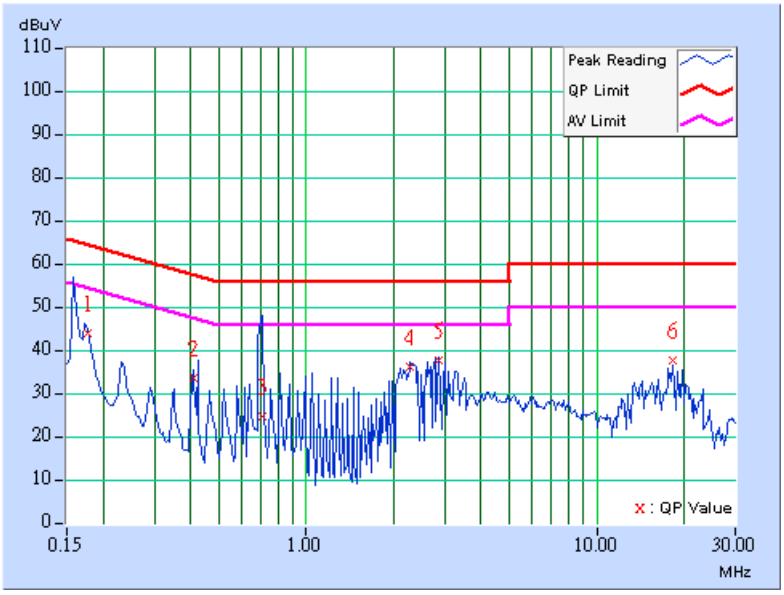
Same as 4.1.6.

5.1.7 TEST RESULTS

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**TESTED BY**: Jamison Chan	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.177	0.10	43.24	-	43.34	-	64.63	54.63	-21.29	-
2	0.410	0.10	32.87	-	32.97	-	57.64	47.64	-24.67	-
3	0.703	0.15	23.96	-	24.11	-	56.00	46.00	-31.89	-
4	2.283	0.21	35.46	-	35.67	-	56.00	46.00	-20.33	-
5	2.870	0.24	36.97	-	37.21	-	56.00	46.00	-18.79	-
6	18.242	0.86	37.00	-	37.86	-	60.00	50.00	-22.14	-

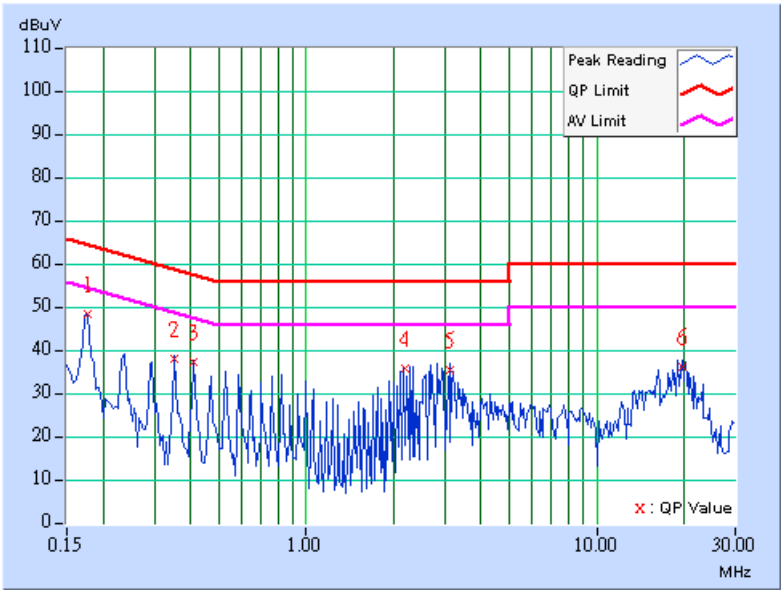
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**TESTED BY**: Jamison Chan	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.177**	**0.10**	**47.56**	**-**	**47.66**	**-**	**64.61**	**54.61**	**-16.95**	**-**
2	0.353	0.10	37.43	-	37.53	-	58.89	48.89	-21.36	-
3	0.412	0.10	36.69	-	36.79	-	57.61	47.61	-20.82	-
4	2.179	0.21	35.09	-	35.30	-	56.00	46.00	-20.70	-
5	3.117	0.26	34.77	-	35.03	-	56.00	46.00	-20.97	-
6	19.707	0.79	35.65	-	36.44	-	60.00	50.00	-23.56	-

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.



5.2 RADIATED EMISSION MEASUREMENT

5.2.1 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:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. 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.

5.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	**EIRP Limit (dBm)**	**Equivalent Field Strength at 3m (dBμV/m)** *note 3
5150~5250	-27	68.3
5250~5350	-27	68.3
5725~5825	-27 *note 1	68.3
	-17 *note 2	78.3

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

5.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
*HP Spectrum Analyzer	8593E	3911A07465	Jul. 07, 2004
*HP Preamplifier	8447D	2944A10386	Aug. 12, 2004
* HP Preamplifier	8449B	3008A01292	Aug. 11, 2004
SCHAFFNER Tunable Dipole Antenna	VHBA 9123	459	Jun. 26, 2004
SCHWARZBECK Tunable Dipole Antenna	UHA 9105	977	
*SCHAFFNER TEST RECEIVER	SCR 3501	409	Nov. 06, 2004
* SCHAFFNER BILOG Antenna	CBL6111C	2727	Jul. 15, 2004
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jun 30, 2004
* ADT. Turn Table	TT100	0201	NA
* ADT. Tower	AT100	0201	NA
* Software	ADT_Radiated_V 5.14	NA	NA
* ANRITSU RF Switches	MP59B	6100237246	Oct. 17, 2004
* TIMES RF cable	LMR-600	CABLE-ST10-01	Oct. 17, 2004

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. "*" = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. 10.
5. The VCCI Site Registration No. is R-1625.

5.2.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. 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.

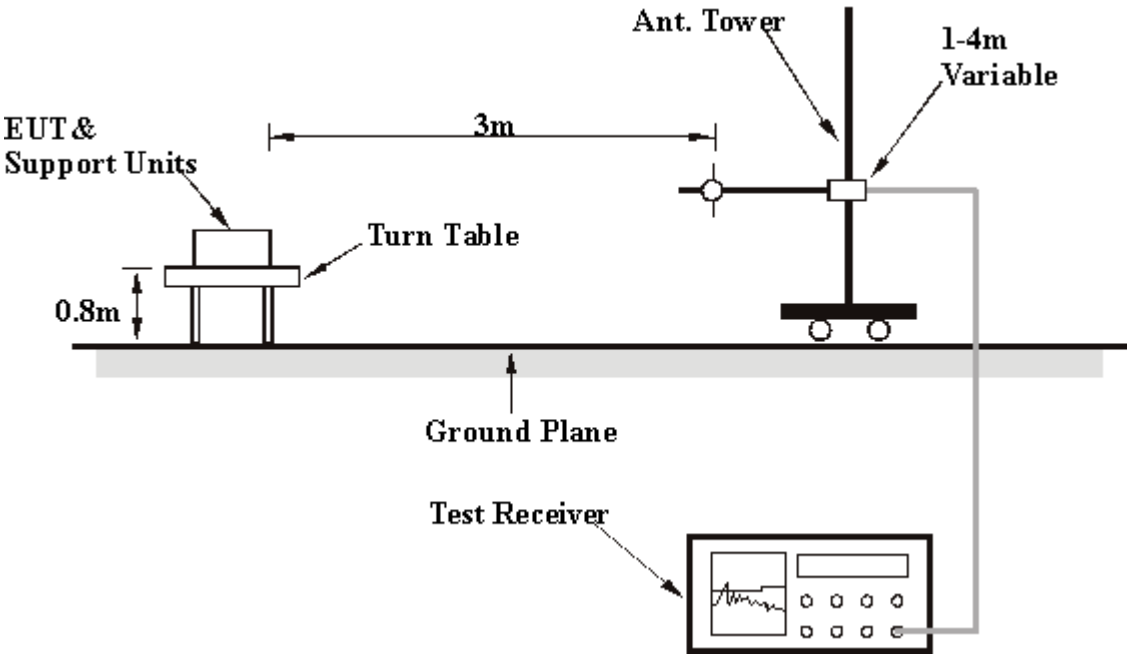
NOTE:

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.

5.2.5 DEVIATION FROM TEST STANDARD

No deviation

5.2.6 TEST SETUP



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

5.2.7 EUT OPERATING CONDITIONS

Same as 4.1.6.

5.2.8 TEST RESULTS

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
FREQUENCY RANGE	Below 1000MHz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Martin Lee		

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	34.76	34.42 QP	40.00	-5.58	1.00 H	71	17.75	16.67
2	124.99	26.94 QP	43.50	-16.56	1.55 H	231	14.48	12.46
3	130.89	28.45 QP	43.50	-15.05	1.97 H	214	15.97	12.48
4	207.10	25.43 QP	43.50	-18.07	1.62 H	3	14.47	10.96
5	251.60	33.59 QP	46.00	-12.41	1.57 H	250	19.42	14.17
6	330.40	38.52 QP	46.00	-7.48	1.21 H	232	21.63	16.89
7	406.80	37.16 QP	46.00	-8.84	1.80 H	21	17.61	19.55
8	477.90	36.02 QP	46.00	-9.98	1.45 H	334	14.80	21.22
9	532.80	34.23 QP	46.00	-11.77	1.65 H	122	11.39	22.84
10	655.30	41.13 QP	46.00	-4.87	1.37 H	35	15.47	25.66
11	788.30	35.92 QP	46.00	-10.08	1.54 H	315	8.68	27.24

REMARKS: 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

EUT	802.11A+G Wireless Access Point	MODEL	Gateway 7001 802.11A+G Wireless Access Point
FREQUENCY RANGE	Below 1000MHz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Martin Lee		

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	34.23	37.16 QP	40.00	-2.84	1.00 V	209	20.05	17.11
2	53.90	32.03 QP	40.00	-7.97	1.52 V	88	24.95	7.08
3	85.90	29.50 QP	40.00	-10.50	1.00 V	7	20.96	8.54
4	111.31	26.95 QP	43.50	-16.55	1.65 V	98	15.34	11.61
5	125.01	35.68 QP	43.50	-7.82	1.24 V	33	23.21	12.47
6	135.98	29.84 QP	43.50	-13.66	1.39 V	287	17.34	12.50
7	191.60	24.66 QP	43.50	-18.84	1.66 V	171	14.35	10.31
8	250.30	26.71 QP	46.00	-19.29	1.52 V	235	12.74	13.97
9	429.50	30.13 QP	46.00	-15.87	1.00 V	0	10.15	19.98
10	594.00	36.35 QP	46.00	-9.65	1.38 V	232	12.03	24.32
11	643.00	37.46 QP	46.00	-8.54	1.87 V	117	11.99	25.47
12	723.50	38.58 QP	46.00	-7.42	1.26 V	309	11.95	26.63
13	844.20	35.97 QP	46.00	-10.03	1.00 V	218	6.98	28.99

REMARKS:
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

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
FREQUENCY RANGE	1 ~25GHz	**CHANNEL**	1
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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)
1	*5180.00	111.66 PK			1.31 H	335	73.54	38.12
1	*5180.00	102.45 AV			1.31 H	335	64.33	38.12
2	10360.00	53.10 PK	68.30	-15.20	1.00 H	224	8.50	44.60
3	#15540.00	59.36 PK	74.00	-14.64	1.21 H	36	12.32	47.04
3	#15540.00	46.26 AV	54.00	-7.74	1.21 H	36	-0.78	47.04

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)
1	#5150.00	58.55 PK	74.00	-15.45	1.12 V	254	20.52	38.03
1	#5150.00	49.79 AV	54.00	-4.21	1.12 V	254	11.76	38.03
2	*5180.00	107.95 PK			1.12 V	254	69.83	38.12
2	*5180.00	99.29 AV			1.12 V	254	61.17	38.12
3	10360.00	53.48 PK	68.30	-14.82	1.05 V	24	8.88	44.60

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor = Ant. Factor + Cable loss
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "#"The radiated frequency falling in the restricted band.

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
FREQUENCY RANGE	1 ~25GHz	**CHANNEL**	4
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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)
1	*5240.00	109.58 PK			1.21 H	316	71.33	38.25
1	*5240.00	99.58 AV			1.21 H	316	61.33	38.25
2	10480.00	53.22 PK	68.30	-15.08	1.02 H	247	8.69	44.53

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)
1	*5240.00	107.92 PK	68.30	39.62	1.20 V	340	69.67	38.25
1	*5240.00	98.58 AV	54.00	44.58	1.20 V	340	60.33	38.25
2	10480.00	53.84 PK	68.30	-14.46	1.13 V	69	9.31	44.53

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor = Ant. Factor + Cable loss
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “*” : Fundamental frequency
6. “#”The radiated frequency falling in the restricted band.

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
FREQUENCY RANGE	1 ~25GHz	**CHANNEL**	5
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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)
1	*5260.00	110.29 PK			1.05 H	87	72.00	38.29
1	*5260.00	99.96 AV			1.05 H	87	61.67	38.29
2	10520.00	53.12 PK	68.30	-15.18	1.05 H	87	8.65	44.47

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)
1	*5260.00	108.96 PK			1.21 V	340	70.67	38.29
1	*5260.00	99.52 AV			1.21 V	340	61.23	38.29
2	10520.00	54.24 PK	68.30	-14.06	1.12 V	87	9.77	44.47

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor = Ant. Factor + Cable loss
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “*” : Fundamental frequency
6. “#”The radiated frequency falling in the restricted band.

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
FREQUENCY RANGE	1 ~25GHz	**CHANNEL**	8
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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)	Antenna Factor (dB)
1	*5320.00	111.21 PK			1.25 H	36	72.83	38.38
1	*5320.00	101.38 AV			1.25 H	36	63.00	38.38
2	#5350.00	61.21 PK	74.00	-12.79	1.25 H	36	22.78	38.43
2	**#5350.00**	**51.38 AV**	**54.00**	**-2.62**	**1.25 H**	**36**	**12.95**	**38.43**
3	#10640.00	54.25 PK	74.00	-19.75	1.32 H	16	9.96	44.30
3	#10640.00	42.12 AV	54.00	-11.88	1.32 H	16	-2.17	44.30

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)	Antenna Factor (dB)
1	*5320.00	109.55 PK			1.00 V	309	71.17	38.38
1	*5320.00	99.55 AV			1.00 V	309	61.17	38.38
2	#5350.00	59.55 PK	74.00	-14.45	1.00 V	309	21.12	38.43
2	#5350.00	49.55 AV	54.00	-4.45	1.00 V	309	11.12	38.43
3	#10640.00	56.28 PK	74.00	-17.72	1.00 V	125	11.99	44.30
3	#10640.00	42.65 AV	54.00	-11.35	1.00 V	125	-1.64	44.30

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor = Ant. Factor + Cable loss
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "#"The radiated frequency falling in the restricted band.

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
FREQUENCY RANGE	1 ~25GHz	**CHANNEL**	9
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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	5725.00	65.86 PK	89.30	-23.44	1.12 H	36	27.06	38.80
1	5725.00	56.75 AV	80.19	-23.44	1.12 H	36	17.95	38.80
2	*5745.00	109.30 PK			1.12 H	36	70.46	38.84
2	*5745.00	100.19 AV			1.12 H	36	61.35	38.84
3	#11490.00	58.12 PK	74.00	-15.88	1.00 H	96	12.94	45.18
3	#11490.00	46.39 AV	54.00	-7.61	1.00 H	96	1.21	45.18

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	5725.00	65.94 PK	89.38	-23.44	1.03 V	125	27.14	38.80
1	5725.00	54.88 AV	78.32	-23.44	1.03 V	125	16.08	38.80
2	*5745.00	109.38 PK			1.03 V	125	70.54	38.84
2	*5745.00	98.32 AV			1.03 V	125	59.48	38.84
3	#11490.00	53.45 PK	74.00	-20.55	1.25 V	84	8.27	45.18
3	#11490.00	42.29 AV	54.00	-11.71	1.25 V	84	-2.89	45.18

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.

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
FREQUENCY RANGE	1 ~25GHz	**CHANNEL**	11
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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	*5785.00	110.32 PK			1.32 H	321	71.40	38.92
1	*5785.00	100.96 AV			1.32 H	321	62.04	38.92
2	#11570.00	54.36 PK	74.00	-19.64	1.06 H	98	9.13	45.23
2	#11570.00	44.27 AV	54.00	-9.73	1.06 H	98	-0.96	45.23

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	*5785.00	108.95 PK			1.03 V	85	70.03	38.92
1	*5785.00	100.30 AV			1.03 V	85	61.38	38.92
2	#11570.00	53.90 PK	74.00	-20.10	1.23 V	63	8.67	45.23
2	#11570.00	43.14 AV	54.00	-10.86	1.23 V	63	-2.09	45.23

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.

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
FREQUENCY RANGE	1 ~25GHz	**CHANNEL**	13
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**TESTED BY**	Martin Lee

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	*5825.00	109.85 PK			1.00 H	20	70.89	38.96
1	*5825.00	100.30 AV			1.00 H	20	61.34	38.96
2	5850.00	69.52 PK	89.85	-20.33	1.00 H	20	30.55	38.97
2	5850.00	59.97 AV	80.30	-20.33	1.00 H	20	21.00	38.97
3	#11650.00	54.98 PK	74.00	-19.02	1.35 H	149	9.75	45.23
3	#11650.00	44.19 AV	54.00	-9.81	1.35 H	149	-1.04	45.23

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	*5825.00	108.79 PK			1.00 V	320	69.83	38.96
1	*5825.00	100.35 AV			1.00 V	320	61.39	38.96
2	5850.00	68.46 PK	88.79	-20.33	1.00 V	320	29.49	38.97
2	5850.00	60.02 AV	80.35	-20.33	1.00 V	320	21.05	38.97
3	#11650.00	54.80 PK	74.00	-19.20	1.13 V	98	9.57	45.23
3	#11650.00	43.62 AV	54.00	-10.38	1.13 V	98	-1.61	45.23

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.

for frequency 5.15~5.35GHZ

5.3 PEAK TRANSMIT POWER MEASUREMENT

5.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

NOTE: Where B is the 26dB emission bandwidth in MHz.

5.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

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

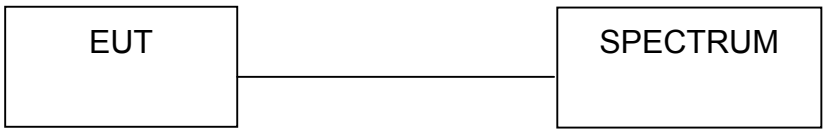
5.3.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set RBW to 1MHz, VBW to 300kHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP



5.3.6 EUT OPERATING CONDITIONS

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

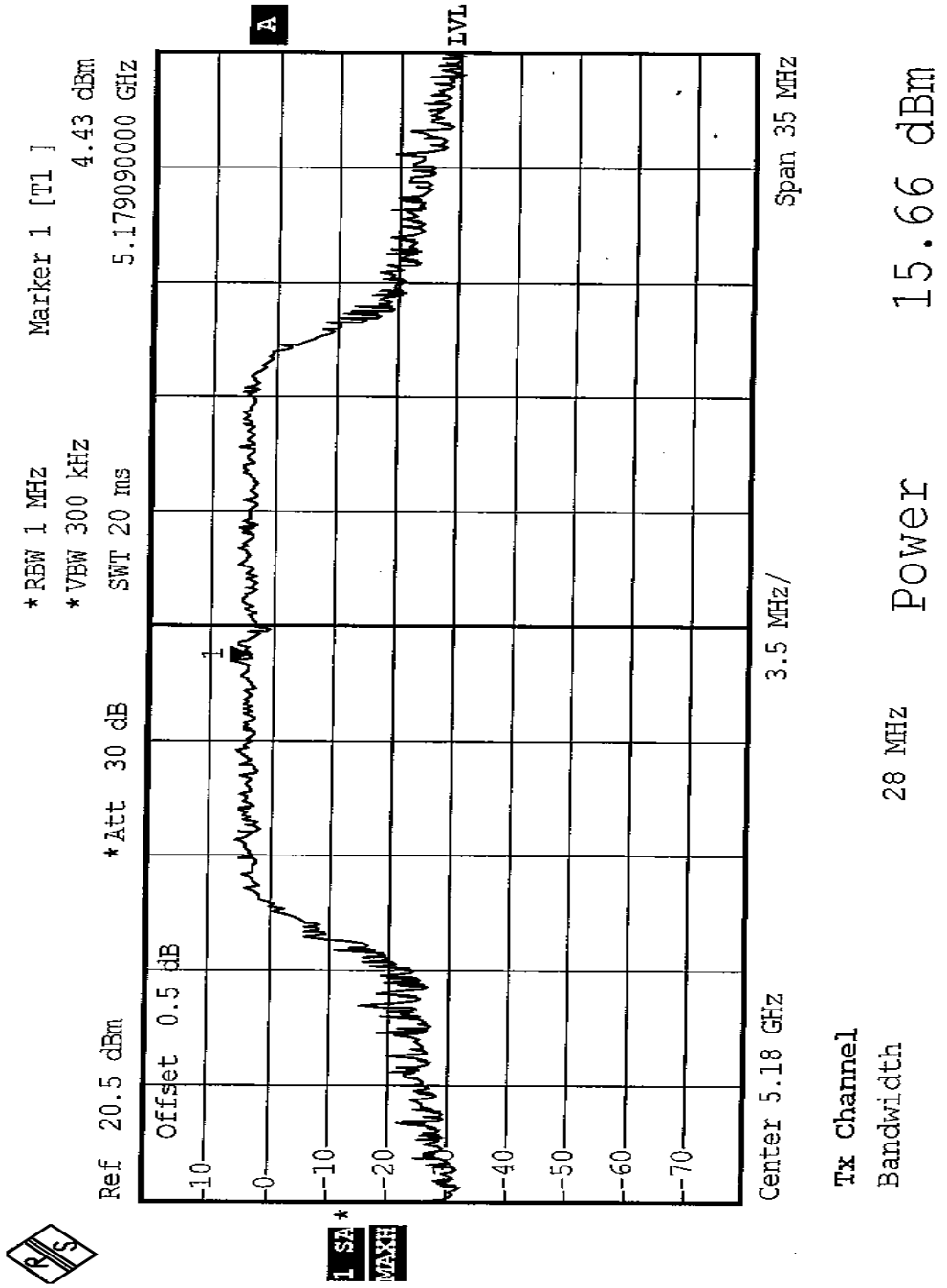
5.3.7 TEST RESULTS

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
ENVIRONMENTAL CONDITIONS	20deg. C, 73%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Jamison Chan		

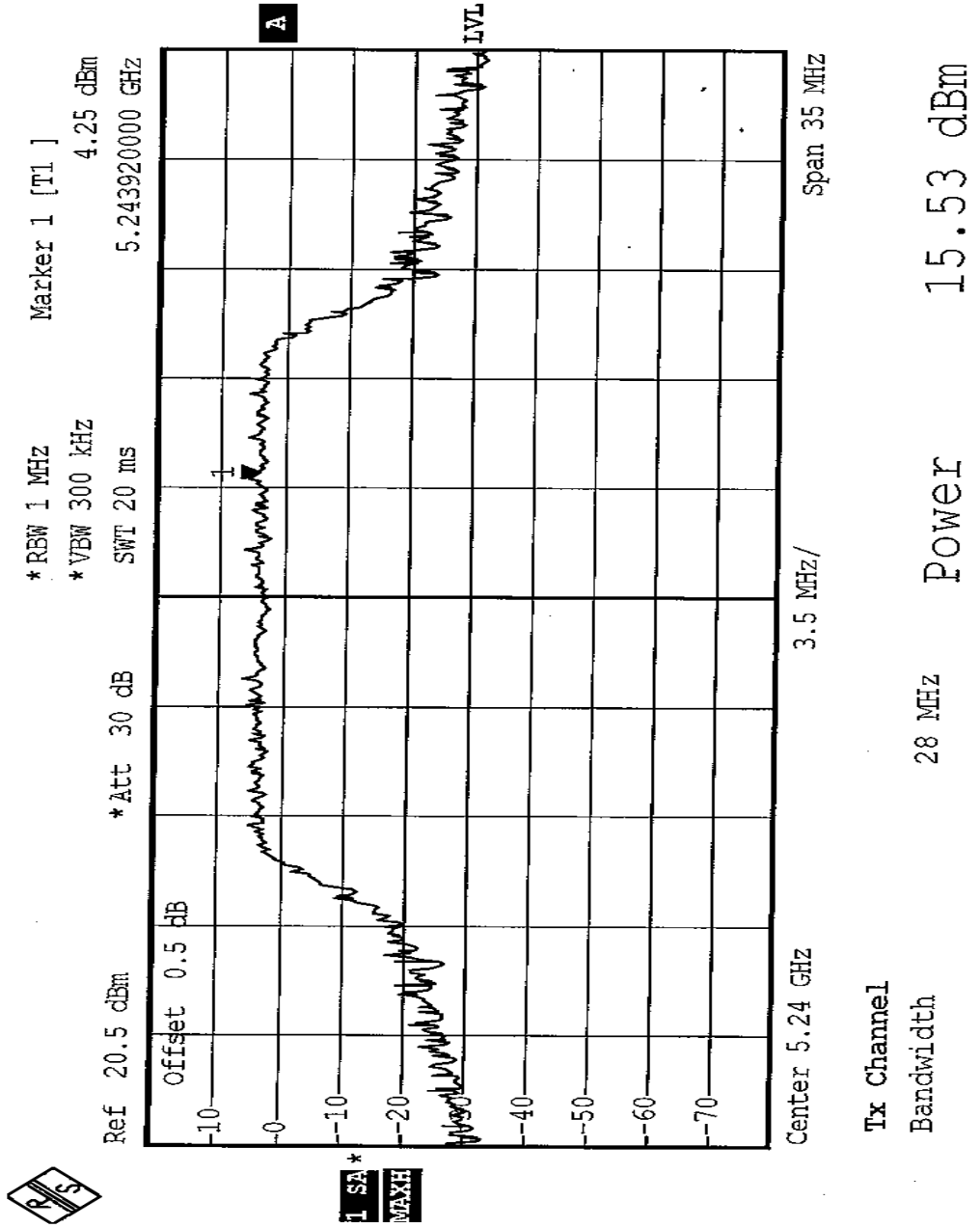
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	15.66	17.00	26.96	PASS
4	5240	15.53	17.00	25.52	PASS
5	5260	16.01	24.00	25.68	PASS
8	5320	16.06	24.00	24.80	PASS

NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

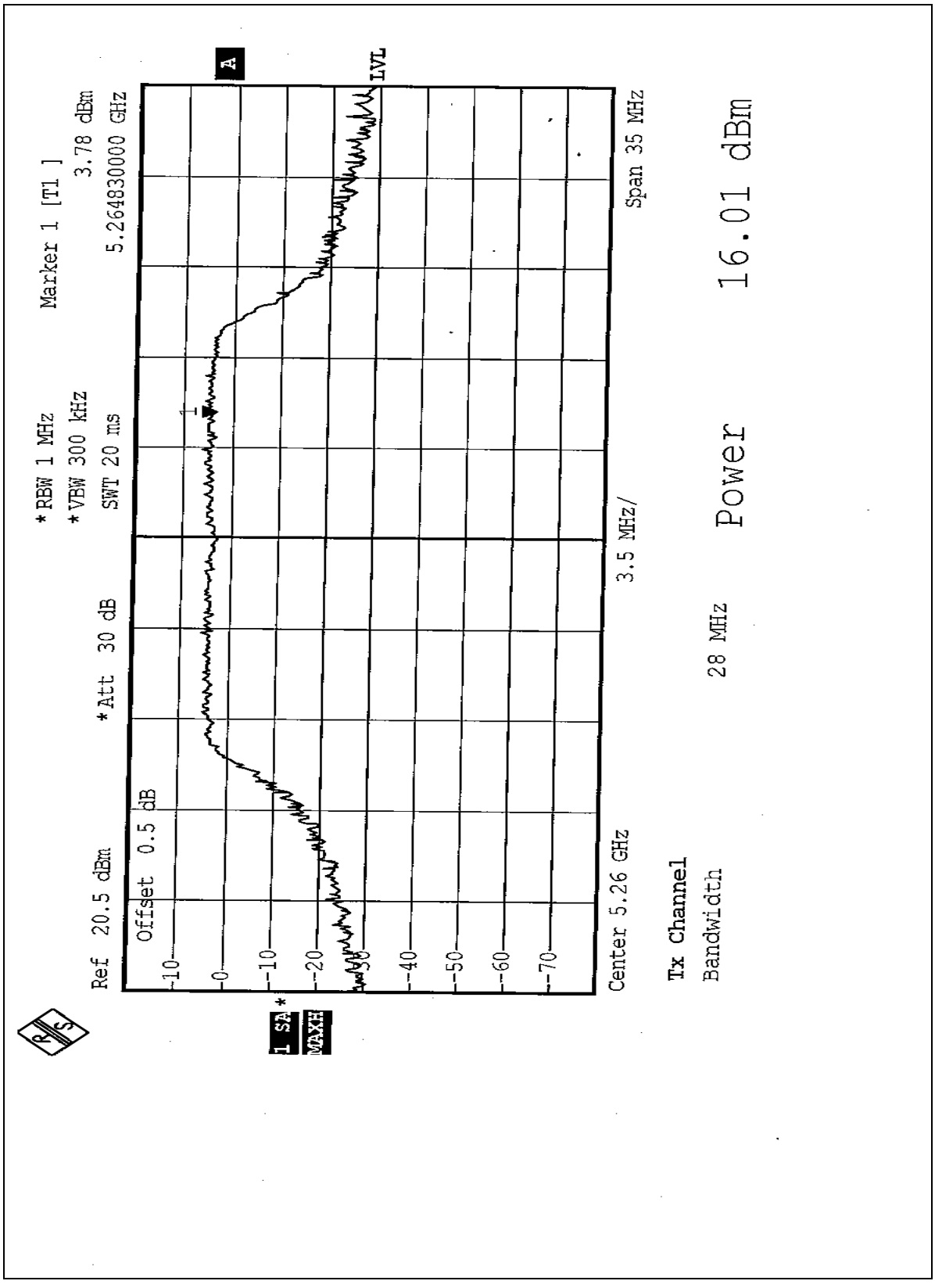
CHANNEL 1


Marker 1 [T1]
4.43 dBm
5.17909000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 30 dB
Offset 0.5 dB
Ref 20.5 dBm
Center 5.18 GHz
3.5 MHz/
Span 35 MHz
Tx Channel
Bandwidth
28 MHz
Power
15.66 dBm
1 SA
MAXH
A
LVL

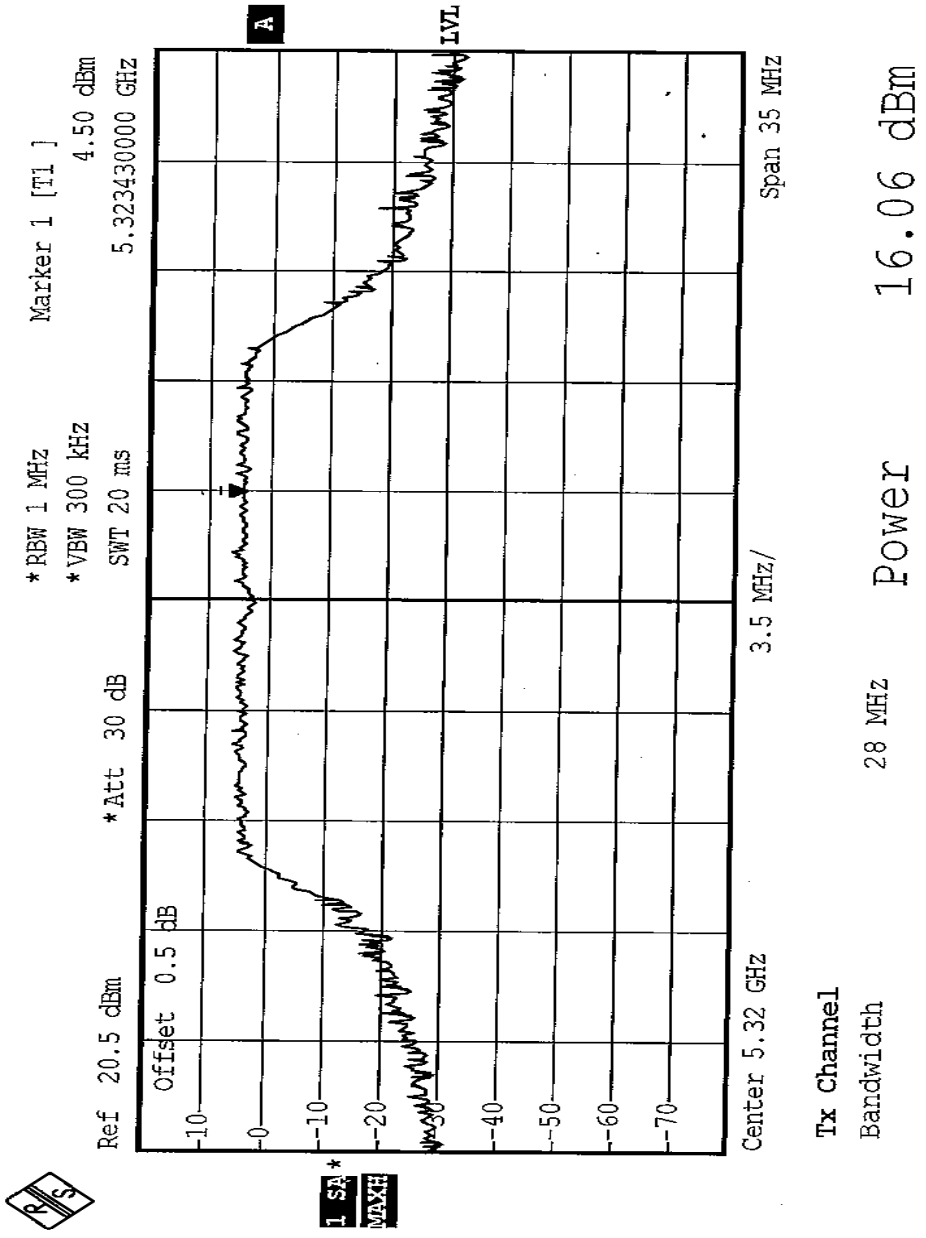
CHANNEL 4


Marker 1 [T1]
4.25 dBm
5.243920000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 30 dB
Offset 0.5 dB
Ref 20.5 dBm
Center 5.24 GHz
3.5 MHz/
Span 35 MHz
Tx Channel
Bandwidth
28 MHz
Power
15.53 dBm
1 SA
MAXH
A
LVL

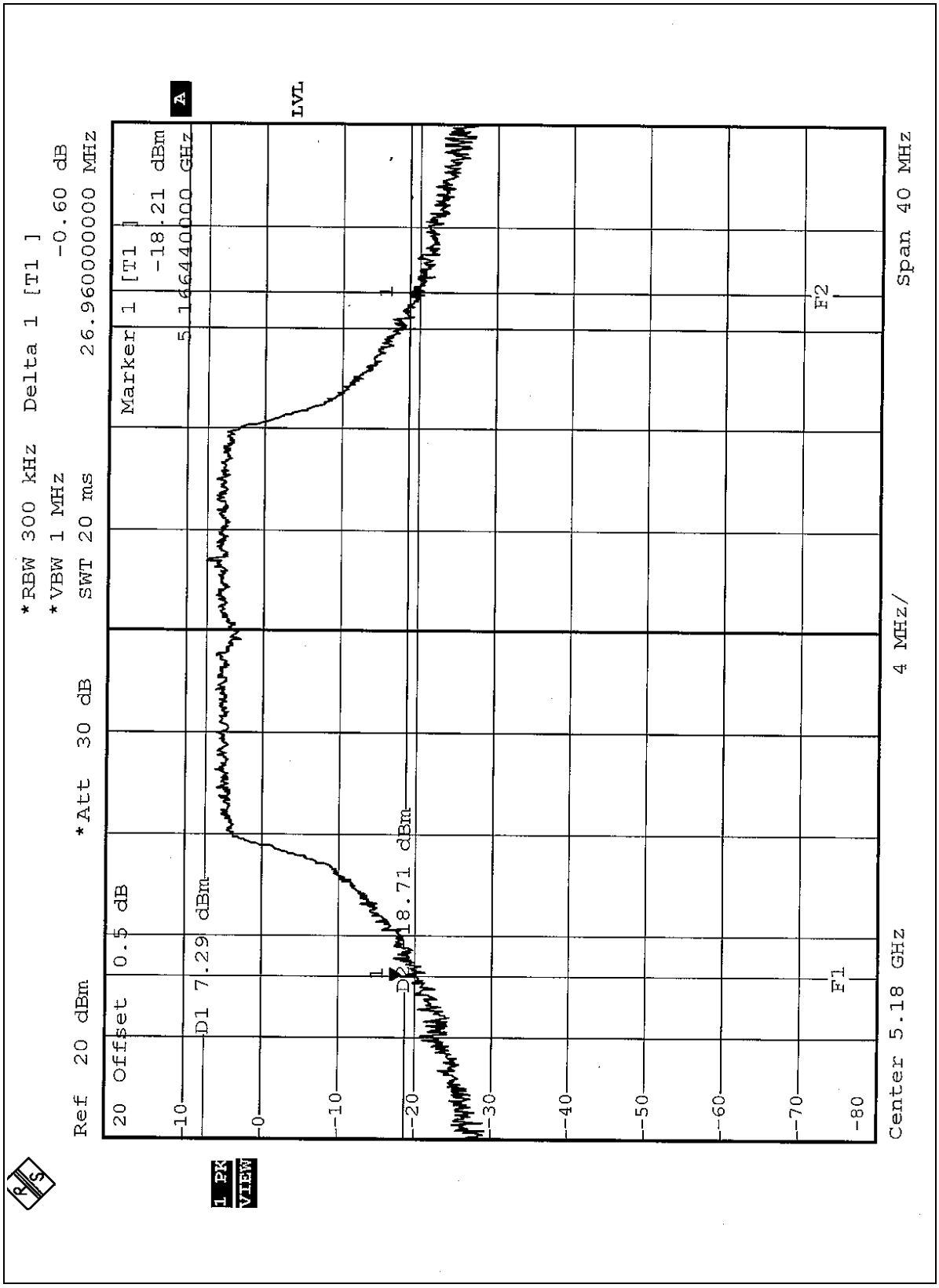
CHANNEL 5


Marker 1 [T1]
3.78 dBm
5.264830000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 30 dB
Offset 0.5 dB
Ref 20.5 dBm
Center 5.26 GHz
3.5 MHz/
Span 35 MHz
Tx Channel
Bandwidth
28 MHz
Power
16.01 dBm
1 SA
MAXH
A
LVL

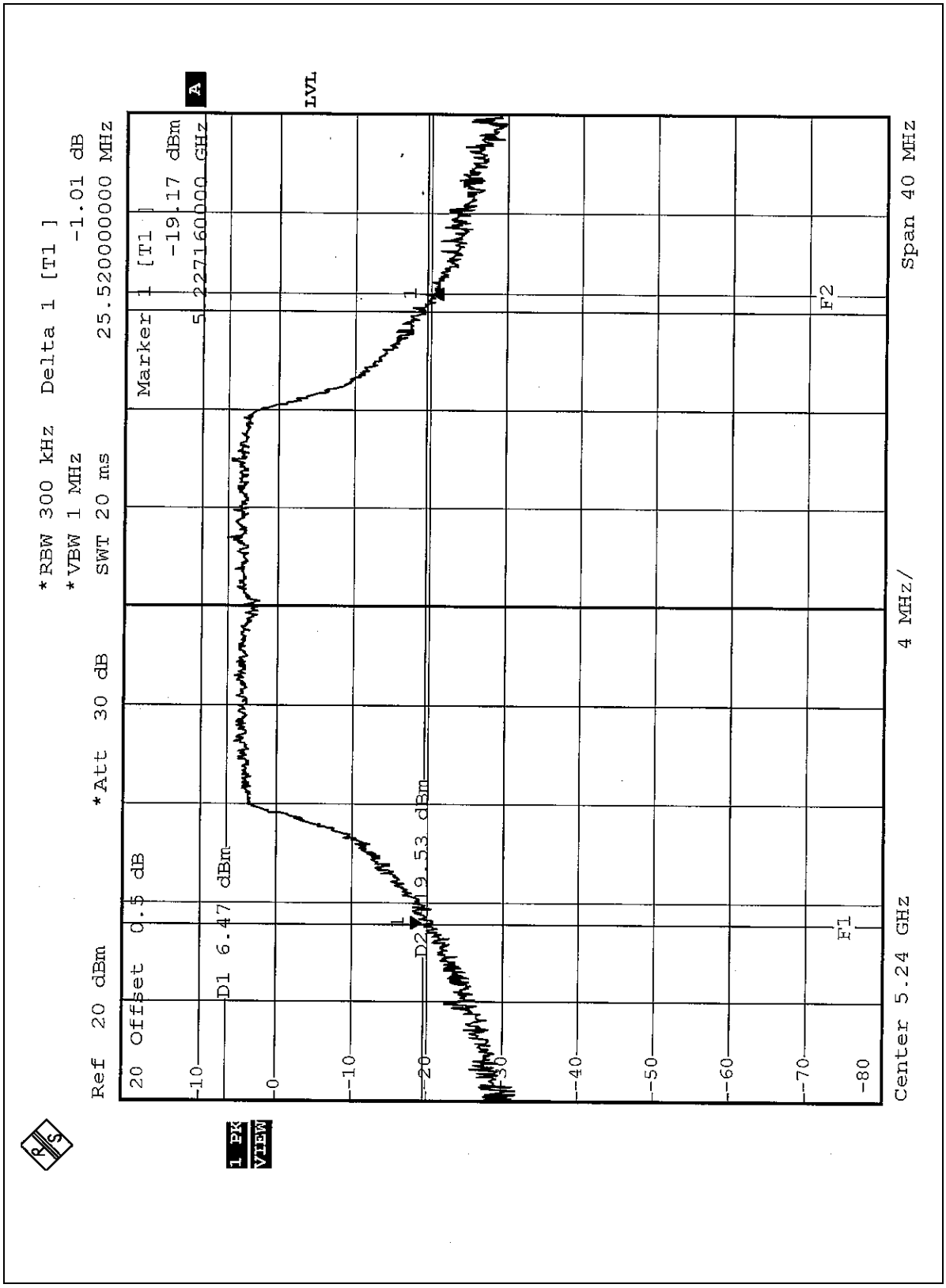
CHANNEL 8


Marker 1 [T1]
4.50 dBm
5.323430000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 30 dB
Offset 0.5 dB
Ref 20.5 dBm
Center 5.32 GHz
3.5 MHz/
Span 35 MHz
Tx Channel
Bandwidth
28 MHz
Power
16.06 dBm
A
1 SA
MAXH

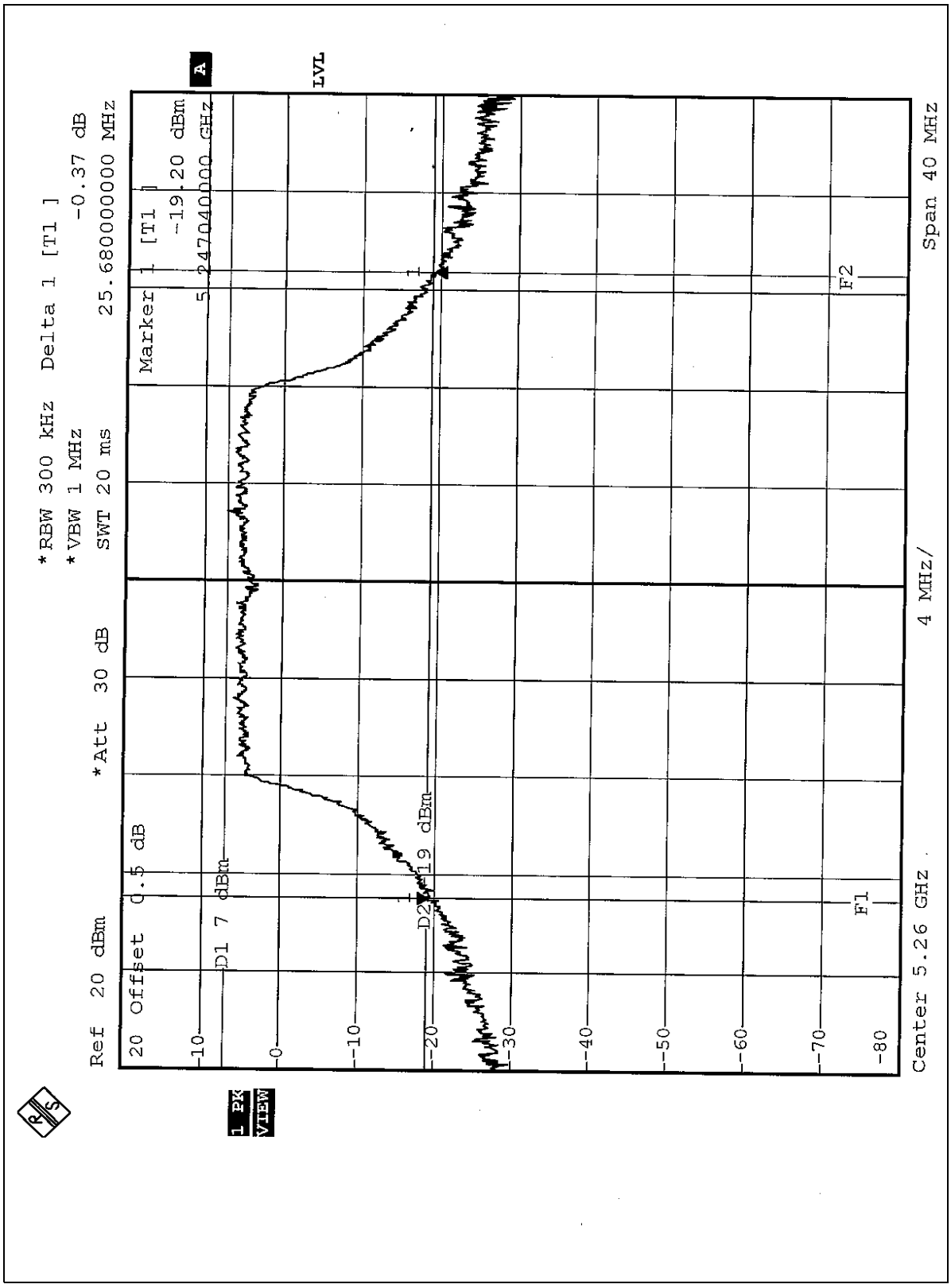
CHANNEL 1


Ref 20 dBm
20 Offset 0.5 dB
D1 7.29 dBm
D2 18.71 dBm
*Att 30 dB
*VBW 1 MHz
SWT 20 ms
*RBW 300 kHz
Delta 1 [T1]
-0.60 dB
26.960000000 MHz
Marker 1 [T1]
-18.21 dBm
5.164400000 GHz
A
LVL
1 PK VIEW
F1
F2
Center 5.18 GHz
4 MHz/
Span 40 MHz

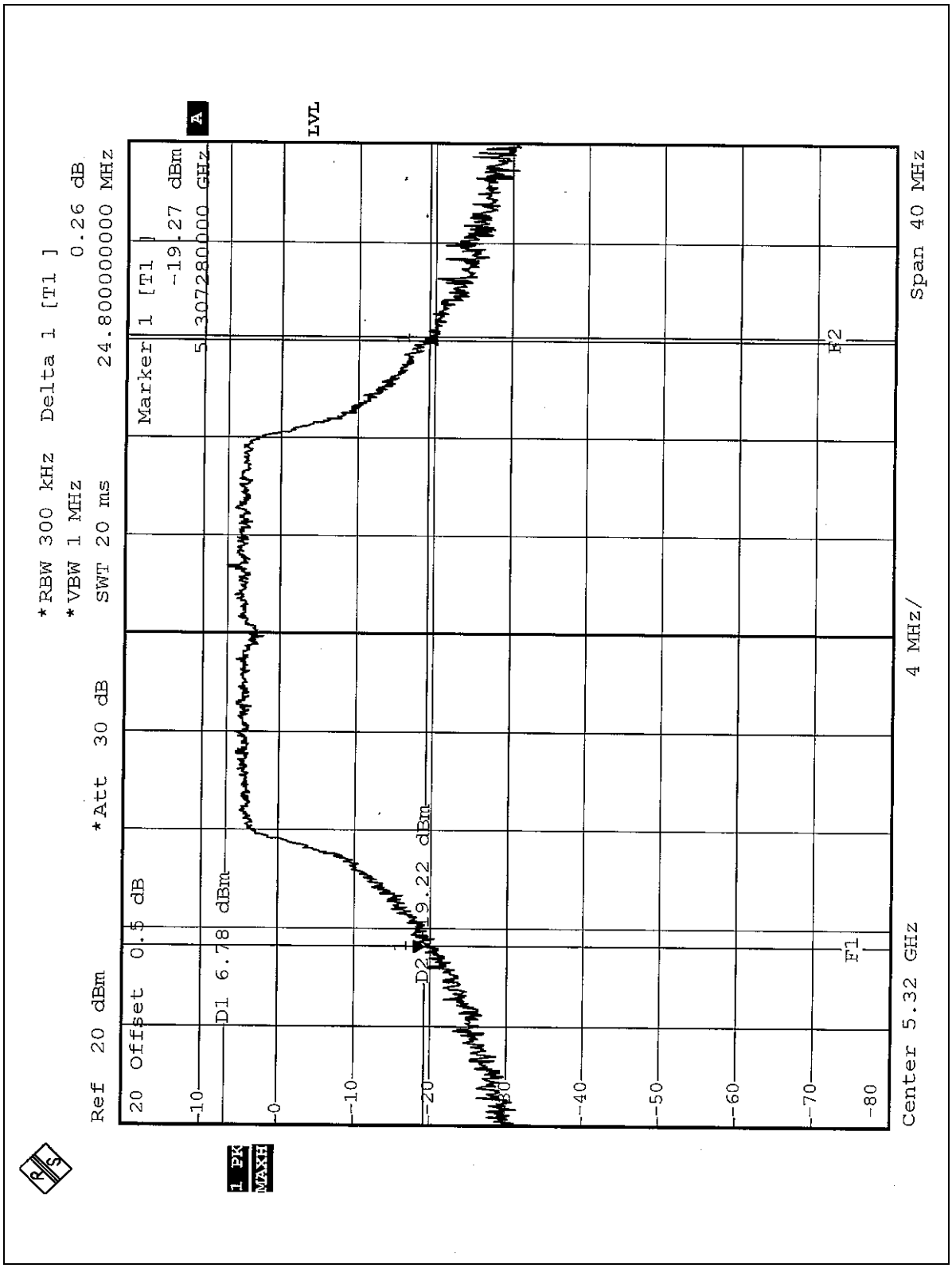
CHANNEL 4


RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Att 30 dB
Offset 0.5 dB
Ref 20 dBm
Delta 1 [T1]
-1.01 dB
25.520000000 MHz
Marker 1 [T1]
-19.17 dBm
5.227160000 GHz
D1 6.47 dBm
D2 9.53 dBm
F1
F2
Center 5.24 GHz
4 MHz/
Span 40 MHz
1 PK VIEW
A
LVL

CHANNEL 5


RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Delta 1 [T1]
-0.37 dB
25.680000000 MHz
Marker 1 [T1]
-19.20 dBm
5.247040000 GHz
Ref 20 dBm
Offset 0.5 dB
Att 30 dB
D1 7 dBm
D2 -19 dBm
F1
F2
Center 5.26 GHz
4 MHz/
Span 40 MHz
LVL
1 PK VIEW

CHANNEL 8


RBW 300 kHz
VBW 1 MHz
SWT 20 ms
Att 30 dB
Offset 0.5 dB
Ref 20 dBm
Delta 1 [T1]
0.26 dB
24.800000000 MHz
Marker 1 [T1]
-19.27 dBm
5.307280000 GHz
D1 6.78 dBm
D2 9.22 dBm
F1
F2
Center 5.32 GHz
4 MHz/
Span 40 MHz
LVL
1 PK MAXH

5.4 PEAK POWER EXCURSION MEASUREMENT

5.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	13dB
5.25 – 5.35 GHz	13dB
5.725 – 5.825 GHz	13dB

5.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

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

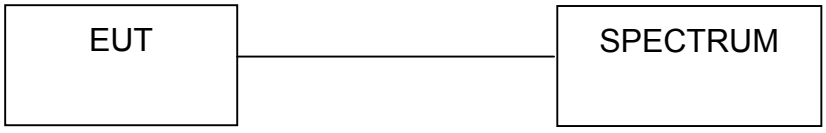
5.4.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer.
Set the spectrum bandwidth span to view the entire spectrum.
Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=300KHz).
The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP



5.4.6 EUT OPERATING CONDITIONS

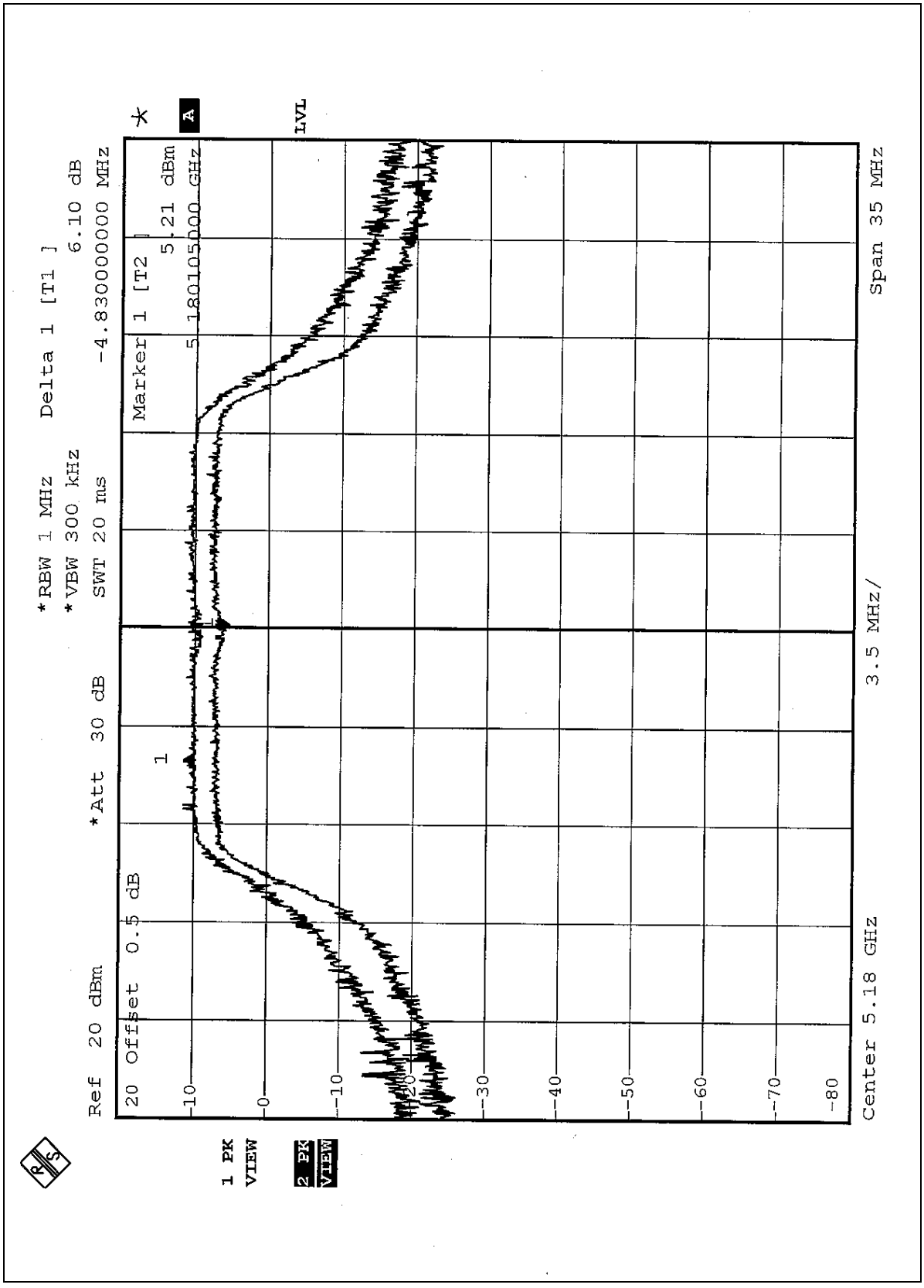
The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

5.4.7 TEST RESULTS

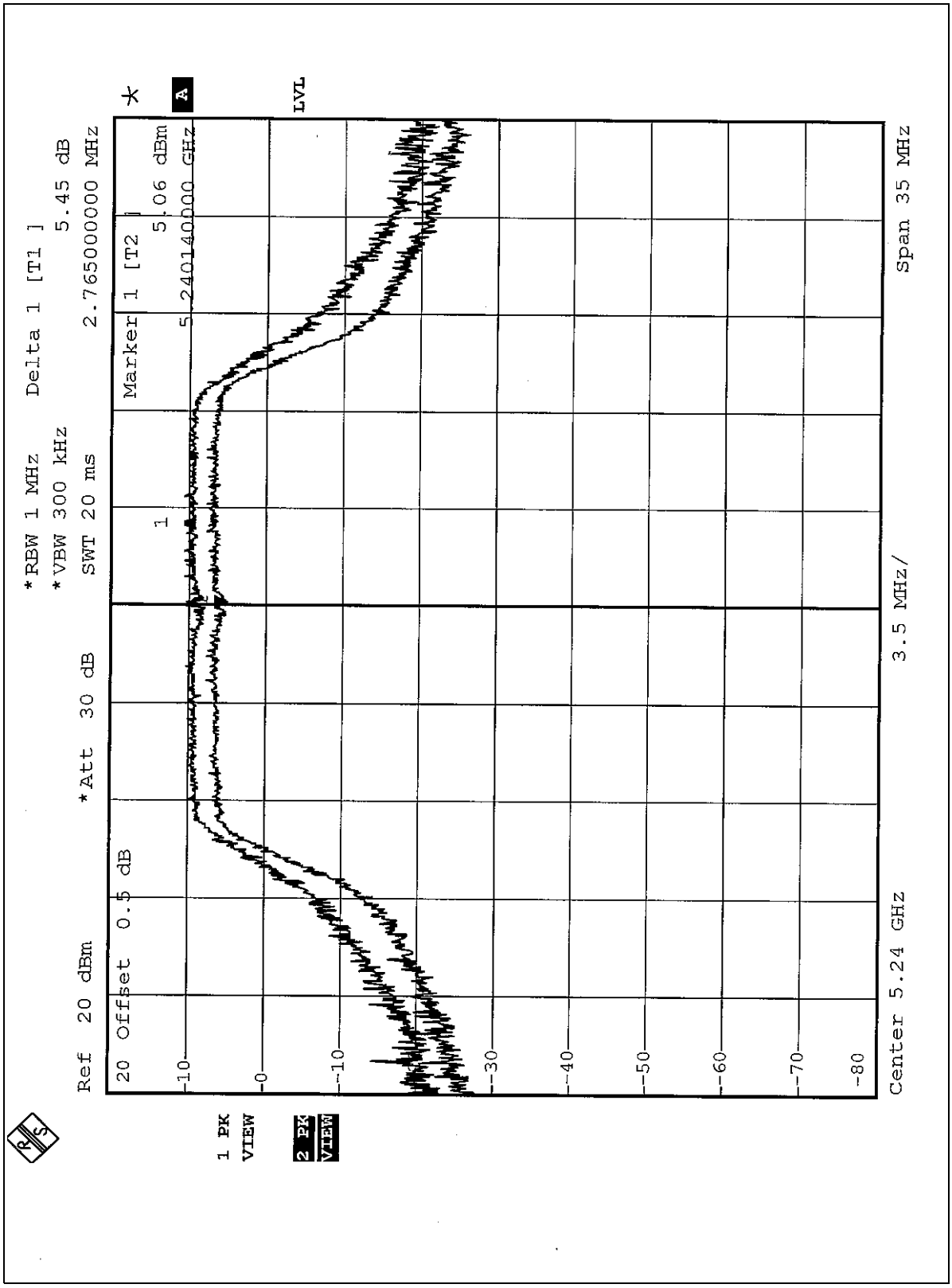
EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Jamison Chan		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5180	6.10	13	PASS
4	5240	5.45	13	PASS
5	5260	5.67	13	PASS
8	5320	5.05	13	PASS

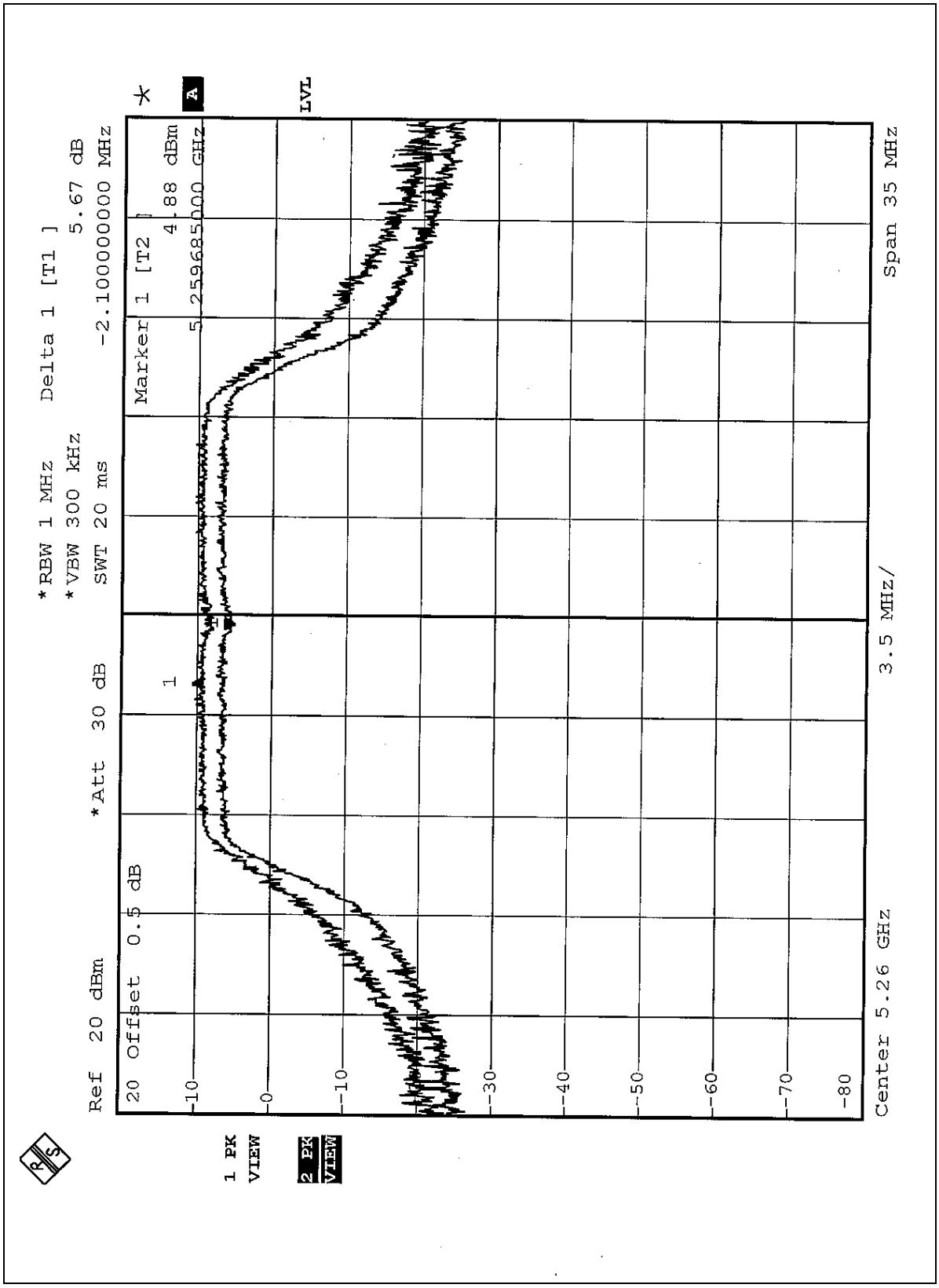
CHANNEL 1


*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
Delta 1 [T1]
6.10 dB
-4.830000000 MHz
Marker 1 [T2]
5.21 dBm
5.180105000 GHz
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
Center 5.18 GHz
3.5 MHz/
Span 35 MHz
1 PK VIEW
2 PK VIEW

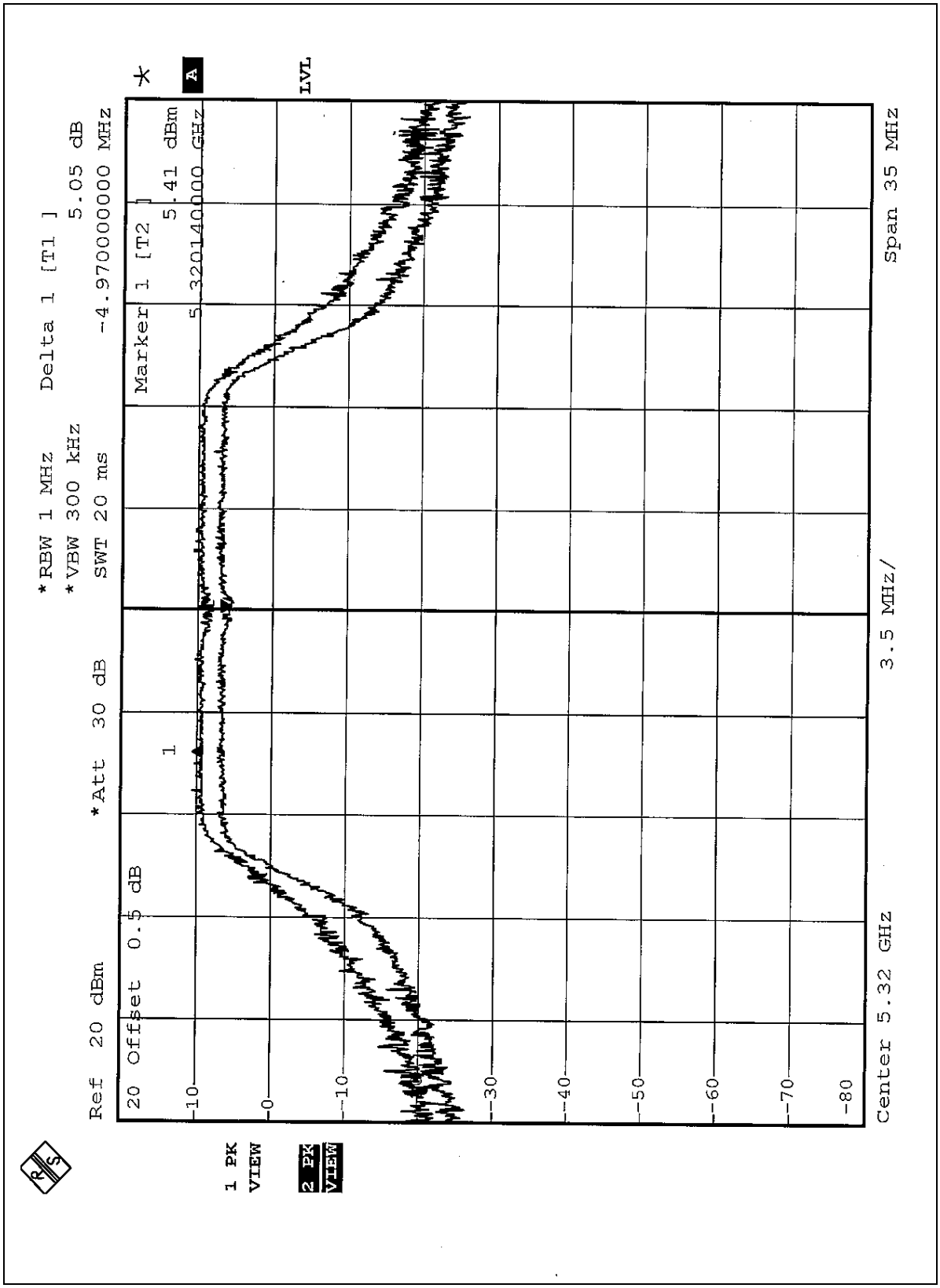
CHANNEL 4


*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
Delta 1 [T1]
5.45 dB
2.765000000 MHz
Marker 1 [T2]
5.06 dBm
5.240140000 GHz
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
Center 5.24 GHz
3.5 MHz/
Span 35 MHz
1 PK VIEW
2 PK VIEW
LVL

CHANNEL 5


*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
Delta 1 [T1]
5.67 dB
-2.100000000 MHz
Marker 1 [T2]
4.88 dBm
5.259685000 GHz
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
Center 5.26 GHz
3.5 MHz/
Span 35 MHz
1 PK VIEW
2 PK VIEW
LVL

CHANNEL 8


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
Delta 1 [T1]
5.05 dB
-4.970000000 MHz
Marker 1 [T2]
5.41 dBm
5.320140000 GHz
Ref 20 dBm
Offset 0.5 dB
Att 30 dB
Center 5.32 GHz
3.5 MHz/
Span 35 MHz
1 PK VIEW
2 PK VIEW

5.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	4dBm
5.25 – 5.35GHz	11dBm
5.725 – 5.825GHz	17dBm

5.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

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

5.5.3 TEST PROCEDURES

The transmitter output was connected to the spectrum analyzer.
Set RBW=1MHz, VBW=3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP

5.5.6 EUT OPERATING CONDITIONS

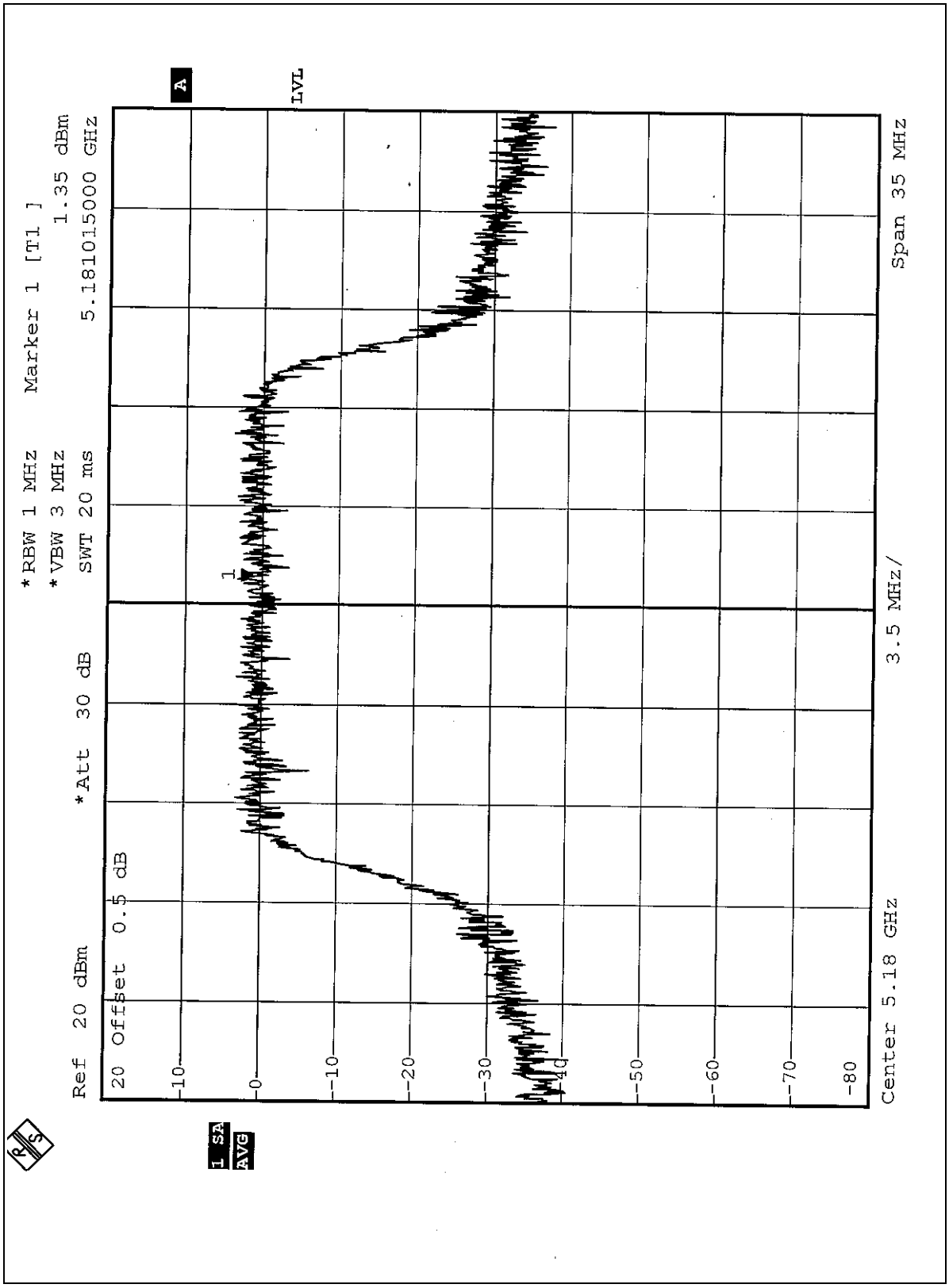
Same as 5.3.6

5.5.7 TEST RESULTS

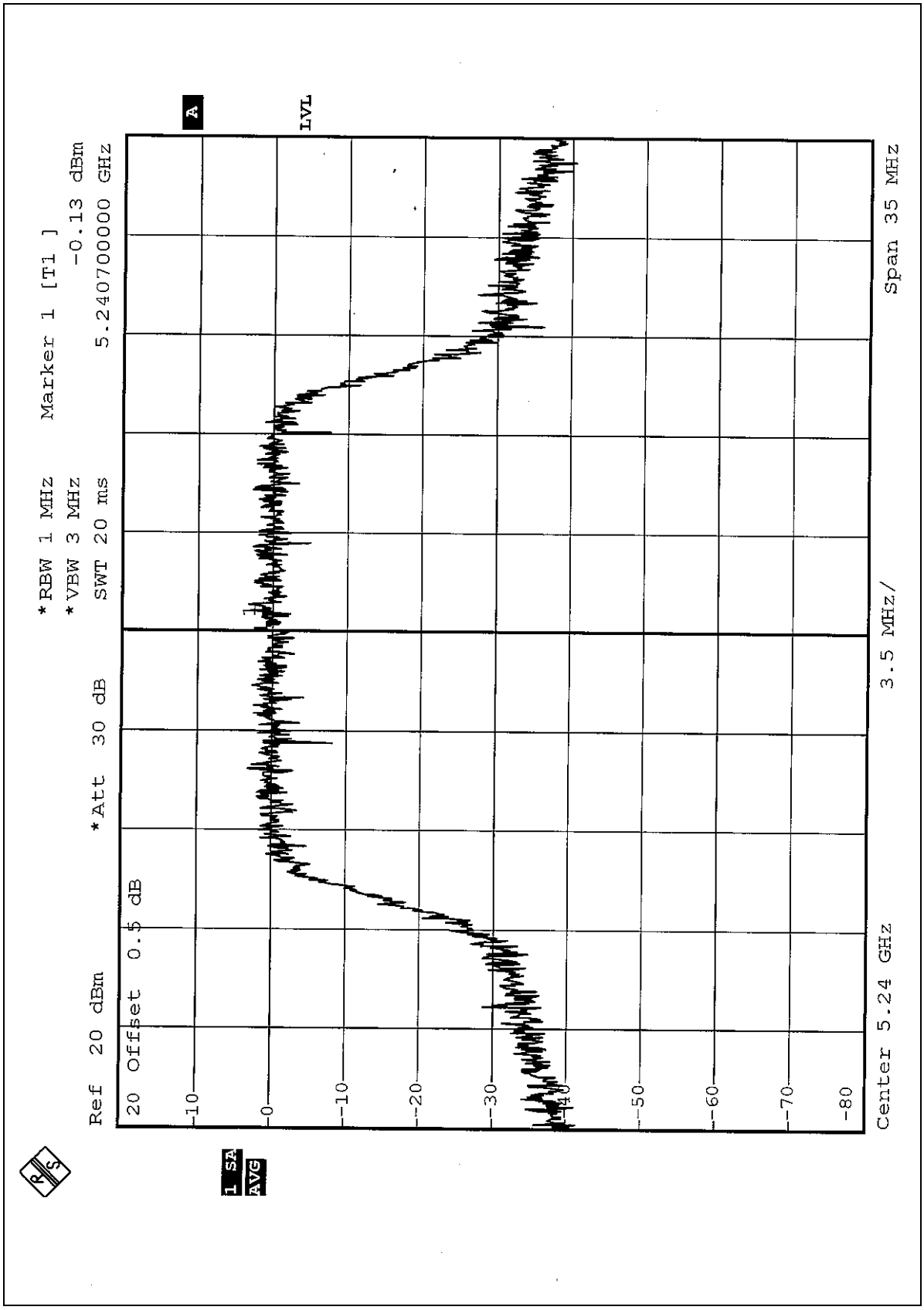
EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
ENVIRONMENTAL CONDITIONS	20deg. C, 75%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Jamison Chan		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5180	1.35	4	PASS
4	5240	-0.13	4	PASS
5	5260	0.72	11	PASS
8	5320	-1.19	11	PASS

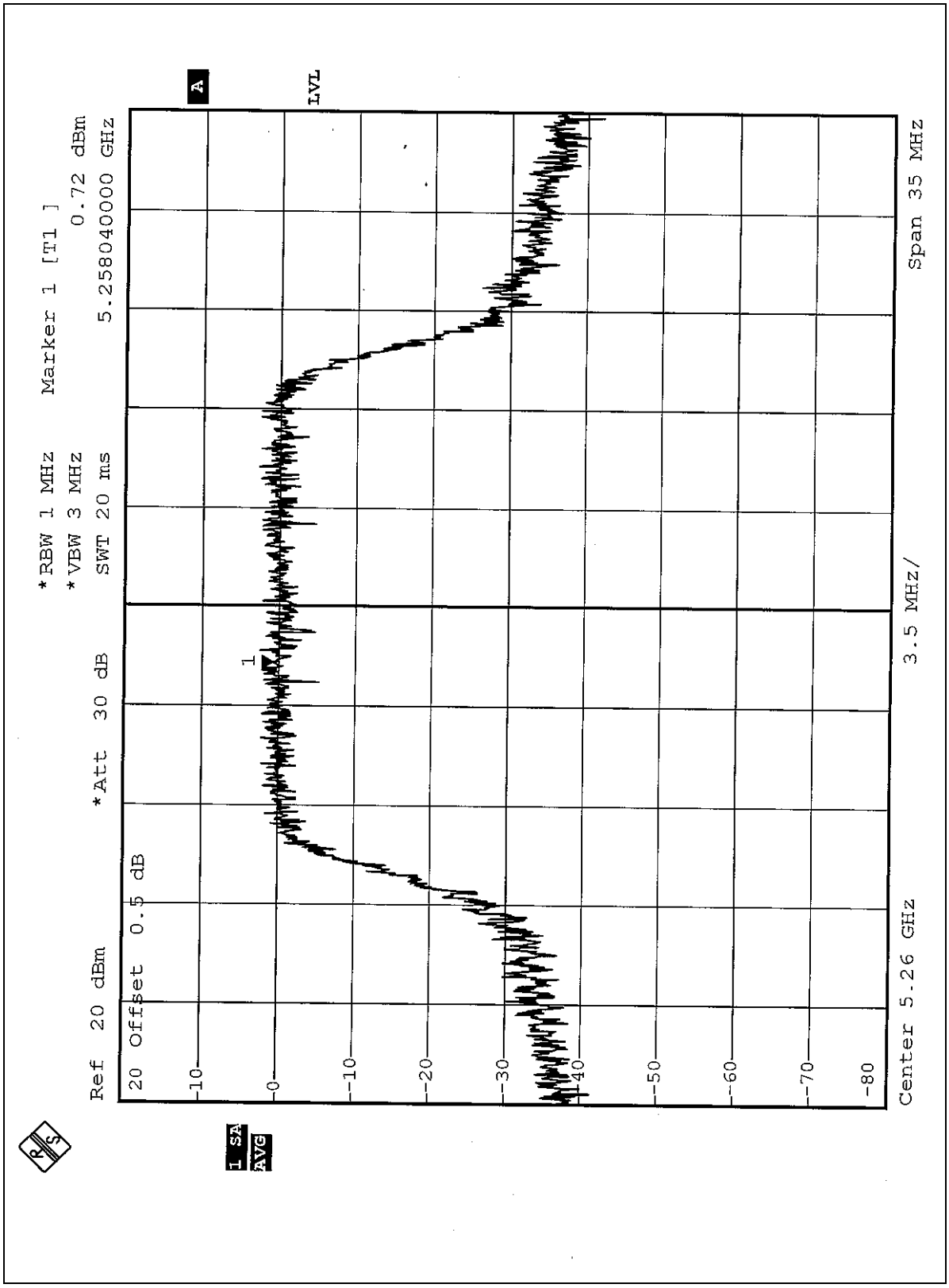
CHANNEL 1


*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms
Marker 1 [T1]
1.35 dBm
5.18101500 GHz
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
Center 5.18 GHz
3.5 MHz/
Span 35 MHz
LVL
1 SA
AVG

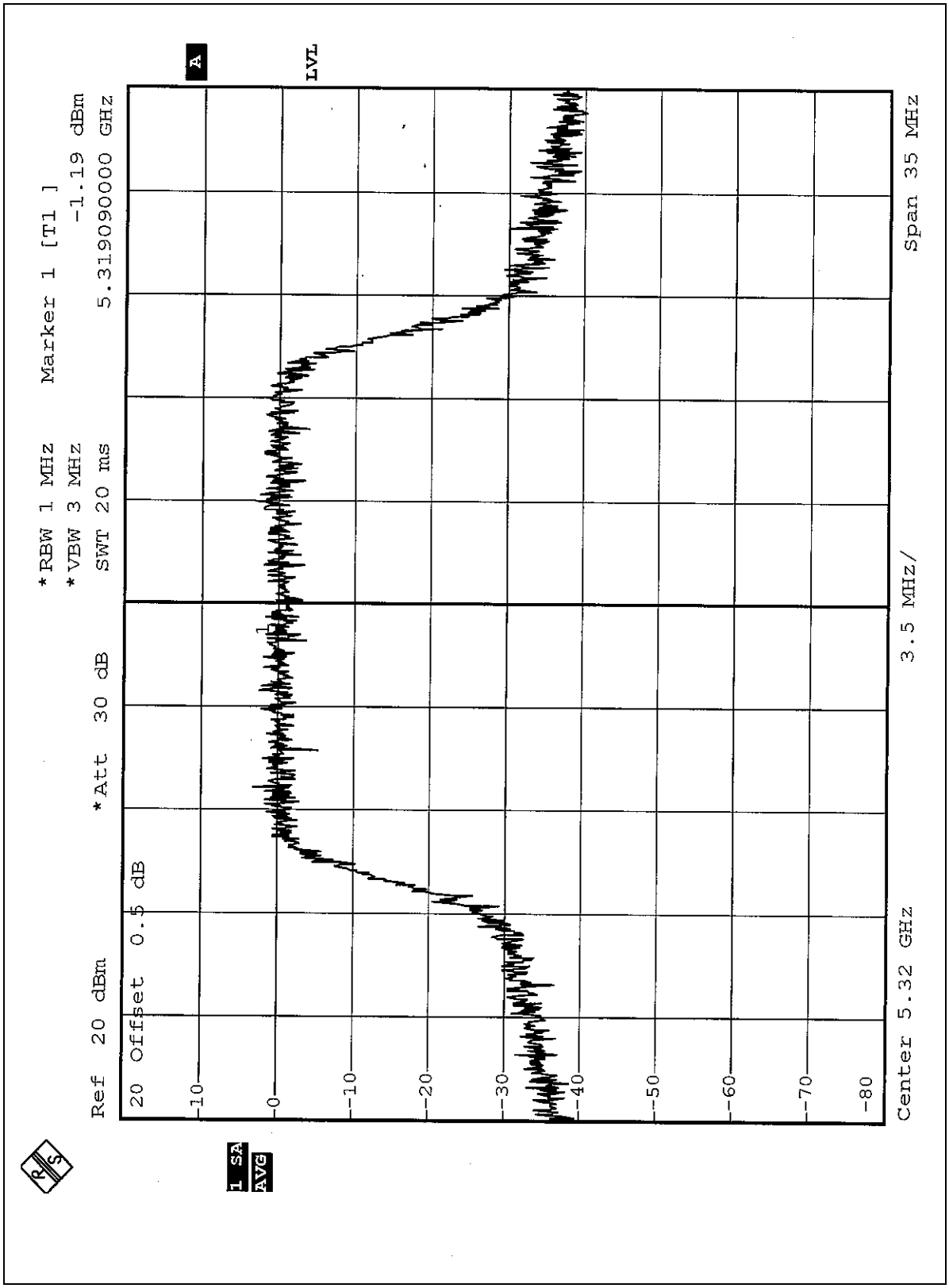
CHANNEL 4


Marker 1 [T1]
-0.13 dBm
5.240700000 GHz
*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms
*Att 30 dB
Ref 20 dBm
20 Offset 0.5 dB
Center 5.24 GHz
3.5 MHz/
Span 35 MHz
A
LVL
1 SA
AVG

CHANNEL 5


A
LVL
Marker 1 [T1]
0.72 dBm
5.258040000 GHz
*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms
Span 35 MHz
*Att 30 dB
3.5 MHz/
Ref 20 dBm
20 Offset 0.5 dB
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.26 GHz
1 SA
AVG

CHANNEL 8


A
LVL
Marker 1 [T1]
-1.19 dBm
5.31909000 GHz
*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms
Span 35 MHz
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
3.5 MHz/
Center 5.32 GHz
1 SA
AVG

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	Aug. 12, 2004
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	Aug. 12, 2004

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

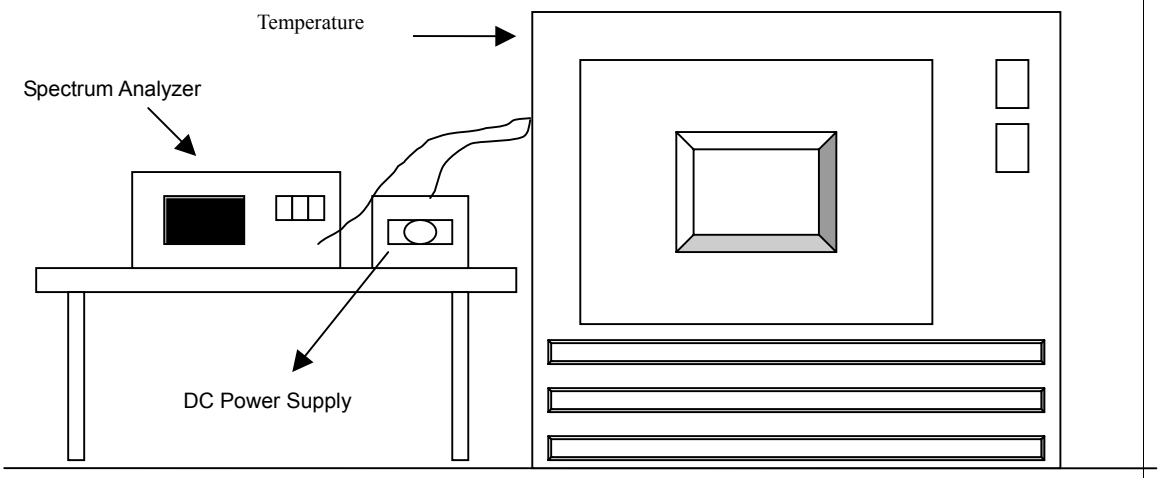
5.6.3 TEST PROCEDURE

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 : ± 0.02%			
Temp. (℃)	Power supply (VDC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	102	5319.9945	-0.0001034	5319.9945	-0.0001034	5319.9945	-0.0001034
	120V	5319.9945	-0.0001034	5319.9945	-0.0001034	5319.9945	-0.0001034
	138	5319.9945	-0.0001034	5319.9945	-0.0001034	5319.9945	-0.0001034
40	102	5319.9941	-0.0001109	5319.9941	-0.0001109	5319.9941	-0.0001109
	120V	5319.9941	-0.0001109	5319.9941	-0.0001109	5319.9941	-0.0001109
	138	5319.9941	-0.0001109	5319.9941	-0.0001109	5319.9941	-0.0001109
30	102	5319.9942	-0.0001090	5319.9943	-0.0001071	5319.9943	-0.0001071
	120V	5319.9942	-0.0001090	5319.9943	-0.0001071	5319.9943	-0.0001071
	138	5319.9942	-0.0001090	5319.9943	-0.0001071	5319.9943	-0.0001071
20	102	5319.9948	-0.0000977	5319.9949	-0.0000959	5319.9951	-0.0000921
	120V	5319.9948	-0.0000977	5319.9949	-0.0000959	5319.9951	-0.0000921
	138	5319.9948	-0.0000977	5319.9949	-0.0000714	5319.9951	-0.0000921
10	102	5319.9961	-0.0000733	5319.9962	-0.0000714	5319.9963	-0.0000695
	120V	5319.9961	-0.0000733	5319.9962	-0.0000714	5319.9963	-0.0000695
	138	5319.9961	-0.0000733	5319.9962	-0.0000677	5319.9963	-0.0000695
0	102	5319.9976	-0.0000451	5319.9964	-0.0000677	5319.9978	-0.0000414
	120V	5319.9976	-0.0000451	5319.9964	-0.0000677	5319.9978	-0.0000414
	138	5319.9976	-0.0000451	5319.9964	-0.0001203	5319.9978	-0.0000414
-10	102	5319.9993	-0.0000132	5319.9936	-0.0001203	5319.9994	-0.0000113
	120V	5319.9993	-0.0000132	5319.9936	-0.0001203	5319.9994	-0.0000113
	138	5319.9993	-0.0000132	5319.9936	0.0001165	5319.9994	-0.0000113
-20	102	5320.0060	0.0001128	5320.0062	0.0001165	5320.0072	0.0001353
	120V	5320.0060	0.0001128	5320.0062	0.0001165	5320.0072	0.0001353
	138	5320.0060	0.0001128	5320.0062	-0.0002105	5320.0072	0.0001353
-30	102	5319.9989	-0.0000207	5319.9888	-0.0002105	5319.9988	-0.0000226
	120V	5319.9989	-0.0000207	5319.9888	-0.0002105	5319.9988	-0.0000226
	138	5319.9989	-0.0000207	5319.9888	-0.0002105	5319.9988	-0.0000226

5.7 BAND EDGES MEASUREMENT

5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

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

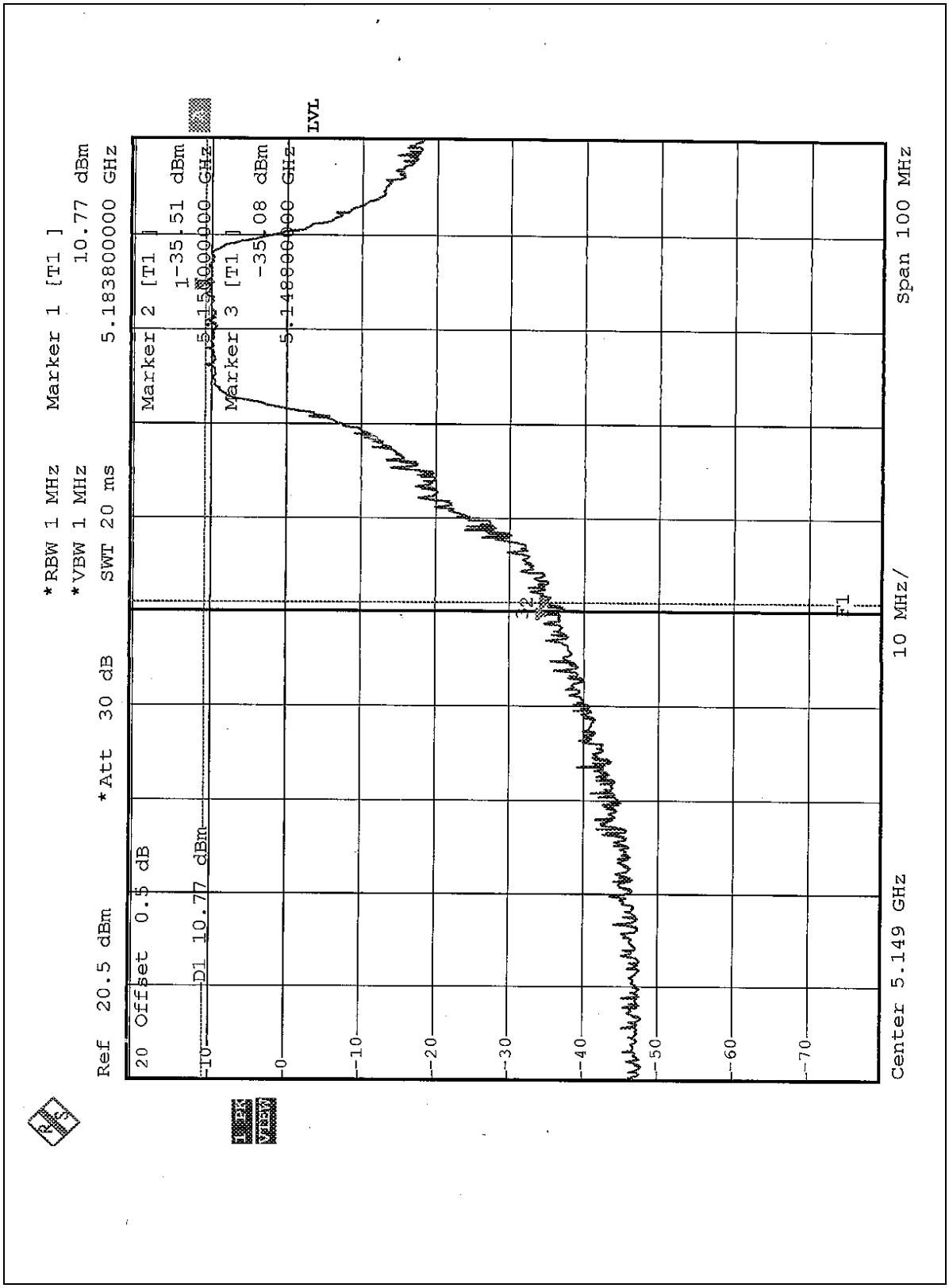
For signals in the restricted bands above and below the 5.15 to 5.35GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal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

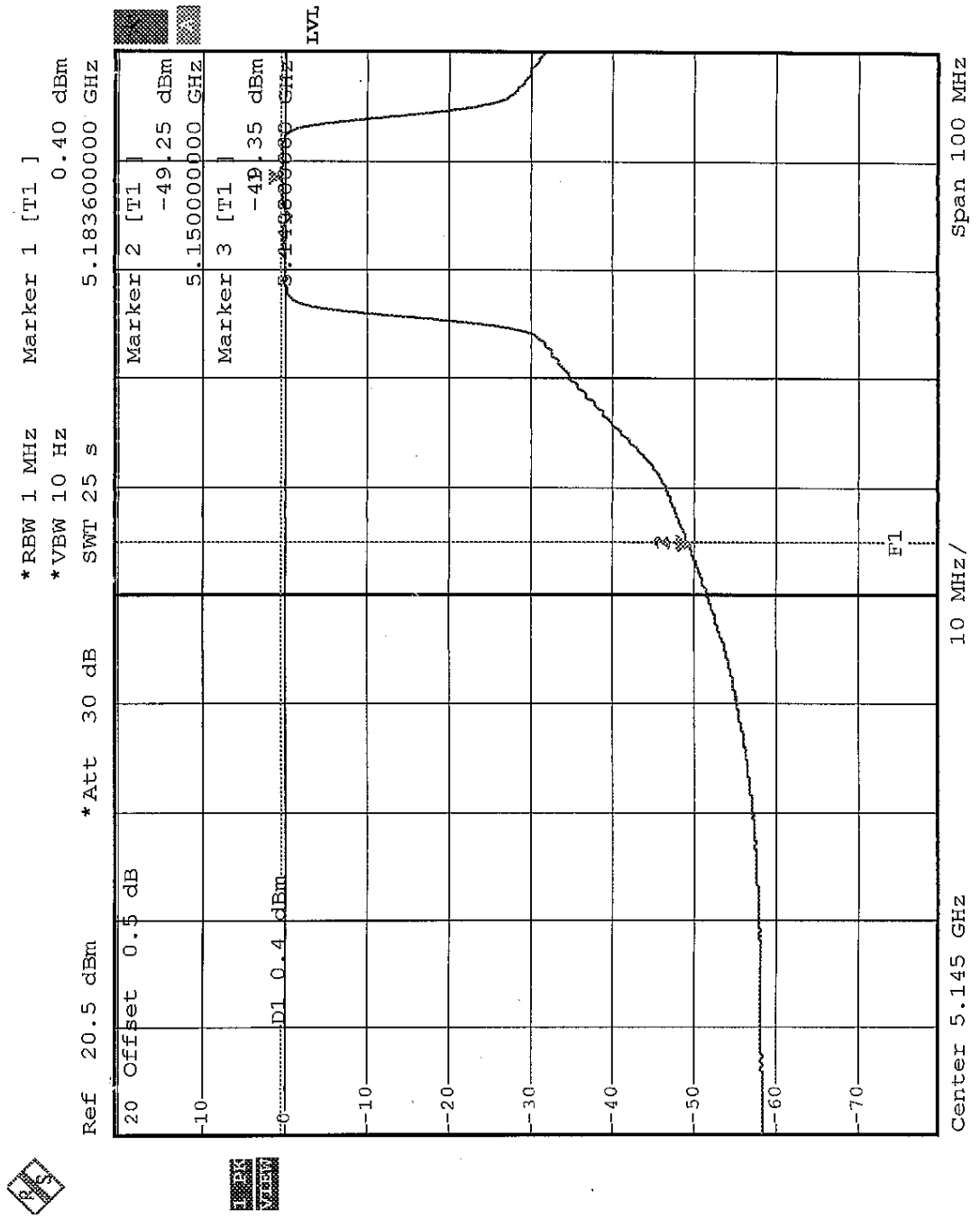
The spectrum plots (Peak RBW=VBW=1MHz; Average RBW=1MHz, VBW=10Hz) are attached on the following pages.

Channel 1 (5180 MHz)
The band edge emission plot on the following 1-2 pages shows 45.85dBc (Peak) / 49.65dBc (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 102.45dBuV/m, so the maximum field strength in restrict band is 102.45-49.65=52.80dBuV/m which is under 54dBuV/m limit.

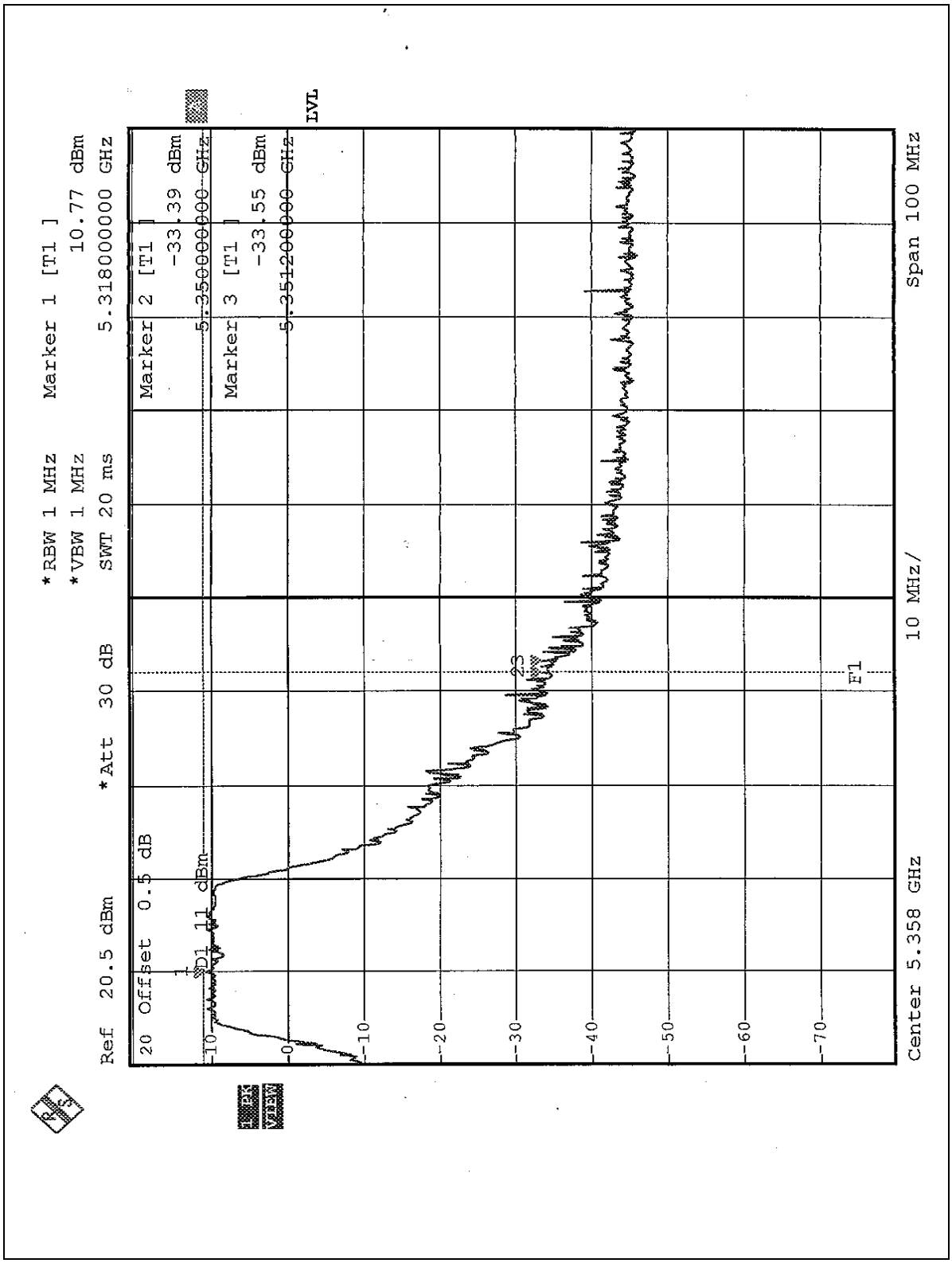
Channel 8 (5320 MHz)
The band edge emission plot on the following 3-4 pages shows 44.16dBc (Peak) / 50.82dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 101.38dBuV/m, so the maximum field strength in restrict band is 101.38-50.82=50.56dBuV/m which is under 54dBuV/m limit.

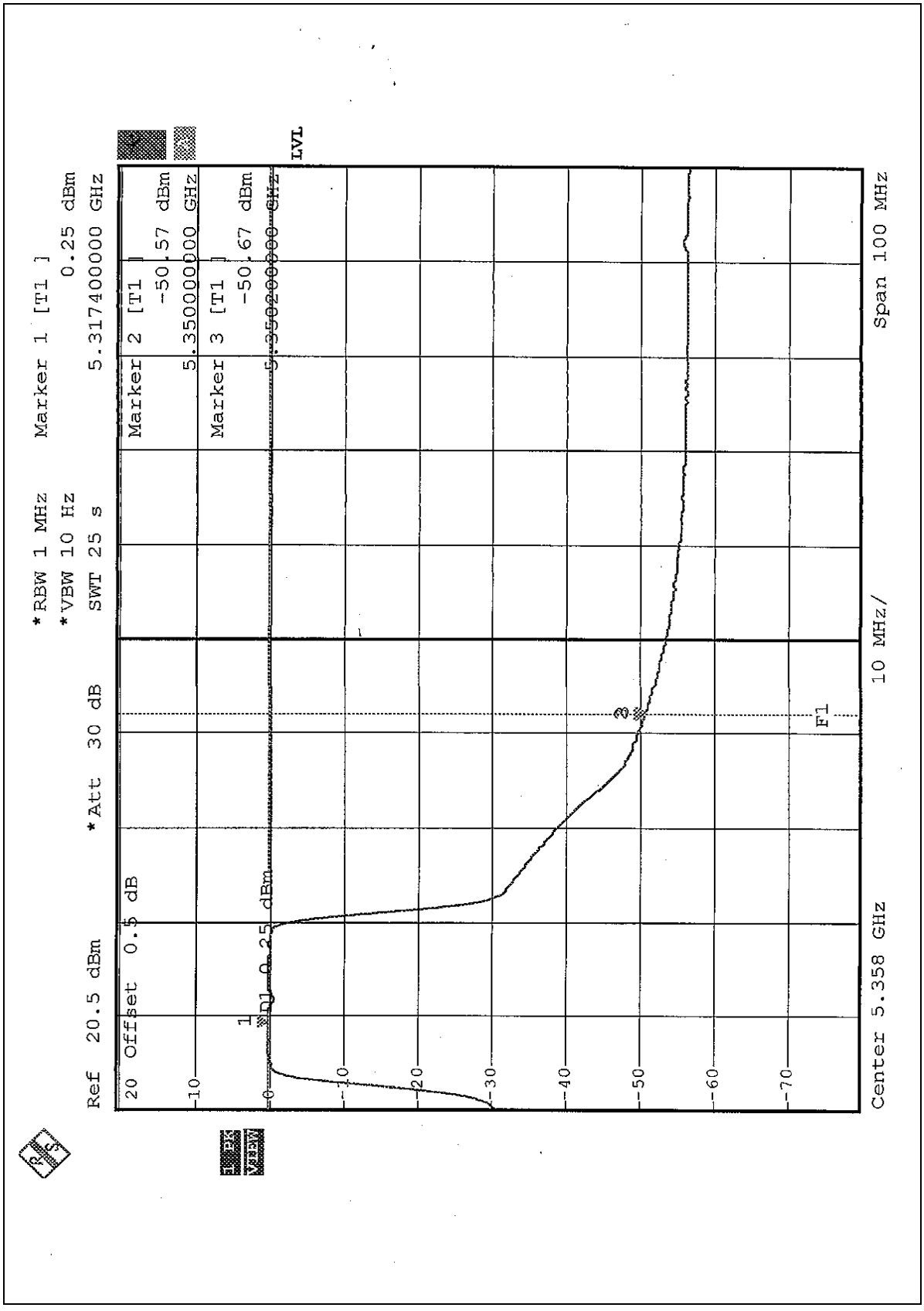
CH 1


*RBW 1 MHz
*VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
10.77 dBm
5.183800000 GHz
Marker 2 [T1]
-35.51 dBm
5.150000000 GHz
Marker 3 [T1]
-35.08 dBm
5.148000000 GHz
Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
D1 10.77 dBm
Center 5.149 GHz
10 MHz/
Span 100 MHz
LVL


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 1 [T1]
0.40 dBm
5.183600000 GHz
Marker 2 [T1]
-49.25 dBm
5.150000000 GHz
Marker 3 [T1]
-41.35 dBm
5.144000000 GHz
Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
D1 0.4 dBm
LVL
F1
Center 5.145 GHz
10 MHz/
Span 100 MHz

CH8


Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 1 MHz
*VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
10.77 dBm
5.318000000 GHz
D1 11 dBm
Marker 2 [T1]
-33.39 dBm
5.350000000 GHz
Marker 3 [T1]
-33.55 dBm
5.351200000 GHz
LVL
F1
Center 5.358 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 25 s
Marker 1 [T1]
0.25 dBm
5.317400000 GHz
Marker 2 [T1]
-50.57 dBm
5.350000000 GHz
Marker 3 [T1]
-50.67 dBm
5.350200000 GHz
Ref 20.5 dBm
Offset 0.5 dB
Att 30 dB
LVL
D1 0.25 dBm
F1
Center 5.358 GHz
10 MHz/
Span 100 MHz

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 PIFA antenna with UFL antenna connector. The maximum Gain of the antenna is 2dBi.

For Frequency 5.725~5.850GHZ

5.9 6DB BANDWIDTH MEASUREMENT

5.9.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.9.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

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

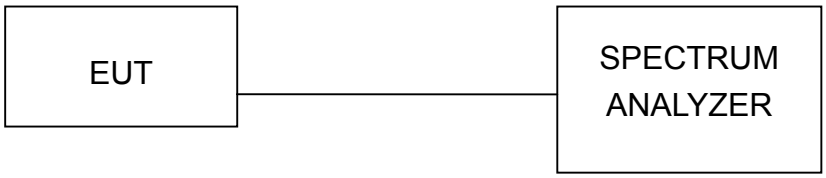
5.9.3 TEST PROCEDURE

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.

5.9.4 DEVIATION FROM TEST STANDARD

No deviation

5.9.5 TEST SETUP



5.9.6 EUT OPERATING CONDITIONS

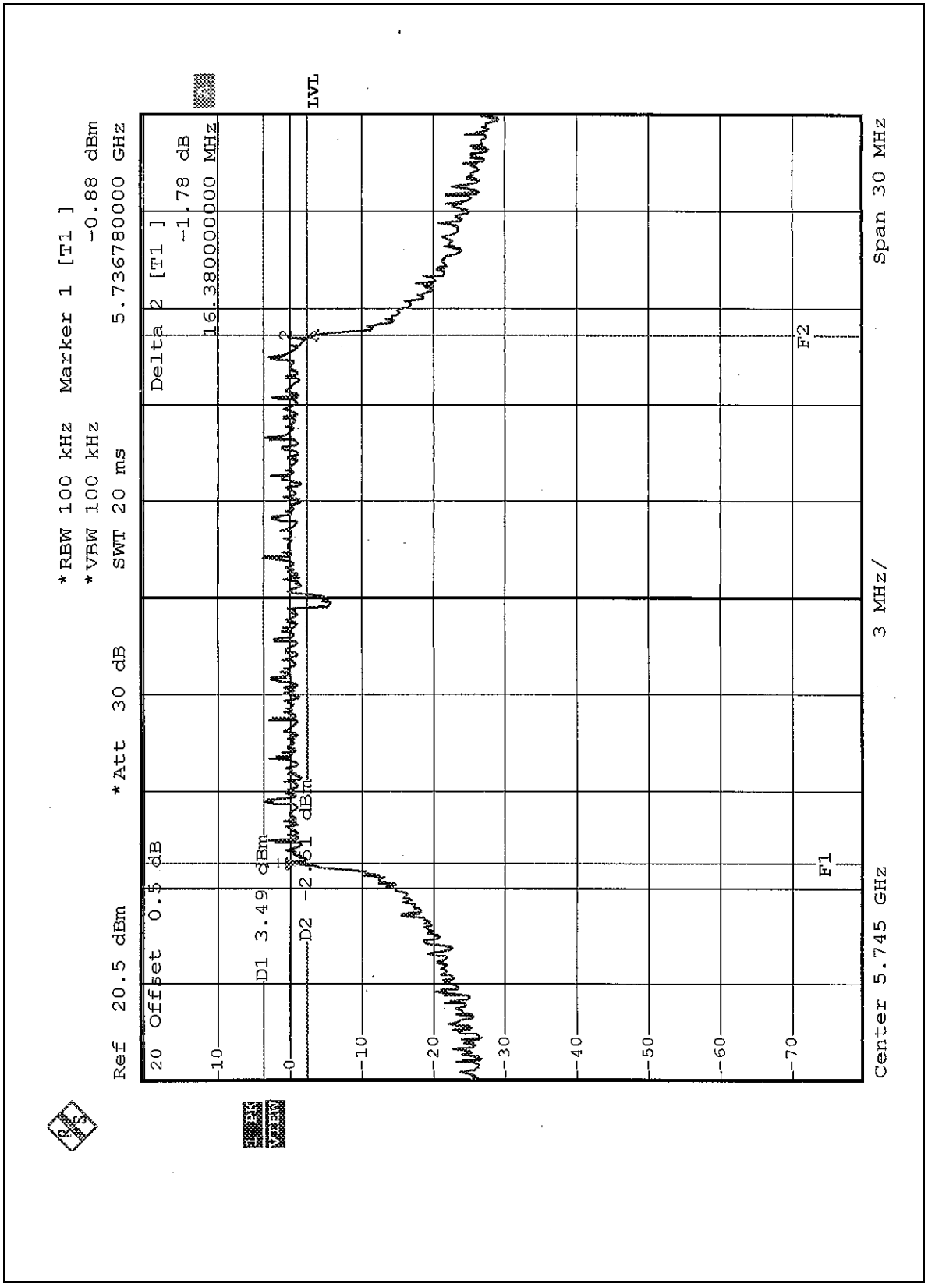
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

5.9.7 TEST RESULTS

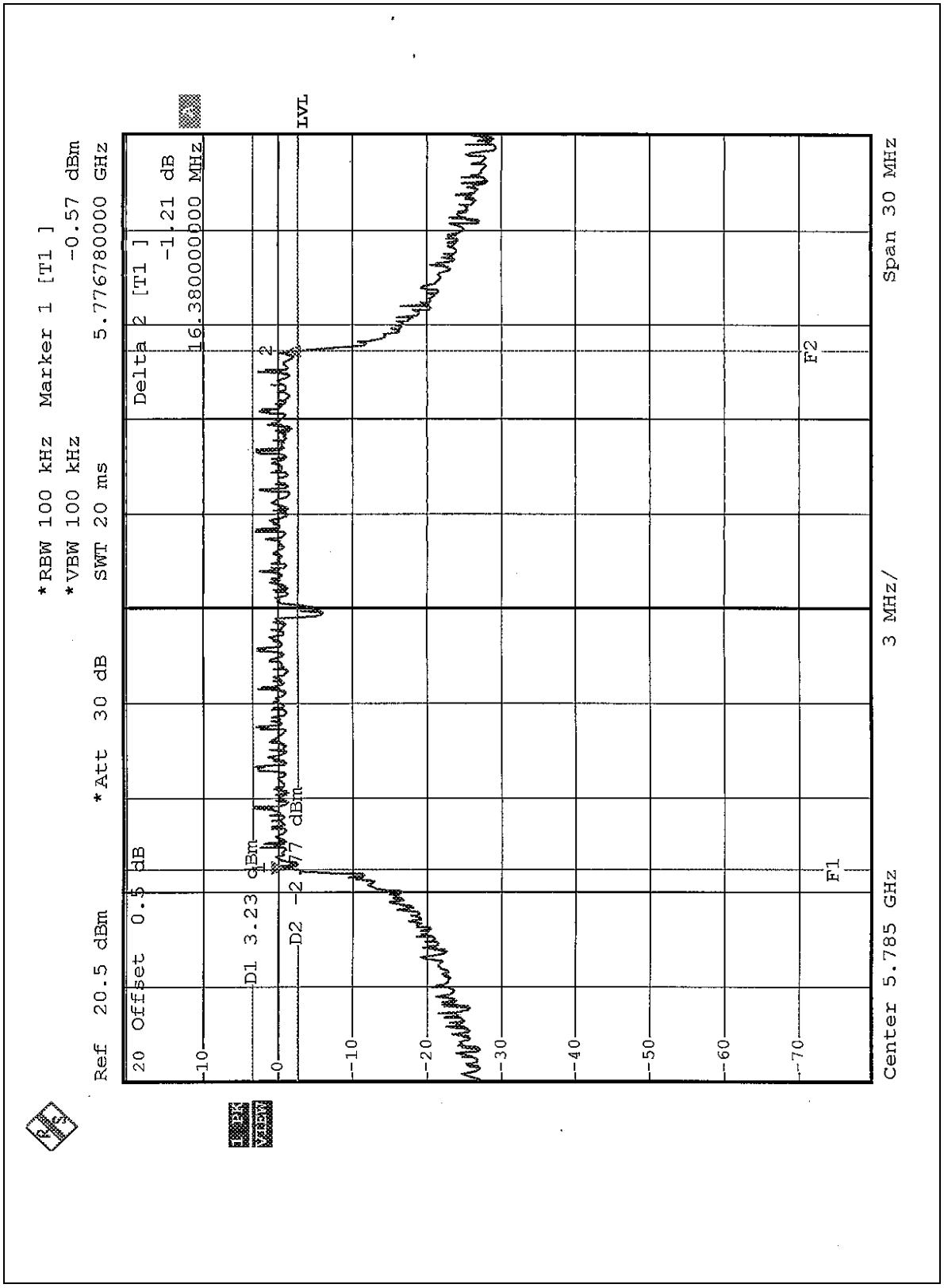
EUT	802.11A+G Wireless Access Point	MODEL	Gateway 7001 802.11A+G Wireless Access Point
ENVIRONMENTAL CONDITIONS	20deg. C, 63%RH, 991 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Steven Lu		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
9	5745	16.38	0.5	PASS
11	5785	16.38	0.5	PASS
13	5825	16.38	0.5	PASS

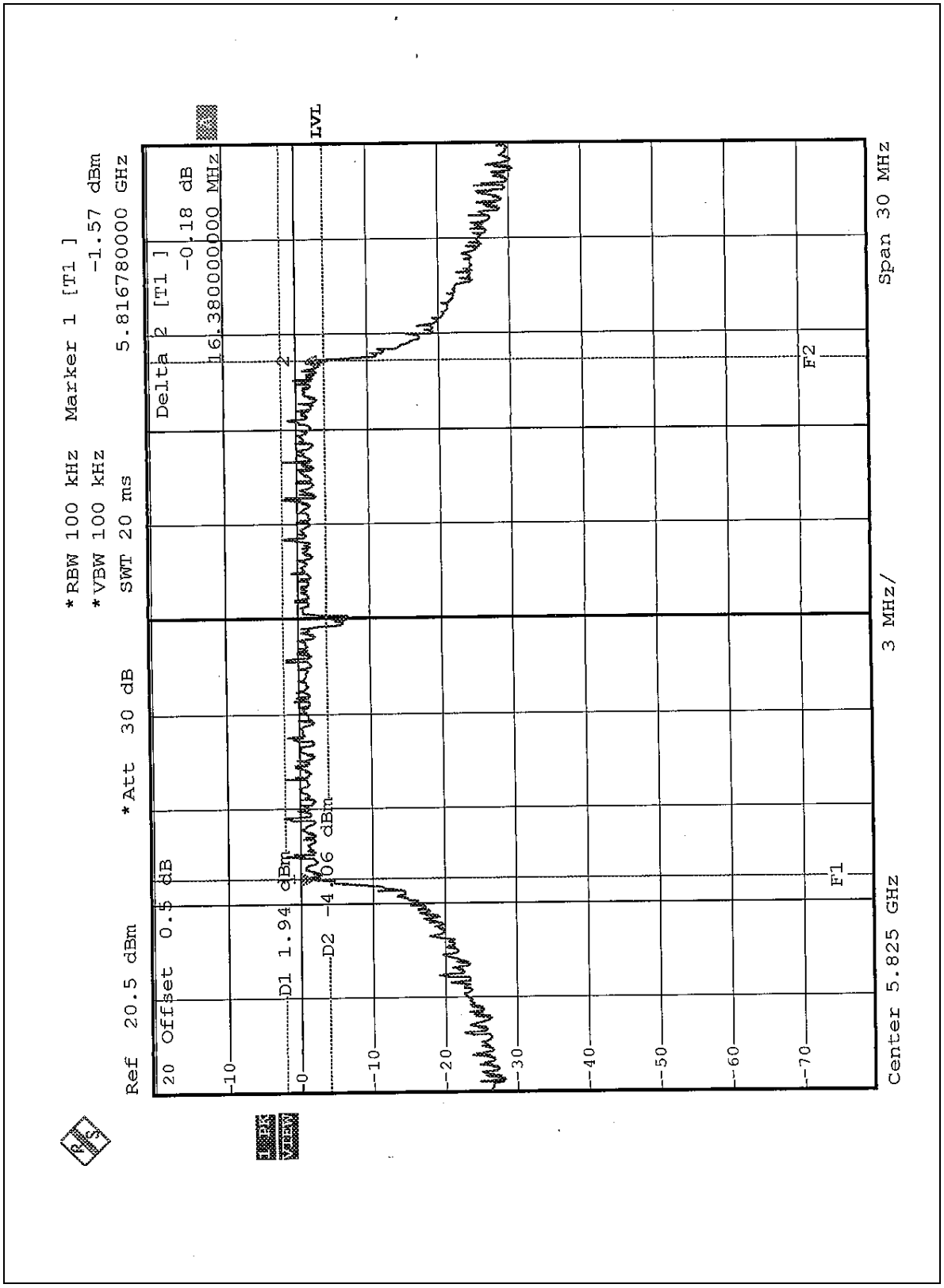
CHANNEL 9


Ref 20.5 dBm
Offset 0.5 dB
*Att 30 dB
*VBW 100 kHz
SWT 20 ms
*RBW 100 kHz
Marker 1 [T1]
-0.88 dBm
5.736780000 GHz
Delta 2 [T1]
-1.78 dB
16.380000000 MHz
D1 3.49 dBm
D2 -2.61 dBm
LVL
F1
F2
Center 5.745 GHz
3 MHz/
Span 30 MHz

CHANNEL 11


Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 20 ms
Marker 1 [T1]
-0.57 dBm
5.77678000 GHz
Delta 2 [T1]
-1.21 dB
16.38000000 MHz
D1 3.23 dBm
D2 -2.77 dBm
LVL
F1
F2
Center 5.785 GHz
3 MHz/
Span 30 MHz

CHANNEL 13


*RBW 100 kHz
*VBW 100 kHz
SWT 20 ms
Marker 1 [T1]
-1.57 dBm
5.816780000 GHz
Delta 2 [T1]
-0.18 dB
16.380000000 MHz
*Att 30 dB
Offset 0.5 dB
Ref 20.5 dBm
D1 1.94 dBm
D2 -4.06 dBm
F1
F2
Center 5.825 GHz
3 MHz/
Span 30 MHz
VBW
RBW

5.10 MAXIMUM PEAK OUTPUT POWER

5.10.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

5.10.2 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004
R&S SIGNAL GENERATOR	SMP04	100011	May 28, 2004
TEKTRONIX OSCILLOSCOPE	TDS 220	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..

5.10.3 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.

5.10.4 DEVIATION FROM TEST STANDARD

No deviation

5.10.5 TEST SETUP

5.10.6 EUT OPERATING CONDITIONS

Same as Item 5.9.6

5.10.7 TEST RESULTS

EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
ENVIRONMENTAL CONDITIONS	20deg. C, 63%RH, 991 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Steven Lu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
9	5745	18.87	30	PASS
11	5785	18.67	30	PASS
13	5825	18.75	30	PASS

5.11 POWER SPECTRAL DENSITY MEASUREMENT

5.11.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.11.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

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

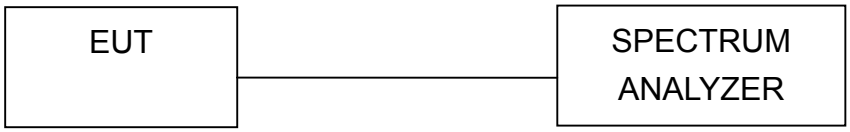
5.11.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured 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.

5.11.4 DEVIATION FROM TEST STANDARD

No deviation

5.11.5 TEST SETUP



5.11.6 EUT OPERATING CONDITION

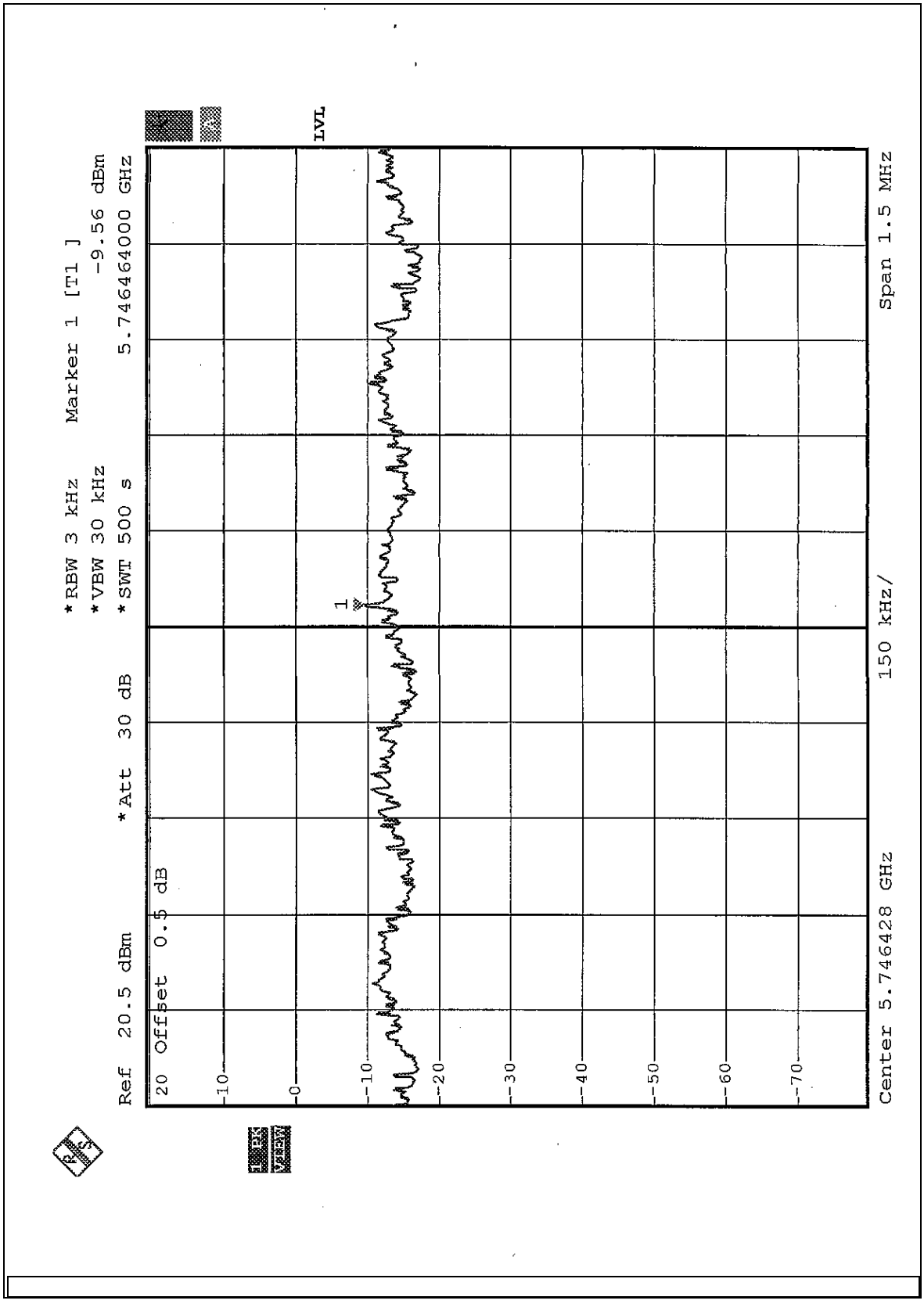
Same as Item 5.9.6

5.11.7 TEST RESULTS

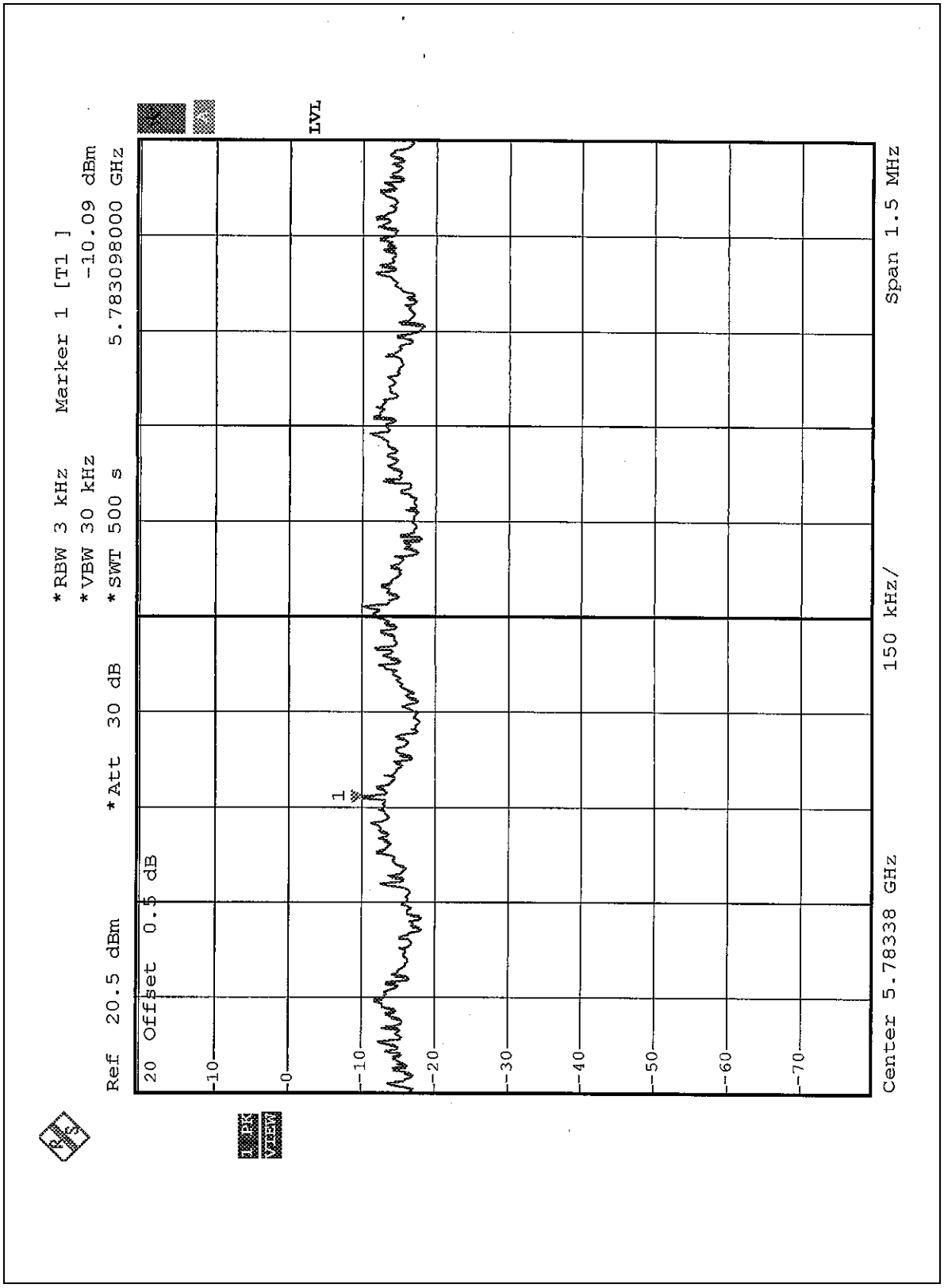
EUT	802.11A+G Wireless Access Point	**MODEL**	Gateway 7001 802.11A+G Wireless Access Point
ENVIRONMENTAL CONDITIONS	20deg. C, 63%RH, 991 hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Steven Lu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
9	5745	-9.56	8	PASS
11	5785	-10.09	8	PASS
13	5825	-10.41	8	PASS

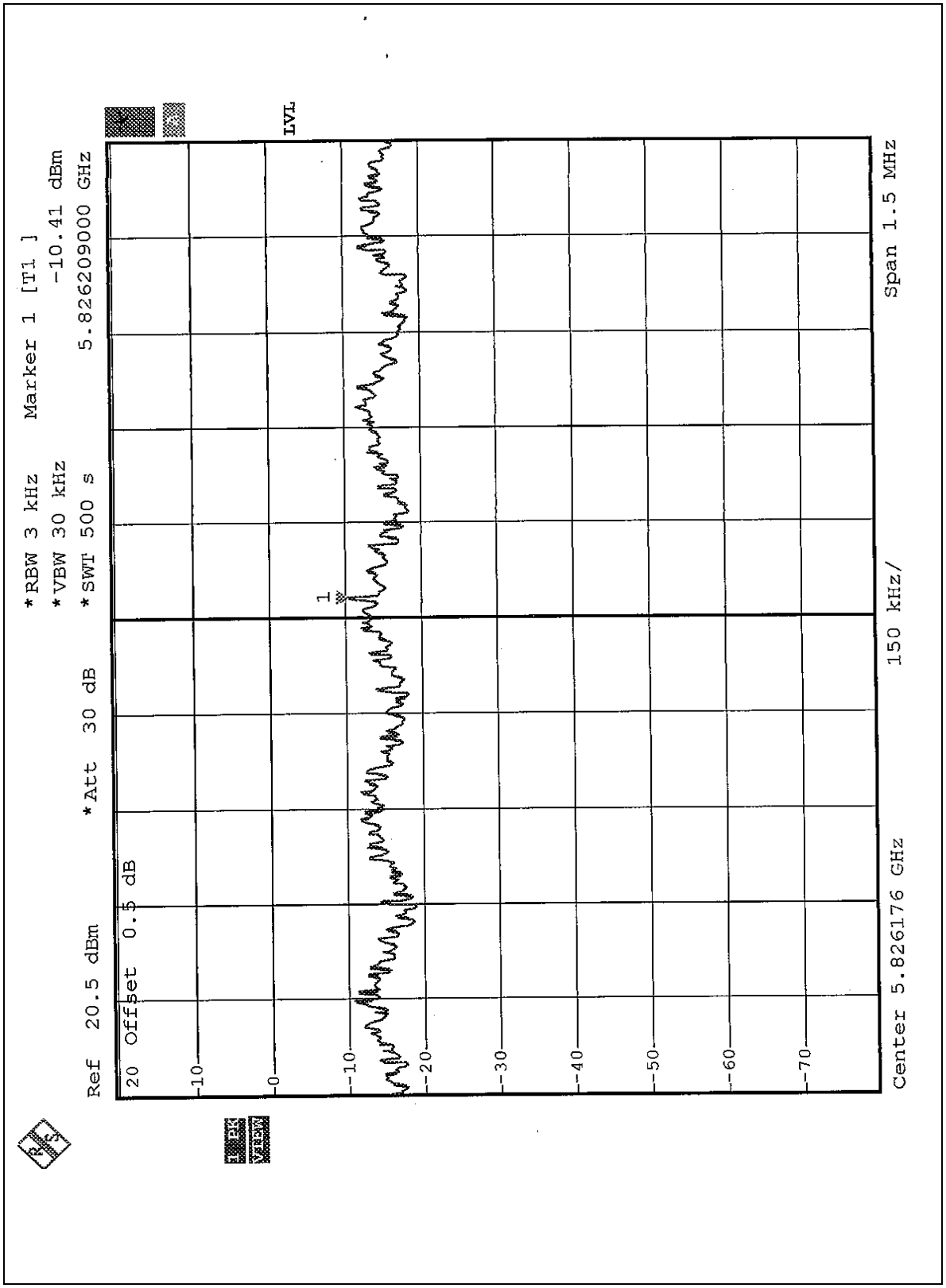
CHANNEL 9


Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-9.56 dBm
5.746464000 GHz
LVL
Center 5.746428 GHz
150 kHz/
Span 1.5 MHz

CHANNEL 11


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-10.09 dBm
5.783098000 GHz
Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
1
Center 5.78338 GHz
150 kHz/
Span 1.5 MHz
VIEW
WRITE

CHANNEL 13


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-10.41 dBm
5.826209000 GHz
Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
Center 5.826176 GHz
150 kHz/
Span 1.5 MHz
1
VIEW
MAXH

5.12 BAND EDGES MEASUREMENT

5.12.1 LIMITS OF BAND EDGES MEASUREMENT

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

5.12.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

NOTES: 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 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 kHz bandwidth from band edge. The band edges was measured and recorded.

5.12.4 DEVIATION FROM TEST STANDARD

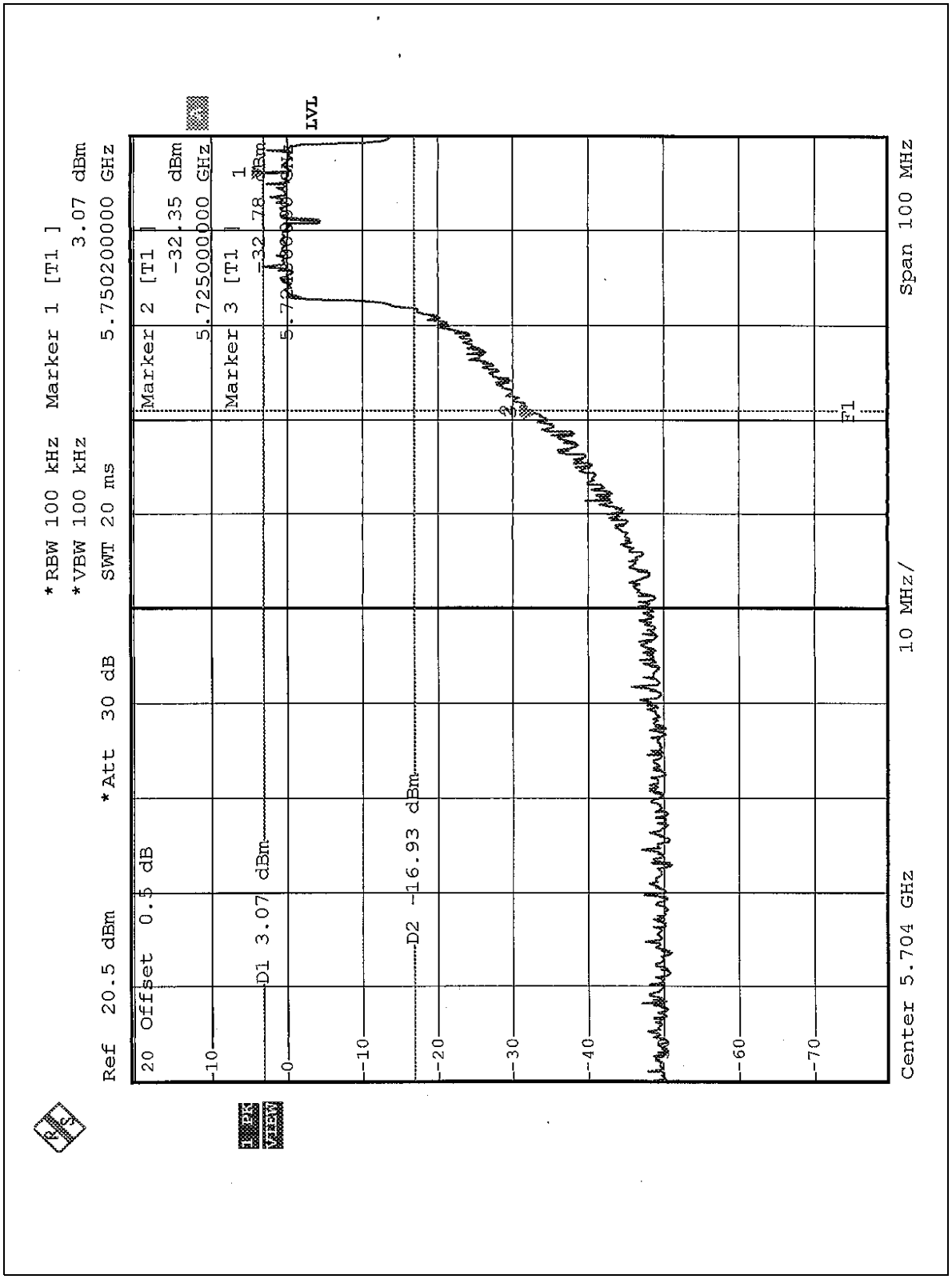
No deviation

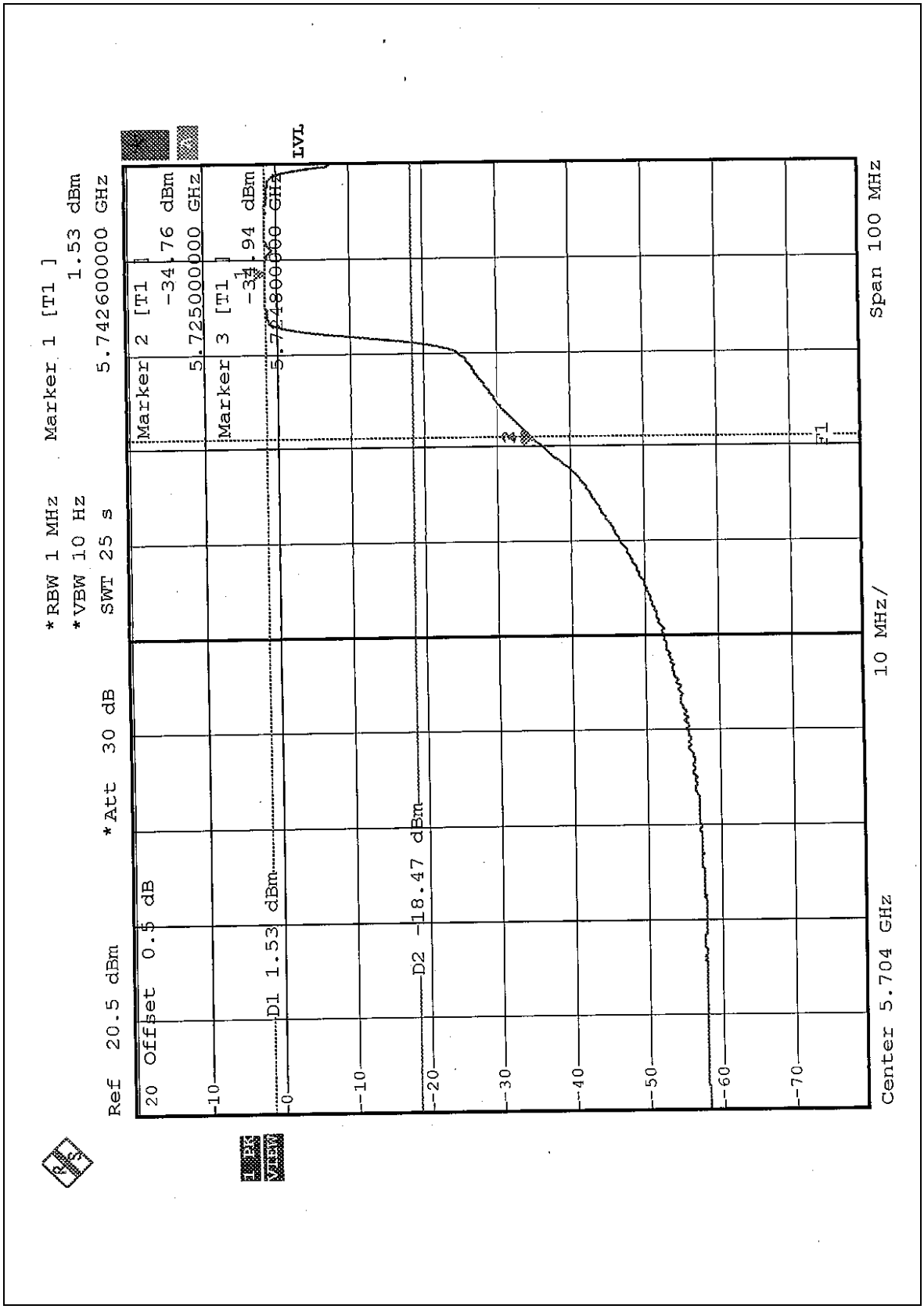
5.12.5 EUT OPERATING CONDITION

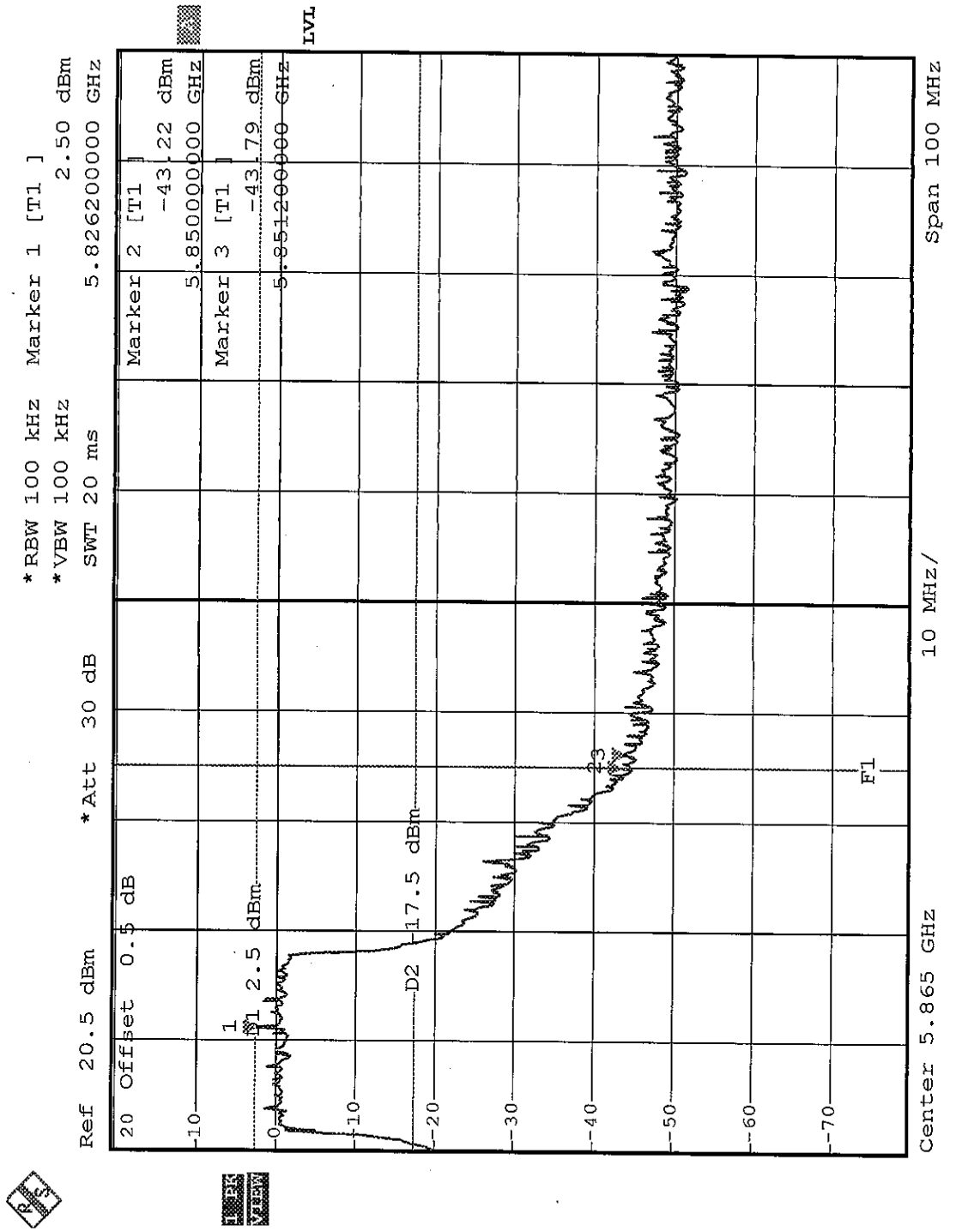
Same as Item 5.9.6

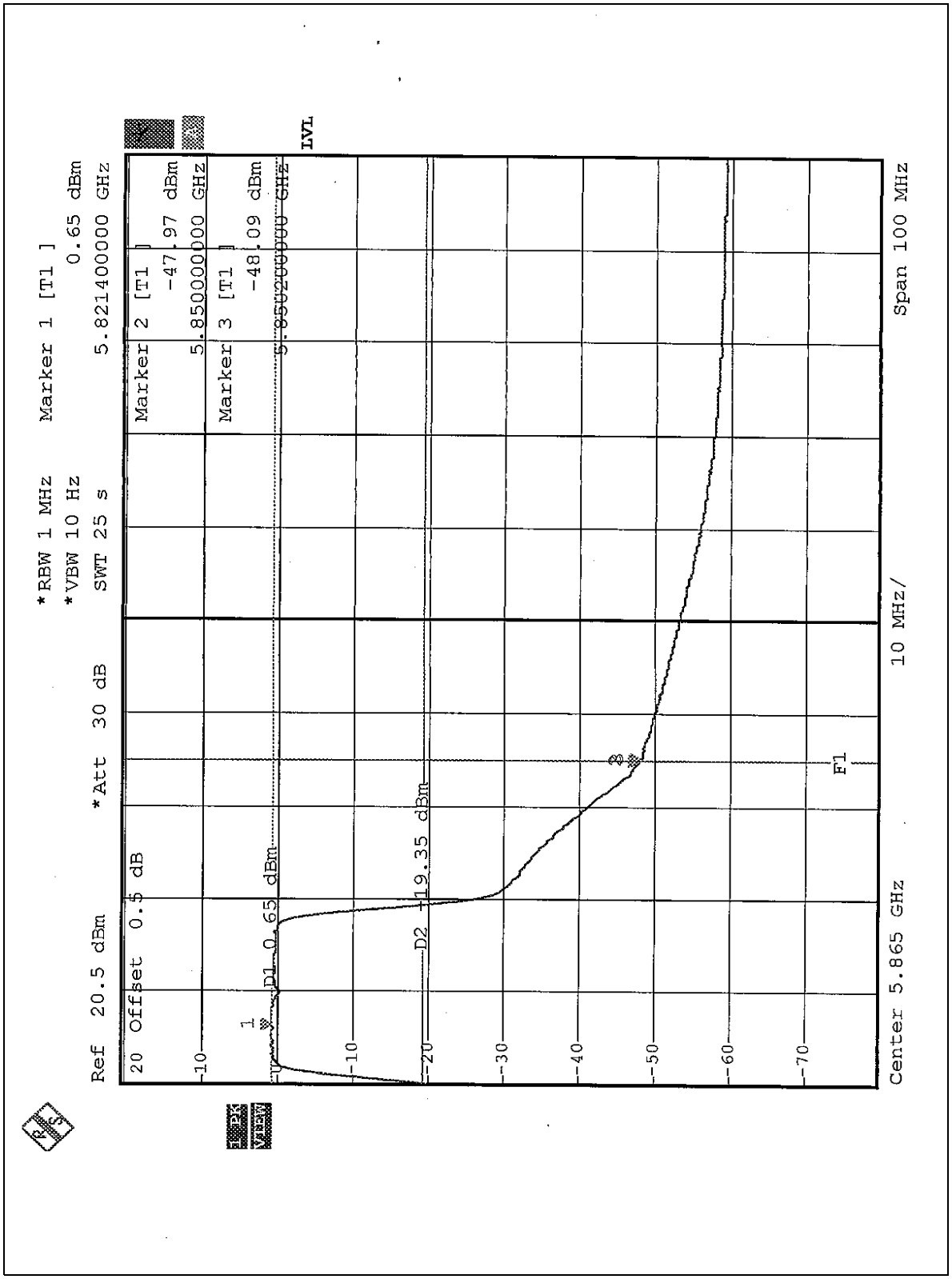
5.12.6 TEST RESULTS

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(C).


*RBW 100 kHz
*VBW 100 kHz
SWT 20 ms
Marker 1 [T1]
3.07 dBm
5.750200000 GHz
Marker 2 [T1]
-32.35 dBm
5.725000000 GHz
Marker 3 [T1]
-32.78 dBm
5.775000000 GHz
Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
D1 3.07 dBm
D2 -16.93 dBm
LVL
F1
Center 5.704 GHz
10 MHz/
Span 100 MHz


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 1 [T1]
1.53 dBm
5.742600000 GHz
Ref 20.5 dBm
*Att 30 dB
Offset 0.5 dB
D1 1.53 dBm
D2 -18.47 dBm
Marker 2 [T1]
-34.76 dBm
5.725000000 GHz
Marker 3 [T1]
-34.94 dBm
5.724800000 GHz
LVL
Center 5.704 GHz
10 MHz/
Span 100 MHz


*RBW 100 kHz
*VBW 100 kHz
SWT 20 ms
Marker 1 [T1]
2.50 dBm
5.826200000 GHz
*Att 30 dB
Marker 2 [T1]
-43.22 dBm
5.850000000 GHz
Marker 3 [T1]
-43.79 dBm
5.851200000 GHz
Ref 20.5 dBm
20 Offset 0.5 dB
1 D1 2.5 dBm
D2 17.5 dBm
F1
Center 5.865 GHz
10 MHz/
Span 100 MHz


*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
Marker 1 [T1]
0.65 dBm
5.821400000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
D1 0.65 dBm
D2 +19.35 dBm
Marker 2 [T1]
-47.97 dBm
5.850000000 GHz
Marker 3 [T1]
-48.09 dBm
5.852000000 GHz
LVL
Center 5.865 GHz
10 MHz/
Span 100 MHz
F1

5.13 ANTENNA REQUIREMENT

5.13.1 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.

5.13.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is PIFA antenna with UFL antenna connector. The maximum Gain of the antenna is 2dBi.

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, Guide 25 or EN 45001:

USA	FCC, NVLAP, UL
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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The address and road map of all our labs can be found in our web site also.