

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 (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	838251/021	Jan. 20, 2004
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Dec. 18, 2003
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Dec. 18, 2003
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100220	Dec. 18, 2003
ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 29 2003
ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 29 2003
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	Mar. 24, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Apr. 06, 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 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.



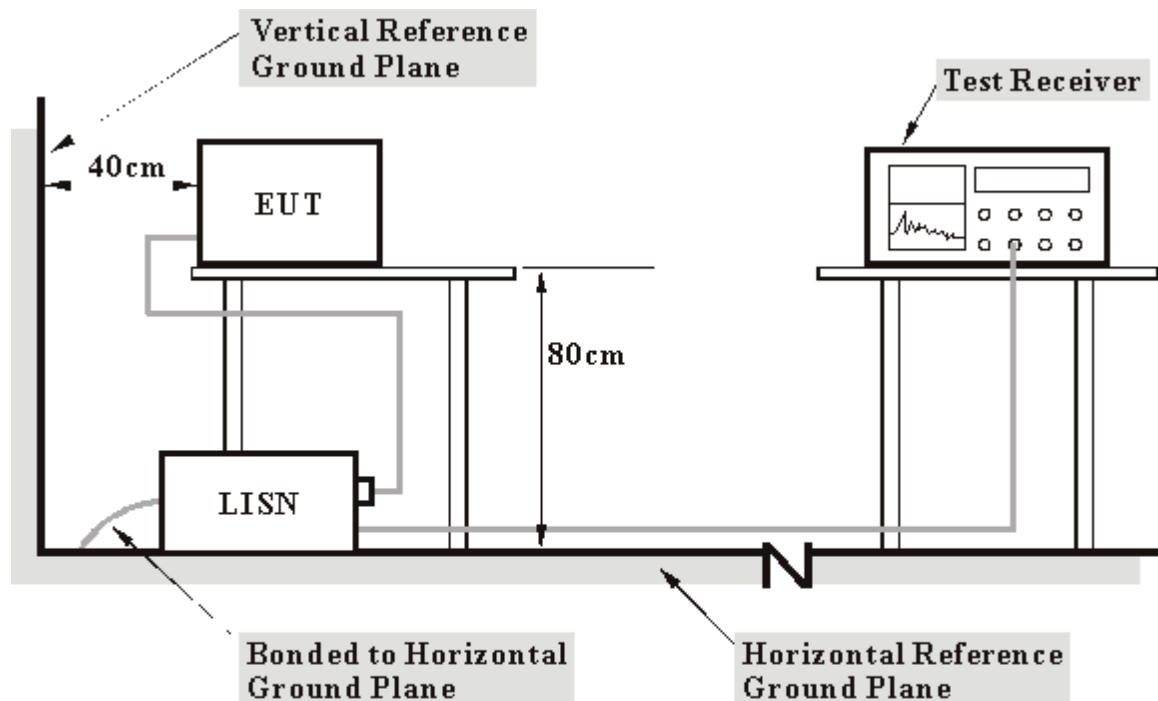
5.1.3 TEST PROCEDURES

- 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 over 10dB under the prescribed limits could not be reported

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

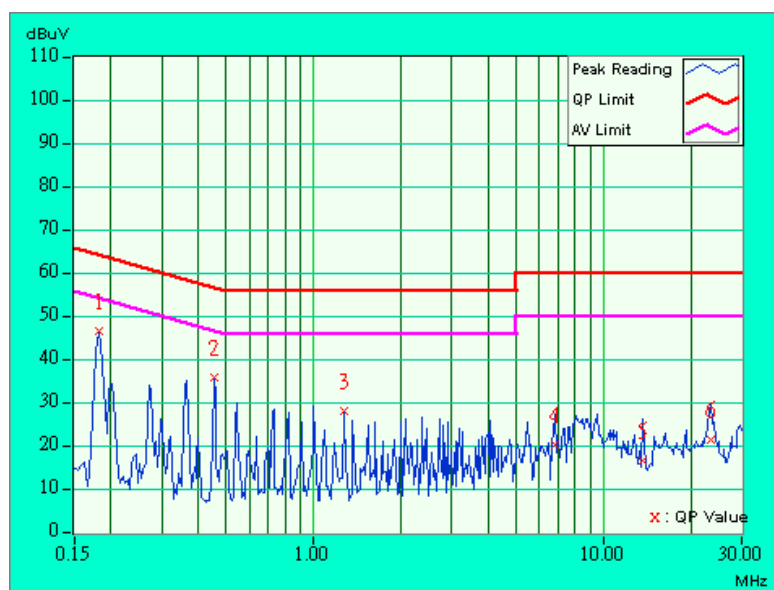
Same as 4.1.6

5.1.7 TEST RESULTS

EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	TESTED BY: Hardaway Lee	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.06	45.73	-	45.79	-	64.43	54.43	-18.64	-
2	0.455	0.07	35.18	-	35.25	-	56.79	46.79	-21.54	-
3	1.273	0.17	27.22	-	27.39	-	56.00	46.00	-28.61	-
4	6.809	0.31	19.41	-	19.72	-	60.00	50.00	-40.28	-
5	13.617	0.52	15.76	-	16.28	-	60.00	50.00	-43.72	-
6	23.383	0.81	20.68	-	21.49	-	60.00	50.00	-38.51	-

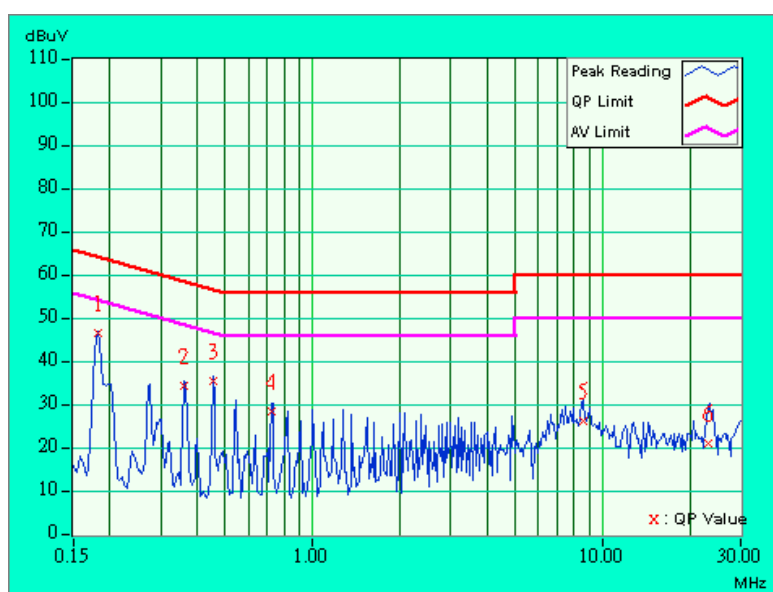
- REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	TESTED BY: Hardaway Lee	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.05	45.87	-	45.92	-	64.43	54.43	-18.51	-
2	0.361	0.05	33.74	-	33.79	-	58.71	48.71	-24.92	-
3	0.455	0.06	35.00	-	35.06	-	56.79	46.79	-21.73	-
4	0.724	0.11	27.76	-	27.87	-	56.00	46.00	-28.13	-
5	8.630	0.35	25.50	-	25.85	-	60.00	50.00	-34.15	-
6	23.281	0.65	20.44	-	21.09	-	60.00	50.00	-38.91	-

- 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 (dBuV/m) *note 3
5150~5250	-27	71.3
5250~5350	-27	71.3
5725~5825	-27 *note 1	71.3
	-17 *note 2	81.3

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

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



5.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
* HP Spectrum Analyzer	8590L	3544A01176	Jun. 10, 2004
* HP Preamplifier	8447D	2944A08485	May 01, 2004
* HP Preamplifier	8449B	3008A01201	Dec. 01, 2003
* HP Preamplifier	8449B	3008A01292	Aug. 13, 2004
ROHDE & SCHWARZ TEST RECEIVER	ESI7	838496/016	Feb. 23, 2004
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Feb. 13, 2004
SCHAFFNER Tunable Dipole Antenna	VHBA 9123	459	Nov. 22, 2003
SCHWARZBECK Tunable Dipole Antenna	UHA 9105	977	
* CHASE BILOG Antenna	CBL6112A	2221	July 26, 2004
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jun. 30, 2004
* EMCO Horn Antenna	3115	9312-4192	Mar. 23, 2004
* EMCO Turn Table	1060	1115	NA
* CHANCE Tower	CM-AT40	CM-A010	NA
* Software	ADT_Radiated_V5.14	NA	NA
* ANRITSU RF Switches	MP59B	M35046	Jan. 05, 2004
* TIMES RF cable	LMR-600	CABLE-ST5-01	Jan. 05, 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. 5.
5. The VCCI Site Registration No. is R-1039.



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.

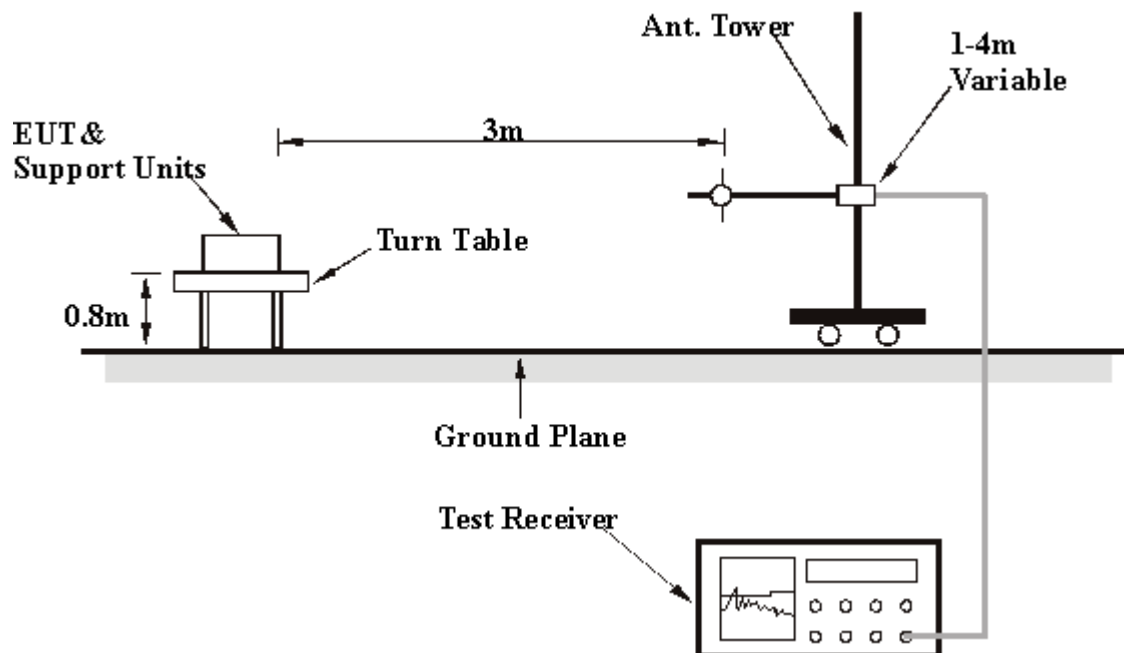
NOTE:

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 300 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	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
FREQUENCY RANGE	Below 1000MHz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	59.99	28.90 QP	40.00	-11.10	2.24 H	224	20.20	8.70
2	72.01	27.80 QP	40.00	-12.20	2.00 H	120	20.70	7.00
3	131.97	30.10 QP	43.50	-13.40	1.62 H	153	17.60	12.50
4	166.12	29.90 QP	43.50	-13.60	2.03 H	135	19.20	10.60
5	191.97	26.10 QP	43.50	-17.40	1.00 H	137	15.50	10.60
6	215.83	28.90 QP	43.50	-14.60	1.79 H	96	17.30	11.70
7	228.03	29.60 QP	46.00	-16.40	1.76 H	176	17.30	12.40
8	498.32	40.20 QP	46.00	-5.80	1.00 H	14	20.10	20.10
9	625.08	38.20 QP	46.00	-7.80	1.83 H	111	15.90	22.40
10	720.37	40.00 QP	46.00	-6.00	1.10 H	107	16.80	23.20
11	996.61	40.80 QP	54.00	-13.20	1.59 H	138	15.60	25.10

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
FREQUENCY RANGE	Below 1000MHz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	74.96	30.40 QP	40.00	-9.60	1.00 V	117	22.90	7.50
2	131.97	34.40 QP	43.50	-9.10	1.17 V	147	21.90	12.50
3	191.98	29.10 QP	43.50	-14.40	1.74 V	154	18.50	10.60
4	250.02	28.80 QP	46.00	-17.20	1.96 V	180	15.20	13.60
5	275.95	29.90 QP	46.00	-16.10	1.63 V	52	14.70	15.30
6	498.32	41.40 QP	46.00	-4.60	1.16 V	123	21.30	20.10
7	625.04	40.50 QP	46.00	-5.50	2.62 V	0	18.10	22.40
8	669.26	34.70 QP	46.00	-11.30	2.39 V	205	12.20	22.50
9	720.38	38.80 QP	46.00	-7.20	1.52 V	4	15.60	23.20

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.



EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Normal Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	#5150.00	50.35 PK	74.00	-23.65	1.22 H	142	14.15	36.20
1	#5150.00	40.65 AV	54.00	-13.35	1.22 H	142	4.45	36.20
2	*5180.00	98.20 PK			1.22 H	142	62.00	36.20
2	*5180.00	88.50 AV			1.22 H	142	52.30	36.20
3	10358.00	55.20 PK	71.30	-16.10	1.14 H	167	10.70	44.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	#5150.00	59.85 PK	74.00	-14.15	1.22 V	167	23.75	36.20
1	#5150.00	50.35 AV	54.00	-3.65	1.22 V	167	14.15	36.20
2	*5180.00	107.80 PK			1.22 V	167	71.60	36.20
2	*5180.00	98.20 AV			1.22 V	167	62.00	36.20
3	10358.00	55.00 PK	71.30	-16.30	1.22 V	167	10.50	44.50

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



EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Normal Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	96.10 PK			1.56 H	166	59.70	36.30
1	*5240.00	86.30 AV			1.56 H	166	50.00	36.30
2	10479.00	55.10 PK	71.30	-16.20	1.24 H	35	10.40	44.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	*5240.00	108.20 PK			1.00 V	66	71.90	36.30
1	*5240.00	98.50 AV			1.00 V	66	62.20	36.30
2	10483.00	54.70 PK	71.30	-16.60	1.00 V	166	10.00	44.70

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" : Fundamental frequency

EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Normal Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	100.00 PK			1.54 H	333	63.70	36.40
1	*5260.00	89.80 AV			1.54 H	333	53.50	36.40
2	10522.00	55.50 PK	71.30	-15.80	1.33 H	264	10.70	44.80

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	107.70 PK			1.32 V	235	71.40	36.40
1	*5260.00	97.60 AV			1.32 V	235	61.30	36.40
2	10522.00	55.80 PK	71.30	-15.50	1.43 V	33	11.00	44.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “*” : Fundamental frequency



EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Normal Mode	CHANNEL	8
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	98.00 PK			1.24 H	117	61.50	36.40
1	*5320.00	87.40 AV			1.24 H	117	50.90	36.40
2	#5350.00	47.85 PK	74.00	-26.15	1.24 H	117	11.45	36.40
3	#10644.00	54.10 PK	74.00	-19.90	1.17 H	310	9.00	45.10
3	#10644.00	44.80 AV	54.00	-9.20	1.17 H	310	-0.30	45.10

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	107.20 PK			1.33 V	264	70.70	36.40
1	*5320.00	97.20 AV			1.33 V	264	60.70	36.40
2	#5350.00	57.05 PK	74.00	-16.95	1.33 V	264	20.65	36.40
2	#5350.00	47.05 AV	54.00	-6.95	1.33 V	264	10.65	36.40
3	#10644.00	54.30 PK	74.00	-19.70	1.04 V	10	9.20	45.10
3	#10644.00	44.90 AV	54.00	-9.10	1.04 V	10	-0.20	45.10

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

EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	5715.00	55.00 PK	71.30	-16.30	1.31 H	155	17.90	37.10
2	5725.00	68.70 PK	81.30	-12.60	1.31 H	155	31.60	37.10
3	*5745.00	99.80 PK			1.31 H	155	62.70	37.10
3	*5745.00	90.00 AV			1.31 H	155	52.80	37.10
4	#11491.00	55.60 PK	74.00	-18.40	1.25 H	155	9.80	45.80
4	#11491.00	46.70 AV	54.00	-7.30	1.25 H	155	0.90	45.80

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	5715.00	60.80 PK	71.30	-10.50	1.10 V	117	23.70	37.10
2	5725.00	74.80 PK	81.30	-6.50	1.10 V	117	69.40	37.10
3	*5745.00	105.60 PK			1.10 V	117	68.50	37.10
3	*5745.00	96.90 AV			1.10 V	117	59.80	37.10
4	#11491.00	56.50 PK	74.00	-17.50	1.32 V	55	10.70	45.80
4	#11491.00	47.30 AV	54.00	-6.70	1.32 V	55	1.60	45.80

REMARKS:

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

EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Normal Mode	CHANNEL	12
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	*5805.00	98.30 PK			1.14 H	247	61.10	37.20
1	*5805.00	88.80 AV			1.14 H	247	51.60	37.20
2	5825.00	68.40 PK	81.30	-12.90	1.14 H	247	31.10	37.30
3	5835.00	58.30 PK	71.30	-13.00	1.14 H	77	21.00	37.30
4	#11610.00	53.60 PK	74.00	-20.40	1.09 H	47	8.00	45.60
4	#11610.00	42.10 AV	54.00	-11.90	1.09 H	47	-3.50	45.60

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	*5805.00	105.30 PK			1.00 V	77	68.10	37.20
1	*5805.00	96.00 AV			1.00 V	77	58.80	37.20
2	5825.00	75.40 PK	81.30	-5.90	1.00 V	77	38.20	37.30
3	5835.00	65.30 PK	71.30	-6.00	1.00 V	77	28.00	37.30
4	#11610.00	56.90 PK	74.00	-17.10	1.47 V	277	11.30	45.60
4	#11610.00	45.80 AV	54.00	-8.20	1.47 V	277	0.20	45.60

REMARKS:

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



EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Turbo Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	#5150.00	51.70 PK	74.00	-22.30	1.27 H	188	15.50	36.20
1	#5150.00	43.80 AV	54.00	-10.20	1.27 H	188	7.60	36.20
2	*5210.00	102.10 PK			1.27 H	188	65.80	36.30
2	*5210.00	94.20 AV			1.27 H	188	57.90	36.30
3	10420.00	55.10 PK	71.30	-16.20	1.47 H	233	10.50	44.60

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	#5150.00	59.80 PK	74.00	-14.20	1.39 V	120	23.60	36.20
1	#5150.00	49.90 AV	54.00	-4.10	1.39 V	120	13.70	36.20
2	*5210.00	110.20 PK			1.39 V	120	73.90	36.30
2	*5210.00	100.30 AV			1.39 V	120	64.00	36.30
3	10420.00	55.10 PK	71.30	-16.20	1.31 V	33	10.50	44.60

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



EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Turbo Mode	CHANNEL	2
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	*5250.00	101.90 PK			1.05 H	320	65.60	36.30
1	*5250.00	93.60 AV			1.05 H	320	57.30	36.30
2	10500.00	57.80 PK	71.30	-13.50	1.05 H	320	13.10	44.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*5250.00	108.00 PK			1.05 V	251	71.70	36.30
1	*5250.00	100.30 AV			1.05 V	251	63.90	36.30
2	10500.00	54.40 PK	71.30	-16.90	1.13 V	254	9.70	44.70

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" : Fundamental frequency

EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Turbo Mode	CHANNEL	3
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	*5290.00	97.50 PK			1.32 H	222	61.10	36.40
1	*5290.00	88.30 AV			1.32 H	222	51.90	36.40
2	#5350.00	50.60 PK	74.00	-23.40	1.32 H	222	14.10	36.50
2	#5350.00	41.40 AV	54.00	-12.60	1.32 H	222	4.90	36.50
3	10580.00	55.60 PK	71.30	-15.70	1.10 H	118	10.60	44.90

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	*5290.00	102.90 PK			1.27 V	188	66.50	36.40
1	*5290.00	91.30 AV			1.27 V	188	54.90	36.40
2	#5350.00	56.00 PK	74.00	-18.00	1.27 V	188	19.50	36.50
2	#5350.00	44.40 AV	54.00	-9.60	1.27 V	188	7.90	36.50
3	10580.00	54.00 PK	71.30	-17.30	1.21 V	200	9.10	44.90

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

EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Turbo Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	5715.00	56.60 PK	71.30	-14.70	1.50 H	129	19.50	37.10
2	5725.00	68.80	81.30	-12.50	1.50 H	129	31.70	37.10
3	*5760.00	95.80 PK			1.50 H	129	58.60	37.20
3	*5760.00	85.50 AV			1.50 H	129	48.30	37.20
4	#11518.00	57.30 PK	74.00	-16.70	1.50 H	129	11.50	45.70
4	#11518.00	46.30 AV	54.00	-7.70	1.50 H	129	0.60	45.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	5715.00	61.80 PK	71.30	-9.50	1.00 V	16	24.70	37.10
2	5725.00	74.10 PK	81.30	-7.20	1.48 V	16	37.00	37.10
3	*5760.00	102.00 PK			1.48 V	16	64.90	37.20
3	*5760.00	91.10 AV			1.48 V	16	53.90	37.20
4	#11518.00	55.90 PK	74.00	-18.10	2.15 V	29	10.20	45.70
4	#11518.00	46.20 AV	54.00	-7.80	2.15 V	29	0.50	45.70

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



EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Turbo Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Hardaway 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	*5800.00	94.30 PK			1.20 H	298	57.10	37.20
1	*5800.00	88.00 AV			1.20 H	298	50.80	37.20
2	5825.00	71.10 PK	81.30	-10.20	1.20 H	298	33.80	37.30
3	5835.00	66.40 PK	71.30	-4.90	1.20 H	298	29.10	37.30
4	#11600.00	56.80 PK	74.00	-17.20	1.47 H	216	11.10	45.70
4	#11600.00	46.20 AV	54.00	-7.80	1.47 H	216	0.50	45.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	*5800.00	94.00 PK			1.54 V	41	56.80	37.20
1	*5800.00	86.10 AV			1.54 V	41	48.90	37.20
2	5825.00	70.60 PK	81.30	-10.70	1.54 V	41	33.30	37.30
3	5835.00	66.00 PK	71.30	-5.30	1.54 V	41	28.70	37.30
4	#11600.00	56.50 PK	74.00	-17.50	1.14 V	216	10.90	45.70
4	#11600.00	44.40 AV	54.00	-9.60	1.14 V	216	10.90	45.70

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

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
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004
SPECTRUM ANALYZER	8564EC	4208A00660	Nov. 20, 2003

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

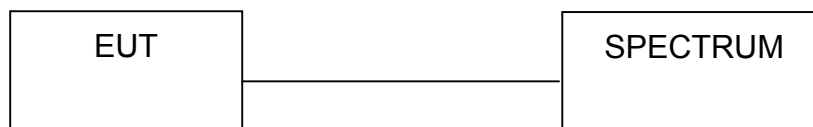
5.3.3 TEST PROCEDURE

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.



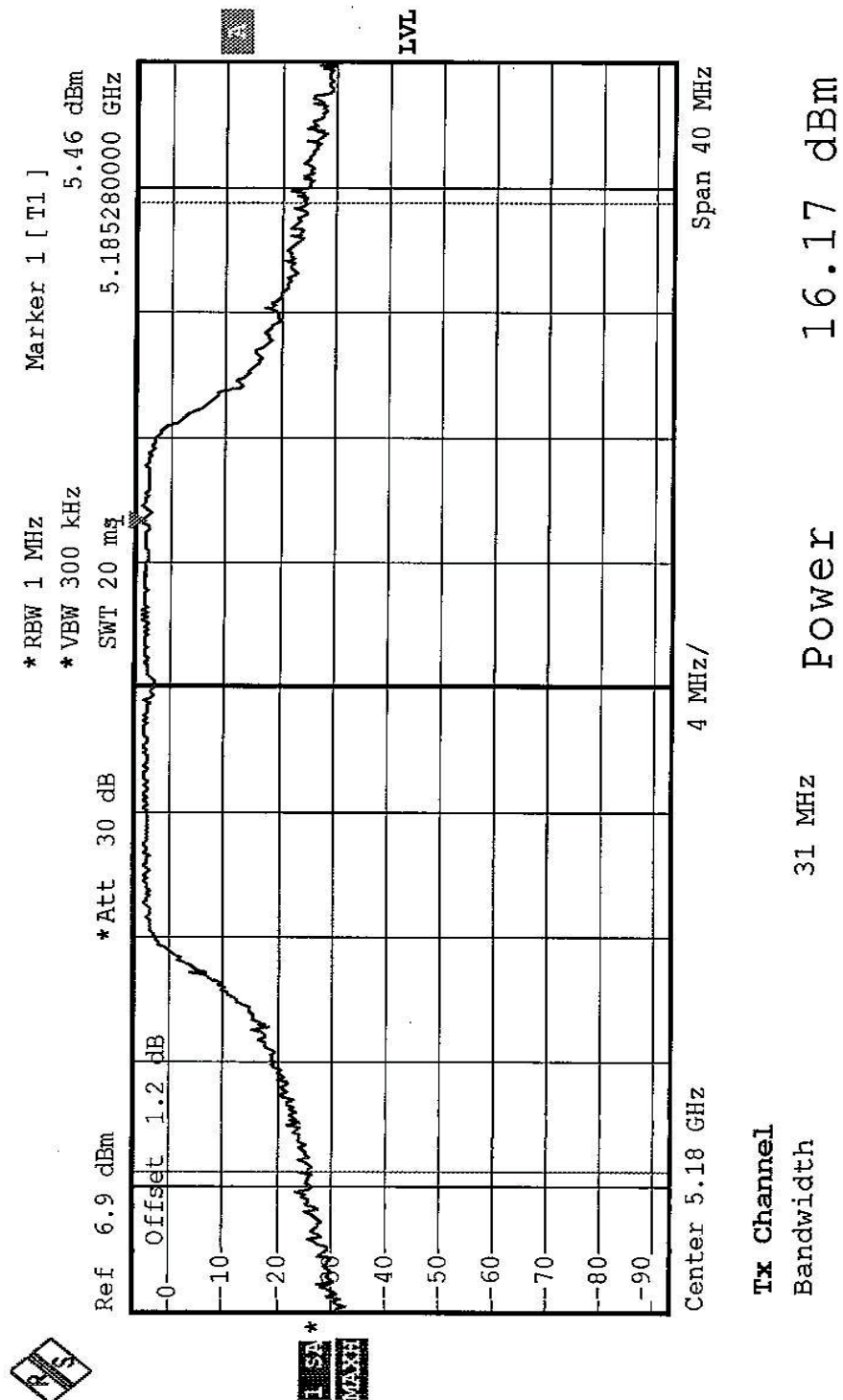
5.3.7 TEST RESULTS

EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Normal	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	27deg. C, 62%RH, 991hPa	TESTED BY	Ansen Lei

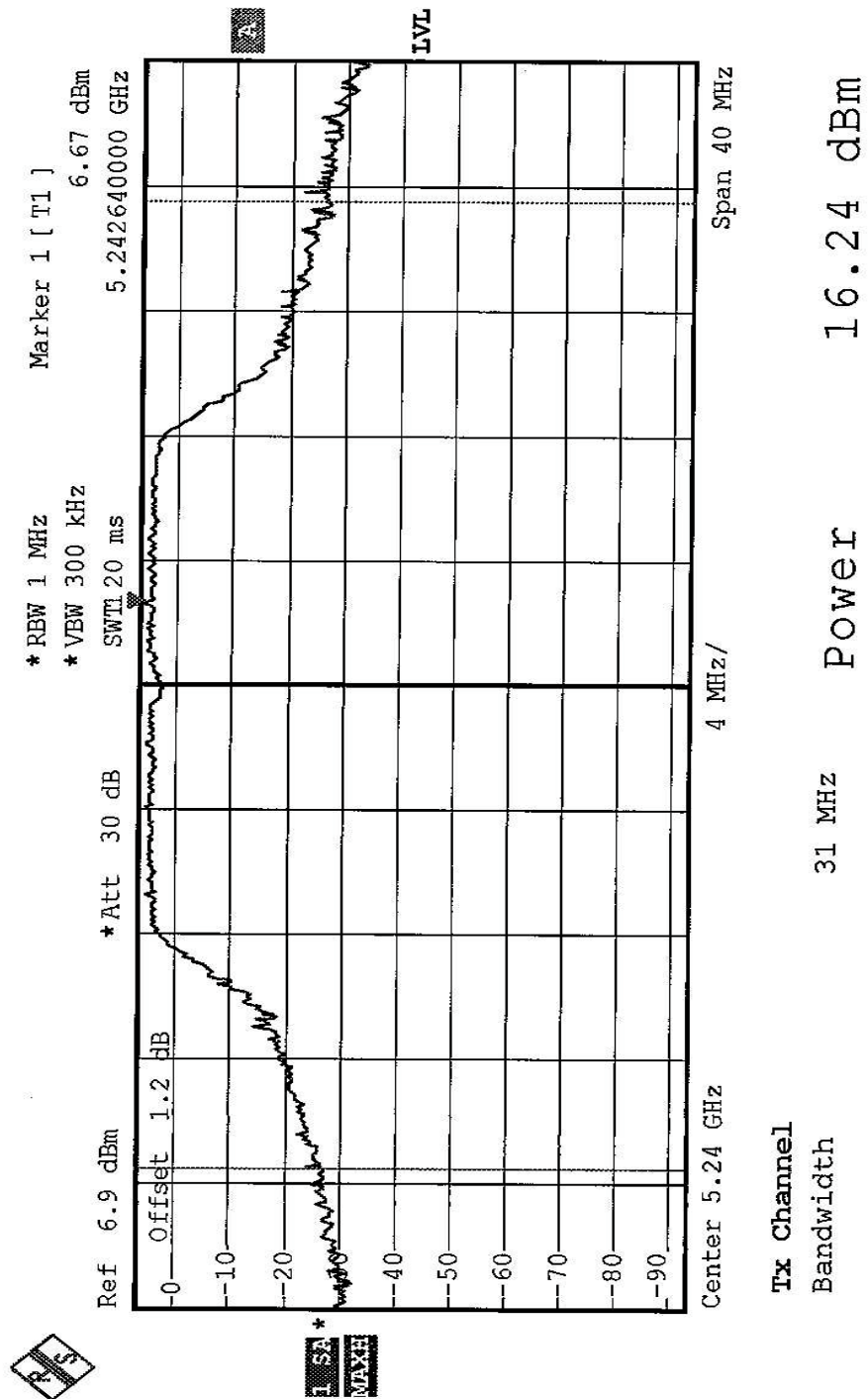
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	16.17	17.00	30.38	PASS
4	5240	16.24	17.00	29.89	PASS
5	5260	16.42	24.00	24.40	PASS
8	5320	16.09	24.00	26.88	PASS
9	5745	15.57	30.00	25.04	PASS
12	5805	15.34	30.00	30.16	PASS

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

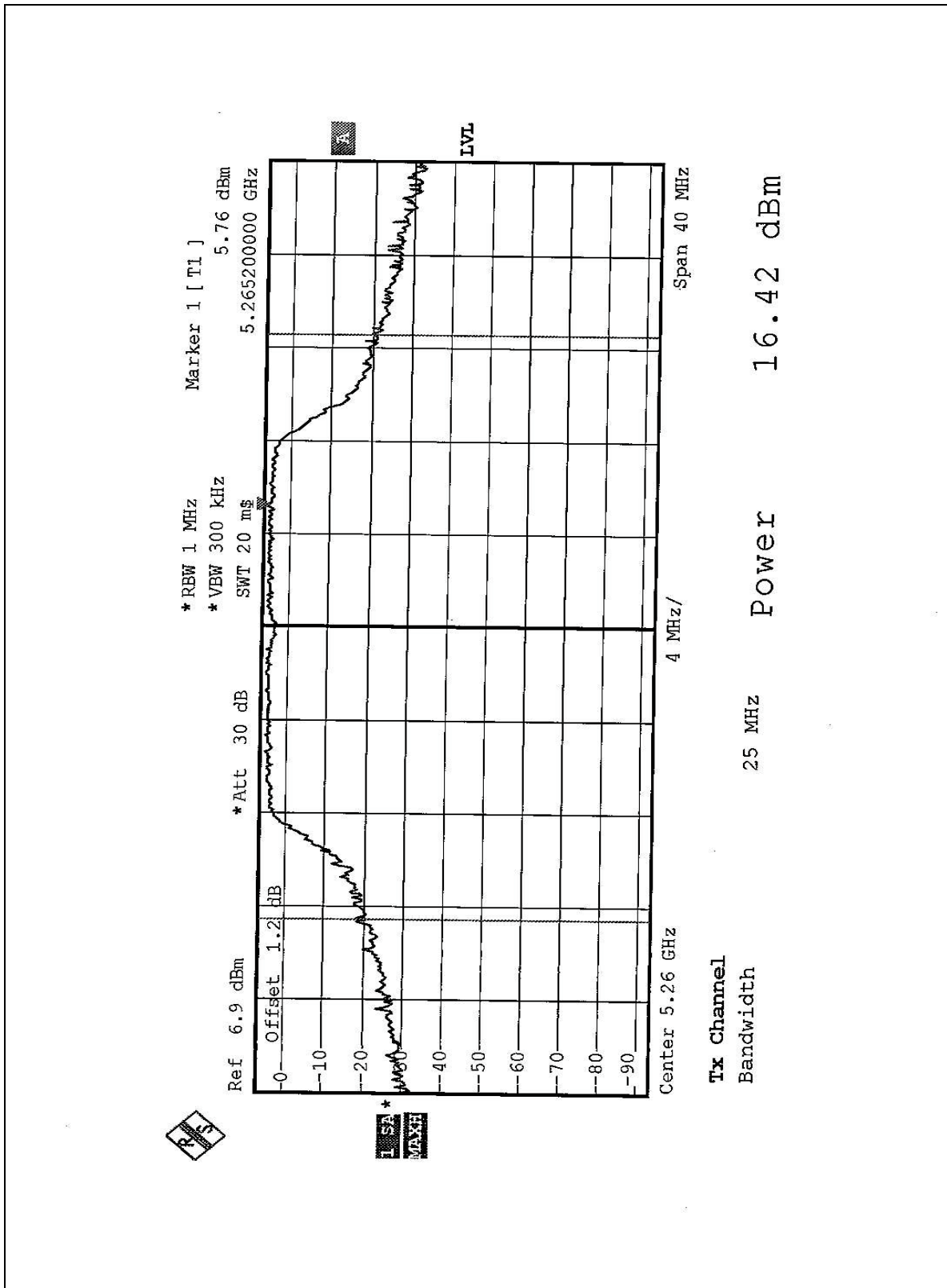
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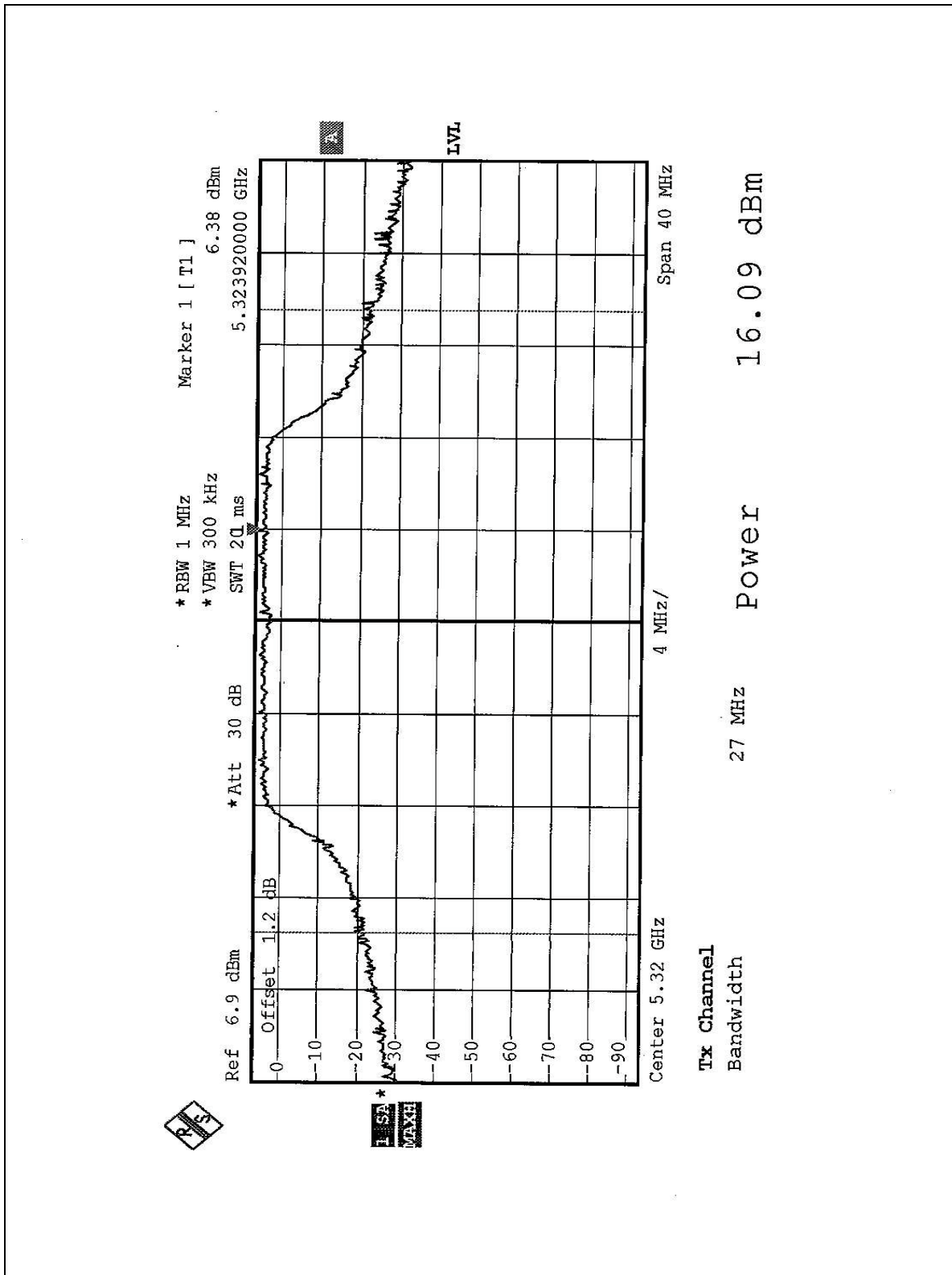
CHANNEL 4



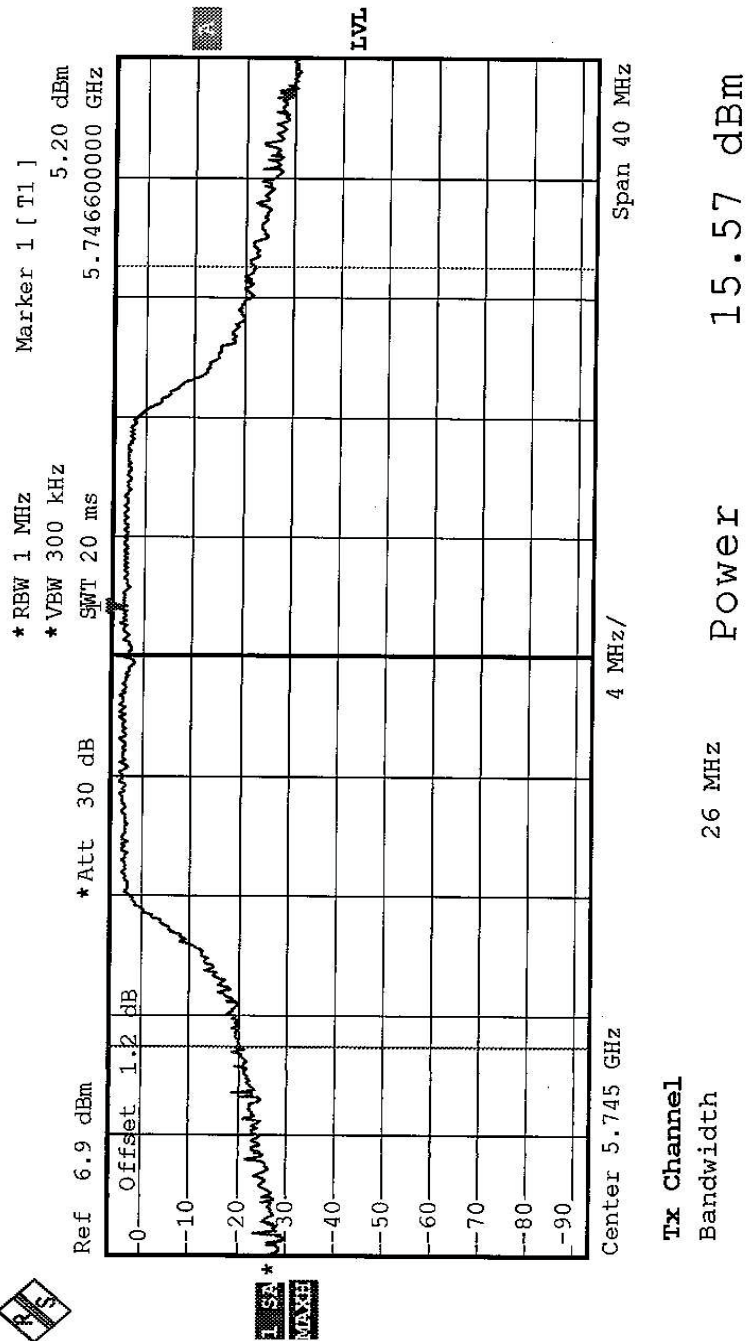
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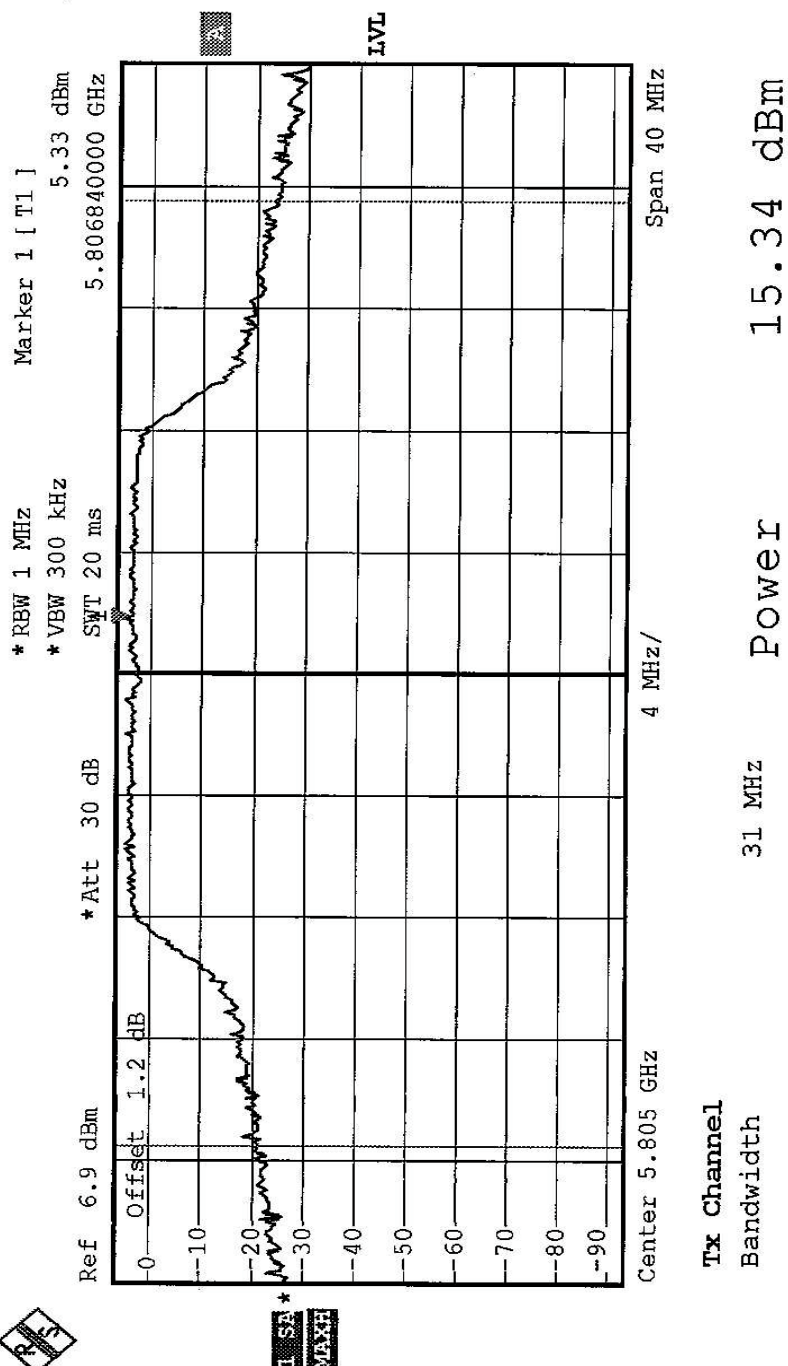


CHANNEL 8

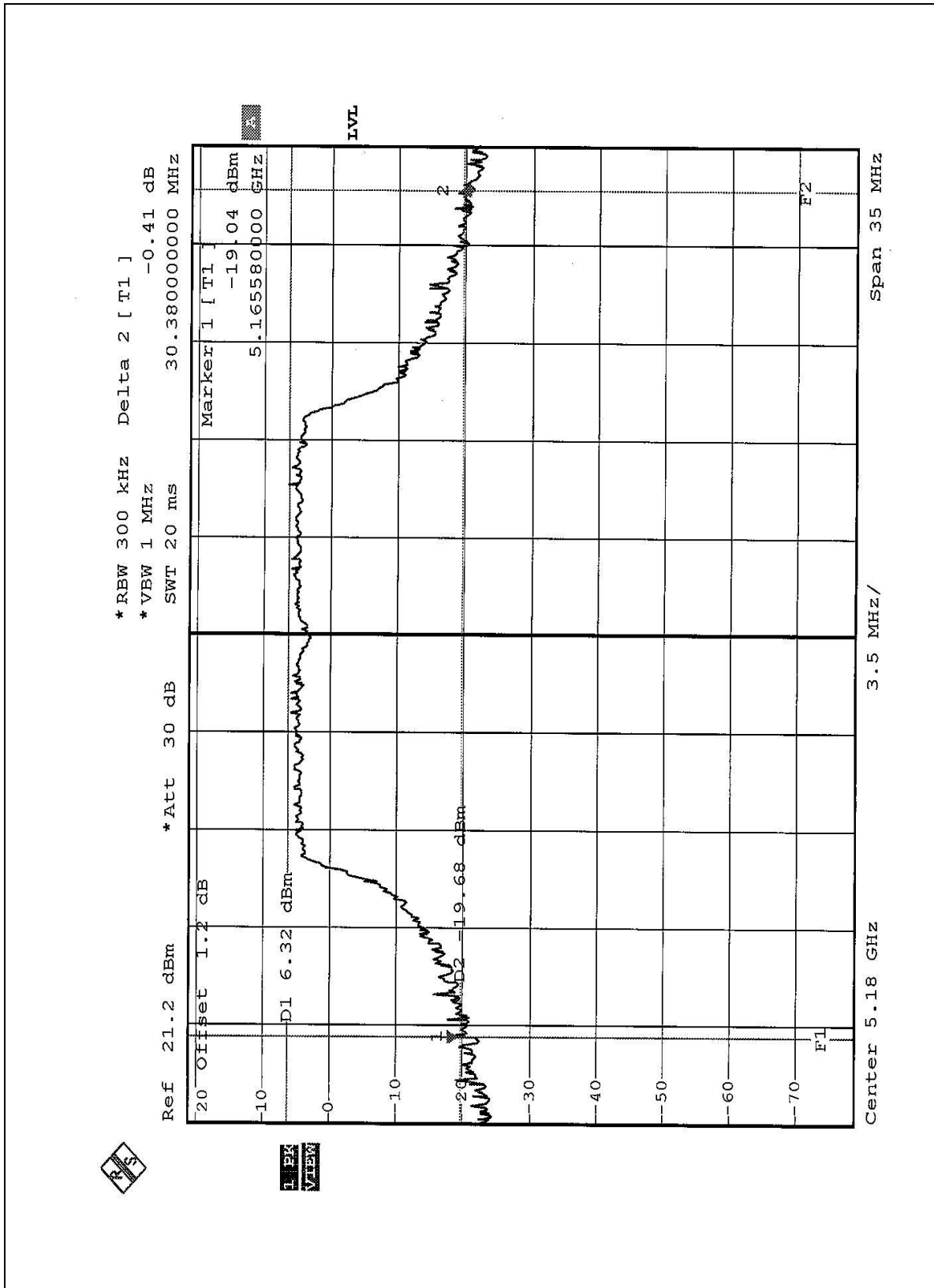


CHANNEL 9

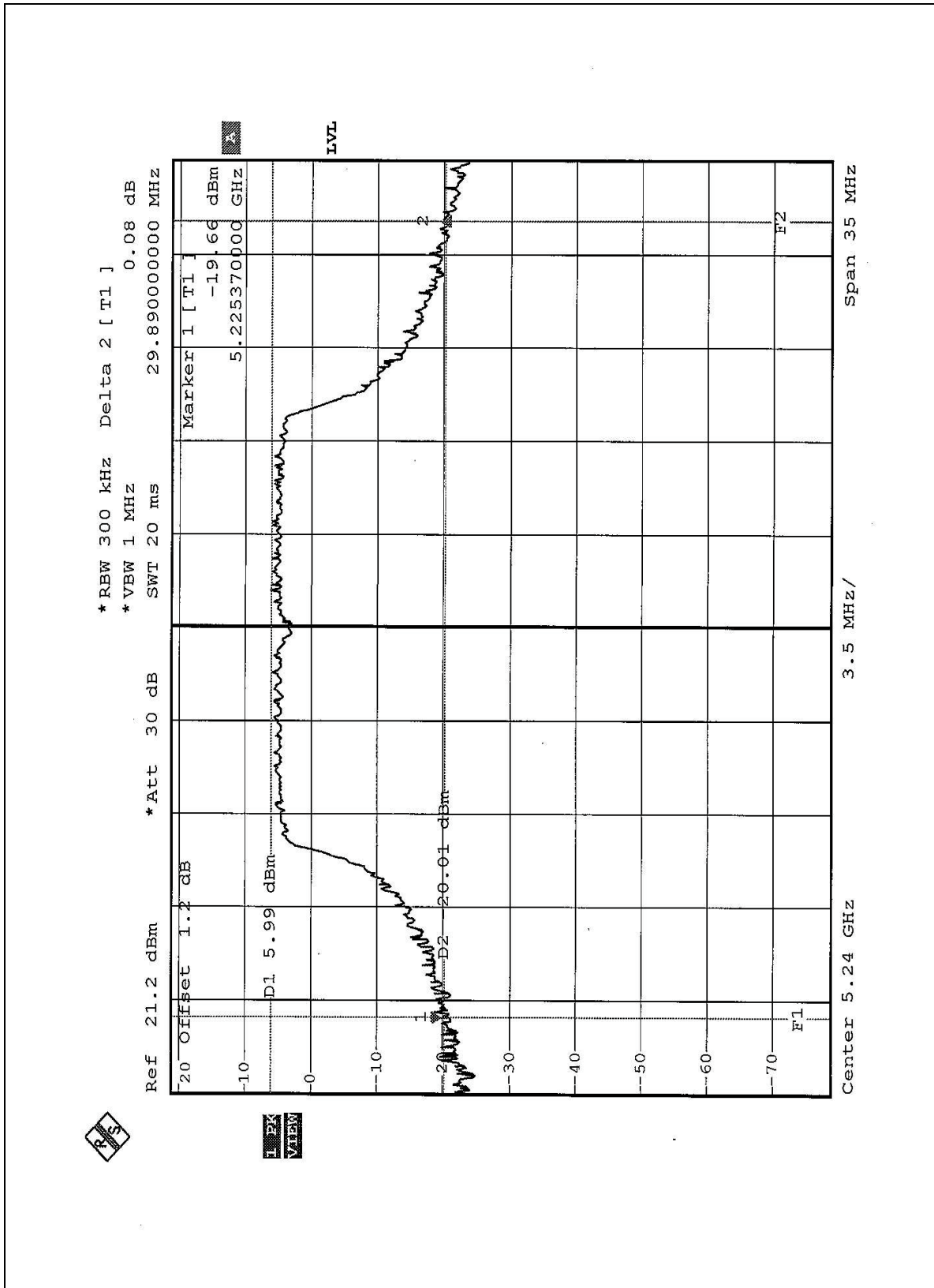




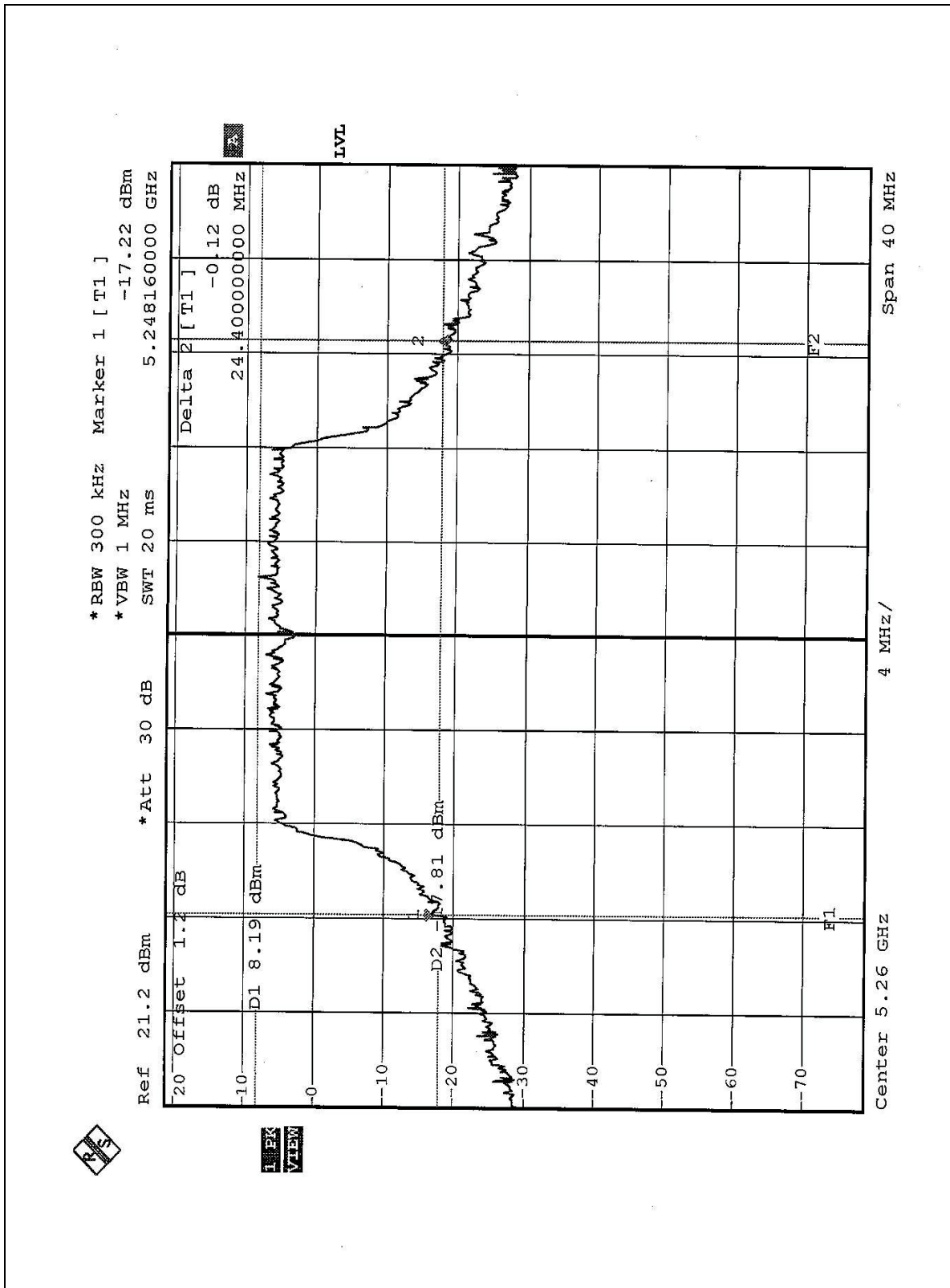
CHANNEL 1



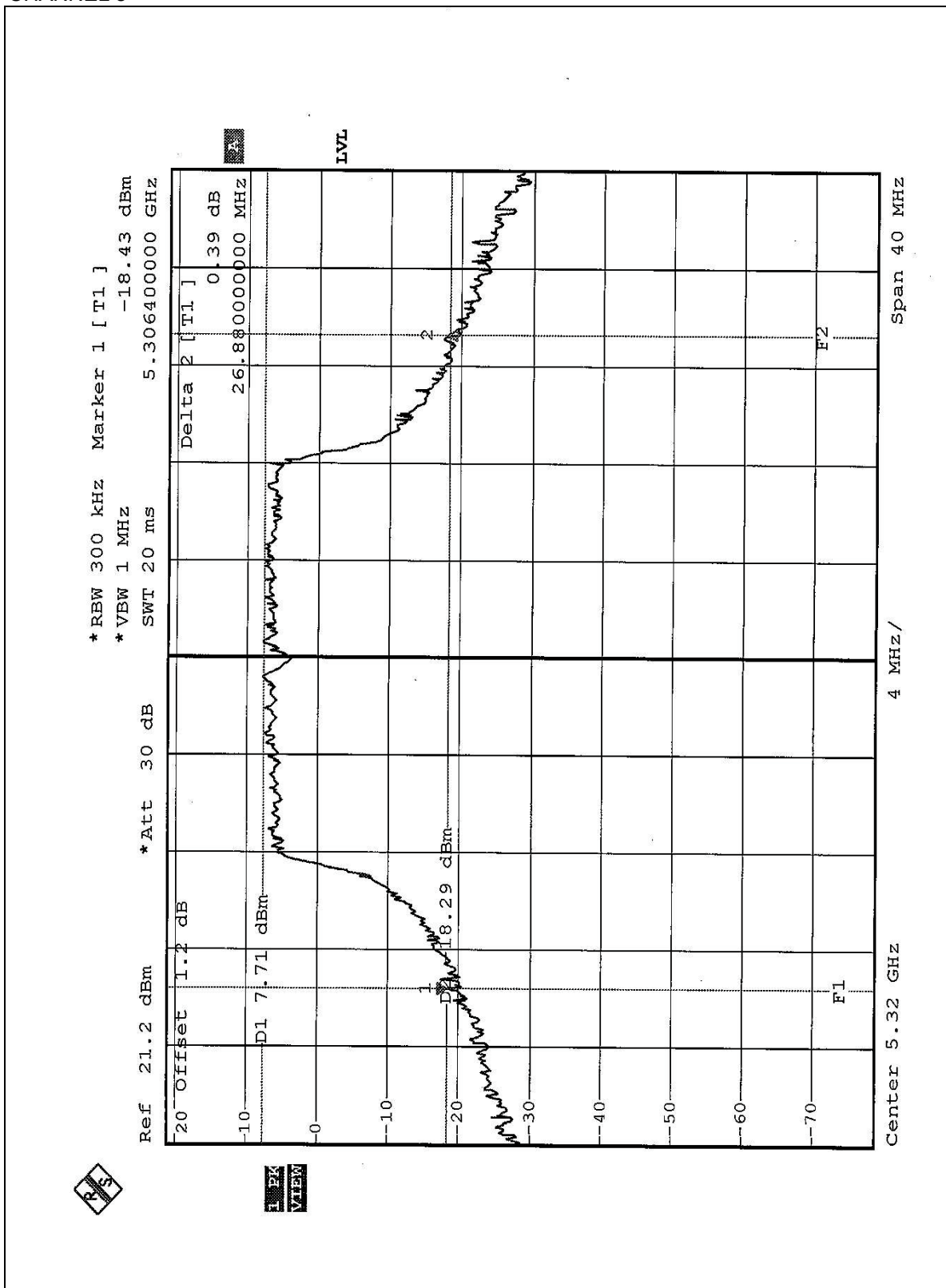
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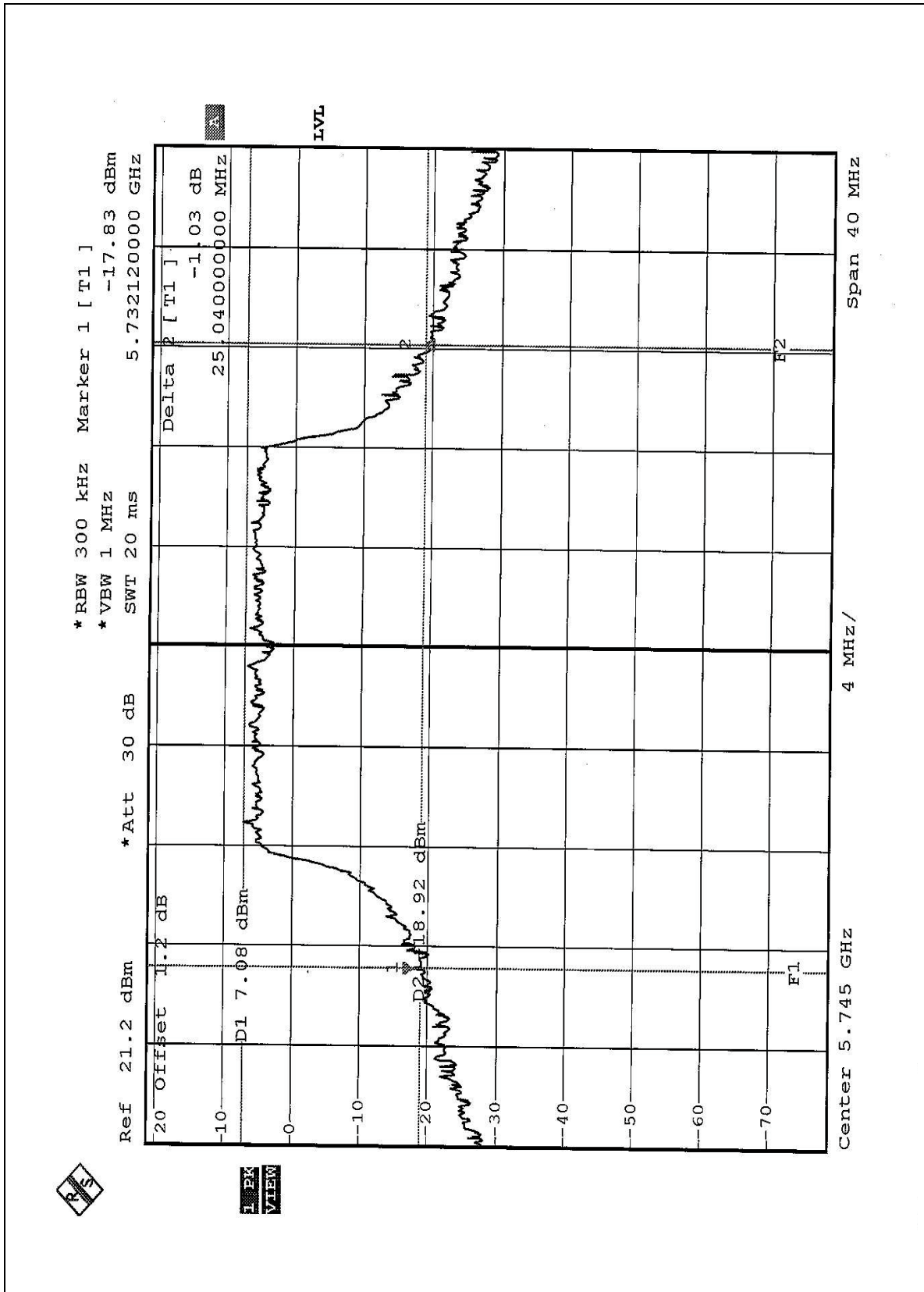
CHANNEL 5



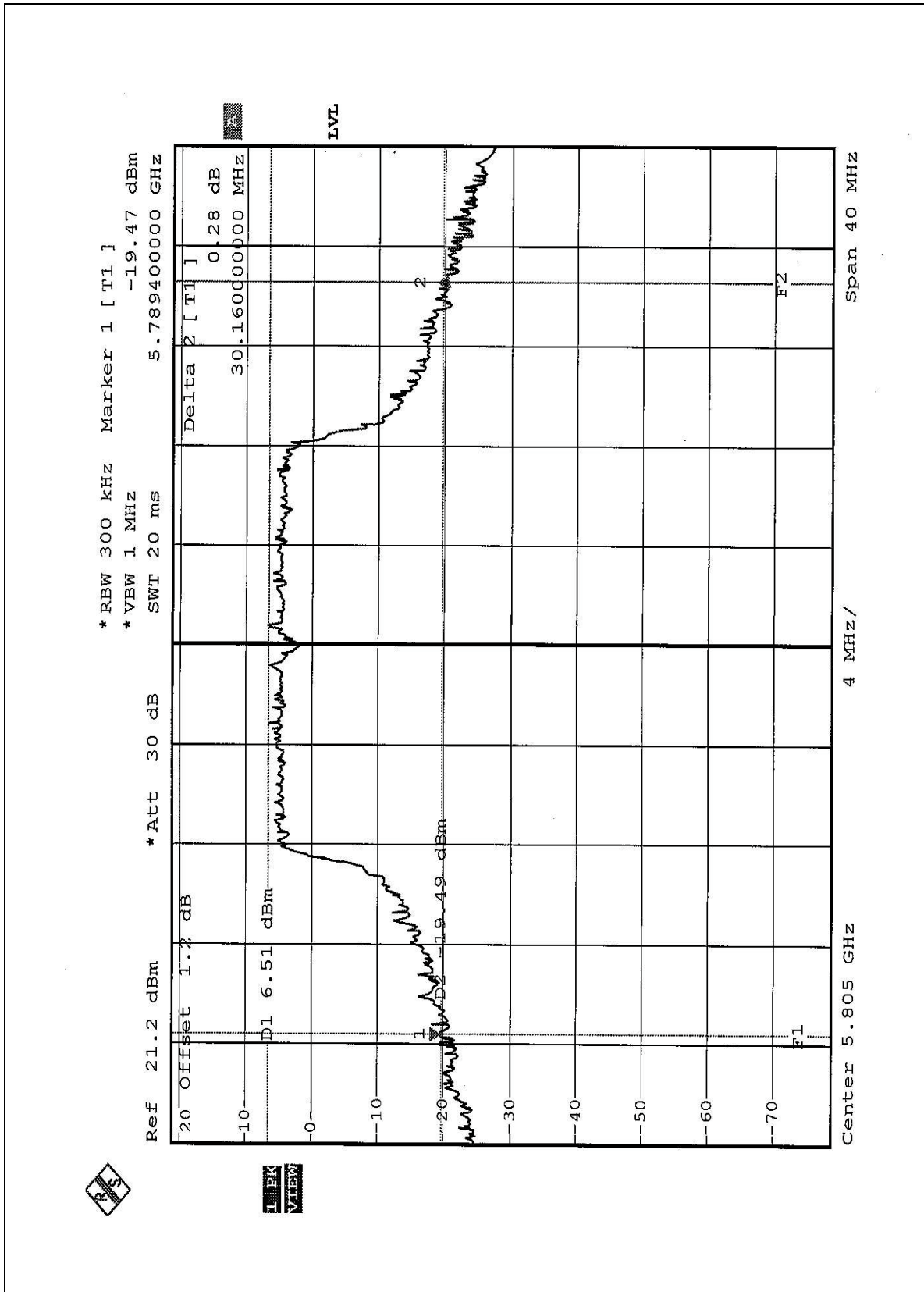
CHANNEL 8



CHANNEL 9



CHANNEL 12



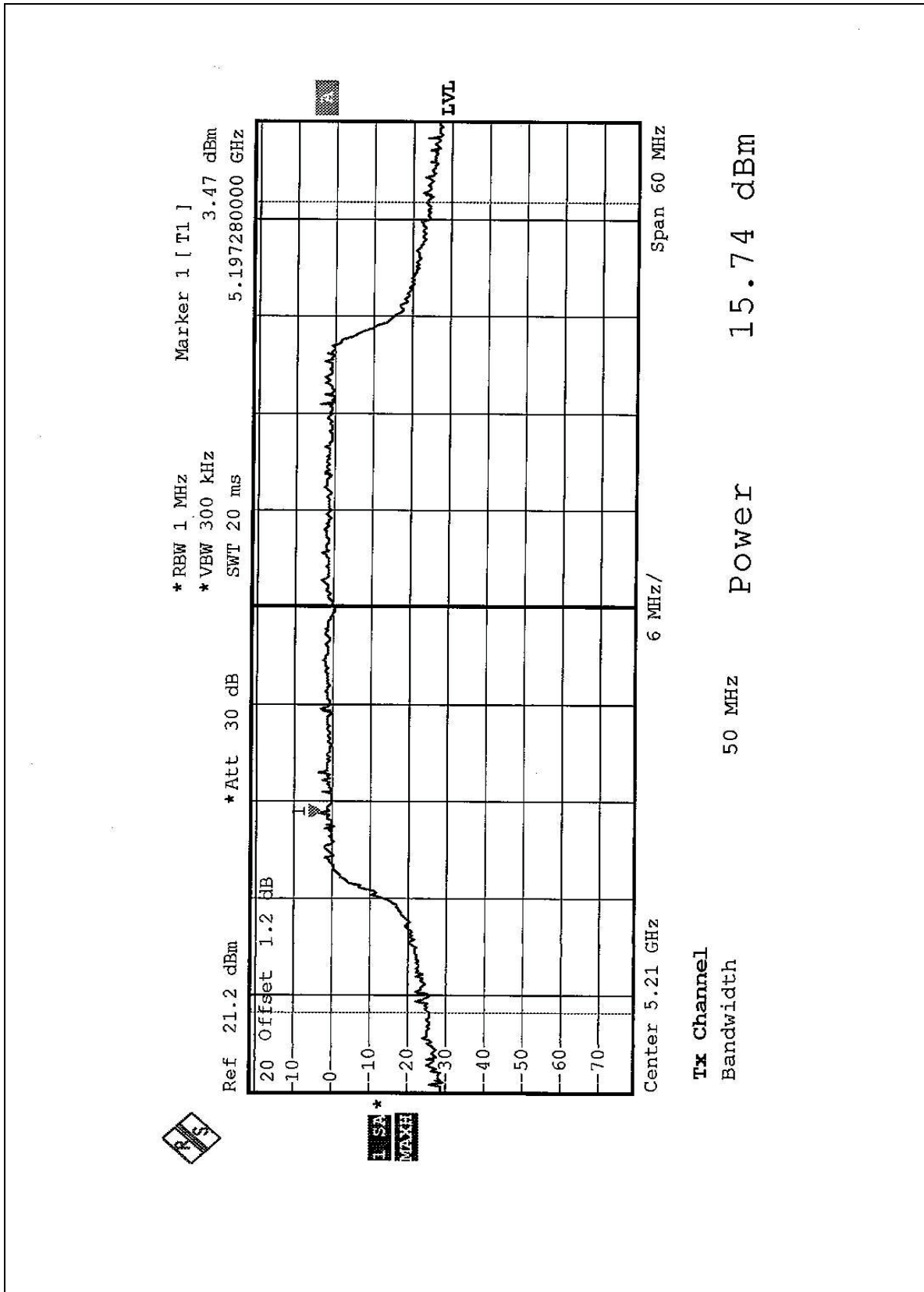


EUT	Dual-Band A+G Wireless Network PCI Adapter v1.1	MODEL	WMP55AG v1.1
MODE	Turbo	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	27deg. C, 62%RH, 991hPa	TESTED BY	Ansen Lei

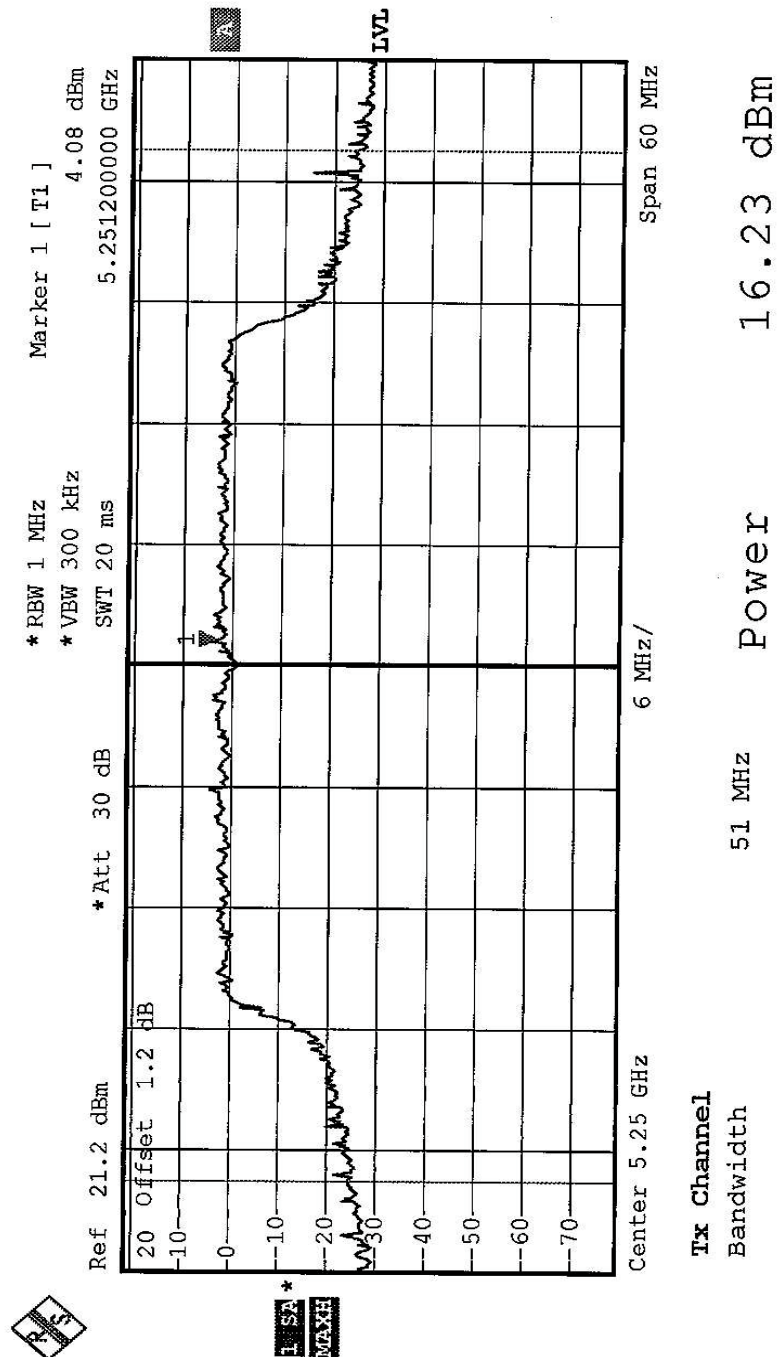
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5210	15.74	17.00	49.84	PASS
2	5250	16.23	17.00	50.26	PASS
3	5290	15.32	24.00	49.98	PASS
4	5760	14.37	30.00	51.24	PASS
5	5800	14.43	30.00	54.84	PASS

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

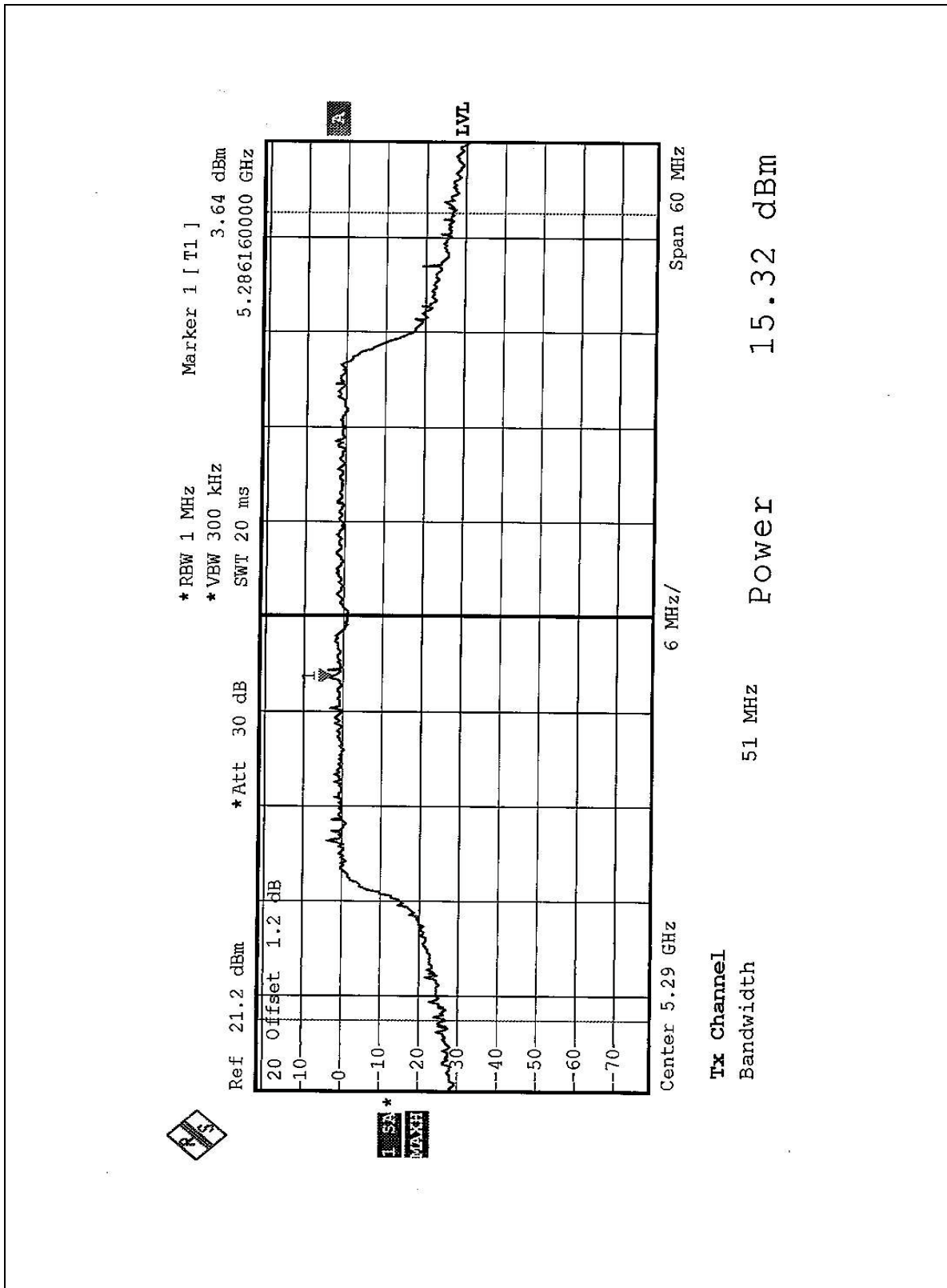
CHANNEL 1



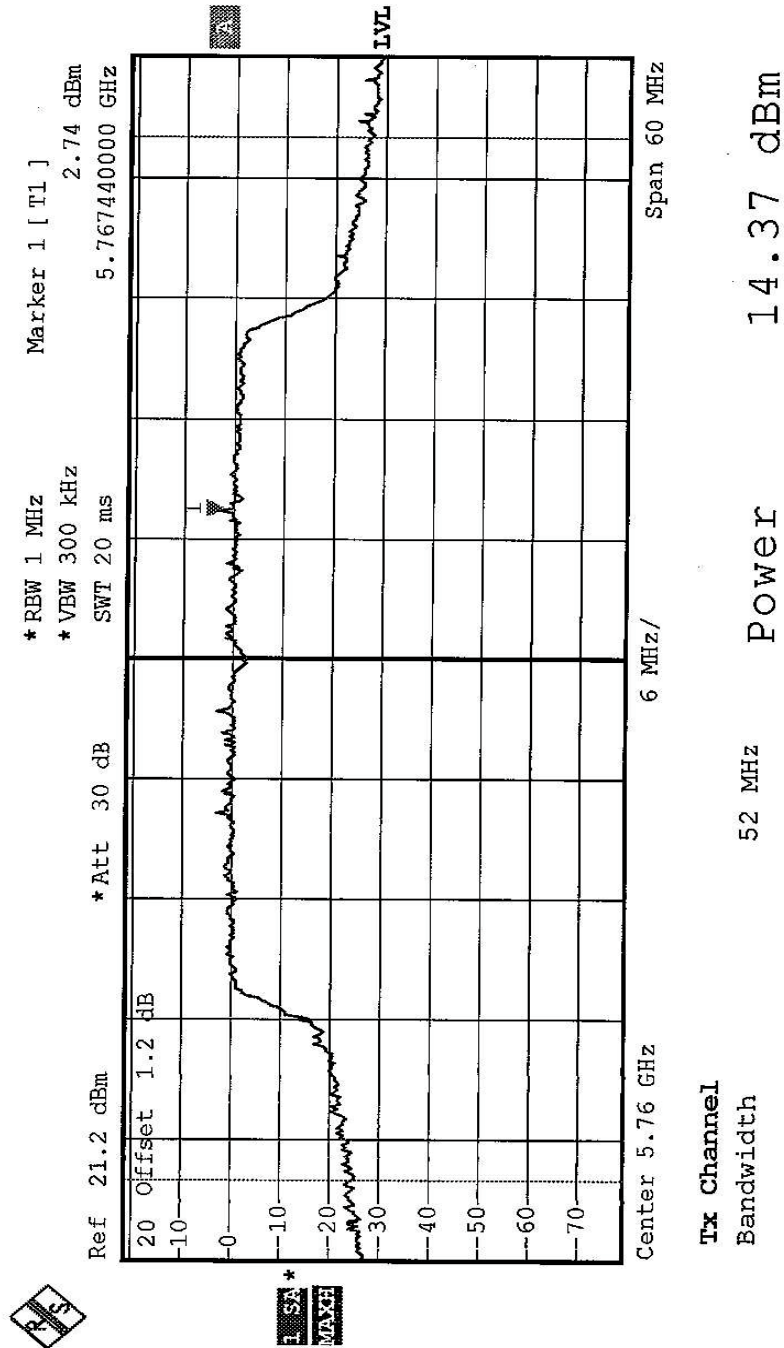
CHANNEL 2



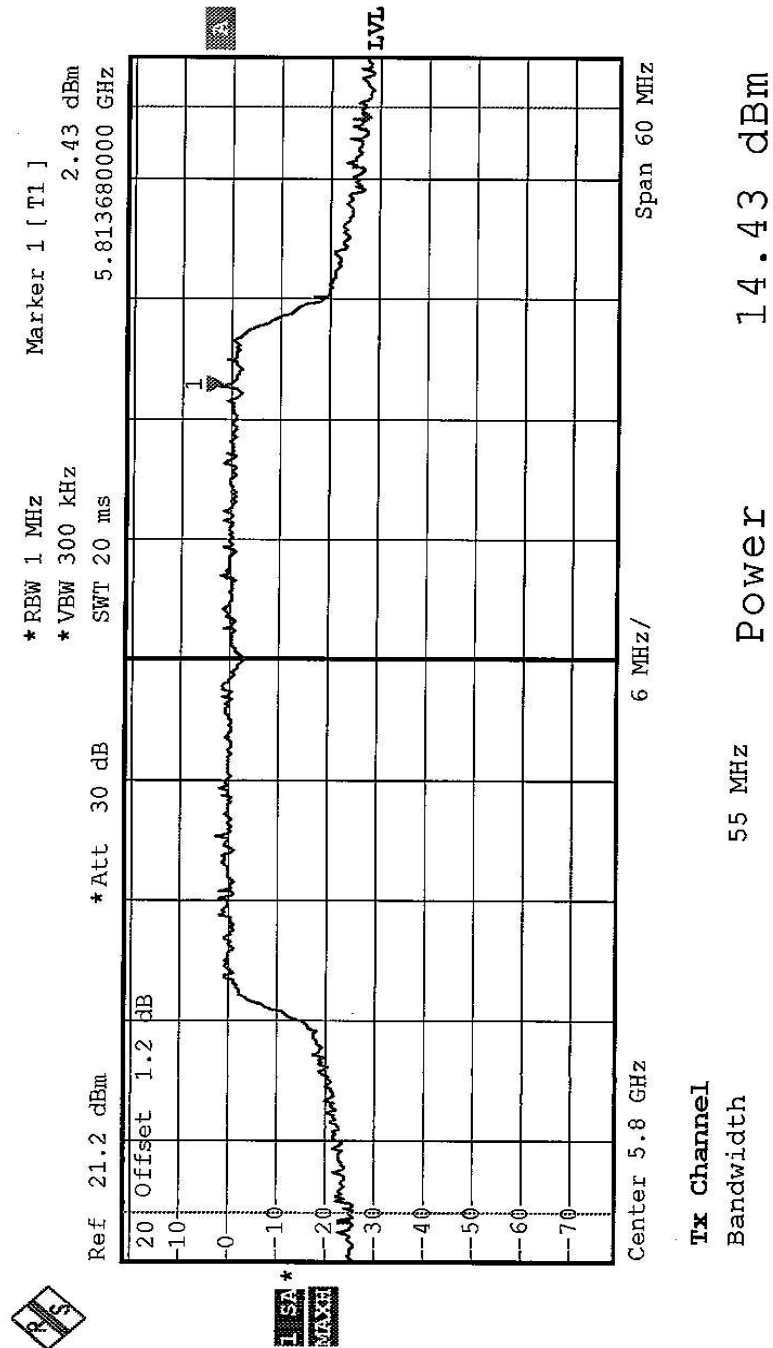
CHANNEL 3



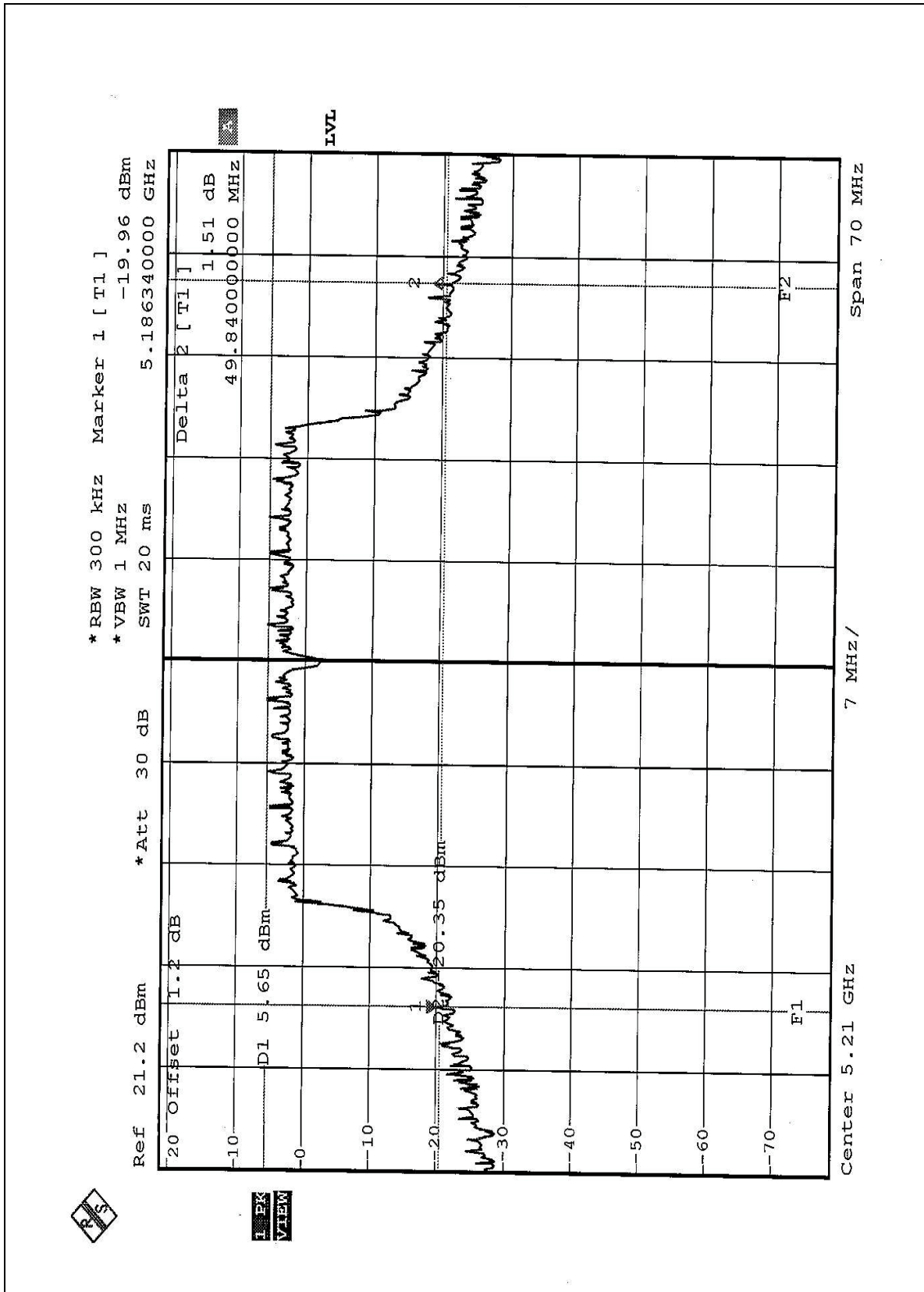
CHANNEL 4



CHANNEL 5

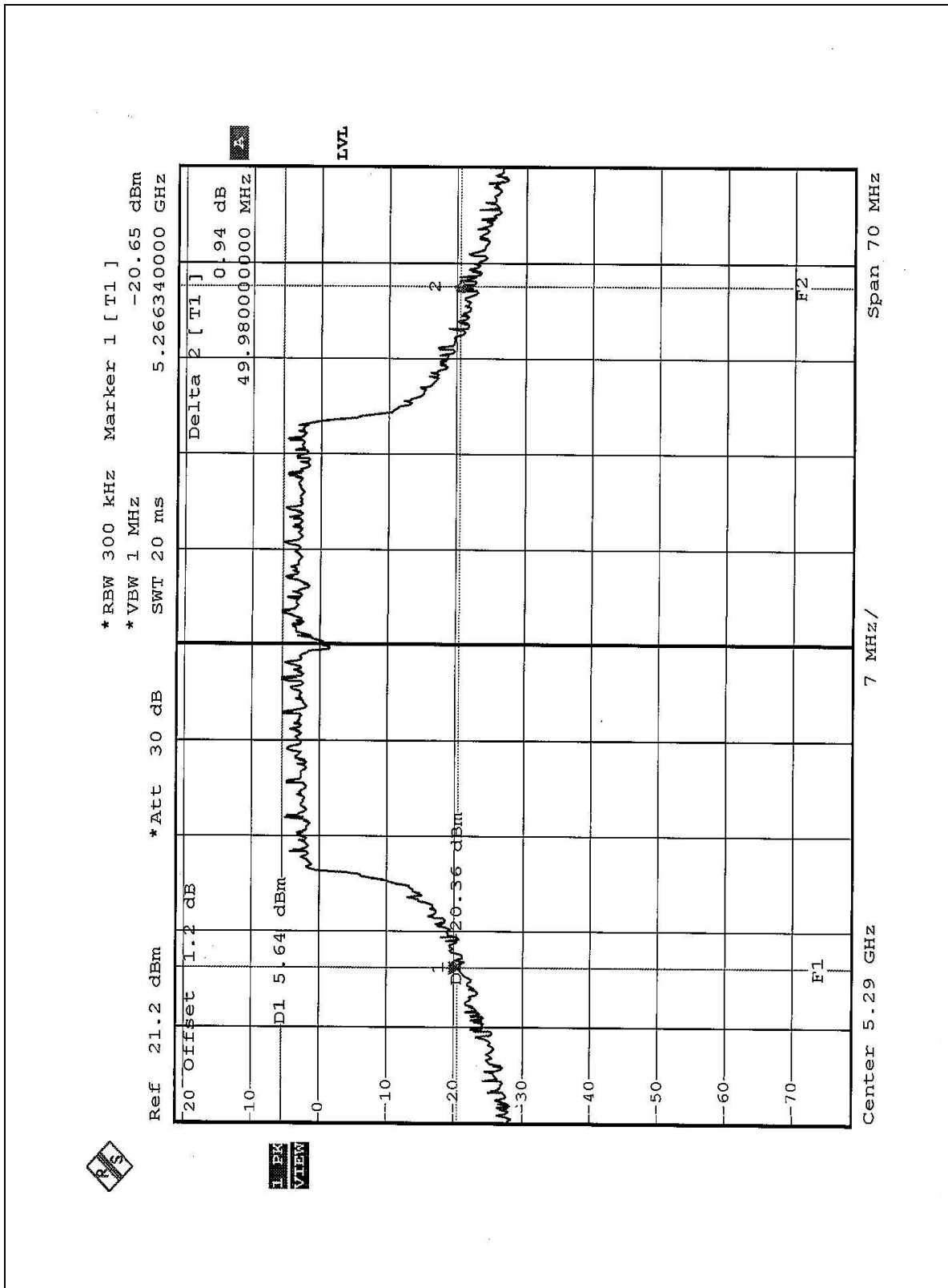


CHANNEL 1

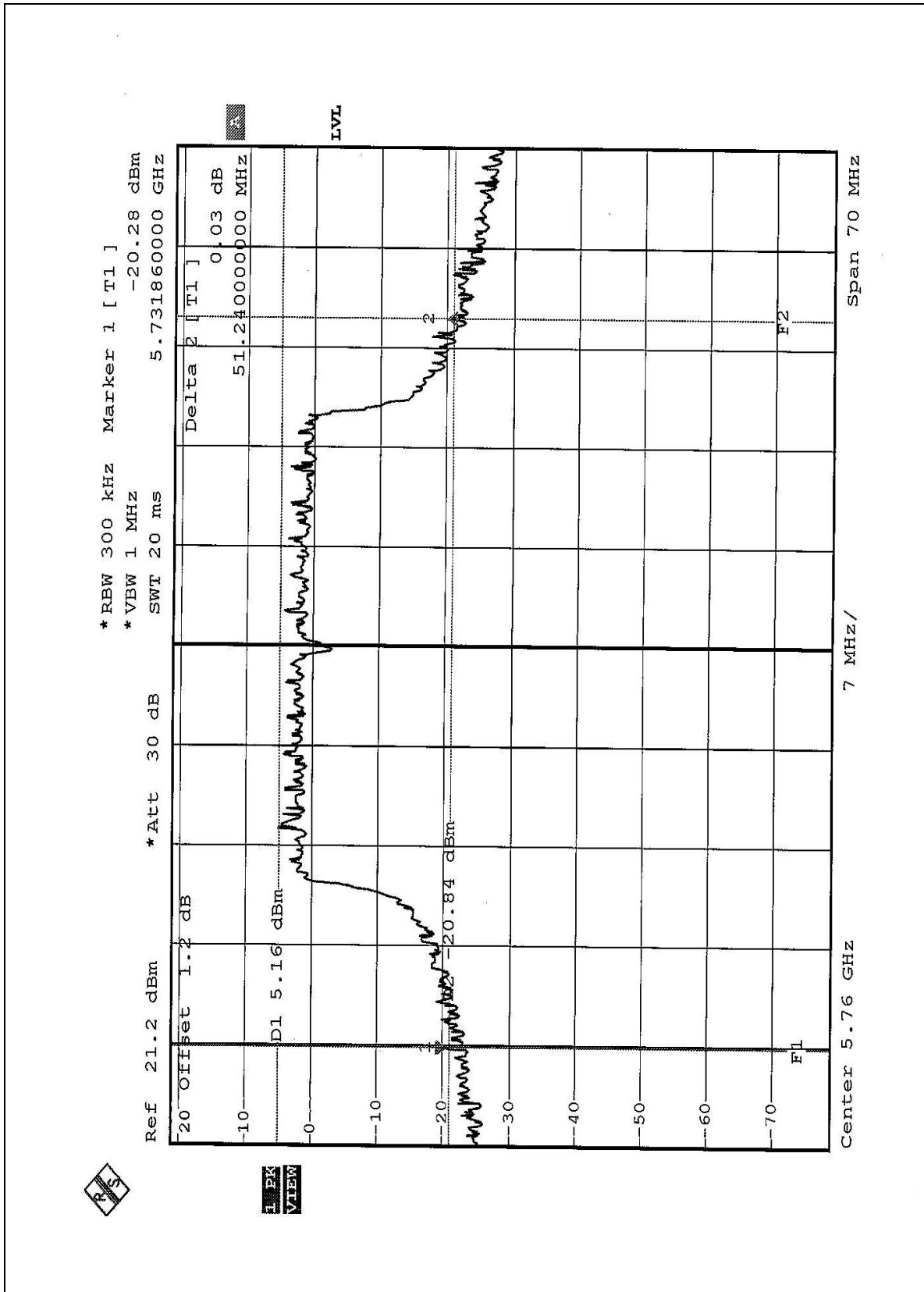


* RBW 300 kHz Marker 1 [T1]
 * VBW 1 MHz
 Ref 21.2 dBm * Att 30 dB
 SWT 20 ms
 Delta 2 [T1]
 1.25 dB
 50.26000000 MHz
 LVL
 F1
 F2
 Center 5.25 GHz Span 70 MHz

CHANNEL 3



CHANNEL 4



CHANNEL 5

