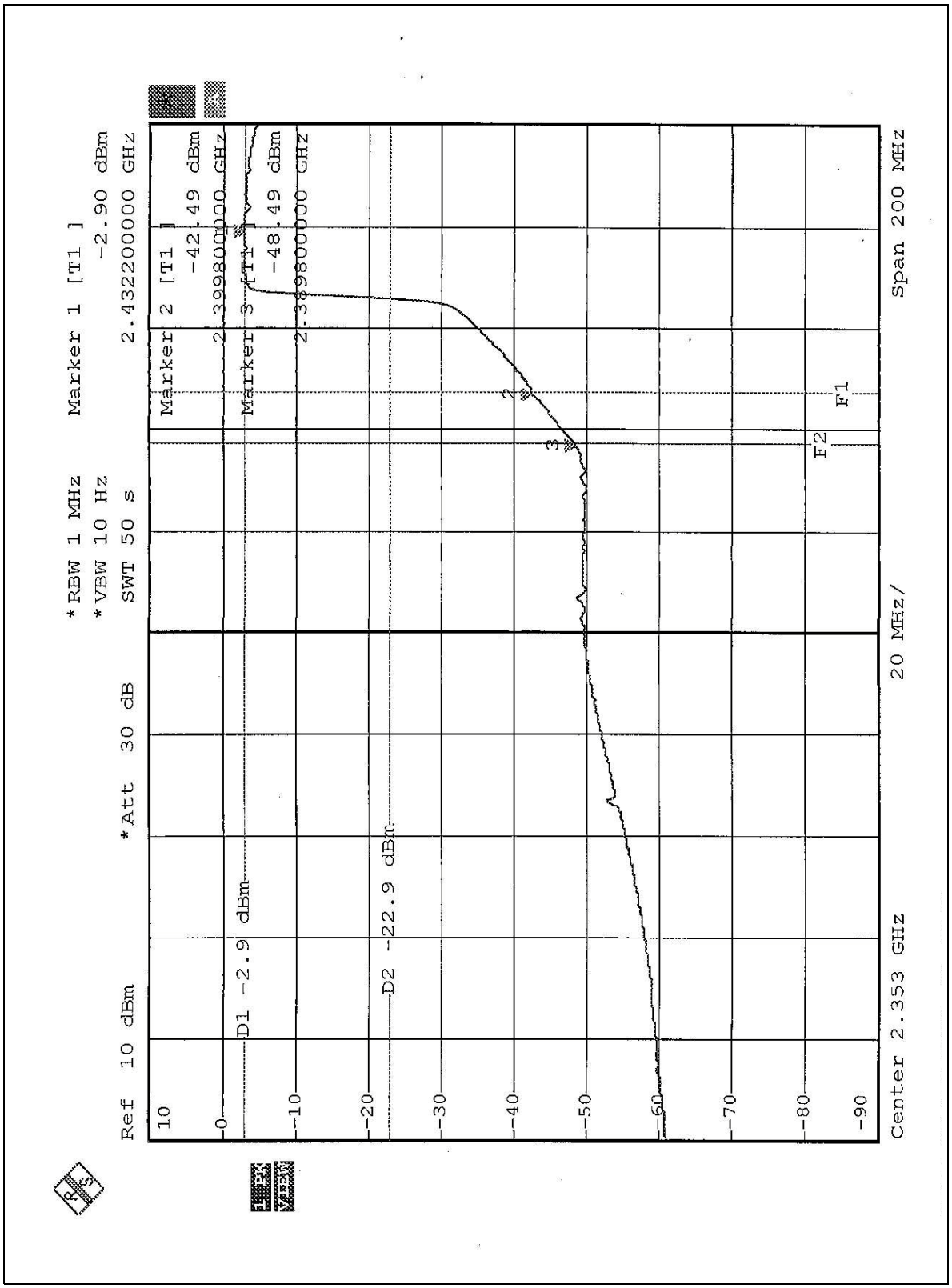
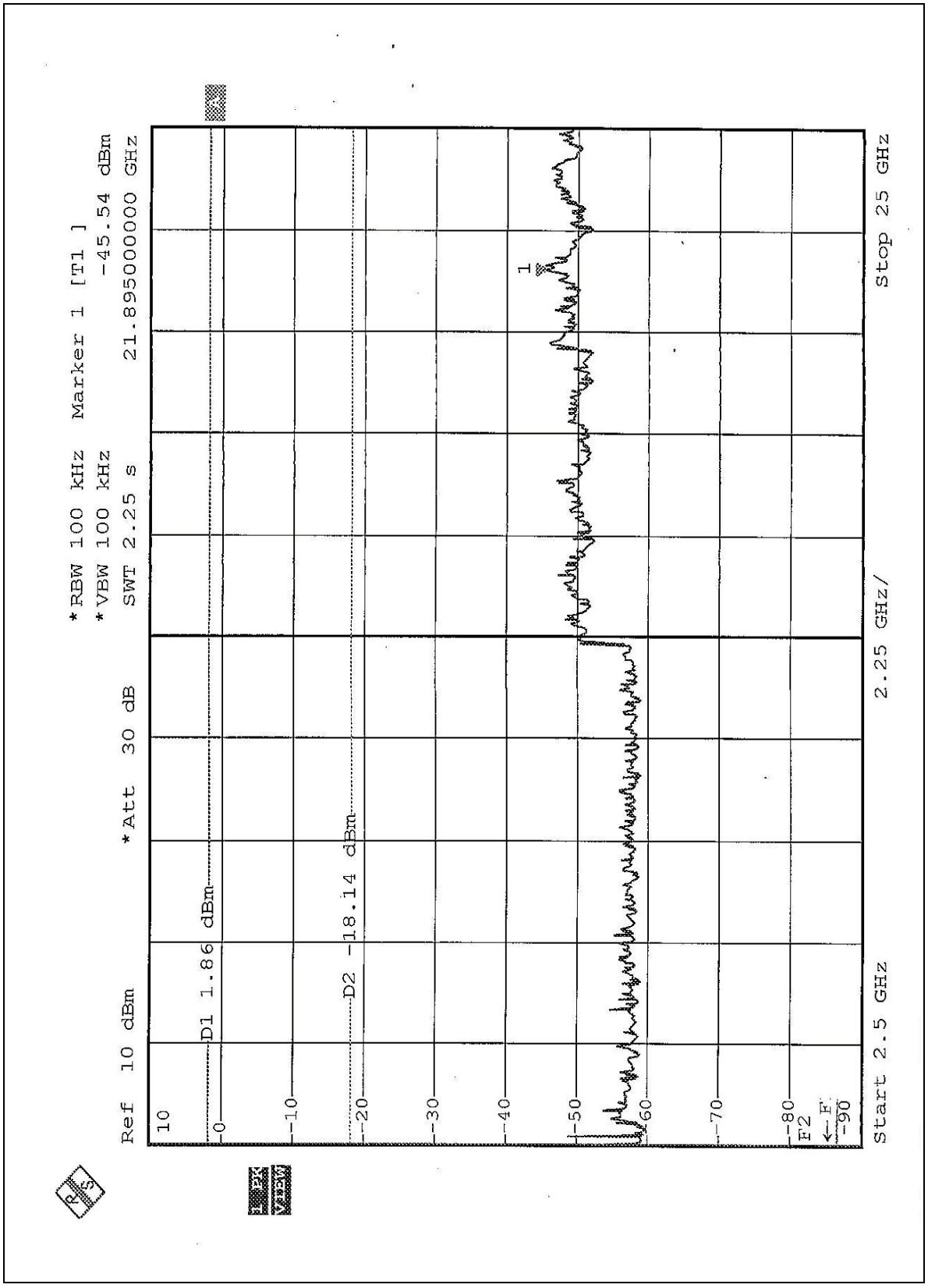
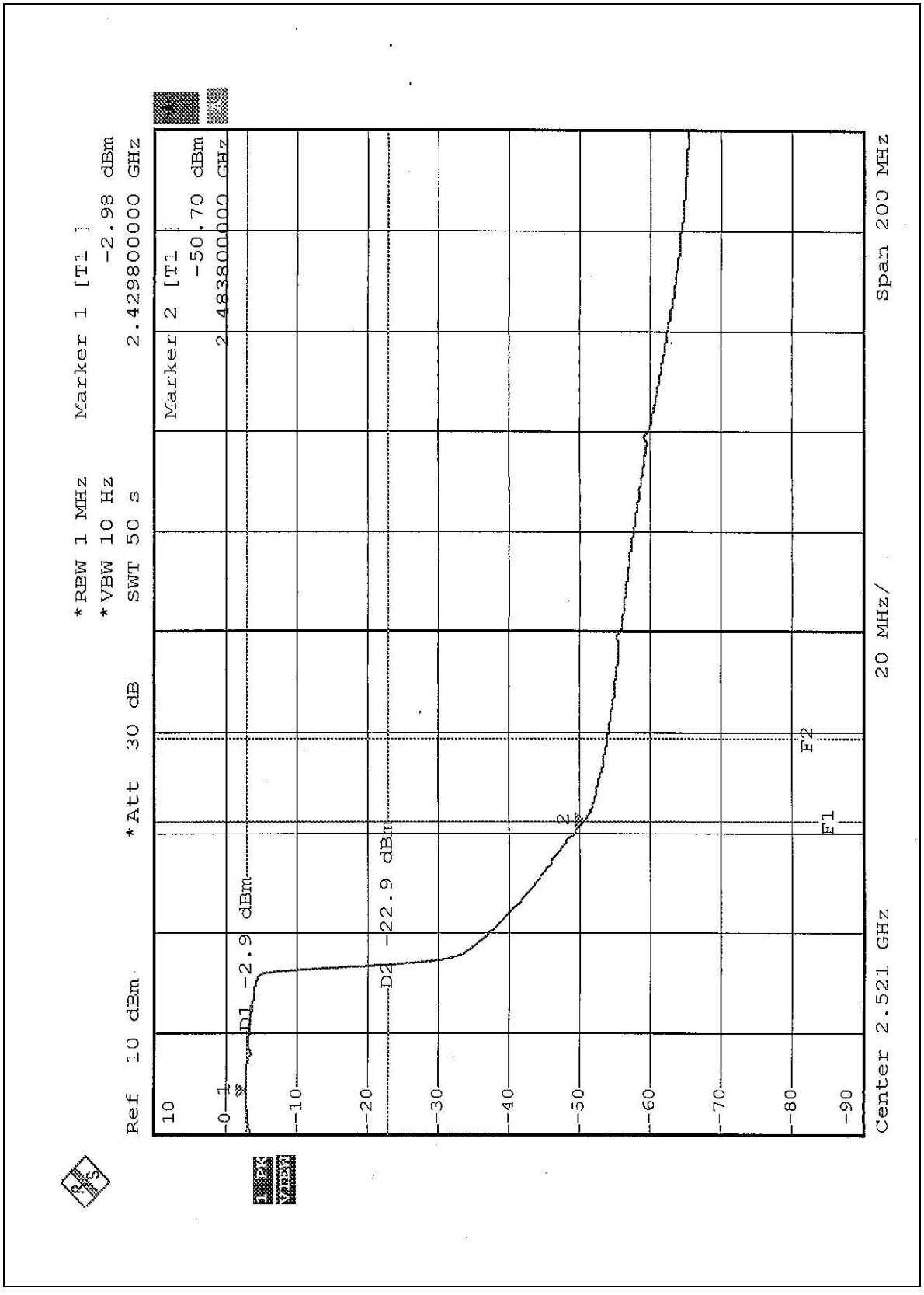
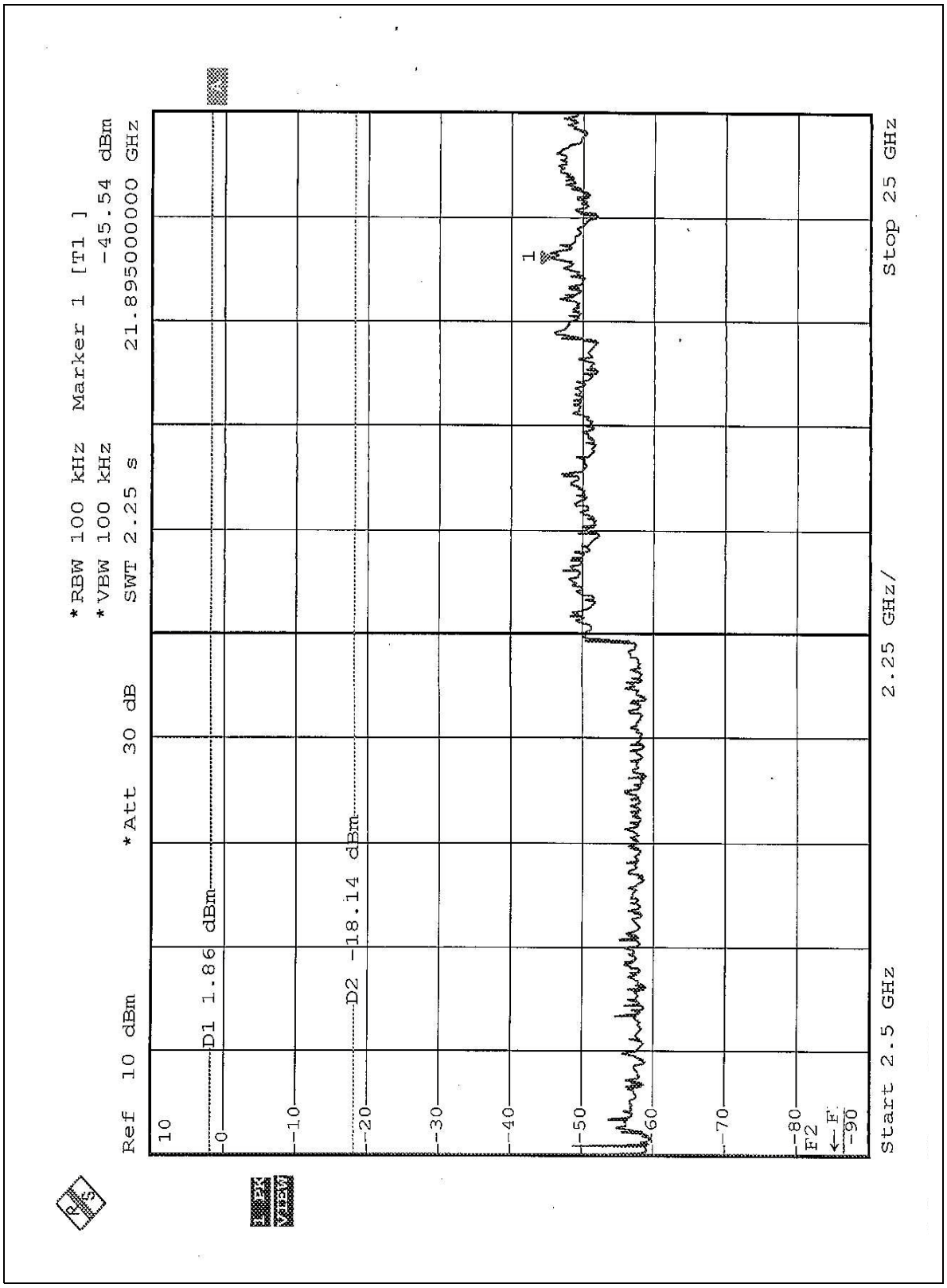
OFDM (Turbo mode)




*RBW 100 kHz
*VBW 100 kHz
SWT 2.25 s
Marker 1 [T1]
-45.54 dBm
21.89500000 GHz
Ref 10 dBm
*Att 30 dB
D1 1.86 dBm
D2 -18.14 dBm
Start 2.5 GHz
2.25 GHz/
Stop 25 GHz
F2


RBW 1 MHz
VBW 10 Hz
SWT 50 s
Att 30 dB
Ref 10 dBm
Marker 1 [T1]
-2.98 dBm
2.429800000 GHz
Marker 2 [T1]
-50.70 dBm
2.483800000 GHz
D1 -2.9 dBm
D4 -22.9 dBm
F1
F2
Center 2.521 GHz
20 MHz/
Span 200 MHz


Ref 10 dBm
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 2.25 s
Marker 1 [T1]
-45.54 dBm
21.89500000 GHz
D1 1.86 dBm
D2 -18.14 dBm
Start 2.5 GHz
2.25 GHz/
Stop 25 GHz
F2
F

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 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	ESHS 30	828765/002	July 15, 2004
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	835239/001	Apr. 28, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	835239/002	Apr. 28, 2004
ROHDE & SCHWARZ 4-wire ISN	ENY41	935154/007	Apr. 30, 2004
ROHDE & SCHWARZ 2-wire ISN	ENY22	833823/026	Apr. 30, 2004
Software	Cond-V2M3	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C09.01	May 23, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010789	Jun. 04, 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. 9.
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.

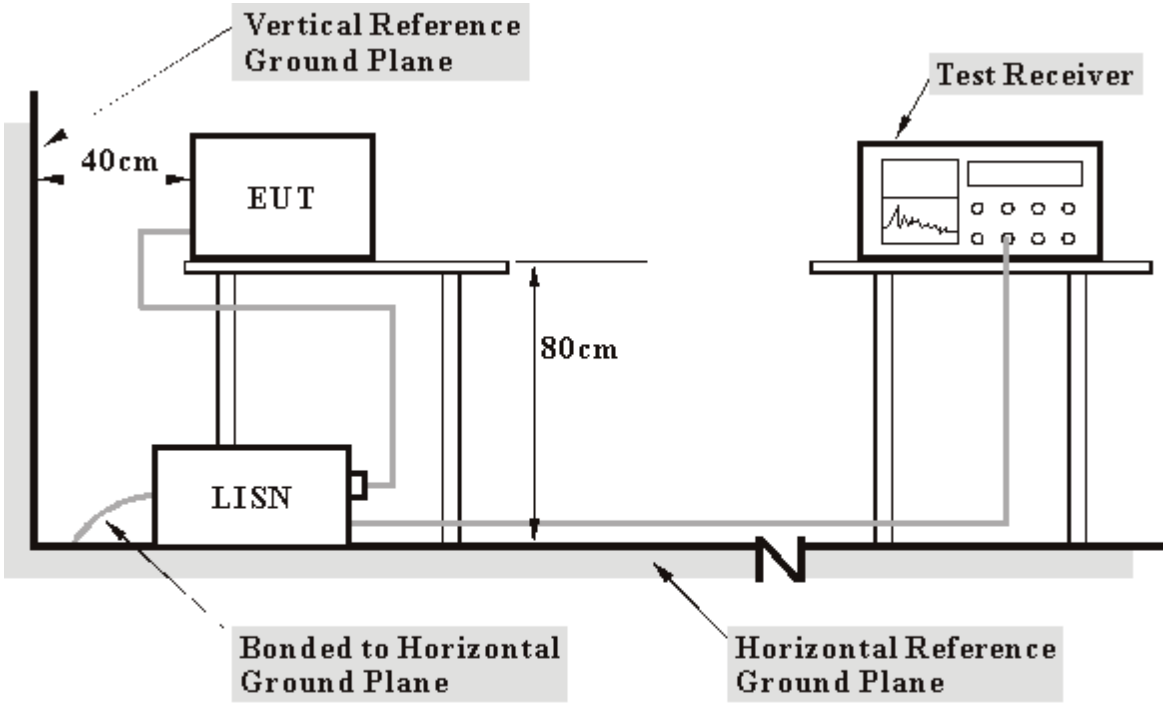
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

4.7.3 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.

5.1.5 EUT OPERATING CONDITIONS

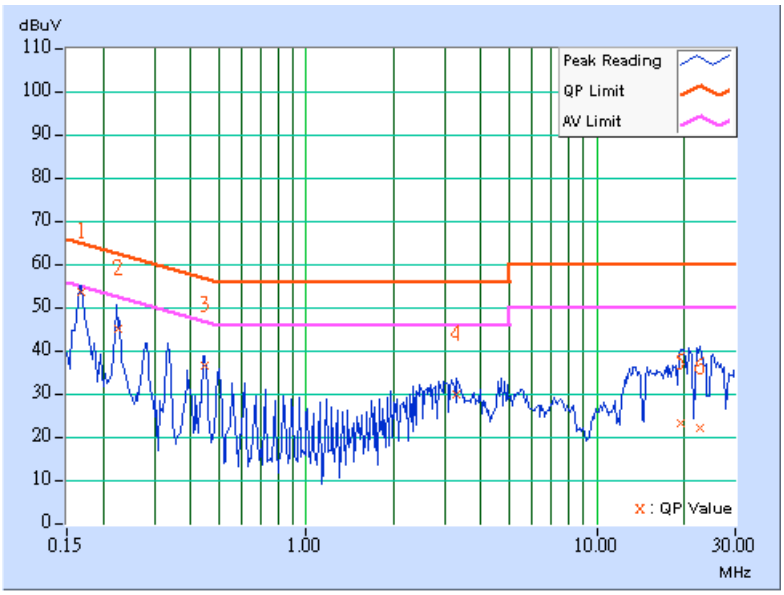
Same as 4.1.6.

5.1.6 TEST RESULTS

EUT	Atheros 11a/g Mini-PCI Adapter	MODEL	NL-5354MP Plus Aries2
INPUT POWER (SYSTEM)	120Vac, 60 Hz	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	30deg. C, 85%RH, 991hPa	PHASE	Line (L)
TESTED BY	Vincent Lin		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.168**	**0.10**	**52.47**	**-**	**52.57**	**-**	**65.06**	**55.06**	**-12.49**	**-**
2	0.225	0.11	44.15	-	44.26	-	62.63	52.63	-18.37	-
3	0.446	0.20	35.50	-	35.70	-	56.95	46.95	-21.25	-
4	3.290	0.26	28.82	-	29.08	-	56.00	46.00	-26.92	-
5	19.522	1.08	22.26	-	23.34	-	60.00	50.00	-36.66	-
6	22.601	1.20	21.09	-	22.29	-	60.00	50.00	-37.71	-

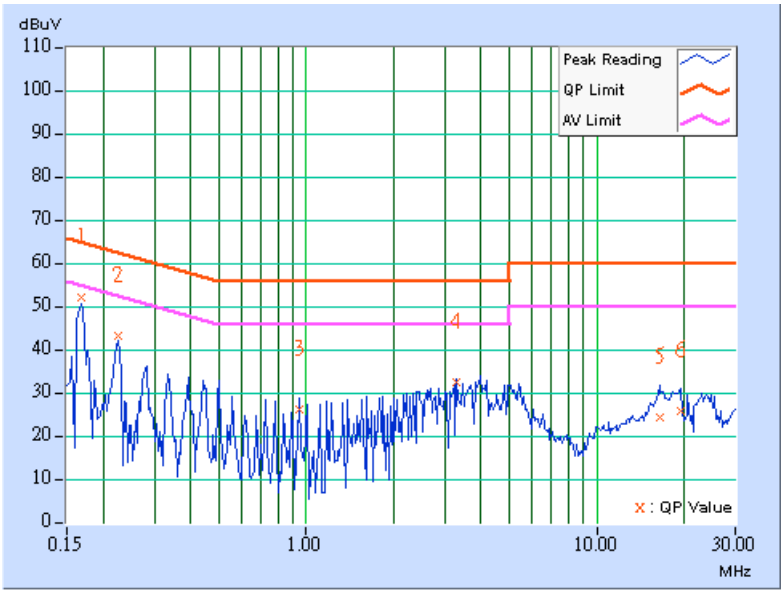
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9kHz
ENVIRONMENTAL CONDITIONS	30deg. C, 85%RH, 991hPa	**PHASE**	Neutral (N)
TESTED BY	Vincent Lin		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.168	0.10	51.32	-	51.42	-	65.06	55.06	-13.64	-
2	0.225	0.11	42.29	-	42.40	-	62.63	52.63	-20.23	-
3	0.948	0.20	25.31	-	25.51	-	56.00	46.00	-30.49	-
4	3.289	0.20	31.87	-	32.07	-	56.00	46.00	-23.93	-
5	16.502	0.83	23.70	-	24.53	-	60.00	50.00	-35.47	-
6	19.355	0.89	24.86	-	25.75	-	60.00	50.00	-34.25	-

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

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

5.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
* HP Spectrum Analyzer	8593E	3911A07465	Jul. 7, 2004
* HP Preamplifier	8447D	2432A03504	Jun. 10, 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	
* ROHDE & SCHWARZ Test Receiver	ESI7	838496/016	Feb. 08, 2005
* Schwarzbeck Antenna	VULB9168	137	Feb. 27, 2005
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jun. 30, 2004
* ADT. Turn Table	TT100	0306	NA
* ADT. Tower	AT100	0306	NA
* Software	ADT_Radiated_V5.14	NA	NA
* TIMES RF cable	LL142	CABLE-CH6-01	Apr. 30, 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 Chamber No. 6.

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.

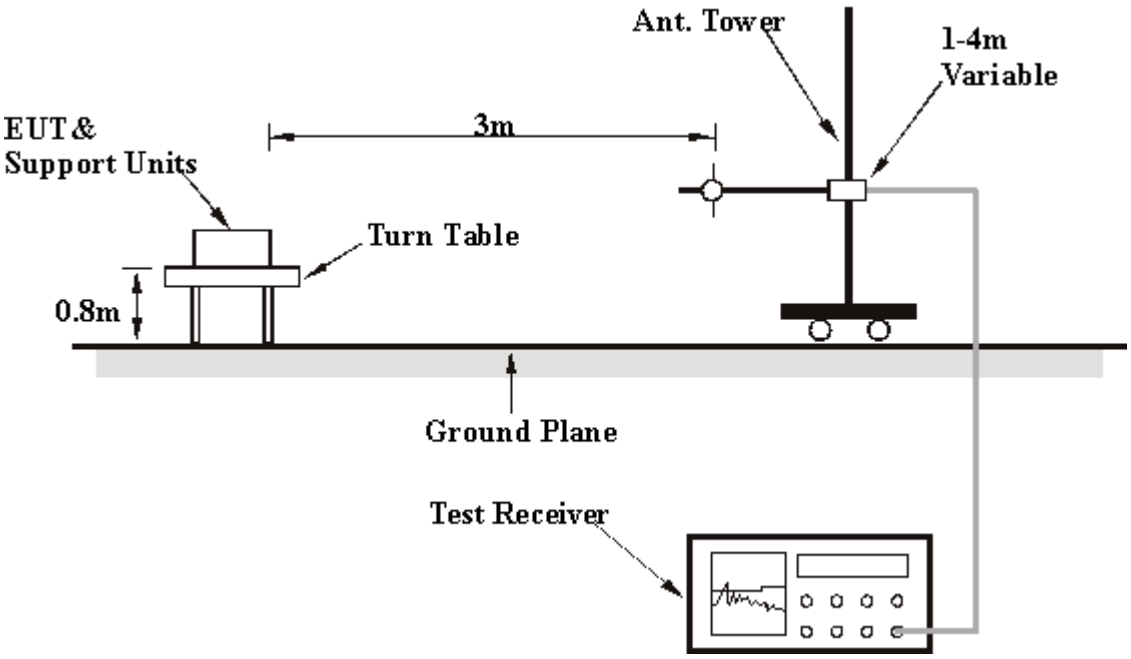
NOTE:

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	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
FREQUENCY RANGE	Below 1000MHz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	133.36	37.13 QP	43.50	-6.37	3.70 H	208	24.88	12.25
2	167.00	36.64 QP	43.50	-6.86	2.17 H	204	26.38	10.26
3	200.10	38.68 QP	43.50	-4.82	1.75 H	167	28.36	10.32
4	234.30	37.30 QP	46.00	-8.70	2.42 H	348	24.89	12.41
5	301.41	37.86 QP	46.00	-8.14	1.17 H	69	22.42	15.44
6	401.04	39.65 QP	46.00	-6.35	1.00 H	133	21.56	18.09

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.

EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
FREQUENCY RANGE	Below 1000MHz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	99.27	39.86 QP	43.50	-3.64	1.00 H	220	28.85	11.01
2	133.91	39.79 QP	43.50	-3.71	2.60 H	125	27.56	12.23
3	166.82	37.03 QP	43.50	-6.47	1.00 H	73	26.76	10.27
4	200.05	36.25 QP	43.50	-7.25	2.02 H	171	25.94	10.31
5	233.53	33.99 QP	46.00	-12.01	1.04 H	315	21.63	12.36
6	301.25	37.13 QP	46.00	-8.87	1.23 H	321	21.69	15.44

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.

EUT	Atheros 11a/g Mini-PCI Adapter	MODEL	NL-5354MP Plus Aries2
MODE	Normal Mode	CHANNEL	1
FREQUENCY RANGE	1~40GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	43.40 PK	74.00	-30.60	2.07 H	99	5.44	37.96
1	#5150.00	33.29 AV	54.00	-20.71	2.07 H	99	-4.67	37.96
2	*5180.00	97.07 PK			2.07 H	99	59.04	38.03
2	*5180.00	86.96 AV			2.07 H	99	48.93	38.03
3	10360.00	53.19 PK	68.30	-15.11	1.00 H	277	8.16	45.03

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	55.10 PK	74.00	-18.90	1.53 V	249	17.14	37.96
1	#5150.00	43.76 AV	54.00	-10.24	1.53 V	249	5.80	37.96
2	*5180.00	108.77 PK			1.53 V	249	70.74	38.03
2	*5180.00	97.43 AV			1.53 V	249	59.40	38.03
3	10360.00	56.66 PK	68.30	-11.64	1.00 V	119	11.63	45.03

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	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Normal Mode	**CHANNEL**	4
FREQUENCY RANGE	1 ~40 GHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	96.84 PK			1.88 H	100	58.66	38.18
1	*5240.00	86.01 AV			1.88 H	100	47.83	38.18
2	10480.00	53.26 PK	68.30	-15.04	1.03 H	268	8.32	44.94

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	106.49 PK			1.41 V	248	68.31	38.18
1	*5240.00	96.67 AV			1.41 V	248	58.49	38.18
2	10480.00	56.32 PK	68.30	-11.98	1.00 V	125	11.38	44.94

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

EUT	Atheros 11a/g Mini-PCI Adapter	MODEL	NL-5354MP Plus Aries2
MODE	Normal Mode	CHANNEL	5
FREQUENCY RANGE	1 ~40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	96.14 PK			1.99 H	101	57.92	38.22
1	*5260.00	85.81 AV			1.99 H	101	47.59	38.22
2	10520.00	52.69 PK	68.30	-15.61	1.00 H	273	7.81	44.88

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	106.43 PK			1.54 V	249	68.21	38.22
1	*5260.00	96.30 AV			1.54 V	249	58.08	38.22
2	10520.00	55.97 PK	68.30	-12.33	1.00 V	249	11.09	44.88

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

EUT	Atheros 11a/g Mini-PCI Adapter	MODEL	NL-5354MP Plus Aries2
MODE	Normal Mode	CHANNEL	8
FREQUENCY RANGE	1 ~40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	98.25 PK			2.10 H	101	59.92	38.33
1	*5320.00	88.18 AV			2.10 H	101	49.85	38.33
2	#5350.00	48.43 PK	74.00	-25.57	2.10 H	101	10.08	38.35
2	#5350.00	38.36 AV	54.00	-15.64	2.10 H	101	0.001	38.35
3	#10640.00	50.11 PK	74.00	-23.89	1.02 H	285	5.33	44.78
3	#10640.00	39.88 AV	54.00	-14.12	1.01 H	285	-4.90	44.78

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	108.14 PK			1.65 V	218	69.81	38.33
1	*5320.00	97.51 AV			1.65 V	218	59.18	38.33
2	#5350.00	58.32 PK	74.00	-15.68	1.65 V	218	19.97	38.35
2	#5350.00	47.69 AV	54.00	-6.31	1.65 V	218	9.34	38.35
3	#10640.00	55.72 PK	74.00	-18.28	1.00 V	106	10.94	44.78
3	#10640.00	43.74 AV	54.00	-10.26	1.00 V	106	-1.04	44.78

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	Atheros 11a/g Mini-PCI Adapter	MODEL	NL-5354MP Plus Aries2
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	1 ~40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	66.54 PK	77.18	-10.64	1.63 H	47	27.44	39.10
2	*5745.00	97.18 PK			1.63 H	47	58.01	39.17
2	*5745.00	87.27 AV			1.63 H	47	48.10	39.17
3	#11490.00	52.14 PK	74.00	-21.86	1.09 H	277	6.06	46.08
3	#11490.00	40.28 AV	54.00	-13.72	1.09 H	277	-5.80	46.08

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	74.27 PK	87.92	-13.65	1.34 V	238	35.17	39.10
2	*5745.00	107.92 PK			1.34 V	238	68.75	39.17
2	*5745.00	97.19 AV			1.34 V	238	58.02	39.17
3	#11490.00	55.47 PK	74.00	-18.53	1.00 V	82	9.39	46.08
3	#11490.00	43.01 AV	54.00	-10.99	1.00 V	82	-3.07	46.08

NOTE:

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

EUT	Atheros 11a/g Mini-PCI Adapter	MODEL	NL-5354MP Plus Aries2
MODE	Normal Mode	CHANNEL	11
FREQUENCY RANGE	1 ~40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	97.82 PK			1.85 H	338	58.51	39.31
1	*5785.00	87.38 AV			1.85 H	338	48.07	39.31
2	#11570.00	53.26 PK	74.00	-20.74	1.31 H	222	7.05	46.21
2	#11570.00	40.30 AV	54.00	-13.70	1.31 H	222	-5.91	46.21

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	108.45 PK			1.44 V	231	69.14	39.31
1	*5785.00	98.12 AV			1.44 V	231	58.81	39.31
2	#11570.00	55.80 PK	74.00	-18.20	1.00 V	93	9.59	46.21
2	#11570.00	43.26 AV	54.00	-10.74	1.00 V	93	-2.95	46.21

NOTE:

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

EUT	Atheros 11a/g Mini-PCI Adapter	MODEL	NL-5354MP Plus Aries2
MODE	Normal Mode	CHANNEL	13
FREQUENCY RANGE	1 ~40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	99.30 PK			1.77 H	338	59.94	39.36
1	*5825.00	88.94 AV			1.77 H	338	49.58	39.36
2	5850.00	66.34 PK	79.30	-12.96	1.77 H	338	26.97	39.37
3	#11650.00	52.16 PK	74.00	-21.84	1.33 H	269	5.74	46.42
3	#11650.00	40.32 AV	54.00	-13.68	1.33 H	269	-6.10	46.42

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	109.50 PK			1.42 V	334	70.14	39.36
1	*5825.00	99.16 AV			1.42 V	334	59.80	39.36
2	5850.00	68.18 PK	89.50	-21.32	1.42 V	334	28.81	39.37
3	#11650.00	56.33 PK	74.00	-17.67	1.00 V	96	9.91	46.42
3	#11650.00	43.28 AV	54.00	-10.72	1.00 V	96	-3.14	46.42

NOTE:

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

EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Turbo Mode	**CHANNEL**	1
FREQUENCY RANGE	1 ~40 GHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	40.49 PK	74.00	-33.51	2.12 H	97	2.53	37.96
1	#5150.00	30.49 AV	54.00	-23.51	2.12 H	97	-7.47	37.96
2	*5210.00	93.30 PK			2.12 H	97	55.20	38.10
2	*5210.00	83.30 AV			2.12 H	97	45.20	38.10
3	10420.00	53.69 PK	68.30	-14.61	1.00 H	266	8.64	45.05

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	52.74 PK	74.00	-21.26	1.50 V	357	14.78	37.96
1	#5150.00	42.57 AV	54.00	-11.43	1.50 V	357	4.64	37.96
2	*5210.00	105.55 PK			1.50 V	357	67.45	38.10
2	*5210.00	95.38 AV			1.50 V	357	57.28	38.10
3	10420.00	56.30 PK	68.30	-12.00	1.00 V	93	11.25	45.05

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	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Turbo Mode	**CHANNEL**	2
FREQUENCY RANGE	1 ~40 GHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	*5250.00	93.43 PK			2.05 H	99	55.23	38.20
1	*5250.00	83.04 AV			2.05 H	99	44.84	38.20
2	10500.00	51.08 PK	68.30	-17.22	1.00 H	270	6.18	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)
1	*5250.00	106.01 PK			1.51 V	356	67.81	38.20
1	*5250.00	95.85 AV			1.51 V	356	57.65	38.20
2	10500.00	55.87 PK	68.30	-12.43	1.12 V	330	10.97	44.90

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.

EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Turbo Mode	**CHANNEL**	3
FREQUENCY RANGE	1 ~40 GHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	*5290.00	94.71 PK			1.99 H	100	56.41	38.30
1	*5290.00	84.85 AV			1.99 H	100	46.55	38.30
2	#5350.00	46.89 PK	74.00	-27.11	1.99 H	100	8.54	38.35
2	#5350.00	37.03 AV	54.00	-16.97	1.99 H	100	-1.32	38.35
3	10580.00	51.66 PK	68.30	-16.64	1.06 H	301	6.83	44.83

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	*5290.00	104.96 PK			1.61 V	294	66.66	38.30
1	*5290.00	94.60 AV			1.61 V	294	56.30	38.30
2	#5350.00	57.14 PK	74.00	-16.86	1.61 V	294	18.79	38.35
2	#5350.00	46.78 AV	54.00	-7.22	1.61 V	294	8.43	38.35
3	10580.00	56.28 PK	68.30	-12.02	1.00 V	85	11.45	44.83

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	Atheros 11a/g Mini-PCI Adapter	MODEL	NL-5354MP Plus Aries2
MODE	Turbo Mode	CHANNEL	4
FREQUENCY RANGE	1 ~40 GHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	5725.00	69.08 PK	73.68	-4.60	1.81 H	46	29.98	39.10
2	*5760.00	93.68 PK			1.81 H	46	54.46	39.22
2	*5760.00	83.62 AV			1.81 H	46	44.40	39.22
3	#11520.00	52.77 PK	74.00	-21.23	1.00 H	236	6.64	46.13
3	#11520.00	38.58 AV	54.00	-15.42	1.00 H	236	-7.55	46.13

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	5725.00	72.75 PK	85.46	-12.71	1.71 V	281	33.65	39.10
2	*5760.00	105.46 PK			1.71 V	281	66.24	39.22
2	*5760.00	95.20 AV			1.71 V	281	55.98	39.22
3	#11520.00	56.22 PK	74.00	-17.78	1.07 V	114	10.09	46.13
3	#11520.00	44.58 AV	54.00	-9.42	1.07 V	114	-1.55	46.13

NOTE:

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

EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Turbo Mode	**CHANNEL**	5
FREQUENCY RANGE	1 ~40 GHz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	**INPUT POWER (SYSTEM)**	120Vac, 60Hz
TESTED BY	Vincent Lin		

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	93.90 PK			1.77 H	340	54.54	39.36
1	*5800.00	84.17 AV			1.77 H	340	44.81	39.36
2	**5825.00**	**70.72 PK**	**73.90**	**-3.18**	**1.77 H**	**340**	**31.36**	**39.36**
3	5850.00	57.42 PK	73.90	-16.48	1.77 H	340	18.06	39.36
4	#11600.00	51.96 PK	74.00	-22.04	1.00 H	314	5.71	46.25
4	#11600.00	39.89 AV	54.00	-14.11	1.00 H	314	-6.36	46.25

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	104.91 PK			1.55 V	280	65.55	39.36
1	*5800.00	94.73 AV			1.55 V	280	55.37	39.36
2	5850.00	57.92 PK	84.91	-26.99	1.55 V	280	18.56	39.36
3	#11600.00	55.87 PK	74.00	-18.13	1.00 V	68	9.62	46.25
3	#11600.00	43.82 AV	54.00	-10.18	1.00 V	68	-2.43	46.25

NOTE:

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

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.

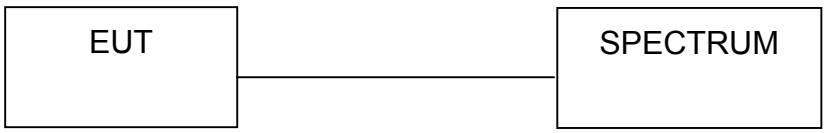
5.3.3 TEST PROCEDURE

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

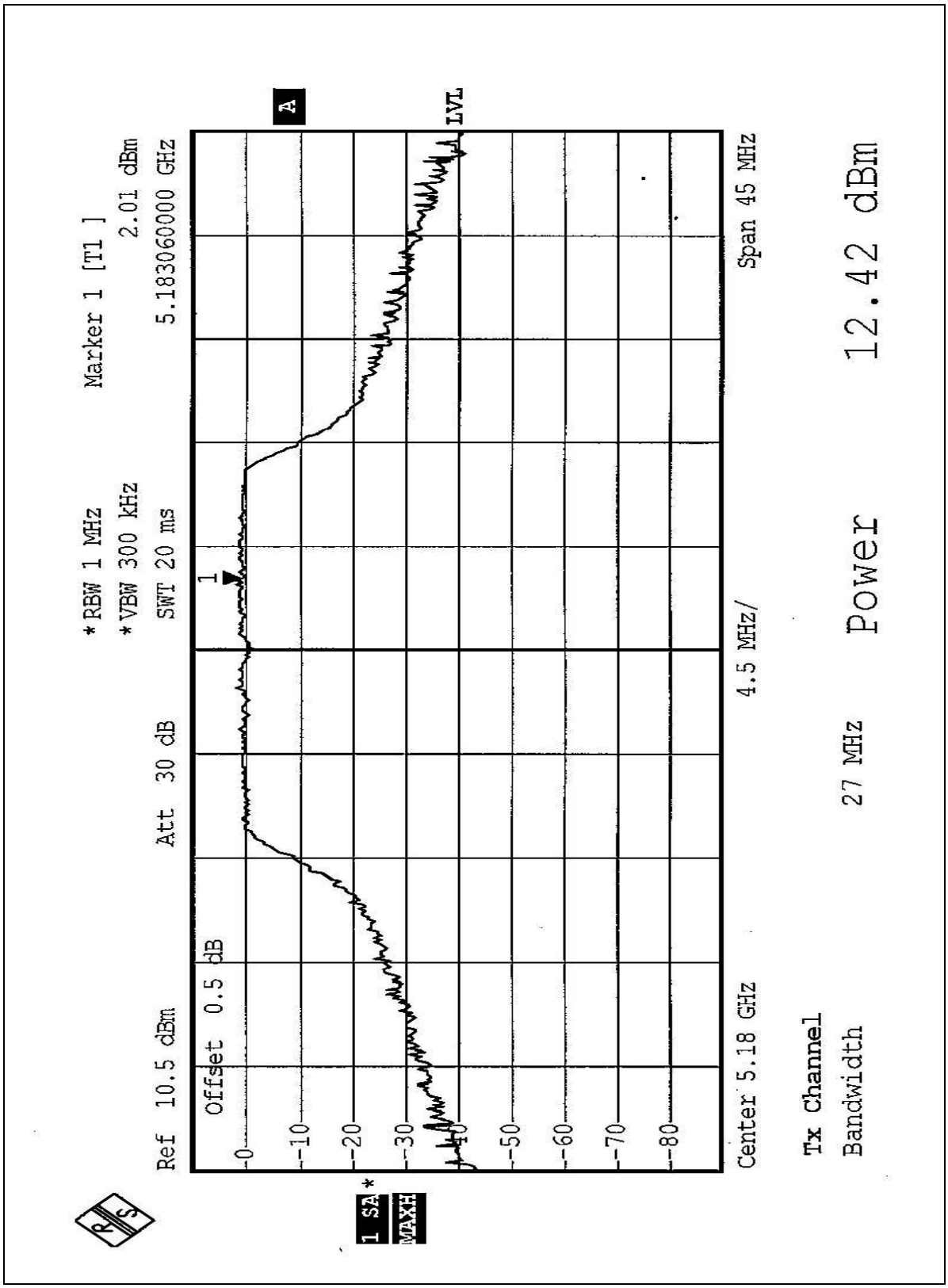
EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	**TESTED BY**	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	12.42	17.00	26.19	PASS
4	5240	12.44	17.00	25.83	PASS
5	5260	12.40	24.00	26.01	PASS
8	5320	11.82	24.00	25.56	PASS

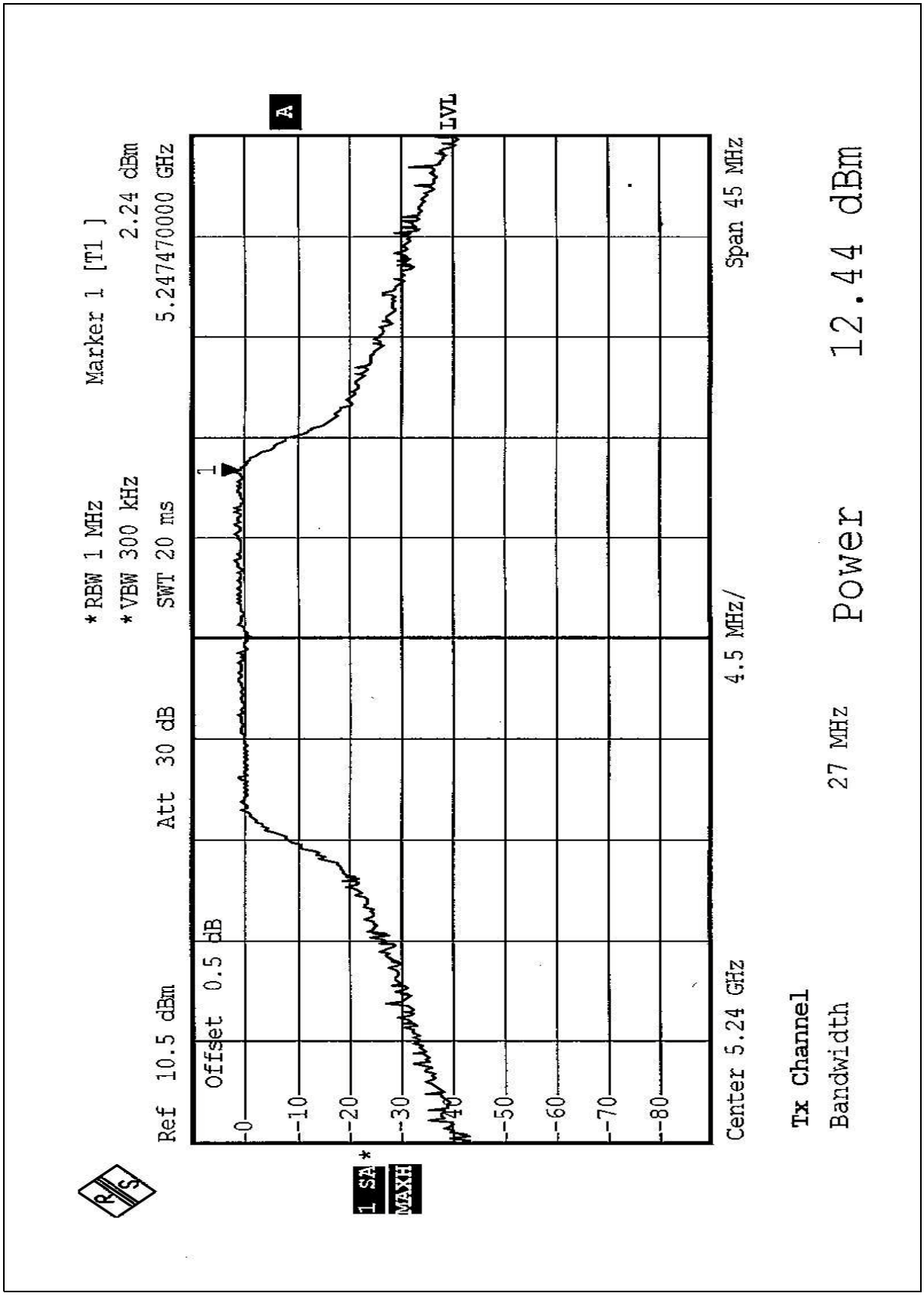
NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

Peak Power Output

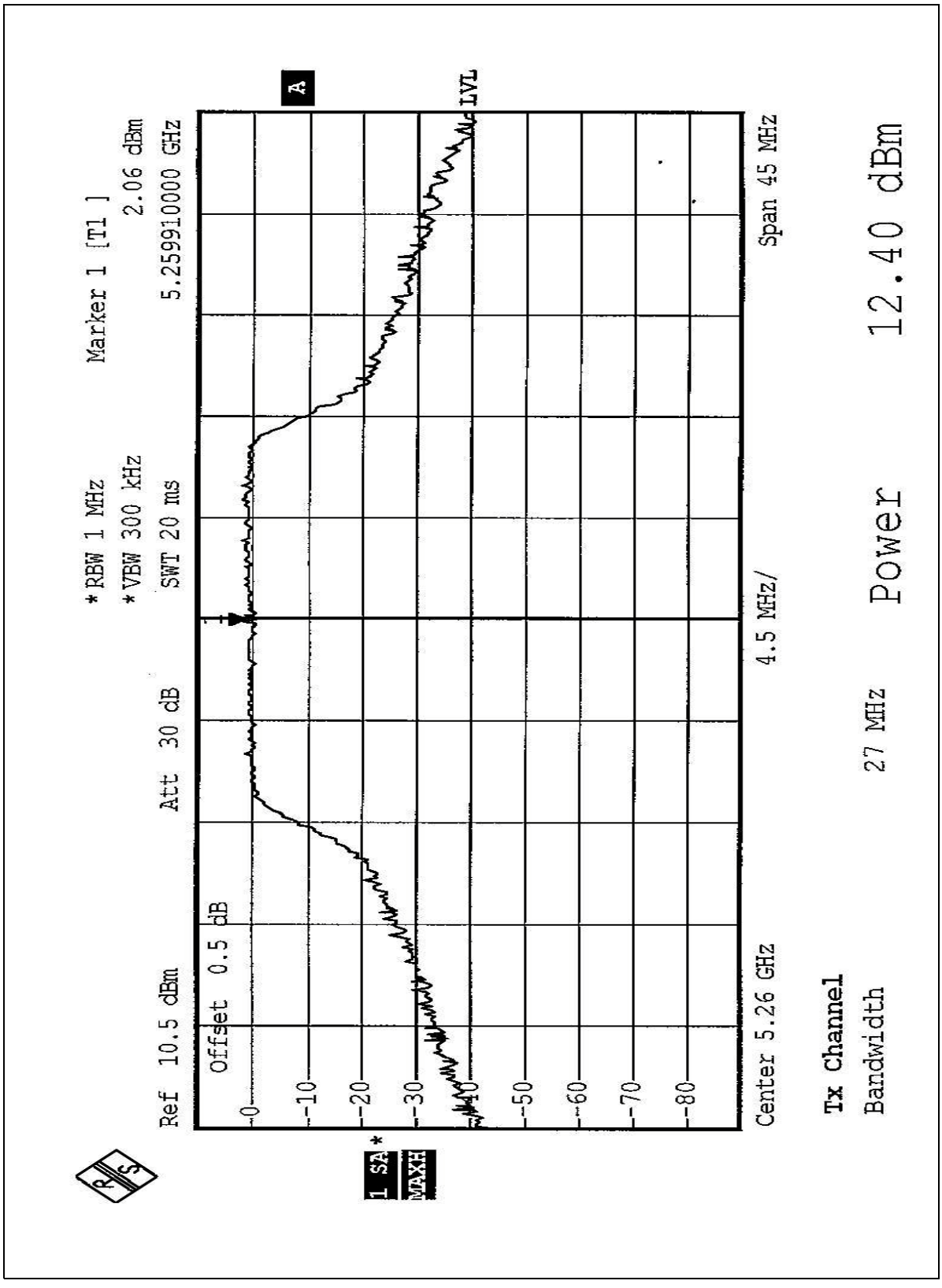
CHANNEL 1



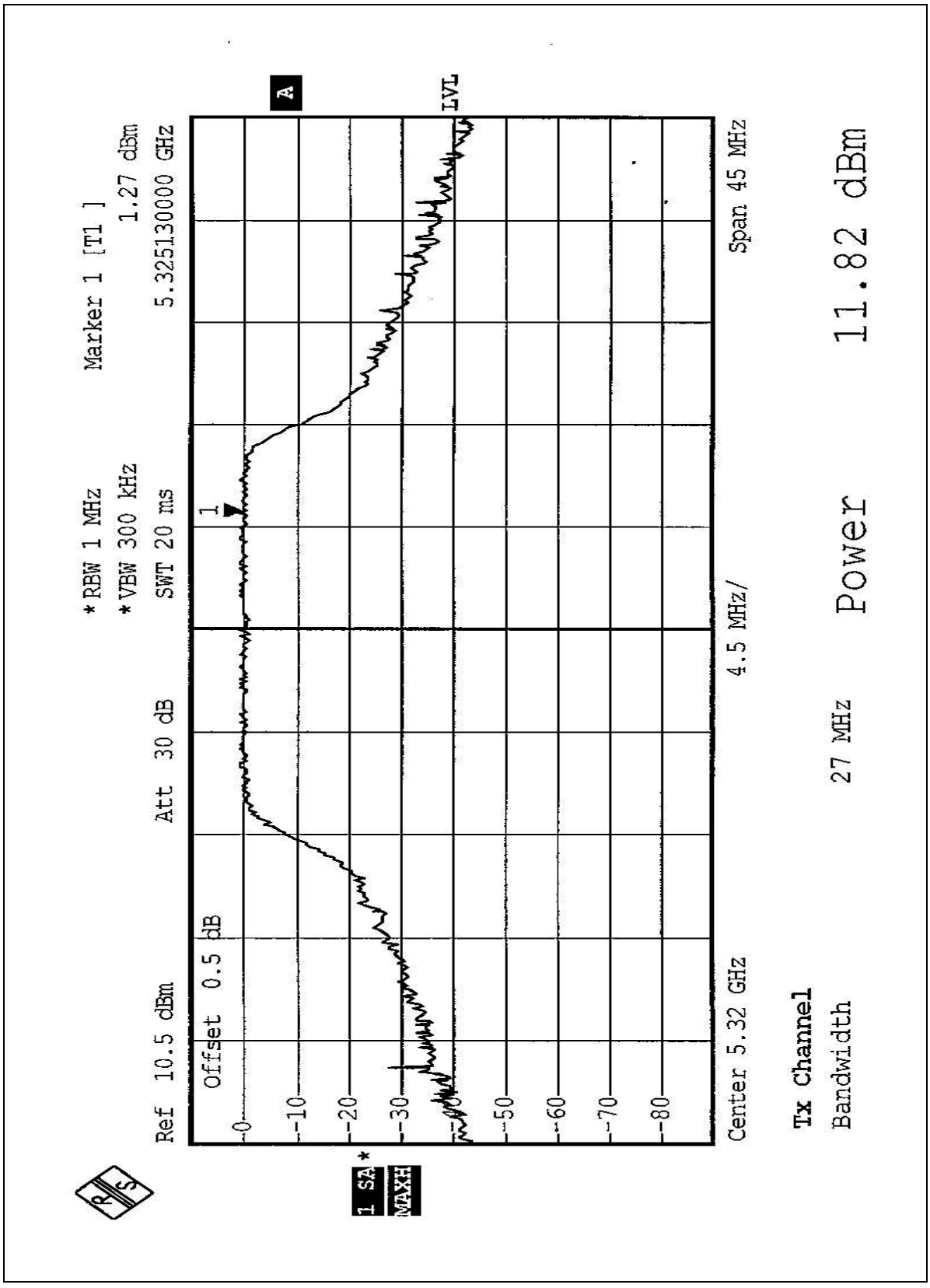
CHANNEL 4


Tx Channel
Bandwidth
27 MHz
Power
12.44 dBm
Center 5.24 GHz
4.5 MHz/
Span 45 MHz
Ref 10.5 dBm
Offset 0.5 dB
Att 30 dB
SWT 20 ms
*RBW 1 MHz
*VBW 300 kHz
Marker 1 [T1]
2.24 dBm
5.247470000 GHz
1 SA *
MAXH
A
LVL

CHANNEL 5

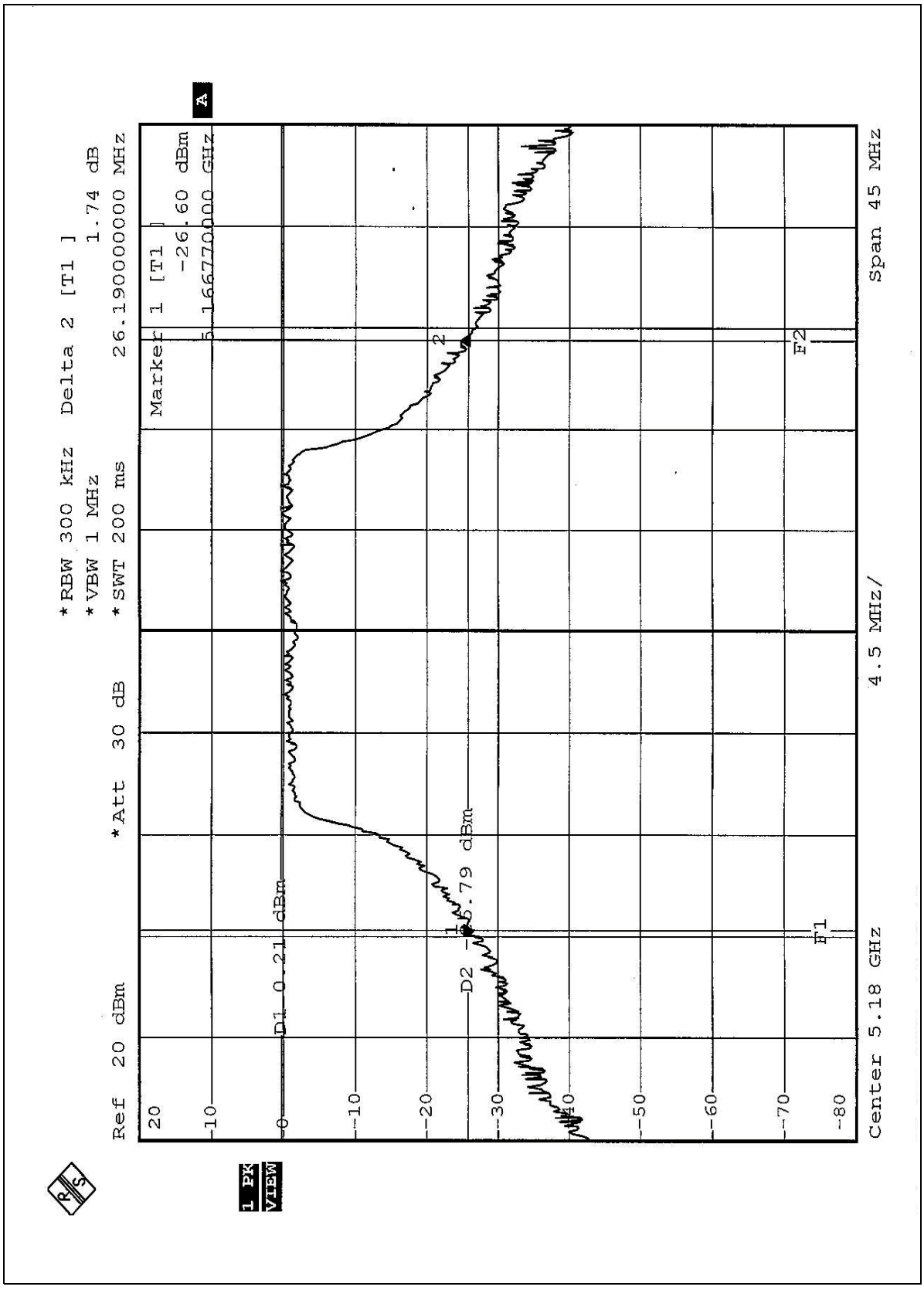

Ref 10.5 dBm
Offset 0.5 dB
Att 30 dB
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
Marker 1 [T1]
2.06 dBm
5.259910000 GHz
Center 5.26 GHz
4.5 MHz/
Span 45 MHz
Tx Channel
Bandwidth
27 MHz
Power
12.40 dBm
1 SA
MAXH
A
LVL

CHANNEL 8

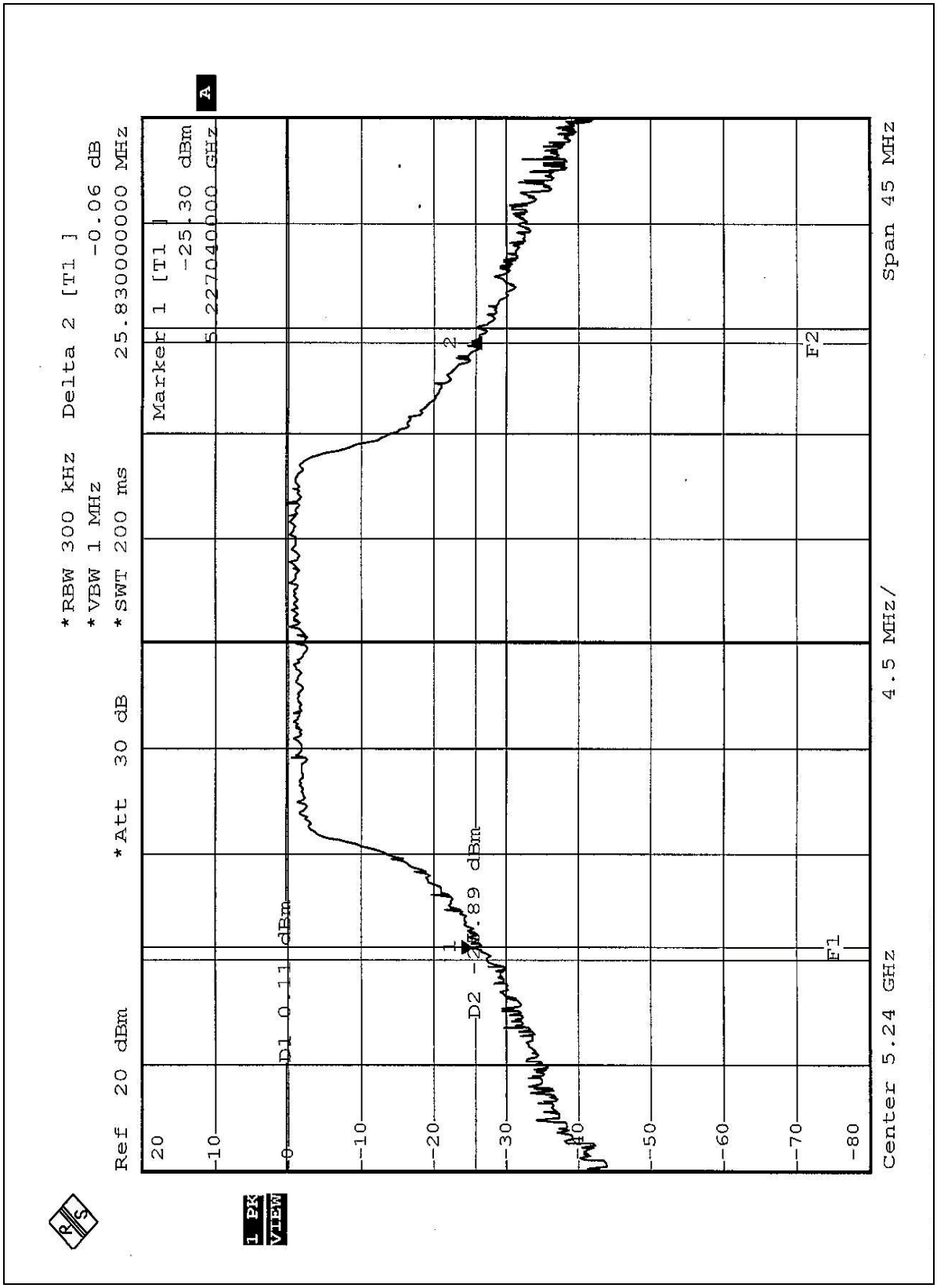

Marker 1 [T1]
1.27 dBm
5.325130000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
Att 30 dB
Offset 0.5 dB
Ref 10.5 dBm
Center 5.32 GHz
4.5 MHz/
Span 45 MHz
Tx Channel
Bandwidth
27 MHz
Power
11.82 dBm
A
LVL
1 SA
MAXH

26dB Occupied Bandwidth

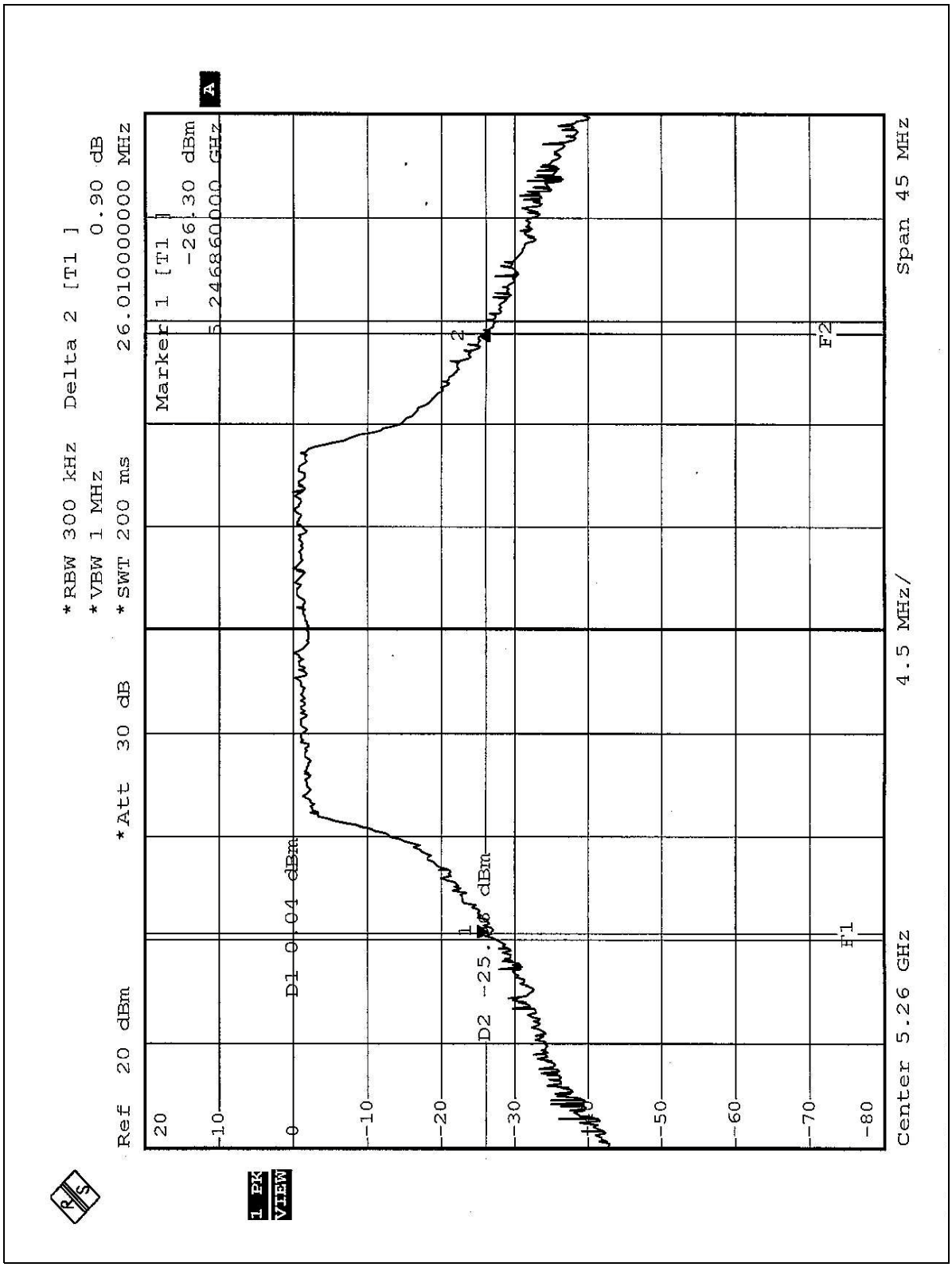
CHANNEL 1



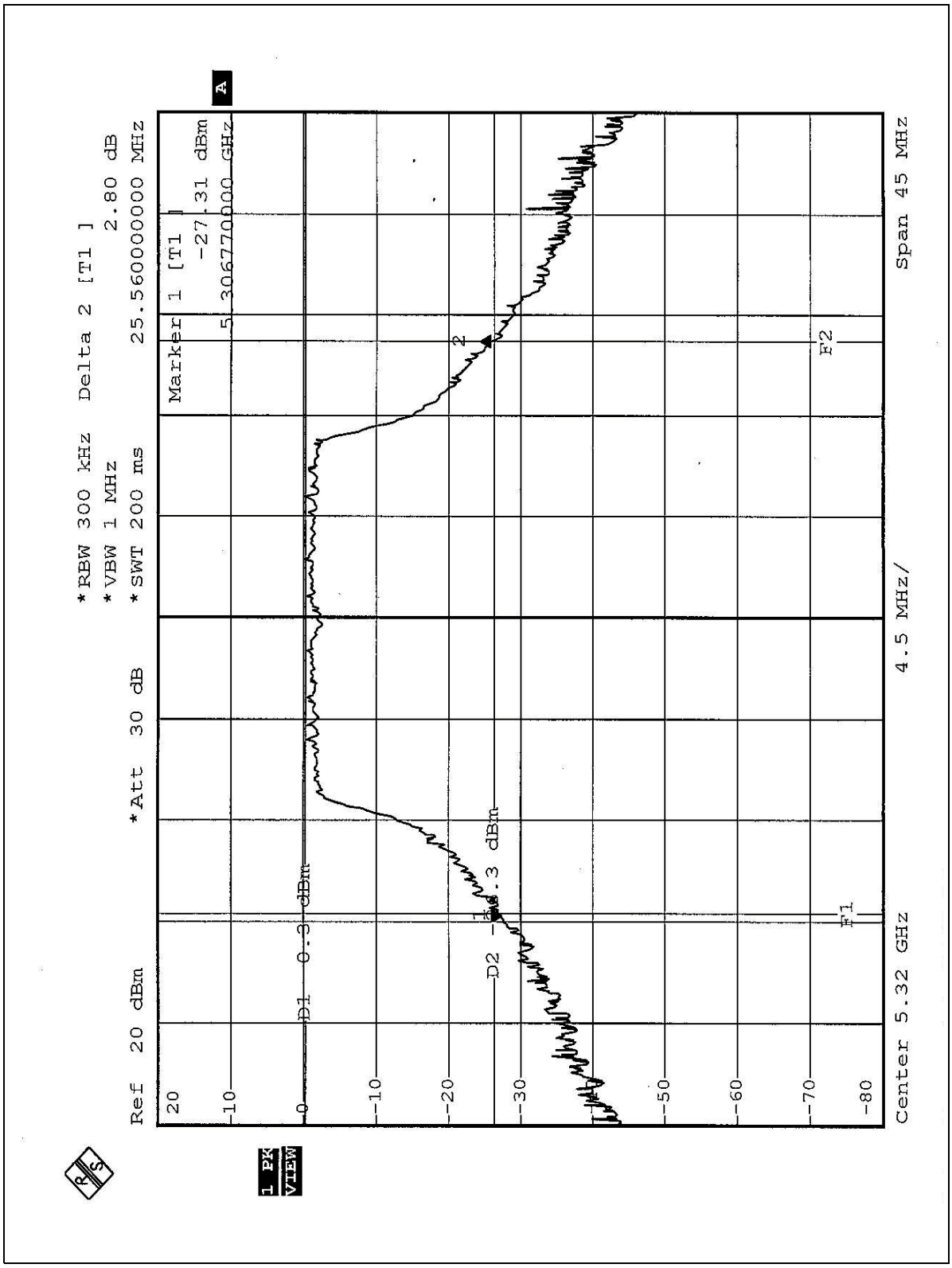
CHANNEL 4


RBW 300 kHz
VBW 1 MHz
SWT 200 ms
Delta 2 [T1]
-0.06 dB
25.83000000 MHz
Marker 1 [T1]
-25.30 dBm
5.22704000 GHz
Att 30 dB
Ref 20 dBm
D1 0.11 dBm
D2 -25.89 dBm
F1
F2
Center 5.24 GHz
4.5 MHz/
Span 45 MHz
1 PK
VIEW

CHANNEL 5


Ref 20 dBm
*Att 30 dB
*SWT 200 ms
*VBW 1 MHz
*RBW 300 kHz
Delta 2 [T1]
0.90 dB
26.010000000 MHz
Marker 1 [T1]
-26.30 dBm
5.246860000 GHz
D1 0.04 dBm
D2 -25.86 dBm
Center 5.26 GHz
4.5 MHz/
Span 45 MHz
F1
F2
1 PK VIEW

CHANNEL 8


Ref 20 dBm
*Att 30 dB
*SWT 200 ms
*VBW 1 MHz
*RBW 300 kHz
Delta 2 [T1]
2.80 dB
25.560000000 MHz
Marker 1 [T1]
-27.31 dBm
5.306770000 GHz
Center 5.32 GHz
4.5 MHz/
Span 45 MHz
D1 0.3 dBm
D2 -2.3 dBm
F1
F2
1 PK VIEW

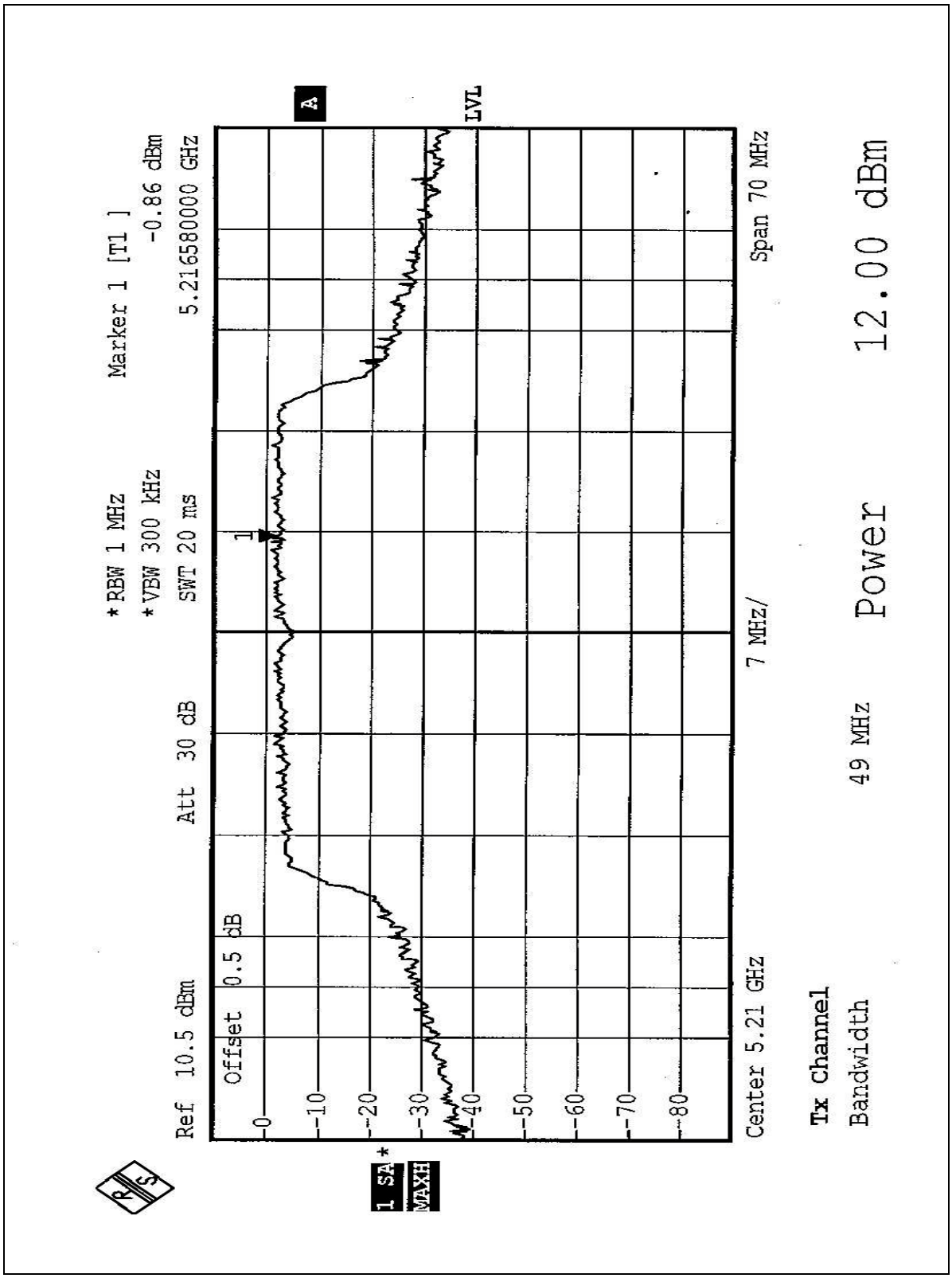
EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	**TESTED BY**	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5210	12.00	17.00	45.36	PASS
2	5250	11.69	17.00	47.74	PASS
3	5290	11.59	24.00	48.02	PASS

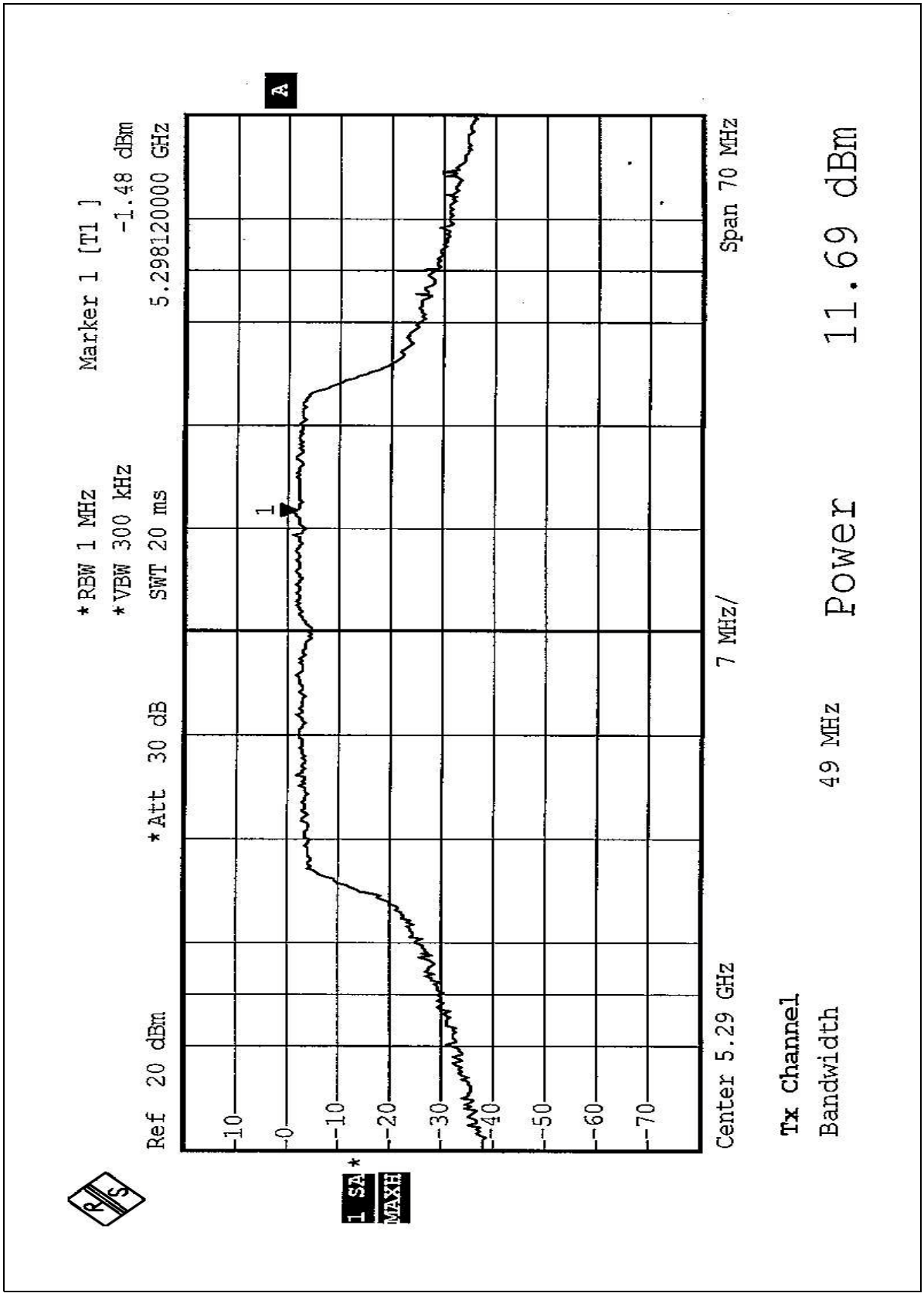
NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

Peak Power Output

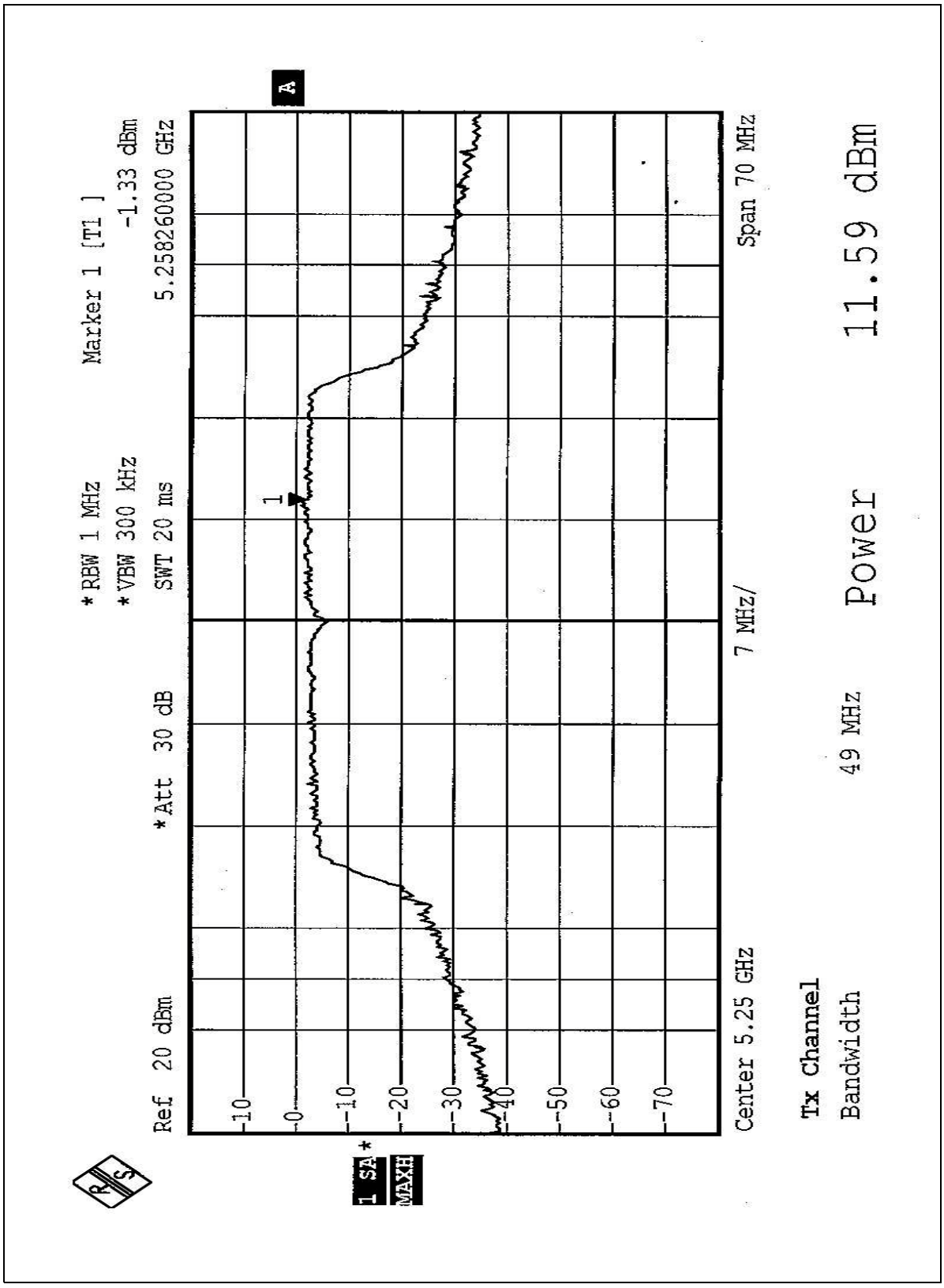
CHANNEL 1



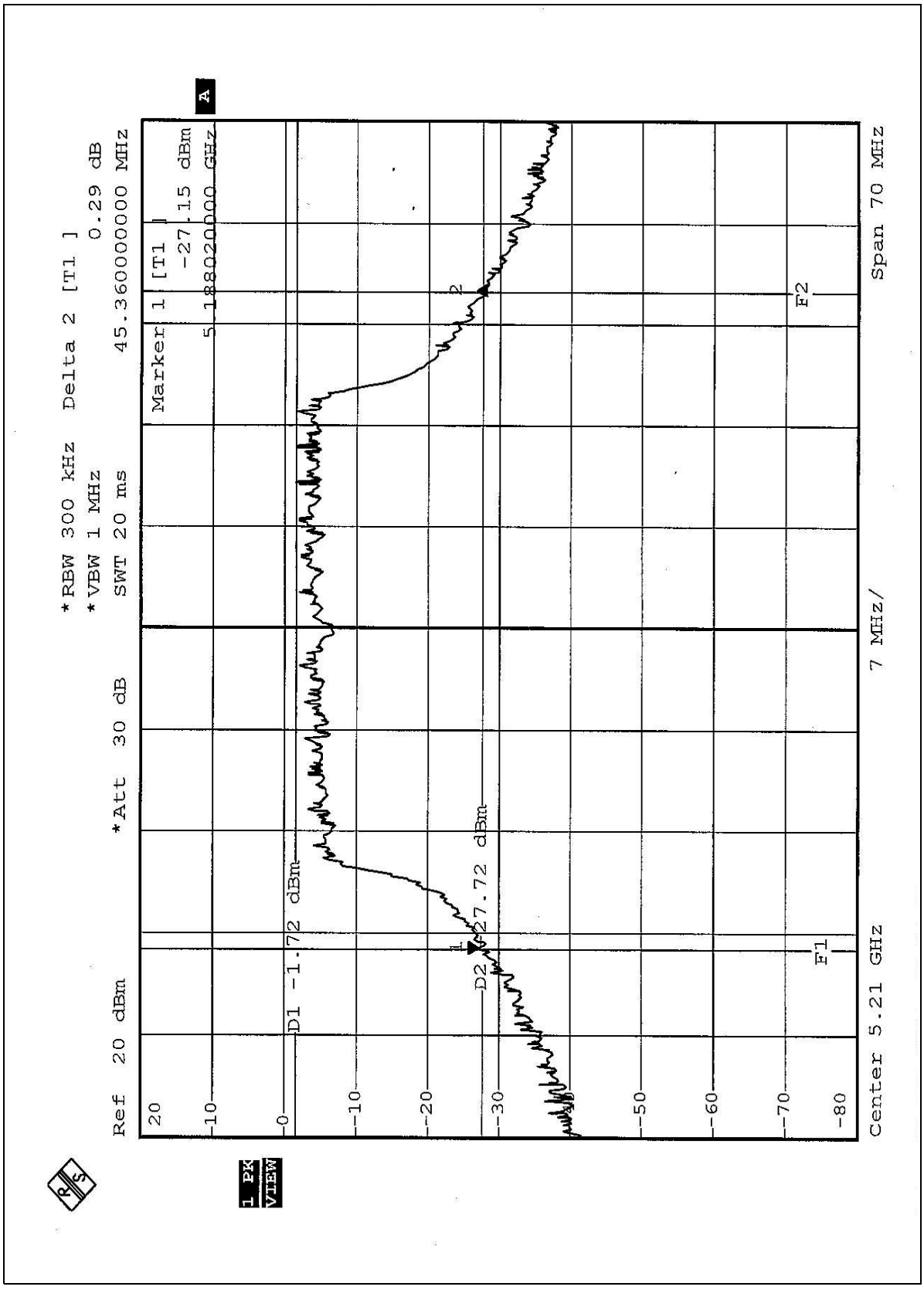
CHANNEL 2


Marker 1 [T1]
-1.48 dBm
5.298120000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 30 dB
Ref 20 dBm
Center 5.29 GHz
7 MHz/
Span 70 MHz
Tx Channel
Bandwidth
49 MHz
Power
11.69 dBm
1 SA
MAXH

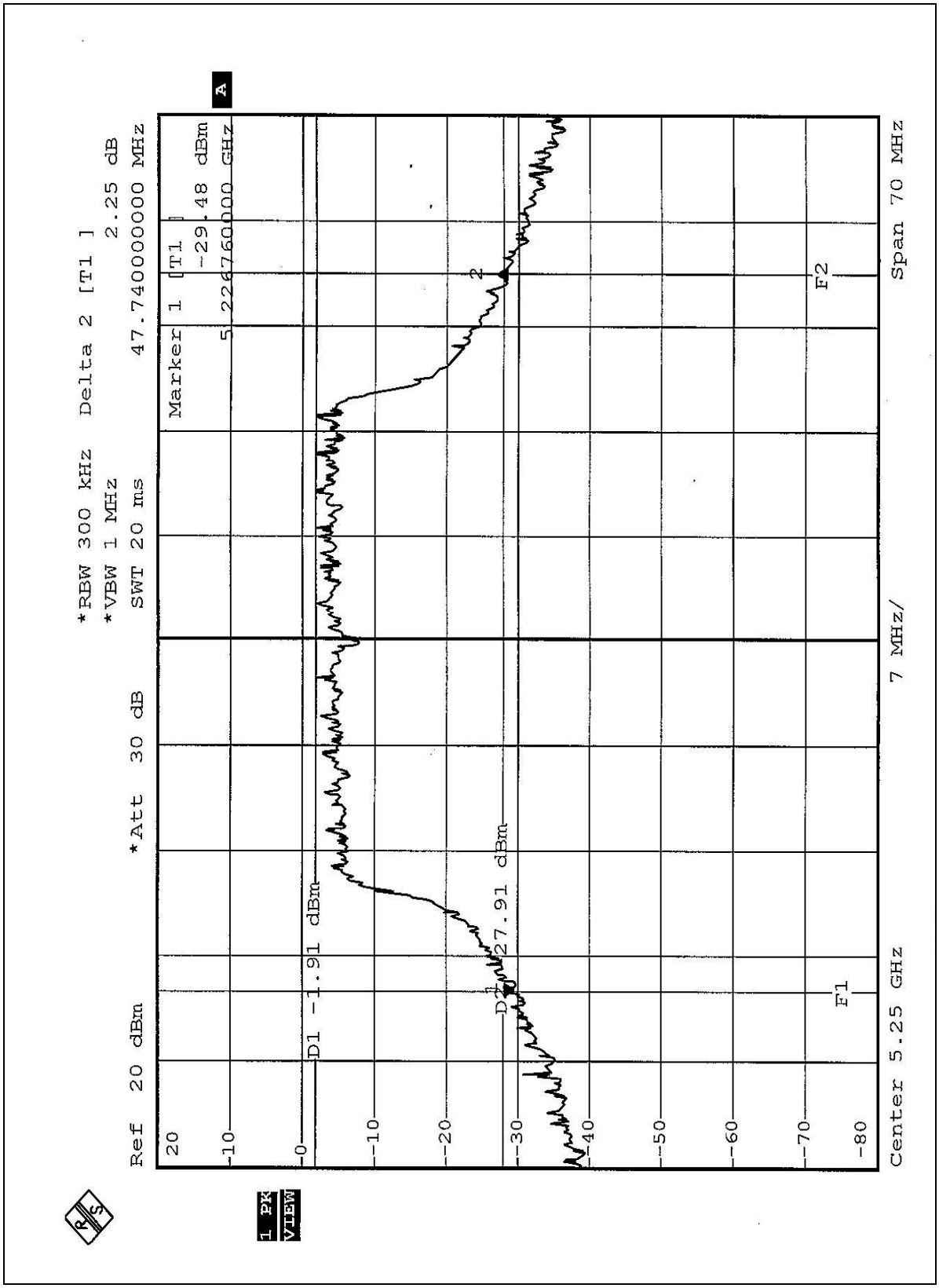
CHANNEL 3


Marker 1 [T1]
-1.33 dBm
5.258260000 GHz
*RBW 1 MHz
*VBW 300 kHz
SWT 20 ms
*Att 30 dB
Ref 20 dBm
Center 5.25 GHz
7 MHz/
Span 70 MHz
Tx Channel
Bandwidth
49 MHz
Power
11.59 dBm
1 SA *
MAXH

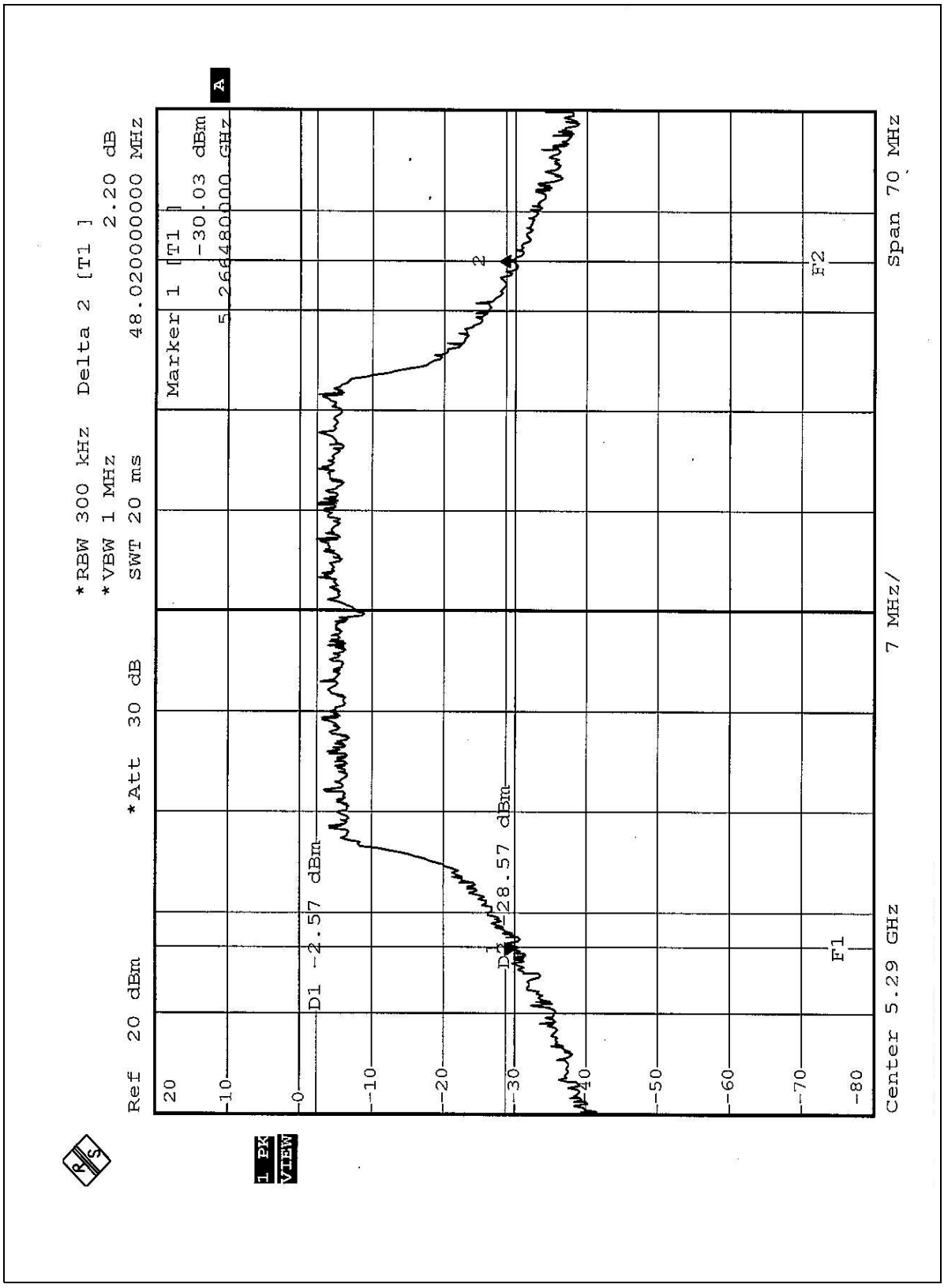
26dB Occupied Bandwidth
CHANNEL 1



CHANNEL 2


Ref 20 dBm
*Att 30 dB
*VBW 1 MHz
SWT 20 ms
*RBW 300 kHz
Delta 2 [T1]
2.25 dB
47.740000000 MHz
Marker 1 [T1]
-29.48 dBm
5.226760000 GHz
D1 -1.91 dBm
D2 27.91 dBm
F1
F2
Center 5.25 GHz
7 MHz/
Span 70 MHz
1 PK
VIEW

CHANNEL 3


*RBW 300 kHz
*VBW 1 MHz
SWT 20 ms
Delta 2 [T1]
2.20 dB
48.020000000 MHz
*Att 30 dB
Ref 20 dBm
Marker 1 [T1]
-30.03 dBm
5.266480000 GHz
D1 -2.57 dBm
D2 -28.57 dBm
Center 5.29 GHz
7 MHz/
Span 70 MHz
F1
F2
1 PK
VIEW

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.

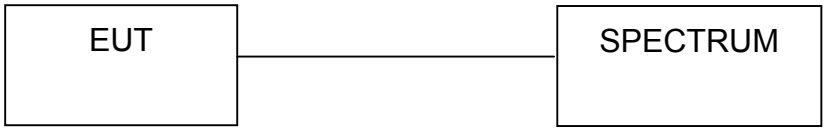
5.4.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set the spectrum bandwidth span to view the entire spectrum.
3. Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=300KHz).
4. 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	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	**TESTED BY**	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5180	7.70	13	PASS
4	5240	7.31	13	PASS
5	5260	7.71	13	PASS
8	5320	7.42	13	PASS