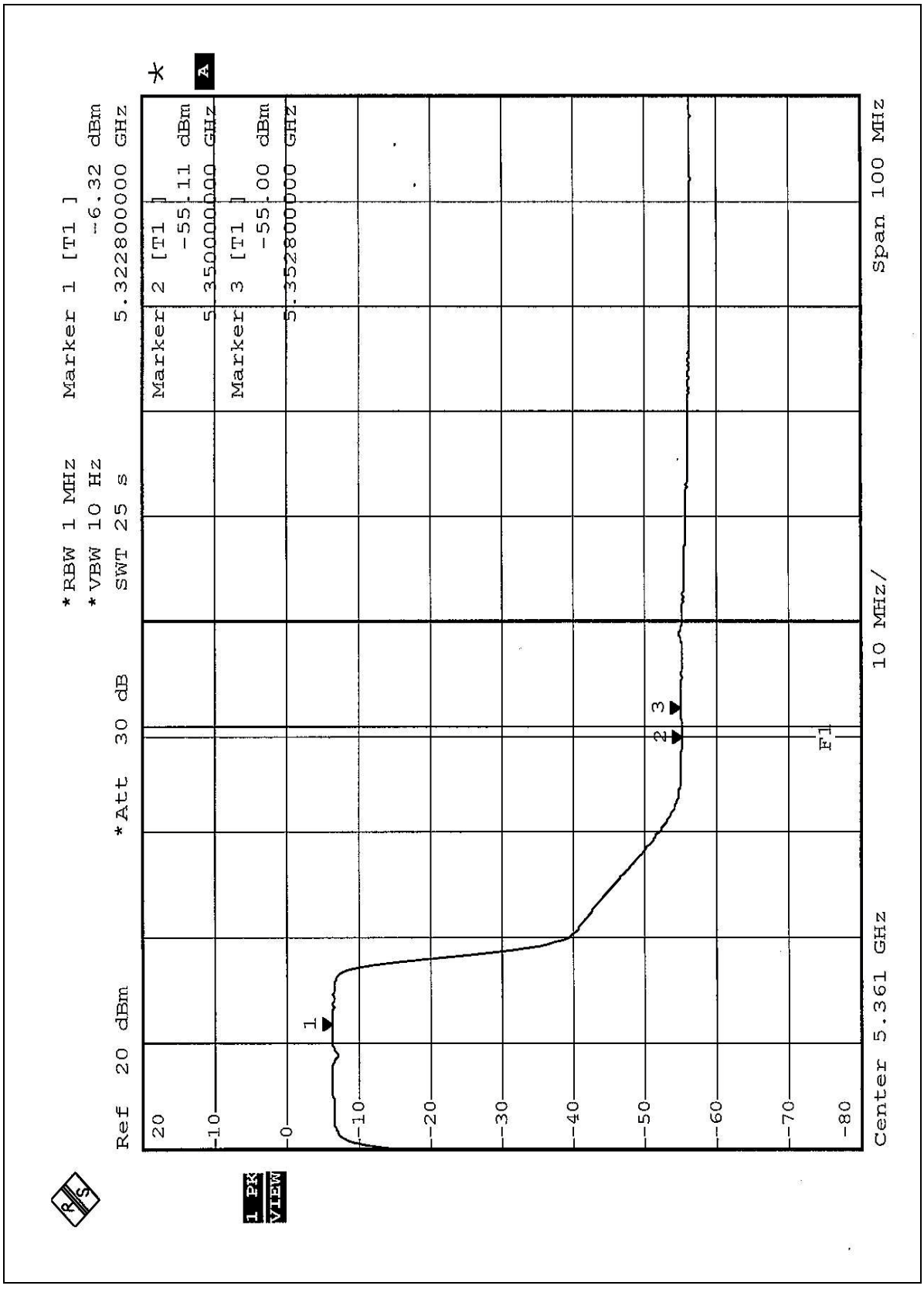
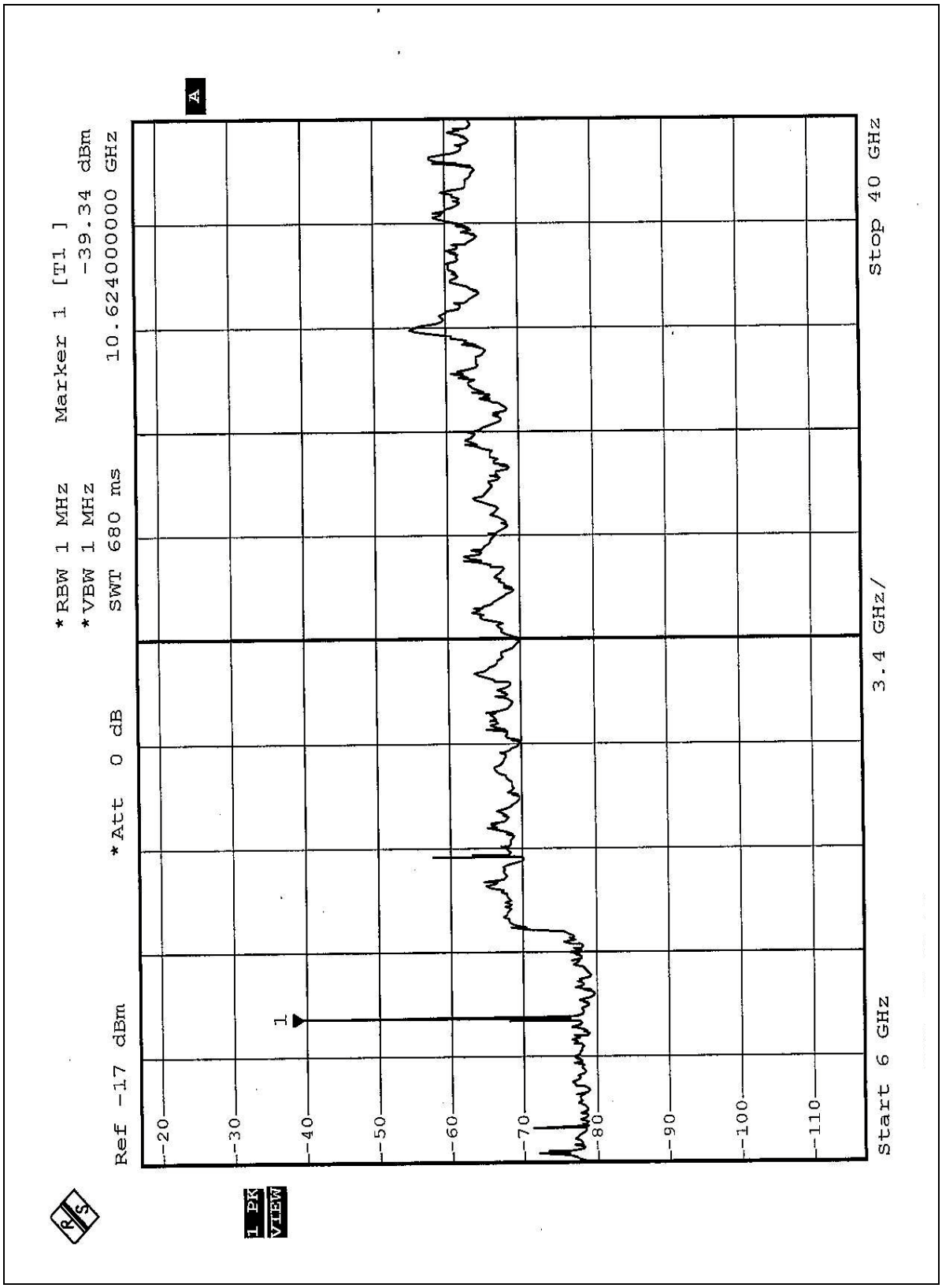
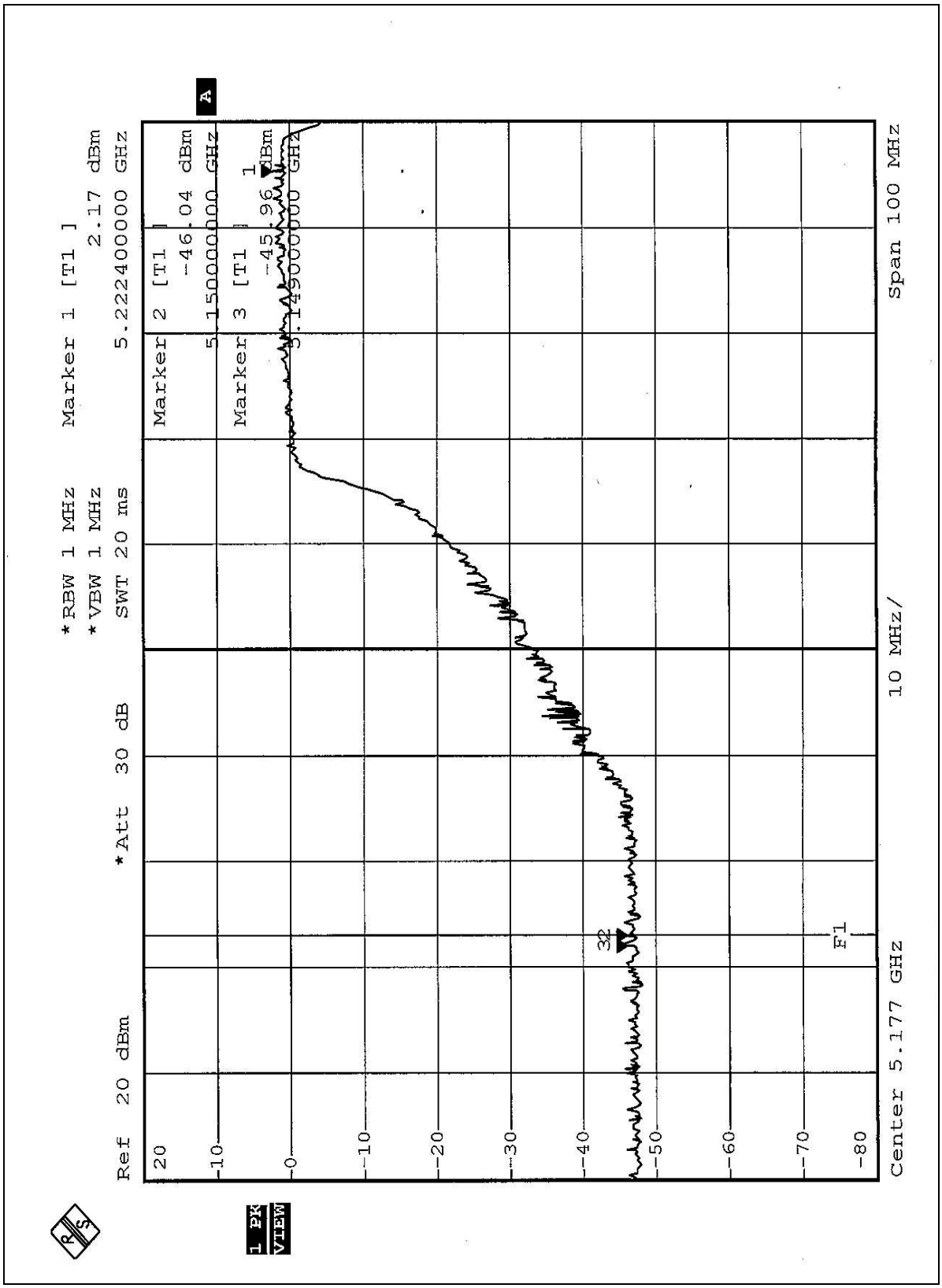
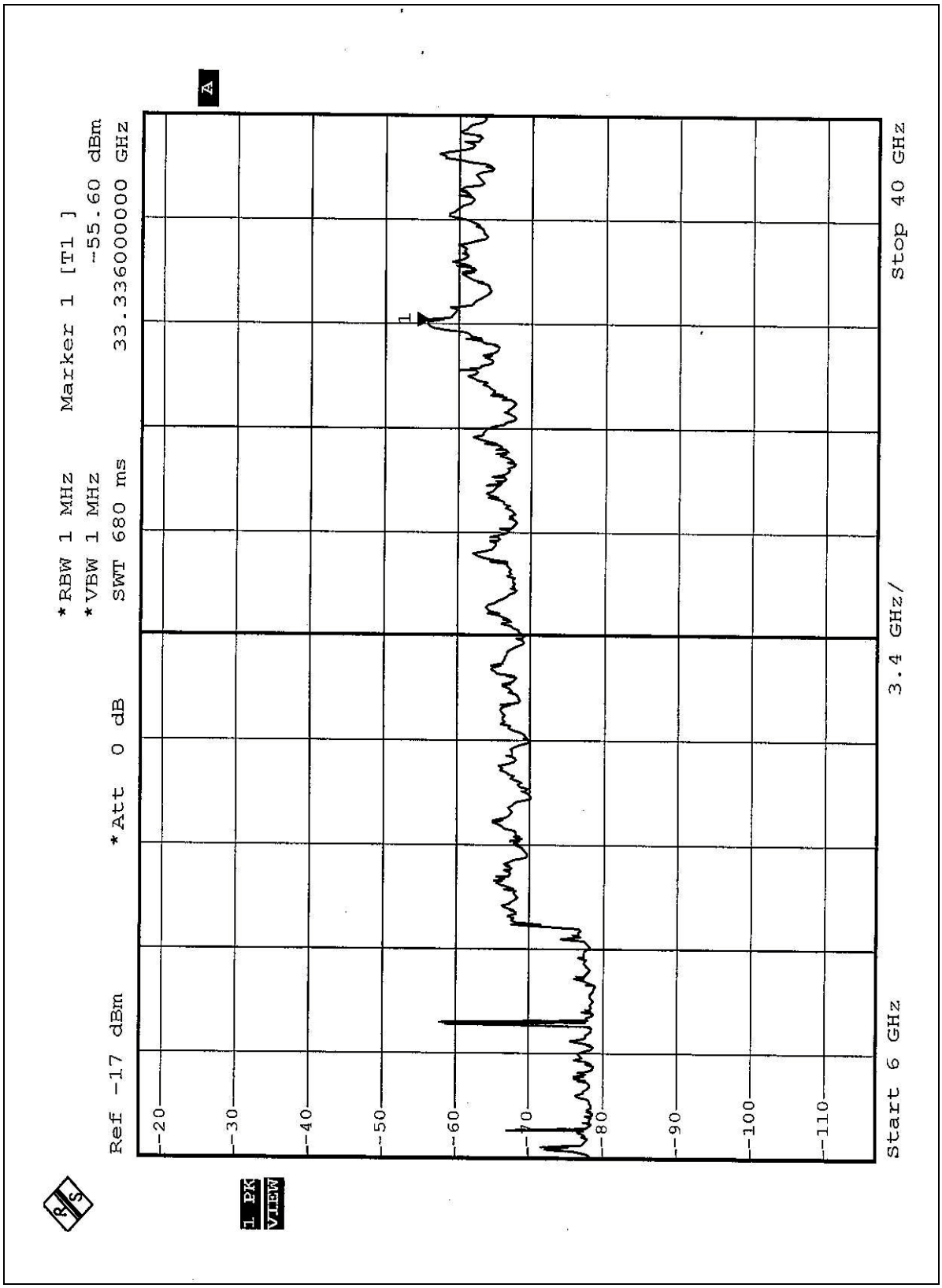
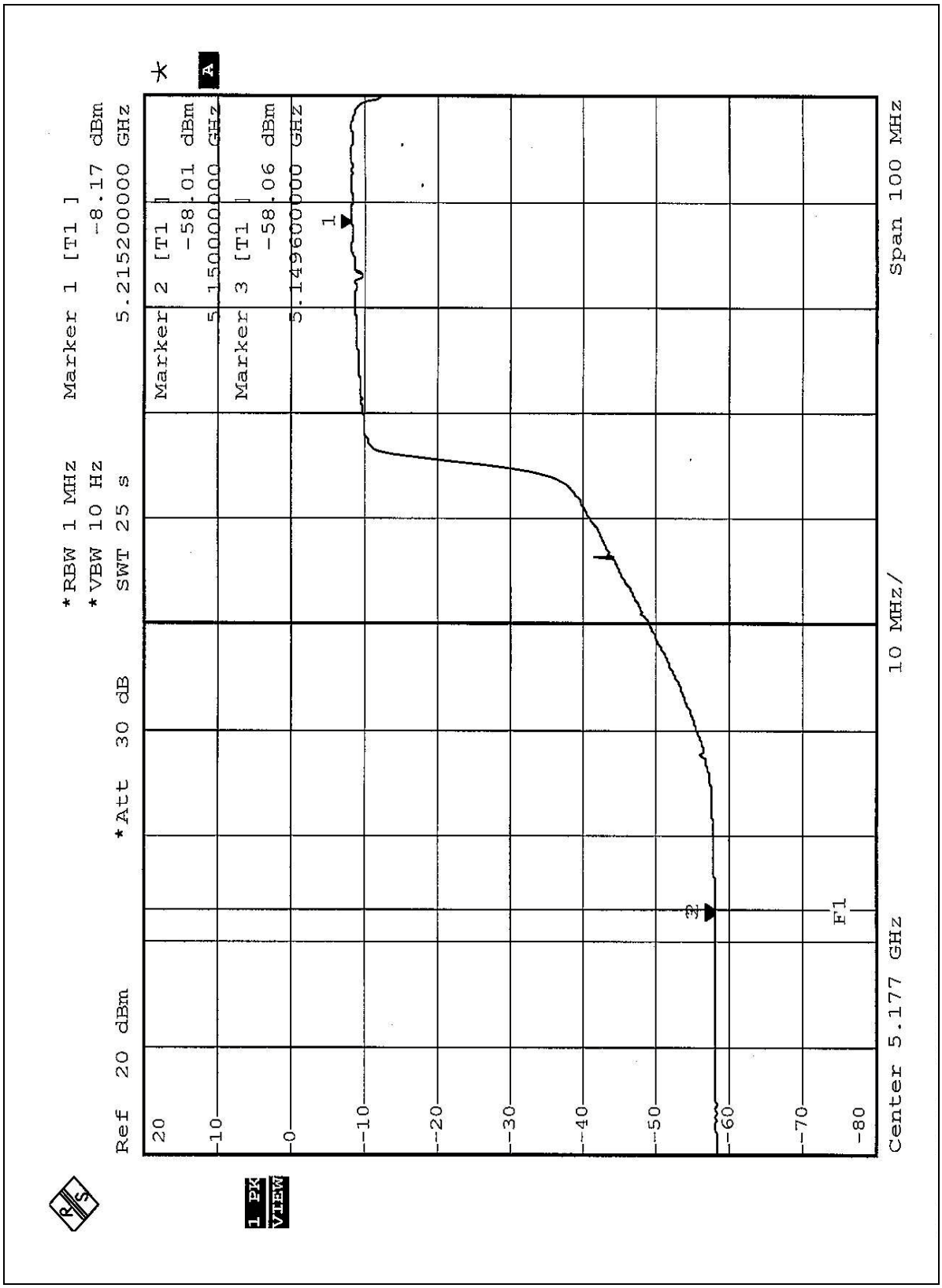

RBW 1 MHz
VBW 10 Hz
SWT 25 s
Marker 1 [T1]
-6.32 dBm
5.322800000 GHz
Marker 2 [T1]
-55.11 dBm
5.350000000 GHz
Marker 3 [T1]
-55.00 dBm
5.352800000 GHz
Ref 20 dBm
Att 30 dB
Center 5.361 GHz
10 MHz/
Span 100 MHz
1 PK
VIEW

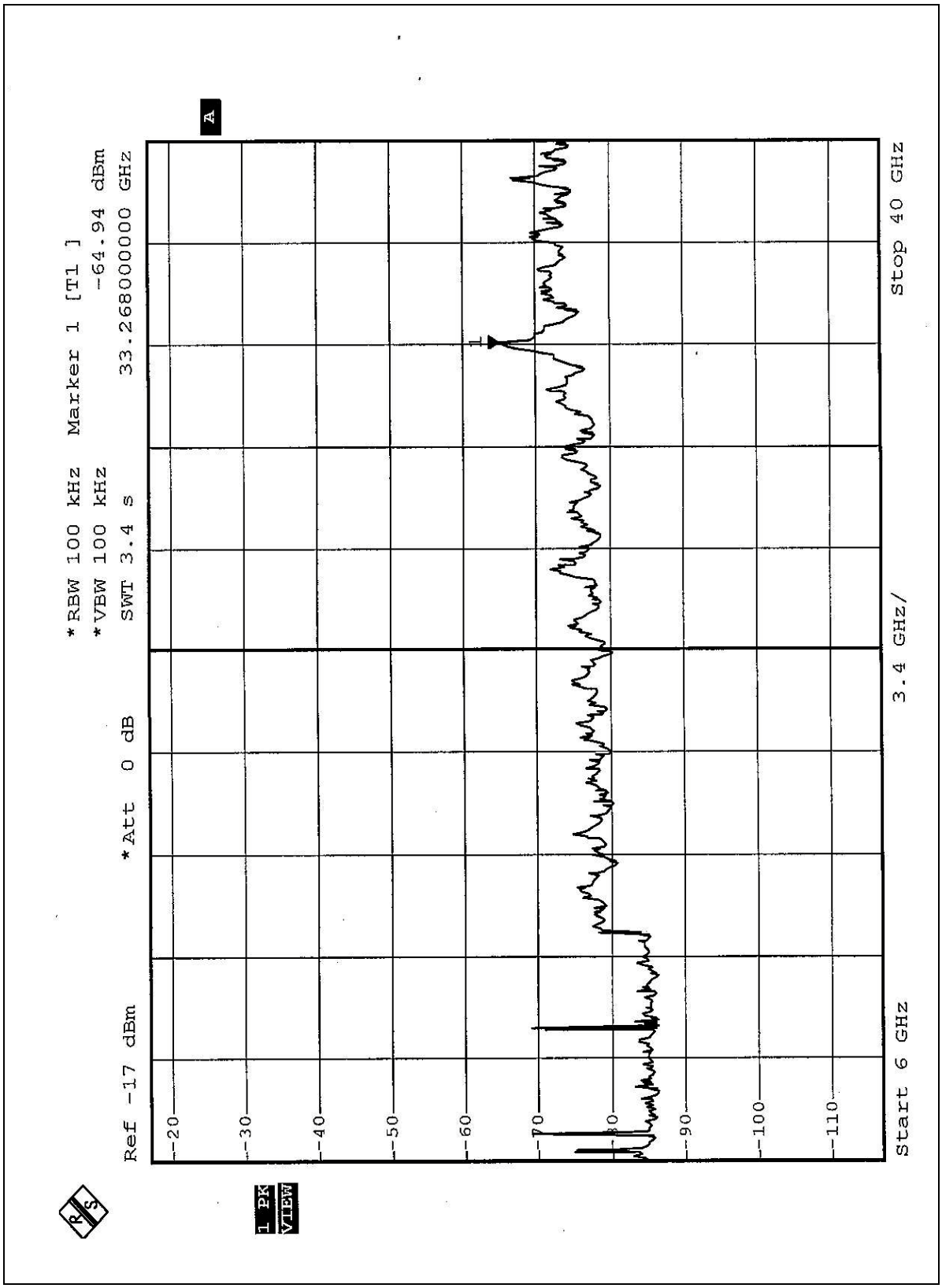

A
Marker 1 [T1]
-39.34 dBm
10.624000000 GHz
*RBW 1 MHz
*VBW 1 MHz
SWT 680 ms
*Att 0 dB
Ref -17 dBm
Start 6 GHz
3.4 GHz/
Stop 40 GHz
1 PK
VIEW

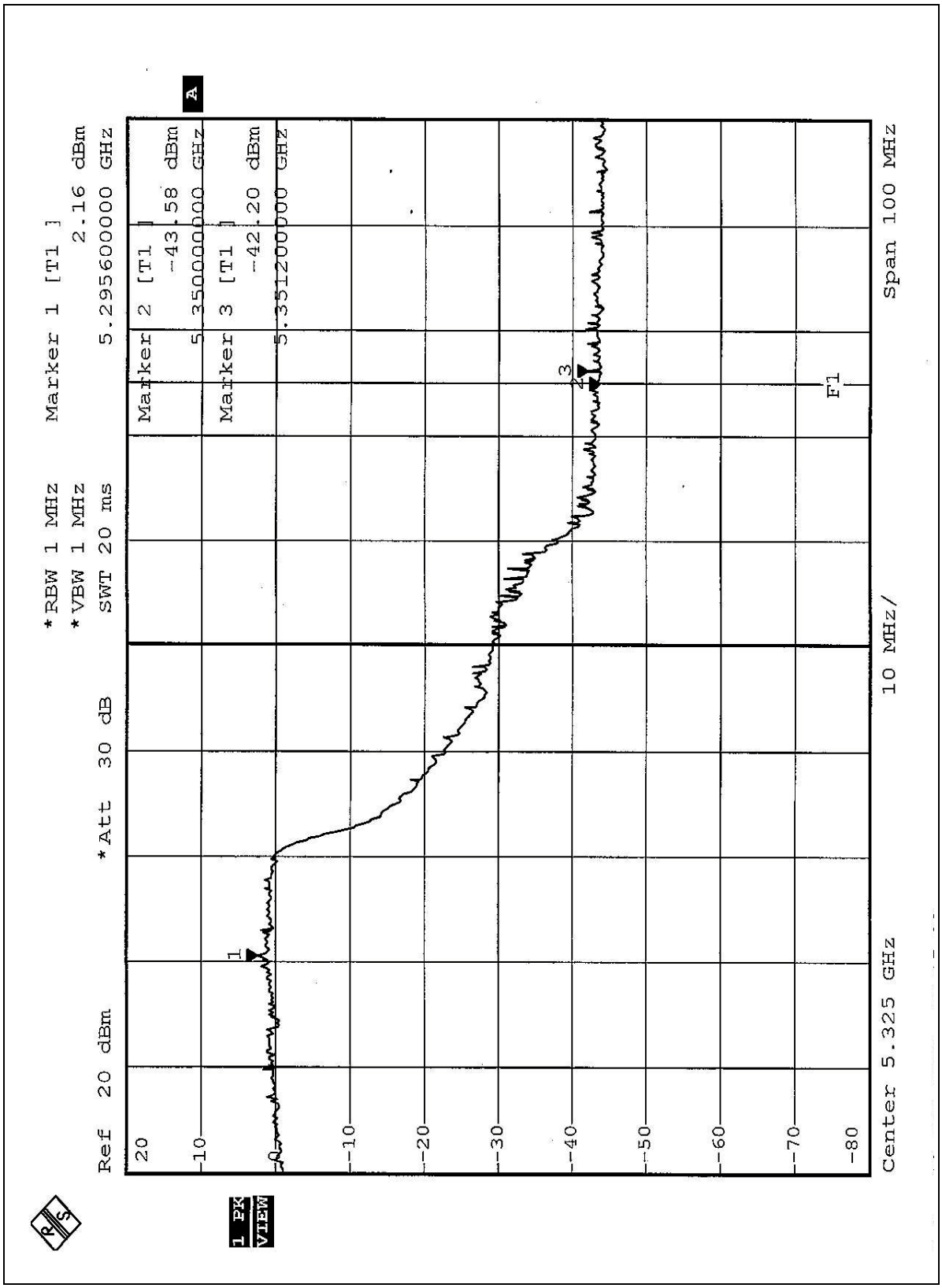
Turbo Mode

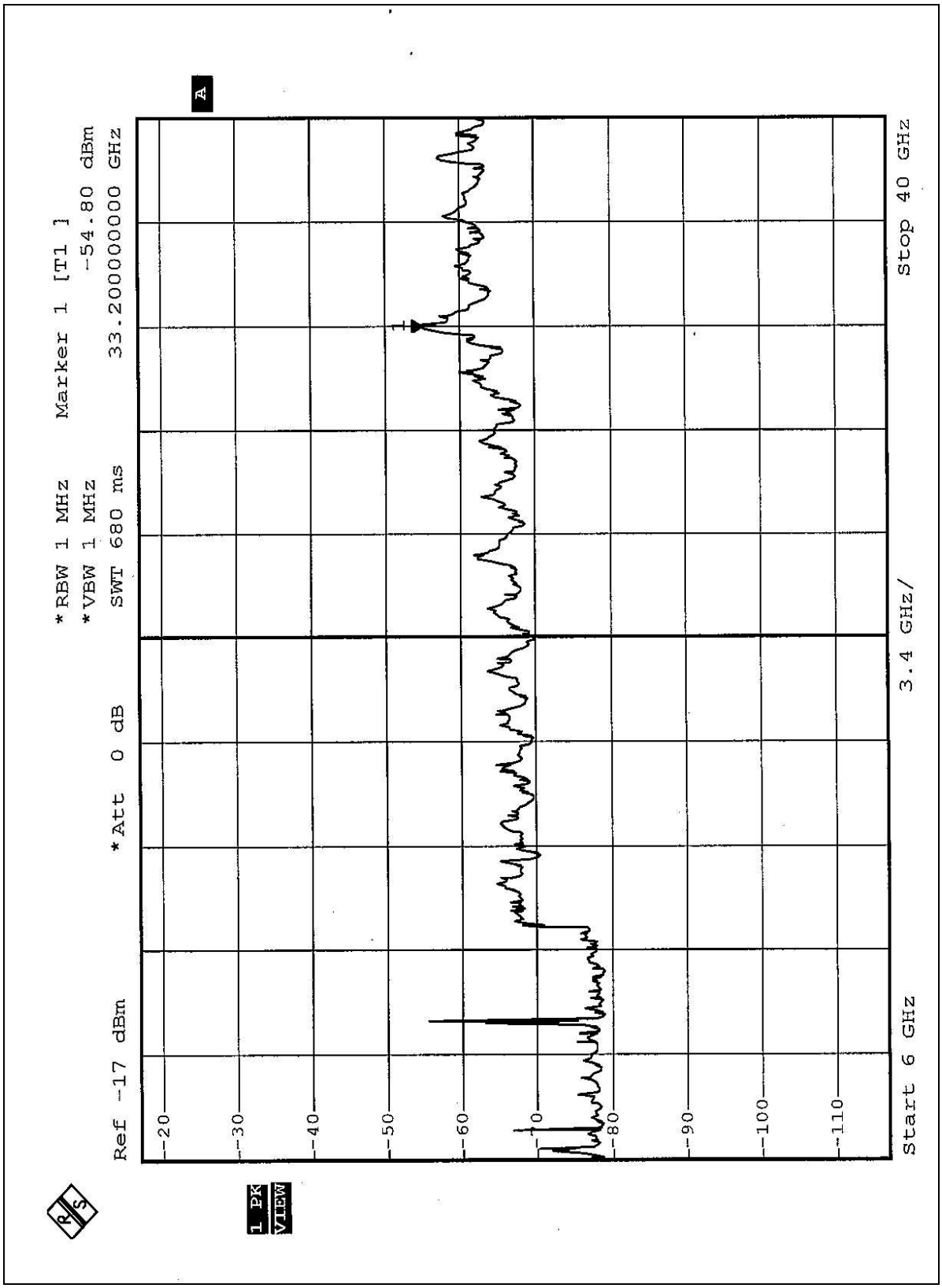

Ref 20 dBm
*Att 30 dB
*RBW 1 MHz
*VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
2.17 dBm
5.222400000 GHz
Marker 2 [T1]
-46.04 dBm
5.150000000 GHz
Marker 3 [T1]
-45.96 dBm
5.149000000 GHz
Center 5.177 GHz
10 MHz/
Span 100 MHz
1 PK VIEW

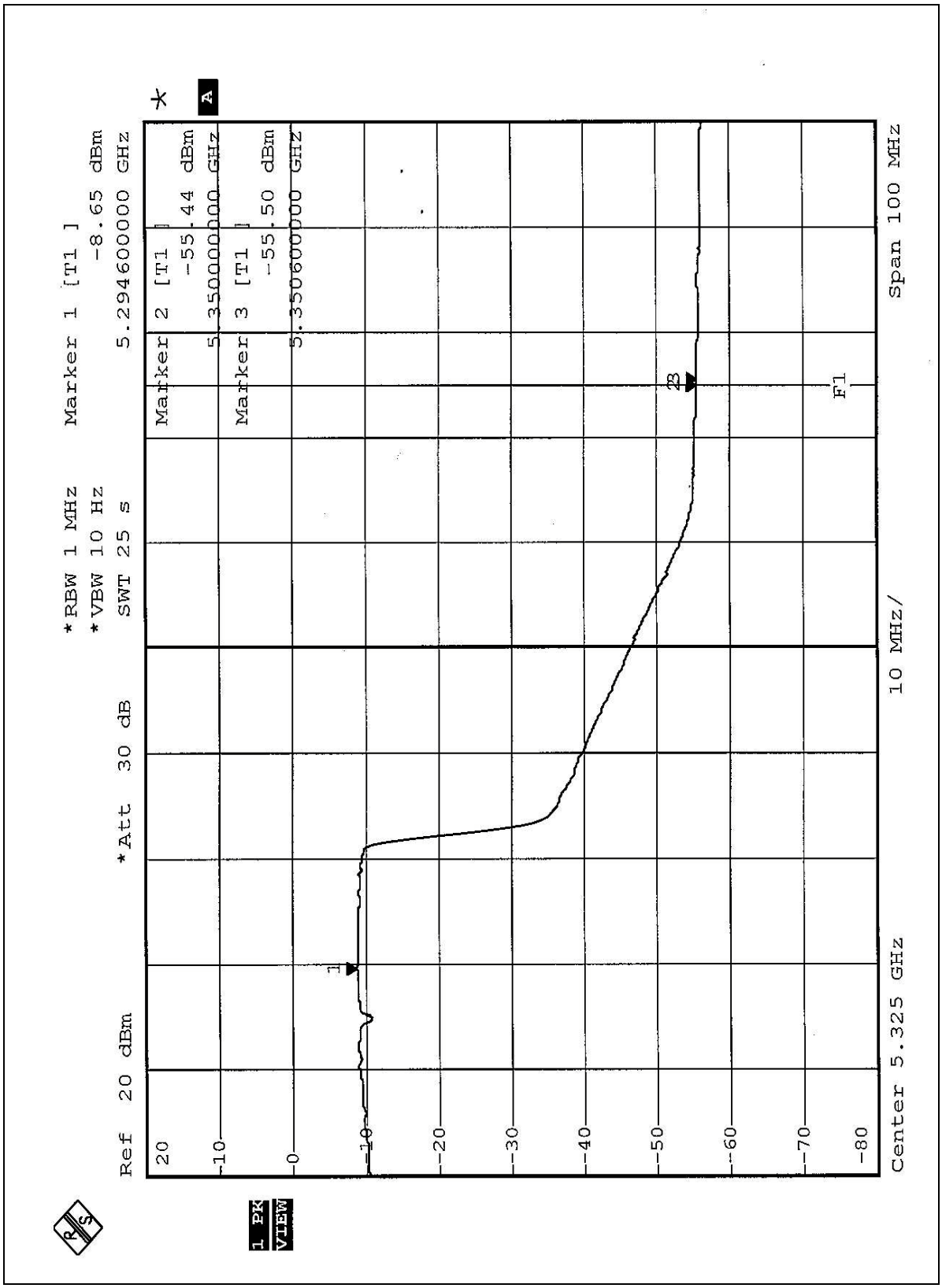

A
*RBW 1 MHz
*VBW 1 MHz
SWT 680 ms
Marker 1 [T1]
-55.60 dBm
33.33600000 GHz
Ref -17 dBm
*Att 0 dB
1 PK
VIEW
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
Start 6 GHz
3.4 GHz/
Stop 40 GHz

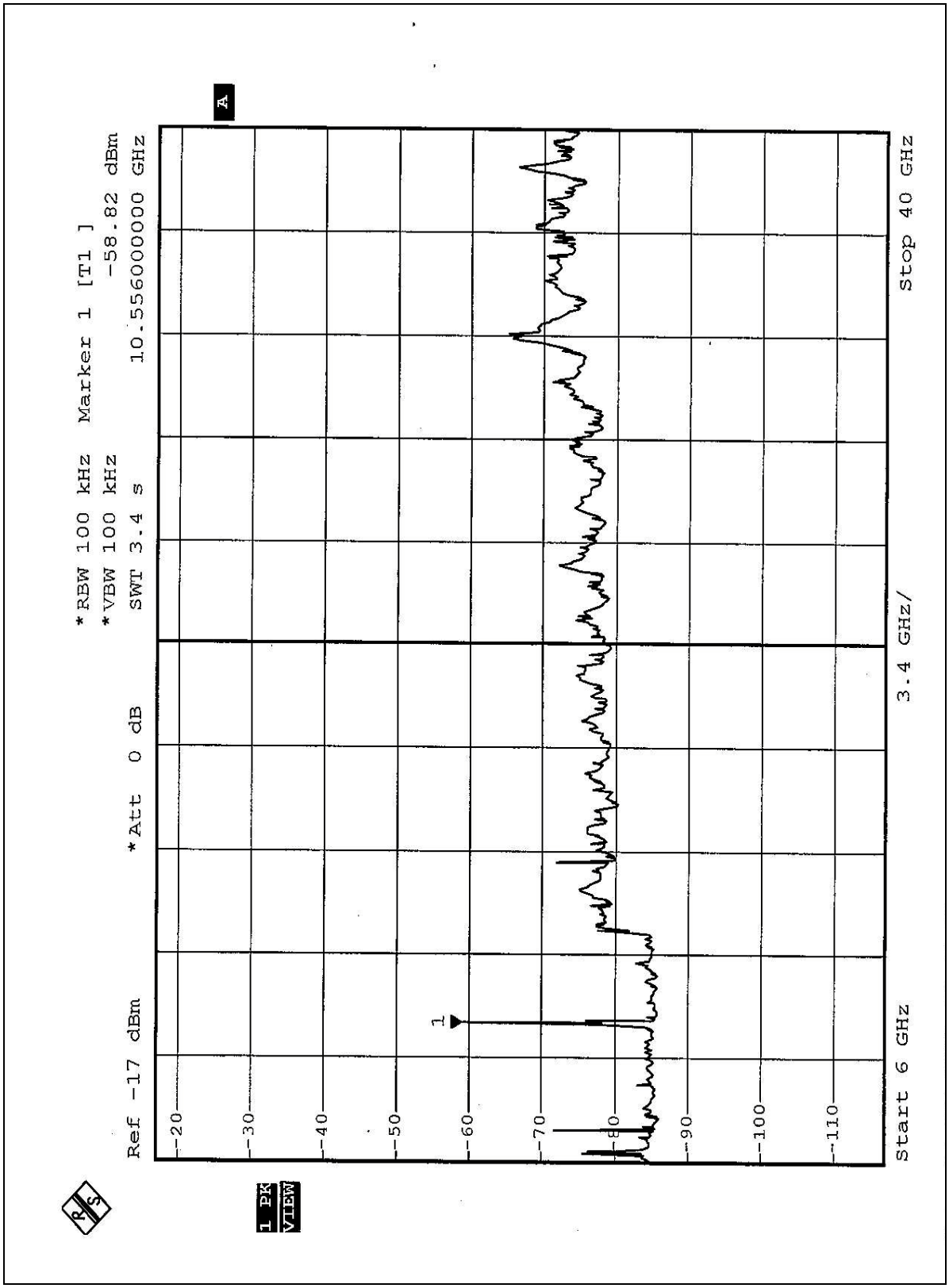

Marker 1 [T1]
-8.17 dBm
5.215200000 GHz
Marker 2 [T1]
-58.01 dBm
5.150000000 GHz
Marker 3 [T1]
-58.06 dBm
5.149600000 GHz
*RBW 1 MHz
*VBW 10 Hz
SWT 25 s
*Att 30 dB
Ref 20 dBm
Center 5.177 GHz
10 MHz/
Span 100 MHz
1 PK VIEW
A
F1


Ref -17 dBm
*Att 0 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 3.4 s
Marker 1 [T1]
-64.94 dBm
33.26800000 GHz
Start 6 GHz
3.4 GHz/
Stop 40 GHz
1 PK
MAXA
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110


*RBW 1 MHz
*VBW 1 MHz
SWT 20 ms
Marker 1 [T1]
2.16 dBm
5.295600000 GHz
Marker 2 [T1]
-43.58 dBm
5.350000000 GHz
Marker 3 [T1]
-42.20 dBm
5.351200000 GHz
Ref 20 dBm
*Att 30 dB
Center 5.325 GHz
10 MHz/
Span 100 MHz
1 PK
VIEW


A
Marker 1 [T1]
-54.80 dBm
33.200000000 GHz
*RBW 1 MHz
*VBW 1 MHz
SWT 680 ms
*Att 0 dB
Ref -17 dBm
Start 6 GHz
3.4 GHz/
Stop 40 GHz
1 PK
VIEW
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110


Ref 20 dBm
*Att 30 dB
*VBW 10 Hz
SWT 25 s
*RBW 1 MHz
Marker 1 [T1]
-8.65 dBm
5.294600000 GHz
Marker 2 [T1]
-55.44 dBm
5.350000000 GHz
Marker 3 [T1]
-55.50 dBm
5.350600000 GHz
Center 5.325 GHz
10 MHz/
Span 100 MHz
1 PK
VIEW


A
*RBW 100 kHz
*VBW 100 kHz
SWT 3.4 s
Marker 1 [T1]
-58.82 dBm
10.556000000 GHz
Ref -17 dBm
*Att 0 dB
1
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
Start 6 GHz
3.4 GHz/
Stop 40 GHz
1 PK
VIEW

5.8 ANTENNA REQUIREMENT

5.8.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And according to FCC 47 CFR Section 15.407(a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

5.8.2 ANTENNA CONNECTED CONSTRUCTION

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

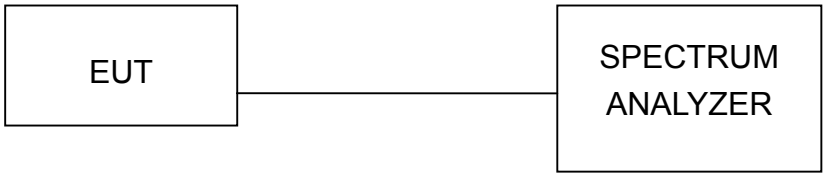
5.9.3 TEST PROCEDURE

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

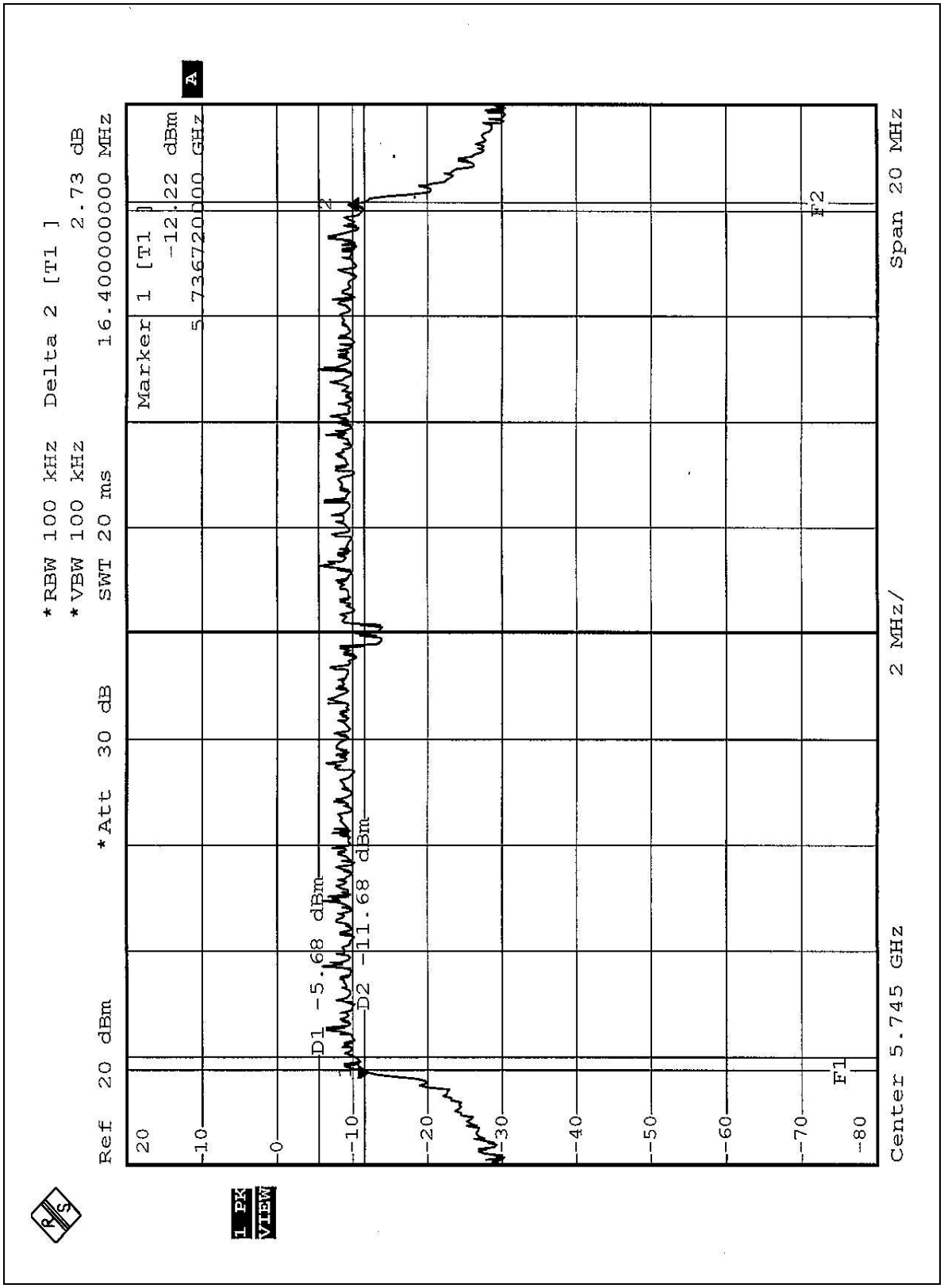
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

5.9.7 TEST RESULTS

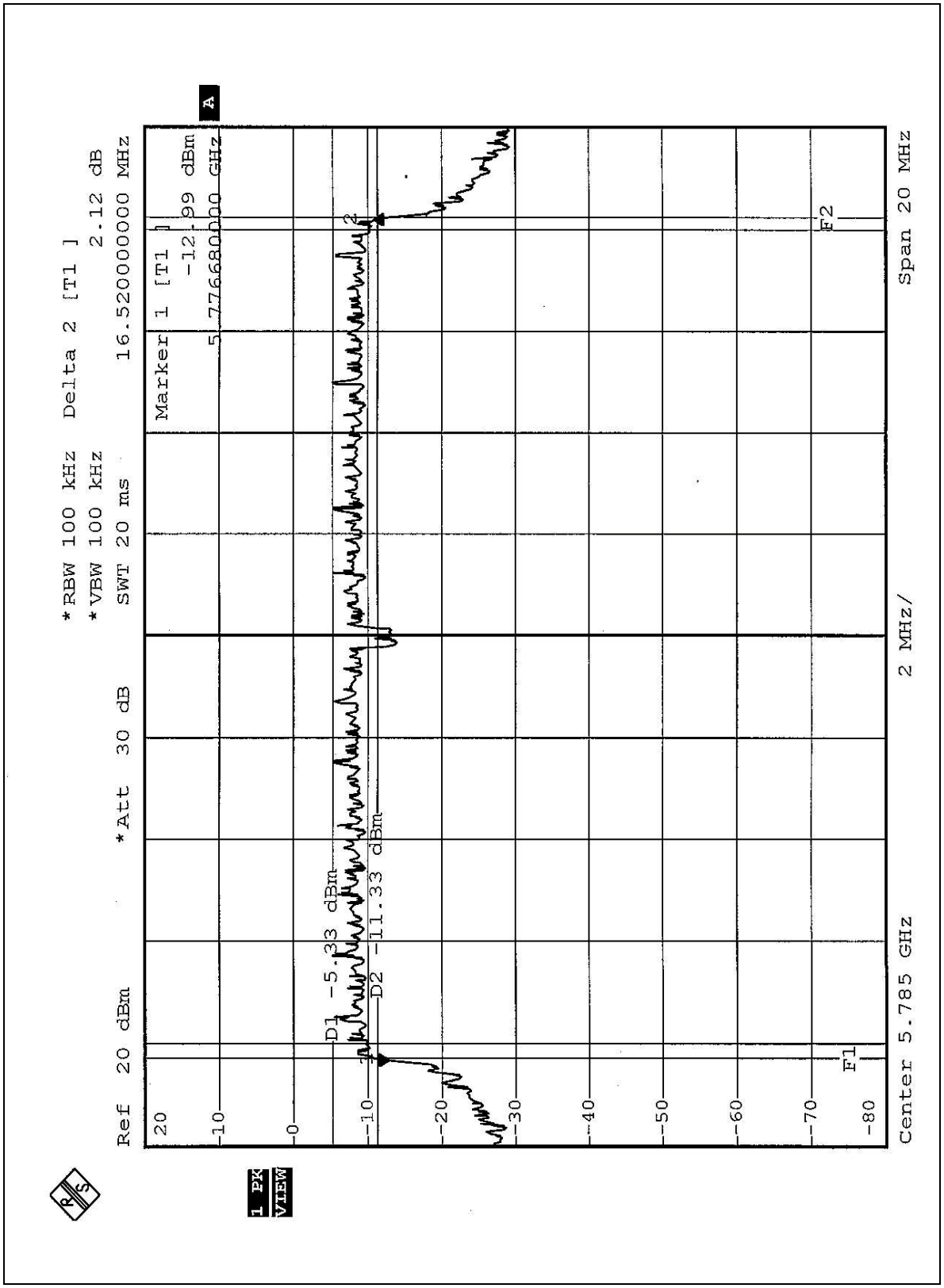
EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991 hPa	**TESTED BY**	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
9	5745	16.40	0.5	PASS
11	5785	16.52	0.5	PASS
13	5825	16.56	0.5	PASS

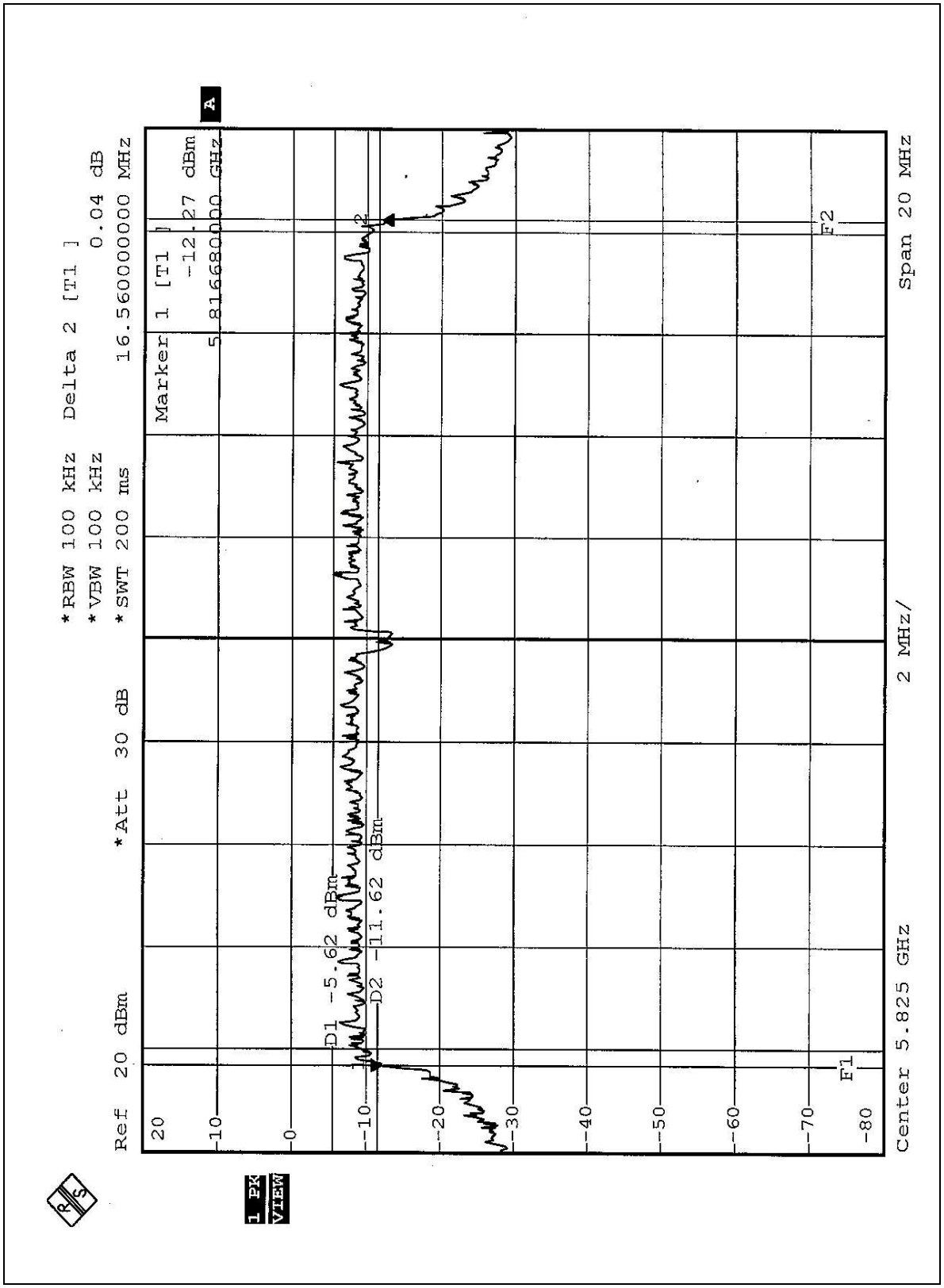
CHANNEL 9


Ref 20 dBm
*Att 30 dB
SWT 20 ms
*VBW 100 kHz
*RBW 100 kHz
Delta 2 [T1]
2.73 dB
16.40000000 MHz
Marker 1 [T1]
-12.22 dBm
5.73672000 GHz
D1 -5.68 dBm
D2 -11.68 dBm
Center 5.745 GHz
2 MHz/
Span 20 MHz
F1
F2
1 PK
VIEW

CHANNEL 11


Ref 20 dBm
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 20 ms
Delta 2 [T1]
2.12 dB
16.52000000 MHz
Marker 1 [T1]
-12.99 dBm
5.77668000 GHz
D1 -5.33 dBm
D2 -11.33 dBm
F1
F2
Center 5.785 GHz
2 MHz/
Span 20 MHz
1 PK VIEW

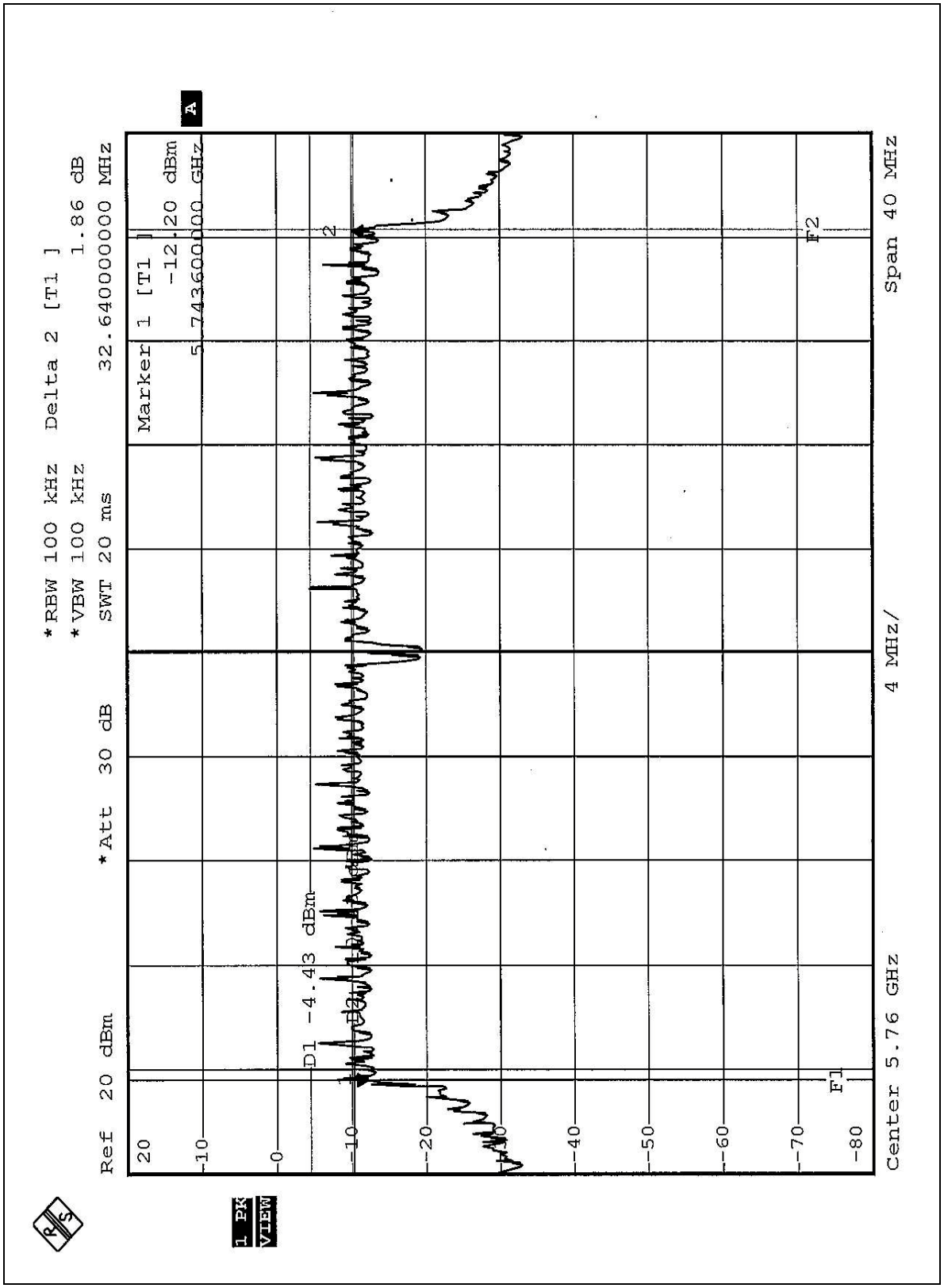
CHANNEL 13


Ref 20 dBm
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
*SWT 200 ms
Delta 2 [T1]
0.04 dB
16.560000000 MHz
Marker 1 [T1]
-12.27 dBm
5.816680000 GHz
D1 -5.62 dBm
D2 -11.62 dBm
Center 5.825 GHz
2 MHz/
Span 20 MHz
F1
F2
1 PK VIEW

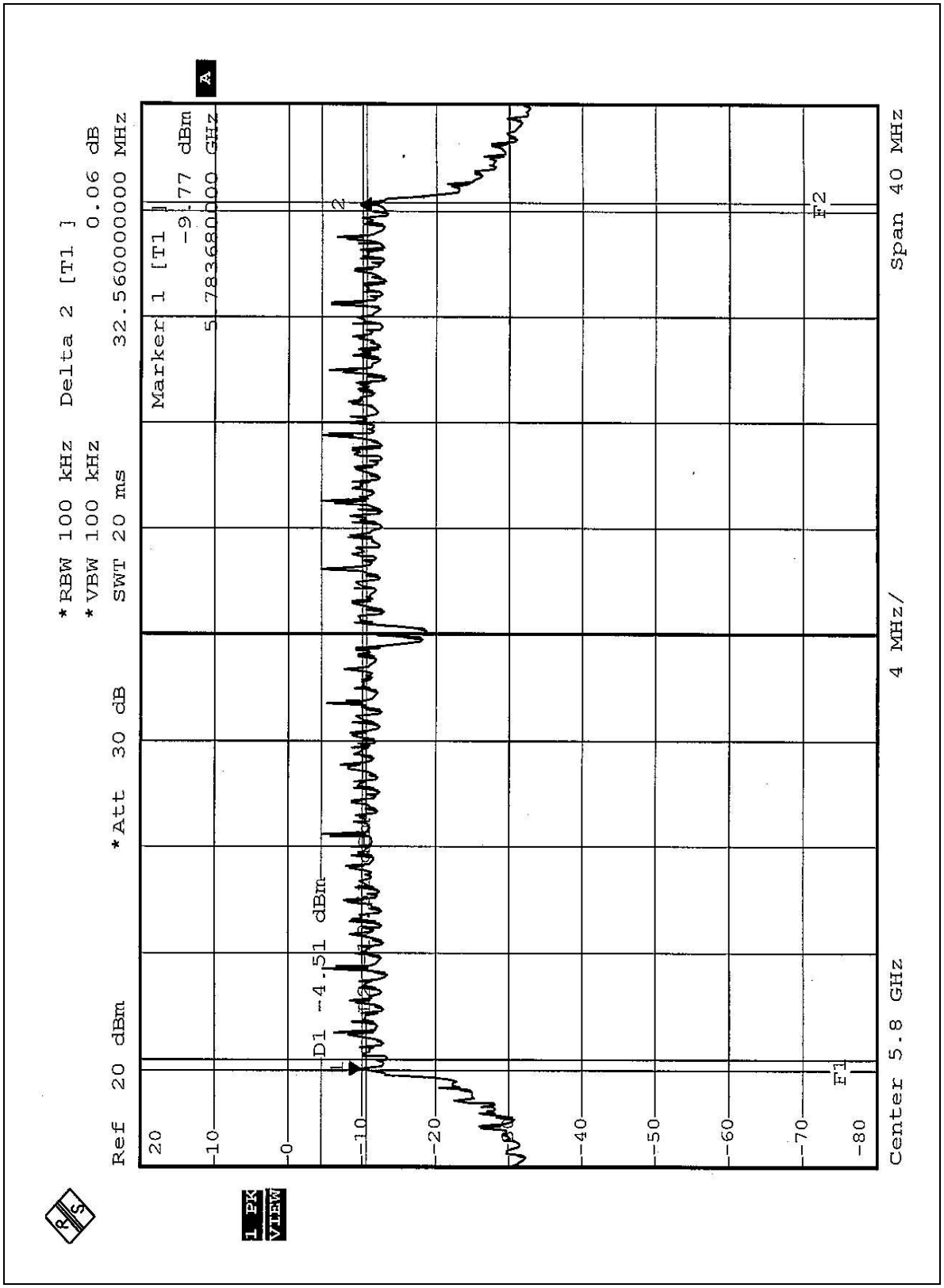
EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991 hPa	**TESTED BY**	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
4	5760	32.64	0.5	PASS
5	5800	32.56	0.5	PASS

CHANNEL 4


Ref 20 dBm
*Att 30 dB
SWT 20 ms
*VBW 100 kHz
*RBW 100 kHz
Delta 2 [T1]
1.86 dB
32.640000000 MHz
Marker 1 [T1]
-12.20 dBm
5.743600000 GHz
D1 -4.43 dBm
Center 5.76 GHz
4 MHz/
Span 40 MHz
F1
F2
1 PK
VIEW

CHANNEL 5


Ref 20 dBm
*Att 30 dB
*VBW 100 kHz
SWT 20 ms
*RBW 100 kHz
Delta 2 [T1]
0.06 dB
32.56000000 MHz
Marker 1 [T1]
-9.77 dBm
5.78368000 GHz
D1 -4.51 dBm
Center 5.8 GHz
4 MHz/
Span 40 MHz
1 PK VIEW

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 1012	C019167	Feb. 01, 2005
NARDA DETECTOR	4503A	FSCM99899	NA

NOTE:

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

5.10.3 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	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)	PASS/FAIL
9	5745	10.00	30	PASS
11	5785	10.30	30	PASS
13	5825	10.10	30	PASS

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)	PASS/FAIL
4	5760	9.00	30	PASS
5	5800	8.40	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.

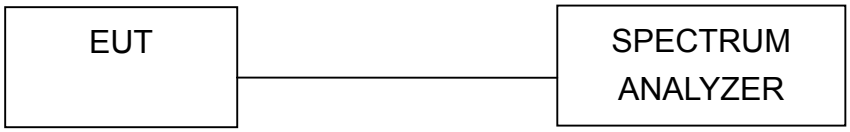
5.11.3 TEST PROCEDURE

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

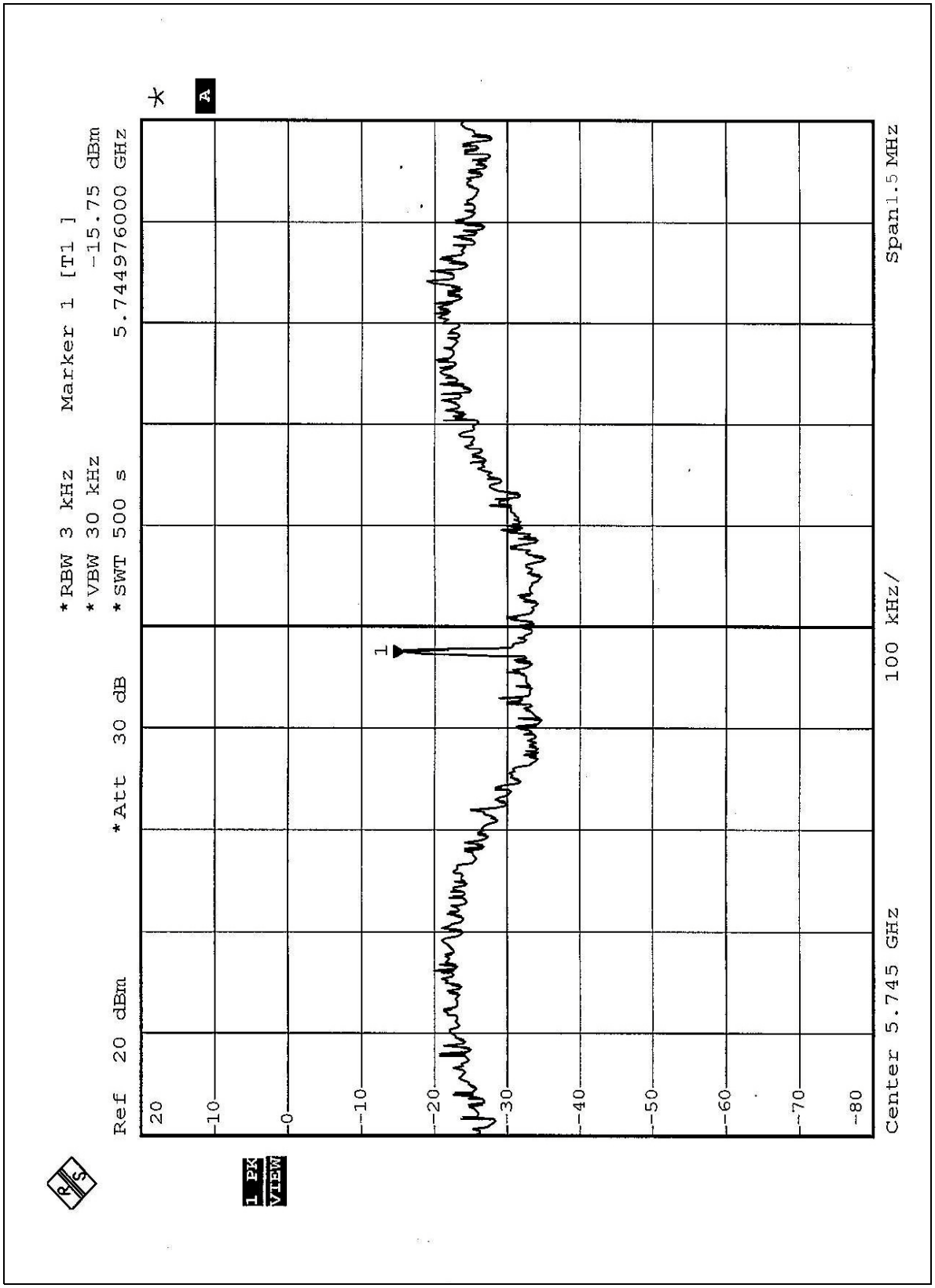
Same as Item 5.9.6

5.11.7 TEST RESULTS

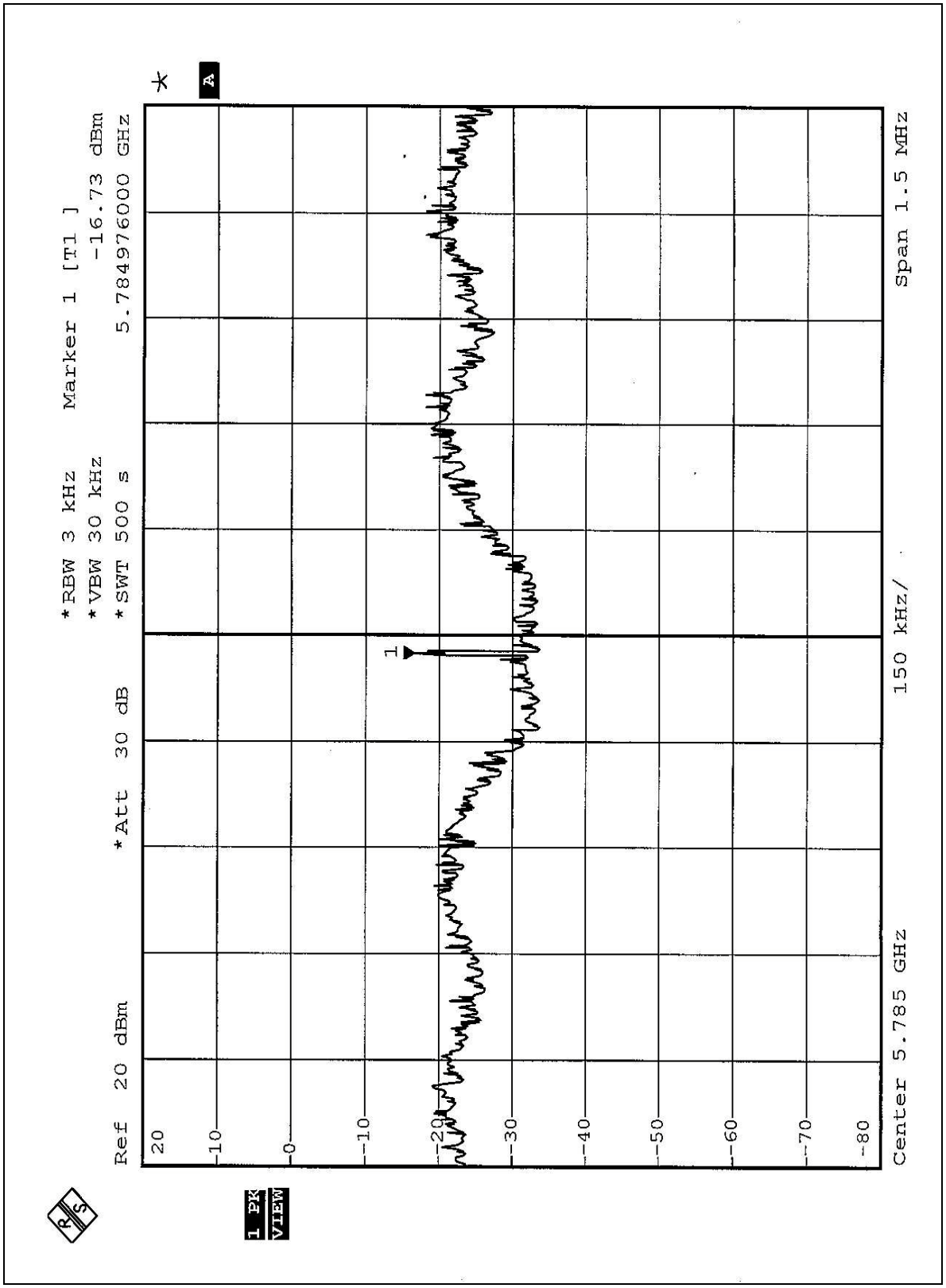
EUT	Atheros 11a/g Mini-PCI Adapter	**MODEL**	NL-5354MP Plus Aries2
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991 hPa	**TESTED BY**	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
9	5745	-15.75	8	PASS
11	5785	-16.73	8	PASS
13	5825	-17.32	8	PASS

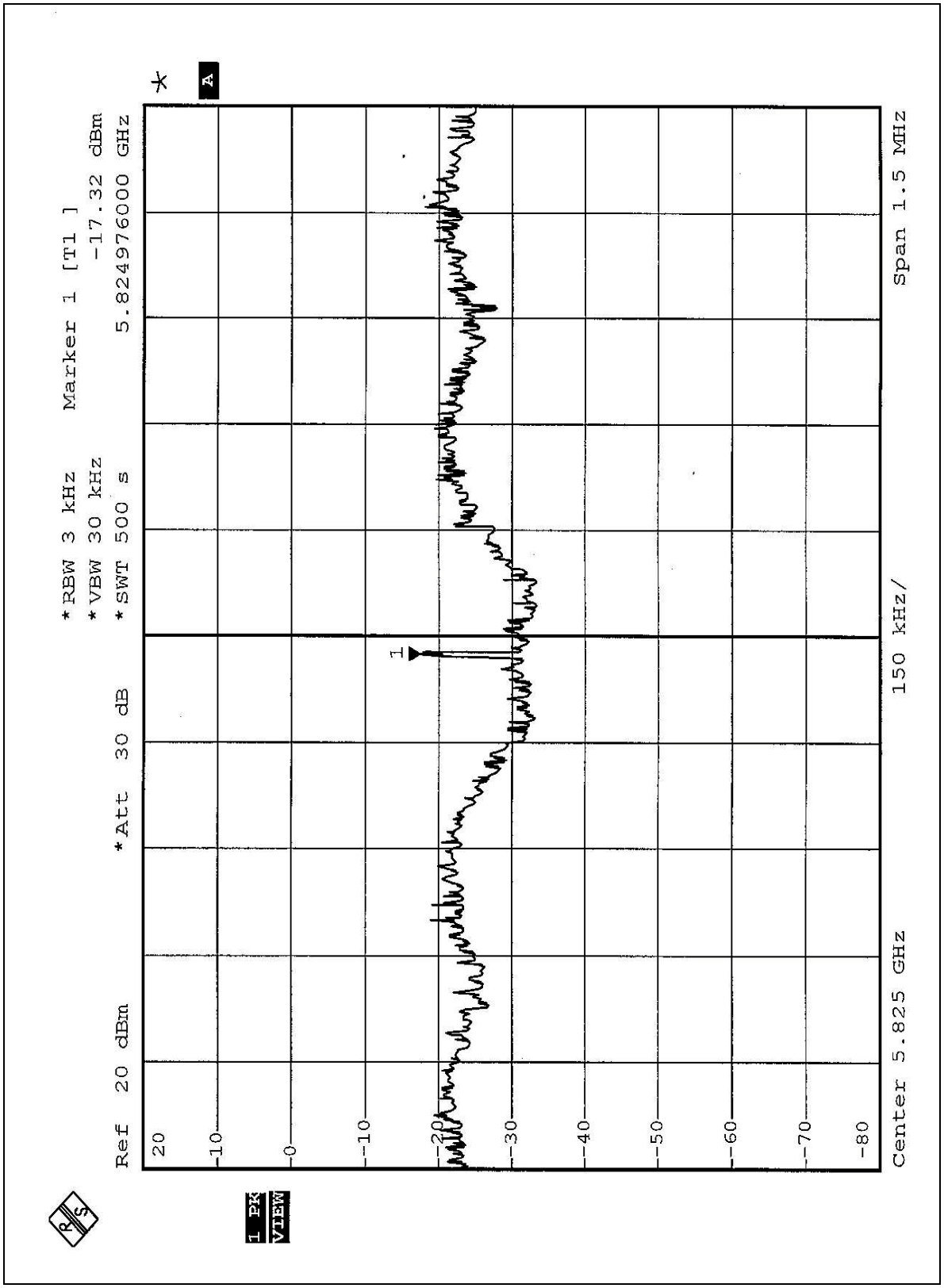
CHANNEL 9


Ref 20 dBm
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-15.75 dBm
5.744976000 GHz
1 PK
VIEW
Center 5.745 GHz
100 kHz/
Span 1.5 MHz

CHANNEL 11


Marker 1 [T1]
-16.73 dBm
5.78497600 GHz
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
*Att 30 dB
Ref 20 dBm
Center 5.785 GHz
150 kHz/
Span 1.5 MHz
1 PK
VIEW

CHANNEL 13


Ref 20 dBm
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-17.32 dBm
5.824976000 GHz
Center 5.825 GHz
150 kHz/
Span 1.5 MHz
1 PK
VIEW
A
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80

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, 991 hPa	**TESTED BY**	Gary Chang

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
4	5760	-17.06	8	PASS
5	5800	-16.79	8	PASS