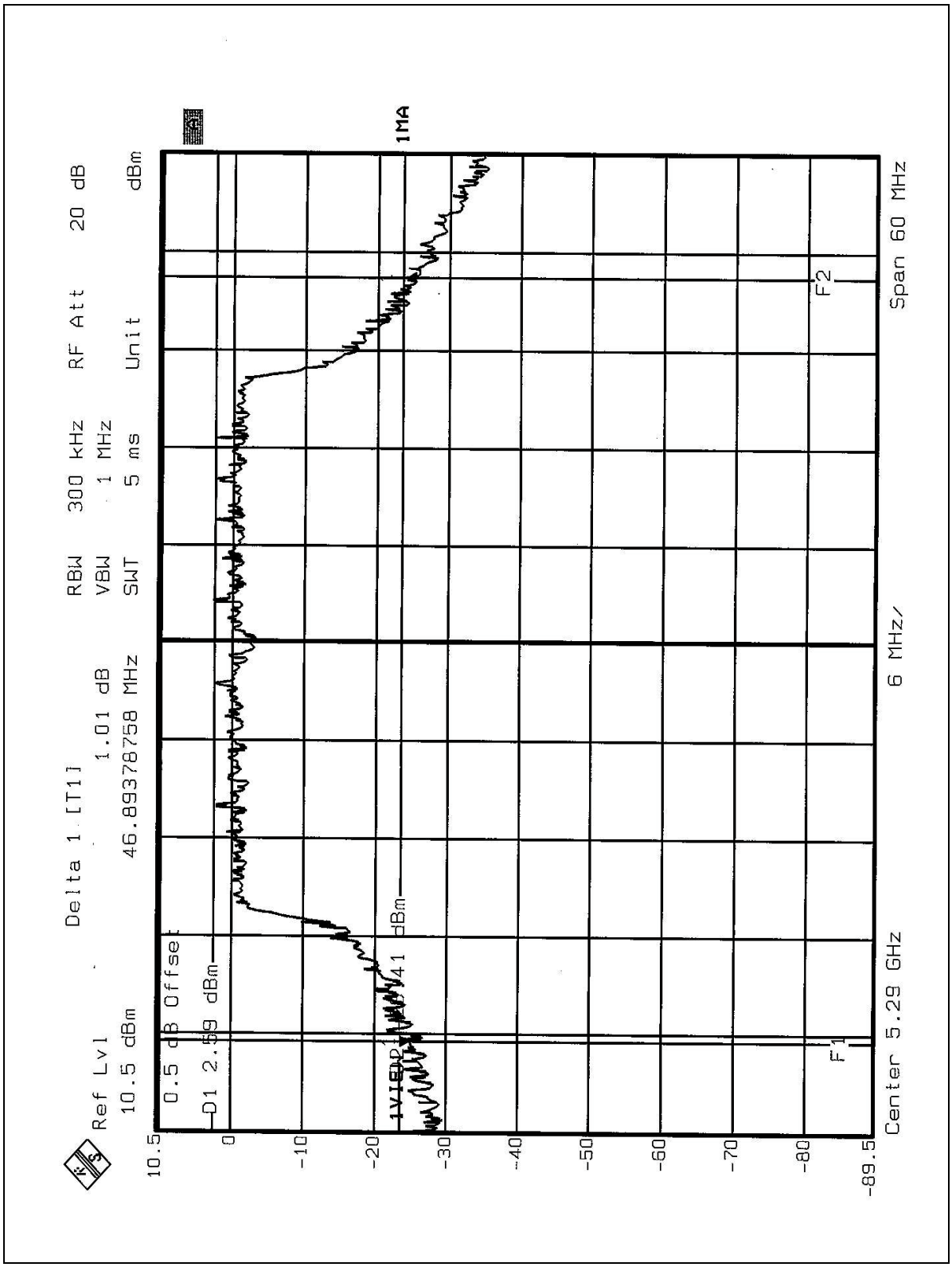
CH3


Ref Lvl
10.5 dBm
0.5 dB Offset
D1 2.59 dBm
Delta 1 [T1]
1.01 dB
46.89378758 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1MA
1VIEW
41 dBm
F1
F2
Center 5.29 GHz
6 MHz/
Span 60 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

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, 2005

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

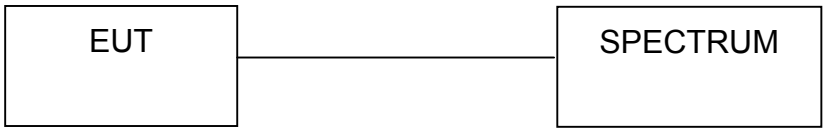
5.4.3 TEST PROCEDURE

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

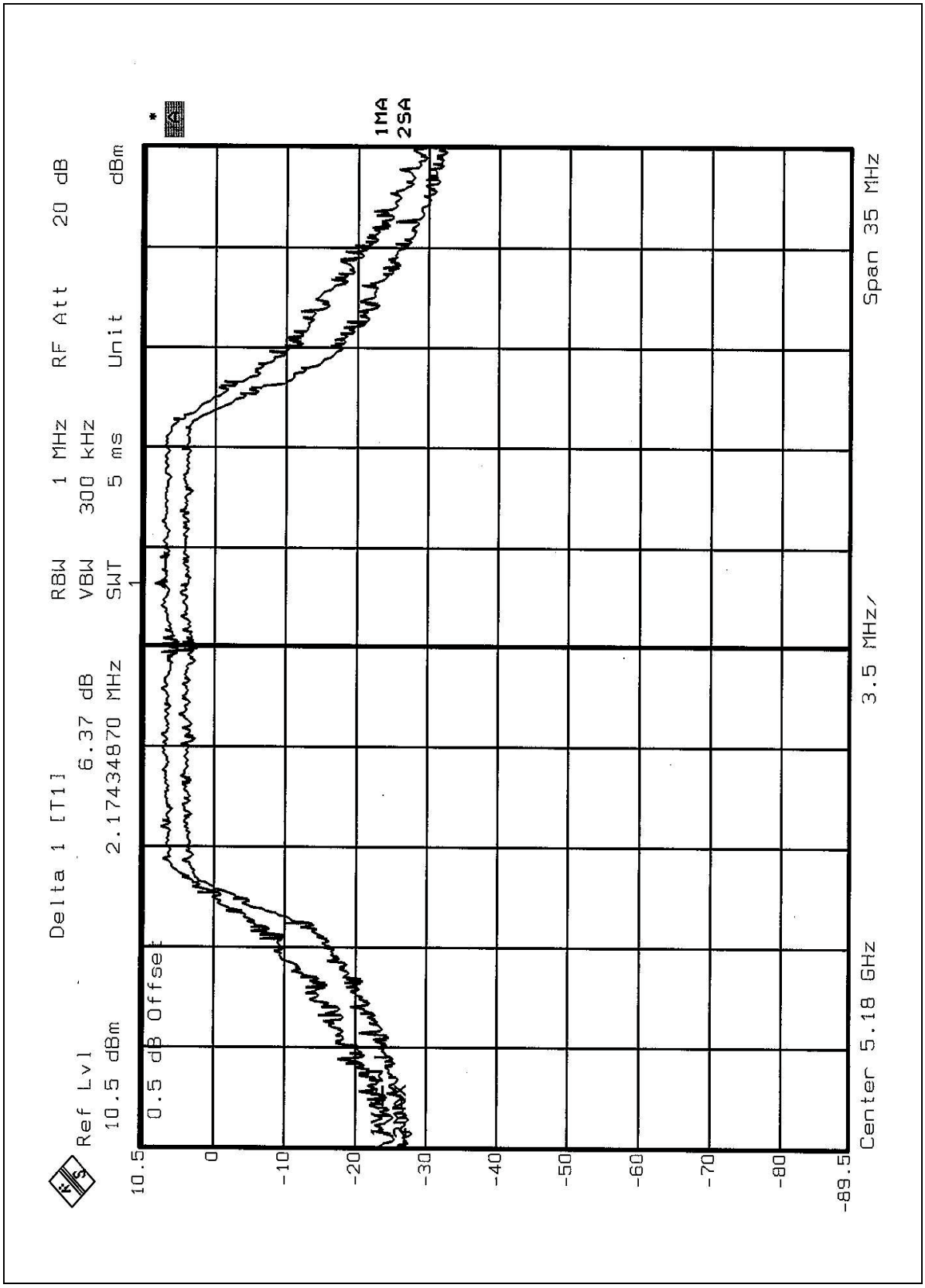
The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

5.4.7 TEST RESULTS

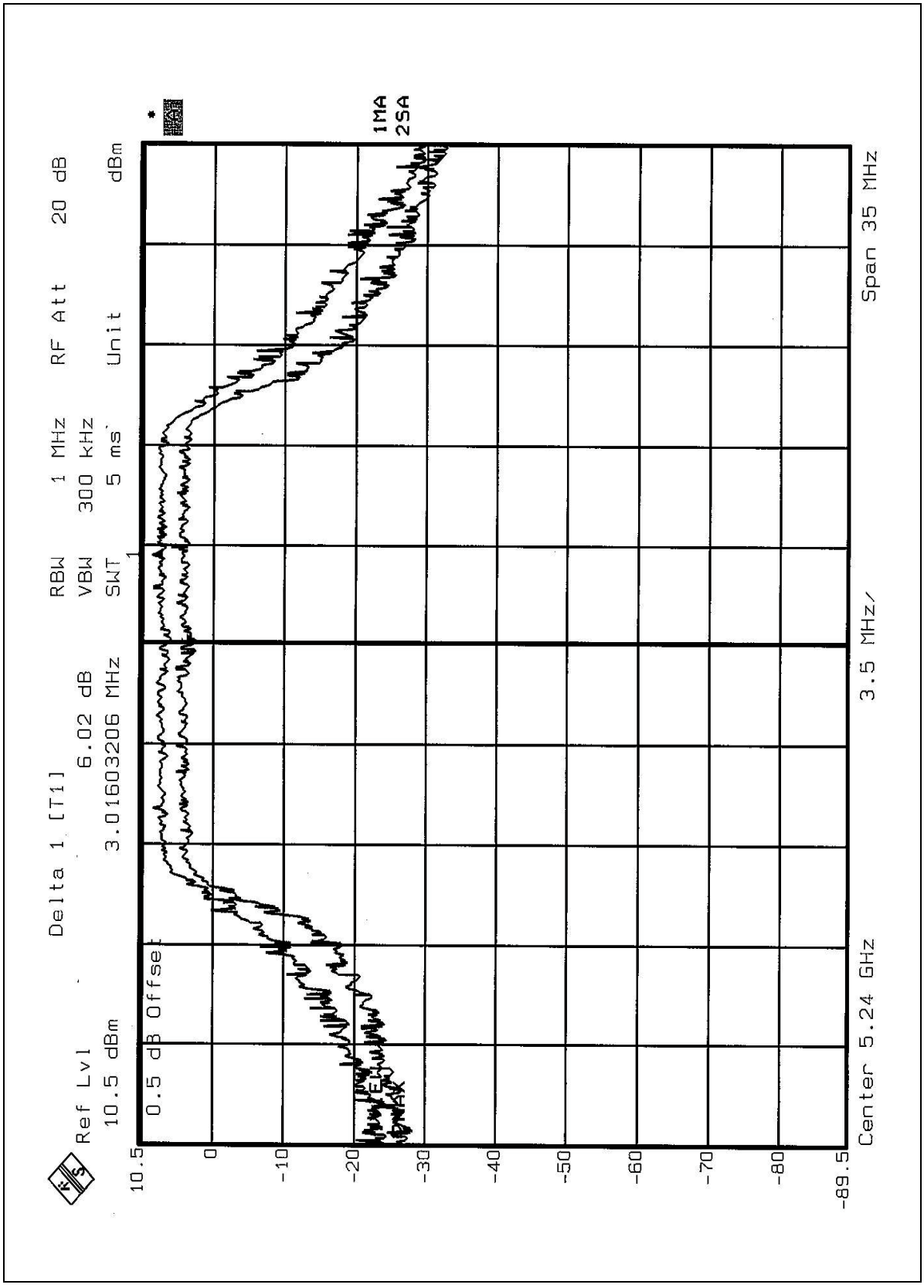
EUT	Wireless A+G Broadband Router	**MODEL**	WRT55AG ver. 2
MODE	Normal	**INPUT POWER (SYSTEM)**	120 Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24 deg. C, 67% RH, 991 hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5180	6.37	13	PASS
4	5240	6.02	13	PASS
5	5260	5.77	13	PASS
8	5320	6.60	13	PASS

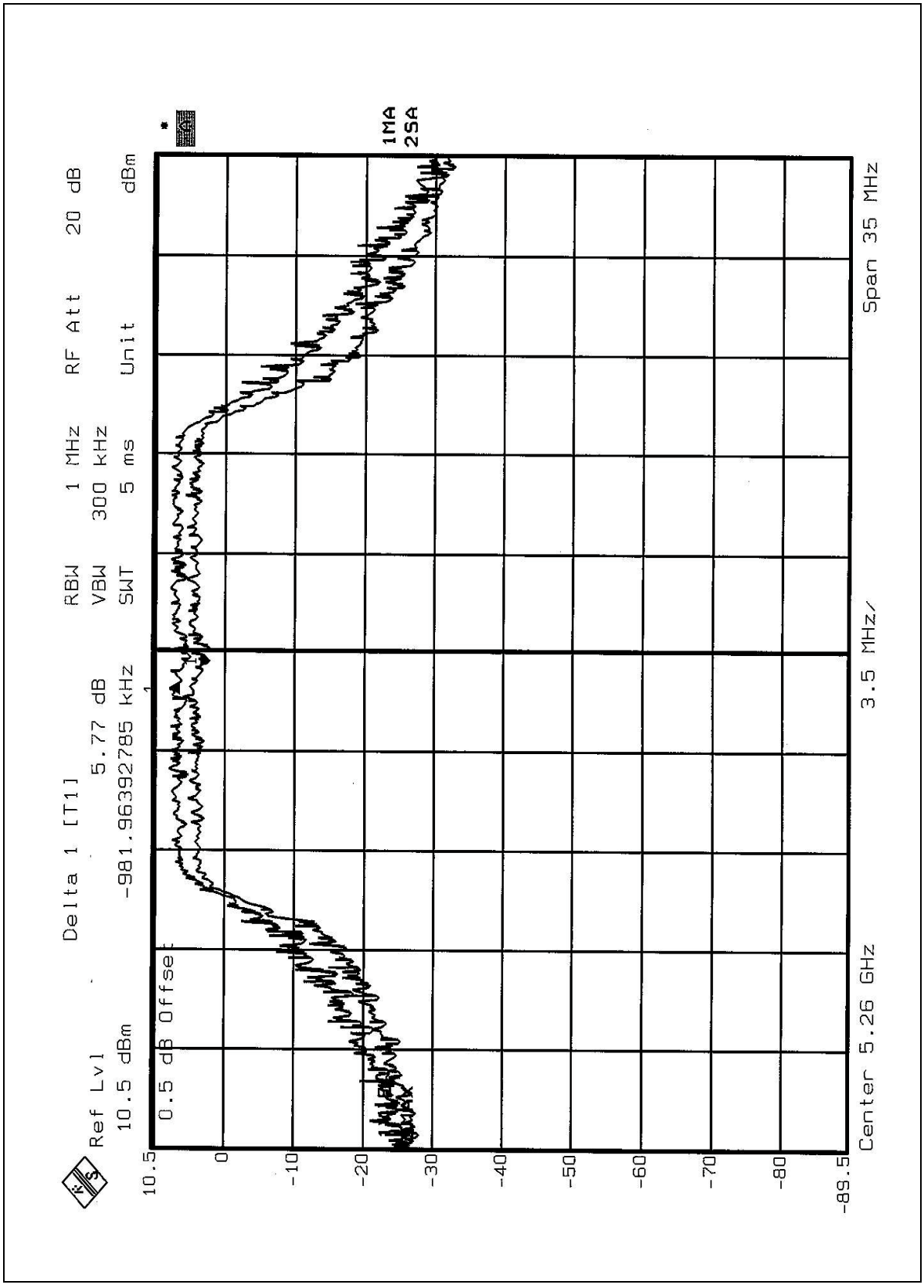
CH1


Ref Lvl
10.5 dBm
0.5 dB Offset
Delta 1 [T1]
6.37 dB
2.17434870 MHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1MA
2SA
Center 5.18 GHz
3.5 MHz/
Span 35 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

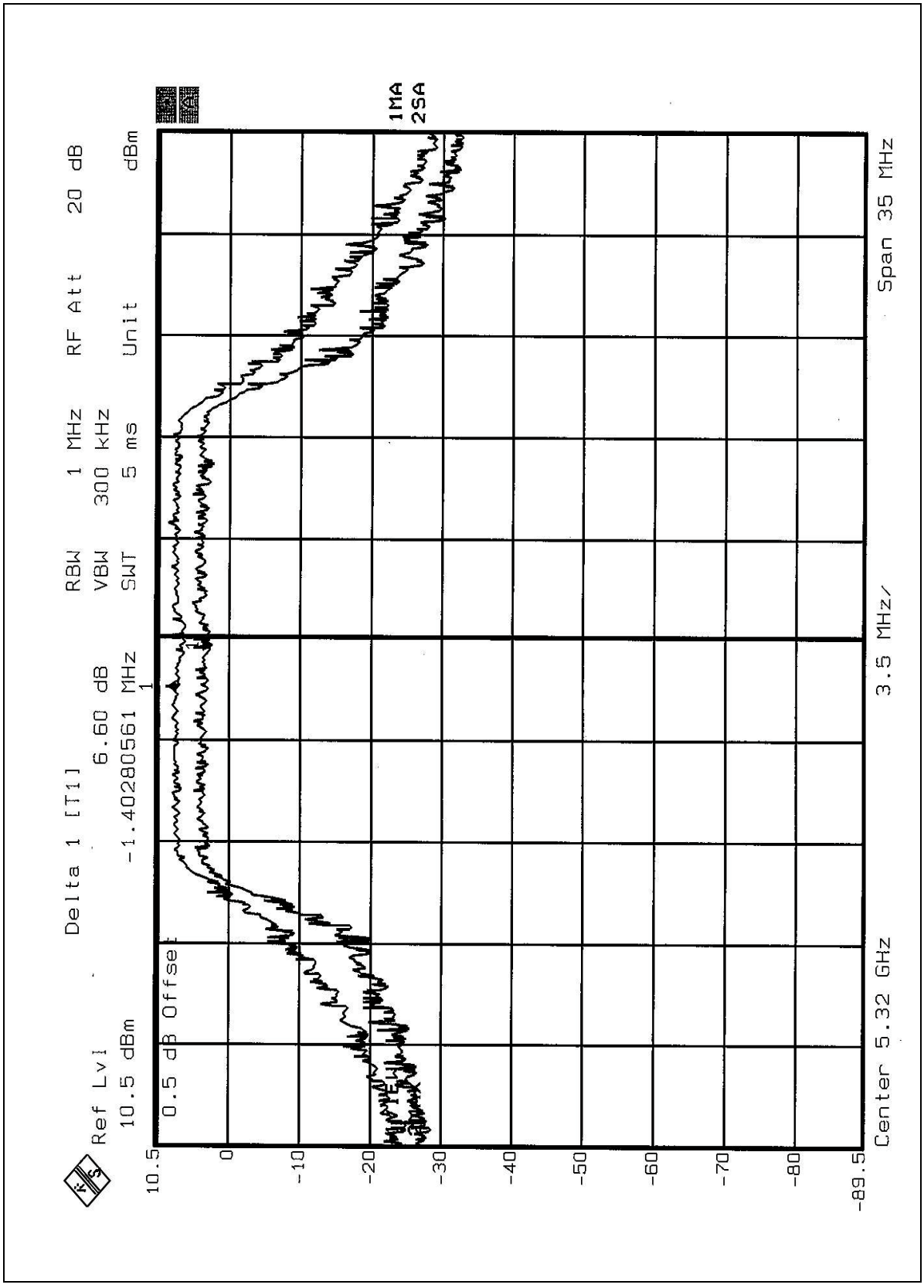
CH4


Ref Lvl
10.5 dBm
0.5 dB Offset
Delta 1 [T1]
6.02 dB
3.01603206 MHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1MA
2SA
Center 5.24 GHz
3.5 MHz/
Span 35 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

CH5


Ref Lvl
10.5 dBm
0.5 dB Offset
Delta 1 [T1]
5.77 dB
-981.96392785 kHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1MA
2SA
Span 35 MHz
3.5 MHz/
Center 5.26 GHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

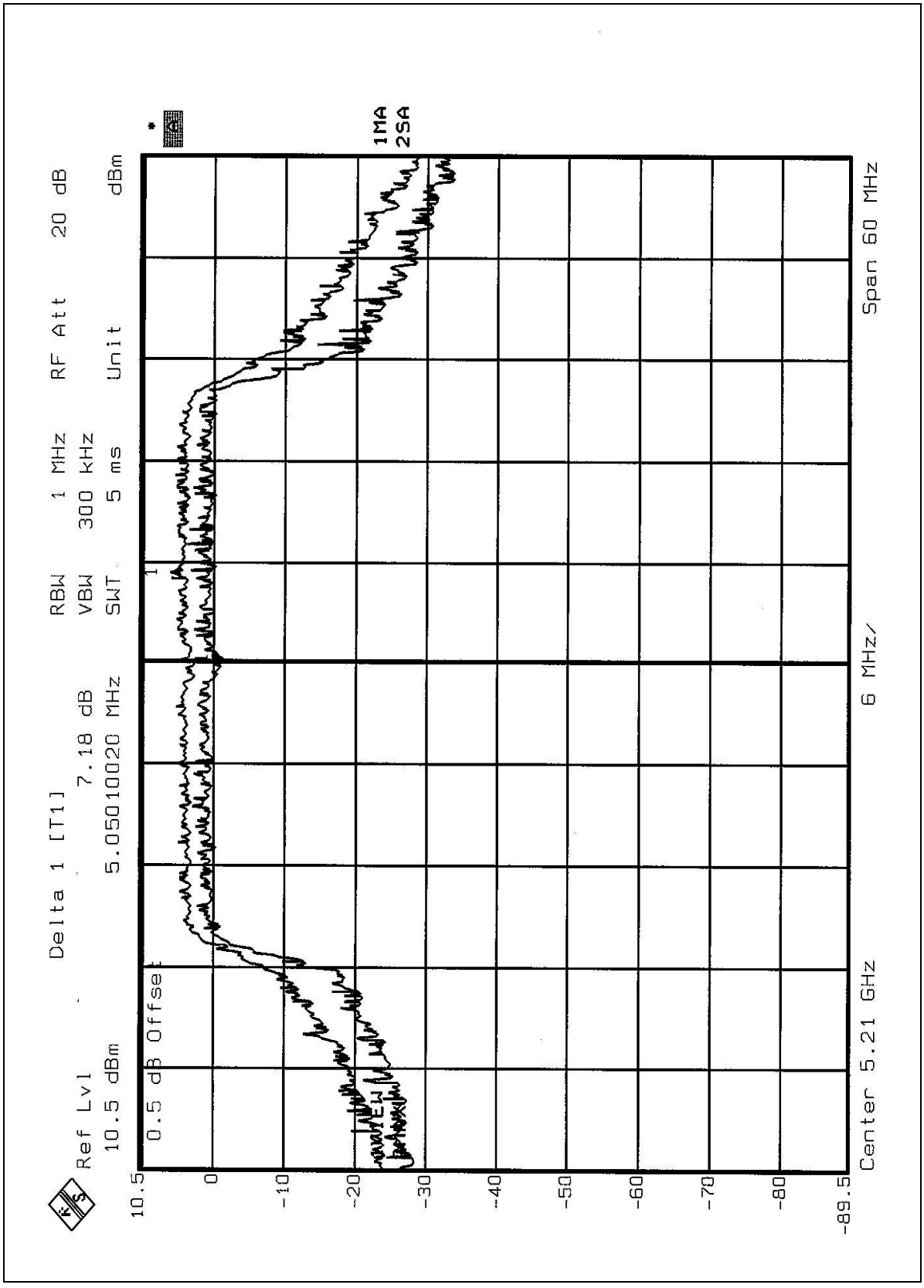
CH8


Ref Lvl
10.5 dBm
0.5 dB Offset
Delta 1 [T1]
6.60 dB
-1.40280561 MHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1MA
2SA
Center 5.32 GHz
3.5 MHz/
Span 35 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

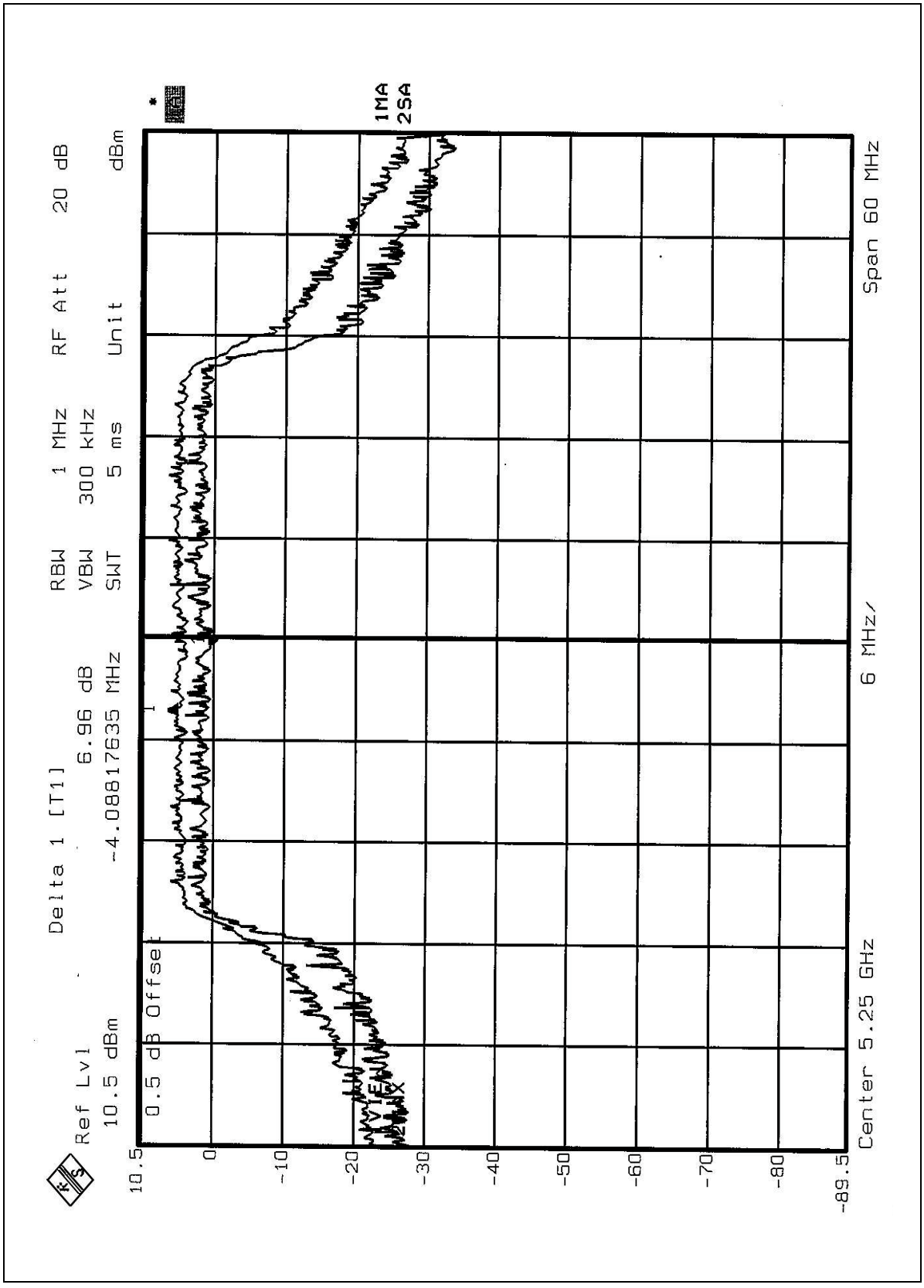
EUT	Wireless A+G Broadband Router	**MODEL**	WRT55AG ver. 2
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH, 991hPa	**TESTED BY**	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5210	7.18	13	PASS
2	5250	6.96	13	PASS
3	5290	6.10	13	PASS

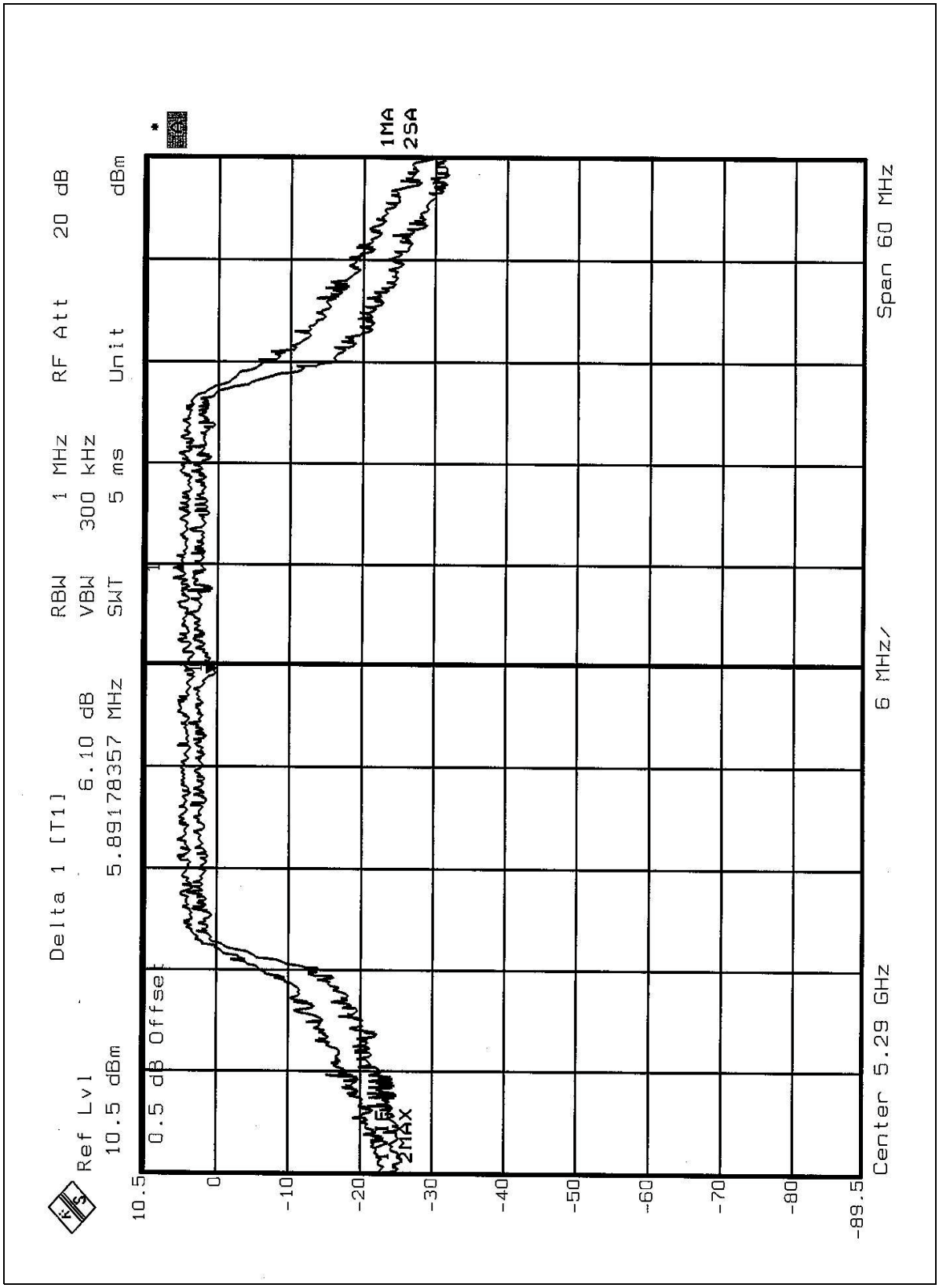
CH1


Delta 1 [T1]
7.18 dB
5.05010020 MHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
1MA
2SA
Span 60 MHz
6 MHz/
Center 5.21 GHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

CH2


Ref Lvl
10.5 dBm
0.5 dB Offset
Delta 1 [T1]
6.96 dB
-4.08817635 MHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1MA
2SA
VIEW
Center 5.25 GHz
6 MHz/
Span 60 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

CH3


Ref Lvl
10.5 dBm
0.5 dB Offset
Delta 1 [T1]
6.10 dB
5.89178357 MHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1MA
2SA
2MAX
Center 5.29 GHz
6 MHz/
Span 60 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

5.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

5.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

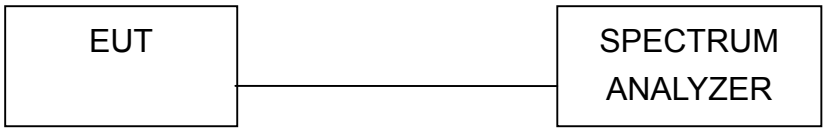
5.5.3 TEST PROCEDURES

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

5.5.4 DEVIATION FROM TEST STANDARD

No deviation.

5.5.5 TEST SETUP



5.5.6 EUT OPERATING CONDITIONS

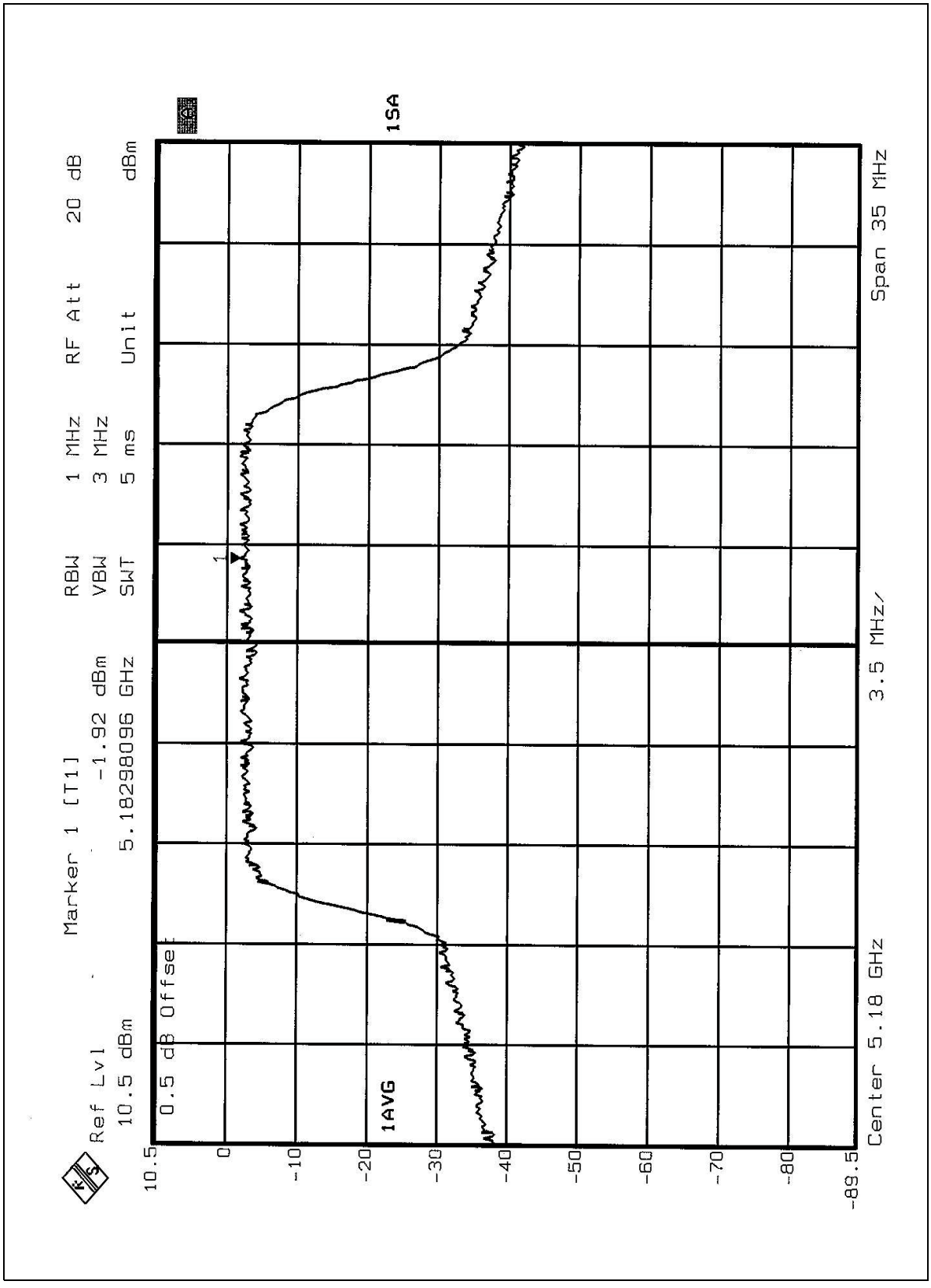
Same as 5.3.6.

5.5.7 TEST RESULTS

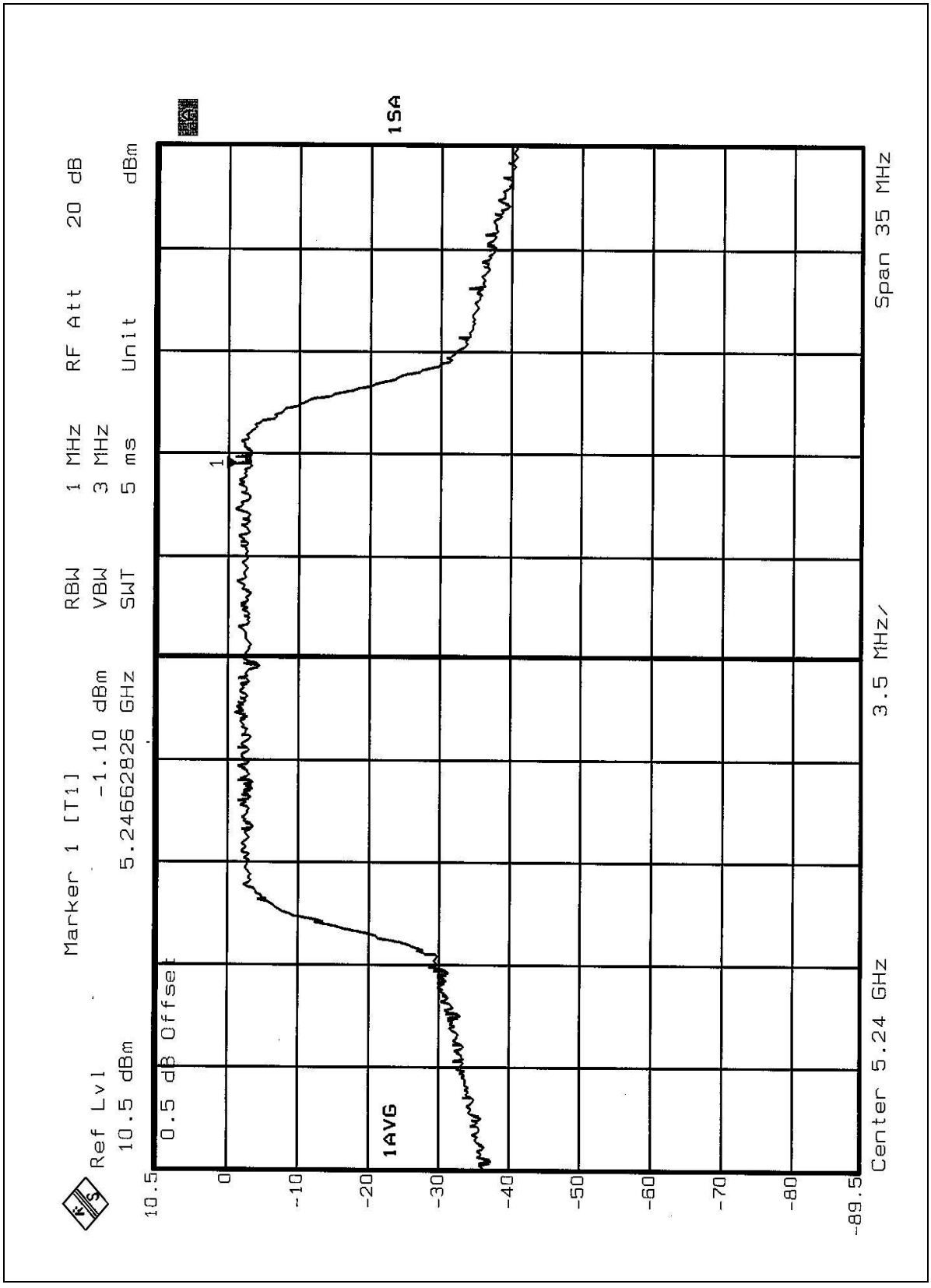
EUT	Wireless A+G Broadband Router	**MODEL**	WRT55AG ver. 2
MODE	Normal	**INPUT POWER (SYSTEM)**	120 Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24 deg. C, 67% RH, 991 hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5180	-1.92	4	PASS
4	5240	-1.10	4	PASS
5	5260	-1.19	11	PASS
8	5320	-1.77	11	PASS

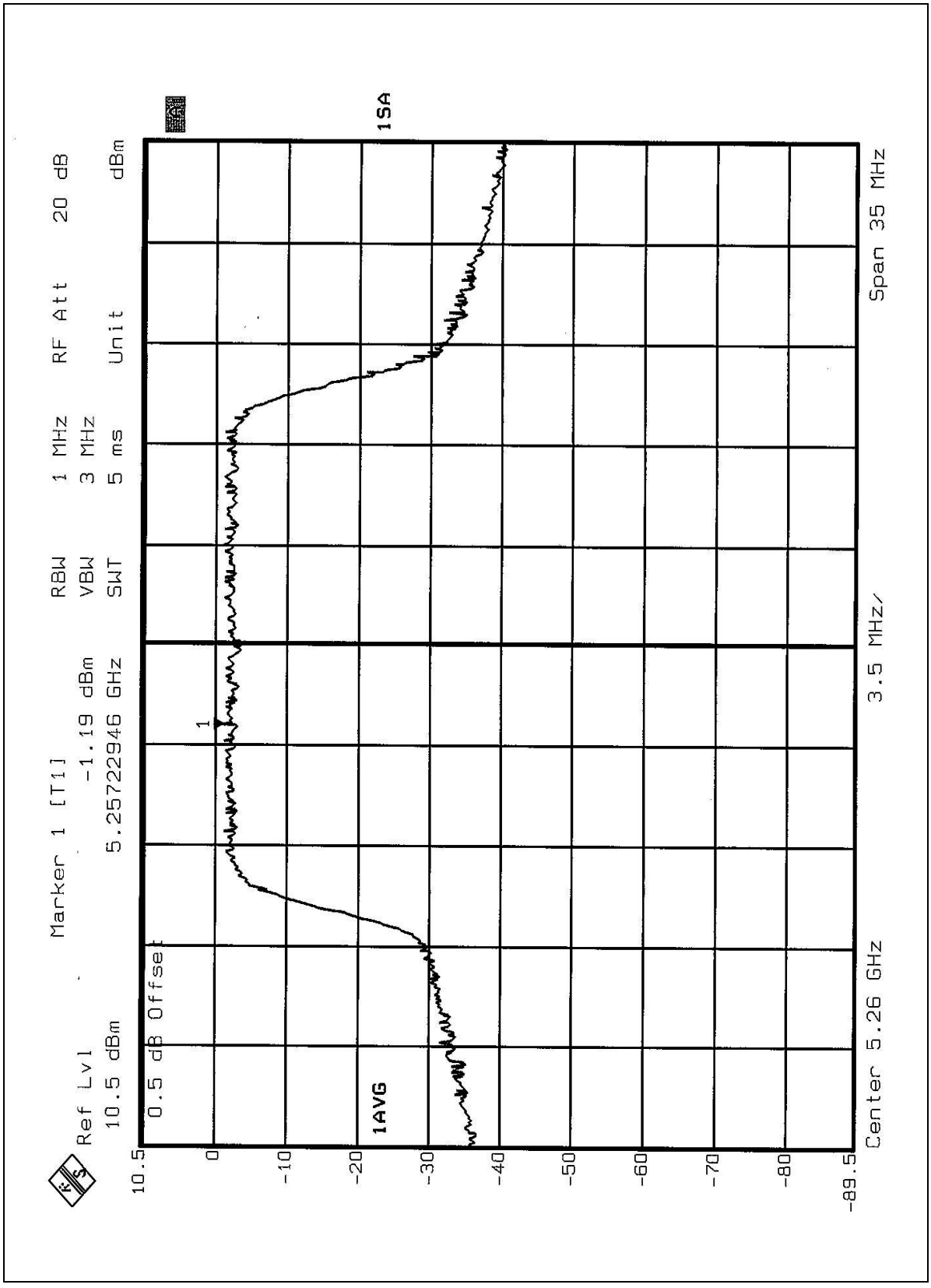
CH1


Ref Lvl
10.5 dBm
0.5 dB Offset
Marker 1 [T1]
-1.92 dBm
5.18298096 GHz
RBW 1 MHz
VBW 3 MHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1SA
1AVG
Center 5.18 GHz
3.5 MHz/
Span 35 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

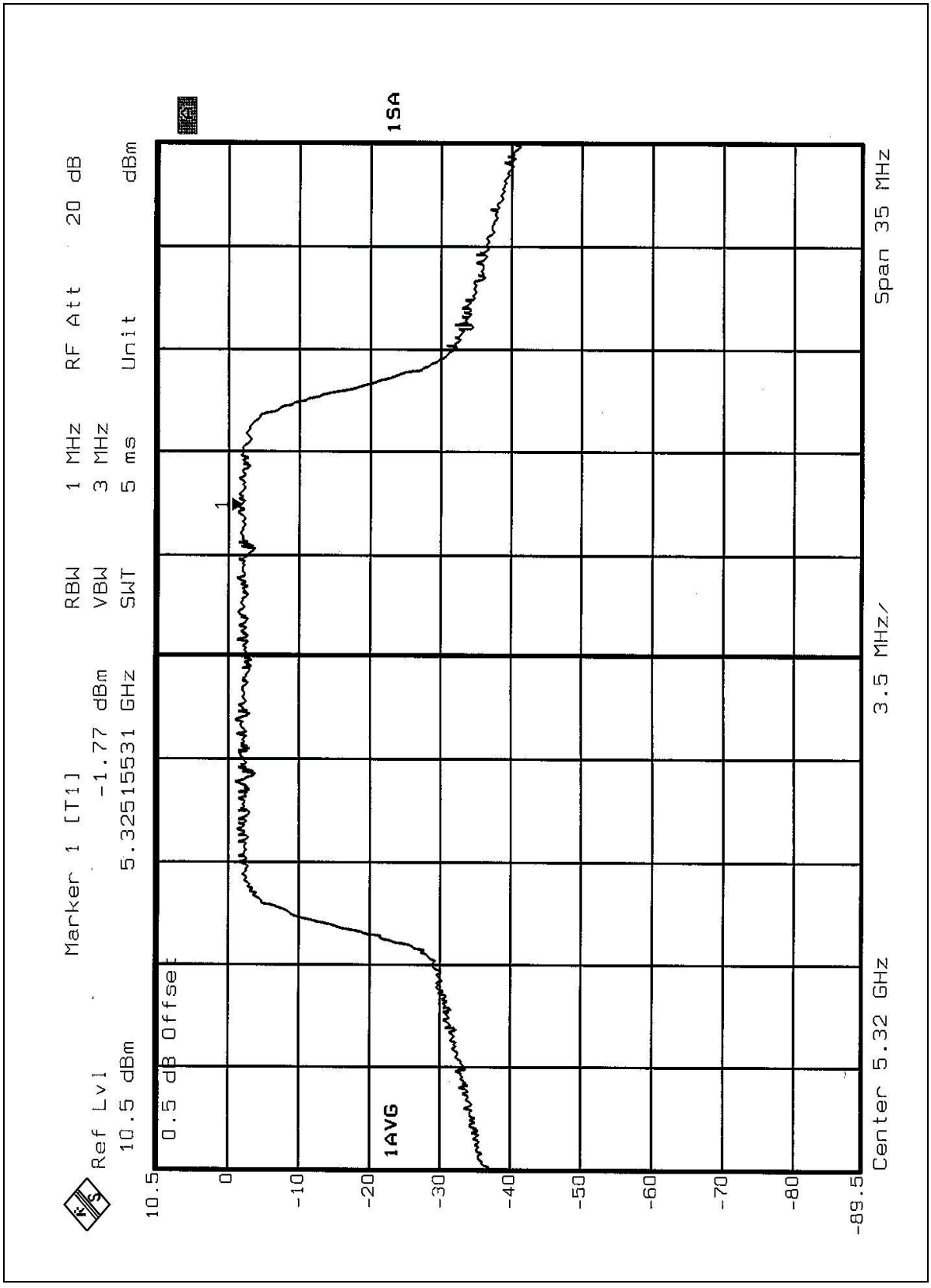
CH4


Ref Lvl
10.5 dBm
0.5 dB Offset
Marker 1 [T1]
-1.10 dBm
5.24662826 GHz
RBW 1 MHz
VBW 3 MHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1SA
1AVG
Center 5.24 GHz
3.5 MHz/
Span 35 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

CH5


Ref Lvl
10.5 dBm
0.5 dB Offset
Marker 1 [T1]
-1.19 dBm
5.25722946 GHz
RBW 1 MHz
VBW 3 MHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1SA
1AVG
Center 5.26 GHz
3.5 MHz/
Span 35 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

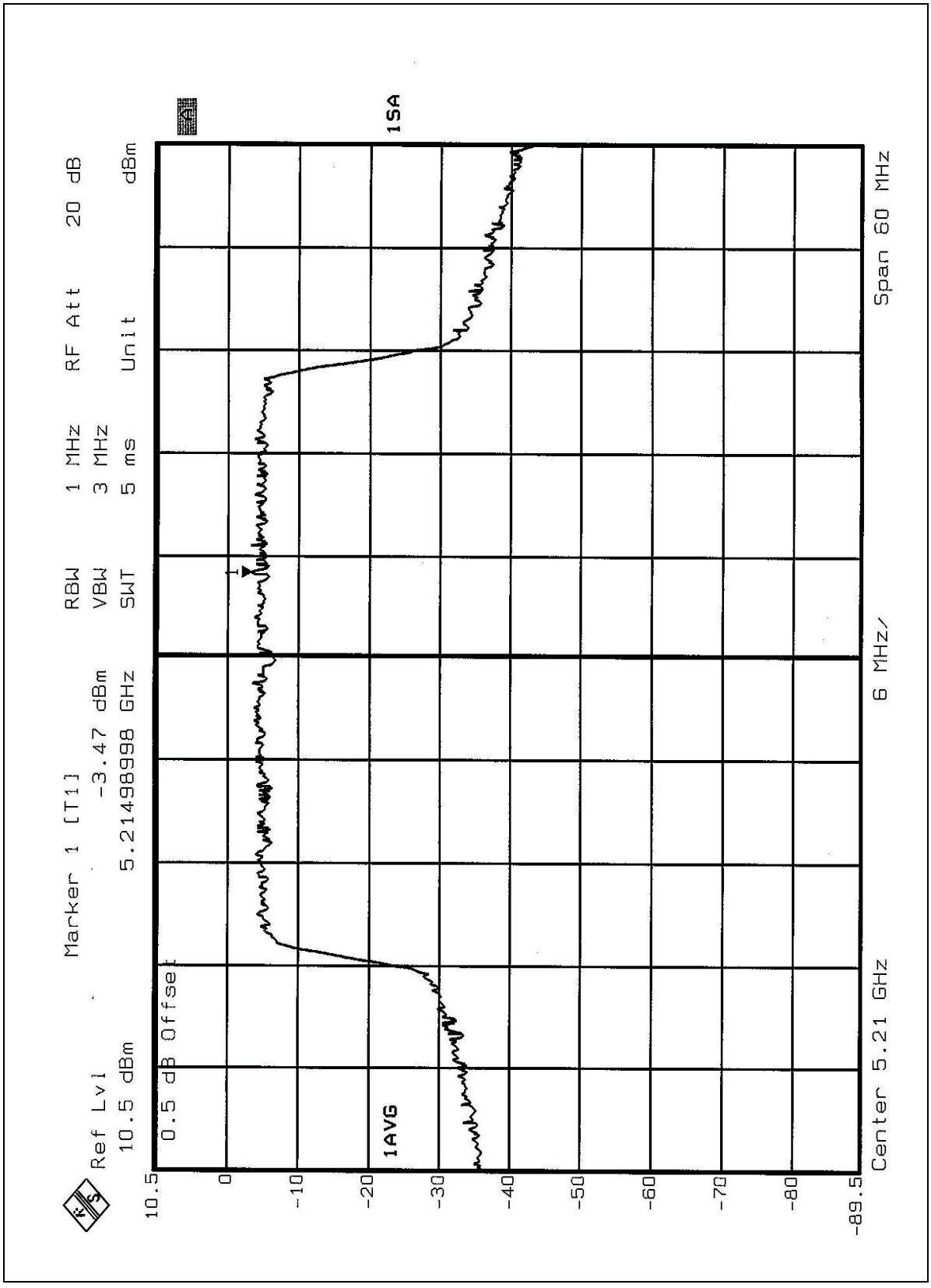
CH8


Ref Lvl
10.5 dBm
0.5 dB Offset
Marker 1 [T1]
-1.77 dBm
5.32515531 GHz
RBW 1 MHz
VBW 3 MHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1SA
1AVG
Center 5.32 GHz
3.5 MHz/
Span 35 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

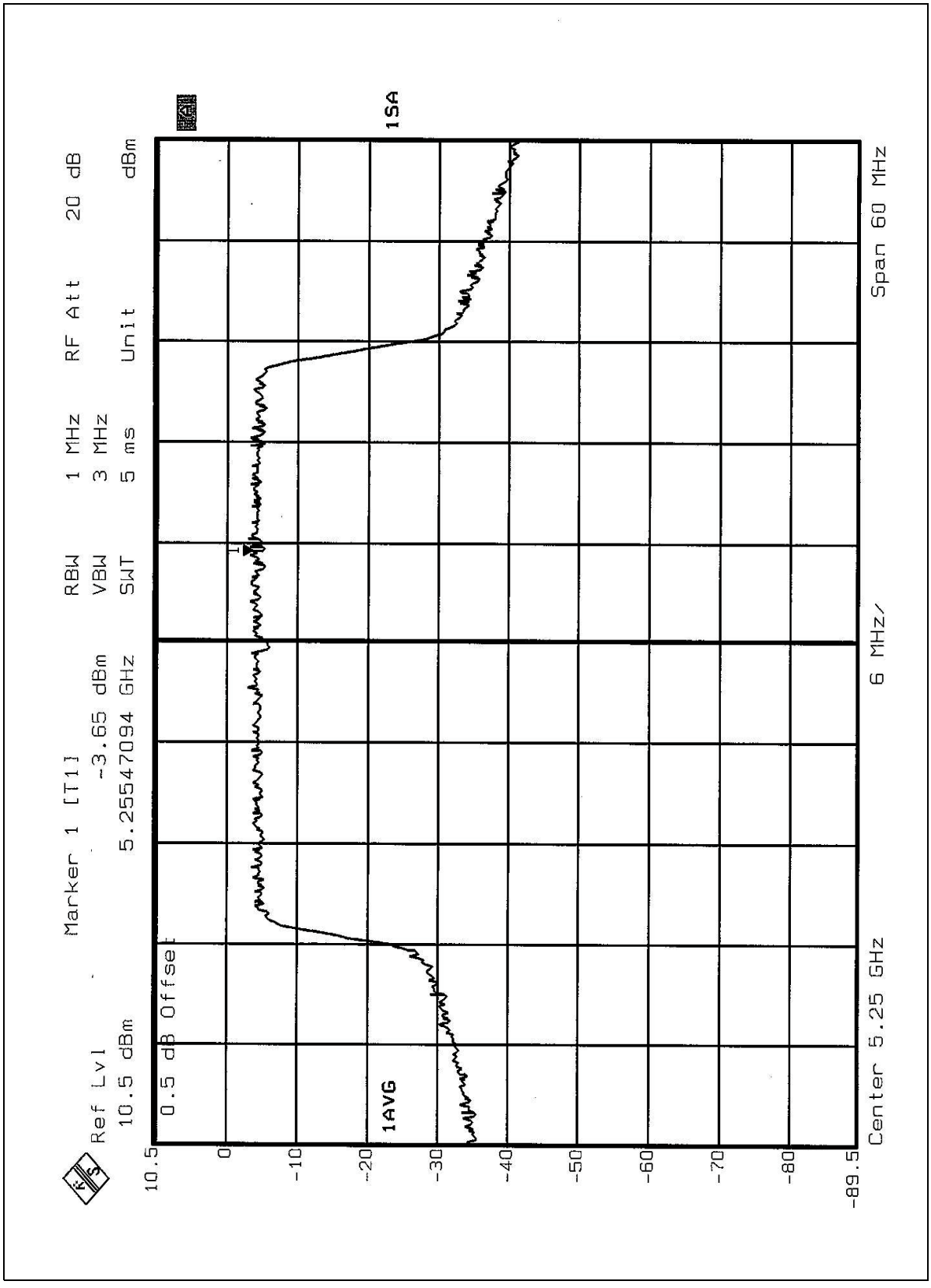
EUT	Wireless A+G Broadband Router	**MODEL**	WRT55AG ver. 2
MODE	Turbo	**INPUT POWER (SYSTEM)**	120 Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24 deg. C, 67% RH, 991 hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1 MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5210	-3.47	4	PASS
2	5250	-3.65	4	PASS
3	5290	-3.72	11	PASS

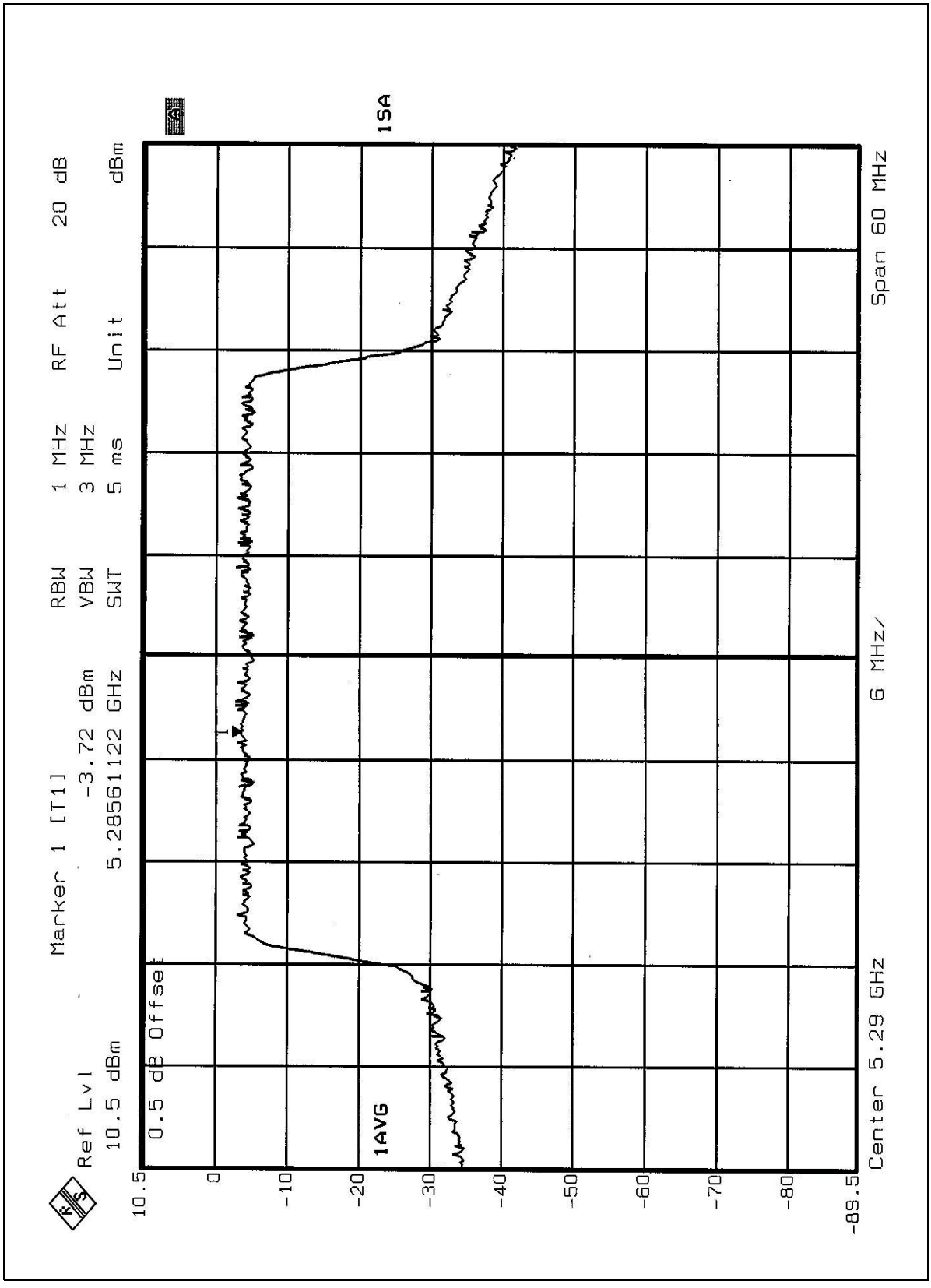
CH1


Ref Lvl
10.5 dBm
0.5 dB Offset
Marker 1 [T1]
-3.47 dBm
5.21498998 GHz
RBW 1 MHz
VBW 3 MHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1SA
1AVG
Center 5.21 GHz
6 MHz/
Span 60 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

CH2


Marker 1 [T1]
-3.65 dBm
5.25547094 GHz
RBW 1 MHz
VBW 3 MHz
SWT 5 ms
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
1AVG
1SA
Span 60 MHz
6 MHz/
Center 5.25 GHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

CH3


Ref Lvl
10.5 dBm
0.5 dB Offset
Marker 1 [T1]
-3.72 dBm
5.28561122 GHz
RBW 1 MHz
VBW 3 MHz
SWT 5 ms
RF Att 20 dB
Unit dBm
1SA
1AVG
Center 5.29 GHz
6 MHz/
Span 60 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

5.6 FREQUENCY STABILITY

5.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

5.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Feb. 09, 2005
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W981030	Jul. 18, 2005

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

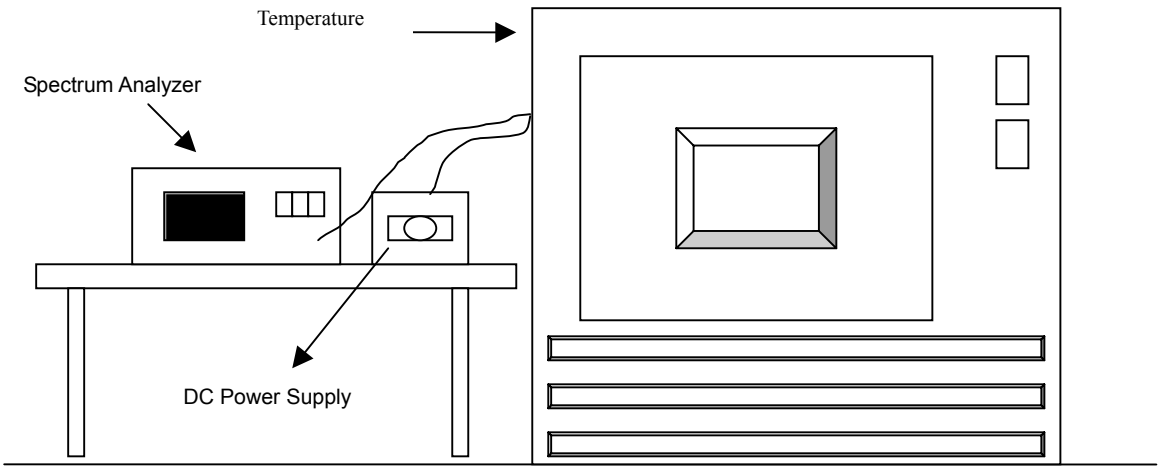
5.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation.

5.6.5 TEST SETUP



5.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6.

5.6.7 TEST RESULTS

Operating frequency: 5320MHz				Limit : ± 0.01%			
Temp. (℃)	Power supply (VDC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	93.5	5320.0095	0.0001786	5320.0120	0.0002256	5320.0138	0.0002594
	110.0	5320.0105	0.0001974	5320.0126	0.0002368	5320.0144	0.0002707
	126.5	5320.0112	0.0002105	5320.0130	0.0002444	5320.0147	0.0002763
40	93.5	5319.9952	-0.0000902	5319.9957	-0.0000808	5319.9965	-0.0000658
	110.0	5319.9953	-0.0000883	5319.9959	-0.0000771	5319.9968	-0.0000602
	126.5	5319.9955	-0.0000846	5319.9962	-0.0000714	5319.9971	-0.0000545
30	93.5	5319.9937	-0.0001184	5319.9938	-0.0001165	5319.9939	-0.0001147
	110.0	5319.9937	-0.0001184	5319.9938	-0.0001165	5319.9939	-0.0001147
	126.5	5319.9938	-0.0001165	5319.9939	-0.0001147	5319.9940	-0.0001128
20	93.5	5319.9949	-0.0000959	5319.9947	-0.0000996	5319.9944	-0.0001053
	110.0	5319.9949	-0.0000959	5319.9954	-0.0000865	5319.9940	-0.0001128
	126.5	5319.9947	-0.0000996	5319.9954	-0.0000865	5319.9950	-0.0000940
10	93.5	5319.9921	-0.0001485	5319.9925	-0.0001410	5319.9927	-0.0001372
	110.0	5319.9923	-0.0001447	5319.9926	-0.0001391	5319.9929	-0.0001335
	126.5	5319.9925	-0.0001410	5319.9926	-0.0001391	5319.9930	-0.0001316
0	93.5	5319.9962	-0.0000714	5319.9961	-0.0000733	5319.9960	-0.0000752
	110.0	5319.9961	-0.0000733	5319.9960	-0.0000752	5319.9961	-0.0000733
	126.5	5319.9961	-0.0000733	5319.9610	-0.0007331	5319.9961	-0.0000733
-10	93.5	5320.0065	0.0001222	5320.0067	0.0001259	5320.0068	0.0001278
	110.0	5320.0065	0.0001222	5320.0068	0.0001278	5320.0070	0.0001316
	126.5	5320.0066	0.0001241	5320.0069	0.0001297	5320.0070	0.0001316
-20	93.5	5319.9972	-0.0000526	5319.9970	-0.0000564	5319.9970	-0.0000564
	110.0	5319.9970	-0.0000564	5319.9970	-0.0000564	5319.9971	-0.0000545
	126.5	5319.9970	-0.0000564	5319.9768	-0.0004361	5319.9969	-0.0000583
-30	93.5	5319.9915	-0.0001598	5319.9913	-0.0001635	5319.9909	-0.0001711
	110.0	5319.9915	-0.0001598	5319.9912	-0.0001654	5319.9908	-0.0001729
	126.5	5319.9914	-0.0001617	5319.9912	-0.0001654	5319.9908	-0.0001729

5.7 BAND EDGES MEASUREMENT

5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

5.7.2 TEST PROCEDURE

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

5.7.3 EUT OPERATING CONDITION

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

5.7.4 TEST RESULTS

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

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

Normal Mode:

Channel 1 (5180MHz)

The band edge emission plot on the following 1~2 pages show 44.24dBc (Peak) / 47.33Bc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 99.98dBuV/m, so the maximum field strength in restrict band is 99.98-47.33=52.65dBuV/m which is under 54dBuV/m limit.

Channel 8 (5320MHz)

The band edge emission plot on the following 4~5 pages show 49.38dBc (Peak) / 49.35dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 101.16dBuV/m, so the maximum field strength in restrict band is 101.16-49.35=51.81dBuV/m which is under 54dBuV/m limit.

Turbo Mode:

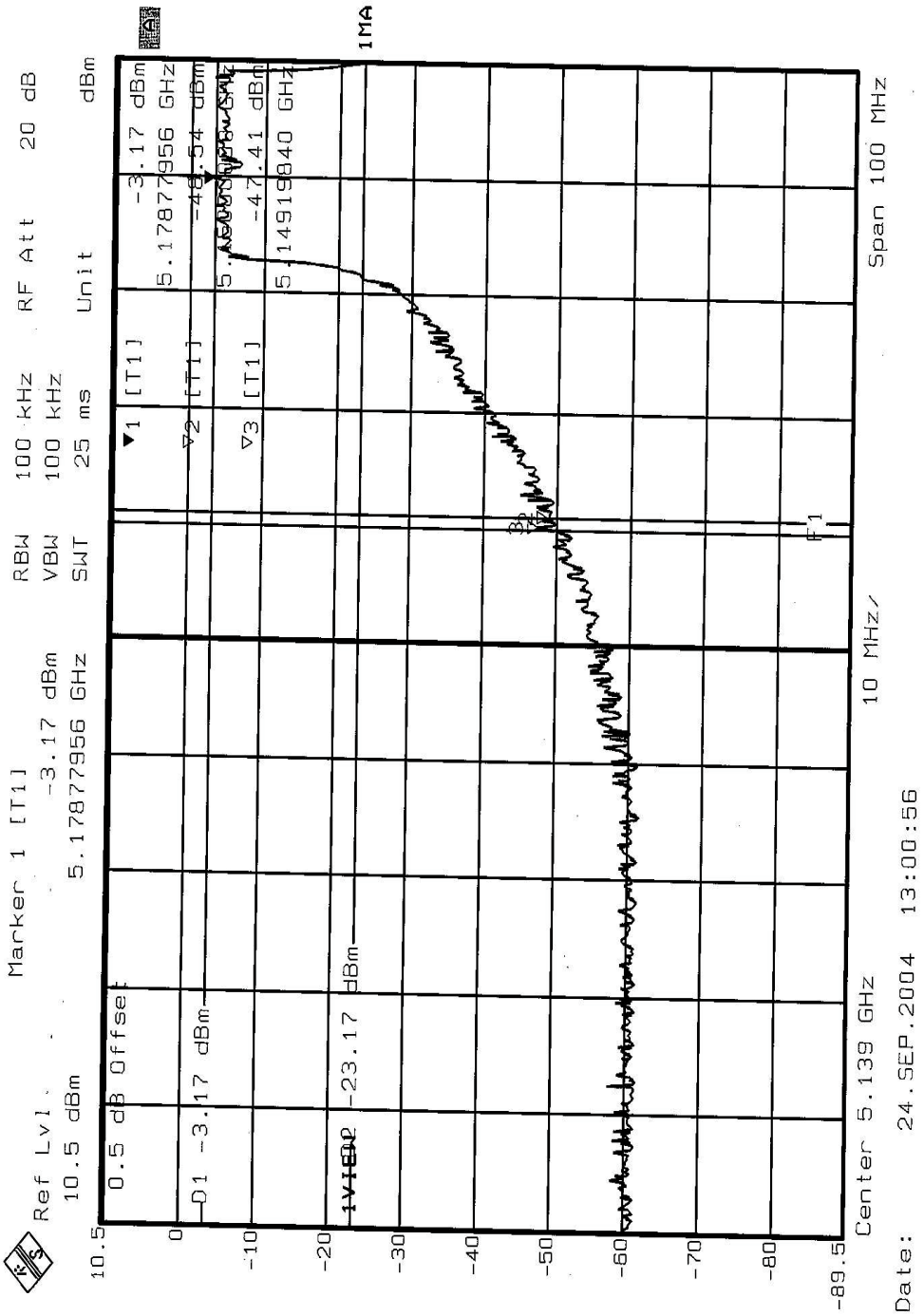
Channel 1 (5210MHz)

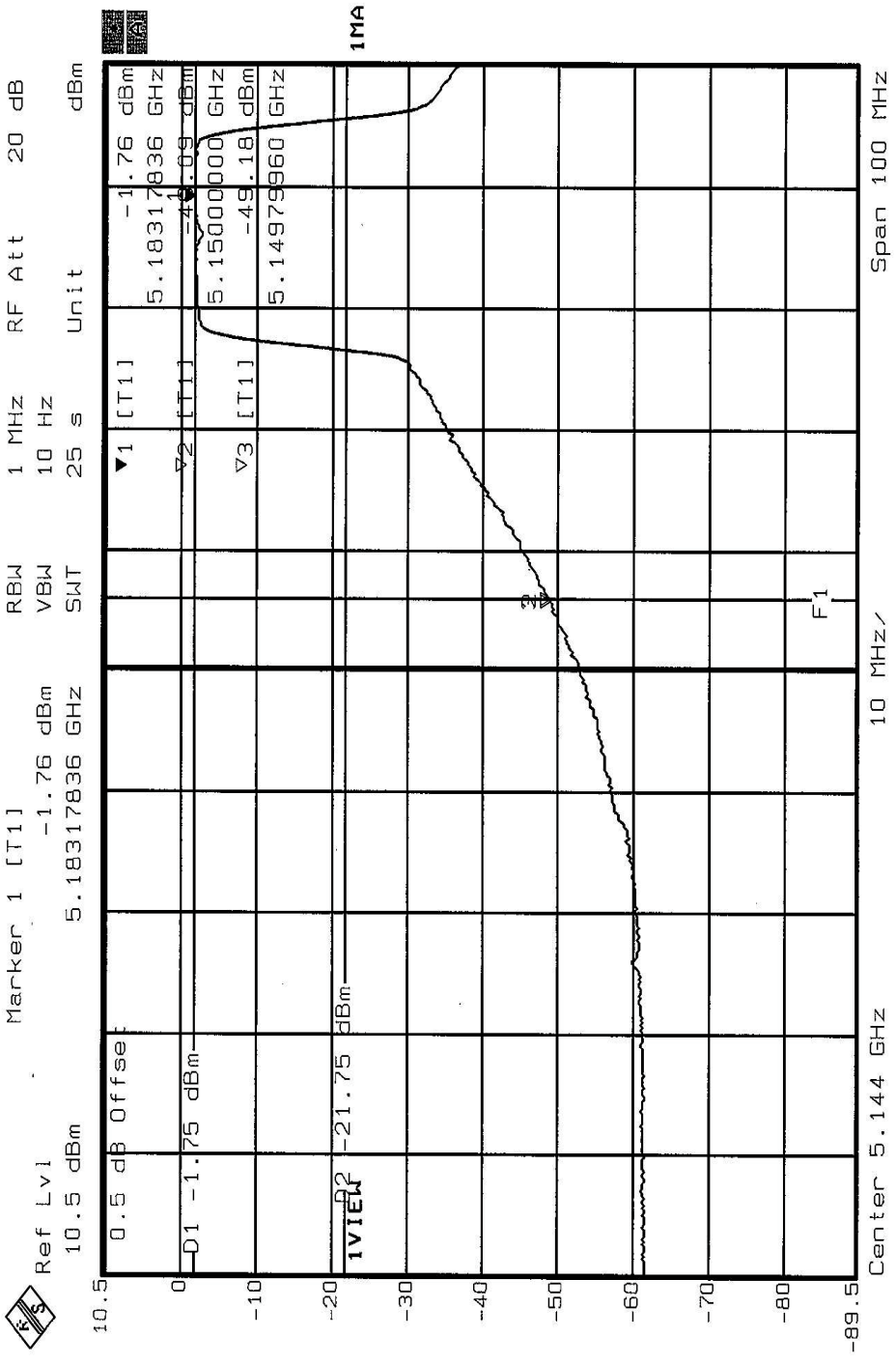
The band edge emission plot on the following 7~8 pages show 56.32dBc (Peak) / 49.82dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 98.60dBuV/m, so the maximum field strength in restrict band is 98.60-49.82=48.78dBuV/m which is under 54dBuV/m limit.

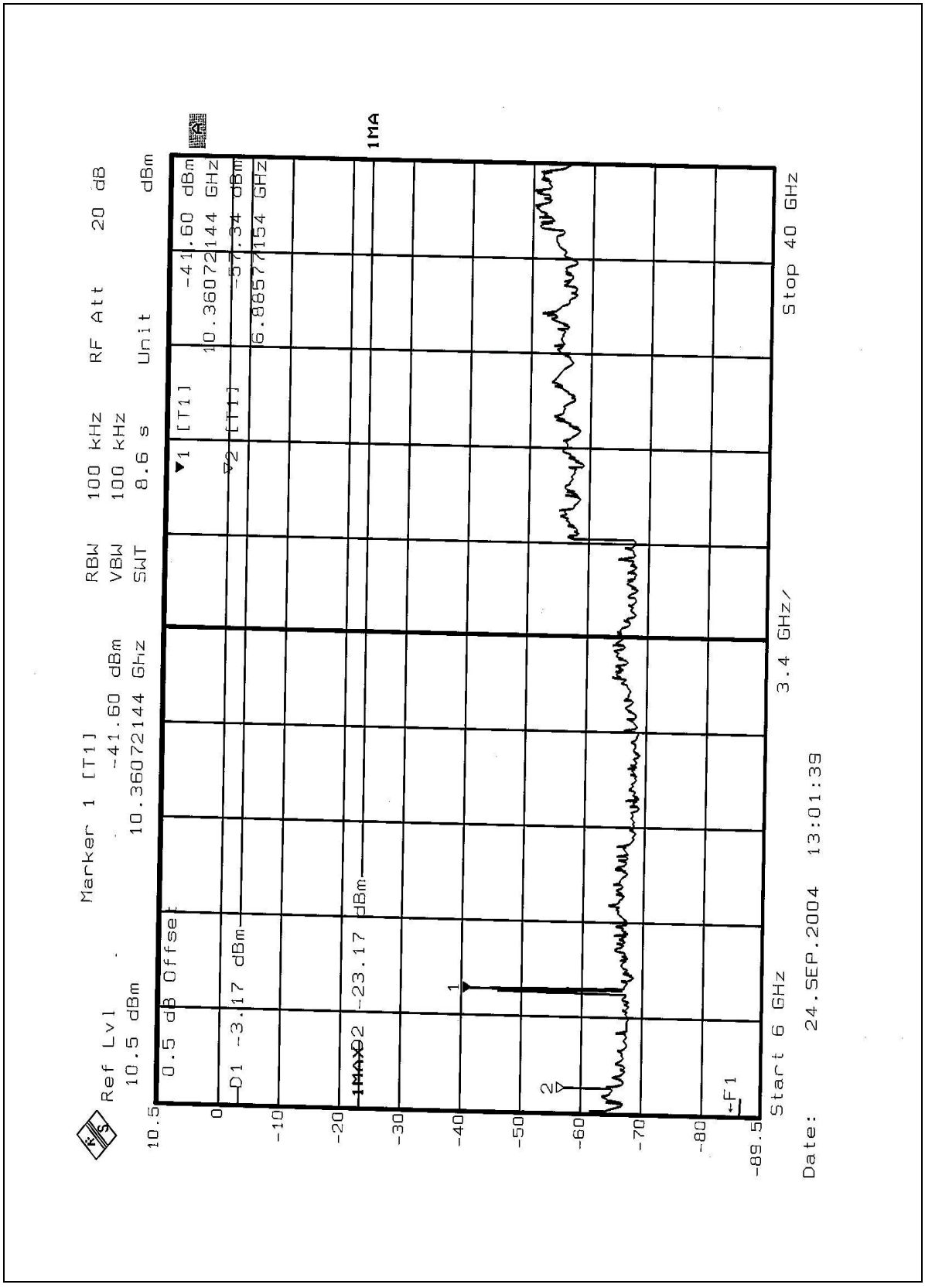
Channel 3 (5290MHz)

The band edge emission plot on the following 10~11 pages show 55.57dBc (Peak) / 56.05dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 3 is 101.32dBuV/m, so the maximum field strength in restrict band is 101.32-56.05=45.27dBuV/m which is under 54dBuV/m limit.

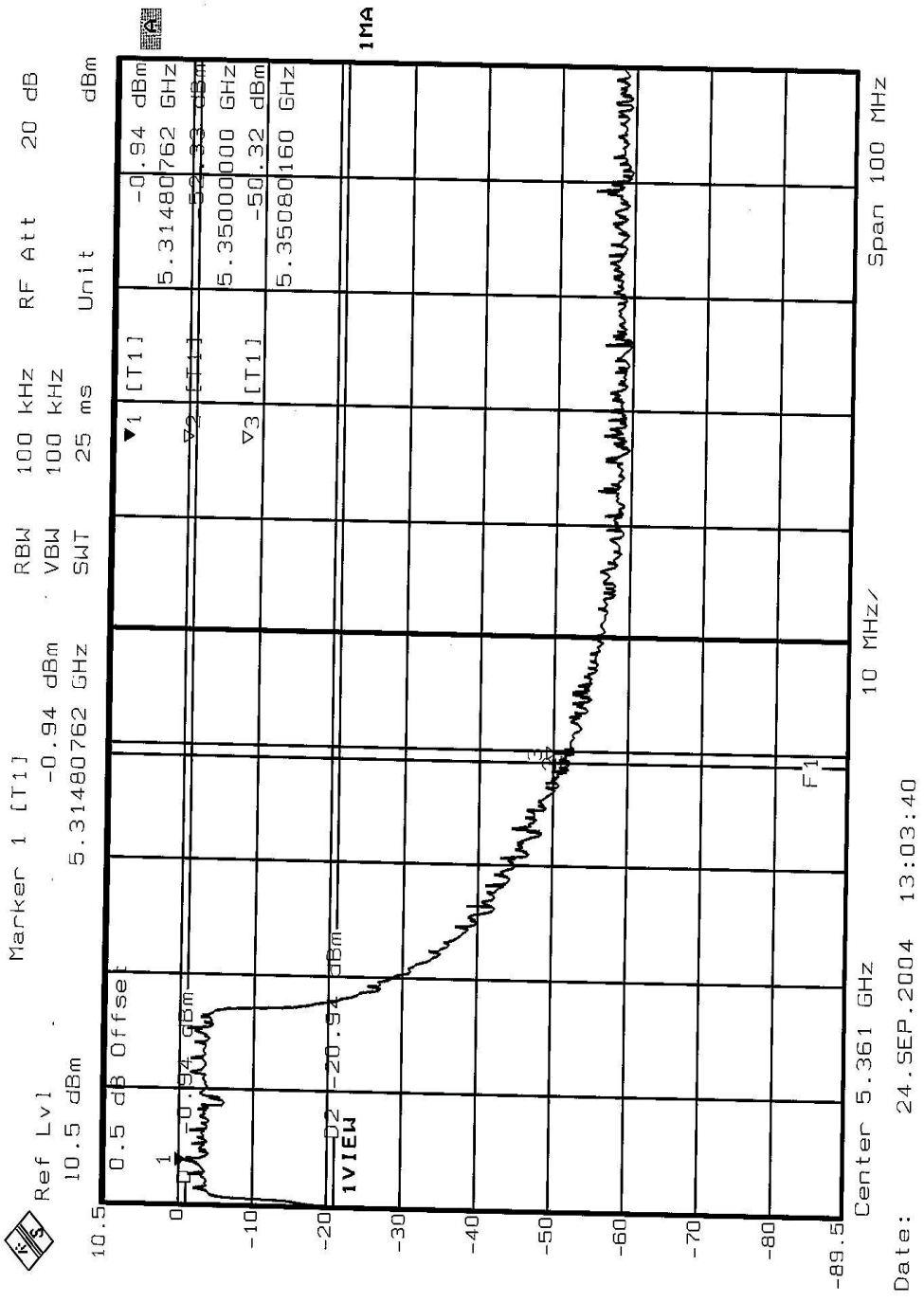
Normal Mode (CH1)

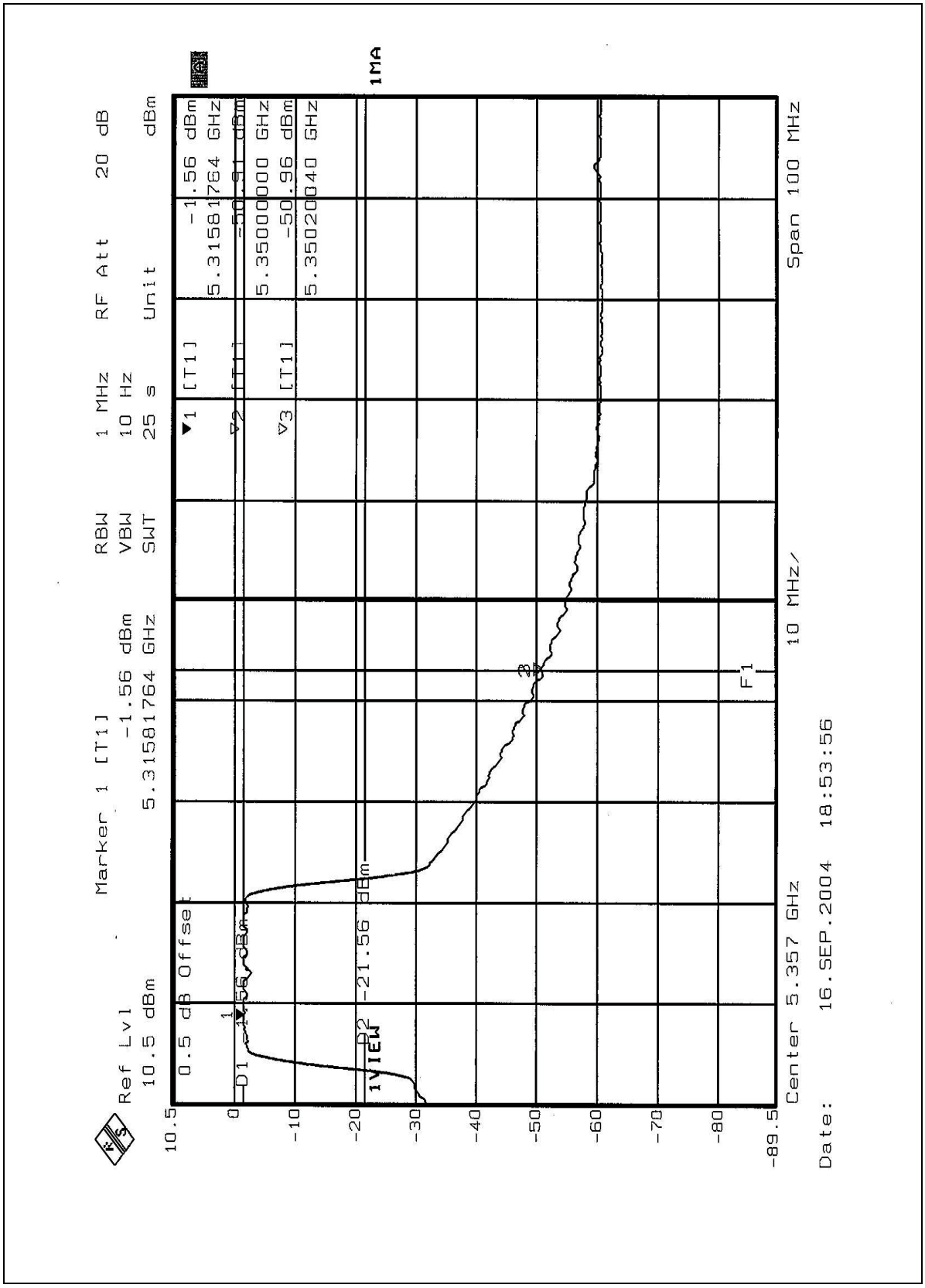


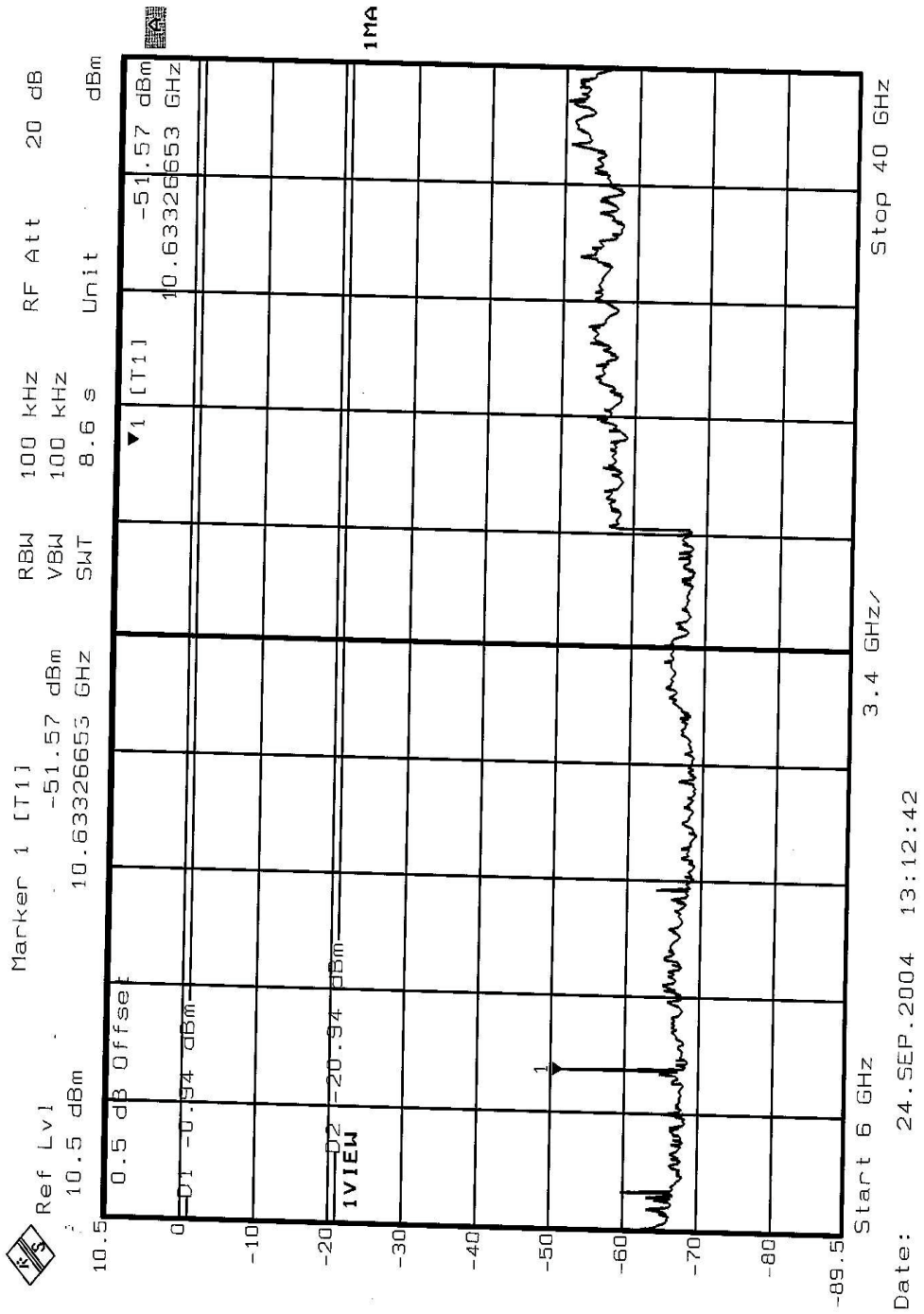

Marker 1 [T1]
-1.76 dBm
5.18317836 GHz
RBW 1 MHz
VBW 10 Hz
SWT 25 s
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
D1 -1.75 dBm
-21.75 dBm
1VIEW
1MA
▼1 [T1] -1.76 dBm 5.18317836 GHz
▽2 [T1] -49.09 dBm 5.15000000 GHz
▽3 [T1] -49.18 dBm 5.14979960 GHz
Center 5.144 GHz
10 MHz/
Span 100 MHz
Date: 16.SEP.2004 18:51:14


Marker 1 [T1]
-41.60 dBm
10.36072144 GHz
Ref Lvl
10.5 dBm
0.5 dB Offset
D1 -3.17 dBm
1MAX2 -23.17 dBm
RBW 100 kHz
VBW 100 kHz
SWT 8.6 s
RF Att 20 dB
Unit dBm
1 [T1] -41.60 dBm
10.36072144 GHz
2 [T1] -57.34 dBm
6.88577154 GHz
1MA
Start 6 GHz
3.4 GHz/
Stop 40 GHz
Date: 24.SEP.2004 13:01:39

Normal Mode (CH8)




Marker 1 [T1]
-1.56 dBm
5.31581764 GHz
RBW 1 MHz
VBW 10 Hz
SWT 25 s
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
D1 -1.56 dBm
D2 -21.56 dBm
1VIEW
1MA
▼1 [T1] -1.56 dBm 5.31581764 GHz
▽2 [T1] -50.91 dBm 5.35000000 GHz
▽3 [T1] -50.96 dBm 5.35020040 GHz
Center 5.357 GHz
10 MHz/
Span 100 MHz
Date: 16.SEP.2004 18:53:56


Marker 1 [T1]
-51.57 dBm
10.63326653 GHz
RBW 100 kHz
VBW 100 kHz
SWT 8.6 s
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
-0.94 dBm
-20.94 dBm
VIEW
1MA
[T1]
-51.57 dBm
10.63326653 GHz
Start 6 GHz
3.4 GHz/
Stop 40 GHz
Date: 24.SEP.2004 13:12:42

Turbo Mode (CH1)