

October 14, 2003

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731 Confirmation Number: EA441634
Date of Original E-mail: 7/9/2003

We are sorry for the delay in responding to your questions on the above subject caused by Dr. Alan Lane leaving ADT Corporation. The responses are as follows:

1. *Justification of system operation. Validation measurements appear to be made on 1/03/03 while data was measured on 3/7/03. Provide new validation as appropriate. Please repeat worst-case SAR configuration to show agreement with original test.*

Response:

We do not see the above dates in the SAR Report for this EUT submitted on March 20, 2003 (attached as Appendix I). As given on page 5, as well as in Appendix B (p. 49) of the SAR Report, the date for system validation as well as for all of the SAR measurements was March 17, 2003.

2. *Additional SAR data as follows:*
 - *Left antenna – worst-case frequency from right side is sufficient.*
 - *Sample of other data rates at worst-case configuration to demonstrate that there is no effect on SAR.*

Response:

The measured SAR data are given in Table 11 both for the right- and left-side antennas marked as antennas "A" and "B", respectively. For the normal (base) and turbo modes, the frequencies selected for SAR testing were those with the highest power outputs as well as to cover both the low and the high frequency bands (see Table 1 on p. 12 of Appendix I).

A3) Details of power measurement made for SAR. Are these peak or average? What is BW of measurement equipment?

Response:

There is a typo in the caption of Table 1 on p. 12 of the SAR report . The caption should read " Peak conducted RF power" rather than Average conducted RF power. The procedure for conducted output power measurements used the channel power function of the Spectrum Analyzer Model FSEK 30. Attach an appendix giving the power outputs for various channels.

Appendix

PEAK TRANSMIT POWER MEASUREMENT

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.

TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003

NOTE: The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.

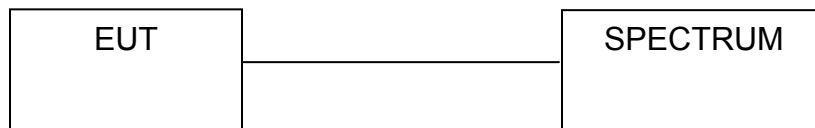
TEST PROCEDURE

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.

DEVIATION FROM TEST STANDARD

No deviation

TEST SETUP



EUT OPERATING CONDITIONS

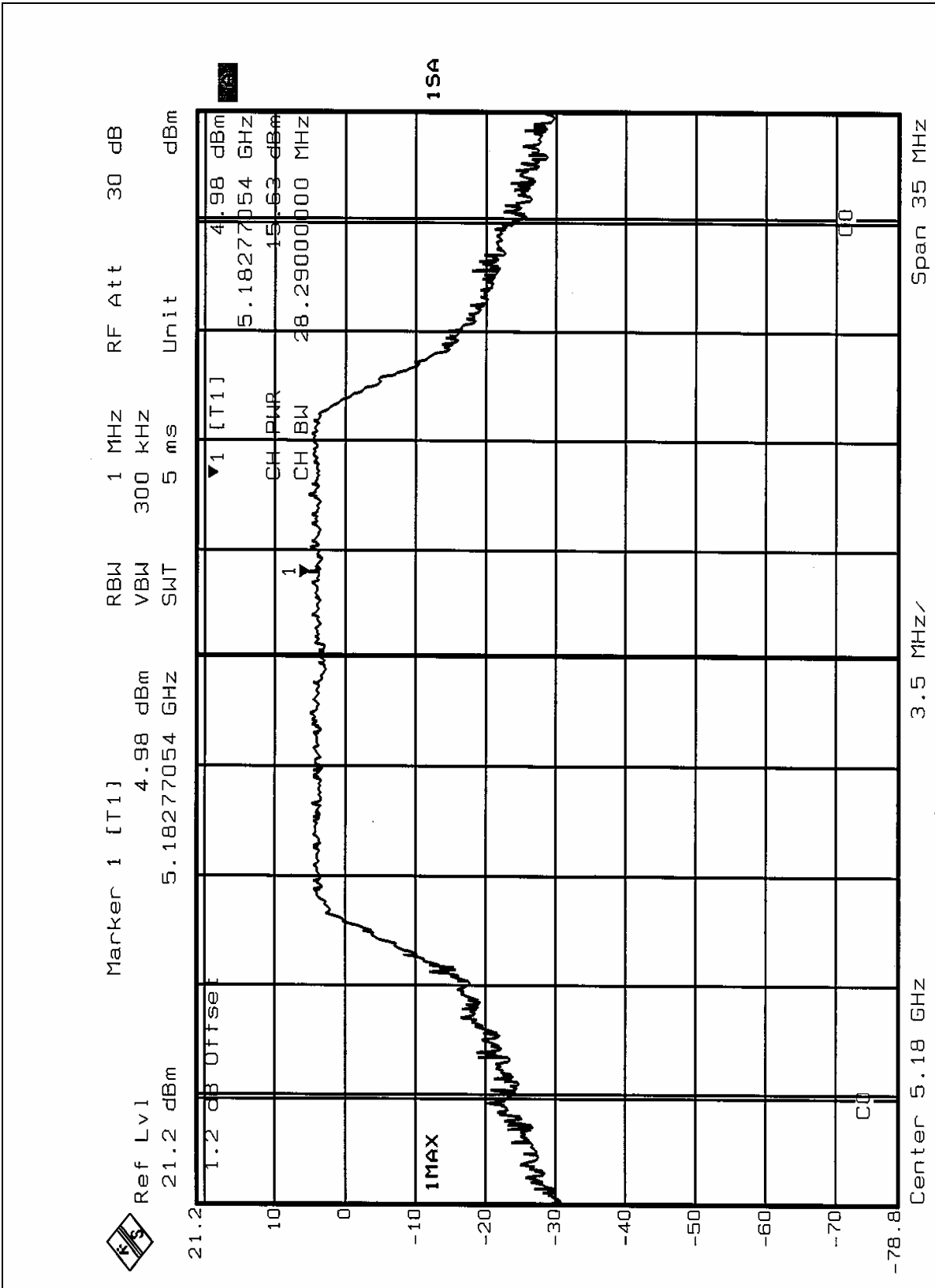
The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

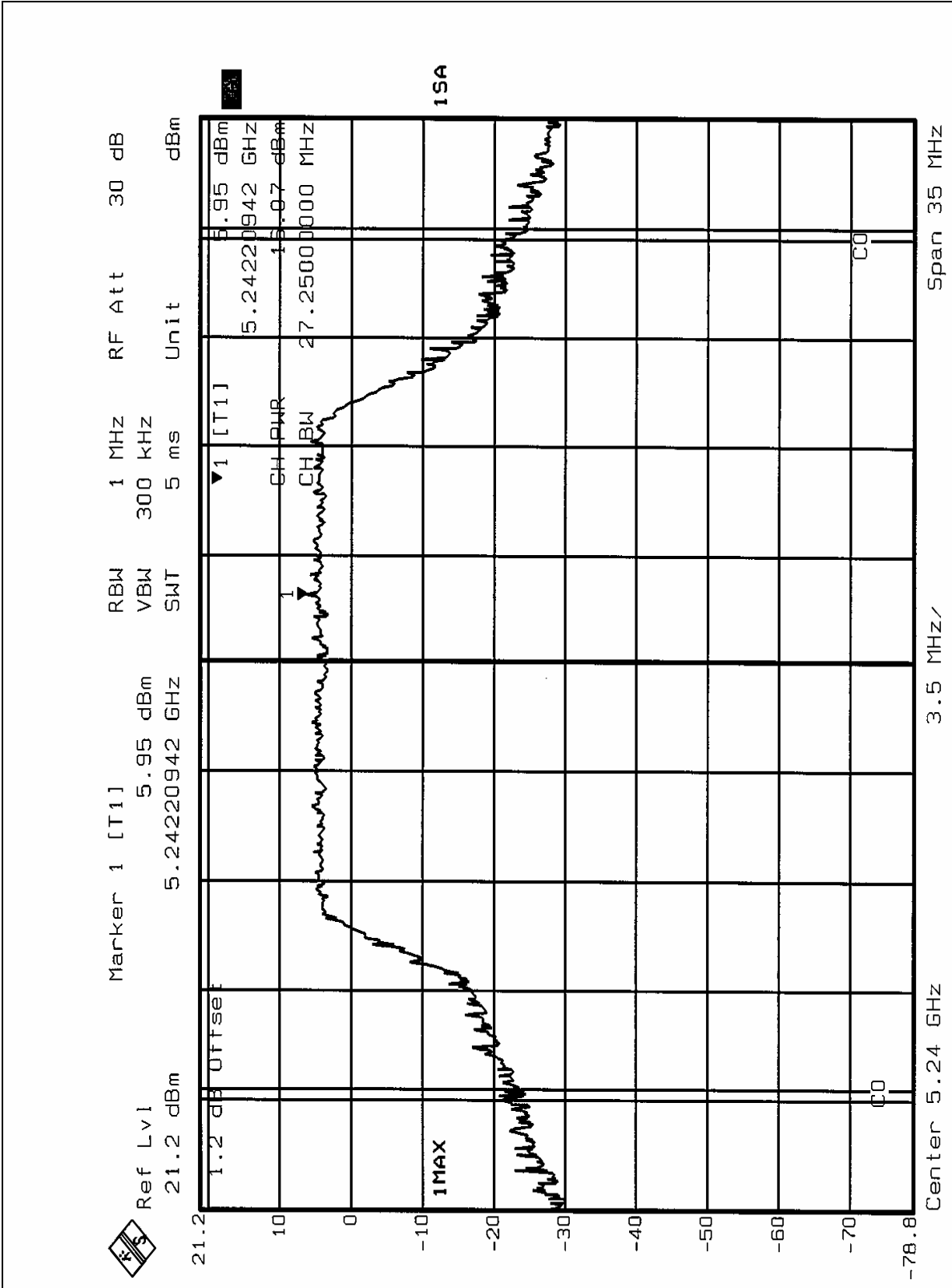
TEST RESULTS – NORMAL MODE

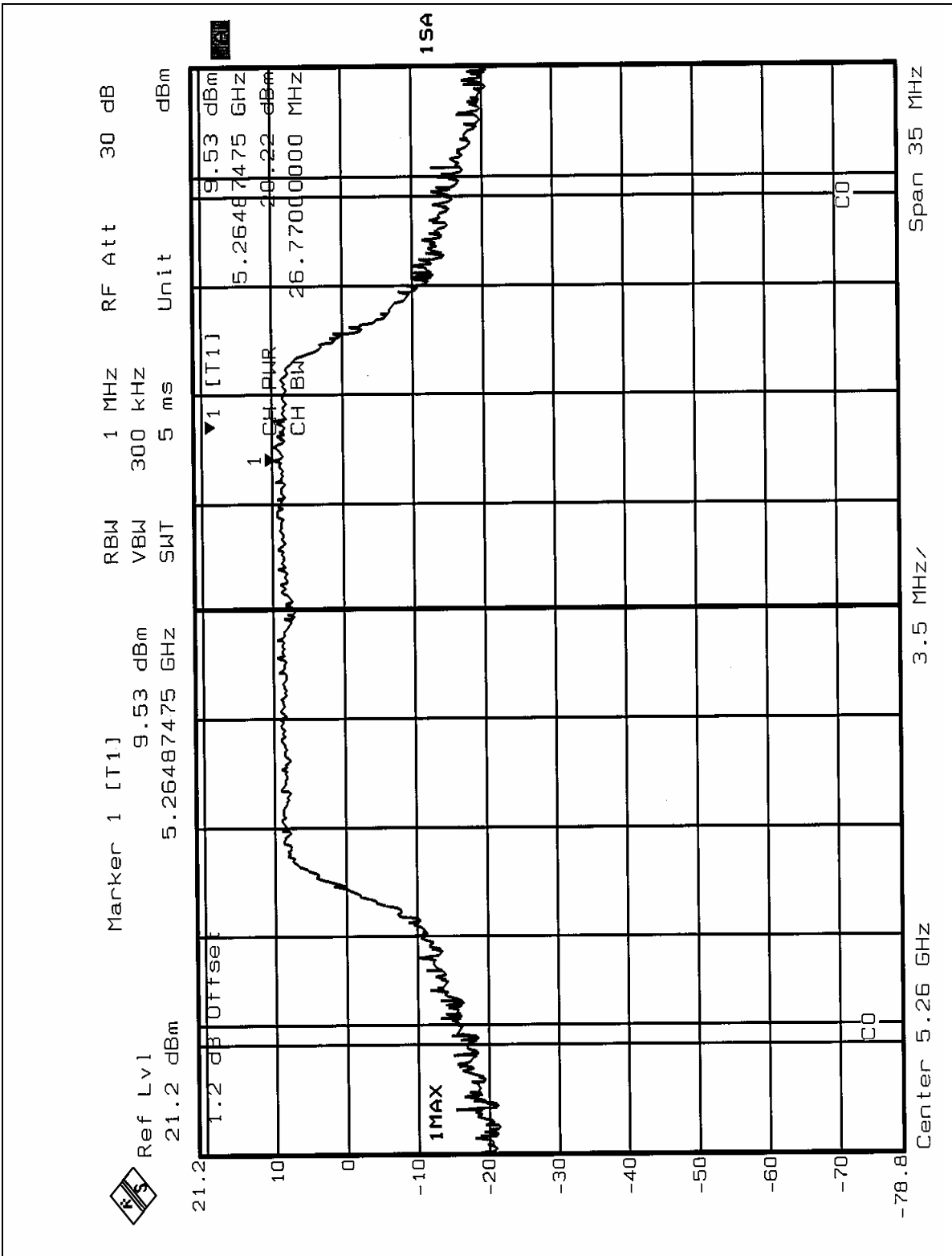
EUT	2.4GHz/5GHz Mini - PCI Card	MODEL	WLL220
ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

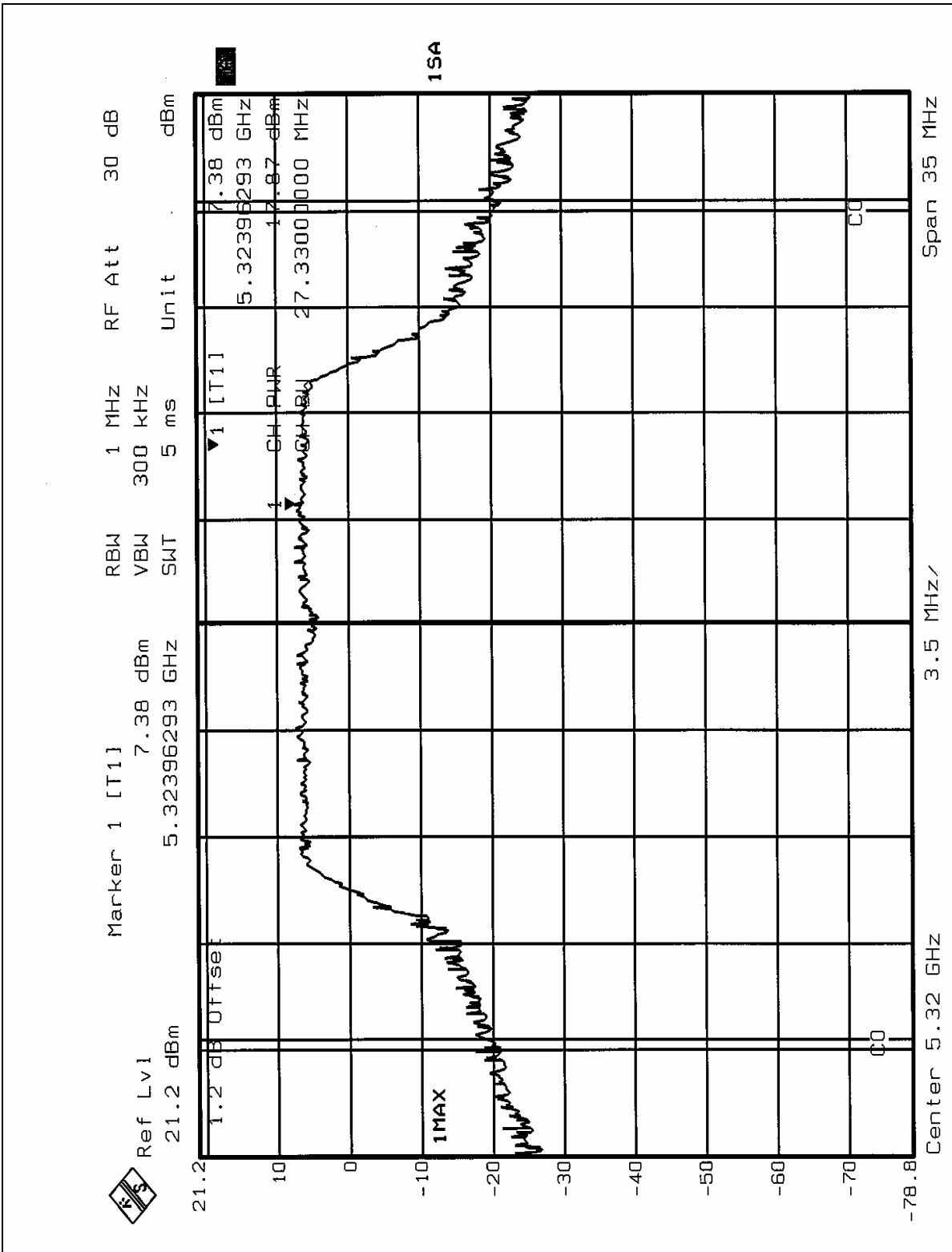
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	15.63	17.00	28.30	PASS
4	5240	16.07	17.00	27.25	PASS
5	5260	20.22	24.00	26.77	PASS
8	5320	17.87	24.00	27.33	PASS
9	5745	18.92	30.00	27.17	PASS
12	5805	18.33	30.00	27.25	PASS

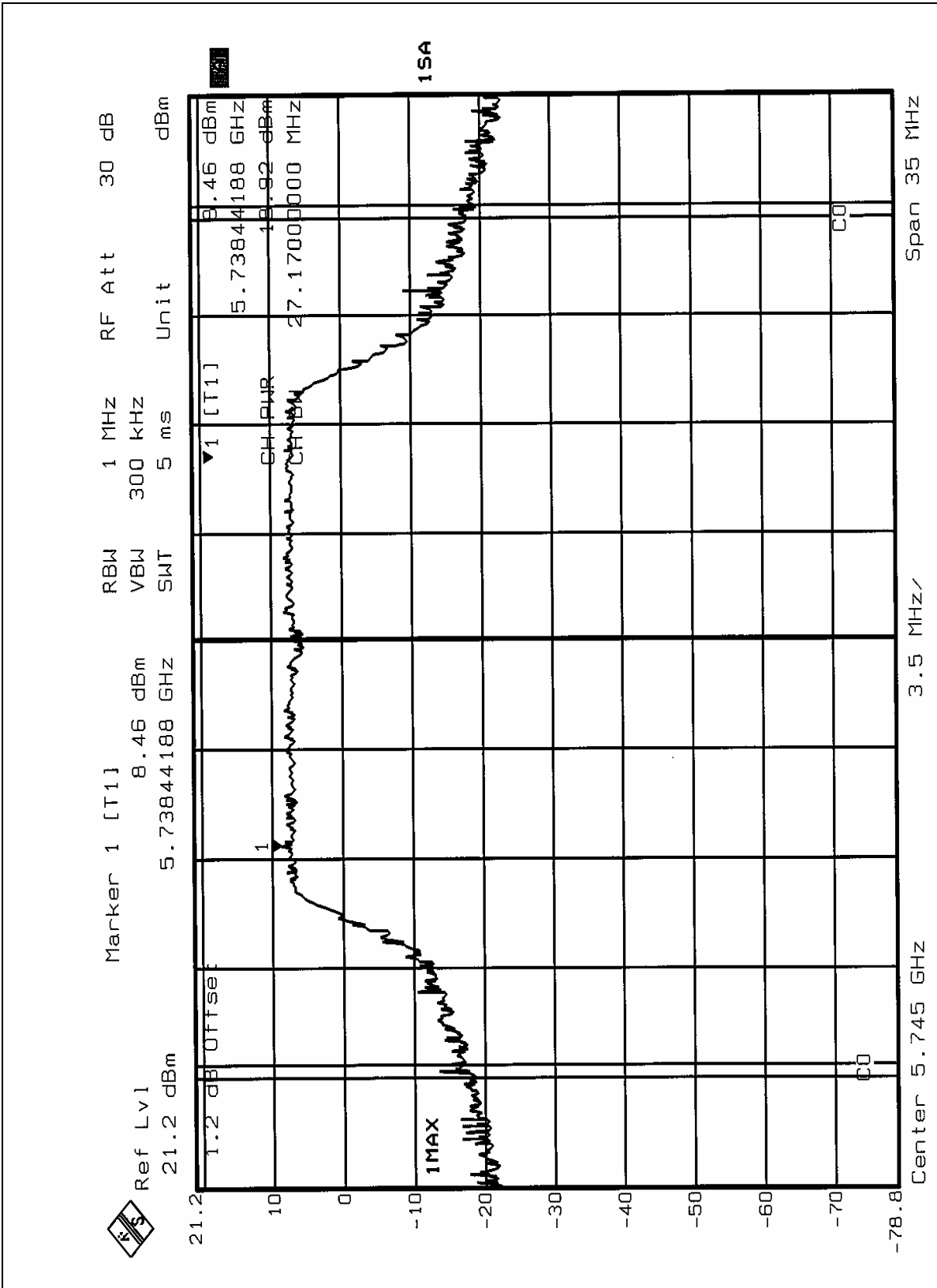
NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

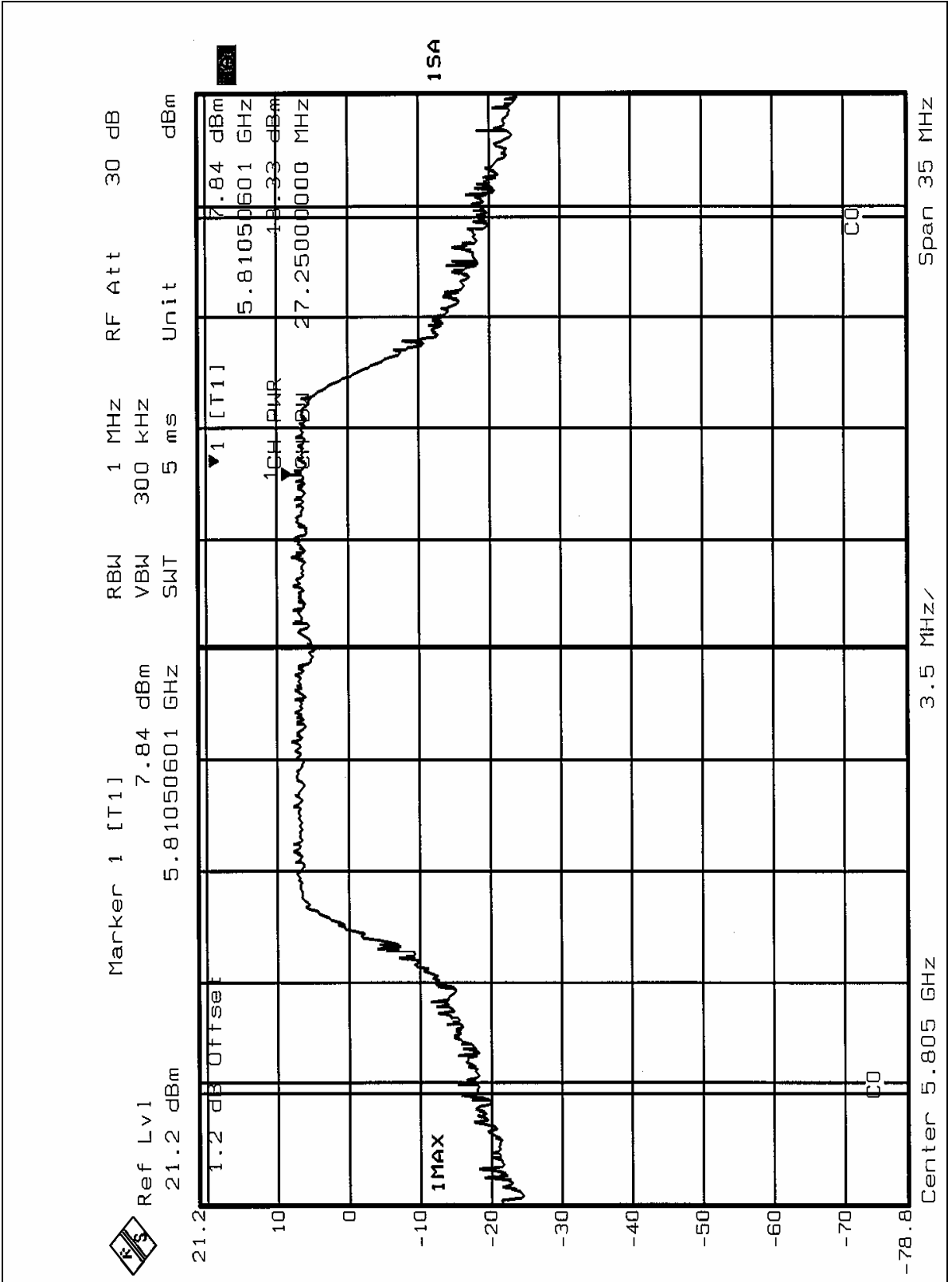


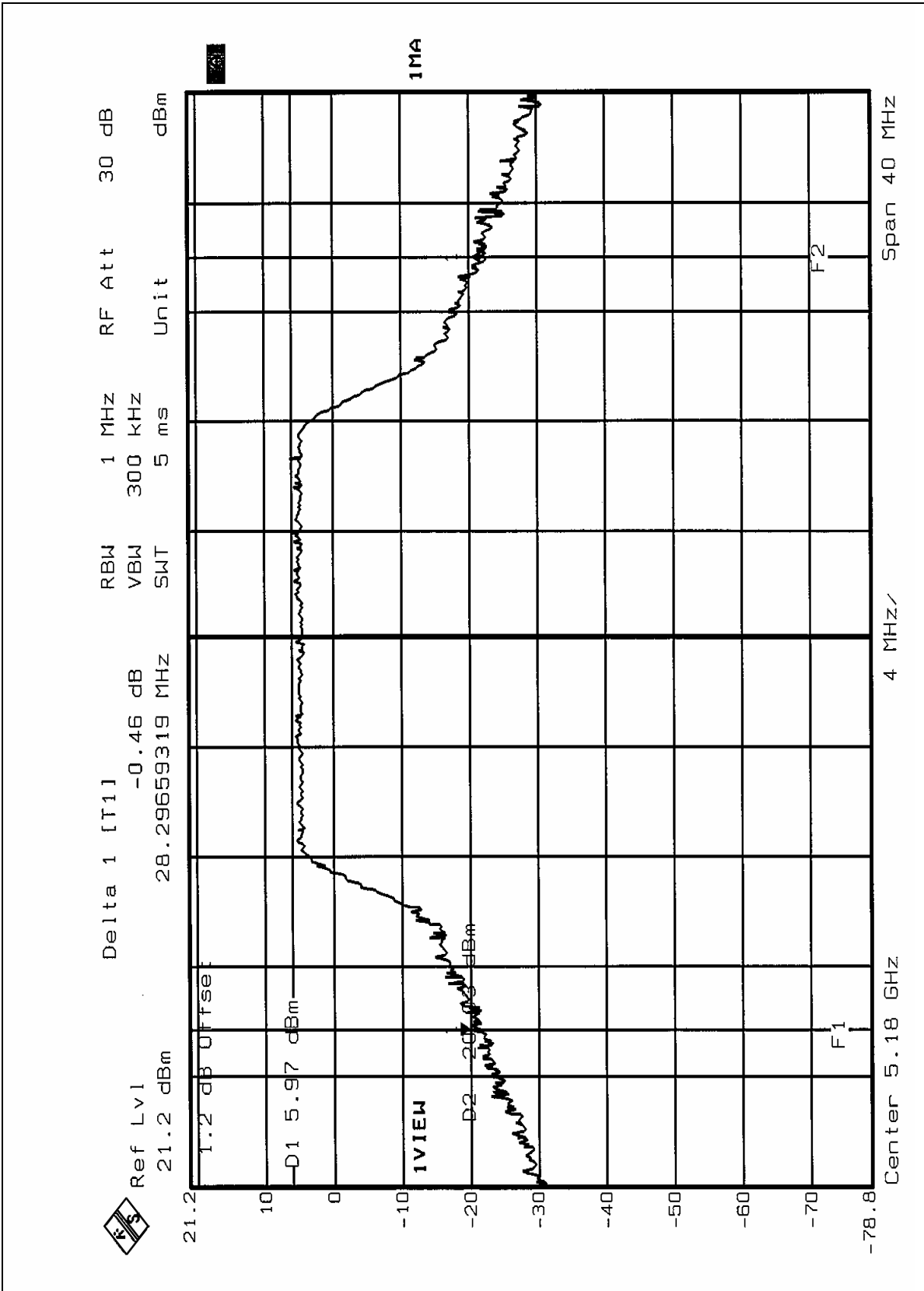


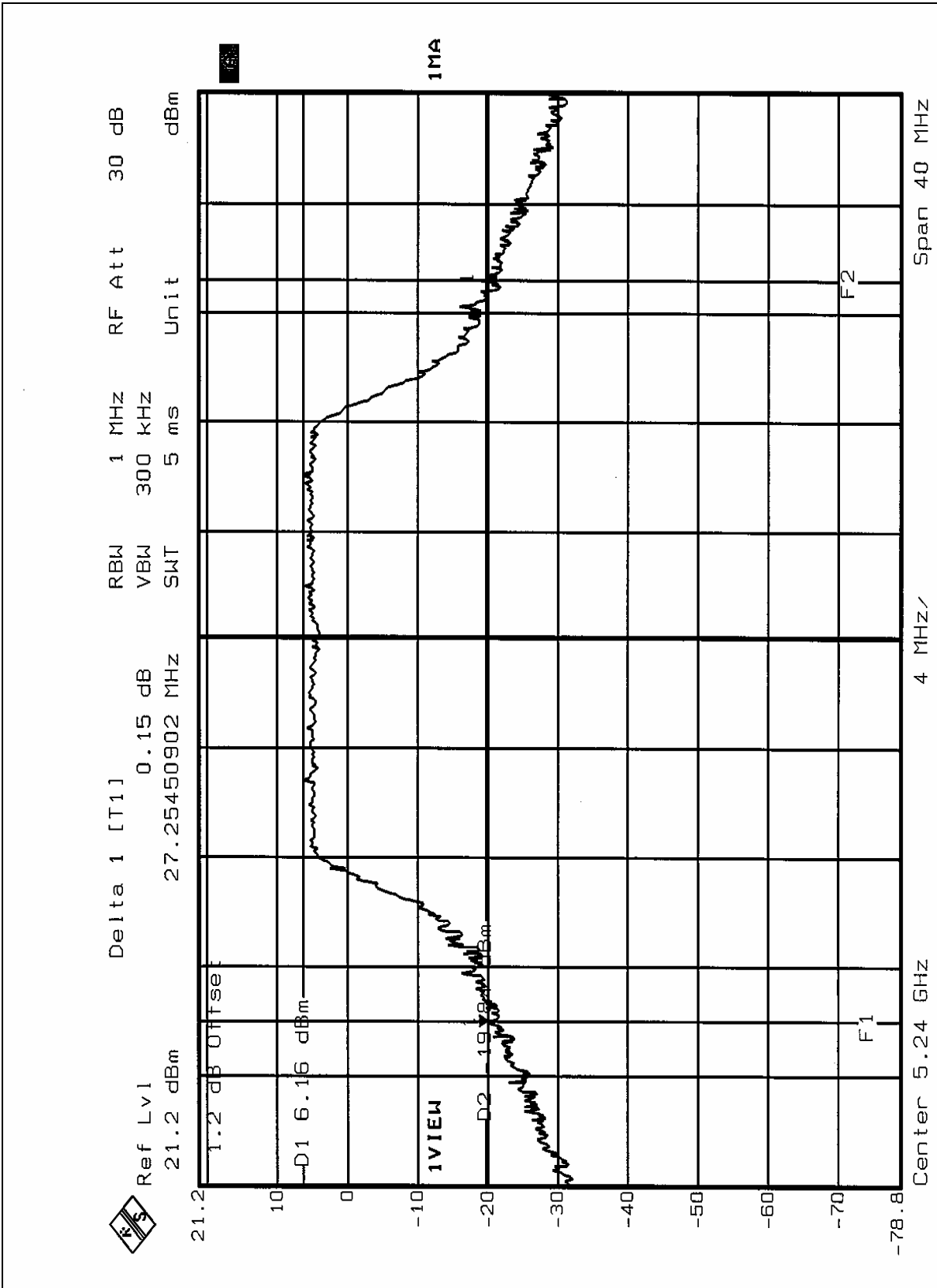


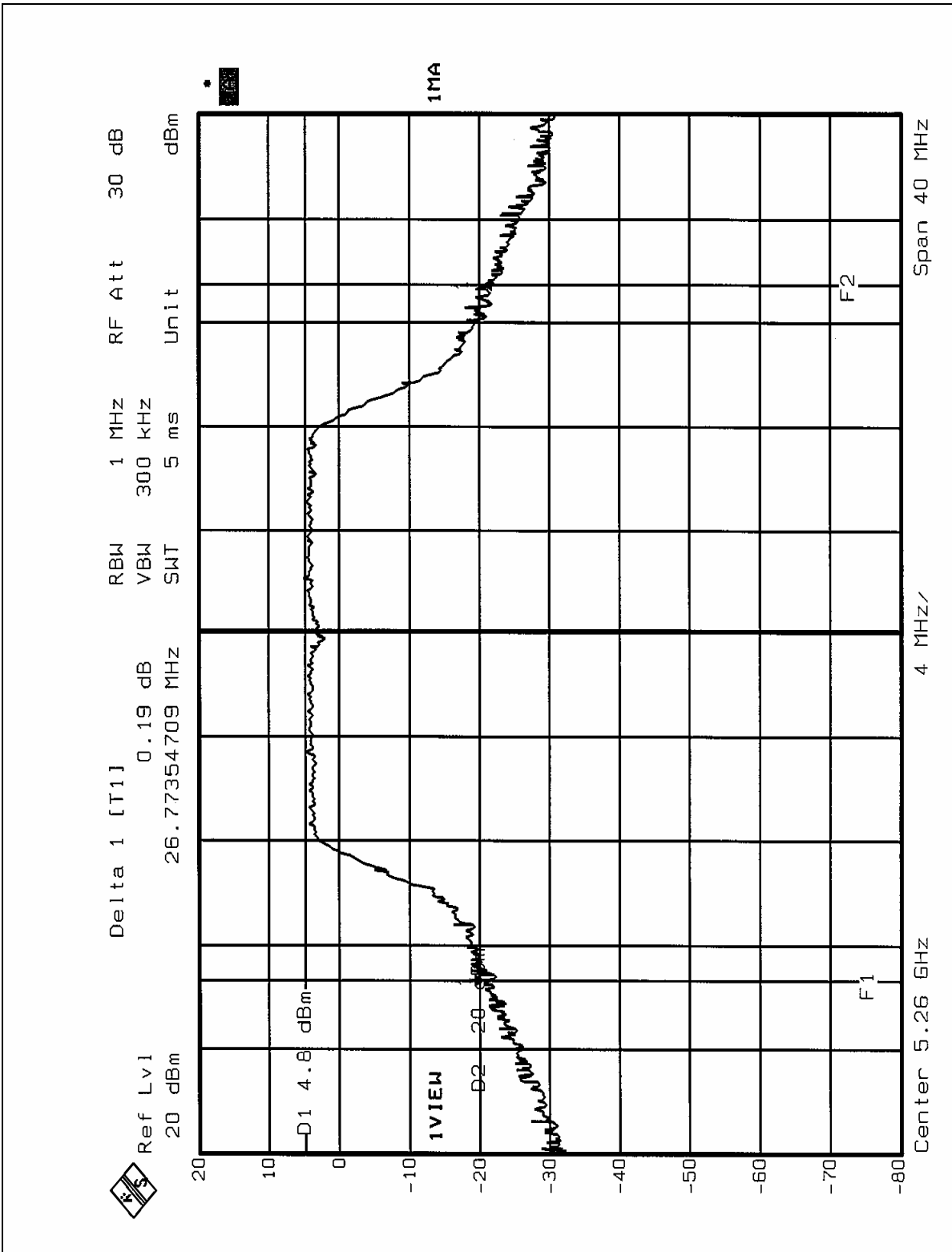


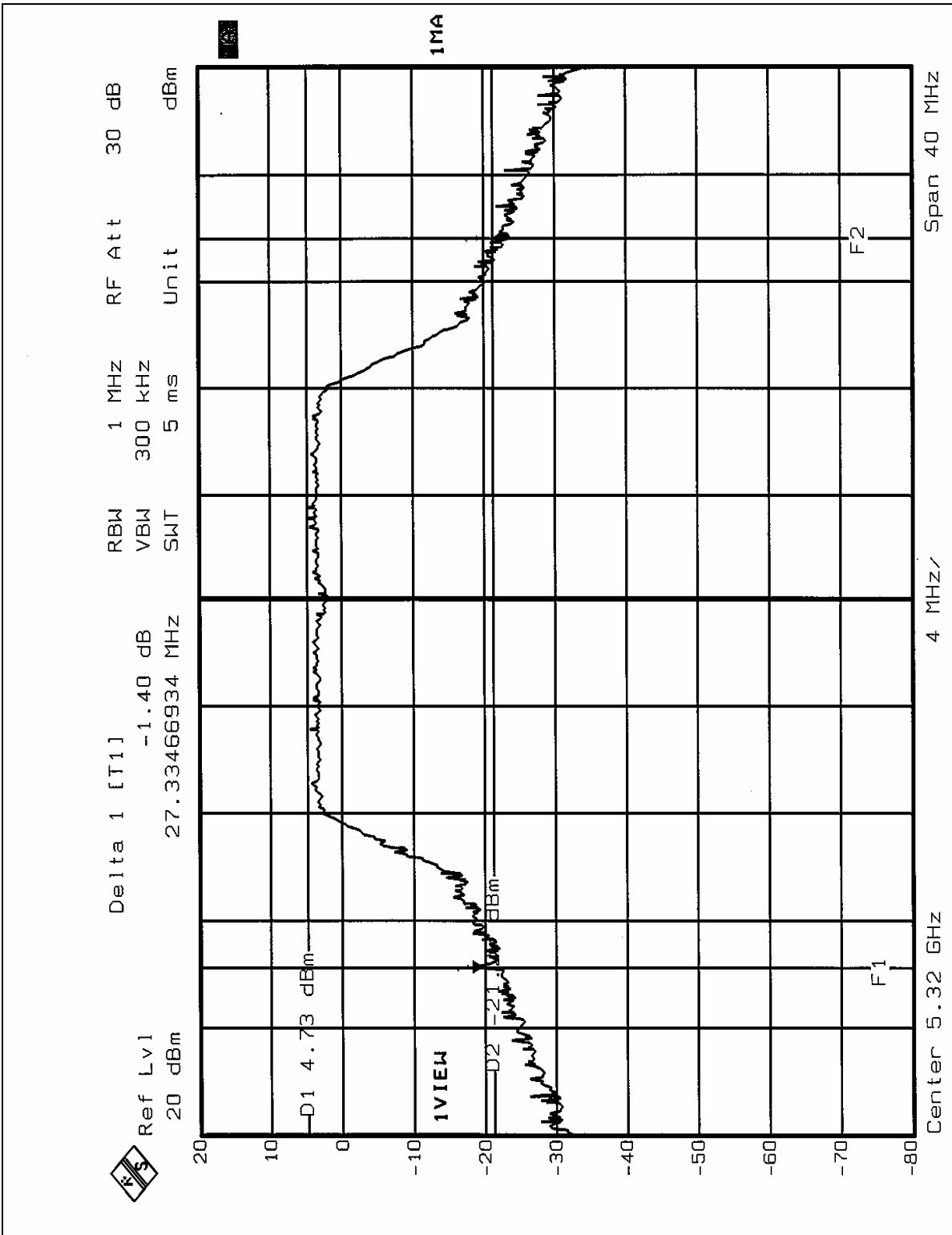


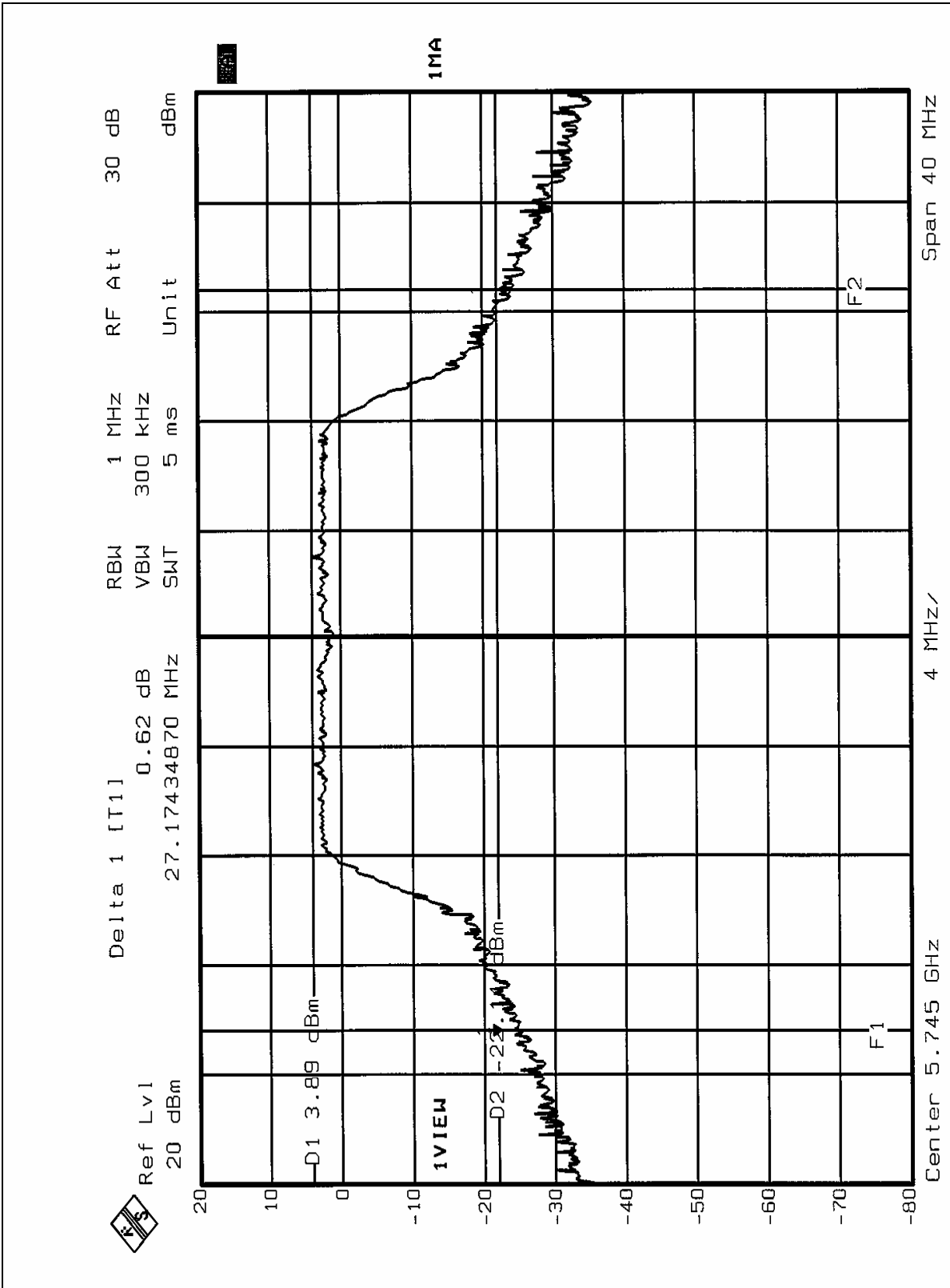


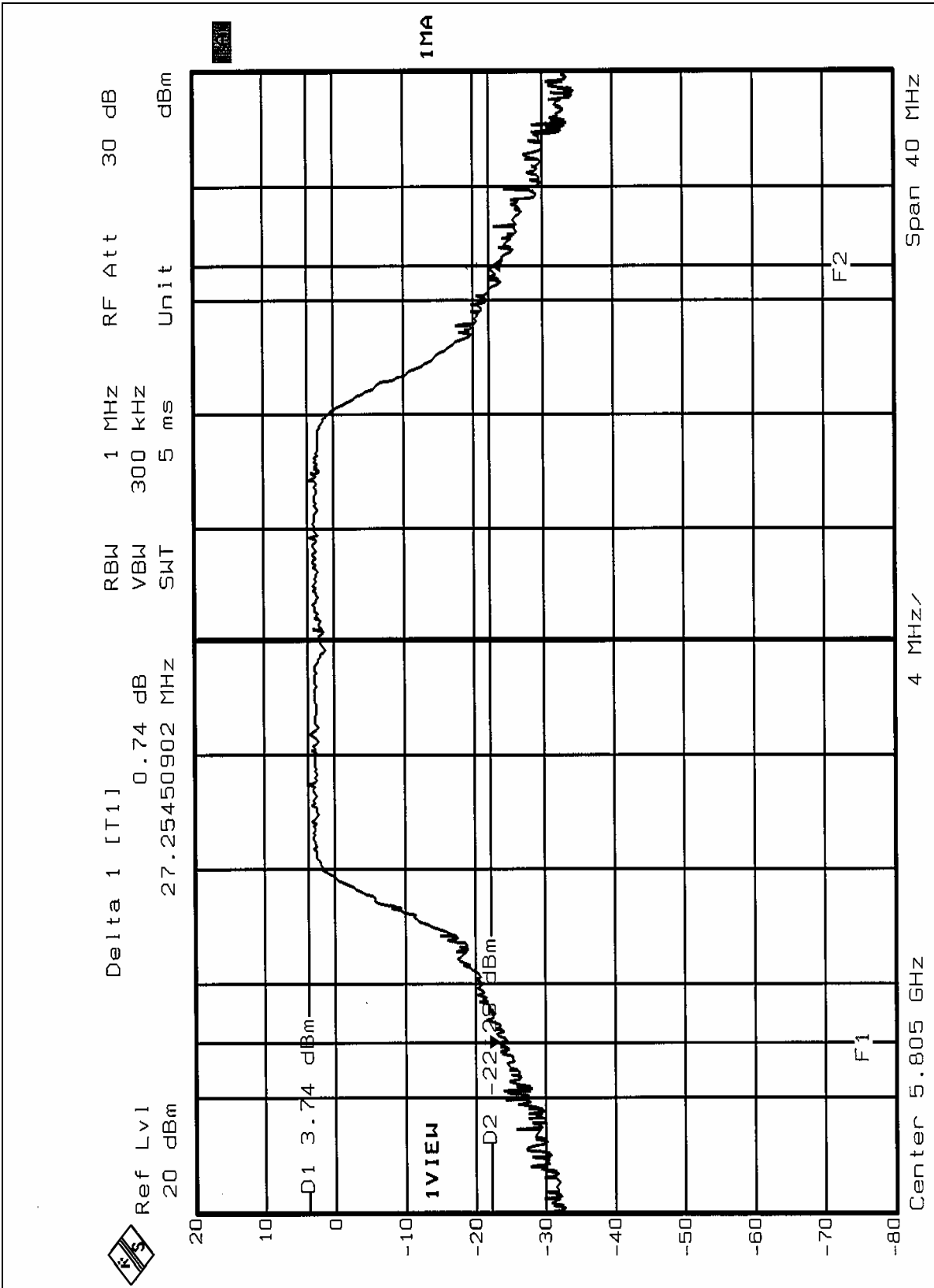










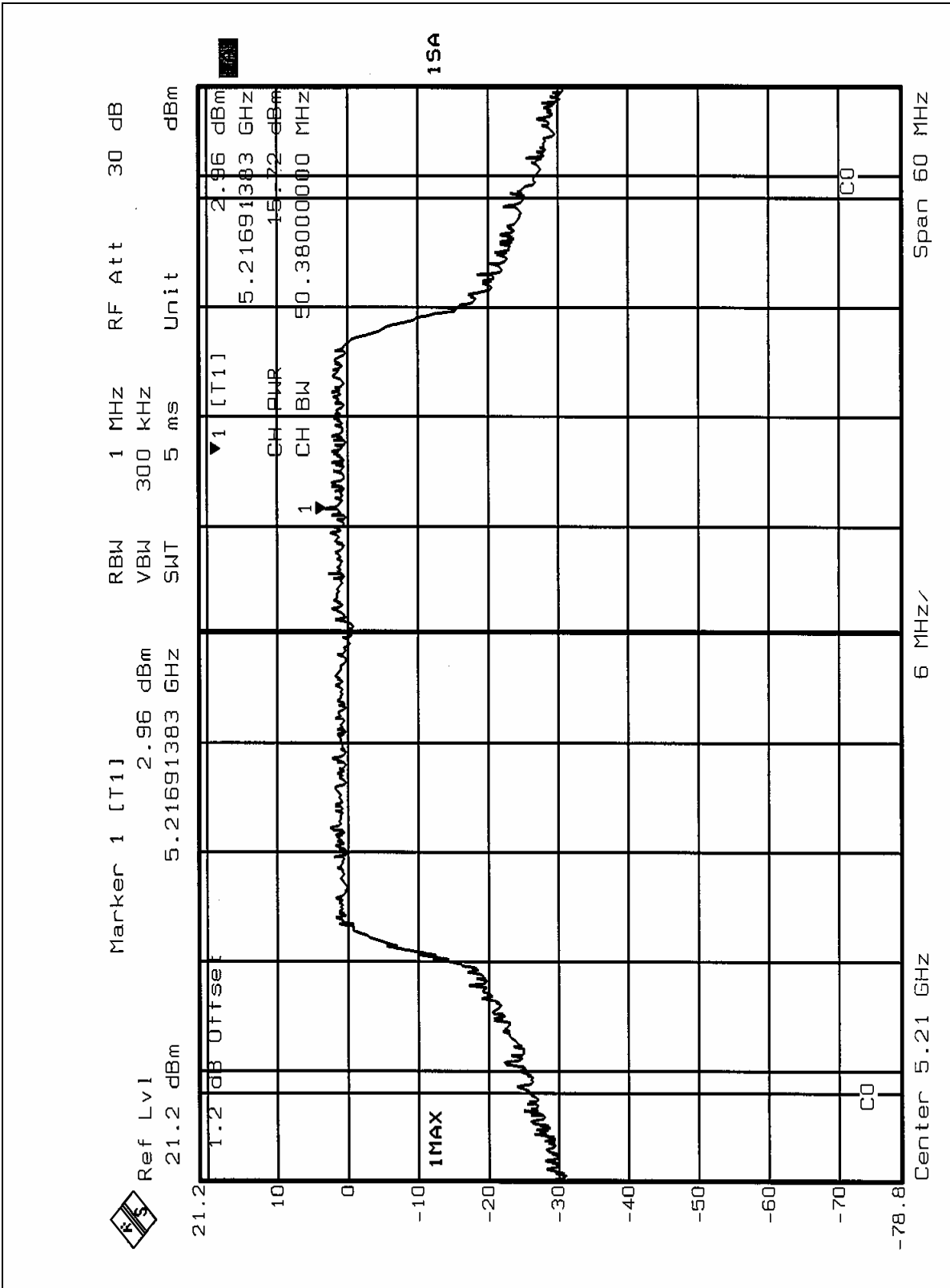


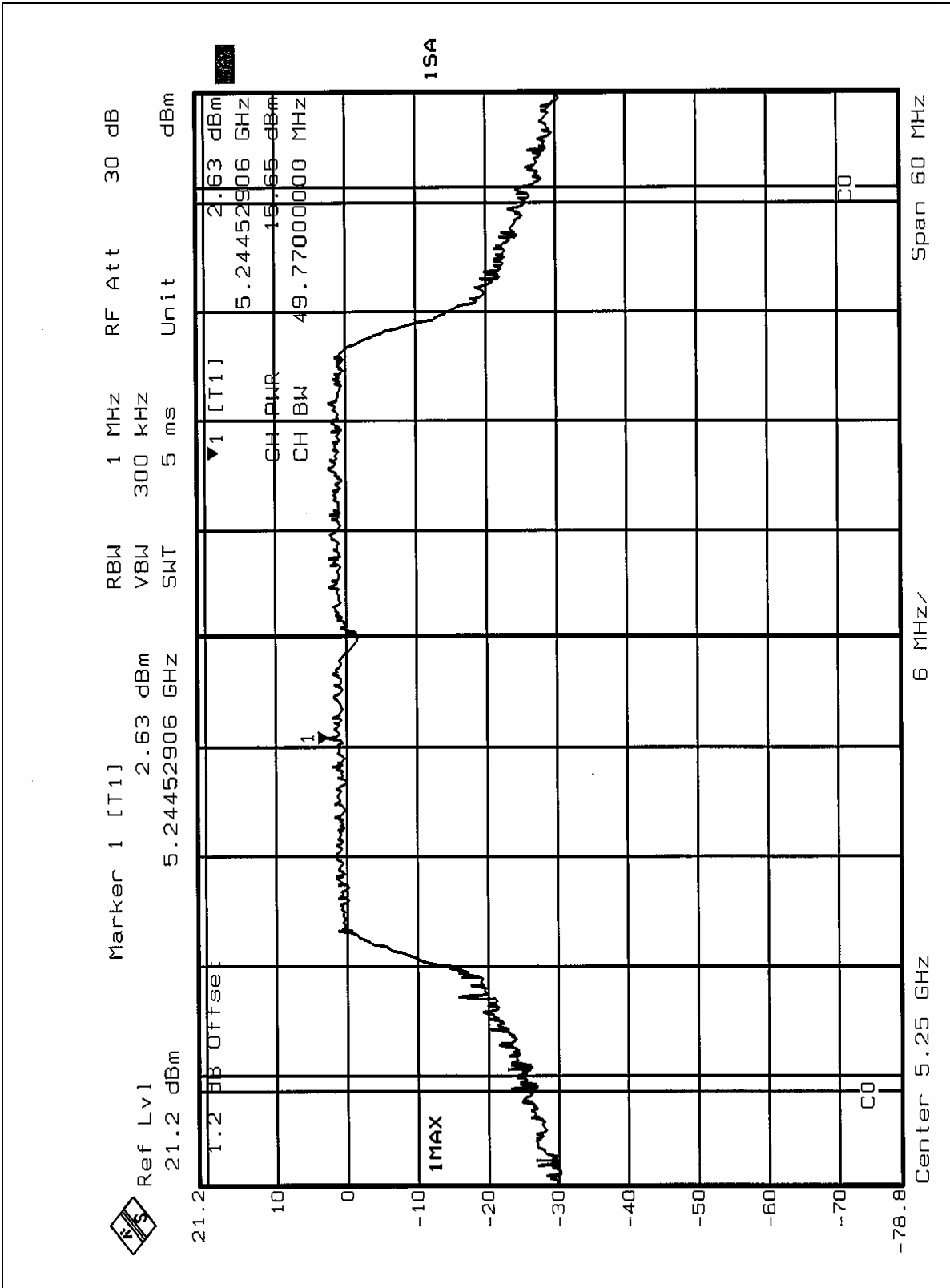
TEST RESULTS – TURBO MODE

EUT	2.4GHz/5GHz Mini - PCI Card	MODEL	WLL220
ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH, 991hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

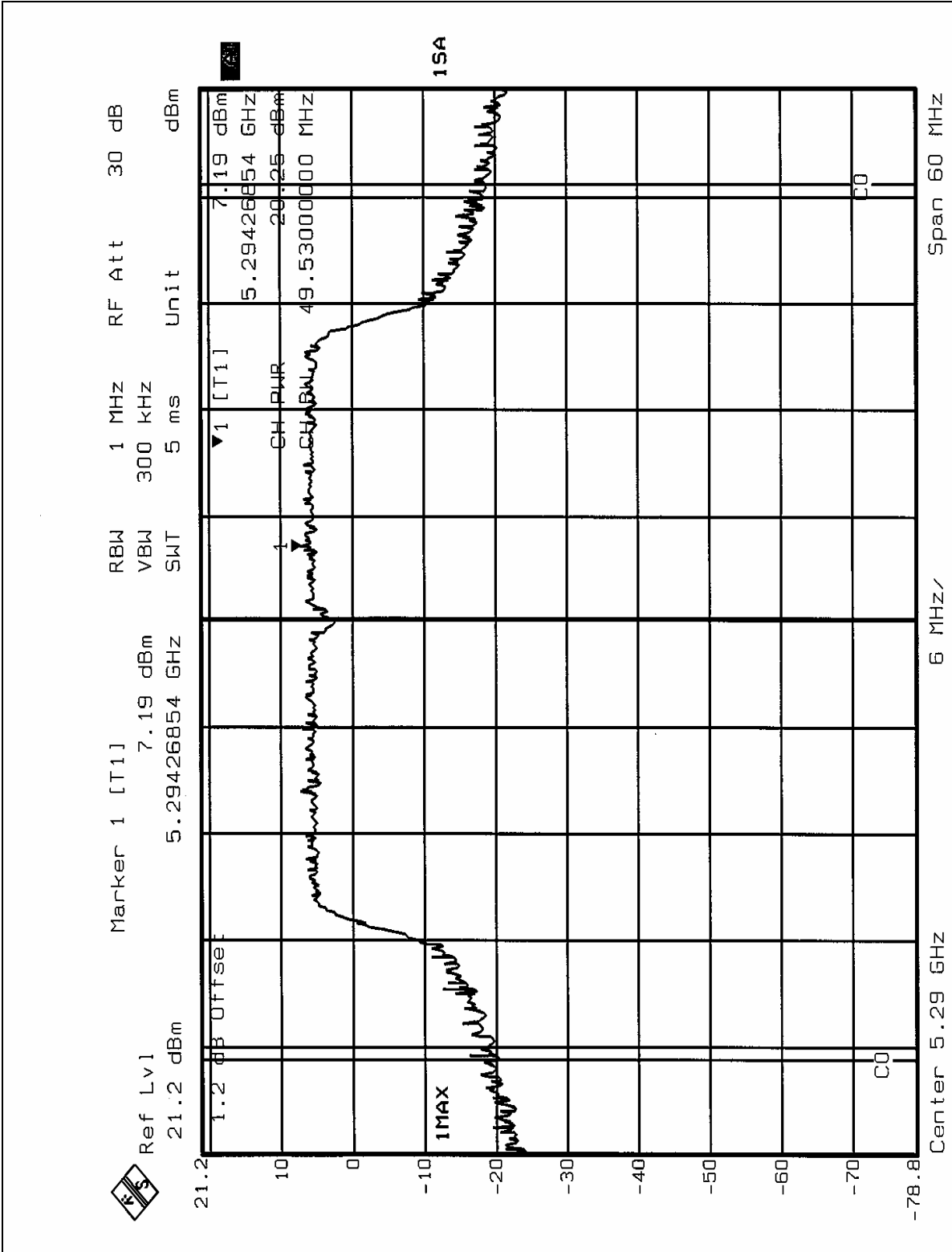
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5210	15.72	17.00	50.38	PASS
2	5250	15.65	17.00	49.78	PASS
3	5290	20.25	24.00	49.54	PASS
4	5760	18.88	30.00	48.58	PASS
5	5800	16.28	30.00	48.22	PASS

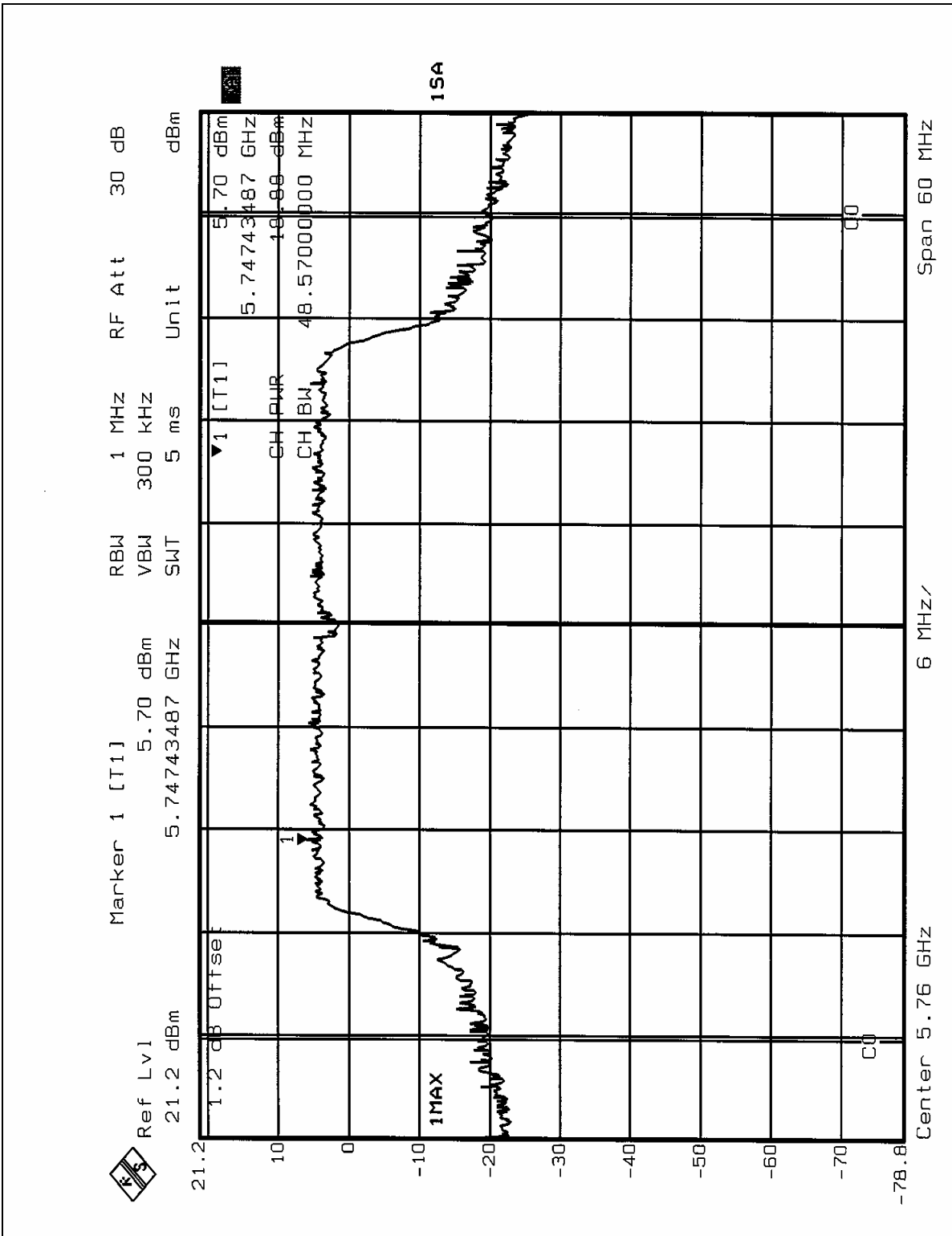
NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

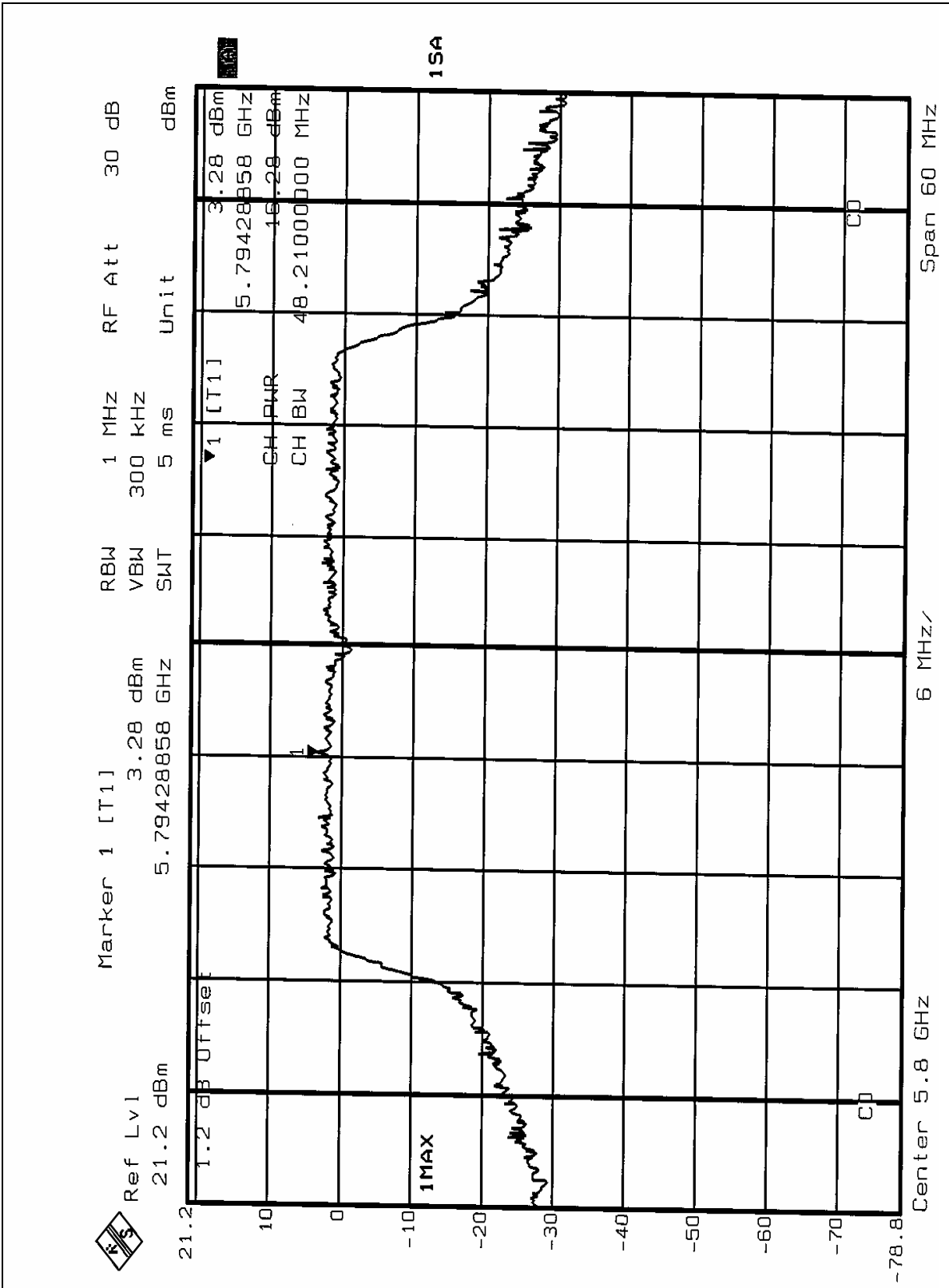


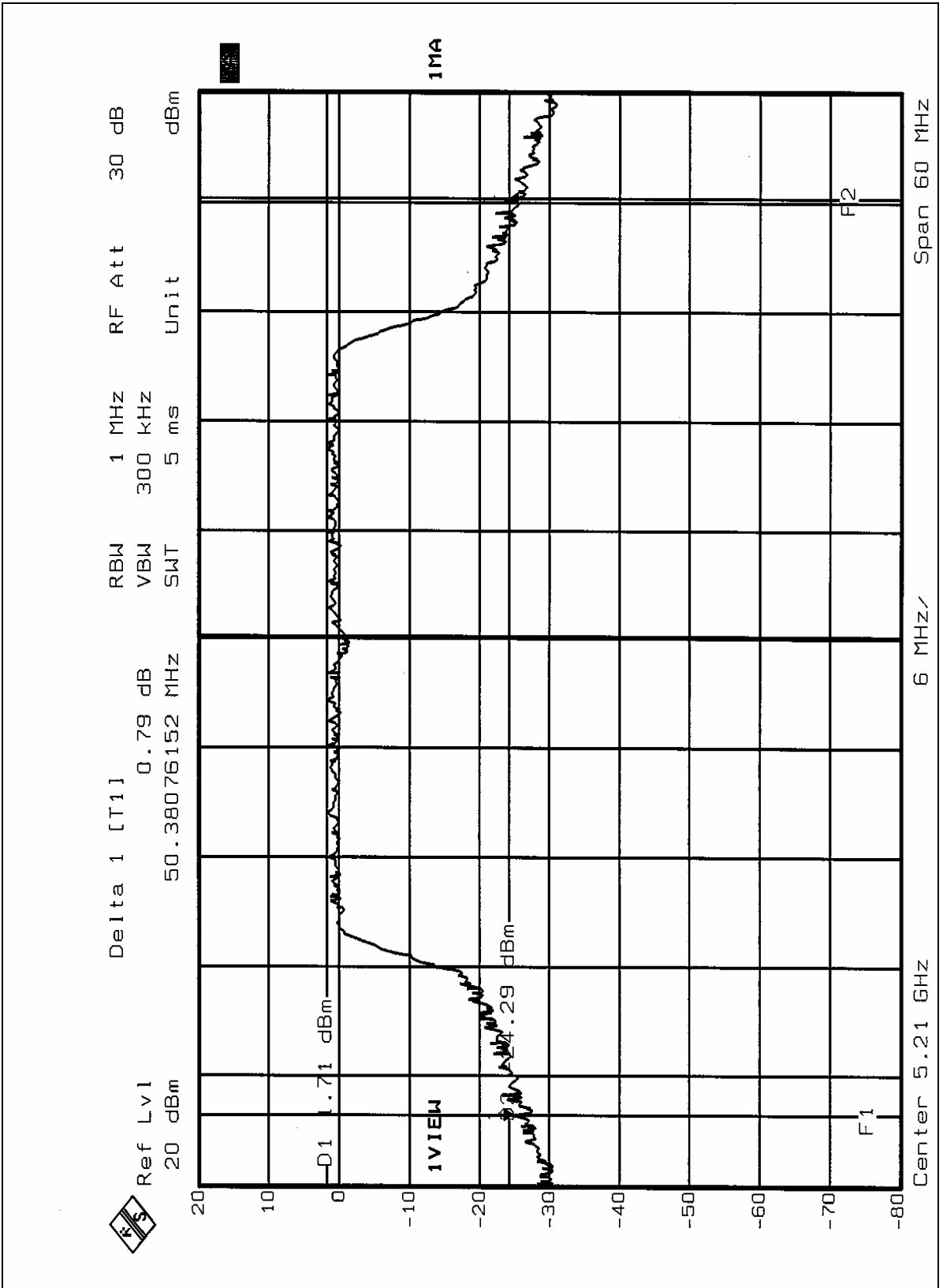


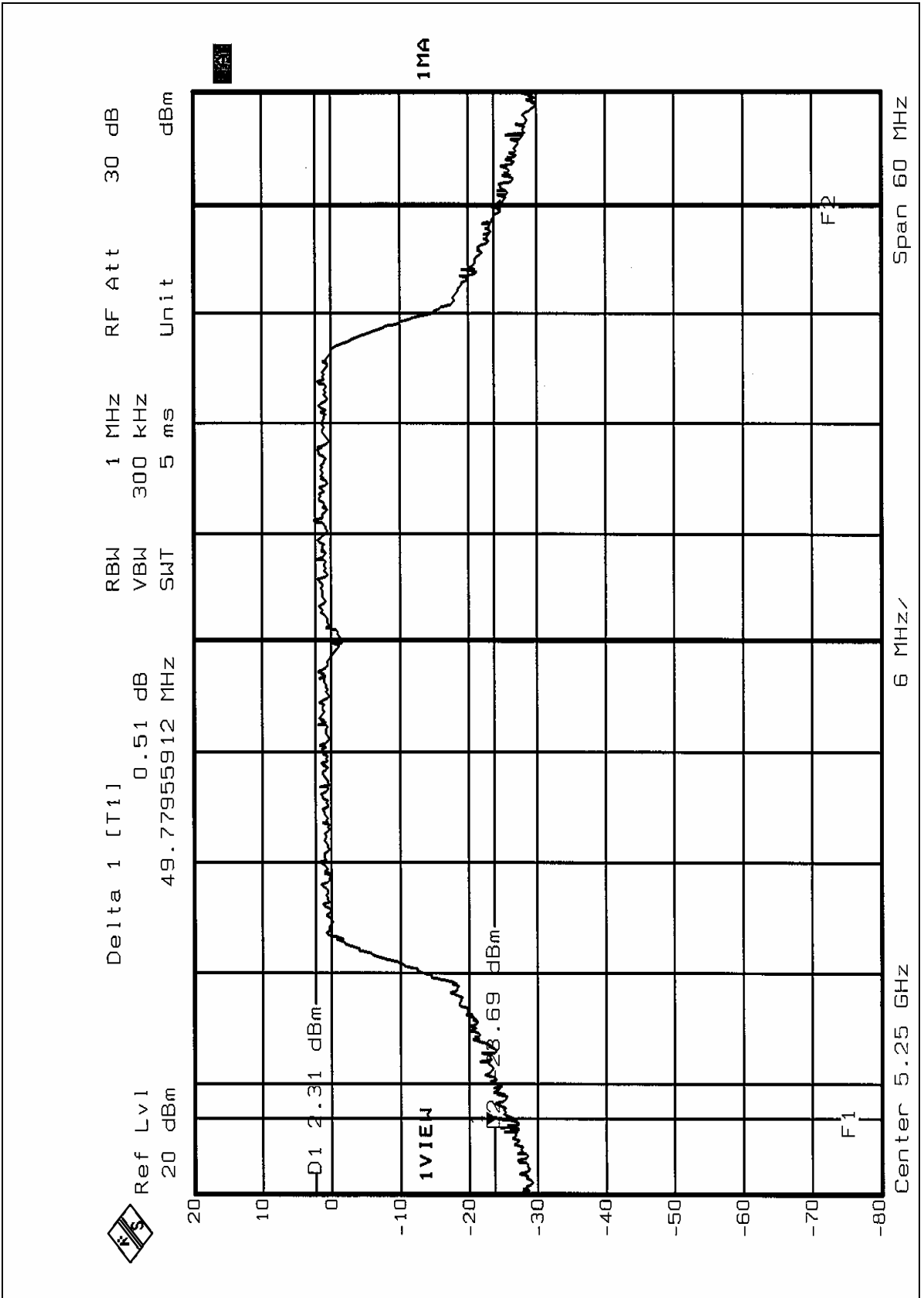
CHANNEL3

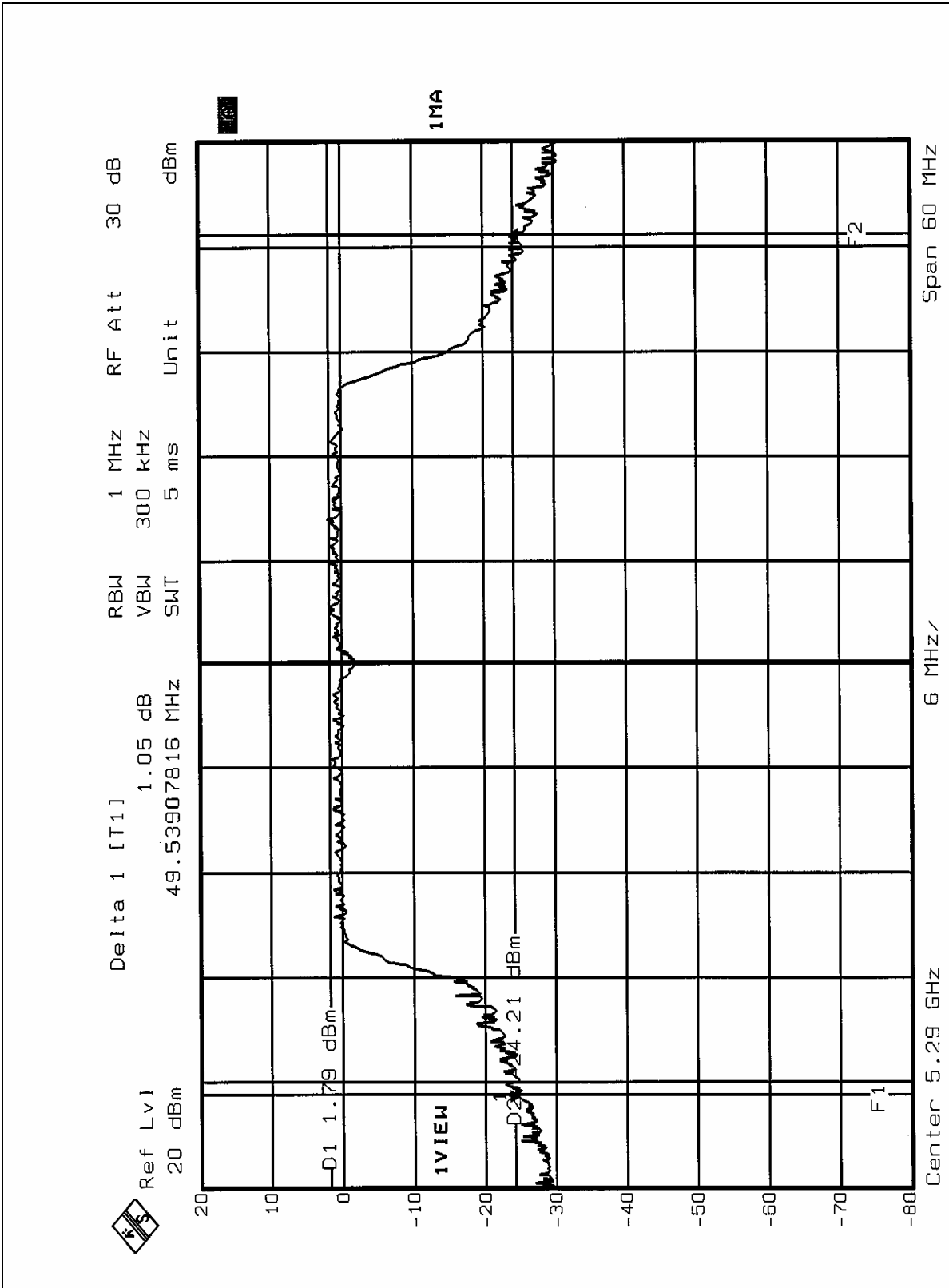












CHANNEL 4

