

### 5.3 PEAK TRANSMIT POWER MEASUREMENT

#### 5.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35 GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825 GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

**Note:** Where B is the 26 dB emission bandwidth in MHz.

#### 5.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE&SCHWARZ SINGLE CHANNEL POWER METER	NRVS	100026	Mar. 21, 2003
ROHDE&SCHWARZ PEAK POWER METER CHANNEL POWER METER	NRV-Z32	100013	Mar. 21, 2003

**NOTE:**

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

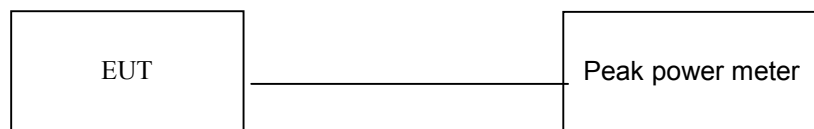
### 5.3.3 TEST PROCEDURE

The transmitter output was connected to the peak power sensor.

### 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

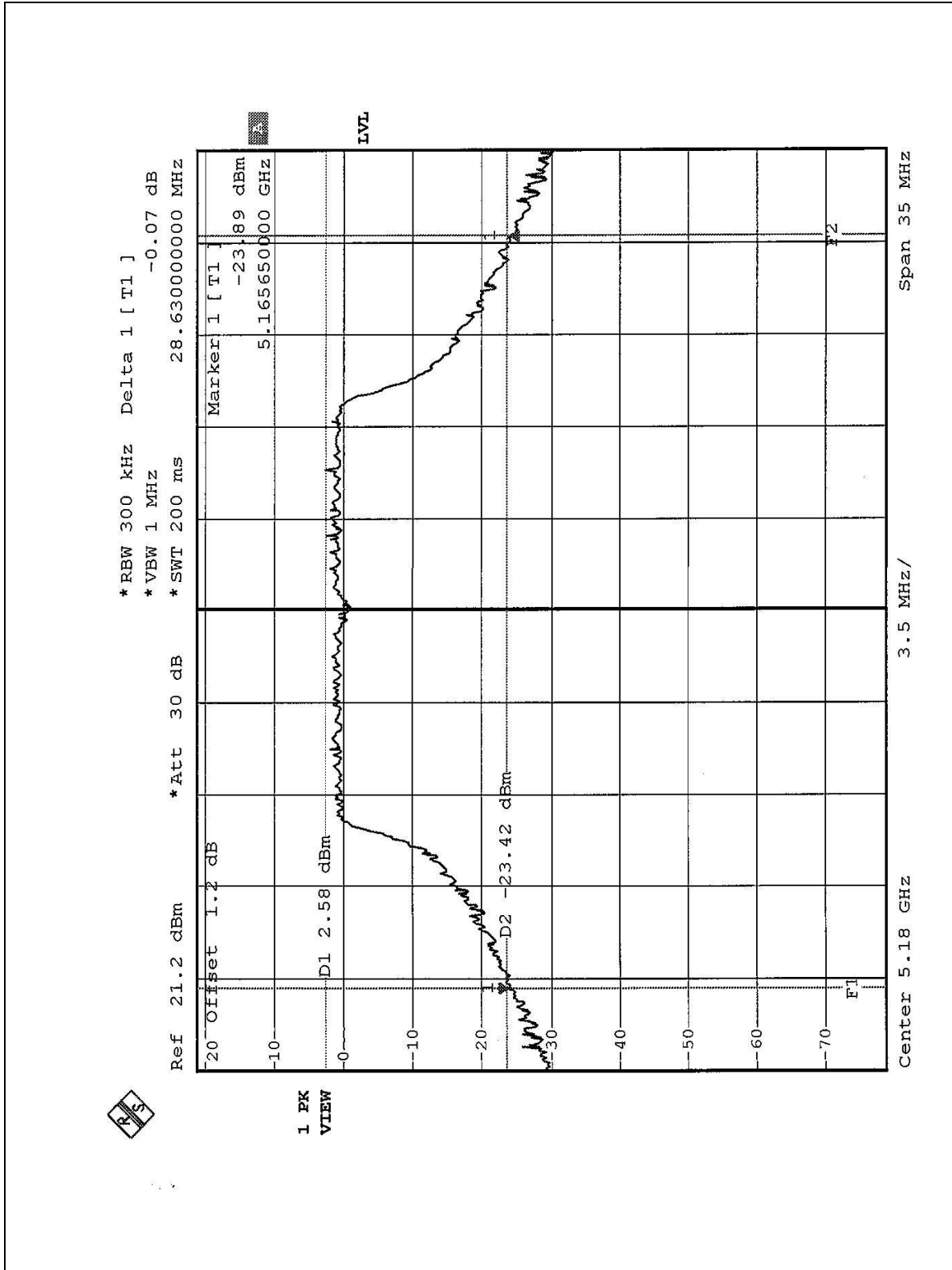
<b>EUT</b>	WLAN a+b combo mini-PCI	<b>MODEL</b>	VM4-3B
<b>MODE</b>	Normal	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz
<b>ENVIRONMENTAL CONDITIONS</b>	30 deg. C, 55%RH, 1005 hPa	<b>TESTED BY</b>	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	13.22	17.00	28.63	PASS
4	5240	13.72	17.00	28.56	PASS
5	5260	13.80	24.00	28.07	PASS
8	5320	13.95	24.00	29.26	PASS
9	5745	11.59	30.00	27.58	PASS
12	5805	13.28	30.00	28.56	PASS

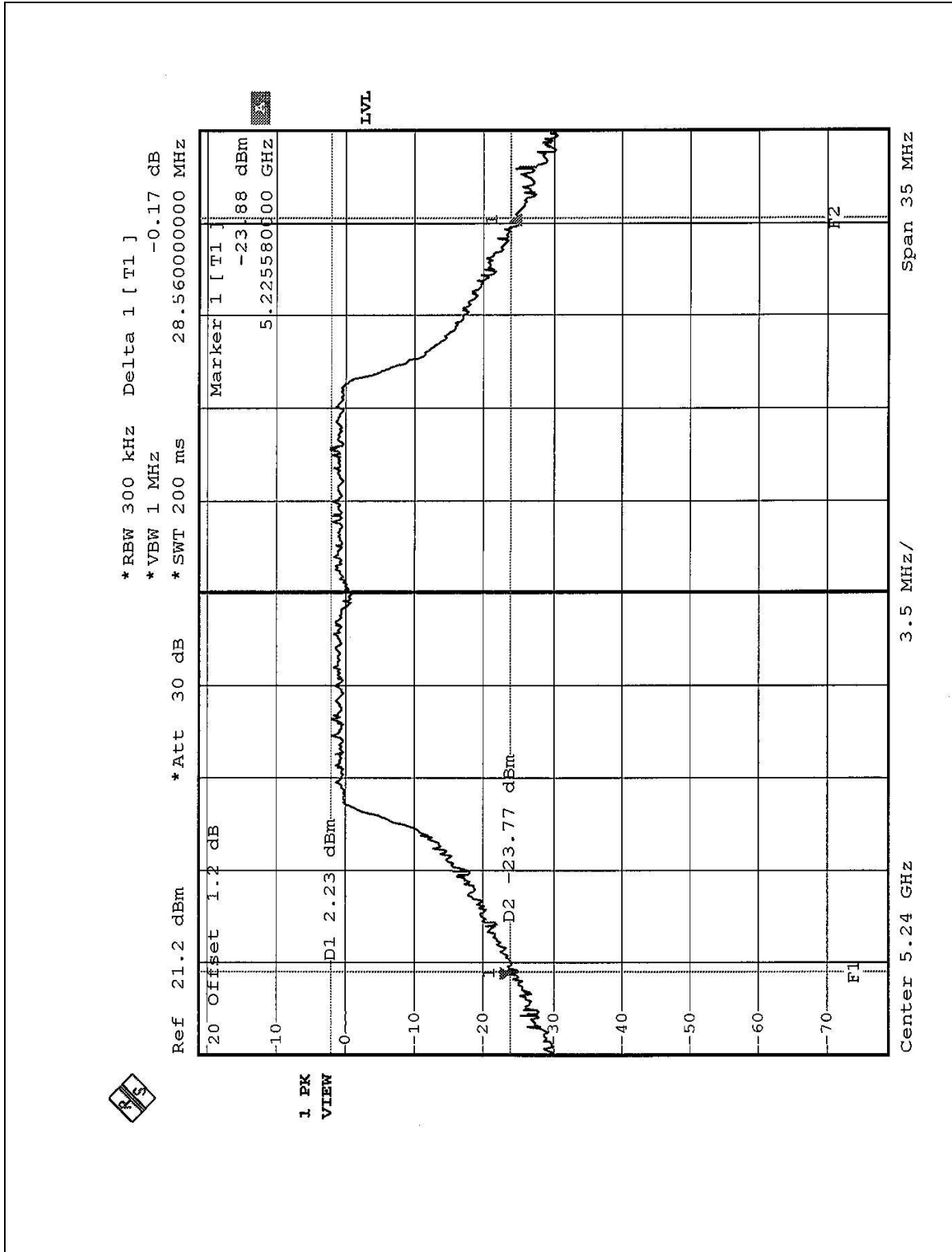
**NOTE:** The 26dBc Occupied Bandwidth plot, please refer to next 6 pages.



CHANNEL 1

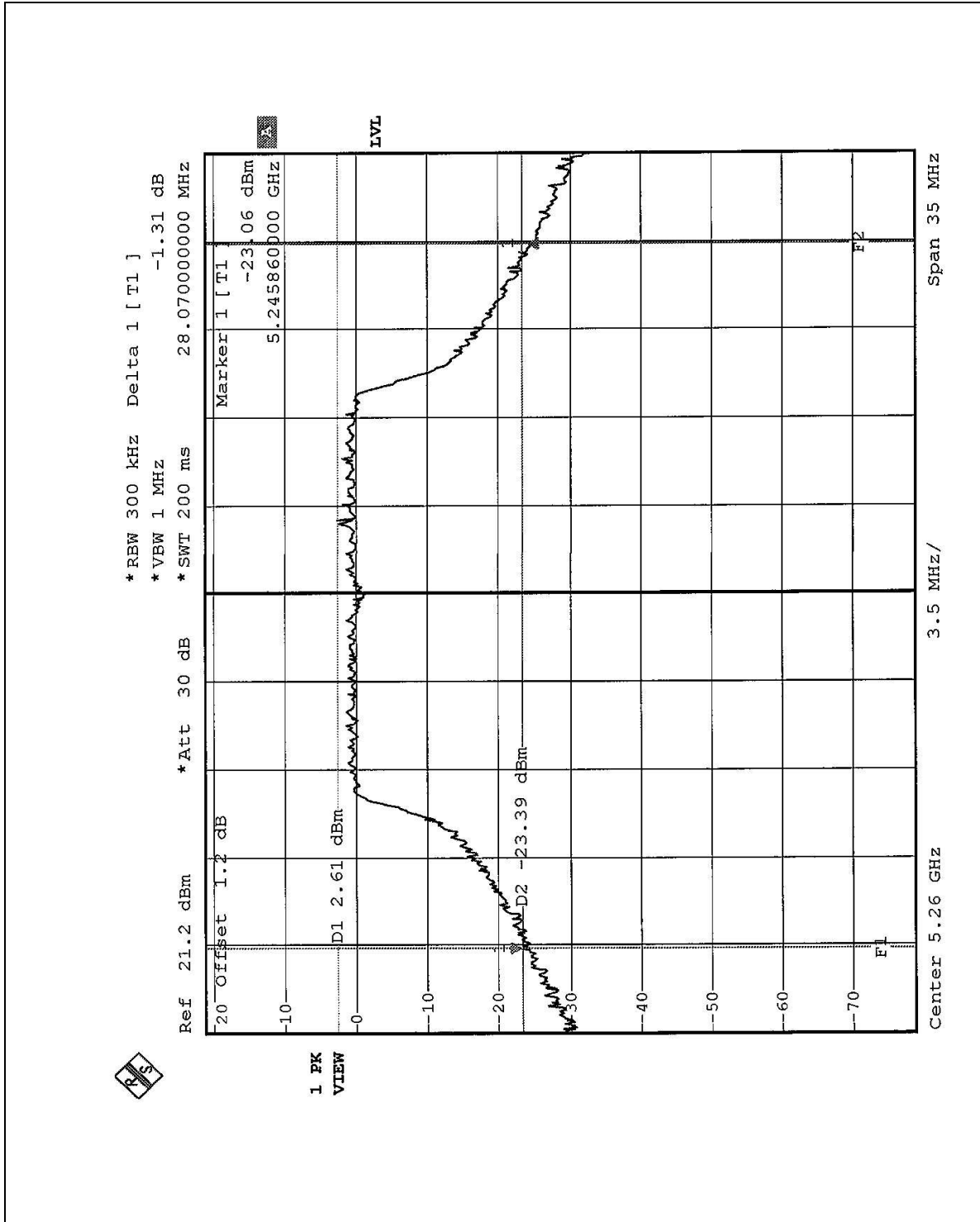


CHANNEL 4



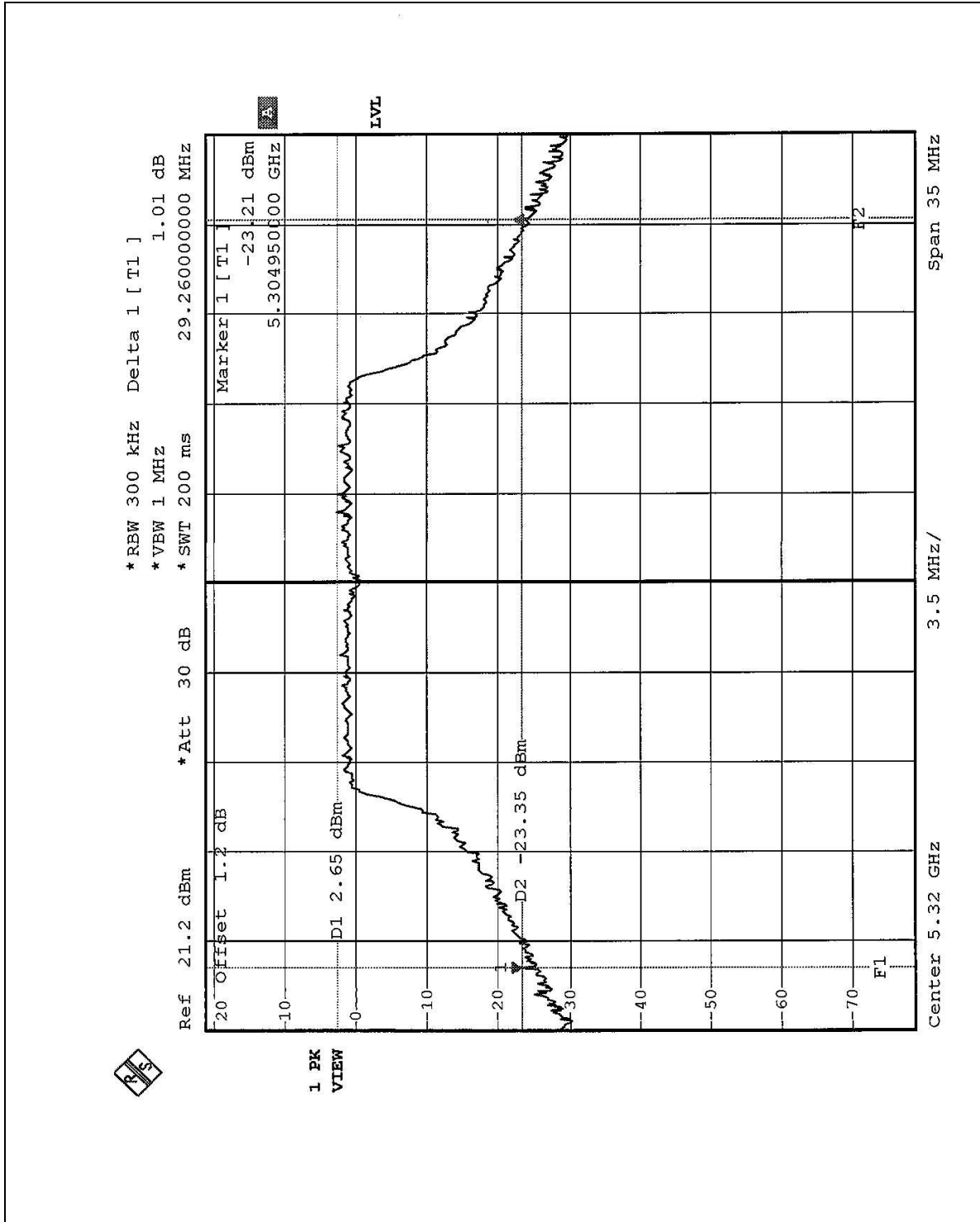


CHANNEL 5



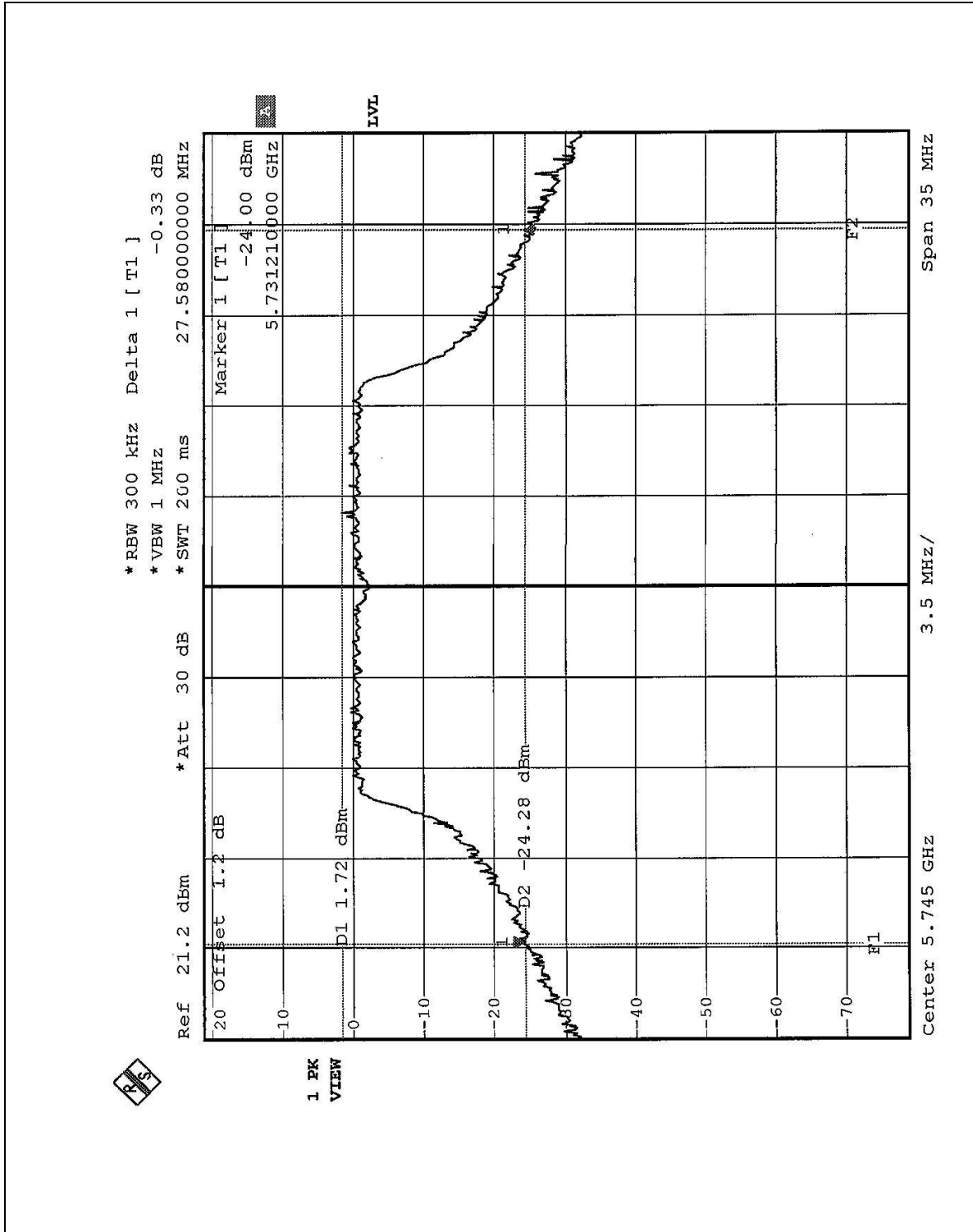


CHANNEL 8





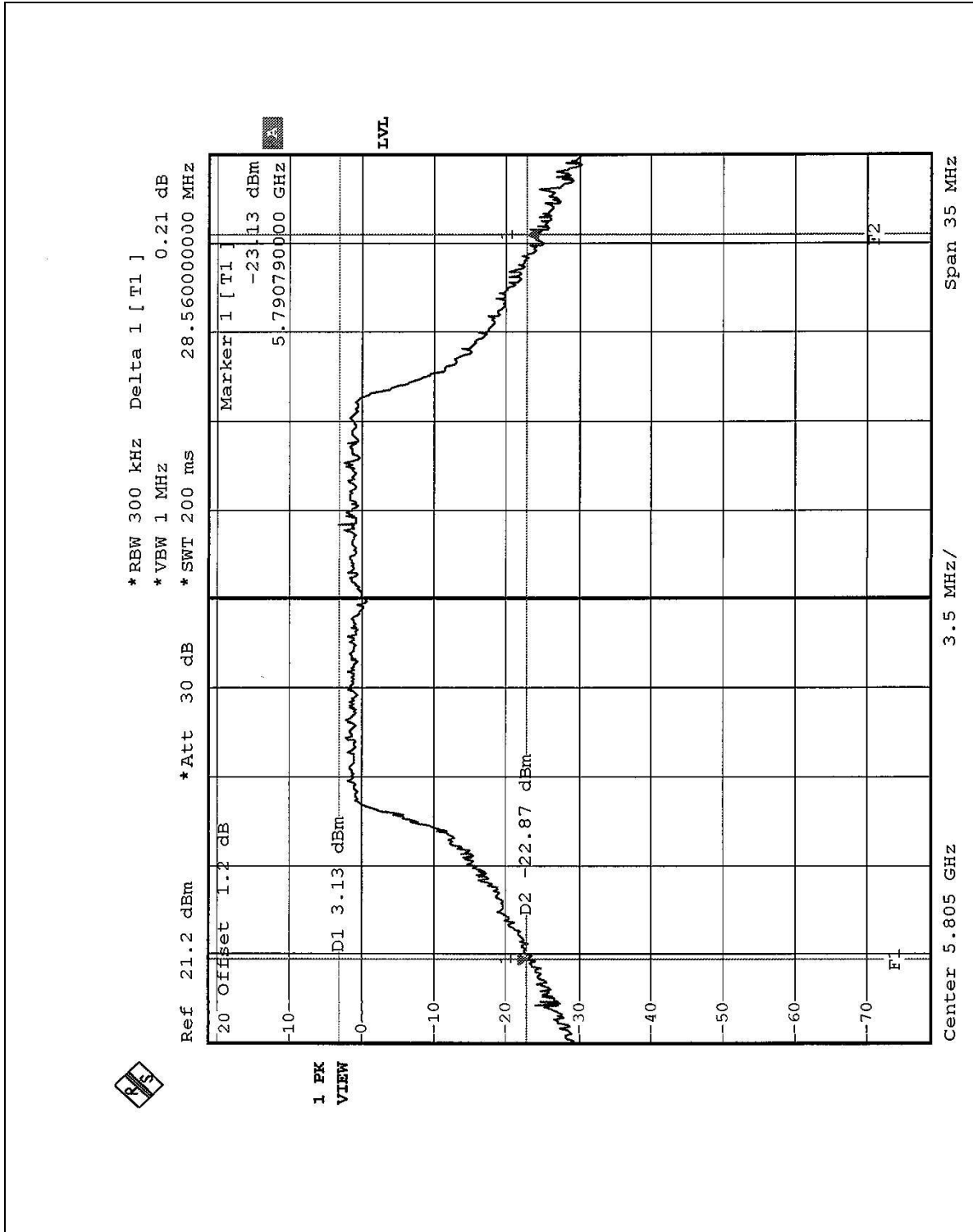
CHANNEL 9







CHANNEL 12





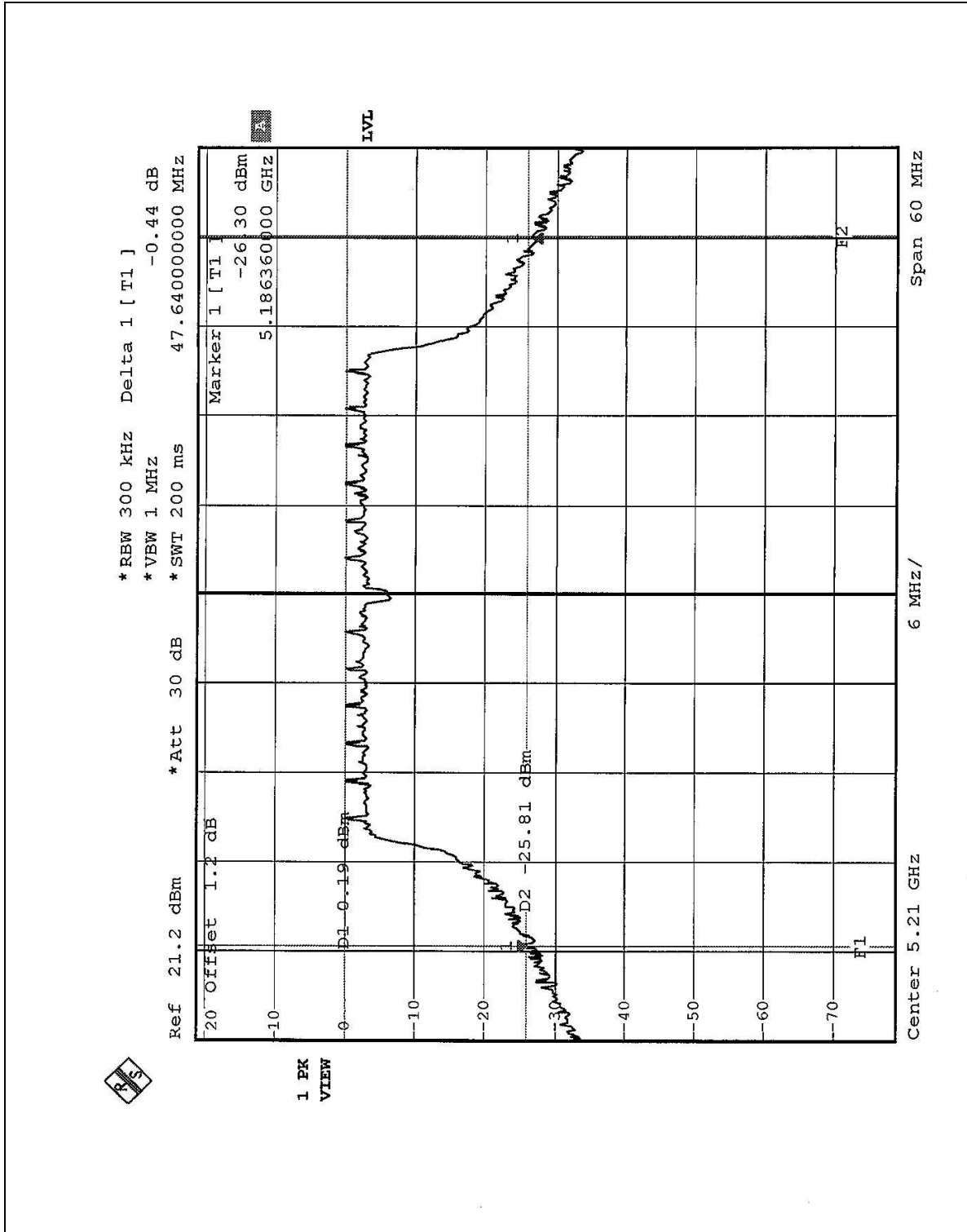
<b>EUT</b>	WLAN a+b combo mini-PCI	<b>MODEL</b>	VM4-3B
<b>MODE</b>	Turbo	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz
<b>ENVIRONMENTAL CONDITIONS</b>	30 deg. C, 55%RH, 1005 hPa	<b>TESTED BY</b>	Steven Lu

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>PEAK POWER OUTPUT (dBm)</b>	<b>PEAK POWER LIMIT (dBm)</b>	<b>26dBc Occupied Bandwidth (MHz)</b>	<b>PASS/FAIL</b>
1	5210	12.29	17.00	47.64	PASS
2	5250	12.00	17.00	47.28	PASS
3	5290	11.83	24.00	47.28	PASS
4	5760	10.88	30.00	47.64	PASS
5	5800	12.14	30.00	47.28	PASS

**NOTE:** The 26dBc Occupied Bandwidth plot, please refer to next 6 pages.

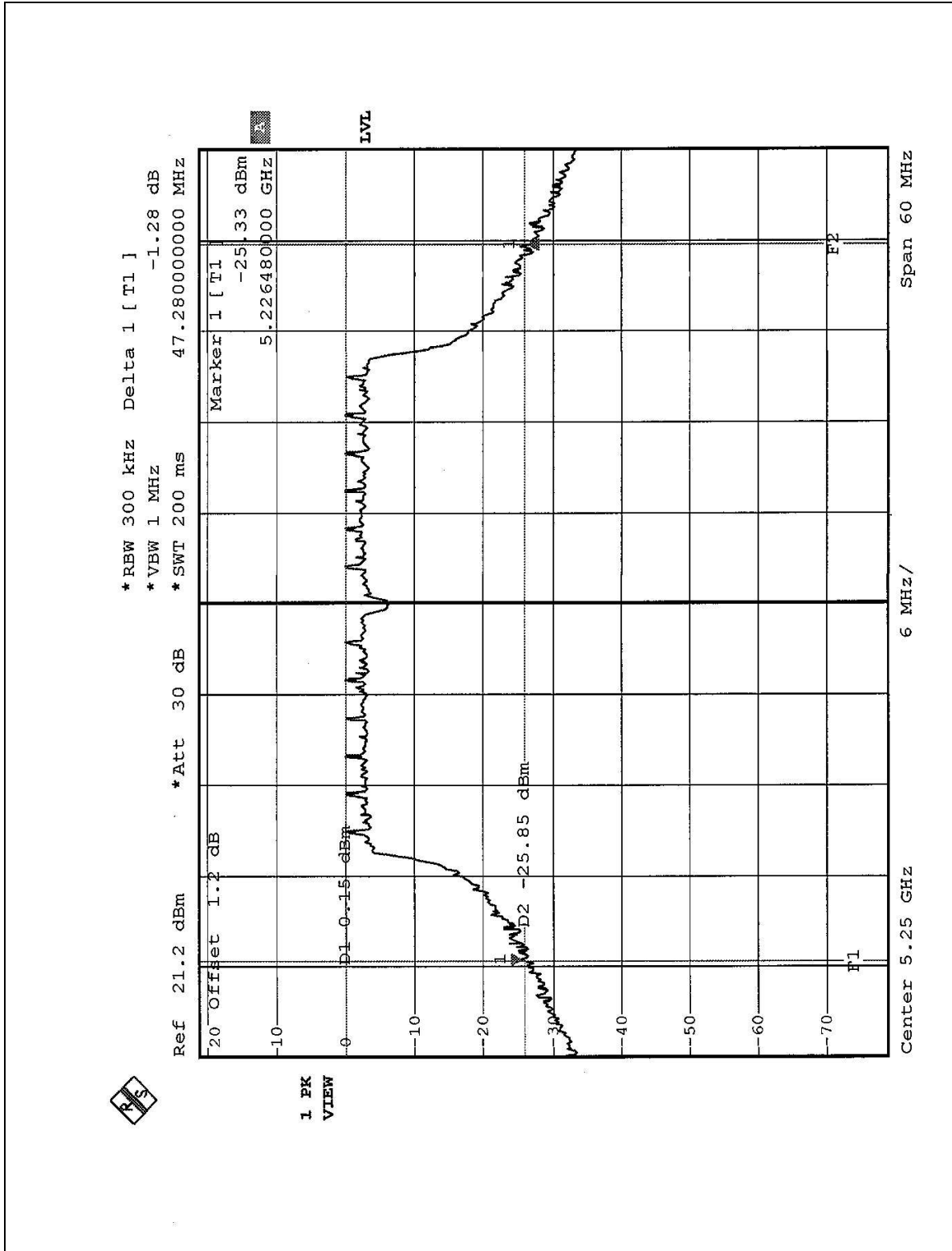


CHANNEL 1





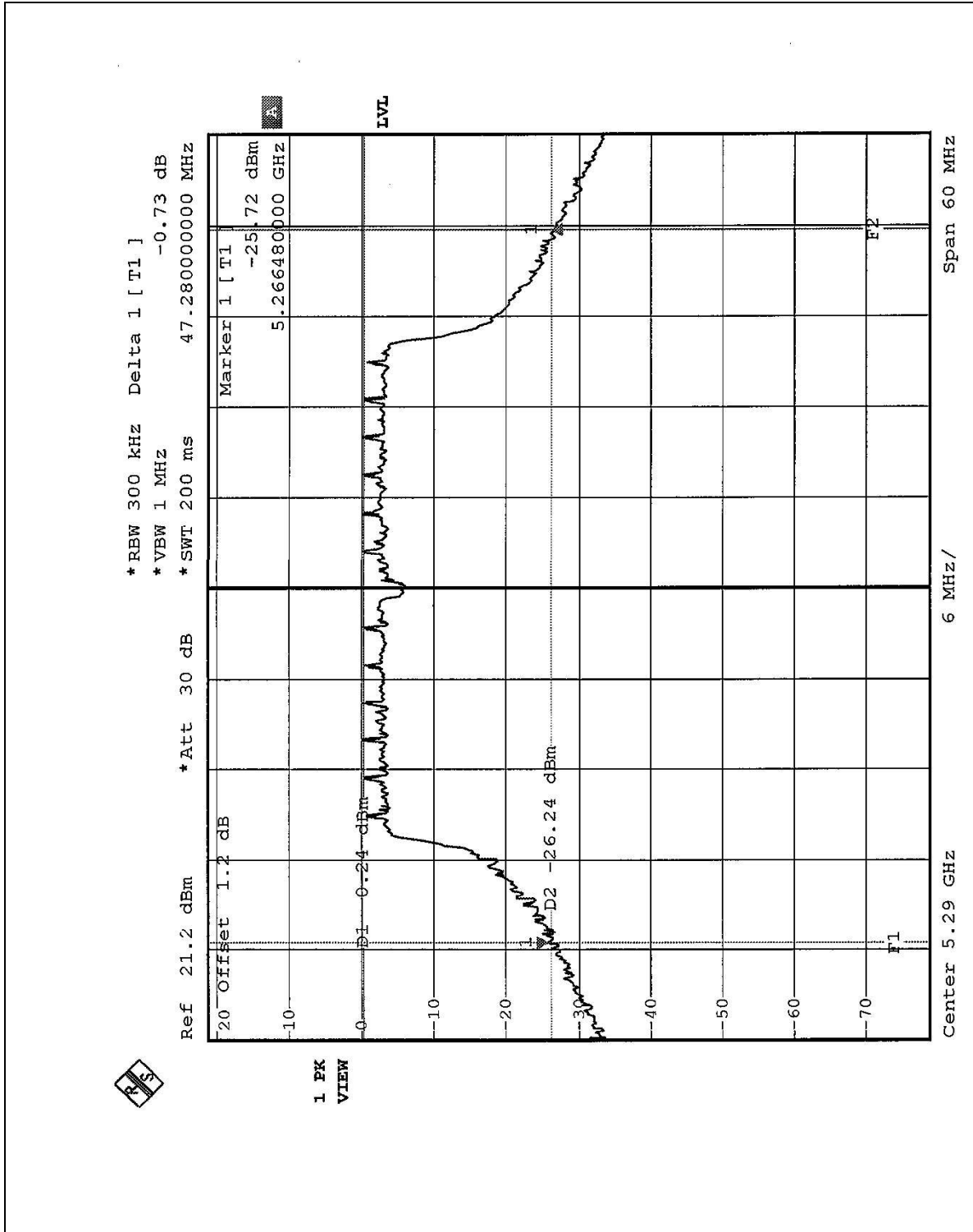
CHANNEL 2



1 PK VIEW

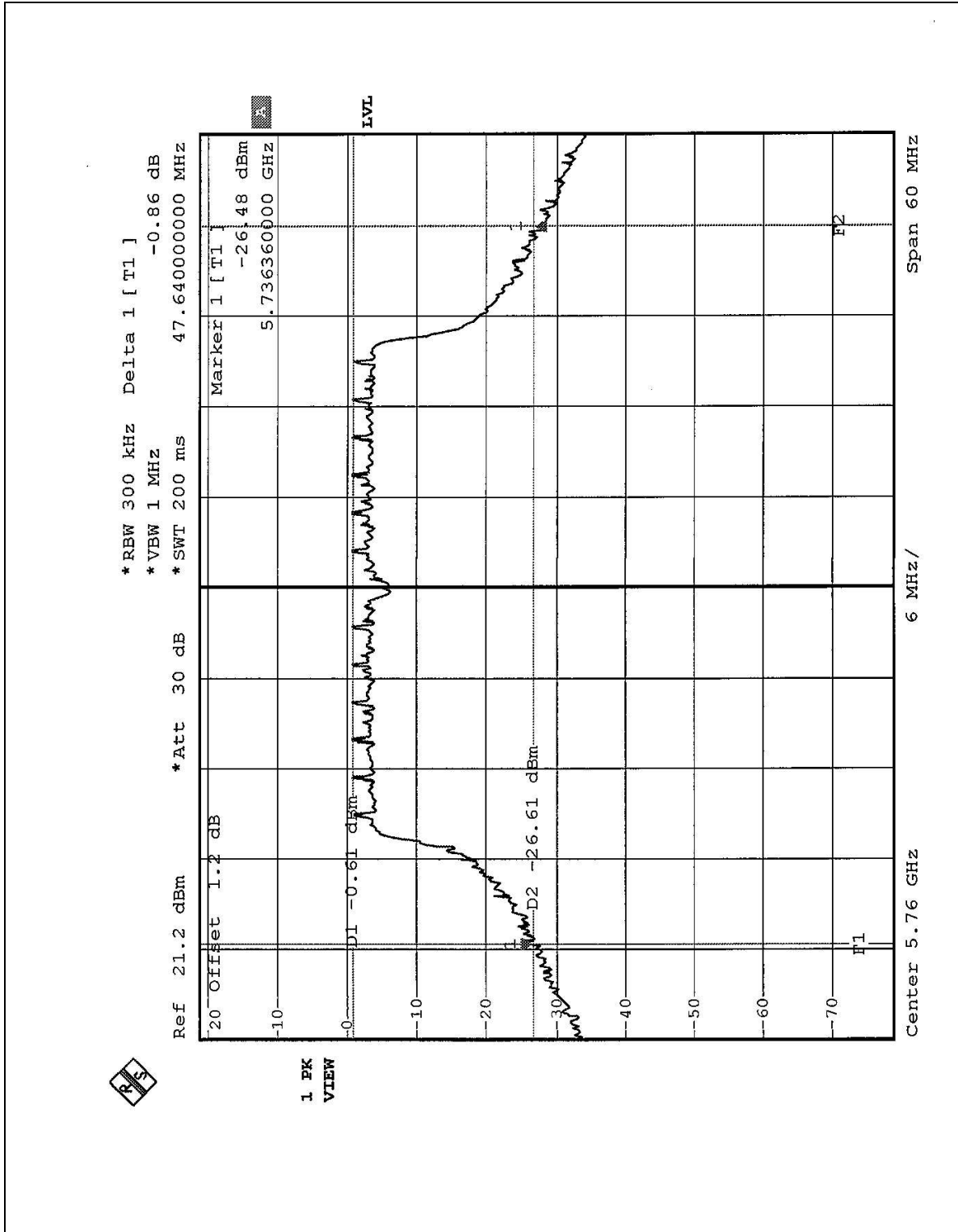


CHANNEL 3



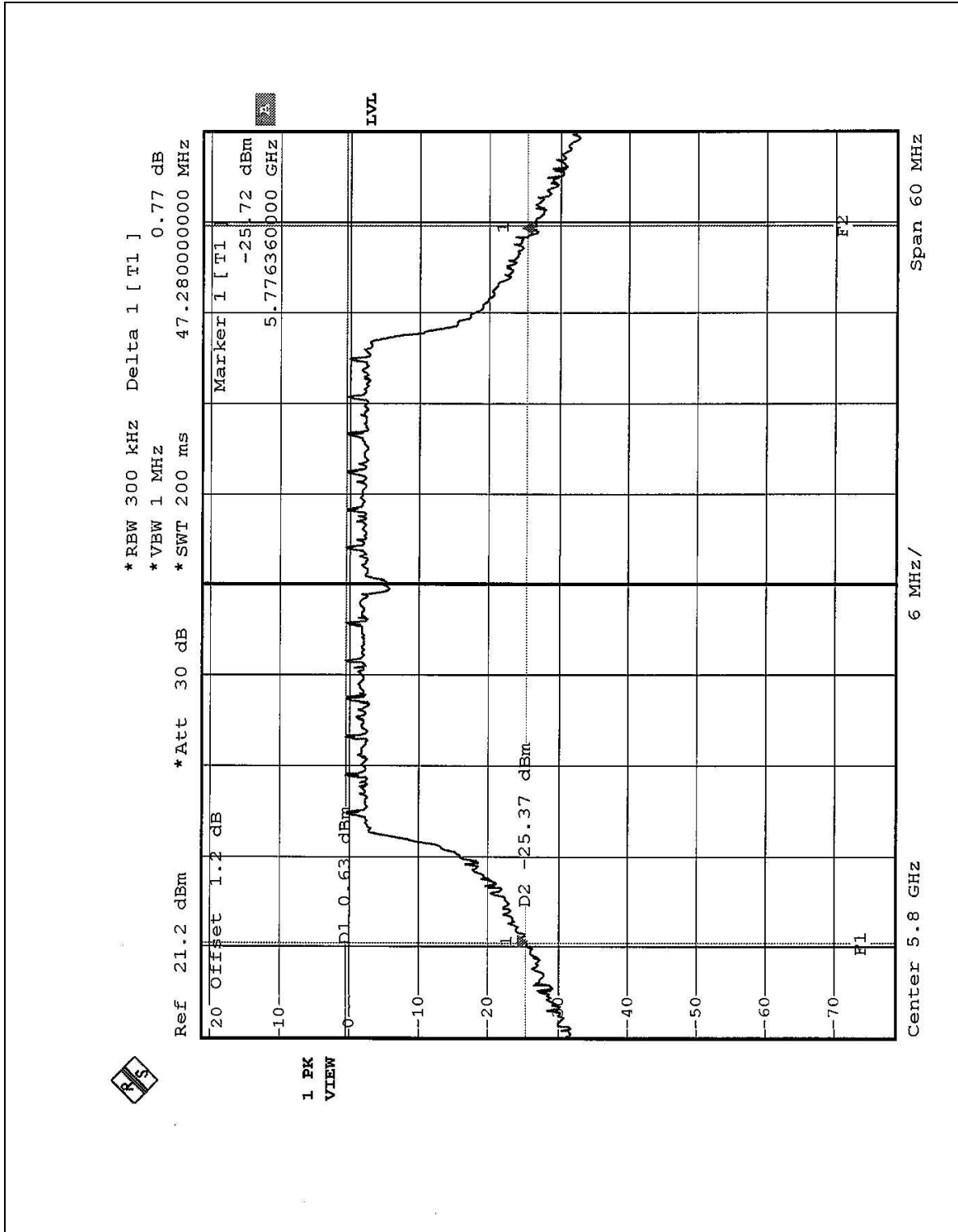


CHANNEL 4





CHANNEL 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
ROHDE&SCHWARZ SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003

**NOTE:**

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 2.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=1MHz) and 2 (RB=1MHz, VB=30KHz).
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.



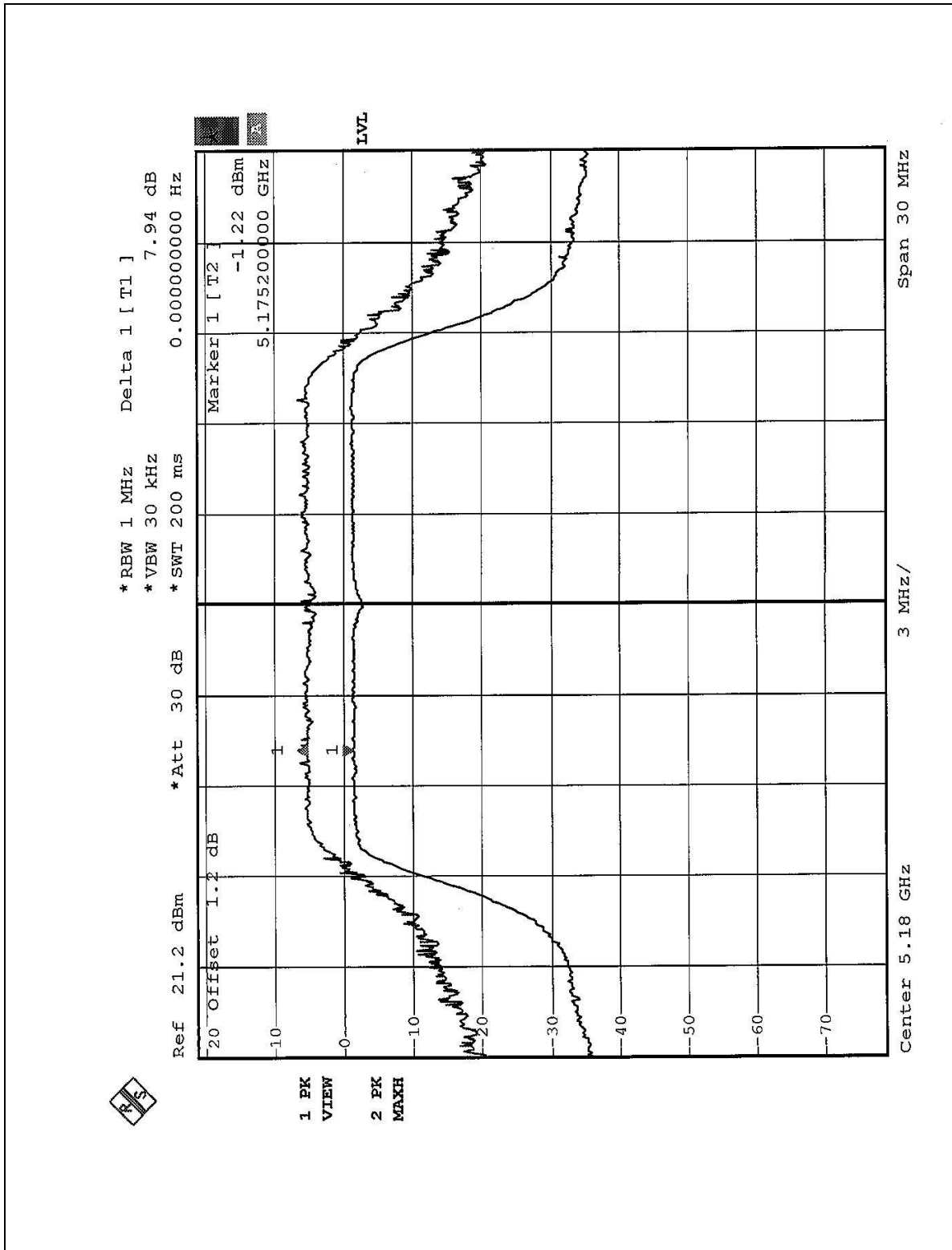
## 5.4.7 TEST RESULTS

<b>EUT</b>	WLAN a+b combo mini-PCI	<b>MODEL</b>	VM4-3B
<b>MODE</b>	Normal	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz
<b>ENVIRONMENTAL CONDITIONS</b>	30 deg. C, 55%RH, 1005 hPa	<b>TESTED BY</b>	Steven Lu

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>PEAK POWER EXCURSION (dB)</b>	<b>PEAK to AVERAGE EXCURSION LIMIT (dB)</b>	<b>PASS/FAIL</b>
1	5180	7.94	13	PASS
4	5240	8.41	13	PASS
5	5260	8.34	13	PASS
8	5320	7.23	13	PASS
9	5745	8.56	13	PASS
12	5805	8.86	13	PASS

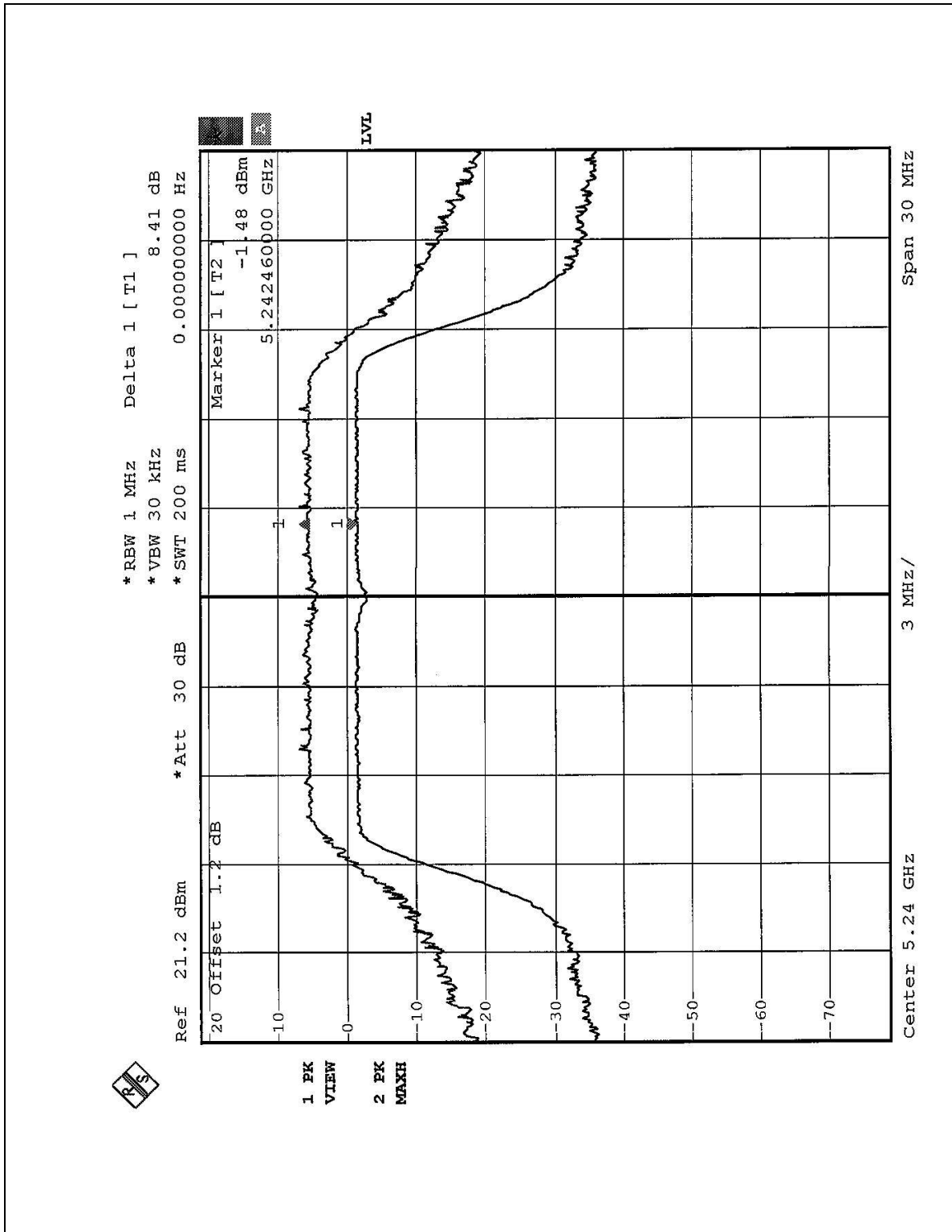


CHANNEL 1



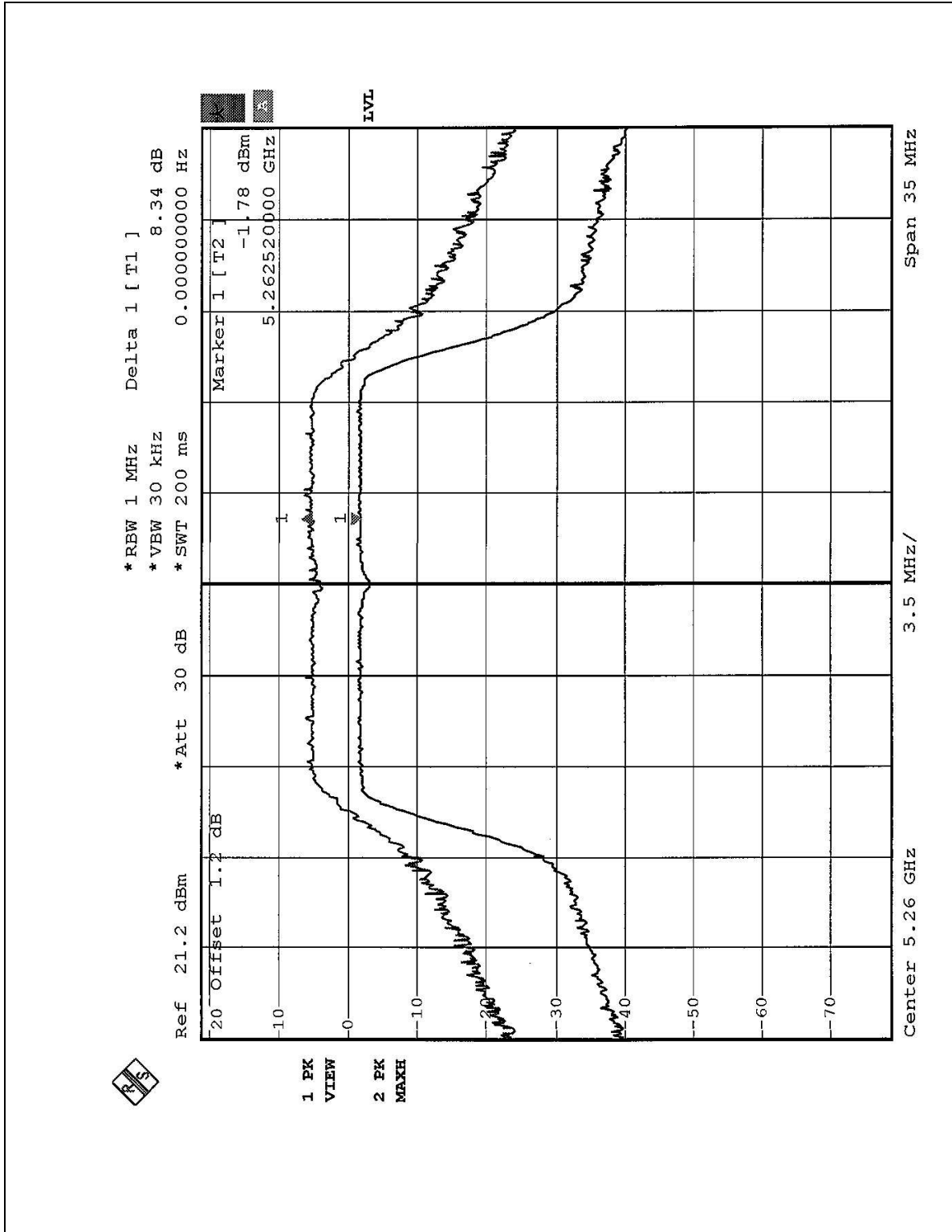


CHANNEL 4



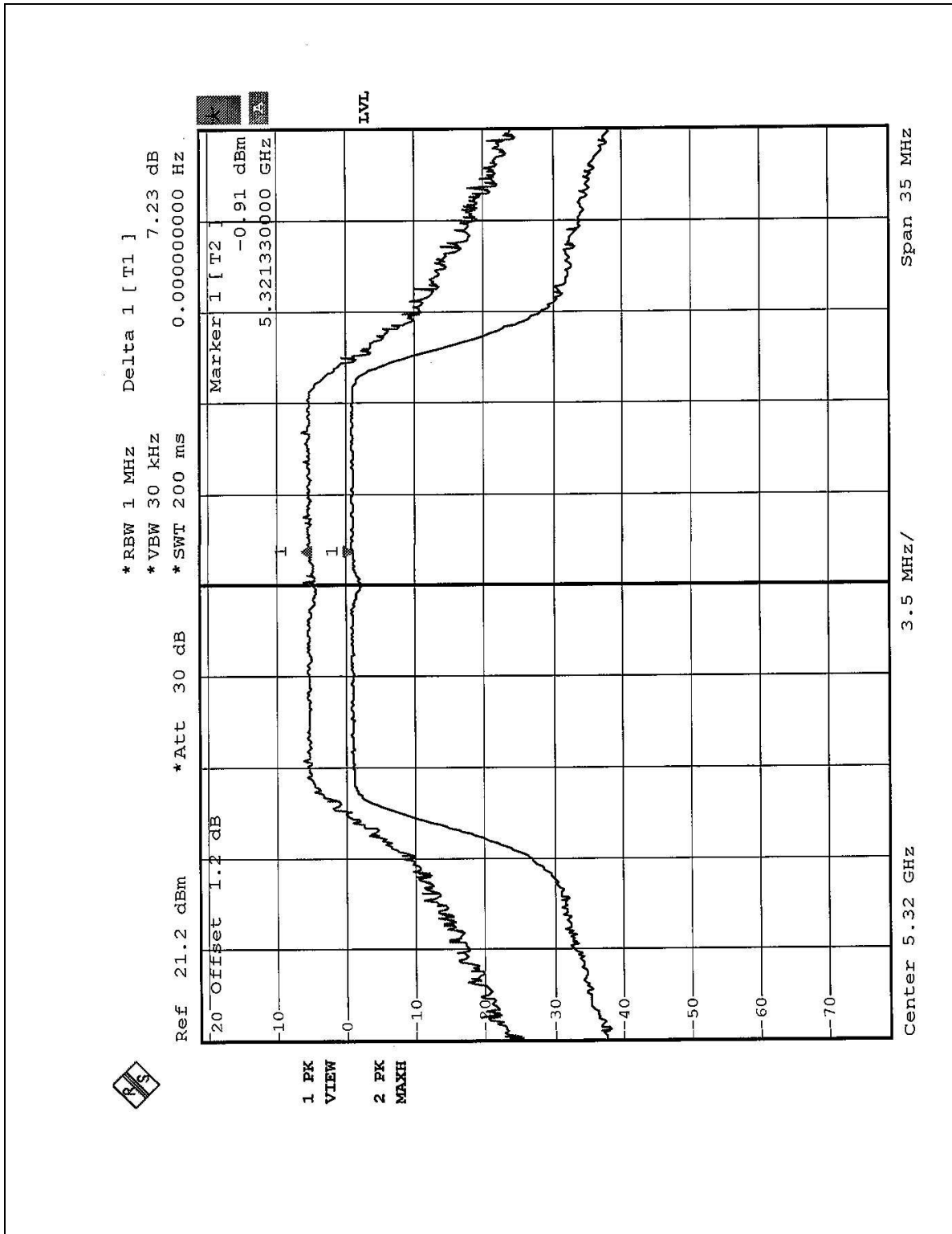


CHANNEL 5



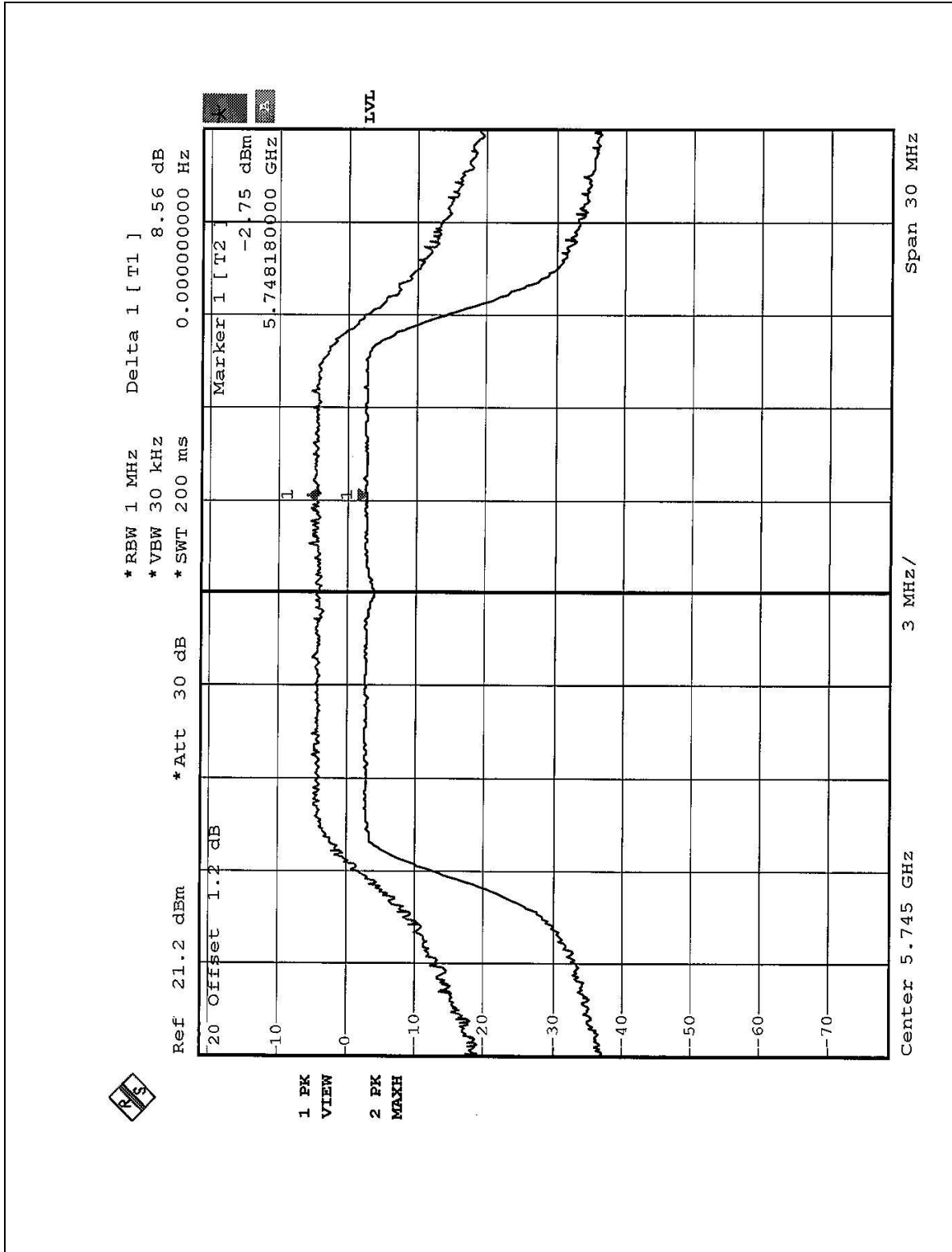


CHANNEL 8



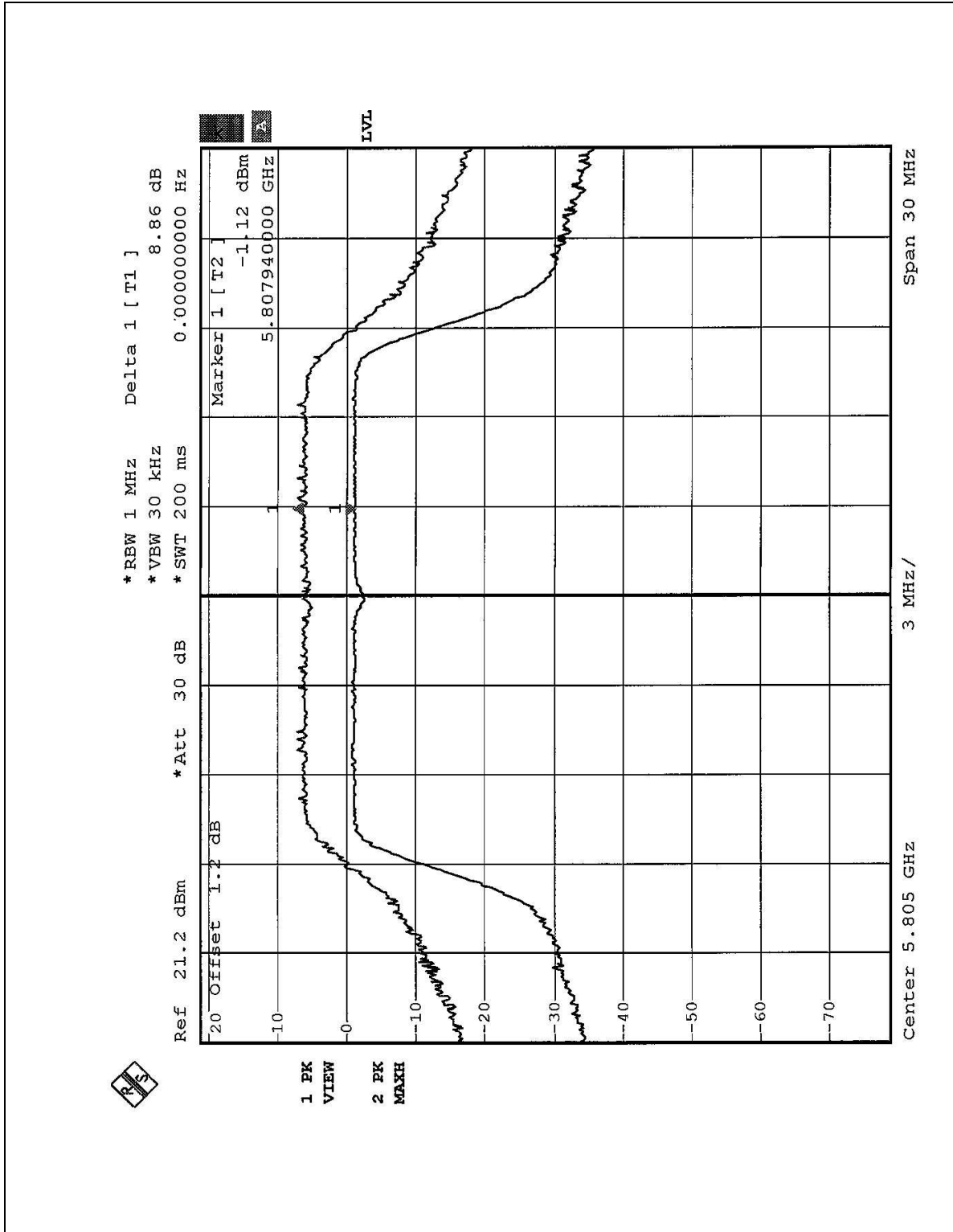


CHANNEL 9





CHANNEL 12





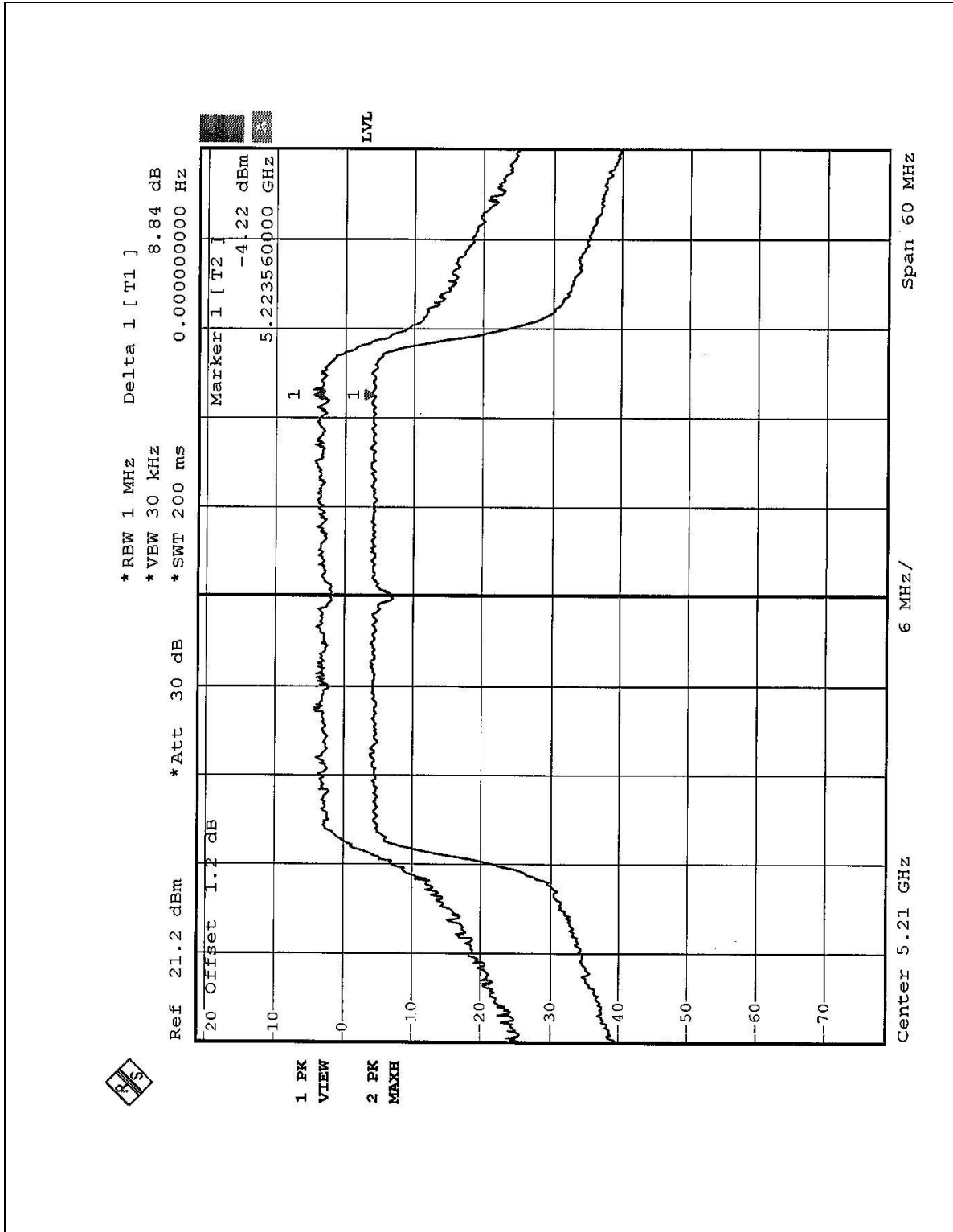


<b>EUT</b>	WLAN a+b combo mini-PCI	<b>MODEL</b>	VM4-3B
<b>MODE</b>	Turbo	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz
<b>ENVIRONMENTAL CONDITIONS</b>	30 deg. C, 55%RH, 1005 hPa	<b>TESTED BY</b>	Steven Lu

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>PEAK POWER EXCURSION (dB)</b>	<b>PEAK to AVERAGE EXCURSION LIMIT (dB)</b>	<b>PASS/FAIL</b>
1	5210	8.84	13	PASS
2	5250	8.64	13	PASS
3	5290	8.65	13	PASS
4	5760	8.60	13	PASS
5	5800	8.44	13	PASS

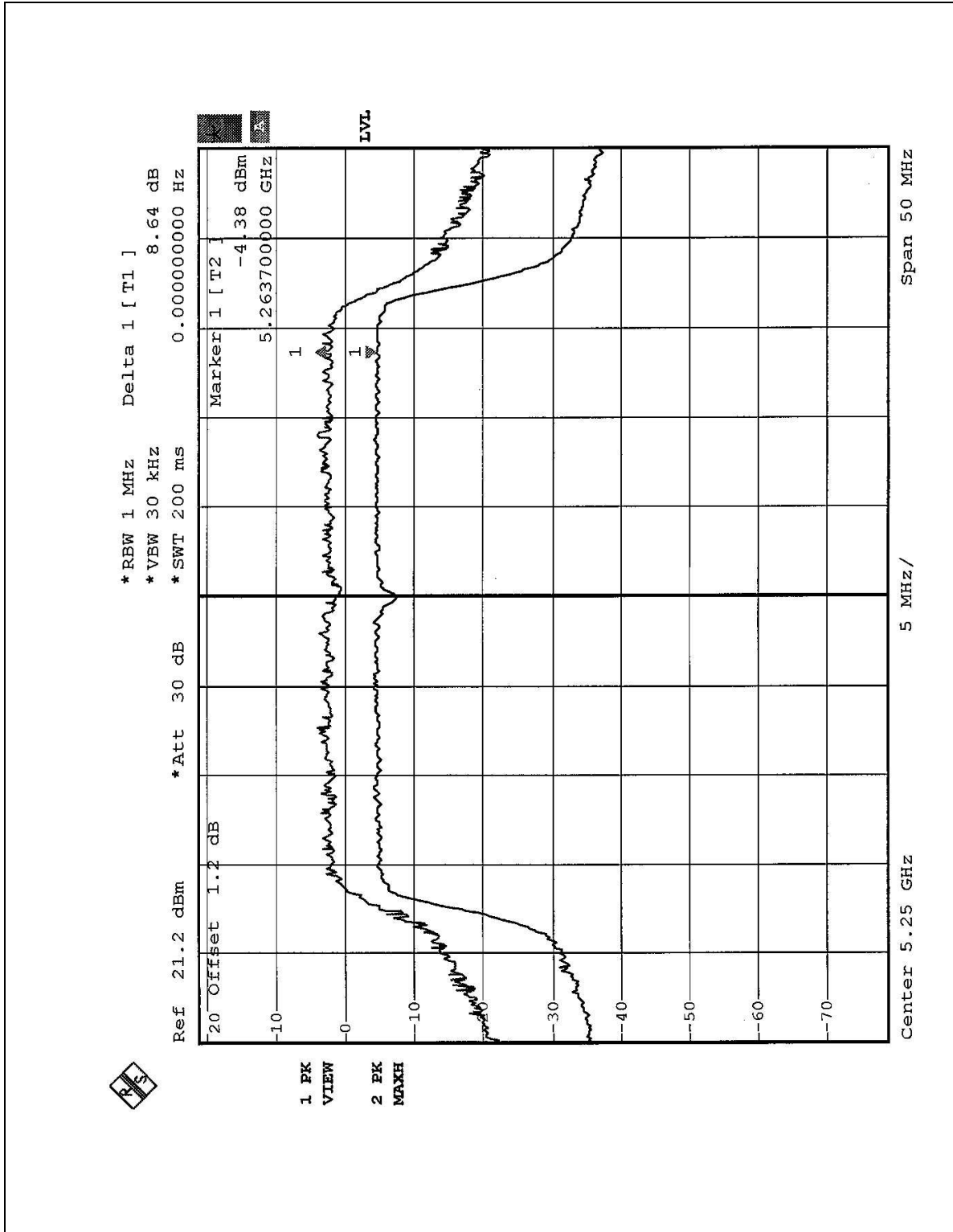


CHANNEL 1



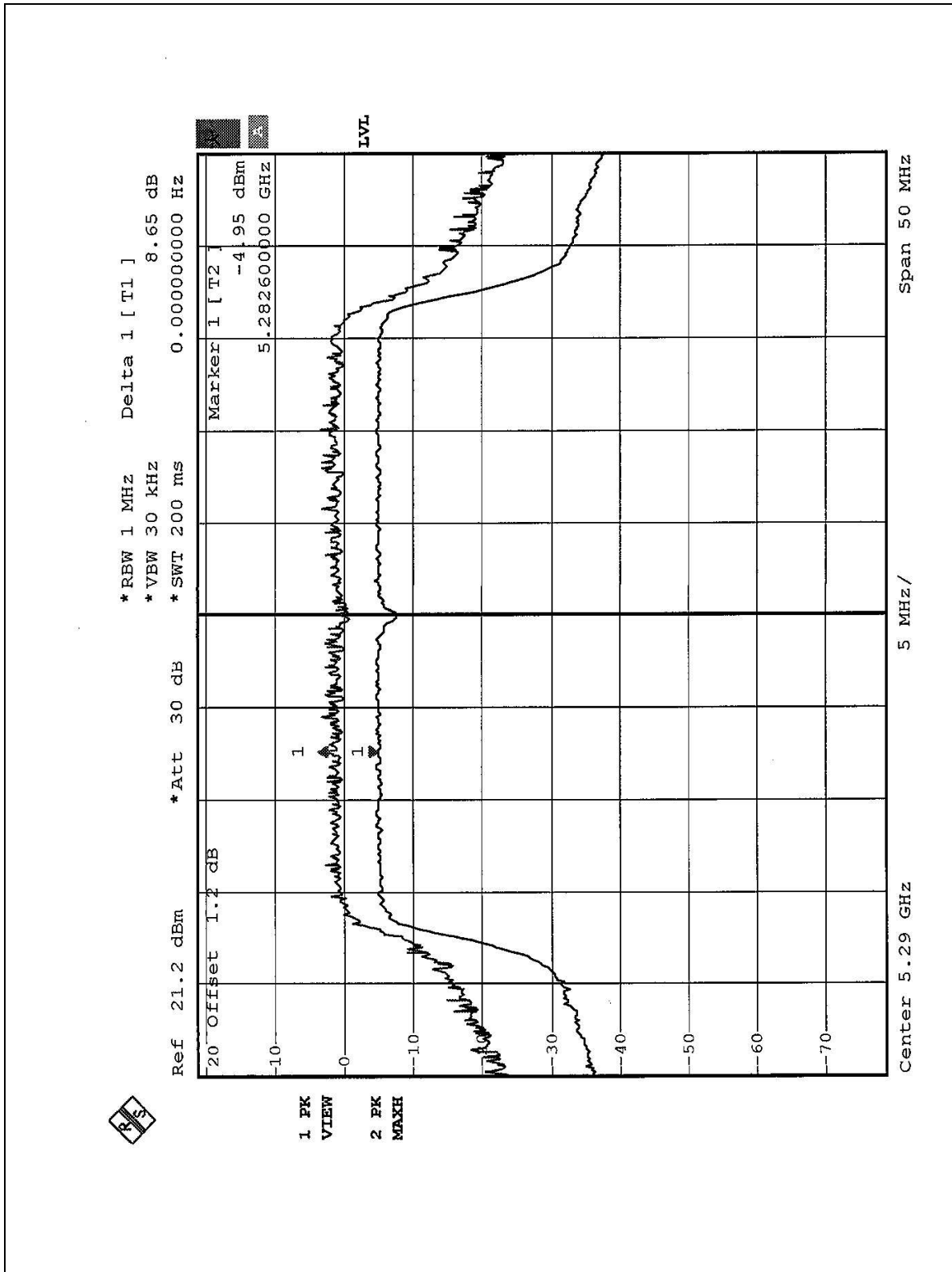


CHANNEL 2



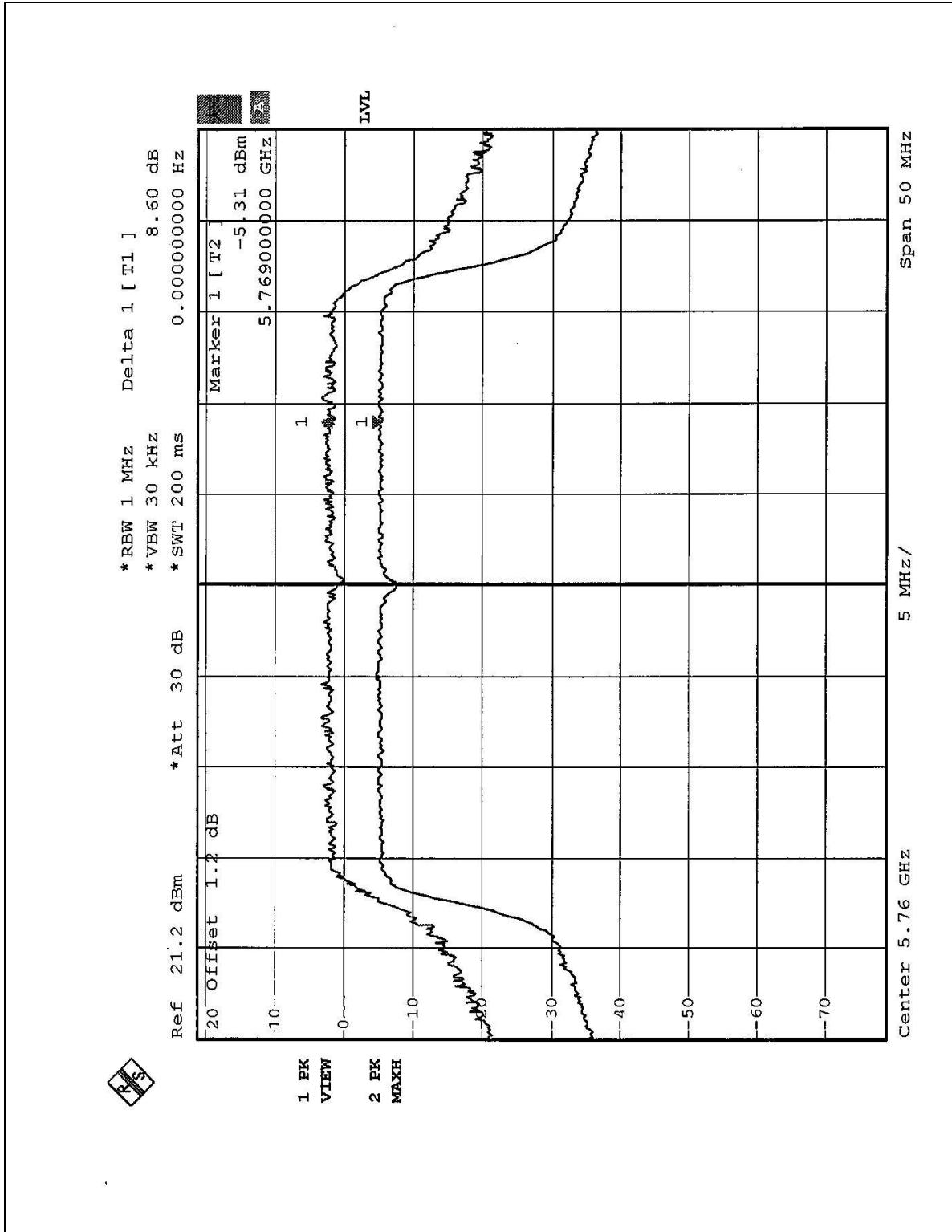


CHANNEL 3





CHANNEL 4





CHANNEL 5

