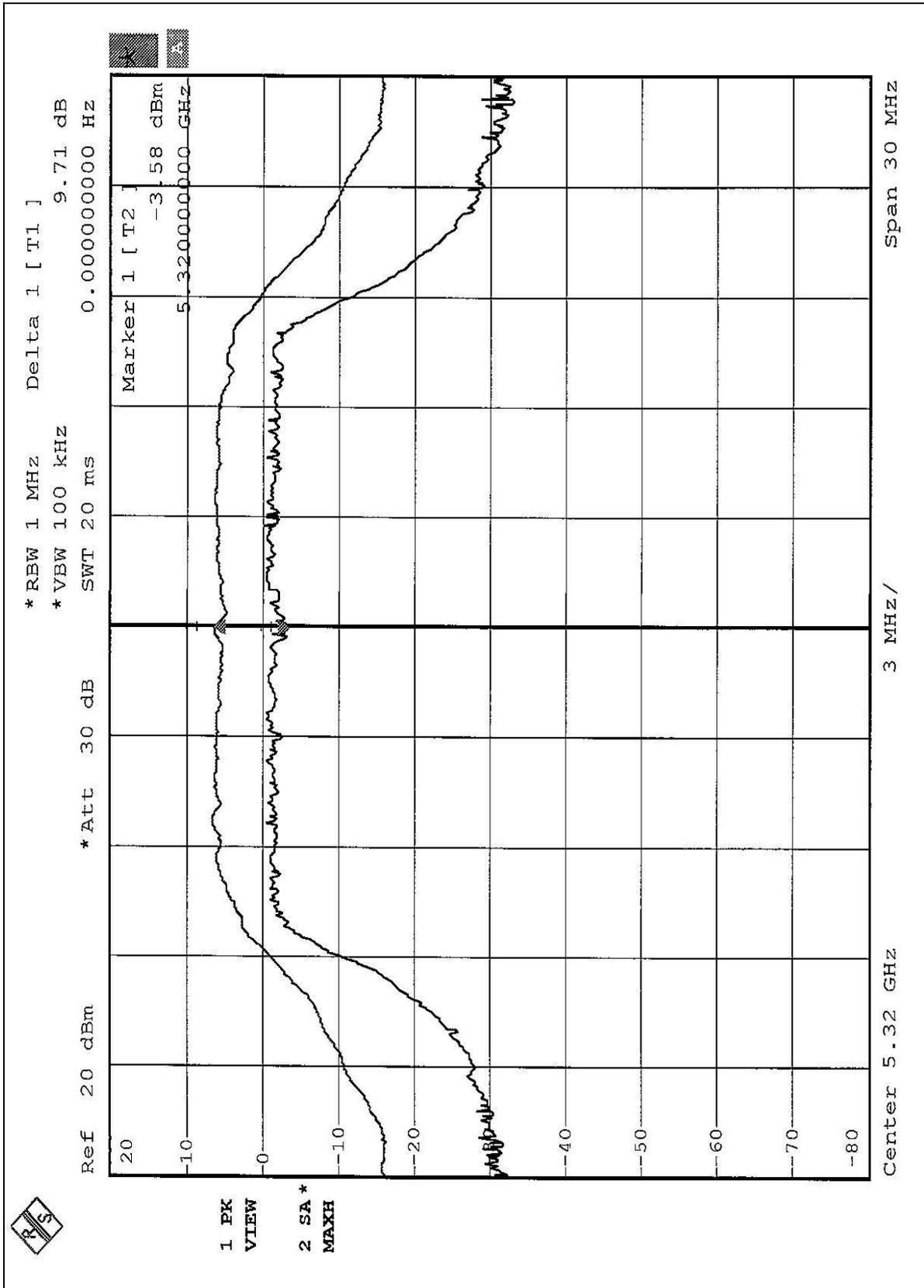




CHANNEL 8



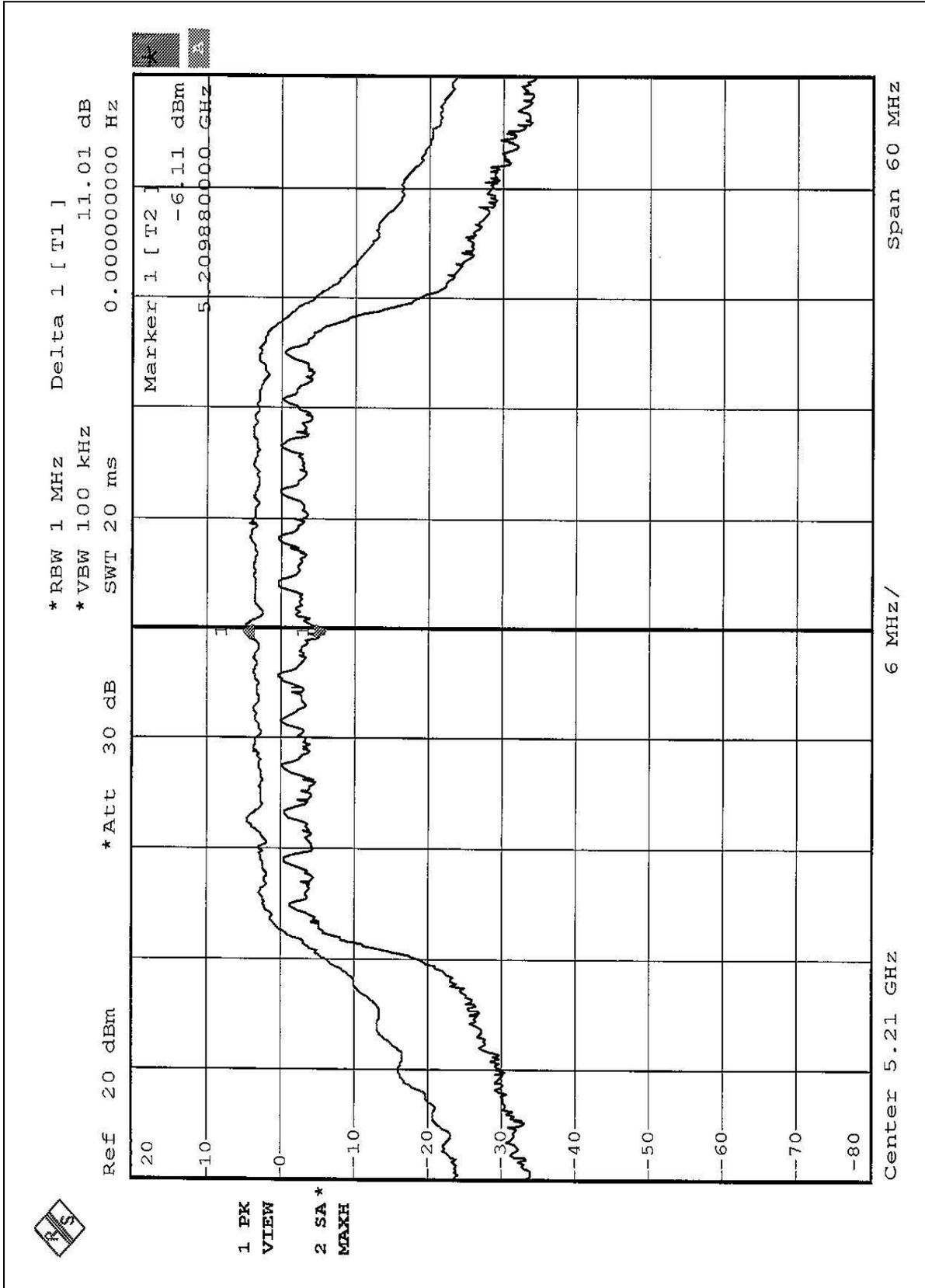


<b>EUT</b>	Wireless Dual-Band Access Point	<b>MODEL</b>	WX-5520A
<b>MODE</b>	Turbo	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz
<b>ENVIRONMENTAL CONDITIONS</b>	24deg. C, 68%RH, 1005 hPa	<b>TESTED BY</b>	Steven Lu

<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	11.01	13	PASS
2	5250	10.25	13	PASS
3	5290	10.44	13	PASS

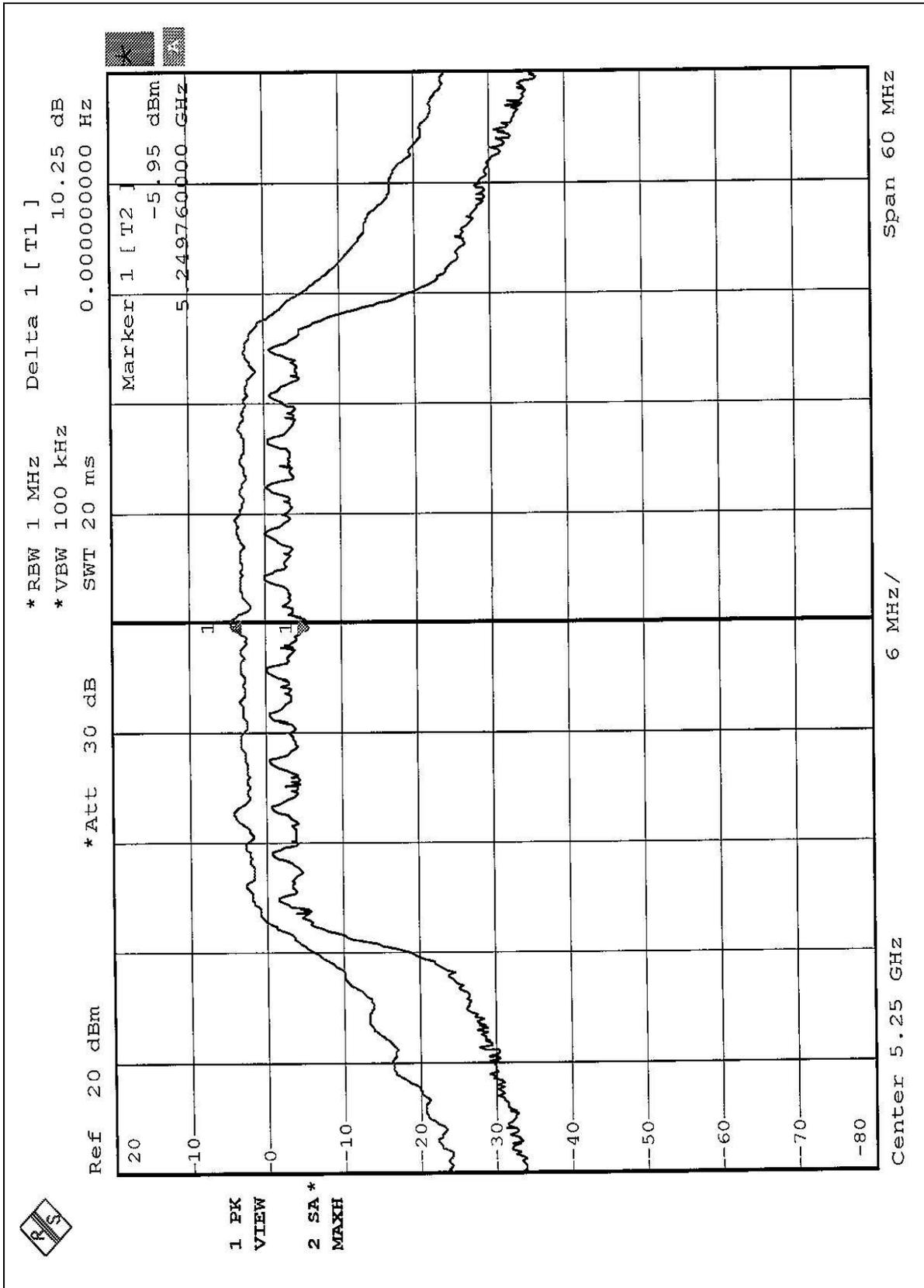


CHANNEL 1



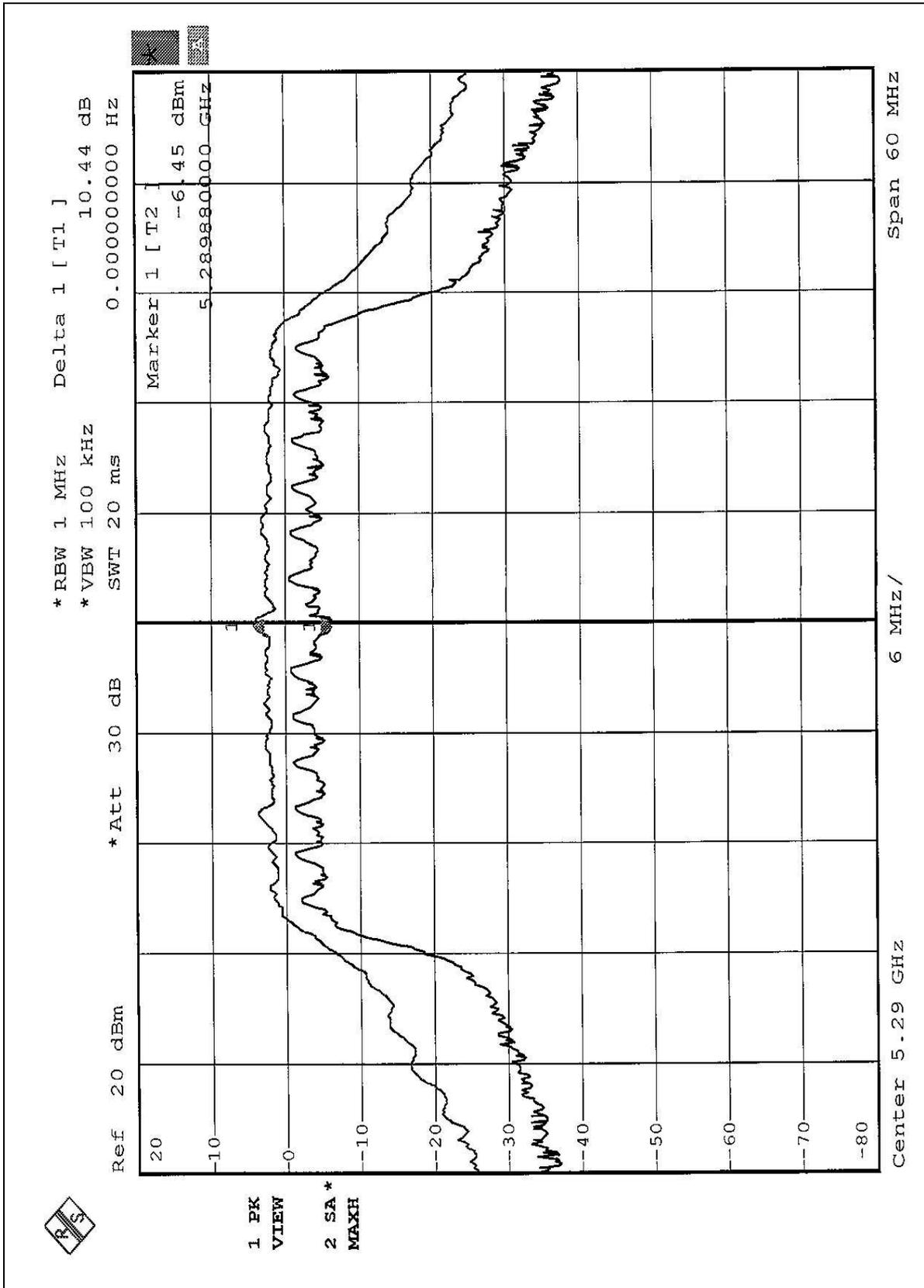


CHANNEL 2





CHANNEL 3





## 5.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

### 5.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

### 5.5.2 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.



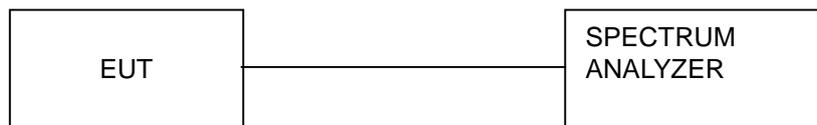
### 5.5.3 TEST PROCEDURES

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



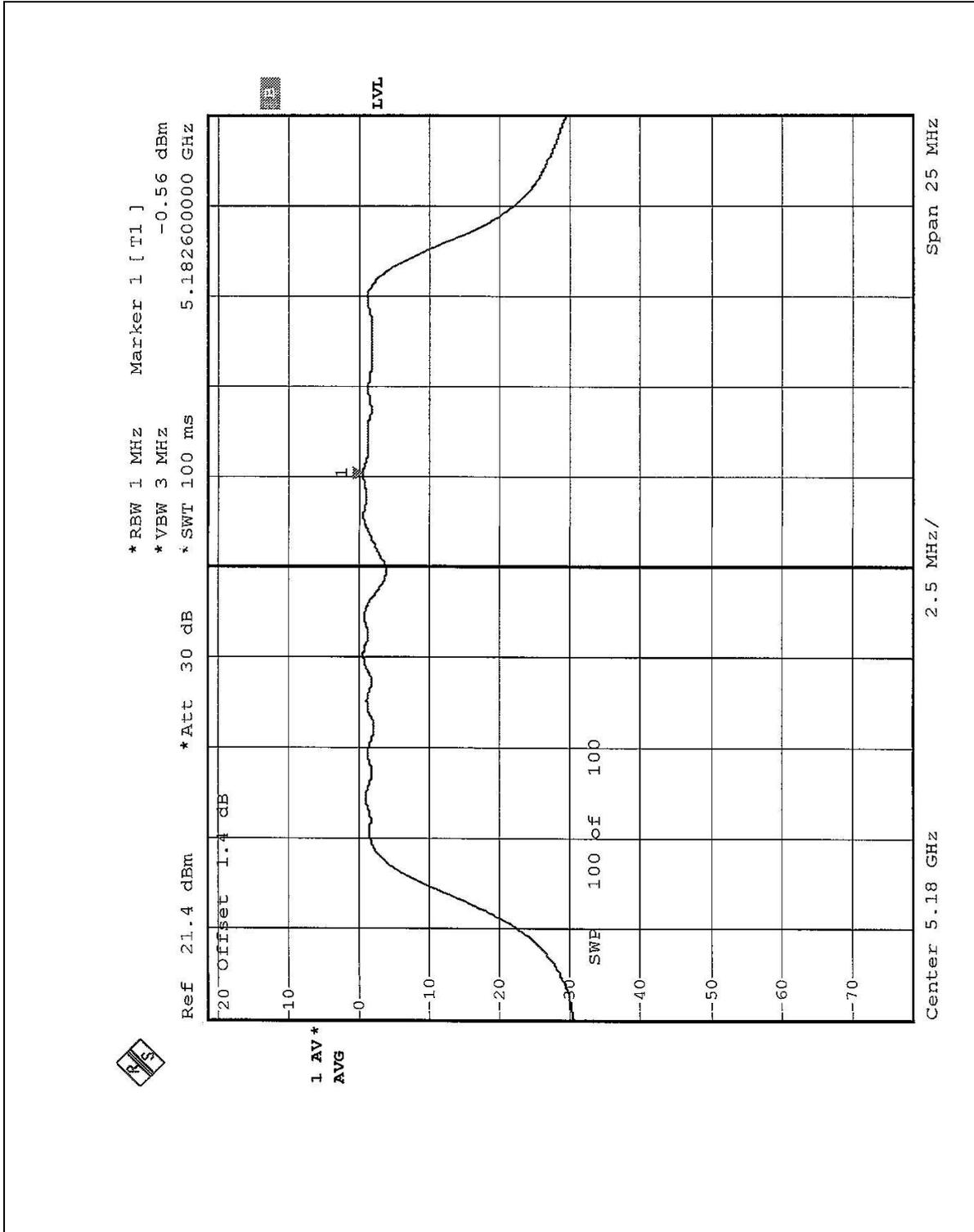
## 5.5.7 TEST RESULTS

<b>EUT</b>	Wireless Dual-Band Access Point	<b>MODEL</b>	WX-5520A
<b>MODE</b>	Normal	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz
<b>ENVIRONMENTAL CONDITIONS</b>	24deg. C, 68%RH, 1005 hPa	<b>TESTED BY</b>	Steven Lu

<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>RF POWER LEVEL IN 1 MHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	5180	-0.56	4	PASS
4	5240	-1.55	4	PASS
5	5260	-1.57	11	PASS
8	5320	-2.48	11	PASS

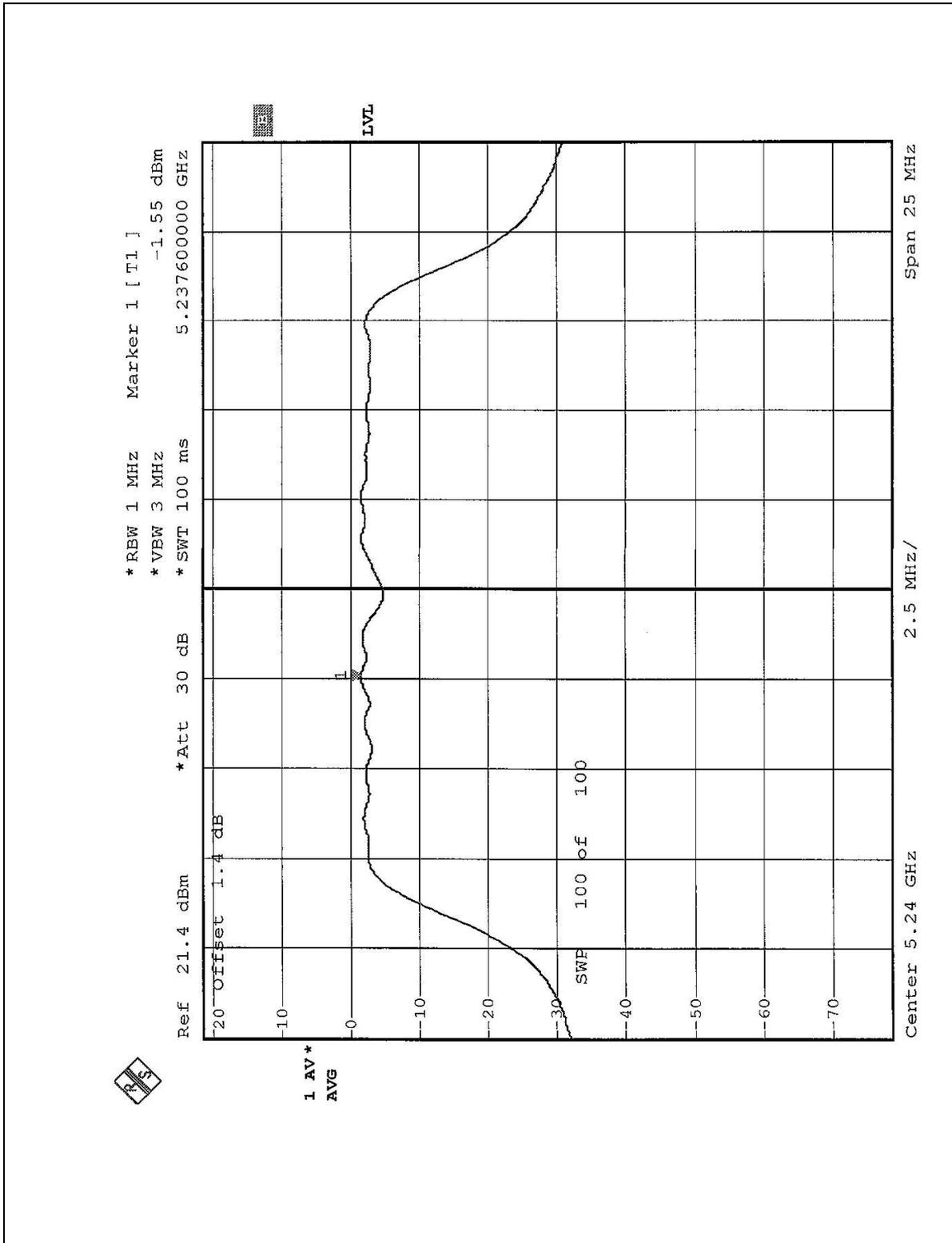


CHANNEL 1



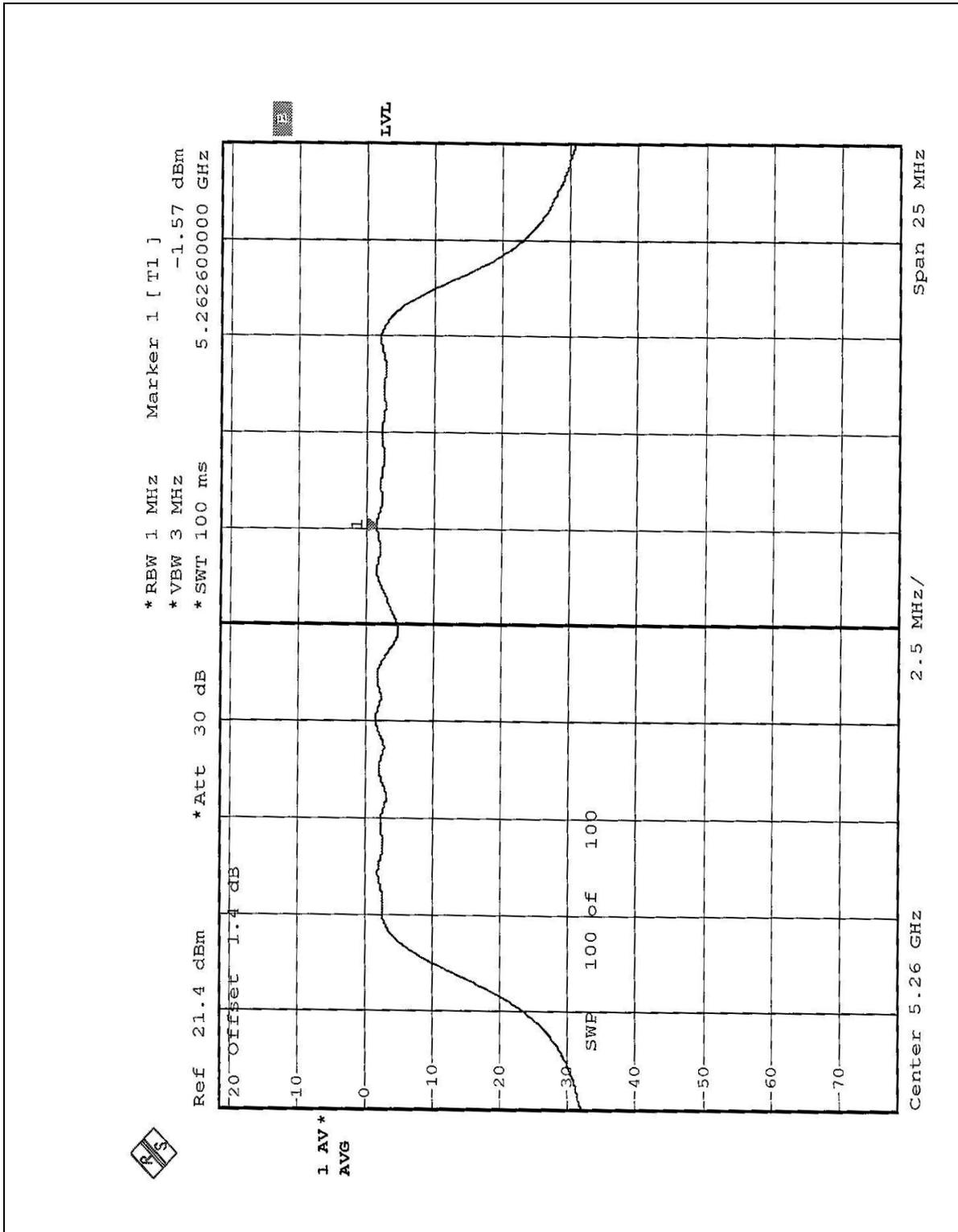


CHANNEL 4



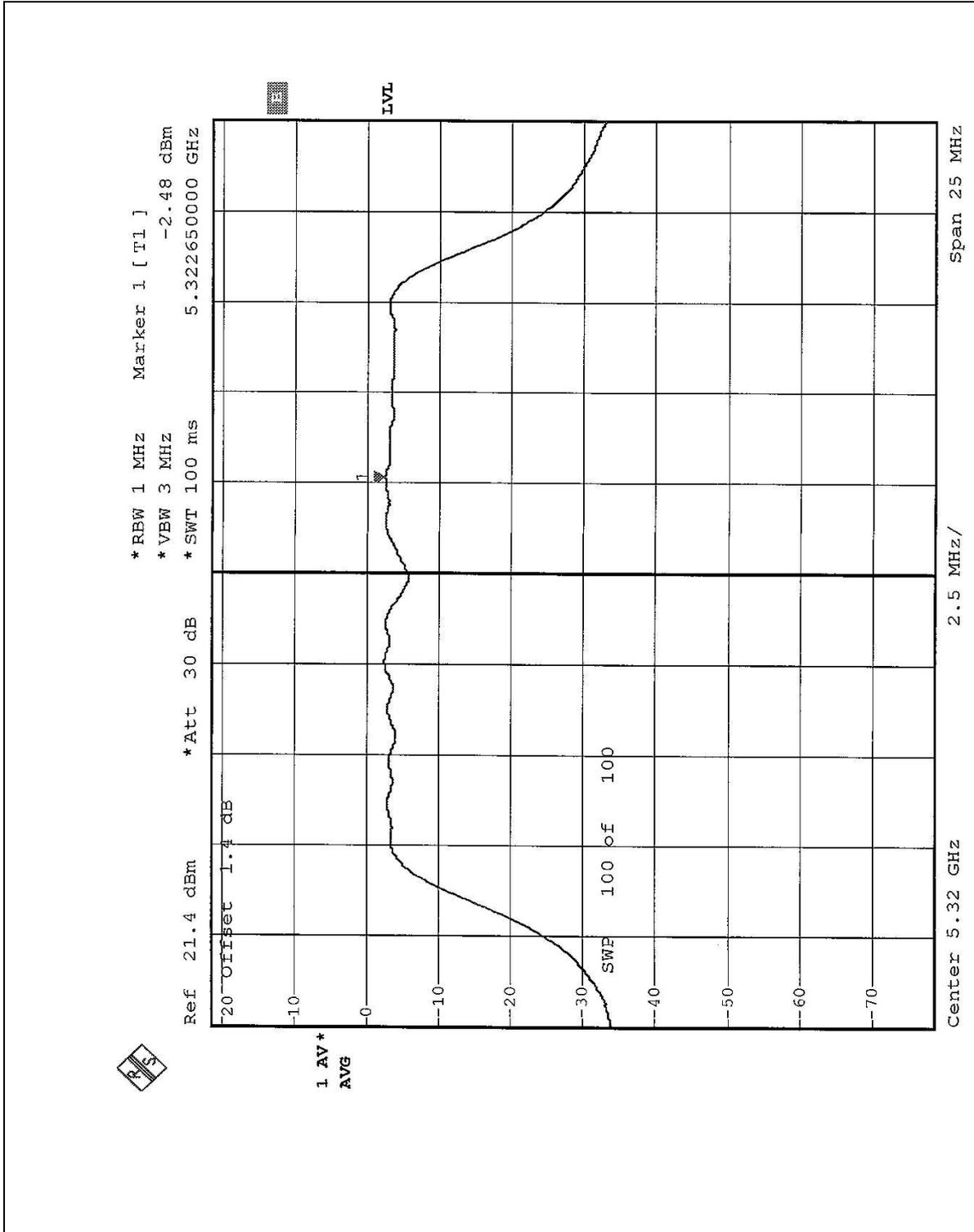


CHANNEL 5





CHANNEL 8



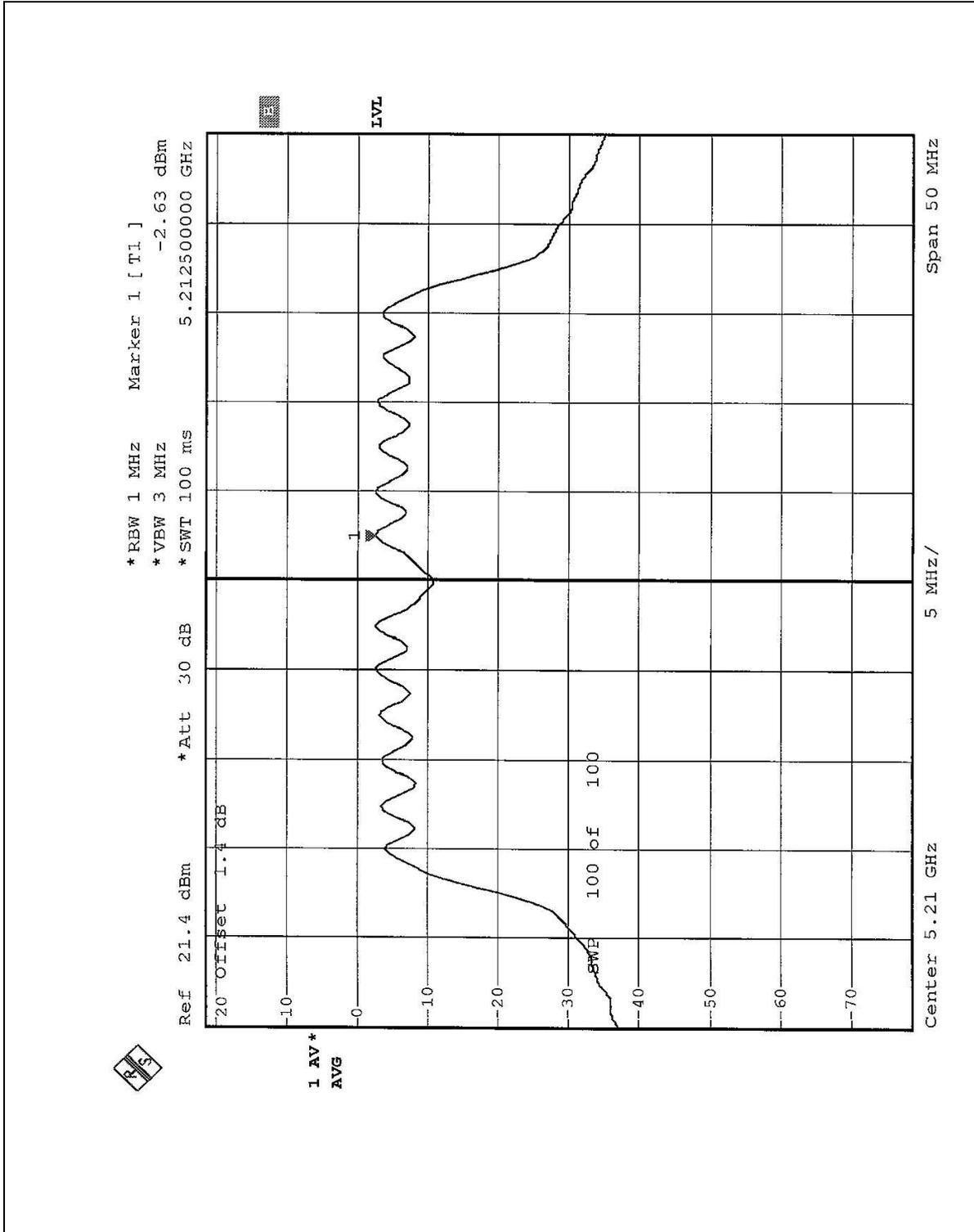


<b>EUT</b>	Wireless Dual-Band Access Point	<b>MODEL</b>	WX-5520A
<b>MODE</b>	Turbo	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz
<b>ENVIRONMENTAL CONDITIONS</b>	24deg. C, 68%RH, 1005 hPa	<b>TESTED BY</b>	Steven Lu

<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 1 MHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	5210	-2.63	4	PASS
2	5250	-2.84	4	PASS
3	5290	-3.41	11	PASS

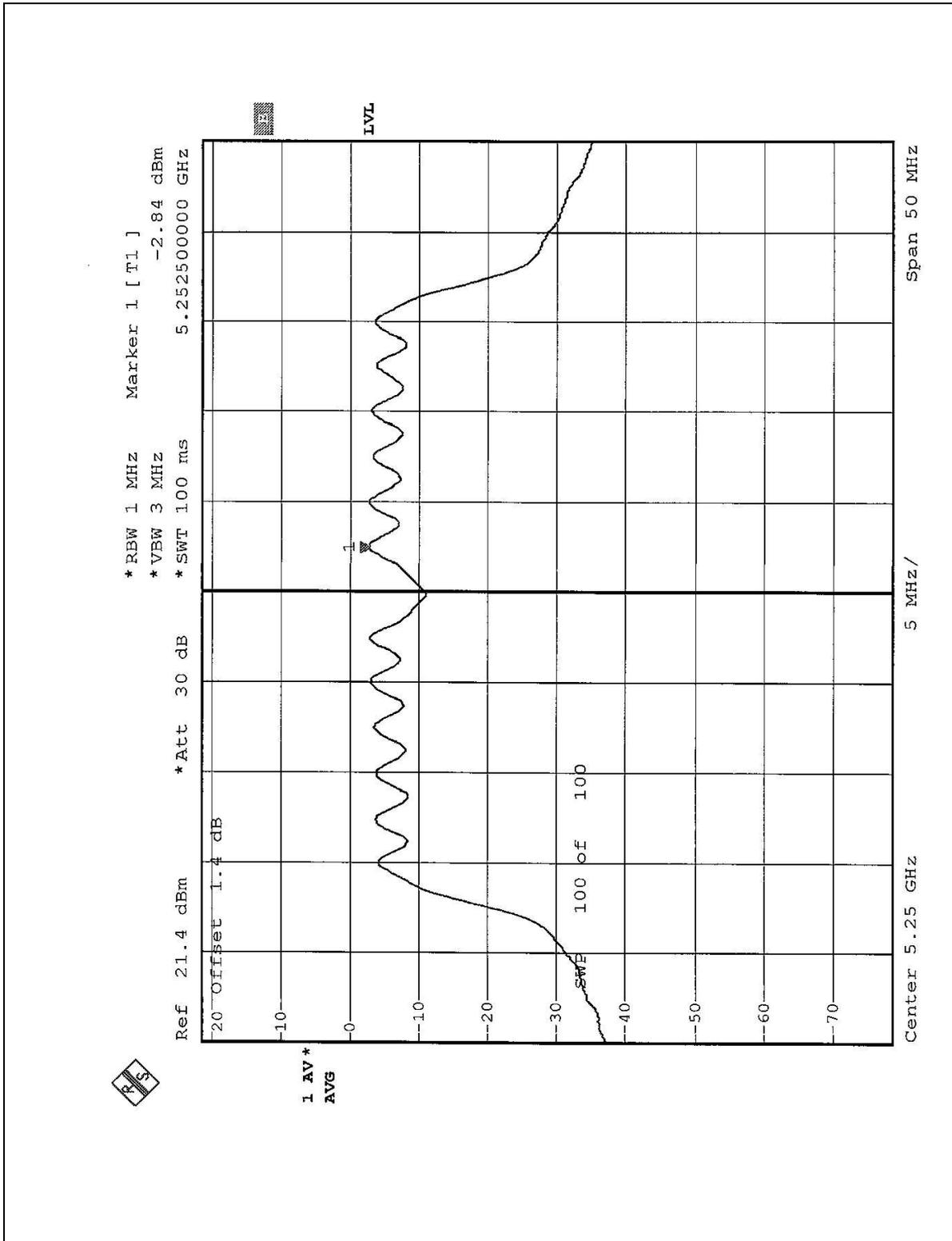


CHANNEL 1



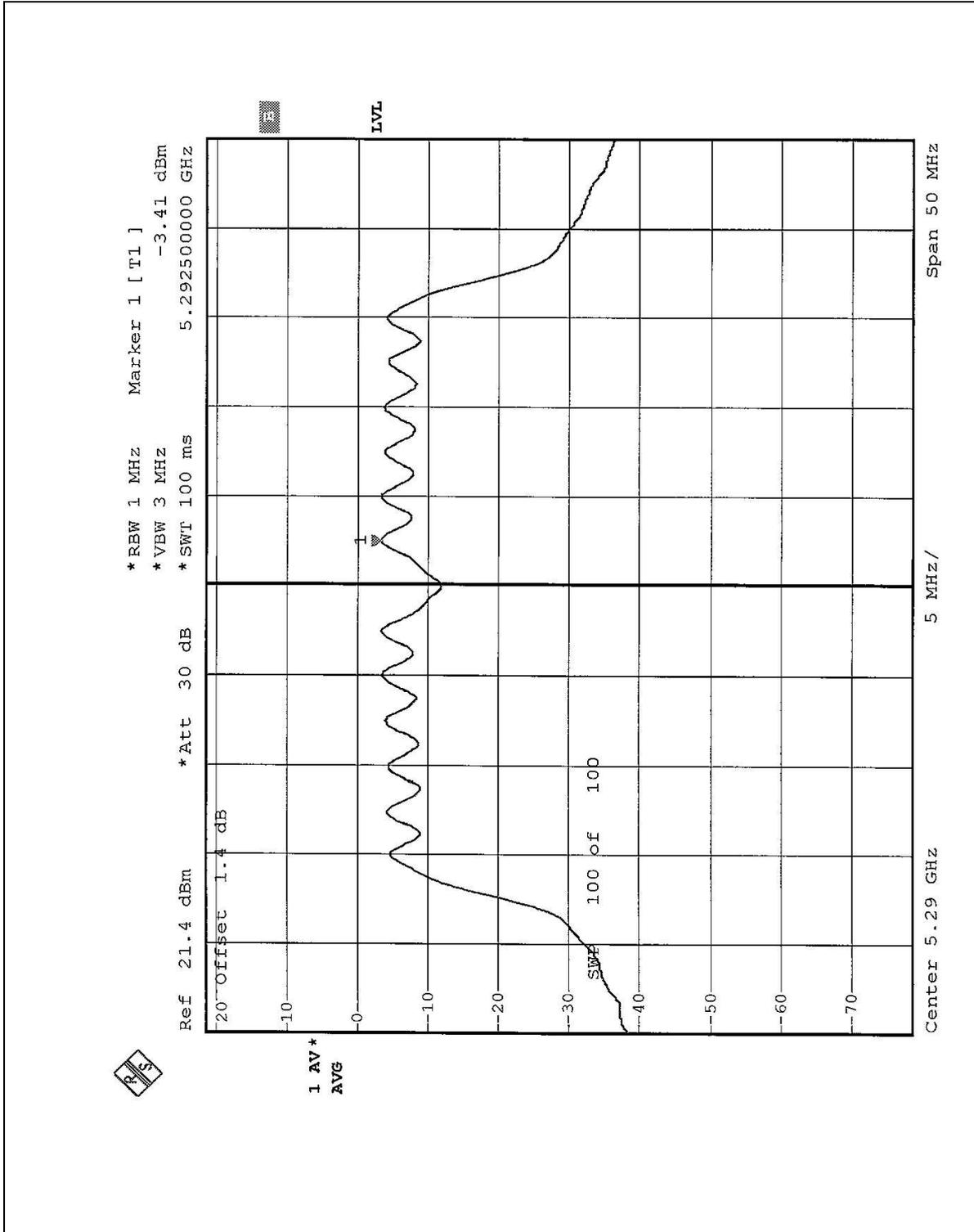


CHANNEL 2





CHANNEL 3





## 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	Mar. 15, 2003
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	Jun. 24, 2003

**NOTE:**

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

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

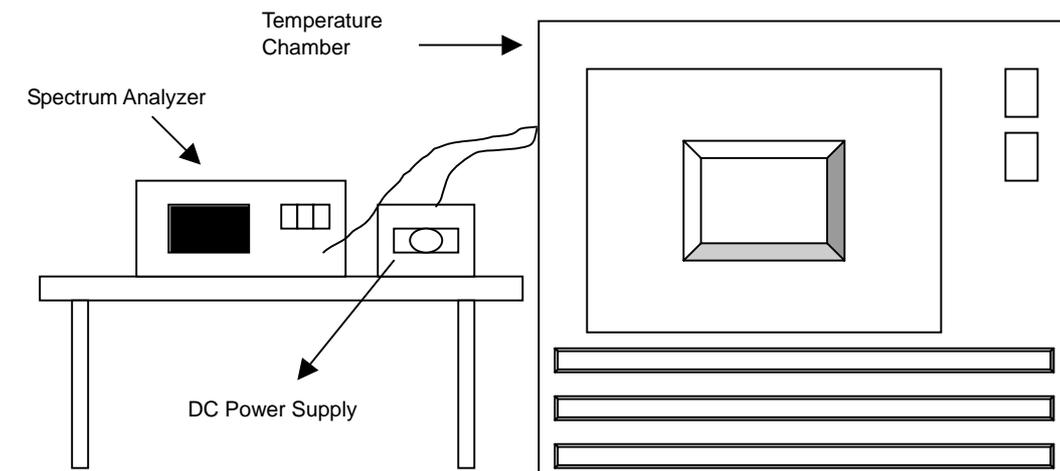
### 5.6.3 TEST PROCEDURE

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: 5180MHz								Limit : ± 0.02%							
Temp. (°C)	Power supply (VDC)	2 minute		5 minute		10 minute									
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)								
50	126.5	5179.9642	-0.0006911	5179.9644	-0.0006873	5179.9646	-0.0006834								
	110.0	5179.9642	-0.0006911	5179.9642	-0.0006911	5179.9646	-0.0006834								
	93.5	5179.9642	-0.0006911	5179.9644	-0.0006873	5179.9644	-0.0006873								
40	126.5	5179.9512	-0.0009421	5179.9510	-0.0009459	5179.9512	-0.0009421								
	110.0	5179.9510	-0.0009459	5179.9512	-0.0009421	5179.9512	-0.0009421								
	93.5	5179.9512	-0.0009421	5179.9512	-0.0009421	5179.9512	-0.0009421								
30	126.5	5179.9502	-0.0009614	5179.9500	-0.0009653	5179.9502	-0.0009614								
	110.0	5179.9502	-0.0009614	5179.9502	-0.0009614	5179.9502	-0.0009614								
	93.5	5179.9502	-0.0009614	5179.9502	-0.0009614	5179.9500	-0.0009653								
20	126.5	5179.9580	-0.0008108	5179.9560	-0.0008494	5179.9560	-0.0008494								
	110.0	5179.9560	-0.0008494	5179.9560	-0.0008494	5179.9540	-0.0008880								
	93.5	5179.9560	-0.0008494	5179.9560	-0.0008494	5179.9560	-0.0008494								
10	126.5	5179.9662	-0.0006525	5179.9660	-0.0006564	5179.9662	-0.0006525								
	110.0	5179.9662	-0.0006525	5179.9660	-0.0006564	5179.9660	-0.0006564								
	93.5	5179.9660	-0.0006564	5179.9662	-0.0006525	5179.9662	-0.0006525								
0	126.5	5179.9758	-0.0004672	5179.9758	-0.0004672	5179.9760	-0.0004633								
	110.0	5179.9758	-0.0004672	5179.9760	-0.0004633	5179.9760	-0.0004633								
	93.5	5179.9760	-0.0004633	5179.9760	-0.0004633	5179.9758	-0.0004672								
-10	126.5	5179.9872	-0.0002467	5179.9872	-0.0002471	5179.9872	-0.0002471								
	110.0	5179.9872	-0.0002463	5179.9872	-0.0002471	5179.9872	-0.0002471								
	93.5	5179.9872	-0.0002471	5179.9872	-0.0002471	5179.9872	-0.0002471								
-20	126.5	5179.9920	-0.0001544	5179.9920	-0.0001544	5179.9920	-0.0001544								
	110.0	5179.9920	-0.0001544	5179.9920	-0.0001544	5179.9920	-0.0001544								
	93.5	5179.9920	-0.0001544	5179.9920	-0.0001544	5179.9920	-0.0001544								
-30	126.5	5179.9902	-0.0001892	5179.9902	-0.0001892	5179.9902	-0.0001892								
	110.0	5179.9904	-0.0001853	5179.9902	-0.0001892	5179.9902	-0.0001892								
	93.5	5179.9902	-0.0001892	5179.9902	-0.0001892	5179.9902	-0.0001892								



## 5.7 BAND EDGES MEASUREMENT

### 5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
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.

### 5.7.2 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

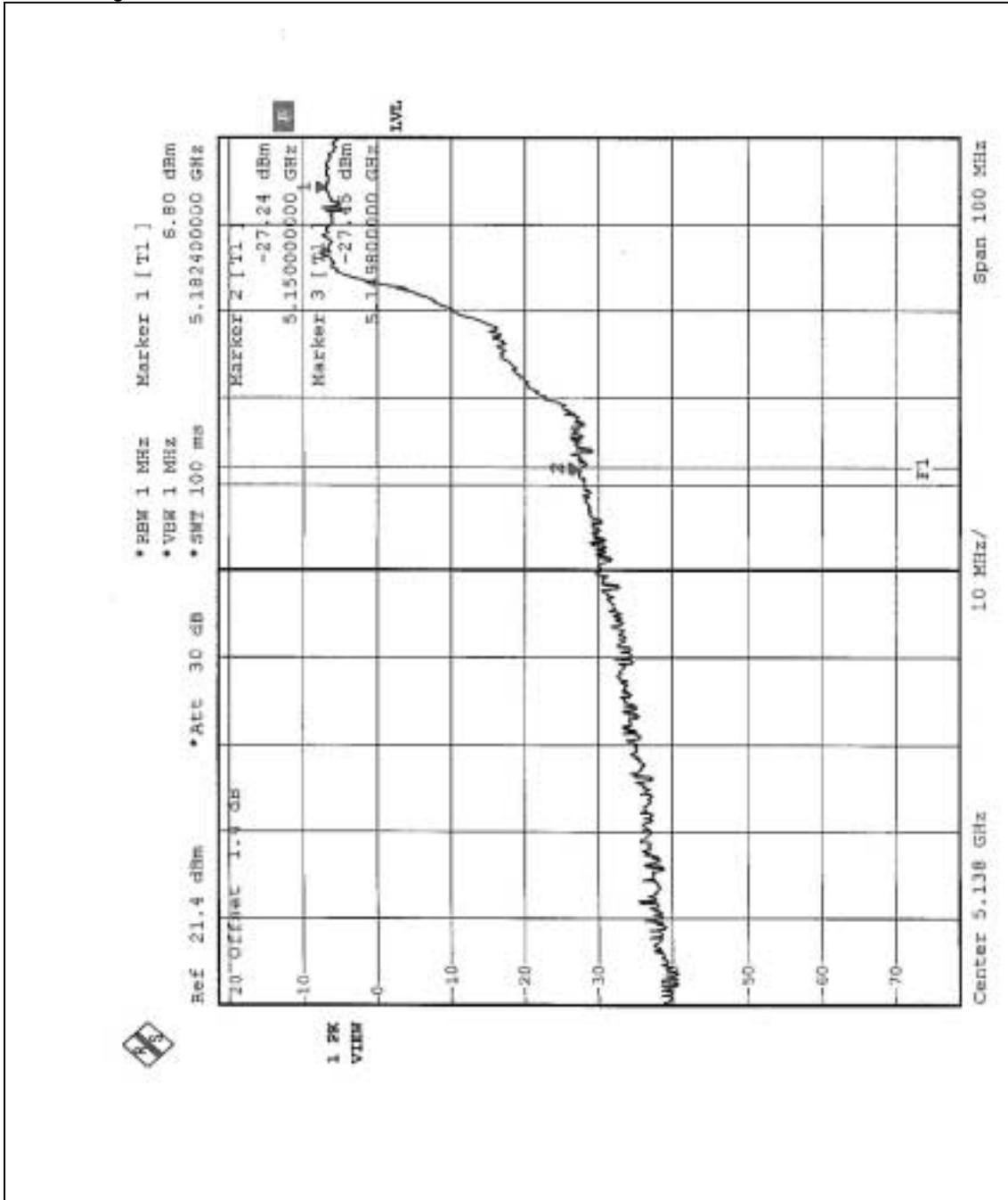
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal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

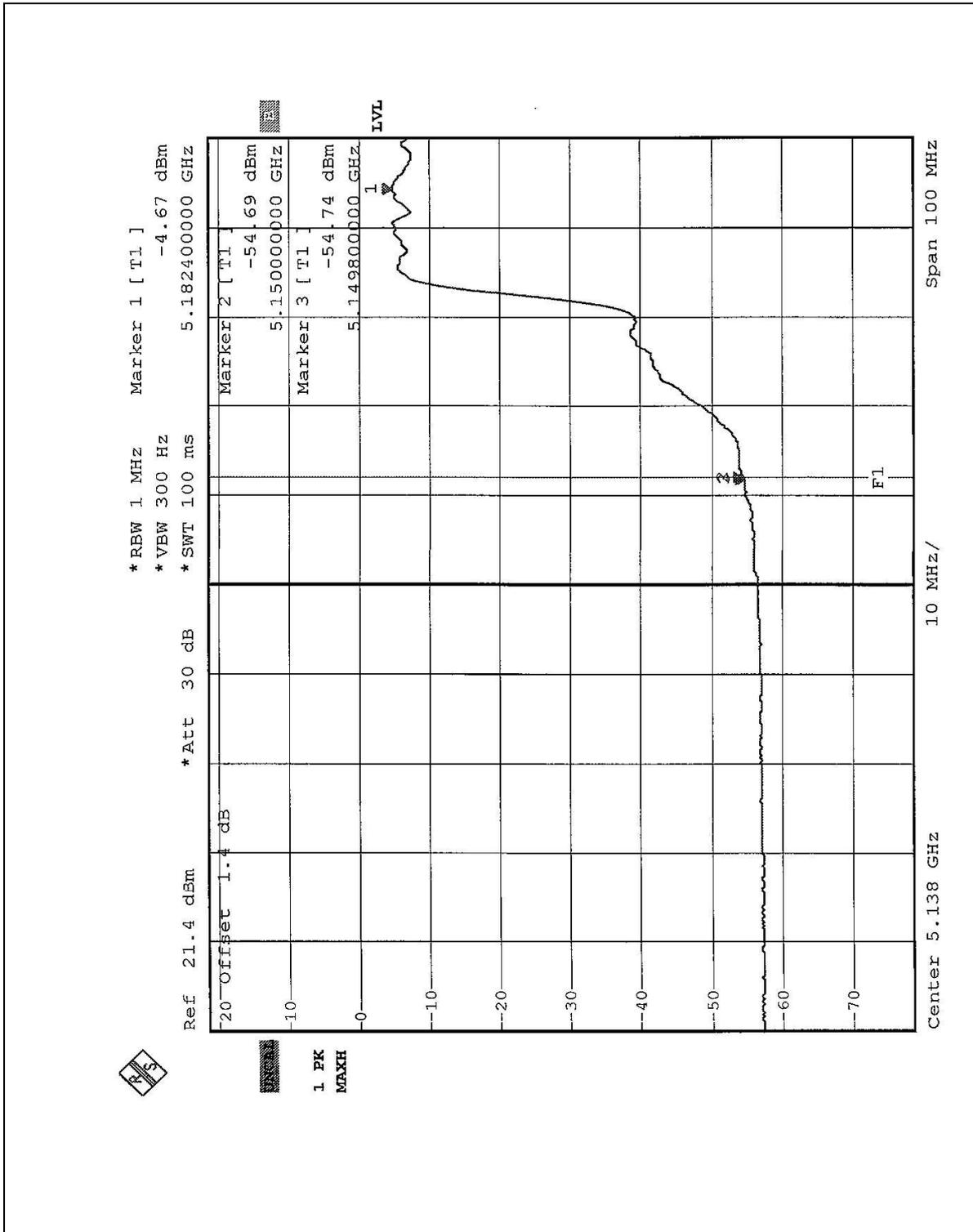
The spectrum plots (Peak RBW=VBW=1MHz; Average RBW=1MHz, VBW=300Hz) are attached on the following 8 pages.



Normal Mode: Channel 1 (5180 MHz)

The band edge emission plot on the following 2 pages shows 34.25dBc (Peak) / 50.07dBc (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 (normal mode) is 85.6dBuV/m, so the maximum field strength in restrict band is  $85.6 - 50.07 = 35.53$ dBuV/m which is under 54dBuV/m limit.

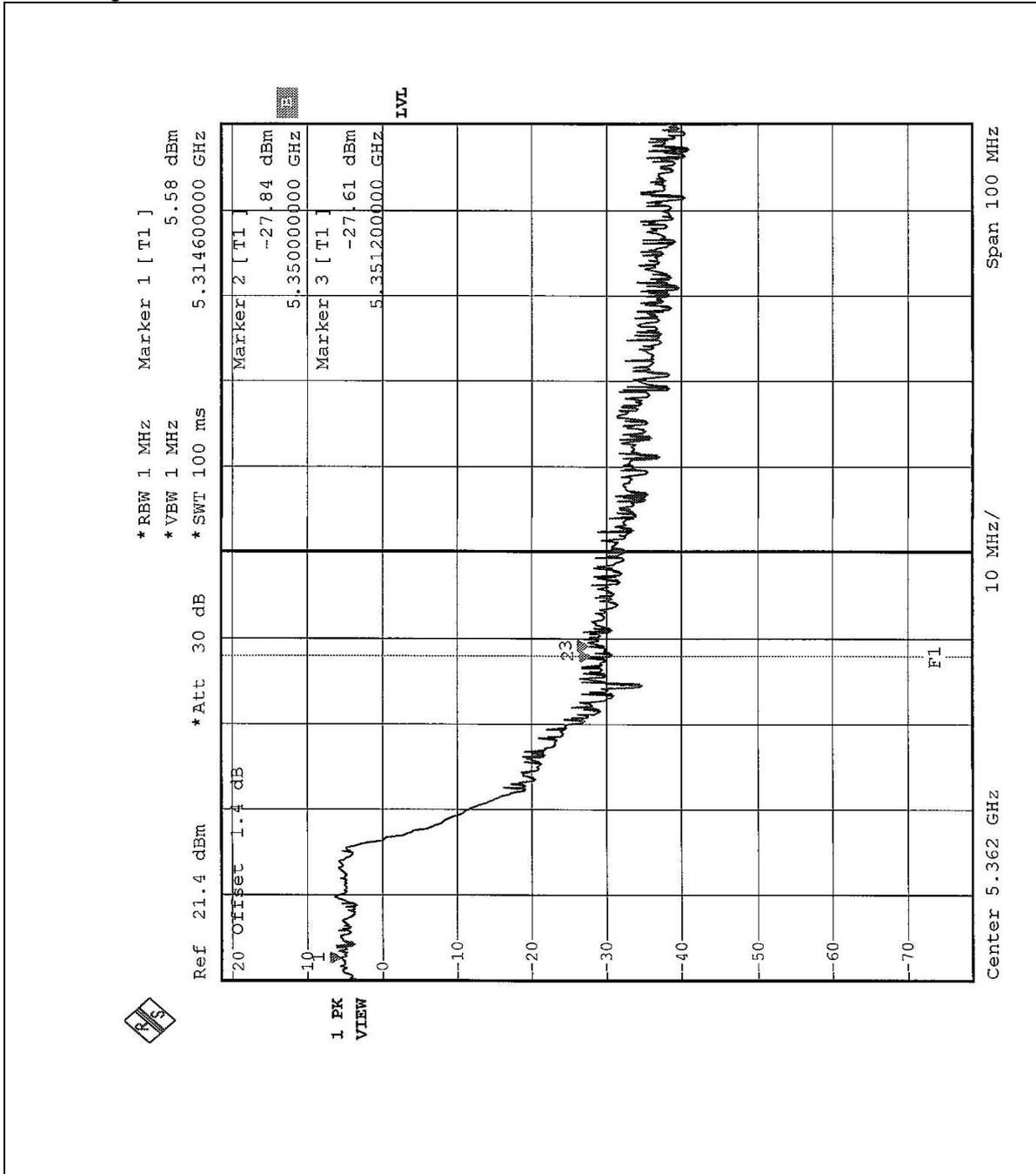


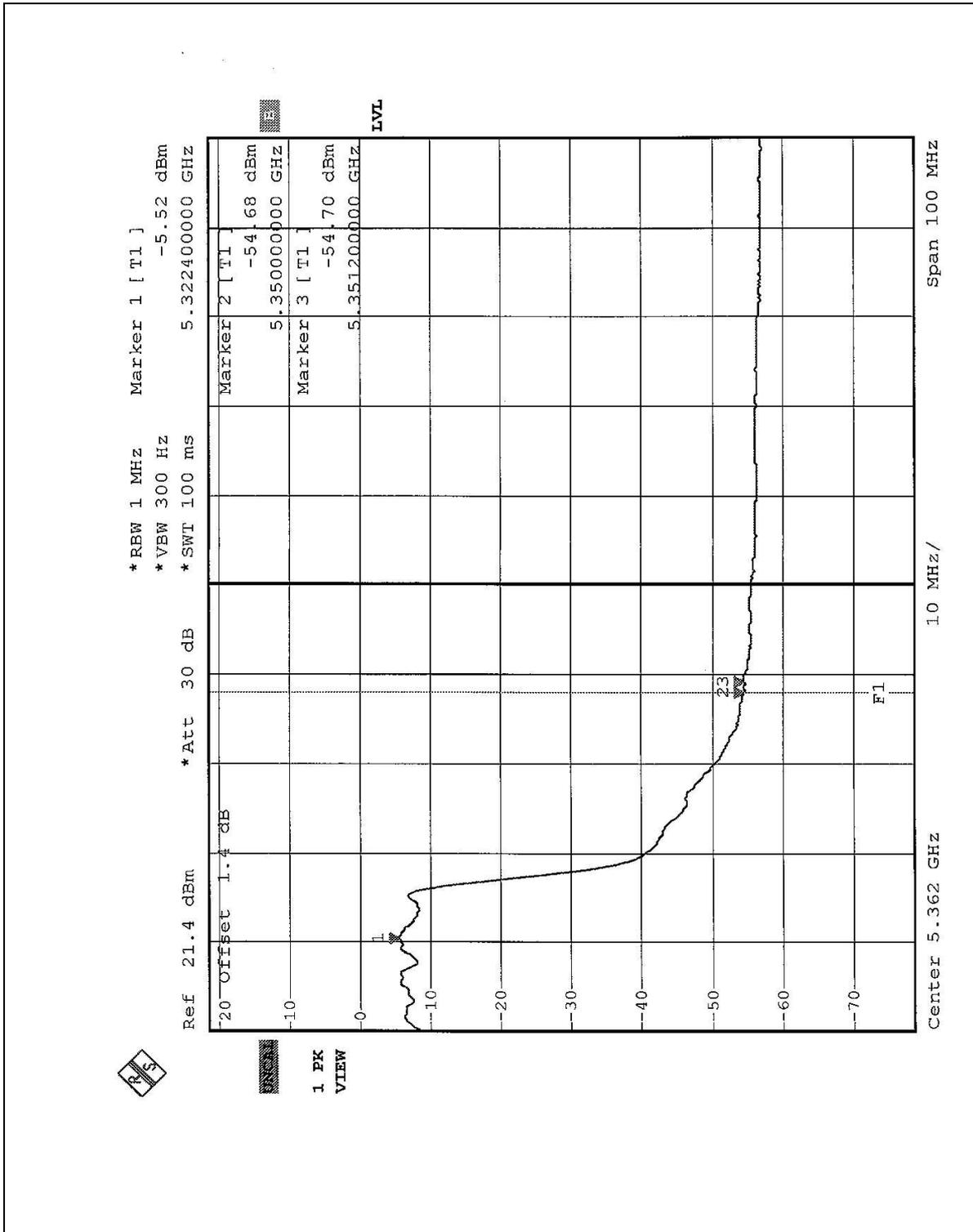




Normal Mode: Channel 8 (5320 MHz)

The band edge emission plot on the following 2 pages shows 33.19dBc (Peak) / 49.18dBc (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 (normal mode) is 88.1dBuV/m, so the maximum field strength in restrict band is 88.1-49.18=38.92dBuV/m which is under 54dBuV/m limit.

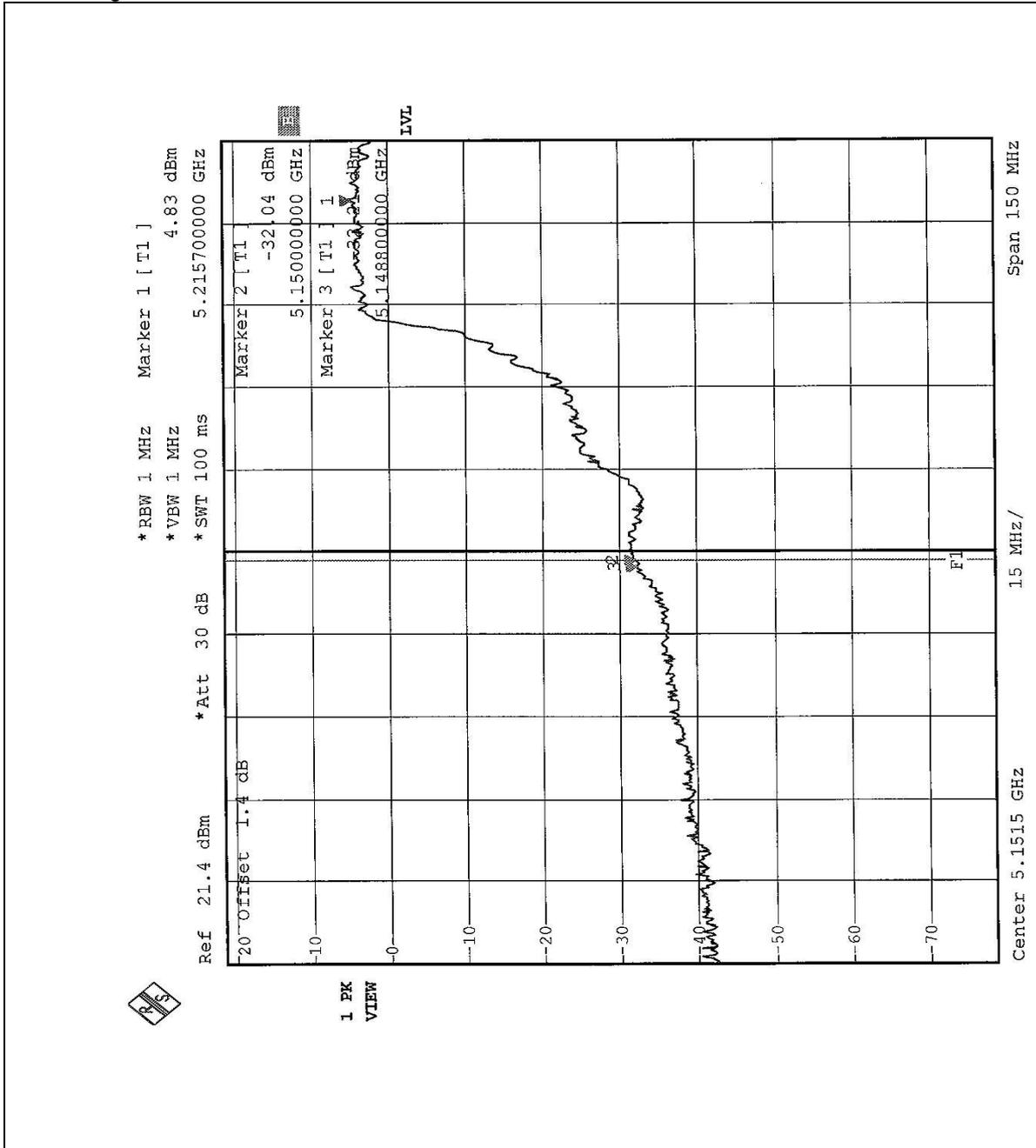


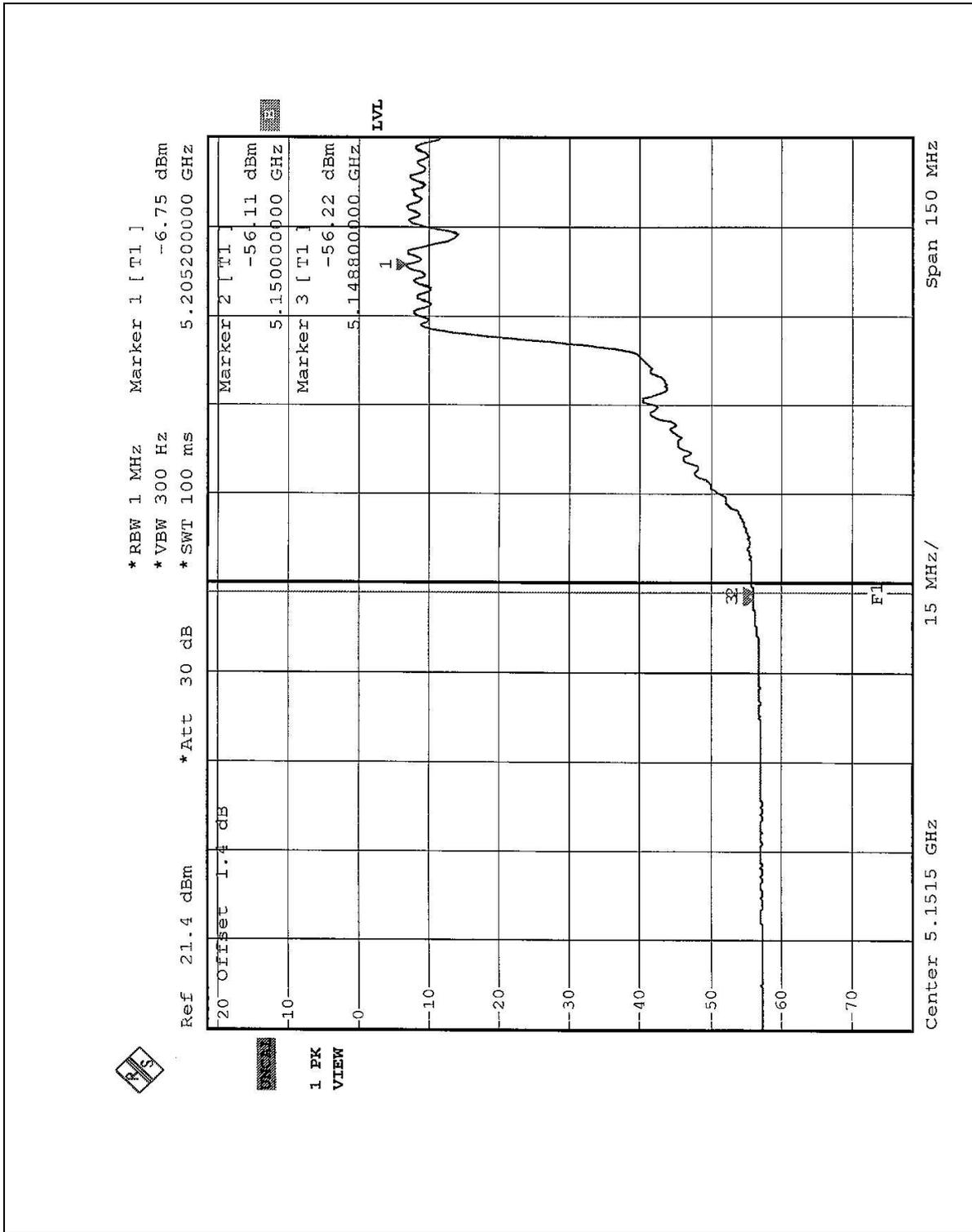




Turbo Mode: Channel 1 (5210 MHz)

The band edge emission plot on the following 2 pages shows 37.04dBc (Peak) / 49.47dBc (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 (normal mode) is 81.2dBuV/m, so the maximum field strength in restrict band is 81.2-49.47=31.73dBuV/m which is under 54dBuV/m limit.

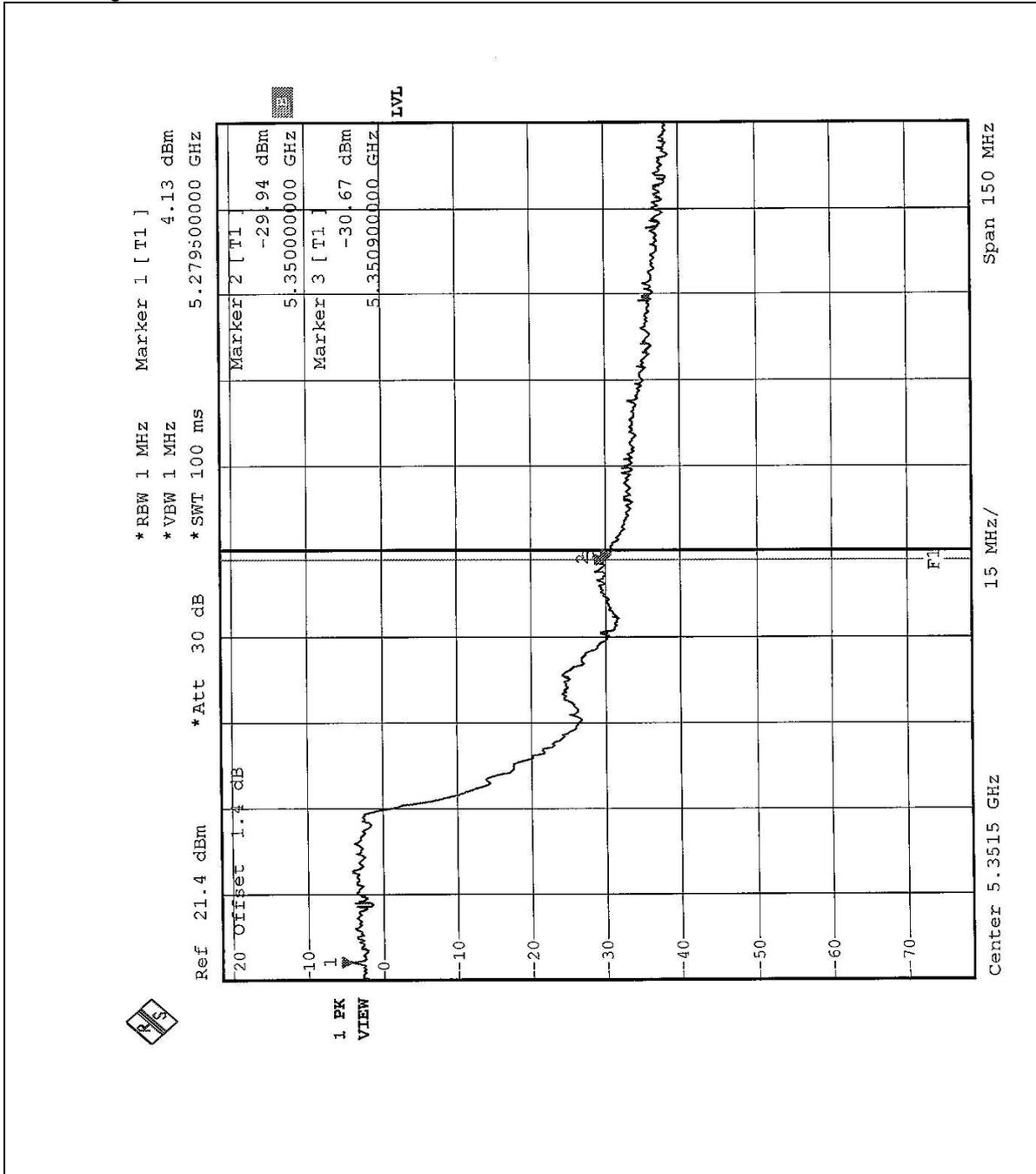


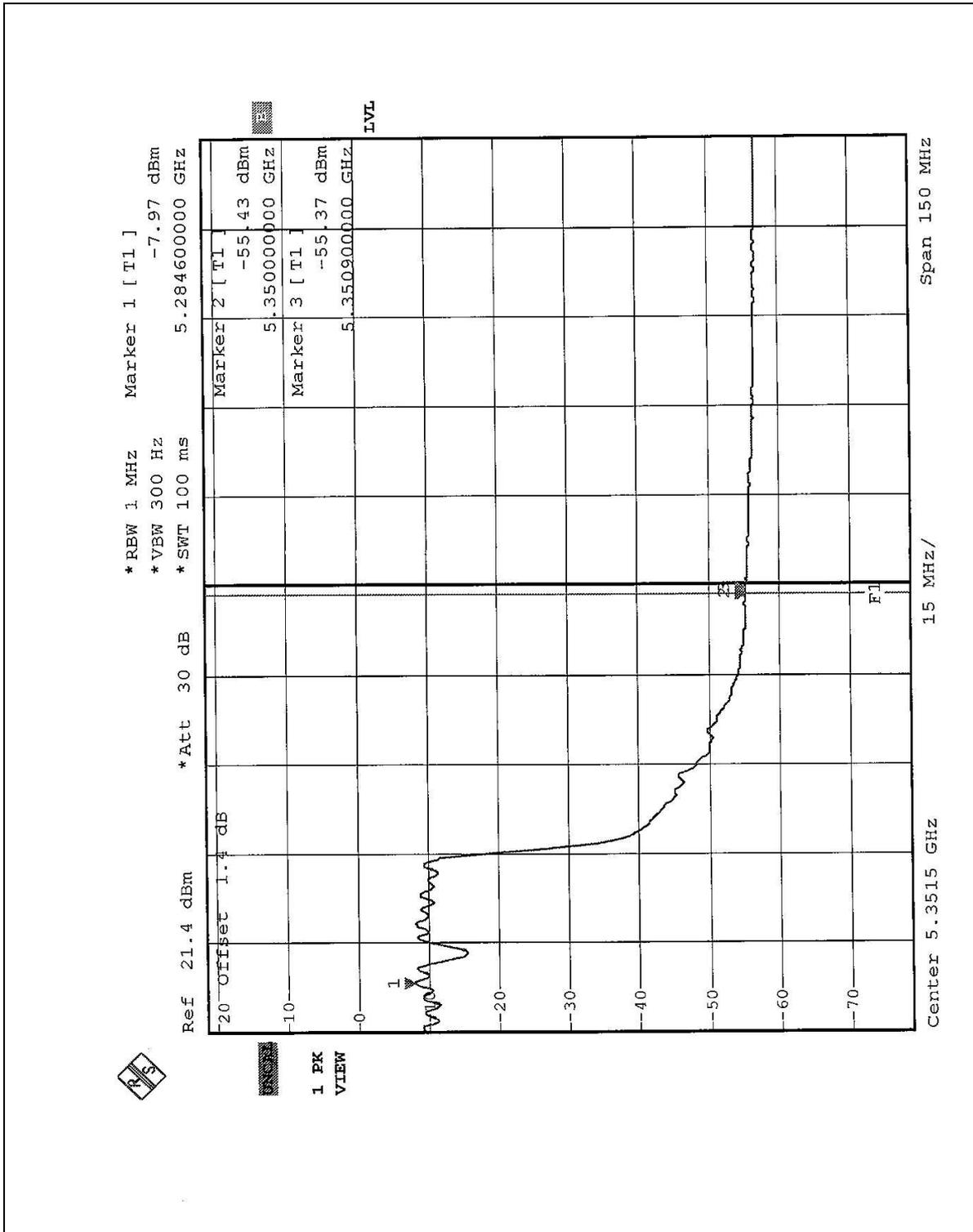




Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following 2 pages shows 34.80dBc (Peak) / 47.4dBc (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 (normal mode) is 85.2dBuV/m, so the maximum field strength in restrict band is  $85.2 - 47.4 = 37.8$  dBuV/m which is under 54dBuV/m limit.







## **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 without connector. The maximum Gain of the antenna is 1dBi only.

## 6 PHOTOGRAPHS OF THE TEST CONFIGURATION CONDUCTED EMISSION TEST



### RADIATED EMISSION TEST





## 7 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

<b>USA</b>	FCC, NVLAP, UL
<b>Germany</b>	TUV Rheinland
<b>Japan</b>	VCCI
<b>New Zealand</b>	MoC
<b>Norway</b>	NEMKO
<b>R.O.C.</b>	BSMI, DGT, CNLA

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

[www.adt.com.tw/index.5/phtml](http://www.adt.com.tw/index.5/phtml).

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**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

The address and road map of all our labs can be found in our web site also.