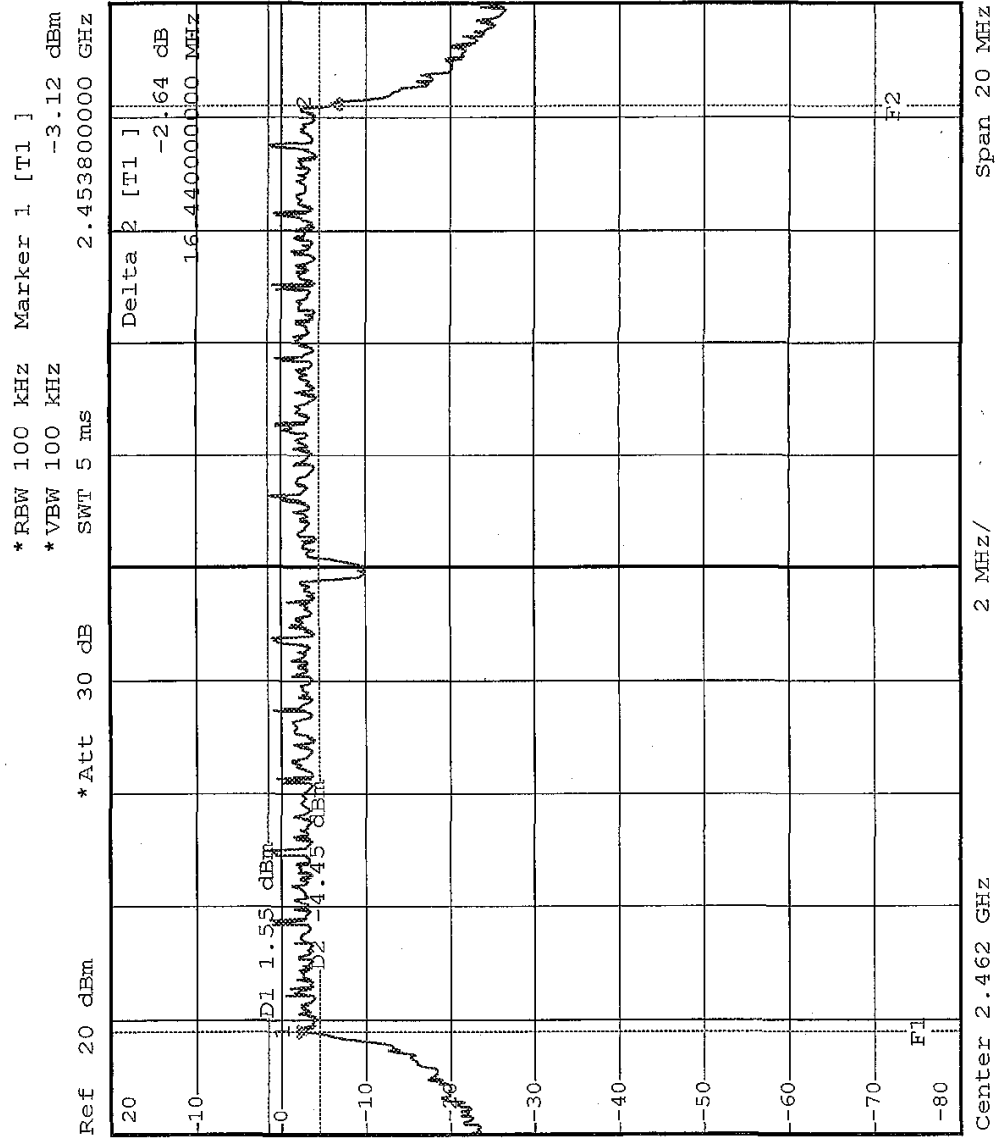


CH11



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#### 4.4 MAXIMUM PEAK OUTPUT POWER

##### 4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

##### 4.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 27, 2004
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Jan. 01, 2005
TEKTRONIX OSCILLOSCOPE	TDS 220	B027241	Jun. 30, 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.

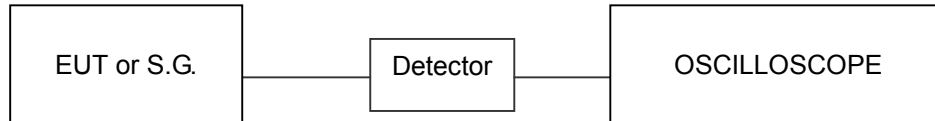
#### 4.4.3 TEST PROCEDURES

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.

#### 4.4.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.4.5 TEST SETUP



#### 4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6



## 4.4.7 TEST RESULTS (A)

<b>EUT</b>	802.11g Wireless CardBus Card	<b>MODEL</b>	G-162
<b>INPUT POWER (SYSTEM)</b>	120 Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60% RH, 991 hPa
<b>TESTED BY</b>	Tony Chen		

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>PEAK POWER OUTPUT (dBm)</b>	<b>PEAK POWER LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	16.50	30	PASS
6	2437	16.50	30	PASS
11	2462	16.50	30	PASS

## 4.4.8 TEST RESULTS (B)

<b>EUT</b>	802.11g Wireless CardBus Card	<b>MODEL</b>	G-162
<b>INPUT POWER (SYSTEM)</b>	120 Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60% RH, 991 hPa
<b>TESTED BY</b>	Tony Chen		

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>PEAK POWER OUTPUT (dBm)</b>	<b>PEAK POWER LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	16.40	30	PASS
6	2437	16.40	30	PASS
11	2462	16.40	30	PASS



#### 4.5 POWER SPECTRAL DENSITY MEASUREMENT

##### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

##### 4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 27, 2004

**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.

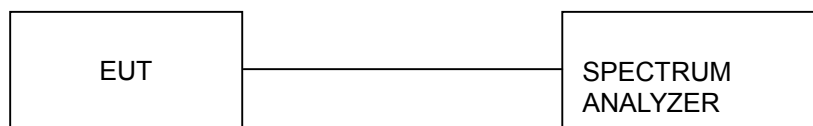
#### 4.5.3 TEST PROCEDURE

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/3kHz. The power spectral density was measured and recorded. The sweep time is allowed to be longer than span/3KHz for a full response of the mixer in the spectrum analyzer.

#### 4.5.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.5.5 TEST SETUP



#### 4.5.6 EUT OPERATING CONDITIONS

Same as 4.3.6



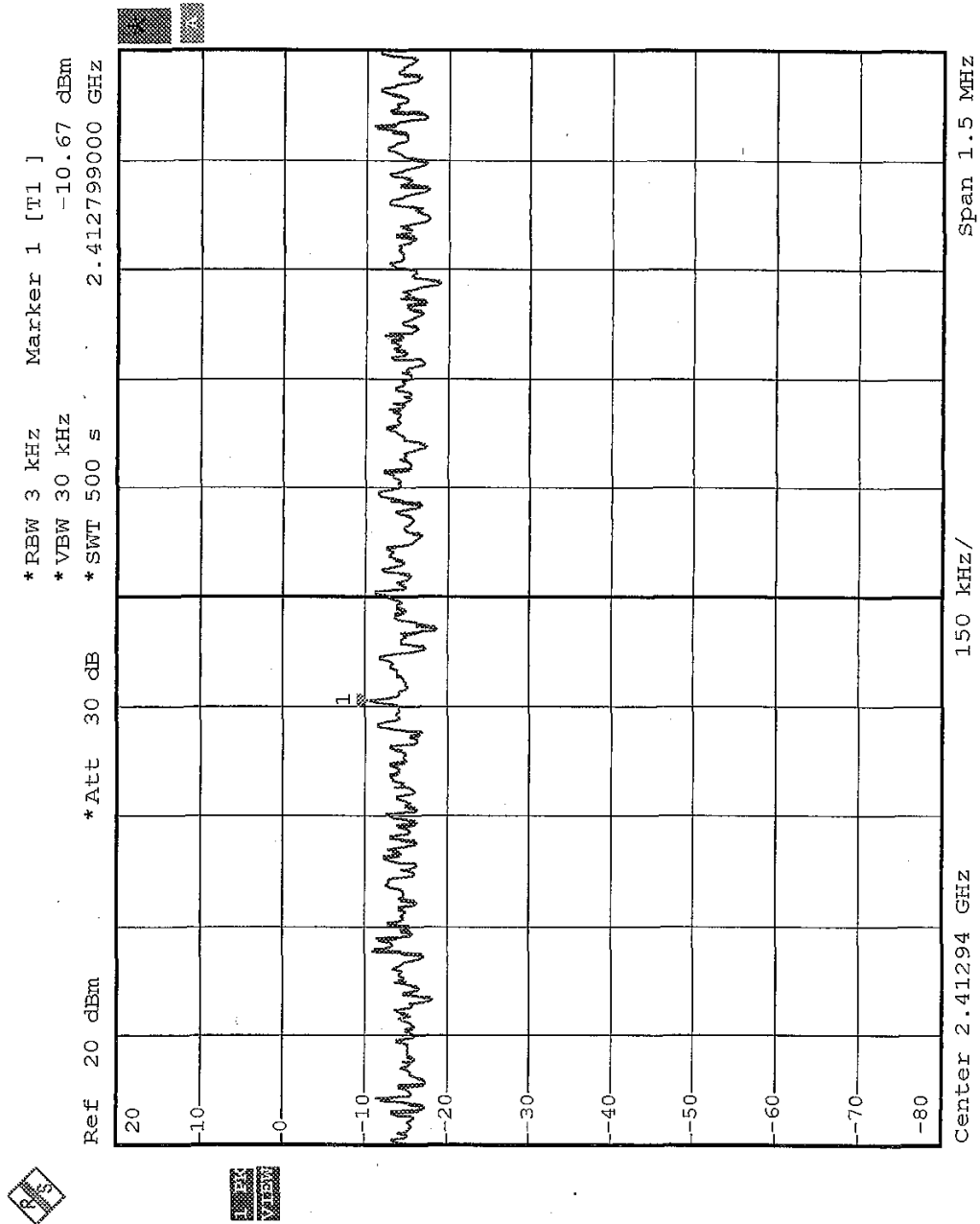
## 4.5.7 TEST RESULTS (A)

<b>EUT</b>	802.11g Wireless CardBus Card	<b>MODEL</b>	G-162
<b>INPUT POWER (SYSTEM)</b>	120 Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60% RH, 991 hPa
<b>TESTED BY</b>	Tony Chen		

<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-10.67	8	PASS
6	2437	-10.03	8	PASS
11	2462	-10.38	8	PASS

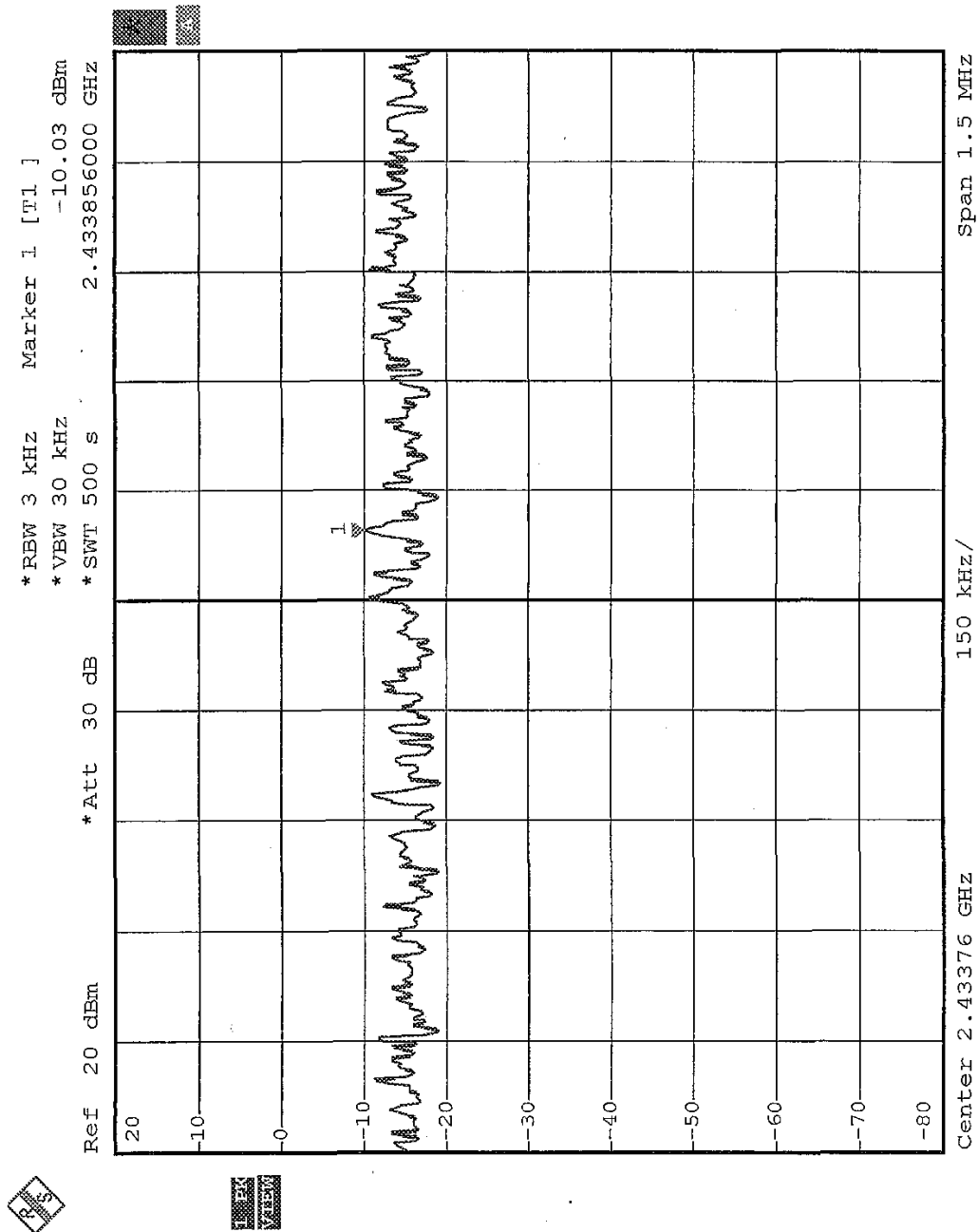


CH1



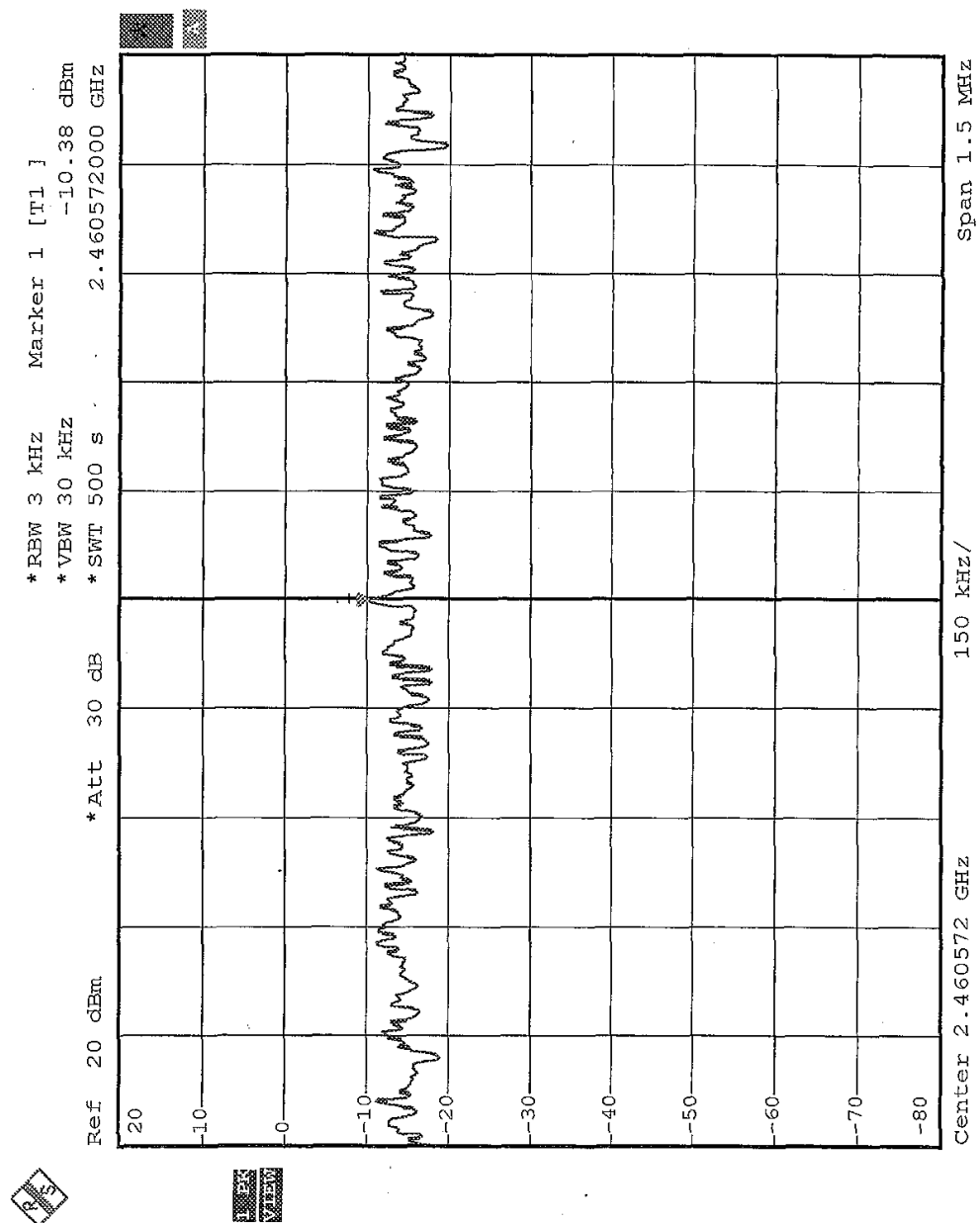
Date: 24.APR.2004 04:51:57

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Date: 24.APR.2004 05:02:20

CH11



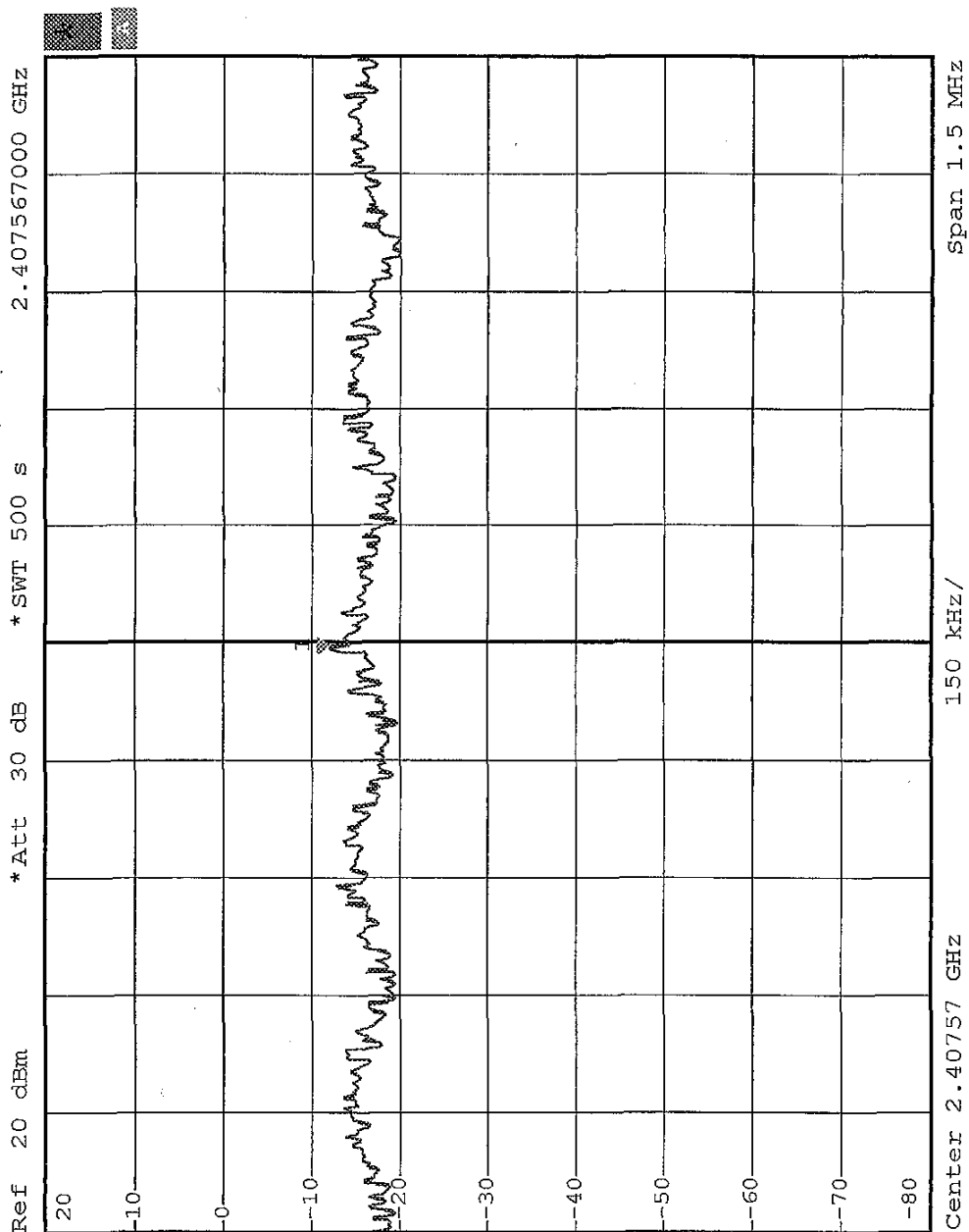


## 4.5.8 TEST RESULTS (B)

<b>EUT</b>	802.11g Wireless CardBus Card	<b>MODEL</b>	G-162
<b>INPUT POWER (SYSTEM)</b>	120 Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60% RH, 991 hPa
<b>TESTED BY</b>	Tony Chen		

<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-12.23	8	PASS
6	2437	-12.11	8	PASS
11	2462	-11.90	8	PASS

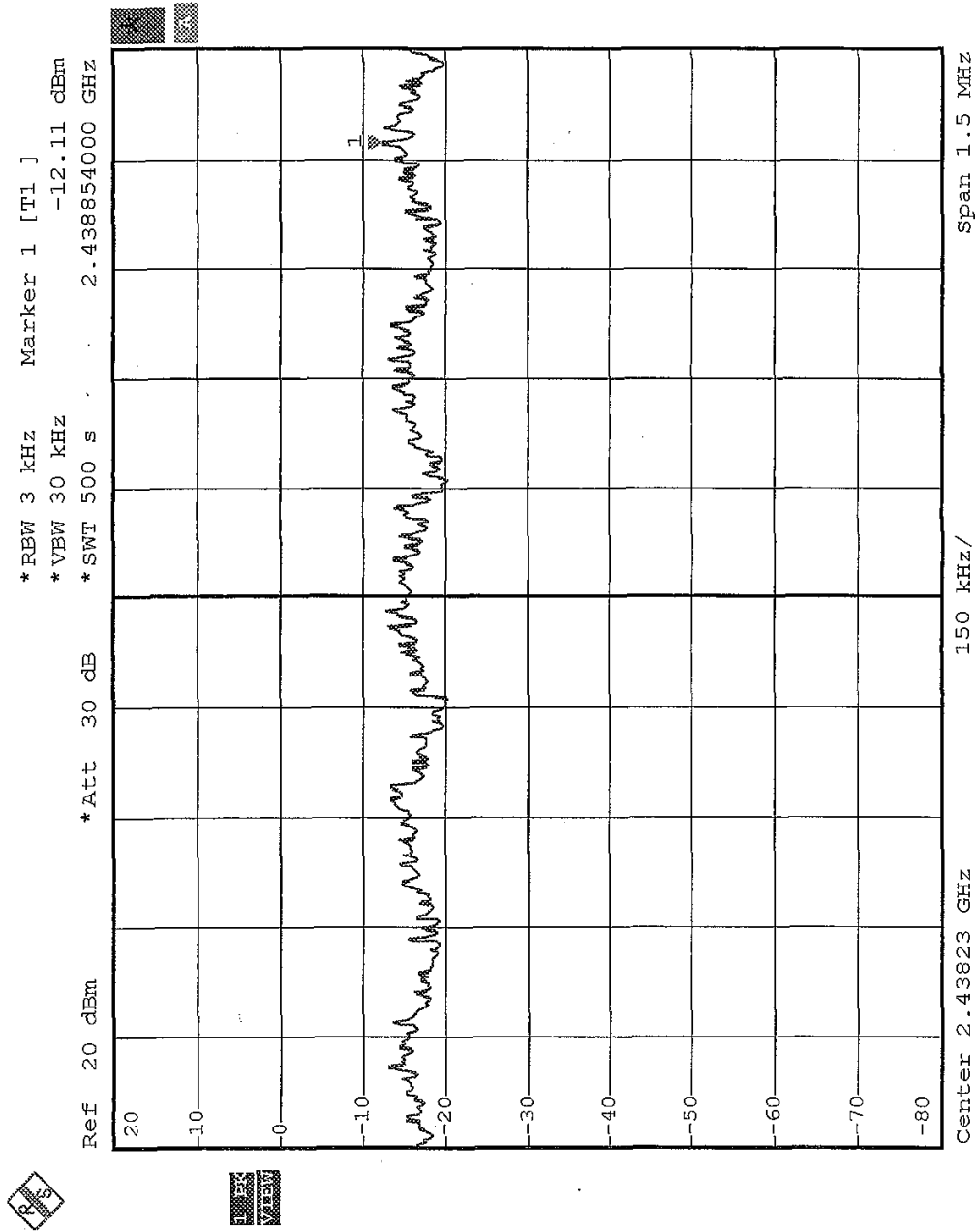
```
*RBW 3 kHz      Marker 1 [T1]
*VBW 30 kHz      -12.23 dBm
*SWT 500 s       2.40756700 GHz
```



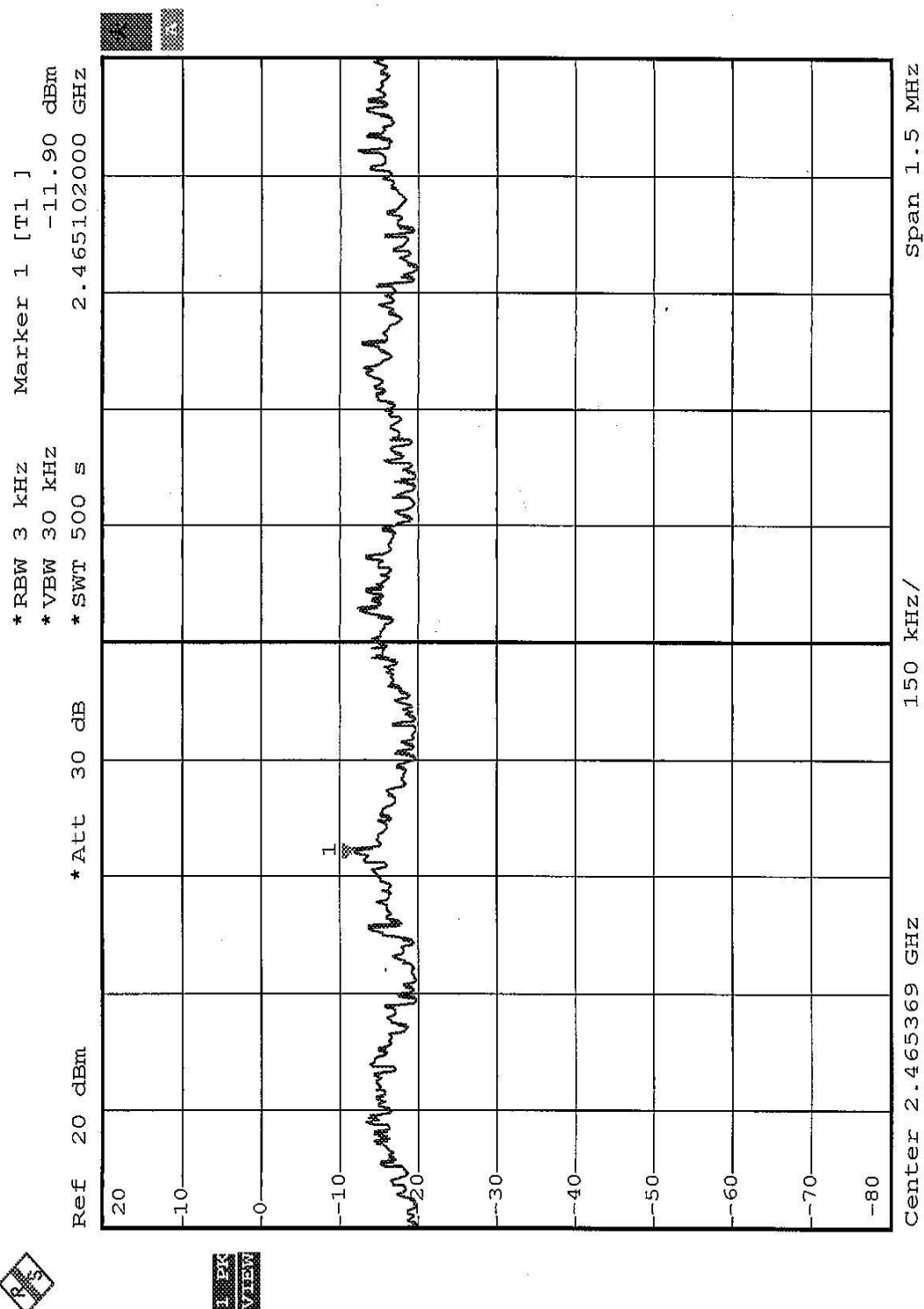
Date: 24.APR.2004 05:16:13



CH6



CH11



## 4.6 BAND EDGES MEASUREMENT

### 4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

### 4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 27, 2004

**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.

### 4.6.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low loss cable. Set both RBW and VBW of spectrum analyzer to 1MHz and 10Hz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

### 4.6.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6





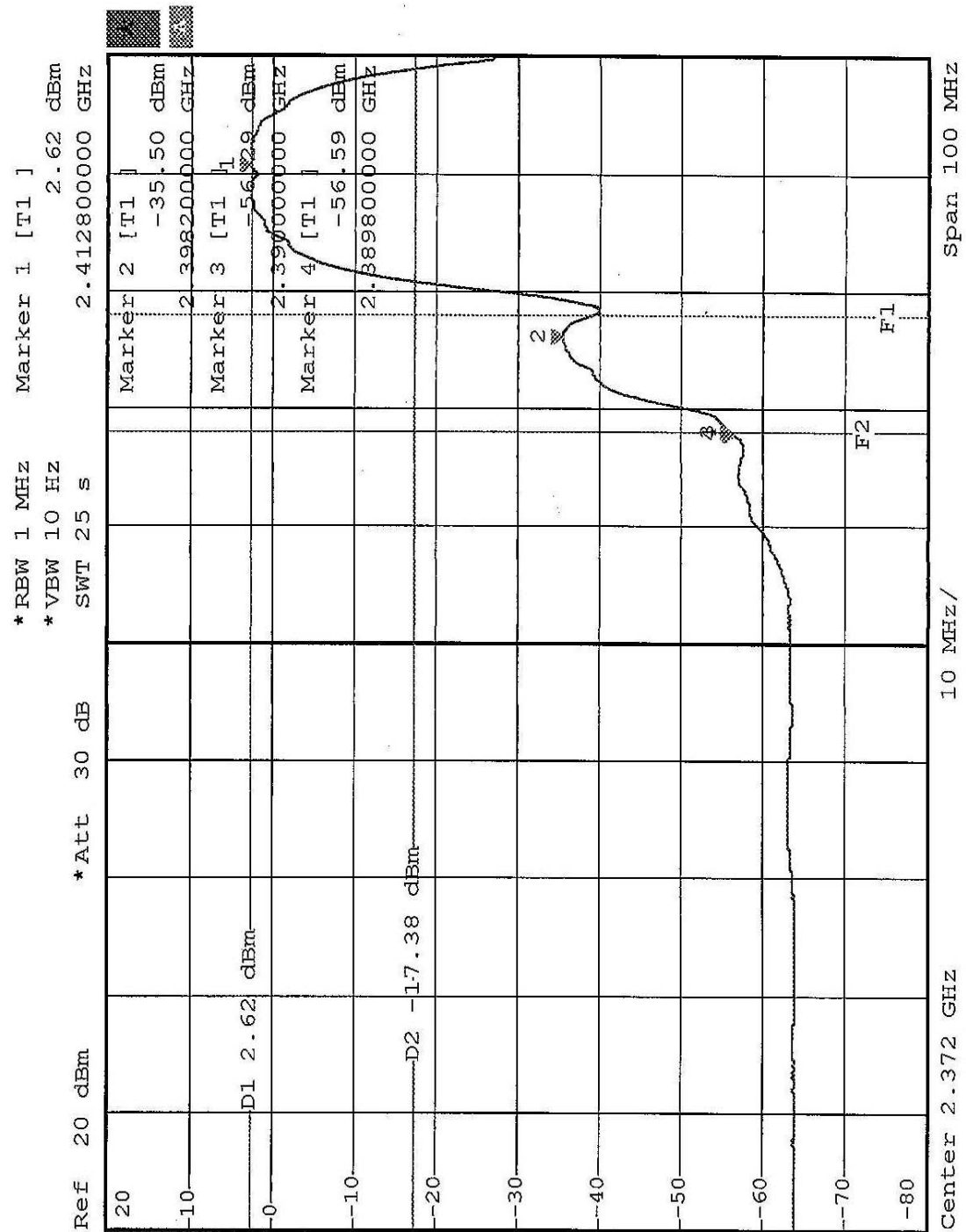
#### 4.6.6 TEST RESULTS (A)

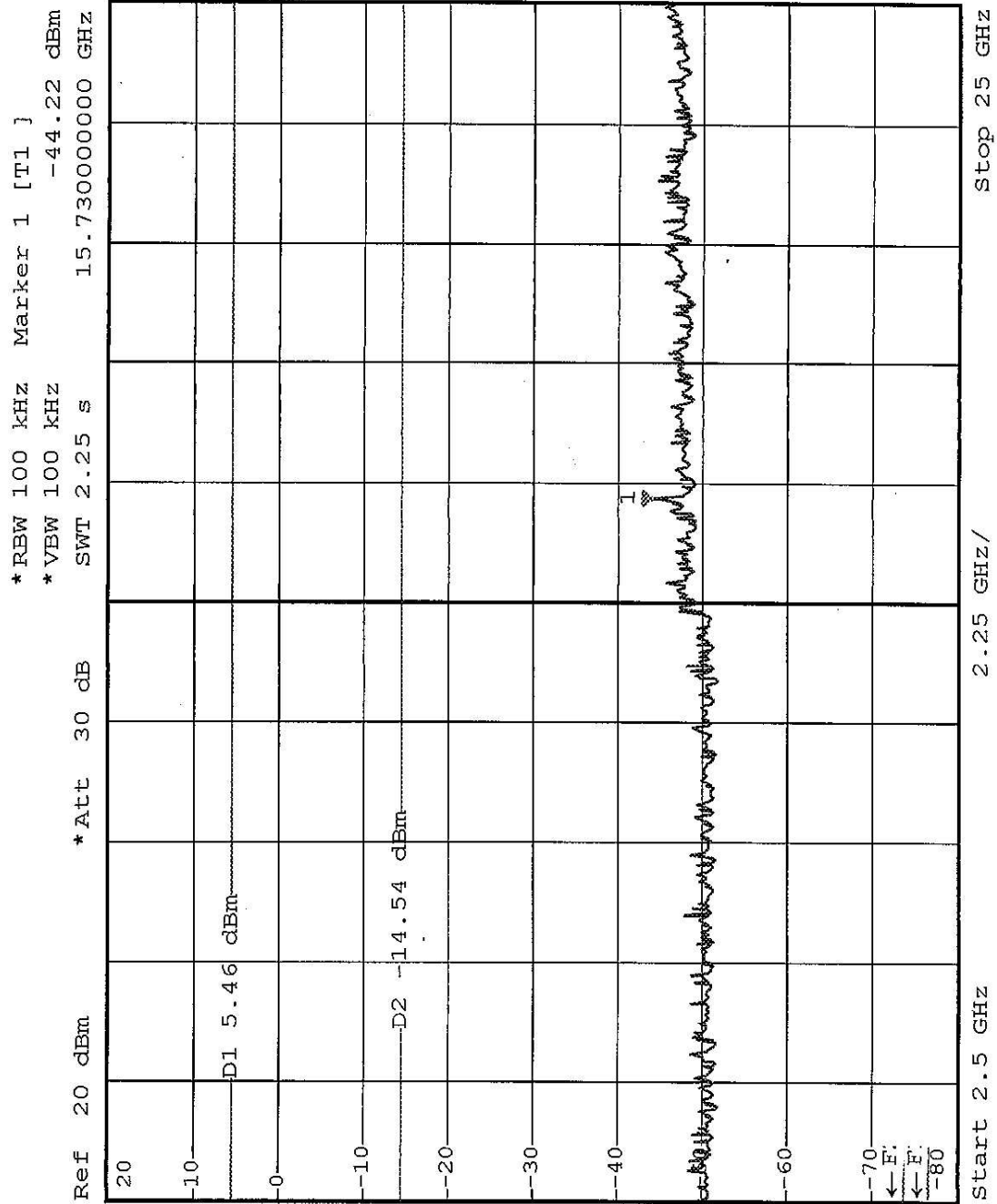
The spectrum plots are attached on the following 4 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

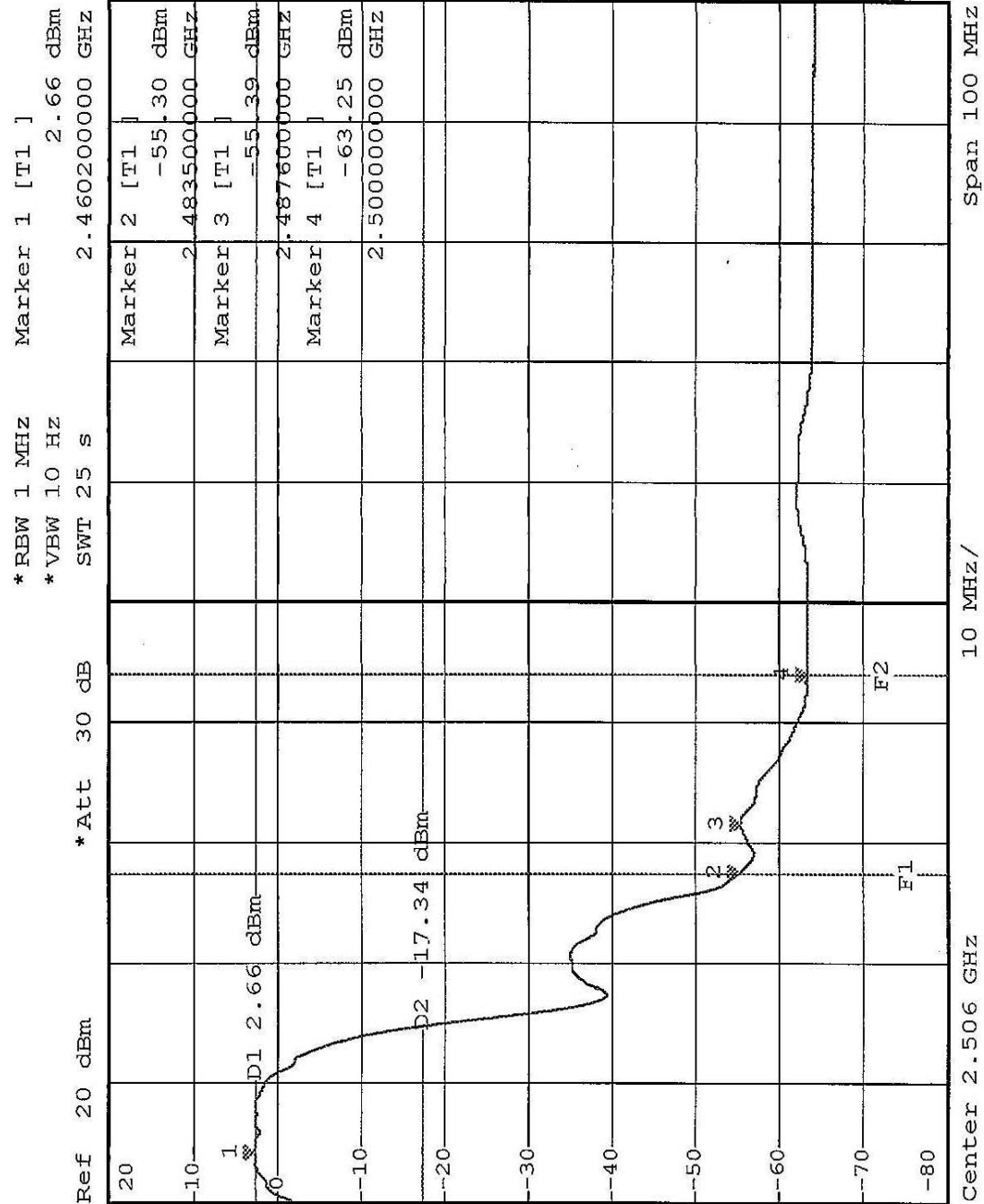
**NOTE:**

The band edge emission plot on the following 1~2 pages show 58.91dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.8 is 101.67dBuV/m, so the maximum field strength in restrict band is  $101.67 - 58.91 = 42.76$ dBuV/m which is under 54dBuV/m limit.

The band edge emission plot on the following 3~4 pages show 57.96dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.8 is 103.13dBuV/m, so the maximum field strength in restrict band is  $103.13 - 57.96 = 45.17$ dBuV/m which is under 54dBuV/m limit.



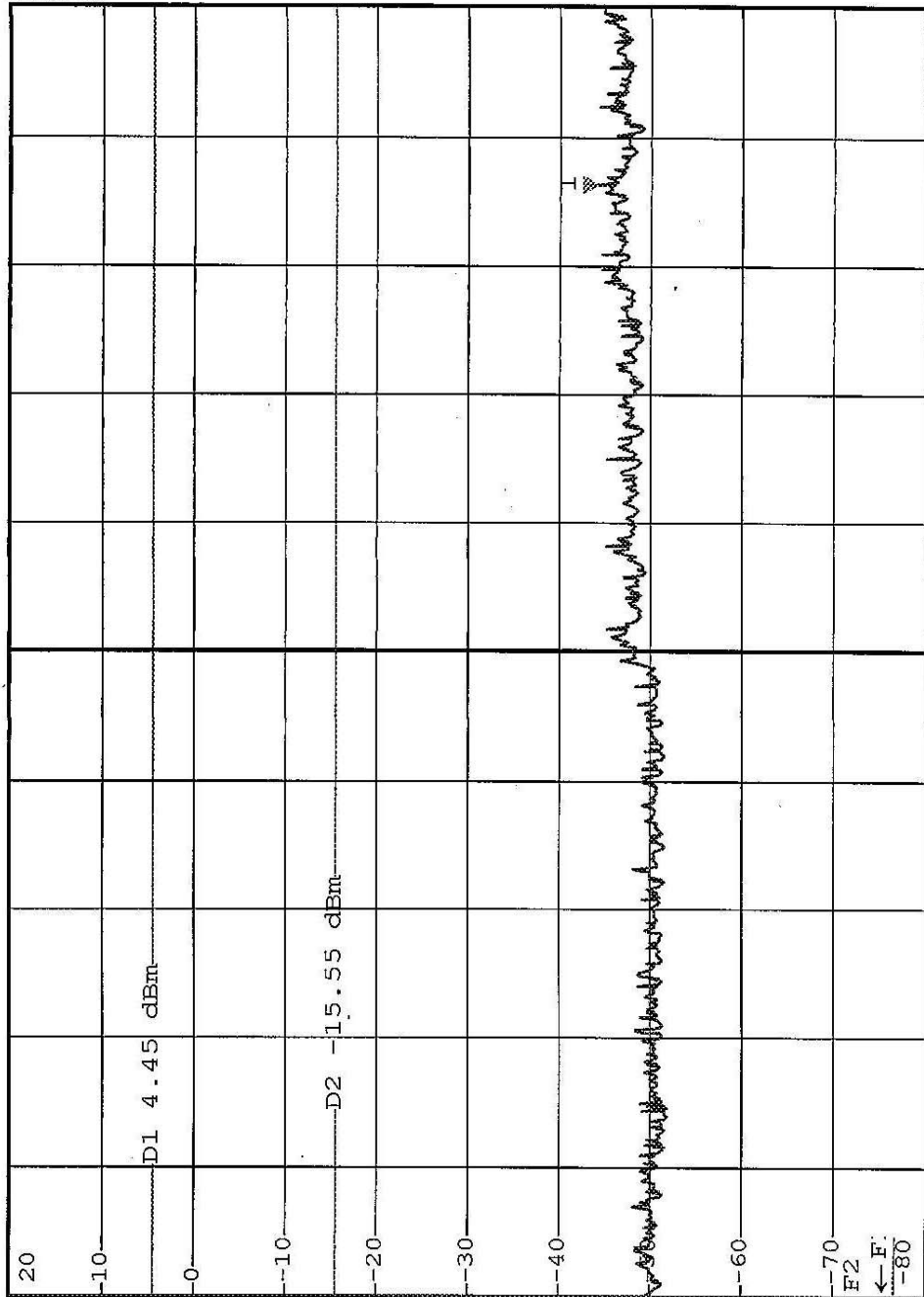




\*RBW 100 kHz Marker 1 [T1]  
 \*VBW 100 kHz -44.00 dBm  
 SWT 2.25 s 21.940000000 GHz

\*Att 30 dB

Ref 20 dBm



Start 2.5 GHz 2.25 GHz/ Stop 25 GHz





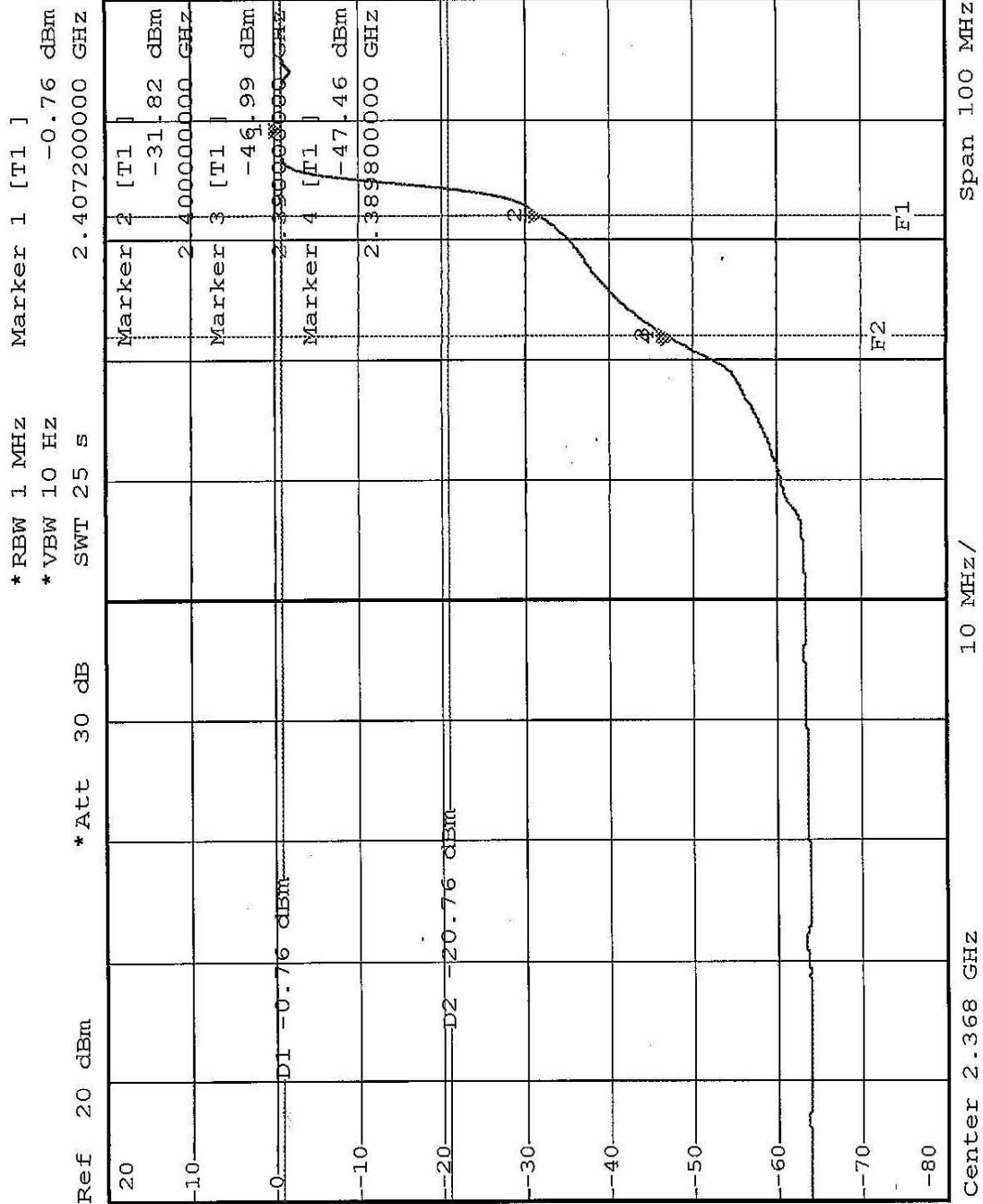
#### 4.6.7 TEST RESULTS (B)

The spectrum plots are attached on the following 4 pages. D2 line indicates the highest level and D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

**NOTE:**

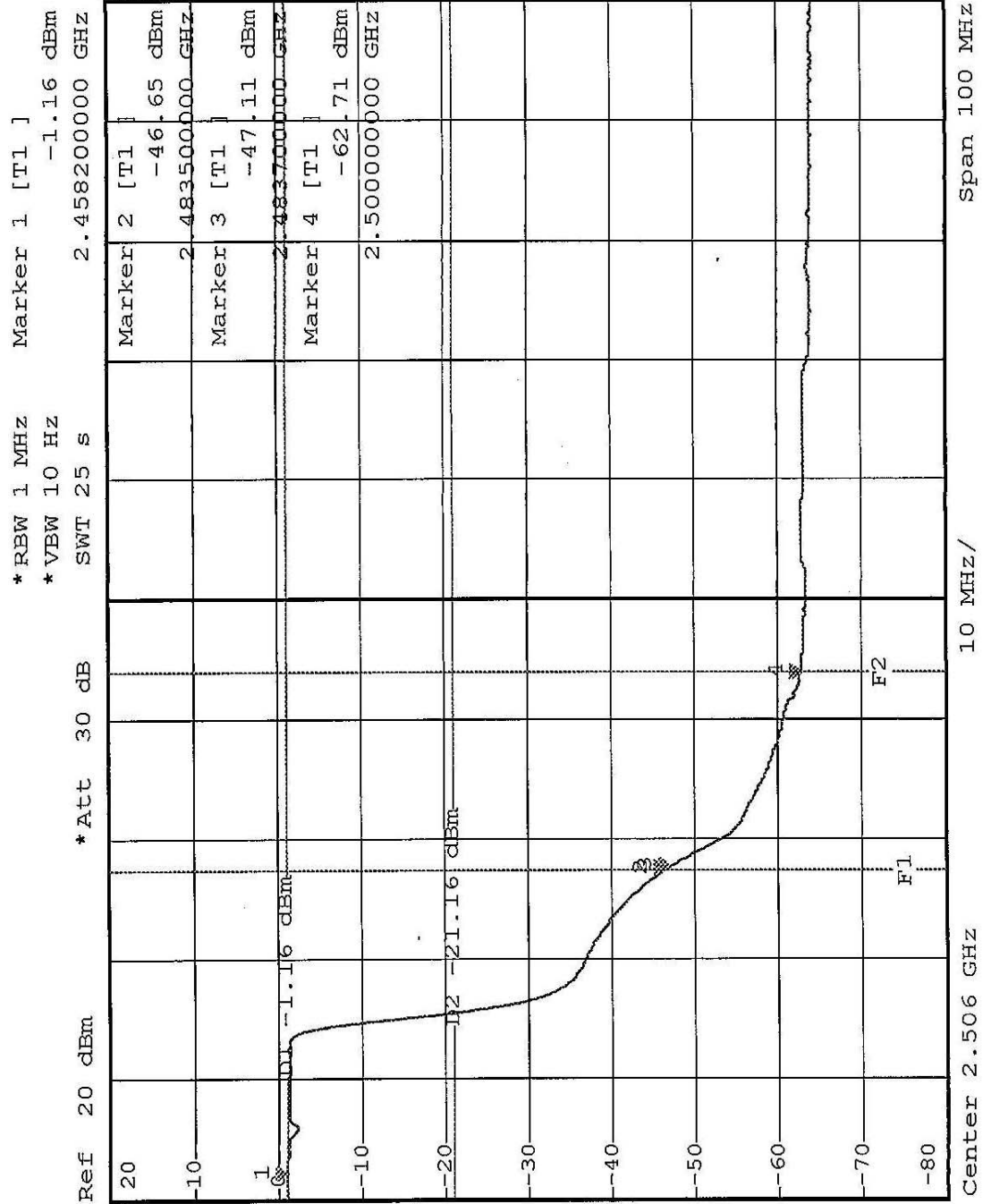
The band edge emission plot on the following 1~2 pages show 46.23dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.9 is 97.88dBuV/m, so the maximum field strength in restrict band is  $97.88 - 46.23 = 51.65$ dBuV/m which is under 54dBuV/m limit.

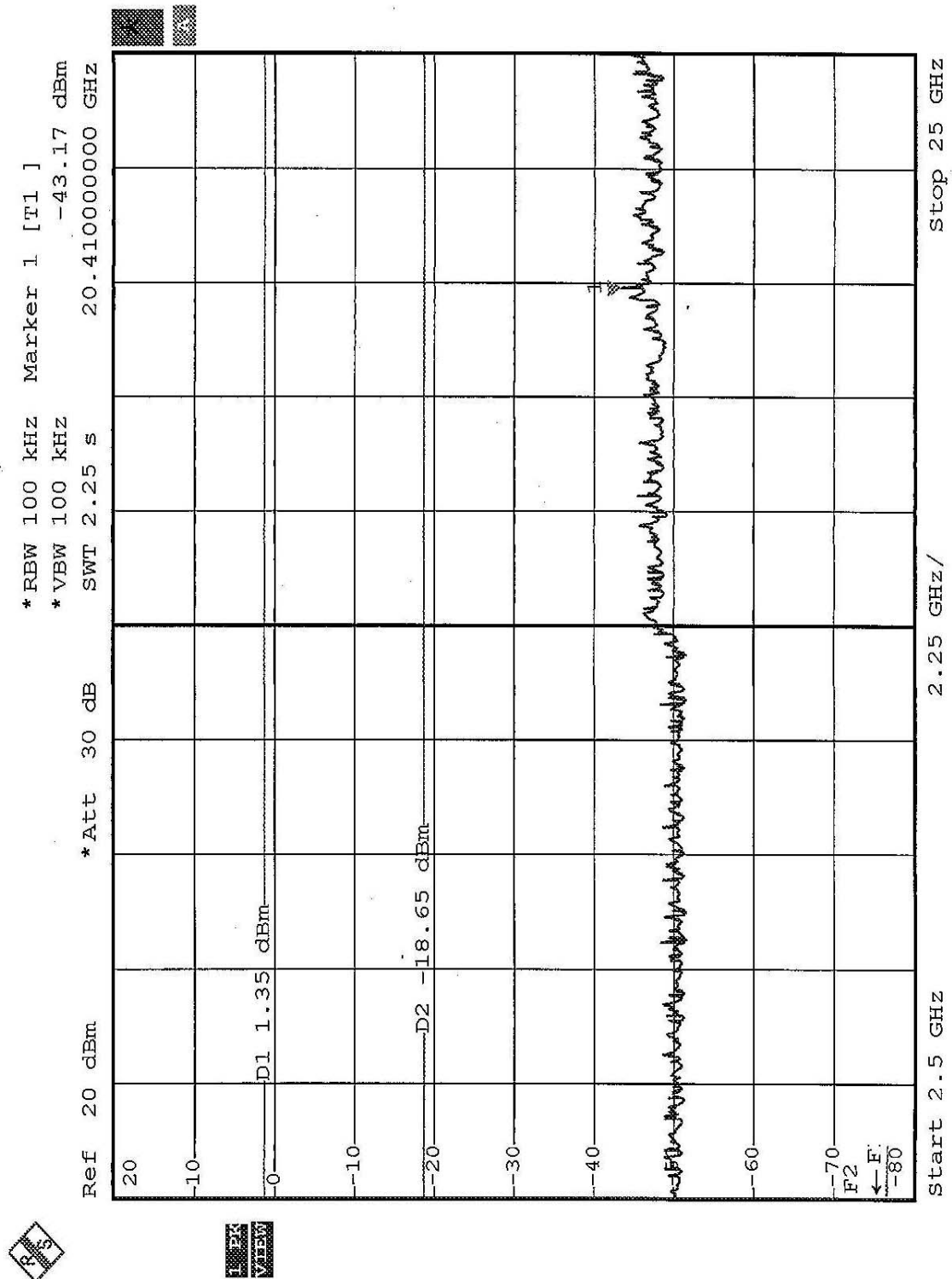
The band edge emission plot on the following 3~4 pages show 45.49dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.9 is 97.59dBuV/m, so the maximum field strength in restrict band is  $97.59 - 45.49 = 52.1$ dBuV/m which is under 54dBuV/m limit.













## **4.7 ANTENNA REQUIREMENT**

### **4.7.1 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 15.247 (b), 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.

### **4.7.2 ANTENNA CONNECTED CONSTRUCTION**

The antenna used in this product is Printed antenna with HRS MS-156 connector. And the maximum Gain of this antenna is 0dBi.

## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

### CONDUCTED EMISSION TEST



## RADIATED EMISSION TEST





## 6 APPENDIX - INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom 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>Norway</b>	NEMKO
<b>Canada</b>	INDUSTRY CANADA , CSA
<b>R.O.C.</b>	CNLA, BSMI, DGT
<b>Netherlands</b>	Telefication
<b>Singapore</b>	PSB , GOST-ASIA(MOU)
<b>Russia</b>	CERTIS(MOU)

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). If you have any comments, please feel free to contact us at the following:

**Linko EMC/RF Lab:**

Tel: 886-2-26052180

Fax: 886-2-26052943

**Hsin Chu EMC/RF Lab:**

Tel: 886-3-5935343

Fax: 886-3-5935342

**Hwa Ya EMC/RF/Safety/Telecom Lab:**

Tel: 886-3-3183232

Fax: 886-3-3185050

**Linko RF Lab.**

Tel: 886-3-3270910

Fax: 886-3-3270892

**Email:** [service@mail.adt.com.tw](mailto:service@mail.adt.com.tw)

**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.

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