

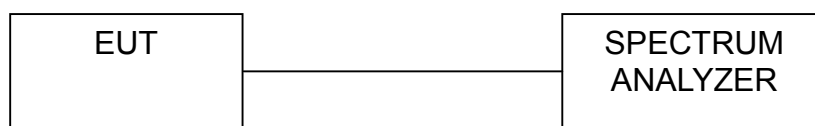
#### 4.5.3 TEST PROCEDURE

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 3kHz RBW and 30kHz 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

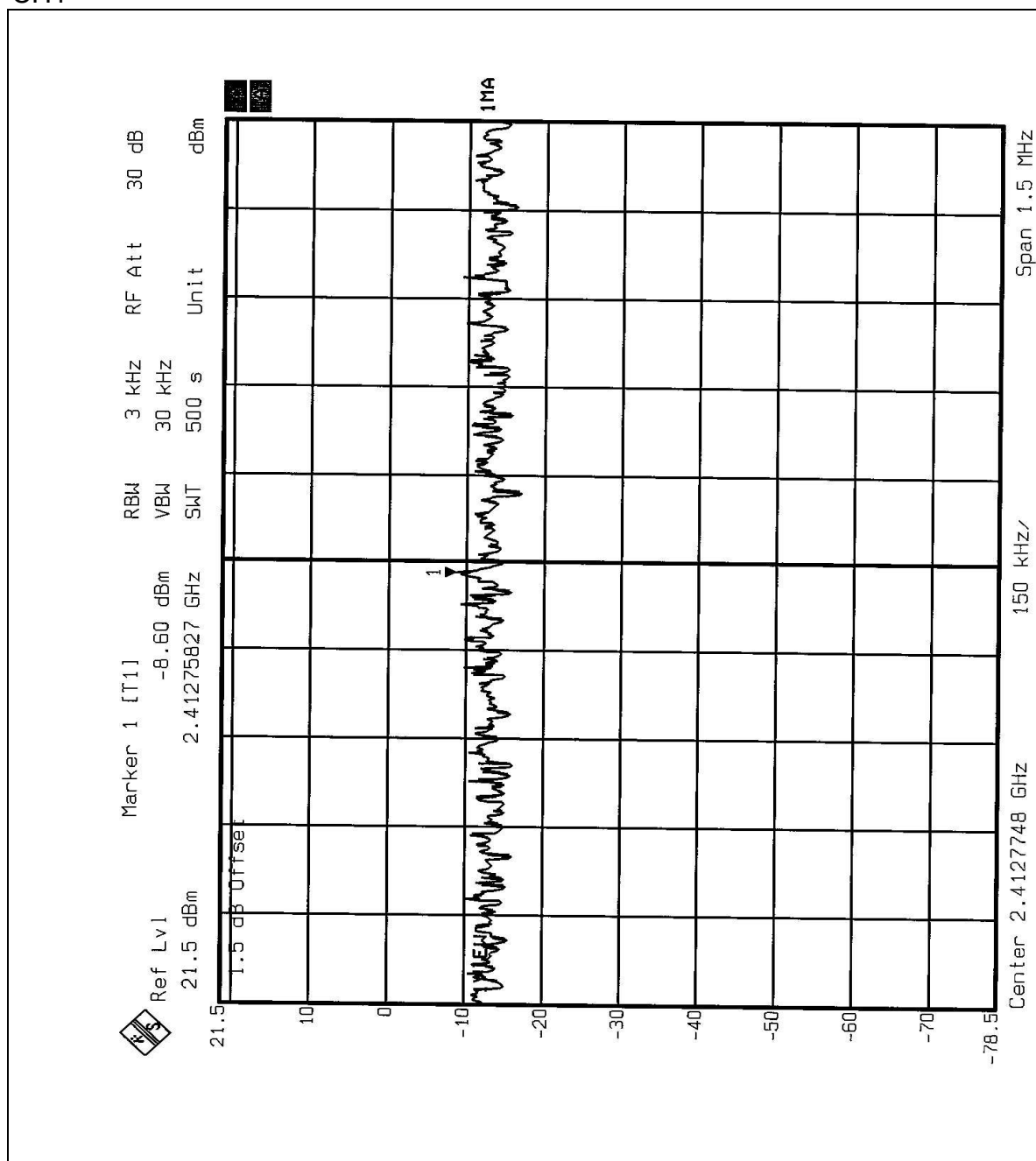


## 4.5.7 TEST RESULTS

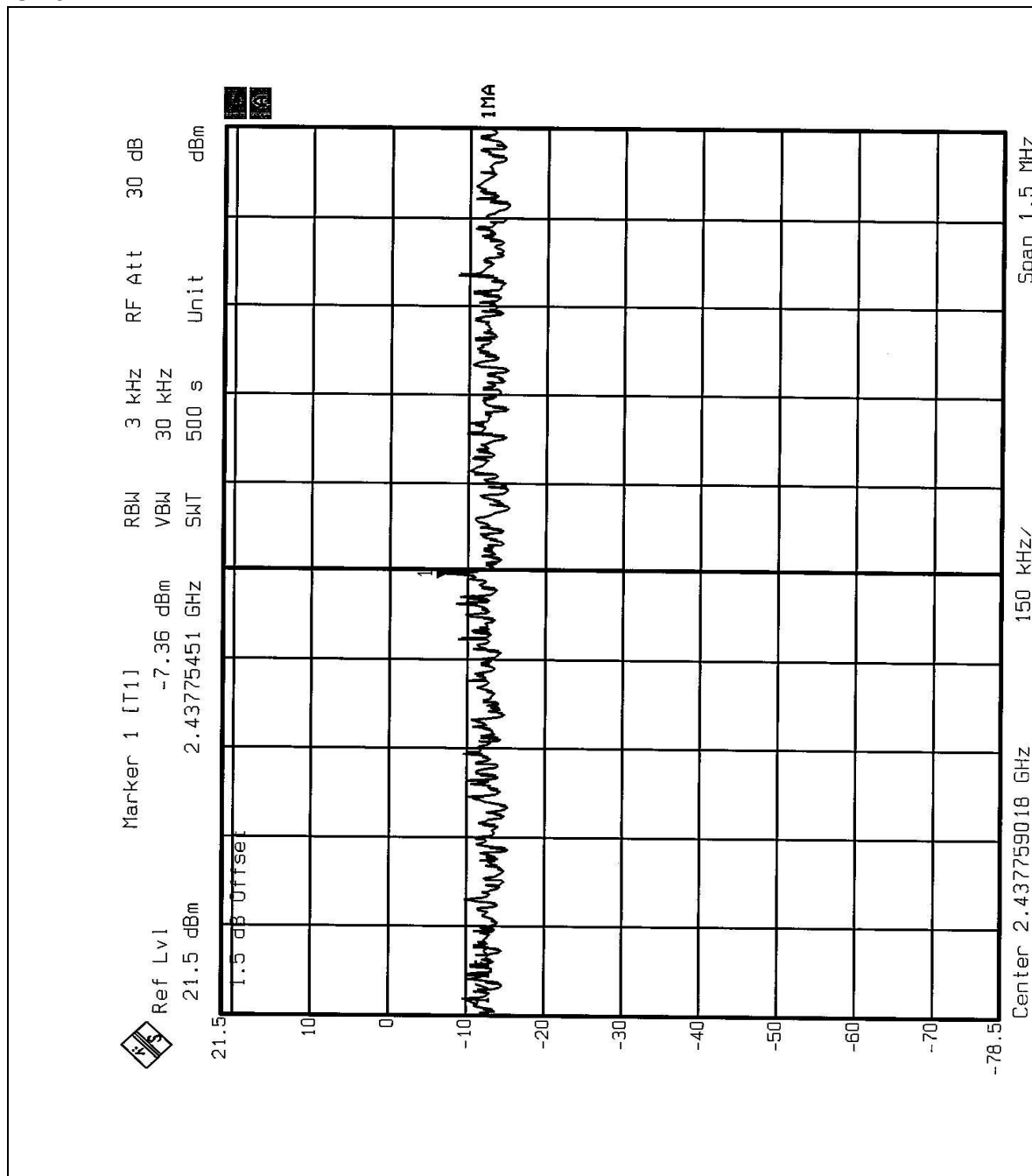
|                                 |                                         |                                     |                            |
|---------------------------------|-----------------------------------------|-------------------------------------|----------------------------|
| <b>EUT</b>                      | High-Speed 2.4GHz<br>WLAN Mini PCI Card | <b>MODEL</b>                        | WMP-G01                    |
|                                 |                                         | <b>MODE</b>                         | CCK                        |
| <b>INPUT POWER<br/>(SYSTEM)</b> | 120Vac, 60 Hz                           | <b>ENVIRONMENTAL<br/>CONDITIONS</b> | 21deg. C, 67%RH,<br>991hPa |
| <b>TESTED BY:</b> Ansen Lei     |                                         |                                     |                            |

| <b>CHANNEL</b> | <b>CHANNEL<br/>FREQUENCY<br/>(MHz )</b> | <b>RF POWER LEVEL IN<br/>3 kHz BW<br/>(dBm)</b> | <b>MAXIMUM<br/>LIMIT<br/>(dBm)</b> | <b>PASS/FAIL</b> |
|----------------|-----------------------------------------|-------------------------------------------------|------------------------------------|------------------|
| 1              | 2412                                    | -8.60                                           | 8                                  | PASS             |
| 6              | 2437                                    | -7.36                                           | 8                                  | PASS             |
| 11             | 2462                                    | -6.25                                           | 8                                  | PASS             |

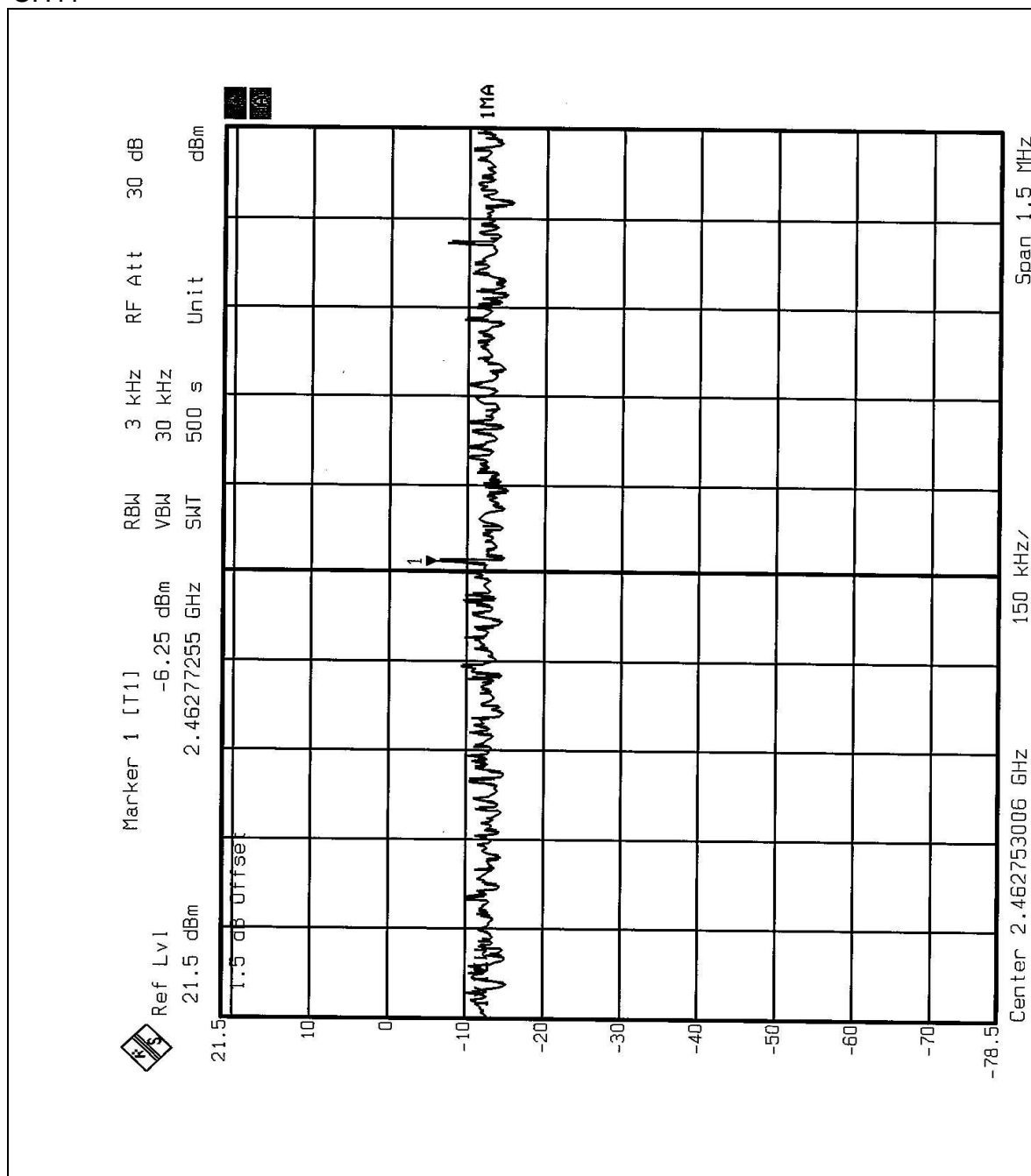
CH1



# CH6



CH11

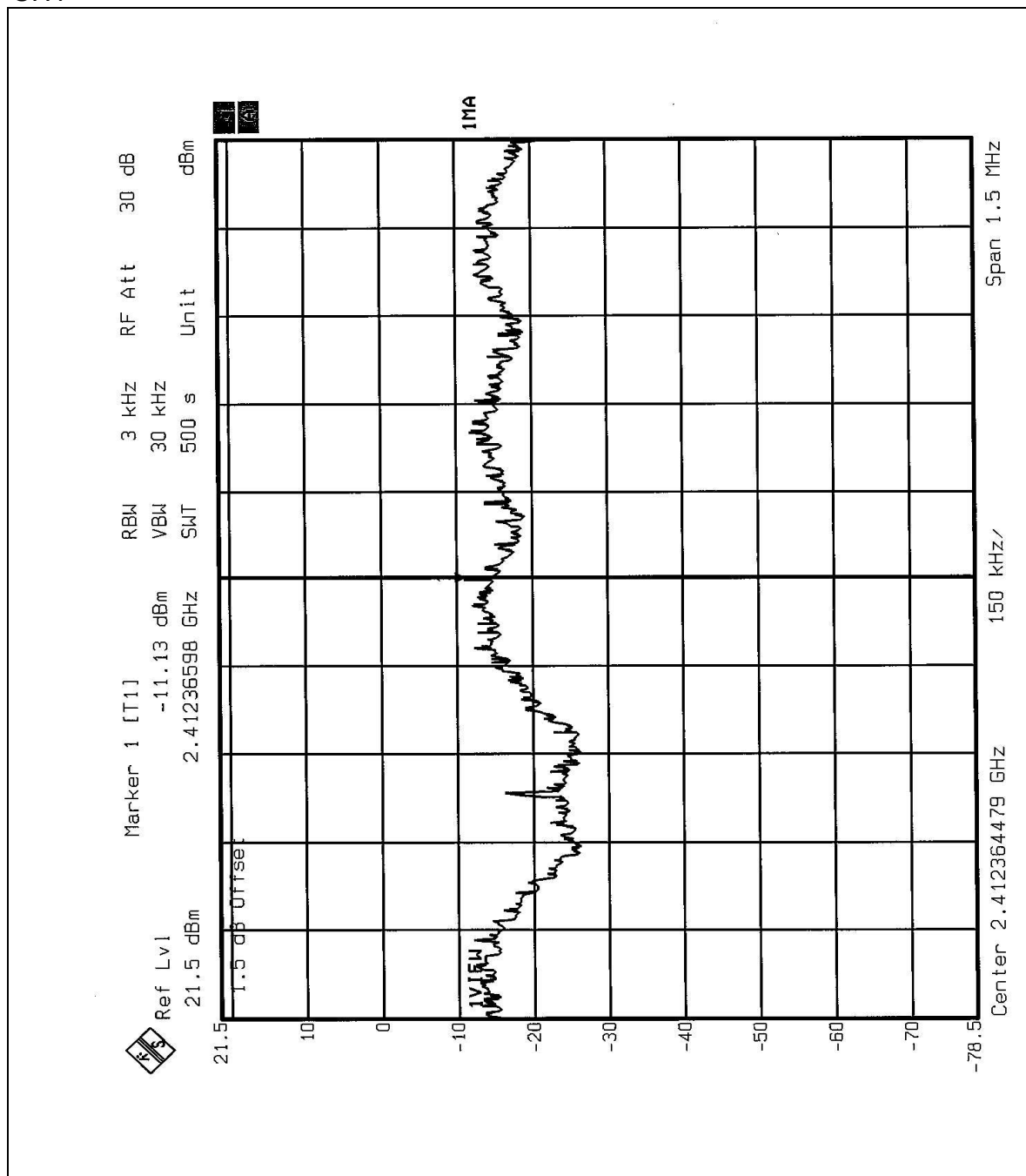




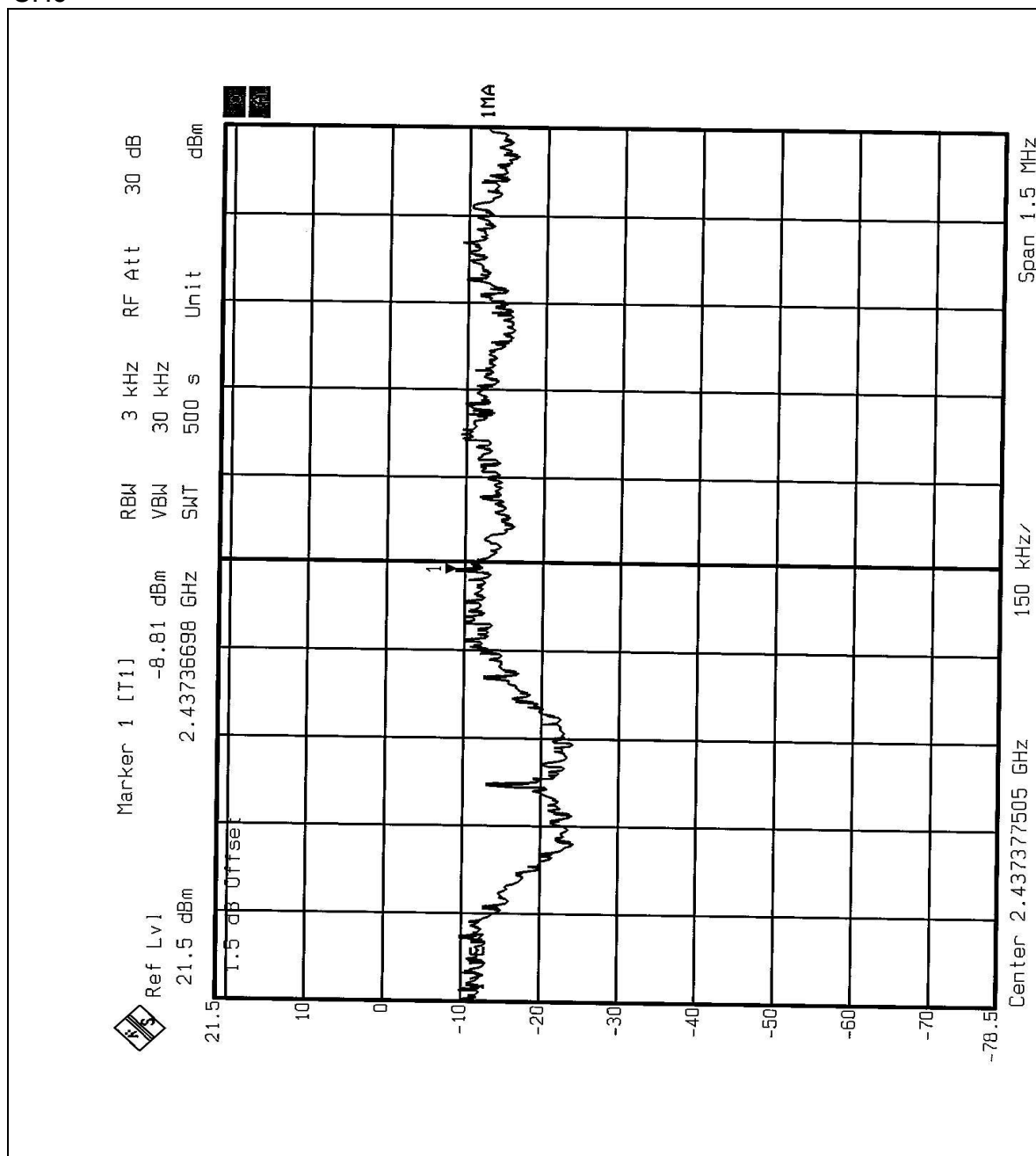
|                                 |                                         |                                     |                            |
|---------------------------------|-----------------------------------------|-------------------------------------|----------------------------|
| <b>EUT</b>                      | High-Speed 2.4GHz<br>WLAN Mini PCI Card | <b>MODEL</b>                        | WMP-G01                    |
|                                 |                                         | <b>MODE</b>                         | OFDM                       |
| <b>INPUT POWER<br/>(SYSTEM)</b> | 120Vac, 60 Hz                           | <b>ENVIRONMENTAL<br/>CONDITIONS</b> | 21deg. C, 67%RH,<br>991hPa |
| <b>TESTED BY:</b> Ansen Lei     |                                         |                                     |                            |

| <b>CHANNEL</b> | <b>CHANNEL<br/>FREQUENCY<br/>(MHz )</b> | <b>RF POWER LEVEL<br/>IN3 kHz BW<br/>(dBm)</b> | <b>MAXIMUM<br/>LIMIT<br/>(dBm)</b> | <b>PASS/FAIL</b> |
|----------------|-----------------------------------------|------------------------------------------------|------------------------------------|------------------|
| 1              | 2412                                    | -11.13                                         | 8                                  | PASS             |
| 6              | 2437                                    | -8.81                                          | 8                                  | PASS             |
| 6 (Turbo Mode) | 2437                                    | -13.92                                         | 8                                  | PASS             |
| 11             | 2462                                    | -13.04                                         | 8                                  | PASS             |

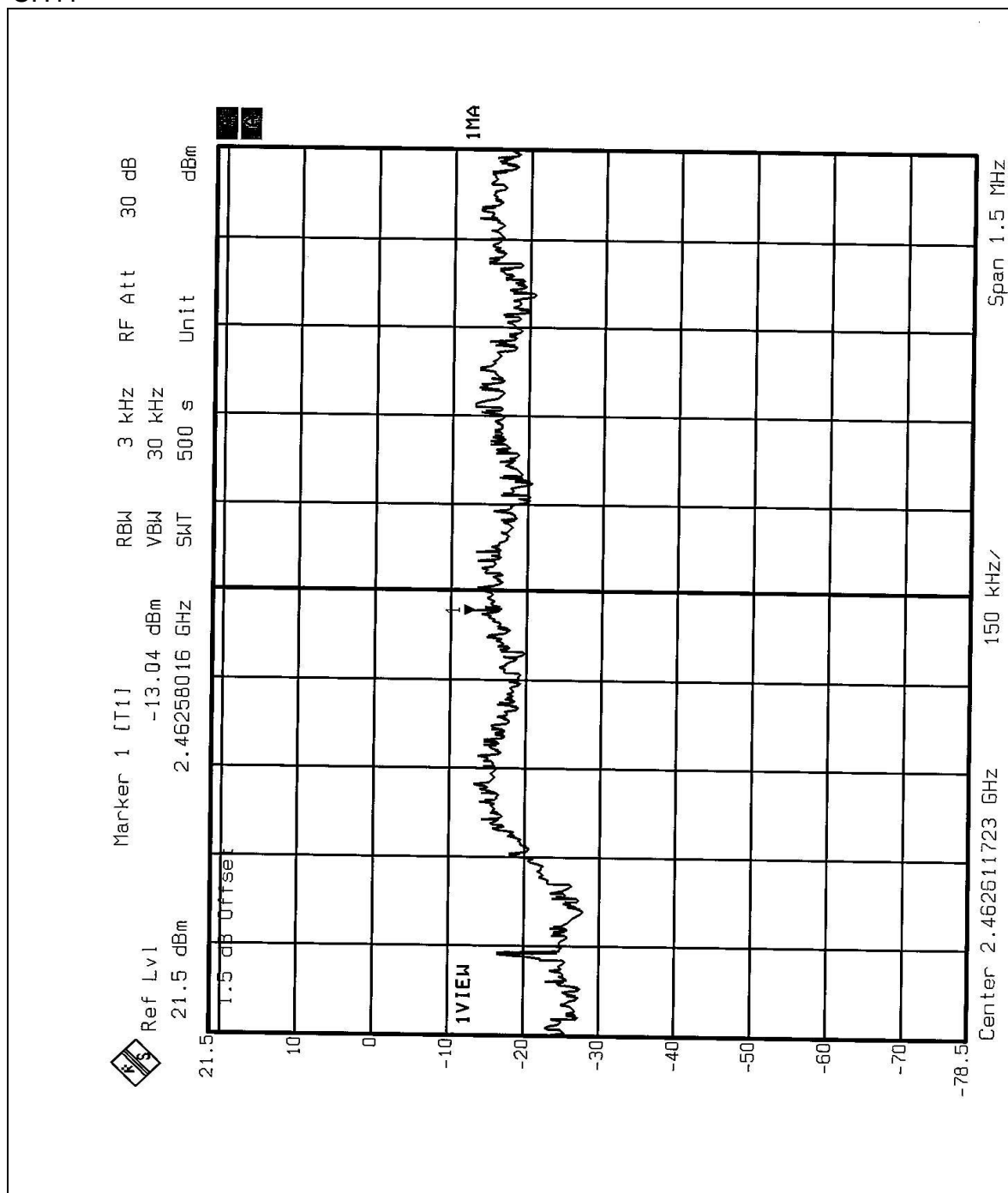
CH1



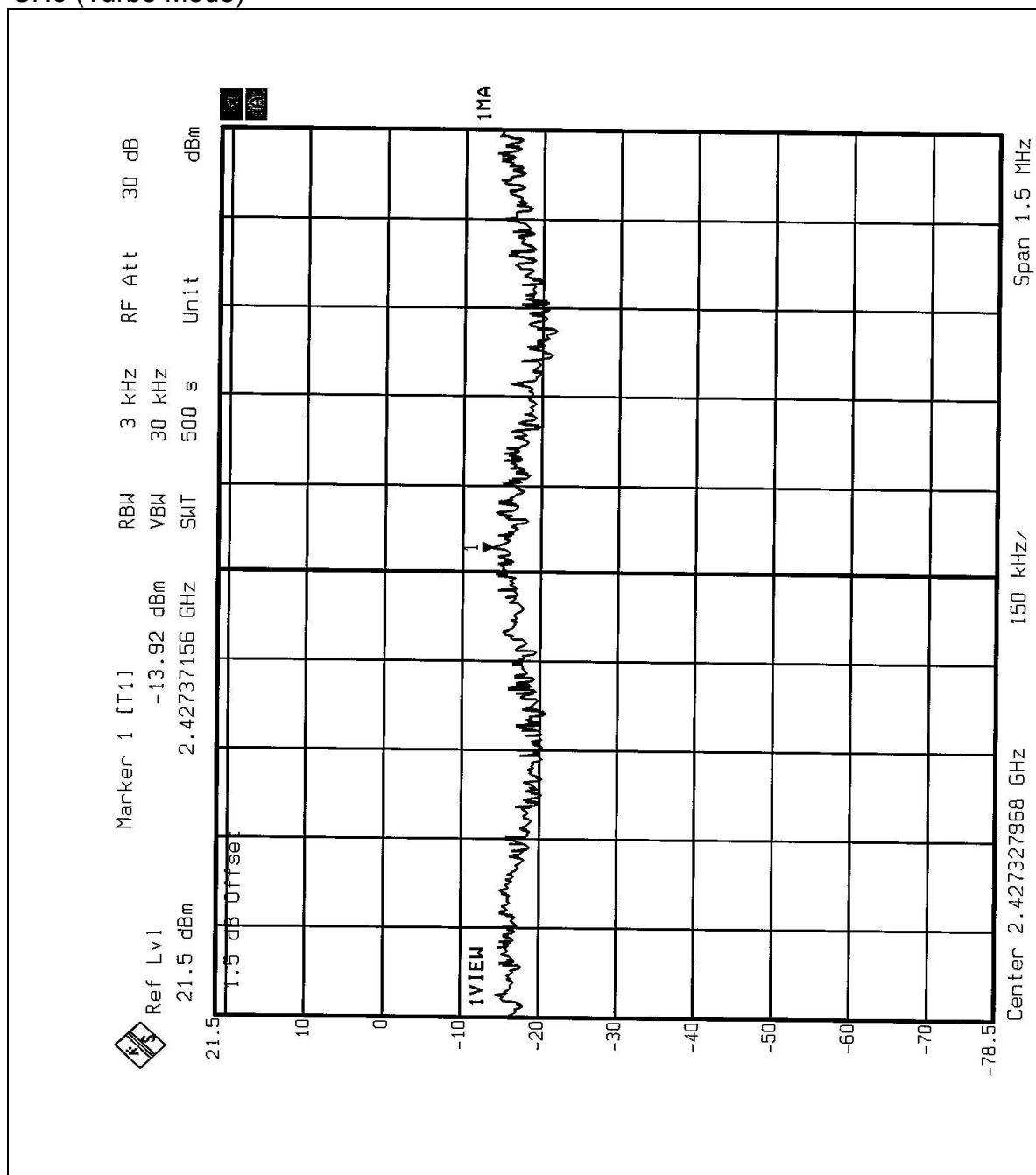
CH6



CH11



# CH6 (Turbo Mode)



## 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 |
|----------------------------|-----------|------------|------------------|
| SPECTRUM ANALYZER          | FSEK30    | 100049     | July 24, 2003    |

**NOTE:** 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 300Hz with suitable frequency span including 100kHz 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

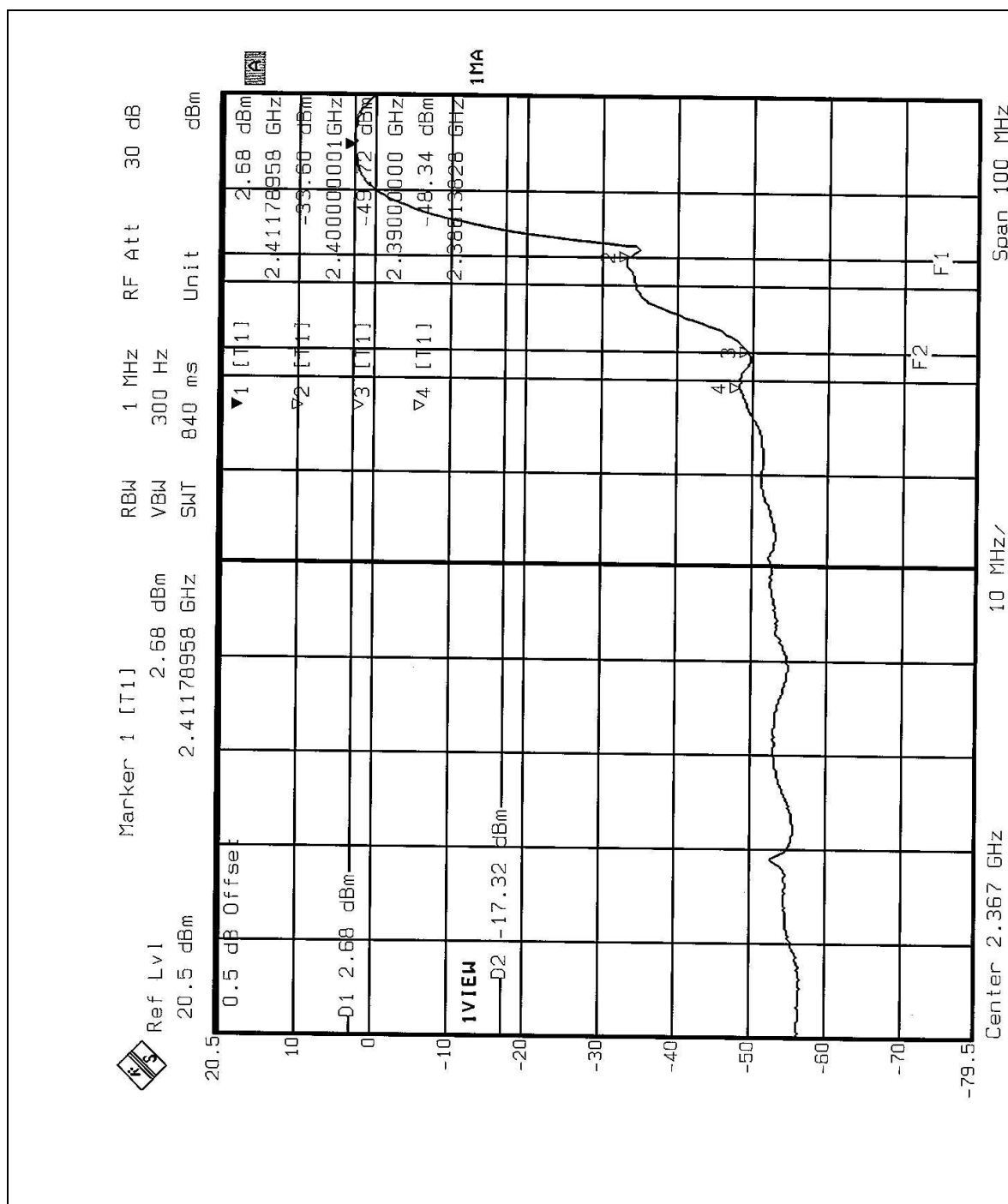
#### 4.6.6 TEST RESULTS

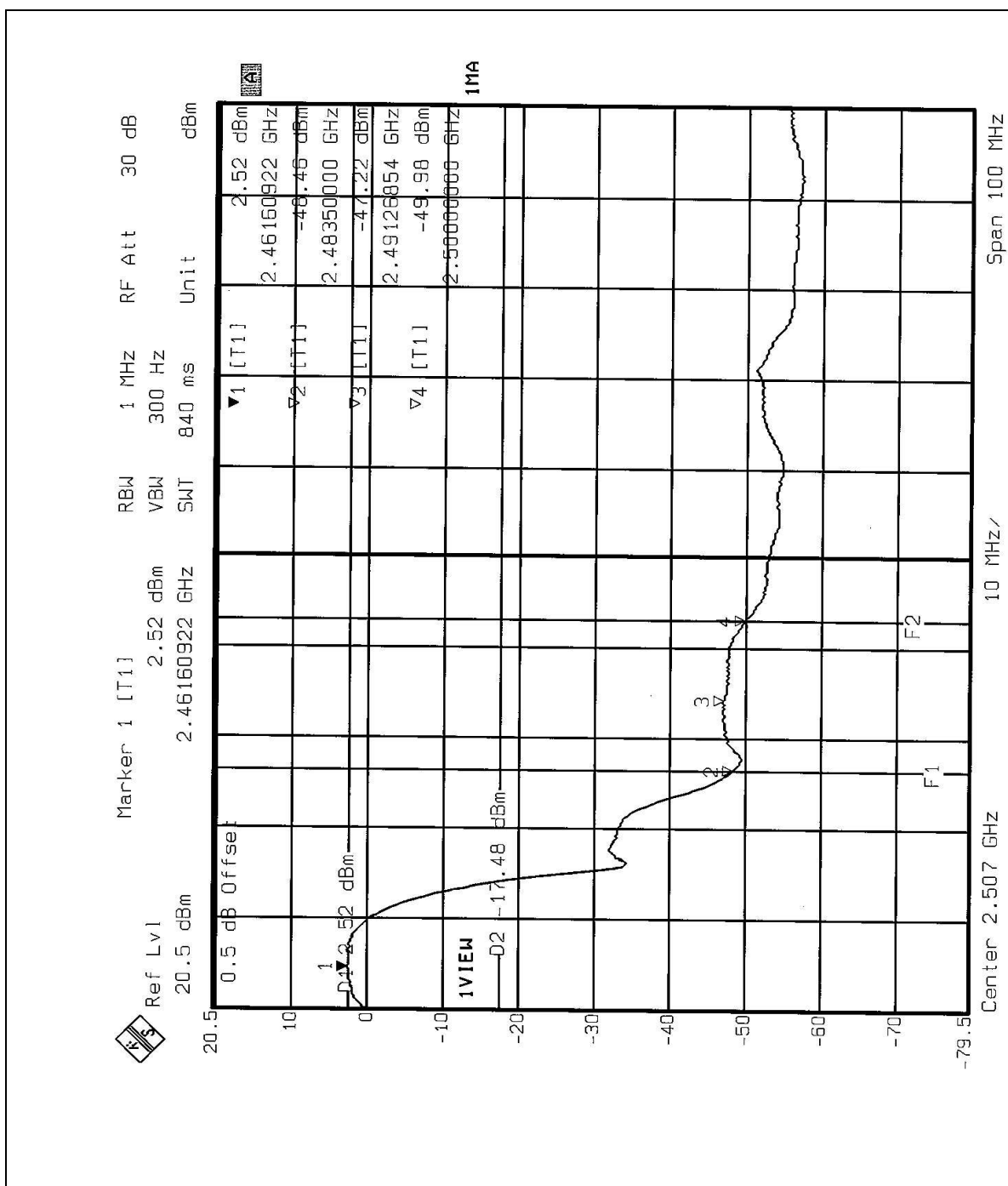
The spectrum plots are attached on the following 2 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

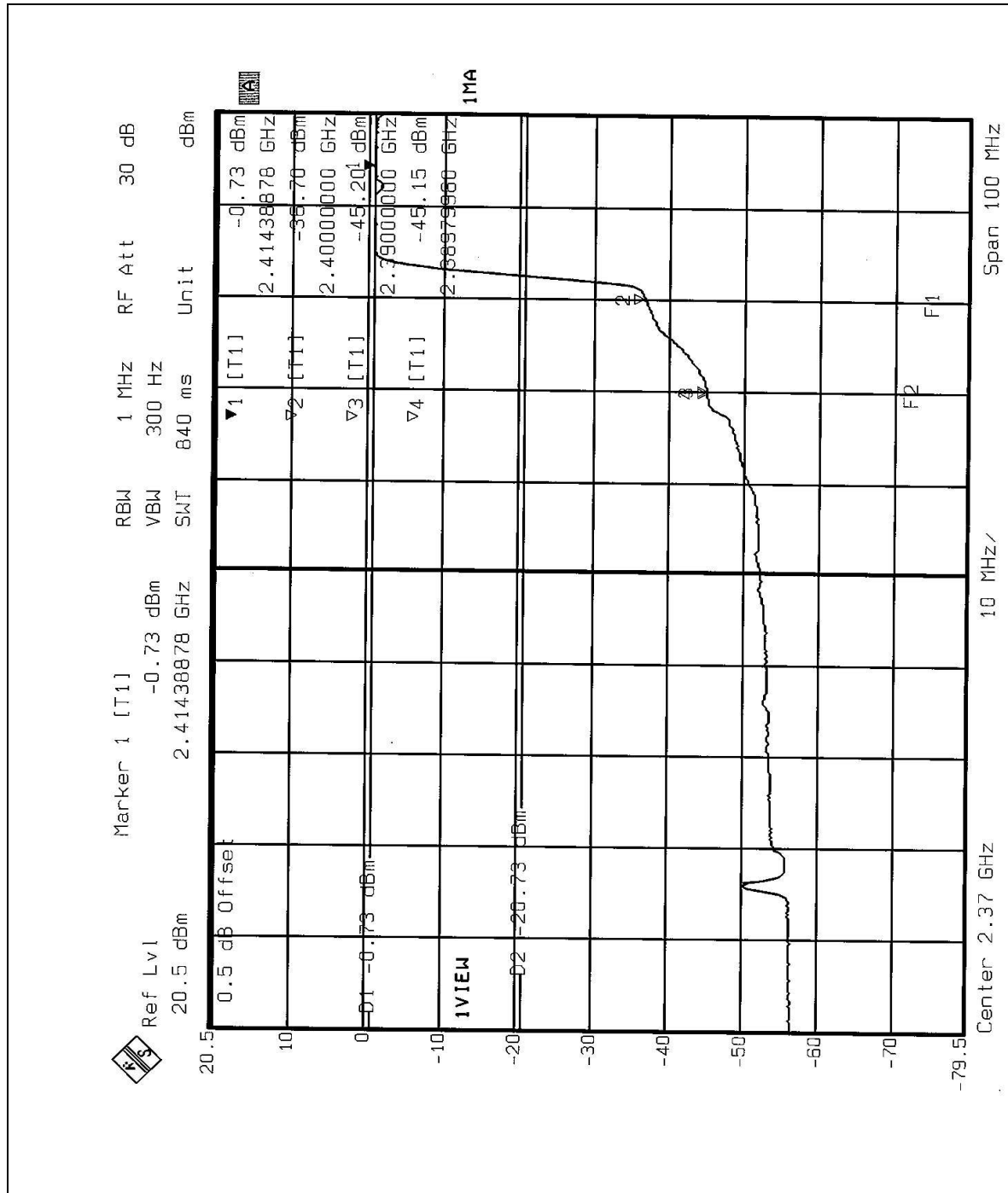
**NOTE 1:** The band edge emission plot on the following 1-2 pages shows 51.02dB / 49.74dB delta between carrier maximum power and local maximum emission in restrict band (2.3861GHz / 2.4913GHz). The emission of carrier strength list in the test result of channel 11 of CCK technique at the item 4.2.8 is 102.8dBuV/m, so the maximum field strength in restrict band is  $102.8 - 49.74 = 53.06$ dBuV/m which is under 54dBuV/m limit.

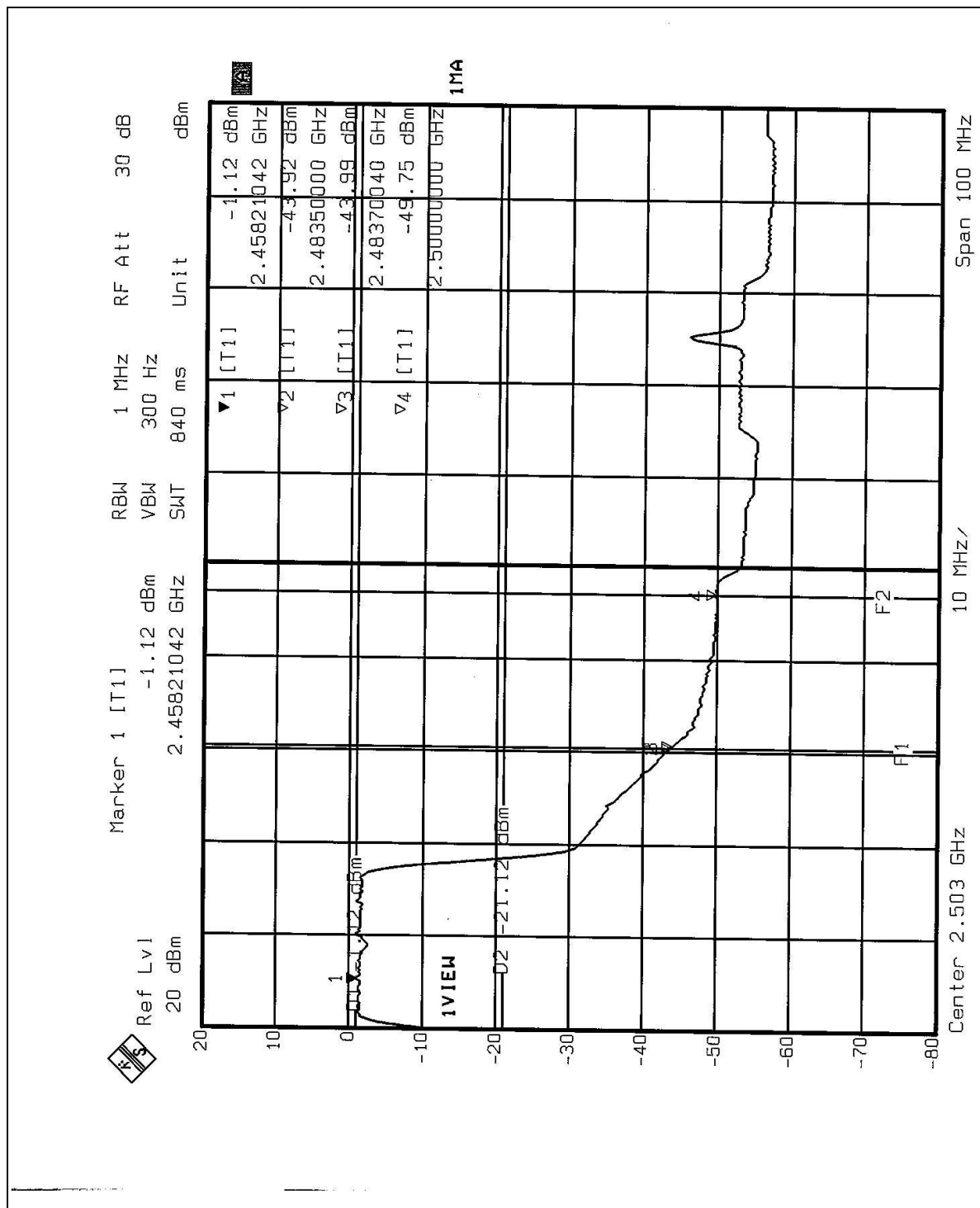
**NOTE 2:** The band edge emission plot on the following 3-4 pages shows 44.42dB / 42.8dB delta between carrier maximum power and local maximum emission in restrict band (2.3898GHz / 2.4835GHz). The emission of carrier strength list in the test result of channel 11 of OFDM technique at the item 4.2.8 is 96.5dBuV/m, so the maximum field strength in restrict band is  $96.5 - 42.8 = 53.7$ dBuV/m which is under 54dBuV/m limit.

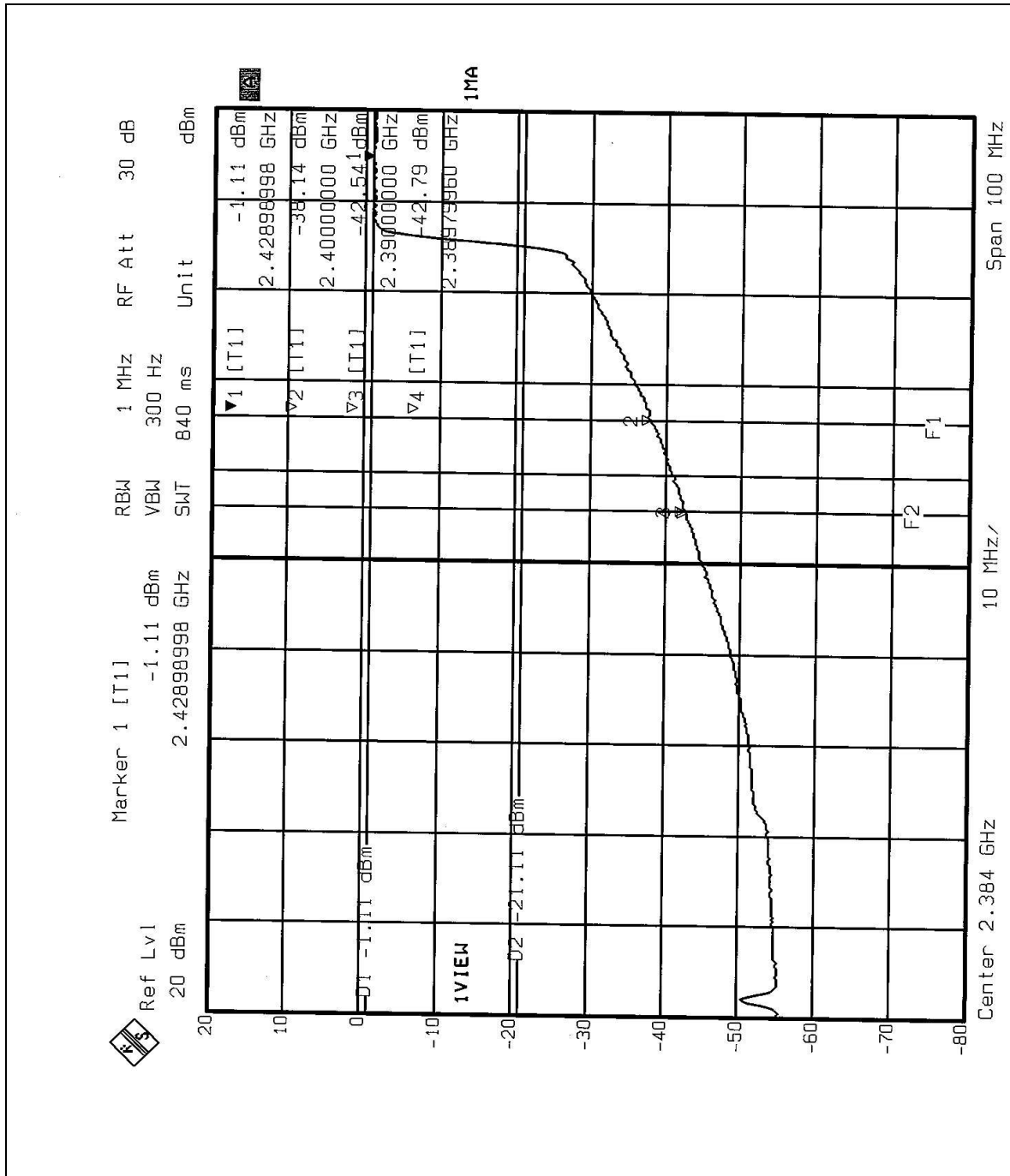
**NOTE 3:** The band edge emission plot on the following 5-6 pages shows 41.43dB / 41.96dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz / 2.4835GHz). The emission of carrier strength list in the test result of channel 6 of OFDM technique in turbo mode at the item 4.2.8 is 95.1dBuV/m, so the maximum field strength in restrict band is  $95.1 - 41.43 = 53.67$ dBuV/m which is under 54dBuV/m limit.

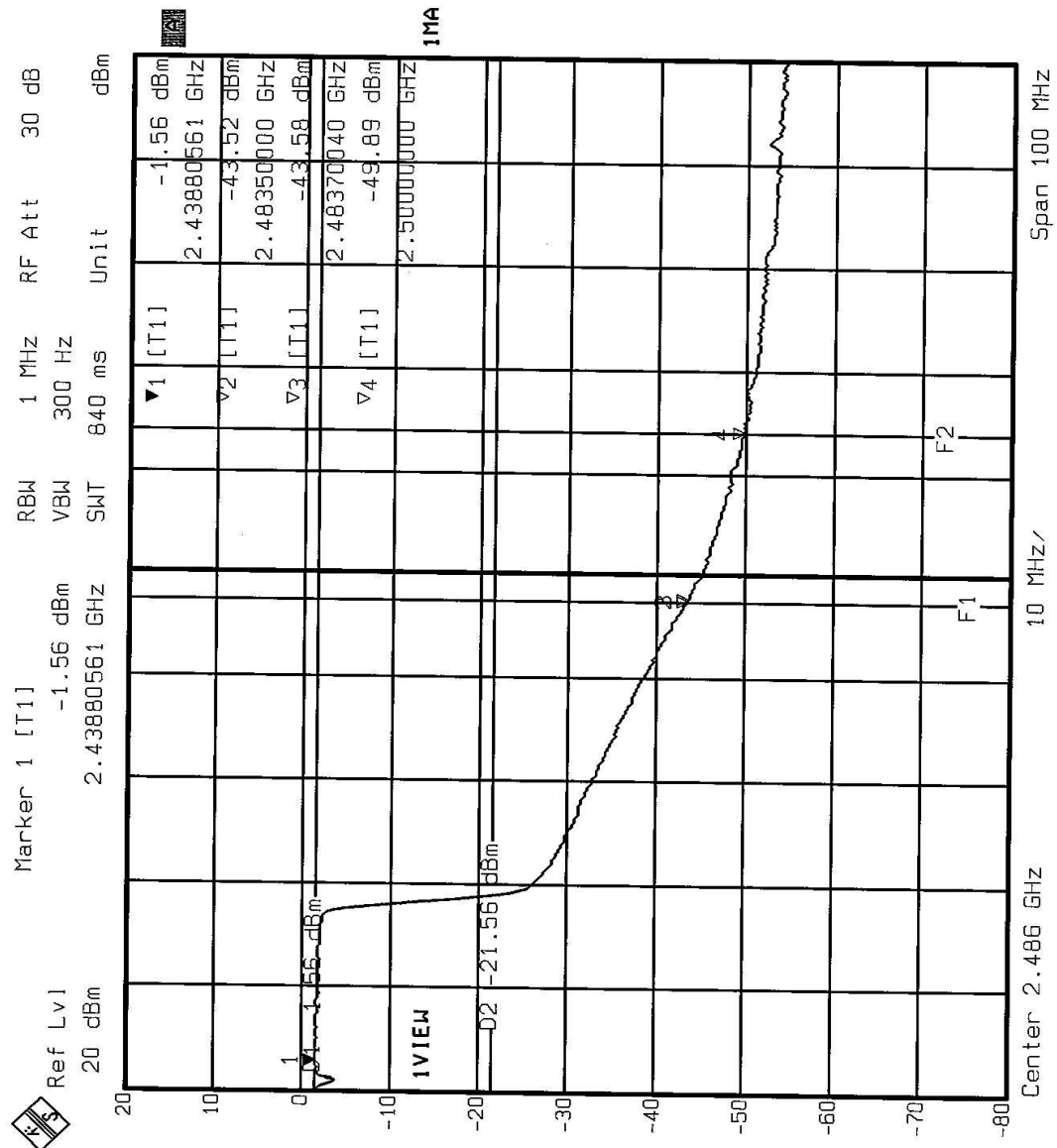














## **4.7 ANTENNA REQUIREMENT**

### **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.

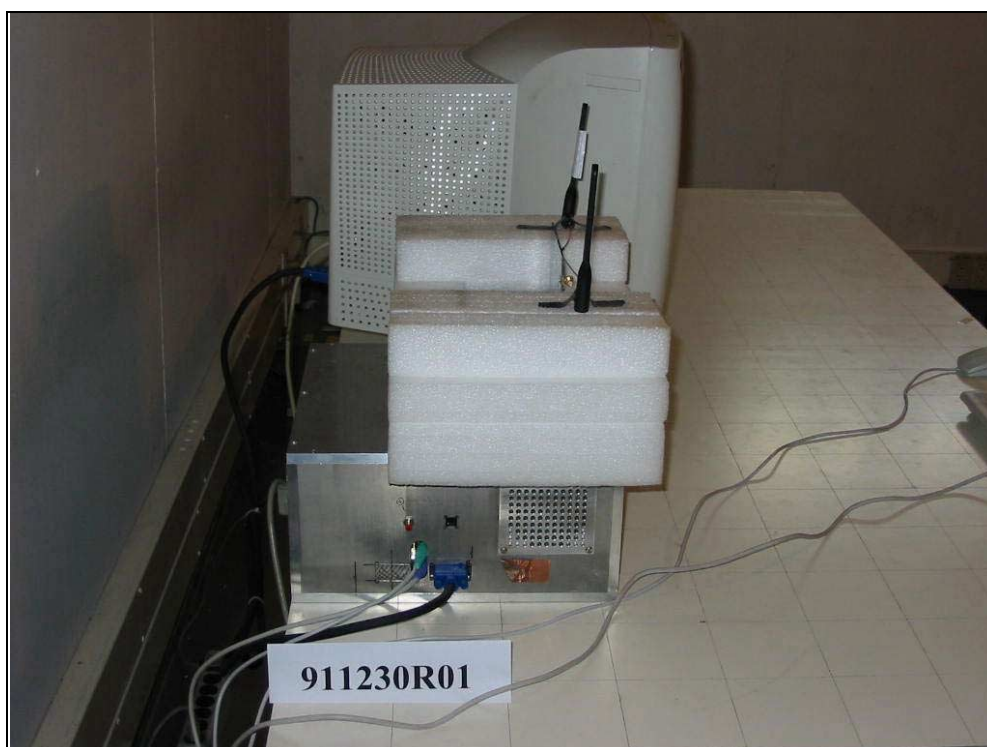
And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **4.7.2 ANTENNA CONNECTED CONSTRUCTION**

The antenna types used in this product are Inverted F and Dipole with internal connector type MMCX or external connector Reversed SMA, please also refer to section 3.1. The maximum Gain of this antenna is 5dBi.

## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

### CONDUCTED EMISSION TEST





## RADIATED EMISSION TEST







## 6 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      |
| <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).

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

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Fax: 886-2-26052943

**Hsin Chu EMC Lab:**

Tel: 886-35-935343

Fax: 886-35-935342

**Lin Kou Safety Lab:**

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Fax: 886-2-26093184

**Lin Kou RF&Telecom 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.