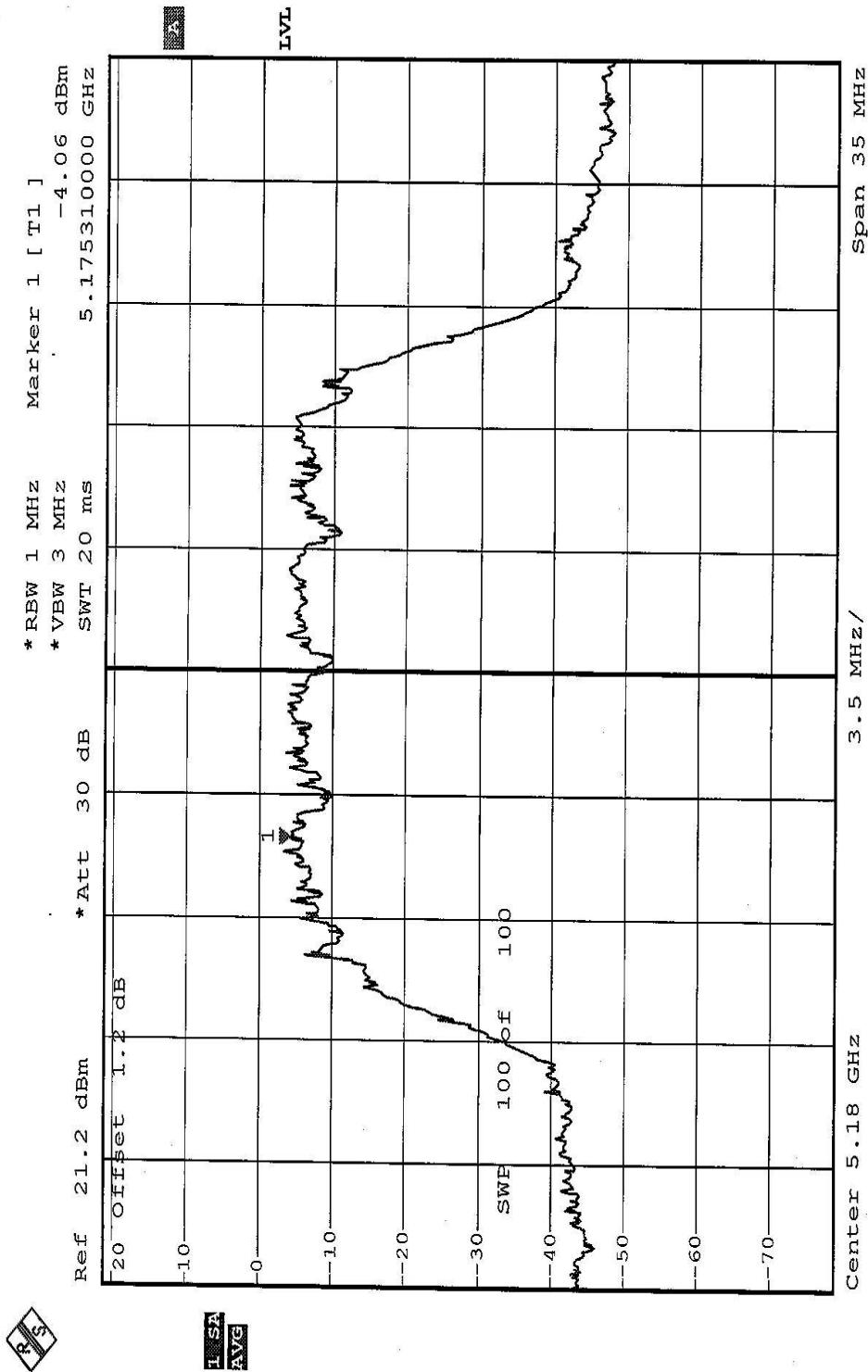




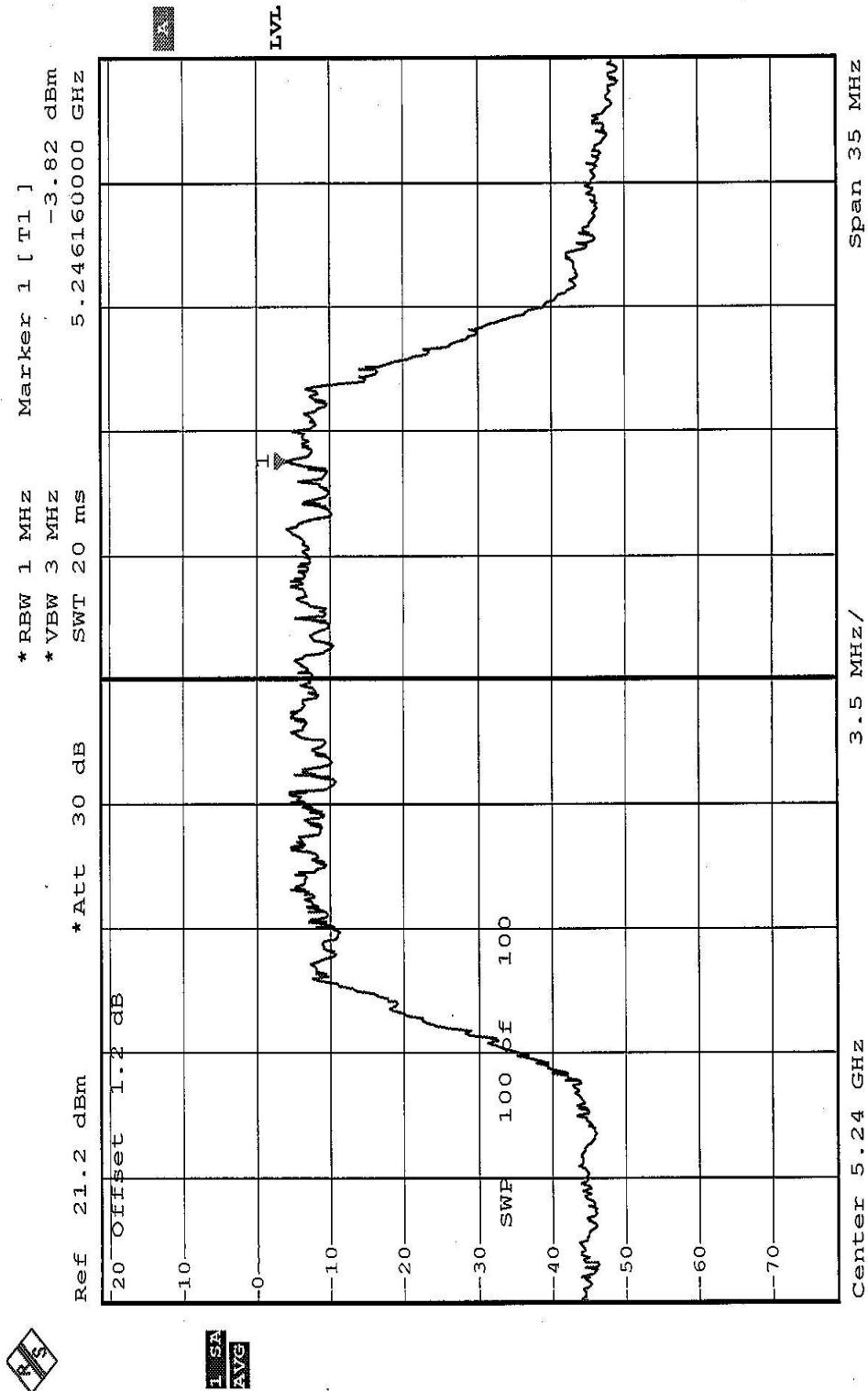
CHANNEL 1



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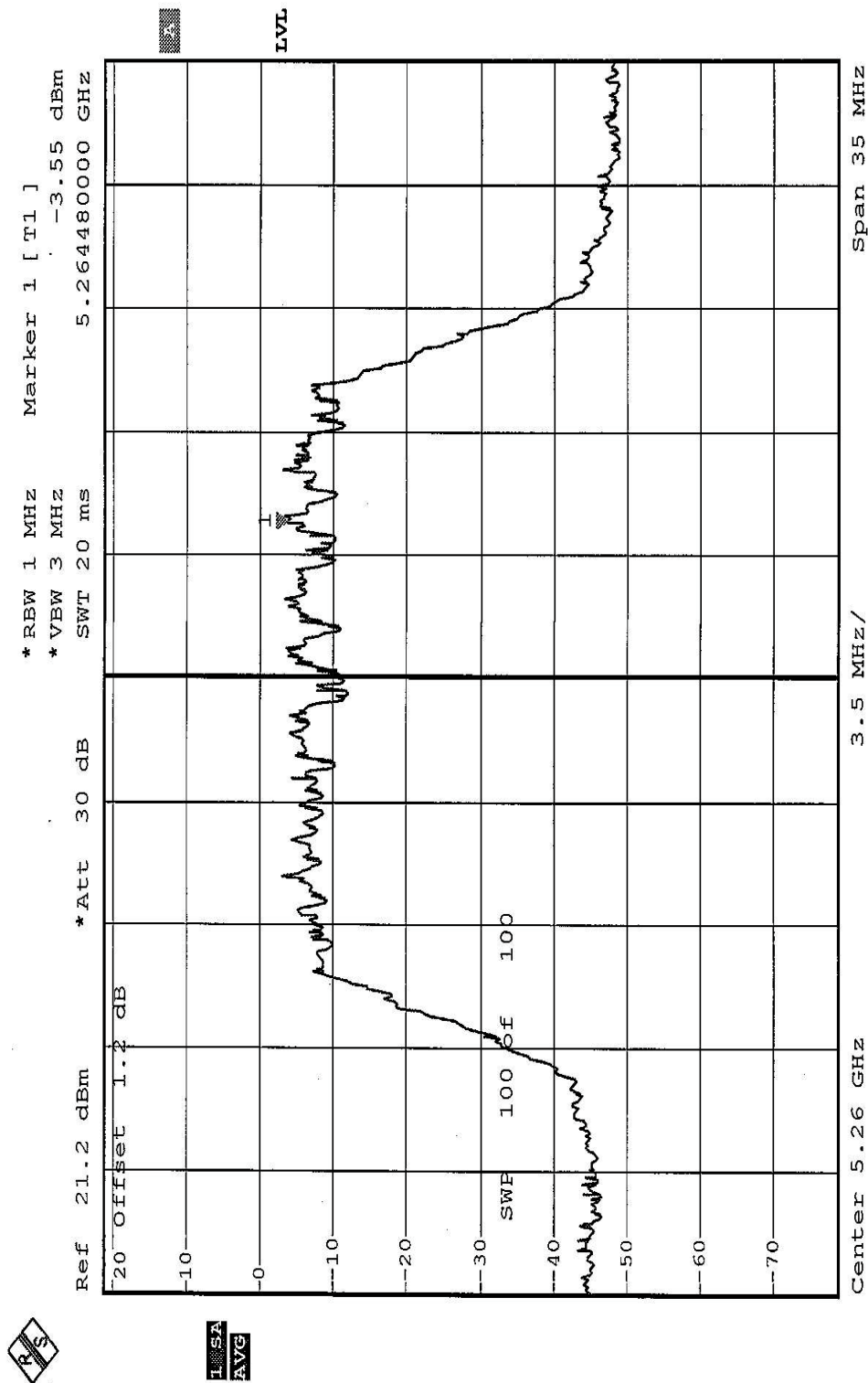
## CHANNEL 4



Date: 27.SEP.2003 14:15:09



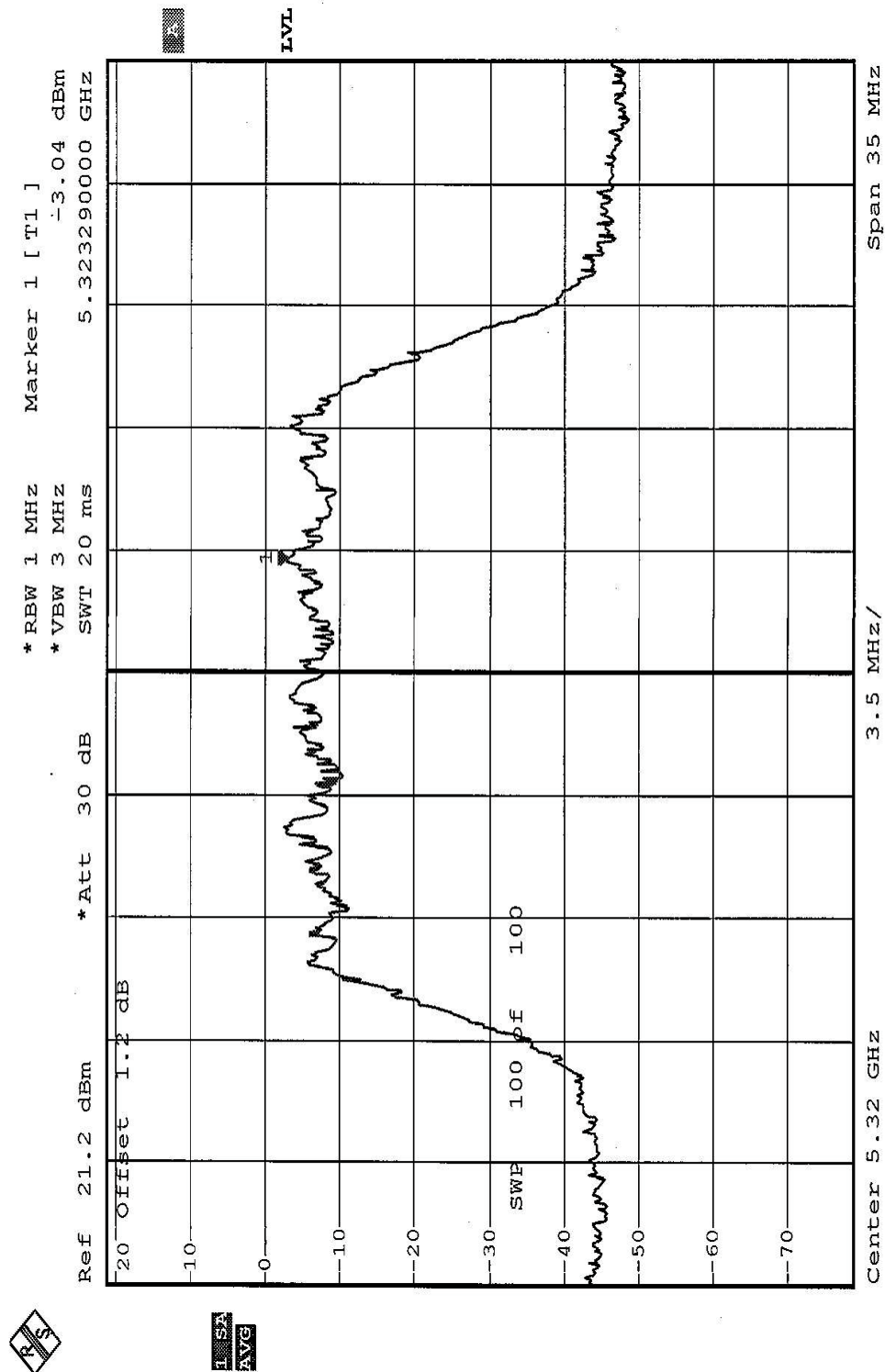
CHANNEL 5



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## CHANNEL 8



Date: 27.SEP.2003 14:19:05



## 5.6 FREQUENCY STABILITY

### 5.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within  $\pm 0.02\%$  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	April 10, 2004
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	Jun. 24, 2004

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

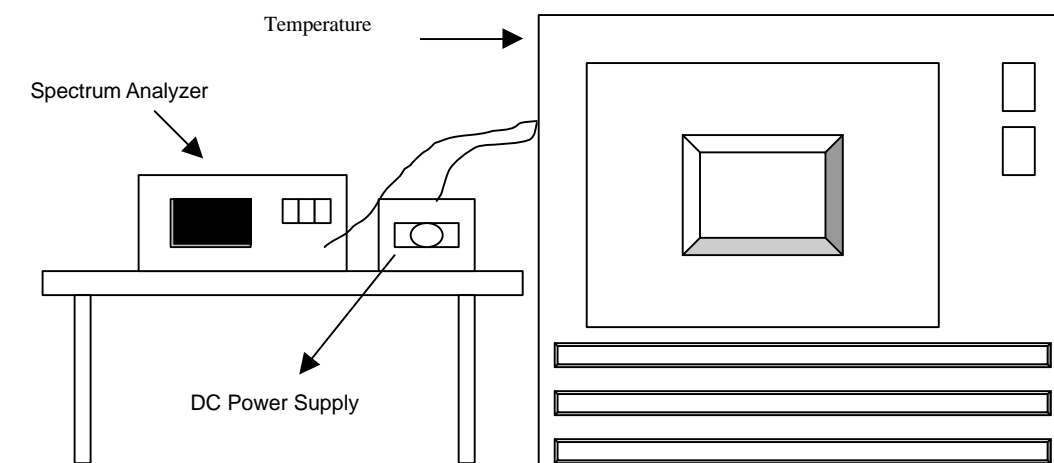
### 5.6.3 TEST PROCEDURE

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: 5320MHz				Limit : $\pm 0.02\%$			
Temp. ( )	Power supply (VDC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5319.9808	-0.0003609	5319.9812	-0.0003534	5319.9824	-0.0003308
	110.0	5319.9804	-0.0003684	5319.9812	-0.0003534	5319.9824	-0.0003308
	93.5	5319.9808	-0.0003609	5319.9816	-0.0003459	5319.9832	-0.0003158
40	126.5	5319.9632	-0.0006917	5319.9632	-0.0006917	5319.9632	-0.0006917
	110.0	5319.9636	-0.0006842	5319.9640	-0.0006767	5319.9640	-0.0006767
	93.5	5319.9632	-0.0006917	5319.9632	-0.0006917	5319.9636	-0.0006842
30	126.5	5319.9644	-0.0006692	5319.9640	-0.0006767	5319.9640	-0.0006767
	110.0	5319.9648	-0.0006617	5319.9644	-0.0006692	5319.9644	-0.0006692
	93.5	5319.9648	-0.0006617	5319.9640	-0.0006767	5319.9640	-0.0006767
20	126.5	5319.9652	-0.0006541	5319.9656	-0.0006466	5319.9652	-0.0006541
	110.0	5319.9652	-0.0006541	5319.9656	-0.0006466	5319.9652	-0.0006541
	93.5	5319.9656	-0.0006466	5319.9652	-0.0006541	5319.9652	-0.0006541
10	126.5	5319.9704	-0.0005564	5319.9708	-0.0005489	5319.9712	-0.0005414
	110.0	5319.9704	-0.0005564	5319.9712	-0.0005414	5319.9708	-0.0005489
	93.5	5319.9708	-0.0005489	5319.9708	-0.0005489	5319.9712	-0.0005414
0	126.5	5319.9788	-0.0003985	5319.9796	-0.0003835	5319.9796	-0.0003835
	110.0	5319.9788	-0.0003985	5319.9792	-0.0003910	5319.9796	-0.0003835
	93.5	5319.9800	-0.0003759	5319.9796	-0.0003835	5319.9796	-0.0003835
-10	126.5	5319.9888	-0.0002105	5319.9892	-0.0002030	5319.9900	-0.0001880
	110.0	5319.9888	-0.0002105	5319.9892	-0.0002030	5319.9900	-0.0001880
	93.5	5319.9892	-0.0002030	5319.9892	-0.0002030	5319.9896	-0.0001955
-20	126.5	5320.0000	0.0000000	5320.0004	0.0000075	5320.0080	0.0001504
	110.0	5320.0000	0.0000000	5320.0000	0.0000000	5320.0040	0.0000752
	93.5	5320.0004	0.0000075	5320.0004	0.0000075	5320.0080	0.0001504
-30	126.5	5320.0108	0.0002030	5320.0112	0.0002105	5320.0112	0.0002105
	110.0	5320.0108	0.0002030	5320.0112	0.0002105	5320.0112	0.0002105
	93.5	5320.0112	0.0002105	5320.0112	0.0002105	5320.0112	0.0002105

## 5.7 BAND EDGES MEASUREMENT

### 5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

**NOTE:** 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 loss 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

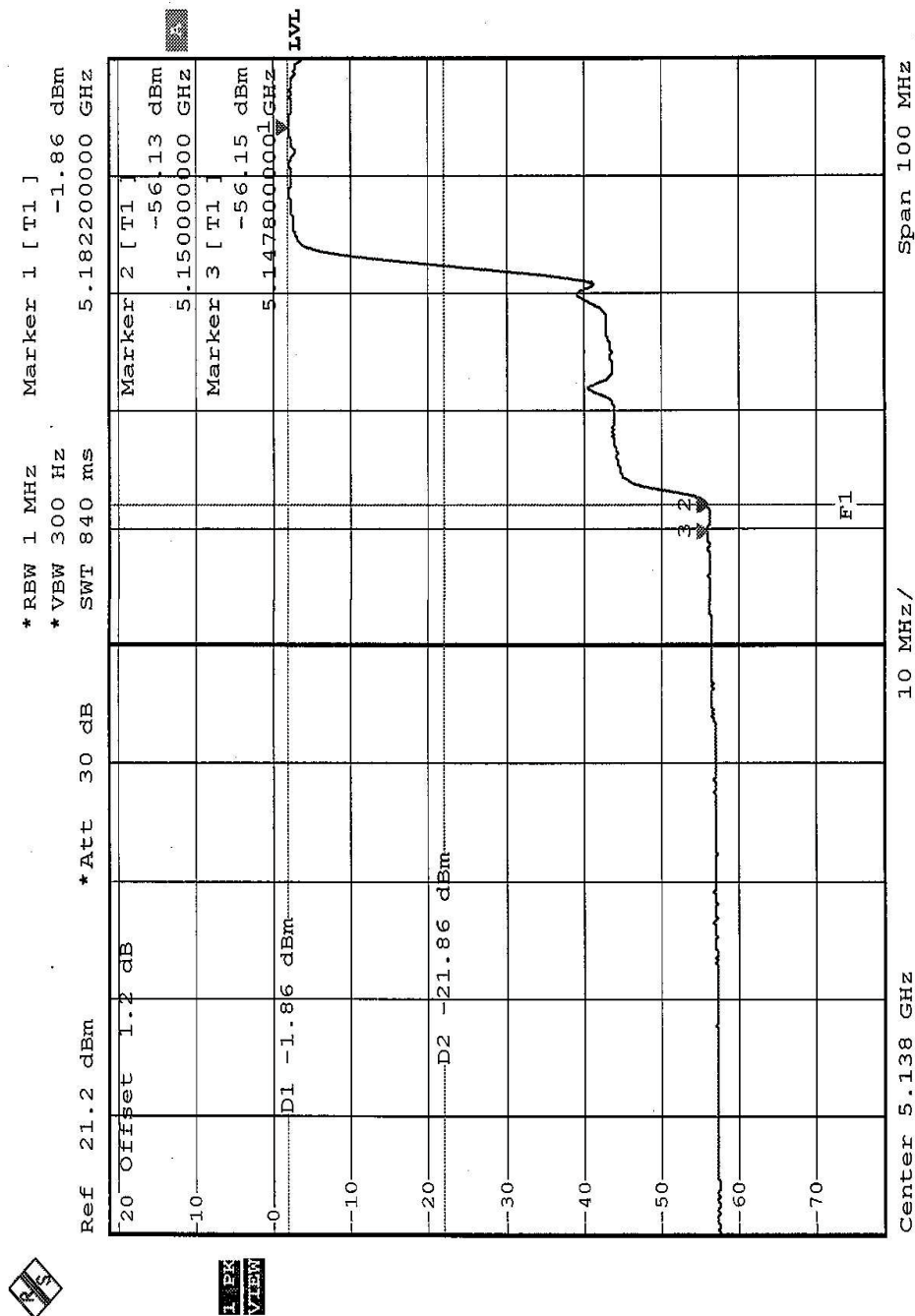
For signals in the restricted bands above and below the 5.15 to 5.35GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal 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 4 pages.

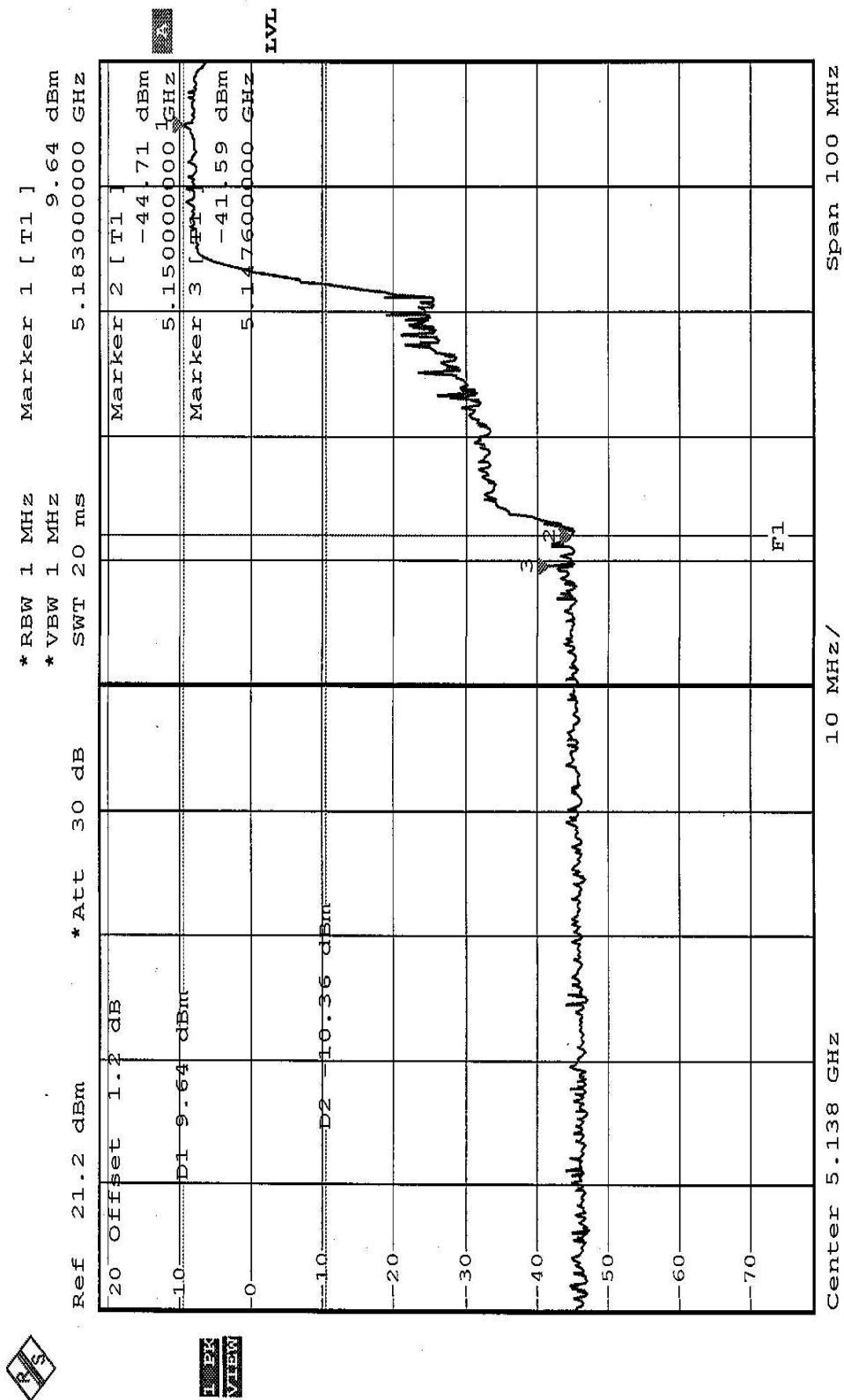


## Channel 1 (5180 MHz)

The band edge emission plot of OFDM technique on the following page shows 54.27dB delta between carrier maximum power and local maximum emission in restrict band (5.1500GHz). The emission of carrier strength list in the test result of channel 1 at the item 5.2.8 is 85.1dBuV/m, so the maximum field strength in restrict band is  $85.1 - 54.27 = 30.83$  dBuV/m which is under 54dBuV/m limit.



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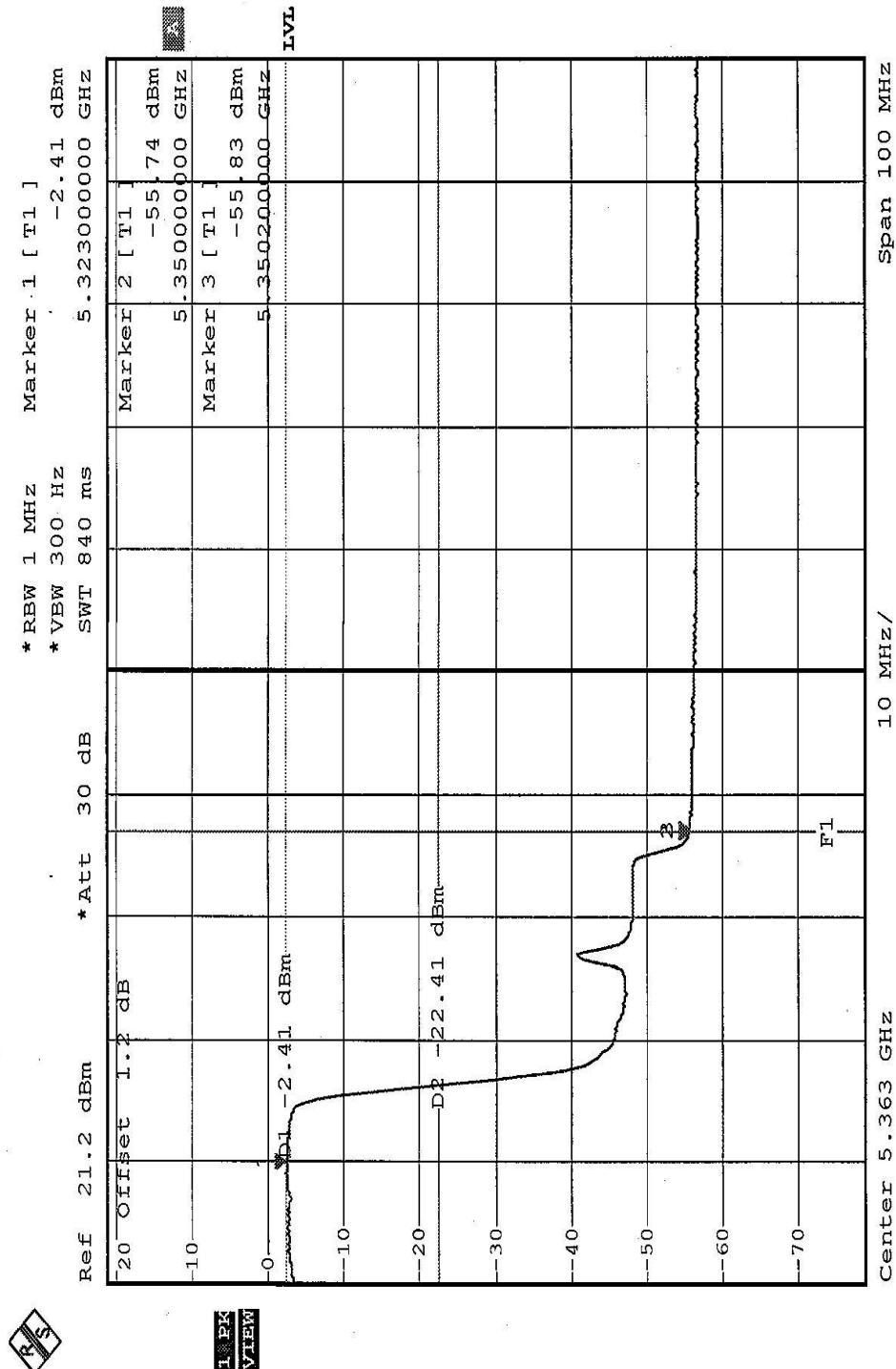


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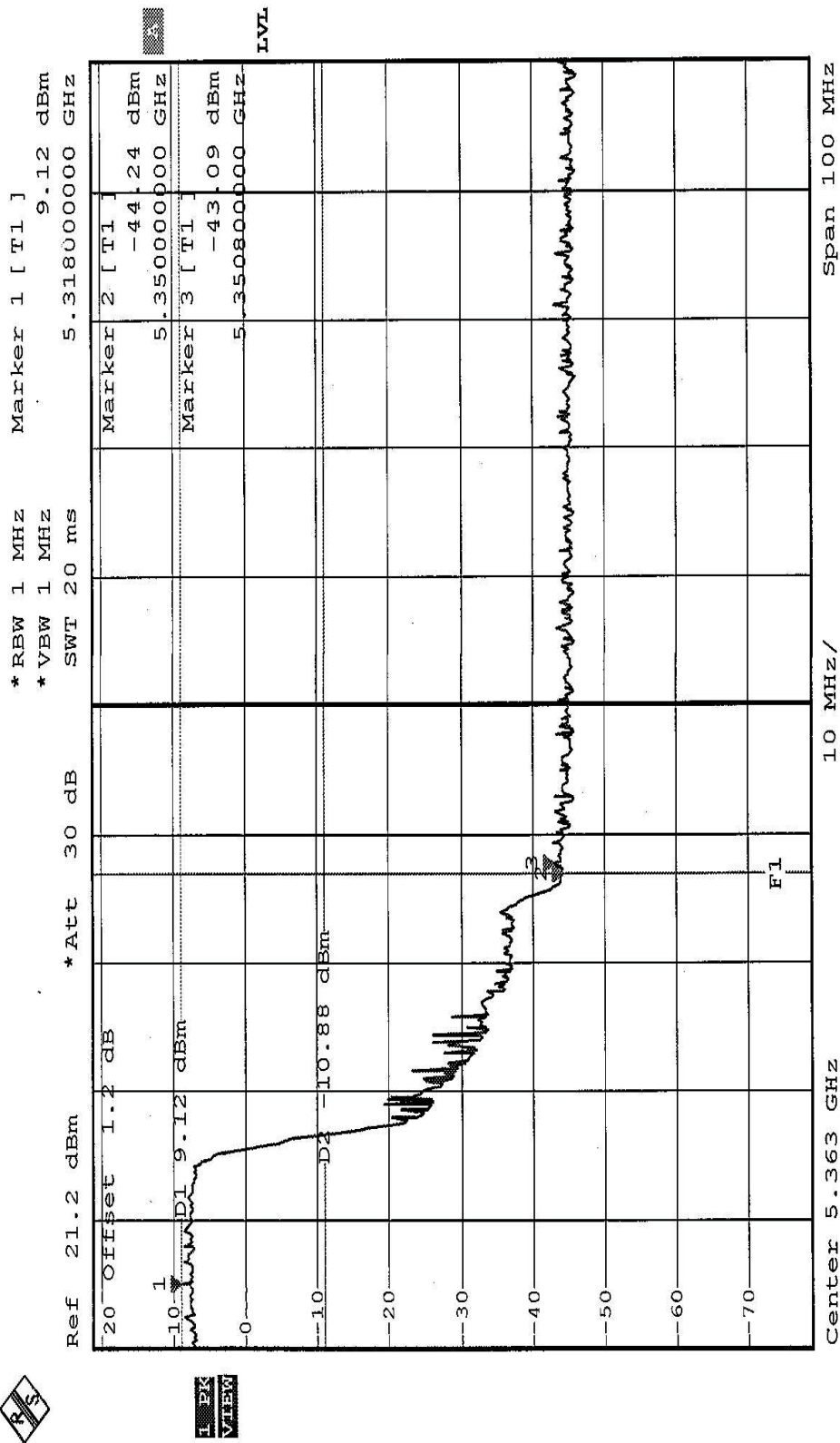


## Channel 8 (5320 MHz)

The band edge emission plot of OFDM technique on the following page shows 53.33dB delta between carrier maximum power and local maximum emission in restrict band (5.3500GHz). The emission of carrier strength list in the test result of channel 1 at the item 5.2.8 is 85.7dBuV/m, so the maximum field strength in restrict band is  $85.7 - 53.33 = 32.37$  dBuV/m which is under 54dBuV/m limit.



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## **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 PIFA antenna with UFL connector. The maximum Gain of the antenna is 1.31dBi.

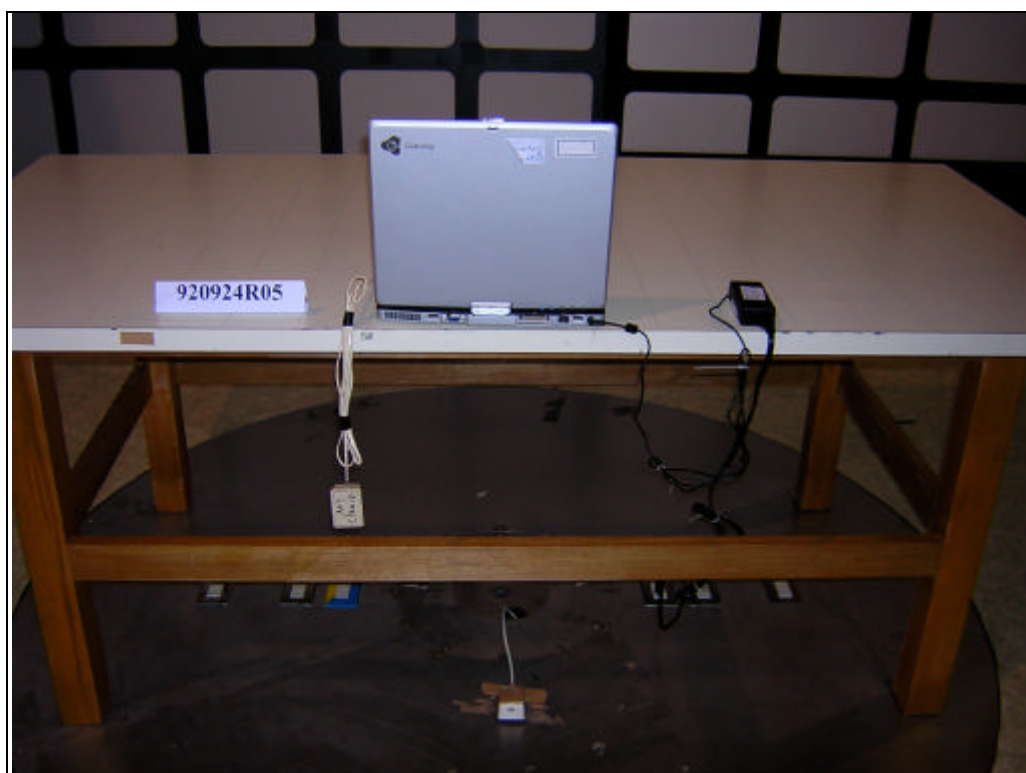
## 6. PHOTOGRAPHS OF THE TEST CONFIGURATION

### 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).

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

**Lin Kou EMC Lab:**

Tel: 886-2-26052180

Fax: 886-2-26052943

**Hsin Chu EMC Lab:**

Tel: 886-35-935343

Fax: 886-35-935342

**Lin Kou Safety Lab:**

Tel: 886-2-26093195

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.