



5.6.7 TEST RESULTS

Operating frequency: 5320MHz				Limit : ± 0.02%			
Temp. ( )	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5320.0167	0.000314%	5320.0167	0.000314%	5320.0168	0.000316%
	110.0	5320.0168	0.000316%	5320.0169	0.000318%	5320.0168	0.000316%
	93.5	5320.0166	0.000312%	5320.017	0.000320%	5320.0168	0.000316%
40	126.5	5319.9974	-0.000049%	5319.9979	-0.000039%	5319.9978	-0.000041%
	110.0	5319.9976	-0.000045%	5319.9977	-0.000043%	5319.9979	-0.000039%
	93.5	5319.9975	-0.000047%	5319.9978	-0.000041%	5319.9978	-0.000041%
30	126.5	5319.9932	-0.000128%	5319.9935	-0.000122%	5319.9934	-0.000124%
	110.0	5319.9932	-0.000128%	5319.9934	-0.000124%	5319.9936	-0.000120%
	93.5	5319.9932	-0.000128%	5319.9936	-0.000120%	5319.9937	-0.000118%
20	126.5	5319.9955	-0.000085%	5319.9955	-0.000085%	5319.9955	-0.000085%
	110.0	5319.9952	-0.000090%	5319.9953	-0.000088%	5319.9953	-0.000088%
	93.5	5319.9955	-0.000085%	5319.9956	-0.000083%	5319.9954	-0.000086%
10	126.5	5319.9934	-0.000124%	5319.9936	-0.000120%	5319.9938	-0.000117%
	110.0	5319.9932	-0.000128%	5319.9935	-0.000122%	5319.9938	-0.000117%
	93.5	5319.9935	-0.000122%	5319.9935	-0.000122%	5319.9937	-0.000118%
0	126.5	5319.9945	-0.000103%	5319.9945	-0.000103%	5319.9946	-0.000102%
	110.0	5319.9944	-0.000105%	5319.9946	-0.000102%	5319.9947	-0.000100%
	93.5	5319.9944	-0.000105%	5319.9944	-0.000105%	5319.9947	-0.000100%
-10	126.5	5320.0039	0.000073%	5320.0041	0.000077%	5320.0043	0.000081%
	110.0	5320.004	0.000075%	5320.0042	0.000079%	5320.0043	0.000081%
	93.5	5320.0041	0.000077%	5320.0042	0.000079%	5320.0043	0.000081%
-20	126.5	5320.0185	0.000348%	5320.0184	0.000346%	5320.0186	0.000350%
	110.0	5320.0184	0.000346%	5320.0185	0.000348%	5320.0186	0.000350%
	93.5	5320.0185	0.000348%	5320.0186	0.000350%	5320.0186	0.000350%
-30	126.5	5320.019	0.000357%	5320.0210	0.000395%	5320.0220	0.000414%
	110.0	5320.02	0.000376%	5320.0220	0.000414%	5320.0210	0.000395%
	93.5	5320.019	0.000357%	5320.0220	0.000414%	5320.0220	0.000414%



## 5.7 BAND EDGES MEASUREMENT

### 5.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP	1093.4495.30	Dec. 19, 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 RBW of spectrum analyzer to 1MHz and VBW of spectrum analyzer to 300Hz 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

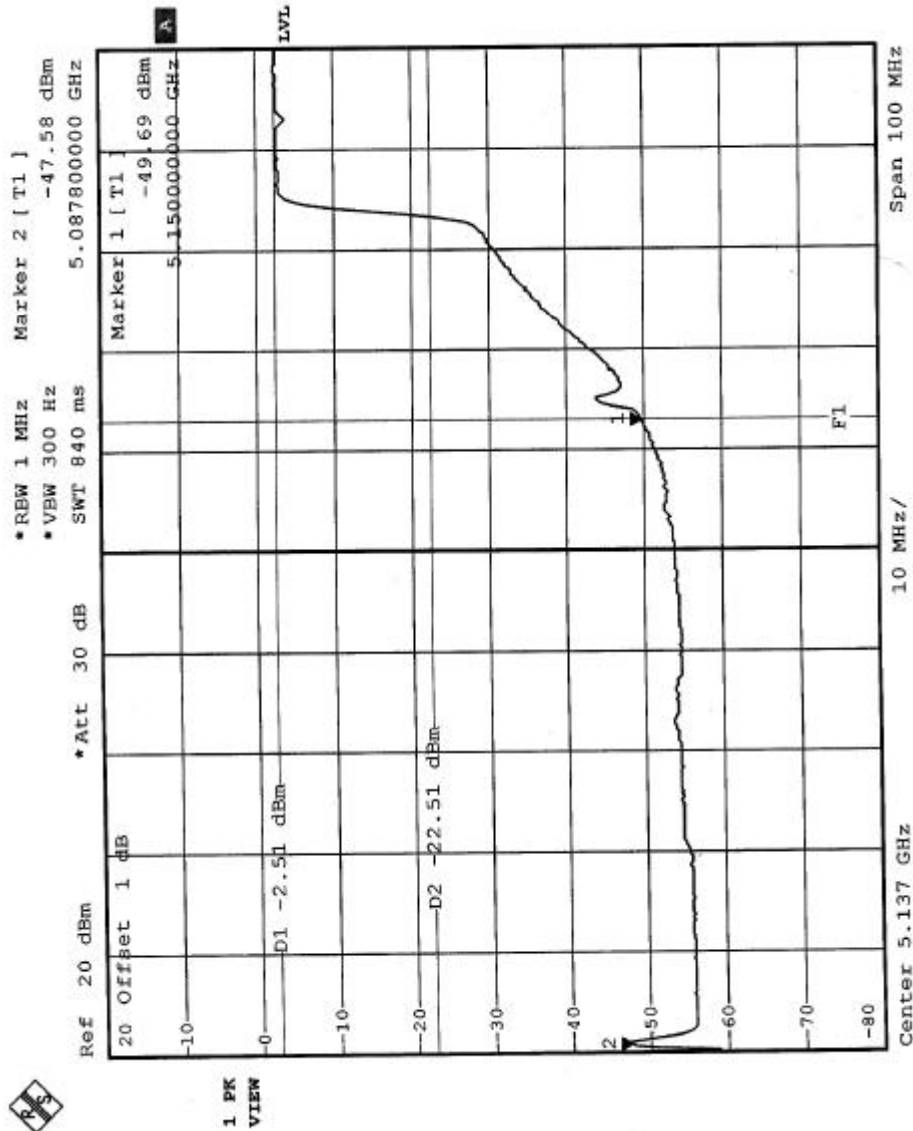
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal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

The spectrum plots (Average RBW=1MHz, VBW=300Hz) are attached on the following 4 pages.



Normal Mode: Channel 1 (5180 MHz)

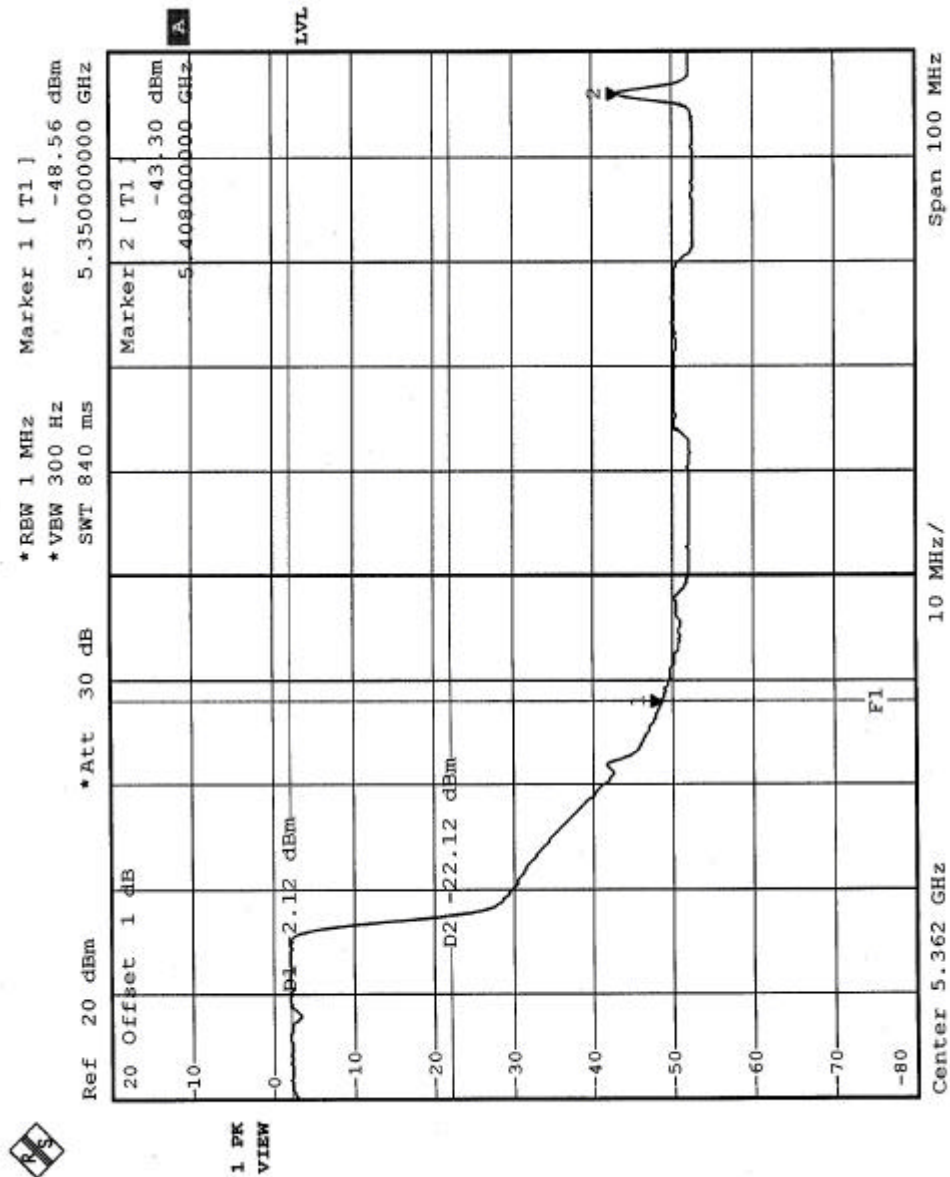
The band edge emission plot on the following page shows 45.07dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (normal mode) is 95.7dBuV/m, so the maximum field strength in restrict band is  $95.7 - 45.07 = 50.63$ dBuV/m which is under 54dBuV/m limit.





Normal Mode: Channel 8 (5320 MHz)

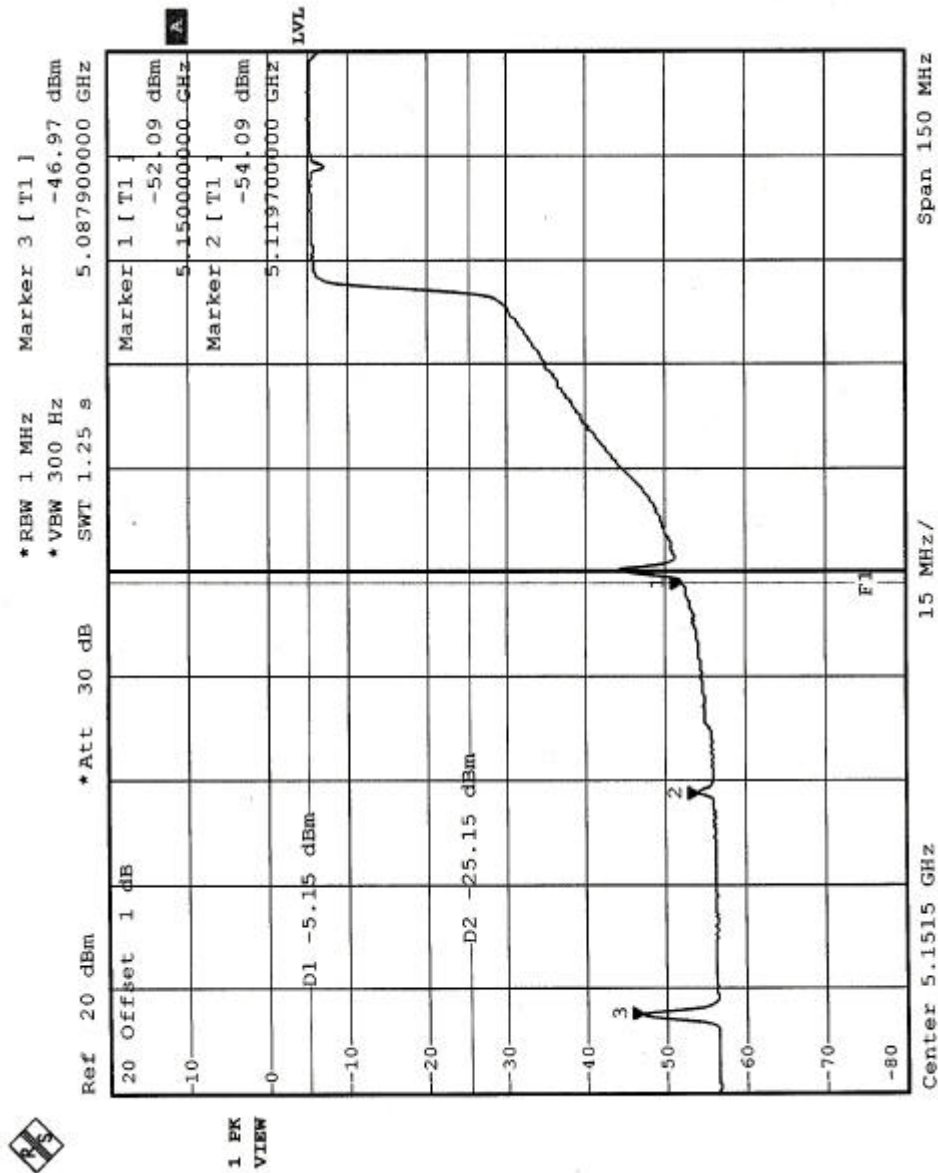
The band edge emission plot on the following page shows 41.18dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 94.0dBuV/m, so the maximum field strength in restrict band is  $94.0 - 41.18 = 52.82$  dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 1 (5210 MHz)

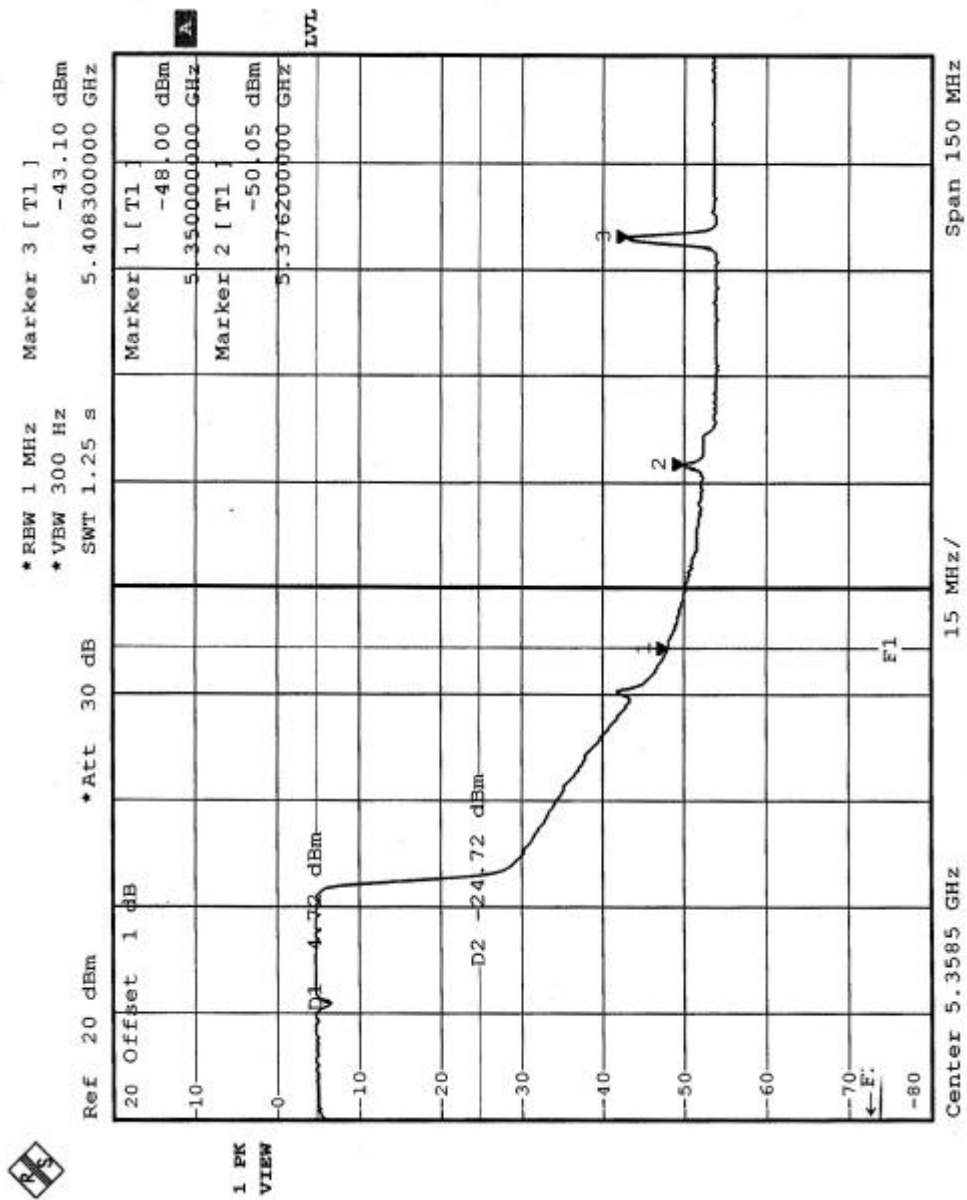
The band edge emission plot on the following page shows 41.82dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (turbo mode) is 92.2dBuV/m, so the maximum field strength in restrict band is  $92.2 - 41.82 = 50.38$ dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following page shows 38.38dBc (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 (turbo mode) is 91.2dBuV/m, so the maximum field strength in restrict band is  $91.2 - 38.38 = 52.82$  dBuV/m which is under 54dBuV/m limit.



**FOR FREQUENCY 5.725~5.850GHz****5.8 6DB BANDWIDTH MEASUREMENT****5.8.1 LIMITS OF 6DB BANDWIDTH MEASUREMENT**

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

**5.8.2 TEST INSTRUMENTS**

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP	1093.4495.30	Dec. 19, 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.



### 5.8.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 kHz RBW and 100 kHz VBW. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

### 5.8.4 DEVIATION FROM TEST STANDARD

No deviation

### 5.8.5 TEST SETUP



### 5.8.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



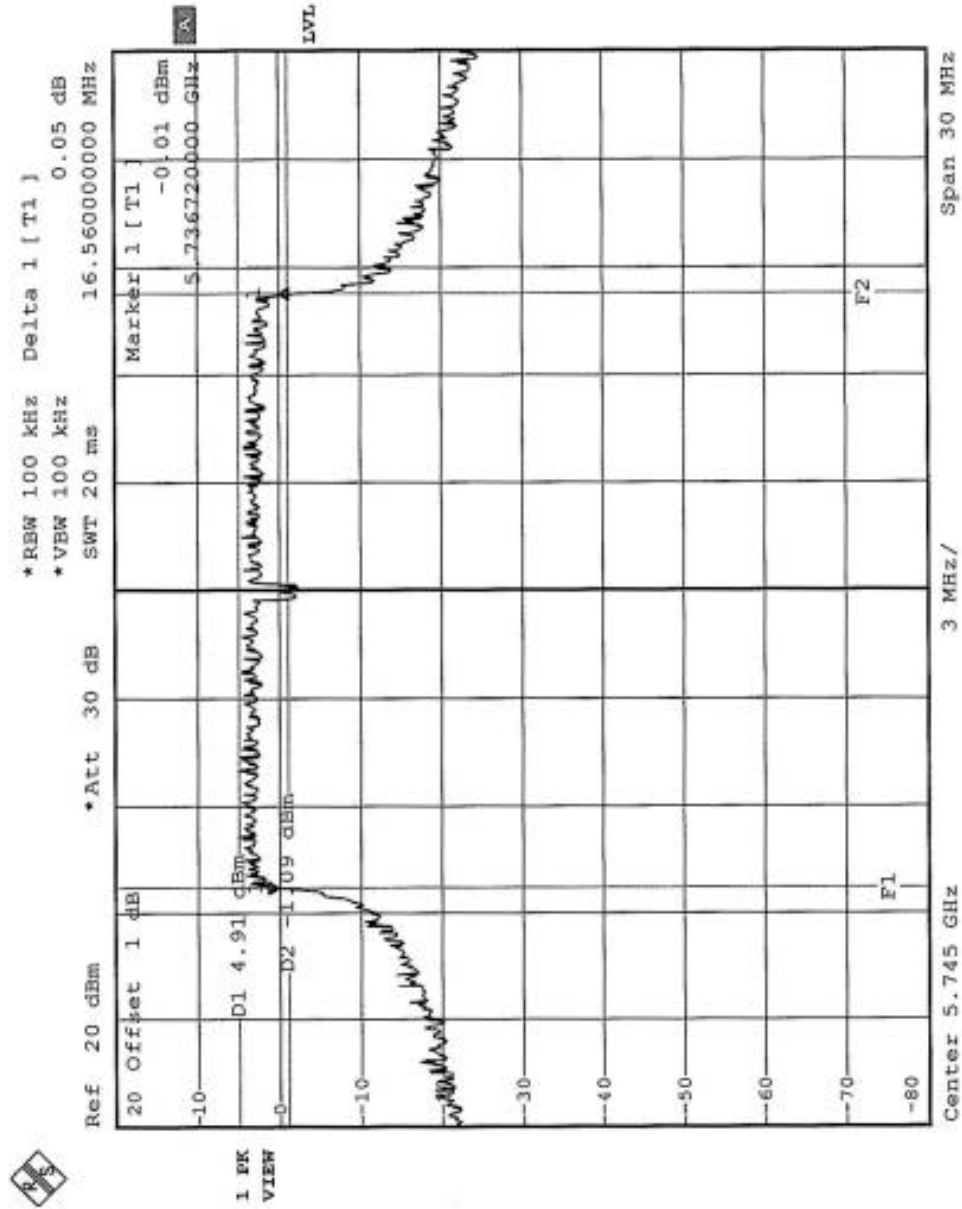
## 5.8.7 TEST RESULTS

<b>EUT</b>	EliteConnect Universal 2.4GHz/5GHz Wireless Access Point	<b>MODEL</b>	SMC2555W-AG
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 57%RH, 974 hPa
<b>TEST MODE</b>	Normal	<b>TEST BY</b>	Hank Chung

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6 dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
9	5745	16.56	0.5	PASS
11	5785	16.56	0.5	PASS
13	5825	16.56	0.5	PASS

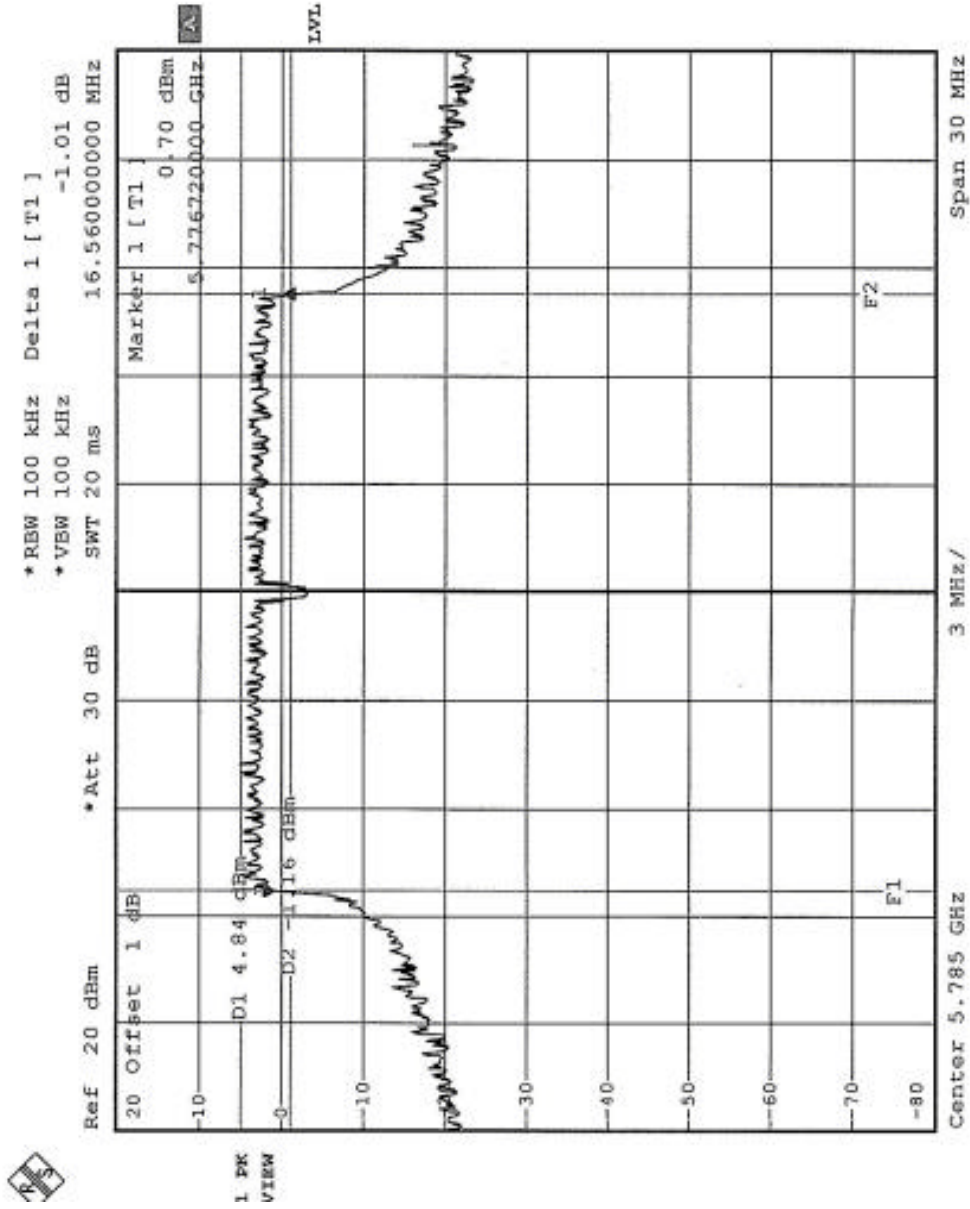


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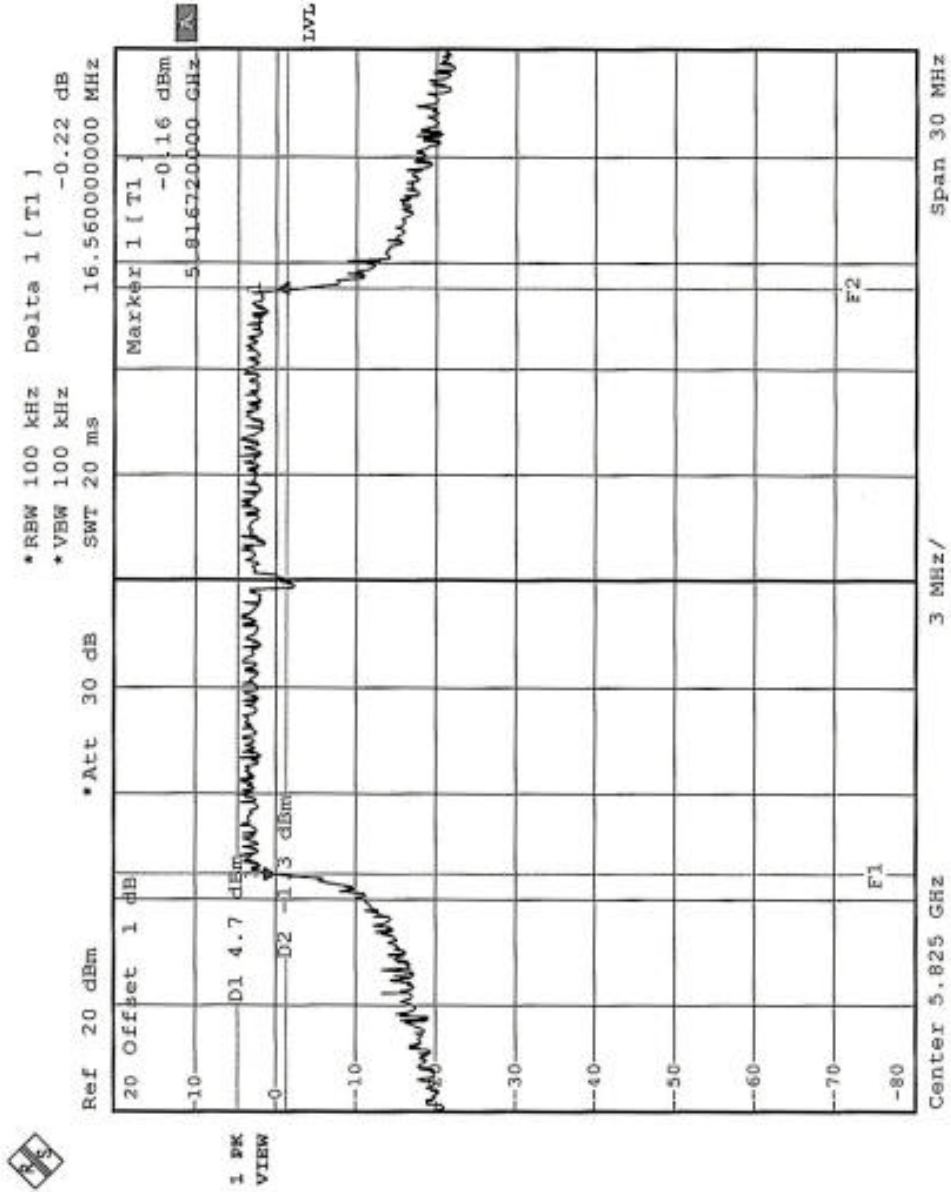


CH11





CH13



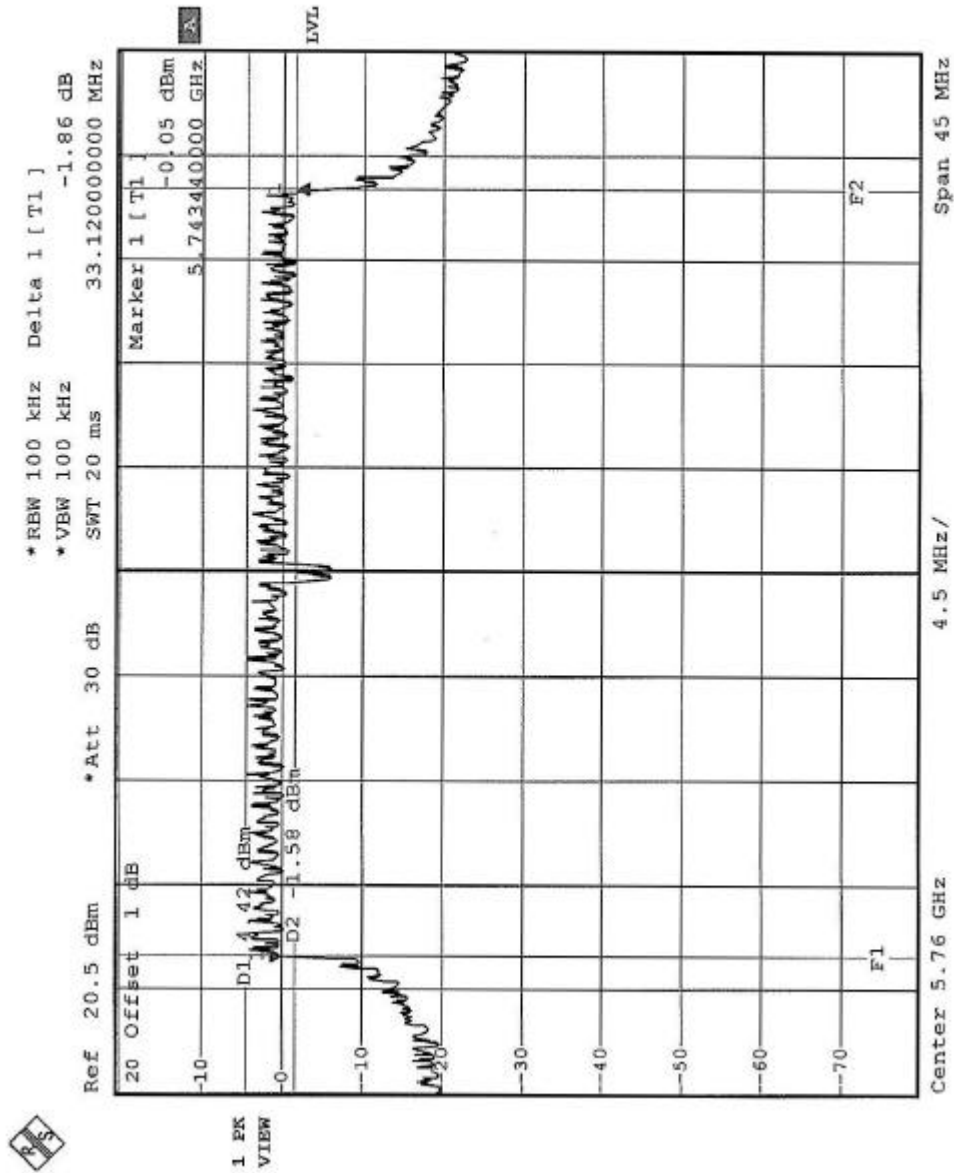


<b>EUT</b>	EliteConnect Universal 2.4GHz/5GHz Wireless Access Point	<b>MODEL</b>	SMC2555W-AG
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	27deg.C, 56%RH, 974 hPa
<b>TEST MODE</b>	Turbo	<b>TEST BY</b>	Hank Chung

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6 dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
4	5760	33.12	0.5	PASS
5	5800	32.94	0.5	PASS

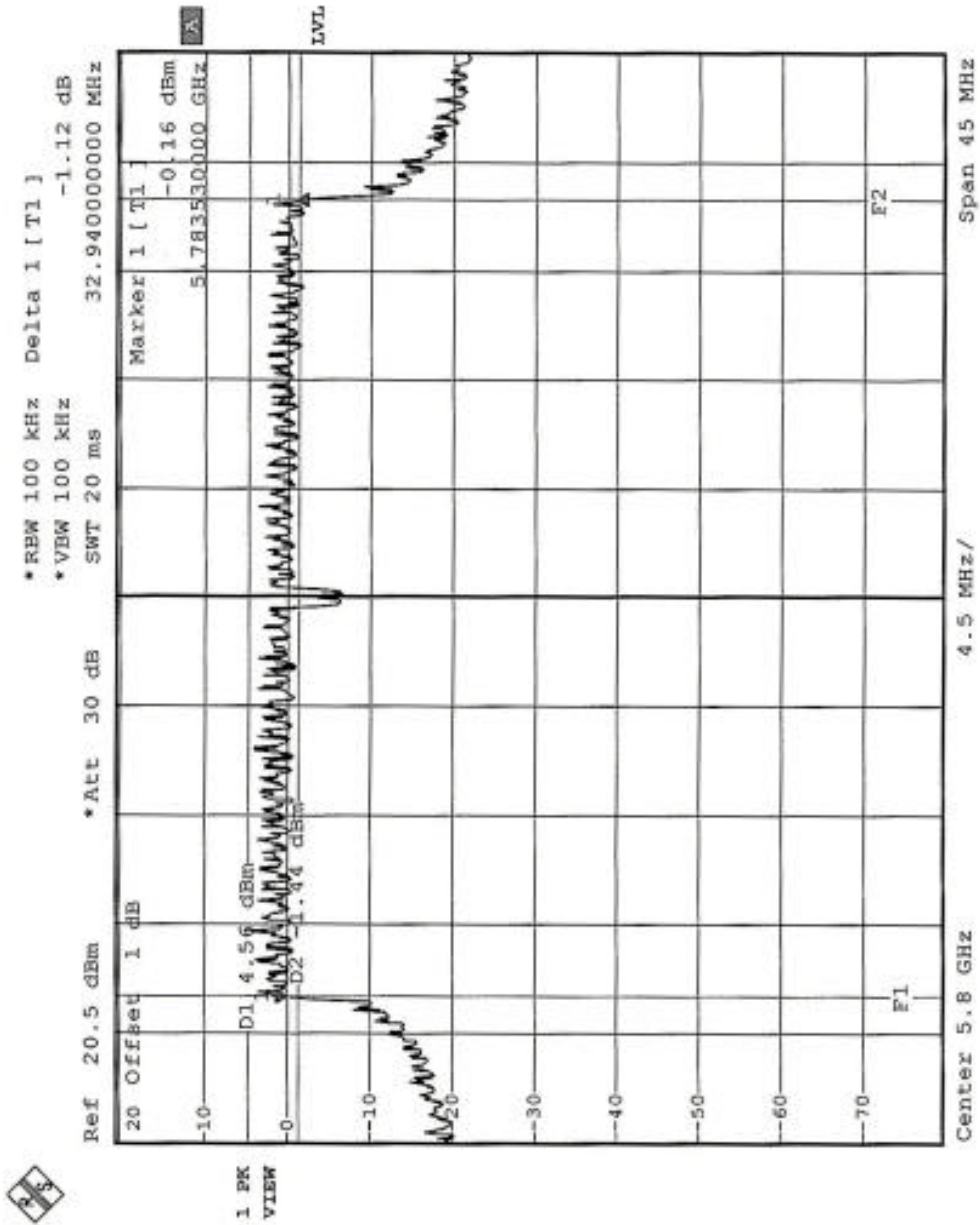


CH4





CH5







## 5.9 MAXIMUM PEAK OUTPUT POWER

### 5.9.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

### 5.9.2 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP30	100019	Dec. 19, 2003
R&S SIGNAL GENERATOR	SMP04	100011	May 28, 2004
TEKTRONIX OSCILLOSCOPE	TDS 220	B048470	Mar. 05, 2004
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.



### 5.9.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the peak 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 peak reading on oscilloscope. Record the power level.

### 5.9.4 TEST SETUP



### 5.9.5 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



5.9.6 TEST RESULTS

<b>EUT</b>	EliteConnect Universal 2.4GHz/5GHz Wireless Access Point	<b>MODEL</b>	SMC2555W-AG
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	24deg.C, 64%RH, 974 hPa
<b>TEST MODE</b>	Normal	<b>TEST BY</b>	Hank Chung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
9	5745	20.08	30	PASS
11	5785	20.4	30	PASS
13	5825	21.0	30	PASS

<b>EUT</b>	EliteConnect Universal 2.4GHz/5GHz Wireless Access Point	<b>MODEL</b>	SMC2555W-AG
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	24deg.C, 64%RH, 974 hPa
<b>TEST MODE</b>	Turbo	<b>TEST BY</b>	Hank Chung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
4	5760	20.3	30	PASS
5	5800	20.1	30	PASS



### 5.9.7 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

### 5.9.8 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP	1093.4495.30	Dec. 19, 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.

### 5.9.9 TEST PROCEDURE

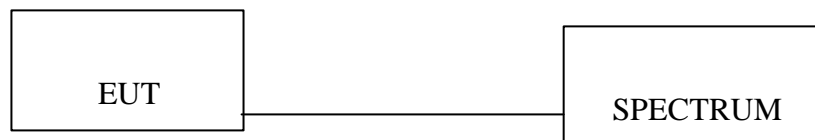
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time = span/3 kHz. The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span/3 kHz for a full response of the mixer in the spectrum analyzer.

### 5.9.10 DEVIATION FROM TEST STANDARD

No deviation

### 5.9.11 TEST SETUP



### 5.9.12 EUT OPERATING CONDITION

Same as Item 4.3.6



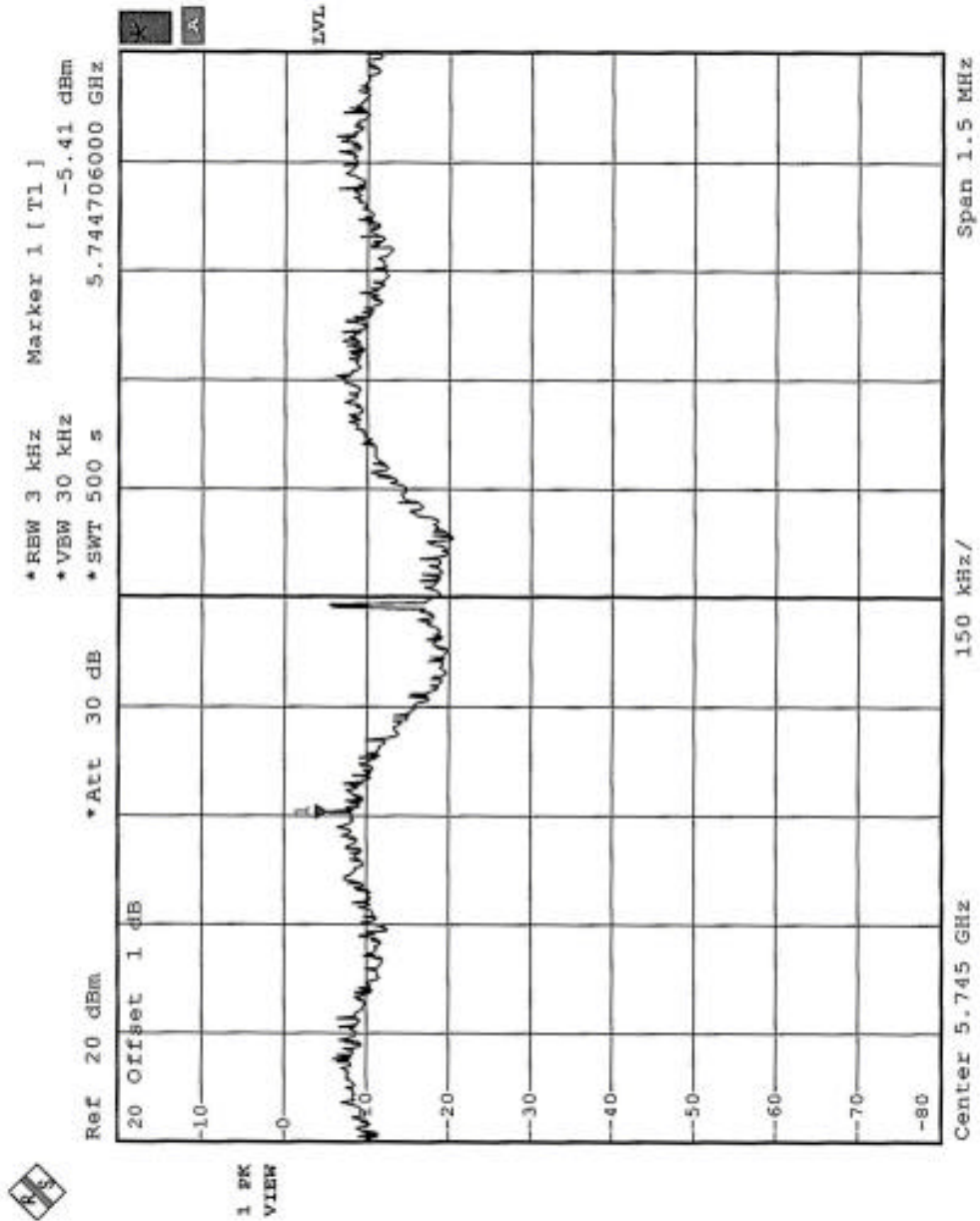
## 5.9.13 TEST RESULTS

<b>EUT</b>	EliteConnect Universal 2.4GHz/5GHz Wireless Access Point	<b>MODEL</b>	SMC2555W-AG
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	57deg. C, 56%RH, 974 hPa
<b>TEST MODE</b>	Normal	<b>TEST BY</b>	Hank Chung

<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 kHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
9	5745	-5.41	8	PASS
11	5785	-6.28	8	PASS
13	5825	-6.10	8	PASS

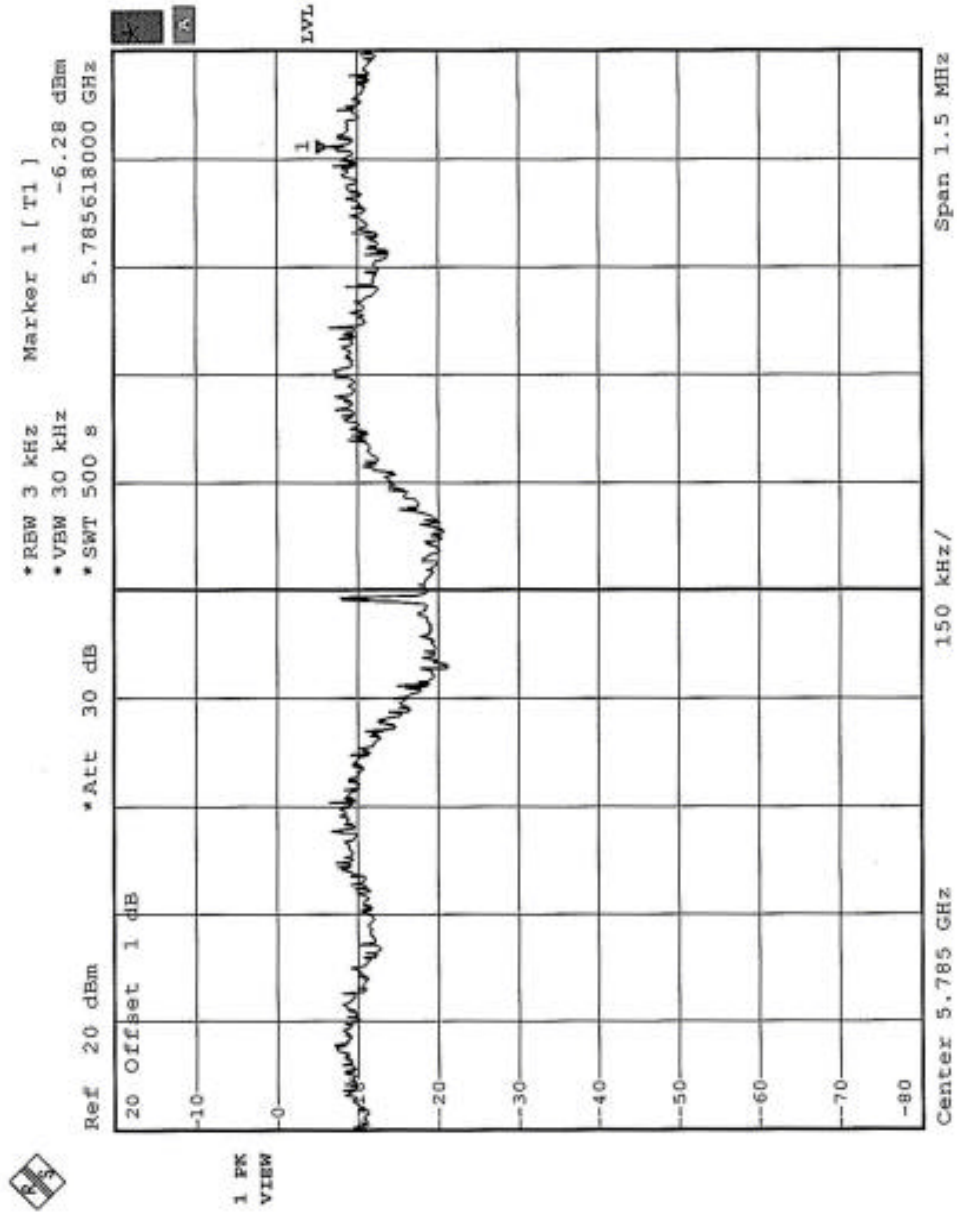


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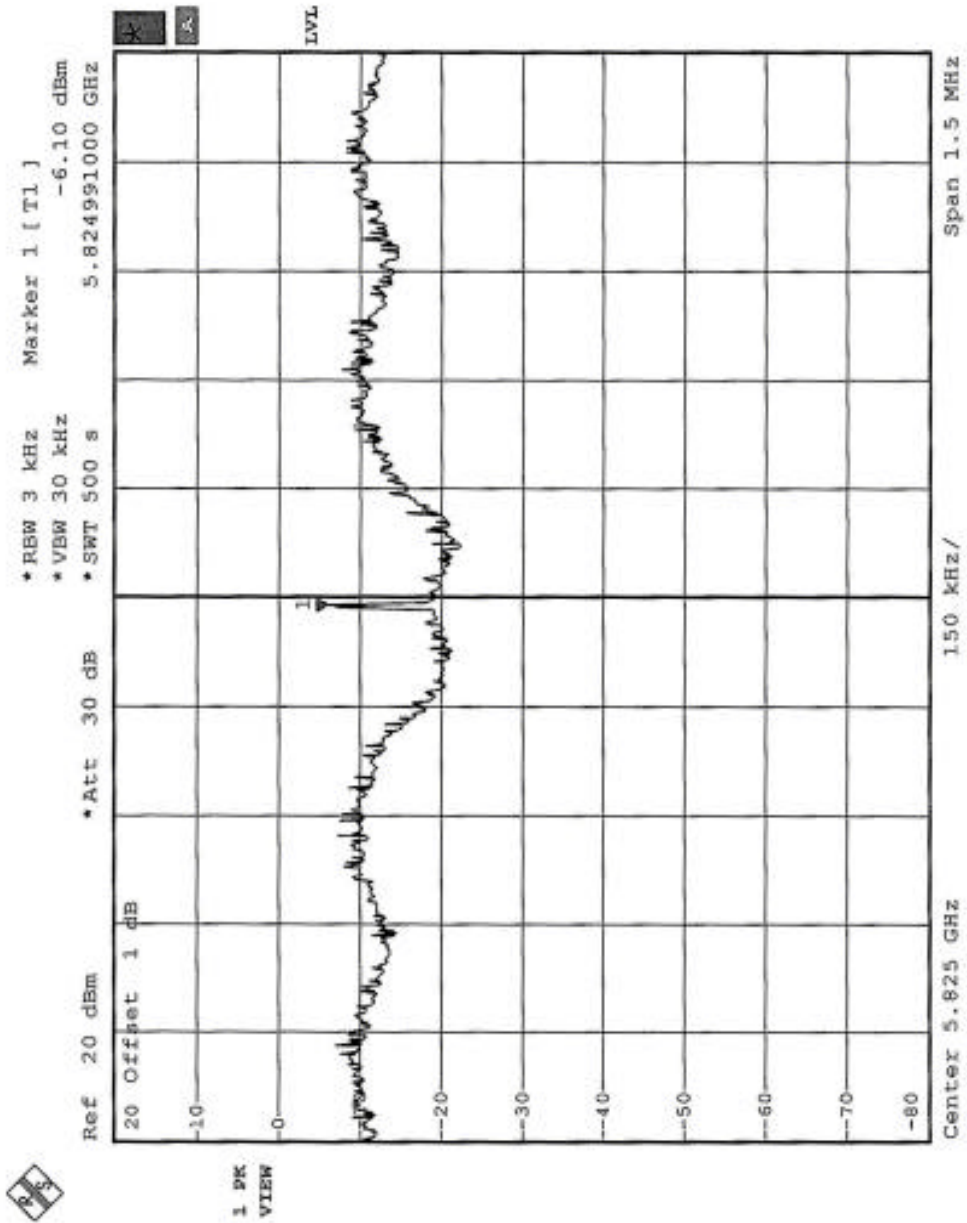
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CH13



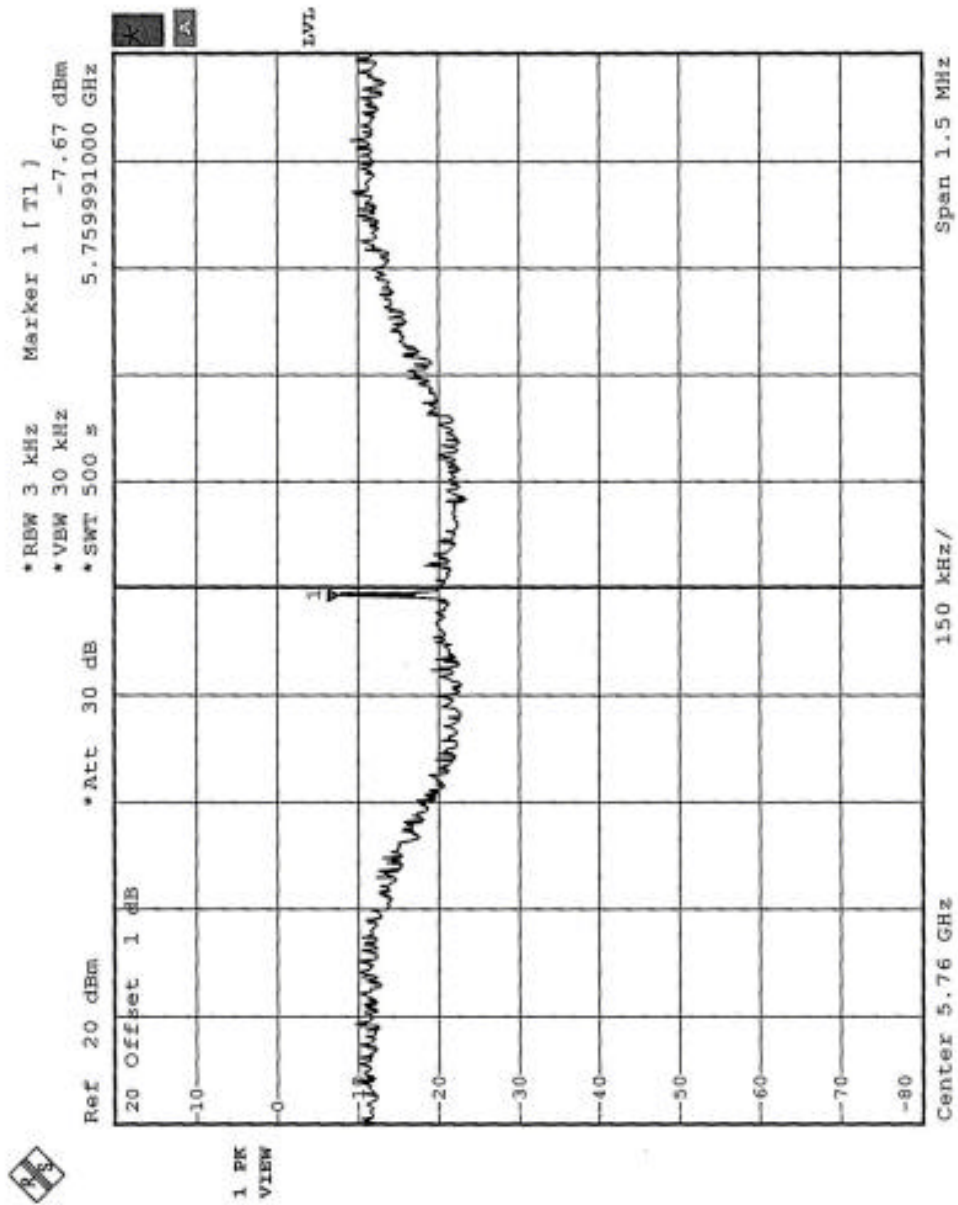


<b>EUT</b>	EliteConnect Universal 2.4GHz/5GHz Wireless Access Point	<b>MODEL</b>	SMC2555W-AG
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	57deg. C, 56%RH, 974 hPa
<b>TEST MODE</b>	Turbo	<b>TEST BY</b>	Hank Chung

<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 kHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
4	5760	-7.67	8	PASS
5	5800	-11.71	8	PASS

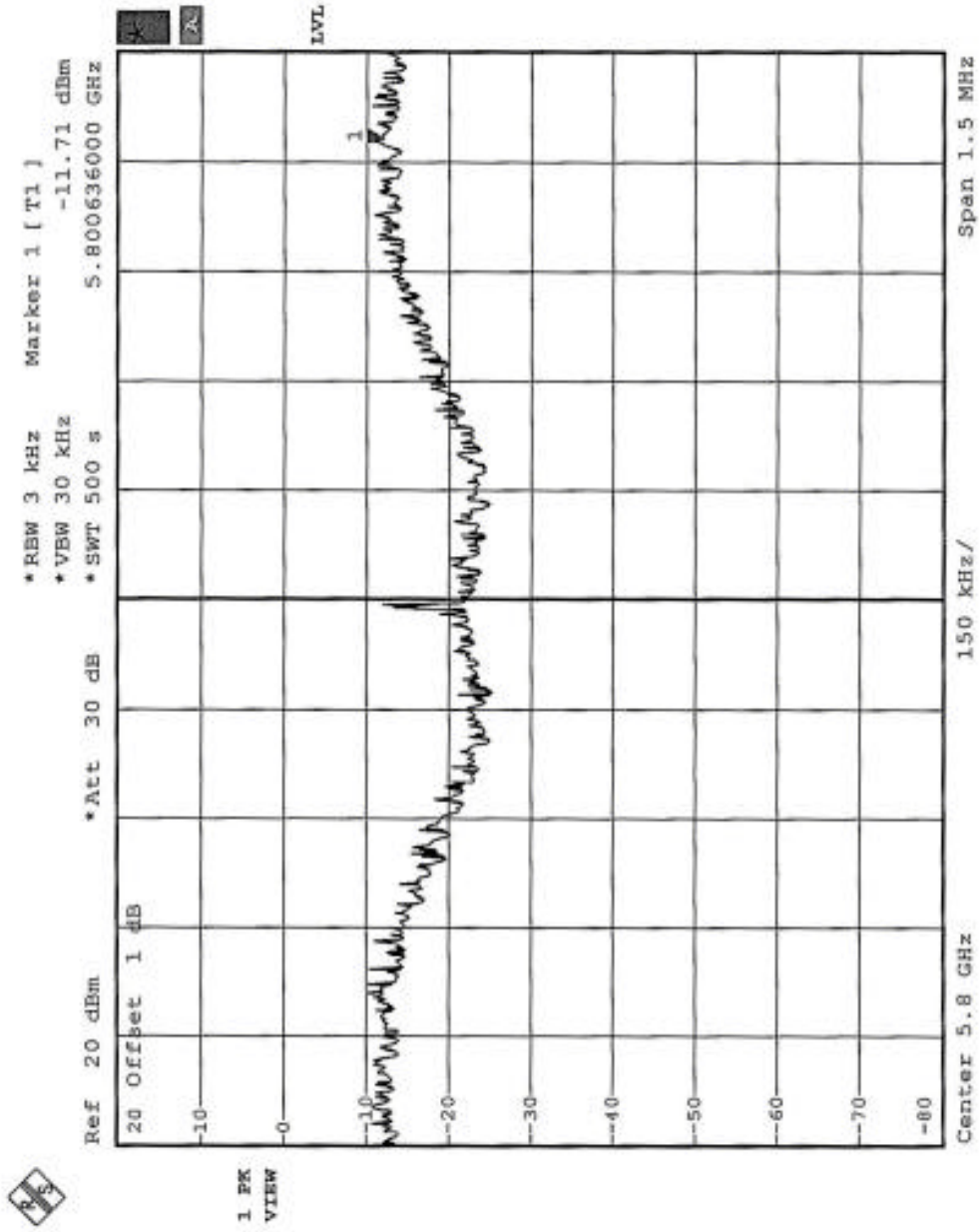


CH4





CH5





## 5.10 BAND EDGES MEASUREMENT

### 5.10.1 LIMITS OF BAND EDGES MEASUREMENT

Below  $-20\text{dB}$  of the highest emission level of operating band (in 100KHz Resolution Bandwidth).

### 5.10.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP	1093.4495.30	Dec. 19, 2003

**NOTE:**

- 1.The measurement uncertainty is less than  $\pm 2.6\text{dB}$ , 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.

### 5.10.3 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 100 kHz with suitable frequency span including 100 kHz bandwidth from band edge. The band edges was measured and recorded.

### 5.10.4 DEVIATION FROM TEST STANDARD

No deviation



#### 5.10.5 EUT OPERATING CONDITION

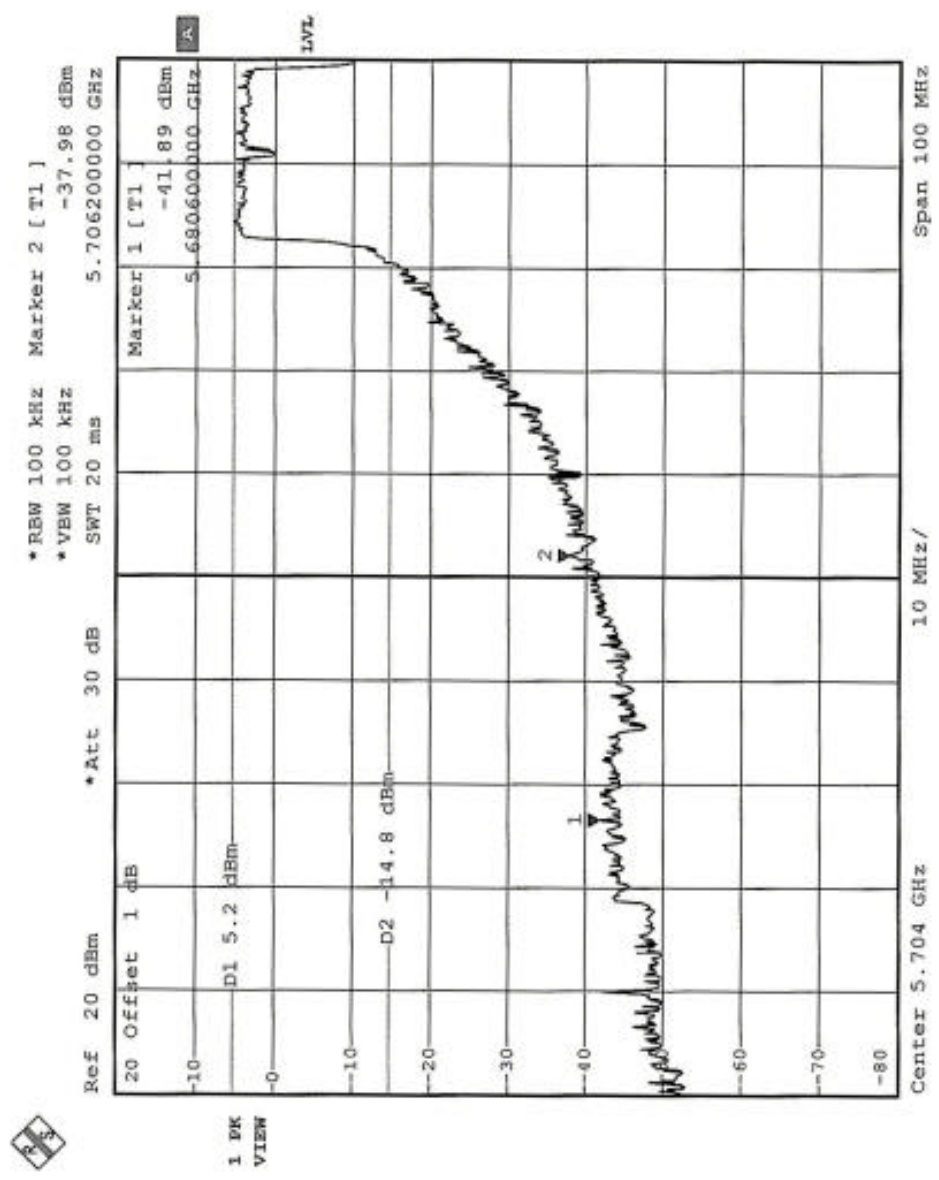
Same as Item 4.3.6

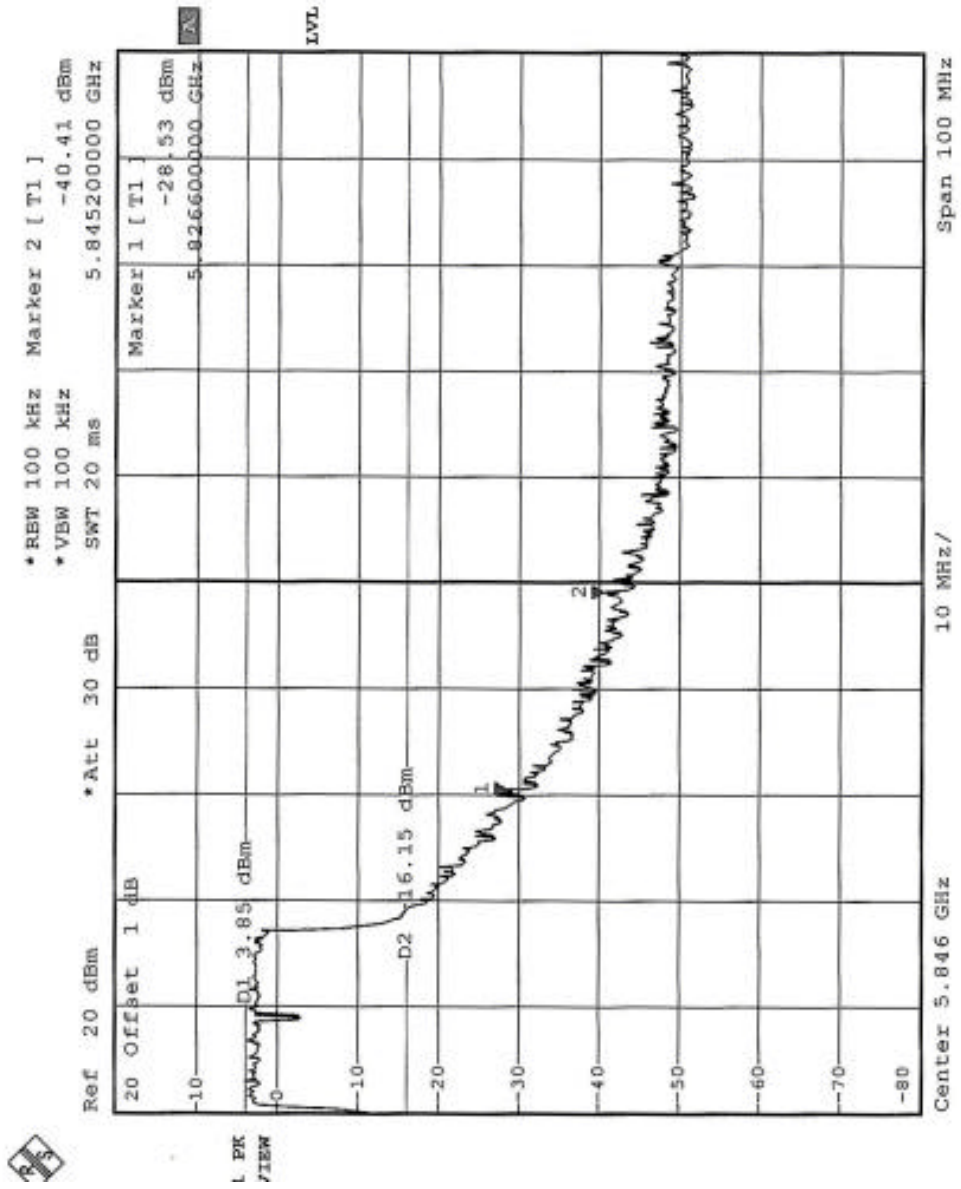
#### 5.10.6 TEST RESULTS

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



Normal Mode

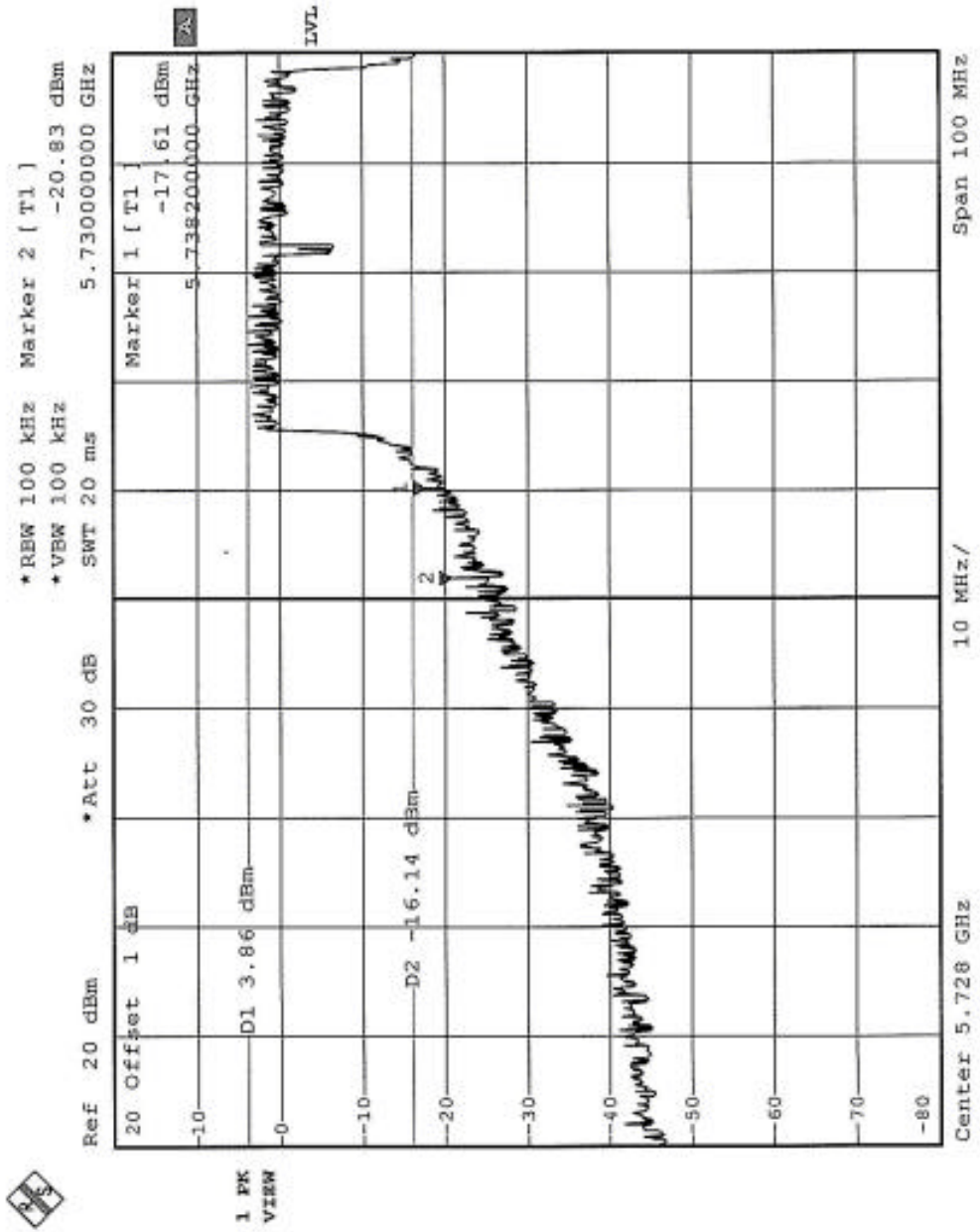


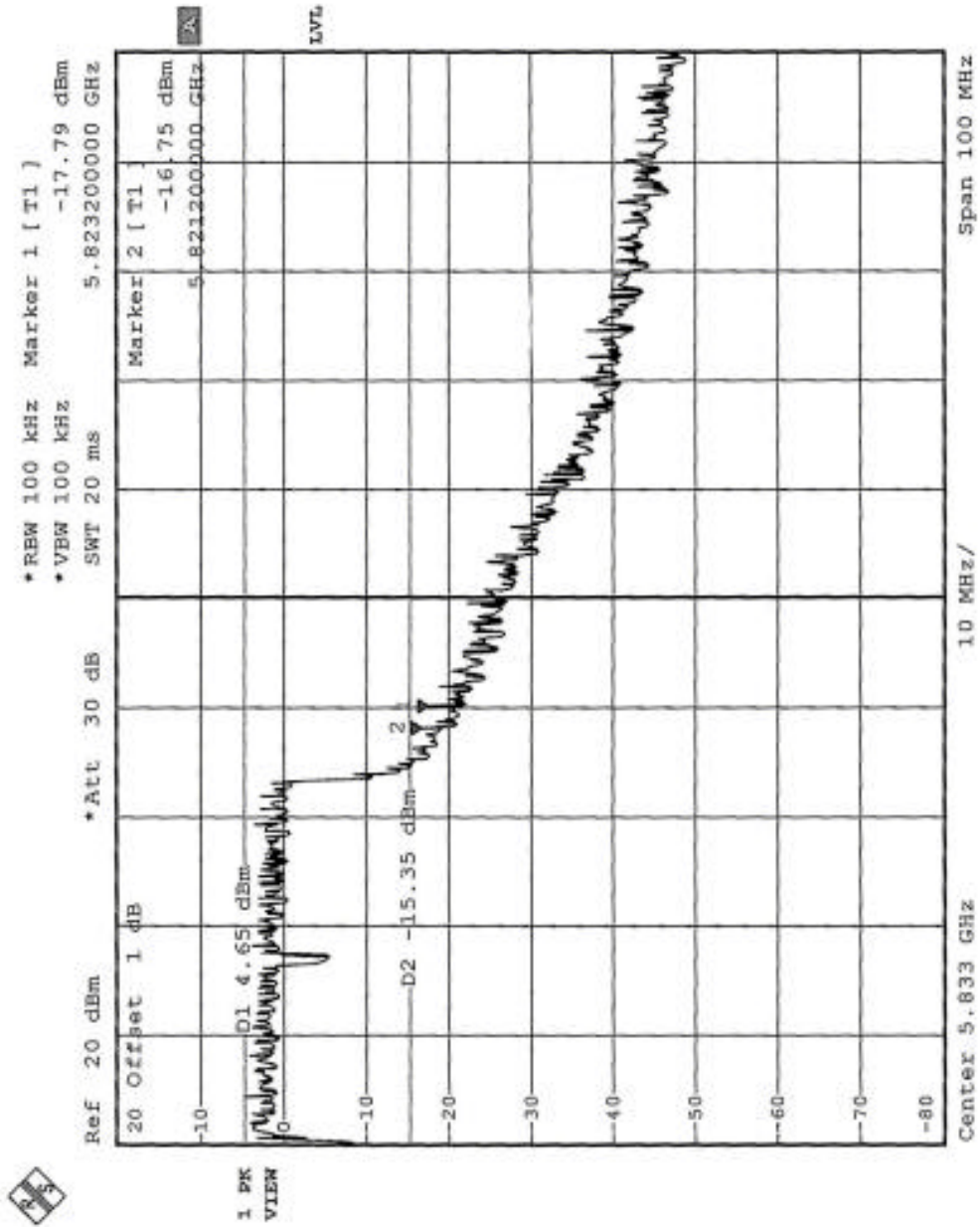






Turbo Mode







## **5.11 ANTENNA REQUIREMENT**

### **5.11.1 STANDARD APPLICABLE**

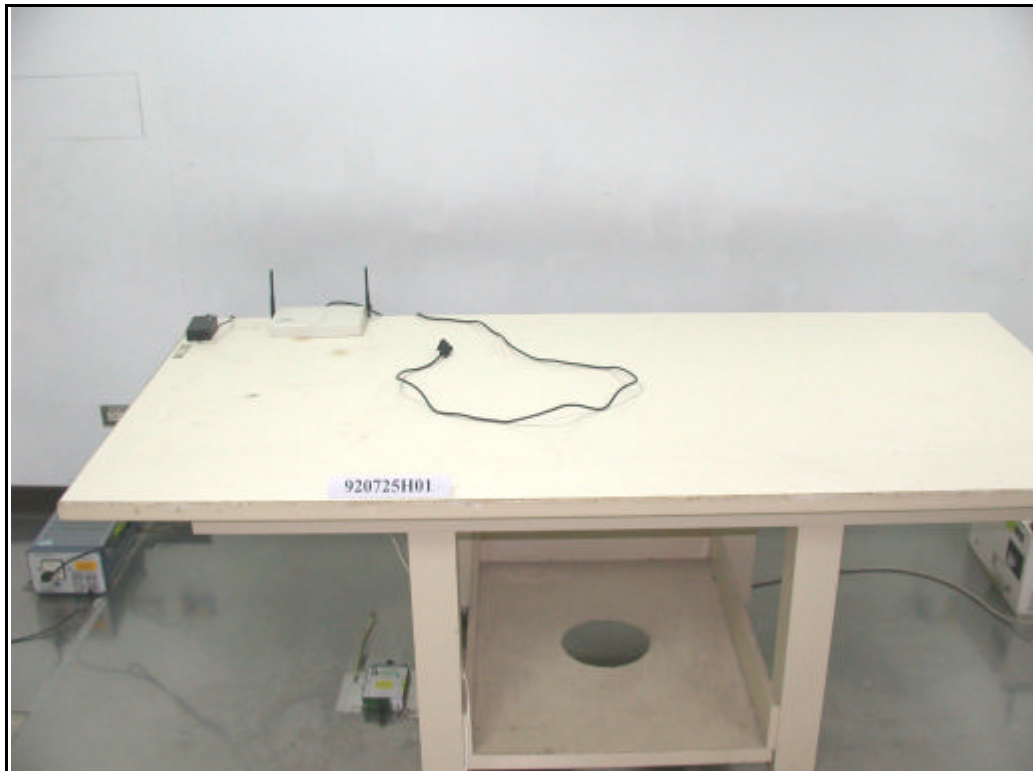
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

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.

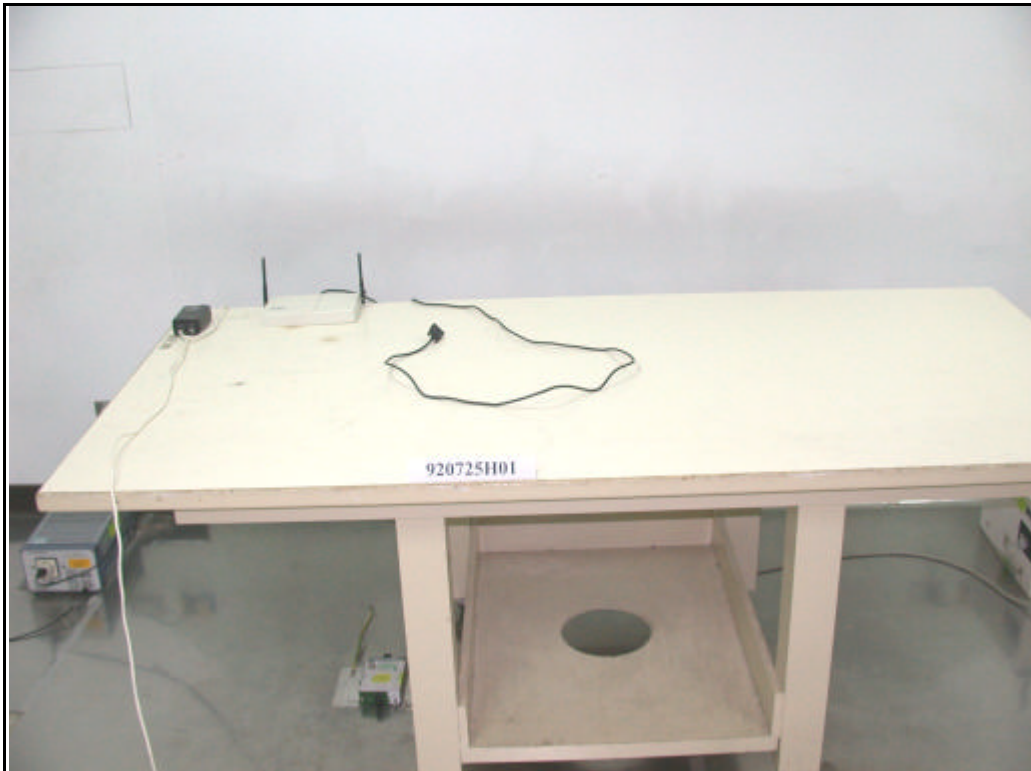
### **5.11.2 ANTENNA CONNECTED CONSTRUCTION**

The antenna used in this product is Dual-Band Omni-Directional Antenna with MMCX R/A Plug connector. The maximum Gain of the antenna is 4.5dBi.

## 6. PHOTOGRAPHS OF THE TEST CONFIGURATION CONDUCTED EMISSION TEST (With Adapter)

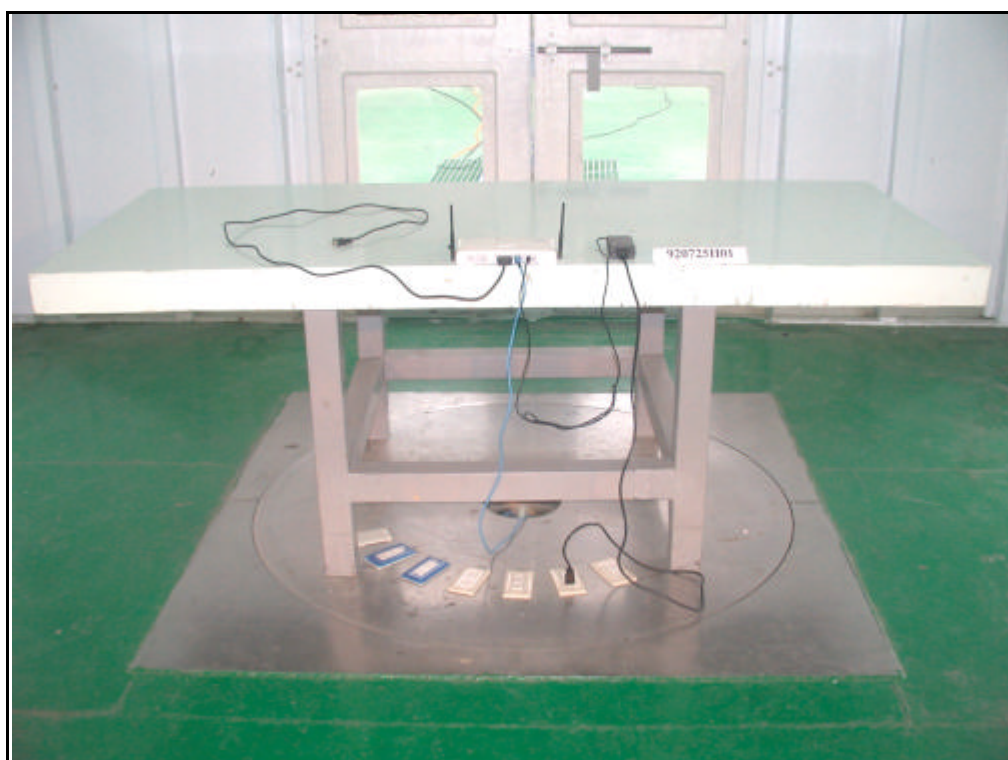


### CONDUCTED EMISSION TEST (With POE)





### RADIATED EMISSION TEST (With Adapter)



### RADIATED EMISSION TEST (With POE)





## 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.