



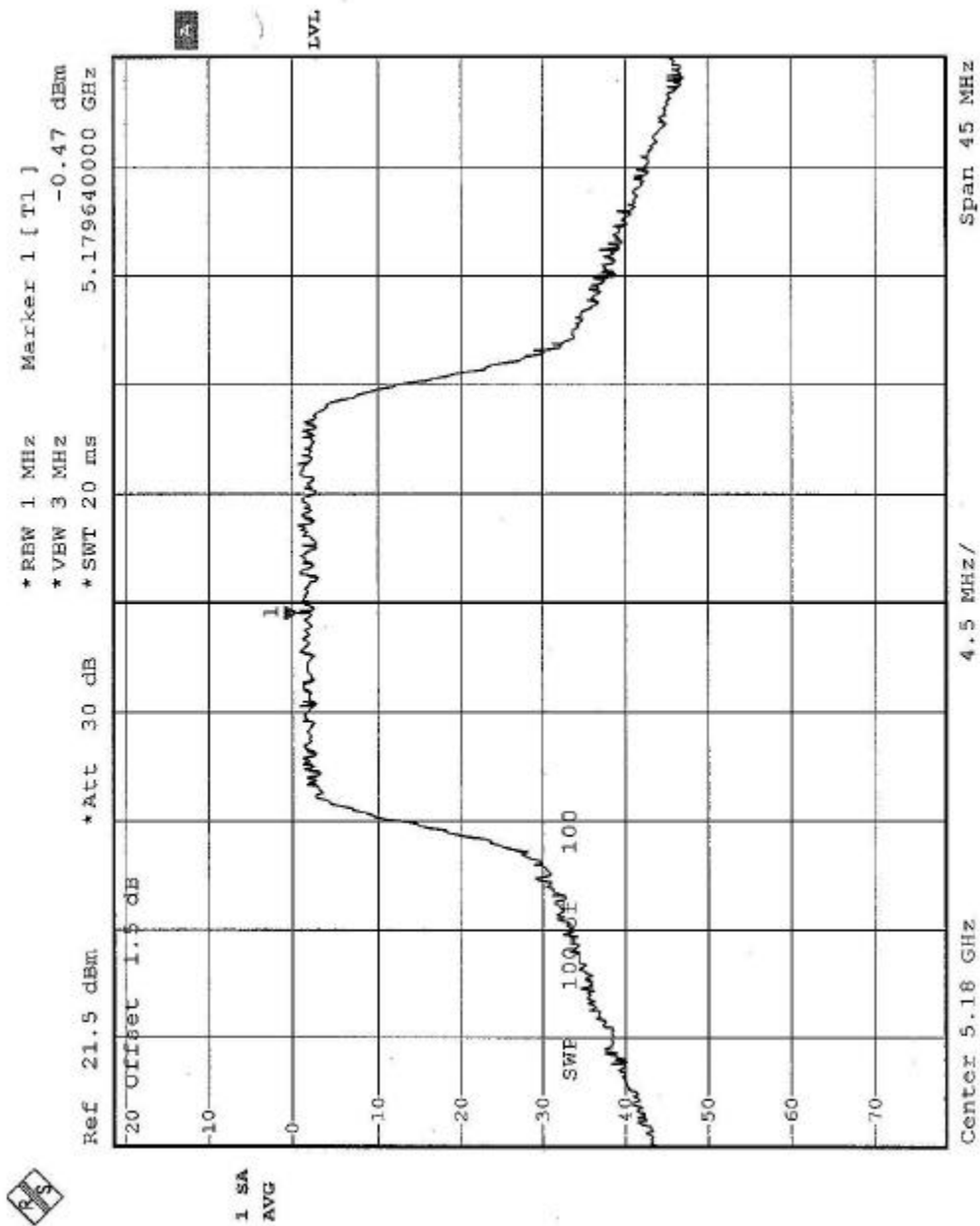
## 5.5.7 TEST RESULTS

<b>EUT</b>	Flanker Pro Dual Radio AP	<b>MODEL</b>	AP-AG-AT-02
<b>MODE</b>	Normal	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz
<b>ENVIRONMENTAL CONDITIONS</b>	21eg. C, 58RH, 982 hPa	<b>TESTED BY</b>	Eric Lee

<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	-0.47	4	PASS
4	5240	-1.36	4	PASS
5	5260	4.89	11	PASS
8	5320	4.89	11	PASS

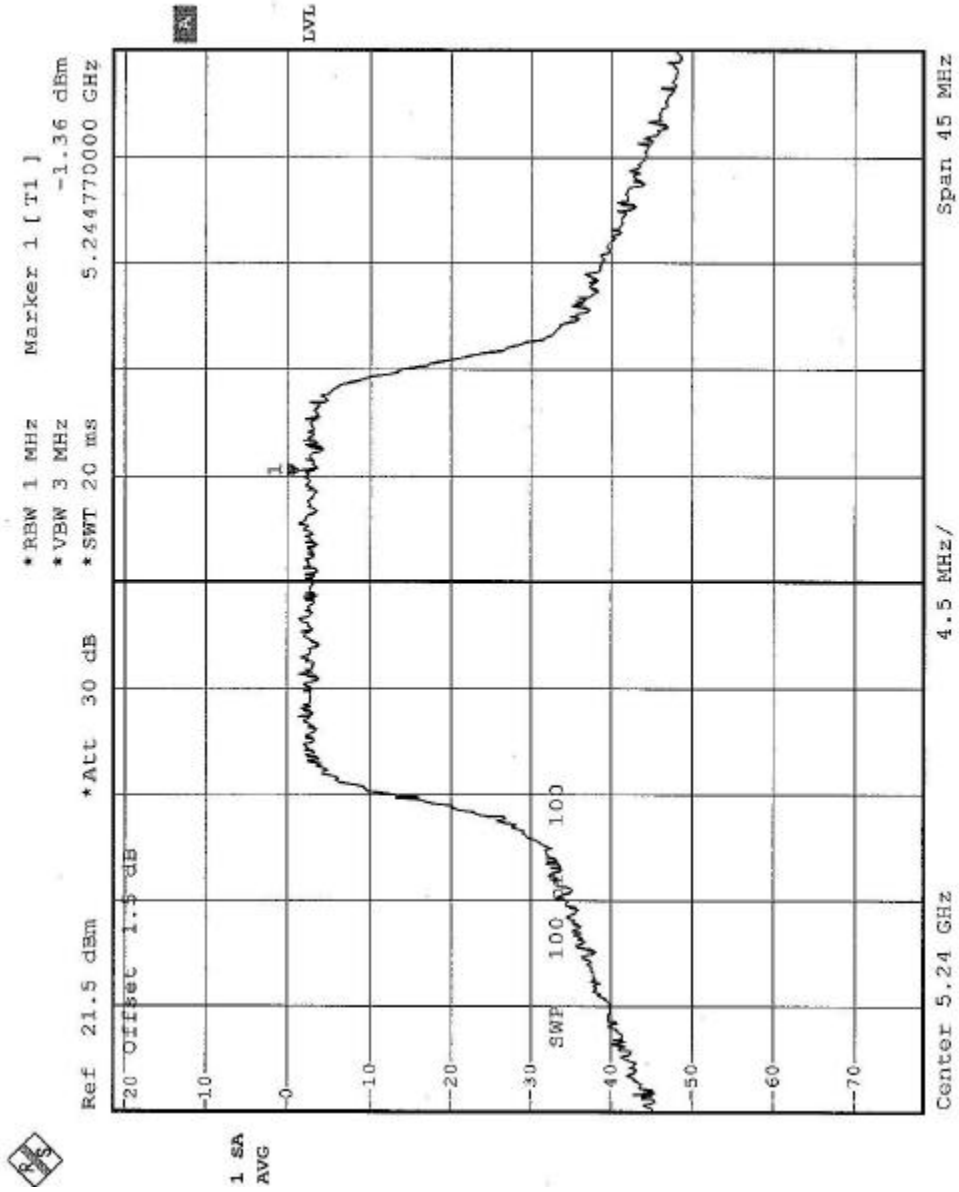


CHANNEL 1



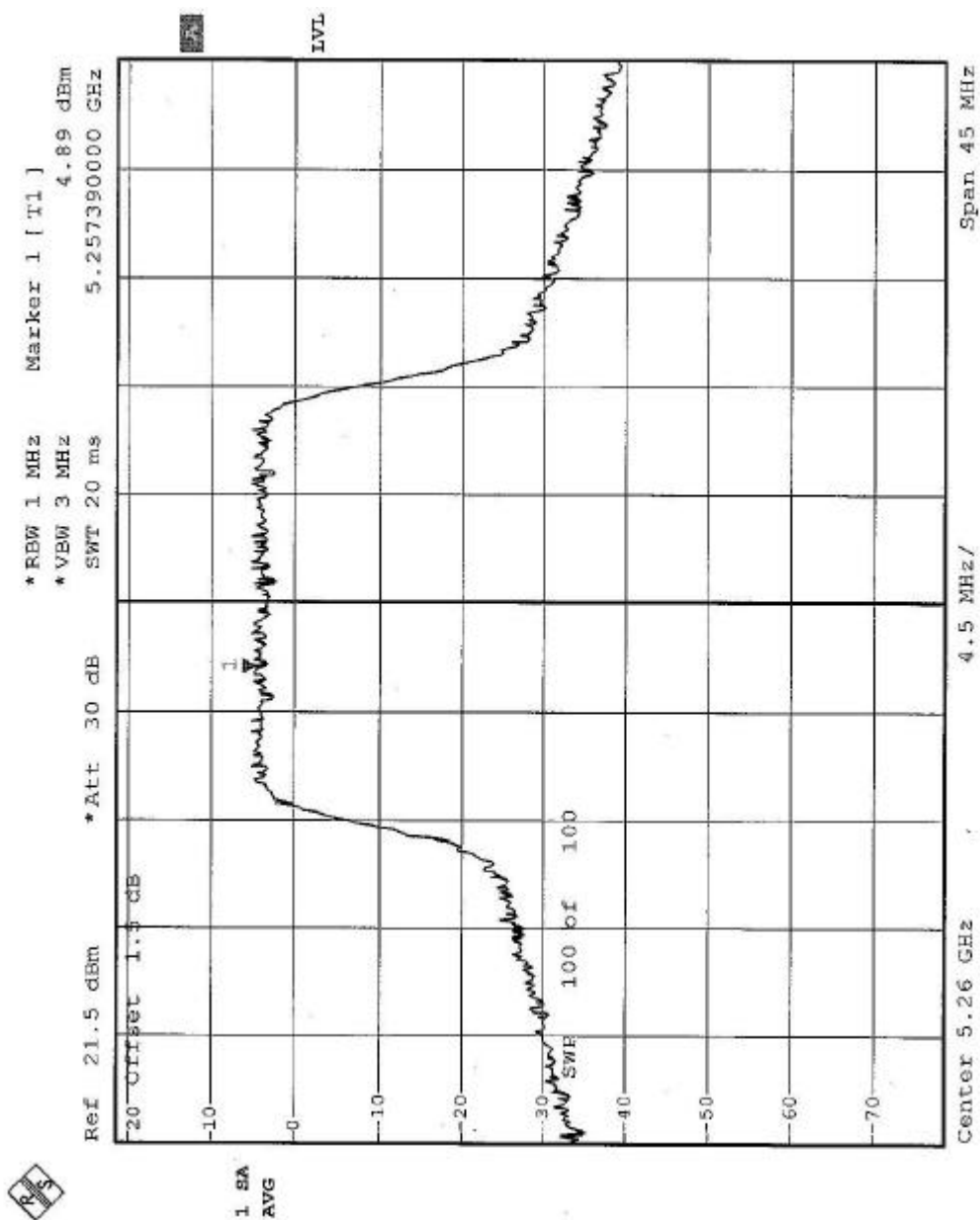


CHANNEL 4



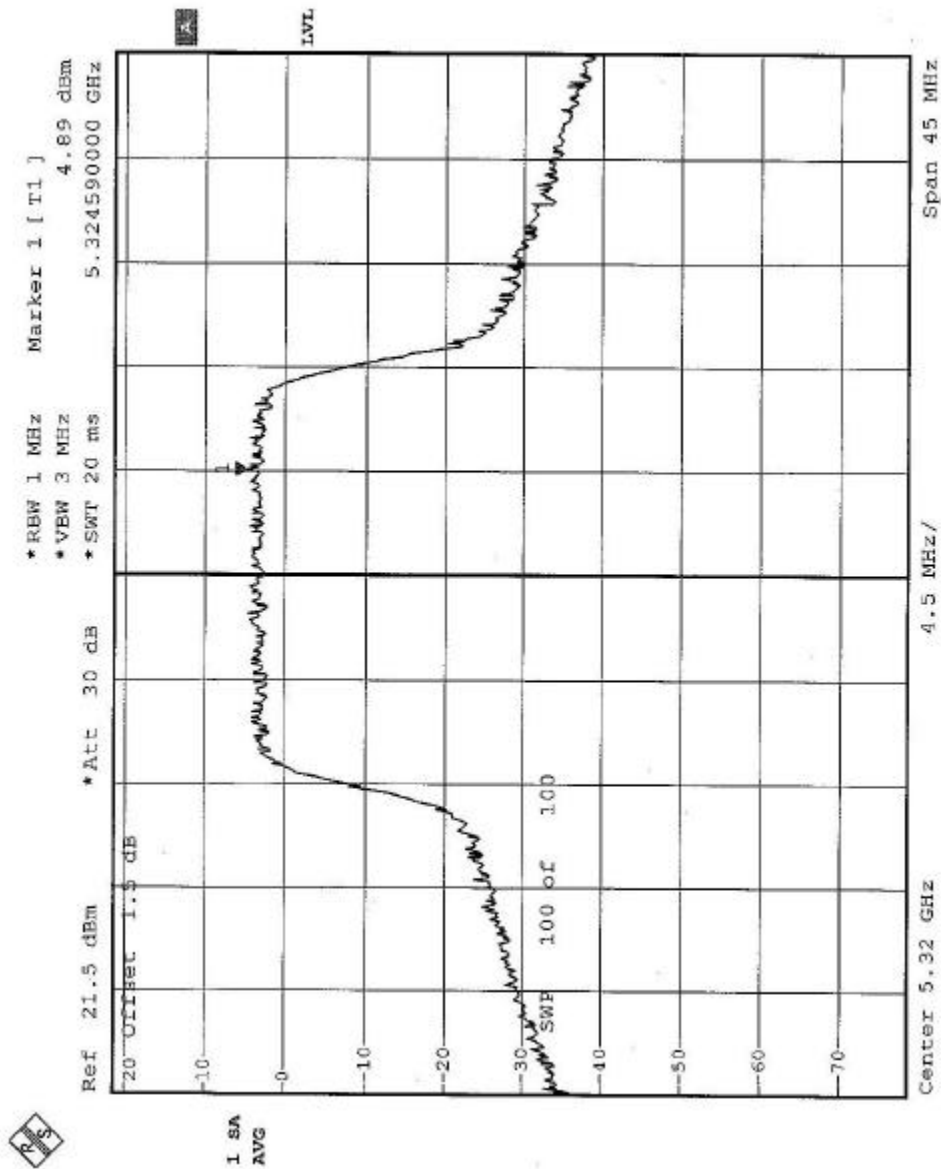


CHANNEL 5





CHANNEL 8



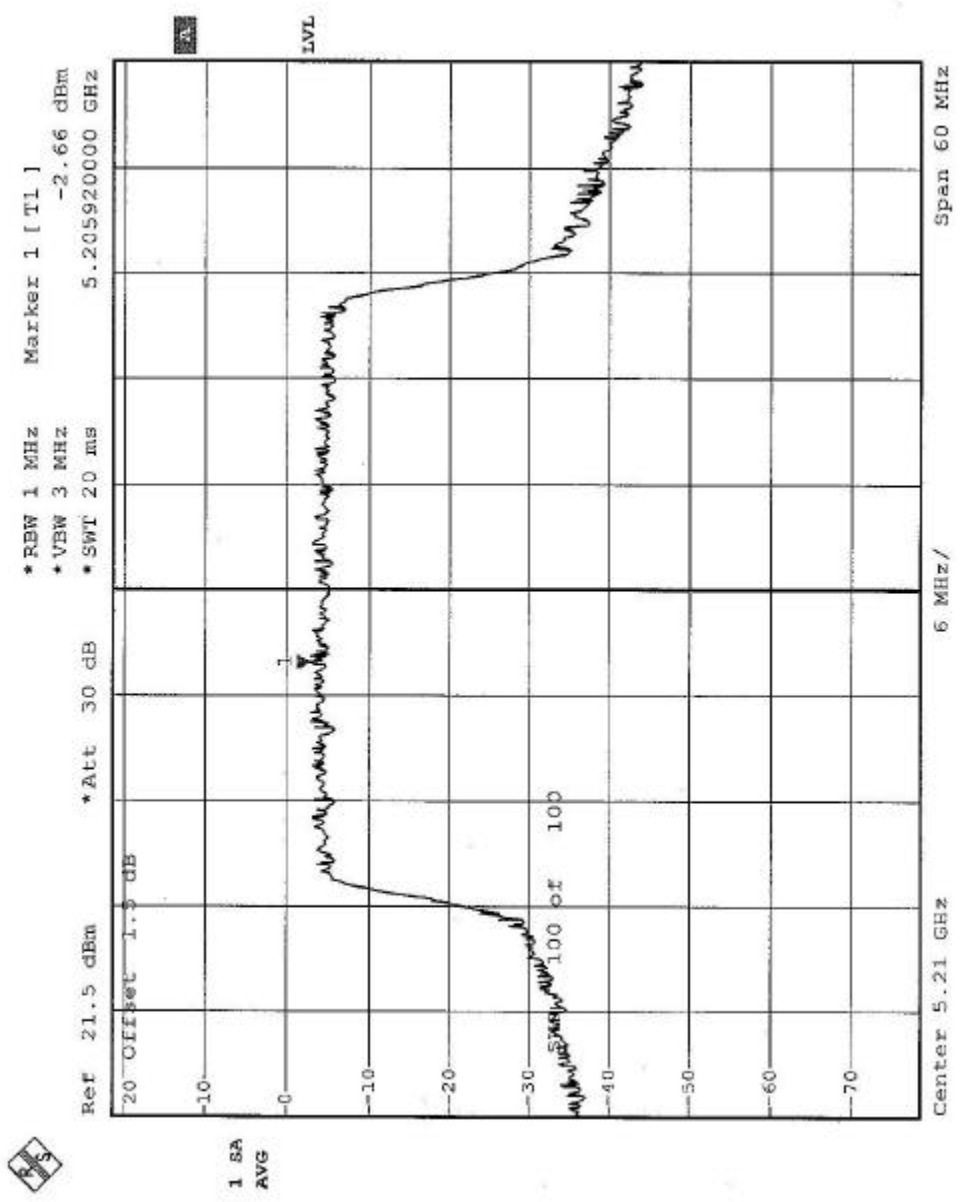


<b>EUT</b>	Flanker Pro Dual Radio AP	<b>MODEL</b>	AP-AG-AT-02
<b>MODE</b>	Turbo	<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz
<b>ENVIRONMENTAL CONDITIONS</b>	21eg. C, 58RH, 982 hPa	<b>TESTED BY</b>	Eric Lee

<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	-2.66	4	PASS
2	5250	-4.48	4	PASS
3	5290	2.67	11	PASS

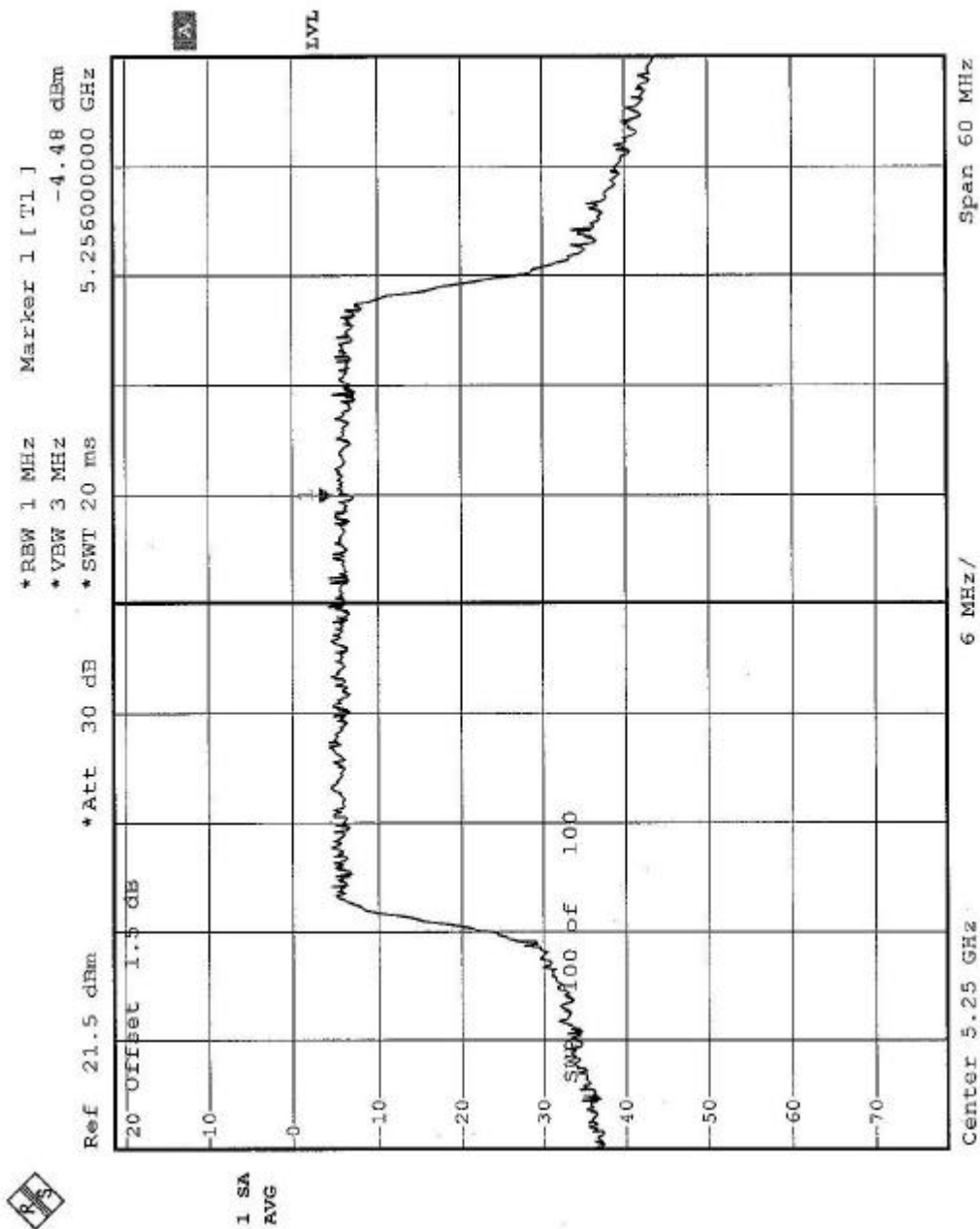


CHANNEL 1





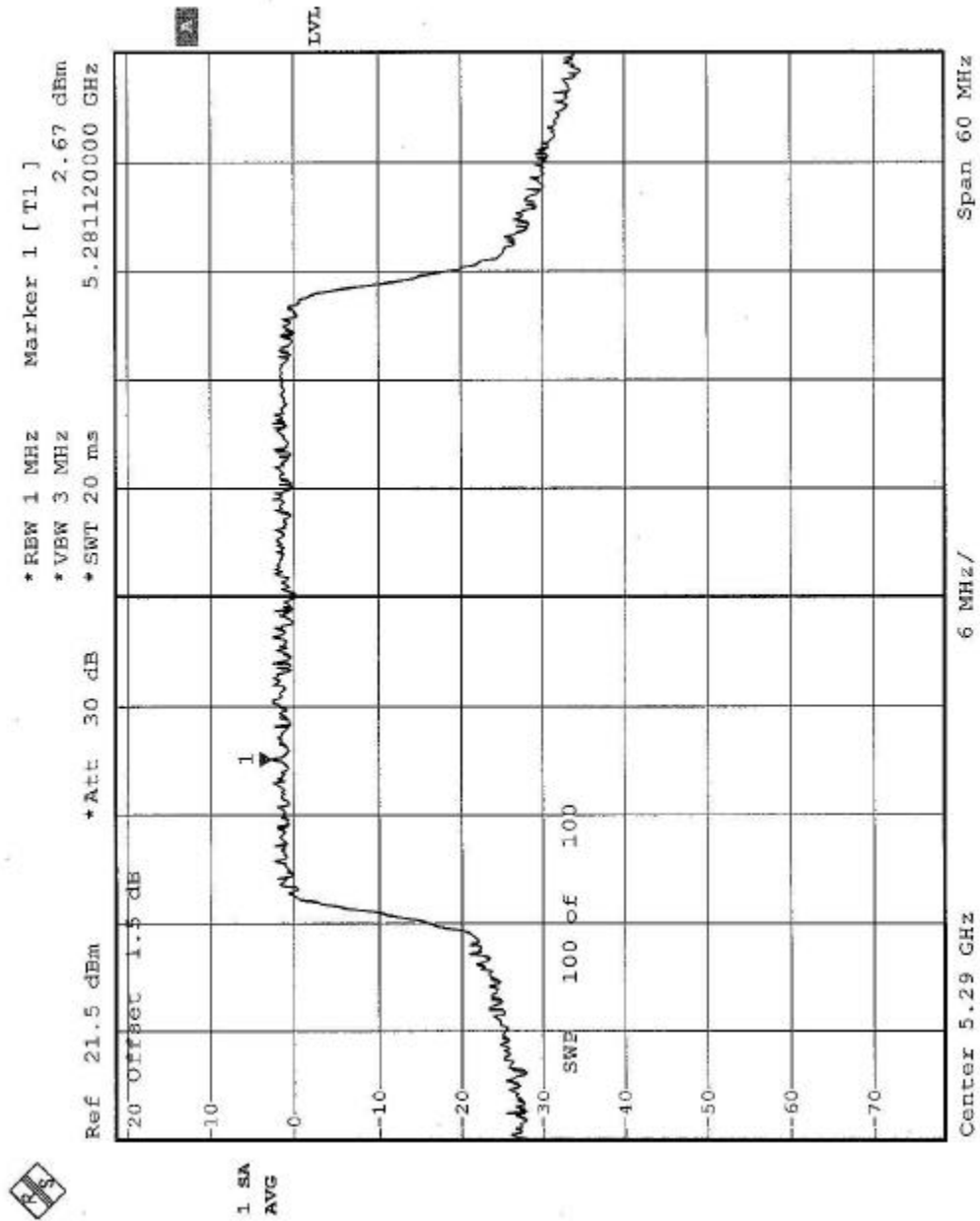
CHANNEL 2







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
R&S SPECTRUM ANALYZER	FSP30	100019	Dec. 19, 2004

**NOTE:**

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

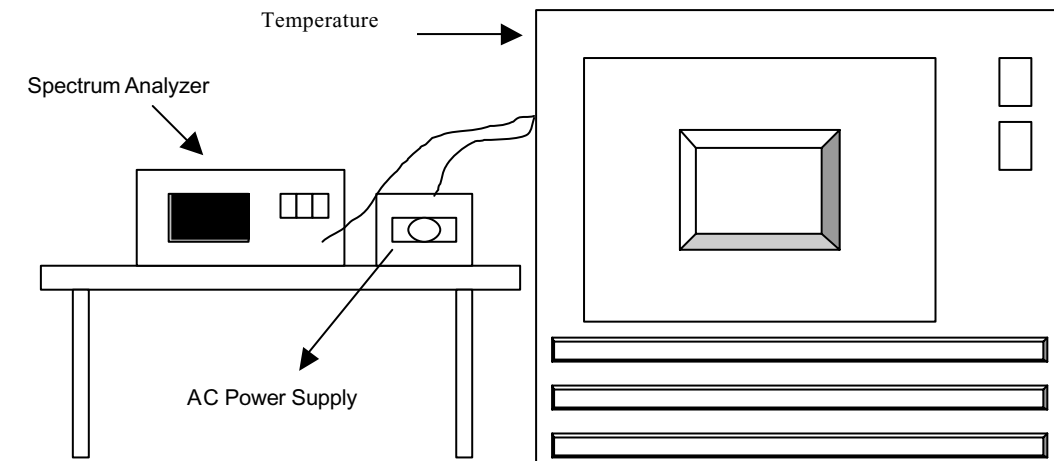
### 5.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal AC 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. (°C)	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5319.9916	-0.000158%	5319.9915	-0.000160%	5319.9911	-0.000167%
	110.0	5319.9918	-0.000154%	5319.9917	-0.000156%	5319.9914	-0.000162%
	93.5	5319.9916	-0.000158%	5319.9915	-0.000160%	5319.9911	-0.000167%
40	126.5	5319.9881	-0.000224%	5319.9976	-0.000045%	5319.9973	-0.000051%
	110.0	5319.9882	-0.000222%	5319.9976	-0.000045%	5319.9975	-0.000047%
	93.5	5319.9981	-0.000036%	5319.9979	-0.000039%	5319.9972	-0.000053%
30	126.5	5319.9922	-0.000147%	5319.9919	-0.000152%	5319.9917	-0.000156%
	110.0	5319.9922	-0.000147%	5319.9921	-0.000148%	5319.9918	-0.000154%
	93.5	5319.9922	-0.000147%	5319.9919	-0.000152%	5319.9916	-0.000158%
20	126.5	5320.0071	0.000133%	5320.0068	0.000128%	5320.0065	0.000122%
	110.0	5320.0072	0.000135%	5320.0072	0.000135%	5320.0069	0.000130%
	93.5	5320.0071	0.000133%	5320.0068	0.000128%	5320.0065	0.000122%
10	126.5	5320.0124	0.000233%	5320.0122	0.000229%	5320.0119	0.000224%
	110.0	5320.0124	0.000233%	5320.0122	0.000229%	5320.0121	0.000227%
	93.5	5320.0124	0.000233%	5320.0121	0.000227%	5320.0118	0.000222%
0	126.5	5320.023	0.000432%	5320.0180	0.000338%	5320.0180	0.000338%
	110.0	5320.023	0.000432%	5320.0210	0.000395%	5320.0190	0.000357%
	93.5	5320.021	0.000395%	5320.0180	0.000338%	5320.0180	0.000338%
-10	126.5	5320.0306	0.000575%	5320.0290	0.000545%	5320.0270	0.000508%
	110.0	5320.0304	0.000571%	5320.0310	0.000583%	5320.0290	0.000545%
	93.5	5320.0304	0.000571%	5320.0280	0.000526%	5320.0270	0.000508%
-20	126.5	5320.0300	0.000564%	5320.0250	0.000470%	5320.0210	0.000395%
	110.0	5320.0300	0.000564%	5320.0280	0.000526%	5320.0240	0.000451%
	93.5	5320.0300	0.000564%	5320.0240	0.000451%	5320.0220	0.000414%
-30	126.5	5320.0116	0.000218%	5320.0111	0.000209%	5320.0108	0.000203%
	110.0	5320.0116	0.000218%	5320.0113	0.000212%	5320.0111	0.000209%
	93.5	5320.0116	0.000218%	5320.0111	0.000209%	5320.0108	0.000203%



## 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, 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.

### 5.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low loss 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 (Antenna 1)

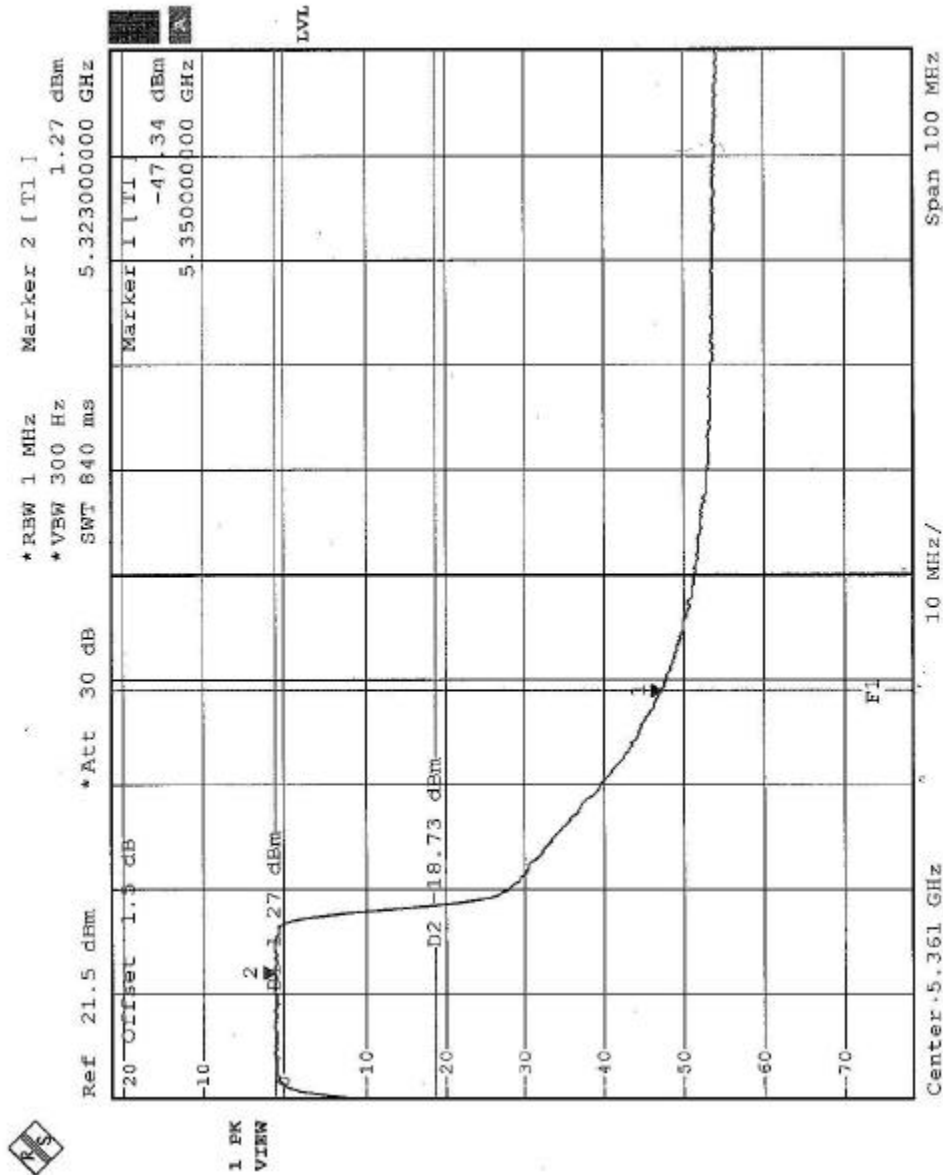
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal 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 2 pages.



Normal Mode: Channel 8 (5320 MHz)

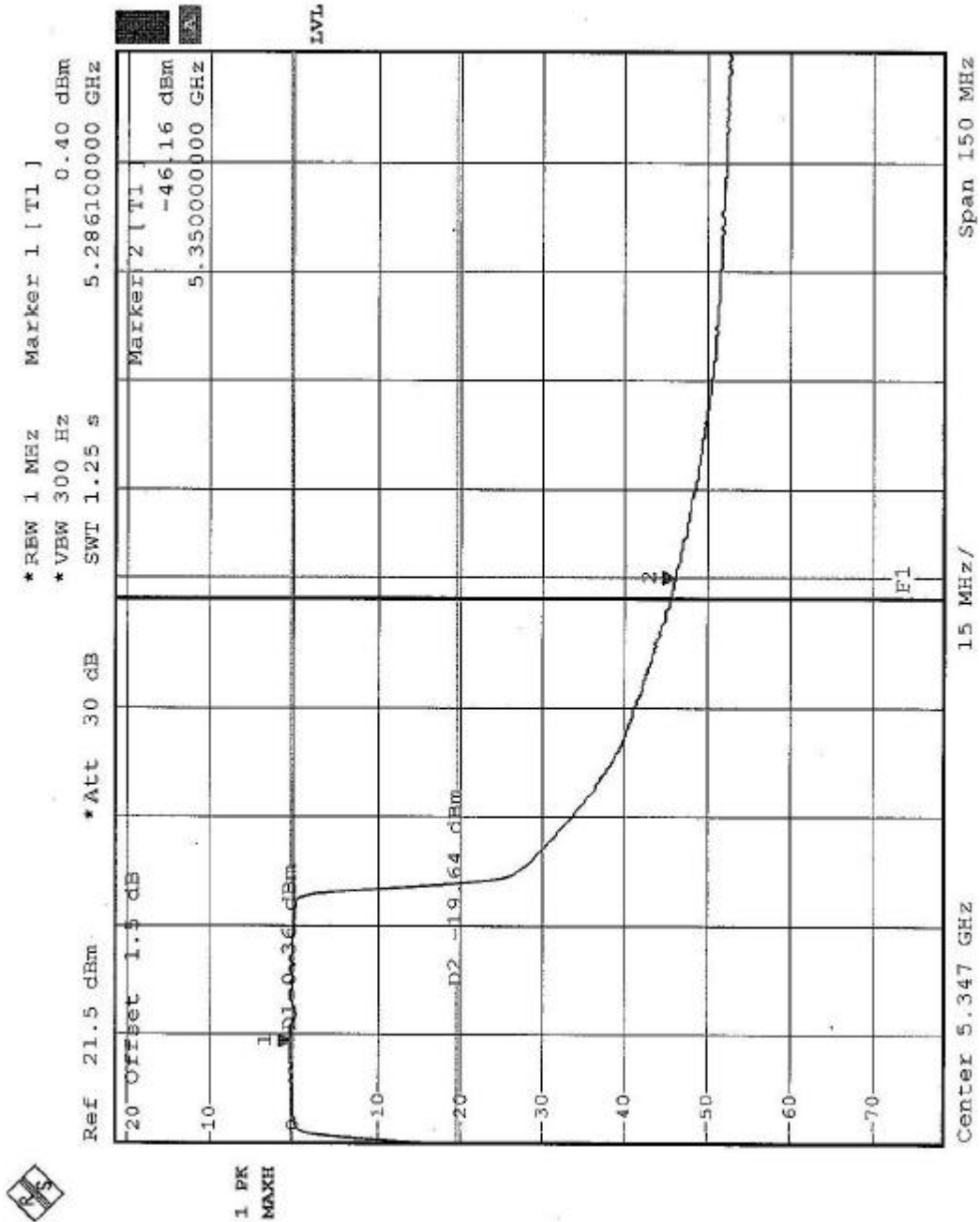
The band edge emission plot on the following page shows 48.61dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 101.7dBuV/m, so the maximum field strength in restrict band is  $101.7 - 48.61 = 53.09$  dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following page shows 46.52dBc (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 98.8dBuV/m, so the maximum field strength in restrict band is  $98.8 - 46.52 = 52.28$  dBuV/m which is under 54dBuV/m limit.







### 5.7.5 TEST RESULTS (Antenna 2)

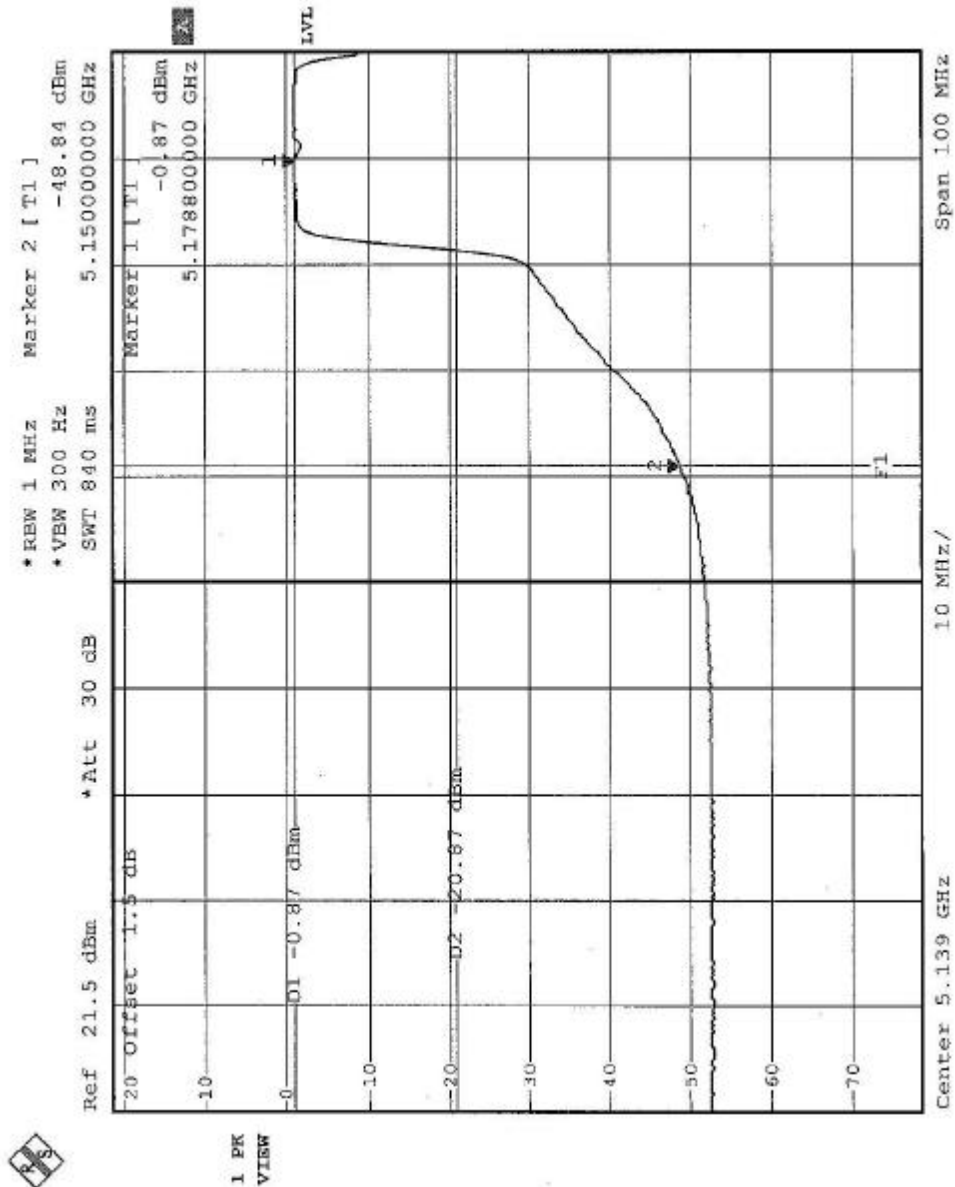
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal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

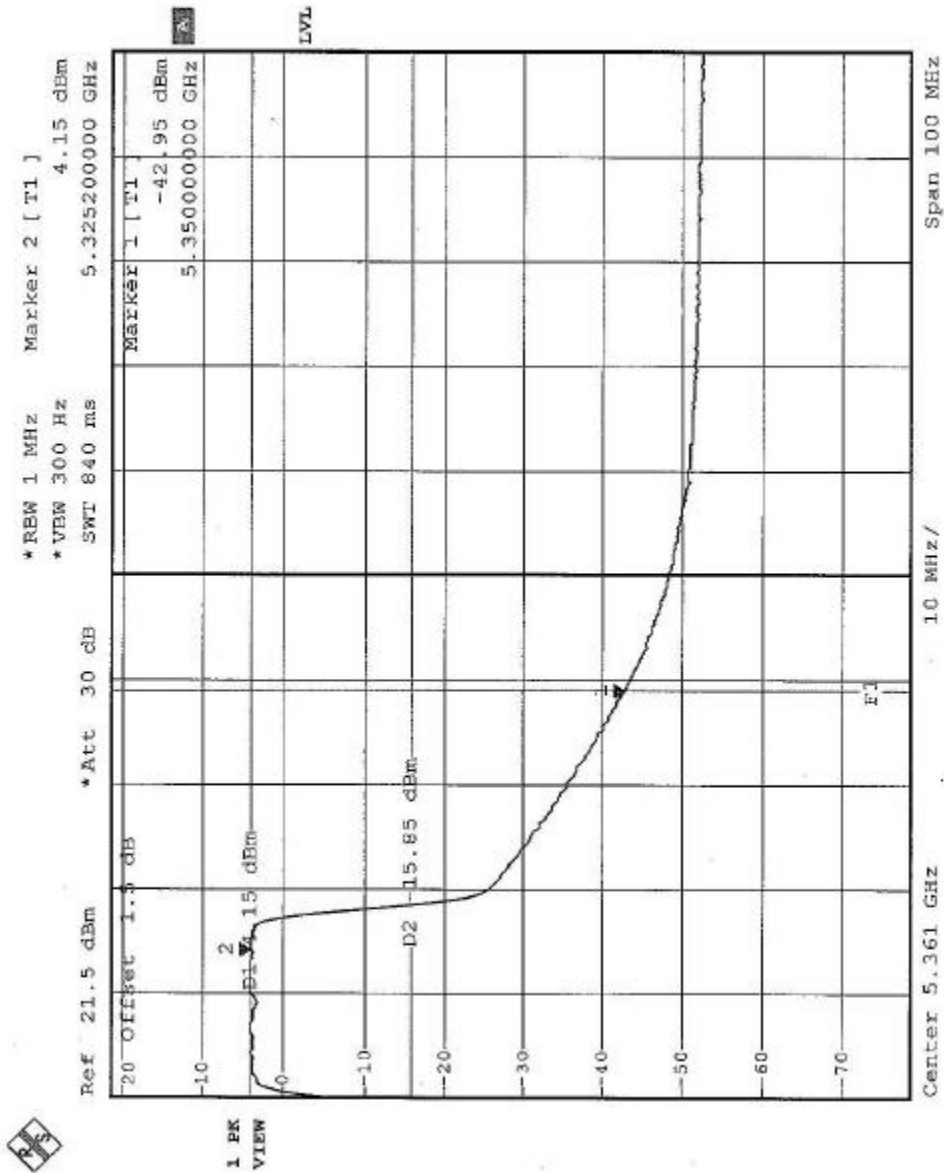
The band edge emission plot on the following page shows 47.97dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (normal mode) is 91.0dBuV/m, so the maximum field strength in restrict band is  $91.0 - 47.97 = 43.03$ dBuV/m which is under 54dBuV/m limit.





Normal Mode: Channel 8 (5320 MHz)

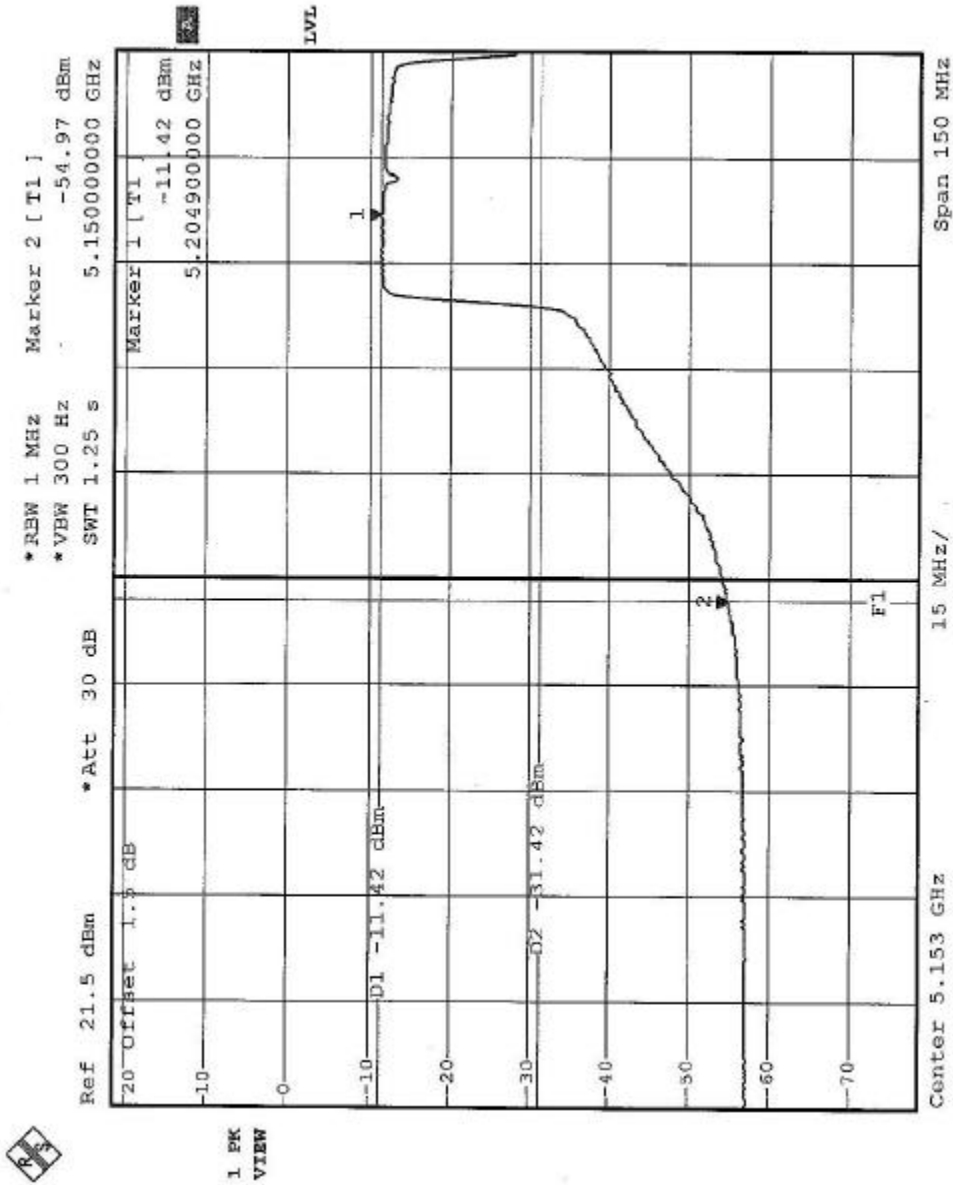
The band edge emission plot on the following page shows 47.10dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 98.2dBuV/m, so the maximum field strength in restrict band is  $98.2-47.10=51.10$ dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 1 (5210 MHz)

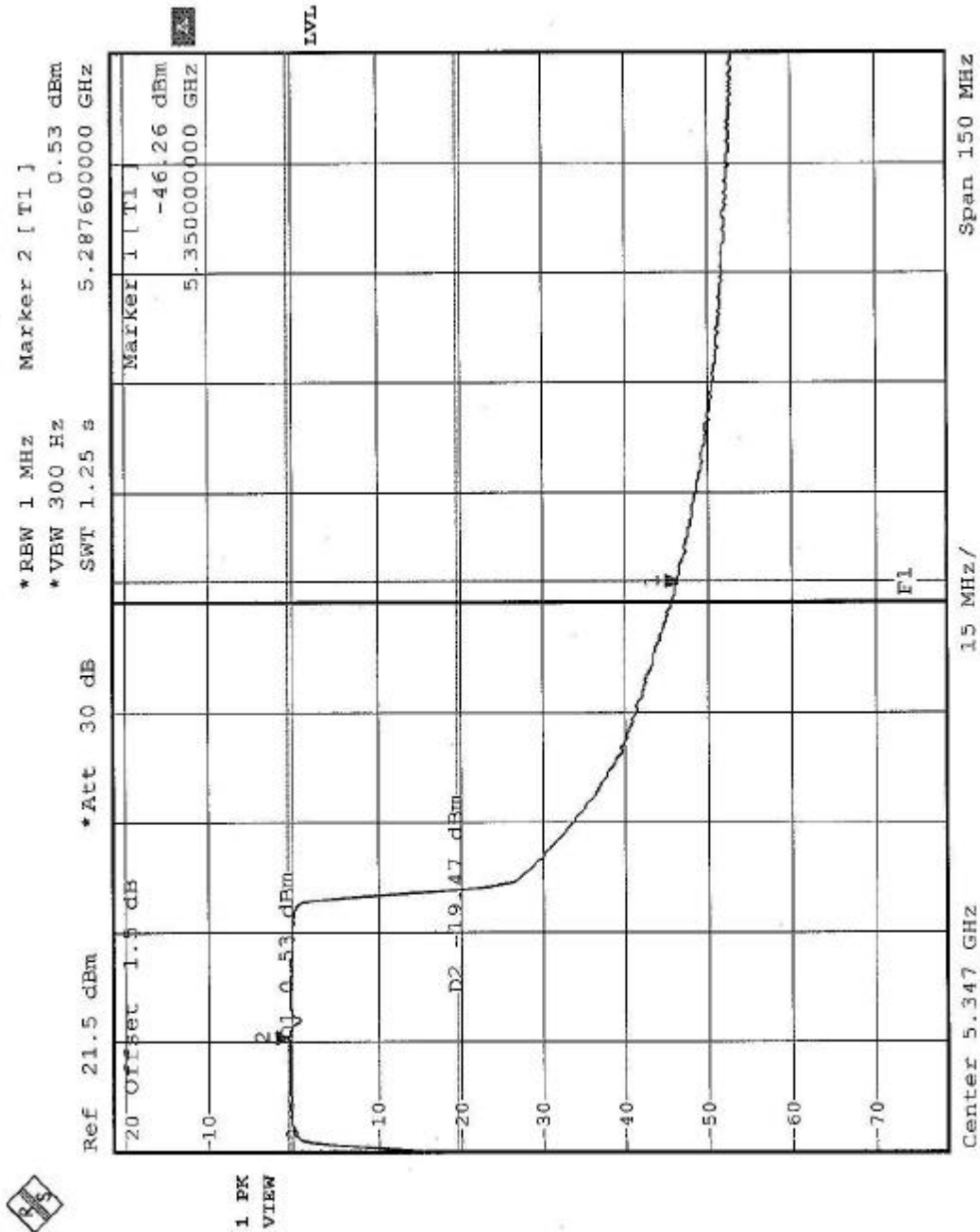
The band edge emission plot on the following page shows 43.55dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (turbo mode) is 91.3dBuV/m, so the maximum field strength in restrict band is  $91.3 - 43.55 = 47.75$  dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following page shows 46.79dBc (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 97.6dBuV/m, so the maximum field strength in restrict band is  $97.6 - 46.79 = 50.81$  dBuV/m which is under 54 dBuV/m limit.





### 5.7.6 TEST RESULTS (Antenna 3)

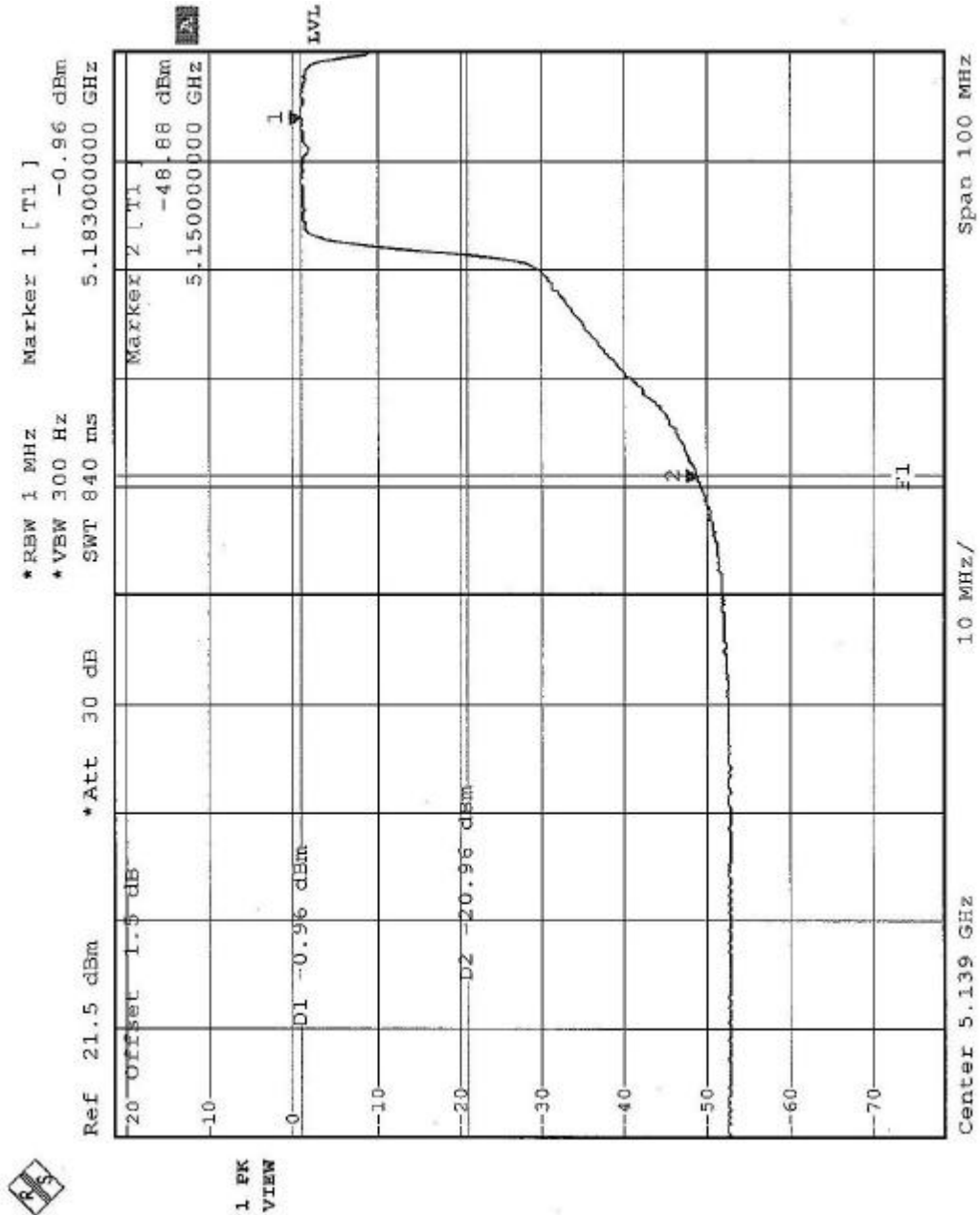
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal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

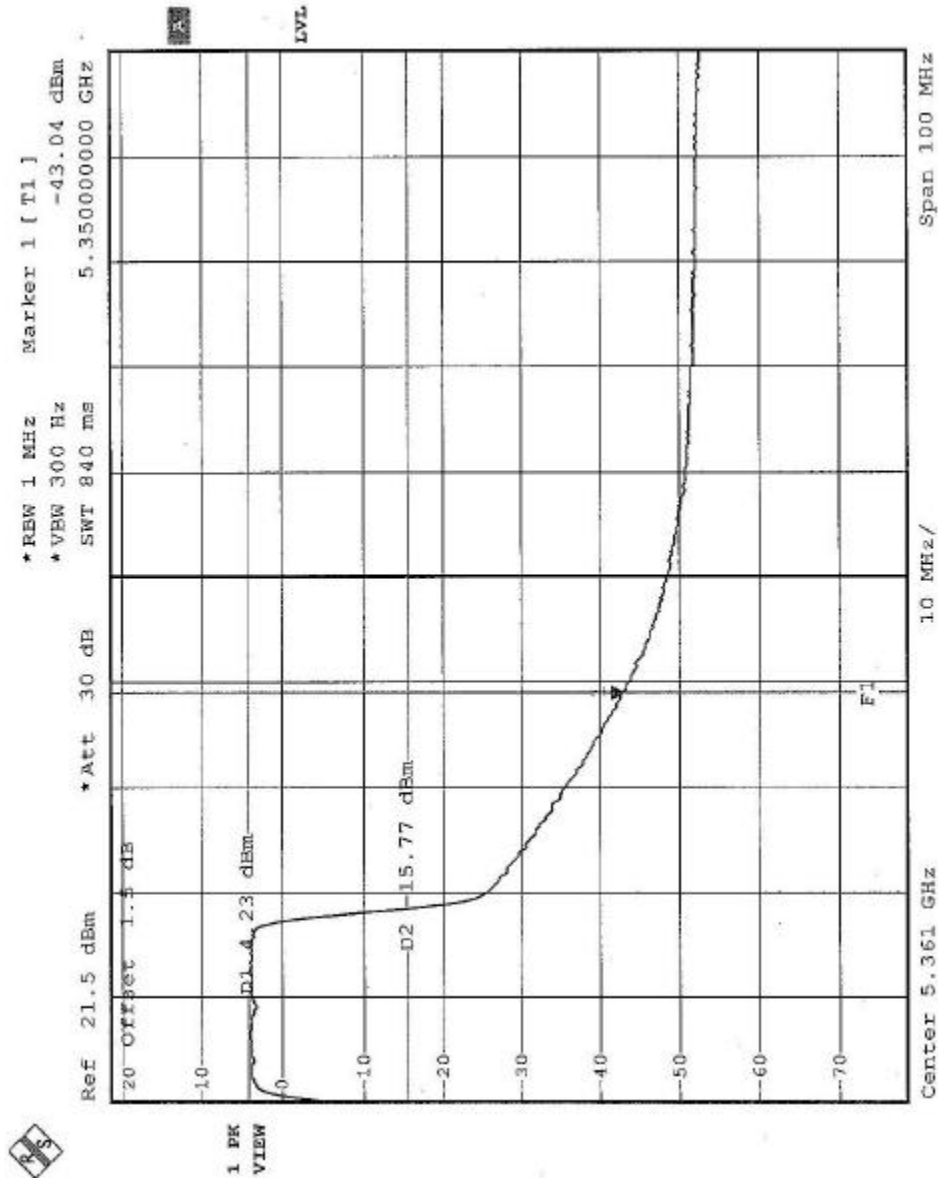
The band edge emission plot on the following page shows 47.92dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (normal mode) is 91.9dBuV/m, so the maximum field strength in restrict band is  $91.9 - 47.92 = 43.98$ dBuV/m which is under 54dBuV/m limit.





Normal Mode: Channel 8 (5320 MHz)

The band edge emission plot on the following page shows 47.27dBc (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 100.6dBuV/m, so the maximum field strength in restrict band is  $100.6 - 47.27 = 53.33$  dBuV/m which is under 54dBuV/m limit.

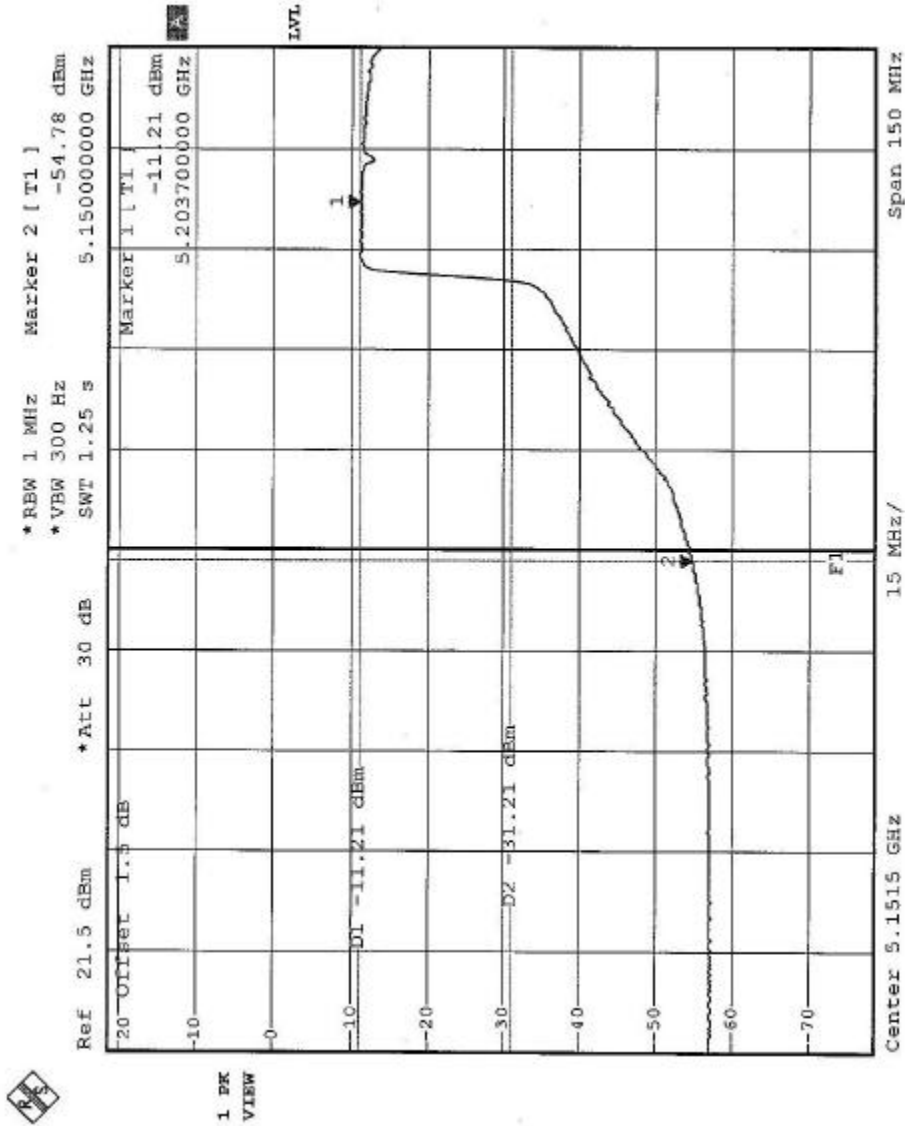






Turbo Mode: Channel 1 (5210 MHz)

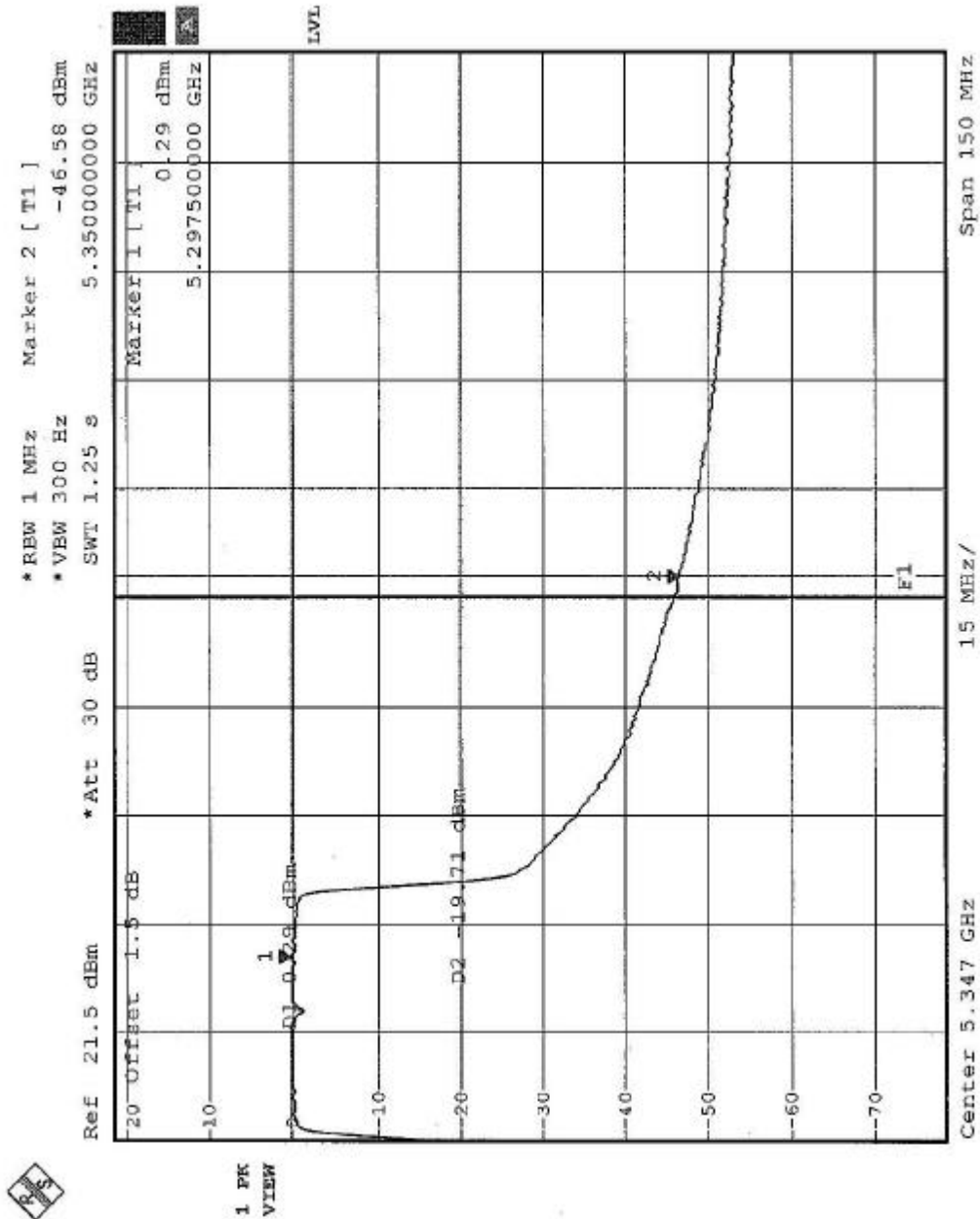
The band edge emission plot on the following page shows 43.57dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (turbo mode) is 88.2dBuV/m, so the maximum field strength in restrict band is  $88.2 - 43.57 = 44.63$  dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following page shows 46.87dBc (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 97.8dBuV/m, so the maximum field strength in restrict band is  $97.8 - 46.87 = 50.93$  dBuV/m which is under 54dBuV/m limit.





#### 5.7.7 TEST RESULTS (Antenna 4)

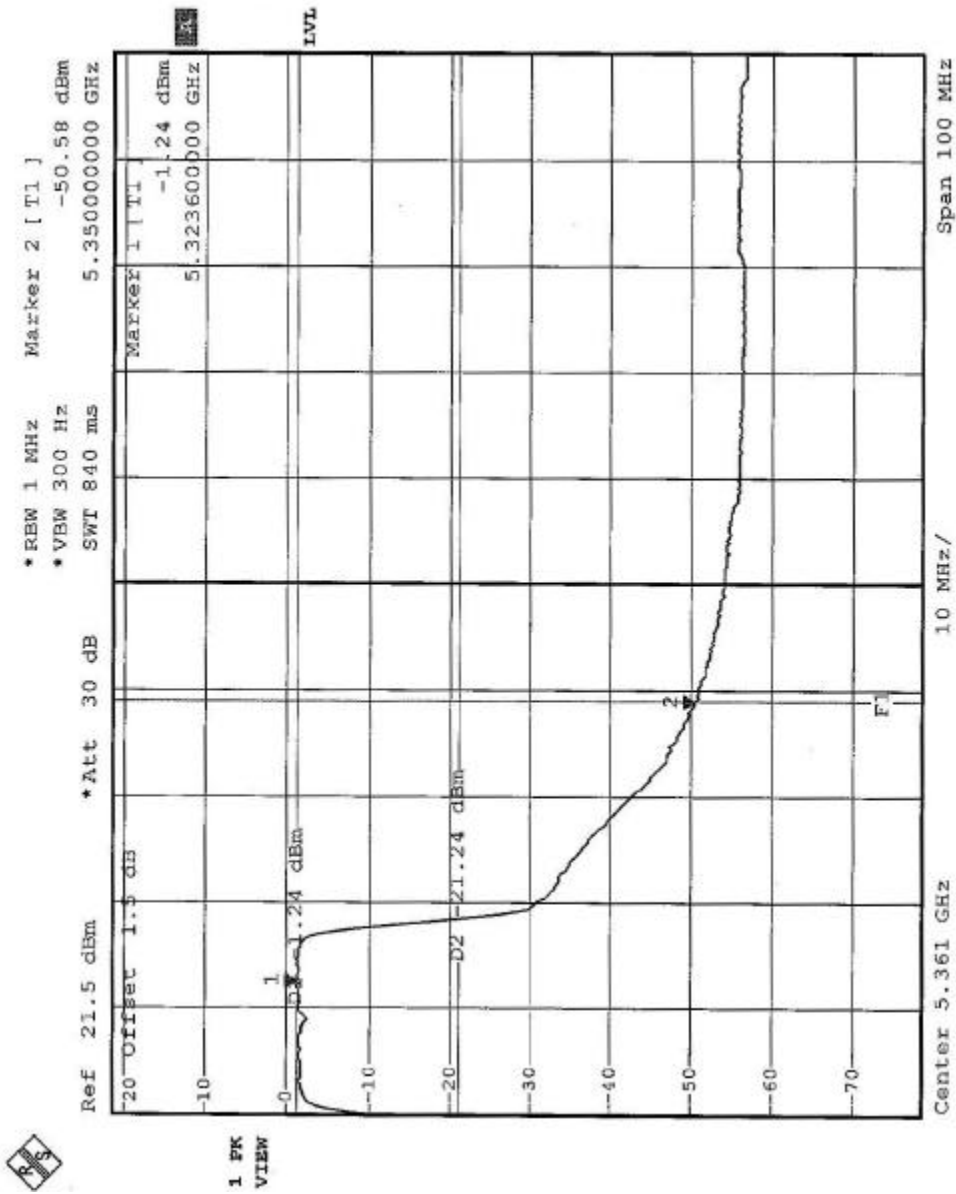
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal 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 2 pages.



Normal Mode: Channel 8 (5320 MHz)

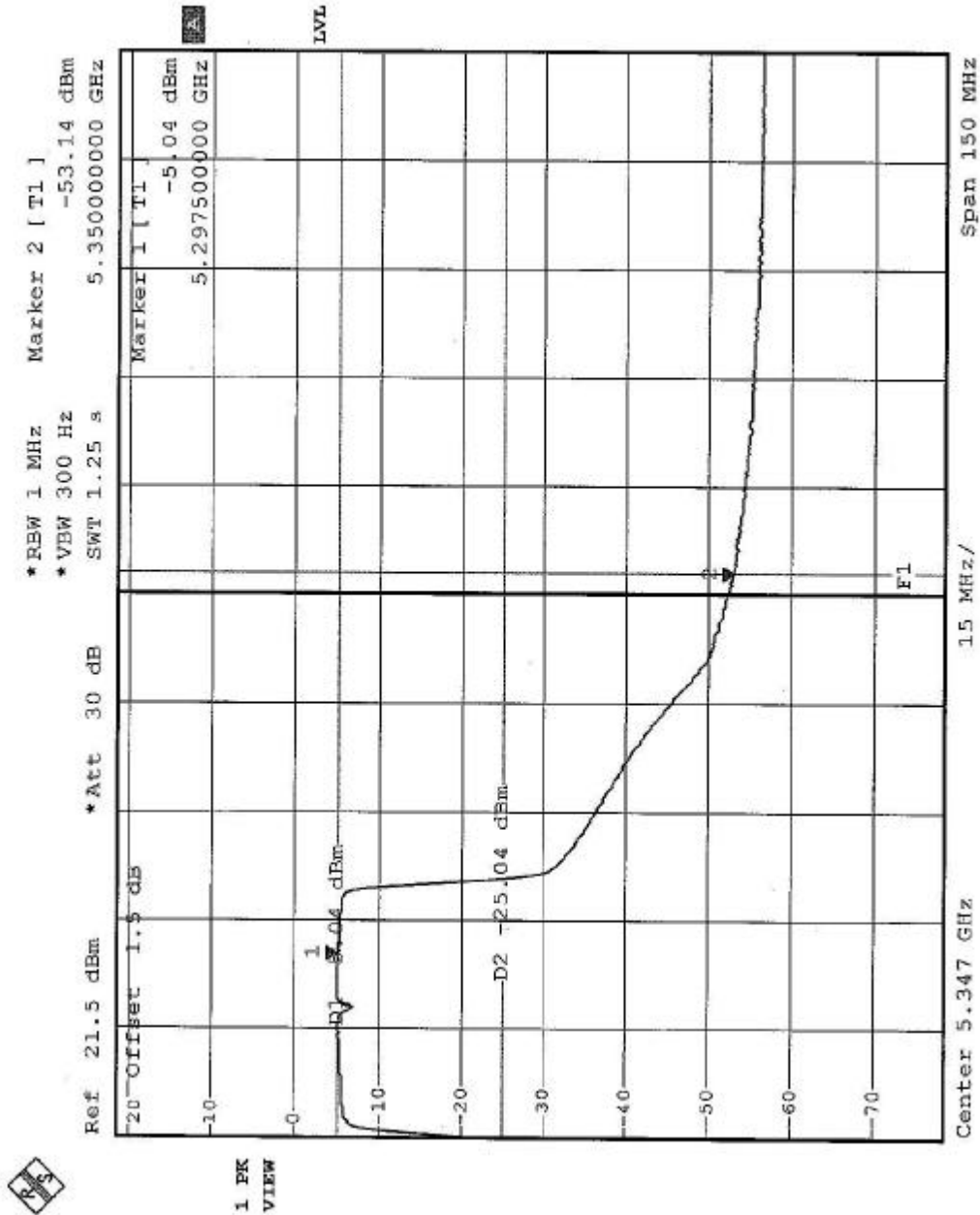
The band edge emission plot on the following page shows 49.34dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 98.5dBuV/m, so the maximum field strength in restrict band is  $98.5 - 49.34 = 49.16$  dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following page shows 48.10dBc (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 94.1dBuV/m, so the maximum field strength in restrict band is  $94.1 - 48.10 = 46.00$  dBuV/m which is under 54dBuV/m limit.





### 5.7.8 TEST RESULTS (Antenna 5)

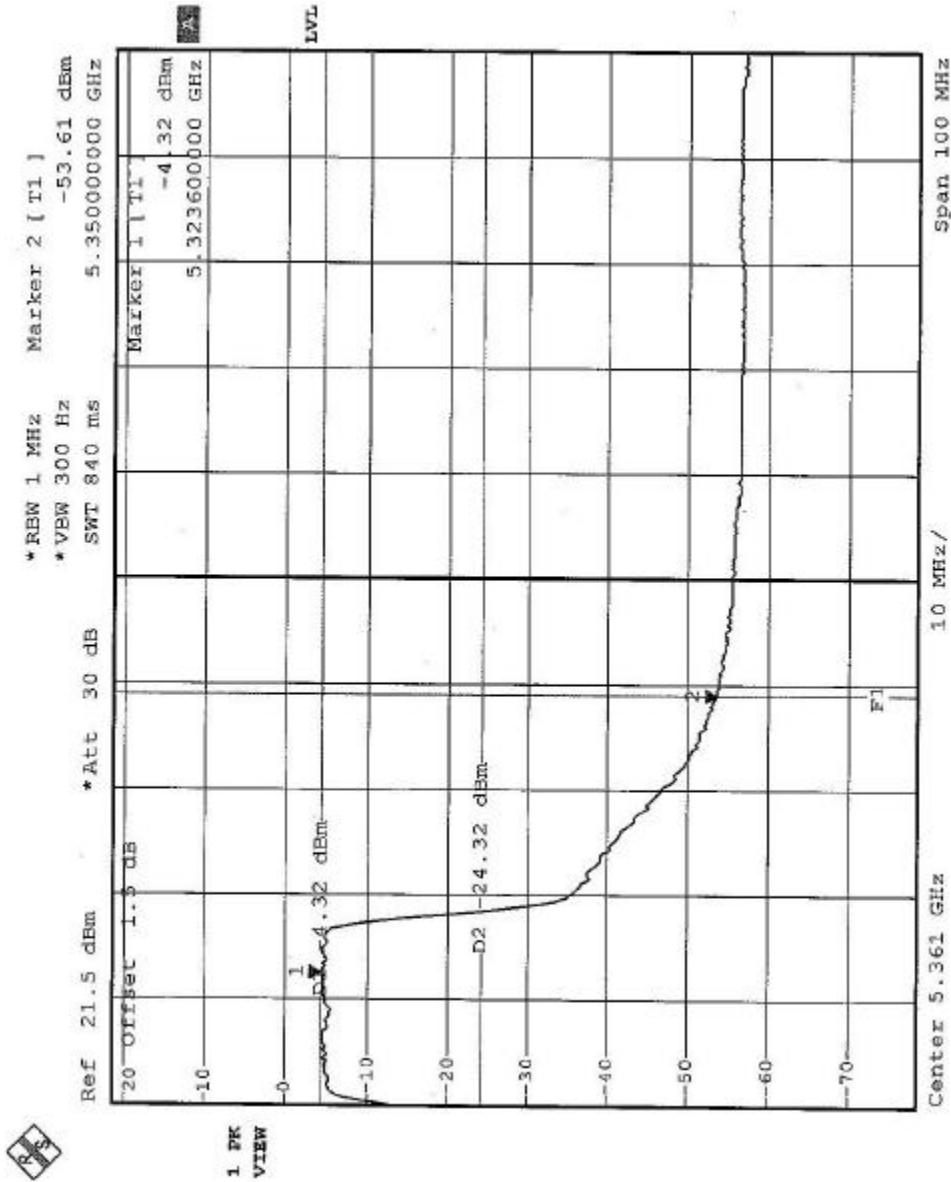
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal 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 2 pages.



Normal Mode: Channel 8 (5320 MHz)

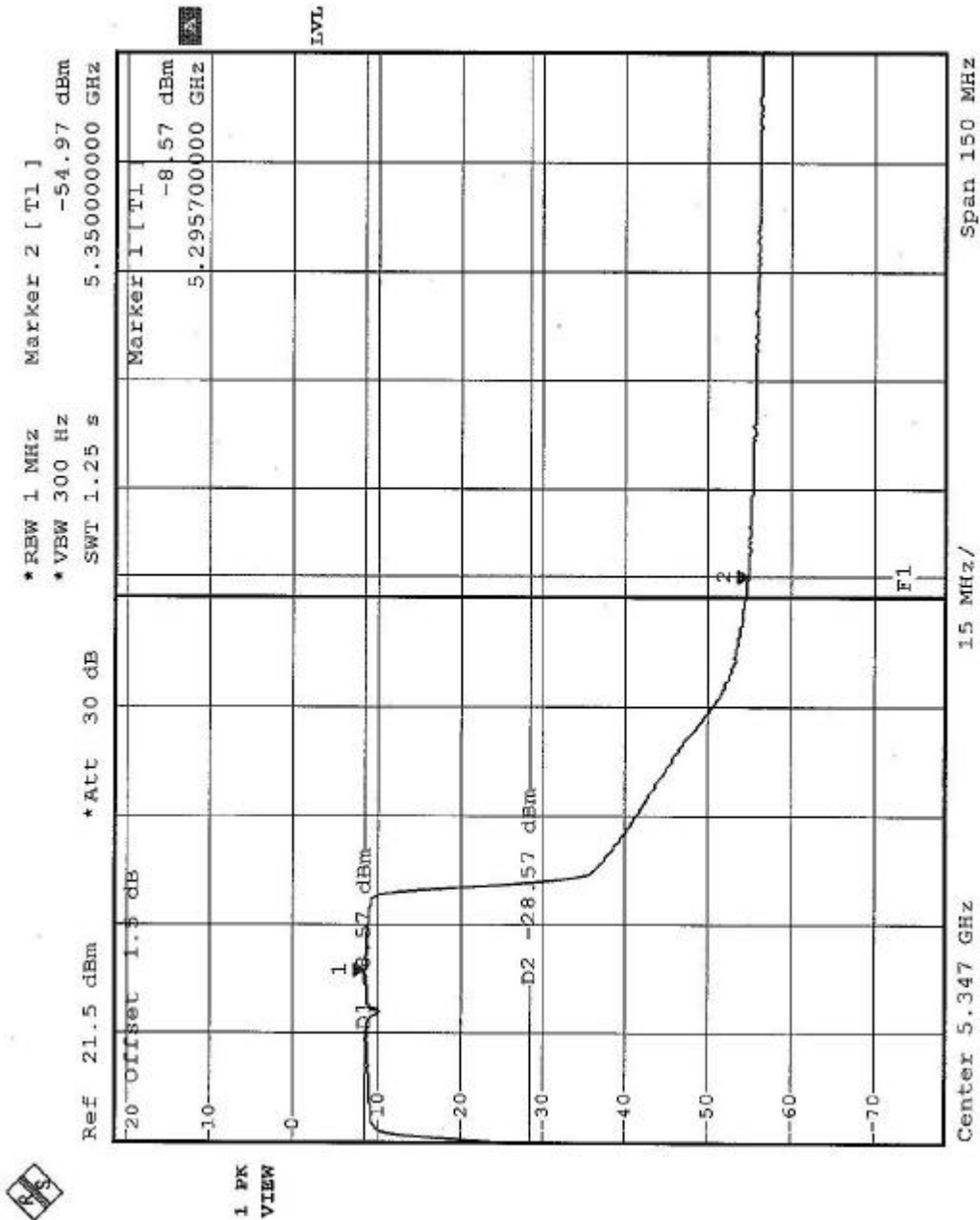
The band edge emission plot on the following page shows 49.29dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 98.0dBuV/m, so the maximum field strength in restrict band is  $98.0-49.29=48.71$ dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following page shows 46.4dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (turbo mode) is 93.5dBuV/m, so the maximum field strength in restrict band is  $93.5 - 46.4 = 47.10$  dBuV/m which is under 54dBuV/m limit.







### 5.7.9 TEST RESULTS (Antenna 6)

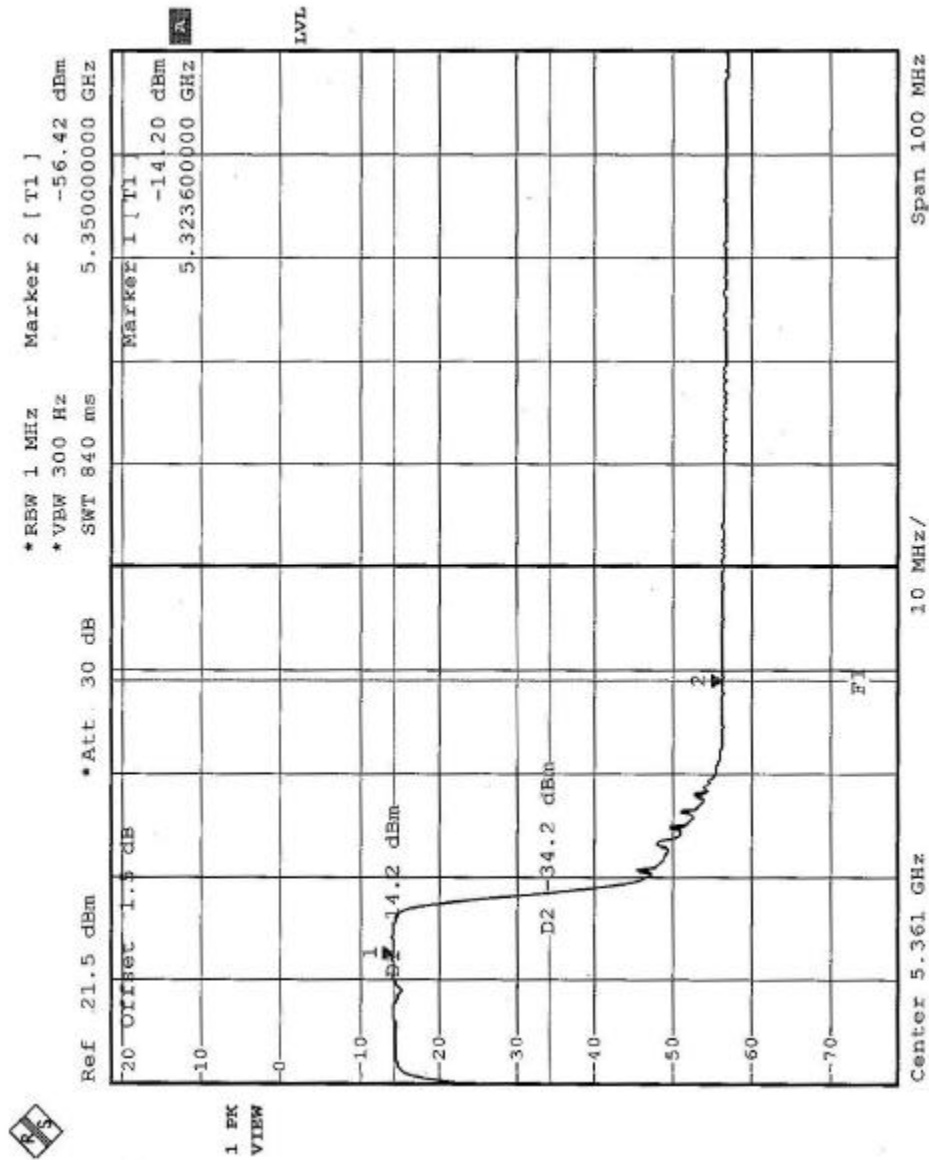
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal 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 2 pages.



Normal Mode: Channel 8 (5320 MHz)

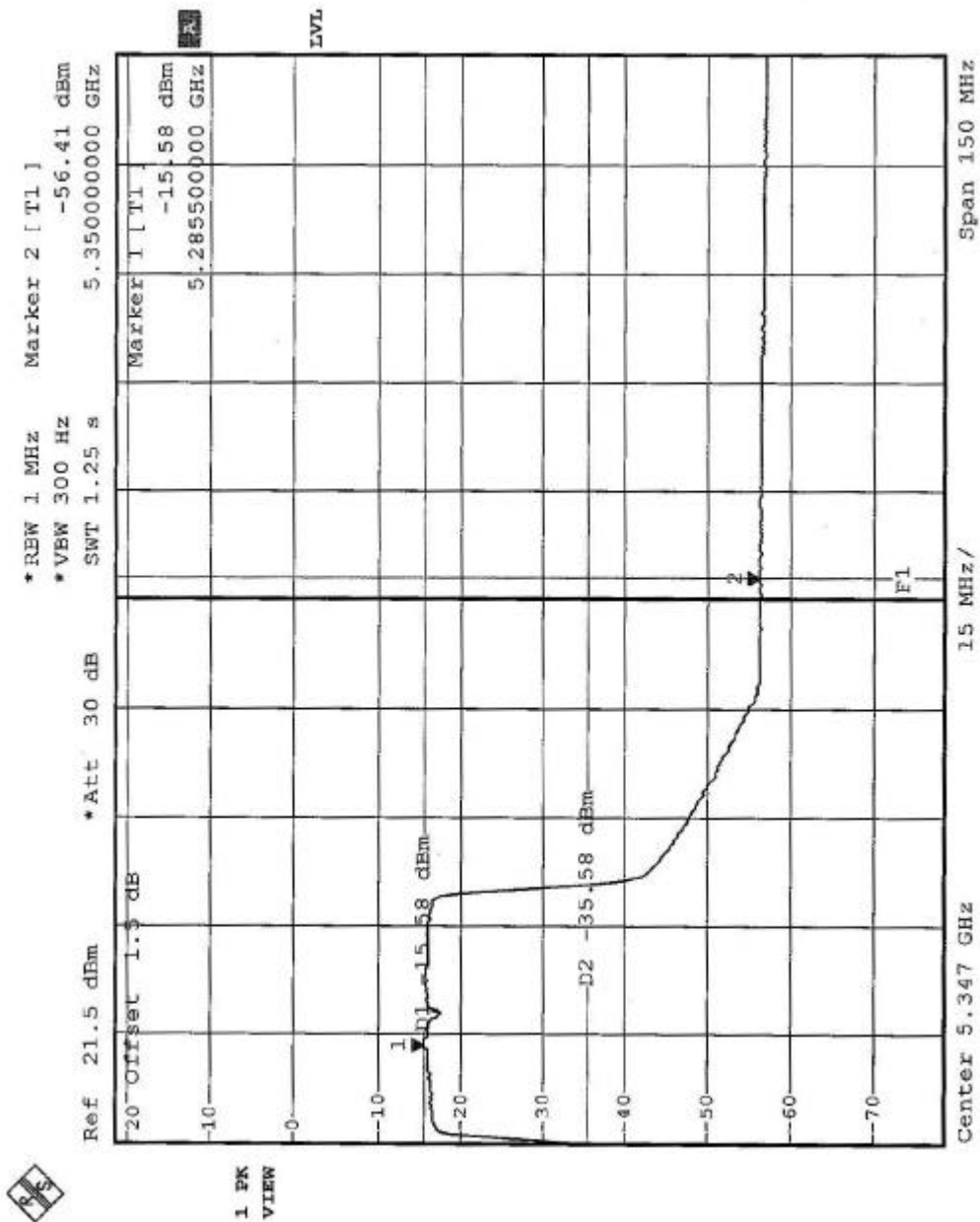
The band edge emission plot on the following page shows 42.22dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 92.9dBuV/m, so the maximum field strength in restrict band is  $92.9 - 42.22 = 50.68$  dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following page shows 40.83dBc (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 89.2dBuV/m, so the maximum field strength in restrict band is  $89.20 - 40.83 = 48.37$  dBuV/m which is under 54 dBuV/m limit.





#### 5.7.10 TEST RESULTS (Antenna 7)

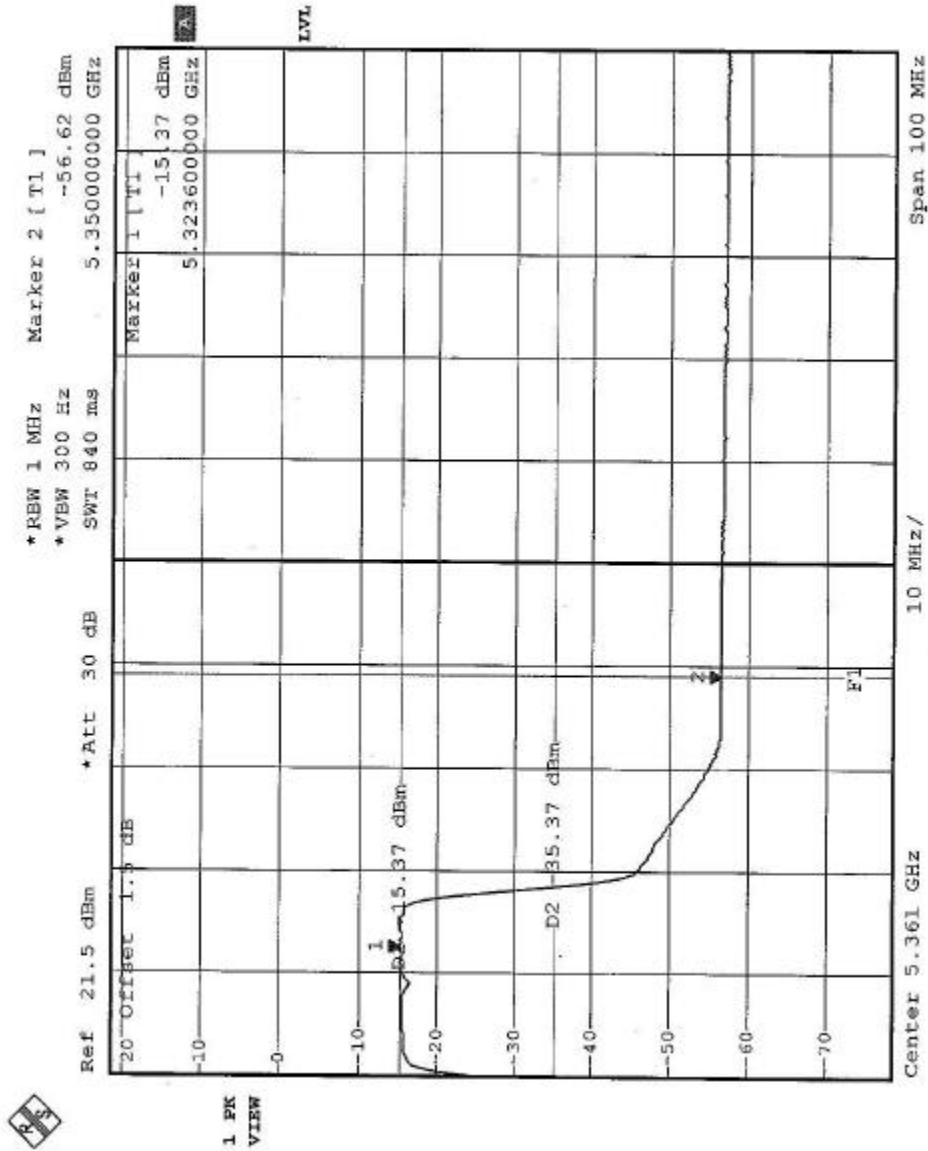
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal 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 2 pages.



Normal Mode: Channel 8 (5320 MHz)

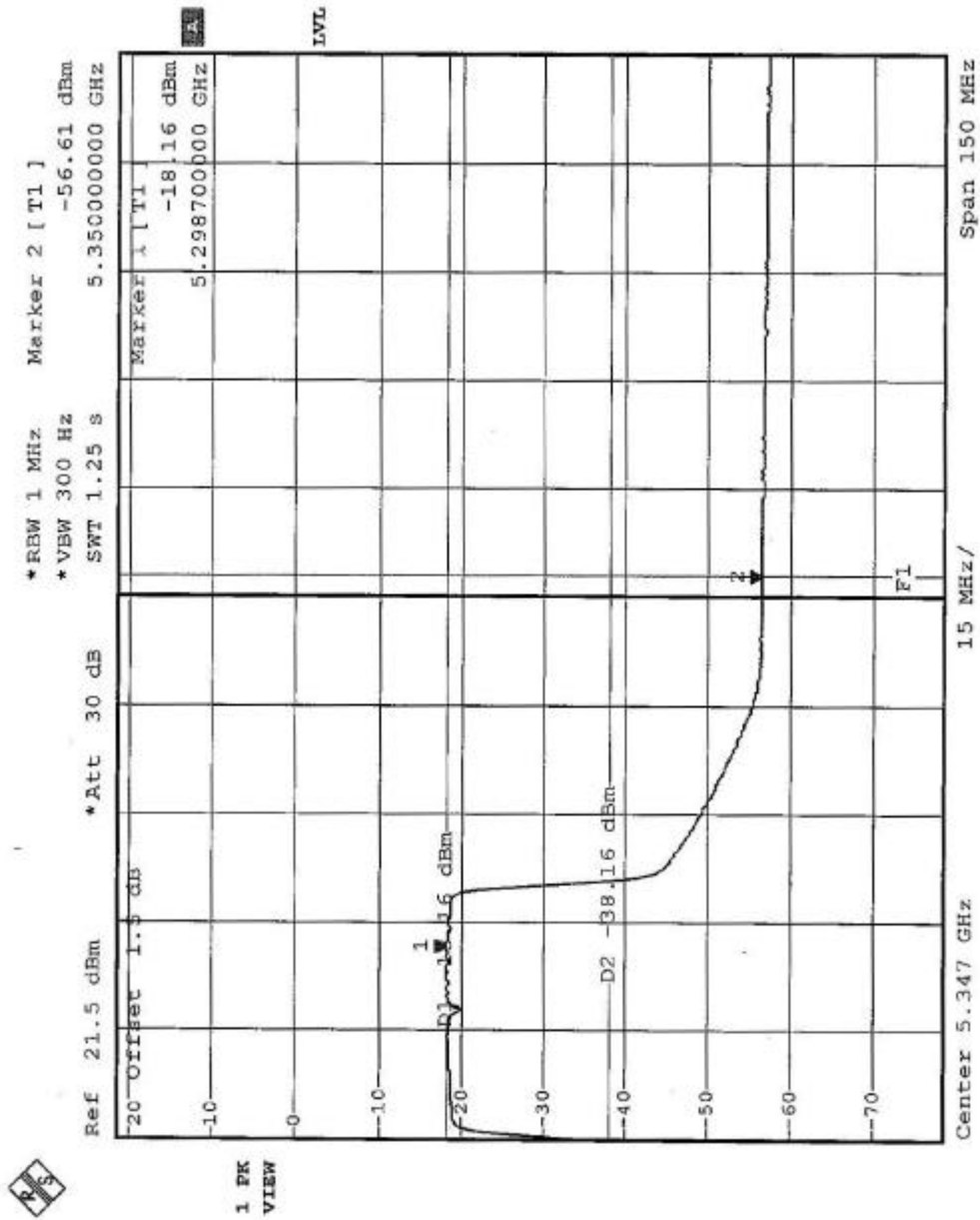
The band edge emission plot on the following page shows 41.25dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 84.7dBuV/m, so the maximum field strength in restrict band is  $84.7 - 41.25 = 43.45$  dBuV/m which is under 54dBuV/m limit.





Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following page shows 38.45dBc (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 83.0dBuV/m, so the maximum field strength in restrict band is  $83.0 - 38.45 = 44.55$  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, 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.

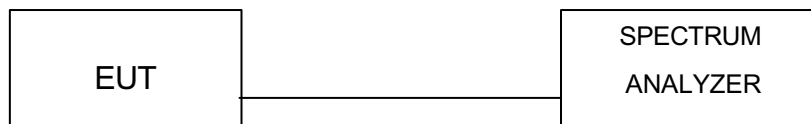
### 5.8.3 TEST PROCEDURE

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.





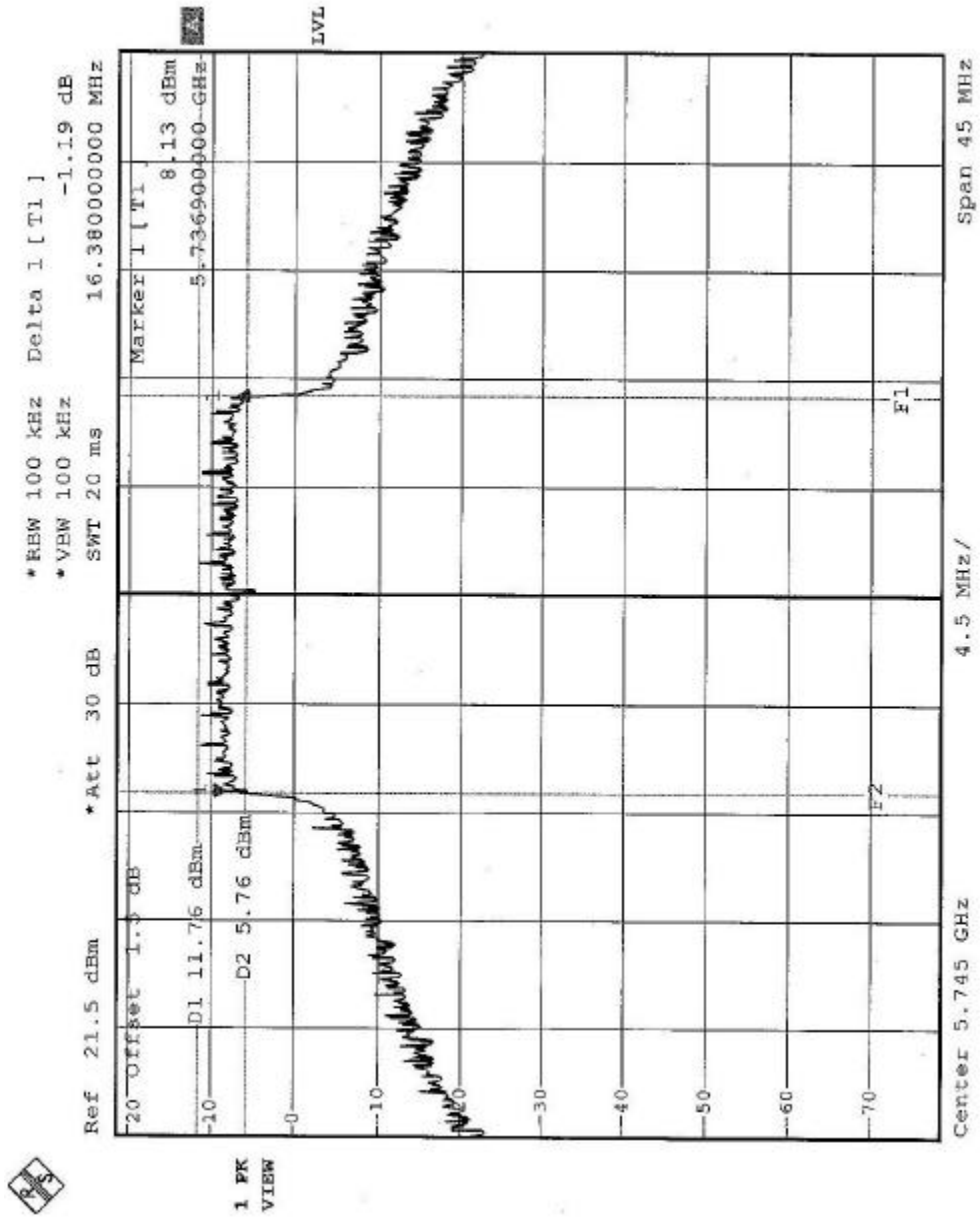
## 5.8.7 TEST RESULTS

<b>EUT</b>	Flanker Pro Dual Radio AP	<b>MODEL</b>	AP-AG-AT-02
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	21deg.C, 58%RH, 982 hPa
<b>TEST MODE</b>	Normal	<b>TEST BY</b>	Eric Lee

<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	16.38	0.5	PASS
11	5785	16.47	0.5	PASS
13	5825	16.47	0.5	PASS

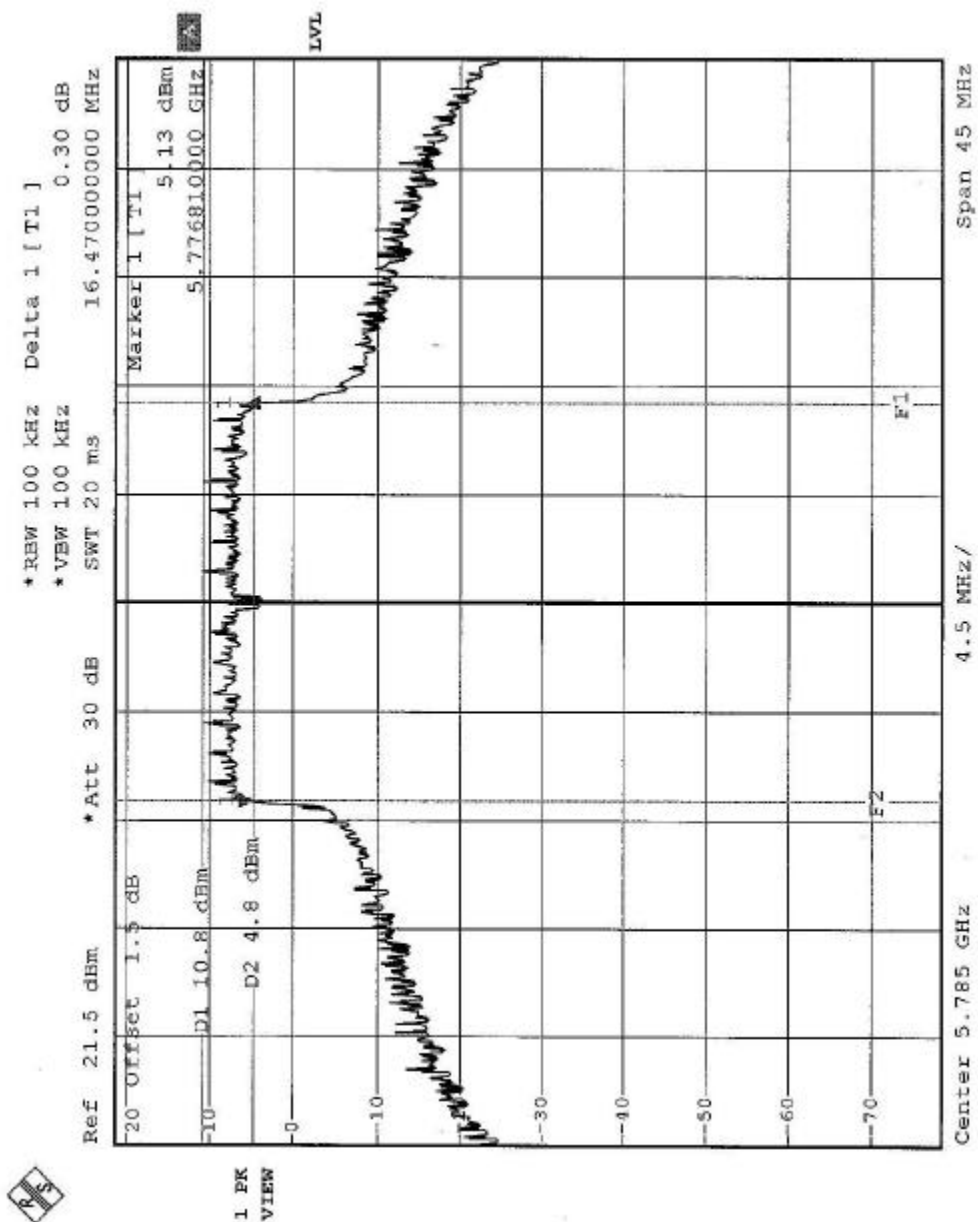


CH9



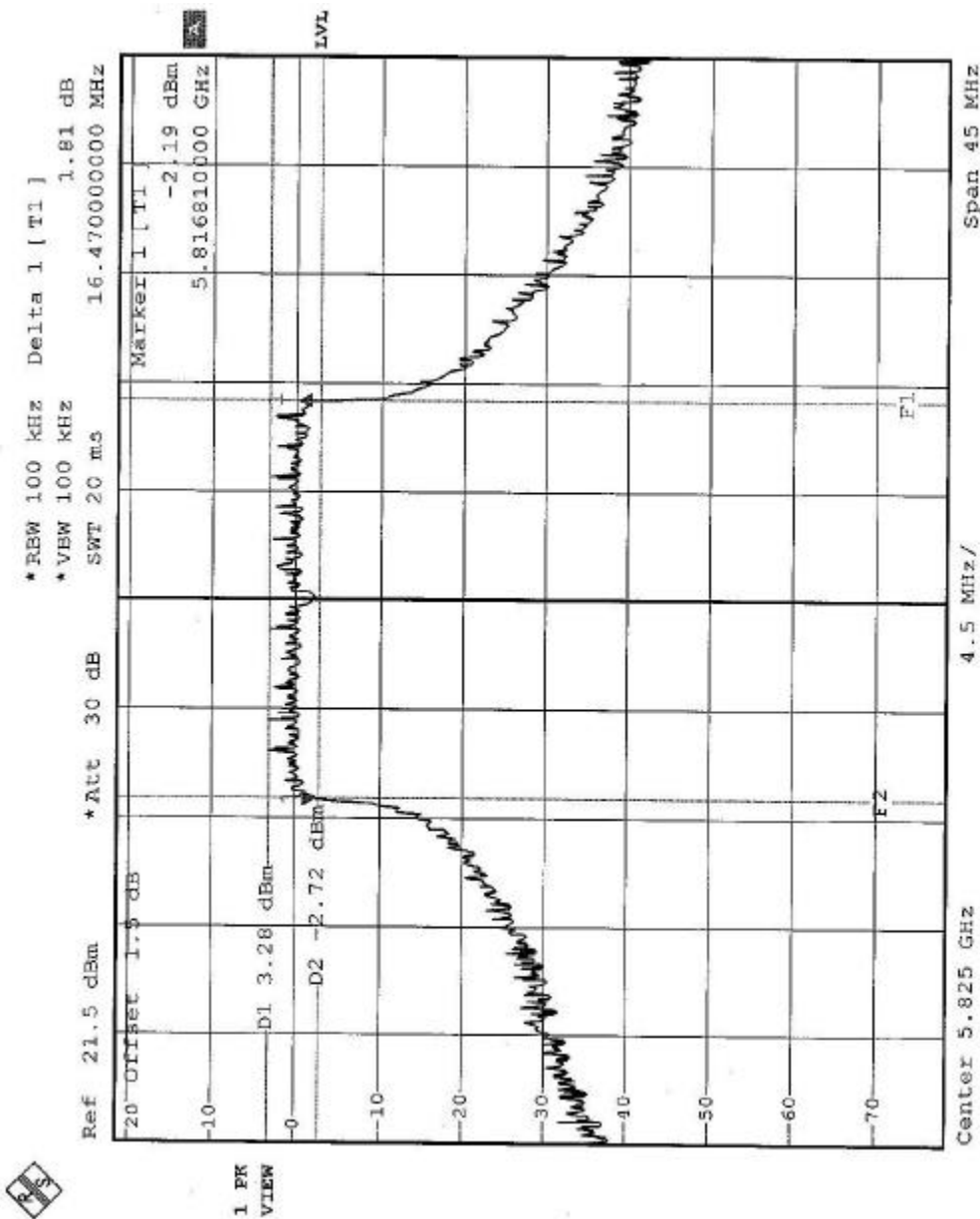


CH11





CH13



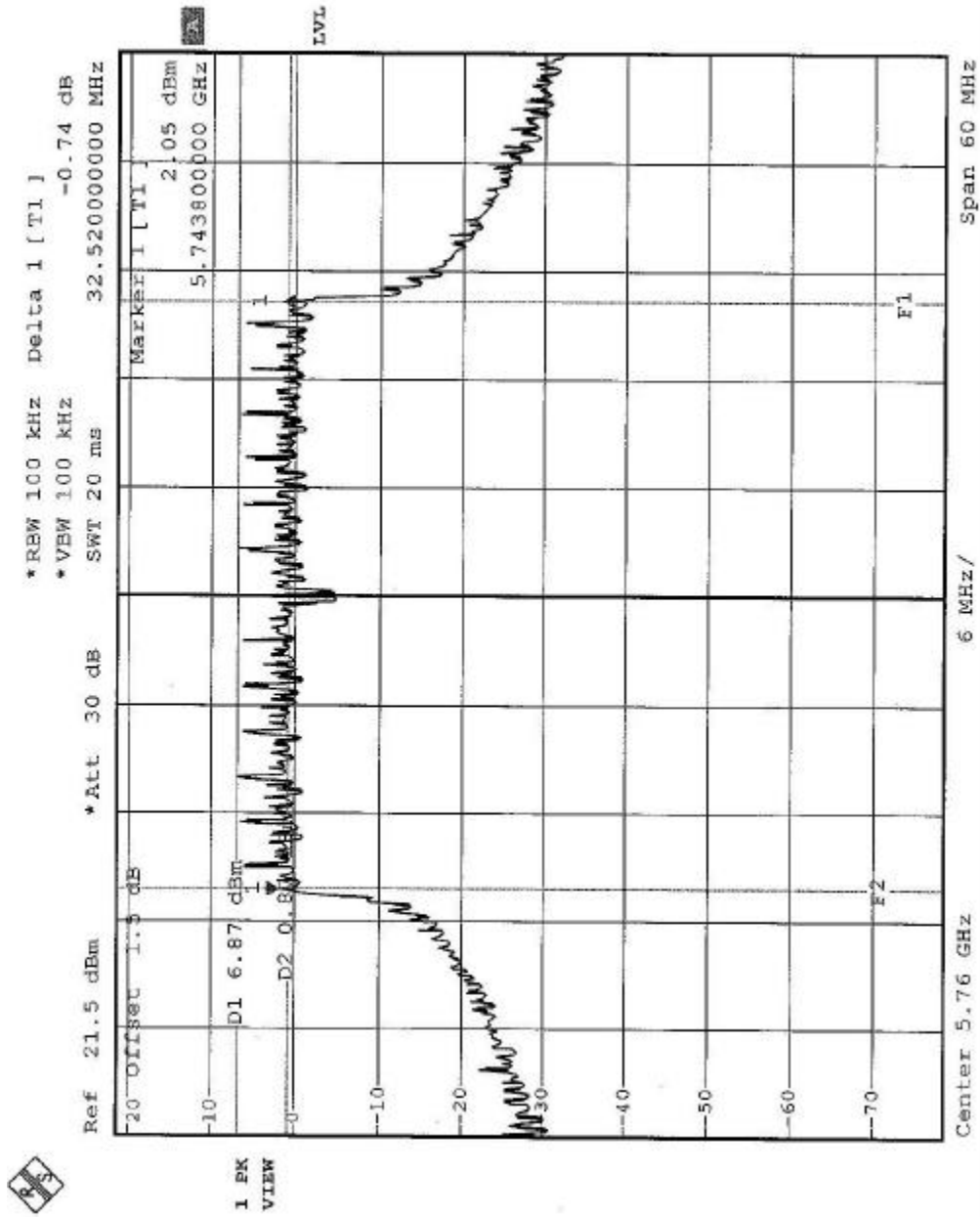


<b>EUT</b>	Flanker Pro Dual Radio AP	<b>MODEL</b>	AP-AG-AT-02
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	21deg.C, 58%RH, 982 hPa
<b>TEST MODE</b>	Turbo	<b>TEST BY</b>	Eric Lee

<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	32.52	0.5	PASS
5	5800	32.76	0.5	PASS

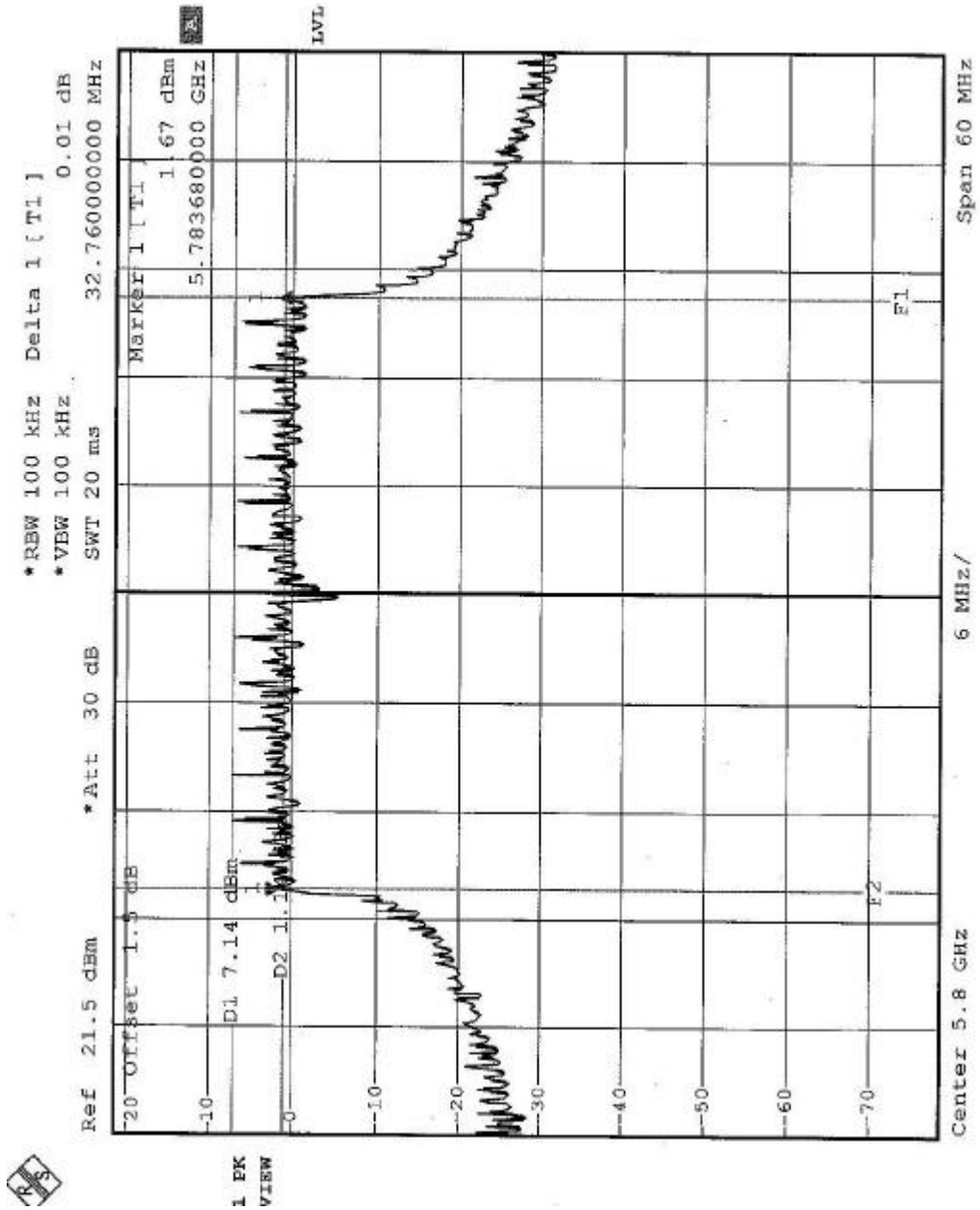


CH4





CH5





## 5.9 MAXIMUM PEAK OUTPUT POWER

### 5.9.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

**Note:**

1. Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter peak output power.

### 5.9.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP30	100019	Dec. 19, 2004

**NOTE:**

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



### 5.9.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer.

Set the spectrum bandwidth span to view the entire spectrum.

Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=30KHz).

The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

### 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>	Flanker Pro Dual Radio AP	<b>MODEL</b>	AP-AG-AT-02
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	28deg.C, 56%RH, 982 hPa
<b>TEST MODE</b>	Normal	<b>TEST BY</b>	Eric Lee

## Antenna 1 (Gain 3.5dBi)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
9	5745	22.65	30	PASS
11	5785	22.38	30	PASS
13	5825	19.20	30	PASS

## Antenna 2 (Gain 3dBi)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
9	5745	23.90	30	PASS
11	5785	23.76	30	PASS
13	5825	20.50	30	PASS

## Antenna 3 (Gain 4dBi)

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
9	5745	22.48	30	PASS
11	5785	22.50	30	PASS
13	5825	21.55	30	PASS