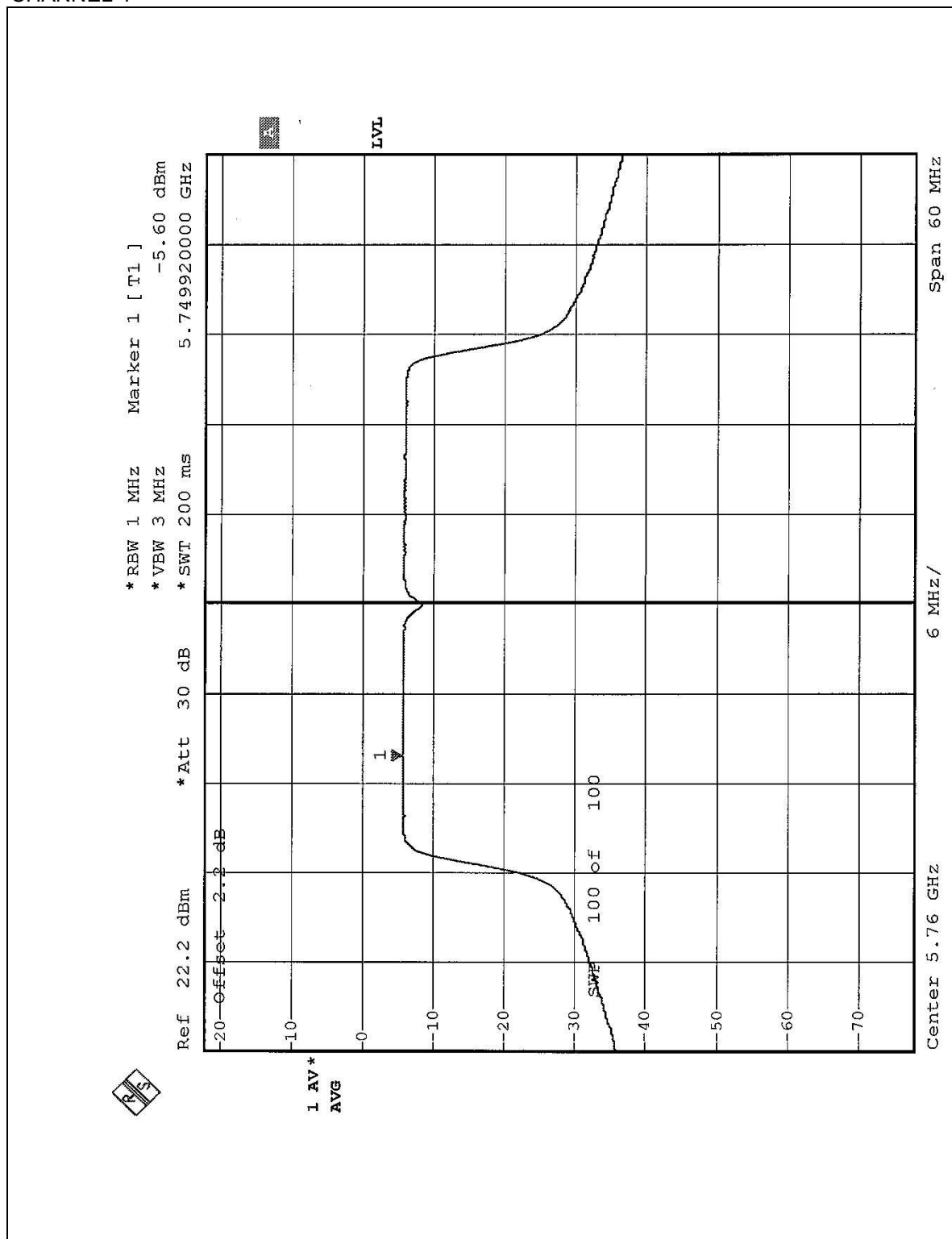


CHANNEL 4



Ref 22.2 dBm *Att 30 dB *RBW 1 MHz Marker 1 [T1] -5.39 dBm 5.809960000 GHz

Center 5.8 GHz Span 60 MHz

1 AV *
AVG

SWT 100 of 100

1

SWT 200 ms

VBW 3 MHz

RBW 1 MHz

Marker 1 [T1]

-5.39 dBm

5.809960000 GHz

4.6 EFFECTIVE ISOTROPIC RADIATED POWER SPURIOUS EMISSIONS MEASUREMENT

4.6.1 LIMITS OF EFFECTIVE ISOTROPIC RADIATED POWER SPURIOUS EMISSIONS MEASUREMENT

- (1) For transmitters operating in the 5.15 – 5.25 GHz band:
All emissions outside of the 5.15 – 5.25 GHz band shall not exceed an EIRP of –27dBm/MHz.
- (2) For transmitters operating in the 5.25 – 5.35 GHz band:
All emissions outside of the 5.25 – 5.35 GHz band shall not exceed an EIRP of –27dBm/MHz.
- (3) For transmitters operating in the 5.725 – 5.825 GHz band:
All emissions operating within the frequency range from the band edge 10 MHz above or below the band edge shall not exceed an EIRP of –17dBm/MHz; for frequencies 10 MHz or greater above or below the band edge shall not exceed an EIRP of –27dBm/MHz.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
* ROHDE & SCHWARZ Spectrum Analyzer	FSEK30	100049	July 24, 2003
ROHDE & SCHWARZ Signal Generator	68247B	984703	May 31, 2003
* EMCO Horn Antenna	3115	5623	May 23, 2003
* EMCO Horn Antenna	3115	5619	May 22, 2003
MITEQ Preamplifier	AMF-4D-0051	692677	NA
MITEQ Preamplifier	AFS33-18002	690751	NA
Broadband Horn Antenna	BBHA 9170	147	May 30, 2003
Broadband Horn Antenna	BBHA 9170	148	May 31, 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.



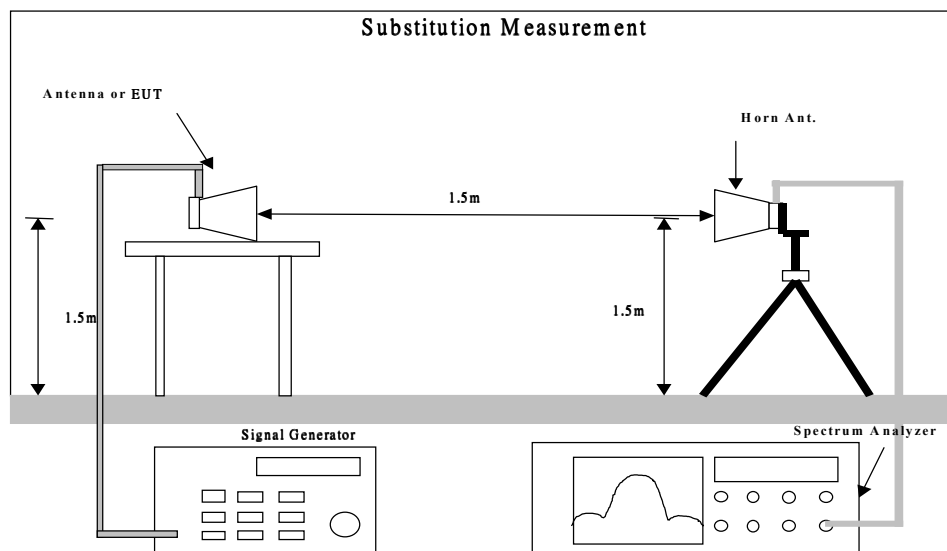
4.6.3 TEST PROCEDURE

1. The EUT was placed on the top of a rotating table 1.5 meters above the ground.
2. The table was rotated 360 degrees to determine the position of the highest radiation.
3. The EUT was set 1.5 meters away from the receiving antenna, which was mounted on antenna tower and its position at 1.5 m above the ground.
4. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading and recorded the value.
5. The EUT is replaced by a horn antenna connected to a signal generator tuned to the frequency of emission and with the same radiation nature.
6. The radiated power can be calculated via the factor and antenna gain.
7. Repeat step 1-6 for horizontal polarization.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.5

4.6.7 TEST RESULTS (A)

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5180.00	-	-	-	-	NOTE
10357.90	H	-37.6	-27.0	-10.6	
10360.30	V	-29.2	-27.0	-2.2	
15540.00	-	-	-	-	NOTE
20717.70	-	-	-	-	NOTE
25877.96	V	-51.5	-27.0	-24.5	
25917.94	H	-53.7	-27.0	-26.7	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5240.00	-	-	-	-	NOTE
10479.30	V	-31.7	-27.0	-4.7	
10482.63	H	-36.7	-27.0	-9.7	
15720.00	-	-	-	-	NOTE
20962.30	-	-	-	-	NOTE
26167.54	V	-51.7	-27.0	-24.7	
26182.46	H	-52.4	-27.0	-25.4	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5260.00	-	-	-	-	NOTE
10518.30	H	-35.0	-27.0	-8.0	
10518.50	V	-29.6	-27.0	-2.6	
15780.00	-	-	-	-	NOTE
21042.91	-	-	-	-	NOTE
26192.99	V	-51.3	-27.0	-24.3	
26272.04	H	-52.5	-27.0	-25.5	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	8
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5320.00	-	-	-	-	NOTE
10640.00	-	-	-	-	NOTE
15960.00	-	-	-	-	NOTE
21243.63	-	-	-	-	NOTE
26534.67	V	-49.7	-27.0	-22.7	
26616.53	H	-50.9	-27.0	-23.9	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5715.00	H	-37.2	-27.0	-10.2	
5715.00	V	-33.0	-27.0	-6.0	
5725.00	H	-24.5	-17.0	-7.5	
5725.00	V	-24.4	-17.0	-7.4	
11490.00	-	-	-	-	NOTE
17227.03	H	-44.4	-27.0	-17.4	
17239.71	V	-35.6	-27.0	-8.6	
22980.00	-	-	-	-	NOTE
28725.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	12
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5825.00	H	-31.1	-17.0	-14.1	
5825.00	V	-20.2	-17.0	-3.2	
5835.00	H	-35.9	-27.0	-8.9	
5835.00	V	-30.7	-27.0	-3.7	
11610.00	-	-	-	-	NOTE
17408.09	V	-35.3	-27.0	-8.3	
17416.65	H	-43.3	-27.0	-16.3	
23231.52	V	-50.5	-27.0	-23.5	
23260.13	H	-55.4	-27.0	-28.4	
29025.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.



EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5210.00	-	-	-	-	NOTE
10414.49	V	-33.3	-27.0	-6.3	
10422.30	H	-33.8	-27.0	-6.8	
15630.00	-	-	-	-	NOTE
20870.06	-	-	-	-	NOTE
26080.36	H	-53.9	-27.0	-26.9	
26162.63	V	-50.7	-27.0	-23.7	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	2
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5250.00	-	-	-	-	NOTE
10497.56	H	-37.6	-27.0	-10.6	
10502.30	V	-32.6	-27.0	-5.6	
15750.00	-	-	-	-	NOTE
21048.80	-	-	-	-	NOTE
26190.28	V	-51.8	-27.0	-24.8	
26266.73	H	-52.8	-27.0	-25.8	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	3
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5290.00	-	-	-	-	NOTE
10580.72	H	-35.6	-27.0	-8.6	
10582.30	V	-29.6	-27.0	-2.6	
15870.00	-	-	-	-	NOTE
21157.29					
26450.30	H	-51.7	-27.0	-24.7	
26588.28	V	-48.9	-27.0	-21.9	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5715.00	H	-37.0	-27.0	-10.0	
5715.00	V	-33.6	-27.0	-6.6	
5725.00	H	-36.6	-17.0	-19.6	
5725.00	V	-29.1	-17.0	-12.1	
11520.00	-	-	-	-	NOTE
17271.43	H	-43.8	-27.0	-16.8	
17271.48	V	-38.1	-27.0	-11.1	
23050.32	-	-	-	-	NOTE
28800.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.



EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5825.00	H	-31.8	-17.0	-14.8	
5825.00	V	-20.5	-17.0	-3.5	
5835.00	H	-35.3	-27.0	-8.3	
5835.00	V	-29.6	-27.0	-2.6	
11600.00	-	-	-	-	NOTE
17381.81	V	-44.3	-27.0	-17.3	
17392.33	H	-50.0	-27.0	-23.0	
23134.62	H	-55.4	-27.0	-28.4	
23263.28	V	-55.2	-27.0	-28.2	
29000.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.



4.6.8 TEST RESULTS (B)

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5180.00	-	-	-	-	NOTE
10358.30	V	-36.9	-27.0	-9.9	
10360.30	H	-39.2	-27.0	-12.2	
15540.00	-	-	-	-	NOTE
20697.66	-	-	-	-	NOTE
25851.00	H	-39.9	-27.0	-12.9	
25870.64	V	-39.0	-27.0	-12.0	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5240.00	-	-	-	-	NOTE
10479.64	V	-29.4	-27.0	-2.4	
10483.65	H	-33.1	-27.0	-6.1	
15720.00	-	-	-	-	NOTE
20932.65	-	-	-	-	NOTE
26159.42	H	-39.7	-27.0	-12.7	
26168.84	V	-38.2	-27.0	-11.2	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5260.00	-	-	-	-	NOTE
10519.12	V	-29.2	-27.0	-2.2	
10520.62	H	-29.6	-27.0	-2.6	
15780.00	-	-	-	-	NOTE
21025.87	-	-	-	-	NOTE
26256.01	V	-38.9	-27.0	-11.9	
26270.84	H	-39.8	-27.0	-12.8	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	8
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5320.00	-	-	-	-	NOTE
10640.00	-	-	-	-	NOTE
15960.00	-	-	-	-	NOTE
21263.07	-	-	-	-	NOTE
26573.65	H	-38.0	-27.0	-11.0	
26591.28	V	-37.5	-27.0	-10.5	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5715.00	H	-34.2	-27.0	-7.2	
5715.00	V	-30.6	-27.0	-3.6	
5725.00	H	-28.9	-17.0	-11.9	
5725.00	V	-21.9	-17.0	-4.9	
11490.00	-	-	-	-	NOTE
17233.10	H	-39.1	-27.0	-12.1	
17241.31	V	-31.2	-27.0	-4.2	
22980.00	-	-	-	-	NOTE
28725.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	12
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5825.00	H	-31.7	-17.0	-14.7	
5825.00	V	-21.0	-17.0	-4.0	
5835.00	H	-34.7	-27.0	-7.7	
5835.00	V	-29.0	-27.0	-2.0	
11610.00	-	-	-	-	NOTE
17404.84	H	-39.7	-27.0	-12.7	
17407.85	V	-31.4	-27.0	-4.4	
23220.00	-	-	-	-	NOTE
29025.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5210.00	-	-	-	-	NOTE
10414.68	H	-36.1	-27.0	-9.1	
10429.04	V	-29.4	-27.0	-2.4	
15630.00	-	-	-	-	NOTE
20815.25	-	-	-	-	NOTE
20838.72	-	-	-	-	NOTE
26081.04	V	-39.4	-27.0	-12.4	
26086.57	H	-40.0	-27.0	-13.0	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	2
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5250.00	-	-	-	-	NOTE
10498.33	V	-31.8	-27.0	-4.8	
10503.89	H	-37.3	-27.0	-10.3	
15750.00	-	-	-	-	NOTE
21035.37	-	-	-	-	NOTE
26224.22	V	-37.5	-27.0	-10.5	
26266.53	H	-39.6	-27.0	-12.6	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	3
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5290.00	-	-	-	-	NOTE
10582.42	H	-34.0	-27.0	-7.0	
10582.72	V	-30.7	-27.0	-3.7	
15870.00	-	-	-	-	NOTE
21174.65	-	-	-	-	NOTE
21205.79	-	-	-	-	NOTE
26428.28	V	-38.6	-27.0	-11.6	
26480.56	H	-39.8	-27.0	-12.8	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.



EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5715.00	H	-34.0	-27.0	-7.0	
5715.00	V	-30.2	-27.0	-3.2	
5725.00	H	-29.9	-17.0	-12.9	
5725.00	V	-23.7	-17.0	-6.7	
11520.00	-	-	-	-	NOTE
17262.46	H	-38.8	-27.0	-11.8	
17267.07	V	-32.9	-27.0	-5.9	
23024.87	-	-	-	-	NOTE
23062.95	-	-	-	-	NOTE
28800.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.



EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5825.00	H	-33.1	-17.0	-16.1	
5825.00	V	-25.7	-17.0	-8.7	
5835.00	H	-35.2	-27.0	-8.2	
5835.00	V	-33.0	-27.0	-6.0	
11600.00	-	-	-	-	NOTE
17356.21	H	-39.4	-27.0	-12.4	
17397.70	V	-32.0	-27.0	-5.0	
23150.00	H	-41.8	-27.0	-14.8	
23167.03	V	-42.6	-27.0	-15.6	
29000.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

4.6.9 TEST RESULTS (C)

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5180.00	-	-	-	-	NOTE
10356.59	H	-36.5	-27.0	-9.5	
10360.90	V	-33.3	-27.0	-6.3	
15538.50	-	-	-	-	NOTE
20725.31	-	-	-	-	NOTE
25890.28	H	-53.1	-27.0	-26.1	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.



EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5240.00	-	-	-	-	NOTE
10471.48	V	-35.9	-27.0	-8.9	
10480.60	H	-39.7	-27.0	-12.7	
15724.11	-	-	-	-	NOTE
20920.42	-	-	-	-	NOTE
26170.04	H	-52.5	-27.0	-25.5	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5260.00	-	-	-	-	NOTE
10520.70	H	-37.8	-27.0	-10.8	
10521.18	V	-36.1	-27.0	-9.1	
15779.02	-	-	-	-	NOTE
21082.18	-	-	-	-	NOTE
26250.00	H	-52.7	-27.0	-25.7	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.



EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	8
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5320.00	-	-	-	-	NOTE
10640.00	-	-	-	-	NOTE
15959.30	-	-	-	-	NOTE
21296.33	-	-	-	-	NOTE
26636.37	H	-51.0	-27.0	-24.0	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5715.00	H	-35.3	-27.0	-8.3	
5715.00	V	-29.5	-27.0	-2.5	
5725.00	H	-26.1	-17.0	-9.1	
5725.00	V	-19.2	-17.0	-2.2	
11490.00	-	-	-	-	NOTE
17236.10	V	-45.7	-27.0	-18.7	
17241.91	H	-47.8	-27.0	-20.8	
22980.00	-	-	-	-	NOTE
28725.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Normal Mode	CHANNEL	12
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5825.00	H	-29.2	-17.0	-12.2	
5825.00	V	-19.9	-17.0	-2.9	
5835.00	H	-34.7	-27.0	-7.7	
5835.00	V	-29.1	-27.0	-2.1	
11610.00	-	-	-	-	NOTE
17413.10	H	-46.1	-27.0	-19.1	
17415.10	V	-46.1	-27.0	-19.1	
23250.56	V	-55.2	-27.0	-28.2	
29025.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5210.00	-	-	-	-	NOTE
10419.50	V	-33.9	-27.0	-6.9	
10421.90	H	-32.3	-27.0	-5.3	
15630.00	-	-	-	-	NOTE
20803.83	-	-	-	-	NOTE
26090.78	V	-53.8	-27.0	-26.8	
26091.78	H	-53.7	-27.0	-26.7	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	2
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5250.00	-	-	-	-	NOTE
10502.30	H	-33.5	-27.0	-6.5	
10504.71	V	-30.6	-27.0	-3.6	
15750.00	-	-	-	-	NOTE
21008.32	-	-	-	-	NOTE
26231.66	V	-51.2	-27.0	-24.2	
26241.48	H	-52.4	-27.0	-25.4	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	3
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5290.00	-	-	-	-	NOTE
10582.51	H	-32.3	-27.0	-5.3	
10582.51	V	-31.9	-27.0	-4.9	
15870.00	-	-	-	-	NOTE
21170.72	-	-	-	-	NOTE
26460.52	V	-50.8	-27.0	-23.8	
26499.40	H	-52.9	-27.0	-25.9	

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5715.00	H	-36.9	-27.0	-9.9	
5715.00	V	-34.1	-27.0	-7.1	
5725.00	H	-36.6	-17.0	-19.6	
5725.00	V	-27.8	-17.0	-10.8	
11520.00	-	-	-	-	NOTE
17274.49	V	-44.8	-27.0	-17.8	
17277.70	H	-49.0	-27.0	-22.0	
23056.13	-	-	-	-	NOTE
28800.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

EUT	Wireless 54Mbps MiniPCI Card	MODEL	GL5054MP-AA0
MODE	Turbo Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Ansen Lei		

EIRP SPURIOUS EMISSION LEVEL					
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin	Remark
5825.00	H	-29.3	-17.0	-12.3	
5825.00	V	-20.9	-17.0	-3.9	
5835.00	H	-34.2	-27.0	-7.2	
5835.00	V	-29.8	-27.0	-2.8	
11600.00	-	-	-	-	NOTE
17391.85	H	-48.5	-27.0	-21.5	
17397.29	V	-45.8	-27.0	-18.8	
23153.21	V	-55.2	-27.0	-28.2	
23260.78	H	-55.9	-27.0	-28.9	
29000.00	-	-	-	-	NOTE

NOTE: The emissions appearing in the restricted Bands shall not exceed the general limits of 15.209.

4.7 FREQUENCY STABILITY

4.7.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% 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.

4.7.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Mar. 15, 2003
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	Jun. 24, 2003

NOTE:

The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.

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

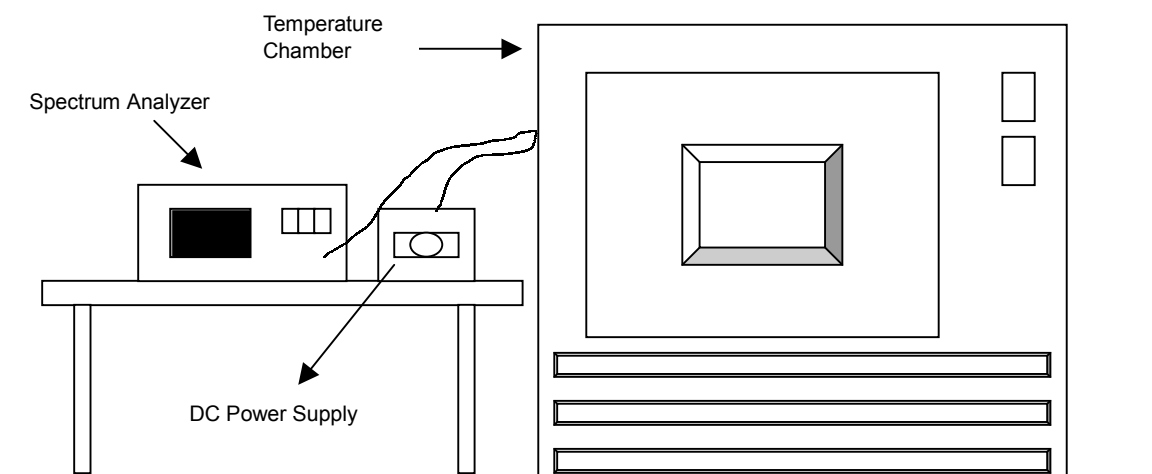
4.7.3 TEST PROCEDURE

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.

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



4.7.6 EUT OPERATING CONDITION

Same as Item 4.1.5

4.7.7 TEST RESULTS

Operating frequency: 5180MHz				Limit : $\pm 0.02\%$			
Temp. (°C)	Power supply (VDC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5179.9168	0.001606	5179.9166	0.001610	5179.9166	0.001610
	110.0	5179.9168	0.001606	5179.9166	0.001610	5179.9166	0.001610
	93.5	5179.9166	0.001610	5179.9166	0.001610	5179.9166	0.001610
40	126.5	5179.9086	0.001764	5179.9088	0.001761	5179.9086	0.001764
	110.0	5179.9086	0.001764	5179.9086	0.001764	5179.9086	0.001764
	93.5	5179.9086	0.001764	5179.9086	0.001764	5179.9088	0.001761
30	126.5	5179.9088	0.001761	5179.9088	0.001761	5179.9090	0.001757
	110.0	5179.9088	0.001761	5179.9088	0.001761	5179.9090	0.001757
	93.5	5179.9086	0.001764	5179.9090	0.001757	5179.9092	0.001753
20	126.5	5179.9138	0.001664	5179.9134	0.001672	5179.9132	0.001676
	110.0	5179.9138	0.001664	5179.9134	0.001672	5179.9132	0.001676
	93.5	5179.9136	0.001668	5179.9136	0.001668	5179.9134	0.001672
10	126.5	5179.9220	0.001505	5179.9220	0.001506	5179.9220	0.001506
	110.0	5179.9224	0.001498	5179.9222	0.001502	5179.9220	0.001506
	93.5	5179.9220	0.001505	5179.9222	0.001502	5179.9220	0.001506
0	126.5	5179.9206	0.001532	5179.9206	0.001533	5179.9210	0.001525
	110.0	5179.9204	0.001536	5179.9208	0.001529	5179.9210	0.001525
	93.5	5179.9208	0.001528	5179.9206	0.001533	5179.9210	0.001525
-10	126.5	5179.9216	0.001513	5179.9222	0.001502	5179.9222	0.001502
	110.0	5179.9216	0.001513	5179.9218	0.001510	5179.9222	0.001502
	93.5	5179.9218	0.001509	5179.9220	0.001506	5179.9222	0.001502
-20	126.5	5179.9140	0.001660	5179.9132	0.001676	5179.9124	0.001691
	110.0	5179.9140	0.001660	5179.9134	0.001672	5179.9130	0.001680
	93.5	5179.9138	0.001664	5179.9130	0.001680	5179.9126	0.001687
-30	126.5	5179.9036	0.001861	5179.9032	0.001869	5179.9018	0.001896
	110.0	5179.9036	0.001861	5179.9034	0.001865	5179.9026	0.001880
	93.5	5179.9034	0.001864	5179.9032	0.001869	5179.9026	0.001880

4.8 BAND EDGES MEASUREMENT

4.8.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 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.

4.8.2 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 1MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.8.3 EUT OPERATING CONDITION

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

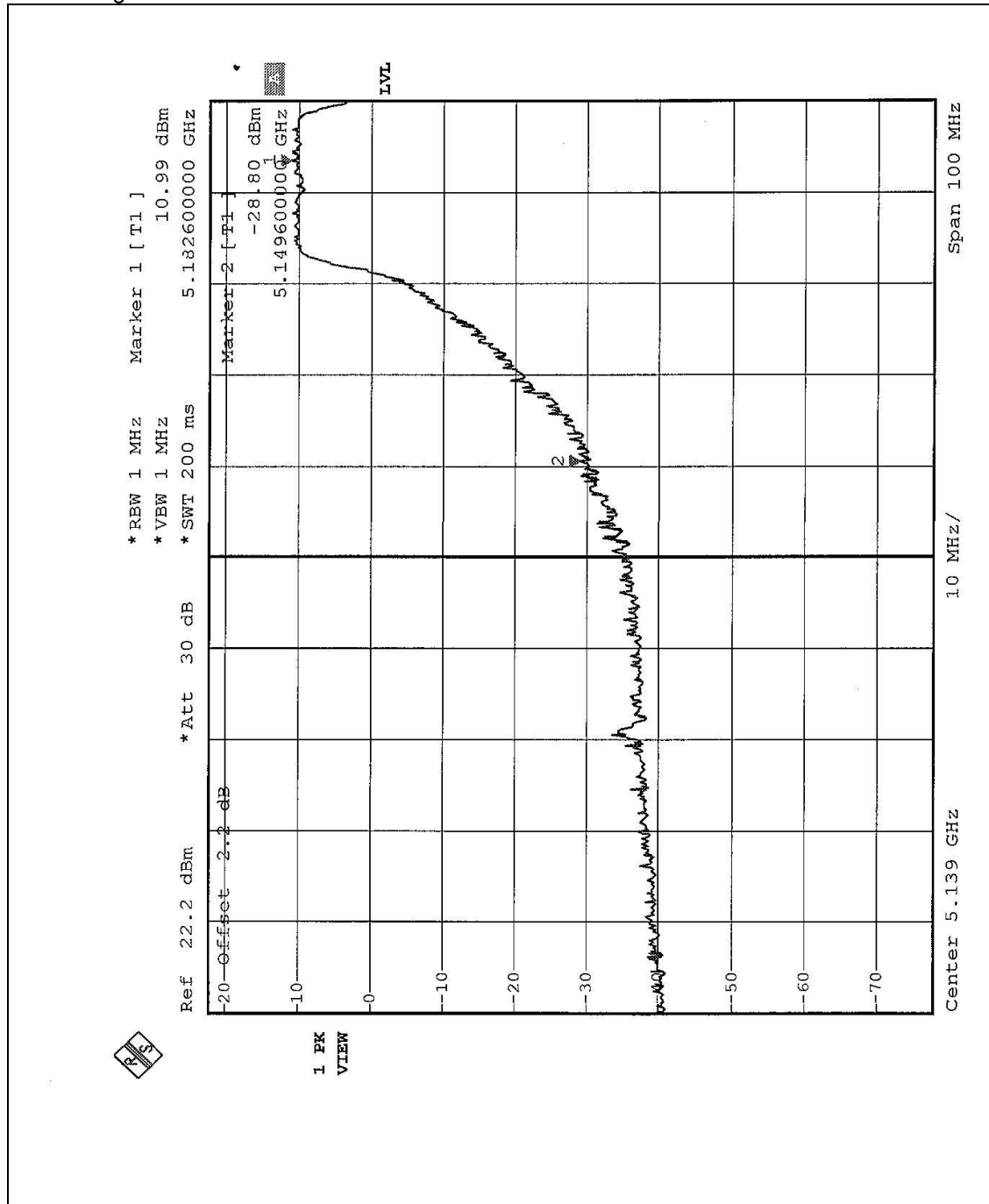
4.8.4 TEST RESULTS

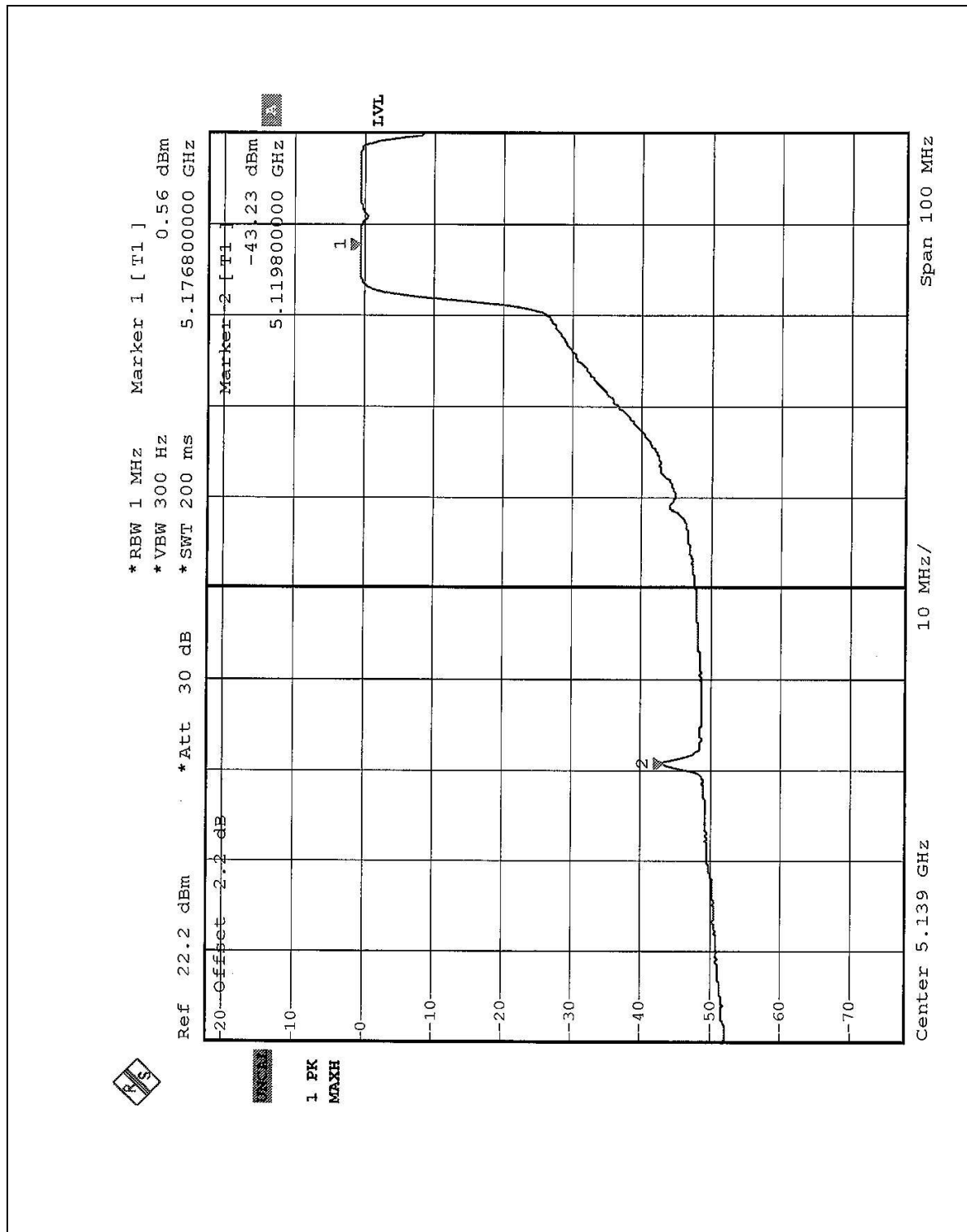
For signals in the restricted bands above and below the 5.15 to 5.35 GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal 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 8 pages.

Normal Mode: Channel 1 (5180 MHz)

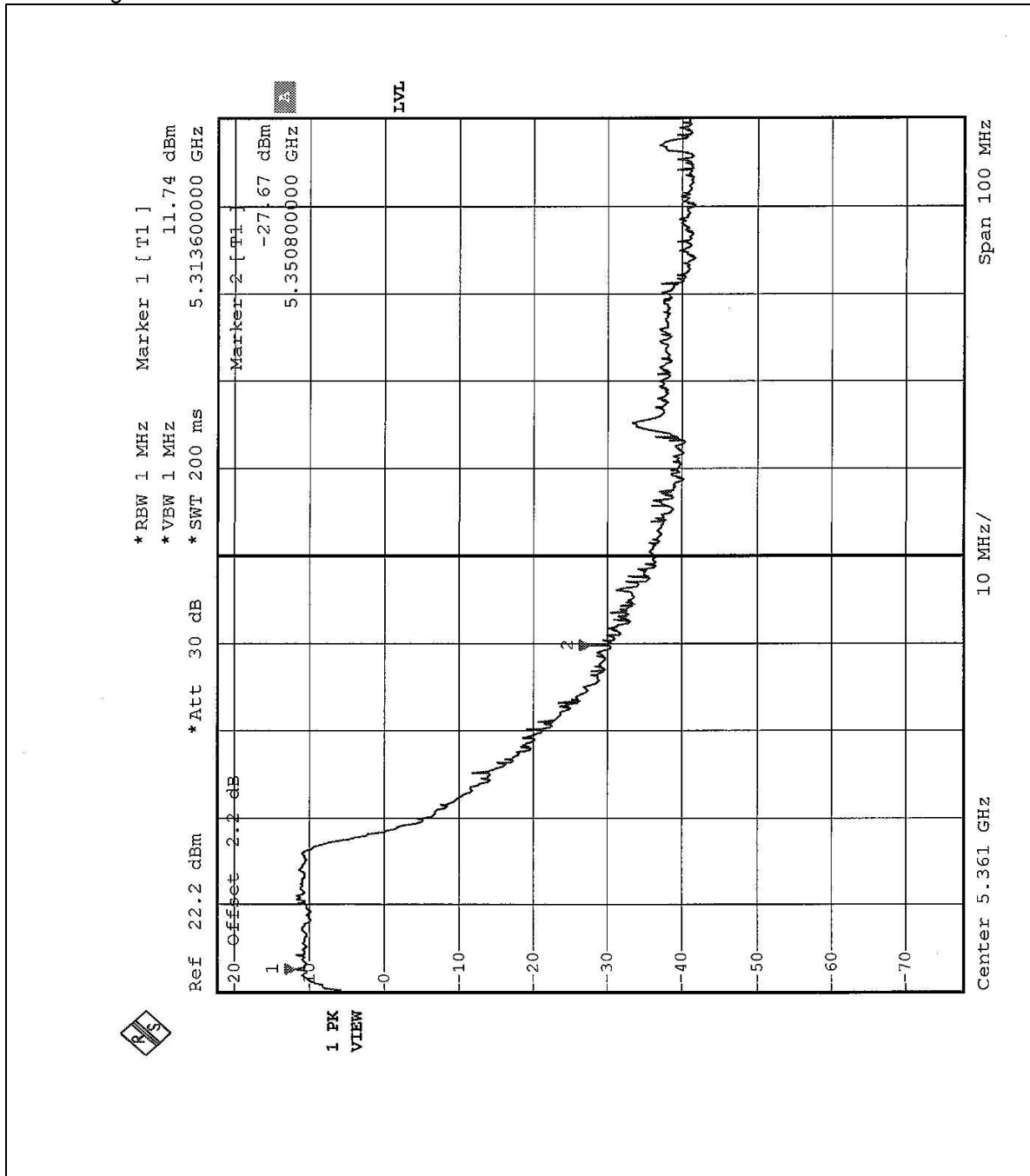
The band edge emission plot on the following 2 pages shows 39.79dBc (Peak) / 43.79dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (normal mode) is 89.6dBuV/m, so the maximum field strength in restrict band is $89.6 - 43.79 = 45.81$ dBuV/m which is under 54 dBuV/m limit.

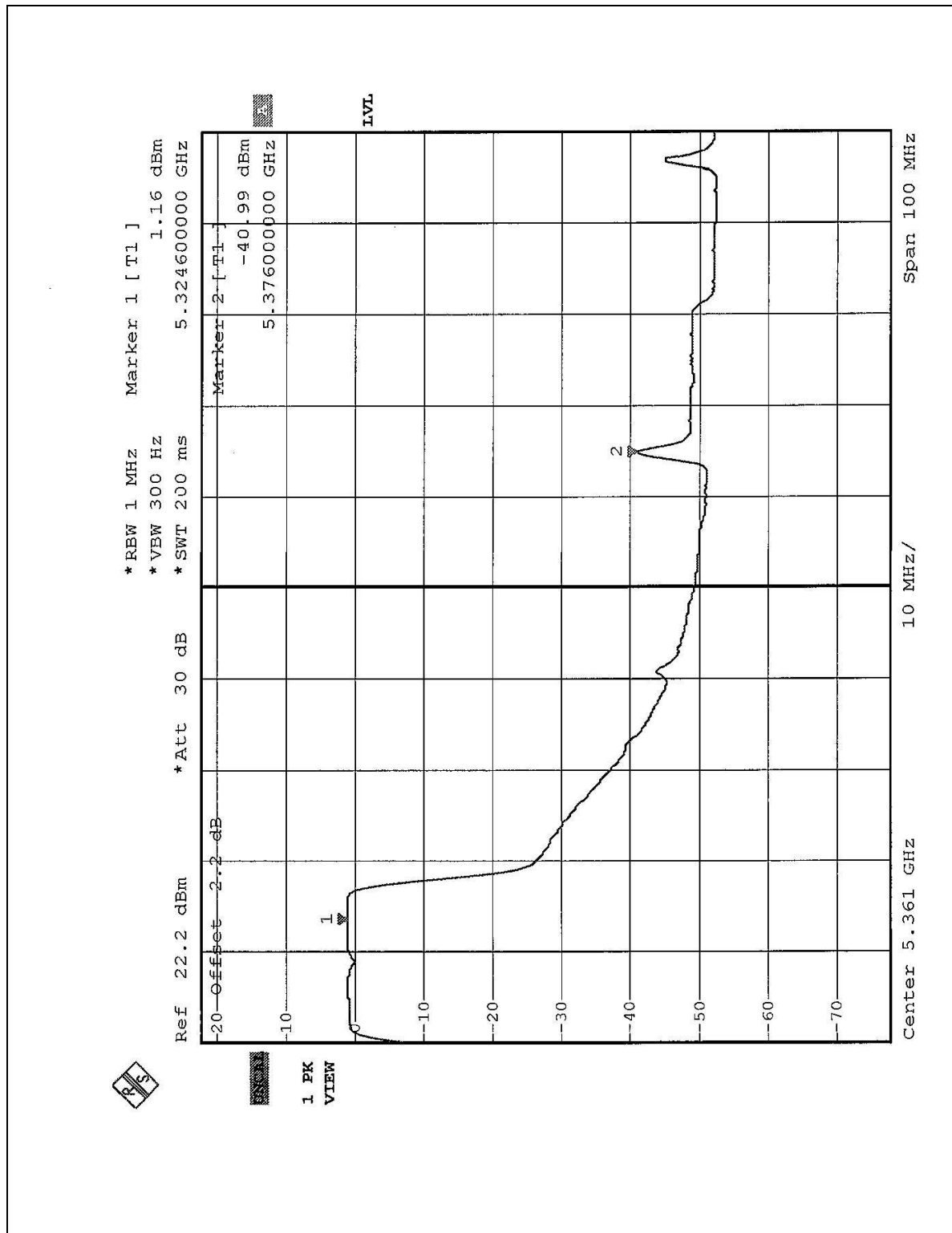




Normal Mode: Channel 8 (5320 MHz)

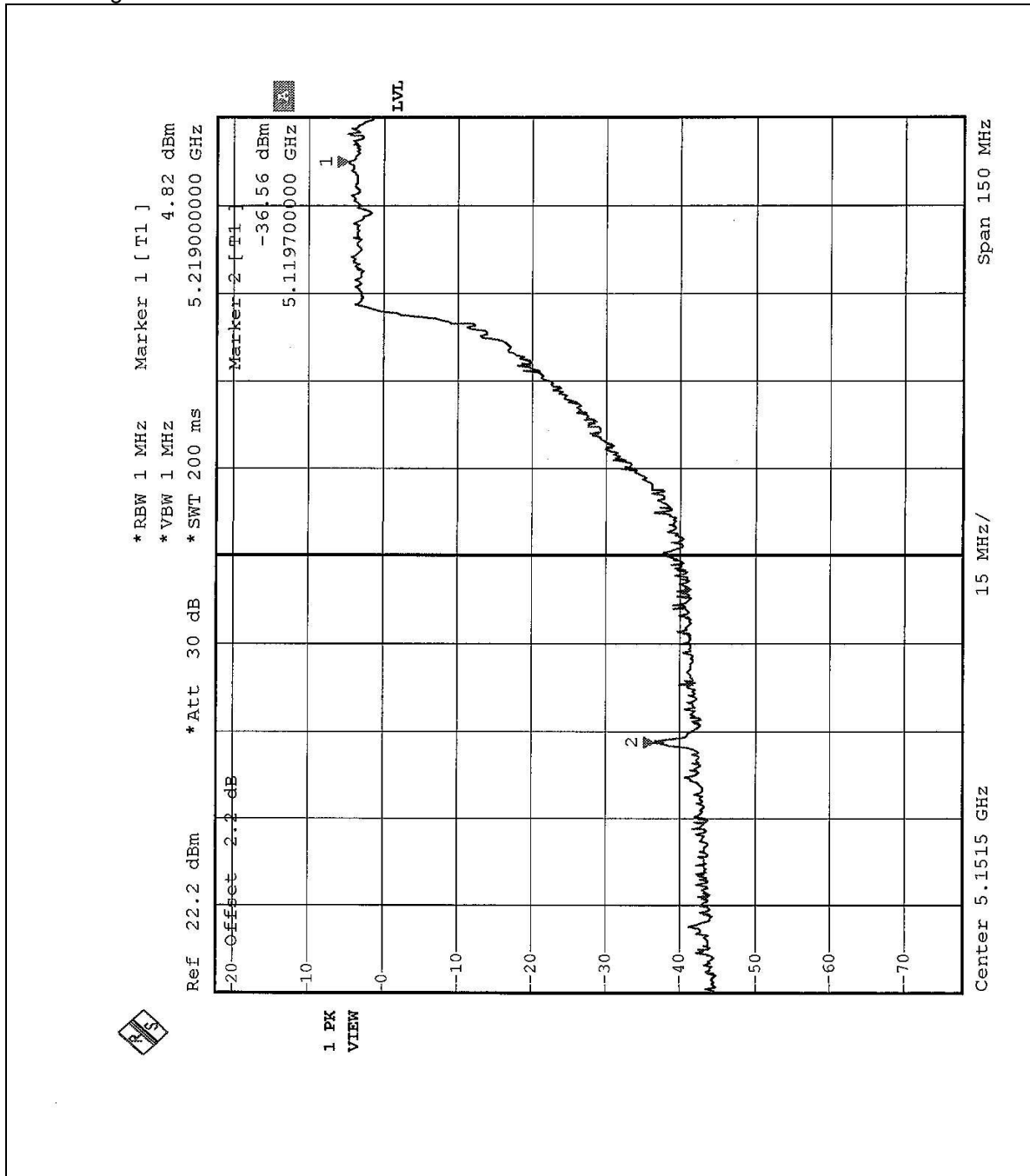
The band edge emission plot on the following 2 pages shows 39.41dBc (Peak) / 42.15dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 (normal mode) is 88.1dBuV/m, so the maximum field strength in restrict band is $88.1 - 42.15 = 45.95$ dBuV/m which is under 54 dBuV/m limit.

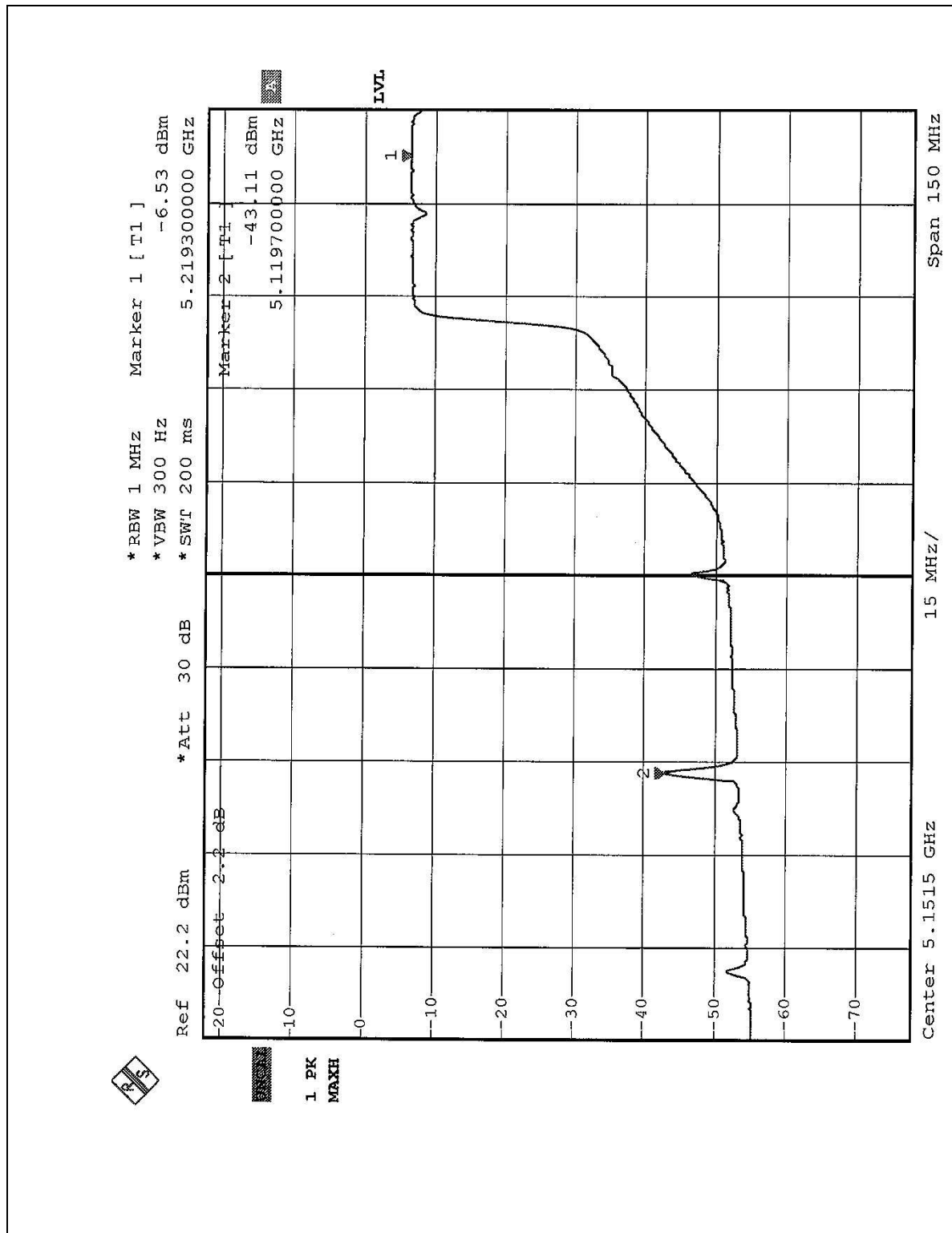




Turbo Mode: Channel 1 (5210 MHz)

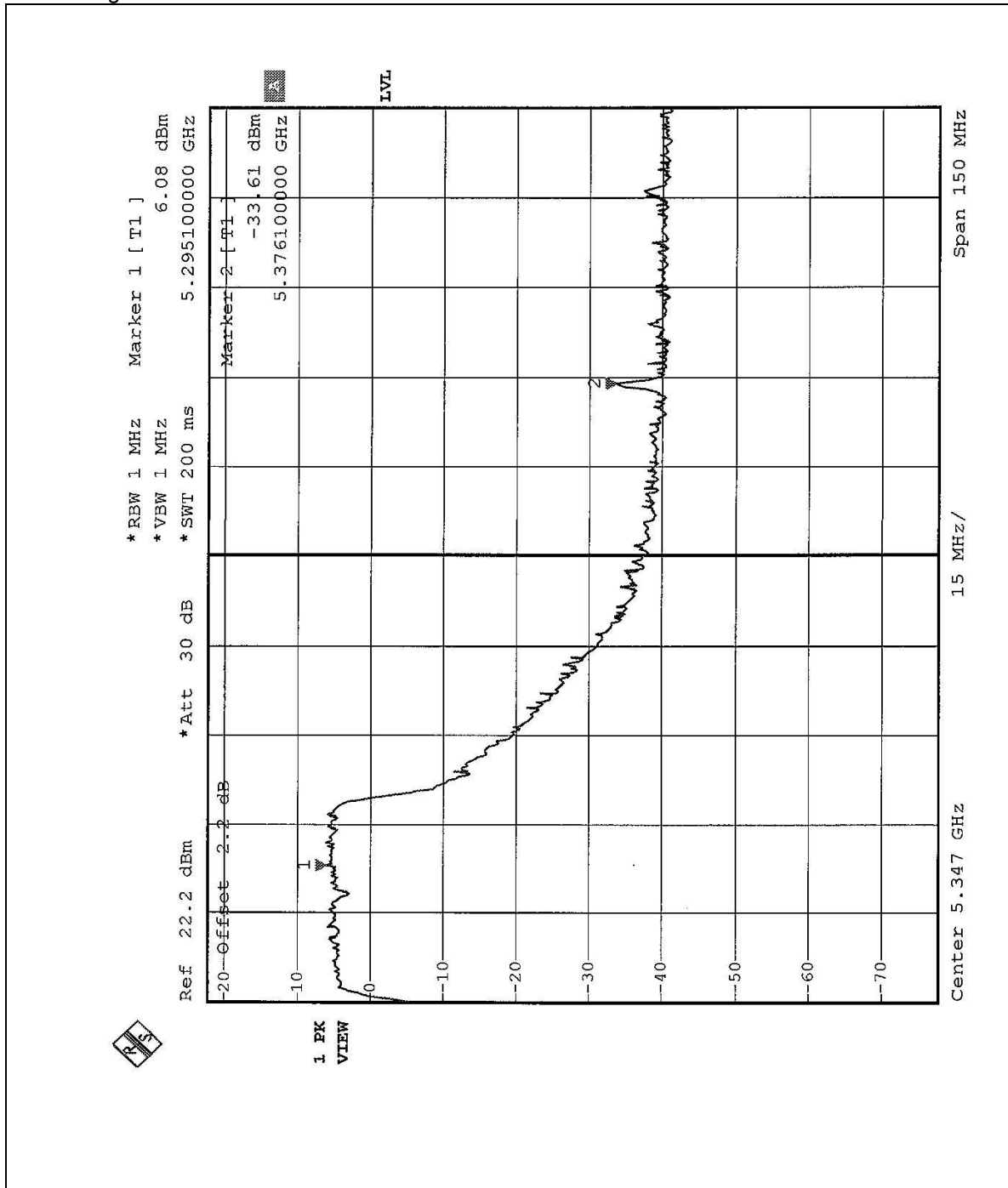
The band edge emission plot on the following 2 pages shows 41.38dBc (Peak) / 36.58dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 (normal mode) is 89.9dBuV/m, so the maximum field strength in restrict band is $89.9 - 36.58 = 53.32$ dBuV/m which is under 54 dBuV/m limit.

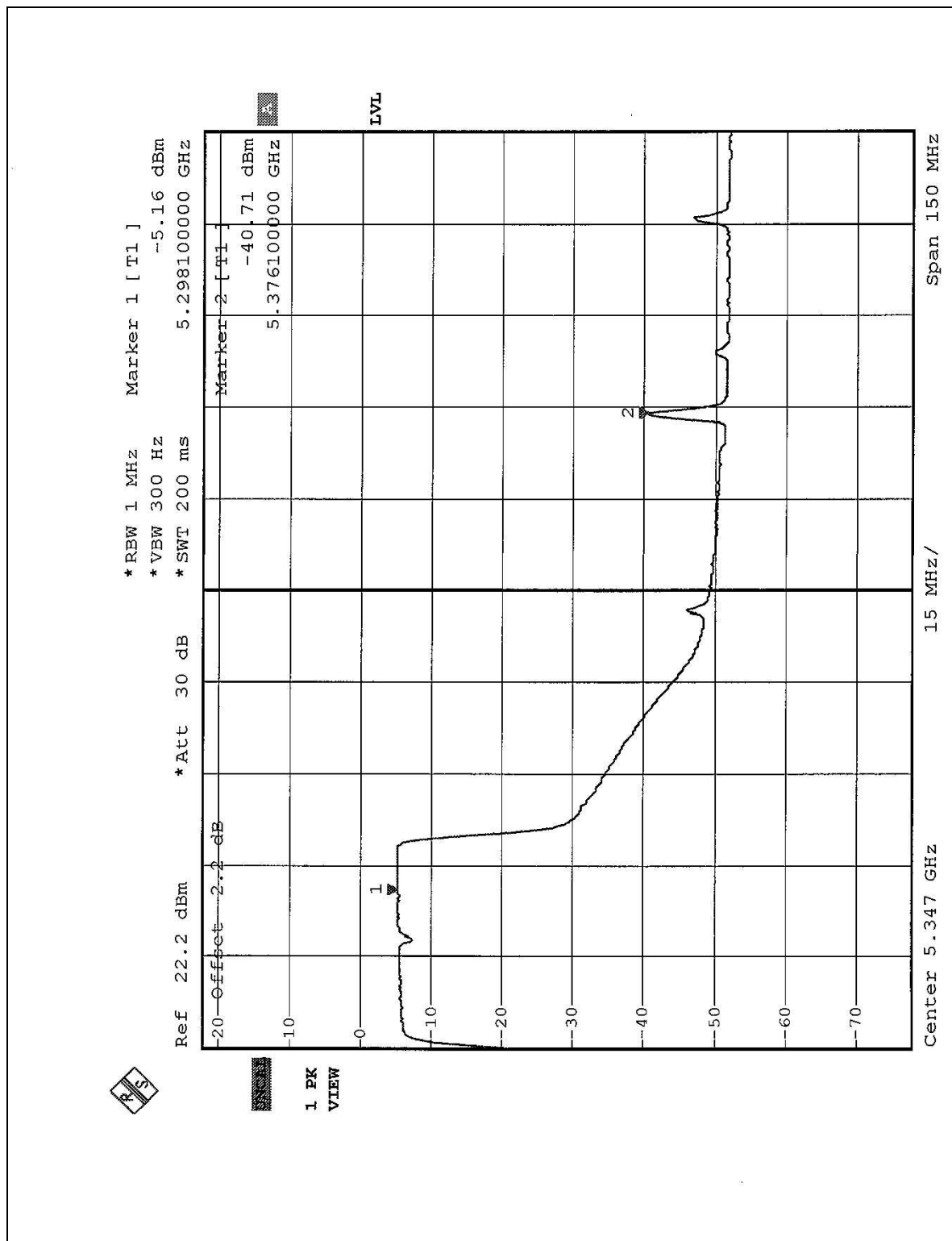




Turbo Mode: Channel 3 (5290 MHz)

The band edge emission plot on the following 2 pages shows 39.69dBc (Peak) / 35.55dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 3 (normal mode) is 88.2dBuV/m, so the maximum field strength in restrict band is $88.2 - 35.55 = 52.65$ dBuV/m which is under 54 dBuV/m limit.







4.9 ANTENNA REQUIREMENT

4.9.1 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.

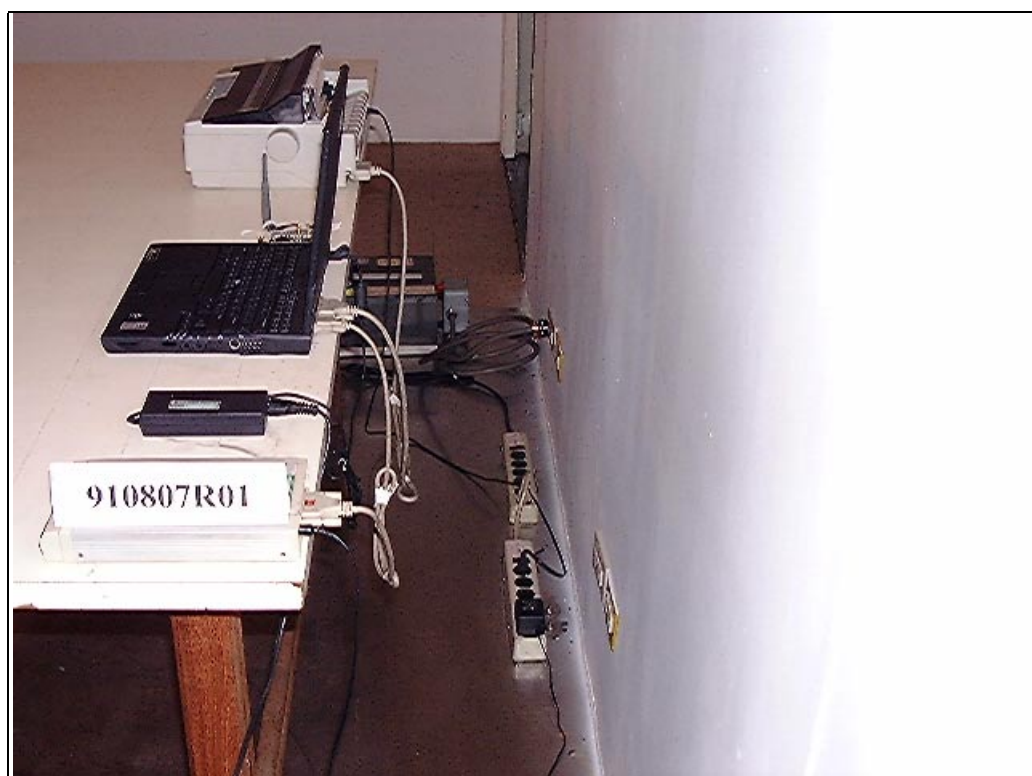
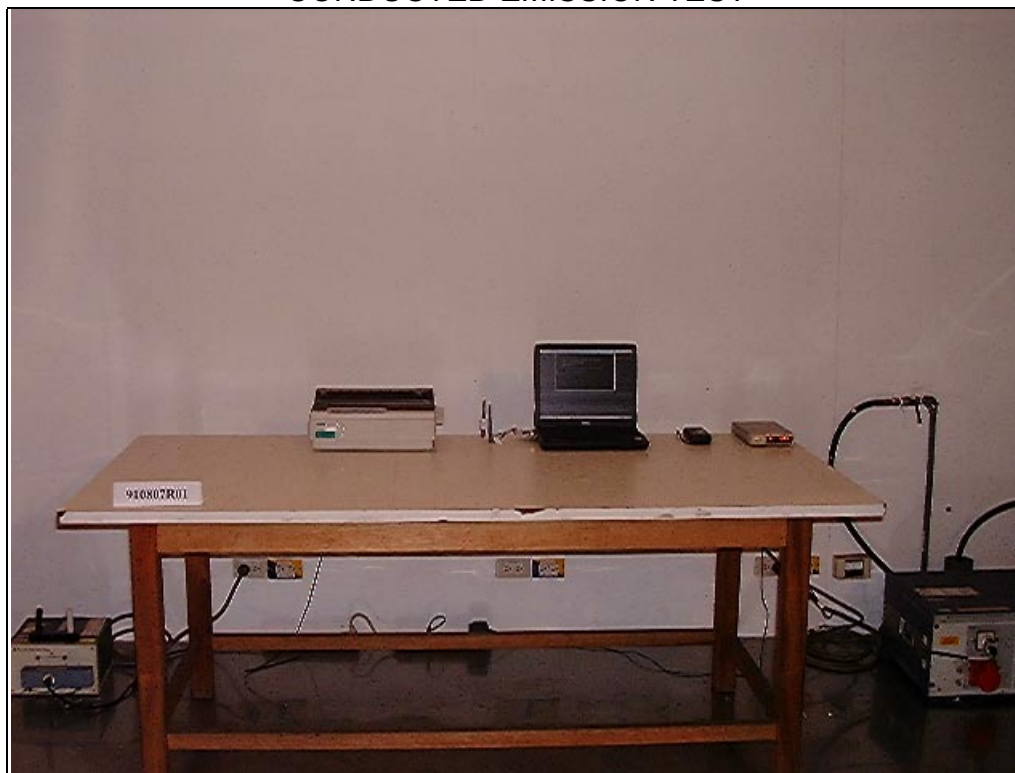
And according to FCC 47 CFR Section 15.407(a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.9.2 ANTENNA CONNECTED CONSTRUCTION

The antennas used in this product are Dipole and Inverted F Antennas. MMCX type or detachable connector is used. And the maximum Gain of this antenna is only 3.5dBi.

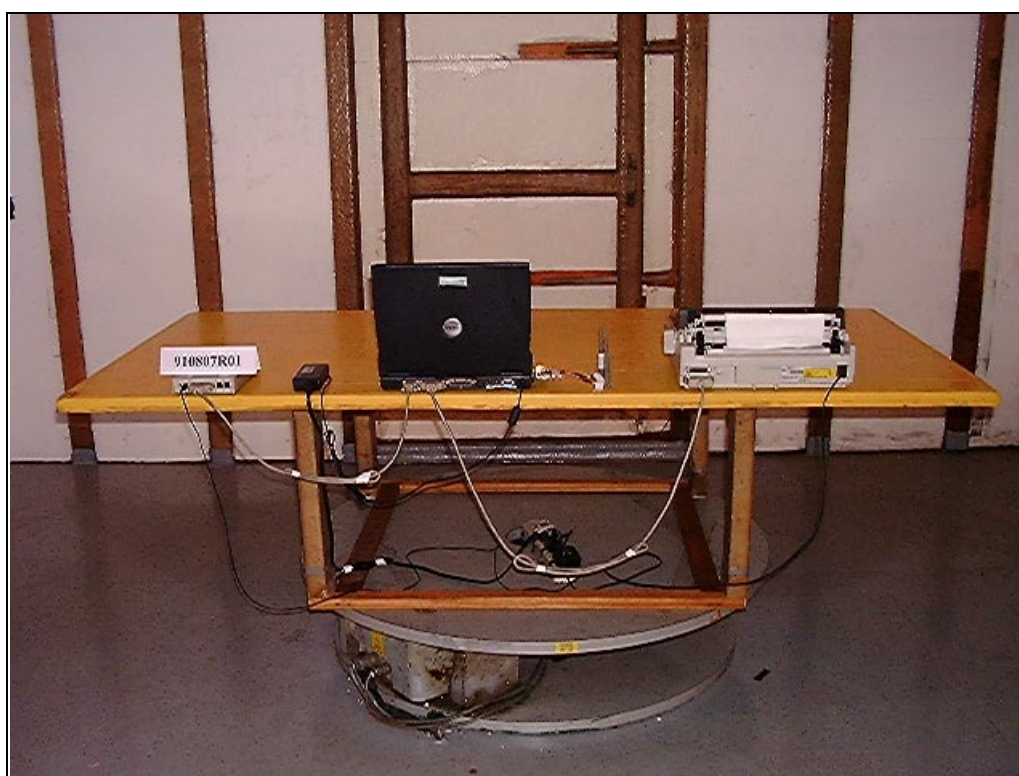
5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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:

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
New Zealand	MoC
Norway	NEMKO
R.O.C.	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.

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Lin Kou RF&Telecom Lab

Tel: 886-3-3270910

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Email: service@mail.adt.com.tw

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.