



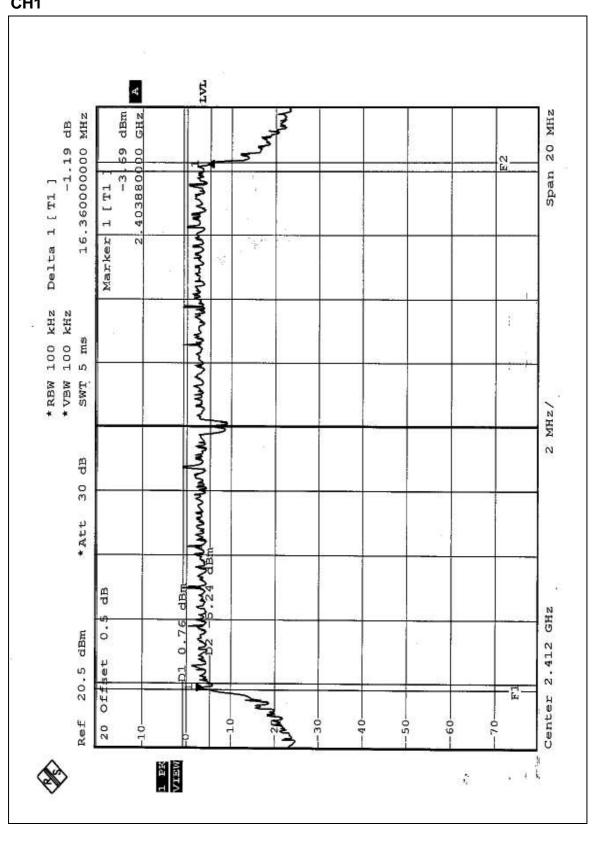
# 4.3.8 TEST RESULTS (B)

# Normal mode:

EUT	2.4GHz Wireless PCI Card	MODEL	DWL-G520
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991 hPa

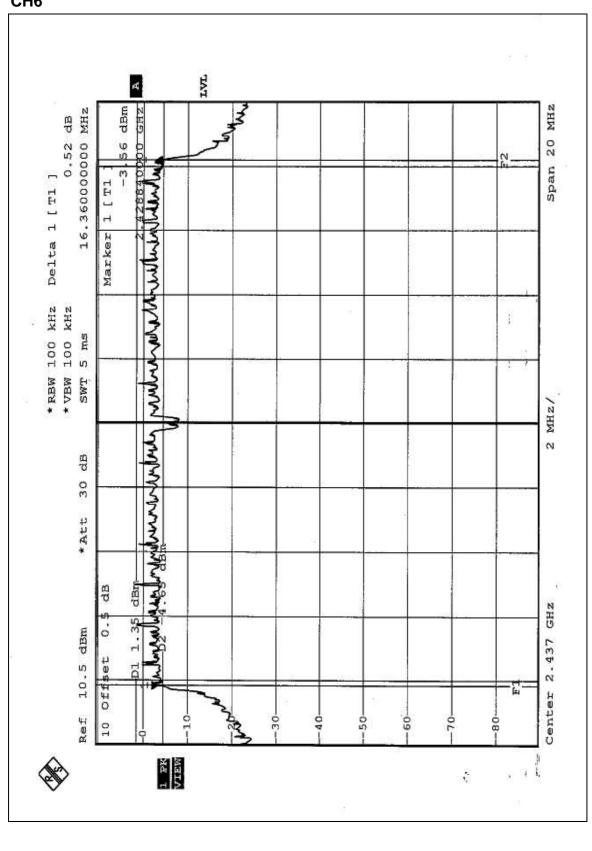
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.36	0.5	PASS
6	2437	16.36	0.5	PASS
11	2462	16.44	0.5	PASS



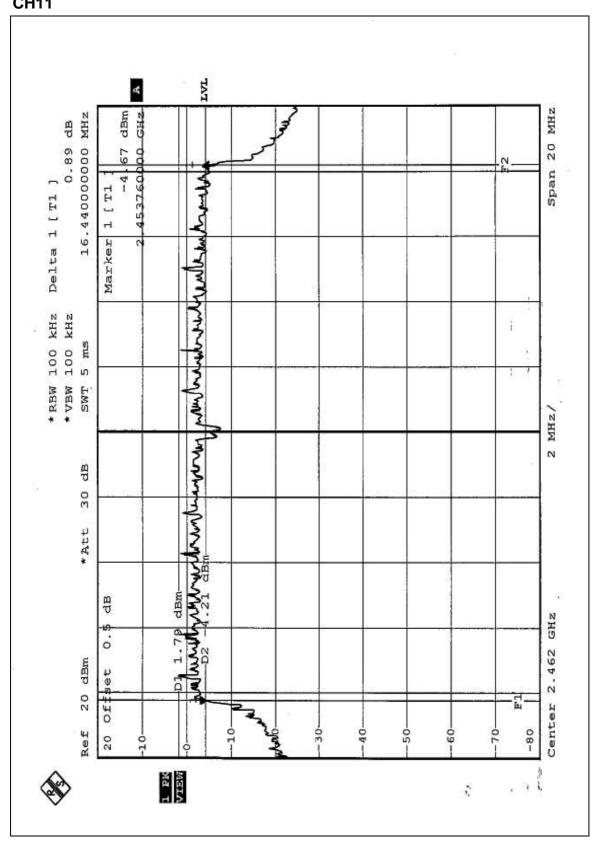




## CH<sub>6</sub>







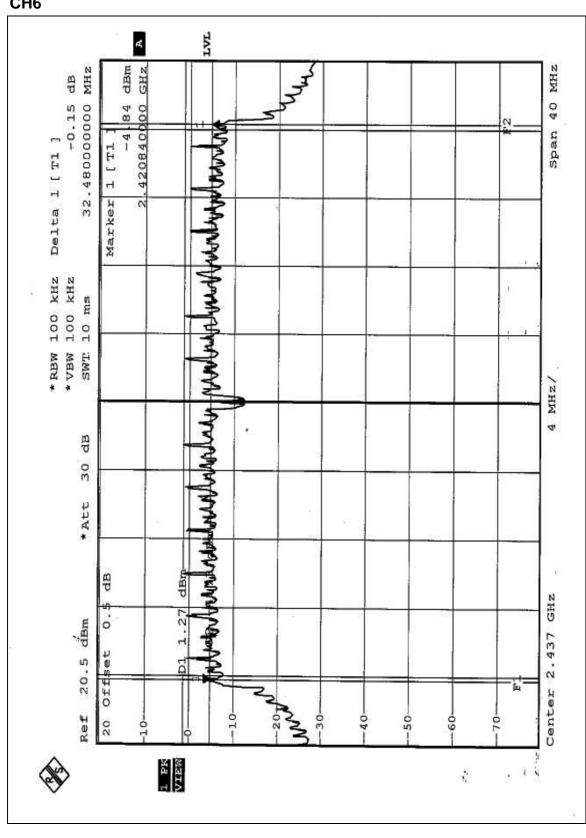


# Turbo mode:

EUT	2.4GHz Wireless PCI Card	MODEL	DWL-G520
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991 hPa
(STSTEWI)		CONDITIONS	991 nPa

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
6	2437	32.48	0.5	PASS







## 4.4 MAXIMUM PEAK OUTPUT POWER

## 4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

## 4.4.2 TEST INSTRUMENTS

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



#### 4.4.3 TEST PROCEDURES

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

## 4.4.4 DEVIATION FROM TEST STANDARD

No deviation

## 4.4.5 TEST SETUP



## 4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6



# 4.4.7 TEST RESULTS (A)

EUT	2.4GHz Wireless PCI Card	MODEL	DWL-G520
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991 hPa

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	19.02	30	PASS
6	2437	18.92	30	PASS
11	2462	18.90	30	PASS



# 4.4.8 TEST RESULTS (B)

# **Normal Mode:**

EUT	2.4GHz Wireless PCI Card	MODEL	DWL-G520	
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991 hPa	
TECTED DV Months I an				

**TESTED BY: Martin Lee** 

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	18.04	30	PASS
6	2437	18.10	30	PASS
11	2462	18.10	30	PASS

# **Turbo Mode:**

EUT	2.4GHz Wireless PCI Card	MODEL	DWL-G520	
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991 hPa	
TESTED BY: Martin Lee				

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
6	2437	18.34	30	PASS



## 4.5 POWER SPECTRAL DENSITY MEASUREMENT

## 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

## 4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S 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.

#### 4.5.3 TEST PROCEDURE

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

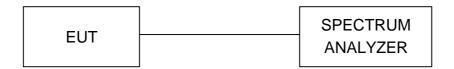
The sweep time is allowed to be longer than span/3KHz for a full response of the mixer in the spectrum analyzer.



# 4.5.4 DEVIATION FROM TEST STANDARD

No deviation

# 4.5.5 TEST SETUP



# 4.5.6 EUT OPERATING CONDITIONS

Same as 4.3.6

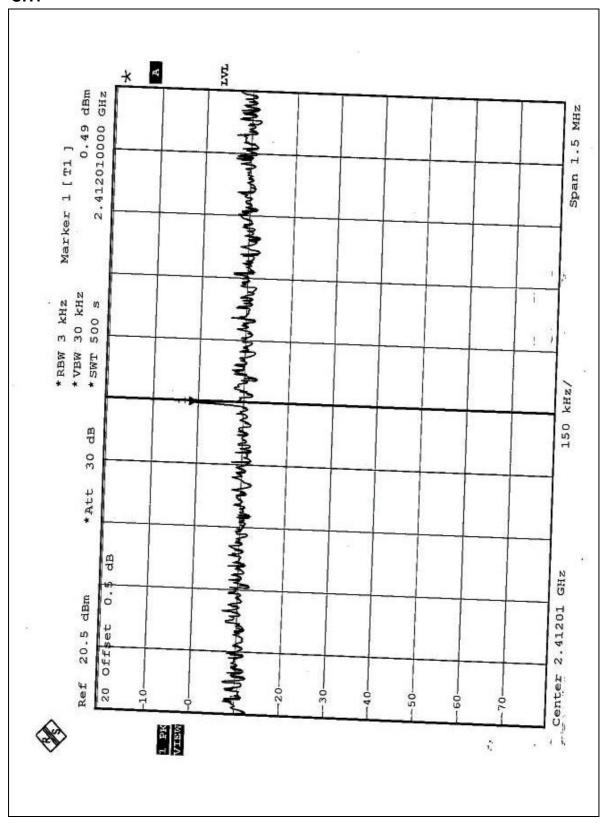


# 4.5.7 TEST RESULTS (A)

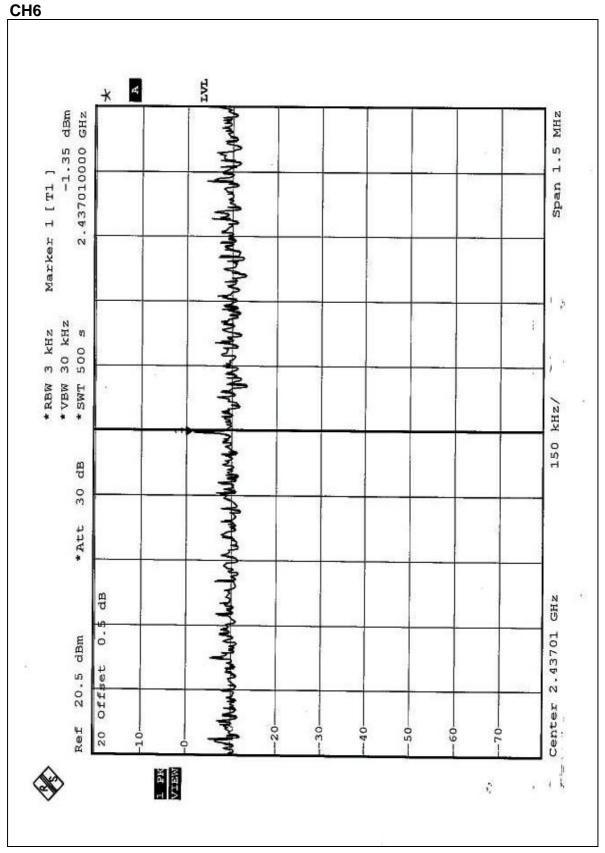
EUT	2.4GHz Wireless PCI Card	MODEL	DWL-G520
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991 hPa

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz )	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	0.49	8	PASS
6	2437	-1.35	8	PASS
11	2462	-1.29	8	PASS

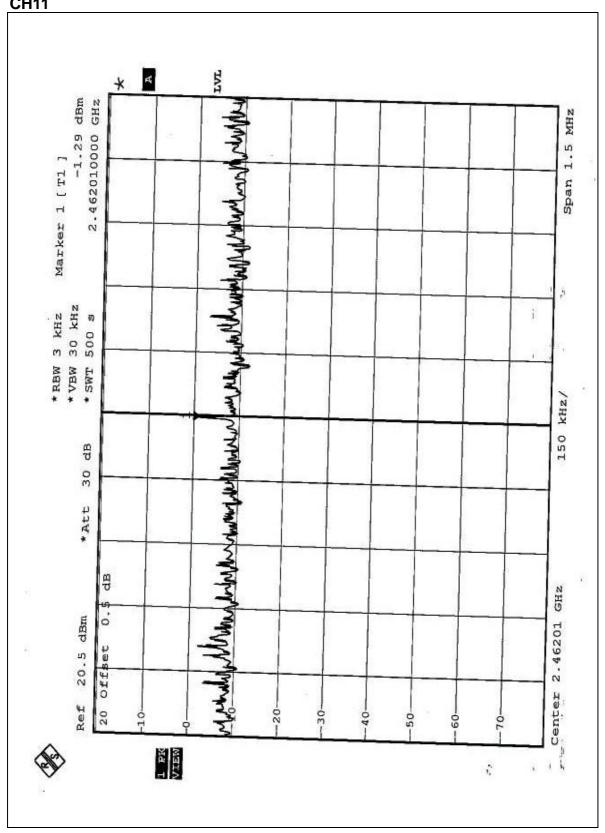














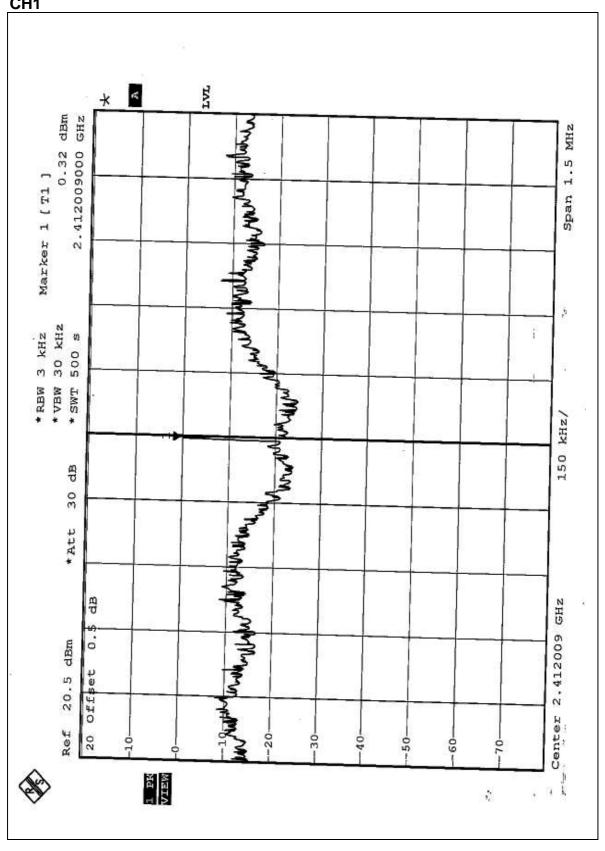
# 4.5.8 TEST RESULTS (B)

# Normal mode:

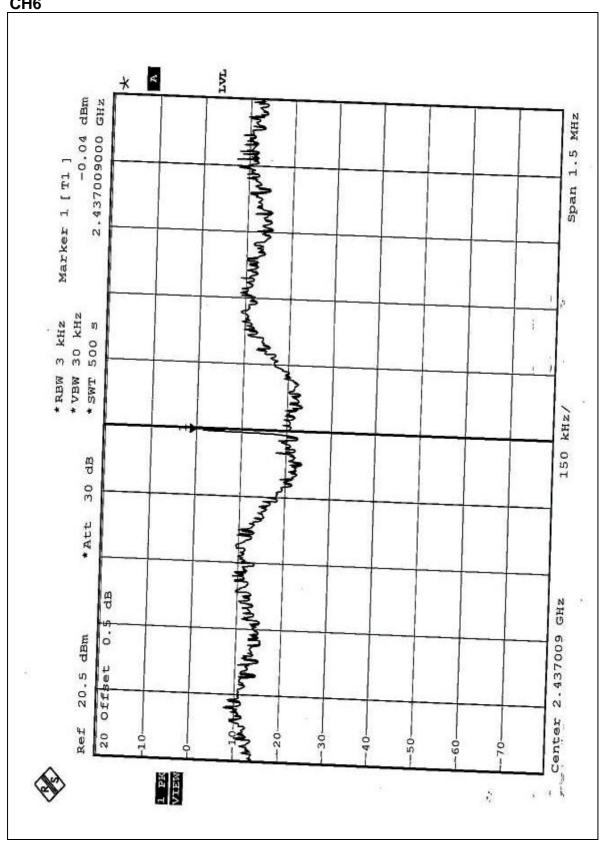
EUT	2.4GHz Wireless PCI Card	MODEL	DWL-G520
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991 hPa
TECTED BY: Mortin Loo			

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	0.32	8	PASS
6	2437	-0.04	8	PASS
11	2462	-3.04	8	PASS

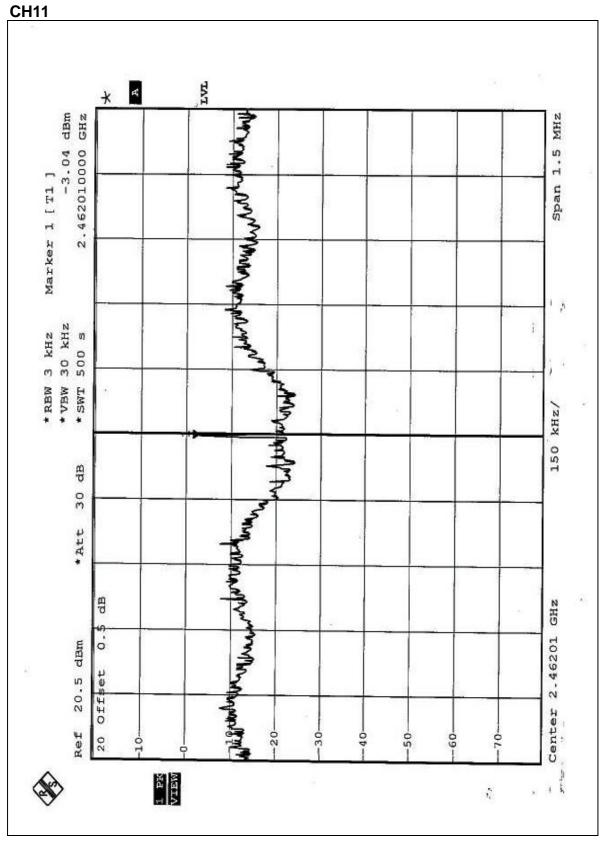












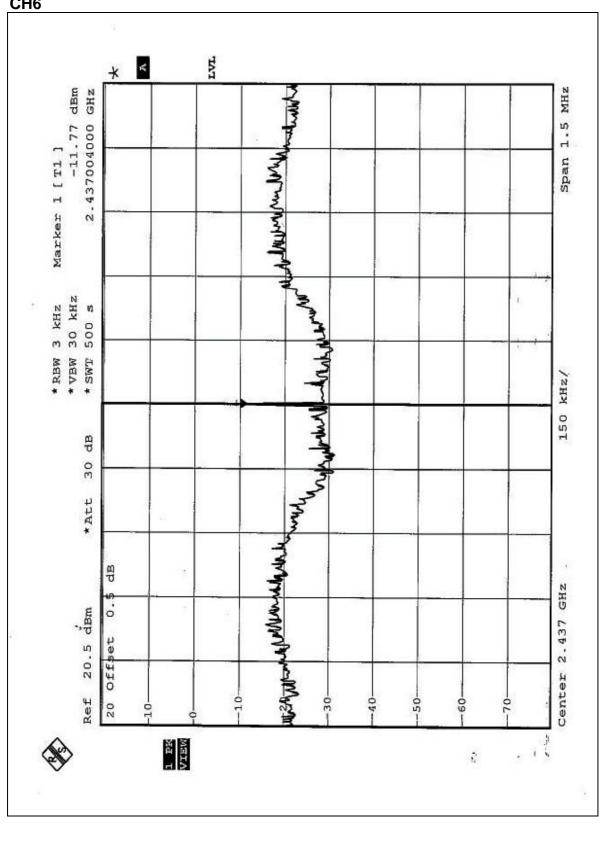


# Turbo mode:

EUT	2.4GHz Wireless PCI Card	MODEL	DWL-G520
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991 hPa

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
6	2437	-11.77	8	PASS







## 4.6 BAND EDGES MEASUREMENT

## 4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB of the highest emission level of operating band (in 100KHz Resolution Bandwidth).

## 4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S 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.

## 4.6.3 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 1 MHz and 10 Hz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

## 4.6.4 DEVIATION FROM TEST STANDARD

No deviation



## 4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6

## 4.6.6 TEST RESULTS (A)

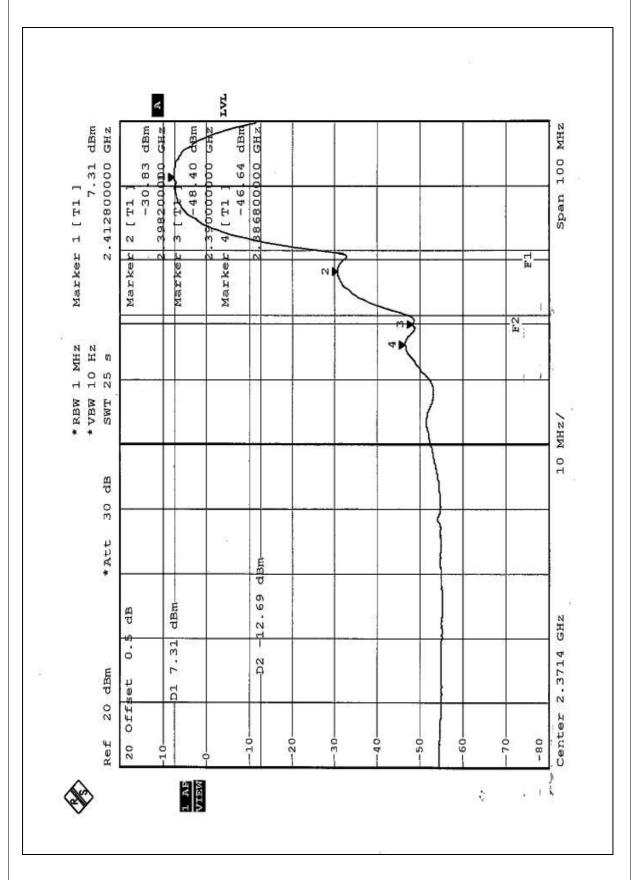
The spectrum plots are attached on the following 2 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

#### NOTE:

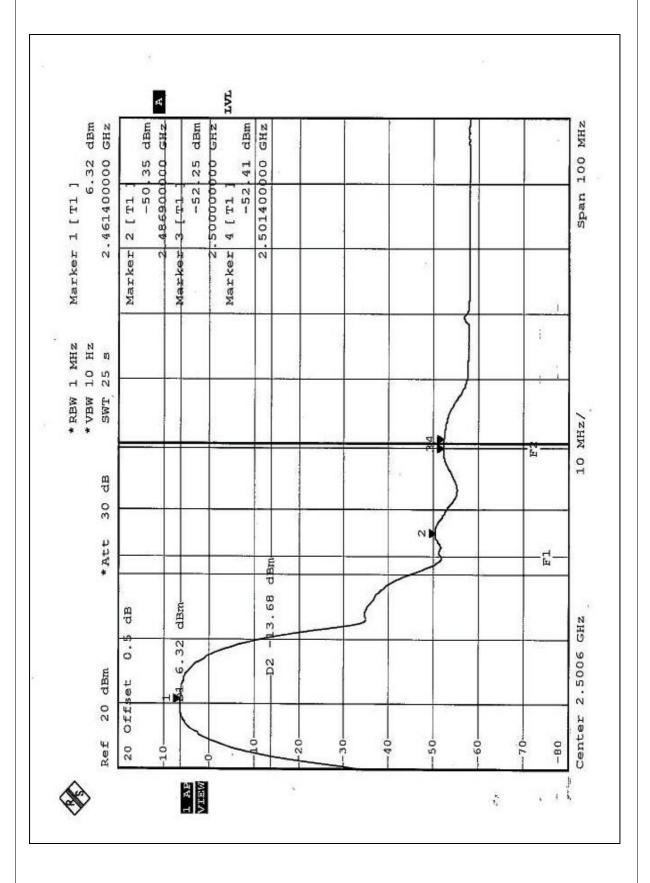
The band edge emission plot on the following first page shows 53.95dB delta between carrier maximum power and local maximum emission in restrict band (2.3868GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.8 is 106.91dBuV/m, so the maximum field strength in restrict band is 106.91-53.95=52.96dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot on the following second page shows 56.67dB delta between carrier maximum power and local maximum emission in restrict band (2.4869GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.8 is 107.46dBuV/m, so the maximum field strength in restrict band is 107.46-56.67=50.79dBuV/m which is under 54 dBuV/m limit.











## 4.6.7 TEST RESULTS (B)

The spectrum plots are attached on the following 4 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

#### NOTE:

#### Normal mode:

The band edge emission plot on the following first page shows 47.86dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.9 is 98.41dBuV/m, so the maximum field strength in restrict band is 98.41-47.86=50.55dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot on the following second page shows 50.83dB delta between carrier maximum power and local maximum emission in restrict band (2.4837GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.9 is 101.67dBuV/m, so the maximum field strength in restrict band is 101.67-50.83=50.84dBuV/m which is under 54 dBuV/m limit.

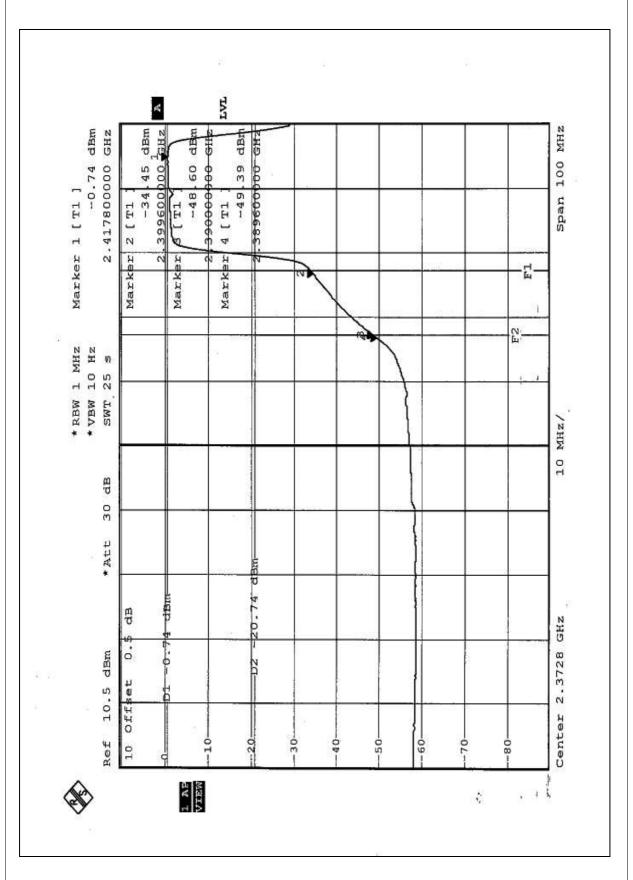
## Turbo mode:

The band edge emission plot on the following third page shows 49.73dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.9 is 99.57dBuV/m, so the maximum field strength in restrict band is 99.57-49.73=49.84dBuV/m which is under 54 dBuV/m limit.

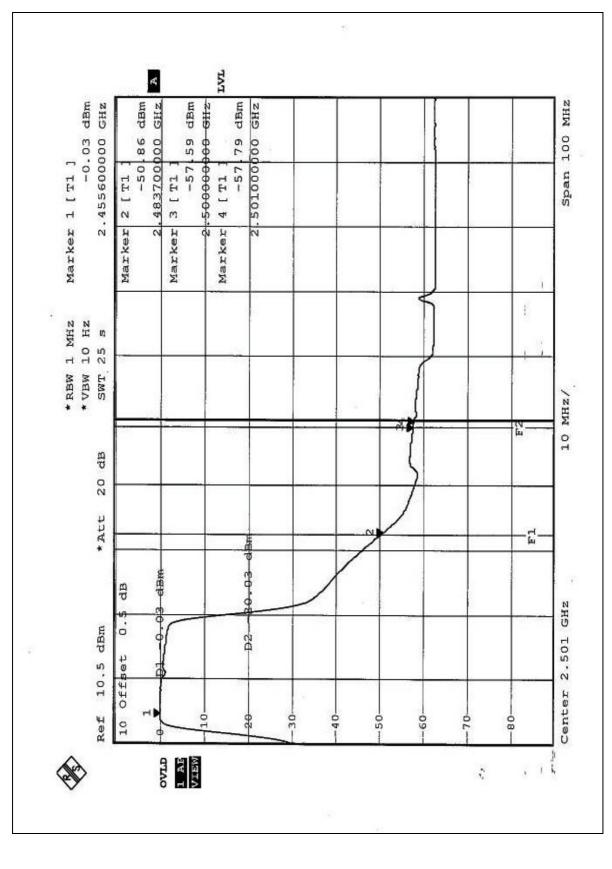
The band edge emission plot on the following forth page shows 51.91dB delta between carrier maximum power and local maximum emission in restrict band (2.4837GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.9 is 99.57dBuV/m, so the maximum field strength in restrict band is 99.57-51.91=47.66dBuV/m which is under 54 dBuV/m limit.

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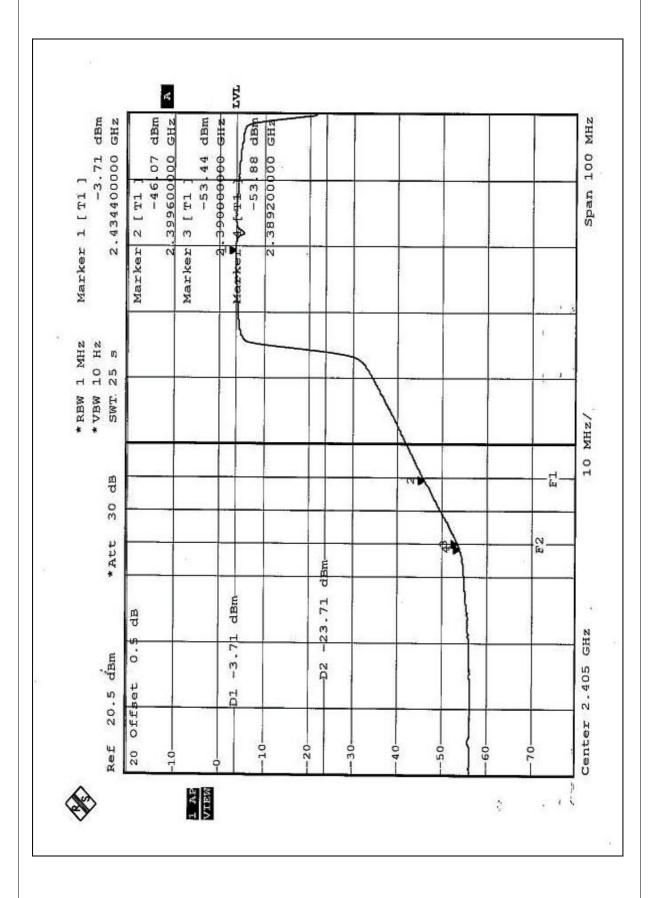




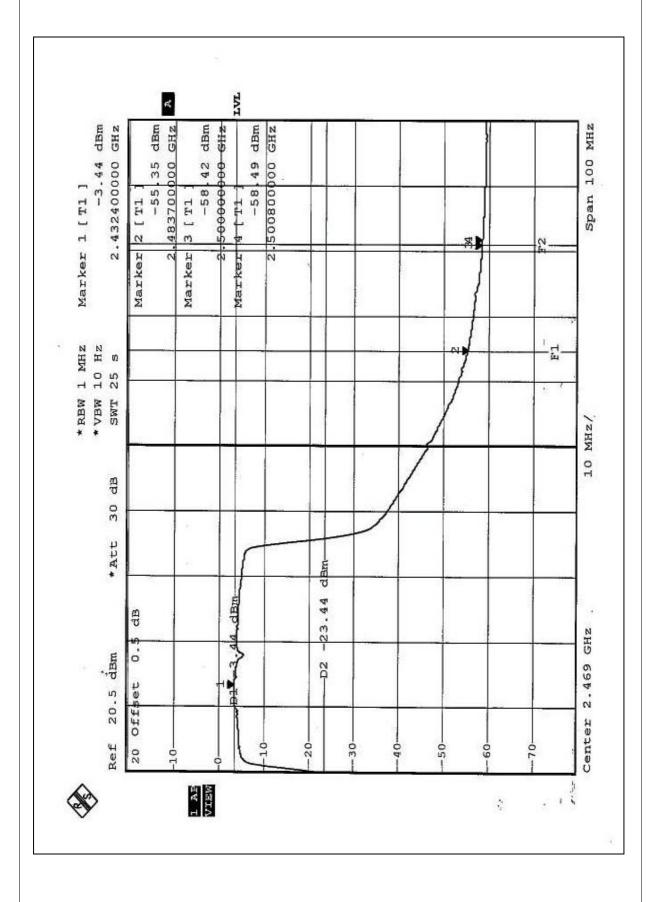














#### 4.7 ANTENNA REQUIREMENT

#### 4.7.1 STANDARD APPLICABLE

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

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

## 4.7.2 ANTENNA CONNECTED CONSTRUCTION

The maximum Gain antenna used in this product is Dipole antenna with Reversed SMA antenna connector. And the maximum Gain of these antennas is 2dBi.

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# 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED 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 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: <a href="https://www.adt.com.tw/index.5/phtml">www.adt.com.tw/index.5/phtml</a>.

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

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Lin Kou Safety Lab: Lin Kou RF&Telecom Lab

Tel: 886-2-26093195 Tel: 886-3-3270910 Fax: 886-2-26093184 Fax: 886-3-3270892

Email: <a href="mail:service@mail.adt.com.tw">service@mail.adt.com.tw</a>
Web Site: <a href="mail:www.adt.com.tw">www.adt.com.tw</a>

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