FCC TEST REPORT

REPORT NO.: RF931111L03
MODEL NO.: DGL-3420
RECEIVED: Oct. 26, 2004
TESTED: Oct. 26 ~ Dec. 20, 2004
ISSUED: Dec. 21, 2004

APPLICANT: D-Link Corporation

ADDRESS: No.8, Li-Hsin VII Road Science Based Industrial Park Hsin-Chu, Taiwan, R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang 244, Taipei Hsien, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd., Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

0528
ILAC MRA

No. 2177-01

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1. CERTIFICATION

PRODUCT:	Wireless AG Gaming Adapter
BRAND NAME:	D-Link
MODEL NO.:	DGL-3420
TEST SAMPLE:	ENGINEERING SAMPLE
TESTED:	Oct. 26 ~ Dec. 20, 2004
APPLICANT:	D-Link Corporation
STANDARDS:	FCC Part 15, Subpart C (Section 15.247), Subpart E (Section 15.407), ANSI C63.4-2003

The above equipment have been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Candice Chen , **DATE:** Dec. 21, 2004
(Candice Chen)

TECHNICAL ACCEPTANCE : , **DATE:** Dec. 21, 2004
Responsible for RF (Gary Chang)

APPROVED BY : , **DATE:** Dec. 21, 2004
(Cody Chang, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –16.06dB at 2.523MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is –1.76dB at 46.07MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

For Freq. 5.15 ~ 5.35GHz:

APPLIED STANDARD: FCC Part 15, Subpart E			
Standard Section	**Test Type**	**Result**	**Remark**
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –16.82dB at 2.531MHz
15.407(b/1/2/3)(b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is –1.76dB at 46.07MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.

For Freq. 5.725 ~ 5.850GHz：

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –16.82dB at 2.531MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is –1.76dB at 46.07MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4:

Measurement	Frequency	Uncertainty
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.73 dB
	200MHz ~1000MHz	3.74 dB
	1GHz ~ 18GHz	2.20 dB
	18GHz ~ 40GHz	1.88 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Wireless AG Gaming Adapter
MODEL NO.	DGL-3420
POWER SUPPLY	5Vdc from AC adapter
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11a: 54/48/36/24/18/12/9/6Mbps (Turbo mode: up to 108Mbps *see Note 3)
FREQUENCY RANGE	802.11b & 802.11g: 2412 ~ 2462MHz 802.11a: 5.15 ~ 5.35GHz and 5.725 ~ 5.850GHz
NUMBER OF CHANNEL	802.11b & 802.11g: 11 for Normal mode / 1 for Turbo mode 802.11a: 13 for Normal mode / 5 for Turbo mode
CHANNEL SPACING	802.11b & 802.11g: 5MHz 802.11a: 20MHz for Normal mode / 40MHz for Turbo mode
OUTPUT POWER	802.11b: 56.234mW 802.11g: 56.234mW 802.11a: 35.892mW
DATA CABLE	NA
ANTENNA TYPE	Chip antenna with 1.7dBi gain for 2.4GHz Dipole antenna with 2.0dBi gain for 2.4GHz Chip antenna with 1.0dBi gain for 5GHz Dipole antenna with 3.4dBi gain for 5GHz
I/O PORTS	RJ45
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT was tested with the following adapter:

BRAND:	JENTEC TECHNOLOGY CO., LTD.
MODEL :	JTA0302A
INPUT :	100-120Vac, 50-60Hz
OUTPUT :	5Vdc, 2A

2. The EUT operates in both the 5GHz and 2.4GHz Bands and compatibility with 802.11a and 802.11b, 802.11g technology.
3. This EUT is capable of providing data rates of up to 108Mbps in Turbo Mode depending upon reception quality.
4. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

802.11b and 802.11g: Eleven channels are provided to this EUT.

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

NOTE:

1. Below 1GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11 with OFDM technique, worst case one, was chosen for final test.
2. Above 1GHz, the channel 1, 6, and 11 were tested individually.
3. After pre-testing all data rates, we have chosen 11Mbps with DSSS technique, 6Mbps with OFDM technique for normal mode and 12Mbps with OFDM technique for turbo mode, as the worst cases for the test among other data rates.
4. For conducted emission test, we have chosen OFDM technique as the worst case after pre-testing in conducted emission test site.

One channel is provided to this EUT for Turbo Mode.

Channel	Frequency
6	2437 MHz

NOTE: One turbo mode at frequency 2437MHz.

For 802.11a: Thirteen channels are provided to this EUT for Normal mode.

Channel	Frequency	Channel	Frequency
1	5180 MHz	8	5320 MHz
2	5200 MHz	9	5745 MHz
3	5220 MHz	10	5765 MHz
4	5240 MHz	11	5785 MHz
5	5260 MHz	12	5805 MHz
6	5280 MHz	13	5825 MHz
7	5300 MHz		

Five channels are provided to this EUT for Turbo Mode.

Channel	Frequency	Channel	Frequency
1	5210 MHz	4	5760 MHz
2	5250 MHz	5	5800 MHz
3	5290 MHz		

NOTE:

1. The EUT was tested in both normal mode (channel bandwidth of approximately 30MHz) and turbo mode (channel bandwidth of approximately 60MHz).
2. "Normal Mode" allows data rates of up to 54Mbps, and "Turbo Mode" allows data rates of up to 108Mbps. After pre-tested all data rates, we have chosen 6Mbps for normal mode and 12Mbps for turbo mode, as the worst cases for the test among other data rates.
3. Channel 1, 4, 5, 8, 9, 11 and 13 are the closest frequencies to the band edge, were chosen for final test of Normal Mode.
4. Channel 1~5 were chosen for final test of Turbo mode.
5. Below 1GHz test, the channel 1 ~ 13 were pre-tested in chamber and found the worst case for final test and recorded in the report.

6. For conducted emission test, we have chosen normal mode as the worst case after pre-tested in conducted emission test site.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Wireless AG Gaming Adapter. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C. (15.247),
Subpart E (15.407). ANSI C63.4 : 2003

All test items have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

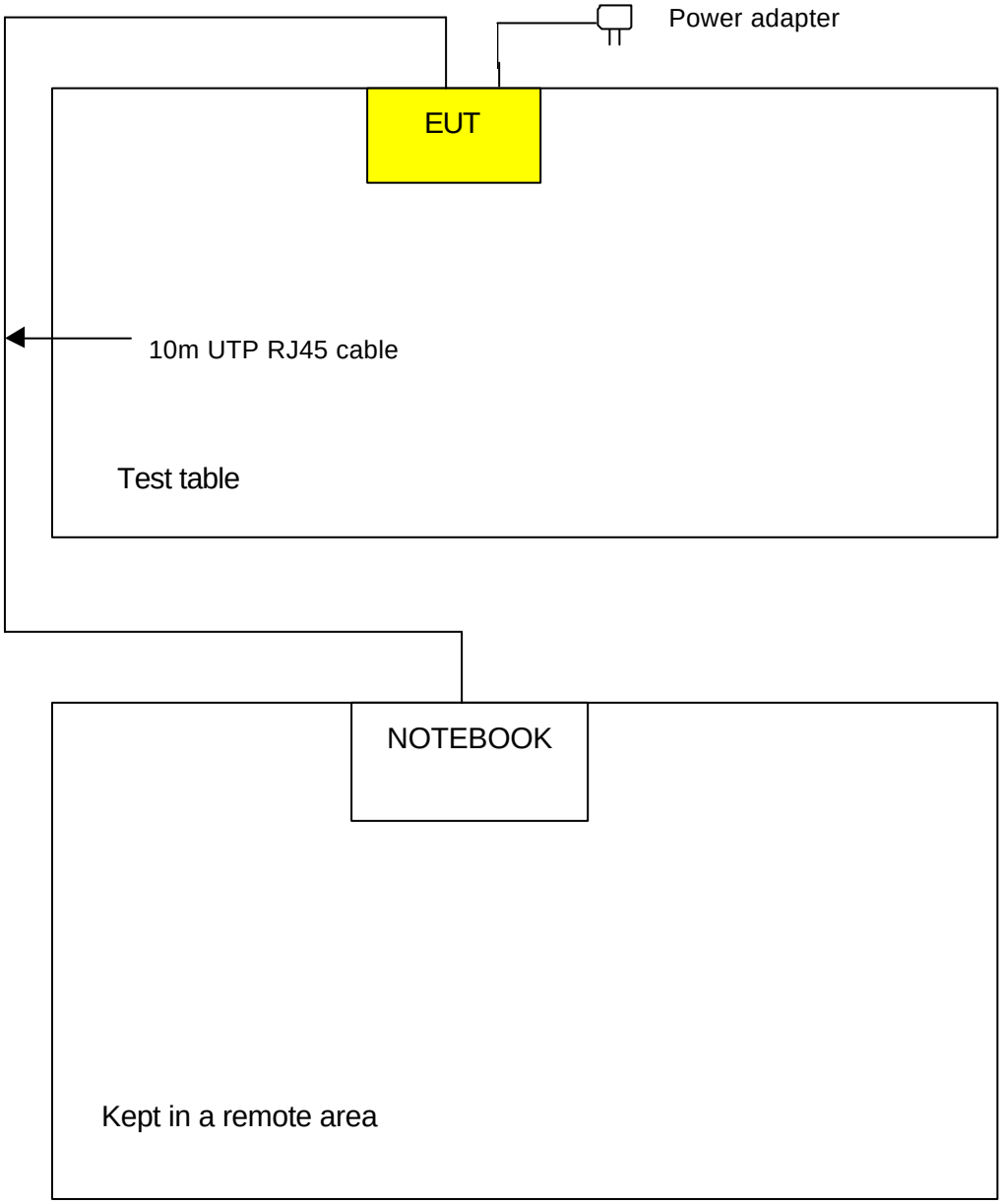
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP05L	12130898320	E2K24CLNS

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

NOTE:

1. All power cords of the above support units are non shielded (1.8m).
2. Item 1 act as a communication partner to transfer data.

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS (FOR PART 802.11b & 802.11g)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5 0.5-5 5-30	66 to 56 56 60	56 to 46 46 50

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Nov. 16, 2005
RF signal cable Woken	5D-FB	Cable-HYC01-01	Mar. 02, 2005
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Mar. 03, 2005
LISN ROHDE & SCHWARZ	ESH2-Z5	100104	Mar. 02, 2005
Software ADT	ADT_Cond_V3	NA	NA

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

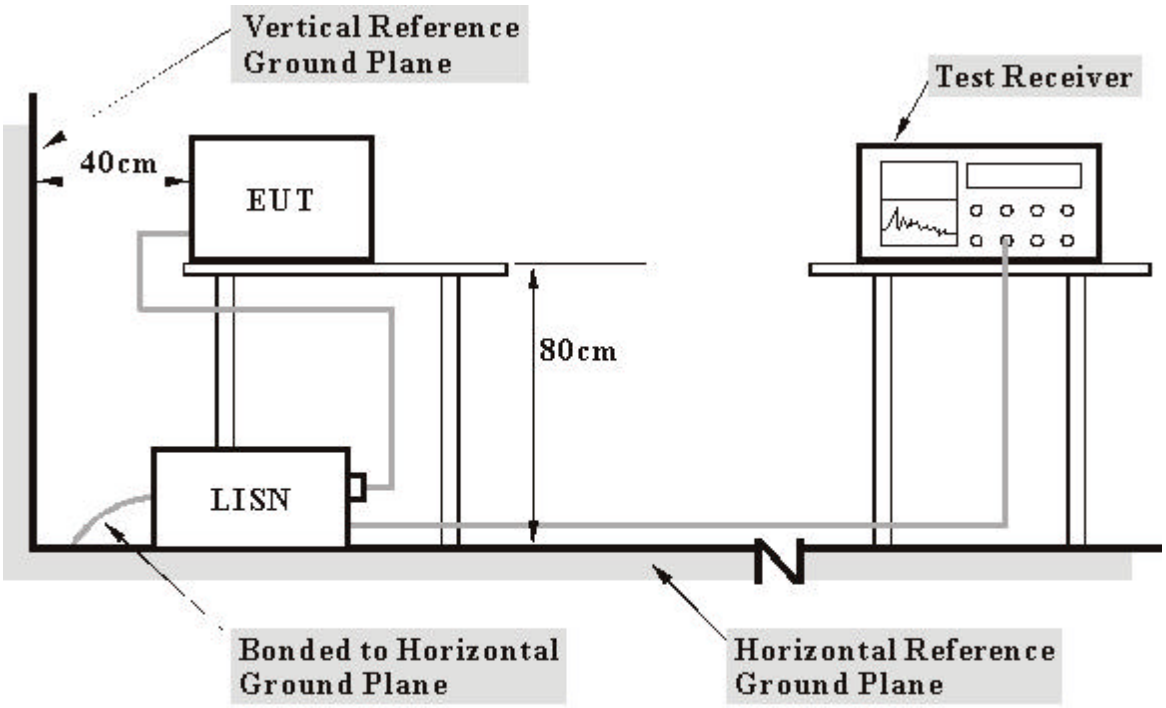
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

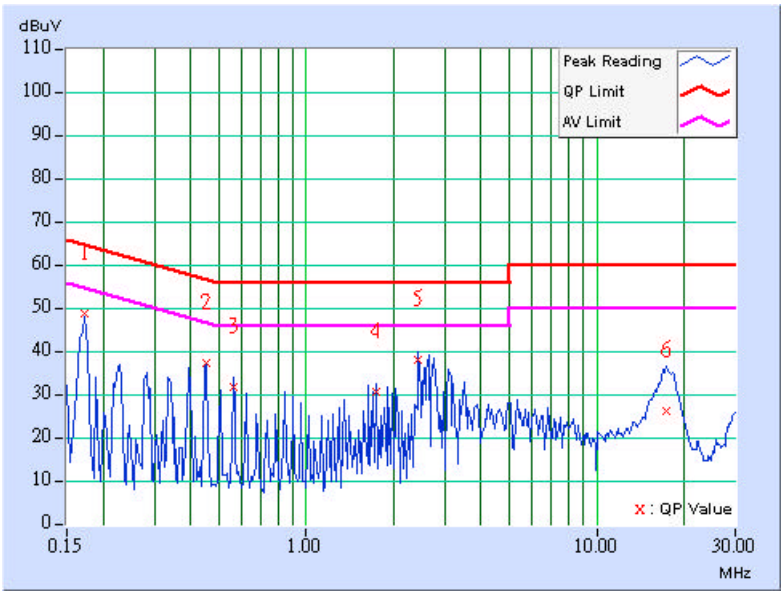
a. Placed the EUT on the testing table.
b. Prepared another Notebook system to act as a communication partner and placed it outside of testing area.
c. The communication partner run a test program (provided by manufacturer) to enable EUT under transmission/receiving condition continuously at specific channel frequency via an RJ45 cable.
d. The communication partner sent data to EUT by command "PING".

4.1.7 TEST RESULTS

EUT	Wireless AG Gaming Adapter	MODEL	DGL-3420
MODE	Channel 1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	TESTED BY: Leo Hung	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.11	48.17	-	48.28	-	64.79	54.79	-16.51	-
2	0.451	0.13	36.61	-	36.74	-	56.86	46.86	-20.12	-
3	0.564	0.13	30.79	-	30.92	-	56.00	46.00	-25.08	-
4	1.753	0.16	29.98	-	30.14	-	56.00	46.00	-25.86	-
5	2.428	0.17	37.12	-	37.29	-	56.00	46.00	-18.71	-
6	17.301	0.89	25.29	-	26.18	-	60.00	50.00	-33.82	-

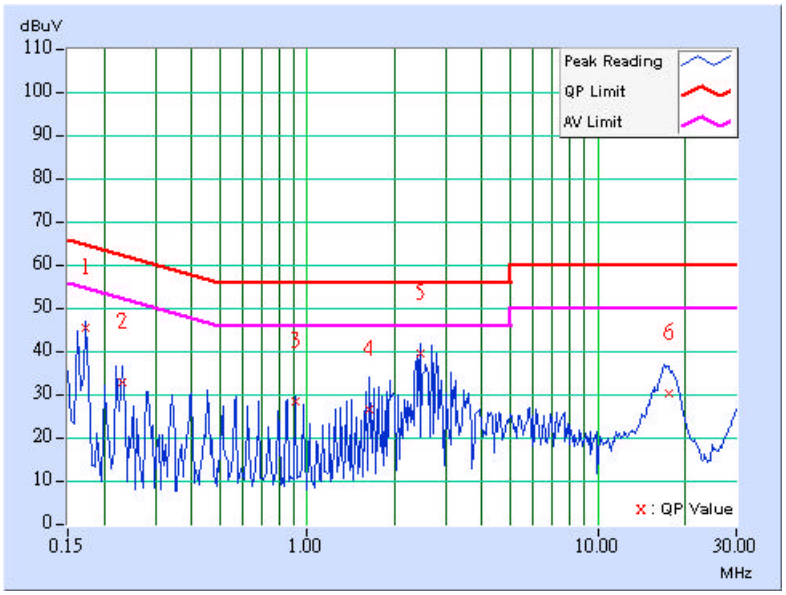
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT	Wireless AG Gaming Adapter	MODEL	DGL-3420
MODE	Channel 1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	TESTED BY: Leo Hung	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.10	44.74	-	44.84	-	64.79	54.79	-19.95	-
2	0.232	0.11	32.45	-	32.56	-	62.38	52.38	-29.82	-
3	0.908	0.14	27.81	-	27.95	-	56.00	46.00	-28.05	-
4	1.645	0.16	25.83	-	25.99	-	56.00	46.00	-30.01	-
5	2.441	0.17	39.12	-	39.29	-	56.00	46.00	-16.71	-
6	17.623	0.68	29.69	-	30.37	-	60.00	50.00	-29.63	-

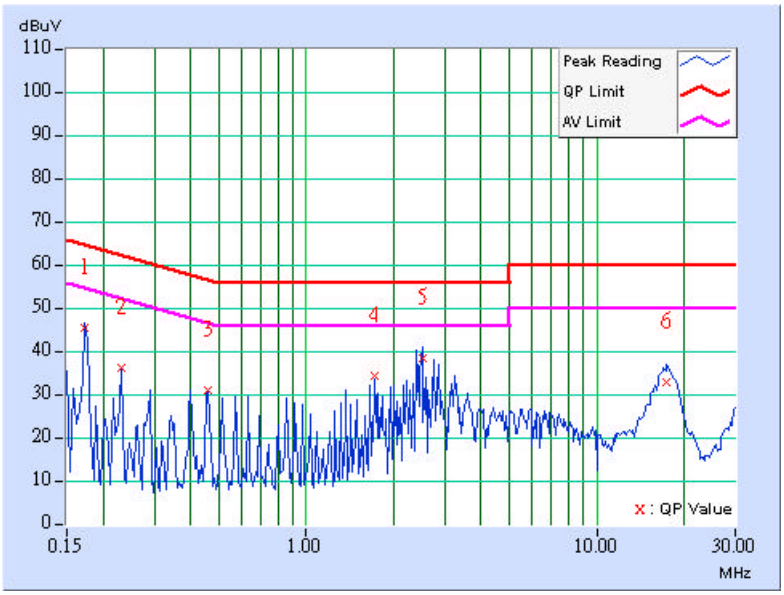
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**: Leo Hung	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.11	44.52	-	44.63	-	64.79	54.79	-20.16	-
2	0.232	0.12	35.40	-	35.52	-	62.38	52.38	-26.86	-
3	0.459	0.13	30.27	-	30.40	-	56.72	46.72	-26.32	-
4	1.719	0.16	33.54	-	33.70	-	56.00	46.00	-22.30	-
5	2.516	0.17	37.65	-	37.82	-	56.00	46.00	-18.18	-
6	17.415	0.90	32.19	-	33.09	-	60.00	50.00	-26.91	-

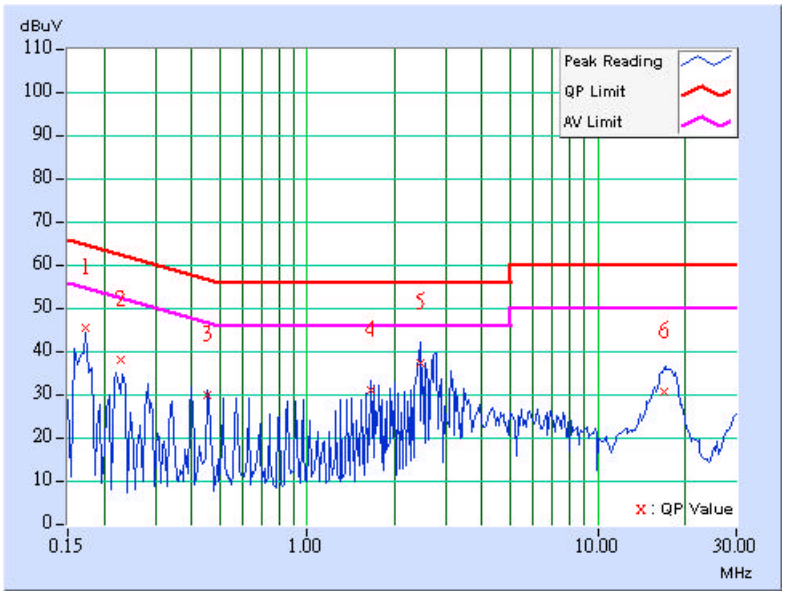
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT	Wireless AG Gaming Adapter	MODEL	DGL-3420
MODE	Channel 6	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	TESTED BY: Leo Hung	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.10	44.80	-	44.90	-	64.79	54.79	-19.89	-
2	0.228	0.11	37.59	-	37.70	-	62.52	52.52	-24.82	-
3	0.455	0.12	29.39	-	29.51	-	56.79	46.79	-27.28	-
4	1.652	0.16	30.27	-	30.43	-	56.00	46.00	-25.57	-
5	2.449	0.17	36.82	-	36.99	-	56.00	46.00	-19.01	-
6	16.894	0.67	30.18	-	30.85	-	60.00	50.00	-29.15	-

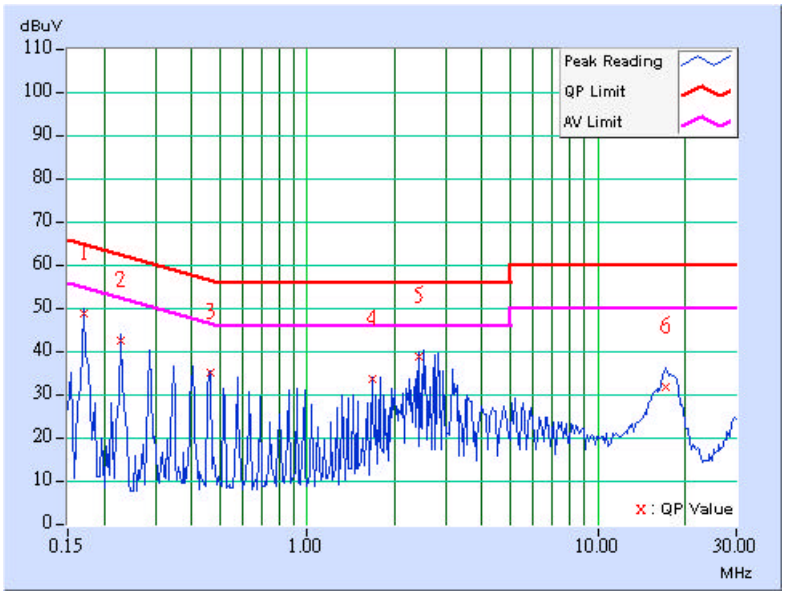
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT	Wireless AG Gaming Adapter	MODEL	DGL-3420
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	TESTED BY: Leo Hung	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.170	0.11	48.15	-	48.26	-	64.98	54.98	-16.72	-
2	0.228	0.12	41.60	-	41.72	-	62.52	52.52	-20.80	-
3	0.463	0.13	34.37	-	34.50	-	56.65	46.65	-22.15	-
4	1.668	0.16	32.64	-	32.80	-	56.00	46.00	-23.20	-
5	2.414	0.17	37.99	-	38.16	-	56.00	46.00	-17.84	-
6	17.254	0.89	30.82	-	31.71	-	60.00	50.00	-28.29	-

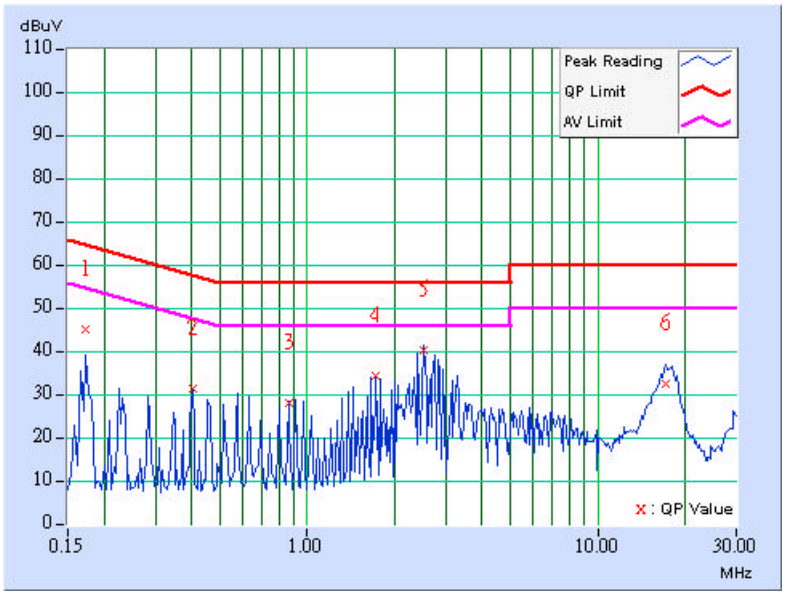
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**: Leo Hung	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.173	0.10	44.35	-	44.45	-	64.79	54.79	-20.34	-
2	0.404	0.12	30.69	-	30.81	-	57.77	47.77	-26.97	-
3	0.861	0.14	27.53	-	27.67	-	56.00	46.00	-28.33	-
4	1.723	0.16	33.61	-	33.77	-	56.00	46.00	-22.23	-
5	**2.523**	**0.17**	**39.77**	**-**	**39.94**	**-**	**56.00**	**46.00**	**-16.06**	**-**
6	17.109	0.67	31.78	-	32.45	-	60.00	50.00	-27.55	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESIB7	100188	Jan. 13, 2005
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Nov. 21, 2005
BILOG Antenna SCHWARZBECK	VULB9168	9168-157	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-407	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA 9170241	Feb. 23, 2005
Preamplifier Agilent	8449B	3008A01961	Nov. 09, 2005
Preamplifier Agilent	8447D	2944A10629	Nov. 09, 2005
RF signal cable HUBER+SUHNER	SUCOFLEX 104	218182/4	Mar. 04, 2005
RF signal cable HUBER+SUHNER	SUCOFLEX 104	218194/4	Mar. 04, 2005
Software ADT.	ADT_Radiated_V5.14	NA	NA
Antenna Tower ADT.	AT100	AT93021702	NA
Turn Table ADT.	TT100.	TT93021702	NA
Controller ADT.	SC100.	SC93021702	NA

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 1.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The IC Site Registration No. is IC4924-2.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

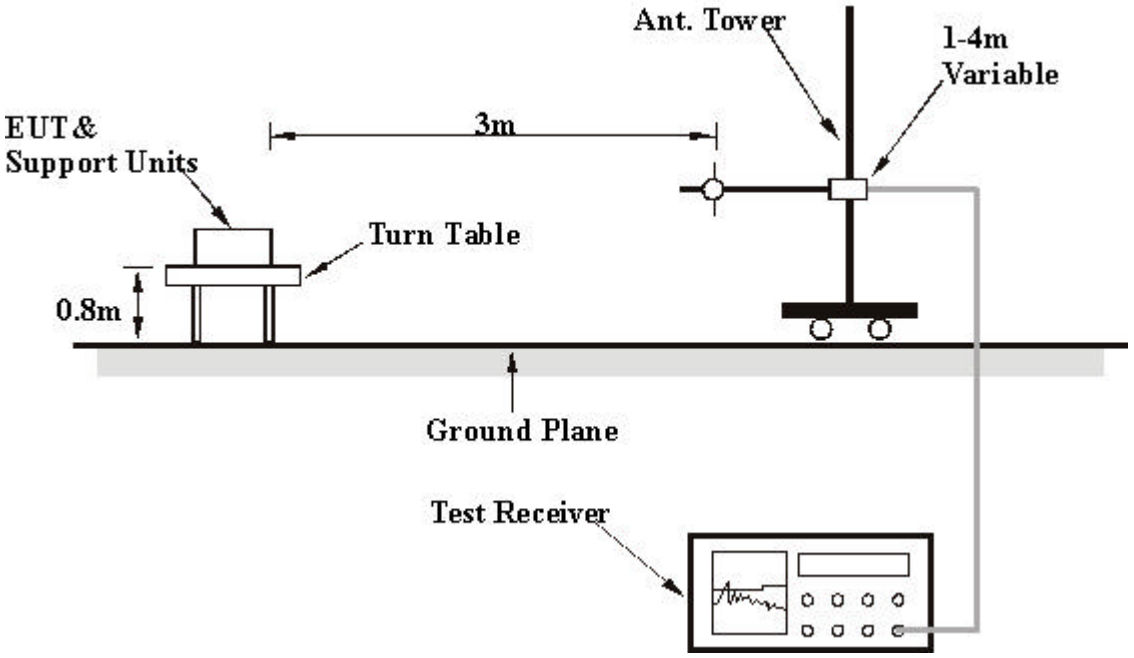
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
CHANNEL	Channel 11	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 991hPa	**TESTED BY**: Match Tsui	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	45.55	29.95 QP	40.00	-10.05	2.00 H	205	14.71	15.23
2	86.37	31.46 QP	40.00	-8.54	2.00 H	133	21.34	10.12
3	146.63	35.83 QP	43.50	-7.67	2.00 H	43	21.25	14.58
4	249.66	35.68 QP	46.00	-10.32	1.00 H	46	22.46	13.22
5	360.46	30.86 QP	46.00	-15.14	1.00 H	295	14.98	15.88
6	449.88	35.15 QP	46.00	-10.85	2.00 H	10	17.08	18.07
7	500.42	35.55 QP	46.00	-10.45	1.50 H	301	16.82	18.74
8	539.30	37.73 QP	46.00	-8.27	1.50 H	25	18.25	19.48
9	630.66	38.64 QP	46.00	-7.36	1.50 H	205	17.21	21.42
10	720.08	38.95 QP	46.00	-7.05	1.00 H	310	16.16	22.79
11	751.18	42.12 QP	46.00	-3.88	1.00 H	295	18.58	23.54
12	875.59	41.32 QP	46.00	-4.68	1.00 H	298	16.66	24.66

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**46.07**	**38.24 QP**	**40.00**	**-1.76**	**1.00 V**	**190**	**23.07**	**15.17**
2	85.54	37.25 QP	40.00	-2.75	1.51 V	29	27.15	10.10
3	127.19	35.10 QP	43.50	-8.40	1.00 V	343	21.57	13.53
4	146.63	33.24 QP	43.50	-10.26	1.00 V	139	18.67	14.58
5	249.66	30.86 QP	46.00	-15.14	1.50 V	355	17.65	13.22
6	449.88	35.60 QP	46.00	-10.40	1.00 V	91	17.53	18.07
7	500.42	36.39 QP	46.00	-9.61	1.00 V	325	17.65	18.74
8	539.30	35.05 QP	46.00	-10.95	1.00 V	268	15.57	19.48
9	624.83	37.96 QP	46.00	-8.04	1.50 V	331	16.61	21.34
10	720.08	38.38 QP	46.00	-7.62	1.50 V	70	15.59	22.79
11	751.18	41.09 QP	46.00	-4.91	2.00 V	352	17.55	23.54
12	875.59	41.32 QP	46.00	-4.68	1.00 V	322	16.66	24.66

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
CHANNEL	Channel 1	**FREQUENCY RANGE**	1 ~ 25GHz
MODE	CCK		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 991hPa	**TESTED BY**: Match Tsui	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	53.84 PK	74.00	-20.16	1.40 H	291	22.13	31.71
1	2360.00	40.69 AV	54.00	-13.31	1.40 H	291	8.98	31.71
2	2390.00	47.84 PK	74.00	-26.16	1.28 H	357	16.04	31.80
3	*2412.00	99.27 PK			1.28 H	357	67.40	31.87
3	*2412.00	92.29 AV			1.28 H	357	60.42	31.87
4	2688.00	48.35 PK	74.00	-25.65	1.14 H	280	15.45	32.90
4	2688.00	42.95 AV	54.00	-11.05	1.14 H	280	10.05	32.90
5	4824.00	49.53 PK	74.00	-24.47	1.20 H	68	11.42	38.11
5	4824.00	36.92 AV	54.00	-17.08	1.20 H	68	-1.19	38.11

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	61.43 PK	74.00	-12.57	1.21 V	176	29.72	31.71
1	2360.00	47.72 AV	54.00	-6.28	1.21 V	176	16.01	31.71
2	2390.00	60.06 PK	74.00	-13.94	1.14 V	256	28.26	31.80
2	2390.00	50.42 AV	54.00	-3.58	1.14 V	256	18.62	31.80
3	*2412.00	111.49 PK			1.14 V	256	79.62	31.87
3	*2412.00	101.85 AV			1.14 V	256	69.98	31.87
4	2688.00	52.97 PK	74.00	-21.03	1.05 V	211	20.07	32.90
4	2688.00	50.38 AV	54.00	-3.62	1.05 V	211	17.48	32.90
5	4824.00	51.73 PK	74.00	-22.27	1.07 V	340	13.62	38.11
5	4824.00	38.49 AV	54.00	-15.51	1.07 V	340	0.38	38.11

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Wireless AG Gaming Adapter	MODEL	DGL-3420
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
MODE	CCK		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 991hPa	TESTED BY: Match Tsui	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	49.62 PK	74.00	-24.38	1.17 H	24	17.91	31.71
1	2360.0	35.23 AV	54.00	-18.77	1.17 H	24	3.52	31.71
2	*2437.00	100.98 PK			1.31 H	261	69.03	31.95
2	*2437.00	93.51 AV			1.31 H	261	61.56	31.95
3	2688.00	50.83 PK	74.00	-23.17	1.18 H	307	17.93	32.90
3	2688.00	48.17 AV	54.00	-5.83	1.18 H	307	15.27	32.90
4	4874.00	48.66 PK	74.00	-25.34	1.06 H	236	10.38	38.28
4	4874.00	36.20 AV	54.00	-17.80	1.06 H	236	-2.08	38.28
5	7311.00	54.16 PK	74.00	-19.84	1.04 H	204	11.19	42.97
5	7311.00	42.25 AV	54.00	-11.75	1.04 H	204	-0.72	42.97

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	64.66 PK	74.00	-9.34	1.20 V	257	32.95	31.71
1	2360.00	48.84 AV	54.00	-5.16	1.20 V	257	17.13	31.71
2	*2437.00	112.54 PK			1.13 V	317	80.59	31.95
2	*2437.00	103.21 AV			1.13 V	317	71.26	31.95
3	2688.00	55.61 PK	74.00	-18.39	1.21 V	236	22.71	32.90
3	2688.00	50.53 AV	54.00	-3.47	1.21 V	236	17.63	32.90
4	4874.00	49.00 PK	74.00	-25.00	1.15 V	82	10.72	38.28
4	4874.00	35.15 AV	54.00	-18.85	1.15 V	82	-3.13	38.28

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
CHANNEL	Channel 11	**FREQUENCY RANGE**	1 ~ 25GHz
MODE	CCK		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 991hPa	**TESTED BY**: Match Tsui	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	59.02 PK	74.00	-14.98	1.40 H	293	27.31	31.71
1	2360.00	41.59 AV	54.00	-12.41	1.40 H	293	9.88	31.71
2	*2462.00	101.37 PK			1.28 H	263	69.35	32.02
2	*2462.00	93.83 AV			1.28 H	263	61.81	32.02
3	2483.50	51.64 PK	74.00	-22.36	1.28 H	263	19.55	32.09
3	2483.50	44.10 AV	54.00	-9.90	1.28 H	263	12.01	32.09
4	2688.00	48.47 PK	74.00	-25.53	1.10 H	280	15.57	32.90
4	2688.00	46.79 AV	54.00	-7.21	1.10 H	280	13.89	32.90
5	4924.00	48.96 PK	74.00	-25.04	1.08 H	281	10.47	38.49
5	4924.00	36.66 AV	54.00	-17.34	1.08 H	281	-1.83	38.49

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	59.16 PK	74.00	-14.84	1.21 V	167	27.45	31.71
1	2360.00	49.47 AV	54.00	-4.53	1.21 V	167	17.76	31.71
2	*2462.00	110.04 PK			1.15 V	120	78.02	32.02
2	*2462.00	100.58 AV			1.15 V	120	68.56	32.02
3	2483.50	60.62 PK	74.00	-13.38	1.11 V	57	28.53	32.09
3	2483.50	50.82 AV	54.00	-3.18	1.11 V	57	18.73	32.09
4	2688.00	53.06 PK	74.00	-20.94	1.05 V	211	20.16	32.90
4	2688.00	50.21 AV	54.00	-3.79	1.05 V	211	17.31	32.90
5	4924.00	47.61 PK	74.00	-26.39	1.03 V	240	9.12	38.49
5	4924.00	35.95 AV	54.00	-18.05	1.03 V	240	-2.54	38.49

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

Normal mode

EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
CHANNEL	Channel 1	**FREQUENCY RANGE**	1 ~ 25GHz
MODE	OFDM		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 991hPa	**TESTED BY**: Match Tsui	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	47.56 PK	74.00	-26.44	1.10 H	36	15.85	31.71
1	2360.00	37.15 AV	54.00	-16.85	1.10 H	36	5.44	31.71
2	2390.00	47.89 PK	74.00	-26.11	1.09 H	23	16.09	31.80
2	2390.00	38.24 AV	54.00	-15.76	1.09 H	23	6.44	31.80
3	*2412.00	97.70 PK			1.09 H	23	65.83	31.87
3	*2412.00	88.05 AV			1.09 H	23	56.18	31.87
4	2688.00	51.29 PK	74.00	-22.71	1.00 H	336	18.39	32.90
4	2688.00	48.46 AV	54.00	-5.54	1.00 H	336	15.56	32.90
5	4824.00	48.31 PK	74.00	-25.69	1.12 H	217	10.20	38.11
5	4824.00	36.17 AV	54.00	-17.83	1.12 H	217	-1.94	38.11

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	55.96 PK	74.00	-18.04	1.22 V	157	24.25	31.71
1	2360.00	47.25 AV	54.00	-6.75	1.22 V	157	15.54	31.71
2	2390.00	59.70 PK	74.00	-14.30	1.13 V	227	27.90	31.80
2	2390.00	50.07 AV	54.00	-3.93	1.13 V	227	18.27	31.80
3	*2412.00	109.51 PK			1.13 V	227	77.64	31.87
3	*2412.00	99.88 AV			1.13 V	227	68.01	31.87
4	2688.00	52.36 PK	74.00	-21.64	1.08 V	360	19.46	32.90
4	2688.00	49.41 AV	54.00	-4.59	1.08 V	360	16.51	32.90
5	4824.00	48.61 PK	74.00	-25.39	1.08 V	66	10.50	38.11
5	4824.00	36.58 AV	54.00	-17.42	1.08 V	66	-1.53	38.11

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
CHANNEL	Channel 6	**FREQUENCY RANGE**	1 ~ 25GHz
MODE	OFDM		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 991hPa	**TESTED BY**: Match Tsui	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	46.31 PK	74.00	-27.69	1.36 H	1	14.60	31.71
1	2360.00	37.51 AV	54.00	-16.49	1.36 H	1	5.80	31.71
2	*2437.00	98.87 PK			1.04 H	340	66.92	31.95
2	*2437.00	89.32 AV			1.04 H	340	57.37	31.95
3	2688.00	51.04 PK	74.00	-22.96	1.17 H	307	18.14	32.90
3	2688.00	47.84 AV	54.00	-6.16	1.17 H	307	14.94	32.90
4	4874.00	48.29 PK	74.00	-25.71	1.28 H	124	10.01	38.28
4	4874.00	36.61 AV	54.00	-18.39	1.28 H	124	-2.67	38.28

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	56.36 PK	74.00	-17.64	1.22 V	157	24.65	31.71
1	2360.00	46.94 AV	54.00	-7.06	1.22 V	157	15.23	31.71
2	*2437.00	110.00 PK			1.14 V	330	78.05	31.95
2	*2437.00	101.21 AV			1.14 V	330	69.26	31.95
3	2688.00	55.67 PK	74.00	-18.33	1.10 V	360	22.77	32.90
3	2688.00	50.08 AV	54.00	-3.92	1.10 V	360	17.18	32.90
4	4874.00	49.19 PK	74.00	-24.81	1.06 V	115	10.91	38.28
4	4874.00	35.68 AV	54.00	-18.32	1.06 V	115	-2.60	38.28

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Wireless AG Gaming Adapter	MODEL	DGL-3420
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODE	OFDM		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26deg. C, 62%RH, 991hPa	TESTED BY: Match Tsui	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	54.05 PK	74.00	-19.95	1.09 H	294	22.34	31.71
1	2360.00	41.02 AV	54.00	-12.98	1.09 H	294	9.31	31.71
2	*2462.00	100.10 PK			1.03 H	341	68.08	32.02
2	*2462.00	90.03 AV			1.03 H	341	58.01	32.02
3	2483.50	50.51 PK	74.00	-23.49	1.03 H	341	18.42	32.09
3	2483.50	40.44 AV	54.00	-13.56	1.03 H	341	8.35	32.09
4	2688.00	52.86 PK	74.00	-21.14	1.17 H	280	19.96	32.90
4	2688.00	46.17 AV	54.00	-7.83	1.17 H	280	13.27	32.90
5	4924.00	48.84 PK	74.00	-25.16	1.05 H	192	10.35	38.49
5	4924.00	35.88 AV	54.00	-18.12	1.05 H	192	-2.61	37.49

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2360.00	58.26 PK	74.00	-15.74	1.19 V	256	26.55	31.71
1	2360.00	49.37 AV	54.00	-4.63	1.19 V	256	17.66	31.71
2	*2462.00	109.77 PK			1.16 V	127	77.75	32.02
2	*2462.00	99.58 AV			1.16 V	127	67.56	32.02
3	2483.50	60.18 PK	74.00	-13.82	1.16 V	127	28.09	32.09
3	2483.50	49.99 AV	54.00	-4.01	1.16 V	127	17.90	32.09
4	2688.00	57.32 PK	74.00	-16.68	1.22 V	257	24.42	32.90
4	2688.00	51.56 AV	54.00	-2.44	1.22 V	257	18.66	32.90
5	4924.00	49.05 PK	74.00	-24.95	1.14 V	229	10.56	38.49
5	4924.00	36.94 AV	54.00	-17.06	1.14 V	229	-1.55	38.49

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

Turbo mode

EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
CHANNEL	Channel 6	**FREQUENCY RANGE**	1 ~ 25GHz
MODE	OFDM		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	**TESTED BY**: Match Tsui	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	53.81 PK	74.00	-20.19	1.23 H	288	22.01	31.80
1	2390.00	45.15 AV	54.00	-8.85	1.23 H	288	13.35	31.80
2	*2437.00	95.62 PK			1.23 H	288	63.67	31.95
2	*2437.00	86.90 AV			1.23 H	288	54.95	31.95
3	2483.50	53.91 PK	74.00	-20.09	1.23 H	288	21.82	32.09
3	2483.50	45.01 AV	54.00	-8.99	1.23 H	288	12.92	32.09
4	2688.00	43.26 PK	74.00	-30.74	1.21 H	228	10.36	32.90
4	2688.00	48.06 AV	54.00	-5.94	1.21 H	228	15.16	32.90
5	7311.00	51.45 PK	74.00	-22.55	1.21 H	269	8.48	42.97
5	7311.00	38.32 AV	54.00	-15.68	1.21 H	269	-4.65	42.97

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	55.91 PK	74.00	-18.09	1.17 V	360	24.11	31.80
1	2390.00	46.87 AV	54.00	-7.13	1.17 V	360	15.07	31.80
2	*2437.00	107.56 PK			1.17 V	360	75.61	31.95
2	*2437.00	97.76 AV			1.17 V	360	65.81	31.95
3	2483.50	55.27 PK	74.00	-18.73	1.17 V	360	23.18	32.09
3	2483.50	46.42 AV	54.00	-7.58	1.17 V	360	14.33	32.09
4	2688.00	52.21 PK	74.00	-21.79	1.07 V	117	19.31	32.90
4	2688.00	49.99 AV	54.00	-4.01	1.07 V	117	17.09	32.90
5	7311.00	54.17 PK	74.00	-19.83	1.12 V	277	11.20	42.97
5	7311.00	40.64 AV	54.00	-13.36	1.12 V	277	-2.33	42.97

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK 30	100049	Aug. 12, 2005

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

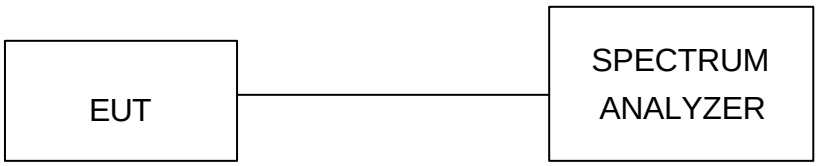
4.3.3 TEST PROCEDURE

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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

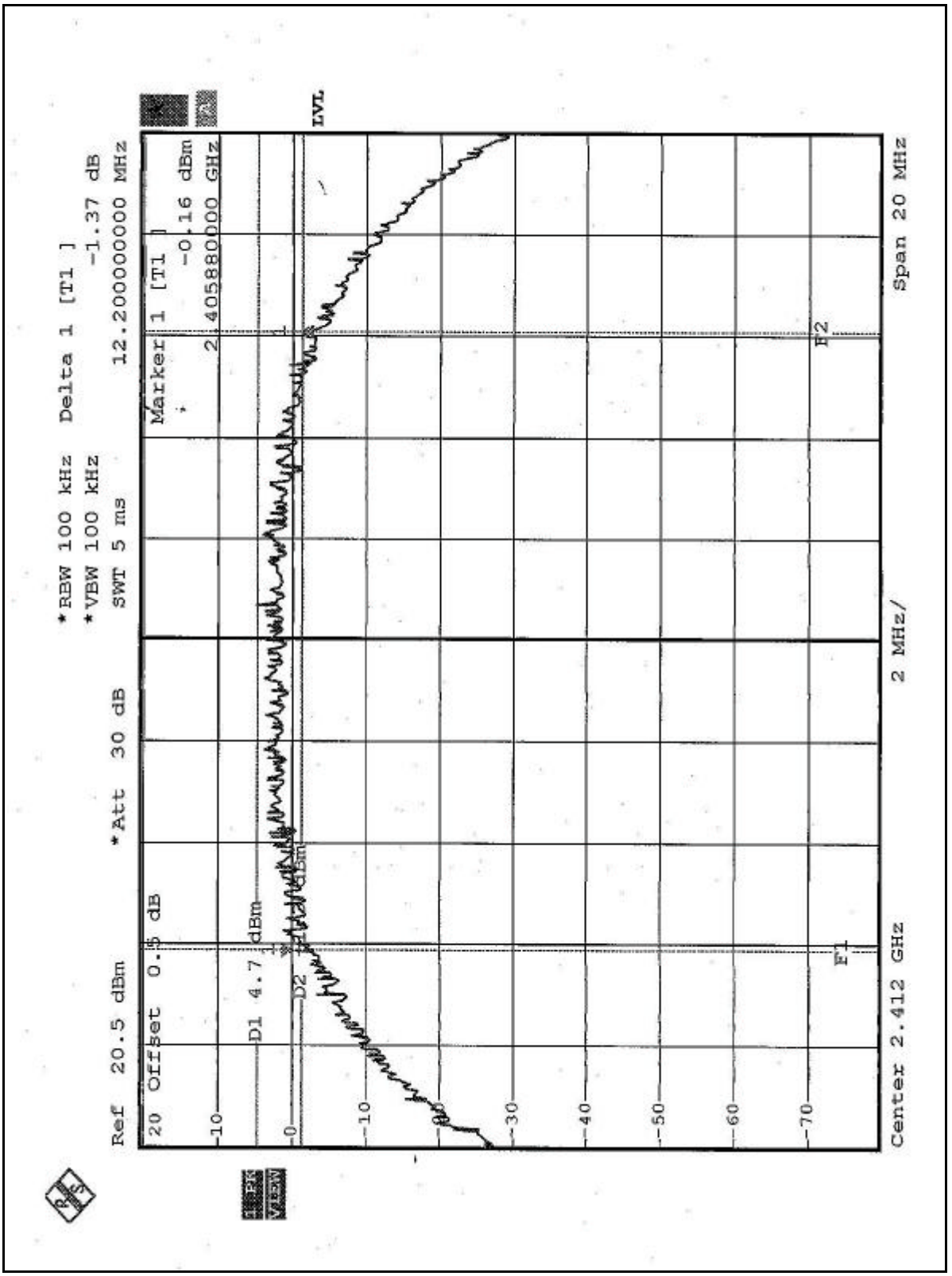
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

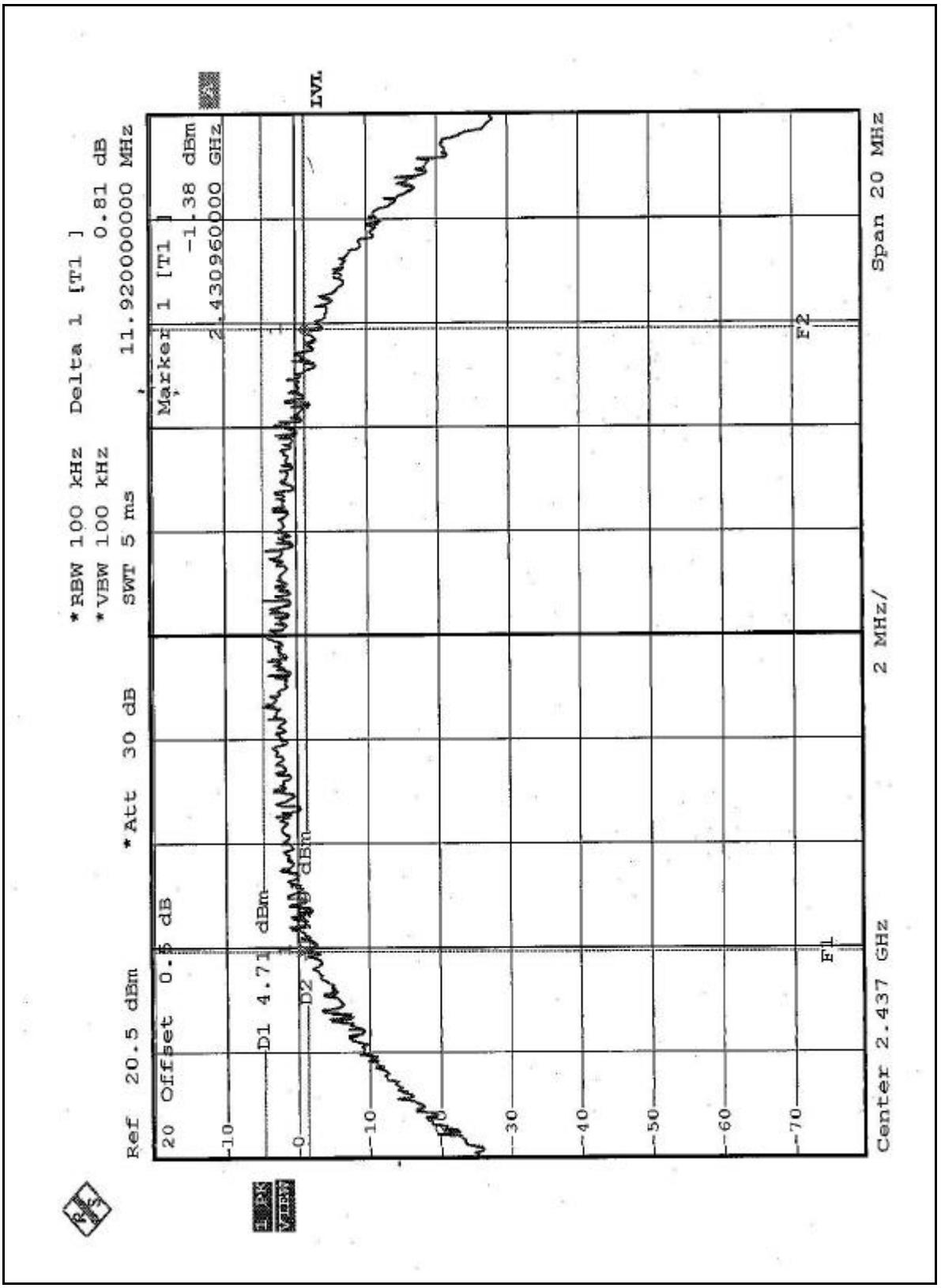
EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
MODE	CCK	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	12.20	0.5	PASS
6	2437	11.92	0.5	PASS
11	2462	11.08	0.5	PASS

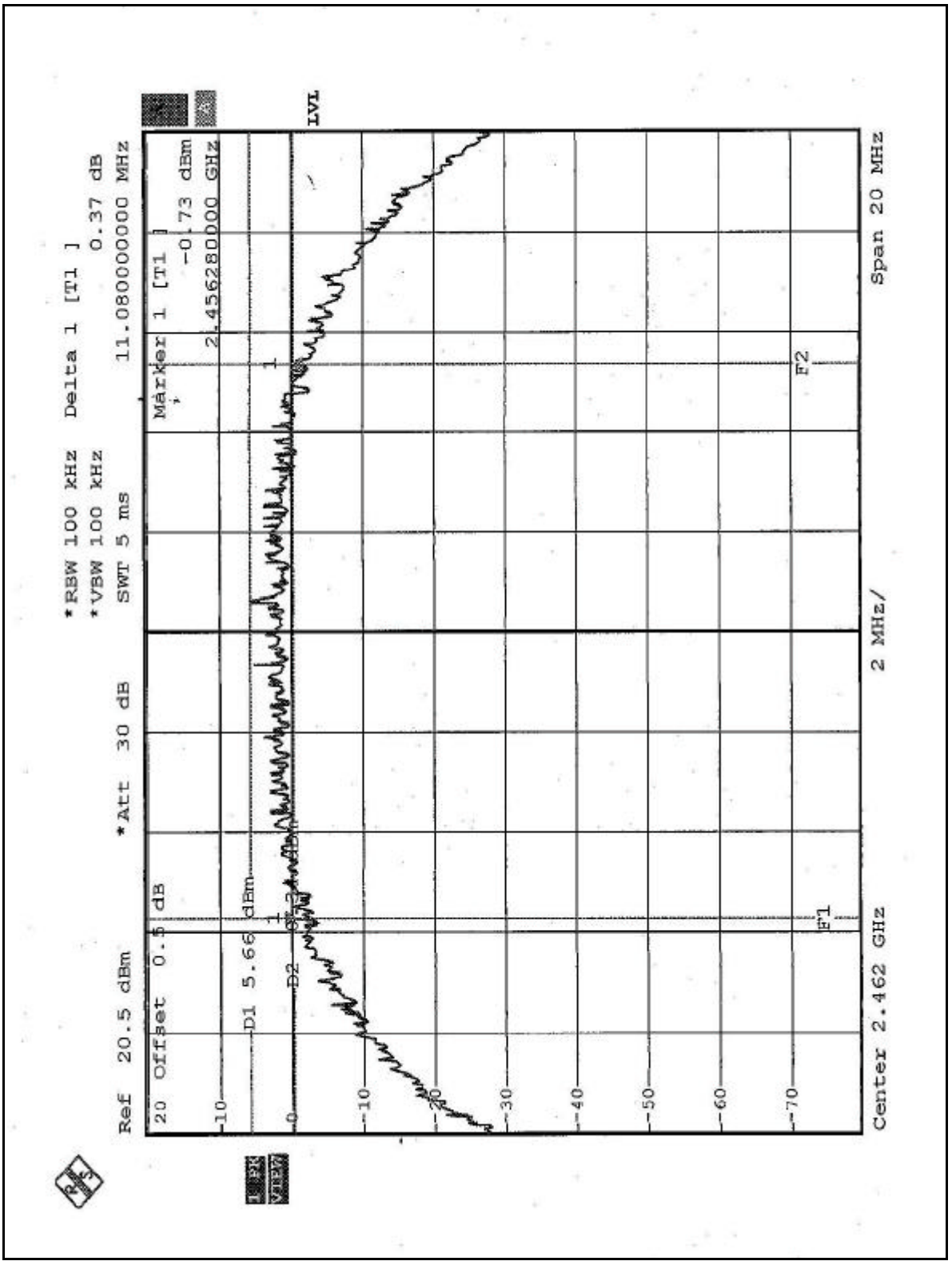
CH1


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-1.37 dB
12.200000000 MHz
Marker 1 [T1]
-0.16 dBm
2.405880000 GHz
Ref 20.5 dBm
Offset 0.5 dB
Att 30 dB
D1 4.7 dBm
D2
F1
F2
Center 2.412 GHz
2 MHz/
Span 20 MHz
LVL

CH6


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
0.81 dB
11.920000000 MHz
Marker 1 [T1]
-1.38 dBm
2.430960000 GHz
Ref 20.5 dBm
Offset 0.5 dB
Att 30 dB
D1 4.71 dBm
D2 dBm
Center 2.437 GHz
2 MHz/
Span 20 MHz
F2
F1

CH11

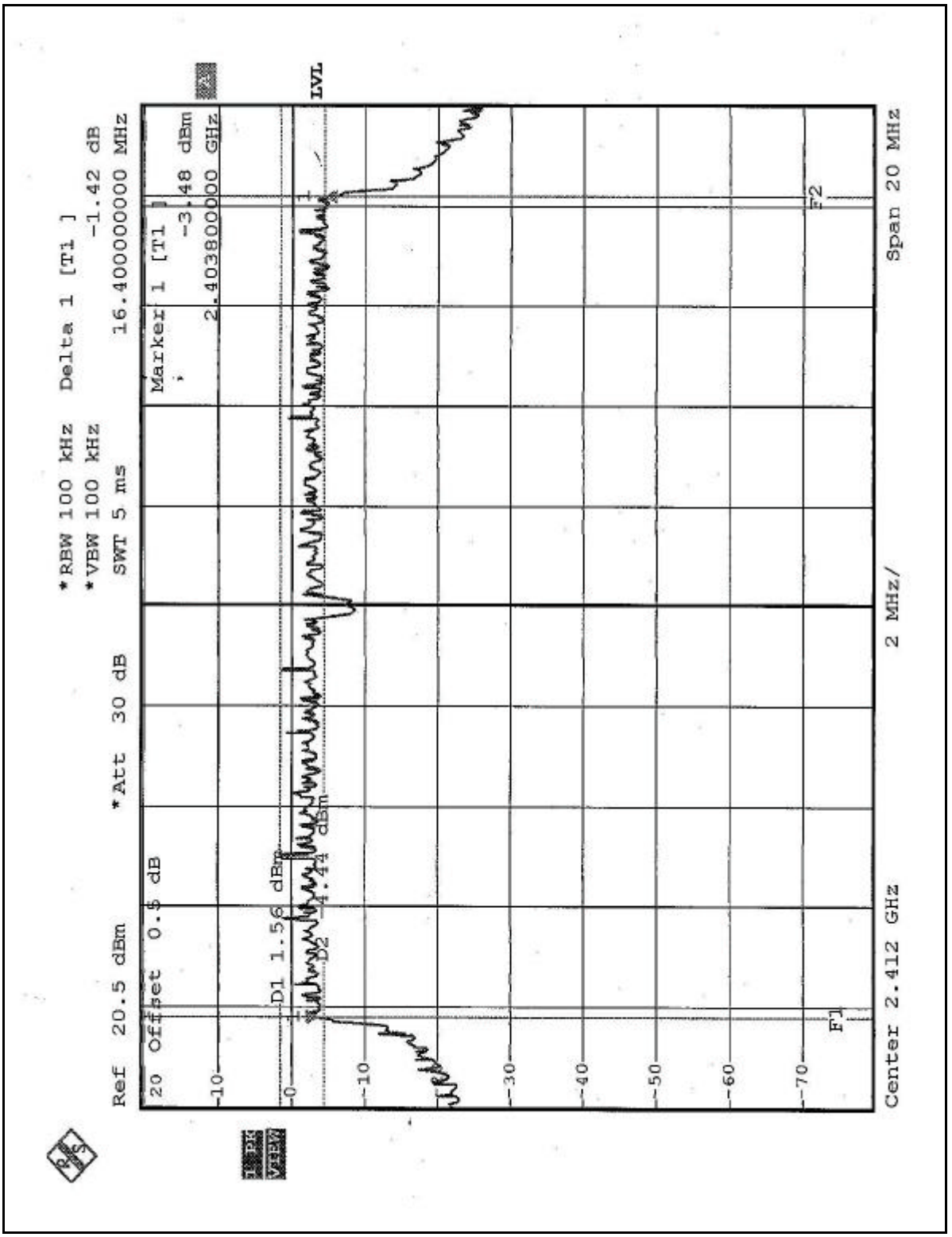

RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Att 30 dB
Delta 1 [T1]
0.37 dB
11.080000000 MHz
Marker 1 [T1]
-0.73 dBm
2.456280000 GHz
LVL
Ref 20.5 dBm
Offset 0.5 dB
D1 5.66 dBm
D2
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz

Normal mode

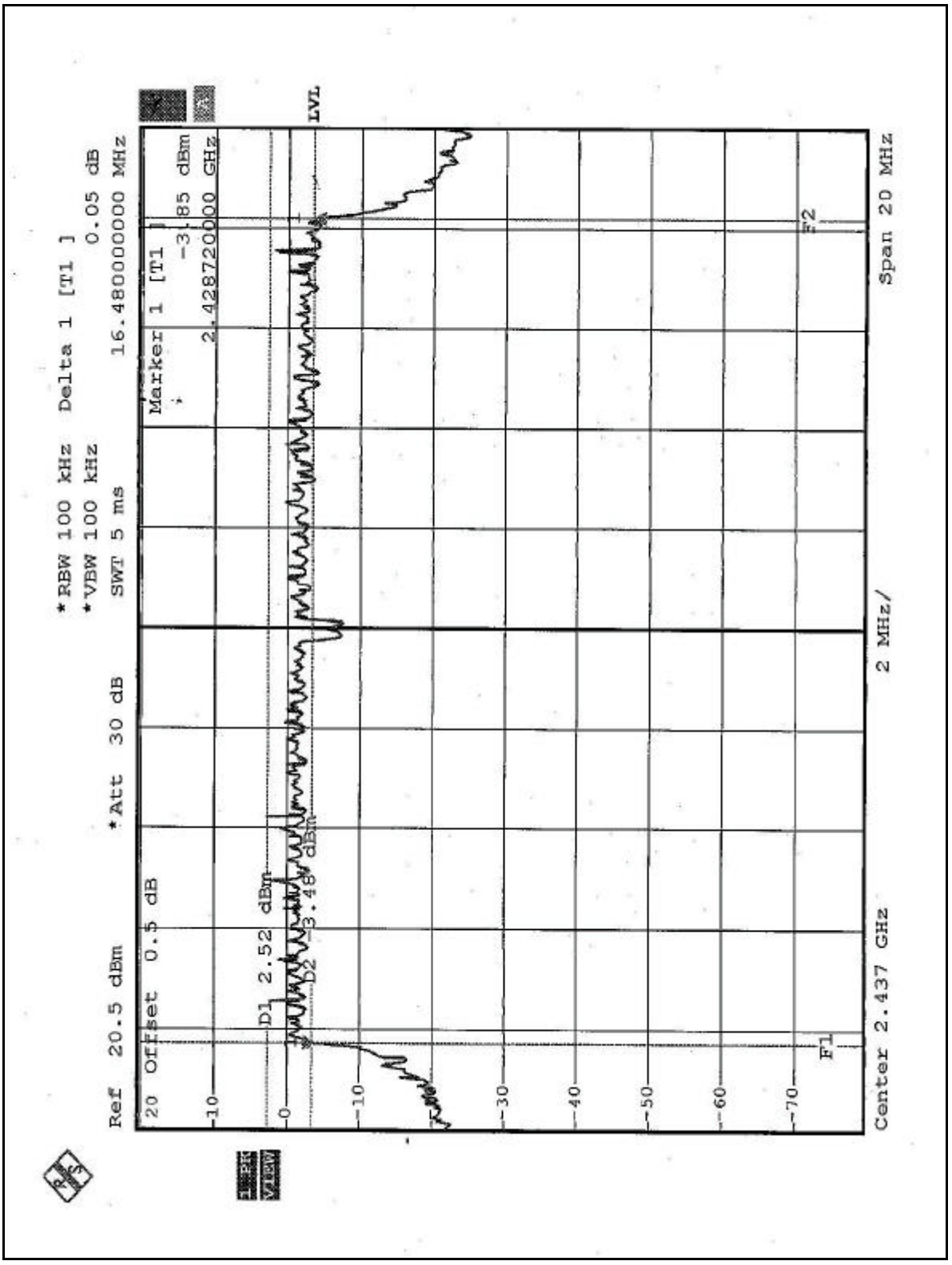
EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
MODE	OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.40	0.5	PASS
6	2437	16.48	0.5	PASS
11	2462	16.40	0.5	PASS

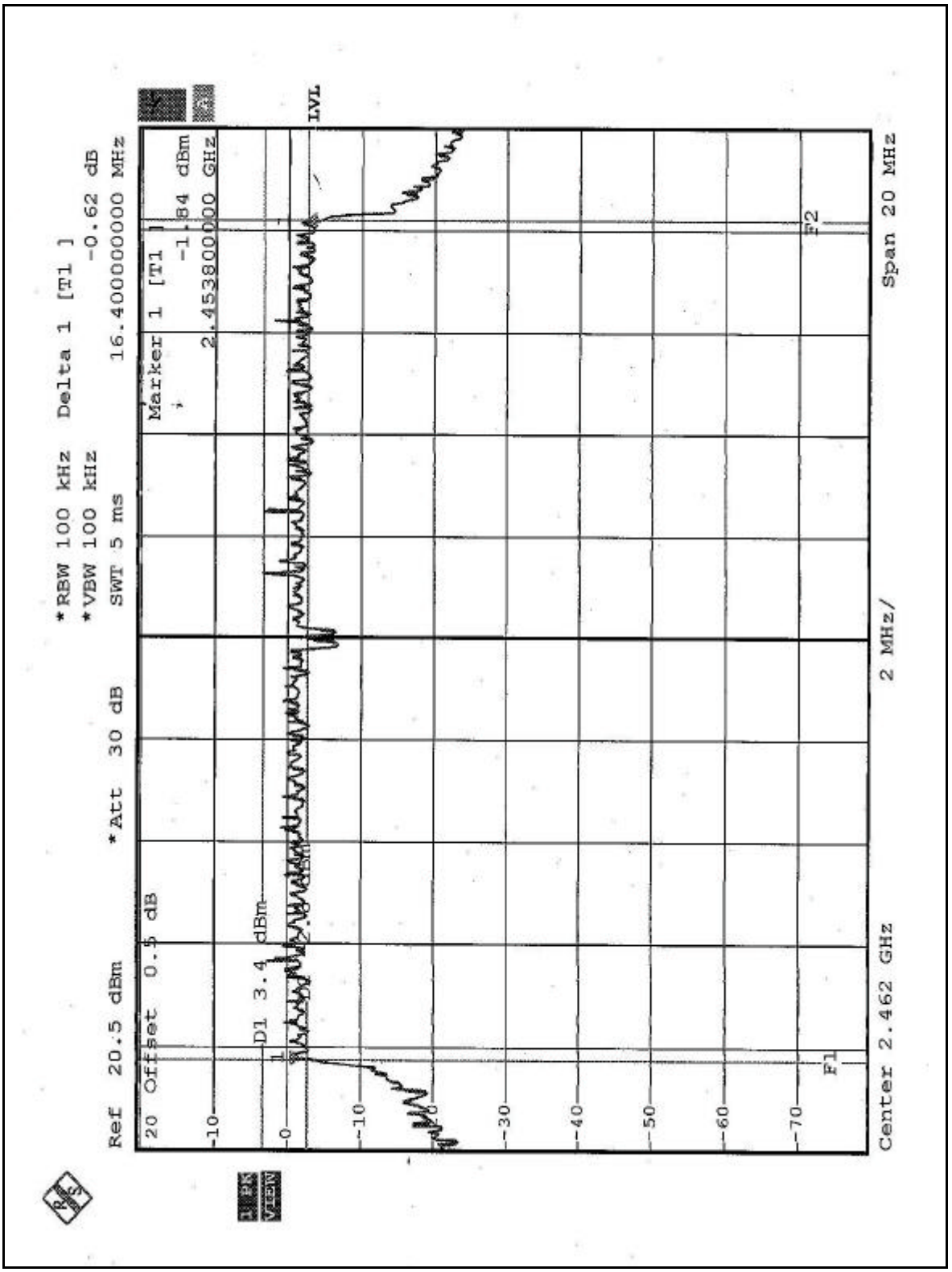
CH1


Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-1.42 dB
16.40000000 MHz
Marker 1 [T1]
-3.48 dBm
2.40380000 GHz
D1 1.56 dBm
D2 -4.44 dBm
F1
F2
Center 2.412 GHz
2 MHz/
Span 20 MHz

CH6


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
0.05 dB
16.480000000 MHz
Marker 1 [T1]
-3.85 dBm
2.428720000 GHz
Ref 20.5 dBm
Offset 0.5 dB
Att 30 dB
D1 2.52 dBm
D2 3.48 dBm
Center 2.437 GHz
2 MHz/
Span 20 MHz
F1
F2
LVL

CH11

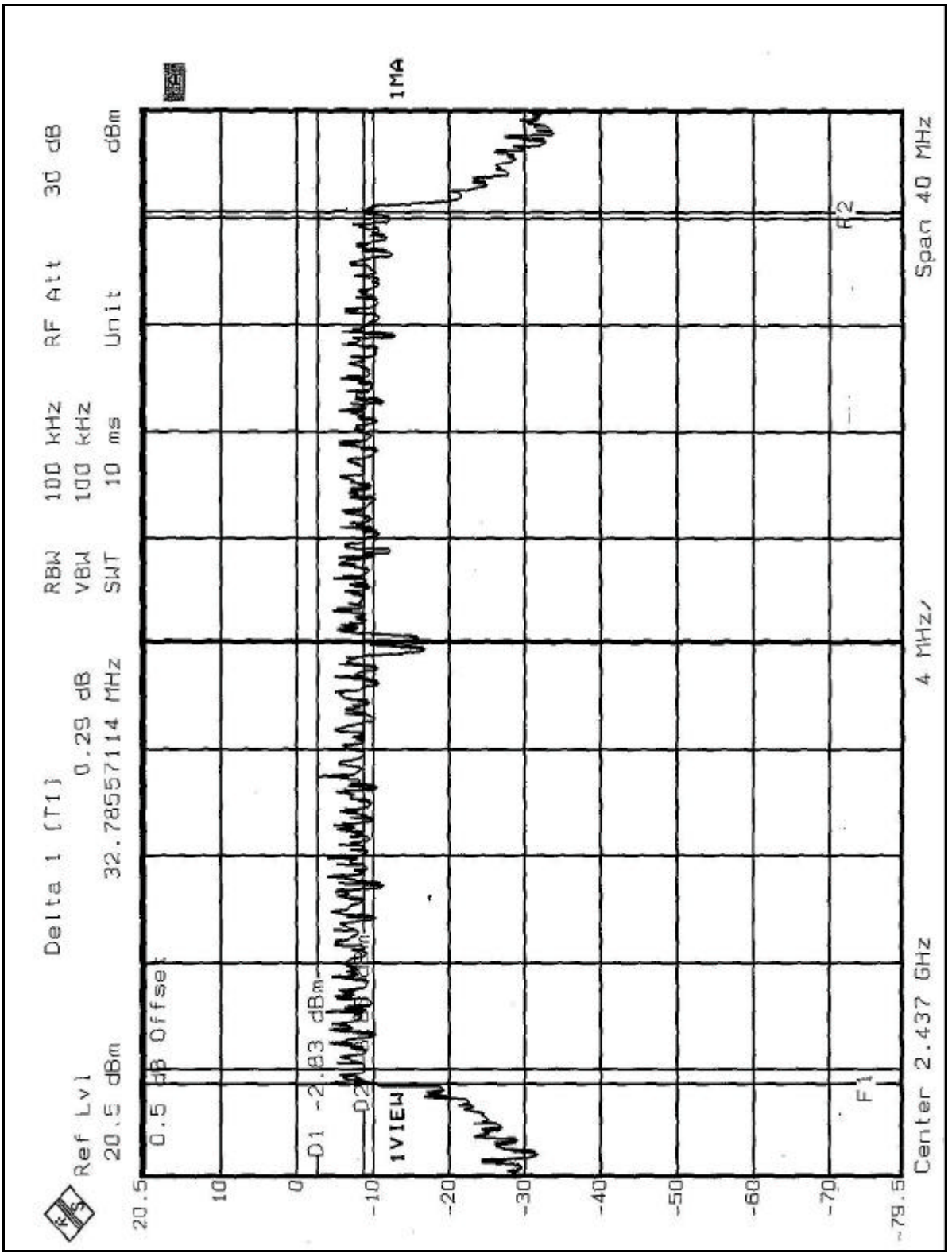

*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.62 dB
16.400000000 MHz
Marker 1 [T1]
-1.84 dBm
2.453800000 GHz
Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
D1 3.4 dBm
Center 2.462 GHz
2 MHz/
Span 20 MHz
LVL
F1
F2

Turbo mode

EUT	Wireless AG Gaming Adapter	**MODEL**	DGL-3420
MODE	OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
6	2437	32.78	0.5	PASS

CH6


Ref Lvl
20.5 dBm
0.5 dB Offset
Delta 1 [T1]
0.29 dB
32.78557114 MHz
RBW 100 kHz
VBW 100 kHz
SWT 10 ms
RF Att 30 dB
Unit dBm
1MA
D1 -2.83 dBm
1VIEW
R2
F1
Center 2.437 GHz
4 MHz/
Span 40 MHz
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5

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 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 31, 2004
TEKTRONIX OSCILLOSCOPE	TDS 1012	C019167	Feb. 01, 2005
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..

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4.4.1 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.

4.4.2 DEVIATION FROM TEST STANDARD

No deviation

4.4.3 TEST SETUP

4.4.4 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.3 TEST RESULTS

EUT	Wireless AG Gaming Adapter	MODEL	DGL-3420
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 64%RH, 991hPa
MODE	CCK	TESTED BY	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	44.668	16.5	30	PASS
6	2437	56.234	17.5	30	PASS
11	2462	44.668	16.5	30	PASS

Normal mode

EUT	Wireless AG Gaming Adapter	MODEL	DGL-3420
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 64%RH, 991hPa
MODE	OFDM	TESTED BY	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	44.668	16.5	30	PASS
6	2437	56.234	17.5	30	PASS
11	2462	56.234	17.5	30	PASS

Turbo mode

EUT	Wireless AG Gaming Adapter	MODEL	DGL-3420
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 64%RH, 991hPa
MODE	OFDM	TESTED BY	Leo Hung

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
6	2437	50.582	17.04	30	PASS