



Test Report

Product Name : Wireless USB Adaptor Card

Model No. : DW-120, DW-120XX

FCC ID.: KA220010800141-5

Applicant : D-Link Corporation

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

Date of Receipt : Sep.25, 2001

Date of Test : Oct.05, 2001

Report No. : 01AH001FI

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Test Report Certification

Test Date : Oct.05, 2001

Report No. : 01AH001FI



Accredited by NIST (NVLAP)

NVLAP Lab Code: 200347-0

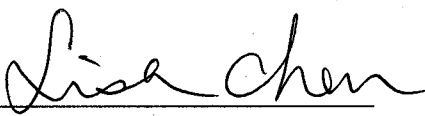
Product Name : Wireless USB Adaptor Card
Applicant : D-Link Corporation
Address : No. 8, Li-Hsin VII Road, Science-Based Industrial
Park, Hsin-Chu, Taiwan, R.O.C.
Manufacturer : D-Link Corporation
Model No. : DW-120, DW-120XX
FCC ID. : KA220010800141-5
Rated Voltage : Power by PC
Trade Name : D-Link
Measurement Standard : FCC Part 15 Subpart C Paragraph 15.247
Measurement Procedure : ANSI C63.4:1992
Test Result : Complied

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By :


(Lisa Chen)

Tested By :


(Vincent Lin)

Approved By :

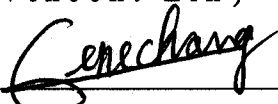

(Gene Chang)

TABLE OF CONTENTS

Description	Page
1. GENERAL INFORMATION.....	5
1.1. EUT Description.....	5
1.2. EUT Description.....	5
1.3. Configuration of tested System	7
1.4. EUT Exercise Software	8
1.5. Test Facility	8
2. Conducted Emission.....	9
2.1. Test Equipment List.....	9
2.2. Test Setup	9
2.3. Limits	9
2.4. Test Procedure	10
2.5. Test Result of Conducted Emission.....	11
3. Peak Power Output	12
3.1. Test Equipment.....	12
3.2. Test Setup	12
3.3. Test Condition	12
3.4. Minimum Standard.....	12
3.5. Test Result of Peak Power Output.....	13
4. RF Exposure Evaluation.....	14
4.1. Friis Formula	14
4.2. EUT Operation condition	14
4.3. Test Result of RF Exposure Evaluation.....	15
5. Radiated Emission.....	16
5.1. Test Equipment.....	16
5.2. Test Setup	16
5.3. Test Condition	17
5.4. Limits	17
5.5. Test Procedure	18
5.6. Test Result of Radiated Emission.....	19
5.7. Test Result of Band Edge	31
6. Occupied Bandwidth.....	35
6.1. Test Equipment.....	35
6.2. Test Setup	35
6.3. Test Condition	35
6.4. Standard Requirement	35
6.5. Test Result of Occupied Bandwidth	36
7. Transmitter Power Density.....	39
7.1. Test Equipment.....	39
7.2. Test Setup	39
7.3. Test Condition	39
7.4. Standard Requirement	39
7.5. Test Result of Transmitter Power Density.....	40

8.	Processing Gain	43
8.1.	Test Condition	43
8.2.	Minimum Standard.....	43
8.3.	Method of Measurement	43
8.4.	Calculation of Processing Gain:	43
8.5.	Test Result of Processing Gain.....	44
9.	EMI Reduction Method During Compliance Testing	45
10.	Attachment.....	46

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	: Wireless USB Adaptor Card
Trade Name	: D-Link
FCC ID.	: KA220010800141-5
Model No.	: DW-120, DW-120XX
Frequency Range	: 2400MHz to 2483.5MHz
Channel Number	: 13
Frequency of Each Channel	: Channel 01: 2412MHz Channel 07: 2442MHz
(Working Frequency)	Channel 02: 2417 MHz Channel 08: 2447 MHz
	Channel 03: 2422 MHz Channel 09: 2452 MHz
	Channel 04: 2427MHz Channel 10: 2457MHz
	Channel 05: 2432MHz Channel 11: 2462MHz
	Channel 06: 2437MHz Channel 12: 2467MHz
	Channel 13: 2472MHz
Type of Modulation	: Direct Sequence Spread Spectrum
Channel Control	: Auto
USB Cable	: Shielded, 1.2m, a ferrite core bonded

Note:

1. This device is a 2.4GHz Wireless USB Adaptor Card with USB interface included a 2.4GHz receiving function, a 2.4GHz transmitting function.
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
3. Regards to the of the different construction EUT. The model name were shown in the table following:

Model No	Solution	Housing
DW-120	ATMEL+RFMD	Name Card type
DWL-120XX	ATMEL+RFMD	Arched type

4. This device is a composite device in accordance with Part 15 regulations. The function receiving was measured and made a test report that the report number is 01AH004F under Verification.

1.2. EUT Description

EUT is an USB 1.1 interface 2.4GHz wireless LAN with 11 channels. This device provided four kind of transmitting speed 1,2,5.5 and 11Mbps . The device of RF carrier is DQPSK, DB PSK and CCK. The USB port provides the connection to PC for data transmission, The SMD antenna was soldered on the PCB directly.

The device was adapted direct sequence spread spectrum modulation. SMD antenna provides diversity function to improve the receiving function. Data can be transmitted by the radio signal connect to the Internet or Local network.

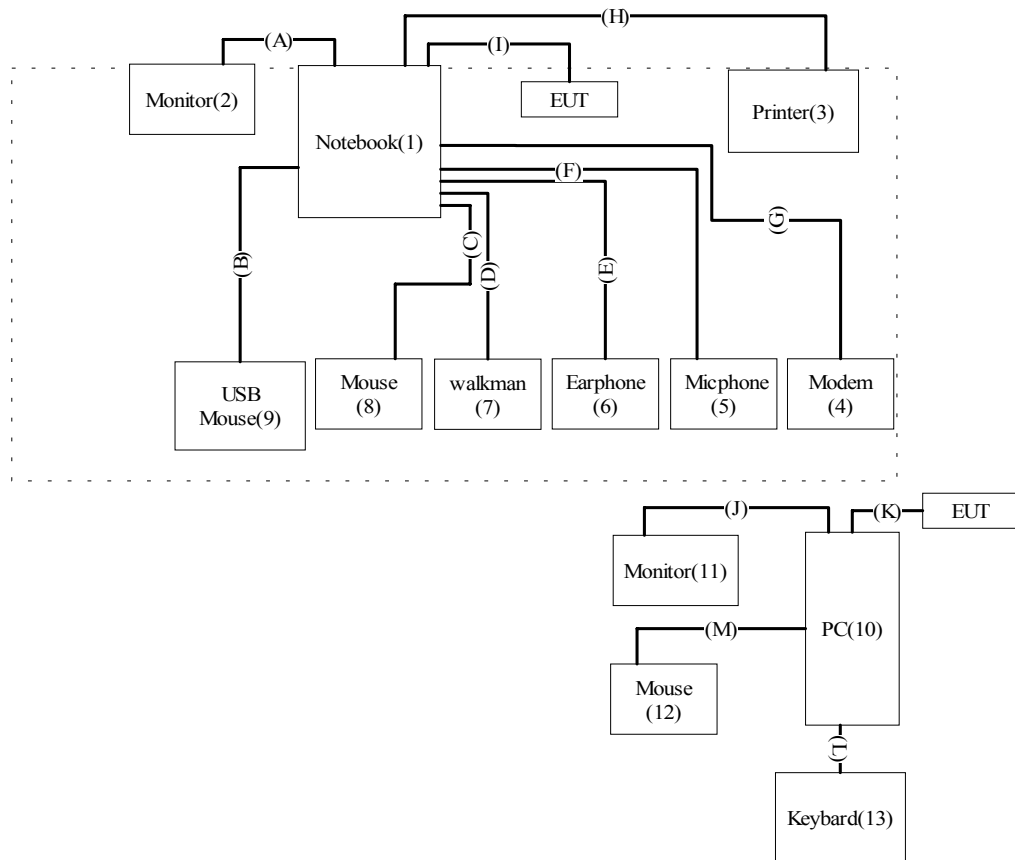
Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
(1) Notebook	IBM	Think Pad 570	27L8835	DoC	Non-shielded, 1.5m
(2) Monitor	HITACHI	CM752ET-311	T8E004439	DoC	Shielded, 1.7m
(3) Printer	HP	C2642A	MY75L1D2XN	B94C2642X	Non-Shielded, 0.7m
(4) Modem	ACEEX	1414	980033037	IFAXDM1414	--
(5) Microphone	AIWA	CD-8000	N/A	DoC	--
(6) Earphone	BSD	N/A	N/A	DoC	--
(7) Walkman	TOBISHI	TB-21984	N/A	DoC	--
(8) Mouse	Logitech	M-M35	LZA75102600	DZL211029	--
(9) USB Mouse	TREMON	MUS2U	N/A	DoC	-
(10) PC	IBM	16W	BNL6767	DoC	Non-shielded, 1.8m
(11) Monitor	NEC	15R128	AWI16600	HSUTRLDH-1570	Non-shielded, 1.8m
(12) Mouse	IBM	M-SAU-IBM6	23-022666	DZL211029	--
(13) Keyboard	IBM	KB-9930	0073449	DoC	--

Signal Cable Type	Signal Cable Description
A. VGA Cable	Shielded, 1.8m, two ferrite cores bonded
B. USB Mouse Cable	Shielded, 1.0m
C. Mouse Cable	Shielded, 1.6m
D. Walkman Cable	Non-shielded, 1.6m
E. Earphone Cable	Non-shielded, 1.2m
F. Microphone Cable	Non-shielded, 1.0m
G. Modem Cable	Shielded, 1.5m
H. Printer Cable	Shielded, 1.6m
I. USB Cable (EUT)	Shielded, 1.2m, a ferrite core bonded
J. VGA Cable	Shielded, 1.8m
K. USB Cable (EUT)	Shielded, 1.2m, a ferrite core bonded
L. Keyboard Cable	Shielded, 1.6m
M. Mouse Cable	Shielded, 1.6m

1.3. Configuration of tested System



1.4. EUT Exercise Software

- 1.4.1 Setup the EUT and simulators as shown on 1.3.
- 1.4.2 Turn on the power of all equipment.
- 1.4.3 Personal Computer reads data from disk.
- 1.4.4 Data will be transmitted through EUT.
- 1.4.5 The transmission status will be shown on the monitor.
- 1.4.6 Repeat the above procedure 1.4.4 to 1.4.5

1.5. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: November 3, 1998 File on
 Federal Communications Commission
 FCC Engineering Laboratory
 7435 Oakland Mills Road
 Columbia, MD 21046
 Reference 31040/SIT1300F2
 September 30, 1998 Accreditation on NVLAP
 NVLAP Lab Code: 200347-0



Site Name: Quietek Corporation

Site Address: N0.75-1, Wang-Yeh Valley, Yung-Hsing,
 Chiung-Lin, Hsin-Chu County,
 Taiwa, R.O.C.

2. Conducted Emission

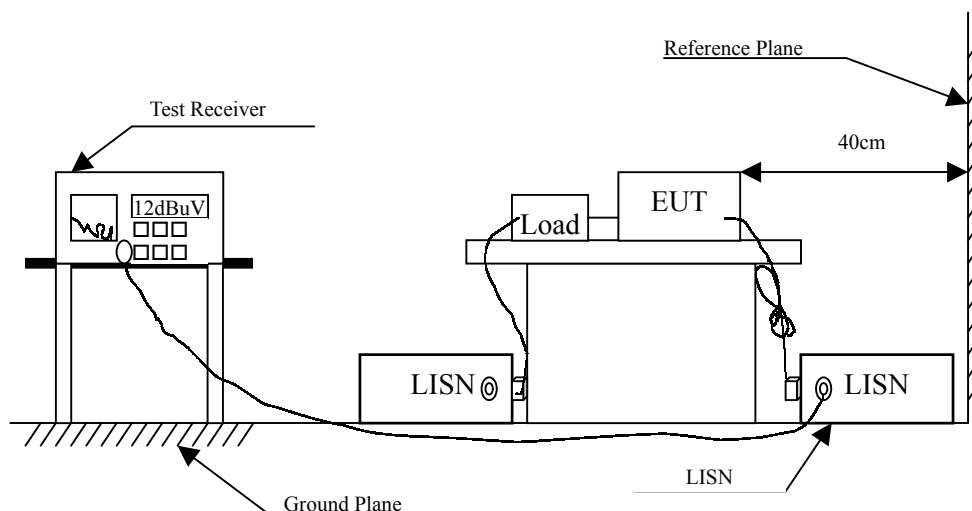
2.1. Test Equipment List

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2001	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2001	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2001	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	N/A	
5	N0.2 Shielded Room			N/A	

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Paragraph 15.207 (dBuV)		
Frequency MHz	Limits	
	uV	dBuV
0.45 - 30	250	48.0

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4:1992 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.45MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Test Result of Conducted Emission

Product : Wireless USB Adaptor Card
Test Item : Conducted Emission Test
Test Mode : Normal Operation

Frequency	Cable	LISN	Reading Level	Measurement Level	Limits
MHz	Loss	Factor	dBuV	dBuV	dBuV
	dB	dB			

Line 1

Quasi-Peak:

0.466	0.06	0.21	29.94	30.21	48.00
0.665	0.08	0.24	27.73	28.05	48.00
0.864	0.09	0.27	26.51	26.87	48.00
3.783	0.18	0.41	29.27	29.86	48.00
* 3.986	0.19	0.41	29.91	30.51	48.00
4.446	0.19	0.42	32.50	33.11	48.00

Line 2

Quasi-Peak:

0.466	0.06	0.21	27.98	28.25	48.00
0.665	0.08	0.24	23.83	24.15	48.00
1.727	0.13	0.33	24.12	24.58	48.00
3.786	0.18	0.41	29.25	29.84	48.00
* 4.446	0.19	0.42	34.38	34.99	48.00
15.933	0.33	0.54	24.19	25.06	48.00

Remarks :

1. “ * ” means that this data is the worst emission level.
2. The average measurement was not performed when the peak measured data under the limit of average detection.

3. Peak Power Output

3.1. Test Equipment

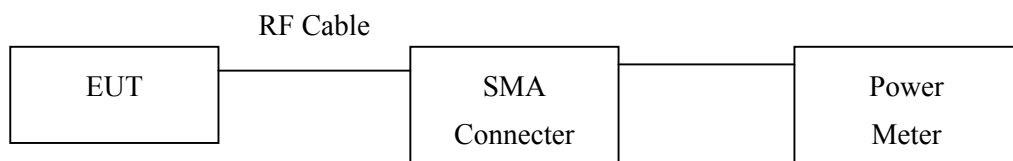
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	Advantest	R3272 / 72421194	May, 2001
X	Power Meter	HP	EPM-441A	May, 2001

Note: 1. All equipment upon which need to calibrated are with calibration period of 1 year.
2. Mark "X" test instruments are used to measure the final test results.

3.2. Test Setup

Conduction Power Measurement



3.3. Test Condition

Standard Temperature and Humidity, Standard Test Voltage

3.4. Minimum Standard

The maximum peak power shall be less 1 Watt.

3.5. Test Result of Peak Power Output

Product : Wireless USB Adaptor Card
 Test Item : Peak Power Output Data
 Test Site : No.1 OATS
 Test Mode : Normal Operation

Data Speed: 1Mbps

Channel No.	Frequency(MHz)	Measurement	Required Limit	Result
1	2413	20.46 dBm	1 Watt= 30 dBm	Pass
6	2438	19.80dBm	1 Watt= 30 dBm	Pass
11	2463	18.59 dBm	1 Watt= 30 dBm	Pass

Data Speed: 11Mbps

Channel No.	Frequency(MHz)	Measurement	Required Limit	Result
1	2413	20.54 dBm	1 Watt= 30 dBm	Pass
6	2438	19.80dBm	1 Watt= 30 dBm	Pass
11	2463	18.71 dBm	1 Watt= 30 dBm	Pass

4. RF Exposure Evaluation

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

4.1. Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

4.2. EUT Operation condition

A software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

4.3. Test Result of RF Exposure Evaluation

Product : Wireless USB Adaptor Card
Test Item : RF Exposure Evaluation Data
Test Site : No.1 OATS
Test Mode : Normal Operation

4.3.1 Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.6dBi or 1.45in linear scale.

4.3.2 Output Power Into Antenna & RF Exposure Evaluation Distance

Channel	Channel Frequency (MHz)	Output Power to Antenna (dBm)	Minimum Allowable Distance ® From Skin(cm)
1 (1Mbps)	2413	20.46	2.66
1 (11Mbps)	2413	20.54	2.68
6 (1Mbps)	2438	19.80	2.47
6 (11Mbps)	2438	19.80	2.47
11 (1Mbps)	2463	18.59	2.15
11 (11Mbps)	2463	18.71	2.17

The distance r (4th column) calculated from the Friis transmission formula is far shorter than 20 cm separation requirement. So, RF exposure limit warning or SAR test are not required.

5. Radiated Emission

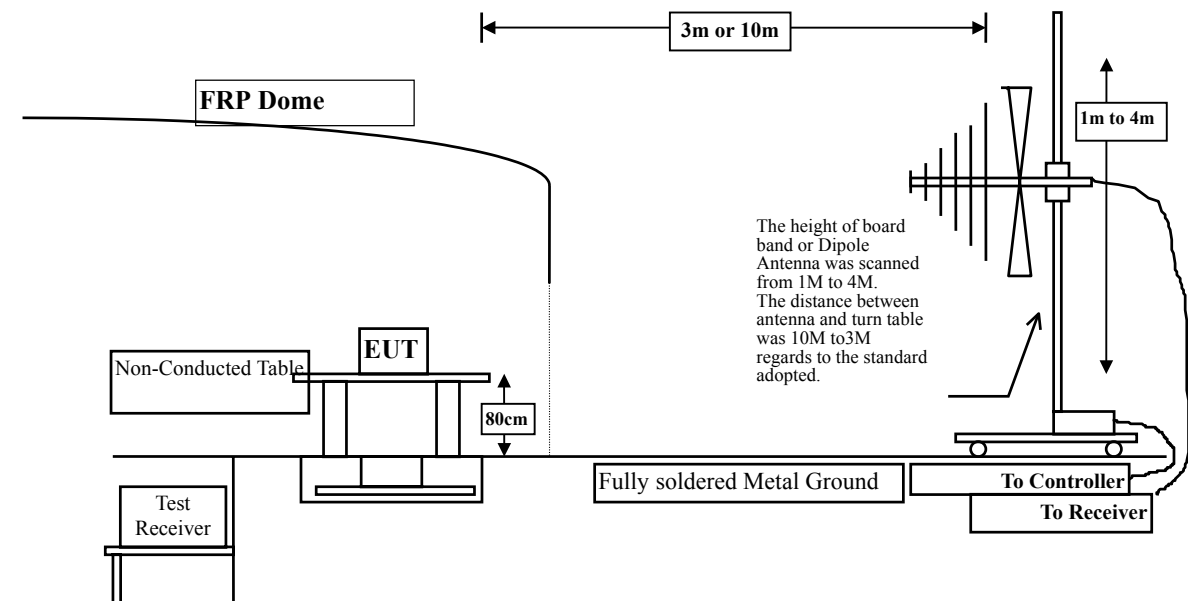
5.1. Test Equipment

The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 1	X	Test Receiver	R & S	ESCS 30 / 825442/14	May, 2001
		Spectrum Analyzer	Advantest	R3261C / 71720140	May, 2001
		Pre-Amplifier	HP	8447D/3307A01812	May, 2001
	X	Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2001
	X	Horn Antenna	EM	EM6917 / 103325	May, 2001
Site # 2	X	Test Receiver	R & S	ESCS 30 / 825442/17	May, 2001
		Spectrum Analyzer	Advantest	R3261C / 71720609	May, 2001
		Pre-Amplifier	HP	8447D/3307A01814	May, 2001
	X	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2001
	X	Horn Antenna	EM	EM6917 / 103325	May, 2001

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.
2. Mark "X" test instruments are used to measure the final test results.

5.2. Test Setup



Spurious Emissions
(Band Edge Antenna Radiated)

5.3. Test Condition

Standard Temperature and Humidity, Standard Test Voltage

5.4. Limits

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

Frequency MHz	50dB below of the fundamental (dBuV/m @3m)	15.209 Limits (dBuV/m @3m)	General Radiated Limits (dBuV/m @3m)
30-88	40	40	40
88-216	43.5	43.5	43.5
216-960	44	46	46
Above 960	44	54	54

Remarks :

1. RF Line Voltage (dBuV) = 20 log RF Line Voltage (uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

5.5. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:1992 on radiated measurement.

The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30)is 120 kHz, above 1GHz are 1 MHz.

The frequency range from **30MHz to 10th harmonics** is checked.

5.6. Test Result of Radiated Emission

Product : Wireless USB Adaptor Card
Test Item : Harmonic Radiated Emission Data
Test Mode : Channel 1(1Mbps)

Freq.	Cable Loss	Probe Factor	PreAMP Level	Reading	Measurement	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Peak Detector (Horizontal)

4825.530	6.27	33.50	0.00	19.35	59.12	14.88	74.00
7238.640	8.32	36.24	0.00	17.78	<62.34	11.66	74.00
9651.540	10.18	37.43	0.00	18.25	<65.86	8.14	74.00

Average Detector (Horizontal)

4824.350	6.27	33.50	0.00	6.80	46.57	7.43	54.00
7238.440	8.32	36.24	0.00	5.34	<49.90	4.10	54.00
9651.380	10.18	37.43	0.00	5.12	<52.73	1.27	54.00

Peak Detector (Vertical)

4824.100	6.27	33.50	0.00	20.21	59.98	14.02	74.00
7236.260	8.32	36.24	0.00	18.17	<62.73	11.27	74.00
9649.560	10.18	37.43	0.00	19.38	<66.99	7.01	74.00

Average Detector (Vertical)

4824.210	6.27	33.50	0.00	6.76	46.53	7.47	54.00
7236.700	8.32	36.24	0.00	5.22	<49.78	4.22	54.00
9648.100	10.18	37.43	0.00	5.10	<52.71	1.29	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. Measurement = Reading Level + Probe Factor + Cable loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless USB Adaptor Card
Test Item : Harmonic Radiated Emission Data
Test Mode : Channel 6(1Mbps)

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Peak Detector (Horizontal)

4874.520	6.32	33.56	0.00	19.80	59.68	14.32	74.00
7311.420	8.38	36.31	0.00	18.06	<62.74	11.26	74.00
9751.130	10.25	37.45	0.00	18.62	<66.32	7.68	74.00

Average Detector (Horizontal)

4874.470	6.32	33.56	0.00	7.51	47.39	6.61	54.00
7312.370	8.38	36.31	0.00	5.48	<50.16	3.84	54.00
9749.570	10.25	37.45	0.00	5.21	<52.91	1.09	54.00

Peak Detector (Vertical)

4874.570	6.32	33.56	0.00	20.90	60.78	13.22	74.00
7312.970	8.38	36.31	0.00	18.29	<62.97	11.03	74.00
9750.280	10.25	37.45	0.00	18.71	<66.41	7.59	74.00

Average Detector (Vertical)

4874.570	6.32	33.56	0.00	7.76	47.64	6.36	54.00
7312.070	8.38	36.31	0.00	5.30	<49.98	4.02	54.00
9749.570	10.25	37.45	0.00	5.06	<52.76	1.24	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. Measurement = Reading Level + Probe Factor + Cable loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless USB Adaptor Card
Test Item : Harmonic Radiated Emission Data
Test Mode : Channel 11(1Mbps)

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Peak Detector (Horizontal)

4924.670	6.37	33.62	0.00	20.50	60.49	13.51	74.00
7387.770	8.45	36.39	0.00	18.51	<63.35	10.65	74.00
9850.180	10.33	37.47	0.00	18.72	<66.52	7.48	74.00

Average Detector (Horizontal)

4924.370	6.37	33.62	0.00	8.71	48.70	5.30	54.00
7387.780	8.45	36.39	0.00	5.34	<50.18	3.82	54.00
9850.170	10.33	37.47	0.00	5.13	<52.93	1.07	54.00

Peak Detector (Vertical)

4924.970	6.37	33.62	0.00	20.41	60.40	13.60	74.00
7386.770	8.45	36.39	0.00	18.24	<63.08	10.92	74.00
9850.180	10.33	37.47	0.00	18.52	<66.32	7.68	74.00

Average Detector (Vertical)

4924.570	6.37	33.62	0.00	8.88	48.87	5.13	54.00
7387.370	8.45	36.39	0.00	5.85	<50.69	3.31	54.00
9850.070	10.33	37.47	0.00	5.16	<52.96	1.04	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. Measurement = Reading Level + Probe Factor + Cable loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless USB Adaptor Card
Test Item : Harmonic Radiated Emission Data
Test Mode : Channel 1(11Mbps)

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Peak Detector (Horizontal)

4824.350	6.27	33.50	0.00	20.61	60.38	13.62	74.00
7237.550	8.32	36.24	0.00	17.64	<62.20	11.80	74.00
9649.350	10.18	37.43	0.00	18.52	<66.13	7.87	74.00

Average Detector (Horizontal)

4824.550	6.27	33.50	0.00	6.87	46.64	7.36	54.00
7236.750	8.32	36.24	0.00	5.29	<49.85	4.15	54.00
9649.440	10.18	37.43	0.00	5.09	<52.70	1.30	54.00

Peak Detector (Vertical)

4834.345	6.27	33.50	0.00	20.15	59.92	14.08	74.00
7237.250	8.32	36.24	0.00	17.49	<62.05	11.95	74.00
9649.750	10.18	37.43	0.00	17.95	<65.56	8.44	74.00

Average Detector (Vertical)

4824.240	6.27	33.50	0.00	6.78	46.55	7.45	54.00
7237.250	8.32	36.24	0.00	5.36	<49.92	4.08	54.00
9649.740	10.18	37.43	0.00	5.04	<52.65	1.35	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. Measurement = Reading Level + Probe Factor + Cable loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless USB Adaptor Card
Test Item : Harmonic Radiated Emission Data
Test Mode : Channel 6(11Mbps)

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
MHz	Loss	Factor		Level			
	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Peak Detector (Horizontal)

4874.720	6.32	33.56	0.00	20.00	59.88	14.12	74.00
7312.400	8.38	36.31	0.00	18.10	<62.78	11.22	74.00
9749.900	10.25	37.45	0.00	17.80	<65.50	8.50	74.00

Average Detector (Horizontal)

4874.260	6.32	33.56	0.00	7.69	47.57	6.43	54.00
7312.600	8.38	36.31	0.00	5.26	<49.94	4.06	54.00
9749.900	10.25	37.45	0.00	5.10	<52.80	1.20	54.00

Peak Detector (Vertical)

4875.500	6.32	33.56	0.00	19.91	59.79	14.21	74.00
7312.900	8.38	36.31	0.00	18.13	<62.81	11.19	74.00
9750.900	10.25	37.45	0.00	17.79	<65.49	8.51	74.00

Average Detector (Vertical)

4874.300	6.32	33.56	0.00	7.45	47.33	6.67	54.00
7313.200	8.38	36.31	0.00	5.46	<50.14	3.86	54.00
9750.500	10.25	37.45	0.00	5.17	<52.87	1.13	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. Measurement = Reading Level + Probe Factor + Cable loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless USB Adaptor Card
Test Item : Harmonic Radiated Emission Data
Test Mode : Channel 11(11Mbps)

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Peak Detector (Horizontal)

4924.860	6.37	33.62	0.00	19.80	59.79	14.21	74.00
7387.900	8.45	36.39	0.00	18.01	<62.85	11.15	74.00
9850.220	10.33	37.47	0.00	18.02	<65.82	8.18	74.00

Average Detector (Horizontal)

4924.260	6.37	33.62	0.00	7.99	47.98	6.02	54.00
7387.570	8.45	36.39	0.00	5.40	<50.24	3.76	54.00
9850.170	10.33	37.47	0.00	5.18	<52.98	1.02	54.00

Peak Detector (Vertical)

4925.220	6.37	33.62	0.00	19.78	59.77	14.23	74.00
7387.590	8.45	36.39	0.00	18.19	<63.03	10.97	74.00
9849.820	10.33	37.47	0.00	18.58	<66.38	7.62	74.00

Average Detector (Vertical)

4924.350	6.37	33.62	0.00	7.54	47.53	6.47	54.00
7387.520	8.45	36.39	0.00	5.46	<50.30	3.70	54.00
9849.600	10.33	37.47	0.00	5.20	<53.00	1.00	54.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. Measurement = Reading Level + Probe Factor + Cable loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless USB Adaptor Card
Test Item : General Radiated Emission Data
Test Mode : Channel 1(1Mbps)

Freq.	Cable Loss	Probe Factor	PreAMP	Reading Level	Measurement	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal:

73.650	1.20	7.61	26.87	47.20	29.14	10.86	40.00
198.780	1.71	12.06	26.91	41.20	28.05	15.45	43.50
395.690	2.52	14.91	26.80	38.80	29.43	16.57	46.00
495.600	2.93	17.20	26.64	37.40	30.88	15.12	46.00
*744.890	3.95	21.23	26.25	42.20	41.13	4.87	46.00
895.240	4.57	23.24	26.01	38.20	40.00	6.00	46.00

Vertical:

78.500	1.22	7.76	26.87	50.40	32.50	7.50	40.00
198.780	1.71	12.06	26.91	39.80	26.65	16.85	43.50
396.660	2.52	14.93	26.80	39.00	29.65	16.35	46.00
495.600	2.93	17.20	26.64	40.40	33.88	12.12	46.00
717.730	3.84	20.85	26.29	37.60	35.99	10.01	46.00
*944.710	4.77	23.52	25.94	37.60	39.96	6.04	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level.
3. Measurement = Reading Level + Probe Factor + Cable loss-Amplifier

Product : Wireless USB Adaptor Card
Test Item : General Radiated Emission Data
Test Mode : Channel 6(1Mbps)

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal:

76.560	1.21	7.70	26.87	47.40	29.44	10.56	40.00
198.780	1.71	12.06	26.91	40.80	27.65	15.85	43.50
395.690	2.52	14.91	26.80	38.20	28.83	17.17	46.00
497.540	2.94	17.24	26.64	38.40	31.94	14.06	46.00
623.640	3.46	19.22	26.44	37.40	33.64	12.36	46.00
*744.890	3.95	21.23	26.25	40.60	39.53	6.47	46.00

Vertical:

* 71.710	1.19	7.55	26.87	52.00	33.87	6.13	40.00
200.720	1.72	12.01	26.91	40.00	26.81	16.69	43.50
394.720	2.52	14.89	26.80	38.20	28.80	17.20	46.00
496.570	2.93	17.22	26.64	38.40	31.91	14.09	46.00
716.760	3.84	20.83	26.29	37.80	36.17	9.83	46.00
919.490	4.67	23.40	25.98	35.60	37.69	8.31	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level.
3. Measurement = Reading Level + Probe Factor + Cable loss-Amplifier

Product : Wireless USB Adaptor Card
Test Item : General Radiated Emission Data
Test Mode : Channel 11(1Mbps)

Freq.	Cable Loss	Probe Factor	PreAMP	Reading Level	Measurement	Margin	Limit
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal:

72.680	1.19	7.58	26.87	47.40	29.31	10.69	40.00
197.810	1.70	12.10	26.91	41.00	27.89	15.61	43.50
395.690	2.52	14.91	26.80	38.40	29.03	16.97	46.00
496.570	2.93	17.22	26.64	39.20	32.71	13.29	46.00
*744.890	3.95	21.23	26.25	40.60	39.53	6.47	46.00
890.390	4.55	23.18	26.02	36.80	38.50	7.50	46.00

Vertical:

* 76.560	1.21	7.70	26.87	52.00	34.04	5.96	40.00
197.810	1.70	12.10	26.91	40.20	27.09	16.41	43.50
395.690	2.52	14.91	26.80	39.00	29.63	16.37	46.00
496.570	2.93	17.22	26.64	39.20	32.71	13.29	46.00
693.480	3.74	20.48	26.33	39.80	37.69	8.31	46.00
919.490	4.67	23.40	25.98	35.80	37.89	8.11	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level-Amplifier.
3. Measurement = Reading Level + Probe Factor + Cable loss.

Product : Wireless USB Adaptor Card
 Test Item : General Radiated Emission Data
 Test Site : Chamber
 Test Mode : Channel 1(11Mbps)

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal:

74.620	1.20	7.64	26.87	48.40	30.37	9.63	40.00
198.780	1.71	12.06	26.91	39.60	26.45	17.05	43.50
395.690	2.52	14.91	26.80	38.20	28.83	17.17	46.00
496.570	2.93	17.22	26.64	38.20	31.71	14.29	46.00
*745.860	3.96	21.24	26.25	40.20	39.15	6.85	46.00
894.270	4.56	23.23	26.02	36.40	38.18	7.82	46.00

Vertical:

68.800	1.18	7.46	26.86	49.20	30.97	9.03	40.00
395.690	2.52	14.91	26.80	38.40	29.03	16.97	46.00
496.570	2.93	17.22	26.64	39.20	32.71	13.29	46.00
693.480	3.74	20.48	26.33	36.60	34.49	11.51	46.00
745.860	3.96	21.24	26.25	36.40	35.35	10.65	46.00
*959.260	4.83	23.60	25.91	36.20	38.72	7.28	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level-Amplifier.
3. Measurement = Reading Level + Probe Factor + Cable loss.

Product : Wireless USB Adaptor Card
Test Item : General Radiated Emission Data
Test Site : Chamber
Test Mode : Channel 6(11Mbps)

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
	Loss	Factor		Level			
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal:

73.650	1.20	7.61	26.87	48.40	30.34	9.66	40.00
197.810	1.70	12.10	26.91	39.80	26.69	16.81	43.50
395.690	2.52	14.91	26.80	38.40	29.03	16.97	46.00
496.570	2.93	17.22	26.64	37.20	30.71	15.29	46.00
*744.890	3.95	21.23	26.25	40.60	39.53	6.47	46.00
890.390	4.55	23.18	26.02	35.80	37.50	8.50	46.00

Vertical:

* 68.800	1.18	7.46	26.86	49.80	31.57	8.43	40.00
395.690	2.52	14.91	26.80	39.20	29.83	16.17	46.00
496.570	2.93	17.22	26.64	39.20	32.71	13.29	46.00
716.760	3.84	20.83	26.29	36.40	34.77	11.23	46.00
744.890	3.95	21.23	26.25	37.60	36.53	9.47	46.00
919.490	4.67	23.40	25.98	35.00	37.09	8.91	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level-Amplifier.
3. Measurement = Reading Level + Probe Factor + Cable loss.

Product : Wireless USB Adaptor Card
 Test Item : General Radiated Emission Data
 Test Site : Chamber
 Test Mode : Channel 11(11Mbps)

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit
MHz	Loss	Factor		Level			
	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m

Horizontal:

71.710	1.19	7.55	26.87	48.20	30.07	9.93	40.00
197.810	1.70	12.10	26.91	40.00	26.89	16.61	43.50
395.690	2.52	14.91	26.80	38.60	29.23	16.77	46.00
495.600	2.93	17.20	26.64	37.40	30.88	15.12	46.00
*744.890	3.95	21.23	26.25	40.40	39.33	6.67	46.00
891.360	4.55	23.19	26.02	35.60	37.32	8.68	46.00

Vertical:

70.740	1.18	7.52	26.87	51.40	33.24	6.76	40.00
197.810	1.70	12.10	26.91	38.20	25.09	18.41	43.50
395.690	2.52	14.91	26.80	38.80	29.43	16.57	46.00
498.510	2.94	17.26	26.64	38.60	32.17	13.83	46.00
715.790	3.83	20.83	26.30	37.20	35.57	10.43	46.00
*945.680	4.78	23.53	25.93	37.80	40.17	5.83	46.00

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ”, means this data is the worst emission level-Amplifier.
3. Measurement = Reading Level + Probe Factor + Cable loss.

5.7. Test Result of Band Edge

Product : Wireless USB Adaptor Card
 Test Item : Band Edge Data
 Test Site : No.1 OATS
 Test Mode : Channel 1

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
1 (1Mbps)	<2400	>20	Pass

Figure Channel 1: 1Mbps (Horizontal)

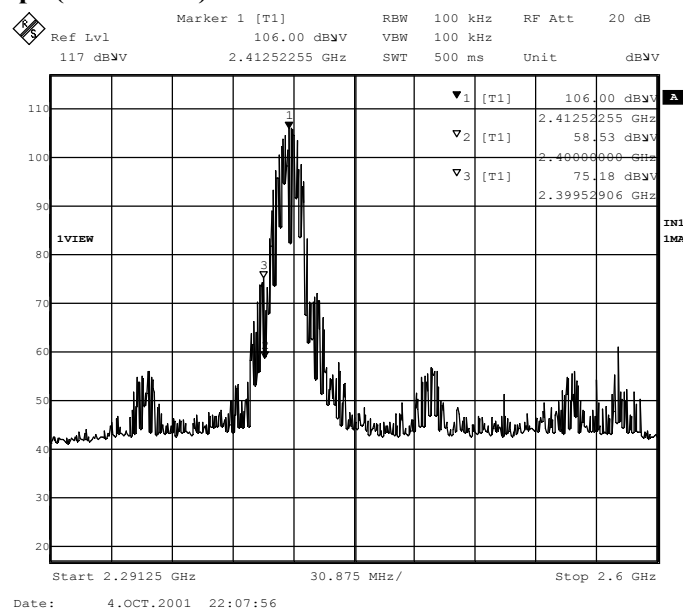
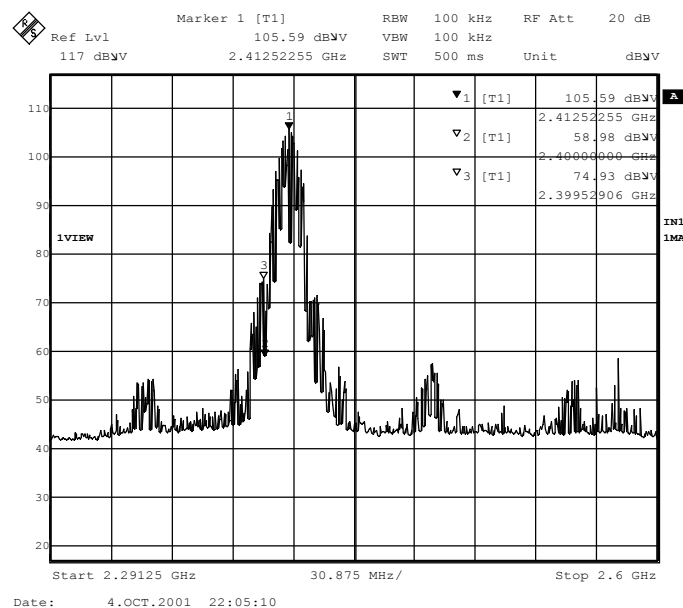


Figure Channel 1: 1Mbps (Vertical)



Product : Wireless USB Adaptor Card
 Test Item : Band Edge Data
 Test Site : No.1 OATS
 Test Mode : Channel 1

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
1 (11Mbps)	<2400	>20	Pass

Figure Channel 1:11Mbps (Horizontal)

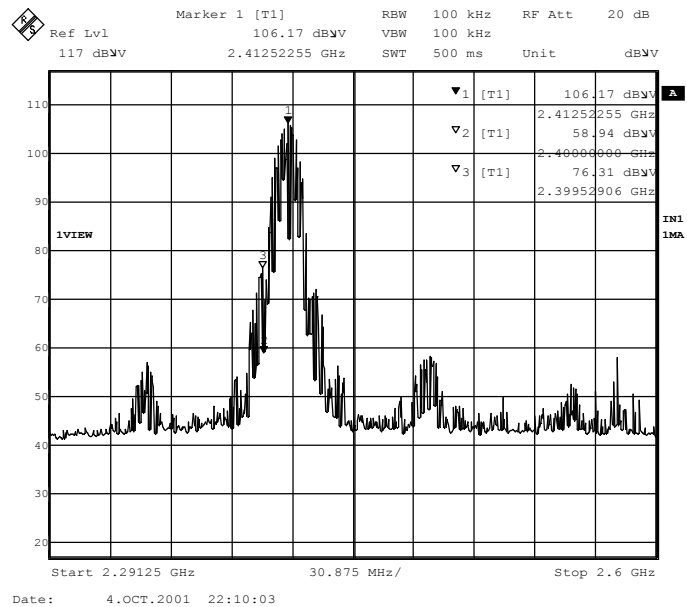
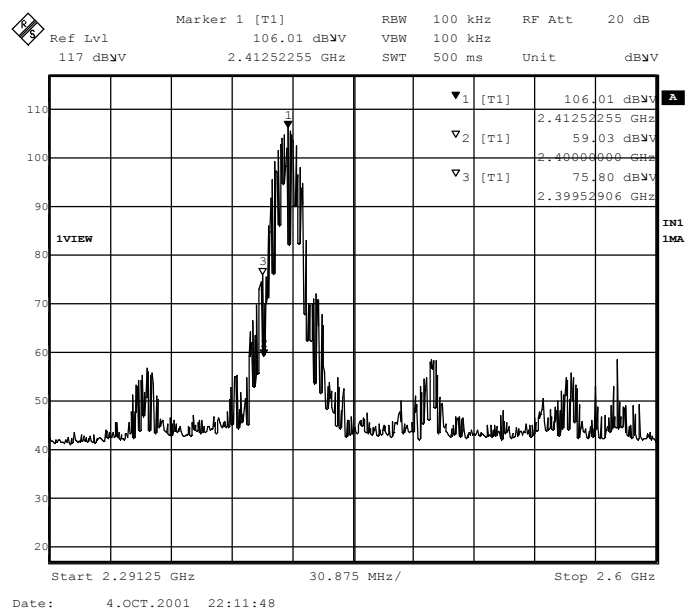


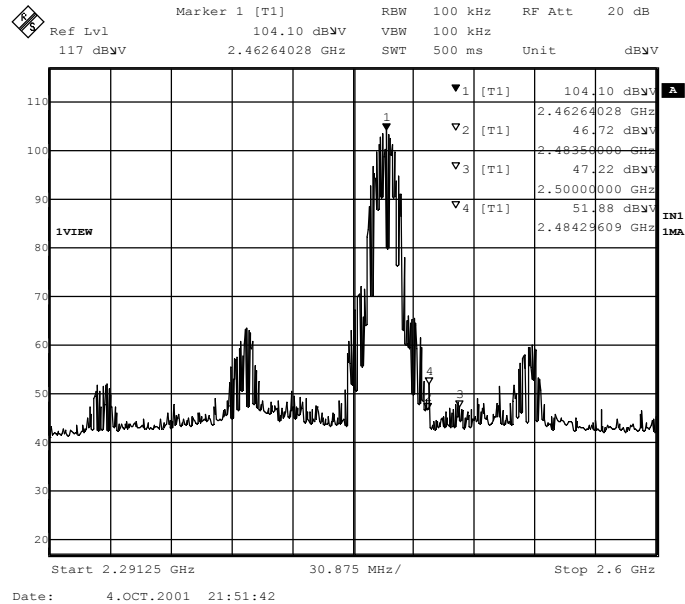
Figure Channel 1:11Mbps (Vertical)



Product : Wireless USB Adaptor Card
 Test Item : Band Edge Data
 Test Site : No.1 OATS
 Test Mode : Channel 11

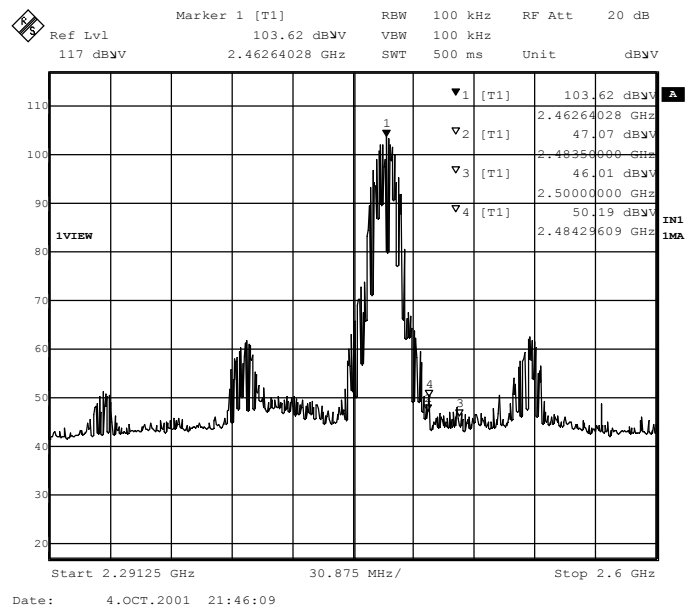
Band Edge-1 Mbps (Horizontal)

Frequency (MHz).	Reading (dBuV)	Measure (dBuV/m)	Result
2484.296	51.88	50.39	Pass



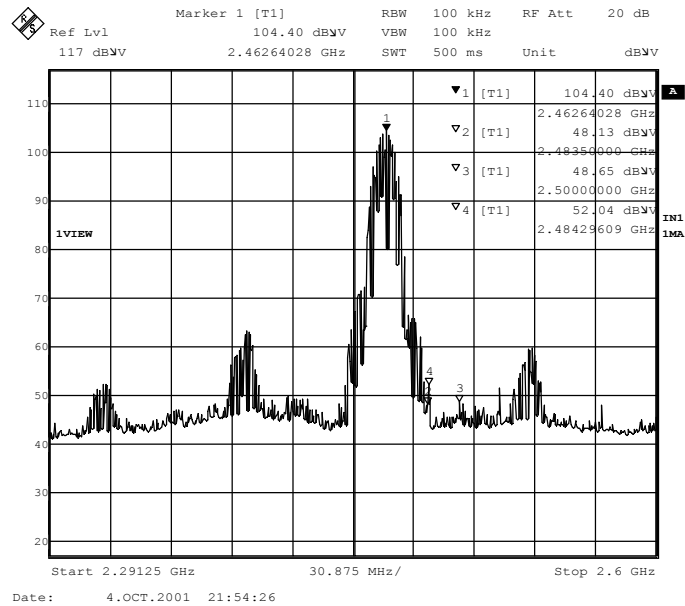
Band Edge-1 Mbps (Vertical)

Frequency (MHz).	Reading (dBuV)	Measure (dBuV/m)	Result
2484.296	50.19	48.7	Pass



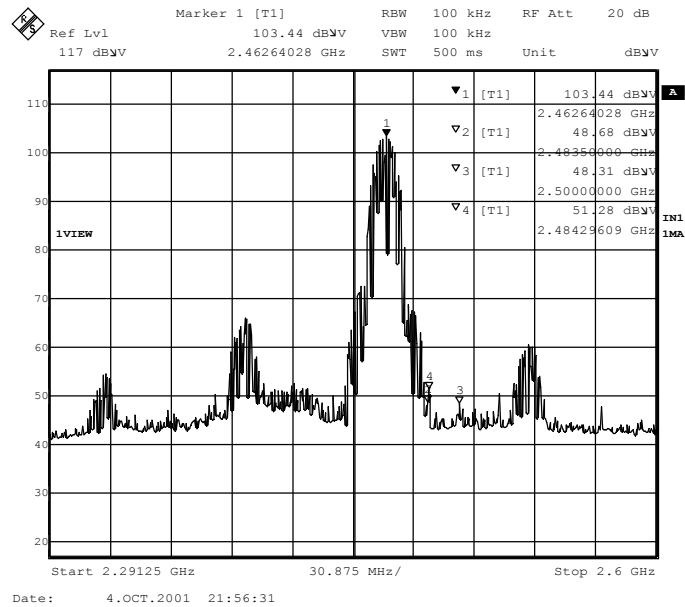
Band Edge-11 Mbps (Horizontal)

Frequency (MHz).	Reading (dBuV)	Measure (dBuV/m)	Result
2484.296	52.04	50.55	Pass



Band Edge-11 Mbps (Vertical)

Frequency (MHz).	Reading (dBuV)	Measure (dBuV/m)	Result
2484.296	51.28	49.79	Pass



6. Occupied Bandwidth

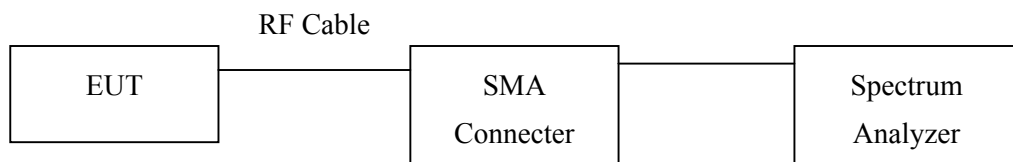
6.1. Test Equipment

The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	Advantest	R3272 / 72421194	May, 2001
X	Horn Antenna	EM	EM6917 / 103325	May, 2001

Note: 1. All equipment upon which need to calibrated are with calibration period of 1 year.
2. Mark "X" test instruments are used to measure the final test results.

6.2. Test Setup



6.3. Test Condition

Standard Temperature and Humidity, Standard Test Voltage

6.4. Standard Requirement

The minimum bandwidth shall be at least 500kHz.

6.5. Test Result of Occupied Bandwidth

Product : Wireless USB Adaptor Card
 Test Item : Occupied Bandwidth Data
 Test Site : No.1 OATS
 Test Mode : Channel 1

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1 (1Mbps)	2413	11000	>500	Pass
1 (11Mbps)	2413	11800	>500	Pass

Figure Channel 1: 1Mbps

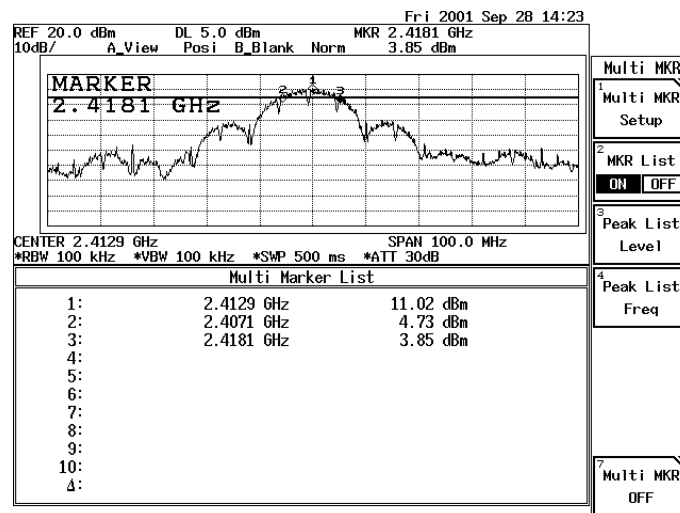
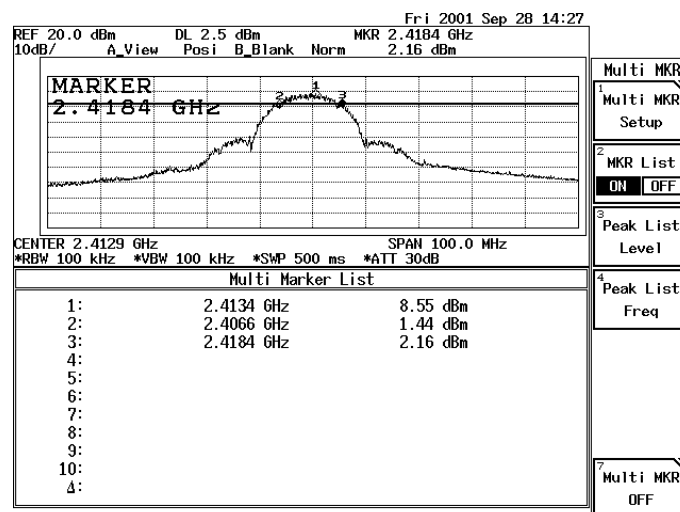


Figure Channel 1: 11Mbps



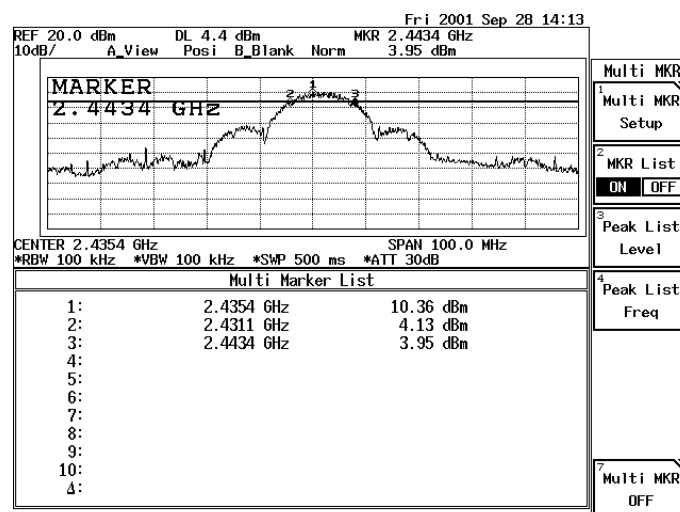
Product : Wireless USB Adaptor Card
 Test Item : Occupied Bandwidth Data
 Test Site : No.1 OATS
 Test Mode : Channel 6

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6 (1Mbps)	2438	12100	>500	Pass
6 (11Mbps)	2435	12300	>500	Pass

Figure Channel 6: 1Mbps



Figure Channel 6: 11Mbps



Product : Wireless USB Adaptor Card
 Test Item : Occupied Bandwidth Data
 Test Site : No.1 OATS
 Test Mode : Channel 11

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11 (1Mbps)	2463	12100	>500	Pass
11 (11Mbps)	2460	12400	>500	Pass

Figure Channel 11: 1Mbps

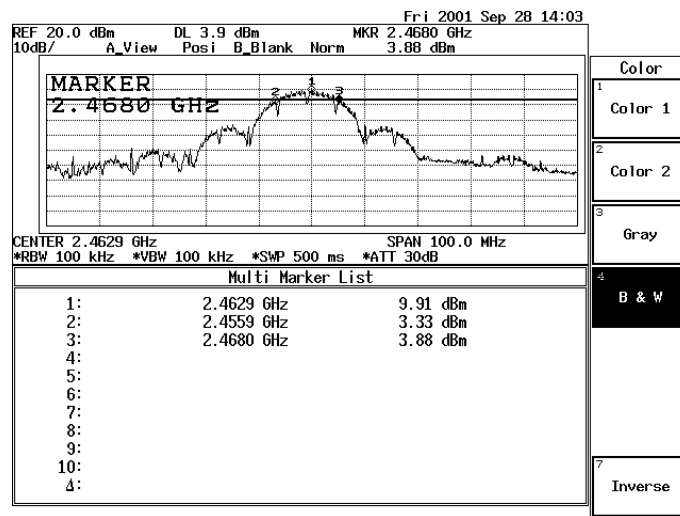
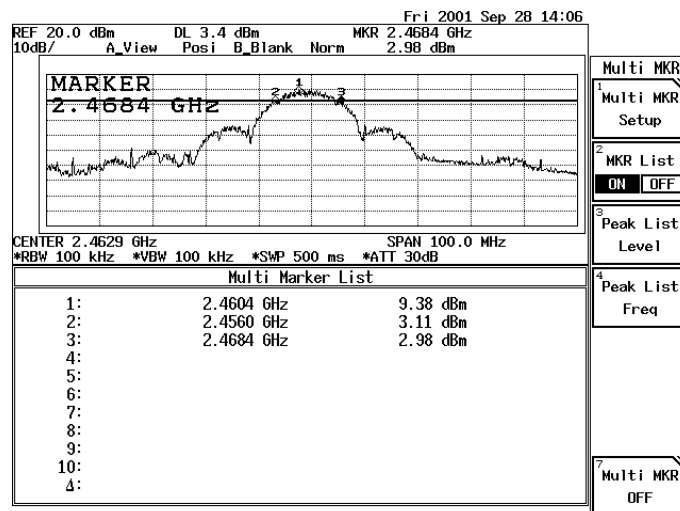


Figure Channel 11: 11Mbps



7. Transmitter Power Density

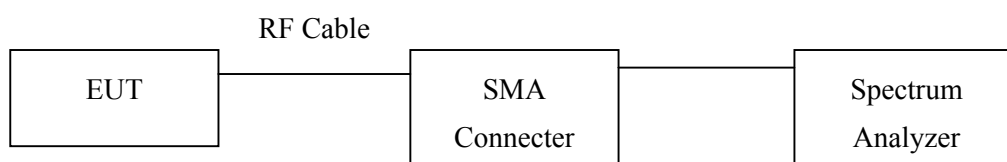
7.1. Test Equipment

The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	Advantest	R3272 / 72421194	May, 2001
X	Attenuator	HP		May, 2001
X	Horn Antenna	EM	EM6917 / 103325	May, 2001

Note: 1. All equipment upon which need to calibrated are with calibration period of 1 year.
2. Mark "X" test instruments are used to measure the final test results.

7.2. Test Setup



7.3. Test Condition

Standard Temperature and Humidity, Standard Test Voltage

7.4. Standard Requirement

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

7.5. Test Result of Transmitter Power Density

Product : Wireless USB Adaptor Card
 Test Item : Transmitter Power Density Data
 Test Site : No.1 OATS
 Test Mode : Normal Operation

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
1 (1Mbps)	2412.774	-6.04dBm	< 8dBm	Pass
1 (11Mbps)	2412.819	-6.31dBm	< 8dBm	Pass

Figure Channel 1:1Mbps

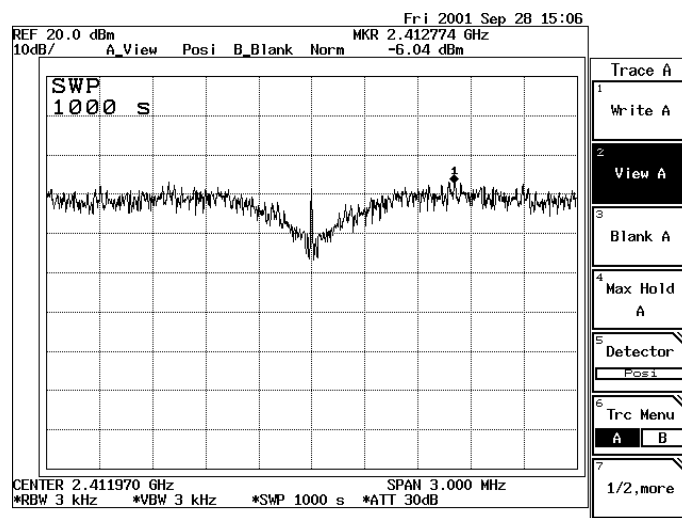
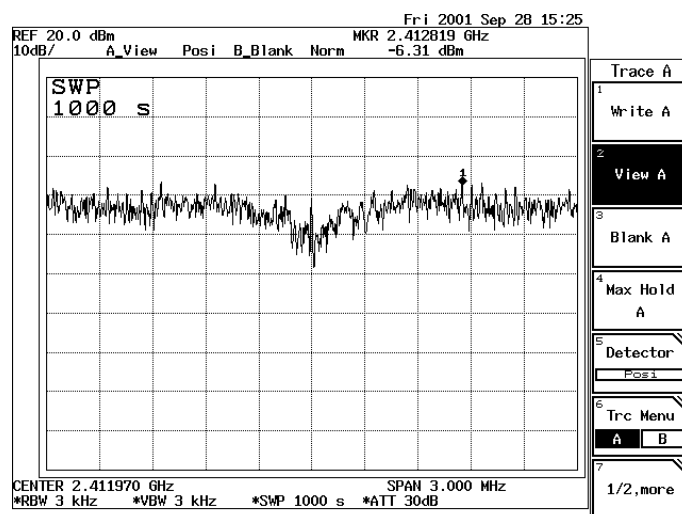


Figure Channel 1:11Mbps



Product : Wireless USB Adaptor Card
 Test Item : Transmitter Power Density Data
 Test Site : No.1 OATS
 Test Mode : Normal Operation

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6 (1Mbps)	2437.773	-6.60dBm	< 8dBm	Pass
6 (11Mbps)	2437.818	-6.95dBm	< 8dBm	Pass

Figure Channel 6:1Mbps

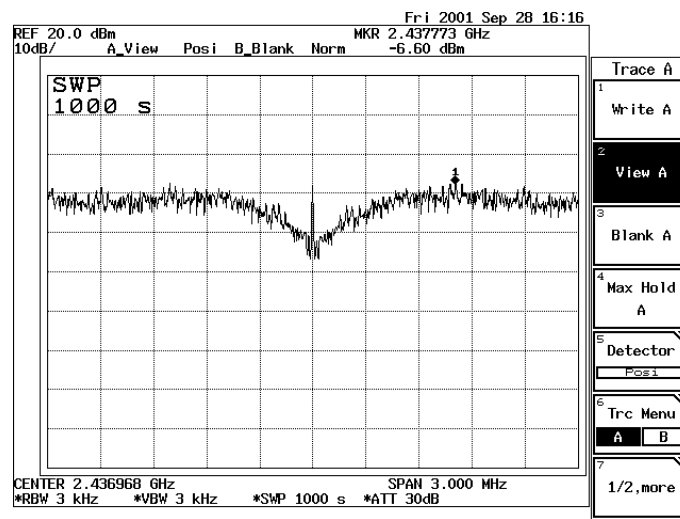
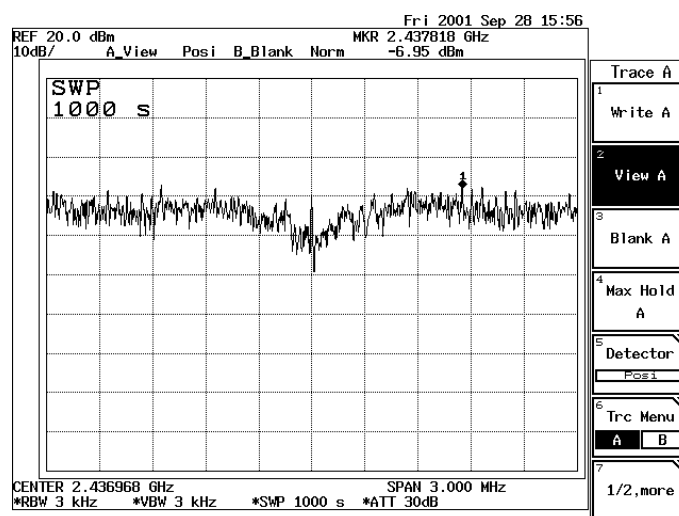


Figure Channel 6:11Mbps



Product : Wireless USB Adaptor Card
 Test Item : Transmitter Power Density Data
 Test Site : No.1 OATS
 Test Mode : Normal Operation

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11 (1Mbps)	2462.773	-7.80dBm	< 8dBm	Pass
11 (11Mbps)	2462.818	-8.06dBm	< 8dBm	Pass

Figure Channel 11:1Mbps

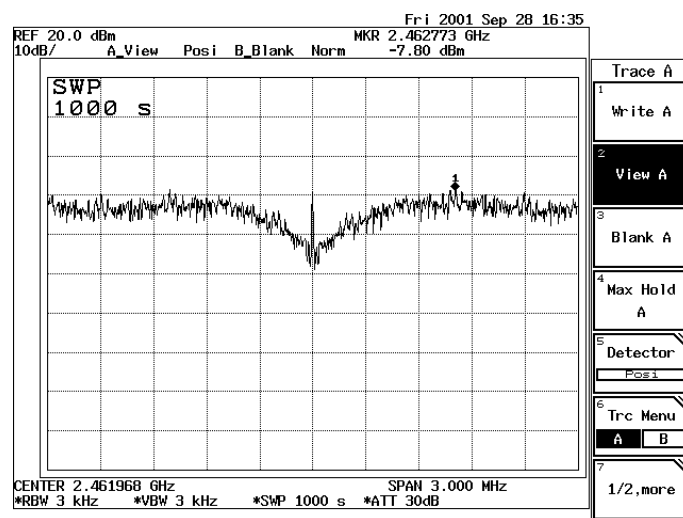
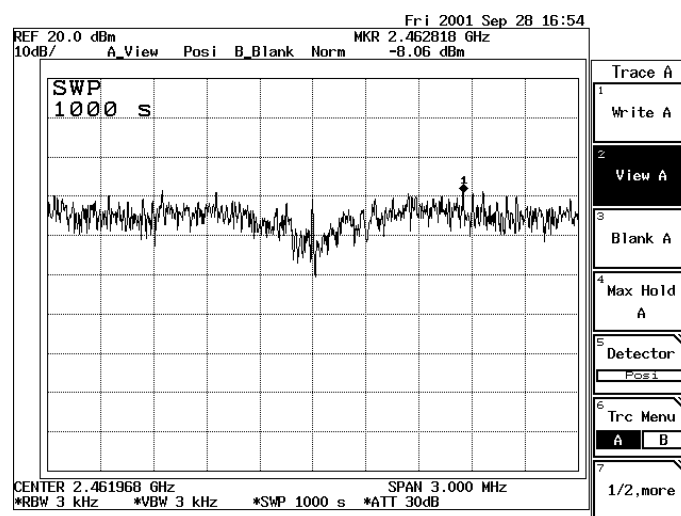


Figure Channel 11:11Mbps



8. Processing Gain

8.1. Test Condition

Standard Temperature and Humidity, Standard Test Voltage

8.2. Minimum Standard

The processing gain shall be at least 10 dB.

8.3. Method of Measurement

The processing gain of this spread spectrum was measured the CW jamming method. The Section 9.1 illustrates the measurement setup. The output power of the spread spectrum transmitter is fixed and the output power of jammer is adjustable. The frequency of jammer was stopped through the pass band of nominal channel in 50kHz steps. In each frequency step of the jammed, the output power of jammed is adjusted to cause the Bit Error Rate (BER) to be 1.0×10^{-6} . The power levels are recorded to calculate the J/S as shown in Table 1.

8.4. Calculation of Processing Gain:

The processing gain was determined by measuring the jamming margin of the EUT and using the following formula:

$$G_p = (S/N)_o + M_j + L_{sys}$$

Where $(S/N)_o$ is the required signal to noise ratio at the receiver output

M_j is the jammer to signal ratio (J/S)

L_{sys} is the system loss

The $(S/N)_o$ is calculated from:

$$P_e = 1/2 \exp(-1/2(S/N)_o) \quad ; \quad P_e = \text{probability of error (BER)}$$

For the $P_e(\text{BER}) = 1.0 \times 10^{-6}$, the required $(S/N)_o$ is 16.4dB

From Measurement, the minimum J/S(M_j) is $\geq 8.4\text{dB}$

We assume the system loss is 2dB.

Therefore the processing gain is calculated below:

$$G_p = (S/N)_o + M_j + L_{sys} = 16.4 + (-8.4) + 2 = 10 \text{ (dB)}$$

8.5. Test Result of Processing Gain

Product : Wireless USB Adaptor Card
Test Item : Processing Gain Data
Test Site : No.1 OATS
Test Mode : Normal Operation

Testing for compliance with FCC rules 15-247e

Scope

This report presents the test procedure, test configuration and test data associated with a FCC Part 15.247 (e) Jamming Margin test for the indirect measurement of processing gain.

Applicable Reference Documents.

1. “Operation within the bands 902-928 MHz, 2400-2483.5, and 5725-5850 MHz” *Title 47 Part 15 section 247 (e) Code of Federal Regulations. (47 CFR 15.247).*
2. “Report and Order: Amendment of Parts 2 and 15 of the Commission’s Rules Regarding Spread Spectrum Transmitters. Appendix C: ‘Guidance on Measurements for Direct Sequence Spread Spectrum Systems” *FCC 97-114. ET Docket No. 96-8, RM-8435, RM-8608, RM-8609.*
3. “M-ary Orthogonal Keying BER Curve”,

Test Background and Procedure.

According to FCC regulations [1], a direct sequence spread spectrum system must have a processing gain, G_p of at least 10 dB. Compliance to this requirement can be shown by demonstrating a relative bit-error-ratio (BER) performance improvement (and corresponding signal to noise ratio per symbol improvement of at least 10 dB) between the case where spread spectrum processes (coding, modulation) are engaged relative to the processes being bypassed. In some practical systems, the spread spectrum processing cannot simply be bypassed. In these cases, the processing gain can be indirectly measured by a jamming margin test [2]. In accordance with the new NPRM 99-231, if the vendor has a system with less than 10 chips per symbol, the CW jamming results must be supported by a theoretical explanation of the system processing gain.

Theoretical calculations

The processing gain is related to the jamming margin as follows [2]:

$$G_p = \left(\frac{S}{N} \right)_{output} + \left(\frac{J}{S} \right) + L_{system}$$

Where $BER_{REFERENCE}$ is the reference bit error ratio with its corresponding, theoretical output signal to noise ratio per symbol, $(S/N)_{output}$, (J/S) is the jamming margin (jamming signal power relative to desired signal power), and L_{system} are the system implementation losses.

The maximum allowed total system implementation loss is 2 dB.

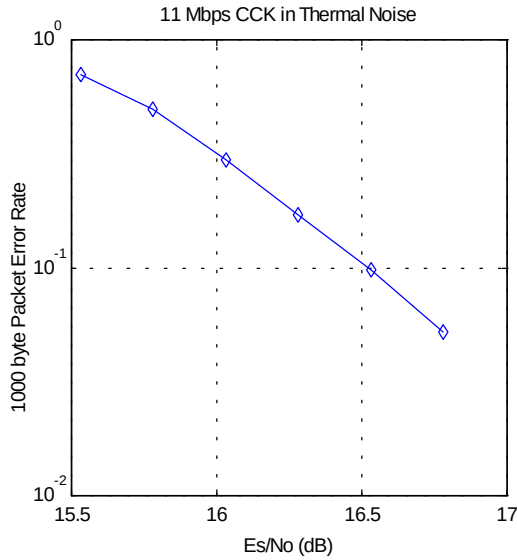
The HFA3861A direct sequence spread spectrum baseband processor uses CCK modulation which is a form of M-ary Orthogonal Keying. The BER performance curve is given by [5]:

“ The probability of error for generalized M-ary Orthogonal signaling using coherent demodulation is given by:

$$P_e = 1 - P_{c1} = 1 - \frac{1}{\sqrt{2\pi}} \int_{-\frac{S_{01}}{N_0}}^{\infty} \left[2(1 - Q\left\{ z + \sqrt{2 \frac{E_b}{\eta}} \right\}) \right]^{\frac{M}{2}-1} \exp\left\{ -\frac{z^2}{2} \right\} dz$$

This integral cannot be solved in closed form, and numerical integration must be used. There are error rate extensions for differential decoding and descrambling that are also to be accounted for. This is done in a MATHCAD environment and is displayed in graphical format below.

1.1 1000 byte PER vs. Es/No



The reference PER is specified as 8%. The corresponding Es/No (signal to noise ratio per symbol) is 16.4 dB. The Es/No required to achieve the desired BER with maximum system implementation losses is 18.4 dB. The minimum processing gain is again, 10 dB, therefore:

$$G_p = \left(\frac{E_s}{N_o} \right)_{output} + \left(\frac{J}{S} \right) + L_{system} = 16.4dB + 2.0dB + \left(\frac{J}{S} \right) \geq 10dB$$

$$G_p = 18.4dB + \left(\frac{J}{S} \right) \geq 10dB$$

The minimum jammer to signal ratio is as follows:

$$\left(\frac{J}{S} \right) \geq -8.4dB$$

For the case of the HFA3861A, the bit rates are 1, 2, 5.5, and 11 Mbps. The corresponding symbol rates are 1, 1, 1.375, and 1.375 MSps. The chip rate is always 11 MCps, so the ratio of chip rate to symbol rate is 11:1 for the 1 and 2 Mbps rates and 8:1 for the 5.5 and 11 Mbps rates. Since the symbol rate to bit rate is less than 10 for the higher rates, we supply the theoretical processing gain calculation for these cases where spread spectrum processing gain with embedded coding gain is utilized. This is reasonable in that they

cannot be separated in the demodulation process. If a separable FEC coding scheme were used, we would not be comfortable making this assertion.

As can be seen from the curve of figure 1, the E_s/N_0 is 16.4 dB at the PER of 8%. This PER can be related to a BER of $1e-5$ on 1000 byte packets. With 8 bits per symbol, the E_b/N_0 is then 7.4 dB or 9 dB less than the E_s/N_0 . It is well known that the E_b/N_0 of BPSK is 9.6 dB for $1e-5$ BER, so therefore the coding gain of CCK over BPSK is 2.2 dB. We add this to the processing gain of 9 dB to get 11.2 dB overall processing gain for the CW jammer test.

Taking the calculations above, if the $\left(\frac{J}{S}\right) \geq -8.4 \text{ dB}$ then the equipment passes the CW jamming test.

Test Configuration: CW Jamming Margin (15.247) (e)

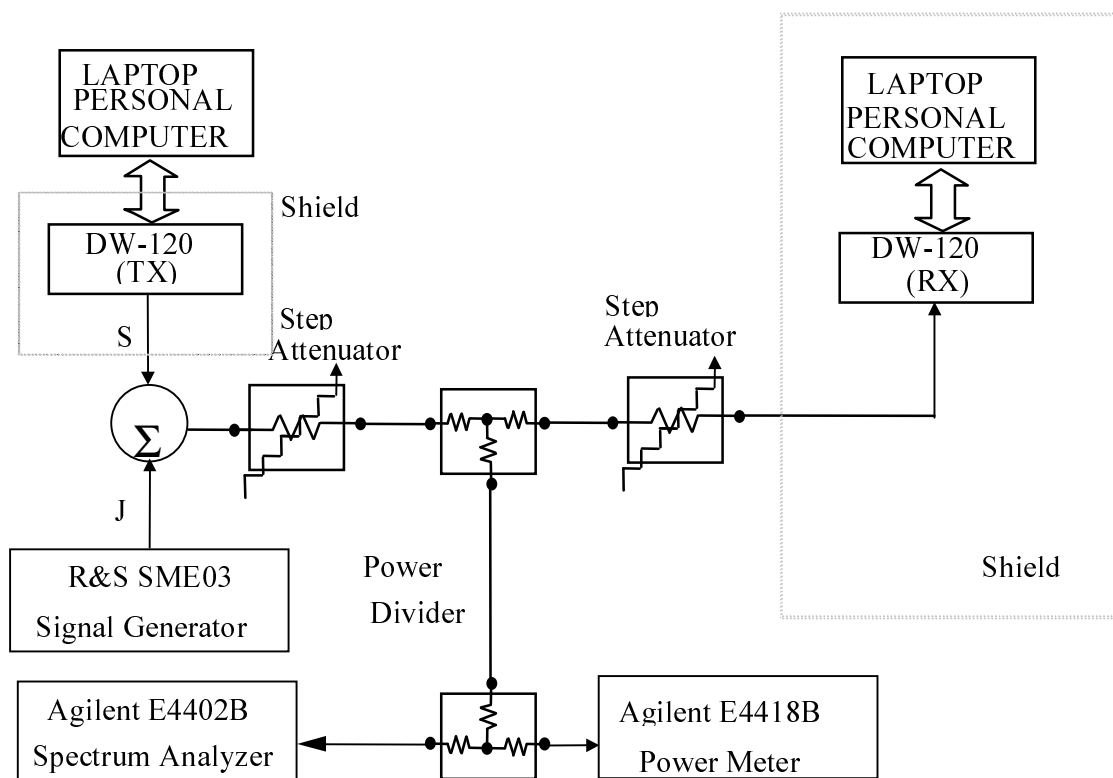
Test Instruments

Manufacturer & Description	Model Number
Agilent Spectrum Analyzer, 9KHz to 3GHz	E4402B
Agilent Power Meter	E4418B
Agilent Power Sensor, -70 to 20dBm	E4412A
Agilent Step Attenuator, 10dB steps, DC to 4GHz	8496A
Agilent Step Attenuator, 1dB steps, DC to 4GHz	8494A
Anaren Power Divider, 2 Way, 2 to 4GHz	40266
ROHDE & SCHWARZ Signal Generator, 5KHz to 3GHz	SME03
Compaq Laptop Computer, Pentium III 700, Windows ME	Presario 1700
Dell Laptop Computer, Pentium III 700, Windows 98	PP01L

Test Environment

25°C, 70%RH.

Test Block Diagram



Test Procedure

Setup the simplex link shown. Perform all independent instrumentation calibrations prior to this procedure. Set operating power levels using fixed and variable attenuators in system to meet the following objectives:

- Signal Power at receiver approximately -60 dBm (above thermal sensitivity such that thermal noise does not cause bit errors).
- Signal Power at power meter (using high sensitivity probe) between -20 and -40 dBm for optimal linearity.
- Use spectrum analyzer to monitor test.

- Ensure that CW Jammer generator RF output is disabled and measure the power at the power meter port using the power meter. This is the relative signal power, S_r .
- Disable Transmitter, and set CW Jammer generator RF output frequency equal to the carrier frequency and enable generator output. Set reference CW Jammer power level at power meter port 8.4 dB below S_r (minimum J/S, or 10 dB processing gain reference level). Note the power level setting on the generator, this is the reference CW Jammer power setting, J_r .
- Disable CW Jammer, re-establish link. PER test should be operating essentially error-free.
- Adjust the CW Jammer level to that which causes 8% PER and verify that the S/J is less than 8.4 dB.
- Repeat step 7 for uniform steps in frequency increments of 50 kHz across the receiver passband with the CW Jammer. In this case the receiver passband is ± 8.5 MHz.

The number of points where the S/J fails to achieve 8.4 dB (is higher than 8.4 dB) is determined and if this is above 20% of the total, the test is failed otherwise it is passed.

The numerical data associated with the following radio channels is tabulated and presented for:

11Mbps:

Channel 1: 2412MHz

Channel 7: 2442MHz

Channel 11: 2462MHz

2Mbps:

Channel 7: 2442MHz

Test Result

11Mbps Channel 1 (2412MHz) Processing Gain							
$G_p = (S/N)_o + L_{sys} + (J_r/S_r)$							
Frequency (MHz)	(S/N) _o (dB)	S _r (dBm)	J _r (dBm)	J _r /S _r (dB)	L _{sys} (dB)	FER (%)	G _p (dB)
2403.50	16.4	-62	-53.6	8.4	2	4.6	26.8
2403.55	16.4	-62	-53.4	8.6	2	7.3	27.0
2403.60	16.4	-62	-53.2	8.8	2	5.0	27.2
2403.65	16.4	-62	-54.0	8.0	2	6.3	26.4
2403.70	16.4	-62	-53.8	8.2	2	7.3	26.6
2403.75	16.4	-62	-53.3	8.7	2	7.8	27.1
2403.80	16.4	-62	-53.5	8.5	2	6.8	26.9
2403.85	16.4	-62	-54.2	7.8	2	5.5	26.2
2403.90	16.4	-62	-54.6	7.4	2	4.8	25.8
2403.95	16.4	-62	-55.0	7.0	2	7.6	25.4
2404.00	16.4	-62	-56.0	6.0	2	4.6	24.4
2404.05	16.4	-62	-56.2	5.8	2	6.2	24.2
2404.10	16.4	-62	-56.1	5.9	2	5.9	24.3
2404.15	16.4	-62	-53.6	8.4	2	7.2	26.8
2404.20	16.4	-62	-54.5	7.5	2	5.8	25.9
2404.25	16.4	-62	-54.3	7.7	2	5.3	26.1
2404.30	16.4	-62	-54.7	7.3	2	5.7	25.7
2404.35	16.4	-62	-55.1	6.9	2	6.0	25.3
2404.40	16.4	-62	-55.6	6.4	2	5.3	24.8
2404.45	16.4	-62	-55.7	6.3	2	6.2	24.7
2404.50	16.4	-62	-55.4	6.6	2	6.1	25.0
2404.55	16.4	-62	-55.8	6.2	2	4.5	24.6
2404.60	16.4	-62	-56.1	5.9	2	6.5	24.3
2404.65	16.4	-62	-56.3	5.7	2	6.5	24.1
2404.70	16.4	-62	-56.8	5.2	2	7.0	23.6
2404.75	16.4	-62	-56.8	5.2	2	6.3	23.6
2404.80	16.4	-62	-56.6	5.4	2	7.2	23.8
2404.85	16.4	-62	-57.2	4.8	2	6.2	23.2
2404.90	16.4	-62	-57.6	4.4	2	5.7	22.8

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2404.95	16.4	-62	-57.9	4.1	2	4.7	22.5
2405.00	16.4	-62	-58.3	3.7	2	6.0	22.1
2405.05	16.4	-62	-58.4	3.6	2	7.8	22.0
2405.10	16.4	-62	-58.3	3.7	2	7.8	22.1
2405.15	16.4	-62	-59.1	2.9	2	4.7	21.3
2405.20	16.4	-62	-59.4	2.6	2	7.2	21.0
2405.25	16.4	-62	-59.5	2.5	2	5.7	20.9
2405.30	16.4	-62	-59.6	2.4	2	6.5	20.8
2405.35	16.4	-62	-59.8	2.2	2	6.3	20.6
2405.40	16.4	-62	-59.8	2.2	2	5.8	20.6
2405.45	16.4	-62	-59.9	2.1	2	6.7	20.5
2405.50	16.4	-62	-59.7	2.3	2	7.3	20.7
2405.55	16.4	-62	-60.2	1.8	2	7.5	20.2
2405.60	16.4	-62	-60.4	1.6	2	4.6	20.0
2405.65	16.4	-62	-60.3	1.7	2	5.1	20.1
2405.70	16.4	-62	-60.3	1.7	2	7.6	20.1
2405.75	16.4	-62	-60.8	1.2	2	5.1	19.6
2405.80	16.4	-62	-60.5	1.5	2	5.5	19.9
2405.85	16.4	-62	-61.2	0.8	2	4.8	19.2
2405.90	16.4	-62	-61.5	0.5	2	7.8	18.9
2405.95	16.4	-62	-62.6	-0.6	2	6.1	17.8
2406.00	16.4	-62	-62.2	-0.2	2	7.6	18.2
2406.05	16.4	-62	-62.4	-0.4	2	6.6	18.0
2406.10	16.4	-62	-62.5	-0.5	2	7.3	17.9
2406.15	16.4	-62	-62.6	-0.6	2	5.6	17.8
2406.20	16.4	-62	-62.4	-0.4	2	6.9	18.0
2406.25	16.4	-62	-63.2	-1.2	2	6.9	17.2
2406.30	16.4	-62	-63.4	-1.4	2	6.6	17.0
2406.35	16.4	-62	-63.2	-1.2	2	5.9	17.2
2406.40	16.4	-62	-63.0	-1.0	2	4.6	17.4
2406.45	16.4	-62	-63.1	-1.1	2	5.6	17.3
2406.50	16.4	-62	-63.3	-1.3	2	5.9	17.1
2406.55	16.4	-62	-63.5	-1.5	2	6.5	16.9
2406.60	16.4	-62	-63.8	-1.8	2	5.8	16.6
2406.65	16.4	-62	-63.6	-1.6	2	6.2	16.8

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2406.70	16.4	-62	-64.3	-2.3	2	7.8	16.1
2406.75	16.4	-62	-64.5	-2.5	2	6.8	15.9
2406.80	16.4	-62	-64.6	-2.6	2	4.5	15.8
2406.85	16.4	-62	-64.1	-2.1	2	6.9	16.3
2406.90	16.4	-62	-64.2	-2.2	2	7.9	16.2
2406.95	16.4	-62	-64.1	-2.1	2	6.6	16.3
2407.00	16.4	-62	-64.1	-2.1	2	4.7	16.3
2407.05	16.4	-62	-64.3	-2.3	2	7.8	16.1
2407.10	16.4	-62	-64.5	-2.5	2	6.8	15.9
2407.15	16.4	-62	-64.4	-2.4	2	7.9	16.0
2407.20	16.4	-62	-64.3	-2.3	2	7.5	16.1
2407.25	16.4	-62	-64.7	-2.7	2	6.4	15.7
2407.30	16.4	-62	-64.6	-2.6	2	4.6	15.8
2407.35	16.4	-62	-65.2	-3.2	2	6.0	15.2
2407.40	16.4	-62	-65.7	-3.7	2	7.4	14.7
2407.45	16.4	-62	-65.7	-3.7	2	6.2	14.7
2407.50	16.4	-62	-65.5	-3.5	2	4.7	14.9
2407.55	16.4	-62	-65.3	-3.3	2	6.4	15.1
2407.60	16.4	-62	-65.5	-3.5	2	5.3	14.9
2407.65	16.4	-62	-65.7	-3.7	2	5.0	14.7
2407.70	16.4	-62	-65.3	-3.3	2	4.8	15.1
2407.75	16.4	-62	-65.7	-3.7	2	6.0	14.7
2407.80	16.4	-62	-65.8	-3.8	2	6.5	14.6
2407.85	16.4	-62	-65.9	-3.9	2	5.1	14.5
2407.90	16.4	-62	-65.9	-3.9	2	5.6	14.5
2407.95	16.4	-62	-66.2	-4.2	2	5.9	14.2
2408.00	16.4	-62	-66.7	-4.7	2	4.6	13.7
2408.05	16.4	-62	-66.5	-4.5	2	6.0	13.9
2408.10	16.4	-62	-66.4	-4.4	2	5.8	14.0
2408.15	16.4	-62	-66.7	-4.7	2	5.5	13.7
2408.20	16.4	-62	-67.1	-5.1	2	4.6	13.3
2408.25	16.4	-62	-67.3	-5.3	2	5.4	13.1
2408.30	16.4	-62	-67.2	-5.2	2	7.5	13.2
2408.35	16.4	-62	-67.5	-5.5	2	7.0	12.9
2408.40	16.4	-62	-67.7	-5.7	2	6.0	12.7

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2408.45	16.4	-62	-66.8	-4.8	2	7.2	13.6
2408.50	16.4	-62	-66.4	-4.4	2	6.0	14.0
2408.55	16.4	-62	-66.4	-4.4	2	4.7	14.0
2408.60	16.4	-62	-67.5	-5.5	2	5.2	12.9
2408.65	16.4	-62	-67.4	-5.4	2	5.7	13.0
2408.70	16.4	-62	-67.3	-5.3	2	5.0	13.1
2408.75	16.4	-62	-67.1	-5.1	2	7.3	13.3
2408.80	16.4	-62	-67.5	-5.5	2	7.4	12.9
2408.85	16.4	-62	-67.8	-5.8	2	6.1	12.6
2408.90	16.4	-62	-67.4	-5.4	2	6.1	13.0
2408.95	16.4	-62	-67.8	-5.8	2	6.5	12.6
2409.00	16.4	-62	-67.6	-5.6	2	5.9	12.8
2409.05	16.4	-62	-67.4	-5.4	2	5.8	13.0
2409.10	16.4	-62	-67.9	-5.9	2	6.0	12.5
2409.15	16.4	-62	-68.1	-6.1	2	5.4	12.3
2409.20	16.4	-62	-68.3	-6.3	2	7.4	12.1
2409.25	16.4	-62	-68.4	-6.4	2	5.8	12.0
2409.30	16.4	-62	-68.3	-6.3	2	8.0	12.1
2409.35	16.4	-62	-68.1	-6.1	2	5.0	12.3
2409.40	16.4	-62	-68.3	-6.3	2	6.9	12.1
2409.45	16.4	-62	-68.1	-6.1	2	7.3	12.3
2409.50	16.4	-62	-68.4	-6.4	2	5.2	12.0
2409.55	16.4	-62	-68.6	-6.6	2	7.3	11.8
2409.60	16.4	-62	-68.6	-6.6	2	6.0	11.8
2409.65	16.4	-62	-68.5	-6.5	2	5.2	11.9
2409.70	16.4	-62	-68.3	-6.3	2	7.7	12.1
2409.75	16.4	-62	-67.5	-5.5	2	6.5	12.9
2409.80	16.4	-62	-67.4	-5.4	2	5.2	13.0
2409.85	16.4	-62	-67.2	-5.2	2	4.8	13.2
2409.90	16.4	-62	-67.5	-5.5	2	6.2	12.9
2409.95	16.4	-62	-67.3	-5.3	2	7.0	13.1
2410.00	16.4	-62	-67.5	-5.5	2	7.6	12.9
2410.05	16.4	-62	-67.5	-5.5	2	4.6	12.9
2410.10	16.4	-62	-67.4	-5.4	2	5.6	13.0
2410.15	16.4	-62	-67.3	-5.3	2	5.2	13.1

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2410.20	16.4	-62	-67.4	-5.4	2	7.3	13.0
2410.25	16.4	-62	-67.5	-5.5	2	6.7	12.9
2410.30	16.4	-62	-67.6	-5.6	2	4.7	12.8
2410.35	16.4	-62	-67.8	-5.8	2	6.6	12.6
2410.40	16.4	-62	-67.8	-5.8	2	7.2	12.6
2410.45	16.4	-62	-67.8	-5.8	2	5.6	12.6
2410.50	16.4	-62	-67.8	-5.8	2	7.2	12.6
2410.55	16.4	-62	-67.4	-5.4	2	6.8	13.0
2410.60	16.4	-62	-67.3	-5.3	2	6.6	13.1
2410.65	16.4	-62	-67.5	-5.5	2	4.7	12.9
2410.70	16.4	-62	-67.4	-5.4	2	4.9	13.0
2410.75	16.4	-62	-66.8	-4.8	2	5.8	13.6
2410.80	16.4	-62	-67.5	-5.5	2	7.5	12.9
2410.85	16.4	-62	-67.4	-5.4	2	6.9	13.0
2410.90	16.4	-62	-67.8	-5.8	2	7.0	12.6
2410.95	16.4	-62	-67.7	-5.7	2	6.5	12.7
2411.00	16.4	-62	-68.0	-6.0	2	7.0	12.4
2411.05	16.4	-62	-68.2	-6.2	2	7.2	12.2
2411.10	16.4	-62	-68.4	-6.4	2	5.3	12.0
2411.15	16.4	-62	-68.5	-6.5	2	4.9	11.9
2411.20	16.4	-62	-68.7	-6.7	2	6.4	11.7
2411.25	16.4	-62	-68.3	-6.3	2	5.3	12.1
2411.30	16.4	-62	-69.4	-7.4	2	6.6	11.0
2411.35	16.4	-62	-69.3	-7.3	2	5.9	11.1
2411.40	16.4	-62	-69.4	-7.4	2	7.4	11.0
2411.45	16.4	-62	-69.5	-7.5	2	6.9	10.9
2411.50	16.4	-62	-69.8	-7.8	2	4.9	10.6
2411.55	16.4	-62	-70.6	-8.6	2	6.7	9.8
2411.60	16.4	-62	-70.7	-8.7	2	5.3	9.7
2411.65	16.4	-62	-71.8	-9.8	2	6.1	8.6
2411.70	16.4	-62	-71.0	-9.0	2	6.1	9.4
2411.75	16.4	-62	-70.8	-8.8	2	7.0	9.6
2411.80	16.4	-62	-70.9	-8.9	2	7.5	9.5
2411.85	16.4	-62	-70.3	-8.3	2	6.5	10.1
2411.90	16.4	-62	-69.8	-7.8	2	7.1	10.6

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2411.95	16.4	-62	-69.0	-7.0	2	7.3	11.4
2412.00	16.4	-62	-68.7	-6.7	2	6.4	11.7
2412.05	16.4	-62	-68.5	-6.5	2	6.7	11.9
2412.10	16.4	-62	-68.4	-6.4	2	4.6	12.0
2412.15	16.4	-62	-68.3	-6.3	2	7.5	12.1
2412.20	16.4	-62	-70.7	-8.7	2	4.7	9.7
2412.25	16.4	-62	-69.1	-7.1	2	4.9	11.3
2412.30	16.4	-62	-69.1	-7.1	2	5.7	11.3
2412.35	16.4	-62	-69.3	-7.3	2	7.5	11.1
2412.40	16.4	-62	-69.2	-7.2	2	6.6	11.2
2412.45	16.4	-62	-68.8	-6.8	2	5.6	11.6
2412.50	16.4	-62	-68.2	-6.2	2	7.2	12.2
2412.55	16.4	-62	-68.5	-6.5	2	7.5	11.9
2412.60	16.4	-62	-68.7	-6.7	2	5.7	11.7
2412.65	16.4	-62	-67.5	-5.5	2	7.8	12.9
2412.70	16.4	-62	-67.2	-5.2	2	7.9	13.2
2412.75	16.4	-62	-66.3	-4.3	2	7.0	14.1
2412.80	16.4	-62	-66.7	-4.7	2	5.7	13.7
2412.85	16.4	-62	-66.4	-4.4	2	5.0	14.0
2412.90	16.4	-62	-66.7	-4.7	2	7.6	13.7
2412.95	16.4	-62	-67.2	-5.2	2	7.3	13.2
2413.00	16.4	-62	-67.6	-5.6	2	4.5	12.8
2413.05	16.4	-62	-67.7	-5.7	2	7.3	12.7
2413.10	16.4	-62	-67.8	-5.8	2	5.3	12.6
2413.15	16.4	-62	-67.4	-5.4	2	6.9	13.0
2413.20	16.4	-62	-67.7	-5.7	2	4.6	12.7
2413.25	16.4	-62	-67.4	-5.4	2	7.9	13.0
2413.30	16.4	-62	-67.1	-5.1	2	7.5	13.3
2413.35	16.4	-62	-66.9	-4.9	2	5.9	13.5
2413.40	16.4	-62	-66.5	-4.5	2	4.5	13.9
2413.45	16.4	-62	-67.2	-5.2	2	6.4	13.2
2413.50	16.4	-62	-67.4	-5.4	2	5.2	13.0
2413.55	16.4	-62	-67.1	-5.1	2	5.0	13.3
2413.60	16.4	-62	-67.0	-5.0	2	5.0	13.4
2413.65	16.4	-62	-67.4	-5.4	2	4.7	13.0

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2413.70	16.4	-62	-67.2	-5.2	2	5.5	13.2
2413.75	16.4	-62	-67.2	-5.2	2	5.9	13.2
2413.80	16.4	-62	-66.5	-4.5	2	5.9	13.9
2413.85	16.4	-62	-67.0	-5.0	2	8.0	13.4
2413.90	16.4	-62	-67.4	-5.4	2	5.1	13.0
2413.95	16.4	-62	-67.3	-5.3	2	5.4	13.1
2414.00	16.4	-62	-66.1	-4.1	2	6.0	14.3
2414.05	16.4	-62	-66.2	-4.2	2	6.2	14.2
2414.10	16.4	-62	-67.4	-5.4	2	7.6	13.0
2414.15	16.4	-62	-67.6	-5.6	2	7.6	12.8
2414.20	16.4	-62	-67.6	-5.6	2	5.0	12.8
2414.25	16.4	-62	-67.9	-5.9	2	5.5	12.5
2414.30	16.4	-62	-67.3	-5.3	2	7.4	13.1
2414.35	16.4	-62	-67.3	-5.3	2	5.8	13.1
2414.40	16.4	-62	-67.5	-5.5	2	6.6	12.9
2414.45	16.4	-62	-67.3	-5.3	2	7.4	13.1
2414.50	16.4	-62	-67.9	-5.9	2	7.0	12.5
2414.55	16.4	-62	-67.2	-5.2	2	5.7	13.2
2414.60	16.4	-62	-67.0	-5.0	2	7.3	13.4
2414.65	16.4	-62	-68.3	-6.3	2	4.8	12.1
2414.70	16.4	-62	-68.9	-6.9	2	5.9	11.5
2414.75	16.4	-62	-68.4	-6.4	2	4.7	12.0
2414.80	16.4	-62	-68.4	-6.4	2	4.9	12.0
2414.85	16.4	-62	-68.3	-6.3	2	4.7	12.1
2414.90	16.4	-62	-68.0	-6.0	2	6.3	12.4
2414.95	16.4	-62	-68.4	-6.4	2	5.8	12.0
2415.00	16.4	-62	-68.3	-6.3	2	7.2	12.1
2415.05	16.4	-62	-68.9	-6.9	2	5.2	11.5
2415.10	16.4	-62	-68.4	-6.4	2	7.7	12.0
2415.15	16.4	-62	-68.3	-6.3	2	7.4	12.1
2415.20	16.4	-62	-68.0	-6.0	2	7.5	12.4
2415.25	16.4	-62	-68.2	-6.2	2	7.7	12.2
2415.30	16.4	-62	-67.4	-5.4	2	6.5	13.0
2415.35	16.4	-62	-67.3	-5.3	2	6.3	13.1
2415.40	16.4	-62	-67.7	-5.7	2	7.3	12.7

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2415.45	16.4	-62	-67.4	-5.4	2	5.5	13.0
2415.50	16.4	-62	-67.9	-5.9	2	5.0	12.5
2415.55	16.4	-62	-67.3	-5.3	2	6.2	13.1
2415.60	16.4	-62	-67.7	-5.7	2	6.4	12.7
2415.65	16.4	-62	-67.4	-5.4	2	6.8	13.0
2415.70	16.4	-62	-67.8	-5.8	2	7.3	12.6
2415.75	16.4	-62	-67.2	-5.2	2	5.1	13.2
2415.80	16.4	-62	-66.4	-4.4	2	4.9	14.0
2415.85	16.4	-62	-66.4	-4.4	2	6.2	14.0
2415.90	16.4	-62	-67.2	-5.2	2	4.8	13.2
2415.95	16.4	-62	-66.5	-4.5	2	6.1	13.9
2416.00	16.4	-62	-66.3	-4.3	2	6.2	14.1
2416.05	16.4	-62	-66.4	-4.4	2	5.9	14.0
2416.10	16.4	-62	-67.4	-5.4	2	7.6	13.0
2416.15	16.4	-62	-68.0	-6.0	2	5.6	12.4
2416.20	16.4	-62	-67.5	-5.5	2	6.6	12.9
2416.25	16.4	-62	-68.3	-6.3	2	7.8	12.1
2416.30	16.4	-62	-67.6	-5.6	2	5.8	12.8
2416.35	16.4	-62	-67.4	-5.4	2	5.3	13.0
2416.40	16.4	-62	-67.8	-5.8	2	5.0	12.6
2416.45	16.4	-62	-68.3	-6.3	2	5.6	12.1
2416.50	16.4	-62	-67.5	-5.5	2	7.4	12.9
2416.55	16.4	-62	-67.9	-5.9	2	6.0	12.5
2416.60	16.4	-62	-67.4	-5.4	2	5.6	13.0
2416.65	16.4	-62	-68.4	-6.4	2	5.6	12.0
2416.70	16.4	-62	-67.4	-5.4	2	6.1	13.0
2416.75	16.4	-62	-67.5	-5.5	2	7.0	12.9
2416.80	16.4	-62	-68.3	-6.3	2	5.4	12.1
2416.85	16.4	-62	-68.5	-6.5	2	7.3	11.9
2416.90	16.4	-62	-68.7	-6.7	2	6.8	11.7
2416.95	16.4	-62	-67.8	-5.8	2	5.7	12.6
2417.00	16.4	-62	-67.5	-5.5	2	7.6	12.9
2417.05	16.4	-62	-67.8	-5.8	2	5.4	12.6
2417.10	16.4	-62	-68.3	-6.3	2	4.9	12.1
2417.15	16.4	-62	-68.5	-6.5	2	6.4	11.9

DW-120 WLAN USB ADAPTOR Jamming Margin Test

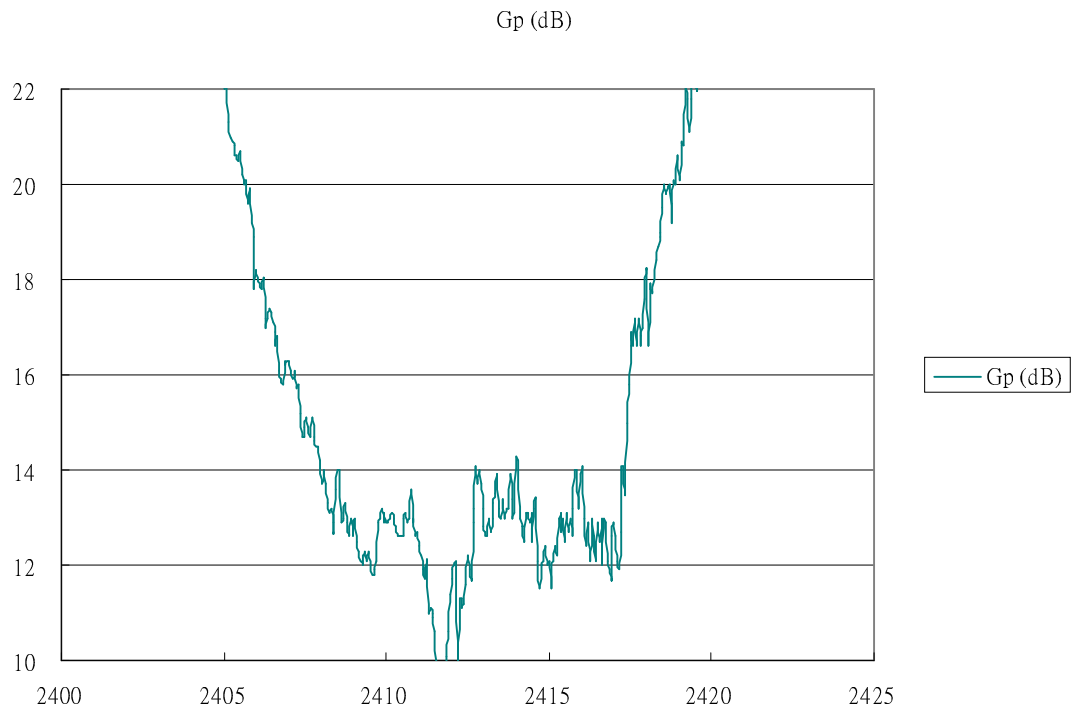
2417.20	16.4	-62	-67.7	-5.7	2	5.3	12.7
2417.25	16.4	-62	-66.4	-4.4	2	4.6	14.0
2417.30	16.4	-62	-66.3	-4.3	2	6.1	14.1
2417.35	16.4	-62	-66.9	-4.9	2	6.9	13.5
2417.40	16.4	-62	-65.4	-3.4	2	5.0	15.0
2417.45	16.4	-62	-64.6	-2.6	2	6.6	15.8
2417.50	16.4	-62	-63.8	-1.8	2	7.9	16.6
2417.55	16.4	-62	-63.5	-1.5	2	6.9	16.9
2417.60	16.4	-62	-63.8	-1.8	2	4.8	16.6
2417.65	16.4	-62	-63.2	-1.2	2	5.1	17.2
2417.70	16.4	-62	-63.8	-1.8	2	5.4	16.6
2417.75	16.4	-62	-63.2	-1.2	2	6.0	17.2
2417.80	16.4	-62	-63.8	-1.8	2	7.0	16.6
2417.85	16.4	-62	-63.6	-1.6	2	7.5	16.8
2417.90	16.4	-62	-63.4	-1.4	2	5.4	17.0
2417.95	16.4	-62	-62.8	-0.8	2	6.6	17.6
2418.00	16.4	-62	-62.2	-0.2	2	5.1	18.2
2418.05	16.4	-62	-63.8	-1.8	2	7.0	16.6
2418.10	16.4	-62	-62.6	-0.6	2	6.5	17.8
2418.15	16.4	-62	-62.5	-0.5	2	6.7	17.9
2418.20	16.4	-62	-62.7	-0.7	2	7.0	17.7
2418.25	16.4	-62	-62.4	-0.4	2	5.1	18.0
2418.30	16.4	-62	-62.0	0.0	2	7.1	18.4
2418.35	16.4	-62	-61.7	0.3	2	7.6	18.7
2418.40	16.4	-62	-61.5	0.5	2	7.0	18.9
2418.45	16.4	-62	-61.4	0.6	2	5.6	19.0
2418.50	16.4	-62	-60.9	1.1	2	6.8	19.5
2418.55	16.4	-62	-60.4	1.6	2	6.4	20.0
2418.60	16.4	-62	-60.6	1.4	2	7.9	19.8
2418.65	16.4	-62	-60.5	1.5	2	7.0	19.9
2418.70	16.4	-62	-60.4	1.6	2	4.7	20.0
2418.75	16.4	-62	-61.2	0.8	2	6.0	19.2
2418.80	16.4	-62	-60.8	1.2	2	5.6	19.6
2418.85	16.4	-62	-60.3	1.7	2	5.6	20.1
2418.90	16.4	-62	-60.4	1.6	2	6.6	20.0

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2418.95	16.4	-62	-59.8	2.2	2	4.8	20.6
2419.00	16.4	-62	-60.3	1.7	2	4.8	20.1
2419.05	16.4	-62	-59.6	2.4	2	6.8	20.8
2419.10	16.4	-62	-59.5	2.5	2	7.1	20.9
2419.15	16.4	-62	-59.6	2.4	2	6.3	20.8
2419.20	16.4	-62	-58.3	3.7	2	5.2	22.1
2419.25	16.4	-62	-58.6	3.4	2	7.6	21.8
2419.30	16.4	-62	-59.3	2.7	2	6.5	21.1
2419.35	16.4	-62	-58.6	3.4	2	6.1	21.8
2419.40	16.4	-62	-58.4	3.6	2	7.0	22.0
2419.45	16.4	-62	-58.2	3.8	2	6.7	22.2
2419.50	16.4	-62	-58.2	3.8	2	7.1	22.2
2419.55	16.4	-62	-58.4	3.6	2	4.6	22.0
2419.60	16.4	-62	-57.6	4.4	2	6.4	22.8
2419.65	16.4	-62	-57.5	4.5	2	5.5	22.9
2419.70	16.4	-62	-57.3	4.7	2	7.3	23.1
2419.75	16.4	-62	-57.2	4.8	2	7.2	23.2
2419.80	16.4	-62	-57.2	4.8	2	4.8	23.2
2419.85	16.4	-62	-56.4	5.6	2	4.7	24.0
2419.90	16.4	-62	-55.7	6.3	2	7.4	24.7
2419.95	16.4	-62	-55.3	6.7	2	6.6	25.1
2420.00	16.4	-62	-55.6	6.4	2	5.1	24.8
2420.05	16.4	-62	-55.3	6.7	2	6.5	25.1
2420.10	16.4	-62	-55.2	6.8	2	6.5	25.2
2420.15	16.4	-62	-54.7	7.3	2	7.2	25.7
2420.20	16.4	-62	-53.6	8.4	2	6.8	26.8
2420.25	16.4	-62	-53.2	8.8	2	6.9	27.2
2420.30	16.4	-62	-53.4	8.6	2	5.6	27.0
2420.35	16.4	-62	-53.4	8.6	2	5.6	27.0
2420.40	16.4	-62	-53.6	8.4	2	5.0	26.8
2420.45	16.4	-62	-53.5	8.5	2	5.1	26.9
2420.50	16.4	-62	-53.1	8.9	2	6.2	27.3

Processing Gain(dB)@20th Percentile=12.5

DW-120 WLAN USB ADAPTOR Jamming Margin Test



11Mbps Channel 7 (2442MHz) Processing Gain

$$Gp=(S/N)o+Lsys+(Jr/Sr)$$

Frequency (MHz)	(S/N)o (dB)	Sr (dBm)	Jr (dBm)	Jr/Sr (dB)	Lsys (dB)	FER (%)	Gp (dB)
2433.50	16.4	-62	-53.7	8.4	2	6.6	26.8
2433.55	16.4	-62	-53.6	8.4	2	5.9	26.8
2433.60	16.4	-62	-53.4	8.6	2	7.1	27.0
2433.65	16.4	-62	-53.5	8.5	2	4.6	26.9
2433.70	16.4	-62	-53.4	8.6	2	5.9	27.0
2433.75	16.4	-62	-53.6	8.4	2	7.8	26.8
2433.80	16.4	-62	-55.2	6.8	2	7.1	25.2
2433.85	16.4	-62	-53.5	8.5	2	4.9	26.9
2433.90	16.4	-62	-53.6	8.4	2	6.2	26.8
2433.95	16.4	-62	-53.8	8.2	2	5.1	26.6
2434.00	16.4	-62	-53.6	8.4	2	6.8	26.8
2434.05	16.4	-62	-53.8	8.2	2	6.3	26.6

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2434.10	16.4	-62	-54.2	7.8	2	7.6	26.2
2434.15	16.4	-62	-54.7	7.3	2	5.1	25.7
2434.20	16.4	-62	-54.9	7.1	2	8.0	25.5
2434.25	16.4	-62	-55.2	6.8	2	5.3	25.2
2434.30	16.4	-62	-55.1	6.9	2	6.3	25.3
2434.35	16.4	-62	-55.7	6.3	2	6.6	24.7
2434.40	16.4	-62	-56.3	5.7	2	7.9	24.1
2434.45	16.4	-62	-56.8	5.2	2	5.6	23.6
2434.50	16.4	-62	-56.7	5.3	2	7.1	23.7
2434.55	16.4	-62	-56.3	5.7	2	4.9	24.1
2434.60	16.4	-62	-56.8	5.2	2	6.7	23.6
2434.65	16.4	-62	-56.4	5.6	2	6.6	24.0
2434.70	16.4	-62	-57.2	4.8	2	6.2	23.2
2434.75	16.4	-62	-57.6	4.4	2	7.4	22.8
2434.80	16.4	-62	-57.8	4.2	2	6.3	22.6
2434.85	16.4	-62	-57.3	4.7	2	4.8	23.1
2434.90	16.4	-62	-58.3	3.7	2	5.8	22.1
2434.95	16.4	-62	-58.1	3.9	2	6.3	22.3
2435.00	16.4	-62	-58.4	3.6	2	7.1	22.0
2435.05	16.4	-62	-58.3	3.7	2	5.4	22.1
2435.10	16.4	-62	-58.5	3.5	2	6.9	21.9
2435.15	16.4	-62	-59.3	2.7	2	6.2	21.1
2435.20	16.4	-62	-59.4	2.6	2	7.9	21.0
2435.25	16.4	-62	-59.3	2.7	2	6.1	21.1
2435.30	16.4	-62	-60.1	1.9	2	7.3	20.3
2435.35	16.4	-62	-60.5	1.5	2	6.3	19.9
2435.40	16.4	-62	-60.4	1.6	2	6.5	20.0
2435.45	16.4	-62	-60.5	1.5	2	6.6	19.9
2435.50	16.4	-62	-60.4	1.6	2	6.0	20.0
2435.55	16.4	-62	-60.6	1.4	2	7.5	19.8
2435.60	16.4	-62	-60.5	1.5	2	7.4	19.9
2435.65	16.4	-62	-61.3	0.7	2	5.1	19.1
2435.70	16.4	-62	-60.8	1.2	2	5.0	19.6
2435.75	16.4	-62	-61.4	0.6	2	6.0	19.0
2435.80	16.4	-62	-61.5	0.5	2	6.4	18.9

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2435.85	16.4	-62	-61.3	0.7	2	7.1	19.1
2435.90	16.4	-62	-61.8	0.2	2	6.2	18.6
2435.95	16.4	-62	-61.8	0.2	2	5.3	18.6
2436.00	16.4	-62	-61.4	0.6	2	5.8	19.0
2436.05	16.4	-62	-61.4	0.6	2	6.1	19.0
2436.10	16.4	-62	-61.3	0.7	2	5.5	19.1
2436.15	16.4	-62	-61.3	0.7	2	6.8	19.1
2436.20	16.4	-62	-61.7	0.3	2	7.3	18.7
2436.25	16.4	-62	-61.9	0.1	2	6.4	18.5
2436.30	16.4	-62	-62.5	-0.5	2	4.6	17.9
2436.35	16.4	-62	-62.8	-0.8	2	7.6	17.6
2436.40	16.4	-62	-63.1	-1.1	2	5.9	17.3
2436.45	16.4	-62	-63.2	-1.2	2	5.5	17.2
2436.50	16.4	-62	-63.6	-1.6	2	5.8	16.8
2436.55	16.4	-62	-63.5	-1.5	2	7.7	16.9
2436.60	16.4	-62	-63.7	-1.7	2	7.6	16.7
2436.65	16.4	-62	-63.2	-1.2	2	5.4	17.2
2436.70	16.4	-62	-63.7	-1.7	2	6.6	16.7
2436.75	16.4	-62	-63.7	-1.7	2	5.8	16.7
2436.80	16.4	-62	-64.0	-2.0	2	7.1	16.4
2436.85	16.4	-62	-64.6	-2.6	2	6.3	15.8
2436.90	16.4	-62	-64.3	-2.3	2	6.6	16.1
2436.95	16.4	-62	-64.4	-2.4	2	5.7	16.0
2437.00	16.4	-62	-64.6	-2.6	2	7.2	15.8
2437.05	16.4	-62	-64.3	-2.3	2	7.2	16.1
2437.10	16.4	-62	-64.7	-2.7	2	5.2	15.7
2437.15	16.4	-62	-64.5	-2.5	2	6.7	15.9
2437.20	16.4	-62	-64.2	-2.2	2	6.4	16.2
2437.25	16.4	-62	-64.5	-2.5	2	5.6	15.9
2437.30	16.4	-62	-64.6	-2.6	2	6.7	15.8
2437.35	16.4	-62	-65.3	-3.3	2	7.3	15.1
2437.40	16.4	-62	-65.5	-3.5	2	6.6	14.9
2437.45	16.4	-62	-65.7	-3.7	2	6.9	14.7
2437.50	16.4	-62	-65.8	-3.8	2	7.3	14.6
2437.55	16.4	-62	-64.6	-2.6	2	6.7	15.8

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2437.60	16.4	-62	-65.3	-3.3	2	5.3	15.1
2437.65	16.4	-62	-64.3	-2.3	2	5.0	16.1
2437.70	16.4	-62	-65.1	-3.1	2	7.4	15.3
2437.75	16.4	-62	-65.3	-3.3	2	6.4	15.1
2437.80	16.4	-62	-65.8	-3.8	2	7.5	14.6
2437.85	16.4	-62	-65.7	-3.7	2	6.5	14.7
2437.90	16.4	-62	-65.7	-3.7	2	6.6	14.7
2437.95	16.4	-62	-65.4	-3.4	2	5.2	15.0
2438.00	16.4	-62	-65.7	-3.7	2	5.1	14.7
2438.05	16.4	-62	-65.2	-3.2	2	7.9	15.2
2438.10	16.4	-62	-65.8	-3.8	2	7.7	14.6
2438.15	16.4	-62	-65.8	-3.8	2	6.2	14.6
2438.20	16.4	-62	-65.3	-3.3	2	6.2	15.1
2438.25	16.4	-62	-65.2	-3.2	2	5.1	15.2
2438.30	16.4	-62	-66.4	-4.4	2	5.2	14.0
2438.35	16.4	-62	-66.8	-4.8	2	6.8	13.6
2438.40	16.4	-62	-67.3	-5.3	2	7.4	13.1
2438.45	16.4	-62	-66.4	-4.4	2	6.4	14.0
2438.50	16.4	-62	-67.3	-5.3	2	7.9	13.1
2438.55	16.4	-62	-67.2	-5.2	2	6.6	13.2
2438.60	16.4	-62	-67.0	-5.0	2	6.8	13.4
2438.65	16.4	-62	-67.4	-5.4	2	7.4	13.0
2438.70	16.4	-62	-67.8	-5.8	2	7.4	12.6
2438.75	16.4	-62	-67.9	-5.9	2	4.8	12.5
2438.80	16.4	-62	-67.6	-5.6	2	4.6	12.8
2438.85	16.4	-62	-67.4	-5.4	2	5.3	13.0
2438.90	16.4	-62	-67.3	-5.3	2	6.9	13.1
2438.95	16.4	-62	-67.4	-5.4	2	6.7	13.0
2439.00	16.4	-62	-67.9	-5.9	2	7.2	12.5
2439.05	16.4	-62	-67.6	-5.6	2	5.3	12.8
2439.10	16.4	-62	-67.4	-5.4	2	5.3	13.0
2439.15	16.4	-62	-67.3	-5.3	2	6.0	13.1
2439.20	16.4	-62	-67.2	-5.2	2	6.2	13.2
2439.25	16.4	-62	-68.1	-6.1	2	5.8	12.3
2439.30	16.4	-62	-68.2	-6.2	2	7.0	12.2

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2439.35	16.4	-62	-68.7	-6.7	2	6.7	11.7
2439.40	16.4	-62	-68.4	-6.4	2	5.1	12.0
2439.45	16.4	-62	-68.7	-6.7	2	7.9	11.7
2439.50	16.4	-62	-68.4	-6.4	2	7.5	12.0
2439.55	16.4	-62	-68.4	-6.4	2	5.8	12.0
2439.60	16.4	-62	-69.2	-7.2	2	6.1	11.2
2439.65	16.4	-62	-68.8	-6.8	2	5.9	11.6
2439.70	16.4	-62	-68.6	-6.6	2	4.9	11.8
2439.75	16.4	-62	-69.3	-7.3	2	5.5	11.1
2439.80	16.4	-62	-68.2	-6.2	2	7.8	12.2
2439.85	16.4	-62	-68.3	-6.3	2	7.4	12.1
2439.90	16.4	-62	-67.4	-5.4	2	7.2	13.0
2439.95	16.4	-62	-67.6	-5.6	2	6.8	12.8
2440.00	16.4	-62	-68.3	-6.3	2	7.9	12.1
2440.05	16.4	-62	-67.8	-5.8	2	4.9	12.6
2440.10	16.4	-62	-68.1	-6.1	2	5.3	12.3
2440.15	16.4	-62	-67.2	-5.2	2	6.1	13.2
2440.20	16.4	-62	-67.3	-5.3	2	6.0	13.1
2440.25	16.4	-62	-67.4	-5.4	2	4.6	13.0
2440.30	16.4	-62	-67.2	-5.2	2	6.9	13.2
2440.35	16.4	-62	-68.2	-6.2	2	5.5	12.2
2440.40	16.4	-62	-68.4	-6.4	2	7.2	12.0
2440.45	16.4	-62	-68.3	-6.3	2	6.2	12.1
2440.50	16.4	-62	-68.2	-6.2	2	7.0	12.2
2440.55	16.4	-62	-69.2	-7.2	2	5.9	11.2
2440.60	16.4	-62	-68.3	-6.3	2	7.0	12.1
2440.65	16.4	-62	-68.0	-6.0	2	7.0	12.4
2440.70	16.4	-62	-68.2	-6.2	2	4.7	12.2
2440.75	16.4	-62	-68.3	-6.3	2	7.7	12.1
2440.80	16.4	-62	-68.5	-6.5	2	6.2	11.9
2440.85	16.4	-62	-68.2	-6.2	2	5.2	12.2
2440.90	16.4	-62	-68.6	-6.6	2	7.8	11.8
2440.95	16.4	-62	-68.2	-6.2	2	5.2	12.2
2441.00	16.4	-62	-67.7	-5.7	2	5.2	12.7
2441.05	16.4	-62	-68.2	-6.2	2	4.8	12.2

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2441.10	16.4	-62	-68.7	-6.7	2	7.9	11.7
2441.15	16.4	-62	-68.7	-6.7	2	5.5	11.7
2441.20	16.4	-62	-68.3	-6.3	2	5.8	12.1
2441.25	16.4	-62	-68.7	-6.7	2	4.7	11.7
2441.30	16.4	-62	-68.9	-6.9	2	5.3	11.5
2441.35	16.4	-62	-68.4	-6.4	2	5.6	12.0
2441.40	16.4	-62	-68.9	-6.9	2	6.8	11.5
2441.45	16.4	-62	-69.2	-7.2	2	6.9	11.2
2441.50	16.4	-62	-69.6	-7.6	2	5.7	10.8
2441.55	16.4	-62	-69.4	-7.4	2	6.3	11.0
2441.60	16.4	-62	-69.4	-7.4	2	7.4	11.0
2441.65	16.4	-62	-69.2	-7.2	2	5.9	11.2
2441.70	16.4	-62	-70.2	-8.2	2	5.4	10.2
2441.75	16.4	-62	-70.1	-8.1	2	5.8	10.3
2441.80	16.4	-62	-70.4	-8.4	2	5.7	10.0
2441.85	16.4	-62	-70.1	-8.1	2	4.7	10.3
2441.90	16.4	-62	-70.0	-8.0	2	6.2	10.4
2441.95	16.4	-62	-69.8	-7.8	2	4.8	10.6
2442.00	16.4	-62	-69.5	-7.5	2	7.4	10.9
2442.05	16.4	-62	-69.3	-7.3	2	6.0	11.1
2442.10	16.4	-62	-69.6	-7.6	2	5.9	10.8
2442.15	16.4	-62	-70.8	-8.8	2	6.4	9.6
2442.20	16.4	-62	-71.3	-9.3	2	4.9	9.1
2442.25	16.4	-62	-70.9	-8.9	2	5.8	9.5
2442.30	16.4	-62	-71.2	-9.2	2	6.8	9.2
2442.35	16.4	-62	-71.0	-9.0	2	7.3	9.4
2442.40	16.4	-62	-69.4	-7.4	2	7.8	11.0
2442.45	16.4	-62	-69.4	-7.4	2	4.6	11.0
2442.50	16.4	-62	-69.4	-7.4	2	6.0	11.0
2442.55	16.4	-62	-69.3	-7.3	2	4.9	11.1
2442.60	16.4	-62	-69.2	-7.2	2	8.0	11.2
2442.65	16.4	-62	-69.2	-7.2	2	6.1	11.2
2442.70	16.4	-62	-69.4	-7.4	2	7.8	11.0
2442.75	16.4	-62	-69.1	-7.1	2	5.8	11.3
2442.80	16.4	-62	-68.3	-6.3	2	6.5	12.1

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2442.85	16.4	-62	-68.5	-6.5	2	5.5	11.9
2442.90	16.4	-62	-67.3	-5.3	2	6.0	13.1
2442.95	16.4	-62	-67.8	-5.8	2	6.2	12.6
2443.00	16.4	-62	-67.1	-5.1	2	7.6	13.3
2443.05	16.4	-62	-67.3	-5.3	2	7.1	13.1
2443.10	16.4	-62	-67.5	-5.5	2	6.1	12.9
2443.15	16.4	-62	-67.4	-5.4	2	6.5	13.0
2443.20	16.4	-62	-67.4	-5.4	2	7.9	13.0
2443.25	16.4	-62	-67.8	-5.8	2	7.4	12.6
2443.30	16.4	-62	-67.3	-5.3	2	6.1	13.1
2443.35	16.4	-62	-67.5	-5.5	2	7.7	12.9
2443.40	16.4	-62	-67.7	-5.7	2	7.4	12.7
2443.45	16.4	-62	-67.2	-5.2	2	6.2	13.2
2443.50	16.4	-62	-67.5	-5.5	2	5.0	12.9
2443.55	16.4	-62	-67.5	-5.5	2	6.3	12.9
2443.60	16.4	-62	-67.8	-5.8	2	5.9	12.6
2443.65	16.4	-62	-67.4	-5.4	2	7.0	13.0
2443.70	16.4	-62	-67.5	-5.5	2	7.7	12.9
2443.75	16.4	-62	-67.8	-5.8	2	6.9	12.6
2443.80	16.4	-62	-67.3	-5.3	2	4.7	13.1
2443.85	16.4	-62	-67.4	-5.4	2	6.8	13.0
2443.90	16.4	-62	-67.4	-5.4	2	7.6	13.0
2443.95	16.4	-62	-67.8	-5.8	2	6.7	12.6
2444.00	16.4	-62	-67.9	-5.9	2	6.7	12.5
2444.05	16.4	-62	-67.3	-5.3	2	4.8	13.1
2444.10	16.4	-62	-67.6	-5.6	2	7.1	12.8
2444.15	16.4	-62	-67.4	-5.4	2	4.7	13.0
2444.20	16.4	-62	-67.8	-5.8	2	6.2	12.6
2444.25	16.4	-62	-67.3	-5.3	2	5.0	13.1
2444.30	16.4	-62	-67.4	-5.4	2	5.3	13.0
2444.35	16.4	-62	-67.6	-5.6	2	4.8	12.8
2444.40	16.4	-62	-67.4	-5.4	2	7.0	13.0
2444.45	16.4	-62	-67.8	-5.8	2	6.1	12.6
2444.50	16.4	-62	-67.3	-5.3	2	7.3	13.1
2444.55	16.4	-62	-67.7	-5.7	2	6.2	12.7

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2444.60	16.4	-62	-67.4	-5.4	2	6.0	13.0
2444.65	16.4	-62	-67.2	-5.2	2	7.2	13.2
2444.70	16.4	-62	-66.4	-4.4	2	5.5	14.0
2444.75	16.4	-62	-66.3	-4.3	2	6.7	14.1
2444.80	16.4	-62	-66.9	-4.9	2	4.7	13.5
2444.85	16.4	-62	-66.5	-4.5	2	7.6	13.9
2444.90	16.4	-62	-66.4	-4.4	2	6.9	14.0
2444.95	16.4	-62	-66.3	-4.3	2	5.7	14.1
2445.00	16.4	-62	-66.7	-4.7	2	5.8	13.7
2445.05	16.4	-62	-66.9	-4.9	2	7.6	13.5
2445.10	16.4	-62	-66.3	-4.3	2	6.2	14.1
2445.15	16.4	-62	-66.5	-4.5	2	7.2	13.9
2445.20	16.4	-62	-66.5	-4.5	2	5.3	13.9
2445.25	16.4	-62	-66.3	-4.3	2	7.0	14.1
2445.30	16.4	-62	-66.2	-4.2	2	5.4	14.2
2445.35	16.4	-62	-66.8	-4.8	2	5.8	13.6
2445.40	16.4	-62	-66.1	-4.1	2	5.4	14.3
2445.45	16.4	-62	-66.1	-4.1	2	4.8	14.3
2445.50	16.4	-62	-67.3	-5.3	2	7.8	13.1
2445.55	16.4	-62	-66.4	-4.4	2	5.6	14.0
2445.60	16.4	-62	-66.4	-4.4	2	5.9	14.0
2445.65	16.4	-62	-67.2	-5.2	2	7.8	13.2
2445.70	16.4	-62	-67.4	-5.4	2	4.9	13.0
2445.75	16.4	-62	-67.6	-5.6	2	6.8	12.8
2445.80	16.4	-62	-67.4	-5.4	2	7.8	13.0
2445.85	16.4	-62	-66.8	-4.8	2	7.8	13.6
2445.90	16.4	-62	-66.5	-4.5	2	7.3	13.9
2445.95	16.4	-62	-66.2	-4.2	2	4.9	14.2
2446.00	16.4	-62	-66.7	-4.7	2	6.2	13.7
2446.05	16.4	-62	-67.8	-5.8	2	5.4	12.6
2446.10	16.4	-62	-68.3	-6.3	2	7.8	12.1
2446.15	16.4	-62	-68.5	-6.5	2	6.0	11.9
2446.20	16.4	-62	-68.1	-6.1	2	6.3	12.3
2446.25	16.4	-62	-67.7	-5.7	2	7.2	12.7
2446.30	16.4	-62	-68.3	-6.3	2	4.6	12.1

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2446.35	16.4	-62	-68.4	-6.4	2	4.6	12.0
2446.40	16.4	-62	-68.3	-6.3	2	5.3	12.1
2446.45	16.4	-62	-68.5	-6.5	2	6.7	11.9
2446.50	16.4	-62	-68.4	-6.4	2	6.4	12.0
2446.55	16.4	-62	-68.7	-6.7	2	6.0	11.7
2446.60	16.4	-62	-68.5	-6.5	2	7.4	11.9
2446.65	16.4	-62	-67.4	-5.4	2	5.6	13.0
2446.70	16.4	-62	-67.5	-5.5	2	5.7	12.9
2446.75	16.4	-62	-67.4	-5.4	2	7.3	13.0
2446.80	16.4	-62	-68.0	-6.0	2	5.7	12.4
2446.85	16.4	-62	-67.4	-5.4	2	6.0	13.0
2446.90	16.4	-62	-67.5	-5.5	2	6.0	12.9
2446.95	16.4	-62	-66.4	-4.4	2	6.5	14.0
2447.00	16.4	-62	-66.3	-4.3	2	7.5	14.1
2447.05	16.4	-62	-66.8	-4.8	2	4.9	13.6
2447.10	16.4	-62	-65.7	-3.7	2	6.4	14.7
2447.15	16.4	-62	-65.3	-3.3	2	7.2	15.1
2447.20	16.4	-62	-65.4	-3.4	2	6.9	15.0
2447.25	16.4	-62	-64.0	-2.0	2	6.1	16.4
2447.30	16.4	-62	-65.3	-3.3	2	7.3	15.1
2447.35	16.4	-62	-65.3	-3.3	2	6.1	15.1
2447.40	16.4	-62	-65.8	-3.8	2	6.8	14.6
2447.45	16.4	-62	-64.7	-2.7	2	7.4	15.7
2447.50	16.4	-62	-64.3	-2.3	2	4.5	16.1
2447.55	16.4	-62	-64.0	-2.0	2	7.1	16.4
2447.60	16.4	-62	-64.3	-2.3	2	7.4	16.1
2447.65	16.4	-62	-64.6	-2.6	2	5.5	15.8
2447.70	16.4	-62	-64.8	-2.8	2	7.8	15.6
2447.75	16.4	-62	-63.2	-1.2	2	6.0	17.2
2447.80	16.4	-62	-63.6	-1.6	2	7.9	16.8
2447.85	16.4	-62	-64.1	-2.1	2	6.3	16.3
2447.90	16.4	-62	-63.6	-1.6	2	4.8	16.8
2447.95	16.4	-62	-63.8	-1.8	2	6.0	16.6
2448.00	16.4	-62	-63.0	-1.0	2	5.8	17.4
2448.05	16.4	-62	-62.9	-0.9	2	5.4	17.5

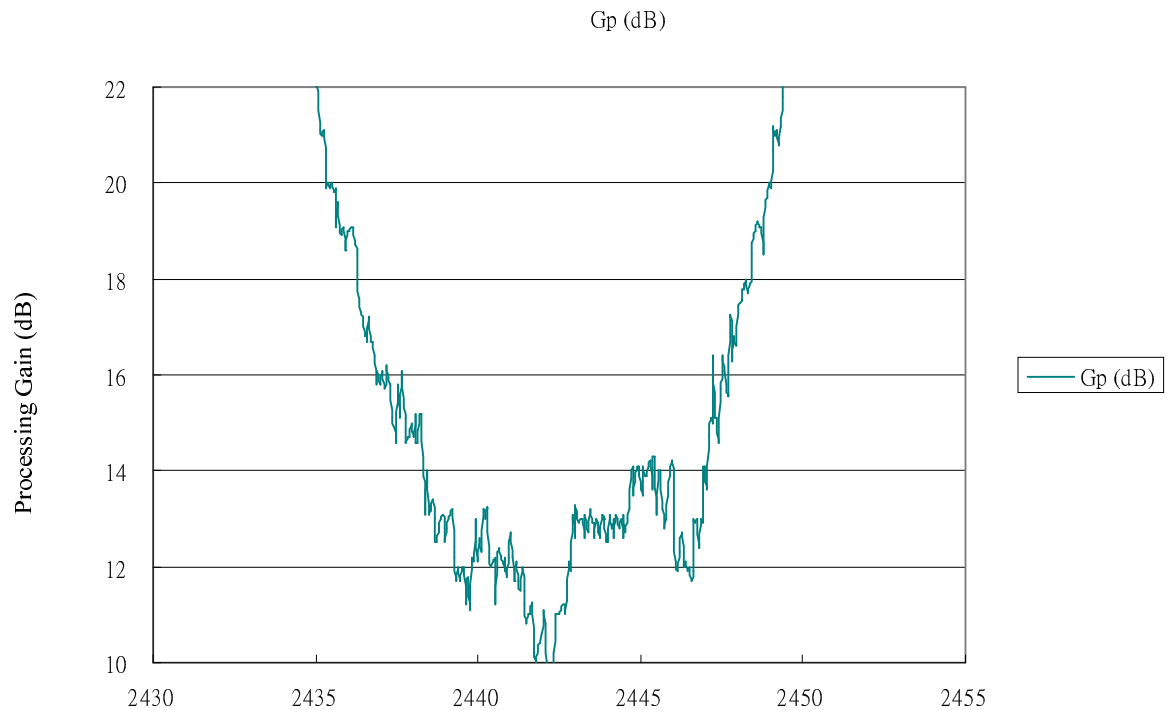
DW-120 WLAN USB ADAPTOR Jamming Margin Test

2448.10	16.4	-62	-62.8	-0.8	2	6.6	17.6
2448.15	16.4	-62	-62.6	-0.6	2	7.7	17.8
2448.20	16.4	-62	-62.6	-0.6	2	7.7	17.8
2448.25	16.4	-62	-62.4	-0.4	2	5.4	18.0
2448.30	16.4	-62	-62.7	-0.7	2	7.7	17.7
2448.35	16.4	-62	-62.5	-0.5	2	6.4	17.9
2448.40	16.4	-62	-62.4	-0.4	2	6.4	18.0
2448.45	16.4	-62	-61.9	0.1	2	6.2	18.5
2448.50	16.4	-62	-61.5	0.5	2	6.4	18.9
2448.55	16.4	-62	-61.4	0.6	2	7.0	19.0
2448.60	16.4	-62	-61.2	0.8	2	6.8	19.2
2448.65	16.4	-62	-61.3	0.7	2	5.8	19.1
2448.70	16.4	-62	-61.3	0.7	2	7.6	19.1
2448.75	16.4	-62	-61.9	0.1	2	5.3	18.5
2448.80	16.4	-62	-61.5	0.5	2	6.2	18.9
2448.85	16.4	-62	-60.8	1.2	2	5.4	19.6
2448.90	16.4	-62	-60.7	1.3	2	5.9	19.7
2448.95	16.4	-62	-60.4	1.6	2	6.1	20.0
2449.00	16.4	-62	-60.5	1.5	2	5.9	19.9
2449.05	16.4	-62	-59.7	2.3	2	6.9	20.7
2449.10	16.4	-62	-59.2	2.8	2	5.1	21.2
2449.15	16.4	-62	-59.4	2.6	2	6.2	21.0
2449.20	16.4	-62	-59.3	2.7	2	6.9	21.1
2449.25	16.4	-62	-59.6	2.4	2	5.5	20.8
2449.30	16.4	-62	-59.2	2.8	2	5.2	21.2
2449.35	16.4	-62	-58.6	3.4	2	7.2	21.8
2449.40	16.4	-62	-58.2	3.8	2	6.1	22.2
2449.45	16.4	-62	-57.8	4.2	2	6.9	22.6
2449.50	16.4	-62	-57.3	4.7	2	7.7	23.1
2449.55	16.4	-62	-57.4	4.6	2	7.5	23.0
2449.60	16.4	-62	-57.5	4.5	2	5.1	22.9
2449.65	16.4	-62	-57.8	4.2	2	6.0	22.6
2449.70	16.4	-62	-57.2	4.8	2	5.8	23.2
2449.75	16.4	-62	-56.2	5.8	2	5.8	24.2
2449.80	16.4	-62	-56.3	5.7	2	4.8	24.1

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2449.85	16.4	-62	-55.7	6.3	2	5.2	24.7
2449.90	16.4	-62	-55.2	6.8	2	6.8	25.2
2449.95	16.4	-62	-55.7	6.3	2	5.6	24.7
2450.00	16.4	-62	-55.3	6.7	2	6.0	25.1
2450.05	16.4	-62	-55.7	6.3	2	5.3	24.7
2450.10	16.4	-62	-54.7	7.3	2	5.5	25.7
2450.15	16.4	-62	-54.3	7.7	2	6.3	26.1
2450.20	16.4	-62	-54.6	7.4	2	6.8	25.8
2450.25	16.4	-62	-54.8	7.2	2	6.8	25.6
2450.30	16.4	-62	-54.3	7.7	2	7.8	26.1
2450.35	16.4	-62	-54.2	7.8	2	5.2	26.2
2450.40	16.4	-62	-54.3	7.7	2	6.1	26.1
2450.45	16.4	-62	-54.3	7.7	2	4.6	26.1
2450.50	16.4	-62	-54.3	7.7	2	7.4	26.1

Processing Gain(dB)@20th Percentile=12.2



11Mbps Channel 11 (2462MHz) Processing Gain

$$G_p=(S/N)_o+L_{sys}+(J_r/S_r)$$

Frequency (MHz)	(S/N) _o (dB)	S _r (dBm)	J _r (dBm)	J _r /S _r (dB)	L _{sys} (dB)	FER (%)	G _p (dB)
2453.50	16.4	-62	-53.7	8.4	2	5.0	26.8
2453.55	16.4	-62	-53.4	8.6	2	5.4	27.0
2453.60	16.4	-62	-54.4	7.6	2	6.1	26.0
2453.65	16.4	-62	-53.5	8.5	2	7.3	26.9
2453.70	16.4	-62	-54.7	7.3	2	6.6	25.7
2453.75	16.4	-62	-53.6	8.4	2	6.7	26.8
2453.80	16.4	-62	-54.6	7.4	2	6.2	25.8
2453.85	16.4	-62	-53.5	8.5	2	7.6	26.9
2453.90	16.4	-62	-53.6	8.4	2	6.5	26.8
2453.95	16.4	-62	-53.8	8.2	2	5.1	26.6
2454.00	16.4	-62	-53.6	8.4	2	6.0	26.8
2454.05	16.4	-62	-53.8	8.2	2	5.4	26.6
2454.10	16.4	-62	-54.2	7.8	2	5.6	26.2
2454.15	16.4	-62	-54.7	7.3	2	7.0	25.7
2454.20	16.4	-62	-54.3	7.7	2	5.4	26.1
2454.25	16.4	-62	-55.2	6.8	2	4.8	25.2
2454.30	16.4	-62	-55.8	6.2	2	6.0	24.6
2454.35	16.4	-62	-55.7	6.3	2	6.0	24.7
2454.40	16.4	-62	-56.3	5.7	2	5.2	24.1
2454.45	16.4	-62	-56.5	5.5	2	6.7	23.9
2454.50	16.4	-62	-56.6	5.4	2	8.0	23.8
2454.55	16.4	-62	-56.3	5.7	2	5.7	24.1
2454.60	16.4	-62	-57.8	4.2	2	5.6	22.6
2454.65	16.4	-62	-56.4	5.6	2	5.4	24.0
2454.70	16.4	-62	-57.6	4.4	2	7.0	22.8
2454.75	16.4	-62	-56.6	5.4	2	7.6	23.8
2454.80	16.4	-62	-57.8	4.2	2	6.9	22.6
2454.85	16.4	-62	-57.3	4.7	2	6.5	23.1
2454.90	16.4	-62	-58.5	3.5	2	6.5	21.9
2454.95	16.4	-62	-57.8	4.2	2	6.8	22.6
2455.00	16.4	-62	-58.4	3.6	2	5.8	22.0

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2455.05	16.4	-62	-58.5	3.5	2	7.0	21.9
2455.10	16.4	-62	-58.4	3.6	2	7.5	22.0
2455.15	16.4	-62	-58.3	3.7	2	6.8	22.1
2455.20	16.4	-62	-59.4	2.6	2	4.8	21.0
2455.25	16.4	-62	-59.8	2.2	2	5.9	20.6
2455.30	16.4	-62	-60.4	1.6	2	6.3	20.0
2455.35	16.4	-62	-60.5	1.5	2	6.3	19.9
2455.40	16.4	-62	-60.8	1.2	2	6.2	19.6
2455.45	16.4	-62	-60.5	1.5	2	4.8	19.9
2455.50	16.4	-62	-61.6	0.4	2	5.1	18.8
2455.55	16.4	-62	-61.6	0.4	2	5.0	18.8
2455.60	16.4	-62	-61.5	0.5	2	5.2	18.9
2455.65	16.4	-62	-61.7	0.3	2	7.4	18.7
2455.70	16.4	-62	-61.8	0.2	2	7.1	18.6
2455.75	16.4	-62	-61.4	0.6	2	5.8	19.0
2455.80	16.4	-62	-61.4	0.6	2	7.0	19.0
2455.85	16.4	-62	-61.3	0.7	2	6.2	19.1
2455.90	16.4	-62	-61.8	0.2	2	5.7	18.6
2455.95	16.4	-62	-61.8	0.2	2	7.0	18.6
2456.00	16.4	-62	-61.4	0.6	2	7.7	19.0
2456.05	16.4	-62	-61.4	0.6	2	6.7	19.0
2456.10	16.4	-62	-61.3	0.7	2	7.1	19.1
2456.15	16.4	-62	-61.8	0.2	2	7.8	18.6
2456.20	16.4	-62	-62.7	-0.7	2	7.1	17.7
2456.25	16.4	-62	-62.7	-0.7	2	7.4	17.7
2456.30	16.4	-62	-62.5	-0.5	2	5.4	17.9
2456.35	16.4	-62	-62.9	-0.9	2	4.9	17.5
2456.40	16.4	-62	-63.1	-1.1	2	6.7	17.3
2456.45	16.4	-62	-64.5	-2.5	2	5.2	15.9
2456.50	16.4	-62	-64.6	-2.6	2	4.5	15.8
2456.55	16.4	-62	-63.5	-1.5	2	5.8	16.9
2456.60	16.4	-62	-63.7	-1.7	2	7.9	16.7
2456.65	16.4	-62	-64.2	-2.2	2	5.4	16.2
2456.70	16.4	-62	-63.7	-1.7	2	6.5	16.7
2456.75	16.4	-62	-63.7	-1.7	2	5.5	16.7

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2456.80	16.4	-62	-64.8	-2.8	2	7.7	15.6
2456.85	16.4	-62	-63.4	-1.4	2	6.0	17.0
2456.90	16.4	-62	-63.3	-1.3	2	7.2	17.1
2456.95	16.4	-62	-63.4	-1.4	2	5.2	17.0
2457.00	16.4	-62	-64.6	-2.6	2	6.1	15.8
2457.05	16.4	-62	-64.4	-2.4	2	7.0	16.0
2457.10	16.4	-62	-64.9	-2.9	2	7.5	15.5
2457.15	16.4	-62	-64.5	-2.5	2	7.6	15.9
2457.20	16.4	-62	-64.6	-2.6	2	6.9	15.8
2457.25	16.4	-62	-65.5	-3.5	2	6.1	14.9
2457.30	16.4	-62	-65.6	-3.6	2	7.5	14.8
2457.35	16.4	-62	-65.3	-3.3	2	7.5	15.1
2457.40	16.4	-62	-65.5	-3.5	2	6.4	14.9
2457.45	16.4	-62	-65.7	-3.7	2	7.3	14.7
2457.50	16.4	-62	-64.8	-2.8	2	6.8	15.6
2457.55	16.4	-62	-64.6	-2.6	2	7.6	15.8
2457.60	16.4	-62	-65.3	-3.3	2	7.7	15.1
2457.65	16.4	-62	-64.3	-2.3	2	4.8	16.1
2457.70	16.4	-62	-65.1	-3.1	2	7.9	15.3
2457.75	16.4	-62	-65.6	-3.6	2	6.4	14.8
2457.80	16.4	-62	-65.3	-3.3	2	4.9	15.1
2457.85	16.4	-62	-65.5	-3.5	2	7.5	14.9
2457.90	16.4	-62	-65.2	-3.2	2	5.2	15.2
2457.95	16.4	-62	-65.4	-3.4	2	5.1	15.0
2458.00	16.4	-62	-65.7	-3.7	2	5.0	14.7
2458.05	16.4	-62	-65.4	-3.4	2	5.8	15.0
2458.10	16.4	-62	-65.8	-3.8	2	5.2	14.6
2458.15	16.4	-62	-65.2	-3.2	2	7.6	15.2
2458.20	16.4	-62	-66.3	-4.3	2	7.5	14.1
2458.25	16.4	-62	-66.2	-4.2	2	8.0	14.2
2458.30	16.4	-62	-66.4	-4.4	2	7.2	14.0
2458.35	16.4	-62	-66.8	-4.8	2	7.1	13.6
2458.40	16.4	-62	-67.4	-5.4	2	7.4	13.0
2458.45	16.4	-62	-66.8	-4.8	2	4.7	13.6
2458.50	16.4	-62	-67.3	-5.3	2	6.7	13.1

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2458.55	16.4	-62	-67.3	-5.3	2	6.5	13.1
2458.60	16.4	-62	-67.5	-5.5	2	5.9	12.9
2458.65	16.4	-62	-67.4	-5.4	2	7.4	13.0
2458.70	16.4	-62	-67.8	-5.8	2	6.3	12.6
2458.75	16.4	-62	-68.3	-6.3	2	4.5	12.1
2458.80	16.4	-62	-67.6	-5.6	2	7.9	12.8
2458.85	16.4	-62	-67.4	-5.4	2	4.6	13.0
2458.90	16.4	-62	-67.7	-5.7	2	5.1	12.7
2458.95	16.4	-62	-67.4	-5.4	2	6.3	13.0
2459.00	16.4	-62	-67.8	-5.8	2	7.3	12.6
2459.05	16.4	-62	-67.6	-5.6	2	5.3	12.8
2459.10	16.4	-62	-68.5	-6.5	2	6.3	11.9
2459.15	16.4	-62	-68.3	-6.3	2	7.9	12.1
2459.20	16.4	-62	-68.3	-6.3	2	7.7	12.1
2459.25	16.4	-62	-68.1	-6.1	2	6.7	12.3
2459.30	16.4	-62	-67.2	-5.2	2	6.8	13.2
2459.35	16.4	-62	-68.7	-6.7	2	7.8	11.7
2459.40	16.4	-62	-68.4	-6.4	2	5.1	12.0
2459.45	16.4	-62	-68.6	-6.6	2	5.2	11.8
2459.50	16.4	-62	-68.7	-6.7	2	6.9	11.7
2459.55	16.4	-62	-68.4	-6.4	2	4.6	12.0
2459.60	16.4	-62	-69.4	-7.4	2	7.0	11.0
2459.65	16.4	-62	-68.8	-6.8	2	7.6	11.6
2459.70	16.4	-62	-68.5	-6.5	2	7.7	11.9
2459.75	16.4	-62	-69.3	-7.3	2	6.9	11.1
2459.80	16.4	-62	-68.7	-6.7	2	5.1	11.7
2459.85	16.4	-62	-68.8	-6.8	2	5.0	11.6
2459.90	16.4	-62	-67.6	-5.6	2	6.6	12.8
2459.95	16.4	-62	-67.6	-5.6	2	6.3	12.8
2460.00	16.4	-62	-68.8	-6.8	2	4.6	11.6
2460.05	16.4	-62	-67.8	-5.8	2	7.5	12.6
2460.10	16.4	-62	-67.1	-5.1	2	5.7	13.3
2460.15	16.4	-62	-67.6	-5.6	2	7.0	12.8
2460.20	16.4	-62	-67.8	-5.8	2	7.2	12.6
2460.25	16.4	-62	-67.2	-5.2	2	6.2	13.2

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2460.30	16.4	-62	-67.9	-5.9	2	5.4	12.5
2460.35	16.4	-62	-67.2	-5.2	2	4.7	13.2
2460.40	16.4	-62	-68.4	-6.4	2	6.1	12.0
2460.45	16.4	-62	-68.6	-6.6	2	6.9	11.8
2460.50	16.4	-62	-68.7	-6.7	2	7.5	11.7
2460.55	16.4	-62	-69.2	-7.2	2	5.8	11.2
2460.60	16.4	-62	-68.3	-6.3	2	6.3	12.1
2460.65	16.4	-62	-68.3	-6.3	2	6.6	12.1
2460.70	16.4	-62	-68.2	-6.2	2	6.0	12.2
2460.75	16.4	-62	-67.6	-5.6	2	6.0	12.8
2460.80	16.4	-62	-67.8	-5.8	2	6.8	12.6
2460.85	16.4	-62	-68.4	-6.4	2	6.6	12.0
2460.90	16.4	-62	-68.8	-6.8	2	6.2	11.6
2460.95	16.4	-62	-67.8	-5.8	2	5.9	12.6
2461.00	16.4	-62	-67.7	-5.7	2	6.2	12.7
2461.05	16.4	-62	-67.6	-5.6	2	7.5	12.8
2461.10	16.4	-62	-68.7	-6.7	2	6.0	11.7
2461.15	16.4	-62	-67.7	-5.7	2	5.8	12.7
2461.20	16.4	-62	-67.5	-5.5	2	5.7	12.9
2461.25	16.4	-62	-67.6	-5.6	2	7.0	12.8
2461.30	16.4	-62	-67.9	-5.9	2	5.0	12.5
2461.35	16.4	-62	-67.4	-5.4	2	5.2	13.0
2461.40	16.4	-62	-68.5	-6.5	2	7.7	11.9
2461.45	16.4	-62	-69.7	-7.7	2	7.0	10.7
2461.50	16.4	-62	-69.2	-7.2	2	6.2	11.2
2461.55	16.4	-62	-70.8	-8.8	2	7.1	9.6
2461.60	16.4	-62	-70.6	-8.6	2	6.0	9.8
2461.65	16.4	-62	-70.5	-8.5	2	6.3	9.9
2461.70	16.4	-62	-70.8	-8.8	2	6.2	9.6
2461.75	16.4	-62	-71.4	-9.4	2	5.7	9.0
2461.80	16.4	-62	-70.6	-8.6	2	4.7	9.8
2461.85	16.4	-62	-70.8	-8.8	2	6.8	9.6
2461.90	16.4	-62	-70.2	-8.2	2	5.8	10.2
2461.95	16.4	-62	-69.2	-7.2	2	5.8	11.2
2462.00	16.4	-62	-69.8	-7.8	2	5.0	10.6

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2462.05	16.4	-62	-69.2	-7.2	2	7.8	11.2
2462.10	16.4	-62	-70.6	-8.6	2	5.1	9.8
2462.15	16.4	-62	-70.7	-8.7	2	5.5	9.7
2462.20	16.4	-62	-70.2	-8.2	2	7.9	10.2
2462.25	16.4	-62	-70.6	-8.6	2	6.9	9.8
2462.30	16.4	-62	-70.2	-8.2	2	7.6	10.2
2462.35	16.4	-62	-70.1	-8.1	2	6.8	10.3
2462.40	16.4	-62	-70.9	-8.9	2	6.8	9.5
2462.45	16.4	-62	-70.2	-8.2	2	5.7	10.2
2462.50	16.4	-62	-69.4	-7.4	2	7.6	11.0
2462.55	16.4	-62	-69.6	-7.6	2	4.9	10.8
2462.60	16.4	-62	-69.8	-7.8	2	6.6	10.6
2462.65	16.4	-62	-69.3	-7.3	2	6.1	11.1
2462.70	16.4	-62	-69.8	-7.8	2	7.7	10.6
2462.75	16.4	-62	-70.2	-8.2	2	5.1	10.2
2462.80	16.4	-62	-69.3	-7.3	2	7.2	11.1
2462.85	16.4	-62	-68.4	-6.4	2	7.1	12.0
2462.90	16.4	-62	-68.3	-6.3	2	7.4	12.1
2462.95	16.4	-62	-68.8	-6.8	2	5.2	11.6
2463.00	16.4	-62	-67.5	-5.5	2	7.7	12.9
2463.05	16.4	-62	-67.8	-5.8	2	5.3	12.6
2463.10	16.4	-62	-67.2	-5.2	2	7.4	13.2
2463.15	16.4	-62	-67.6	-5.6	2	6.7	12.8
2463.20	16.4	-62	-67.8	-5.8	2	7.5	12.6
2463.25	16.4	-62	-68.8	-6.8	2	7.5	11.6
2463.30	16.4	-62	-68.3	-6.3	2	5.8	12.1
2463.35	16.4	-62	-68.5	-6.5	2	7.8	11.9
2463.40	16.4	-62	-68.7	-6.7	2	7.8	11.7
2463.45	16.4	-62	-67.6	-5.6	2	5.2	12.8
2463.50	16.4	-62	-67.1	-5.1	2	7.9	13.3
2463.55	16.4	-62	-67.3	-5.3	2	4.8	13.1
2463.60	16.4	-62	-67.3	-5.3	2	4.8	13.1
2463.65	16.4	-62	-67.5	-5.5	2	6.0	12.9
2463.70	16.4	-62	-67.8	-5.8	2	6.9	12.6
2463.75	16.4	-62	-68.8	-6.8	2	7.6	11.6

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2463.80	16.4	-62	-67.4	-5.4	2	5.5	13.0
2463.85	16.4	-62	-67.5	-5.5	2	4.9	12.9
2463.90	16.4	-62	-67.8	-5.8	2	7.0	12.6
2463.95	16.4	-62	-67.4	-5.4	2	7.1	13.0
2464.00	16.4	-62	-67.5	-5.5	2	7.7	12.9
2464.05	16.4	-62	-67.7	-5.7	2	6.3	12.7
2464.10	16.4	-62	-67.6	-5.6	2	5.8	12.8
2464.15	16.4	-62	-68.4	-6.4	2	7.2	12.0
2464.20	16.4	-62	-68.4	-6.4	2	5.4	12.0
2464.25	16.4	-62	-67.7	-5.7	2	4.6	12.7
2464.30	16.4	-62	-67.3	-5.3	2	4.6	13.1
2464.35	16.4	-62	-68.6	-6.6	2	7.0	11.8
2464.40	16.4	-62	-67.4	-5.4	2	7.7	13.0
2464.45	16.4	-62	-68.8	-6.8	2	5.4	11.6
2464.50	16.4	-62	-67.9	-5.9	2	6.1	12.5
2464.55	16.4	-62	-67.4	-5.4	2	6.0	13.0
2464.60	16.4	-62	-67.6	-5.6	2	6.0	12.8
2464.65	16.4	-62	-67.8	-5.8	2	7.4	12.6
2464.70	16.4	-62	-68.4	-6.4	2	5.1	12.0
2464.75	16.4	-62	-67.3	-5.3	2	6.0	13.1
2464.80	16.4	-62	-67.9	-5.9	2	6.5	12.5
2464.85	16.4	-62	-68.5	-6.5	2	4.6	11.9
2464.90	16.4	-62	-66.8	-4.8	2	4.8	13.6
2464.95	16.4	-62	-66.9	-4.9	2	6.1	13.5
2465.00	16.4	-62	-66.2	-4.2	2	5.0	14.2
2465.05	16.4	-62	-66.4	-4.4	2	5.4	14.0
2465.10	16.4	-62	-66.6	-4.6	2	6.1	13.8
2465.15	16.4	-62	-67.7	-5.7	2	7.6	12.7
2465.20	16.4	-62	-66.5	-4.5	2	4.7	13.9
2465.25	16.4	-62	-66.5	-4.5	2	4.8	13.9
2465.30	16.4	-62	-66.2	-4.2	2	6.0	14.2
2465.35	16.4	-62	-67.8	-5.8	2	5.2	12.6
2465.40	16.4	-62	-66.5	-4.5	2	7.6	13.9
2465.45	16.4	-62	-67.5	-5.5	2	7.5	12.9
2465.50	16.4	-62	-67.2	-5.2	2	6.4	13.2

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2465.55	16.4	-62	-66.6	-4.6	2	5.6	13.8
2465.60	16.4	-62	-67.4	-5.4	2	6.4	13.0
2465.65	16.4	-62	-67.2	-5.2	2	5.8	13.2
2465.70	16.4	-62	-67.9	-5.9	2	5.5	12.5
2465.75	16.4	-62	-67.3	-5.3	2	4.6	13.1
2465.80	16.4	-62	-67.2	-5.2	2	5.0	13.2
2465.85	16.4	-62	-66.8	-4.8	2	5.7	13.6
2465.90	16.4	-62	-67.5	-5.5	2	4.7	12.9
2465.95	16.4	-62	-66.8	-4.8	2	5.4	13.6
2466.00	16.4	-62	-67.8	-5.8	2	7.2	12.6
2466.05	16.4	-62	-67.8	-5.8	2	6.1	12.6
2466.10	16.4	-62	-67.3	-5.3	2	7.2	13.1
2466.15	16.4	-62	-68.5	-6.5	2	6.3	11.9
2466.20	16.4	-62	-68.2	-6.2	2	8.0	12.2
2466.25	16.4	-62	-66.9	-4.9	2	6.2	13.5
2466.30	16.4	-62	-67.7	-5.7	2	6.7	12.7
2466.35	16.4	-62	-67.8	-5.8	2	6.0	12.6
2466.40	16.4	-62	-68.6	-6.6	2	6.0	11.8
2466.45	16.4	-62	-68.3	-6.3	2	5.5	12.1
2466.50	16.4	-62	-67.9	-5.9	2	6.6	12.5
2466.55	16.4	-62	-68.4	-6.4	2	7.5	12.0
2466.60	16.4	-62	-68.5	-6.5	2	6.1	11.9
2466.65	16.4	-62	-68.3	-6.3	2	7.1	12.1
2466.70	16.4	-62	-68.6	-6.6	2	4.9	11.8
2466.75	16.4	-62	-68.9	-6.9	2	4.9	11.5
2466.80	16.4	-62	-68.4	-6.4	2	8.0	12.0
2466.85	16.4	-62	-68.4	-6.4	2	7.5	12.0
2466.90	16.4	-62	-68.5	-6.5	2	5.9	11.9
2466.95	16.4	-62	-67.4	-5.4	2	7.0	13.0
2467.00	16.4	-62	-67.3	-5.3	2	7.1	13.1
2467.05	16.4	-62	-67.8	-5.8	2	5.4	12.6
2467.10	16.4	-62	-66.8	-4.8	2	7.1	13.6
2467.15	16.4	-62	-65.3	-3.3	2	6.7	15.1
2467.20	16.4	-62	-65.4	-3.4	2	5.1	15.0
2467.25	16.4	-62	-66.3	-4.3	2	7.6	14.1

DW-120 WLAN USB ADAPTOR Jamming Margin Test

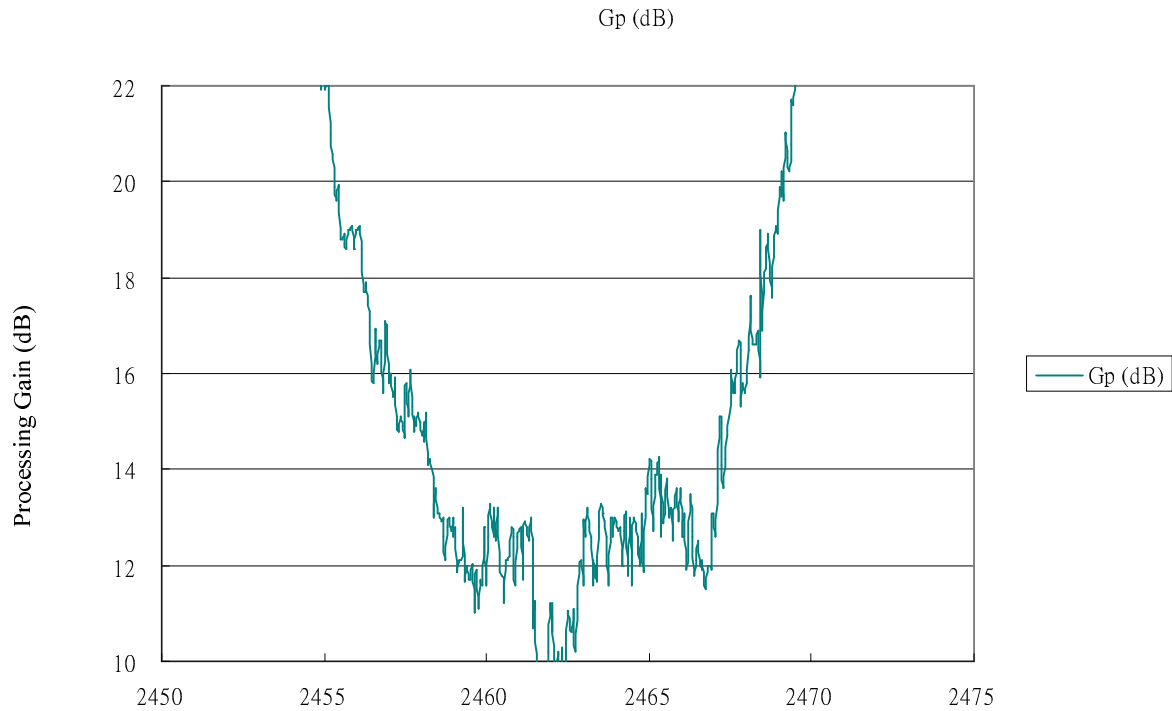
2467.30	16.4	-62	-66.8	-4.8	2	7.7	13.6
2467.35	16.4	-62	-66.2	-4.2	2	6.6	14.2
2467.40	16.4	-62	-65.7	-3.7	2	4.6	14.7
2467.45	16.4	-62	-65.3	-3.3	2	7.3	15.1
2467.50	16.4	-62	-64.8	-2.8	2	7.8	15.6
2467.55	16.4	-62	-64.3	-2.3	2	7.2	16.1
2467.60	16.4	-62	-64.7	-2.7	2	5.4	15.7
2467.65	16.4	-62	-64.8	-2.8	2	5.4	15.6
2467.70	16.4	-62	-64.2	-2.2	2	6.5	16.2
2467.75	16.4	-62	-63.7	-1.7	2	7.7	16.7
2467.80	16.4	-62	-63.9	-1.9	2	4.7	16.5
2467.85	16.4	-62	-65.1	-3.1	2	6.6	15.3
2467.90	16.4	-62	-64.6	-2.6	2	7.2	15.8
2467.95	16.4	-62	-64.8	-2.8	2	7.1	15.6
2468.00	16.4	-62	-64.6	-2.6	2	6.5	15.8
2468.05	16.4	-62	-63.9	-1.9	2	5.7	16.5
2468.10	16.4	-62	-62.8	-0.8	2	5.7	17.6
2468.15	16.4	-62	-63.2	-1.2	2	7.4	17.2
2468.20	16.4	-62	-63.8	-1.8	2	7.0	16.6
2468.25	16.4	-62	-63.8	-1.8	2	5.8	16.6
2468.30	16.4	-62	-63.8	-1.8	2	7.5	16.6
2468.35	16.4	-62	-63.5	-1.5	2	5.0	16.9
2468.40	16.4	-62	-64.4	-2.4	2	4.6	16.0
2468.45	16.4	-62	-61.4	0.6	2	6.6	19.0
2468.50	16.4	-62	-63.5	-1.5	2	7.2	16.9
2468.55	16.4	-62	-62.4	-0.4	2	5.2	18.0
2468.60	16.4	-62	-62.2	-0.2	2	6.9	18.2
2468.65	16.4	-62	-61.5	0.5	2	6.0	18.9
2468.70	16.4	-62	-62.3	-0.3	2	4.7	18.1
2468.75	16.4	-62	-62.8	-0.8	2	6.7	17.6
2468.80	16.4	-62	-62.5	-0.5	2	6.0	17.9
2468.85	16.4	-62	-61.8	0.2	2	7.1	18.6
2468.90	16.4	-62	-61.3	0.7	2	5.1	19.1
2468.95	16.4	-62	-61.5	0.5	2	7.1	18.9
2469.00	16.4	-62	-60.5	1.5	2	4.9	19.9

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2469.05	16.4	-62	-60.7	1.3	2	6.2	19.7
2469.10	16.4	-62	-60.2	1.8	2	4.9	20.2
2469.15	16.4	-62	-60.8	1.2	2	7.1	19.6
2469.20	16.4	-62	-59.4	2.6	2	7.6	21.0
2469.25	16.4	-62	-59.9	2.1	2	7.3	20.5
2469.30	16.4	-62	-60.2	1.8	2	7.8	20.2
2469.35	16.4	-62	-59.6	2.4	2	5.6	20.8
2469.40	16.4	-62	-58.7	3.3	2	4.9	21.7
2469.45	16.4	-62	-58.8	3.2	2	5.4	21.6
2469.50	16.4	-62	-58.3	3.7	2	7.3	22.1
2469.55	16.4	-62	-57.4	4.6	2	4.5	23.0
2469.60	16.4	-62	-57.5	4.5	2	6.2	22.9
2469.65	16.4	-62	-57.0	5.0	2	7.9	23.4
2469.70	16.4	-62	-57.6	4.4	2	6.9	22.8
2469.75	16.4	-62	-56.2	5.8	2	6.4	24.2
2469.80	16.4	-62	-57.3	4.7	2	6.8	23.1
2469.85	16.4	-62	-56.7	5.3	2	7.9	23.7
2469.90	16.4	-62	-56.2	5.8	2	5.6	24.2
2469.95	16.4	-62	-56.7	5.3	2	7.6	23.7
2470.00	16.4	-62	-55.3	6.7	2	5.3	25.1
2470.05	16.4	-62	-55.2	6.8	2	6.6	25.2
2470.10	16.4	-62	-54.7	7.3	2	4.5	25.7
2470.15	16.4	-62	-55.2	6.8	2	7.1	25.2
2470.20	16.4	-62	-54.3	7.7	2	5.0	26.1
2470.25	16.4	-62	-54.2	7.8	2	5.6	26.2
2470.30	16.4	-62	-54.3	7.7	2	5.1	26.1
2470.35	16.4	-62	-54.6	7.4	2	6.3	25.8
2470.40	16.4	-62	-54.3	7.7	2	6.3	26.1
2470.45	16.4	-62	-54.7	7.3	2	7.9	25.7
2470.50	16.4	-62	-54.7	7.3	2	5.8	25.7

Processing Gain(dB)@20th Percentile=12.0

DW-120 WLAN USB ADAPTOR Jamming Margin Test



2Mbps Channel 7 (2442MHz) Processing Gain

$$G_p = (S/N)_o + L_{sys} + (J_r/S_r)$$

Frequency (MHz)	(S/N) _o (dB)	S _r (dBm)	J _r (dBm)	J _r /S _r (dB)	L _{sys} (dB)	FER (%)	G _p (dB)
2433.50	13.3	-62	-58.6	3.4	2	6.2	18.7
2433.55	13.3	-62	-58.7	3.3	2	7.2	18.6
2433.60	13.3	-62	-58.3	3.7	2	6.0	19.0
2433.65	13.3	-62	-59.4	2.6	2	6.9	17.9
2433.70	13.3	-62	-59.2	2.8	2	7.6	18.1
2433.75	13.3	-62	-59.2	2.8	2	4.7	18.1
2433.80	13.3	-62	-59.5	2.5	2	6.8	17.8
2433.85	13.3	-62	-59.1	2.9	2	7.6	18.2
2433.90	13.3	-62	-59	3.0	2	7.6	18.3

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2433.95	13.3	-62	-58.7	3.3	2	4.5	18.6
2434.00	13.3	-62	-58.6	3.4	2	6.5	18.7
2434.05	13.3	-62	-58.8	3.2	2	7.4	18.5
2434.10	13.3	-62	-58.6	3.4	2	7.3	18.7
2434.15	13.3	-62	-58.6	3.4	2	6.3	18.7
2434.20	13.3	-62	-58.9	3.1	2	6.8	18.4
2434.25	13.3	-62	-58.7	3.3	2	7.9	18.6
2434.30	13.3	-62	-58.6	3.4	2	4.9	18.7
2434.35	13.3	-62	-58.8	3.2	2	5.0	18.5
2434.40	13.3	-62	-58.8	3.2	2	5.9	18.5
2434.45	13.3	-62	-59.4	2.6	2	5.8	17.9
2434.50	13.3	-62	-59.3	2.7	2	5.2	18.0
2434.55	13.3	-62	-59.5	2.5	2	7.3	17.8
2434.60	13.3	-62	-59.6	2.4	2	6.3	17.7
2434.65	13.3	-62	-60	2.0	2	4.7	17.3
2434.70	13.3	-62	-60.2	1.8	2	7.3	17.1
2434.75	13.3	-62	-60.1	1.9	2	4.9	17.2
2434.80	13.3	-62	-60.1	1.9	2	6.2	17.2
2434.85	13.3	-62	-60.5	1.5	2	4.8	16.8
2434.90	13.3	-62	-60.1	1.9	2	5.5	17.2
2434.95	13.3	-62	-59.9	2.1	2	7.0	17.4
2435.00	13.3	-62	-59.7	2.3	2	5.7	17.6
2435.05	13.3	-62	-59.4	2.6	2	6.2	17.9
2435.10	13.3	-62	-59.7	2.3	2	4.5	17.6
2435.15	13.3	-62	-59.6	2.4	2	6.9	17.7
2435.20	13.3	-62	-59.8	2.2	2	4.7	17.5
2435.25	13.3	-62	-59.6	2.4	2	7.9	17.7
2435.30	13.3	-62	-59.8	2.2	2	4.7	17.5
2435.35	13.3	-62	-59.8	2.2	2	6.7	17.5
2435.40	13.3	-62	-59.8	2.2	2	5.2	17.5
2435.45	13.3	-62	-60.3	1.7	2	5.2	17.0
2435.50	13.3	-62	-60.3	1.7	2	5.8	17.0
2435.55	13.3	-62	-60.6	1.4	2	4.8	16.7
2435.60	13.3	-62	-61.4	0.6	2	8.0	15.9
2435.65	13.3	-62	-61.1	0.9	2	5.1	16.2

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2435.70	13.3	-62	-61.2	0.8	2	5.2	16.1
2435.75	13.3	-62	-61.6	0.4	2	7.8	15.7
2435.80	13.3	-62	-61.4	0.6	2	6.5	15.9
2435.85	13.3	-62	-61.7	0.3	2	5.1	15.6
2435.90	13.3	-62	-61.3	0.7	2	8.0	16.0
2435.95	13.3	-62	-61.2	0.8	2	5.0	16.1
2436.00	13.3	-62	-60.7	1.3	2	6.6	16.6
2436.05	13.3	-62	-60.2	1.8	2	4.9	17.1
2436.10	13.3	-62	-60.5	1.5	2	7.1	16.8
2436.15	13.3	-62	-59.6	2.4	2	4.6	17.7
2436.20	13.3	-62	-59.9	2.1	2	6.2	17.4
2436.25	13.3	-62	-58.2	3.8	2	7.9	19.1
2436.30	13.3	-62	-58.2	3.8	2	5.8	19.1
2436.35	13.3	-62	-56.7	5.3	2	7.4	20.6
2436.40	13.3	-62	-57.7	4.3	2	6.4	19.6
2436.45	13.3	-62	-57.3	4.7	2	7.7	20.0
2436.50	13.3	-62	-56.7	5.3	2	6.8	20.6
2436.55	13.3	-62	-57.4	4.6	2	6.7	19.9
2436.60	13.3	-62	-57.2	4.8	2	7.4	20.1
2436.65	13.3	-62	-56.8	5.2	2	5.4	20.5
2436.70	13.3	-62	-58.3	3.7	2	7.9	19.0
2436.75	13.3	-62	-58.9	3.1	2	6.4	18.4
2436.80	13.3	-62	-59.5	2.5	2	7.8	17.8
2436.85	13.3	-62	-60.1	1.9	2	6.8	17.2
2436.90	13.3	-62	-60.7	1.3	2	6.0	16.6
2436.95	13.3	-62	-61	1.0	2	6.9	16.3
2437.00	13.3	-62	-61	1.0	2	6.3	16.3
2437.05	13.3	-62	-61.5	0.5	2	6.0	15.8
2437.10	13.3	-62	-61.6	0.4	2	5.8	15.7
2437.15	13.3	-62	-61.6	0.4	2	6.7	15.7
2437.20	13.3	-62	-61.7	0.3	2	7.5	15.6
2437.25	13.3	-62	-61.8	0.2	2	6.2	15.5
2437.30	13.3	-62	-61.8	0.2	2	6.1	15.5
2437.35	13.3	-62	-61.8	0.2	2	5.8	15.5
2437.40	13.3	-62	-61.7	0.3	2	7.7	15.6

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2437.45	13.3	-62	-61.5	0.5	2	6.0	15.8
2437.50	13.3	-62	-61.3	0.7	2	5.2	16.0
2437.55	13.3	-62	-61.3	0.7	2	4.5	16.0
2437.60	13.3	-62	-61.3	0.7	2	6.8	16.0
2437.65	13.3	-62	-61.3	0.7	2	5.7	16.0
2437.70	13.3	-62	-61.2	0.8	2	6.7	16.1
2437.75	13.3	-62	-61.2	0.8	2	6.1	16.1
2437.80	13.3	-62	-61.2	0.8	2	6.0	16.1
2437.85	13.3	-62	-61.2	0.8	2	4.8	16.1
2437.90	13.3	-62	-61.3	0.7	2	6.3	16.0
2437.95	13.3	-62	-61.3	0.7	2	5.9	16.0
2438.00	13.3	-62	-61.3	0.7	2	7.3	16.0
2438.05	13.3	-62	-61.5	0.5	2	6.5	15.8
2438.10	13.3	-62	-61.8	0.2	2	5.3	15.5
2438.15	13.3	-62	-61.8	0.2	2	6.8	15.5
2438.20	13.3	-62	-61.9	0.1	2	6.5	15.4
2438.25	13.3	-62	-61.8	0.2	2	7.8	15.5
2438.30	13.3	-62	-61.9	0.1	2	4.5	15.4
2438.35	13.3	-62	-62	0.0	2	6.9	15.3
2438.40	13.3	-62	-61.9	0.1	2	7.7	15.4
2438.45	13.3	-62	-61.8	0.2	2	7.9	15.5
2438.50	13.3	-62	-61.9	0.1	2	7.0	15.4
2438.55	13.3	-62	-61.6	0.4	2	5.6	15.7
2438.60	13.3	-62	-61.5	0.5	2	7.8	15.8
2438.65	13.3	-62	-61.5	0.5	2	5.9	15.8
2438.70	13.3	-62	-61.6	0.4	2	7.5	15.7
2438.75	13.3	-62	-61.5	0.5	2	6.6	15.8
2438.80	13.3	-62	-61.5	0.5	2	7.0	15.8
2438.85	13.3	-62	-61.7	0.3	2	7.7	15.6
2438.90	13.3	-62	-61.9	0.1	2	7.0	15.4
2438.95	13.3	-62	-61.8	0.2	2	7.8	15.5
2439.00	13.3	-62	-61.6	0.4	2	6.3	15.7
2439.05	13.3	-62	-61.9	0.1	2	6.1	15.4
2439.10	13.3	-62	-62	0.0	2	5.6	15.3
2439.15	13.3	-62	-61.9	0.1	2	7.8	15.4

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2439.20	13.3	-62	-62.2	-0.2	2	6.6	15.1
2439.25	13.3	-62	-62.1	-0.1	2	6.6	15.2
2439.30	13.3	-62	-62	0.0	2	6.3	15.3
2439.35	13.3	-62	-62.1	-0.1	2	5.5	15.2
2439.40	13.3	-62	-62.4	-0.4	2	6.8	14.9
2439.45	13.3	-62	-61.9	0.1	2	6.1	15.4
2439.50	13.3	-62	-62.5	-0.5	2	5.8	14.8
2439.55	13.3	-62	-61.2	0.8	2	7.2	16.1
2439.60	13.3	-62	-61.6	0.4	2	7.1	15.7
2439.65	13.3	-62	-61.5	0.5	2	6.6	15.8
2439.70	13.3	-62	-61.6	0.4	2	6.2	15.7
2439.75	13.3	-62	-61.4	0.6	2	5.2	15.9
2439.80	13.3	-62	-61.4	0.6	2	5.5	15.9
2439.85	13.3	-62	-62.2	-0.2	2	7.3	15.1
2439.90	13.3	-62	-62.5	-0.5	2	5.4	14.8
2439.95	13.3	-62	-61.9	0.1	2	6.4	15.4
2440.00	13.3	-62	-61.9	0.1	2	7.4	15.4
2440.05	13.3	-62	-62	0.0	2	5.6	15.3
2440.10	13.3	-62	-62.1	-0.1	2	4.9	15.2
2440.15	13.3	-62	-62.1	-0.1	2	6.9	15.2
2440.20	13.3	-62	-62.7	-0.7	2	7.4	14.6
2440.25	13.3	-62	-62.9	-0.9	2	6.6	14.4
2440.30	13.3	-62	-62.7	-0.7	2	6.2	14.6
2440.35	13.3	-62	-62.6	-0.6	2	5.2	14.7
2440.40	13.3	-62	-63.5	-1.5	2	5.7	13.8
2440.45	13.3	-62	-62.5	-0.5	2	6.6	14.8
2440.50	13.3	-62	-63	-1.0	2	4.8	14.3
2440.55	13.3	-62	-62.2	-0.2	2	7.7	15.1
2440.60	13.3	-62	-61.8	0.2	2	7.3	15.5
2440.65	13.3	-62	-61.6	0.4	2	5.2	15.7
2440.70	13.3	-62	-61.7	0.3	2	4.9	15.6
2440.75	13.3	-62	-61.4	0.6	2	5.8	15.9
2440.80	13.3	-62	-61.7	0.3	2	6.0	15.6
2440.85	13.3	-62	-62.3	-0.3	2	6.7	15.0
2440.90	13.3	-62	-62.9	-0.9	2	6.7	14.4

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2440.95	13.3	-62	-62.1	-0.1	2	5.8	15.2
2441.00	13.3	-62	-62.1	-0.1	2	6.0	15.2
2441.05	13.3	-62	-62	0.0	2	6.5	15.3
2441.10	13.3	-62	-62.1	-0.1	2	7.0	15.2
2441.15	13.3	-62	-62.7	-0.7	2	4.9	14.6
2441.20	13.3	-62	-62.5	-0.5	2	6.0	14.8
2441.25	13.3	-62	-62.4	-0.4	2	5.1	14.9
2441.30	13.3	-62	-62.5	-0.5	2	4.8	14.8
2441.35	13.3	-62	-63.8	-1.8	2	6.8	13.5
2441.40	13.3	-62	-63.5	-1.5	2	6.8	13.8
2441.45	13.3	-62	-62.9	-0.9	2	5.8	14.4
2441.50	13.3	-62	-63.4	-1.4	2	7.4	13.9
2441.55	13.3	-62	-62.4	-0.4	2	6.3	14.9
2441.60	13.3	-62	-61.7	0.3	2	6.1	15.6
2441.65	13.3	-62	-60.9	1.1	2	7.3	16.4
2441.70	13.3	-62	-60.5	1.5	2	5.3	16.8
2441.75	13.3	-62	-59.4	2.6	2	6.1	17.9
2441.80	13.3	-62	-58.2	3.8	2	4.8	19.1
2441.85	13.3	-62	-58.7	3.3	2	5.0	18.6
2441.90	13.3	-62	-58.5	3.5	2	6.0	18.8
2441.95	13.3	-62	-58.3	3.7	2	7.0	19.0
2442.00	13.3	-62	-58	4.0	2	5.8	19.3
2442.05	13.3	-62	-58.3	3.7	2	7.1	19.0
2442.10	13.3	-62	-58.2	3.8	2	8.0	19.1
2442.15	13.3	-62	-58.5	3.5	2	7.6	18.8
2442.20	13.3	-62	-59.1	2.9	2	6.8	18.2
2442.25	13.3	-62	-59.7	2.3	2	5.0	17.6
2442.30	13.3	-62	-60.6	1.4	2	7.6	16.7
2442.35	13.3	-62	-61.4	0.6	2	7.1	15.9
2442.40	13.3	-62	-61.8	0.2	2	5.9	15.5
2442.45	13.3	-62	-61.9	0.1	2	4.8	15.4
2442.50	13.3	-62	-62.9	-0.9	2	7.1	14.4
2442.55	13.3	-62	-62.4	-0.4	2	5.0	14.9
2442.60	13.3	-62	-62.6	-0.6	2	7.5	14.7
2442.65	13.3	-62	-62.5	-0.5	2	7.7	14.8

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2442.70	13.3	-62	-62.5	-0.5	2	5.0	14.8
2442.75	13.3	-62	-62.9	-0.9	2	6.5	14.4
2442.80	13.3	-62	-62.5	-0.5	2	5.3	14.8
2442.85	13.3	-62	-63.5	-1.5	2	7.4	13.8
2442.90	13.3	-62	-63.7	-1.7	2	6.9	13.6
2442.95	13.3	-62	-62.4	-0.4	2	6.8	14.9
2443.00	13.3	-62	-62	0.0	2	6.6	15.3
2443.05	13.3	-62	-61.9	0.1	2	6.1	15.4
2443.10	13.3	-62	-61.7	0.3	2	5.8	15.6
2443.15	13.3	-62	-61.4	0.6	2	7.4	15.9
2443.20	13.3	-62	-61.9	0.1	2	5.9	15.4
2443.25	13.3	-62	-61.7	0.3	2	7.0	15.6
2443.30	13.3	-62	-61.2	0.8	2	7.3	16.1
2443.35	13.3	-62	-62	0.0	2	4.7	15.3
2443.40	13.3	-62	-62.6	-0.6	2	7.8	14.7
2443.45	13.3	-62	-62.1	-0.1	2	6.7	15.2
2443.50	13.3	-62	-62.8	-0.8	2	7.9	14.5
2443.55	13.3	-62	-62.7	-0.7	2	4.6	14.6
2443.60	13.3	-62	-62.7	-0.7	2	6.1	14.6
2443.65	13.3	-62	-62.3	-0.3	2	7.0	15.0
2443.70	13.3	-62	-62.3	-0.3	2	7.9	15.0
2443.75	13.3	-62	-62.4	-0.4	2	7.0	14.9
2443.80	13.3	-62	-62.2	-0.2	2	5.0	15.1
2443.85	13.3	-62	-63	-1.0	2	4.5	14.3
2443.90	13.3	-62	-63.7	-1.7	2	4.7	13.6
2443.95	13.3	-62	-62.2	-0.2	2	4.5	15.1
2444.00	13.3	-62	-61.8	0.2	2	7.5	15.5
2444.05	13.3	-62	-61.8	0.2	2	6.5	15.5
2444.10	13.3	-62	-61.7	0.3	2	6.4	15.6
2444.15	13.3	-62	-61.6	0.4	2	4.6	15.7
2444.20	13.3	-62	-61.8	0.2	2	4.8	15.5
2444.25	13.3	-62	-61.7	0.3	2	5.8	15.6
2444.30	13.3	-62	-61.7	0.3	2	7.5	15.6
2444.35	13.3	-62	-62.5	-0.5	2	4.9	14.8
2444.40	13.3	-62	-62.2	-0.2	2	6.7	15.1

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2444.45	13.3	-62	-62	0.0	2	5.8	15.3
2444.50	13.3	-62	-62.5	-0.5	2	6.2	14.8
2444.55	13.3	-62	-62.1	-0.1	2	6.7	15.2
2444.60	13.3	-62	-62.2	-0.2	2	5.8	15.1
2444.65	13.3	-62	-62.7	-0.7	2	7.7	14.6
2444.70	13.3	-62	-62.4	-0.4	2	7.2	14.9
2444.75	13.3	-62	-62.5	-0.5	2	7.0	14.8
2444.80	13.3	-62	-62.3	-0.3	2	7.7	15.0
2444.85	13.3	-62	-62.5	-0.5	2	6.1	14.8
2444.90	13.3	-62	-62.2	-0.2	2	4.9	15.1
2444.95	13.3	-62	-62.2	-0.2	2	5.0	15.1
2445.00	13.3	-62	-61.8	0.2	2	6.3	15.5
2445.05	13.3	-62	-61.9	0.1	2	5.4	15.4
2445.10	13.3	-62	-61.2	0.8	2	5.9	16.1
2445.15	13.3	-62	-61.8	0.2	2	5.1	15.5
2445.20	13.3	-62	-61.9	0.1	2	6.9	15.4
2445.25	13.3	-62	-61.8	0.2	2	6.1	15.5
2445.30	13.3	-62	-61.8	0.2	2	6.7	15.5
2445.35	13.3	-62	-61.7	0.3	2	4.8	15.6
2445.40	13.3	-62	-61.2	0.8	2	5.7	16.1
2445.45	13.3	-62	-61.9	0.1	2	6.7	15.4
2445.50	13.3	-62	-62.1	-0.1	2	7.2	15.2
2445.55	13.3	-62	-62	0.0	2	5.3	15.3
2445.60	13.3	-62	-62	0.0	2	6.1	15.3
2445.65	13.3	-62	-62.1	-0.1	2	6.7	15.2
2445.70	13.3	-62	-62.1	-0.1	2	5.3	15.2
2445.75	13.3	-62	-62	0.0	2	4.9	15.3
2445.80	13.3	-62	-61.9	0.1	2	6.5	15.4
2445.85	13.3	-62	-61.2	0.8	2	6.1	16.1
2445.90	13.3	-62	-61.9	0.1	2	5.1	15.4
2445.95	13.3	-62	-61.7	0.3	2	6.1	15.6
2446.00	13.3	-62	-61.4	0.6	2	6.0	15.9
2446.05	13.3	-62	-61.2	0.8	2	7.5	16.1
2446.10	13.3	-62	-61.4	0.6	2	5.5	15.9
2446.15	13.3	-62	-61.2	0.8	2	6.0	16.1

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2446.20	13.3	-62	-61.7	0.3	2	6.7	15.6
2446.25	13.3	-62	-61.2	0.8	2	5.1	16.1
2446.30	13.3	-62	-61.3	0.7	2	5.4	16.0
2446.35	13.3	-62	-61.8	0.2	2	6.5	15.5
2446.40	13.3	-62	-61.3	0.7	2	6.2	16.0
2446.45	13.3	-62	-61.2	0.8	2	4.9	16.1
2446.50	13.3	-62	-61.4	0.6	2	6.8	15.9
2446.55	13.3	-62	-61.4	0.6	2	6.3	15.9
2446.60	13.3	-62	-61.9	0.1	2	8.0	15.4
2446.65	13.3	-62	-61.8	0.2	2	7.7	15.5
2446.70	13.3	-62	-61.9	0.1	2	5.4	15.4
2446.75	13.3	-62	-61.8	0.2	2	4.7	15.5
2446.80	13.3	-62	-61.8	0.2	2	5.5	15.5
2446.85	13.3	-62	-61.9	0.1	2	7.6	15.4
2446.90	13.3	-62	-61.2	0.8	2	6.8	16.1
2446.95	13.3	-62	-61.6	0.4	2	5.0	15.7
2447.00	13.3	-62	-61.2	0.8	2	5.7	16.1
2447.05	13.3	-62	-61.1	0.9	2	6.8	16.2
2447.10	13.3	-62	-60.7	1.3	2	5.7	16.6
2447.15	13.3	-62	-59.9	2.1	2	6.2	17.4
2447.20	13.3	-62	-59.6	2.4	2	4.6	17.7
2447.25	13.3	-62	-58.2	3.8	2	6.3	19.1
2447.30	13.3	-62	-58.7	3.3	2	5.8	18.6
2447.35	13.3	-62	-56.8	5.2	2	7.5	20.5
2447.40	13.3	-62	-57.2	4.8	2	7.3	20.1
2447.45	13.3	-62	-57	5.0	2	5.2	20.3
2447.50	13.3	-62	-56.8	5.2	2	6.1	20.5
2447.55	13.3	-62	-56.5	5.5	2	7.8	20.8
2447.60	13.3	-62	-56.8	5.2	2	5.8	20.5
2447.65	13.3	-62	-56.8	5.2	2	5.6	20.5
2447.70	13.3	-62	-57.8	4.2	2	7.0	19.5
2447.75	13.3	-62	-58.3	3.7	2	6.8	19.0
2447.80	13.3	-62	-59.1	2.9	2	5.9	18.2
2447.85	13.3	-62	-59.5	2.5	2	4.7	17.8
2447.90	13.3	-62	-60.3	1.7	2	7.3	17.0

DW-120 WLAN USB ADAPTOR Jamming Margin Test

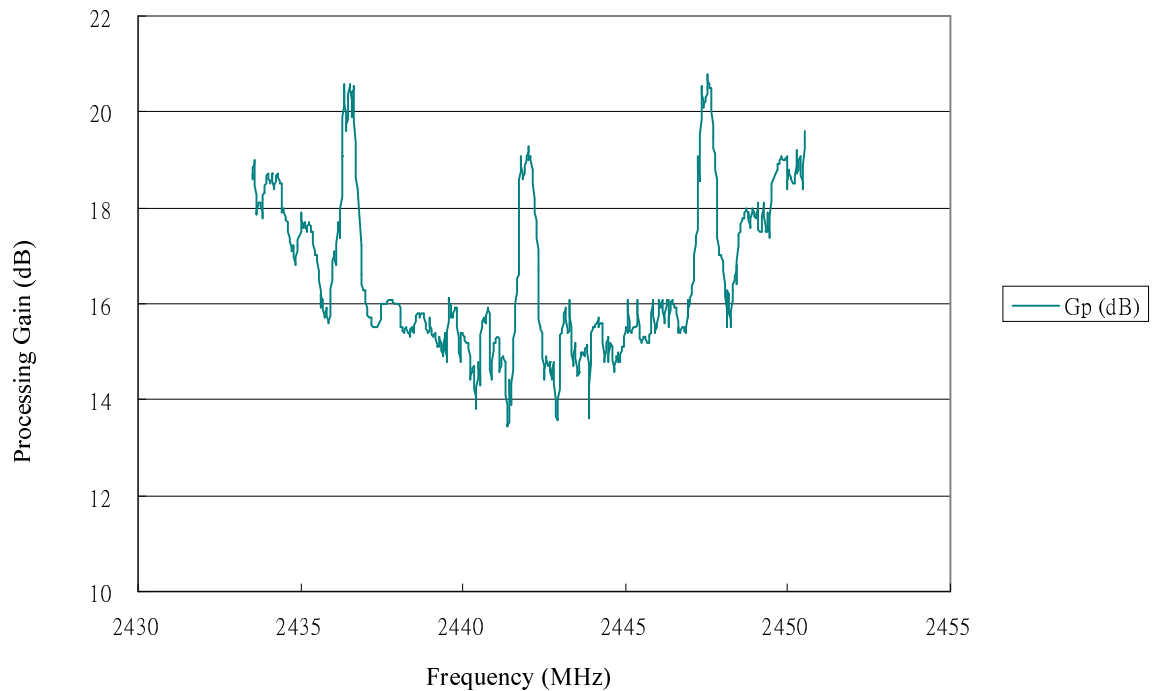
2447.95	13.3	-62	-60.3	1.7	2	5.2	17.0
2448.00	13.3	-62	-60.4	1.6	2	6.4	16.9
2448.05	13.3	-62	-60.9	1.1	2	4.8	16.4
2448.10	13.3	-62	-61.8	0.2	2	7.7	15.5
2448.15	13.3	-62	-61	1.0	2	4.8	16.3
2448.20	13.3	-62	-61.1	0.9	2	7.2	16.2
2448.25	13.3	-62	-61.8	0.2	2	6.3	15.5
2448.30	13.3	-62	-61	1.0	2	7.3	16.3
2448.35	13.3	-62	-60.8	1.2	2	6.9	16.5
2448.40	13.3	-62	-60.5	1.5	2	6.7	16.8
2448.45	13.3	-62	-60.9	1.1	2	5.9	16.4
2448.50	13.3	-62	-59.9	2.1	2	5.1	17.4
2448.55	13.3	-62	-59.8	2.2	2	7.7	17.5
2448.60	13.3	-62	-59.5	2.5	2	6.7	17.8
2448.65	13.3	-62	-59.5	2.5	2	4.6	17.8
2448.70	13.3	-62	-59.3	2.7	2	7.4	18.0
2448.75	13.3	-62	-59.5	2.5	2	7.9	17.8
2448.80	13.3	-62	-59.4	2.6	2	7.7	17.9
2448.85	13.3	-62	-59.7	2.3	2	4.6	17.6
2448.90	13.3	-62	-59.3	2.7	2	5.2	18.0
2448.95	13.3	-62	-59.4	2.6	2	7.8	17.9
2449.00	13.3	-62	-59.5	2.5	2	7.7	17.8
2449.05	13.3	-62	-59.2	2.8	2	5.2	18.1
2449.10	13.3	-62	-59.7	2.3	2	4.6	17.6
2449.15	13.3	-62	-59.8	2.2	2	7.3	17.5
2449.20	13.3	-62	-59.8	2.2	2	6.0	17.5
2449.25	13.3	-62	-59.2	2.8	2	4.9	18.1
2449.30	13.3	-62	-59.8	2.2	2	6.7	17.5
2449.35	13.3	-62	-59.7	2.3	2	7.6	17.6
2449.40	13.3	-62	-59.4	2.6	2	6.2	17.9
2449.45	13.3	-62	-59.91	2.1	2	7.5	17.4
2449.50	13.3	-62	-58.9	3.1	2	7.5	18.4
2449.55	13.3	-62	-58.7	3.3	2	7.0	18.6
2449.60	13.3	-62	-58.6	3.4	2	6.2	18.7
2449.65	13.3	-62	-58.5	3.5	2	4.9	18.8

DW-120 WLAN USB ADAPTOR Jamming Margin Test

2449.70	13.3	-62	-58.4	3.6	2	4.7	18.9
2449.75	13.3	-62	-58.4	3.6	2	4.8	18.9
2449.80	13.3	-62	-58.2	3.8	2	7.5	19.1
2449.85	13.3	-62	-58.3	3.7	2	6.4	19.0
2449.90	13.3	-62	-58.3	3.7	2	7.9	19.0
2449.95	13.3	-62	-58.2	3.8	2	7.6	19.1
2450.00	13.3	-62	-58.9	3.1	2	7.8	18.4
2450.05	13.3	-62	-58.5	3.5	2	4.9	18.8
2450.10	13.3	-62	-58.7	3.3	2	5.6	18.6
2450.15	13.3	-62	-58.8	3.2	2	6.3	18.5
2450.20	13.3	-62	-58.8	3.2	2	5.8	18.5
2450.25	13.3	-62	-58.1	3.9	2	7.6	19.2
2450.30	13.3	-62	-58.6	3.4	2	5.0	18.7
2450.35	13.3	-62	-58.5	3.5	2	6.0	18.8
2450.40	13.3	-62	-58.2	3.8	2	6.9	19.1
2450.45	13.3	-62	-58.9	3.1	2	7.0	18.4
2450.50	13.3	-62	-57.7	4.3	2	5.6	19.6

Processing Gain(dB)@20th Percentile=15.3

Gp (dB)



9. EMI Reduction Method During Compliance Testing

No modification was made during testing.

10. Attachment

Attachment 1: EUT Test Photographs Number of Pages : 3

Attachment 2: EUT Detailed Photographs Number of Pages : 5

Attachment 1 : EUT Test Photographs

Attachment 2 : EUT Detailed Photographs