

Product Name	ADSL2/2+ 11n Wireless Router
Model No	ASW915N+, M505N
FCC ID.	RK9-ASW915N

Applicant	CastleNet Technology Inc.
Address	No.64, Chung-Shan Rd. Tu-Cheng City, Taipei 236 Taiwan

Date of Receipt	July 20, 2009
Issue Date	Aug. 21, 2009
Report No.	097337R-RFUSP42V01
Report Version	V1.0

The test results relate only to the samples tested.

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# Test Report Certification

Issue Date: Aug. 21, 2009 Report No.: 097337R-RFUSP42V01



Accredited by NIST (NVLAP) NVLAP Lab Code: 200533-0

Product Name	ADSL2/2+ 11n Wireless Router		
Applicant	CastleNet Technology Inc.		
Address	No.64, Chung-Shan Rd. Tu-Cheng City, Taipei 236 Taiwan		
Manufacturer	CastleNet Technology Inc.		
Model No.	ASW915N+, M505N		
EUT Rated Voltage	AC 100-240V /50-60Hz		
EUT Test Voltage	AC 120V/60Hz		
Trade Name	CastleNet		
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2008		
	ANSI C63.4: 2003		
Test Result	NVLAP Lab Code: 200533-0		

The test results relate only to the samples tested.

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

## **1.1. EUT Description**

Product Name	ADSL2/2+ 11n Wireless Router		
Trade Name	CastleNet		
Model No.	ASW915N+, M505N		
FCC ID.	RK9-ASW915N		
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW		
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7		
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: 13-300Mbps		
Type of Modulation	802.11b:DSSS		
	DBPSK, DQPSK, CCK		
	802.11g/n:OFDM		
	BPSK, QPSK, 16QAM, 64QAM		
Antenna Type	Dipole		
Antenna Gain	Refer to the table "Antenna List"		
Channel Control	Auto		
Power Adapter (1)	MFR: UMEC, M/N: UP0121A-12PA		
	Input: AC 100-240V, 50/60Hz, 0.4A MAX		
	Output: DC +12V, 1A, 12W MAX		
	Cable out: Non-Shielded, 1.6m		
Power Adapter (2)	MFR: OEM, M/N: ADS0129-W 120110		
	Input: AC 100-240V, 50-60Hz, 0.5A		
	Output: DC 12V, 1.0A		
	Cable Out: Non-Shielded, 1.6m		

#### Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	KINSUN	6602113053-300	1.62dBi in 2.4 GHz

Note: The antenna of EUT is conform to FCC 15.203.

802.11b/g/n-20MHz Center Frequency of Each Channel:

U		1 2					
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		
802 11n 40MHz Center Frequency of Each Channel							
Channel	Emaginament	Channel	English English	Channal	English	Channal	Engavonar
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	rrequency
Channel 01:	2422 MHz	Channel 02:	2427 MHz	Channel 03:	2432 MHz	Channel 04:	2437 MHz
Channel 05:	2442 MHz	Channel 06:	2447 MHz	Channel 07:	2452 MHz		

- 1. The EUT is an ADSL2/2+ 11n Wireless Router with a built-in 2.4GHz WLAN transceiver.
- 2. The EUT is including two models for different marketing requirement.
- 3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- 4. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps \$\sigma 802.11g is 6Mbps \$\sigma 802.11n(20M-BW) is 13Mbps and \$\sigma 802.11n(40M-BW) is 27Mbps)
- 5. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices
- 6. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

## **1.2.** Operational Description

The EUT is an ADSL2/2+ 11n Wireless Router with 11 channels. This device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps and the device of RF carrier is DBPSK, DQPSK and CCK (IEEE 802.11b). The device provided of eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11g).

The device provided of eight kinds of transmitting speed 13,26,39,52,78,104,117and 130Mbps in 802.11n(20M-BW) mode and 27,54,81,108,162,216,243,270 and 300Mbps(40M-BW) the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11n), the IEEE 802.11n is Multiple In, Multiple Out" (MIMO) technology and two antennas to support 2(Transmit) \* 2(Receive) MIMO technology.

This ADSL2/2+ 11n Wireless Router, compliant with IEEE 802.11b and IEEE 802.11g/n, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direst Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM) radio transmission, the ADSL2/2+ 11n Wireless Router Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11b and IEEE 802.11g/n network.

Test Mode:	Mode 1: Transmitter (802.11b 11Mbps)
	Mode 2: Transmitter (802.11g 54Mbps)
	Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW)
	Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW)

Note:

1.  $802.11b \cdot 802.11g$  are tested by chain A.

2.  $802.11n(20M-BW) \sim 802.11n(40M-BW)$  are testd by chain A + chain B

## **1.3.** 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.	Power Cord
(1)	Notebook PC	DELL	РРТ	N/A	Non-Shielded, 0.8m
(2)	IPod nano	Apple	A1199	5U705F9HVQ5	N/A

Signal Cable Type		Signal cable Description
А	RJ-11 Cable	Non-Shielded, 2m
В	RJ-45 Cable	Non-Shielded, 2m
С	RJ-45 Cable	Non-Shielded, 2m
D	RJ-45 Cable	Non-Shielded, 2m
E	RJ-45 Cable	Non-Shielded, 2m
F	IPOD Cable	Non-Shielded, 1.2m

## 1.4. Configuration of Tested System



## **1.5.** EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute "TELNET.exe" on the EUT.
- (3) Configure the test mode, the test channel, and the data rate to start the continuous transmit
- (4) Verify that the EUT works properly.

### 1.6. 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

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Site Description: File on

Federal Communications Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046 Registration Number: 92195

Accreditation on NVLAP NVLAP Lab Code: 200533-0





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FCC Accreditation Number: TW1014



## 2. Conducted Emission

## 2.1. Test Equipment

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, 2009	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2009	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2009	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2009	
5	No.1 Shielded Roor	n		N/A	

Note: All instruments are calibrated every one year.

## 2.2. Test Setup



## 2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit						
Frequency	Limits					
MHz	QP	AVG				
0.15 - 0.50	66-56	56-46				
0.50-5.0	56	46				
5.0 - 30	60	50				

#### 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: 2003 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

#### 2.5. Uncertainty

± 2.26 dB

## 2.6. Test Result of Conducted Emission

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW) (2437MHz)-Adapter 1

Frequency	Correct	Reading	Reading Measurement		Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV dBuV		dBuV
Line 1					
Quasi-Peak					
0.173	9.734	34.790	44.525	-20.818	65.343
0.248	9.677	35.810	45.487	-17.713	63.200
0.338	9.650	35.490	45.140	-15.489	60.629
0.498	9.640	31.090	40.730	-15.327	56.057
0.623	9.630	36.100	45.730	-10.270	56.000
1.330	9.670	32.920	42.590	-13.410	56.000
Average					
0.173	9.734	24.870	34.605	-20.738	55.343
0.248	9.677	25.500	35.177	-18.023	53.200
0.338	9.650	26.150	35.800	-14.829	50.629
0.498	9.640	19.500	29.140	-16.917	46.057
0.623	9.630	25.920	35.550	-10.450	46.000
1.330	9.670	22.420	32.090	-13.910	46.000

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. "means the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor

Product	: ADSL2/2+ 11n Wireless Router								
Test Item	: Conducted Emission Test								
Power Line	: Line 2	<b>T</b>	11 MCC0	40NA DIVIN (2427N					
lest Mode	: Mode 4:	Transmitter (802	.11n MCS8 2/Mbps 4	40M-BW) (243/N	(IHZ)-Adapter I				
Frequency	Correct	Reading	Measurement	Margin	Limit				
	Factor	Level	Level						
MHz	dB	dBuV	dBuV	dB	dBuV				
Line 2									
Quasi-Peak									
0.173	9.739	45.400	55.139	-10.204	65.343				
0.252	9.685	38.610	48.295	-14.791	63.086				
0.505	9.640	39.120	48.760	-7.240	56.000				
0.978	9.670	36.050	45.720	-10.280	56.000				
3.568	9.700	34.780	44.480	-11.520	56.000				
12.224	9.880	25.700	35.580	-24.420	60.000				
Average									
0.173	9.739	36.130	45.869	-9.474	55.343				
0.252	9.685	28.150	37.835	-15.251	53.086				
0.505	9.640	32.070	41.710	-4.290	46.000				
0.978	9.670	23.540	33.210	-12.790	46.000				
3.568	9.700	24.550	34.250	-11.750	46.000				
12.224	9.880	18.510	28.390	-21.610	50.000				

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. "means the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor

Product	: ADSL2/2+ 11n Wireless Router								
Test Item	: Conducted Emission Test								
Power Line	: Line 1								
Test Mode	: Mode 4: 7	Fransmitter (802	.11n MCS8 27Mbps 4	40M-BW) (2437N	(Hz)-Adapter 2				
Frequency	Correct	Reading	Measurement	Margin	Limit				
	Factor	Level	Level						
MHz	dB	dBuV	dBuV	dB	dBuV				
Line 1									
Quasi-Peak									
0.189	9.820	37.570	47.390	-17.496	64.886				
0.283	9.830	27.210	37.040	-25.160	62.200				
0.478	9.820	25.530	35.350	-21.279	56.629				
2.189	9.850	27.930	37.780	-18.220	56.000				
3.224	9.860	27.520	37.380	-18.620	56.000				
16.087	10.190	22.630	32.820	-27.180	60.000				
Average									
0.189	9.820	26.180	36.000	-18.886	54.886				
0.283	9.830	14.710	24.540	-27.660	52.200				
0.478	9.820	15.980	25.800	-20.829	46.629				
2.189	9.850	19.360	29.210	-16.790	46.000				
3.224	9.860	19.610	29.470	-16.530	46.000				
16.087	10.190	15.640	25.830	-24.170	50.000				

- 4. All Reading Levels are Quasi-Peak and average value.
- 5. "means the worst emission level.
- 6. Measurement Level = Reading Level + Correct Factor

Product	: ADSL2/2+ 11n Wireless Router								
Test Item	: Conducted Emission Test								
Power Line	: Line 2								
Test Mode	: Mode 4:	Transmitter (802	.11n MCS8 27Mbps	40M-BW) (2437N	/Hz)-Adapter 2				
Frequency	Correct	Reading	Measurement	Margin	Limit				
	Factor	Level	Level						
MHz	dB	dBuV	dBuV	dB	dBuV				
Line 2									
Quasi-Peak									
0.201	9.860	28.720	38.580	-25.963	64.543				
0.255	9.858	31.520	41.378	-21.622	63.000				
1.009	9.830	27.670	37.500	-18.500	56.000				
1.908	9.850	30.600	40.450	-15.550	56.000				
3.306	9.860	28.530	38.390	-17.610	56.000				
16.650	10.220	22.280	32.500	-27.500	60.000				
Average									
0.201	9.860	14.490	24.350	-30.193	54.543				
0.255	9.858	18.430	28.288	-24.712	53.000				
1.009	9.830	17.820	27.650	-18.350	46.000				
1.908	9.850	21.500	31.350	-14.650	46.000				
3.306	9.860	20.180	30.040	-15.960	46.000				
16.650	10.220	15.530	25.750	-24.250	50.000				

4. All Reading Levels are Quasi-Peak and average value.

5. "means the worst emission level.

Measurement Level = Reading Level + Correct Factor

## **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.
	Spectrum Analyzer	R&S	FSP40 / 100170	Nov, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2009
Х	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2009

Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.
- 3. The power combiner is used for measure 11n mode.

#### 3.2. Test Setup

Conducted Measurement



#### 3.3. Limits

The maximum peak power shall be less 1 Watt.

#### **3.4.** Test Procedure

The EUT was tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

#### 3.5. Uncertainty

± 1.27 dB



## **3.6.** Test Result of Peak Power Output

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 11Mbps)

Cable Loss=0.5dB		Peak Power Output					
		Average	Peak				
Channel No.	Frequency (MHz)	For different Data Rate (Mbps)				Power	Required Limit
		1	2	5.5	11	11	
1	2412.00				14.87	19.21	1Watt= 30 dBm
6	2437.00	13.82	14.13	14.69	14.92	19.16	1Watt= 30 dBm
11	2462.00				14.87	18.94	1Watt= 30 dBm

Note:

1. Peak Power Output Value = Reading value on peak power meter + cable loss

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 54Mbps)

Cable	e Loss=0.5dB					]	Peak I	Power	Outp	ut	
				А	verage	e Pow	er			Peak	
Channel No.	Frequency (MHz)		For different Data Rate (Mbps)					Power	Required Limit		
		6	9	12	18	24	36	48	54	54	
1	2412.00								5.81	17.17	1Watt= 30 dBm
6	2437.00	5.5	5.63	5.81	5.92	6.05	6.12	6.33	6.67	17.11	1Watt= 30 dBm
11	2462.00								6.05	16.55	1Watt= 30 dBm

1. Peak Power Output Value =Reading value on peak power meter + cable loss

- Product : ADSL2/2+ 11n Wireless Router
- Test Item : Peak Power Output Data
- Test Site : No.3 OATS
- Test Mode : Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW)

Cable	Loss=0.5dB	Peak Power Output									
			Average Power						Peak		
Channel No.	Frequency (MHz)		For different Data Rate (Mbps)								Required Limit
		13	26	39	52	78	104	117	130	13	
1	2412.00	13.97							-	24.55	1Watt= 30 dBm
6	2437.00	10.13	9.87	9.52	9.33	9.15	9.02	8.73	8.61	20.03	1Watt= 30 dBm
11	2462.00	13.78								24.66	1Watt= $30$ dBm

1. Peak Power Output Value =Reading value on peak power meter + cable loss

2. The power combiner is used for measure 11n mode.

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW)

Cable	Loss=0.5dB	Peak Power Output           Peak Power Output           Power Output <th< th=""><th></th></th<>									
		Average Power									
Channel No. Frequency (MHz)			For different Data Rate (Mbps)								Required Limit
	27	54	81	108	162	216	243	270	27		
1	2422.00	9.66								19.81	1Watt= 30 dBm
4	2437.00	10.04	9.88	9.62	9.5	9.31	9.1	8.75	8.53	21.3	1Watt= 30 dBm
7	2452.00	10.45								21.56	1Watt= 30 dBm

1. Peak Power Output Value =Reading value on peak power meter + cable loss

2. The power combiner is used for measure 11n mode.

## 4. Radiated Emission

#### 4.1. Test Equipment

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

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	Х	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2008
	Х	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2009
	Х	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2008
	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
	Х	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2009
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Χ	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

2. The test instruments marked with "X" are used to measure the final test results.

#### 4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



## 4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits							
Frequency MHz	uV/m @3m	dBuV/m@3m					
30-88	100	40					
88-216	150	43.5					
216-960	200	46					
Above 960	500	54					

Remarks: E field strength  $(dBuV/m) = 20 \log E$  field strength (uV/m)

#### 4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 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 is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement. The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB beamwidth of the antenna. The worst radiated emission is measured in the Open Area Test Site on the Final Measurement. The frequency range from 30MHz to 10th harminics is checked.

#### 4.5. Uncertainty

- ± 3.9 dB above 1GHz
- ± 3.8 dB below 1GHz

#### 4.6. Test Result of Radiated Emission

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 11Mbps) (2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.478	52.580	56.058	-17.942	74.000
7236.000	7.874	42.310	50.184	-23.816	74.000
9648.000	13.283	41.650	54.933	-19.067	74.000
Average					
<b>Detector:</b>					
4824.000	3.478	47.570	51.048	-2.952	54.000
9648.000	13.283	28.200	41.483	-12.517	54.000
Vertical					
Peak Detector:					
4824.000	3.570	53.360	56.930	-17.070	74.000
7236.000	8.819	44.490	53.309	-20.691	74.000
9648.000	13.761	43.050	56.810	-17.190	74.000
Average					
<b>Detector:</b>					
4824.000	3.570	46.690	50.260	-3.740	54.000
9648.000	13.761	31.930	45.690	-8.310	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.

- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Product	: ADSL2/2+ 11n Wireless Router						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OA	: No.3 OATS					
Test Mode	: Mode 1	: Transmitter (802	.11b 11Mbps) (2437 1	MHz)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4874.000	3.100	53.370	56.470	-17.530	74.000		
7311.000	7.417	40.980	48.397	-25.603	74.000		
9748.000	13.322	41.040	54.362	-19.638	74.000		
Average							
<b>Detector:</b>							
4874.000	3.100	48.080	50.180	-3.820	54.000		
9748.000	13.322	27.330	40.652	-13.348	54.000		
Vertical							
Peak Detector:							
4874.000	3.574	55.200	58.774	-15.226	74.000		
7311.000	8.230	43.590	51.820	-22.180	74.000		
9748.000	13.421	41.290	54.711	-19.289	74.000		
Average							
Detector:							
4874.000	3.574	46.946	50.520	-3.480	54.000		
9748.000	13.421	28.140	41.561	-12.439	54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: ADSL2/2+ 11n Wireless Router					
Test Item	: Harmonic Radiated Emission Data					
Test Site	: No.3 OATS					
Test Mode	: Mode 1:	Transmitter (802	.11b 11Mbps) (2462 ]	MHz)		
					•••	
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4924.000	3.364	52.280	55.644	-18.356	74.000	
7386.000	6.624	42.200	48.824	-25.176	74.000	
9848.000	13.631	40.780	54.410	-19.590	74.000	
Average						
<b>Detector:</b>						
4924.000	3.364	48.100	51.464	-2.536	54.000	
9848.000	13.631	27.290	40.920	-13.080	54.000	
Vertical						
Peak Detector:						
4924.000	4.221	54.610	58.831	-15.169	74.000	
7386.000	7.305	43.950	51.255	-22.745	74.000	
9848.000	13.600	40.930	54.530	-19.470	74.000	
Average						
<b>Detector:</b>						
4924.000	4.221	45.929	50.150	-3.850	54.000	
7386.000	13.600	27.930	41.530	-12.470	54.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: ADSL2/2+ 11n Wireless Router					
Test Item	: Harmonic Radiated Emission Data					
Test Site	: No.3 OATS					
Test Mode	: Mode 2:	: Transmitter (802	.11g 54Mbps) (2412M	MHz)		
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4824.000	3.478	49.990	53.468	-20.532	74.000	
7236.000	7.874	41.800	49.674	-24.326	74.000	
9648.000	13.283	41.320	54.603	-19.397	74.000	
Average						
<b>Detector:</b>						
9648.000	13.283	27.210	40.493	-13.507	54.000	
Vertical						
Peak Detector:						
4824.000	3.570	53.440	57.010	-16.990	74.000	
7236.000	8.819	43.610	52.429	-21.571	74.000	
9648.000	13.761	41.500	55.260	-18.740	74.000	
Average						
<b>Detector:</b>						
4824.000	3.570	47.040	50.610	-3.390	54.000	
9648.000	13.761	27.330	41.090	-12.910	54.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Product	: ADSL2/2+ 11n Wireless Router						
Test Item	: Harmonic Radiated Emission Data						
Test Site	<ul> <li>No.3 OATS</li> <li>Mode 2: Transmitter (802.11g 54Mbps) (2437 MHz)</li> </ul>						
Test Mode							
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4874.000	3.100	52.870	55.970	-18.030	74.000		
7311.000	7.417	41.810	49.227	-24.773	74.000		
9748.000	13.322	34.530	47.852	-26.148	74.000		
Average							
<b>Detector:</b>							
4874.000	3.100	47.930	51.030	-2.970	54.000		
Vertical							
Peak Detector:							
4874.000	3.574	55.640	59.214	-14.786	74.000		
7311.000	8.230	44.060	52.290	-21.710	74.000		
9748.000	13.421	41.180	54.601	-19.399	74.000		
Average							
<b>Detector:</b>							
4874.000	3.574	48.036	51.610	-2.390	54.000		
9748.000	13.421	27.410	40.831	-13.169	54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: ADSL2/2+ 11n Wireless Router						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 2: Transmitter (802.11g 54Mbps) (2462 MHz)						
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Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4924.000	3.364	50.660	54.024	-19.976	74.000		
7386.000	6.624	41.180	47.804	-26.196	74.000		
9848.000	13.631	40.790	54.420	-19.580	74.000		
Average							
<b>Detector:</b>							
4924.000	3.364	48.280	51.644	-2.356	54.000		
9848.000	13.631	27.190	40.820	-13.180	54.000		
Vertical							
Peak Detector:							
4924.000	4.221	53.710	57.931	-16.069	74.000		
7386.000	7.305	44.960	52.265	-21.735	74.000		
9848.000	13.600	41.180	54.780	-19.220	74.000		
Average							
Detector:							
4924.000	4.221	45.949	50.170	-3.830	54.000		
9848.000	13.600	27.450	41.050	-12.950	54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Product	: ADSL2/2+ 11n Wireless Router						
Test Item	: Harmonic Radiated Emission Data						
Test Site	<ul> <li>No.3 OATS</li> <li>Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW) (2412MHz)</li> </ul>						
Test Mode							
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4824.000	3.478	50.480	53.958	-20.042	74.000		
7236.000	7.874	41.910	49.784	-24.216	74.000		
9648.000	13.283	42.080	55.363	-18.637	74.000		
Average							
<b>Detector:</b>							
9648.000	13.283	27.410	40.693	-13.307	54.000		
Vertical							
Peak Detector:							
4824.000	3.570	54.500	58.070	-15.930	74.000		
7236.000	8.819	42.930	51.749	-22.251	74.000		
9648.000	13.761	42.020	55.780	-18.220	74.000		
Average							
<b>Detector:</b>							
4824.000	3.570	46.190	49.760	-4.240	54.000		
9648.000	13.761	27.230	40.990	-13.010	54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Product	: ADSL2/2+ 11n Wireless Router						
Test Item	: Harmonic Radiated Emission Data						
Test Site	<ul> <li>No.3 OATS</li> <li>Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW) (2437 MHz)</li> </ul>						
Test Mode							
Frequency	Correct	Reading	Measurement	Margin	Limit		
Trequency	Factor	Level	Level	8			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4874.000	3.100	51.280	54.380	-19.620	74.000		
7311.000	7.417	41.680	49.097	-24.903	74.000		
9748.000	13.322	41.230	54.552	-19.448	74.000		
Average							
Detector:							
4837.000	3.100	44.652	47.752	-6.248	54.000		
9748.000	13.322	27.090	40.412	-13.588	54.000		
Vertical							
Peak Detector:							
4874.000	3.574	58.220	61.794	-12.206	74.000		
7311.000	8.230	45.430	53.660	-20.340	74.000		
9748.000	13.421	41.210	54.631	-19.369	74.000		
Average							
<b>Detector:</b>							
4874.000	3.574	46.386	49.960	-4.040	54.000		
9748.000	13.421	27.310	40.731	-13.269	54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: ADSL2/2+ 11n Wireless Router						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW) (2462 MHz)						
Fraquency	Correct	Peoding	Maggurament	Margin	Limit		
requency	Eactor	Level	Level	wargin	Linnt		
MUz		dBuV	dPuV/m	٩D	dDuV/m		
	uВ	uБuv		UD			
Horizontal							
Peak Detector:							
4924.000	3.364	50.580	53.944	-20.056	74.000		
7386.000	6.624	41.380	48.004	-25.996	74.000		
9848.000	13.631	40.820	54.450	-19.550	74.000		
Average							
<b>Detector:</b>							
4924.000	3.364	45.430	48.794	-5.206	54.000		
9848.000	13.631	27.005	40.635	-13.365	54.000		
Vertical							
Peak Detector:							
4924.000	4.221	60.120	64.341	-9.659	74.000		
7386.000	7.305	44.840	52.145	-21.855	74.000		
9848.000	13.600	40.710	54.310	-19.690	74.000		
Average							
<b>Detector:</b>							
4924.000	4.221	45.699	49.920	-4.080	54.000		
9848.000	13.600	27.330	40.930	-13.070	54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: ADSL2/2+ 11n Wireless Router						
Test Item	: Harmonic Radiated Emission Data						
Test Site	<ul> <li>No.3 OATS</li> <li>Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW) (2422MHz)</li> </ul>						
Test Mode							
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4844.000	3.329	47.730	51.059	-22.941	74.000		
7266.000	7.681	41.670	49.351	-24.649	74.000		
9688.000	13.217	41.300	54.517	-19.483	74.000		
Average							
<b>Detector:</b>							
9688.000	13.217	27.040	40.257	-13.743	54.000		
Vertical							
<b>Peak Detector:</b>							
4844.000	3.575	56.340	59.915	-14.085	74.000		
7266.000	8.564	42.700	51.264	-22.736	74.000		
9688.000	13.553	41.270	54.823	-19.177	74.000		
Average							
Detector:							
4844.000	3.575	47.515	51.090	-2.910	54.000		
9688.000	13.553	27.420	40.973	-13.027	54.000		

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.
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Product	: ADSL2/2+ 11n Wireless Router				
Test Item	: Harmonic Radiated Emission Data				
Test Site	: No.3 OATS				
Test Mode	: Mode 4:	Transmitter (802	.11n MCS8 27Mbps	40M-BW) (2437	MHz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.100	48.000	51.100	-22.900	74.000
7311.000	7.417	41.750	49.167	-24.833	74.000
9748.000	13.322	40.850	54.172	-19.828	74.000
Average					
<b>Detector:</b>					
9748.000	13.322	27.120	40.442	-13.558	54.000
Vertical					
Peak Detector:					
4874.000	3.574	54.850	58.424	-15.576	74.000
7311.000	8.230	42.510	50.740	-23.260	74.000
9748.000	13.421	40.610	54.031	-19.969	74.000
Average					
<b>Detector:</b>					
4874.000	3.574	46.716	50.290	-3.710	54.000
9748.000	13.421	27.130	40.551	-13.449	54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: ADSL2/2+ 11n Wireless Router					
Test Item	: Harmonic Radiated Emission Data					
Test Site	: No.3 O	: No.3 OATS				
Test Mode	: Mode 4	: Transmitter (802	.11n MCS8 27Mbps	40M-BW) (2452	MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4904.000	3.145	48.710	51.855	-22.145	74.000	
7356.000	6.664	41.800	48.463	-25.537	74.000	
9808.000	13.495	39.850	53.345	-20.655	74.000	
Average						
<b>Detector:</b>						
4904.000	3.145	48.045	51.190	-2.810	54.000	
9808.000	13.495	27.015	40.510	-13.490	54.000	
Vertical						
Peak Detector:						
4904.000	3.849	55.690	59.539	-14.461	74.000	
7356.000	7.389	41.960	49.348	-24.652	74.000	
9808.000	13.417	40.420	53.837	-20.163	74.000	
Average						
<b>Detector:</b>						
4904.000	3.849	47.541	51.390	-2.610	54.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	: ADSL2 : Genera : No.3 O : Mode 1	2/2+ 11n Wireless F l Radiated Emissio ATS : Transmitter (802.	Router n Data .11b 11Mbps)(2437 N	иНz)-Adapter 1	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
256.980	-5.478	37.123	31.645	-14.355	46.000
398.600	-2.791	30.566	27.775	-18.225	46.000
499.480	-0.442	30.346	29.903	-16.097	46.000
697.360	2.720	23.328	26.048	-19.952	46.000
870.020	4.798	23.217	28.015	-17.985	46.000
967.020	6.391	24.425	30.816	-23.184	54.000
Vertical					
251.160	-7.898	42.119	34.221	-11.779	46.000
371.440	-3.274	35.854	32.579	-13.421	46.000
499.480	-1.342	30.177	28.834	-17.166	46.000
674.080	-0.947	32.889	31.942	-14.058	46.000
875.840	1.211	27.972	29.183	-16.817	46.000
965.080	7.397	23.027	30.424	-23.576	54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.

6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	: ADSL2/2+ 11n Wireless Router				
Test Item	: General Radiated Emission Data				
Test Site	: No.3 OATS				
Test Mode	: Mode 2	: Transmitter (802	.11g 54Mbps)(2437 M	MHz)-Adapter 1	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
255.040	-5.498	42.564	37.066	-8.934	46.000
371.440	-1.634	36.137	34.502	-11.498	46.000
507.240	0.254	29.609	29.863	-16.137	46.000
674.080	2.353	32.772	35.125	-10.875	46.000
875.840	4.861	26.799	31.660	-14.340	46.000
932.100	6.430	24.526	30.956	-15.044	46.000
Vertical					
249.220	-8.023	42.266	34.243	-11.757	46.000
371.440	-3.274	36.384	33.109	-12.891	46.000
499.480	-1.342	30.853	29.510	-16.490	46.000
674.080	-0.947	33.069	32.122	-13.878	46.000
875.840	1.211	28.699	29.910	-16.090	46.000
967.020	7.541	23.536	31.077	-22.923	54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	: ADSL2/2+ 11n Wireless Router				
Test Item	: General Radiated Emission Data				
Test Site	: No.3 OATS				
Test Mode	: Mode 3	: Transmitter (802	.11n MCS8 13Mbps 2	20M-BW)(2437 I	MHz)-Adapter 1
			-		
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
249.220	-6.403	42.266	35.863	-10.137	46.000
371.440	-1.634	36.384	34.749	-11.251	46.000
497.540	-0.760	31.657	30.897	-15.103	46.000
633.340	1.387	28.419	29.806	-16.194	46.000
763.320	3.813	25.818	29.632	-16.368	46.000
875.840	4.861	28.699	33.560	-12.440	46.000
Vertical					
253.100	-7.994	41.738	33.745	-12.255	46.000
371.440	-3.274	35.600	32.325	-13.675	46.000
499.480	-1.342	28.985	27.642	-18.358	46.000
749.740	1.998	23.870	25.868	-20.132	46.000
899.120	2.608	27.089	29.697	-16.303	46.000
967.020	7.541	22.791	30.332	-23.668	54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	: ADSL2/2+ 11n Wireless Router					
Test Item	: General Radiated Emission Data					
Test Site	: No.3 O	: No.3 OATS				
Test Mode	: Mode 4	: Transmitter (802	.11n MCS8 27Mbps	40M-BW)(2437 N	MHz)-Adapter 1	
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
255.040	-5.498	39.850	34.352	-11.648	46.000	
359.800	-2.120	29.737	27.618	-18.382	46.000	
544.100	2.992	24.303	27.295	-18.705	46.000	
674.080	2.353	34.328	36.681	-9.319	46.000	
786.600	4.305	23.994	28.299	-17.701	46.000	
930.160	6.700	22.428	29.128	-16.872	46.000	
Vertical						
253.100	-7.994	40.129	32.136	-13.864	46.000	
371.440	-3.274	34.426	31.151	-14.849	46.000	
629.460	-4.201	27.795	23.594	-22.406	46.000	
763.320	1.823	24.853	26.677	-19.323	46.000	
825.400	3.125	24.872	27.996	-18.004	46.000	
961.200	6.724	23.404	30.128	-23.872	54.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	: ADSL2/2+ 11n Wireless Router				
Test Item	: General Radiated Emission Data				
Test Site	: No.3 OATS				
Test Mode	: Mode 1:	Transmitter (802.	11b 11Mbps)(2437 M	/Hz)-Adapter 2	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
37.760	-2.617	36.266	33.650	-6.350	40.000
138.640	-7.497	45.318	37.821	-5.679	43.500
299.660	-4.929	43.315	38.386	-7.614	46.000
400.540	0.780	37.055	37.835	-8.165	46.000
499.480	1.808	33.058	34.865	-11.135	46.000
600.360	3.235	34.446	37.681	-8.319	46.000
Vertical					
39.700	-12.570	46.030	33.460	-6.540	40.000
177.440	-1.460	37.821	36.361	-7.139	43.500
249.220	-5.171	38.057	32.886	-13.114	46.000
299.660	-4.239	36.498	32.259	-13.741	46.000
365.620	0.123	32.756	32.879	-13.121	46.000
687.660	2.166	31.325	33.492	-12.508	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	: ADSL2/2+ 11n Wireless Router				
Test Item	: General Radiated Emission Data				
Test Site	: No.3 OATS				
Test Mode	: Mode 2: 7	Transmitter (802	.11g 54Mbps)(2437 M	/Hz)-Adapter 2	
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
39.700	-3.710	35.311	31.601	-8.399	40.000
68.800	-14.710	48.277	33.567	-6.433	40.000
138.640	-7.497	44.594	37.097	-6.403	43.500
249.220	-6.291	42.435	36.144	-9.856	46.000
299.660	-4.929	43.861	38.932	-7.068	46.000
901.060	5.647	31.981	37.628	-8.372	46.000
Vertical					
39.700	-12.570	47.075	34.505	-5.495	40.000
175.500	-2.042	38.057	36.015	-7.485	43.500
249.220	-5.171	38.650	33.479	-12.521	46.000
299.660	-4.239	37.721	33.482	-12.518	46.000
499.480	-0.382	34.116	33.733	-12.267	46.000
670.200	-1.017	41.270	40.252	-5.748	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	: ADSL2/2+ 11n Wireless Router				
Test Item	: General Radiated Emission Data				
Test Site	: No.3 OATS				
Test Mode	: Mode 3	: Transmitter (802	.11n MCS8 13Mbps 2	20M-BW)(2437 I	MHz)-Adapter 2
			T T		,
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
39.700	-3.710	37.709	33.999	-6.001	40.000
138.640	-7.497	43.981	36.484	-7.016	43.500
249.220	-6.291	42.167	35.876	-10.124	46.000
299.660	-4.929	42.616	37.687	-8.313	46.000
400.540	0.780	37.982	38.762	-7.238	46.000
600.360	3.235	33.287	36.522	-9.478	46.000
Vertical					
39.700	-12.570	44.746	32.176	-7.824	40.000
101.780	-5.618	43.798	38.180	-5.320	43.500
499.480	-0.382	32.343	31.960	-14.040	46.000
602.300	1.468	31.646	33.114	-12.886	46.000
687.660	2.166	31.669	33.836	-12.164	46.000
965.080	3.625	28.845	32.470	-21.530	54.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	: ADSL2/2+ 11n Wireless Router				
Test Item	: General Radiated Emission Data				
Test Site	: No.3 O	ATS			
Test Mode	: Mode 4	: Transmitter (802	.11n MCS8 27Mbps	40M-BW)(2437 M	MHz)-Adapter 2
			<b>T</b>		, <b>I</b>
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
39.700	-3.710	36.961	33.251	-6.749	40.000
138.640	-7.497	42.788	35.291	-8.209	43.500
299.660	-4.929	41.818	36.889	-9.111	46.000
400.540	0.780	34.601	35.381	-10.619	46.000
600.360	3.235	33.737	36.972	-9.028	46.000
1000.000	9.421	28.783	38.204	-15.796	54.000
Vertical					
39.700	-12.570	47.580	35.010	-4.990	40.000
103.720	-5.156	43.099	37.943	-5.557	43.500
165.800	-4.803	39.546	34.743	-8.757	43.500
299.660	-4.239	37.042	32.803	-13.197	46.000
687.660	2.166	32.364	34.531	-11.469	46.000
749.740	1.841	31.350	33.191	-12.809	46.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

# 5. **RF** antenna conducted test

### 5.1. Test Equipment

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Nov, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2009
Х	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2009

Note:

- 4. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 5. The test instruments marked with "X" are used to measure the final test results.
- 6. The power combiner is used for measure 11n mode.

# 5.2. Test Setup

#### **RF** antenna Conducted Measurement:



### 5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

# 5.4. Test Procedure

The EUT was tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

# 5.5. Uncertainty

The measurement uncertainty Conducted is defined as  $\pm 1.27$ dB

# 5.6. Test Result of RF antenna conducted test

ADSL2/2+ 11n Wireless Router
RF antenna conducted test
No.3 OATS
Mode 1: Transmitter (802.11b 11Mbps)

### Channel 01 (2412MHz) 30-25GHz

D Agi	lent Spectrur	n Analyzer -	Swept SA									
w Disp	solay Line	Ω -15.87	dBm	Α	IC SEI	NSE:INT	Avg Type	ALIGNAUTO : Log-Pwr	11:18:39 A TRAC	M Aug 11, 2009		Display
10 di	3/div R	In ef 10.00 (	put: RF PI IFC d <b>Bm</b>	NO: Fast 😱 Gain:Low	┘ Trig: Free Atten: 20	eRun dB	Avg Hold:	18/100 M	lkr1 2.4 4.1	27 GHz 28 dBm		Annotation►
Log 0.00		1										Title►
-10.0 -20.0										-15.87 dBm	<u>On</u>	Graticule Off
-30.0 -40.0											<u>On</u>	Display Line -15.87 dBm Off
-50.0 -60.0									ulisu	a state frat-st		
-70.0	personalisation	Welling How	Jean and the second sec	Mariluna due	un antil strather	and an all and an	an a	, where the second	However Char	¶rals, A.		System Display▶ Settings
Star #Re:	t 30 MHz s BW 100	) kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (	5.00 GHz 1001 pts)		
MSG								STATUS				

### Channel 06 (2437MHz) 30-25GHz

#### Chain A



#### Channel 11 (2462MHz) 30-25GHz

D Agi	lent Spectr	um Analyzer -	Swept SA		112							
	alay Lin	50Ω 0 <b>15 9</b> 4	dBm	A	IC SE	NSE:INT		ALIGNAUTO	11:21:31 A	M Aug 11, 2009		Display
<u>Inst</u>	лау Ції	le -15.04 Ir	iput: RF P	NO: Fast 😱 Gain:Low	Atten: 20 dB			tyr Dr kr1 2.4	52 GHz		Annotation	
10 di	B/div F	Ref 10.00	dBm						4.1	56 dBm	_	
0.00		•1 	0									Title►
-10.0										-15.84 dBm	<u>On</u>	Graticule Off
-30.0												Display Line
-40.0 -50.0		1									<u>On</u>	Off
-60.0 -70.0	por marken	Lula have	- Decomposition	Marthay Hall &	n-hallederseleter	asoa,qdullointheno	undur yrreleten	Anthriston Indered	Kni-4, Krith and Ange	northearthan		System Display▶ Settings
-80.0 Star #Re:	t 30 MH s BW 10	z )0 kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (	5.00 GHz 1001 pts)		
MSG								STATUS				

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 54Mbps)

# Channel 01 (2412MHz) 30-25GHz

					60		r - Swept SA	trum Analyze	🗊 Agilent Spe
Display	M Aug 11, 2009	11:41:24 A TRAC	ALIGNAUTO (pe: Log-Pwr	ISE:INT Av		A	86 dBm	50 Ω ine -17.3	w Display L
Annotation►	02 GHz 42 dBm	kr1 2.4 2.6	N	dB	Atten: 20	'NO: Fast ( ) Gain:Low	Input: RF P IF( 0 dBm	Ref 10.0	10 dB/div
Title►									0.00
Graticule On Off	-17.36 dBm								-10.0
Display Line -17.36 dBm On Off									-30.0
	Looketh Lo							 	-50.0
System Display▶ Settings	e denne verv	the way in the way of the	Later all and a count	สขางหน่างหน่างสมุดจำนางก	halin yihaliyen yirdi ay	unienne de	ungklader viter vider agende	ul hunner	-70.0
	5.00 GHz 1001 pts)	Stop 2 2.30 s (	Sweep		1.0 MHz	#VBW		IHz 100 kHz	Start 30 M #Res BW
U			STATUS						MSG

### Channel 06 (2437MHz) 30-25GHz

#### Chain A



#### Channel 11 (2462MHz) 30-25GHz

D Agilent Spectrum Analy	zer - Swept SA								
U 50Ω Display Line -16	26 dBm	AC	SENSE:INT	ALI Ava Type: La	GNAUTO	12:08:10 PM TRAC	1 Aug 11, 2009		Display
	Input: RF PNO: IFGair	Fast Trig: Fi ::Low Atten:	ee Run 20 dB		M	TYP DE kr1 2.4	52 GHz		Annotation►
10 dB/div Ref 10 0.00	.00 dBm					3.74			Title►
-10.0							-16.26 dBm	<u>On</u>	Graticule Off
-30.0								<u>On</u>	Display Line -16.26 dBm Off
-50.0									
-70.0 menorale Minley	. South and the start of the second second	where the share and	nder aligites of the heaves	www.auguryant.auguru	ethenery.and	all and a second and			System Display▶ Settings
Start 30 MHz #Res BW 100 kHz		#VBW 1.0 MH	  z	)	Sweep	Stop 2: 2.30 s (1	5.00 GHz 1001 pts)		

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW)

# Channel 01 (2412MHz) 30-25GHz

🎾 Agilent Sp	ectrum Analyzer - S	Swept SA									
₩ Display I	50 ຊ _ine -15.18	dBm	A		NSE:INT	Avg Type	ALIGNAUTO : Log-Pwr	04:29:32 P	M Aug 11, 2009		Display
10 dB/div	Ref Offset 10 Ref 26.00 c	dB dB dB	NO: Fast 😱 Gain:Low	#Atten: 26	dB		M	lkr1 2.4 4.8	02 GHz 16 dBm		Annotation
16.0	<b>1</b>										Title
-4.00	1									<u>On</u>	Graticule Of
-14.0									-15.18 dBm	<u>On</u>	Display Line -15.18 dBn Of
-34.0								and a production	In a way wat the the		
-54.0	her land gradeser	hrolonder the second	alination of the state of the s	alanda, waxaa h	aft-ynnithah fariwa	aktronikatisi kitelar	MANNA AND	Were	· · · · · · · · · · · · · · · · · · ·		System Display Settings
Start 30 I #Res BW	MHz 100 kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (	5.00 GHz 1001 pts)		

# Channel 06 (2437MHz) 30-25GHz

#### Chain A+B



#### Channel 11 (2462MHz) 30-25GHz

🗊 Agilent Sp	ectrum Analyzer -	Swept SA		102							
Display	50Ω Line -13.33	dBm	A	.C SEI	VSE:INT	Avg Type	ALIGNAUTO : Log-Pwr	04:54:27 P	M Aug 11, 2009		Display
10 dB/div	Ref Offset 10 Ref 26.00	oput: RF P IF	NO: Fast 😱 Gain:Low	┘ Trig: Free #Atten: 26	⊧Run 3 dB		M	kr1 2.4	52 GHz 70 dBm		Annotation►
16.0	1	2									Title▶
6.00 -4.00										<u>On</u>	Graticule Off
-14.0									-13.33 dBm	<u>On</u>	Display Line -13.33 dBm Off
-34.0											
-54.0	nd to de 1 the star of the later of the late	ndfryb <b>and</b> prenation	bronannaksillast	mond of the	ybr <sub>an</sub> weitrafeily	replaced of the second of the second of the second s	philosophilogen	use hater hater ye	ukuulliheelveteetteitei		System Display≯ Settings
Start 30	MHz 100 kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (	5.00 GHz 1001 pts)		
MSG							STATUS				

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW)

# Channel 01 (2422MHz) 30-25GHz

DAgilent Spe	ectrum Analyzer -	Swept SA			12						
₩ Display L	50 Ω Line -19.62	dBm	A		NSE:INT	Avg Type	ALIGNAUTO : Log-Pwr	05:06:15 P	M Aug 11, 2009		Display
10 dB/div	In Ref Offset 10 Ref 26.00	put: RF P IF ) dB dBm	NO: Fast 🌩 Gain:Low	#Atten: 26	dB		N	lkr1 2.4 0.3	27 GHz 79 dBm		Annotation
16.0											Title
-4.00	•1									<u>On</u>	Graticul Of
-14.0	+								-19.62 dBm	<u>On</u>	Display Line -19.62 dBn Of
-34.0								. allocalities	head particular and head of		
-54.0	ment have a mo		ulfa-selfaction (44/	why nutriens all his	glaggen formerie	erigtering of the	,				System Display Settings
Start 30 M #Res BW	/IHz 100 kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (	5.00 GHz 1001 pts)		



### Channel 04 (2437MHz) 30-25GHz

#### Chain A+B



#### Channel 07 (2452MHz) 30-25GHz

DAgilent Spect	rum Analyzer - Swej	pt SA								
<mark>LXI</mark> Diamlaw Li	50 Q		AC SE	NSE:INT	Aug Type		05:41:10 P	M Aug 11, 2009		Display
Display Li	ne -15.91 dE Input:	RF PNO: Fast G IFGain:Low	Trig: Free #Atten: 20	Trig: Free Run #Atten: 26 dB			TYF	PE MWWWWW TP NNNNN		
10 dB/div	Ref Offset 10 dB Ref 26.00 dB	m				Μ	kr1 2.4 4.0	77 GHz 09 dBm		Annotation
16.0										Title∙
6.00	<b>∳</b> '								<u>On</u>	Graticule Of
-14.0								-15.91 dBm	<u>On</u>	Display Line -15.91 dBm Of
-34.0										
-54.0	and have a sub-served	the transformation	hy Hanne with from	and war	ng With Aberton Walter	problem agents	g, ale to a line of a second	h.Theatheatheath		System Display Settings
Start 30 Mi #Res BW 1	Hz 00 kHz	#VB\	V 1.0 MHz			Sweep	Stop 2 2.30 s (	5.00 GHz 1001 pts)		
MSG						STATUS				

# 6. Band Edge

# 6.1. Test Equipment

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2008
	X Pre-Amplifier		AGILENT	8447D/2944A09549	Sep., 2008
Site # 3	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
		Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2009
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Х	Coaxial Switch	Anritsu	MP59B/6200265729	N/A
	Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2009

The following test equipments are used during the band edge tests:

#### Note:

1. All instruments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

# 6.2. Test Setup

### **RF Radiated Measurement:**



# 6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

# 6.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 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 is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

# 6.5. Uncertainty

- ± 3.9 dB above 1GHz
- ± 3.8 dB below 1GHz

# 6.6. Test Result of Band Edge

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 11Mbps)

#### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
01 (Peak)	2387.100	2.929	46.866	49.795	74.00	54.00	Pass
01 (Average)					74.00	54.00	Pass

### Figure Channel 01:

# Horizontal (Peak)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 11Mbps)

#### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
01 (Peak)	2390.000	1.931	59.541	61.472	74.00	54.00	Pass
01 (Average)	2390.000	1.931	45.504	47.435	74.00	54.00	Pass

#### Figure Channel 01:

#### (Vertical) (Peak)





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

eless Router
er (802.11b 11Mbps)

# **RF** Conducted Measurement:

# Figure Channel 01:

(Peak)

					5			er - Swept SA	strum Analyz	Agilent Spe
Trace/Det	M Sep 07, 2009 E 1 2 3 4 5 6	11:51:20 Pf	ALIGNAUTO : Log-Pwr	Avg Typ	ENSE:INT	<u>c s</u>	GHz	0000000	50 Ω 2.39000	arker 1
Select Trace Trace 1	0 0 GHz 19 dBm	r1 2.390 -27.2	41/100 Mk	Avg Hold	e Run 0 dB	dtten: 30	PNO: Fast 🎧 FGain:Low	Input: RF	Ref 20.0	dB/div
Clear Writ										
Trace Averag										.00 D.0
Max Ho		. Mallynadd								D.O
Min Ho		N HARMAN	whether	-Ule-segurations/ingo	-	hatikultaria(walta	-Metrophylandlehadala	with the participation	ulallyfellowich	D.O Volovajiu D.O
View/Blank Trace Or										D.O
Moi 1 of	0000 GHz 1001 pts)	Stop 2.40 500 ms (	#Sweep		z	1.0 MHz	#VBW		000 GHz 1.0 MHz	tart 2.30
View/Blank Trace On More 1 of 3	0000 GHz 1001 pts)	Stop 2.40 500 ms (	#Sweep		2	1.0 MHz	#VBW			000 GHz 1.0 MHz

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 11Mbps)

### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
11 (Peak)	2483.500	3.077	46.853	49.930	74.00	54.00	Pass
11 (Average)					74.00	54.00	Pass

# Figure Channel 11:

Horizontal (Peak)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 11Mbps)

#### **RF** Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHZ)	(dB)	(dBuv)	(dBuv/m)	(abuv/m)	(dBuv/m)	
11 (Peak)	2483.500	2.554	58.005	60.558	74.00	54.00	Pass
11 (Average)	2483.500	2.554	47.349	49.902	74.00	54.00	Pass

#### Figure Channel 11:

#### (Vertical) (Peak)





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 54Mbps)

#### **RF Radiated Measurement (Horizontal):**

	Frequency	Correct Factor	Reading Level	<b>Emission Level</b>	Peak Limit	Arerage Limit	Decult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2387.500	-1.620	61.455	59.835	74.00	54.00	Pass
01 (Average)	2387.500	-1.620	43.261	41.641	74.00	54.00	Pass
01 (Average)	2390.000	-1.617	45.668	44.051	74.00	54.00	Pass

### Figure Channel 01:

# Horizontal (Peak)



### **Figure Channel 01:**

### Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 54Mbps)

#### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Decult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2388.100	-2.375	70.079	67.705	74.00	54.00	Pass
01 (Average)	2388.100	-2.375	51.176	48.802	74.00	54.00	Pass
01 (Average)	2390.000	-2.384	54.155	51.772	74.00	54.00	Pass

#### **Figure Channel 01:**

### (Vertical) (Peak)





### (Vertical) (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 54Mbps)

#### **RF Conducted Measurement:**

# Figure Channel 01:

(Peak)

								Swept SA	um Analyzer	ent Spect
Trace/Det	TRACE 1 2 3 4 5 6	o r	ALIGNAUTO	Ava	SENSE:INT	.c	A H7	00000 0	50 Ω 388100	(er 1
Select Trace	DET P N N N N N		lold: 16/100	Avgl	Free Run n: 30 dB	Trig: Atte	IO: Fast 😱 Jain:Low	put: RF P		
Trace 1	2.388 1 GHz 27.872 dBm	lkr	Μ					dBm	Ref 20.00	3/div
Clear Writ						8				
									_	
Trace Averag		_		_						
Max Hol	€1 ungulut									
	WUNNIN	ال						2	-	
Min Hol		ļμ.	unine walk have the	nenithaurh	trongeneration	nynkint	<b>a</b> y washingth	rtertaller <sup>terniliterte</sup>	debenenitzkype	<sub>ส</sub> เป <sub>็ร</sub> ามพระ <b>ป</b>
View/Blank Trace On										
Mor 1 of	p 2.40000 GHz	S D 5	#Sweet		/H7	105	#\/B\/		0 GHz	t 2.300
	(1001 pt3)	US	STAT						• 11112	

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 54Mbps)

#### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
11 (Peak)	2483.500	-1.023	63.414	62.391	74.00	54.00	Pass
11 (Average)	2483.500	-1.023	48.399	47.376	74.00	54.00	Pass

# Figure Channel 11:

# Horizontal (Peak)



# Figure Channel 11:

### Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 54Mbps)

#### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Decult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2484.100	-1.306	69.456	68.150	74.00	54.00	Pass
11 (Average)	2484.100	-1.306	53.397	52.091	74.00	54.00	Pass
11 (Average)	2483.500	-1.314	53.395	52.081	74.00	54.00	Pass

#### **Figure Channel 01:**

### (Vertical) (Peak)





#### (Vertical) (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW)

### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Docult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2389.200	-1.618	65.395	63.777	74.00	54.00	Pass
01 (Average)	2389.200	-1.618	44.807	43.189	74.00	54.00	Pass
01 (Average)	2390.000	-1.617	45.984	44.367	74.00	54.00	Pass

# Figure Channel 01:

### Horizontal (Peak)



### Figure Channel 01:

### Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW)

### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Docult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Kesult
01 (Peak)	2389.600	-2.381	70.548	68.167	74.00	54.00	Pass
01 (Average)	2389.600	-2.381	53.388	51.007	74.00	54.00	Pass
01 (Average)	2390.000	-2.384	54.021	51.638	74.00	54.00	Pass

### Figure Channel 01:

#### (Vertical) (Peak)





#### (Vertical) (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

:	ADSL2/2+ 11n Wireless Router
:	Band Edge Data
:	No.3 OATS
:	Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW)
	: : :

#### **RF** Conducted Measurement:

# Figure Channel 01:

# (Peak)

🗊 Agilent S	pectrum Analyz	zer - Swept SA								
Ref Offs	50Ω set 10.00	dB	Â	ic i se	NSE:INT	Avg Type	ALIGNAUTO	12:08:52 A	M Sep 08, 2009	Trace/Det
Input: RF PNO: Fast C			Trig: Free Run Atten: 30 dB		Avg Hold: 27/100				Select Trace	
10 dB/div	Ref Offse Ref 30.	et 10 dB <b>00 dBm</b>		0			IVIE	-31.0	18 dBm	Trace 1
										ClearWrite
20.0	0				-				97	
10.0										Accel II
0.00		-								Trace Average
-10.0										
20.0									<i>r</i>	Max Hold
-20.0									1	
-30.0						المرابية الم	المعد الدردية	LIN JULIALING	A ANTA	Min Hold
-40.0	a sharir na na san ann ann ann	allekooldertes to	Antelnik unsel - Mark Kanadara		erterik ochteraturk at	An Annual Challenne .	and a state of the loss of	n		
-50.0										View/Blank
-60.0										Trace On
SERVIC.										More
Start 2.3 #Res BV	30000 GHz N 1.0 MHz		#VBW	1.0 MHz			#Sweep	Stop 2.4	0000 GHz	1 of 3
MSG							STATU	3		

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW)

### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
11 (Peak)	2484.700	-1.016	67.945	66.929	74.00	54.00	Pass
11 (Average)	2483.500	-1.023	50.993	49.970	74.00	54.00	Pass
11 (Average)	2484.700	-1.016	49.105	48.089	74.00	54.00	Pass

# Figure Channel 11:

Horizontal (Peak)



### **Figure Channel 11:**





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.


Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS8 13Mbps 20M-BW)

#### **RF** Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2484.500	-1.302	68.828	67.527	74.00	54.00	Pass
11 (Average)	2483.500	-1.314	53.369	52.055	74.00	54.00	Pass
11 (Average)	2484.500	-1.302	52.366	51.065	74.00	54.00	Pass

**Figure Channel 11:** 

(Vertical) (Peak)





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW)

### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Docult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2387.000	-1.620	59.607	57.986	74.00	54.00	Pass
01 (Average)	2387.000	-1.620	42.486	40.865	74.00	54.00	Pass
01 (Average)	2390.000	-1.617	43.671	42.054	74.00	54.00	Pass

## Figure Channel 01:

#### Horizontal (Peak)



## Figure Channel 01:

#### Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW)

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#### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency (MHz)	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
01 (Peak)	2386.200	-2.366	67.685	65.319	74.00	54.00	Pass
01 (Average)	2386.200	-2.366	50.294	47.928	74.00	54.00	Pass
01 (Average)	2390.000	-2.384	51.838	49.455	74.00	54.00	Pass

#### Figure Channel 01:

#### Vertical (Peak)





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW)

#### **RF Conducted Measurement:**

# Figure Channel 01:

(Peak)

						Swept SA	rum Analyzer	lent Spec	D Agi
Trace/Det	12:13:31 AM Sep 08, 2009 TRACE 1 2 3 4 5 6	ALIGN AUTO	SE:INT Av	C SEN	iHz	000000 G	50 Ω 2 386200	ker 1	<mark>xı</mark> Mar
Select Trace	DET P N N N N N	old: 18/100	Run Avg dB	Trig: Free Atten: 30	NO: Fast 🖵 Gain:Low	1put: RF P	2.000200 Ii		inar
Trace 1	1 2.386 2 GHz -27.938 dBm	Mk				0 dB <b>dBm</b>	Ref Offset 1 Ref 30.00	3/div	10 di
Clear Writ									LUg
Clear write									20.0
							-		10.0
Trace Averag									0.00
									0.00
Max Hol									-10.0
Max Hui							4		-20.0
	M hand south								20.0
Min Hol	AUNIAN KUNY	with a subscription of the second	and manual productions	holoman	engertandersen	Marchallanaplish	montradictory	Arto- <b>r-o</b> , b-( <b>La</b> l	-40.0
\/i/Blank									
Trace On									-50.0
									-60.0
Mor									
1 of	Stop 2.40000 GHz 500 ms (1001 pts)	#Sweep		1.0 MHz	#VBW		00 GHz .0 MHz	t 2.300 s BW 1	Star #Re:
<u>6</u>	,	STATUS			8 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -				ISG

Product	:	ADSL2/2+ 11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW)

#### **RF Radiated Measurement (Horizontal):**

Channel No.	Frequency	Correct Factor	Reading Level	<b>Emission Level</b>	Peak Limit	Arerage Limit	Docult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
07 (Peak)	2487.400	-1.001	64.354	63.354	74.00	54.00	Pass
07 (Average)	2483.500	-1.023	50.902	49.879	74.00	54.00	Pass
07 (Average)	2487.400	-1.001	49.967	48.967	74.00	54.00	Pass

## Figure Channel 07:

Horizontal (Peak)



#### Figure Channel 07:

Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	ADSL2/2+11n Wireless Router
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 27Mbps 40M-BW)

#### **RF Radiated Measurement (Vertical):**

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Pacult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
07 (Peak)	2485.400	-1.290	66.752	65.462	74.00	54.00	Pass
07 (Average)	2483.500	-1.314	53.220	51.906	74.00	54.00	Pass
07 (Average)	2485.400	-1.290	52.309	51.019	74.00	54.00	Pass

#### Figure Channel 07:

#### Vertical (Peak)





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "\*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

# QuieTer

## 7. Occupied Bandwidth

## 7.1. Test Equipment

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Nov, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
Х	Spectrum Analyzer	Agilent	N9010A/MY48030495	Apr., 2009
X	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2009

Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.
- 3. The power combiner is used for measure 11n mode.

## 7.2. Test Setup



## 7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

## 7.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Span greater than RBW.

# 7.5. Uncertainty

 $\pm$  150Hz