FCC RADIO TEST REPORT

Prepared For	Panda Wireless, Inc.
Product Name:	Panda Wireless® 150Mbps Wireless N USB Adapter
Trade Name:	Panda Wireless
Model Name :	PAU03
FCC ID:	2ADUTLGPAU03
Prepared By	DongGuan Precise Testing Service Co.,Ltd.
	Building D, Baoding Technology Park, Guangming Road 2, Guangming Community, Dongcheng District, Dongguan, Guangdong, China
Report No.	PTS1506168140F
Test Date:	Jun. 20, 2015 ~ Jun.27, 2015
Date of Report :	Jun.27, 2015

VERIFICATION OF COMPLIANCE

Applicant:	Panda Wireless, Inc.
Address	15559 Union Ave, Suite 300, Los Gatos, CA 95032
Manufacturer Name:	Panda Wireless, Inc.
Address:	15559 Union Ave, Suite 300, Los Gatos, CA 95032
Product Description:	Panda Wireless® 150Mbps Wireless N USB Adapter
Brand Name:	Panda Wireless
Model Name:	PAU03
Test procedure	ANSI C63.10:2013
Standards	FCC PART15.247

Prepared by : Jones Song /Assistant

Reviewer : David liu /Supervisor

Approved & Authorized Signer : Jacky Ou/Manager

Table of Contents

Table of Contents

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)	Peak Output Power	PASS	
15.247 (c)	Radiated Spurious Emission	PASS	
15.247 (d)	Power Spectral Density	PASS	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

1.1 TEST FACILITY

FCC Registration No.: 371540, IC Registration No.: 12191A-1

Dongguan Precise Testing Service Co., Ltd.

Add.: Building D,Baoding Technology Park,Guangming Road2,Dongcheng District, Dongguan, Guangdong, China

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**，where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**，providing a level of confidence of approximately **95** %。

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

<table>
<tr><td>Equipment</td><td>Panda Wireless® 150Mbps Wireless N USB Adapter</td></tr>
<tr><td>Trade Name</td><td>Panda Wireless</td></tr>
<tr><td>Model Name</td><td>PAU03</td></tr>
<tr><td>Serial Model</td><td>N/A</td></tr>
<tr><td>Model Difference</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>The EUT is a Panda Wireless® 150Mbps Wireless N USB Adapter
<table>
<tr><td>Operation Frequency:</td><td>802.11b/g/n(20):2412~2462 MHz
802.11n(40):2422-2452MHz</td></tr>
<tr><td>Modulation Type:</td><td>802.11b: DSSS (CCK, DQPSK, DBPSK)
802.11g/n: DSSS(CCK,DQPSK,DBPSK)
+OFDM(QPSK, BPSK, 16-QAM,
64-QAM)</td></tr>
<tr><td>Bit Rate of Transmitter</td><td>802.11b:11/5.5/2/1 Mbps
802.11g:54/48/36/24/18/12/9/6 Mbps
802.11n:150/72.2/52/6.5 Mbps</td></tr>
<tr><td>Number Of Channel</td><td>11 CH, Please see Note 2.</td></tr>
<tr><td>Antenna Designation:</td><td>Please see Note 3.</td></tr>
<tr><td>Output Power(Conducted, PK):</td><td>802.11b: 24.04 dBm (Max.)
802.11g: 23.14dBm (Max.)
802.11n/20: 21.46 dBm (Max.)
802.11n/40: 22.47 dBm (Max.)</td></tr>
<tr><td>Antenna Gain (dBi)</td><td>0.8dbi</td></tr>
</table>
Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.</td></tr>
<tr><td>Channel List</td><td>Please refer to the Note 2.</td></tr>
<tr><td>Battery</td><td>N/A</td></tr>
<tr><td>Adapter</td><td>N/A</td></tr>
<tr><td>Connecting I/O Port(s)</td><td>Please refer to the User's Manual</td></tr>
</table>

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2.

Channel List for 802.11b/g/n(20)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

Channel List for 802.11n(40MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
03	2422	06	2437	09	2452		
04	2427	07	2442				
05	2432	08	2447				

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
A	N/A	N/A	Integrated antenna	N/A	0.8	N/A

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n(20)CH1/ CH6/ CH11
Mode 4	802.11n(40) CH3/ CH6/ CH9
Mode 5	Link Mode

For Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode

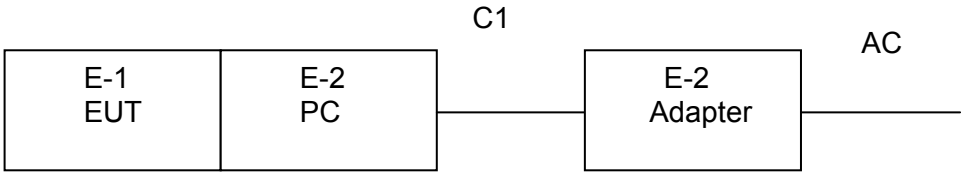
For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n(20)CH1/ CH6/ CH11
Mode 4	802.11n(40) CH3/ CH6/ CH9
Mode 5	Link Mode

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

(2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Panda Wireless® 150Mbps Wireless N USB Adapter	Panda Wireless	PAU03	N/A	EUT
E-2	Notebook computer	IBM	2366	N/A	
E-3	Adapter	IBM	08K8202	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C1	NO	NO	1.0M	

Note:

(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in cm in『Length』column.
(4) A Ferrite Core (model number: S07, manufacturer: Shenzhen Dongyang cicai co.,Ltd) is used on C1 .

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

OR RADIATED EMISSION TEST (BELOW 1GHZ)

Name of Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 4, 2014	July 3, 2015
Trilog Broadband Antenna (25M-1GHz)	SCHWARZBECK	VULB9160	9160-3355	July 4, 2014	July 3, 2015
Signal Amplifier	SCHWARZBECK	BBV 9475	9745-0013	July 4, 2014	July 3, 2015
RF Cable	SCHWARZBECK	AK9515E	96221	July 4, 2014	July 3, 2015
3m Anechoic Chamber	CHENGYU	966	PTS-001	June 6, 2015	June 5, 2016
MULTI-DEVICE Positioning Controller	Max-Full	MF-7802	MF780208339	N/A	N/A
Active loop antenna (9K-30MHz)	Schwarzbeck	FMZB1519	1519-038	June 6, 2015	June 5, 2016
Spectrum analyzer	Agilent	E4407B	MY46185649	June 6, 2015	June 5, 2016

FOR RADIATED EMISSION TEST (1GHZ ABOVE)

Name of Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 4, 2014	July 3, 2015
Horn Antenna (1G-18GHz)	SCHWARZBECK	BBHA9120D	9120D-1246	July 11, 2014	July 10, 2015
Spectrum Analyzer	Agilent	E4411B	MY4511453	July 4, 2014	July 3, 2015
Signal Amplifier	SCHWARZBECK	BBV 9718	9718-269	July 7, 2014	July 6, 2015
RF Cable	SCHWARZBECK	AK9515H	96220	July 8, 2014	July 7, 2015
3m Anechoic Chamber	CHENGYU	966	PTS-001	June 6, 2015	June 5, 2016
MULTI-DEVICE Positioning Controller	Max-Full	MF-7802	MF780208339	N/A	N/A
Horn Ant (18G-40GHz)	Schwarzbeck	BBHA 9170	9170-181	June 6, 2015	June 5, 2016

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA
2. N/A = No Calibration Request.

FOR CONDUCTED EMISSION TEST:

Name of Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 4, 2014	July 3, 2015
Artificial Mains Network	Narda	L2-16B	000WX31025	July 8, 2014	July 7, 2015
Artificial Mains Network (AUX)	Narda	L2-16B	000WX31026	July 8, 2014	July 7, 2015
RF Cable	SCHWARZBECK	AK9515E	96222	July 4, 2014	July 3, 2015
Shielded Room	CHENGYU	843	PTS-002	June 6, 2015	June 5, 2016

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

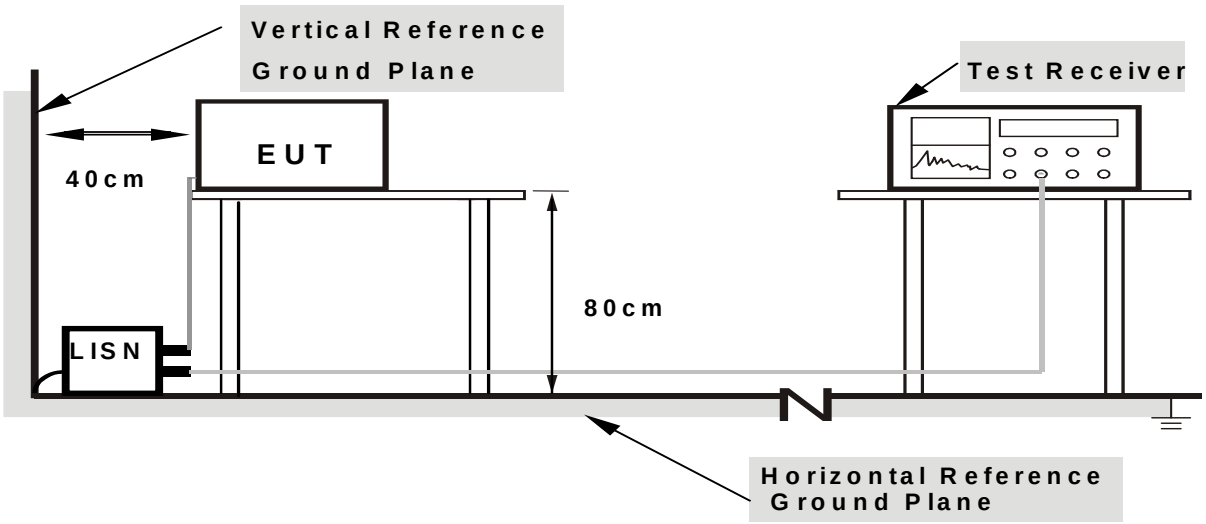
3.1.2 TEST PROCEDURE

a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



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

3.1.5 EUT OPERATING CONDITIONS

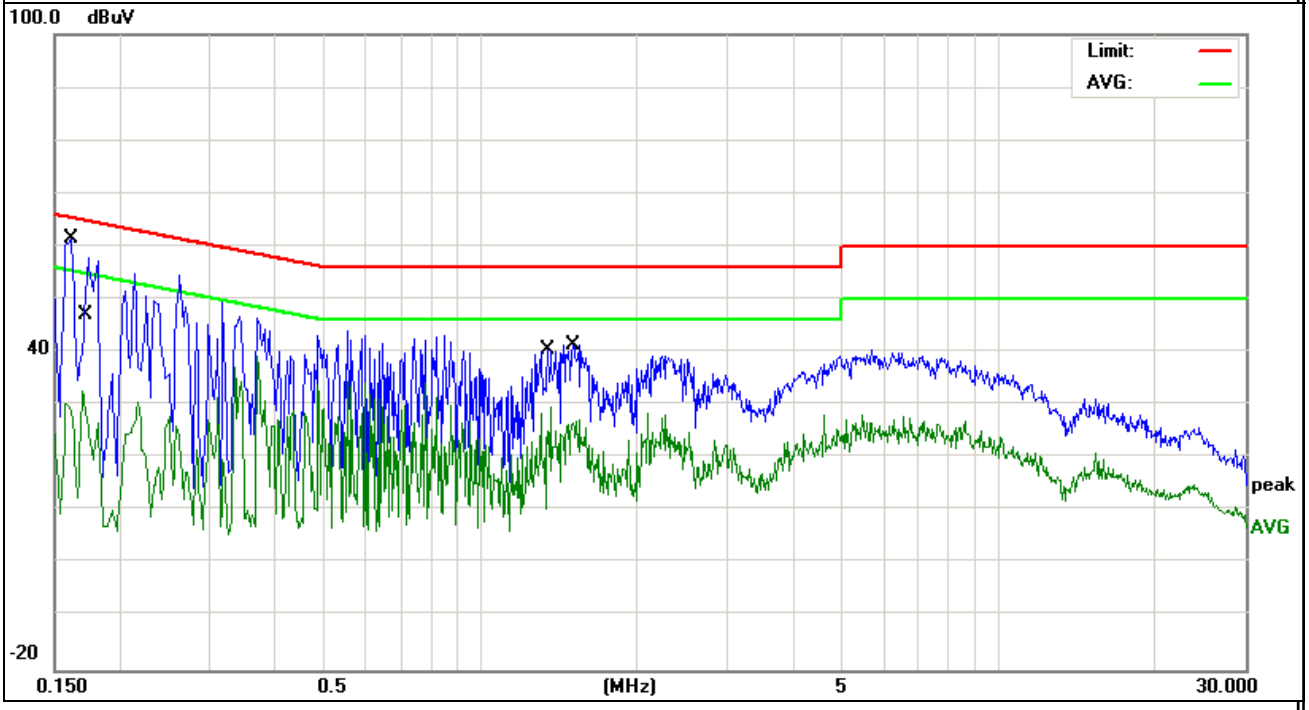
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.6 TEST RESULTS

EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name. ：	PAU03
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1010hPa	Phase：	L
Test Voltage ：	AC120V	Test Mode：	Mode 5

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.162	51.43	9.91	61.34	65.36	-4.02	QP
0.17	22.56	9.97	32.53	54.96	-22.43	AVG
1.3619	19.32	10.19	29.51	46	-16.49	AVG
1.51	31.06	10.2	41.26	56	-14.74	QP

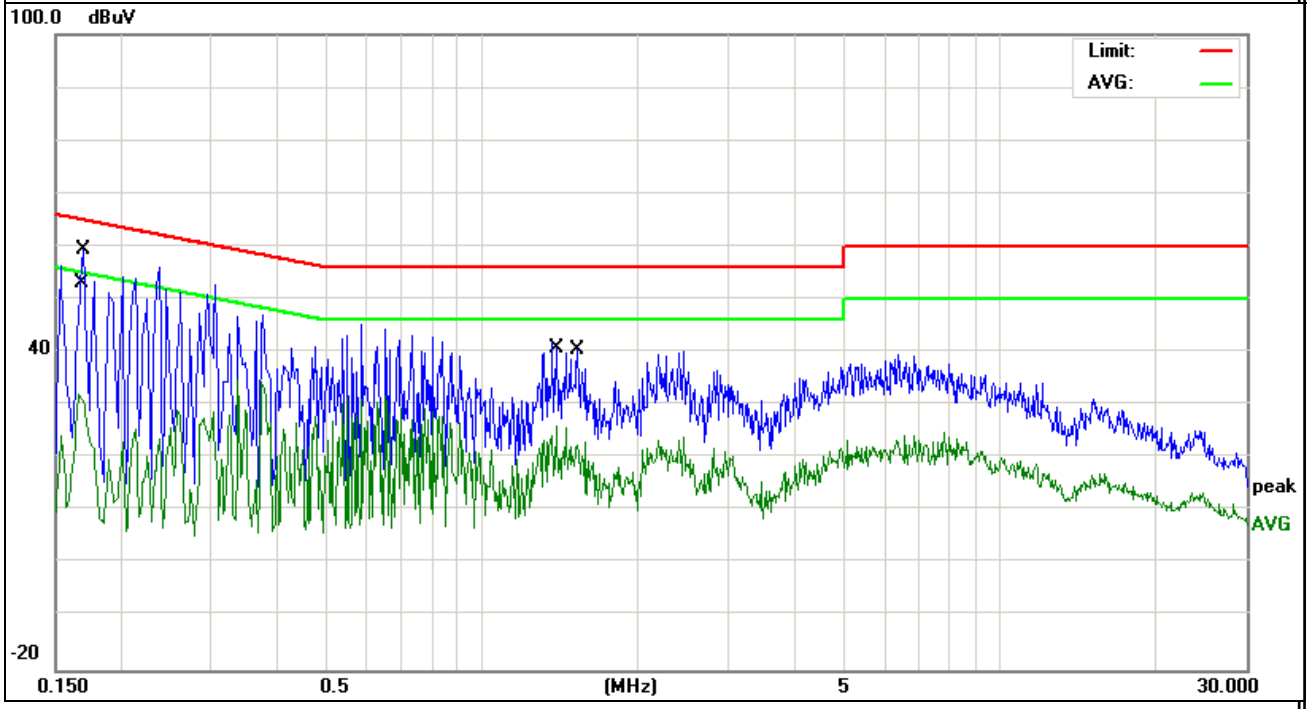
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name. ：	PAU03
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1010hPa	Phase：	N
Test Voltage ：	AC120V	Test Mode：	Mode 5

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.166	21.98	9.95	31.93	55.15	-23.22	AVG
0.17	49.3	9.97	59.27	64.96	-5.69	QP
1.394	15.75	10.19	25.94	46	-20.06	AVG
1.5339	30.13	10.2	40.33	56	-15.67	QP

Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / *10Hz* for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter open area test site for below 1GHz. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was place on the top of a roatating table 1.5 meters for above 1GHz.
c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

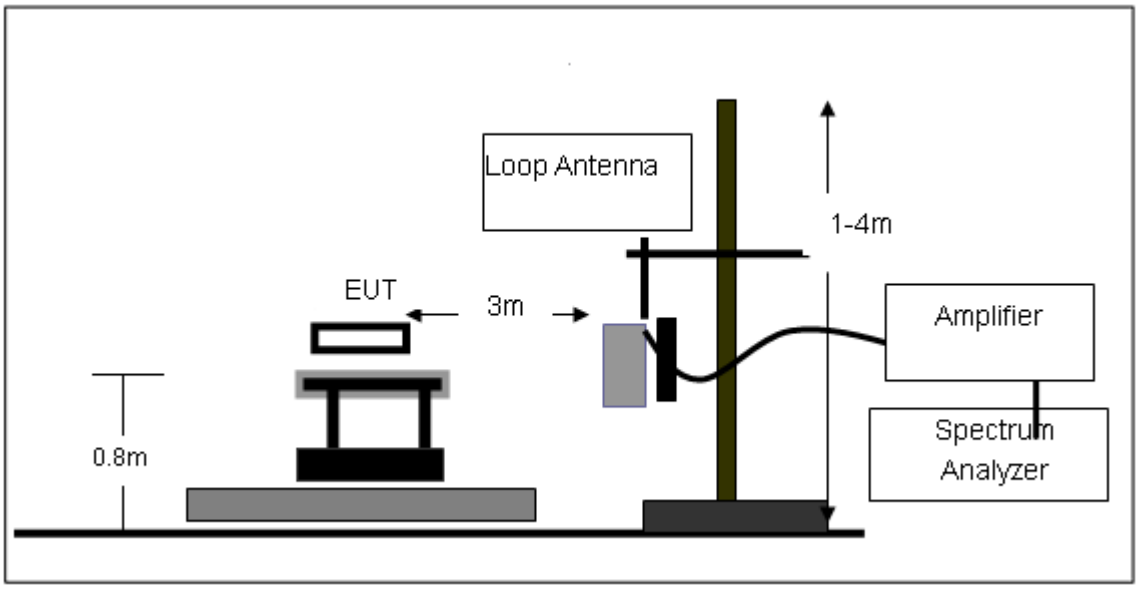
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

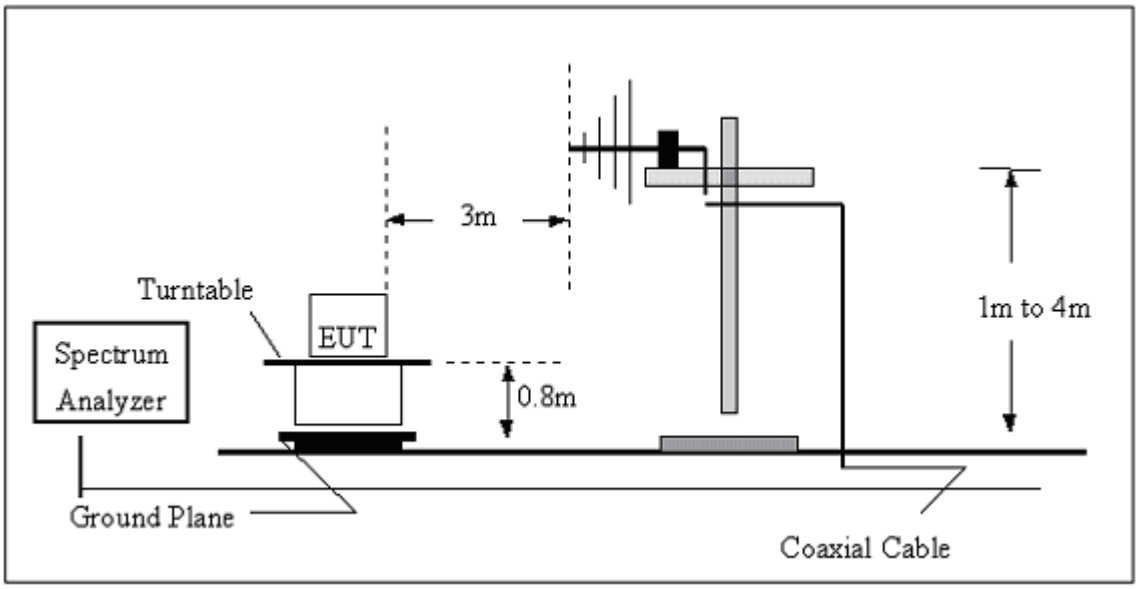
No deviation

3.2.4 TEST SETUP

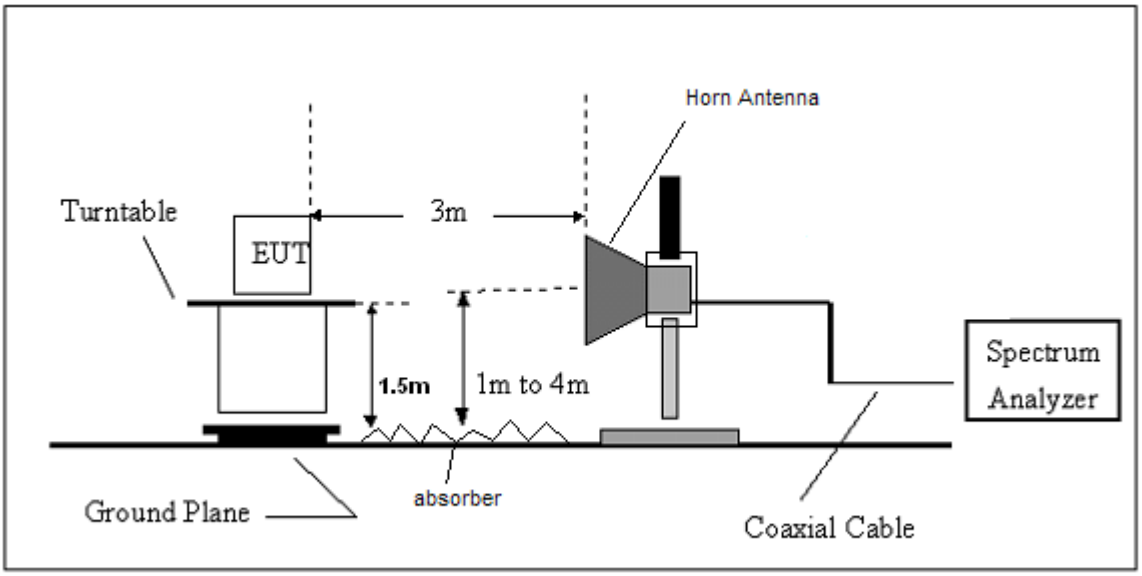
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name. ：	PAU03
Temperature：	20 ℃	Relative Humidtity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	TX	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

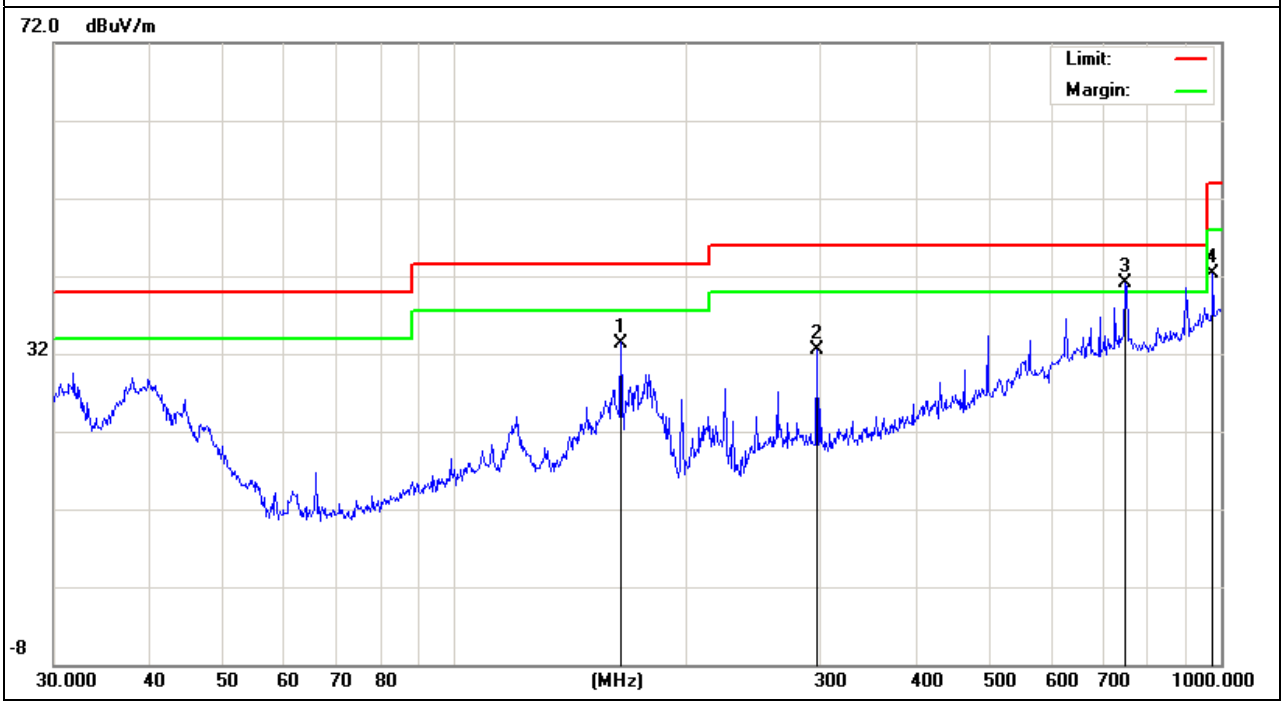
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	Mode 4	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
164.9074	22.59	10.81	33.4	43.5	-10.1	QP
297.2241	17.82	14.7	32.52	46	-13.48	QP
750.1082	14.67	26.39	41.06	46	-4.94	QP
975.7528	12.63	29.7	42.33	54	-11.67	QP

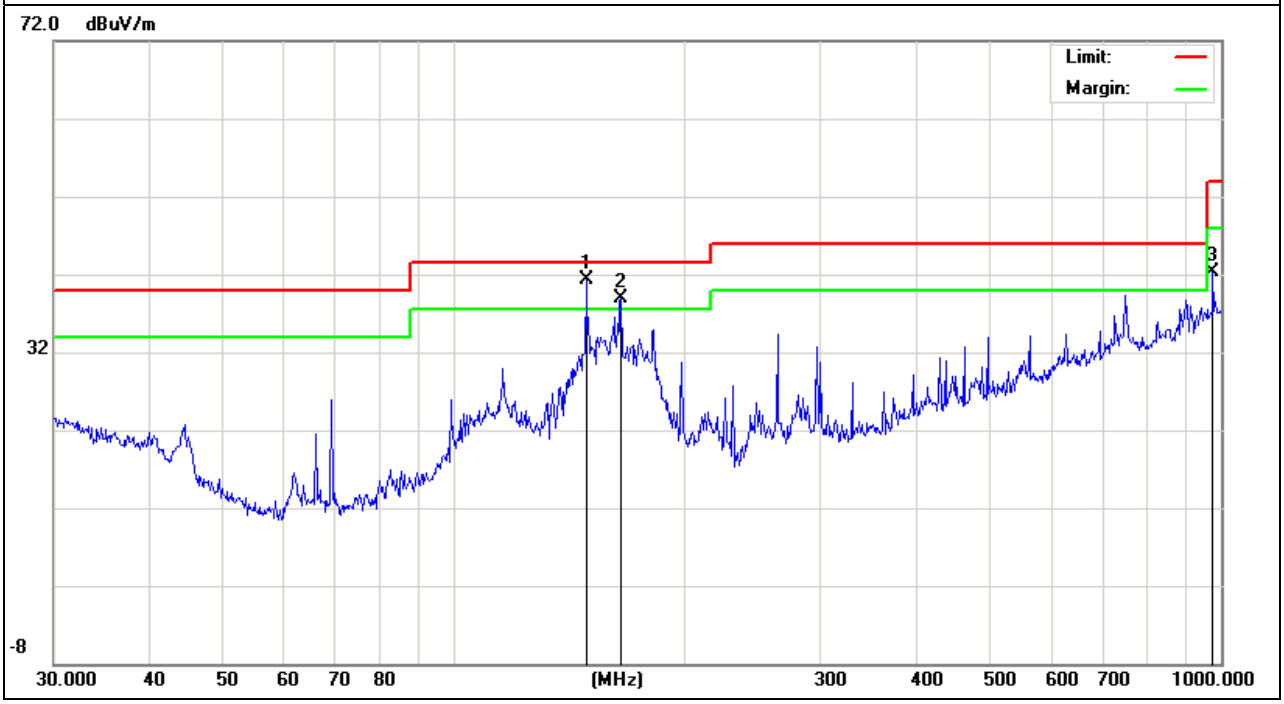
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	Mode 4	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
148.441	29.39	11.83	41.22	43.5	-2.28	QP
164.9074	28.16	10.81	38.97	43.5	-4.53	QP
975.7528	12.68	29.7	42.38	54	-11.62	QP

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

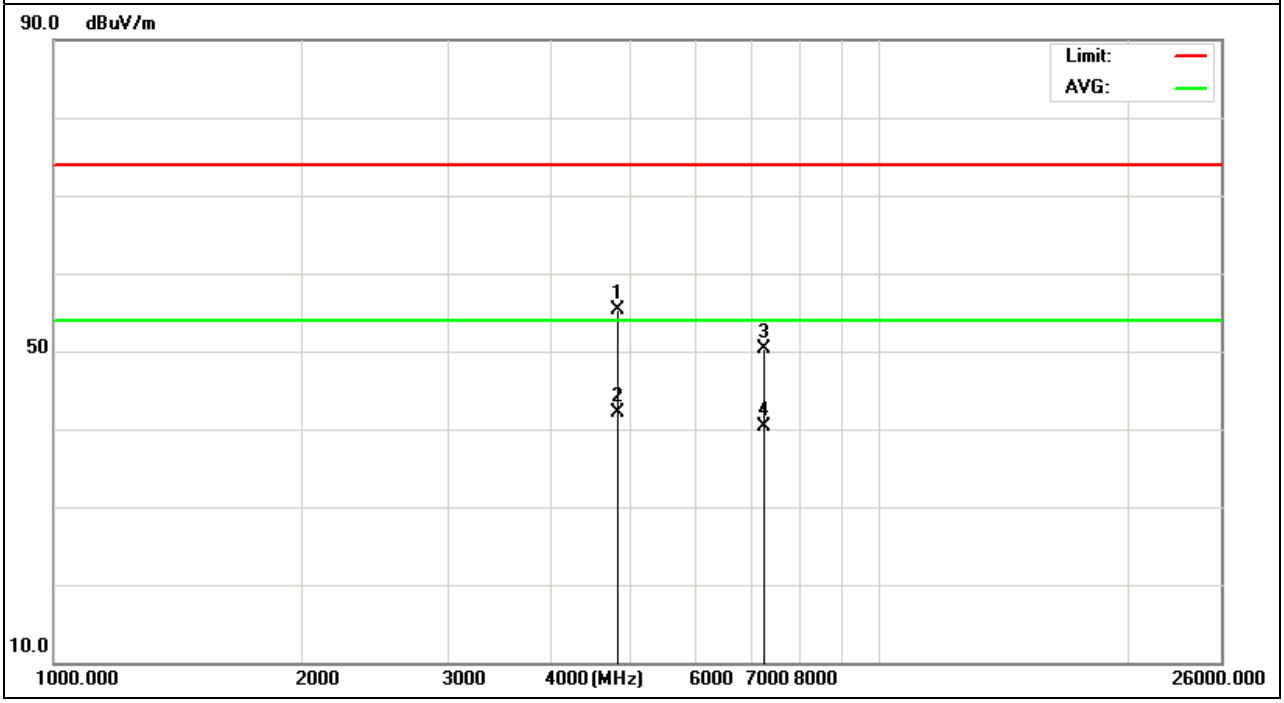


3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1 (802.11b Mode)	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.059	44.9	10.44	55.34	74	-18.66	peak
4824.059	31.74	10.44	42.18	54	-11.82	AVG
7236.231	37.93	12.39	50.32	74	-23.68	peak
7236.231	27.86	12.39	40.25	54	-13.75	AVG

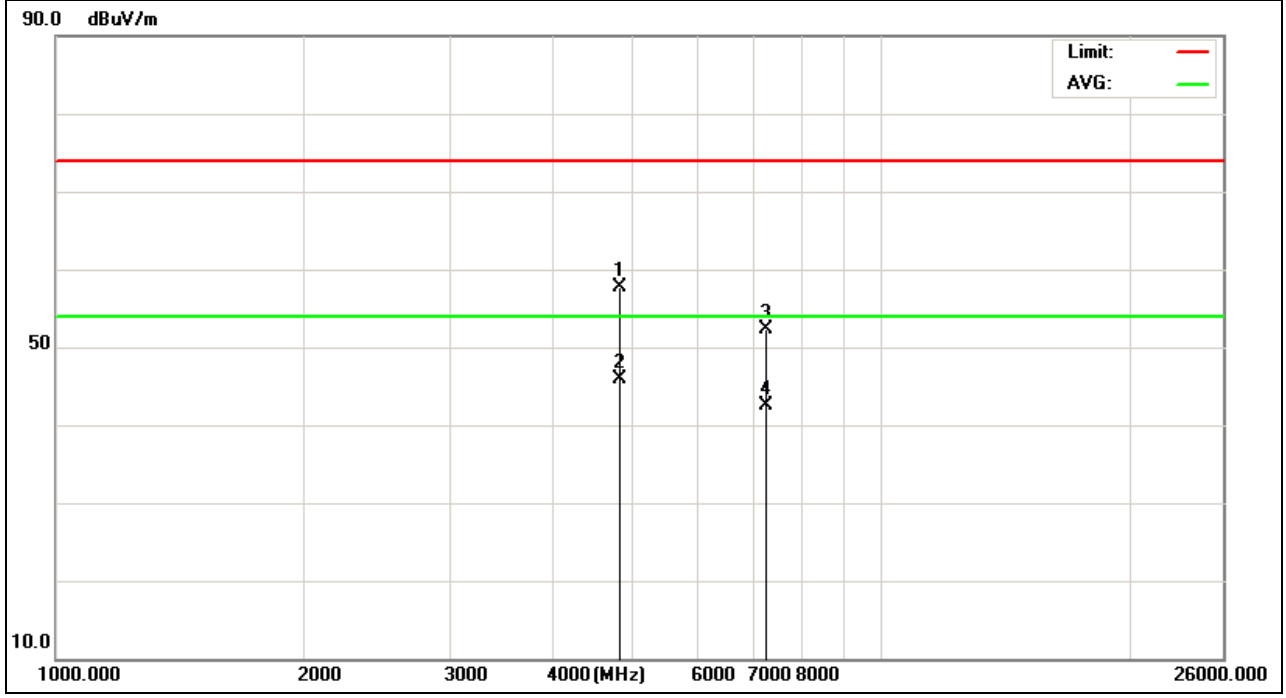
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1 (802.11b Mode)	Polarization：	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.173	47.22	10.44	57.66	74	-16.34	peak
4824.173	35.4	10.44	45.84	54	-8.16	AVG
7236.276	40	12.39	52.39	74	-21.61	peak
7236.276	30.19	12.39	42.58	54	-11.42	AVG

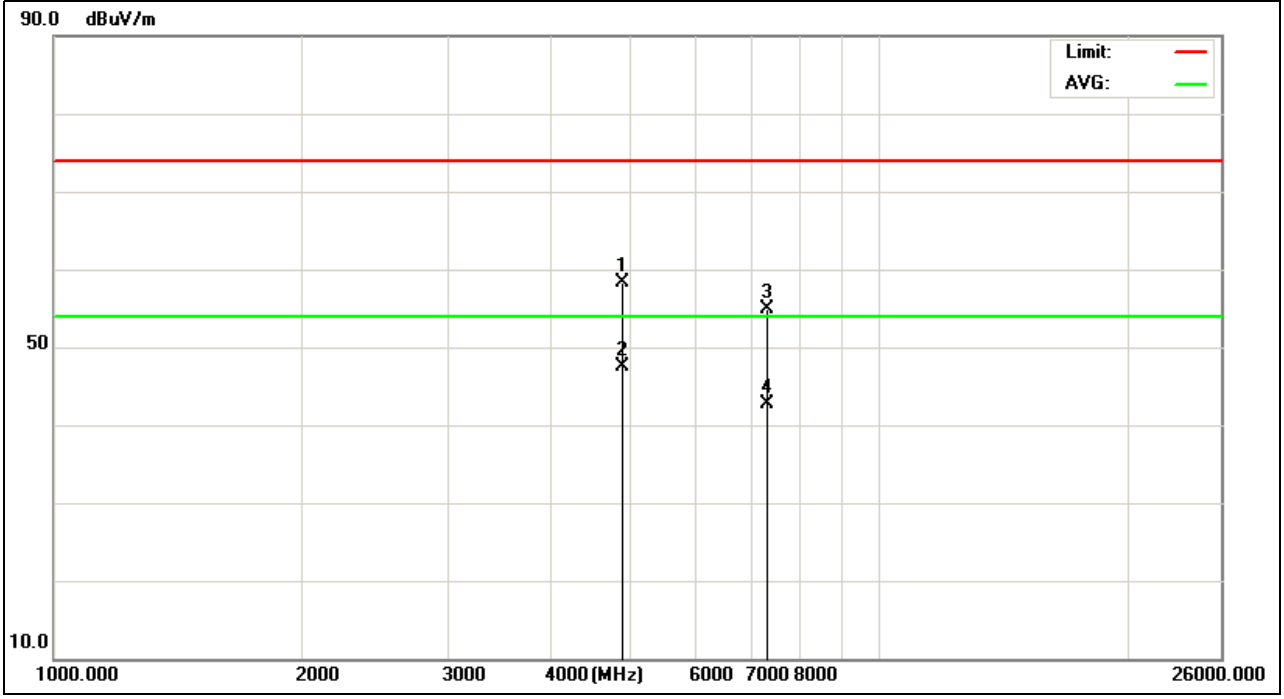
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH6 (802.11b Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874.197	47.95	10.4	58.35	74	-15.65	peak
4874.197	37.06	10.4	47.46	54	-6.54	AVG
7311.329	42.08	12.75	54.83	74	-19.17	peak

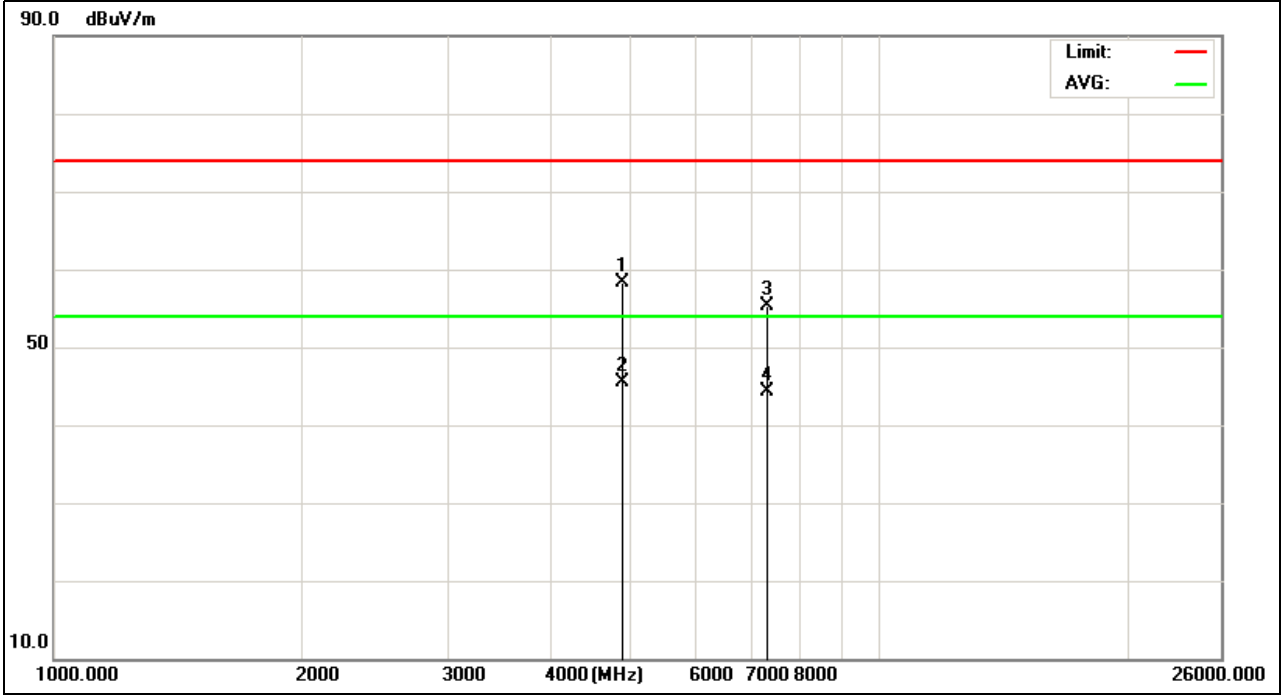
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH6 (802.11b Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874.373	47.92	10.4	58.32	74	-15.68	peak
4874.373	35.11	10.4	45.51	54	-8.49	AVG
7311.225	42.49	12.75	55.24	74	-18.76	peak
7311.225	31.53	12.75	44.28	54	-9.72	AVG

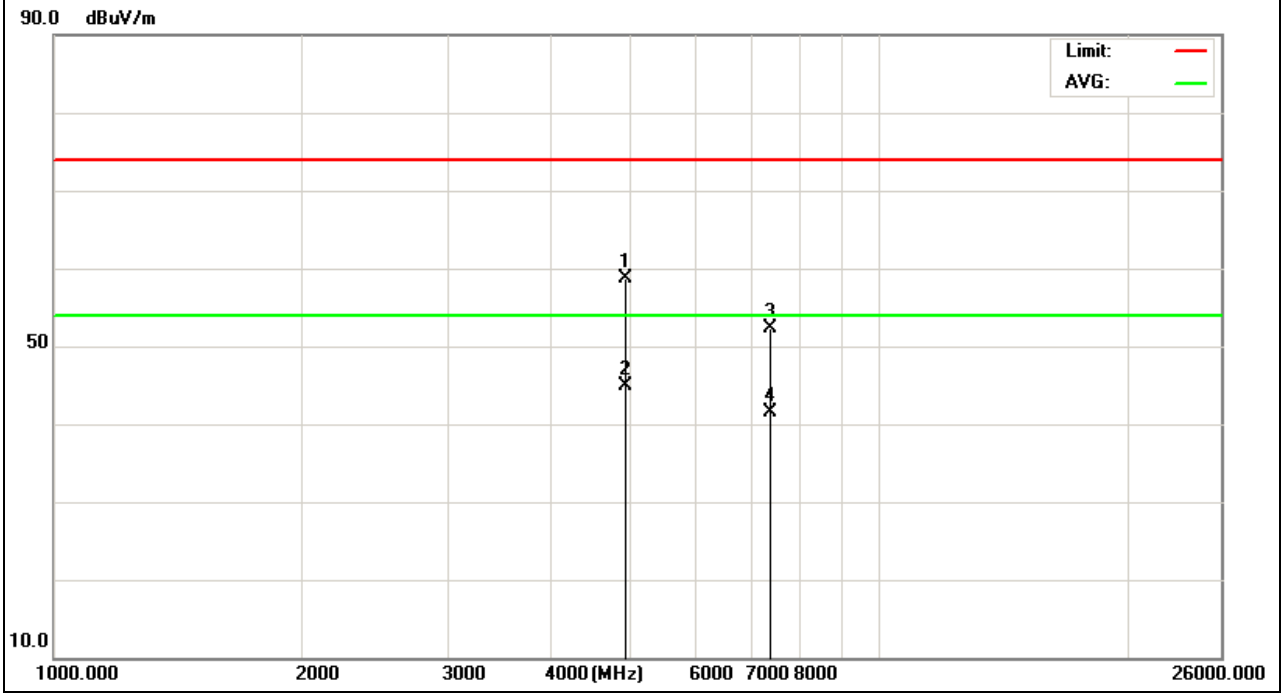
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11 (802.11b Mode)	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.121	48.38	10.39	58.77	74	-15.23	peak
4934.121	34.42	10.44	44.86	54	-9.14	AVG
7386.209	39.71	12.68	52.39	74	-21.61	peak
7386.209	28.8	12.68	41.48	54	-12.52	AVG

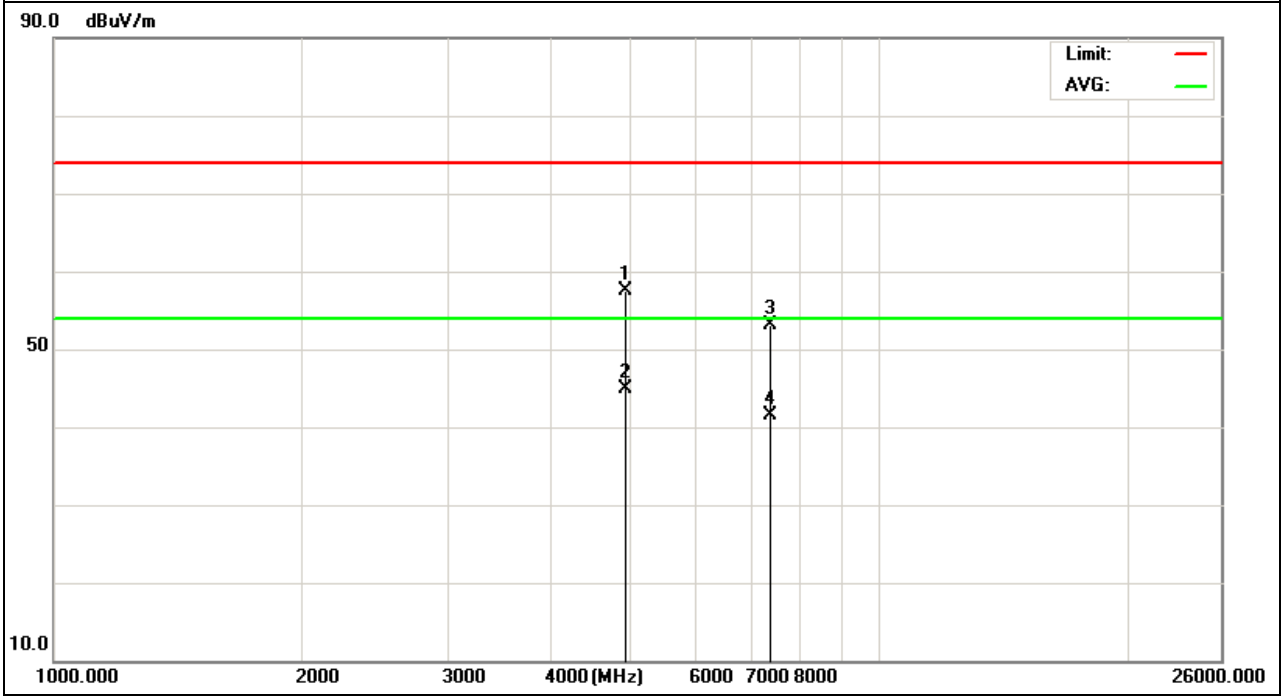
Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. No emission detected above 18GHz



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11 (802.11b Mode)	Polarization：	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.374	47.07	10.39	57.46	74	-16.54	peak
4924.374	34.53	10.39	44.92	54	-9.08	AVG
7386.293	40.47	12.68	53.15	74	-20.85	peak
7386.293	28.81	12.68	41.49	54	-12.51	AVG

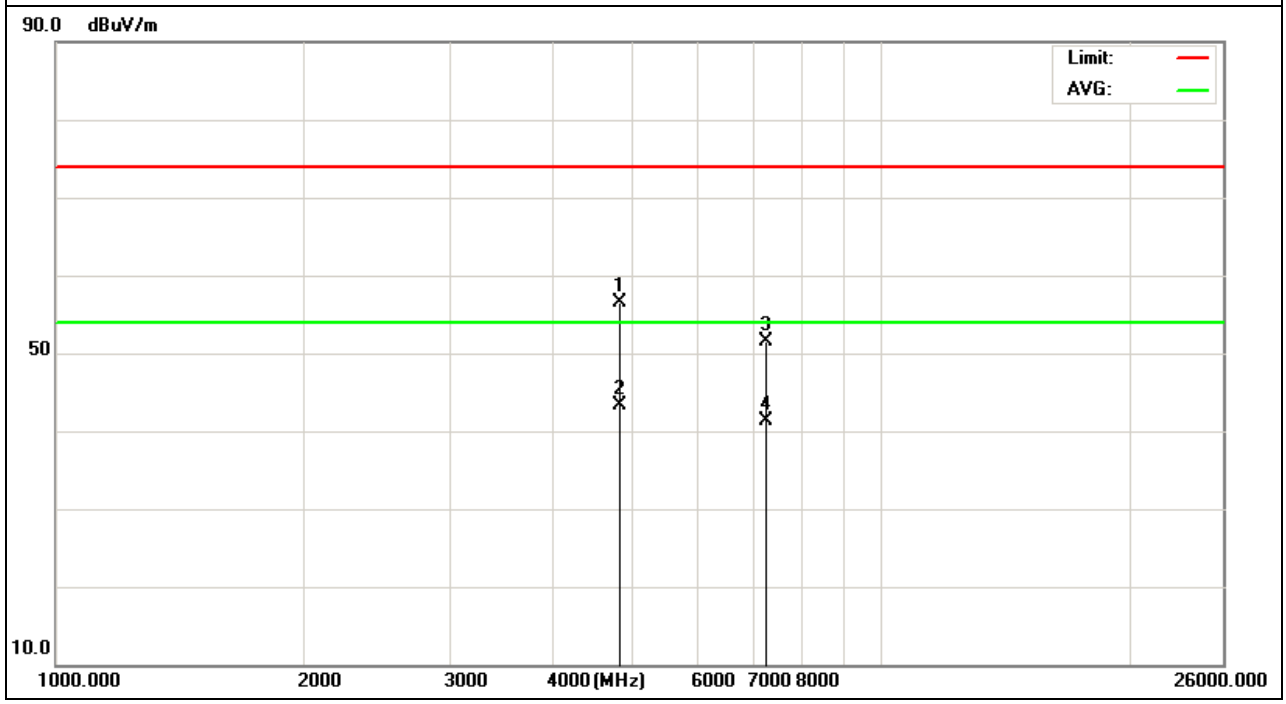
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1 (802.11g Mode)	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.127	46.08	10.44	56.52	74	-17.48	peak
4824.127	32.81	10.44	43.25	54	-10.75	AVG
7236.338	39.1	12.39	51.49	74	-22.51	peak
7236.338	28.87	12.39	41.26	54	-12.74	AVG

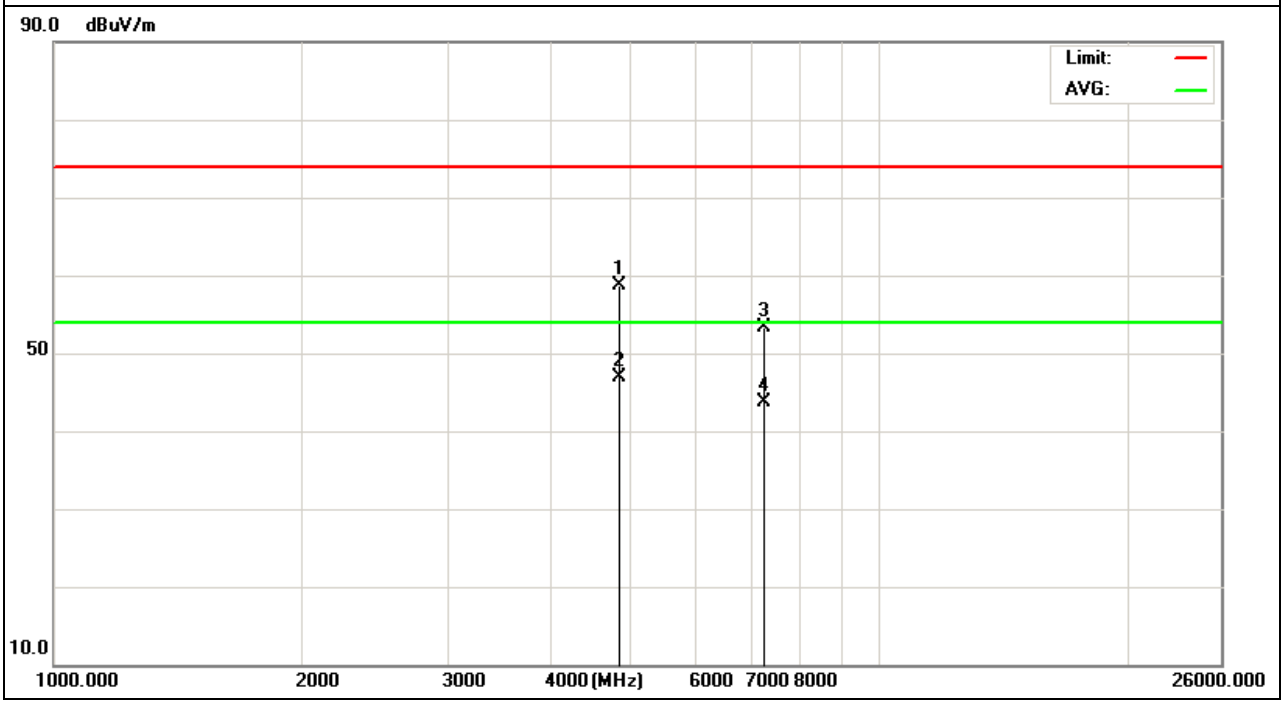
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1 (802.11g Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824.289	48.31	10.44	58.75	74	-15.25	peak
4824.289	36.48	10.44	46.92	54	-7.08	AVG
7236.455	40.87	12.39	53.26	74	-20.74	peak
7236.455	31.4	12.39	43.79	54	-10.21	AVG

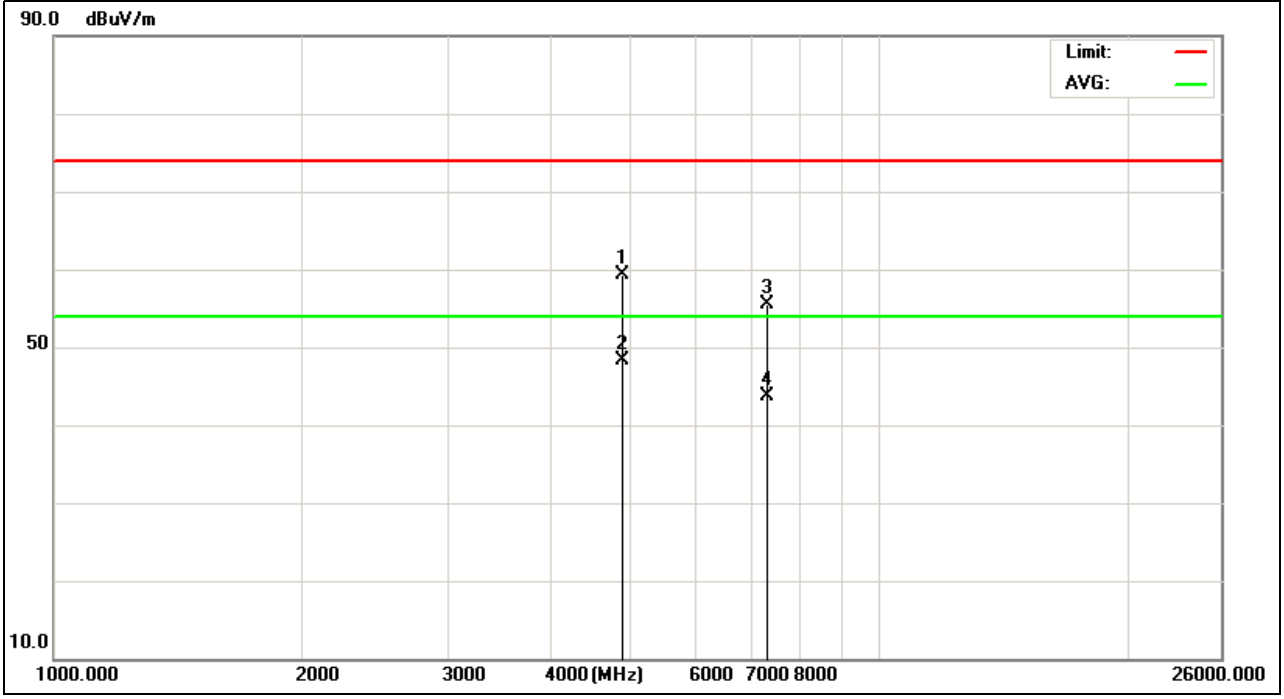
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH6 (802.11g Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874.039	48.97	10.4	59.37	74	-14.63	peak
4874.039	37.92	10.4	48.32	54	-5.68	AVG
7311.591	42.68	12.75	55.43	74	-18.57	peak
7311.591	31	12.75	43.75	54	-10.25	AVG

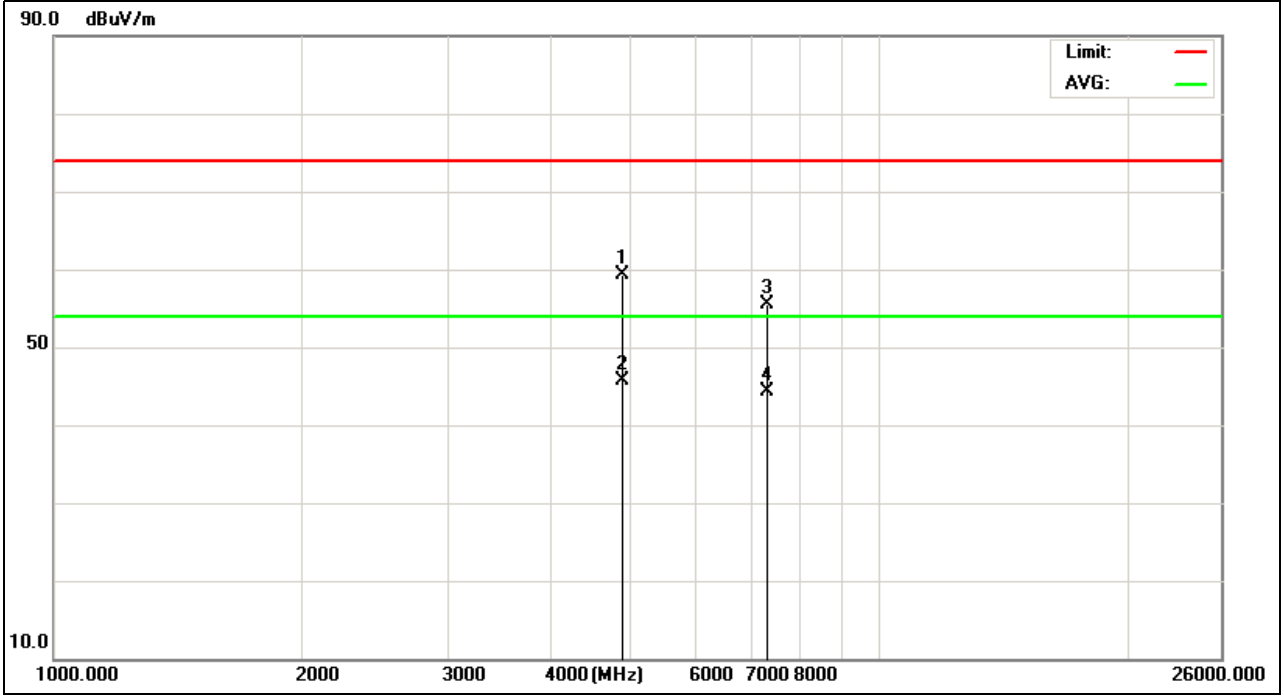
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH6 (802.11g Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874.408	48.88	10.4	59.28	74	-14.72	peak
4874.488	35.22	10.4	45.62	54	-8.38	AVG
7311.351	42.66	12.75	55.41	74	-18.59	peak
7311.351	31.61	12.75	44.36	54	-9.64	AVG

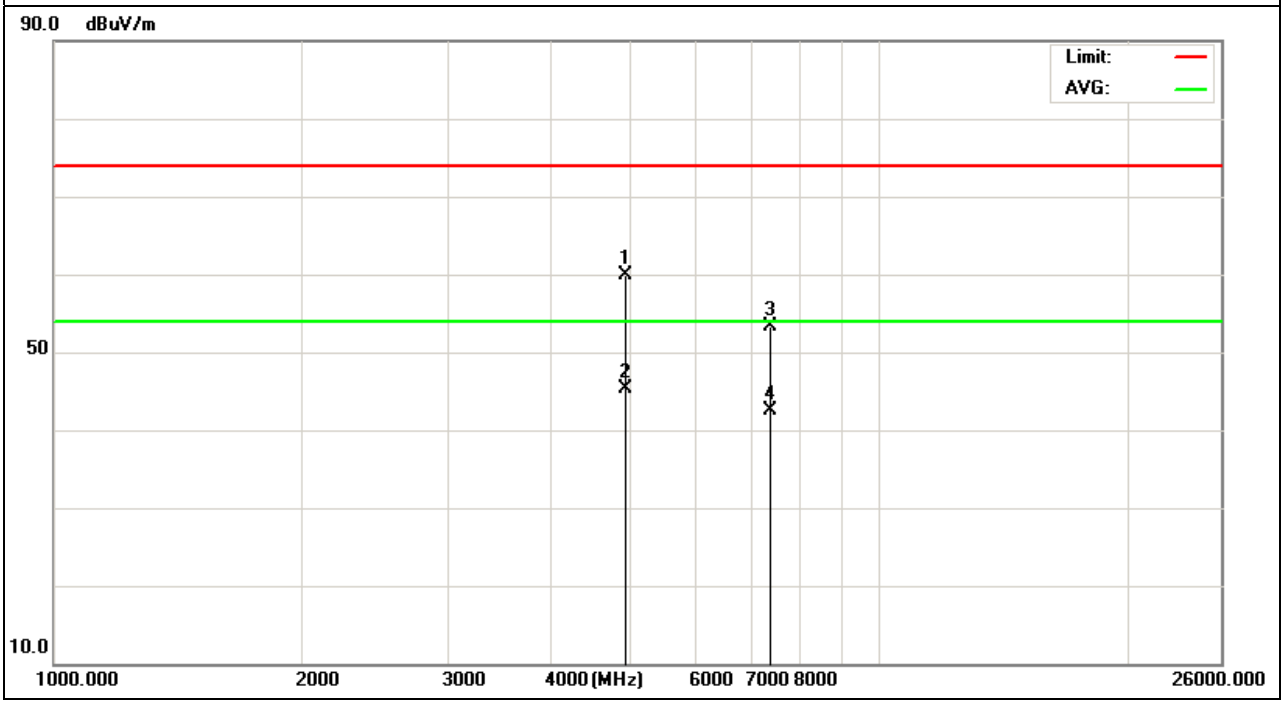
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11 (802.11g Mode)	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.075	49.49	10.39	59.88	74	-14.12	peak
4934.075	34.96	10.44	45.4	54	-8.6	AVG
7386.152	40.56	12.68	53.24	74	-20.76	peak
7386.152	29.85	12.68	42.53	54	-11.47	AVG

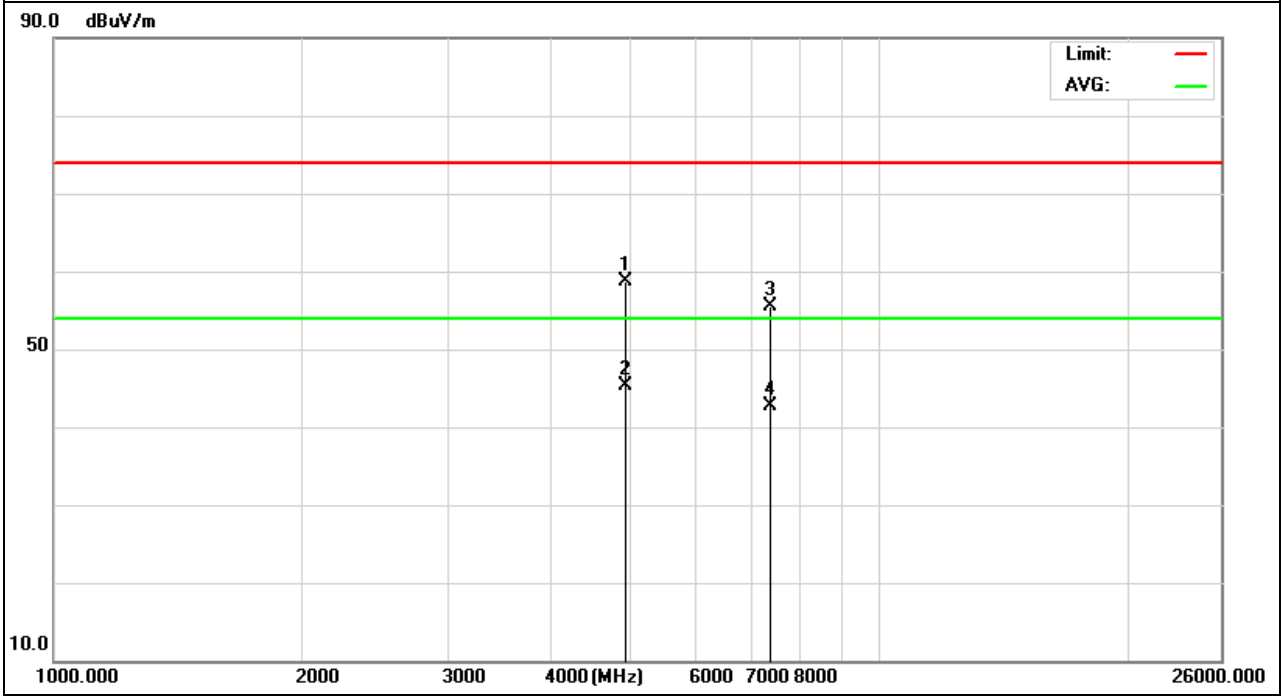
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11(802.11g Mode)	Polarization：	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.263	48.32	10.39	58.71	74	-15.29	peak
4924.263	34.97	10.39	45.36	54	-8.64	AVG
7386.154	42.9	12.68	55.58	74	-18.42	peak
7386.154	29.95	12.68	42.63	54	-11.37	AVG

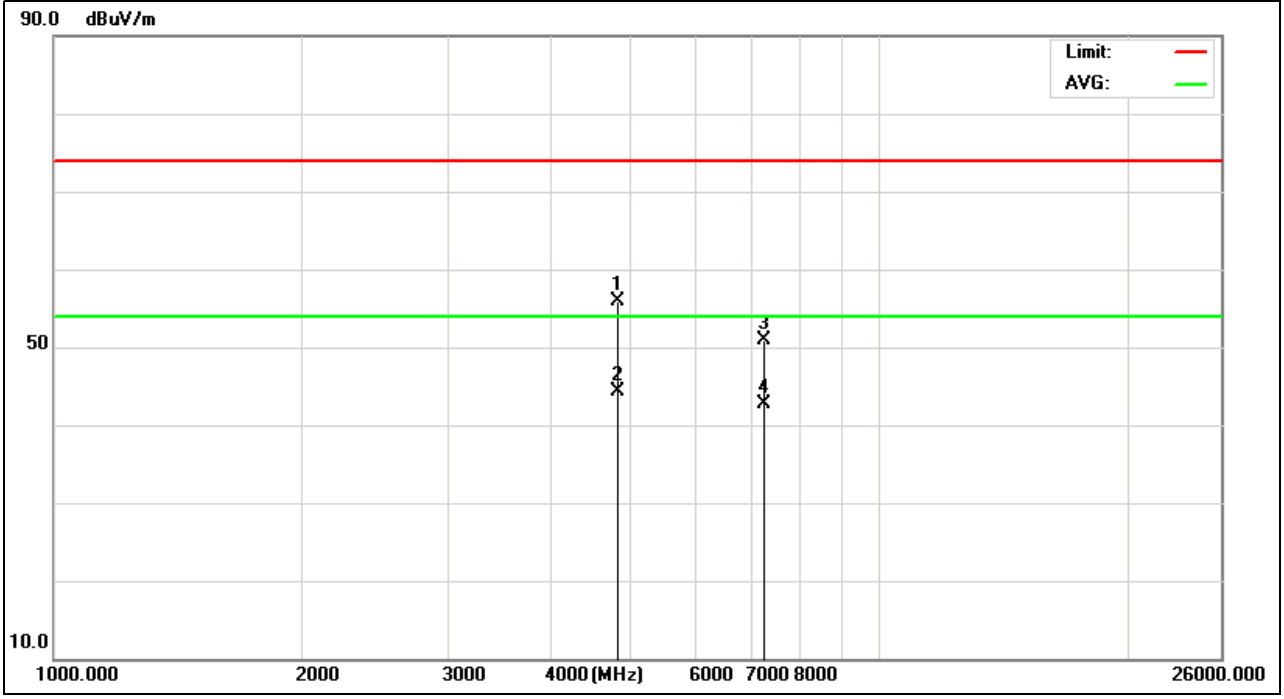
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1 (802.11n/20M Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824.027	45.56	10.44	56	74	-18	peak
4824.027	33.92	10.44	44.36	54	-9.64	AVG
7236.289	38.59	12.39	50.98	74	-23.02	peak
7236.289	30.29	12.39	42.68	54	-11.32	AVG

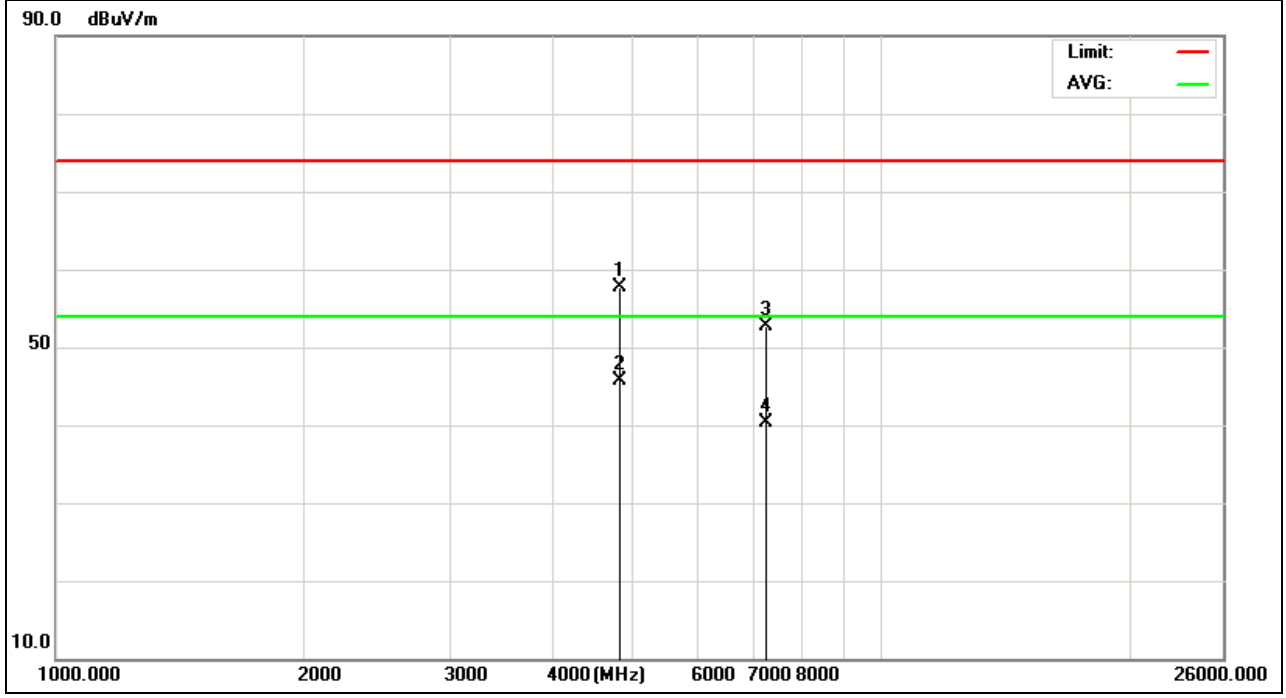
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1 (802.11n/20M Mode)	Polarization：	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.133	47.24	10.44	57.68	74	-16.32	peak
4824.133	35.19	10.44	45.63	54	-8.37	AVG
7236.104	40.3	12.39	52.69	74	-21.31	peak
7236.104	27.87	12.39	40.26	54	-13.74	AVG

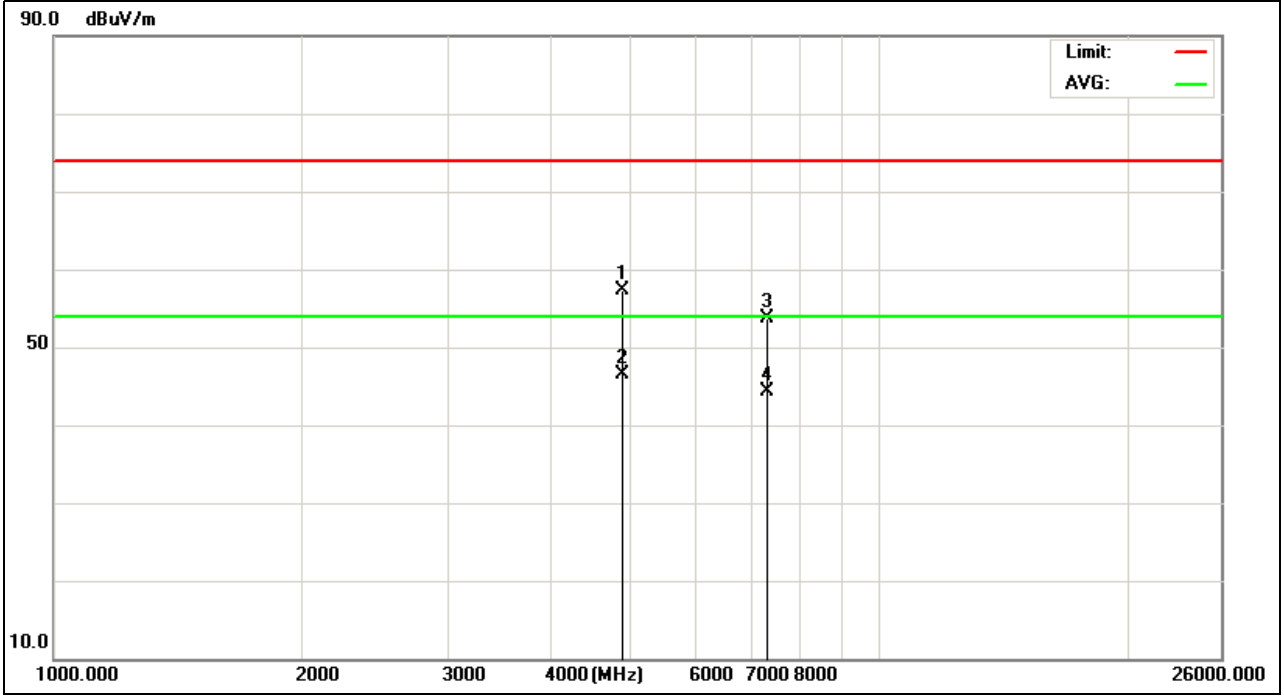
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH6 (802.11n/20M Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874.159	46.88	10.4	57.28	74	-16.72	peak
4874.159	36.18	10.4	46.58	54	-7.42	AVG
7311.257	41.04	12.75	53.79	74	-20.21	peak
7311.257	31.47	12.75	44.22	54	-9.78	AVG

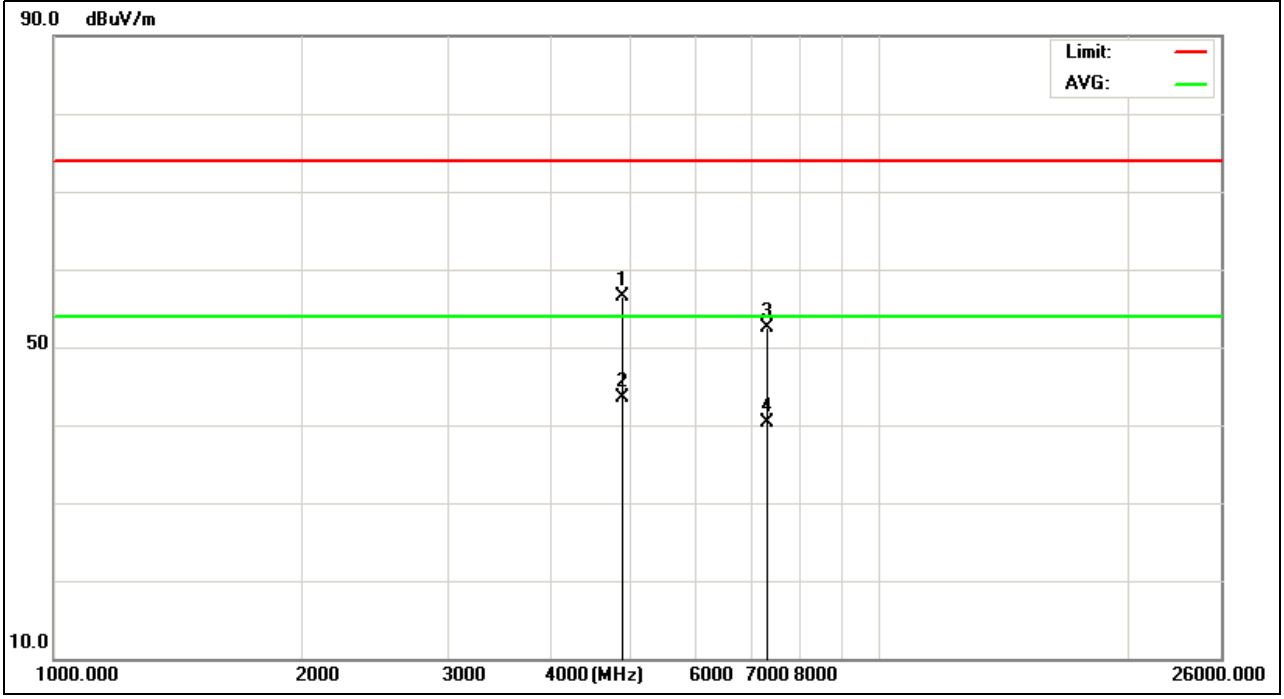
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH6 (802.11n/20M Mode)	Polarization：	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.238	46.07	10.4	56.47	74	-17.53	peak
4874.238	33.16	10.4	43.56	54	-10.44	AVG
7311.265	39.67	12.75	52.42	74	-21.58	peak
7311.265	27.56	12.75	40.31	54	-13.69	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

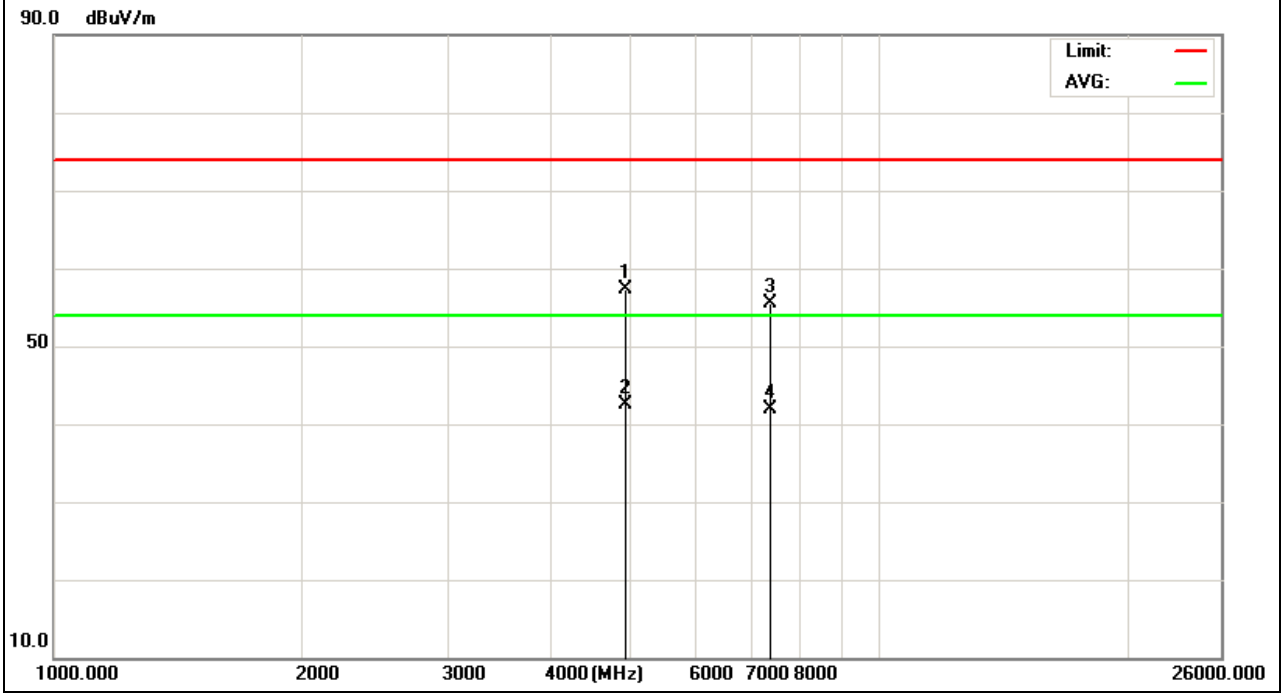


EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11 (802.11n/20M Mode)	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.182	46.94	10.39	57.33	74	-16.67	peak
4934.182	32.09	10.44	42.53	54	-11.47	AVG
7386.385	42.77	12.69	55.46	74	-18.54	peak
7386.385	29.15	12.69	41.84	54	-12.16	AVG

Remark:

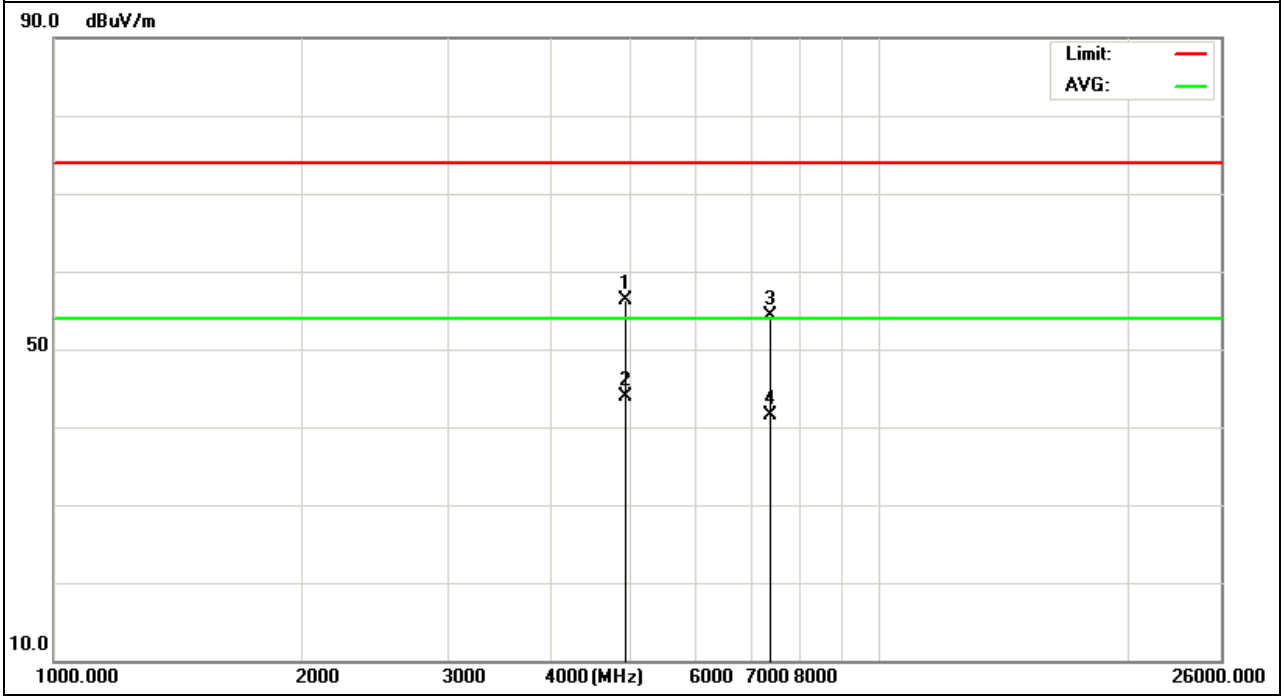
3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
4. No emission detected above 18GHz



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11 (802.11n/20M Mode)	Polarization：	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.226	45.98	10.39	56.37	74	-17.63	peak
4924.226	33.59	10.39	43.98	54	-10.02	AVG
7386.135	41.61	12.68	54.29	74	-19.71	peak
7386.135	28.9	12.68	41.58	54	-12.42	AVG

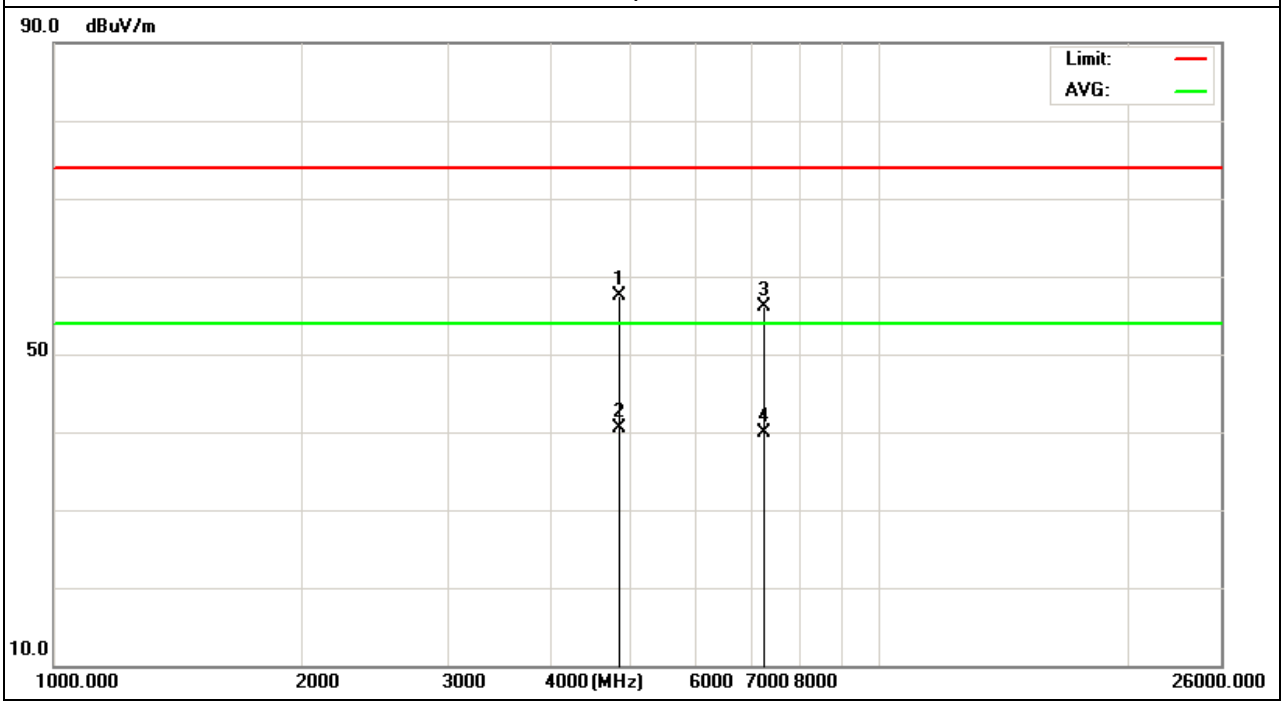
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH3 (802.11n/40M Mode)	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4844	54.86	2.68	57.54	74	-16.46	peak
4844	37.88	2.68	40.56	54	-13.44	AVG
7266	51.34	4.69	56.03	74	-17.97	peak
7266	35.12	4.69	39.81	54	-14.19	AVG

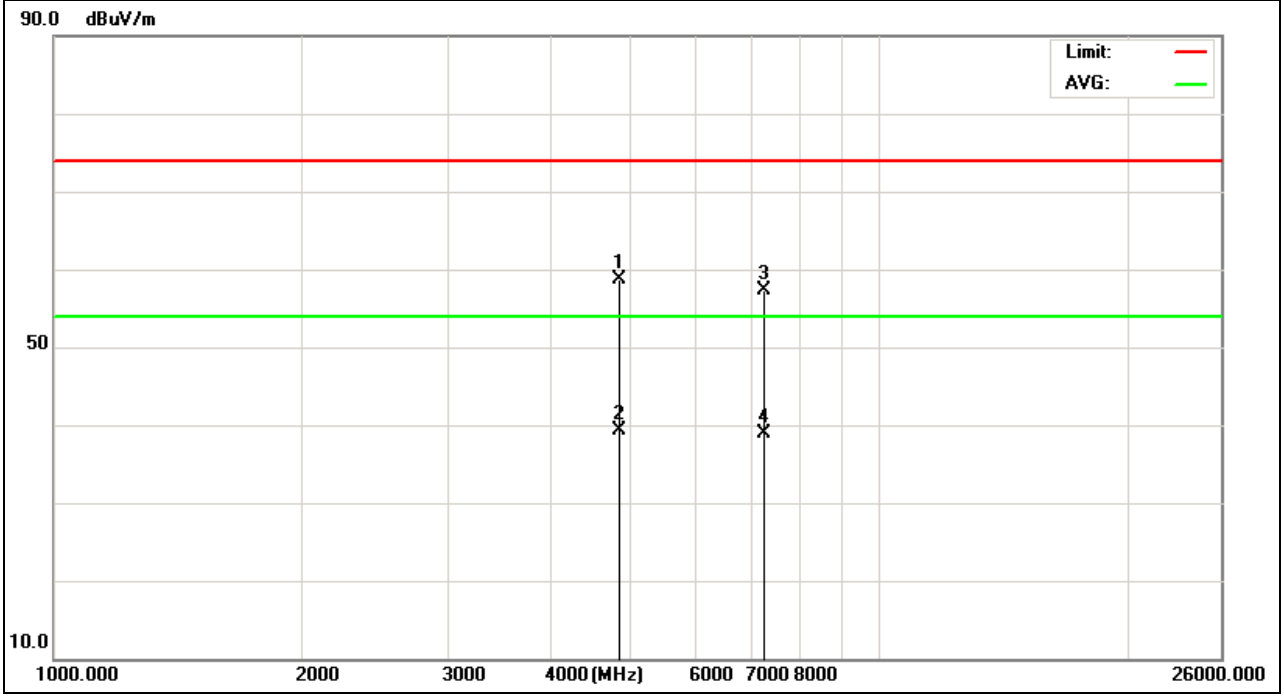
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH3 (802.11n/40M Mode)	Polarization：	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4844	56.12	2.68	58.8	74	-15.2	peak
4844	36.56	2.68	39.24	54	-14.76	AVG
7266	52.56	4.69	57.25	74	-16.75	peak
7266	34.12	4.69	38.81	54	-15.19	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

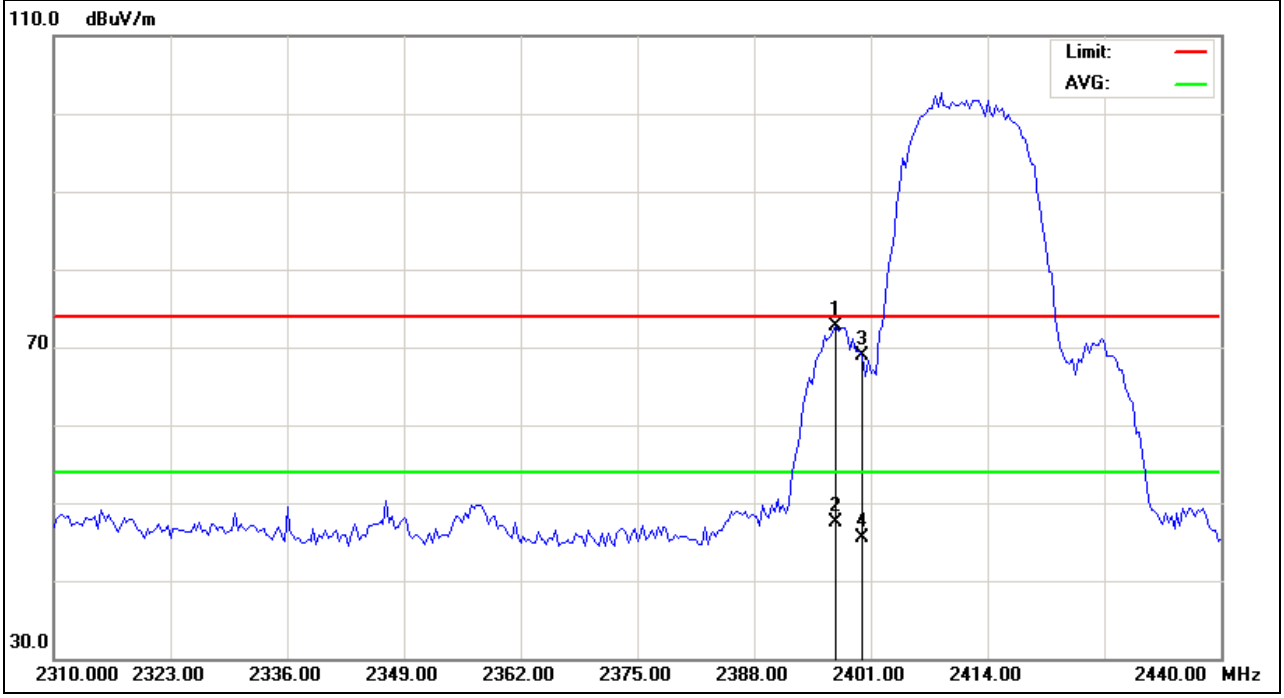


Band Edge Emission:

EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1(802.11b Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2397.1	85.78	-13.02	72.76	74	-1.24	peak
2397.1	60.48	-13.02	47.46	54	-6.54	AVG
2400	81.88	-12.99	68.89	74	-5.11	peak
2400	58.58	-12.99	45.59	54	-8.41	AVG

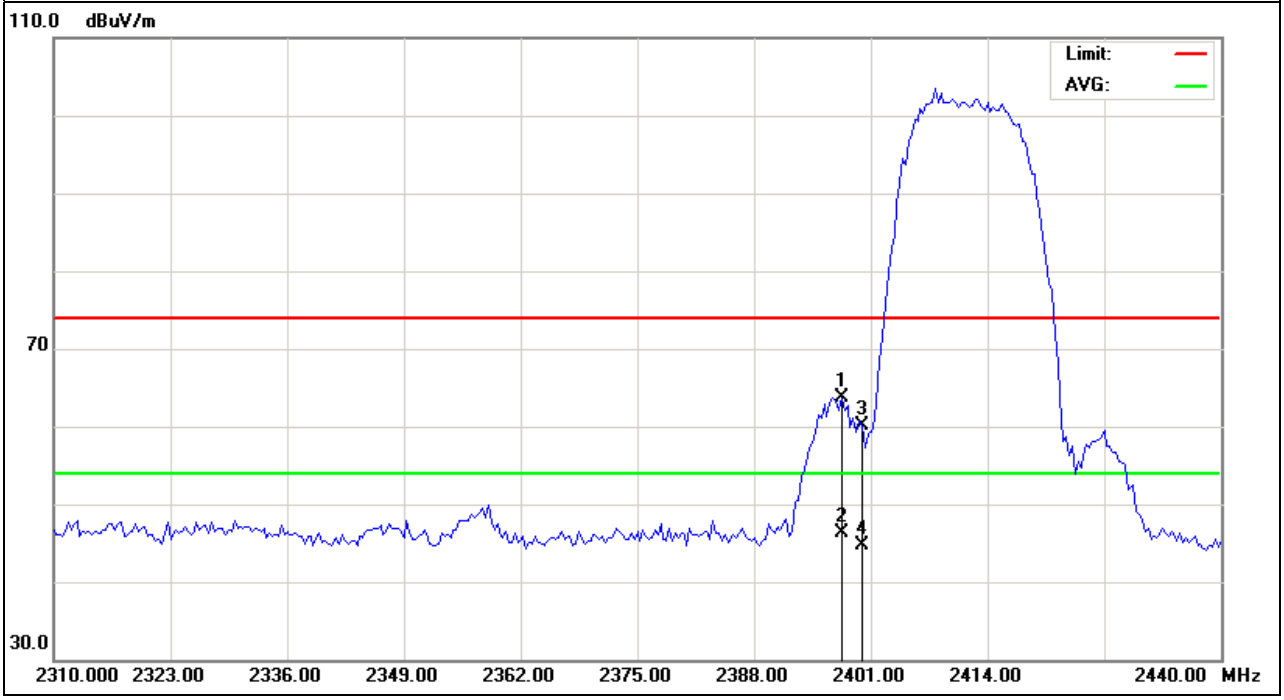
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1(802.11b Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2397.75	76.78	-13	63.78	74	-10.22	peak
2397.75	59.34	-13	46.34	54	-7.66	AVG
2400	73.09	-12.99	60.1	74	-13.9	peak
2400	57.65	-12.99	44.66	54	-9.34	AVG

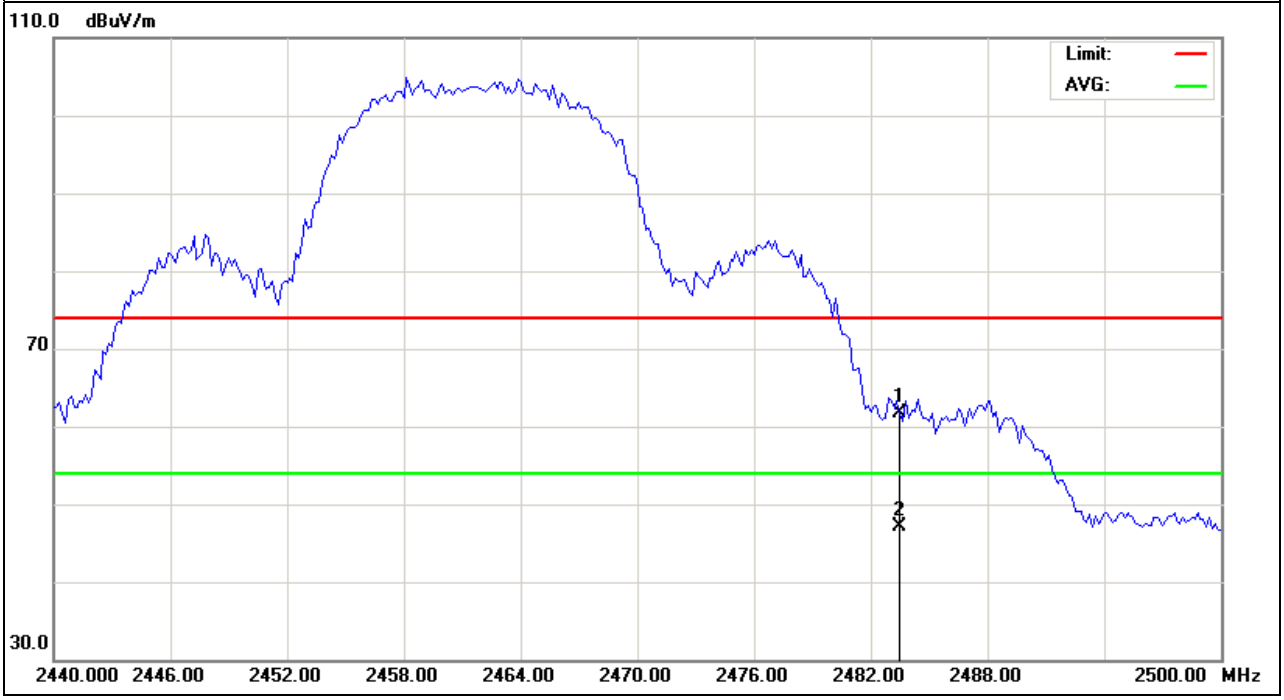
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11(802.11b Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	74.4	-12.78	61.62	74	-12.38	peak
2483.5	59.85	-12.78	47.07	54	-6.93	AVG

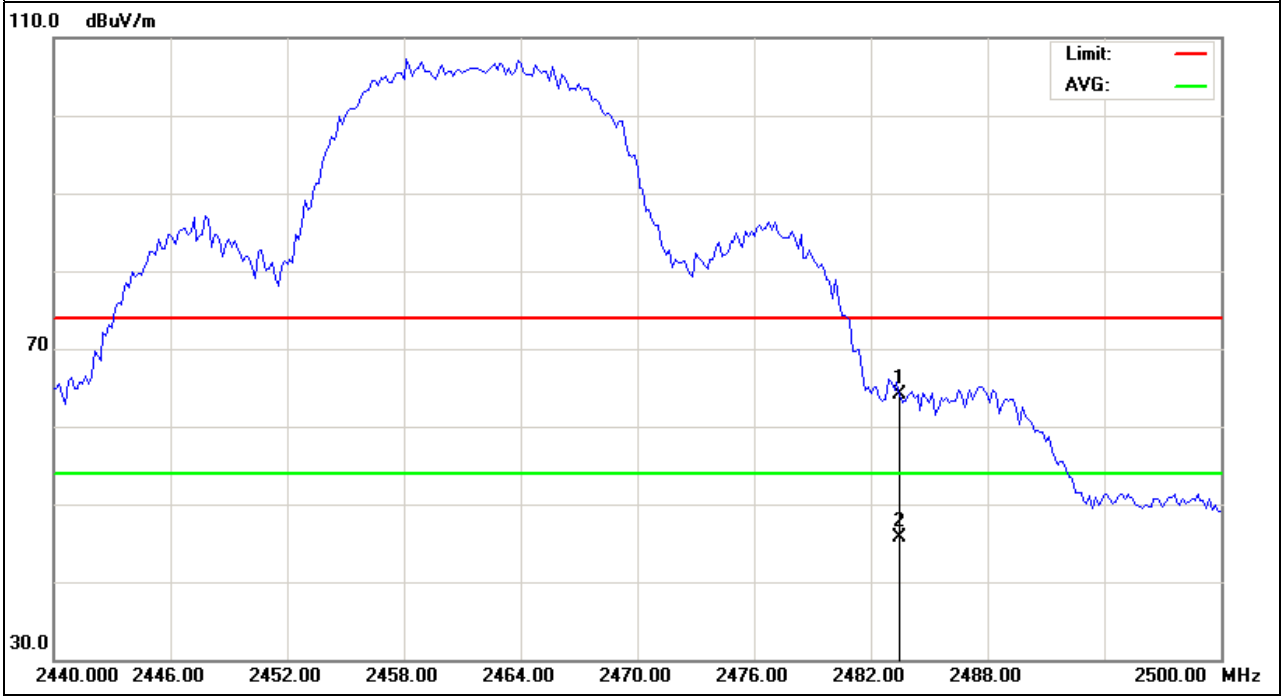
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11(802.11b Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	76.81	-12.78	64.03	74	-9.97	peak
2483.5	58.57	-12.78	45.79	54	-8.21	AVG

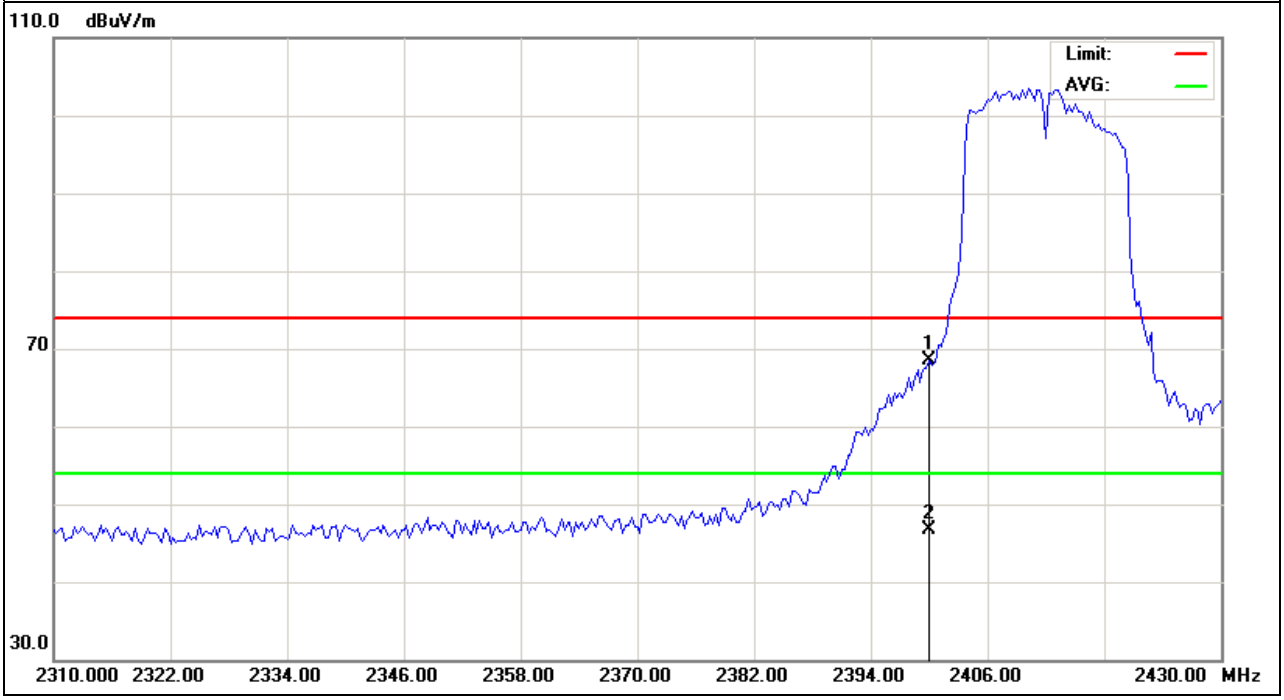
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1(802.11g Mode)	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2400	81.59	-12.99	68.6	74	-5.4	peak
2400	59.73	-12.99	46.74	54	-7.26	AVG

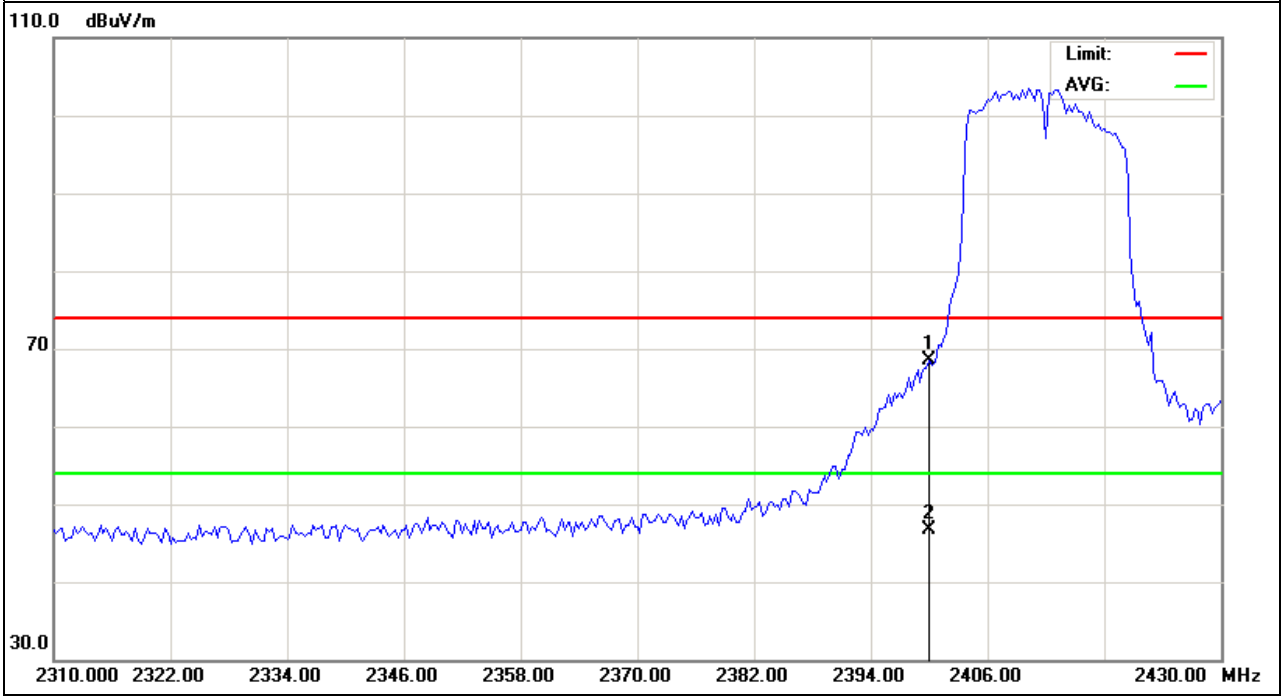
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1(802.11gMode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400	81.49	-12.99	68.5	74	-5.5	peak
2400	59.73	-12.99	46.74	54	-7.26	AVG

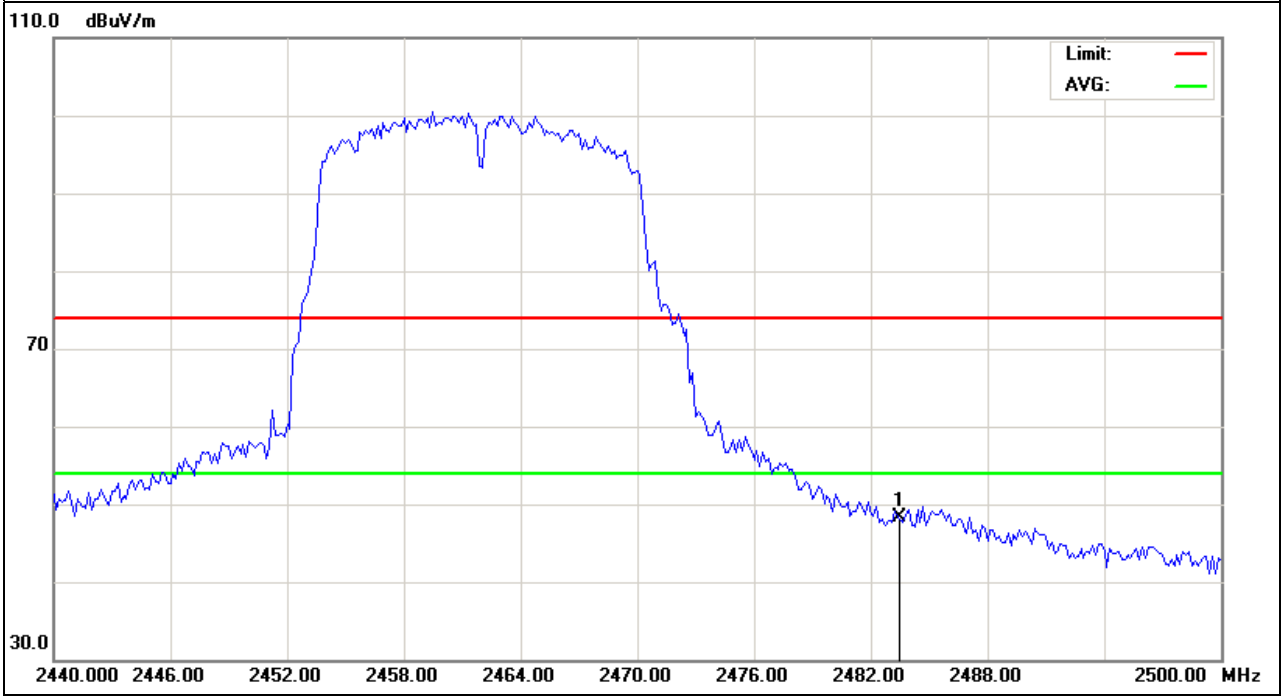
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11(802.11g Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	60.98	-12.78	48.2	74	-25.8	peak

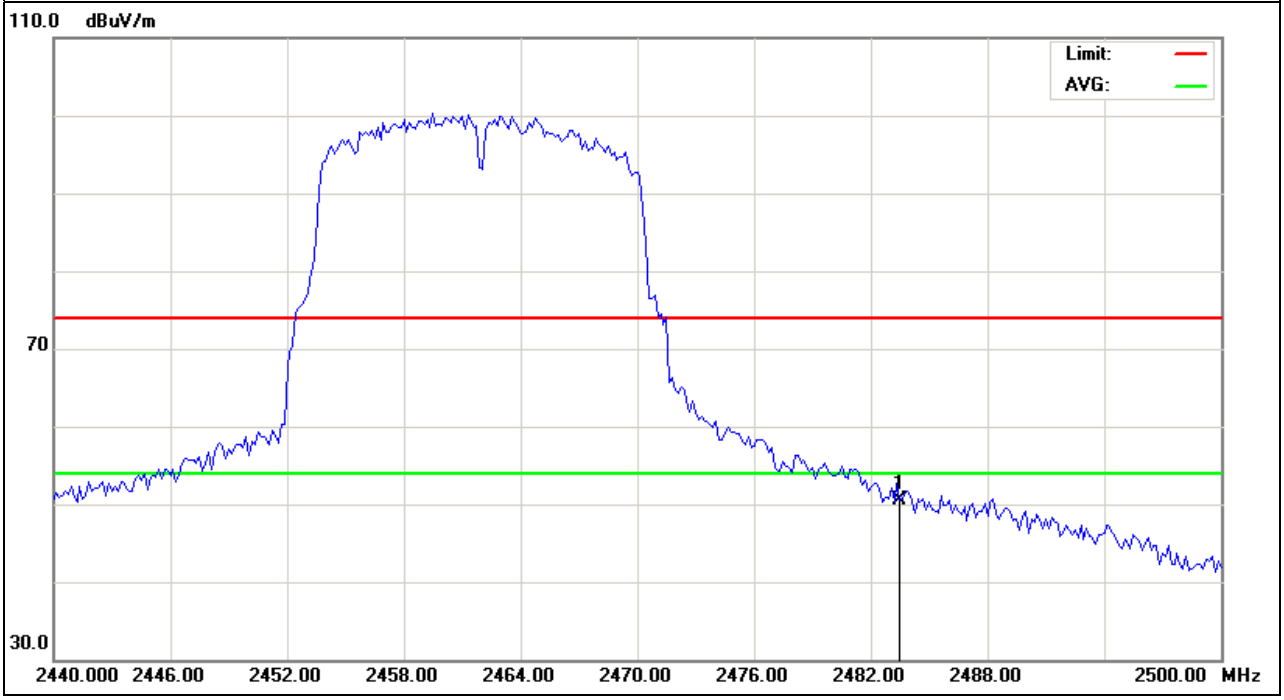
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11(802.11g Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	63.38	-12.78	50.6	74	-23.4	peak

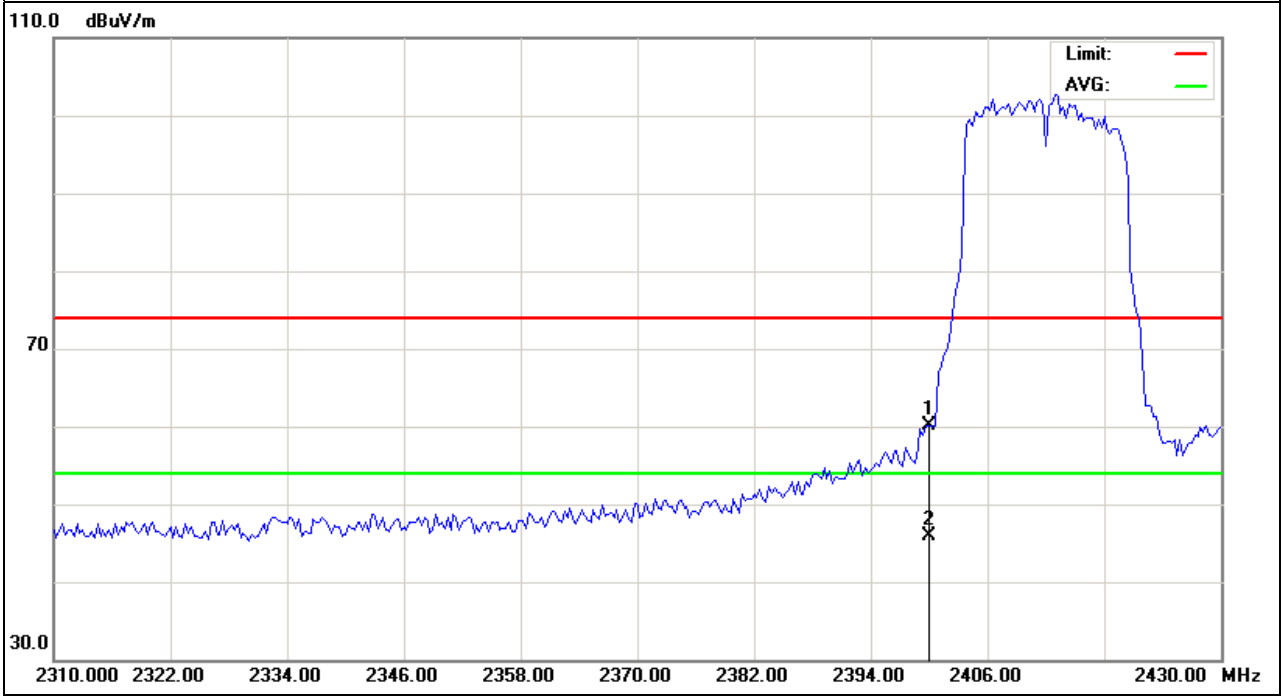
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1(802.11n Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400	73.09	-12.99	60.1	74	-13.9	peak
2400	58.85	-12.99	45.86	54	-8.14	AVG

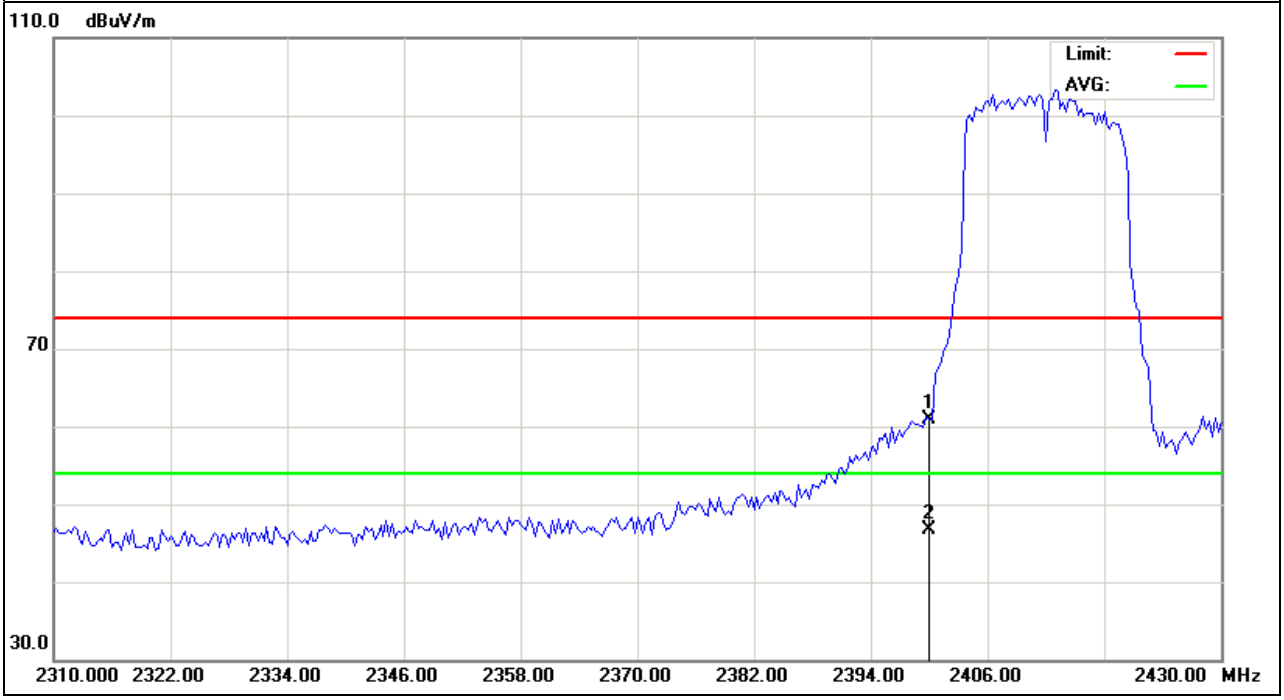
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH1(802.11n Mode)	Polarization：	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2400	73.89	-12.99	60.9	74	-13.1	peak
2400	59.62	-12.99	46.63	54	-7.37	AVG

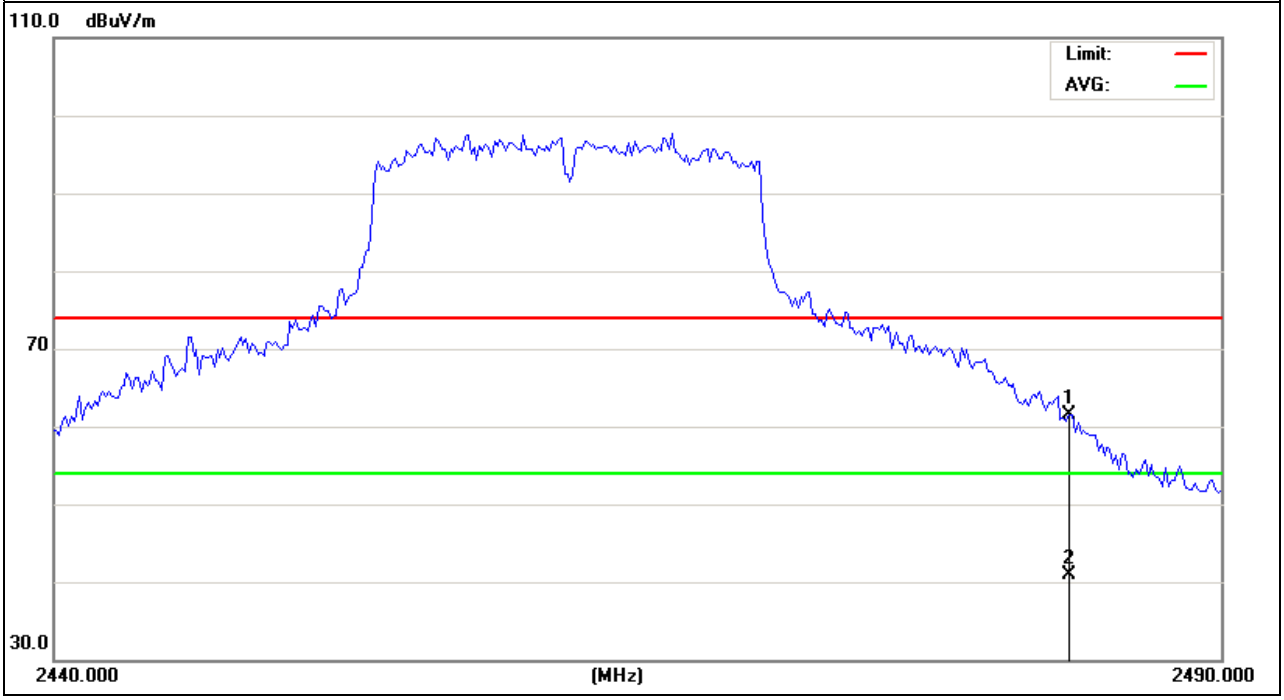
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11(802.11n/20M Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	74.3	-12.78	61.52	74	-12.48	peak
2483.5	53.73	-12.78	40.95	54	-13.05	AVG

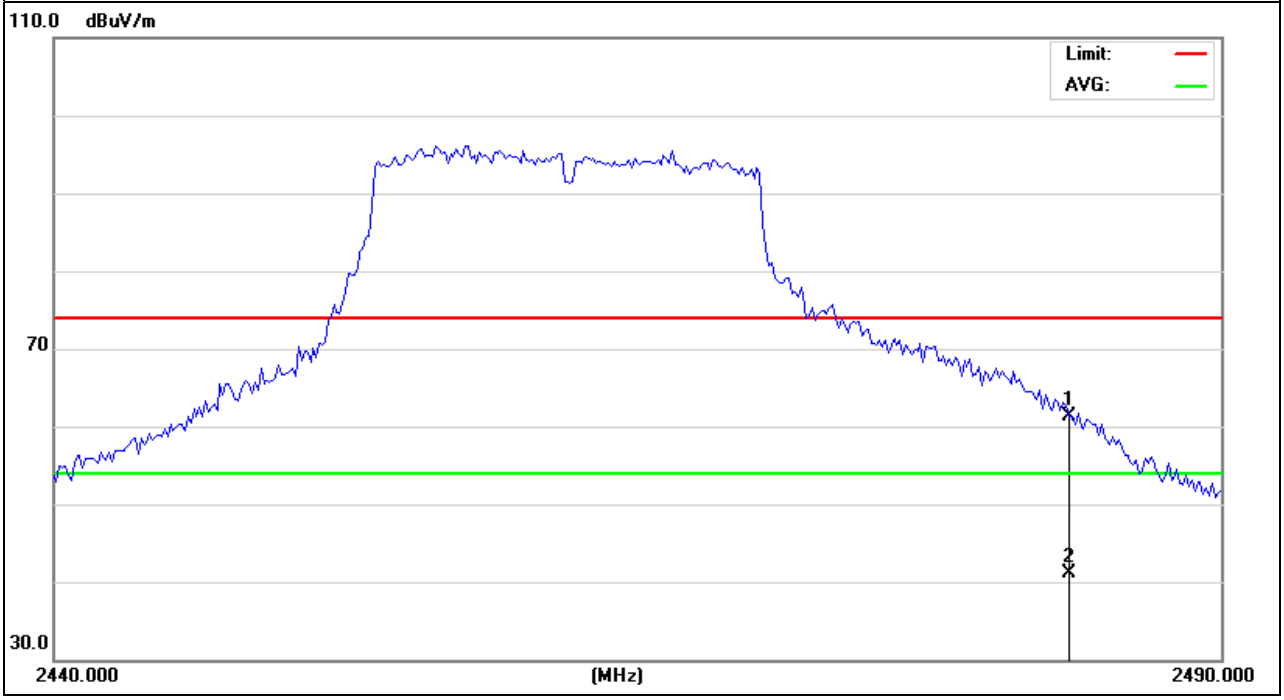
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	CH11(802.11n /20M Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	71.88	-12.78	59.1	74	-14.9	peak
2483.5	59.32	-12.78	46.54	54	-7.46	AVG

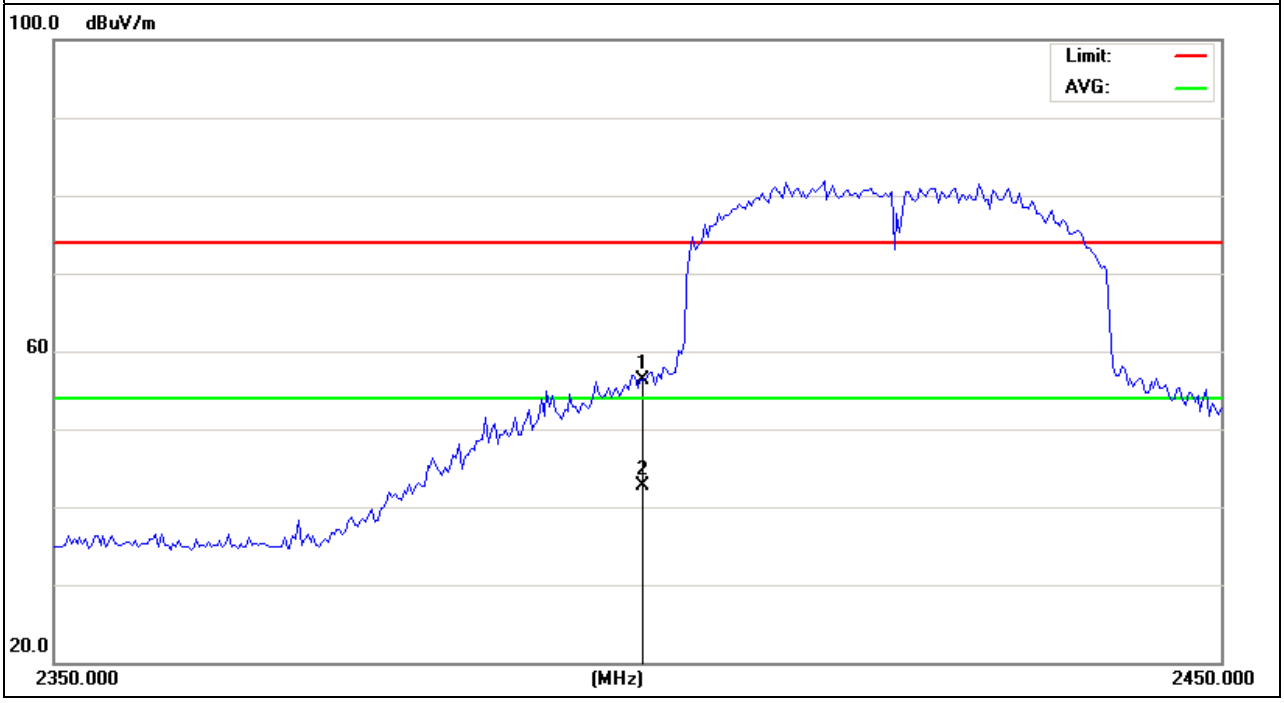
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless USB adapter	Model Name ：	MT-WN715N
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH3(802.11n Mode/40MHz)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400	96.71	-40.5	56.21	74	-17.79	peak
2400	83.23	-40.5	42.73	54	-11.27	AVG

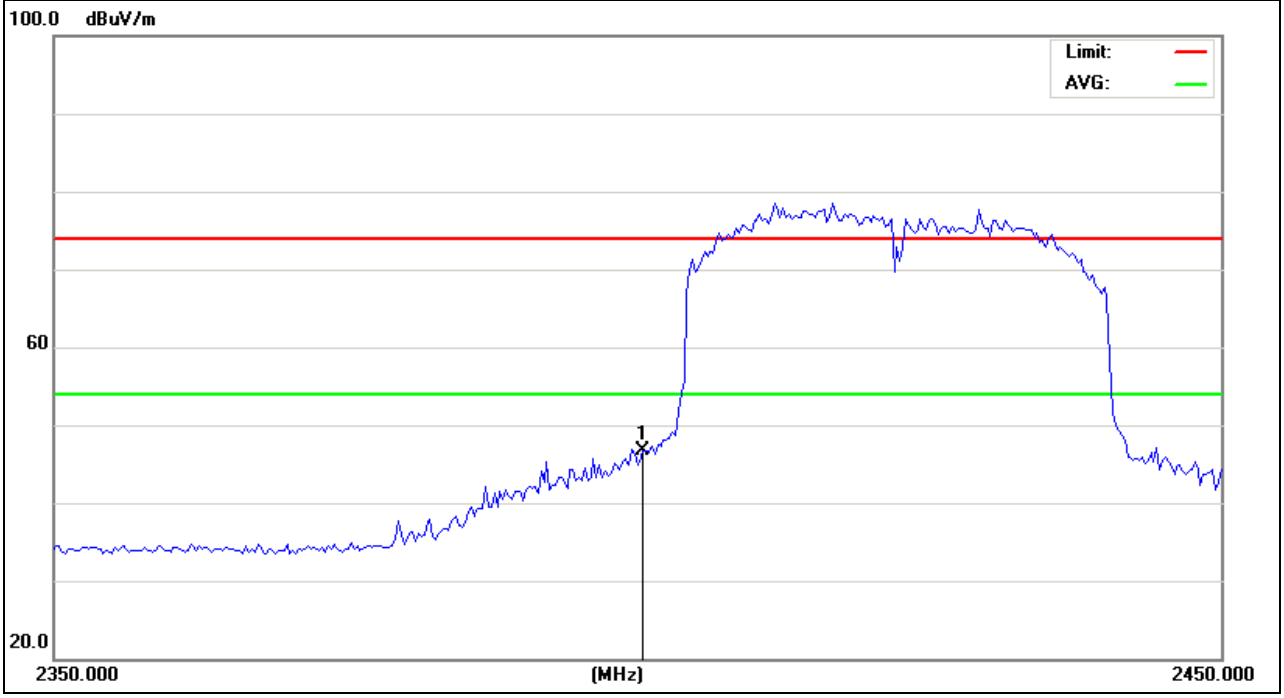
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless USB adapter	Model Name ：	MT-WN715N
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH3(802.11n Mode/40MHz)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400	87.19	-40.5	46.69	74	-27.31	peak

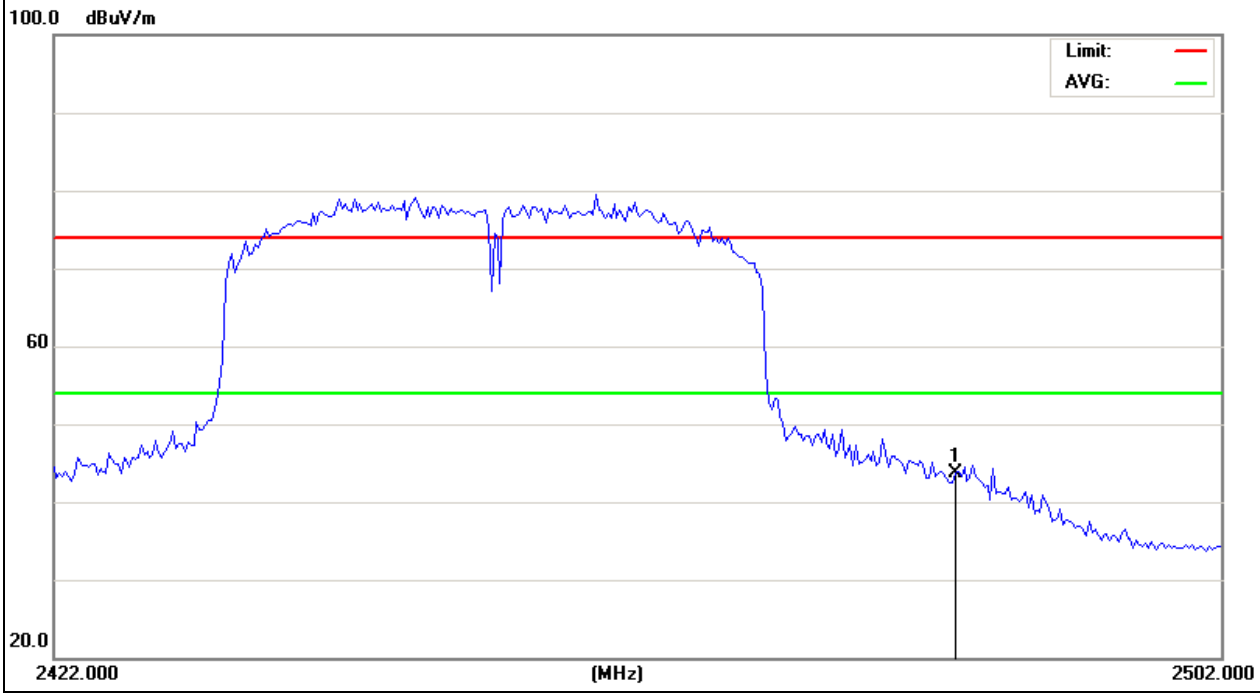
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless USB adapter	Model Name ：	MT-WN715N
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH9(802.11n Mode/40MHz)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	84.19	-40.43	43.76	74	-30.24	peak

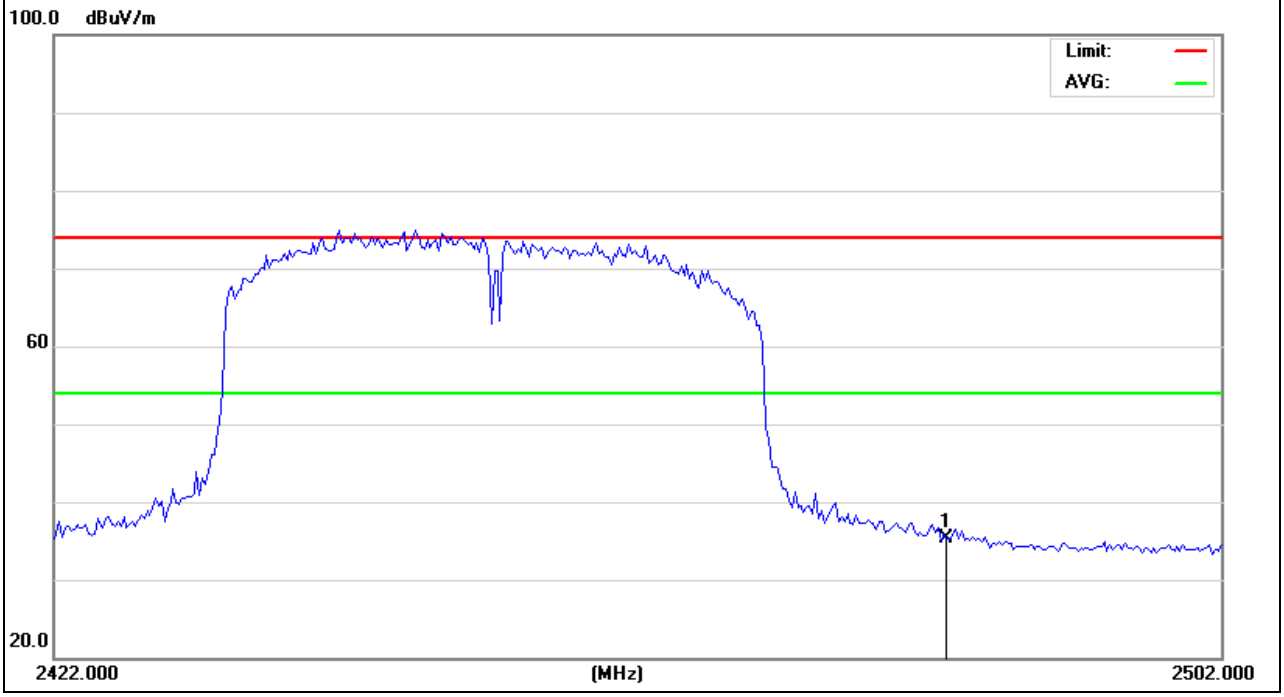
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless USB adapter	Model Name ：	MT-WN715N
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH9(802.11n Mode/40MHz)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	75.63	-40.43	35.2	74	-38.8	peak

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



4. POWER SPECTRAL DENSITY TEST

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

4.1.1 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW ≥ 3 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP

4.1.4 EUT OPERATION CONDITIONS

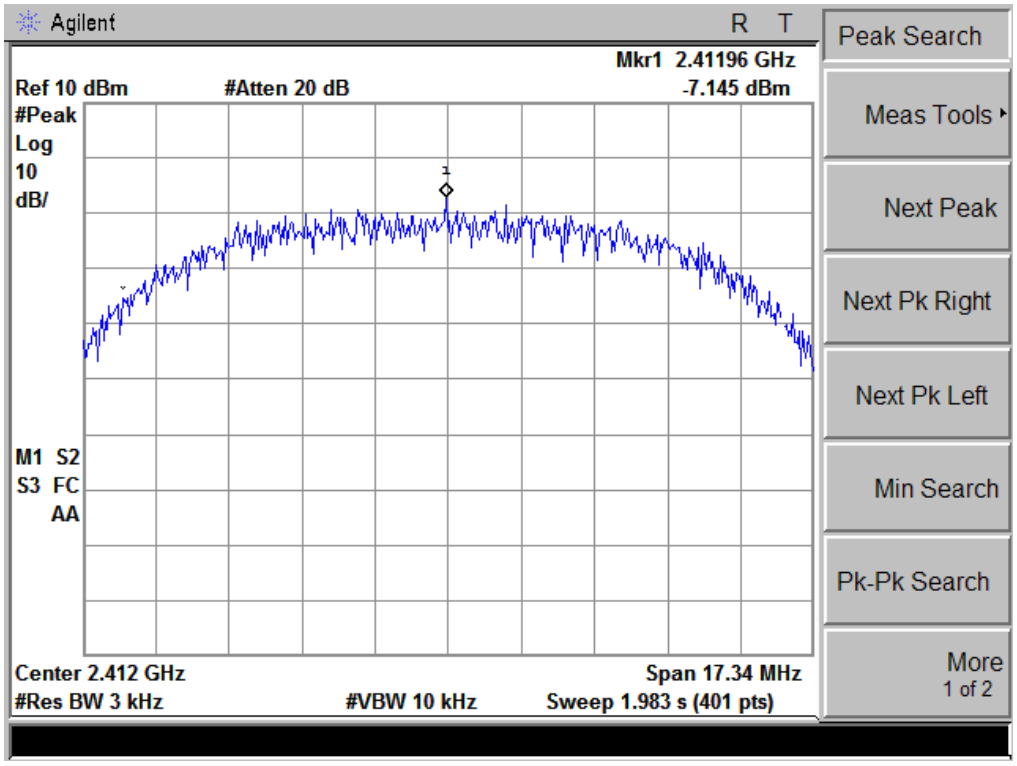
The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

4.1.5 TEST RESULTS

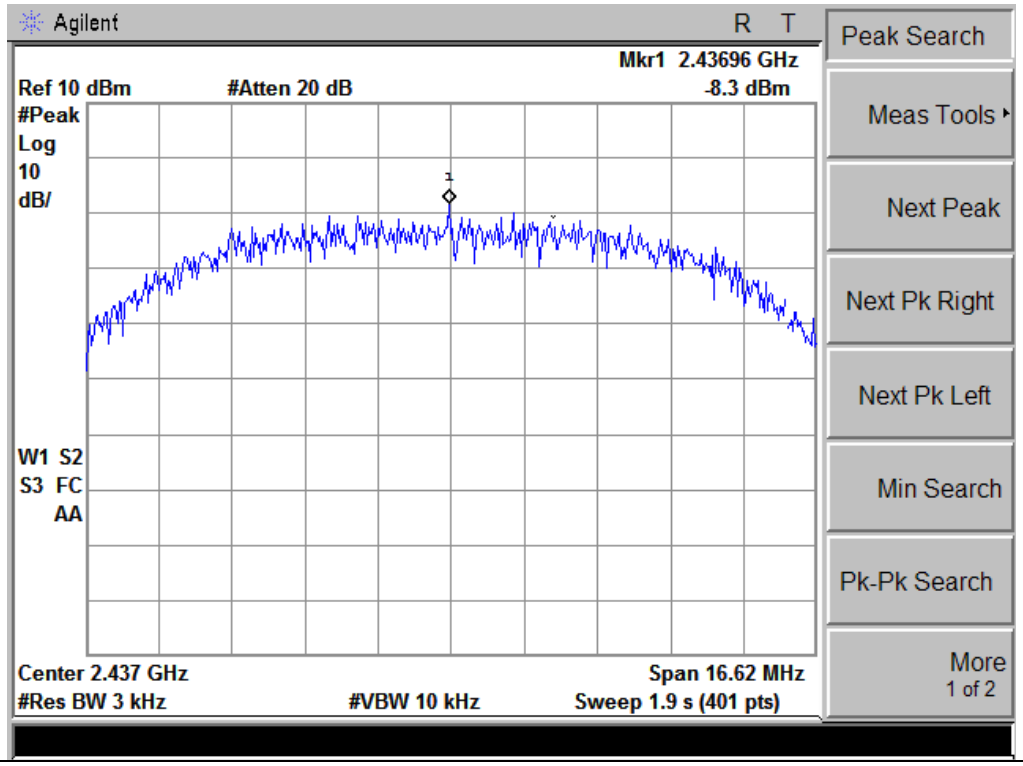
EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1015 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	TX b Mode /CH01, CH06, CH11		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-7.15	8	**PASS**
2437 MHz	-8.30	8	**PASS**
2462 MHz	-8.90	8	**PASS**

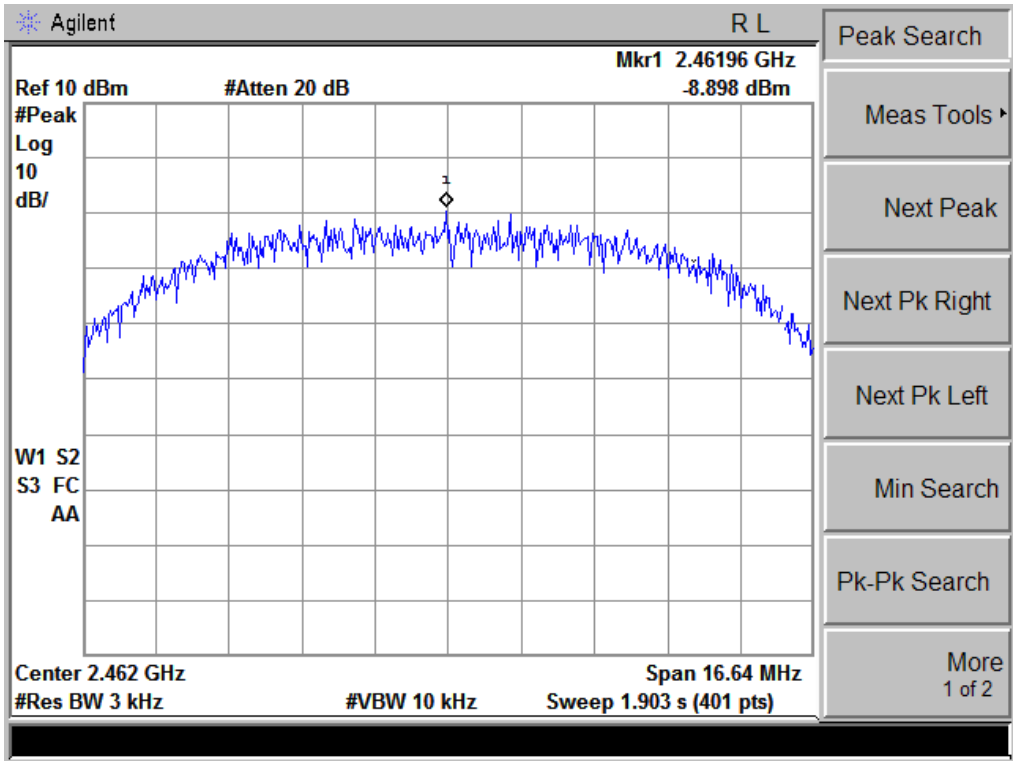
TX CH01



TX CH06



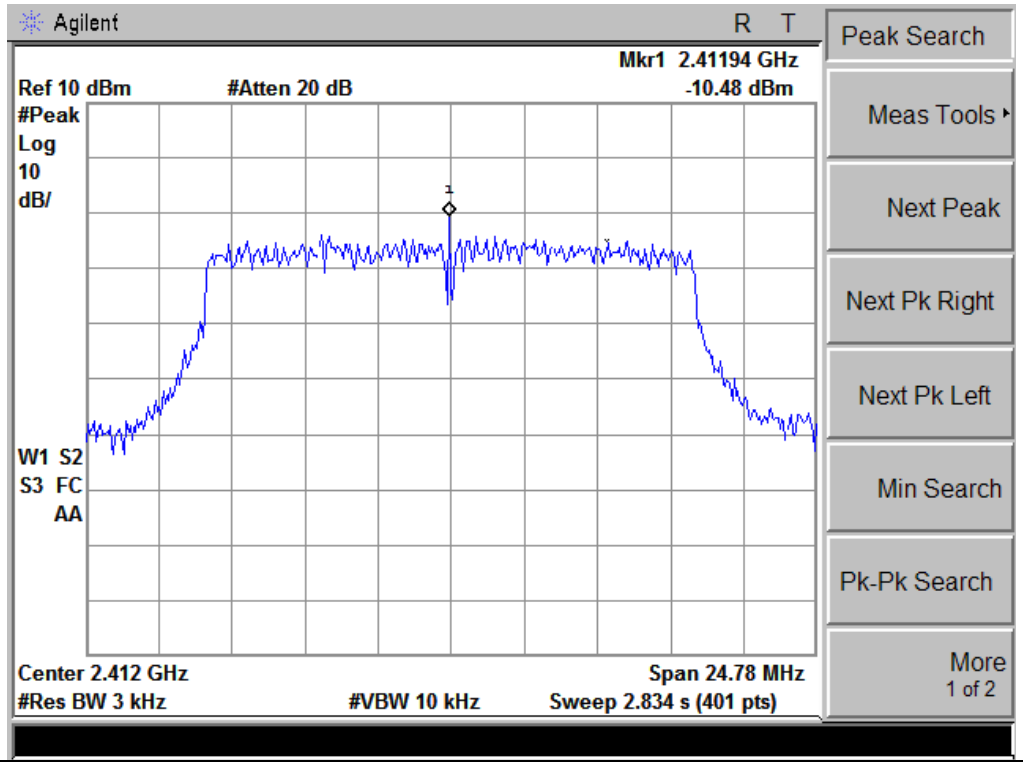
TX CH11



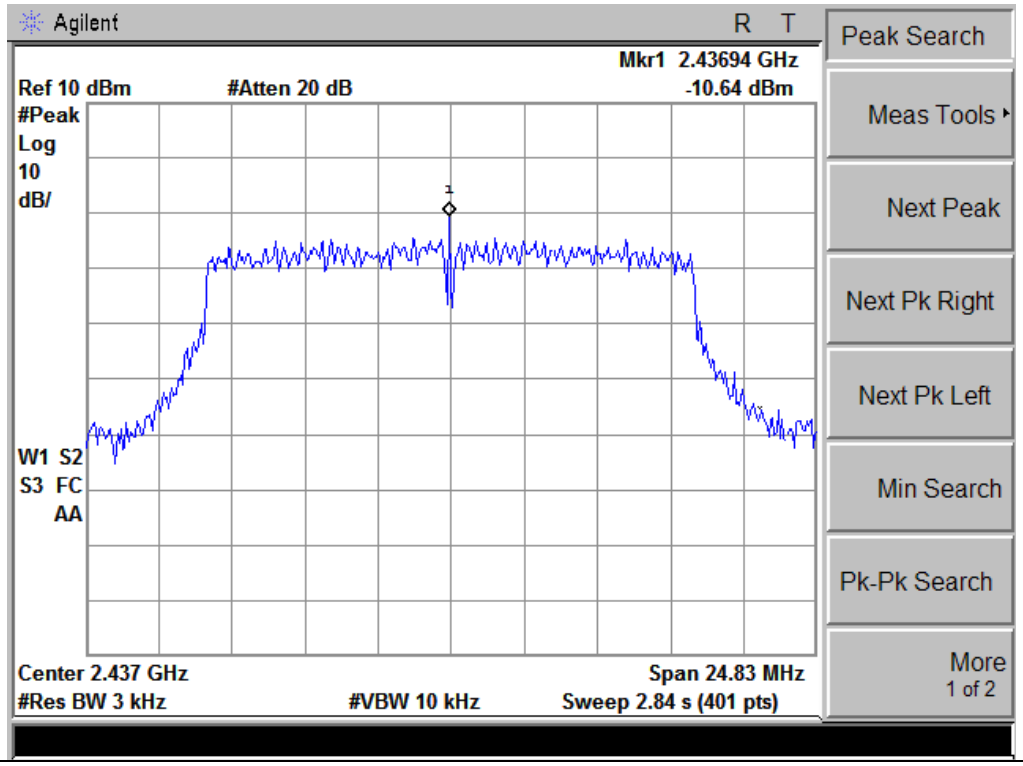
EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1015 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	TX g Mode /CH01, CH06, CH11		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-10.48	8	**PASS**
2437 MHz	-10.64	8	**PASS**
2462 MHz	-11.64	8	**PASS**

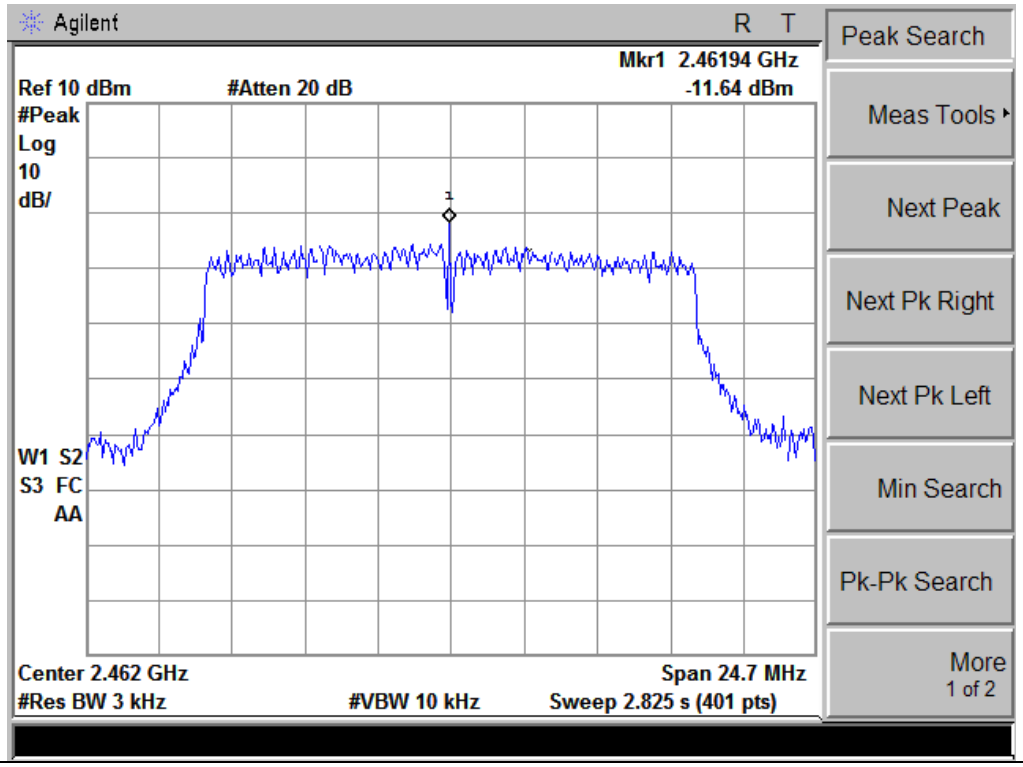
TX CH01



TX CH06



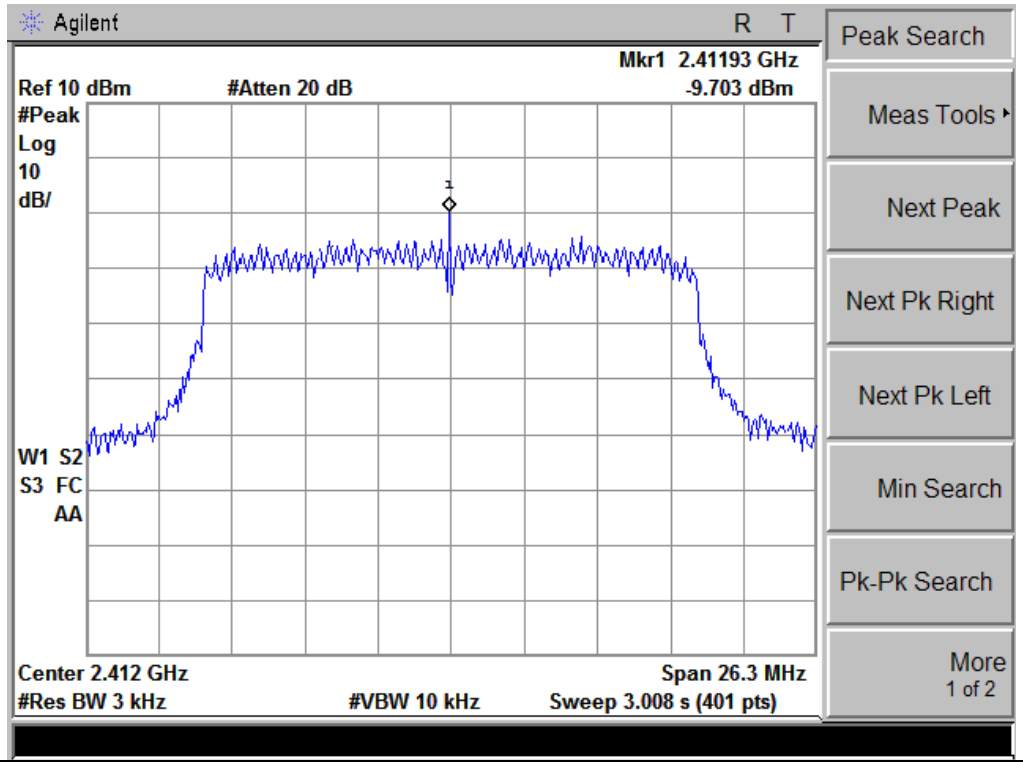
TX CH11



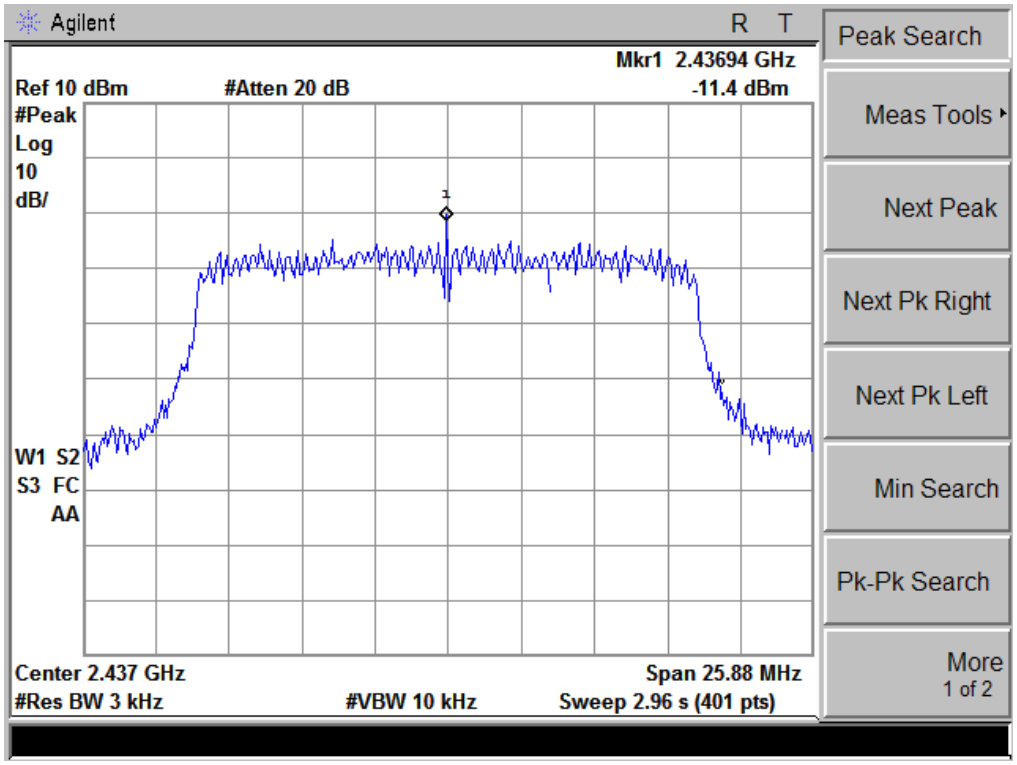
EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1015 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	TX n Mode /CH01, CH06, CH11		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-9.703	8	**PASS**
2437 MHz	-11.40	8	**PASS**
2462 MHz	-11.93	8	**PASS**

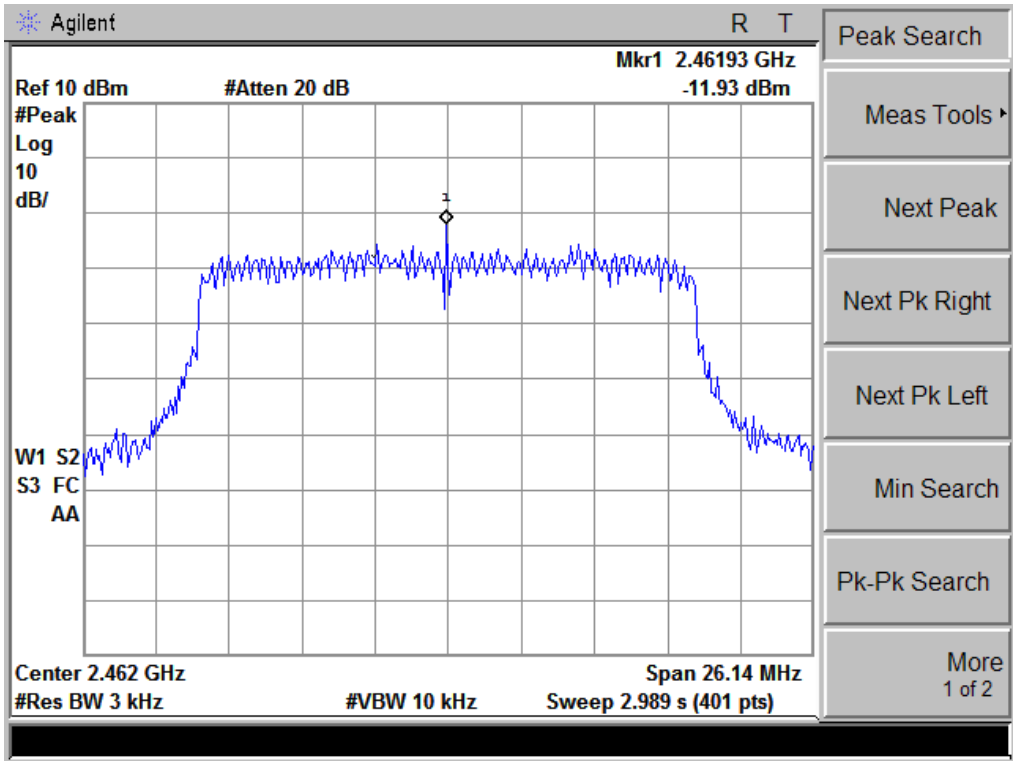
TX CH01



TX CH06



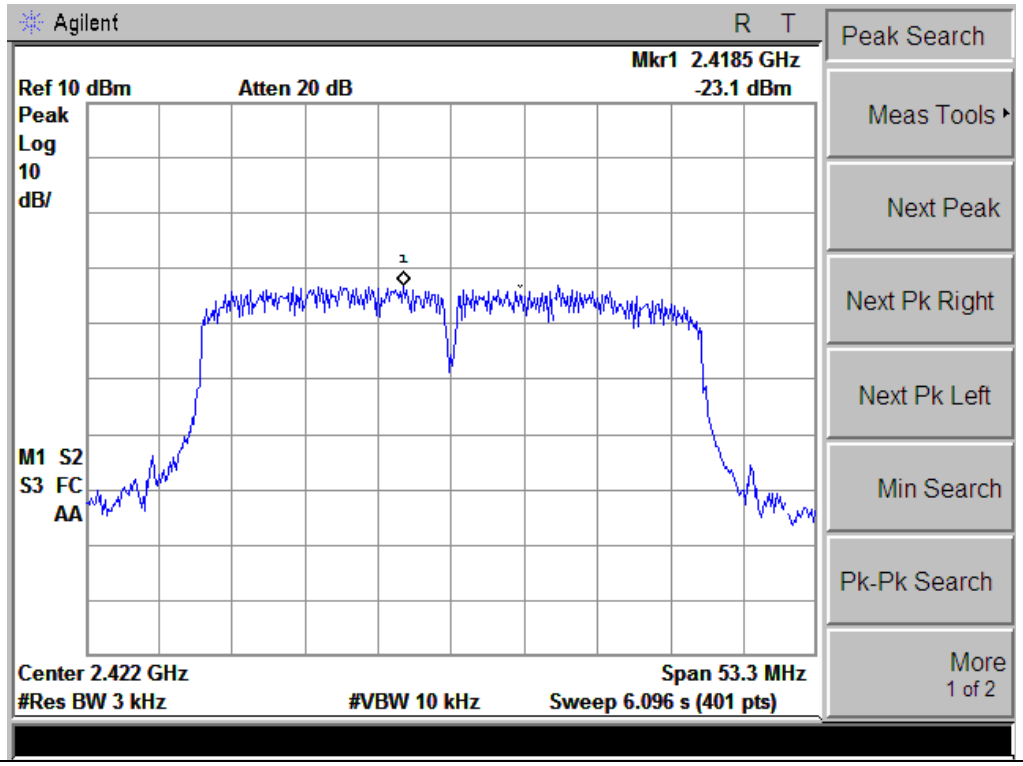
TX CH11



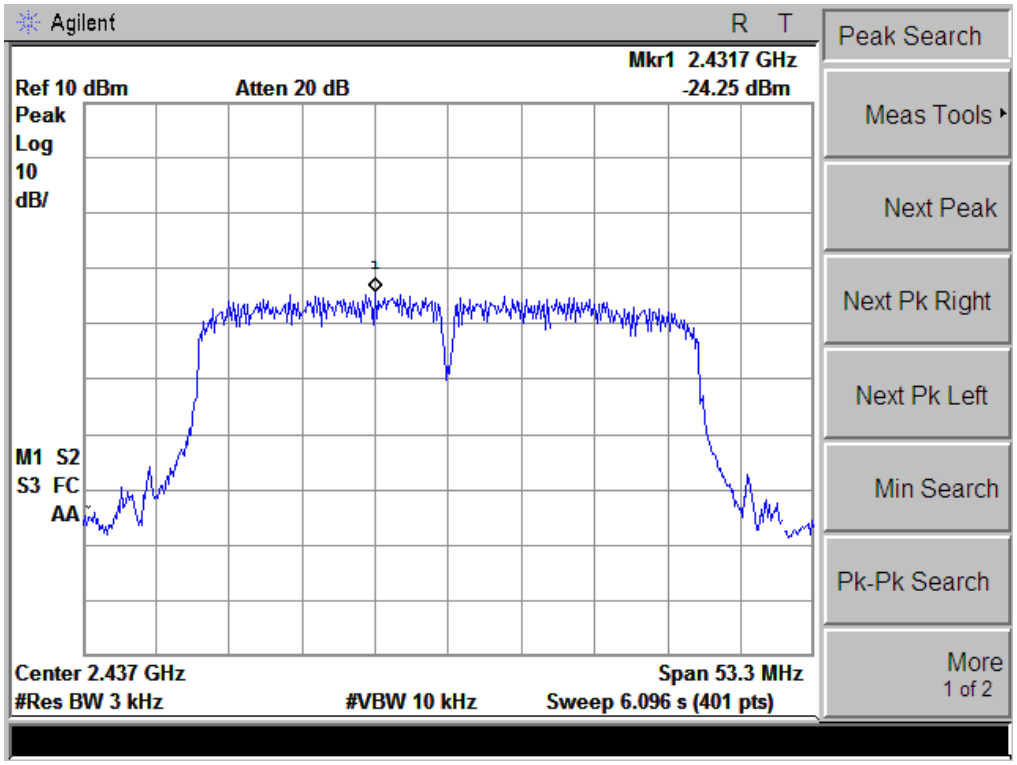
EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1015 hPa	Test Voltage ：	AC 120V/60HZ
Test Mode ：	TX 802.11n(40) Mode /CH03, CH06, CH09		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2422 MHz	-23.1	8	**PASS**
2437 MHz	-24.25	8	**PASS**
2452 MHz	-24.81	8	**PASS**

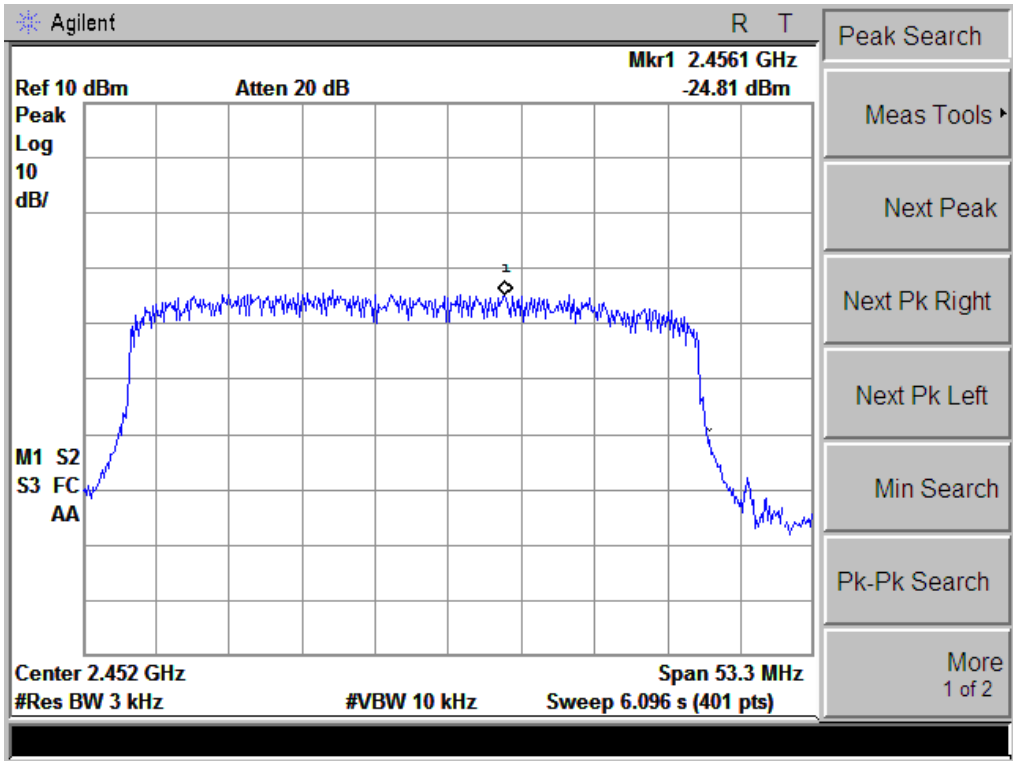
TX CH03



TX CH06



TX CH09



5. BANDWIDTH TEST

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

5.1.1 TEST PROCEDURE

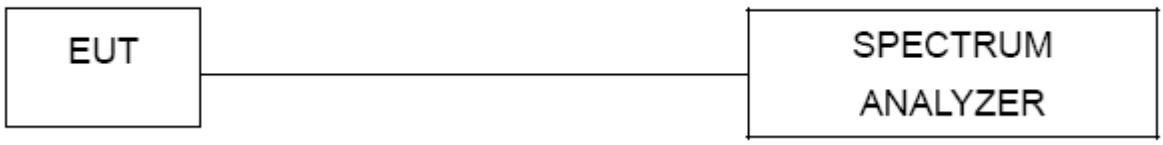
a.

1. Set RBW= 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

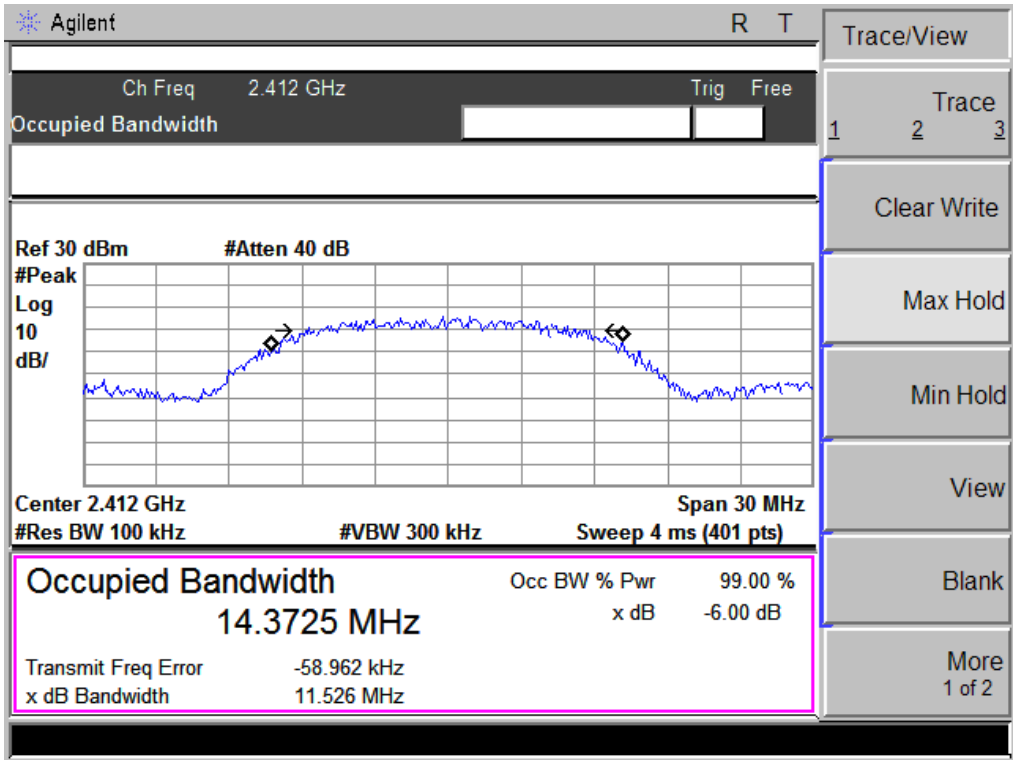
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 TEST RESULTS

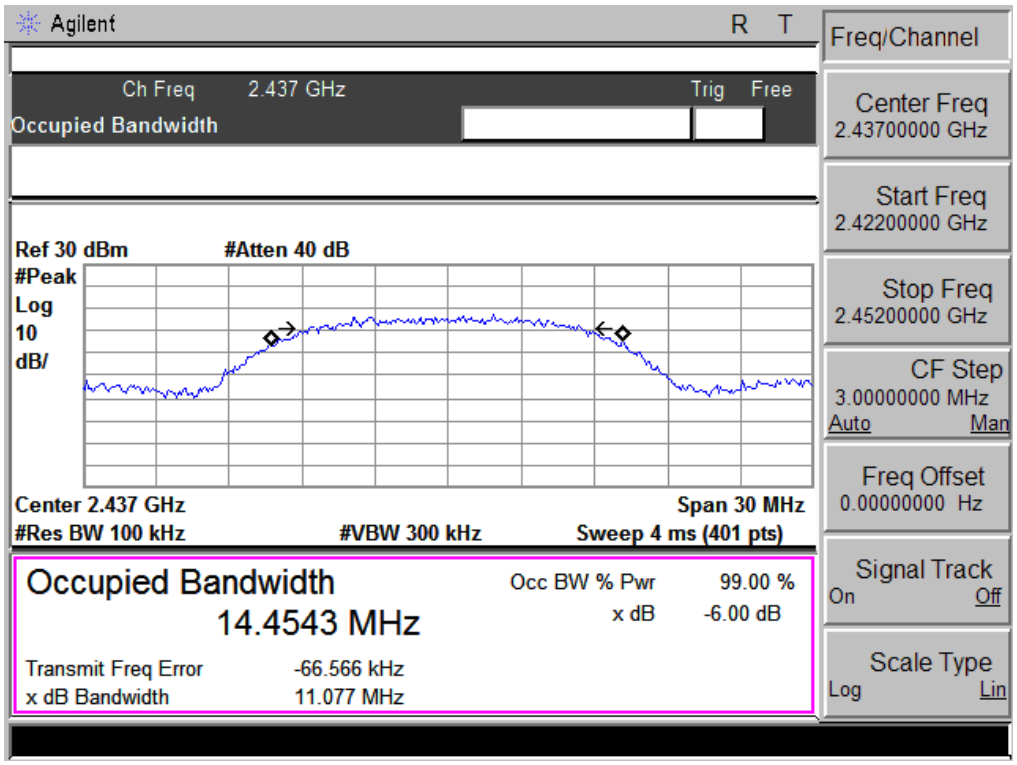
EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	TX B Mode /CH01, CH06, CH11		

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Channel Separation (MHz)	Result
2412 MHz	11.53	14.37	>=500KHz	**PASS**
2437 MHz	11.08	14.45	>=500KHz	**PASS**
2462 MHz	11.09	14.25	>=500KHz	**PASS**

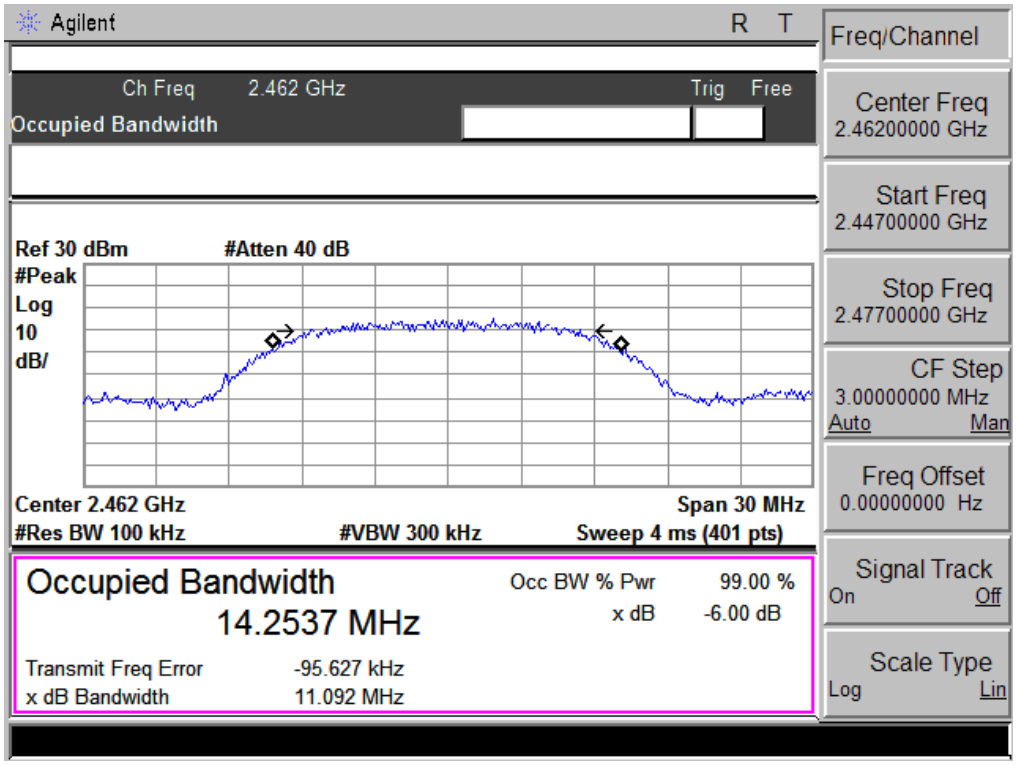
TX CH 01



TX CH 06



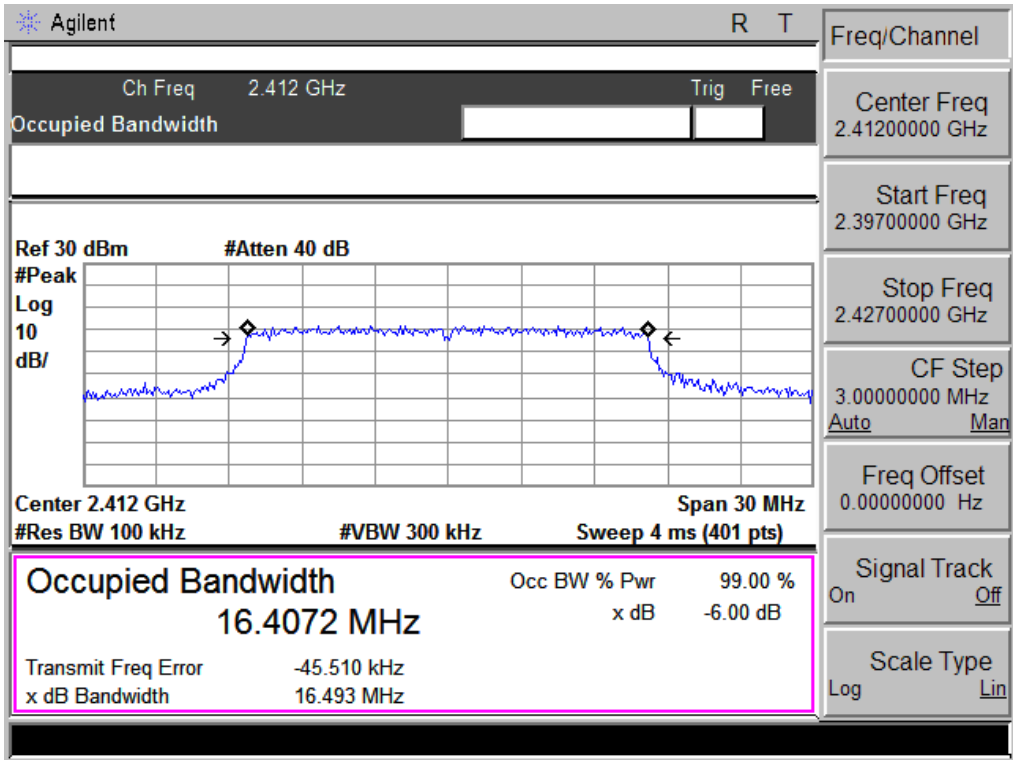
TX CH 11



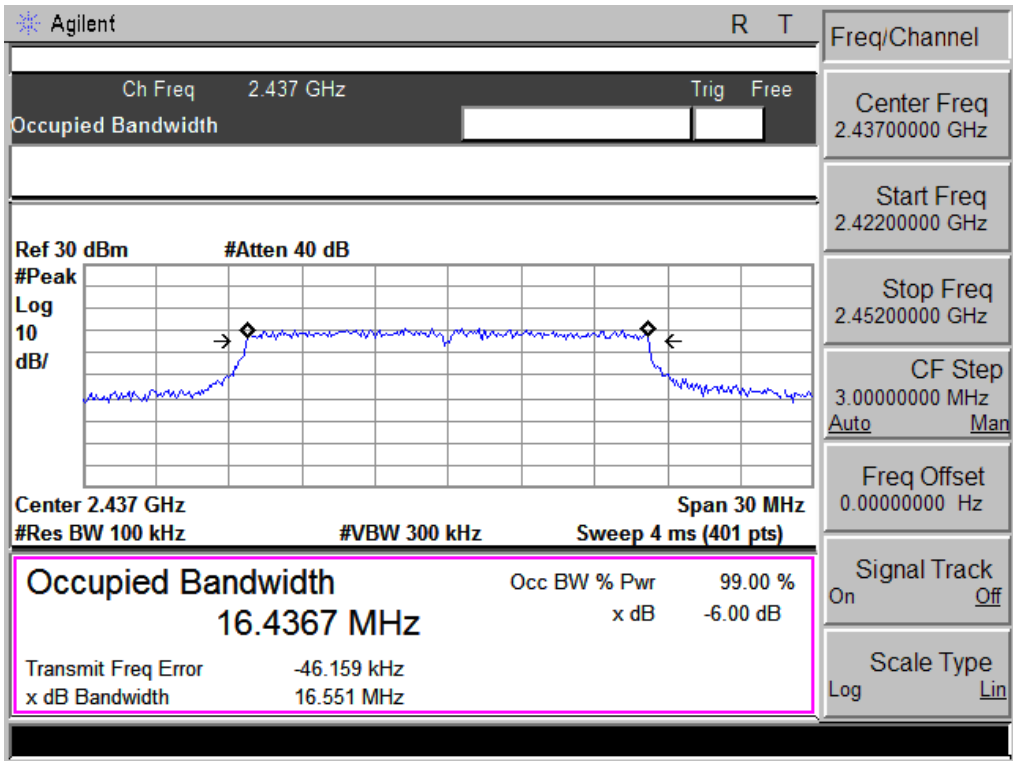
EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	TX g Mode /CH01, CH06, CH11		

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Channel Separation (MHz)	Result
2412 MHz	16.49	16.41	>=500KHz	**PASS**
2437 MHz	16.55	16.44	>=500KHz	**PASS**
2462 MHz	16.46	16.38	>=500KHz	**PASS**

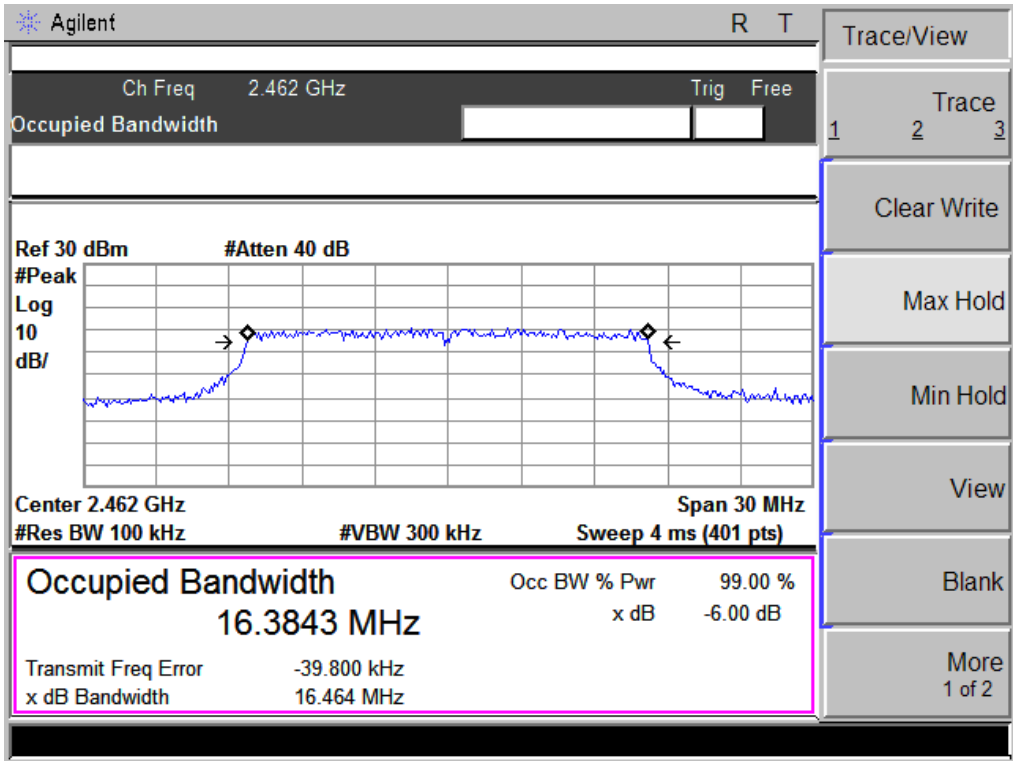
TX CH 01



TX CH 06



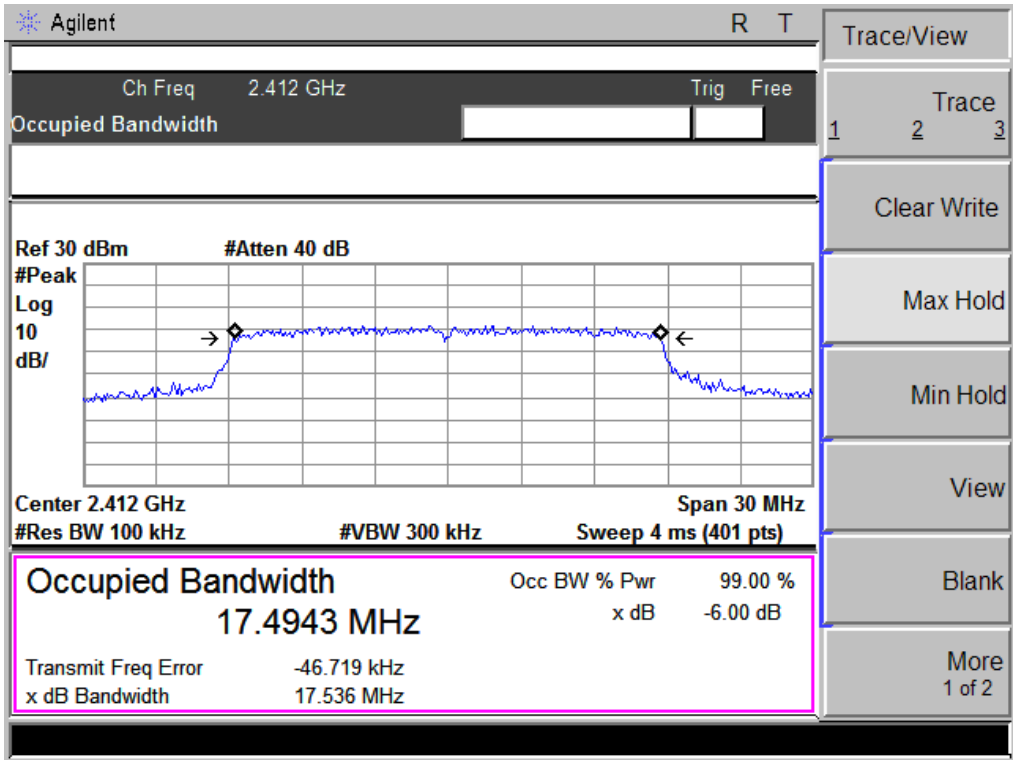
TX CH 11



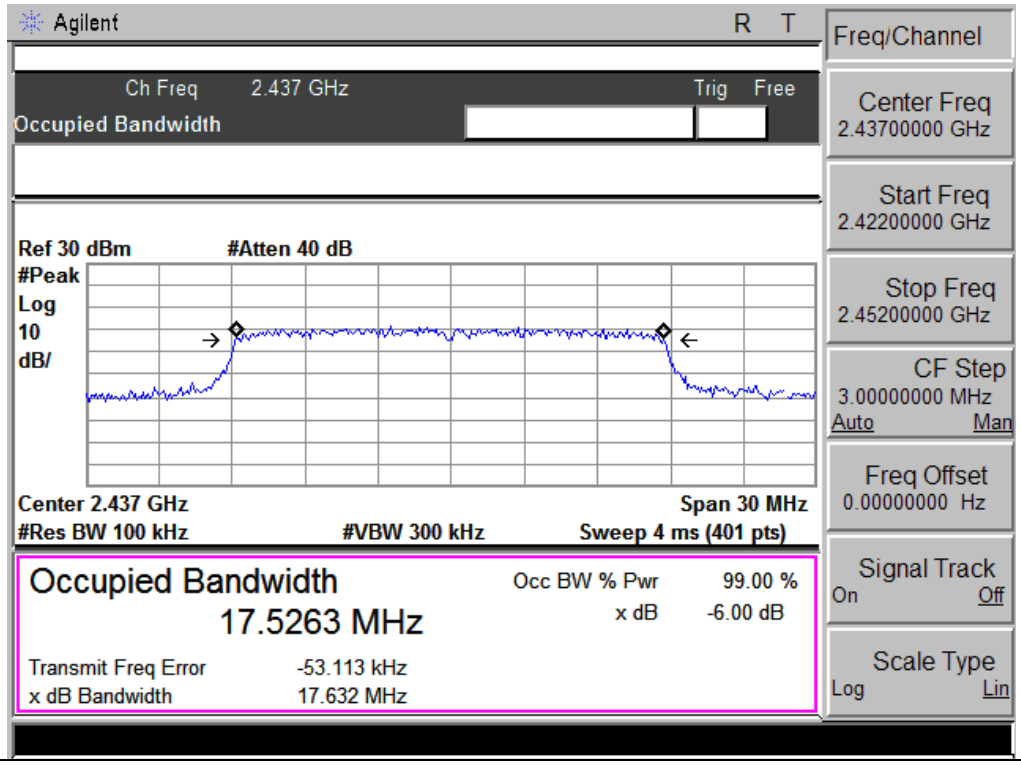
EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	TX n Mode /CH01, CH06, CH11		

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Channel Separation (MHz)	Result
2412 MHz	17.54	17.49	>=500KHz	**PASS**
2437 MHz	17.63	17.53	>=500KHz	**PASS**
2462 MHz	17.42	17.46	>=500KHz	**PASS**

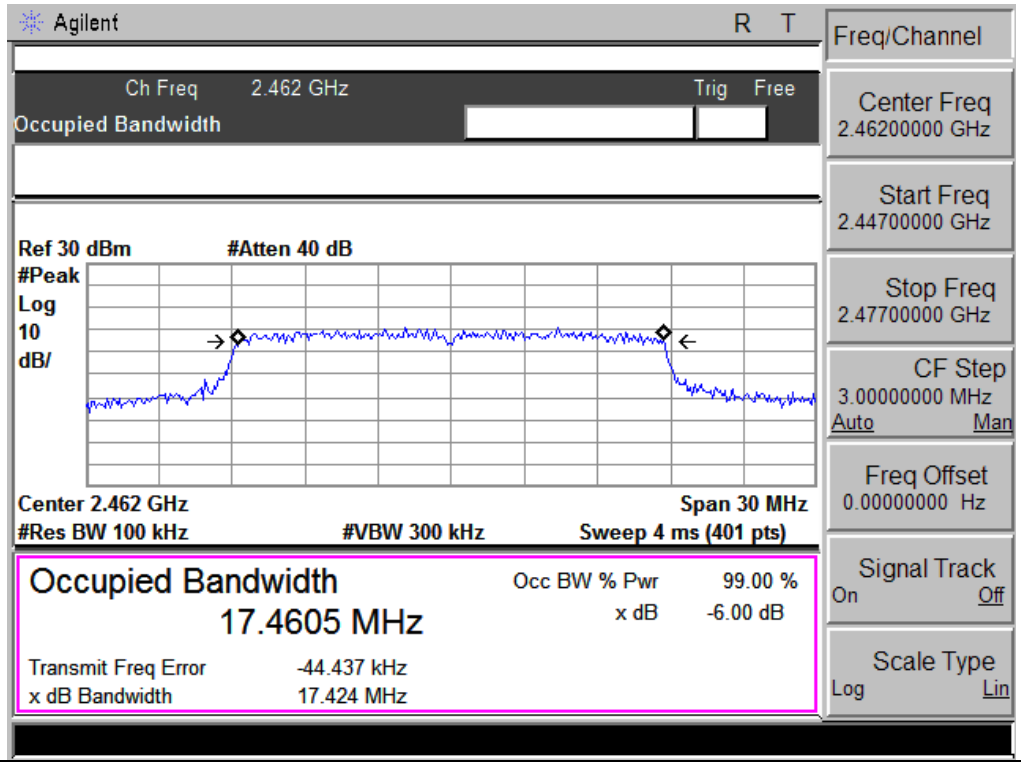
TX CH 01



TX CH 06



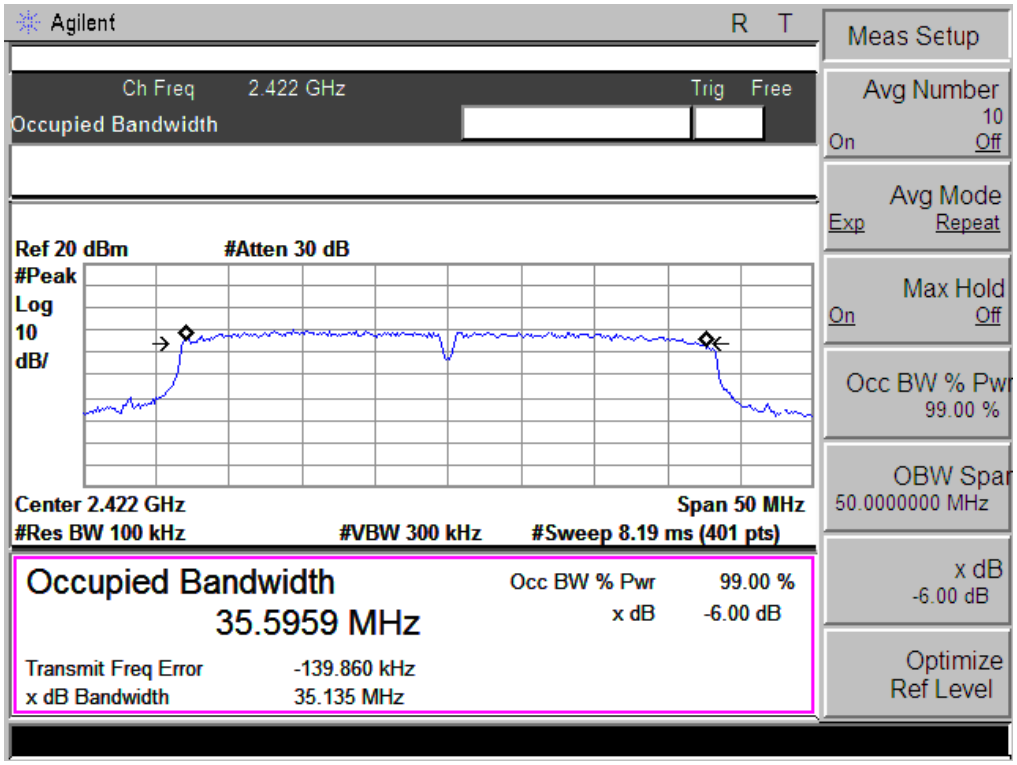
TX CH 11



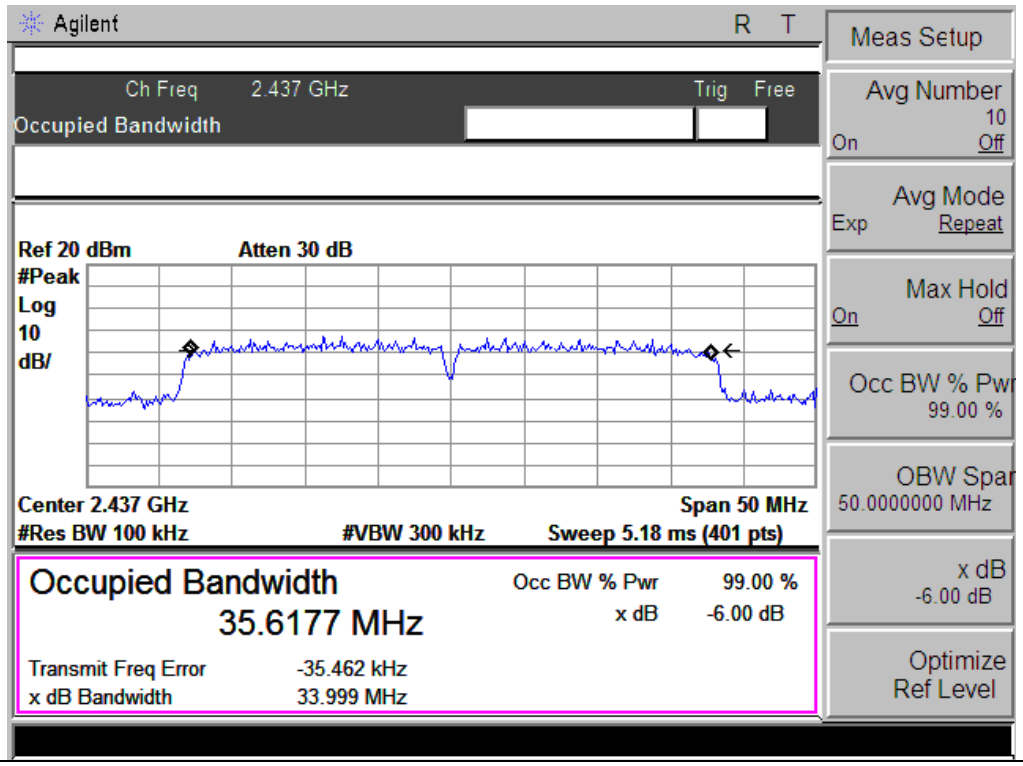
EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60HZ
Test Mode ：	TX 802.11n(40) Mode /CH03, CH06, CH09		

Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
2422 MHz	35.256	>=500KHz	**PASS**
2437 MHz	33.999	>=500KHz	**PASS**
2452 MHz	35.283	>=500KHz	**PASS**

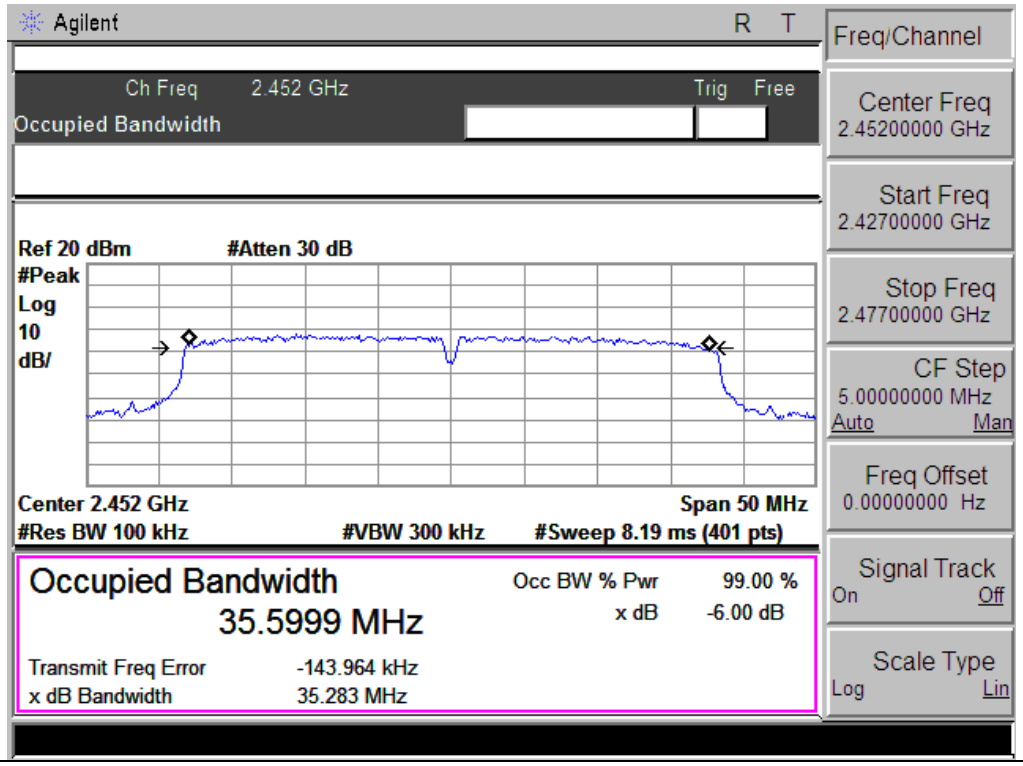
TX CH 03



TX CH 06



TX CH 11



6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

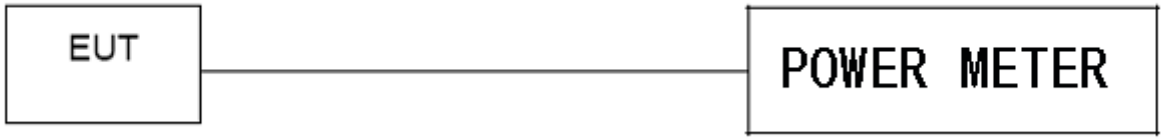
6.1.1 TEST PROCEDURE

The EUT was directly connected to the Power meter
Refer to 558074 D01 DTS Meas Guidance v02 Section 8.1.3 and 8.2.3

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 TEST RESULTS

EUT：	Panda Wireless® 150Mbps Wireless N USB Adapter	Model Name ：	PAU03
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC5V by PC
Test Mode ：	TX b/g/n Mode /CH01, CH06, CH11		

TX 802.11b Mode				
Test Channe	Frequency	PK output power. Antenna port	AV output power. Antenna port	LIMIT
	(MHz)	(dBm)	(dBm)	dBm
CH01	2412	22.12	17.14	30
CH06	2437	22.24	17.21	30
CH11	2462	24.04	18.11	30
TX 802.11g Mode				
CH01	2412	22.31	15.21	30
CH06	2437	22.19	15.19	30
CH11	2462	23.14	15.14	30
TX 802.11n/20M Mode				
CH01	2412	21.17	14.23	30
CH06	2437	21.17	14.15	30
CH11	2462	21.46	14.26	30
TX 802.11n/40M Mode				
CH03	2422	22.23	14.07	30
CH06	2437	22.16	14.21	30
CH09	2452	22.47	14.36	30

7. ANTENNA REQUIREMENT

7.1 STANDARD REQUIREMENT

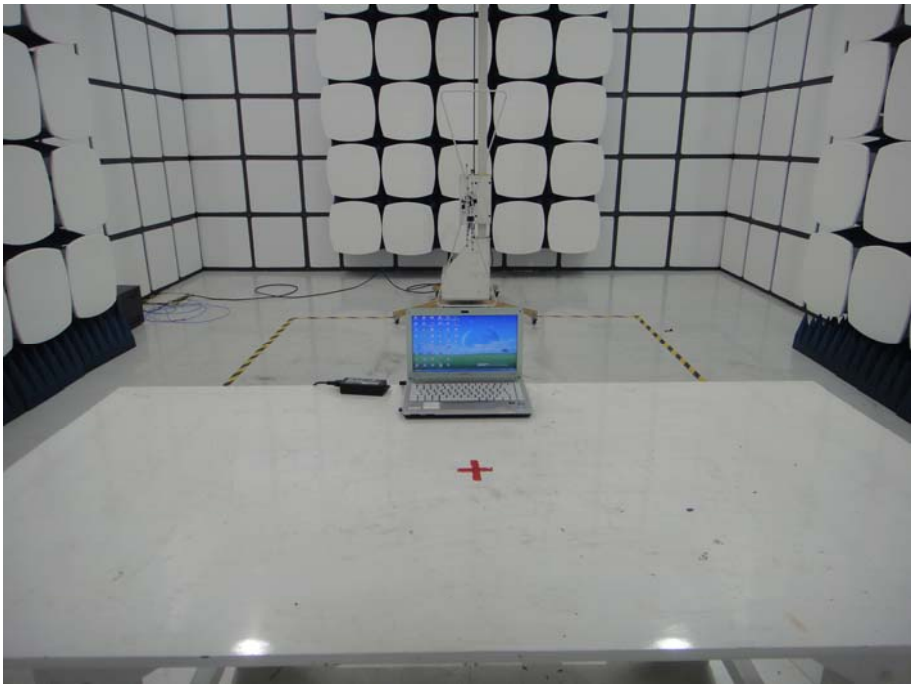
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

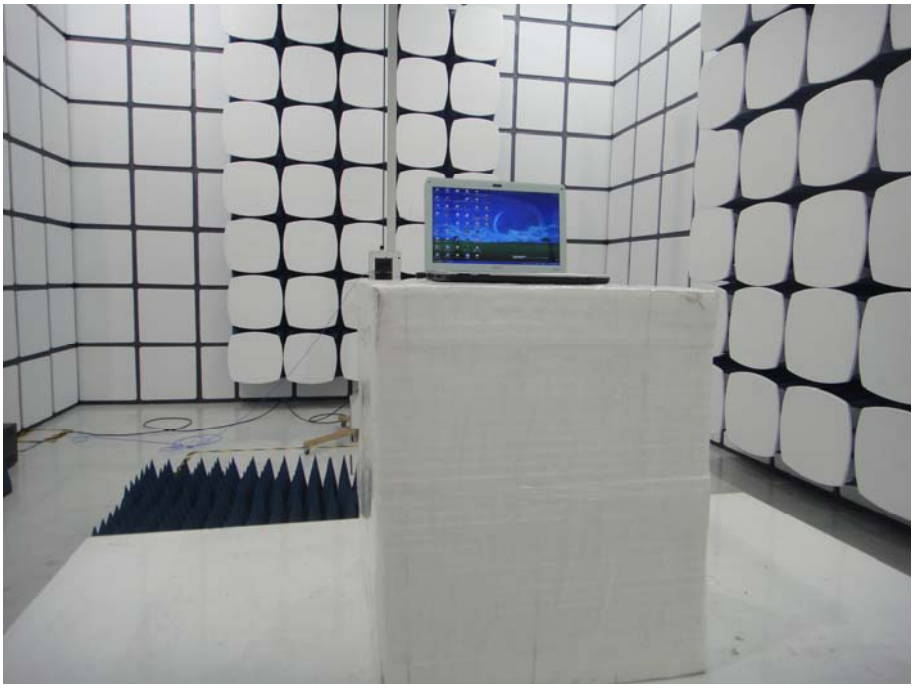
7.2 EUT ANTENNA

The EUT antenna is Integrated antenna. It comply with the standard requirement.

8. EUT TEST PHOTO

Radiated Measurement Photos





Conducted Measurement Photos