




# FCC RADIO TEST REPORT

## FCC ID: HHOYC008

**Product :** 450 Mbps High Power Gigabit Wireless Router

**Trade Name :**  JCG

**Model Name :** JHR-N845R

**Serial Model :** N/A

**Report No. :** NTEK- 2013NT0225202F

### Prepared for

Shenzhen Yichen Technoloy Development Co.,Ltd.  
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## TEST RESULT CERTIFICATION

**Applicant's name** ..... : Shenzhen Yichen Technoloy Development Co.,Ltd.  
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**Address** ..... : 5F, NO.1, Honghualing 2<sup>nd</sup> Industrial Zone, Xili Town,Nanshan District,Shenzhen,Guangdong, China

### Product description

**Product name** ..... : 450 Mbps High Power Gigabit Wireless Router

**Model and/or type reference** : JHR-N845R

**Serial Model** ..... : N/A

**Standards** ..... : FCC Part15.247

**Test procedure** ..... ANSI C63.4-2003

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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**Date of Test** ..... :

**Date (s) of performance of tests** ..... : 25 Feb. 2013 ~15 Mar. 2013

**Date of Issue**..... : 15 Mar. 2013

**Test Result**..... : **Pass**

**Testing Engineer** : Apple Huang  
(Apple Huang)

**Technical Manager** : Tom Zhang  
(Tom Zhang)

**Authorized Signatory** : Bovey Yang  
(Bovey Yang)

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### 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	

**NOTE:**

(1) "N/A" denotes test is not applicable in this Test Report

**1.1 TEST FACILITY**

NTEK Testing Technology Co., Ltd  
 Add.:1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.  
 FCC Registration No.:238937; IC Registration No.:9270A-1  
 CNAS Registration No.:L5516


**1.2 MEASUREMENT UNCERTAINTY**

The reported uncertainty of measurement  $y \pm U$ , where expanded 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	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^\circ\text{C}$
7	Humidity	$\pm 2\%$

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	450 Mbps High Power Gigabit Wireless Router	
Trade Name		
Model Name	JHR-N845R	
Serial Model	N/A	
Model Difference	N/A	
Product Description	The EUT is a 450 Mbps High Power Gigabit Wireless Router	
	Operation Frequency:	802.11b/g/n:2412~2462 MHz
	Modulation Type:	CCK/OFDM/DBPSK/DAPSK
	Bit Rate of Transmitter	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n(20/40MHz):150/144.44/130/117/115.56/104/86.67/78/52/6.5 Mbps
	Number Of Channel	802.11b/g/n20: 11CH 802.11n 40: 7CH
	Antenna Designation:	Please see Note 3.
	Output Power(AV):	802.11b: 24.96 dbm(Mxa) 802.11g: 23.22 dBm (Max.) 802.11n(20M) : 23.34 dBm (Max.) 802.11n(40M) : 22.77dBm (Max.)
	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.	
Channel List	Please refer to the Note 2.	
Ratings	DC 12V from adapter AC 120V/60Hz	
Adapter	Model: F18W-120200SPAU Input:100~240V, 50/60Hz, 0.6A Output:DC 12V, 2.0A	
Battery	N/A	
Connecting I/O Port(s)	Please refer to the User's Manual	

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(20MHz)							
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	external antenna	Reserve SMA-type	1.0	N/A
B	N/A	N/A	external antenna	Reserve SMA-type	1.0	N/A
C	N/A	N/A	external antenna	Reserve SMA-type	1.0	N/A

The Control software(MP\_TEST.exe) can control antenna A and antenna B and antenna C. The antenna A and B can simultaneously transmit. The antenna A is 1T1R, The antenna B is 1T, The antenna C is 1R.And the data is recorded for radiated spurious emission and band edge emission.

Directional gain=GANT +10log(N)dbi =4dbi



## 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 4	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

Note:

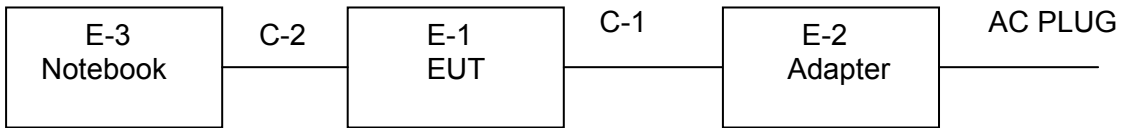
- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

### 2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission Test




Radiated Spurious Emission Test



**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	450 Mbps High Power Gigabit Wireless Router		JHR-N845R	N/A	EUT
E-2	Adapter	N/A	F18W-120200SPAU	N/A	
E-3	NOTEBOOK	IBM	2366	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	0.8M	
C-2	NO	NO	0.8M	

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.

## 2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

### Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2012.07.06	2013.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2012.06.07	2013.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2012.07.06	2013.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2012.06.07	2013.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2012.06.07	2013.06.06	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2012.07.06	2013.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2012.07.06	2013.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2012.12.22	2013.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2012.06.08	2013.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2012.07.06	2013.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2012.07.06	2013.07.05	1 year

### Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2012.06.06	2013.06.05	1 year
2	LISN	R&S	ENV216	101313	2012.08.24	2013.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2012.08.24	2013.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2012.06.07	2013.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2012.06.07	2013.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2012.06.08	2013.06.07	1 year

### 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

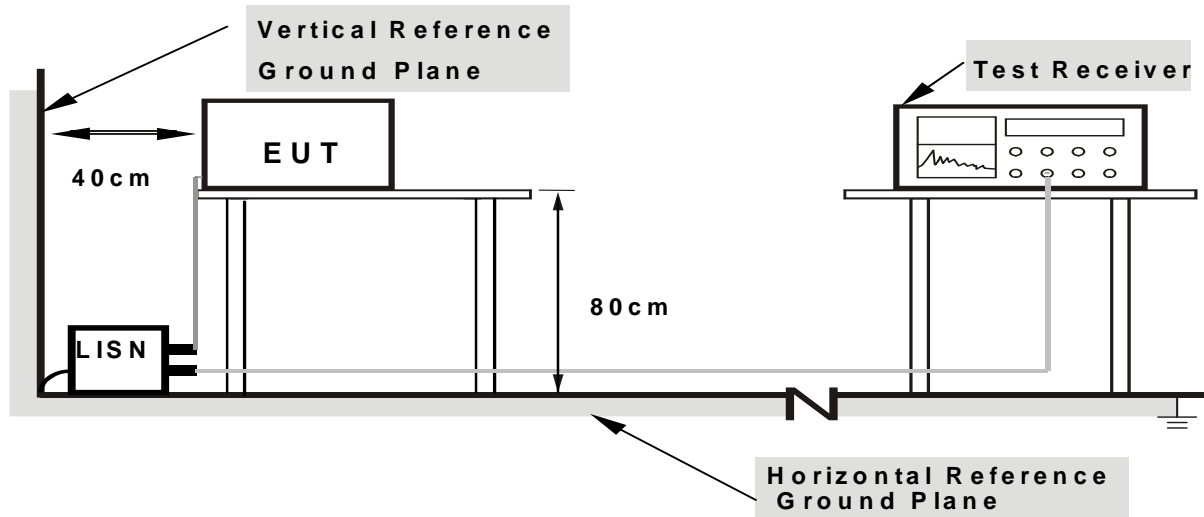
**3.1.2 TEST PROCEDURE**

- 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.

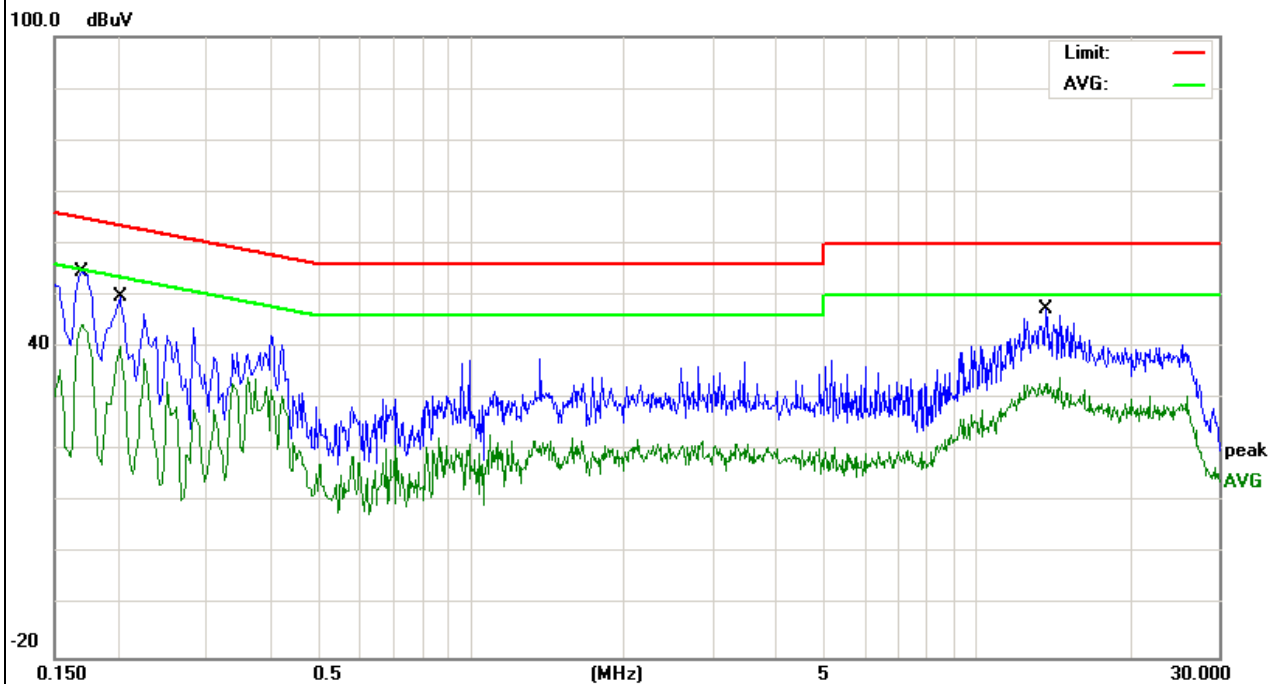
### 3.1.6 TEST RESULTS

EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name. :	JHR-N845R
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 12V from adapter AC 120V/60Hz	Test Mode :	Mode 5

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Detector Type
0.17	44.84	9.8	54.64	64.96	-10.32	QP
0.17	34.55	9.8	44.35	54.96	-10.61	AVG
0.2007	29.06	9.77	38.83	53.58	-14.75	AVG
0.202	39.97	9.77	49.74	63.52	-13.78	QP
13.6819	36.87	10.44	47.31	60	-12.69	QP
13.6819	22.6	10.44	33.04	50	-16.96	AVG

**Remark:**

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

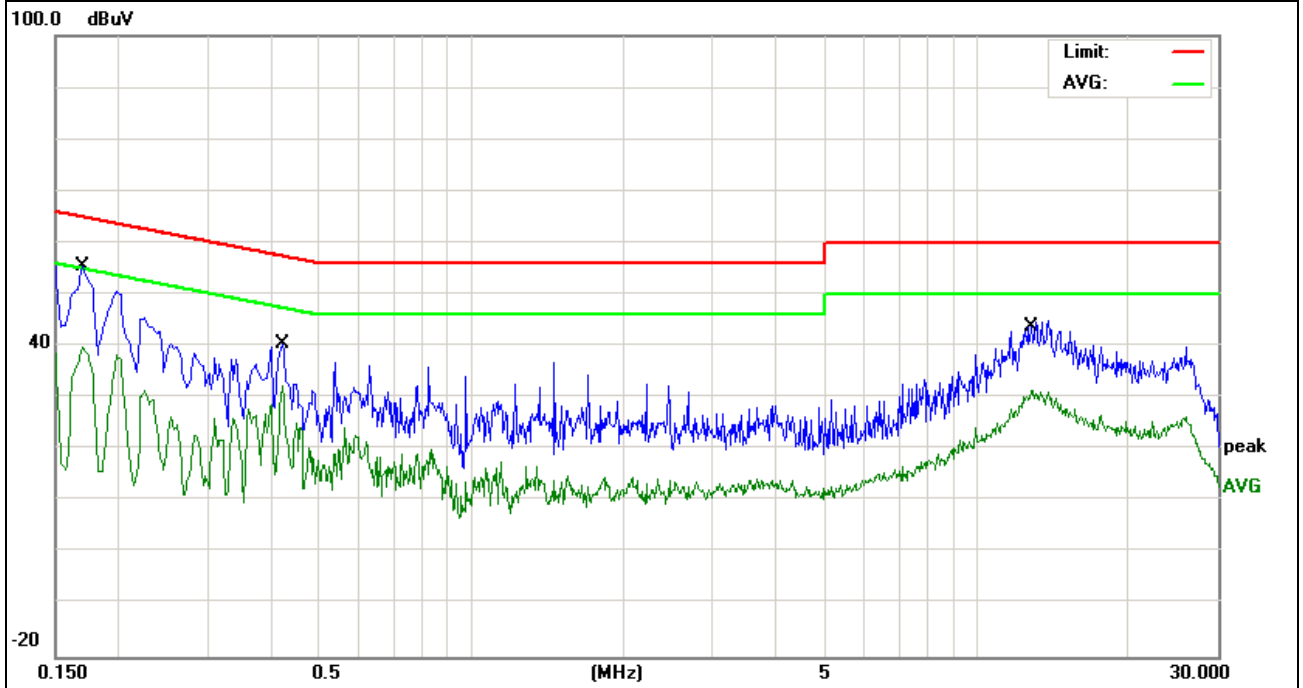


EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name. :	JHR-N845R
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 12V from adapter AC 120V/60Hz	Test Mode :	Mode 5

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Detector Type
0.17	45.5	9.97	55.47	64.96	-9.49	QP
0.17	29.73	9.97	39.7	54.96	-15.26	AVG
0.422	30.25	10.2	40.45	57.41	-16.96	QP
0.422	22.26	10.2	32.46	47.41	-14.95	AVG
12.8459	33.32	10.51	43.83	60	-16.17	QP
12.8459	21.02	10.51	31.53	50	-18.47	AVG

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

#### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBuV/m) (at 3M)		Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

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 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- 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:

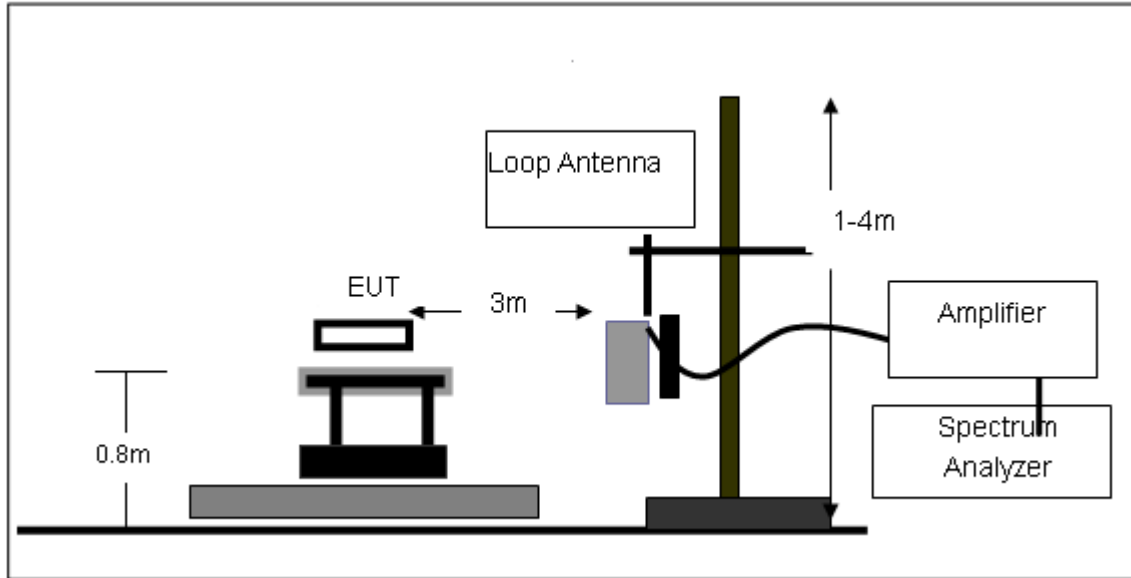
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

### 3.2.3 DEVIATION FROM TEST STANDARD

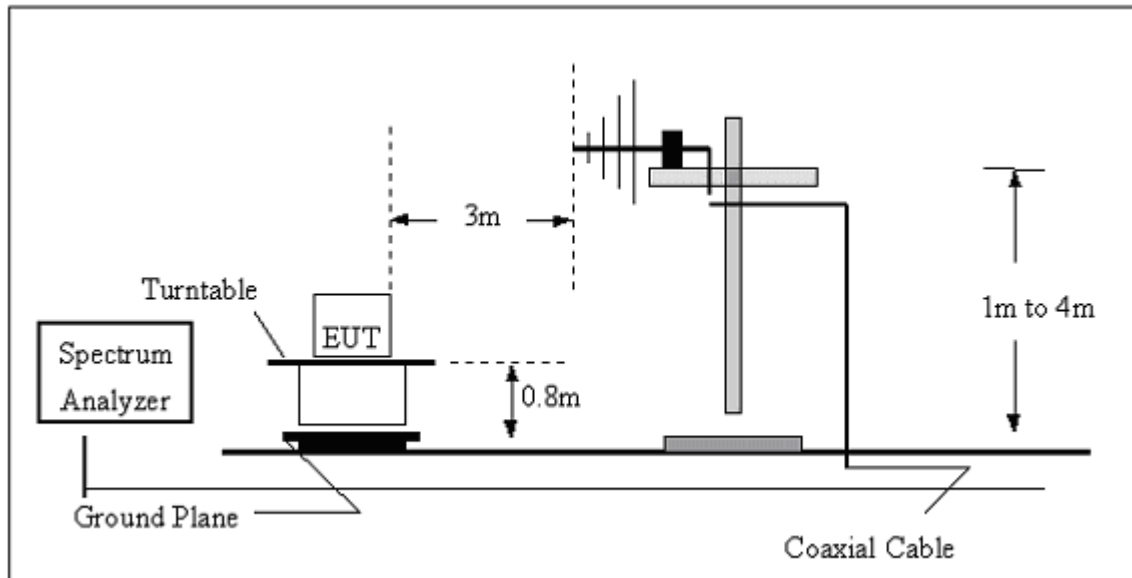
No deviation

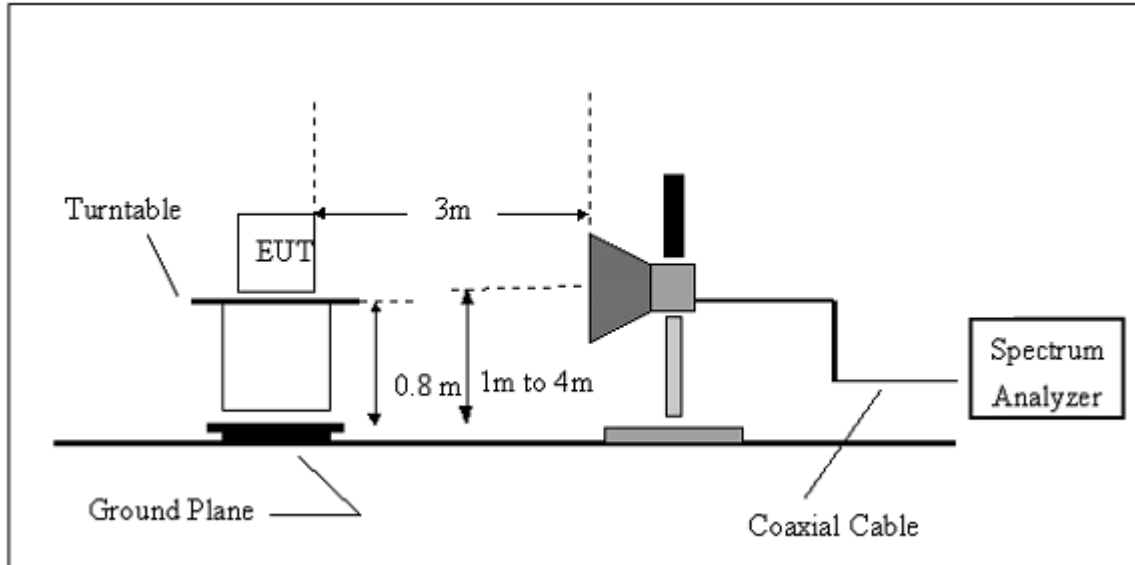
### 3.2.4 TEST SETUP

#### (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:	450 Mbps High Power Gigabit Wireless Router	Model Name. :	JHR-N845R
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
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 =  $40 \log (\text{specific distance}/\text{test distance})(\text{dB})$ ;

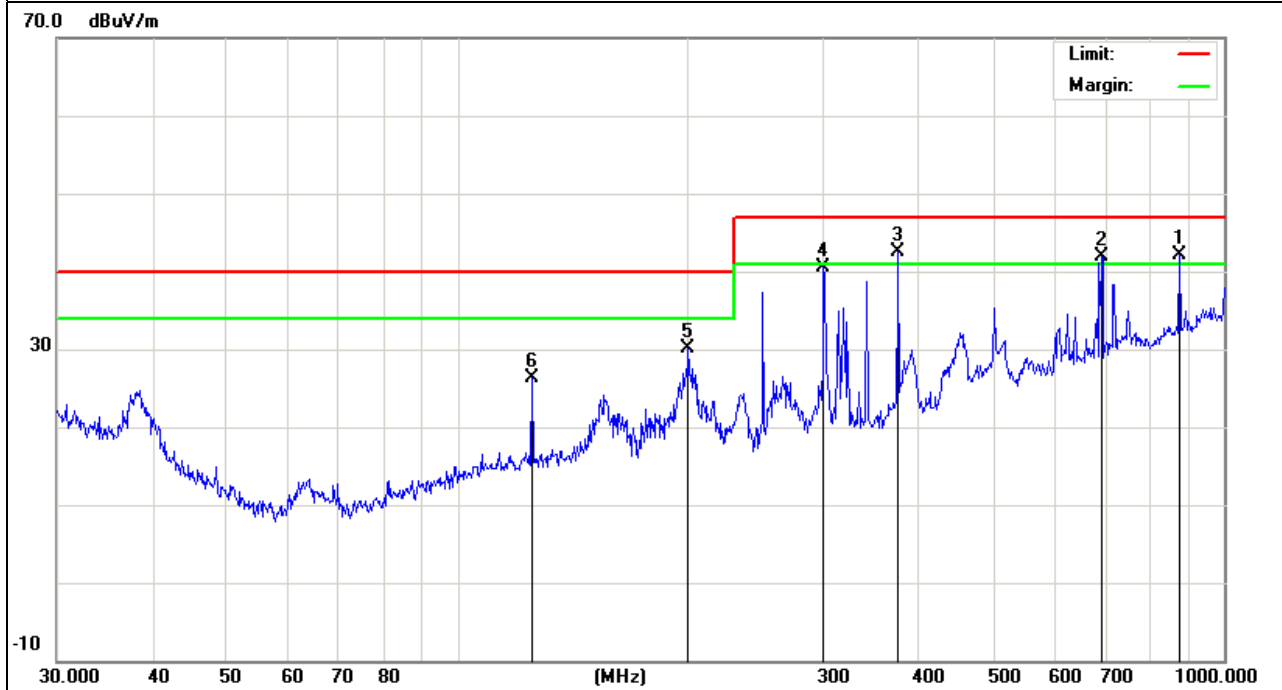
Limit line = specific limits(dBuv) + distance extrapolation factor.

### 3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	Link	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
875.2469	14.86	27.32	42.18	47	-4.82	QP
691.9867	17.74	24.09	41.83	47	-5.17	QP
375.9384	25.63	16.96	42.59	47	-4.41	QP
300.3672	25.85	14.75	40.6	47	-6.4	QP
199.9856	21.05	9.01	30.06	40	-9.94	QP
125.0066	14.13	12.21	26.34	40	-13.66	QP

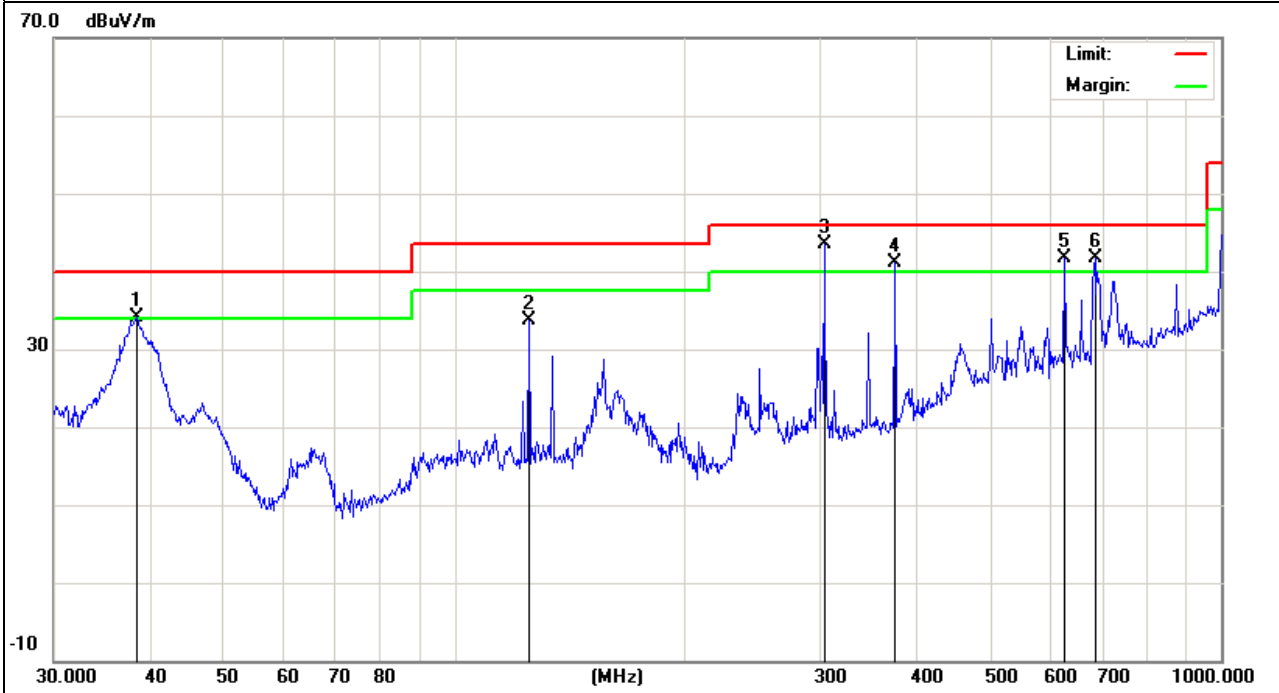
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	Link	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
38.4808	19.91	14.14	34.05	40	-5.95	QP
125.0066	21.43	12.21	33.64	43.5	-9.86	QP
303.5437	28.57	14.85	43.42	46	-2.58	QP
375.9384	24.22	16.96	41.18	46	-4.82	QP
625.0779	18.08	23.6	41.68	46	-4.32	QP
684.7454	17.64	23.98	41.62	46	-4.38	QP

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

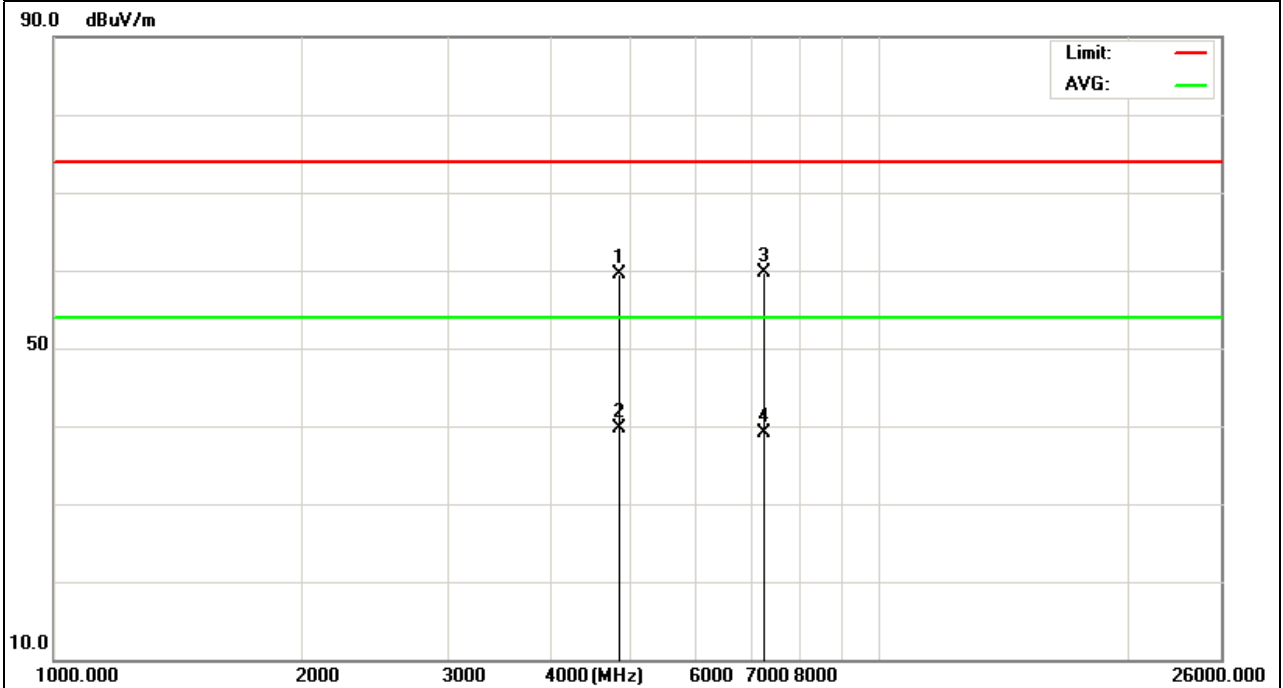


### 3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH1 (802.11b Mode)/2412	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4824.311	49.15	10.44	59.59	74	-14.41	peak
4824.311	29.34	10.44	39.78	54	-14.22	AVG
7235.499	47.33	12.39	59.72	74	-14.28	peak
7235.499	26.63	12.39	39.02	54	-14.98	AVG

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

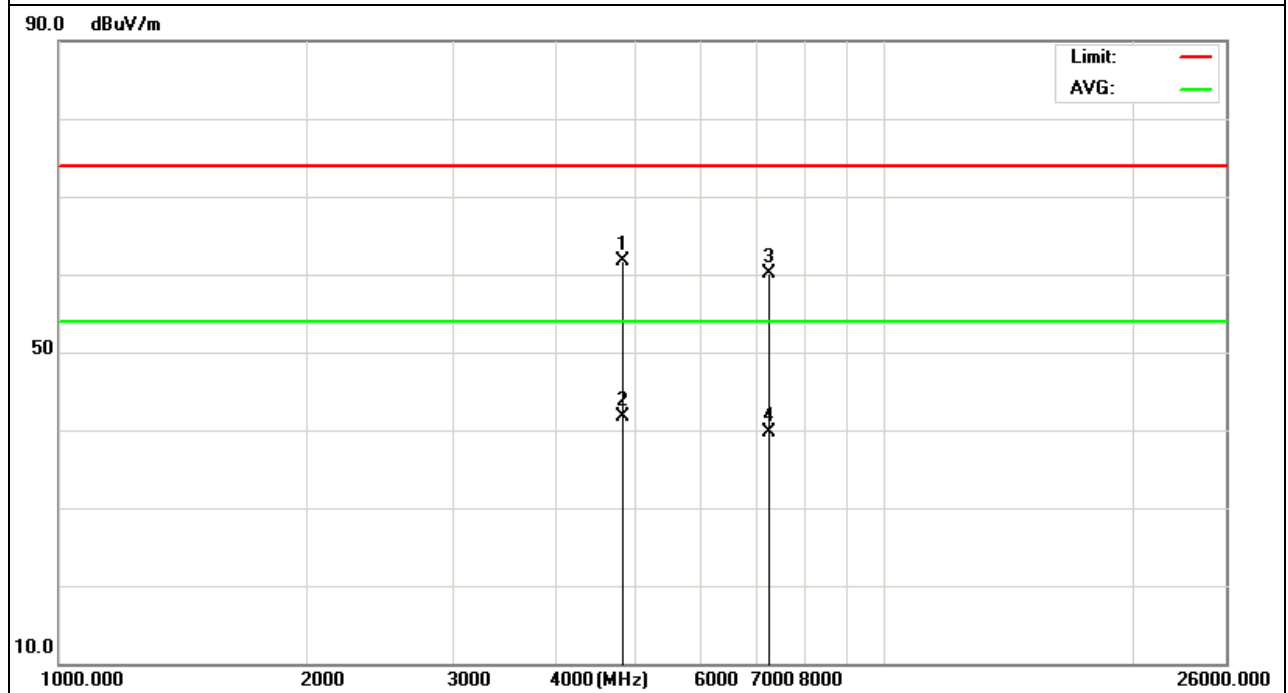




EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH1 (802.11b Mode)/2412	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4823.838	51.24	10.44	61.68	74	-12.32	peak
4823.838	31.19	10.44	41.63	54	-12.37	AVG
7237.021	47.62	12.39	60.01	74	-13.99	peak
7237.021	27.27	12.39	39.66	54	-14.34	AVG

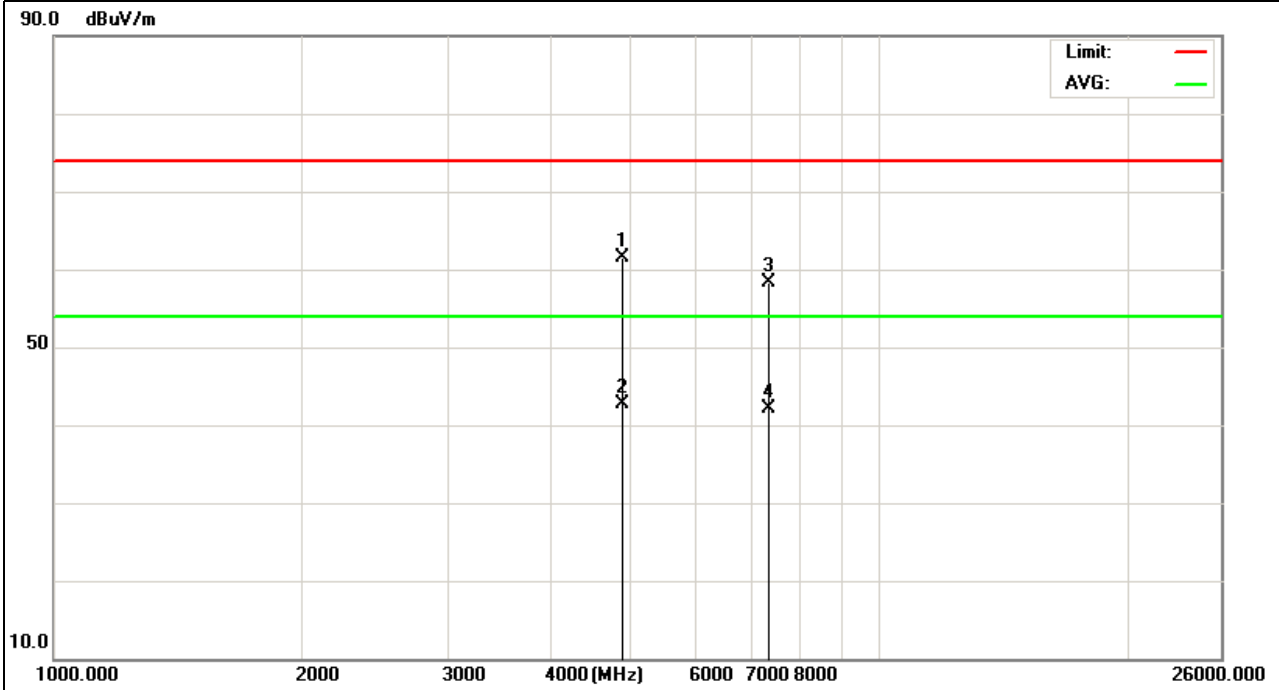
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH6 (802.11b Mode)/2437	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4876.209	51.16	10.39	61.55	74	-12.45	peak
4876.209	32.23	10.39	42.62	54	-11.38	AVG
7332.444	45.59	12.79	58.38	74	-15.62	peak
7332.444	29.25	12.79	42.04	54	-11.96	AVG

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

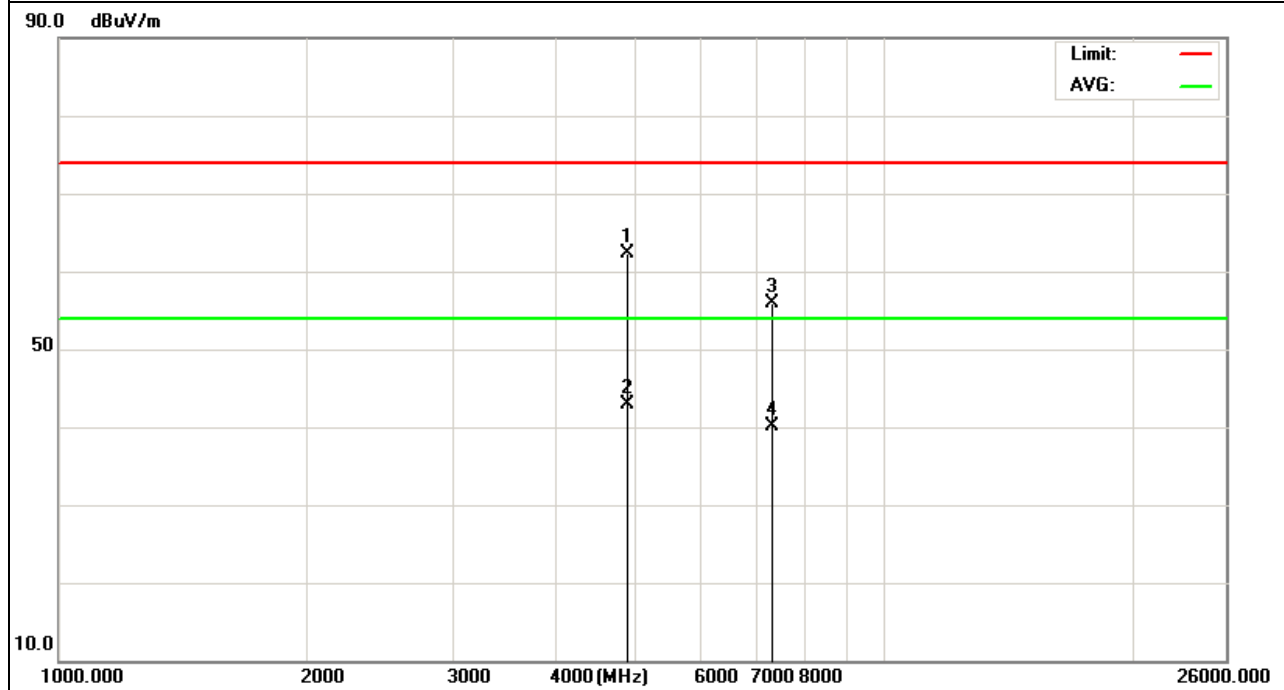


EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH6 (802.11b Mode)/2437	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4875.144	51.92	10.39	62.31	74	-11.69	peak
4875.144	32.49	10.39	42.88	54	-11.12	AVG
7313.227	43.18	12.75	55.93	74	-18.07	peak
7313.227	27.45	12.75	40.2	54	-13.8	AVG

Remark:

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

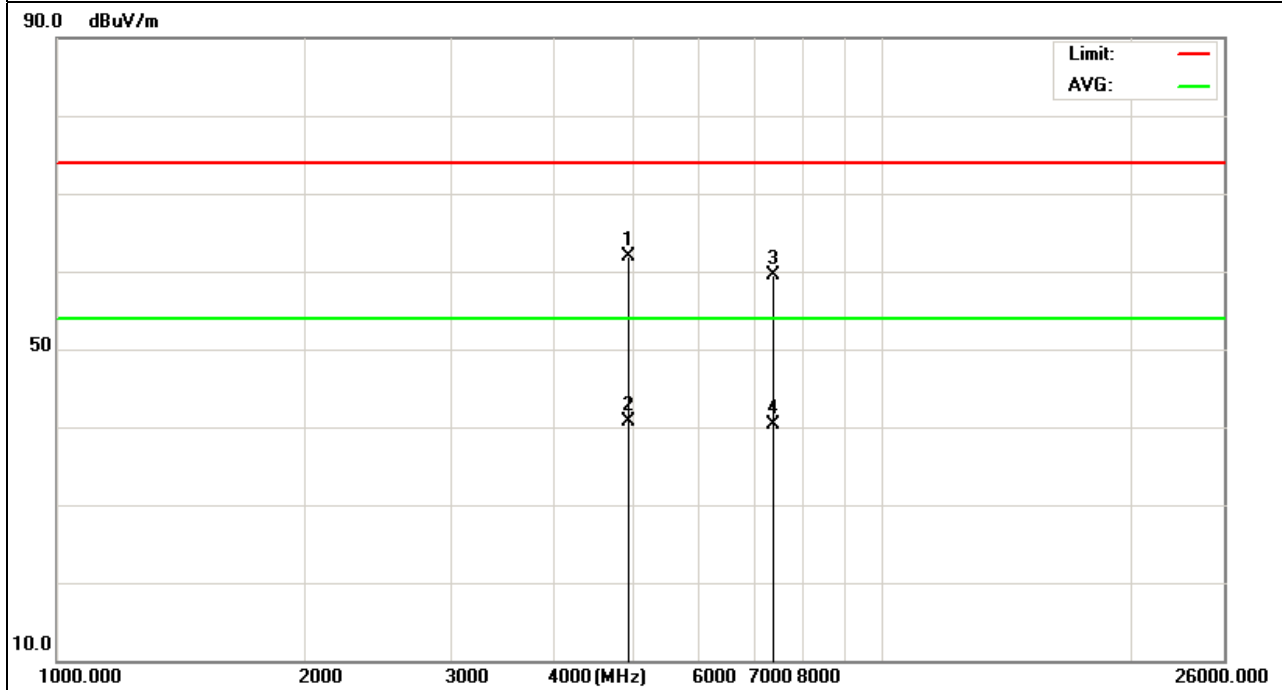


EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH11 (802.11b Mode)/2462	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4925.212	51.59	10.4	61.99	74	-12.01	peak
4925.212	30.21	10.4	40.61	54	-13.39	AVG
7385.465	46.91	12.68	59.59	74	-14.41	peak
7385.465	27.59	12.68	40.27	54	-13.73	AVG

Remark:

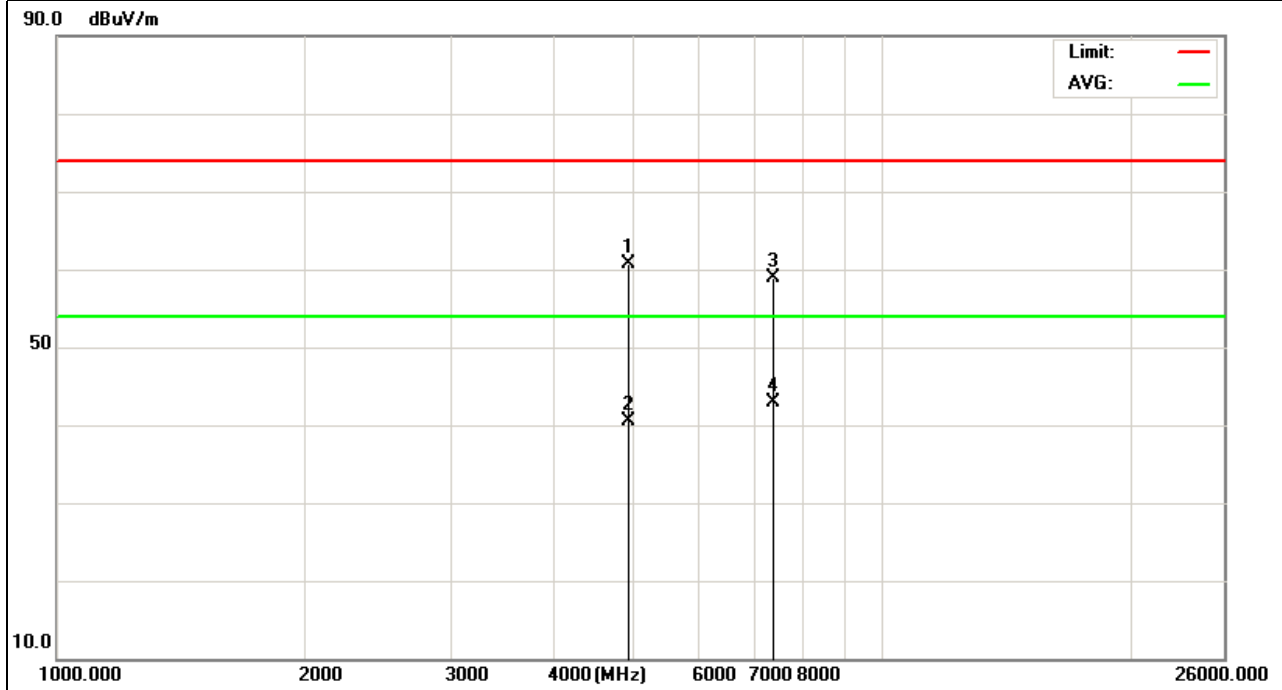
- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- No emission detected above 18GHz



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH11 (802.11b Mode)/2462	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4924.982	50.26	10.39	60.65	74	-13.35	peak
4924.982	30.12	10.39	40.51	54	-13.49	AVG
7385.256	46.28	12.68	58.96	74	-15.04	peak
7385.256	30.17	12.68	42.85	54	-11.15	AVG

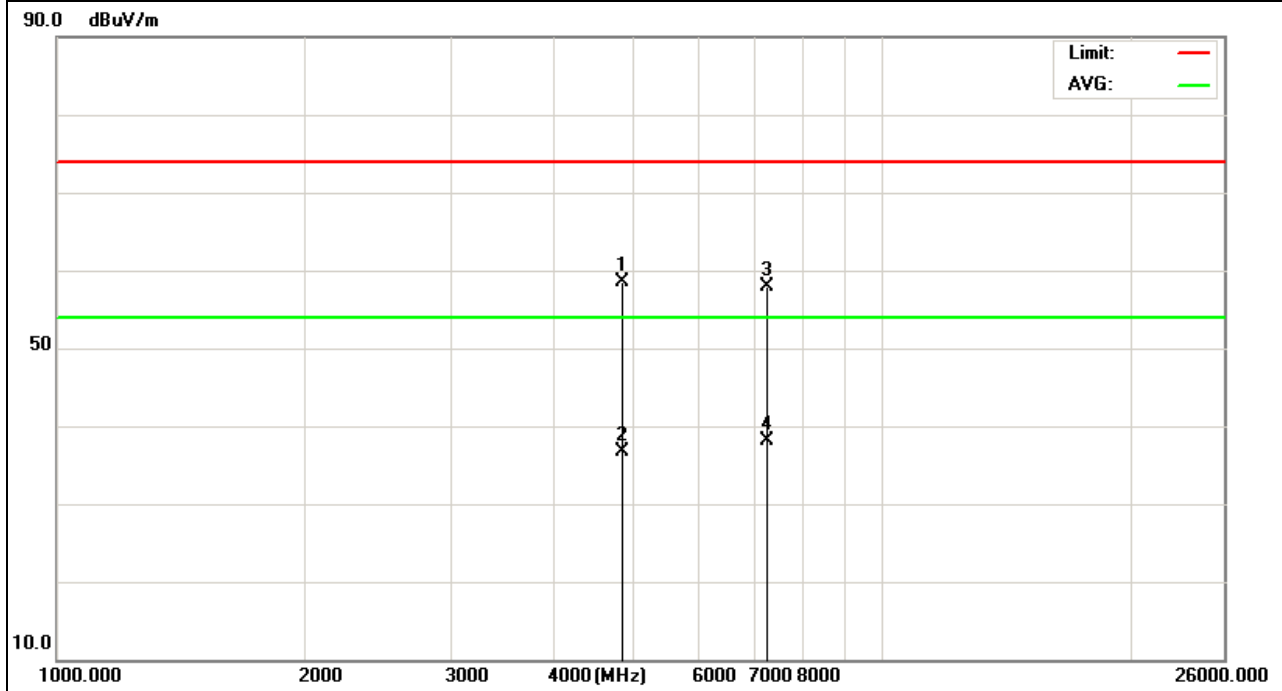
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH1 (802.11g Mode)/2412	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.599	48.09	10.44	58.53	74	-15.47	peak
4824.599	26.24	10.44	36.68	54	-17.32	AVG
7237.197	45.54	12.39	57.93	74	-16.07	peak
7237.197	25.62	12.39	38.01	54	-15.99	AVG

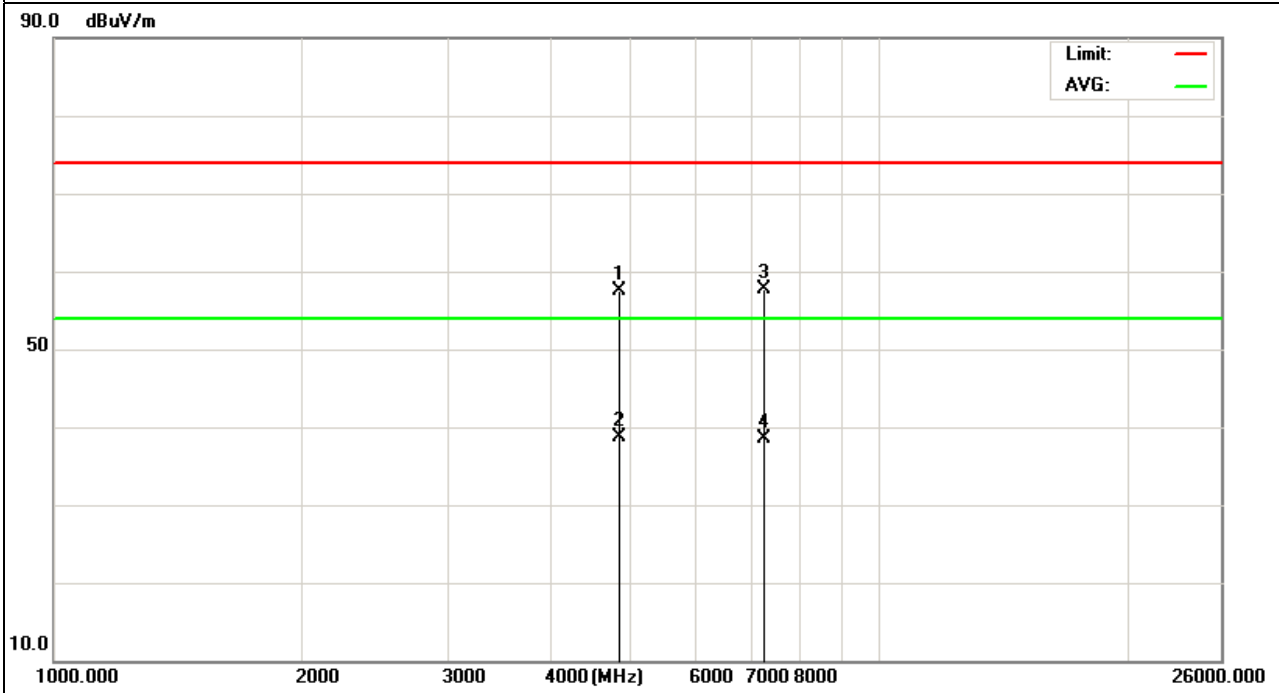
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH1 (802.11g Mode)/2412	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4825.367	47.01	10.46	57.47	74	-16.53	peak
4825.367	28.26	10.46	38.72	54	-15.28	AVG
7236.227	45.37	12.39	57.76	74	-16.24	peak
7236.227	26.14	12.39	38.53	54	-15.47	AVG

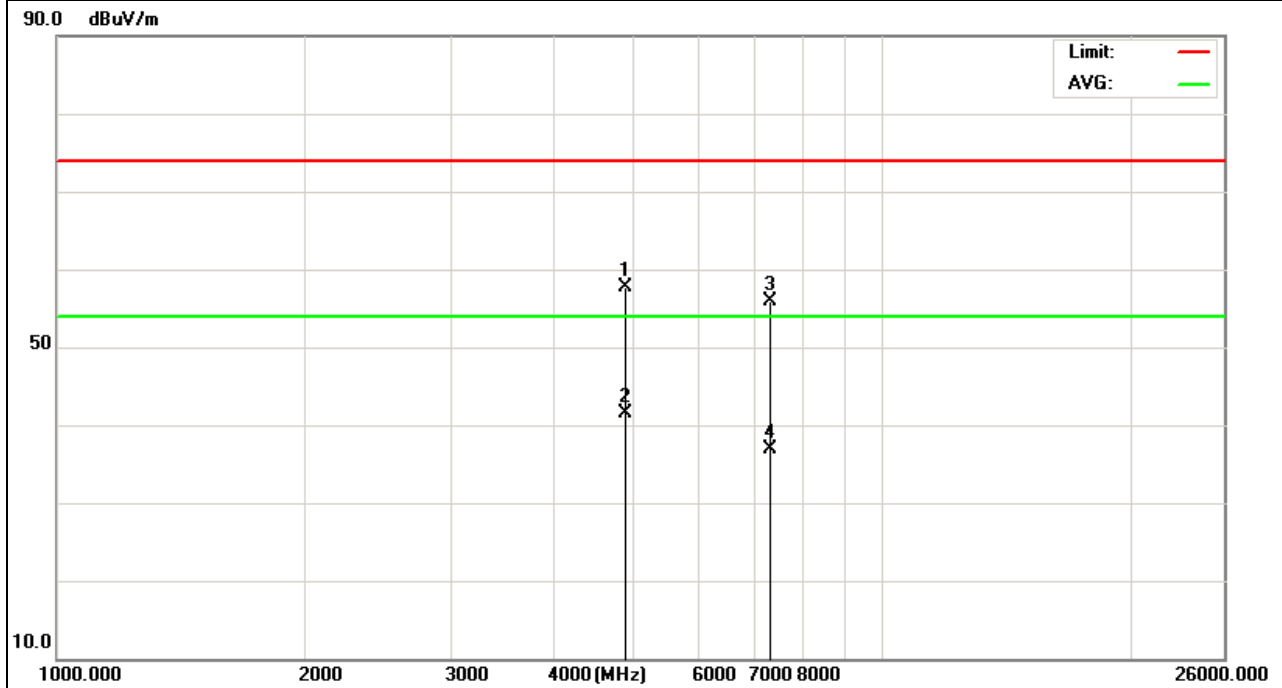
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH6 (802.11g Mode)/2437	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4874.562	47.21	10.4	57.61	74	-16.39	peak
4874.562	31.09	10.4	41.49	54	-12.51	AVG
7313.062	43.07	12.75	55.82	74	-18.18	peak
7313.062	24.16	12.75	36.91	54	-17.09	AVG

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

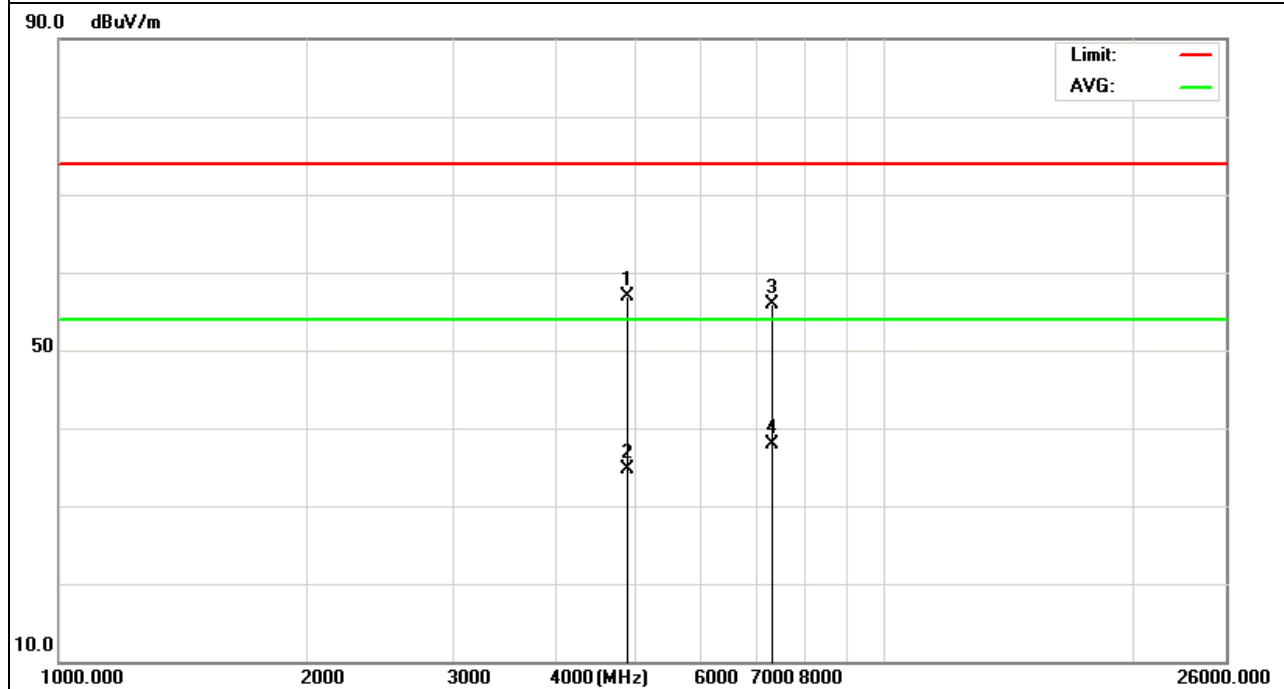




EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH6 (802.11g Mode)/2437	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4873.919	46.51	10.4	56.91	74	-17.09	peak
4873.919	24.27	10.4	34.67	54	-19.33	AVG
7310.255	43.16	12.75	55.91	74	-18.09	peak
7310.255	25.24	12.75	37.99	54	-16.01	AVG

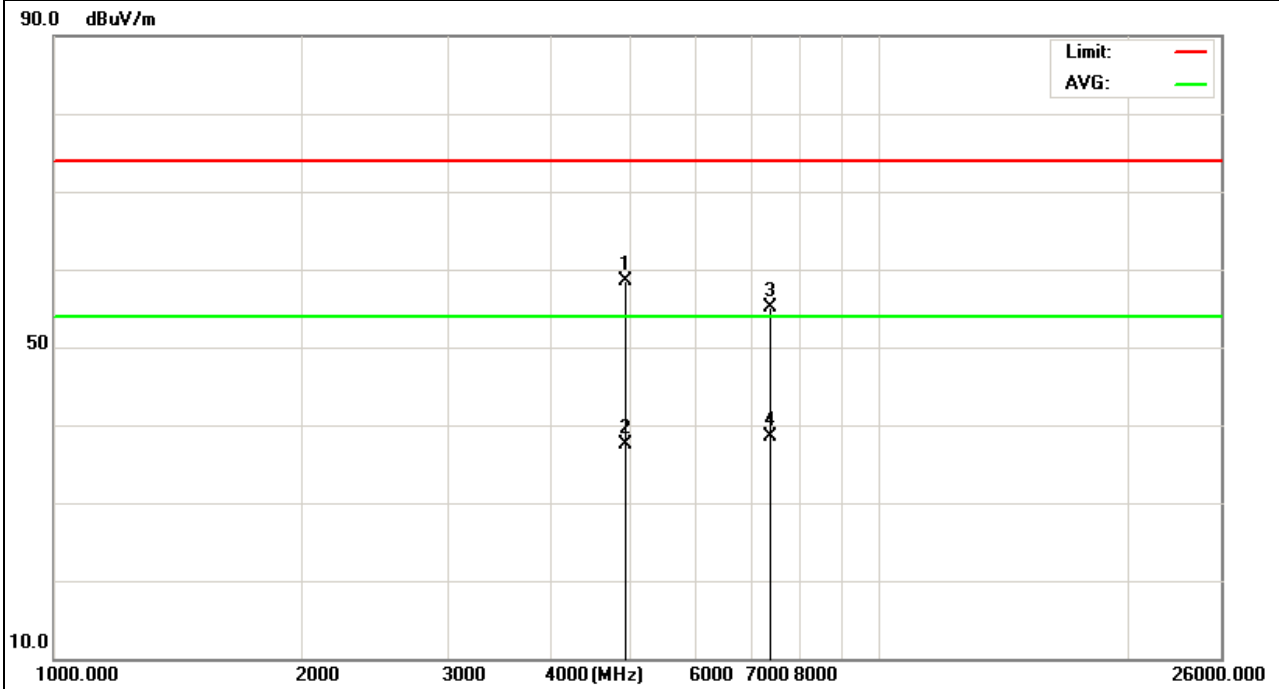
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH11 (802.11g Mode)/2462	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.286	48.12	10.39	58.51	74	-15.49	peak
4924.286	27.12	10.39	37.51	54	-16.49	AVG
7386.944	42.39	12.68	55.07	74	-18.93	peak
7386.944	25.89	12.68	38.57	54	-15.43	AVG

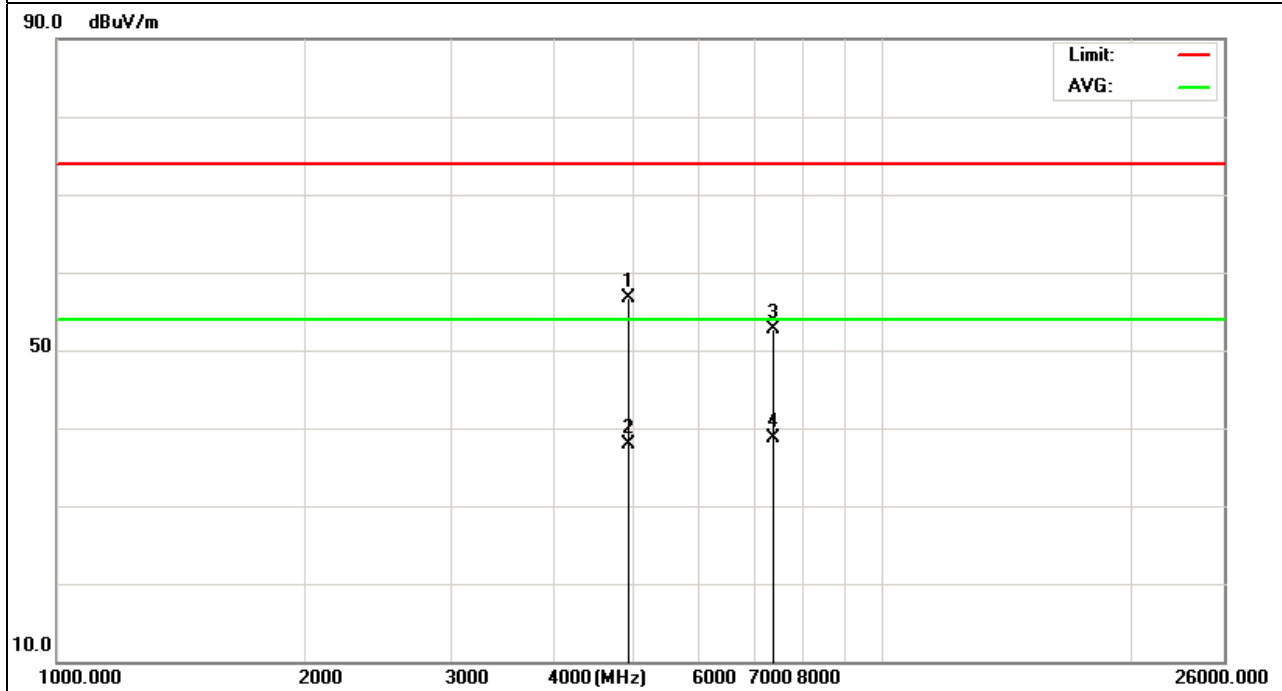
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH11(802.11g Mode)/2462	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4923.752	46.28	10.39	56.67	74	-17.33	peak
4923.752	27.43	10.39	37.82	54	-16.18	AVG
7387.235	40.12	12.68	52.8	74	-21.2	peak
7387.235	26.1	12.68	38.78	54	-15.22	AVG

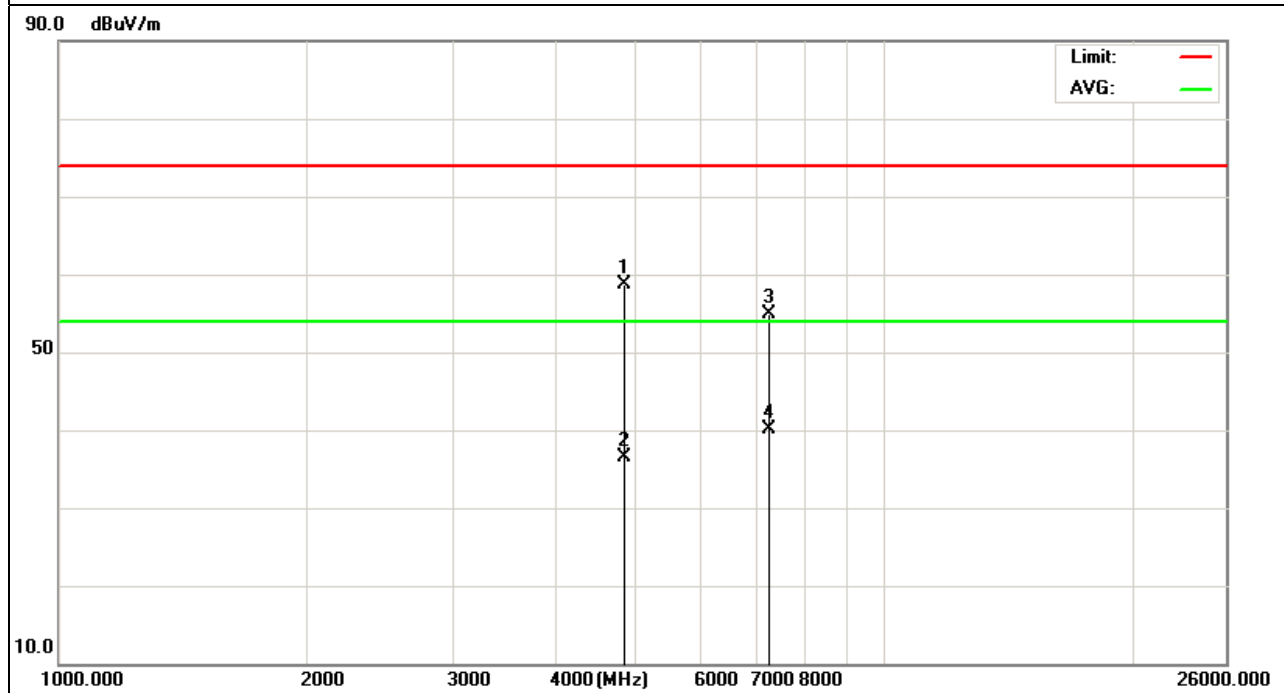
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH1(802.11n Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4824.455	48.25	10.44	58.69	74	-15.31	peak
4824.455	26.13	10.44	36.57	54	-17.43	AVG
7235.668	42.59	12.39	54.98	74	-19.02	peak
7235.668	27.64	12.39	40.03	54	-13.97	AVG

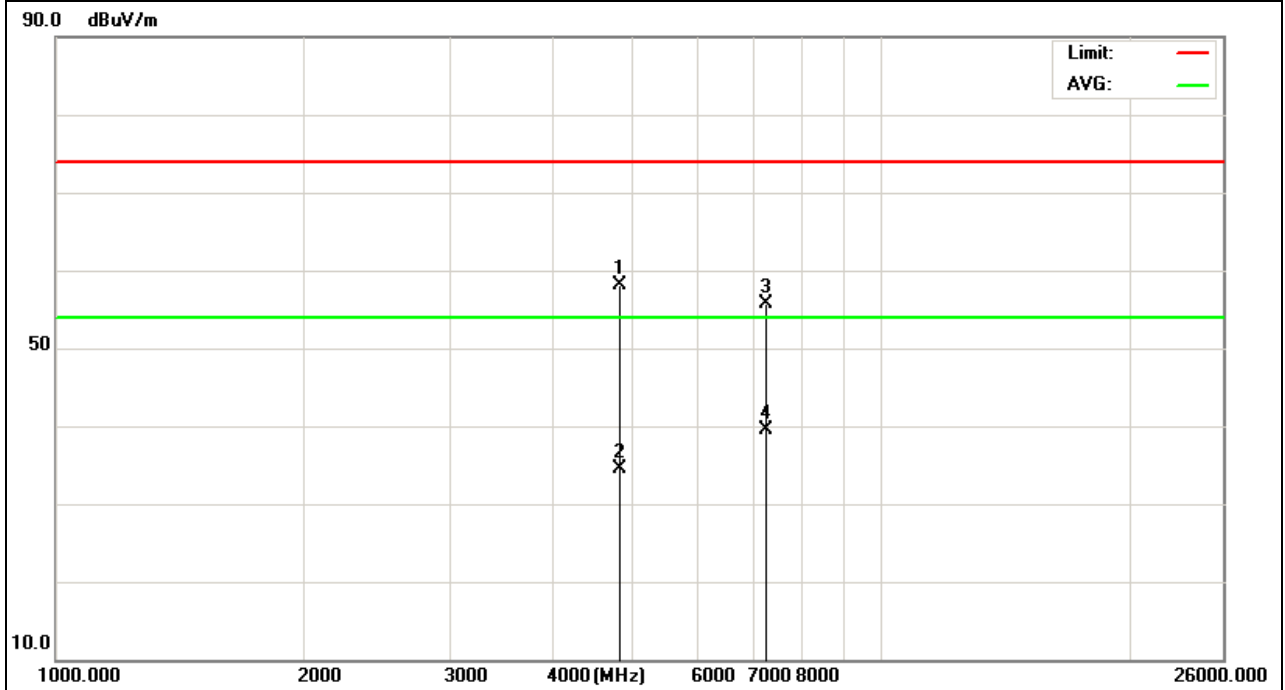
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
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
4823.691	47.62	10.44	58.06	74	-15.94	peak
4823.691	24.03	10.44	34.47	54	-19.53	AVG
7236.009	43.25	12.39	55.64	74	-18.36	peak
7236.009	27.18	12.39	39.57	54	-14.43	AVG

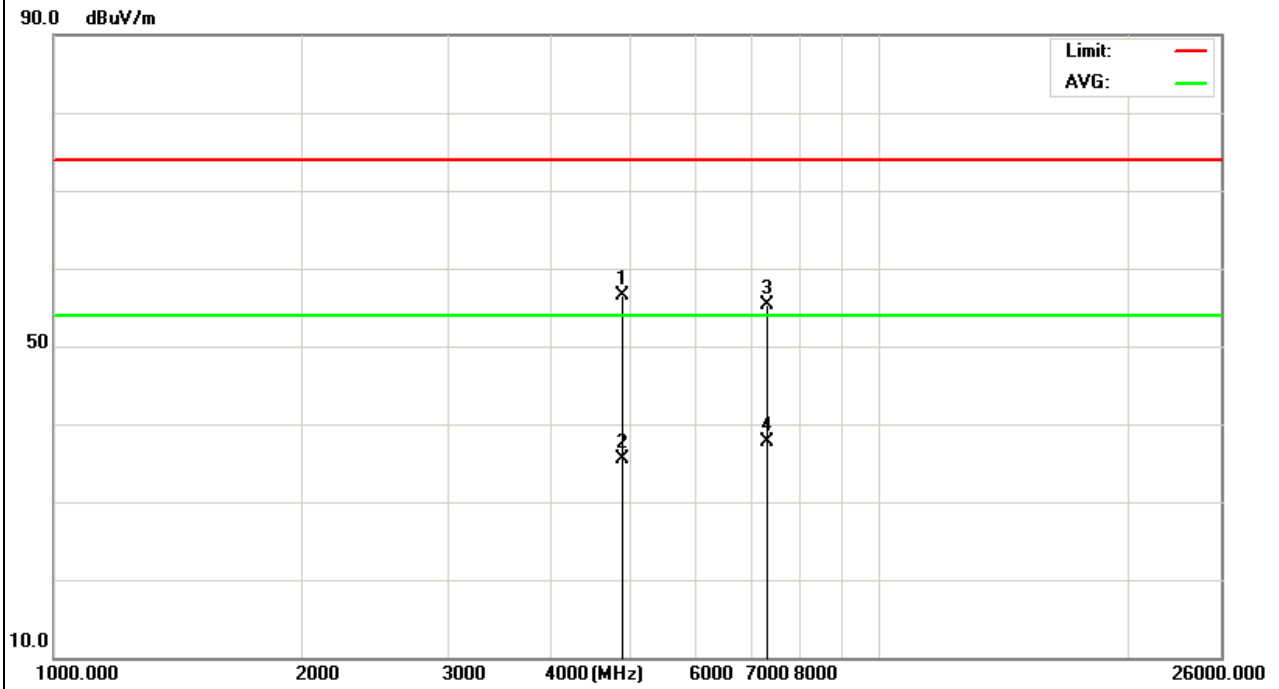
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH6(802.11n Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4875.033	46.2	10.39	56.59	74	-17.41	peak
4875.033	25.07	10.39	35.46	54	-18.54	AVG
7311.561	42.46	12.75	55.21	74	-18.79	peak
7311.561	25.02	12.75	37.77	54	-16.23	AVG

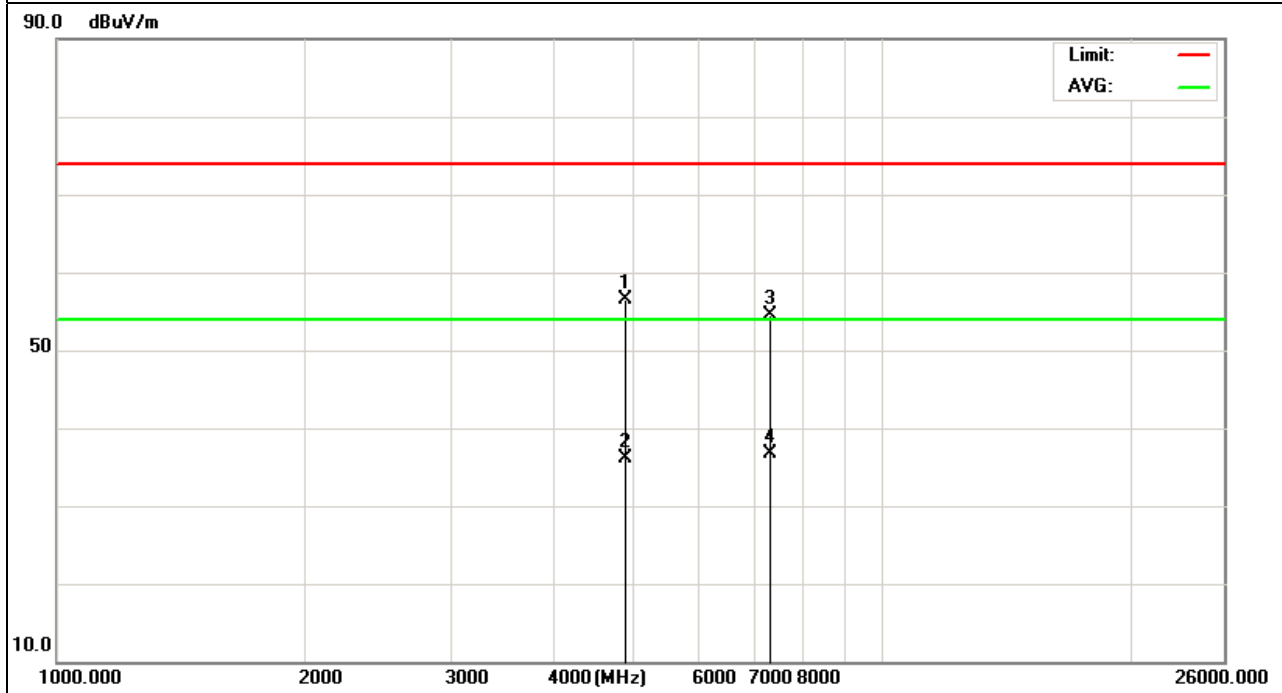
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH6(802.11n Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4874.629	46.13	10.4	56.53	74	-17.47	peak
4874.629	25.64	10.4	36.04	54	-17.96	AVG
7310.261	41.69	12.75	54.44	74	-19.56	peak
7310.261	24.02	12.75	36.77	54	-17.23	AVG

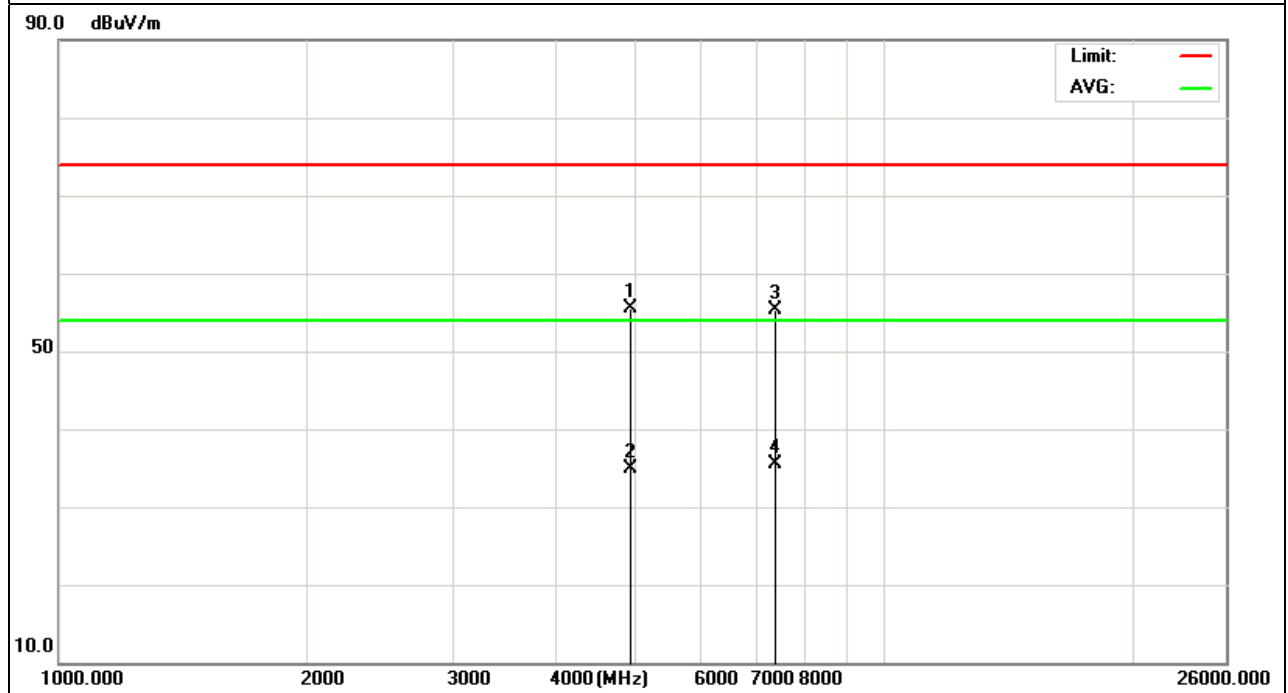
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH11(802.11n Mode)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4925.22	45.03	10.4	55.43	74	-18.57	peak
4925.22	24.58	10.4	34.98	54	-19.02	AVG
7386.255	42.62	12.68	55.3	74	-18.7	peak
7386.255	22.91	12.68	35.59	54	-18.41	AVG

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

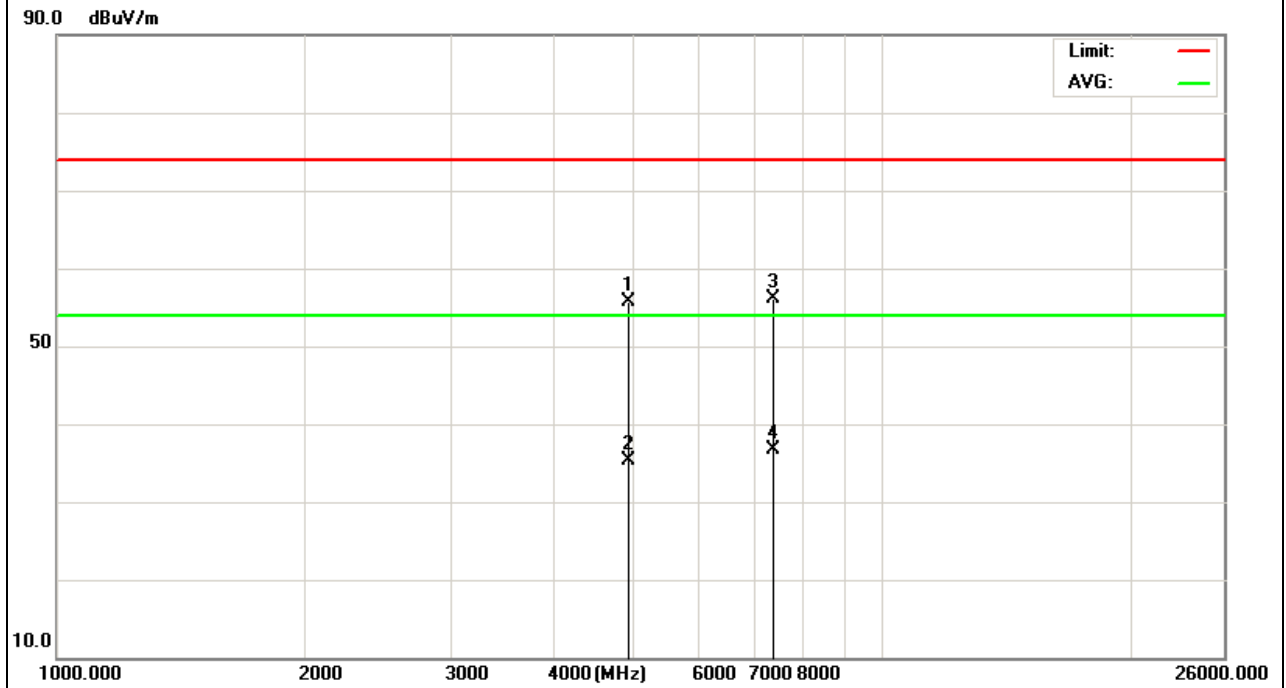




EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH11(802.11n Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4923.177	45.26	10.39	55.65	74	-18.35	peak
4923.177	24.92	10.39	35.31	54	-18.69	AVG
7387.521	43.49	12.68	56.17	74	-17.83	peak
7387.521	24.11	12.68	36.79	54	-17.21	AVG

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

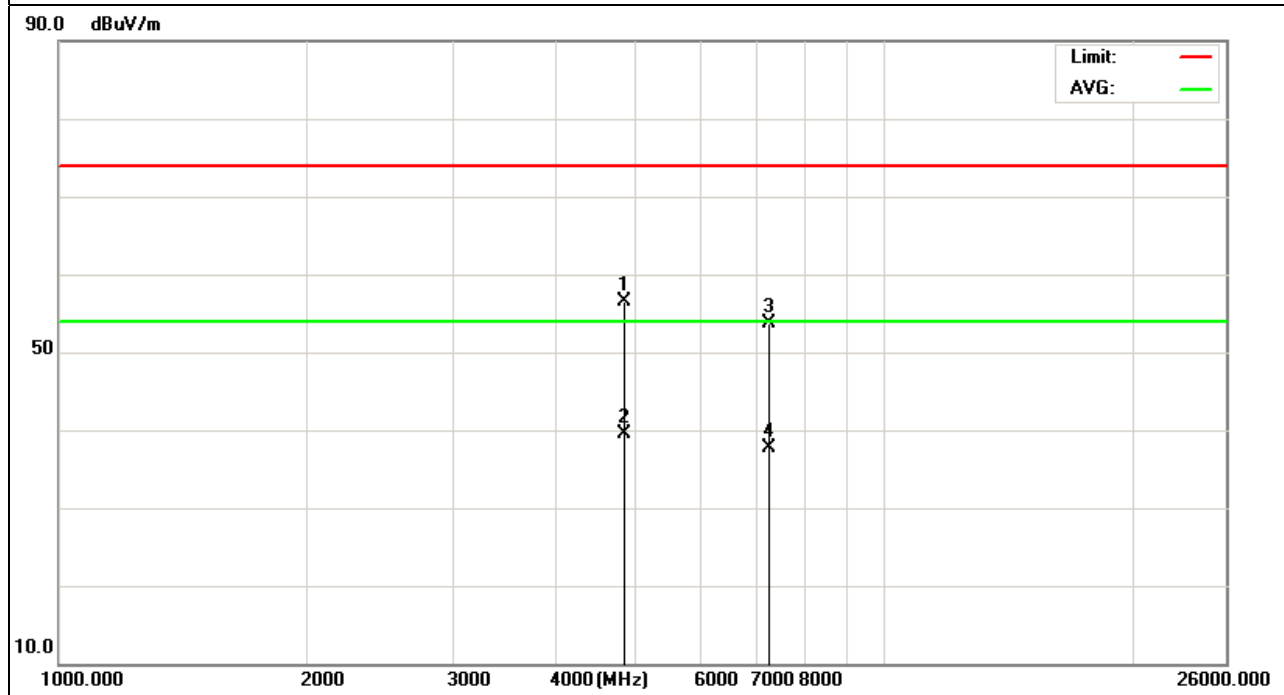


EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH3(802.11n Mode)/40MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4845.121	46.03	10.5	56.53	74	-17.47	peak
4845.121	29.09	10.5	39.59	54	-14.41	AVG
7266.614	41.28	12.5	53.78	74	-20.22	peak
7266.614	25.16	12.5	37.66	54	-16.34	AVG

Remark:

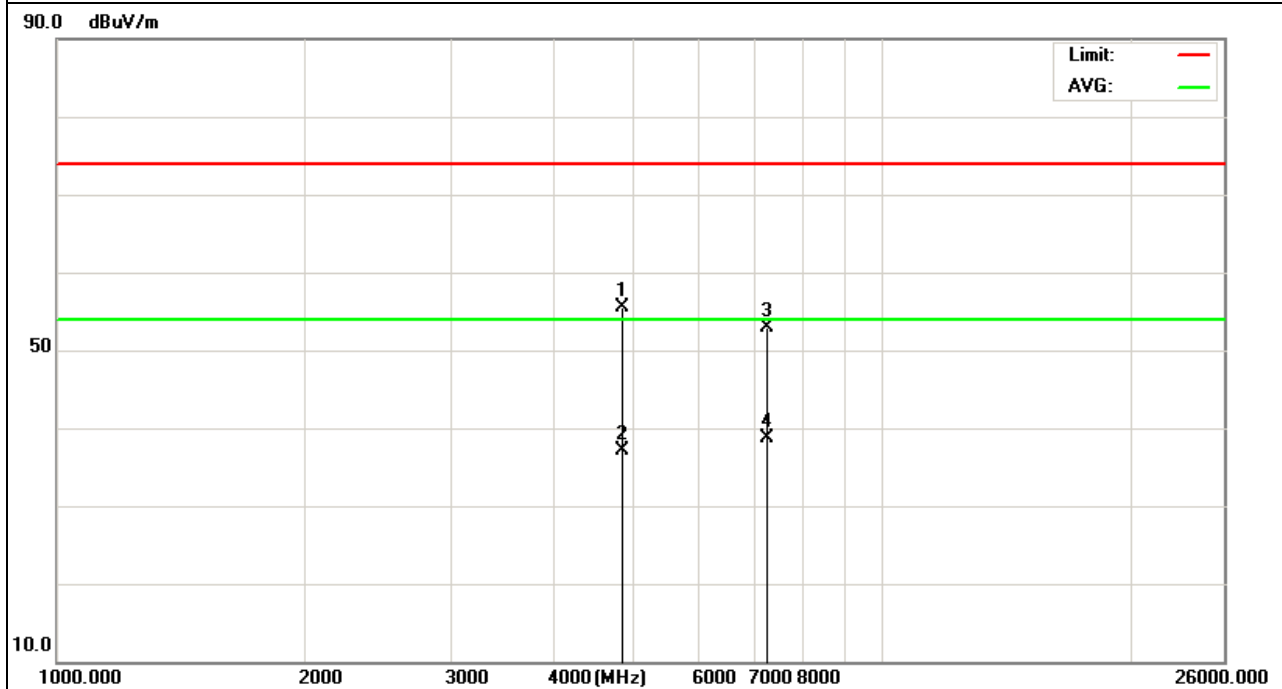
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH3(802.11n Mode) /40MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4844.655	45.02	10.5	55.52	74	-18.48	peak
4844.655	26.51	10.5	37.01	54	-16.99	AVG
7265.159	40.49	12.49	52.98	74	-21.02	peak
7265.159	26.2	12.49	38.69	54	-15.31	AVG

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

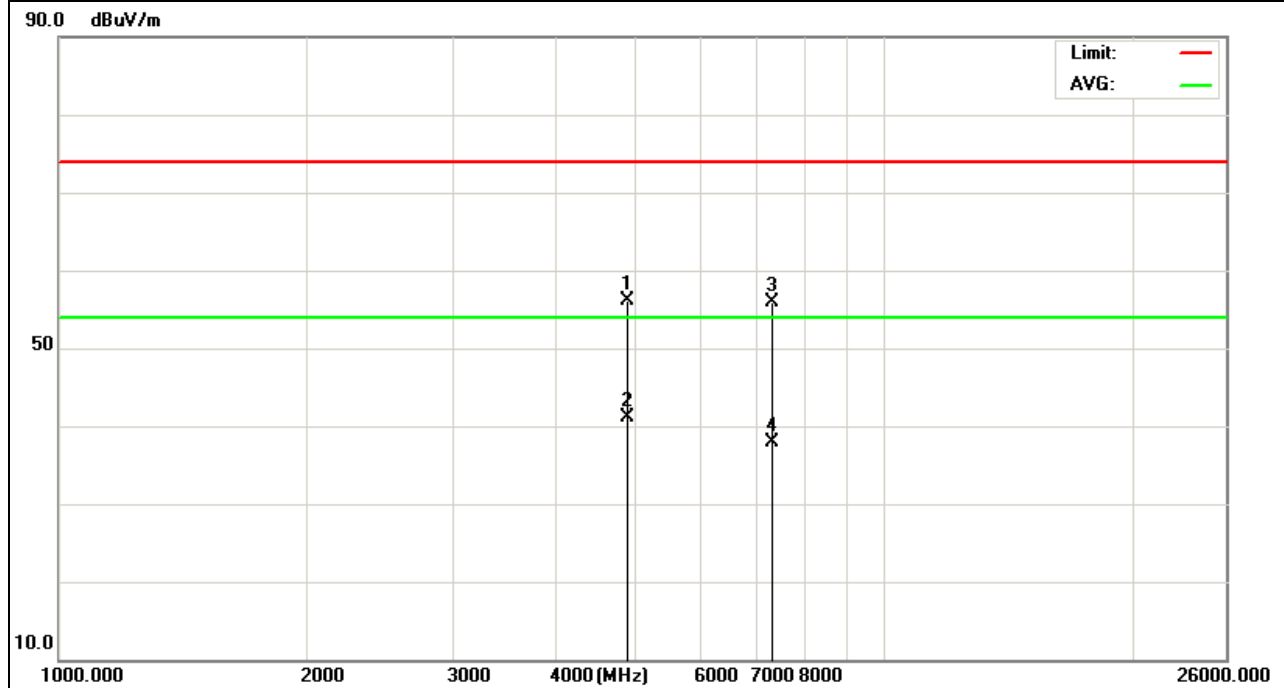


EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH6(802.11n Mode) /40MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4873.292	45.67	10.41	56.08	74	-17.92	peak
4873.292	30.76	10.41	41.17	54	-12.83	AVG
7310.517	43.24	12.75	55.99	74	-18.01	peak
7310.517	25.16	12.75	37.91	54	-16.09	AVG

Remark:

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

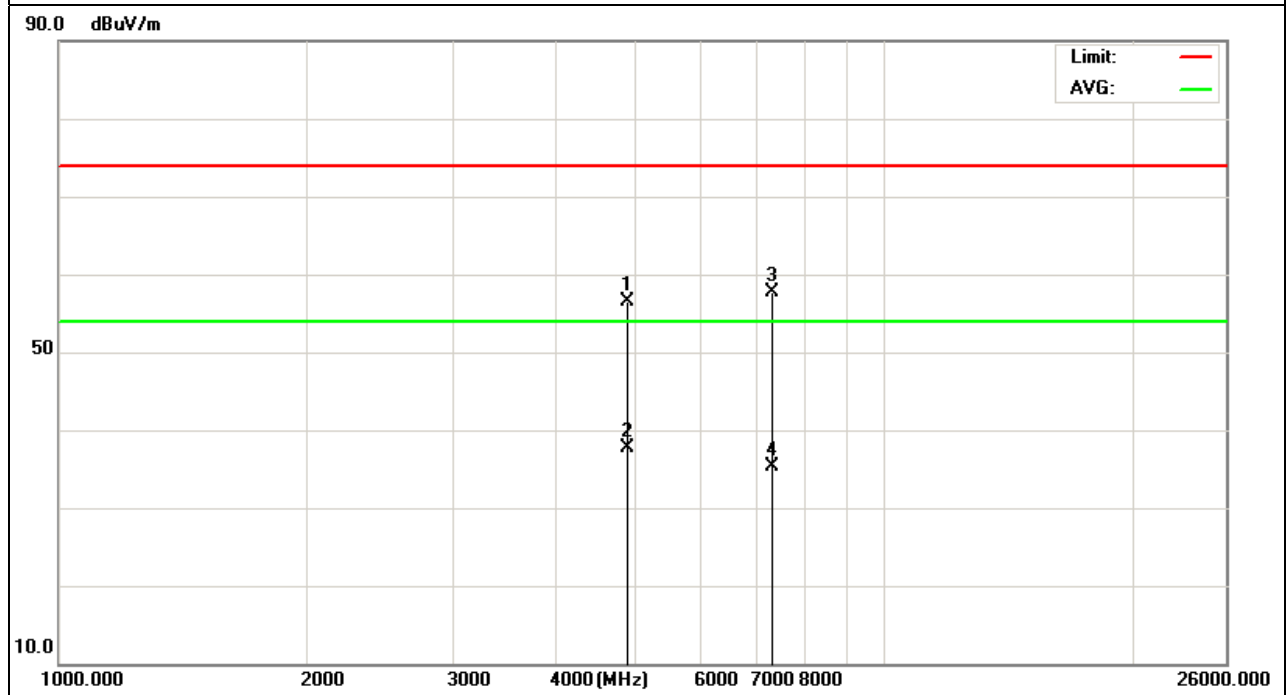


EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH6(802.11n Mode) /40MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.492	46.15	10.4	56.55	74	-17.45	peak
4874.492	27.34	10.4	37.74	54	-16.26	AVG
7312.59	44.94	12.75	57.69	74	-16.31	peak
7312.59	22.48	12.75	35.23	54	-18.77	AVG

Remark:

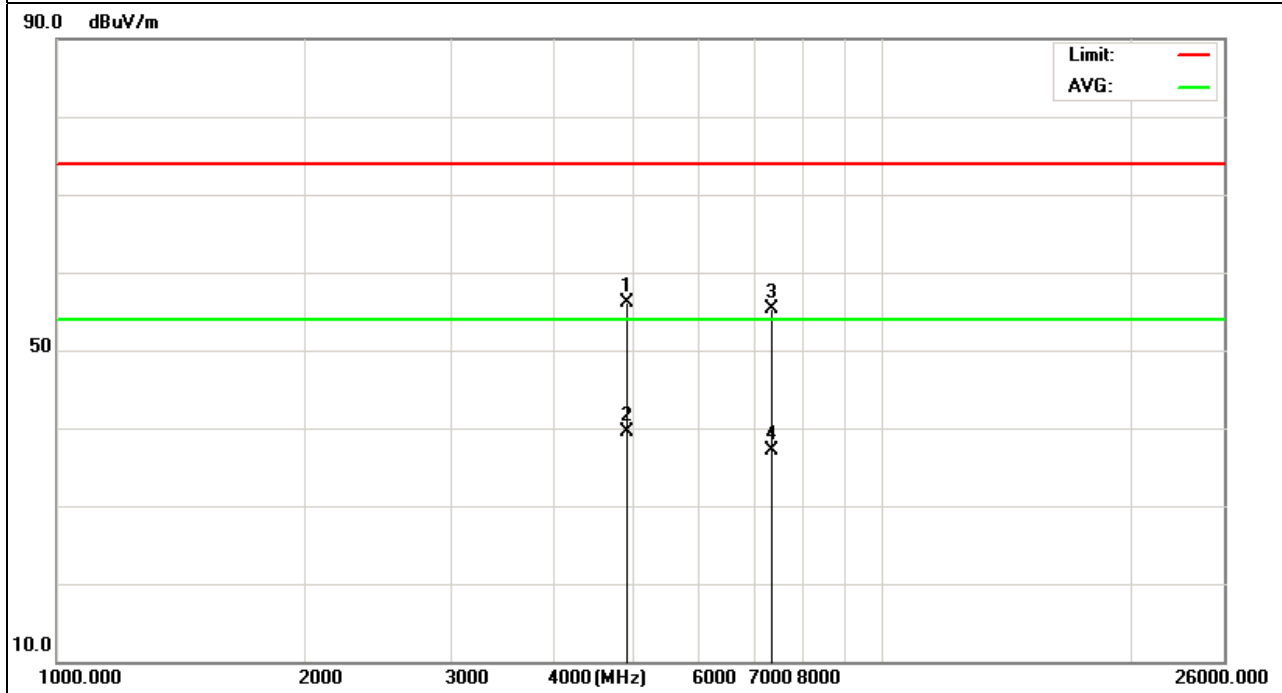
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH9(802.11n Mode) /40MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4905.167	45.71	10.3	56.01	74	-17.99	peak
4905.167	29.13	10.3	39.43	54	-14.57	AVG
7356.846	42.51	12.79	55.3	74	-18.7	peak
7356.846	24.22	12.79	37.01	54	-16.99	AVG

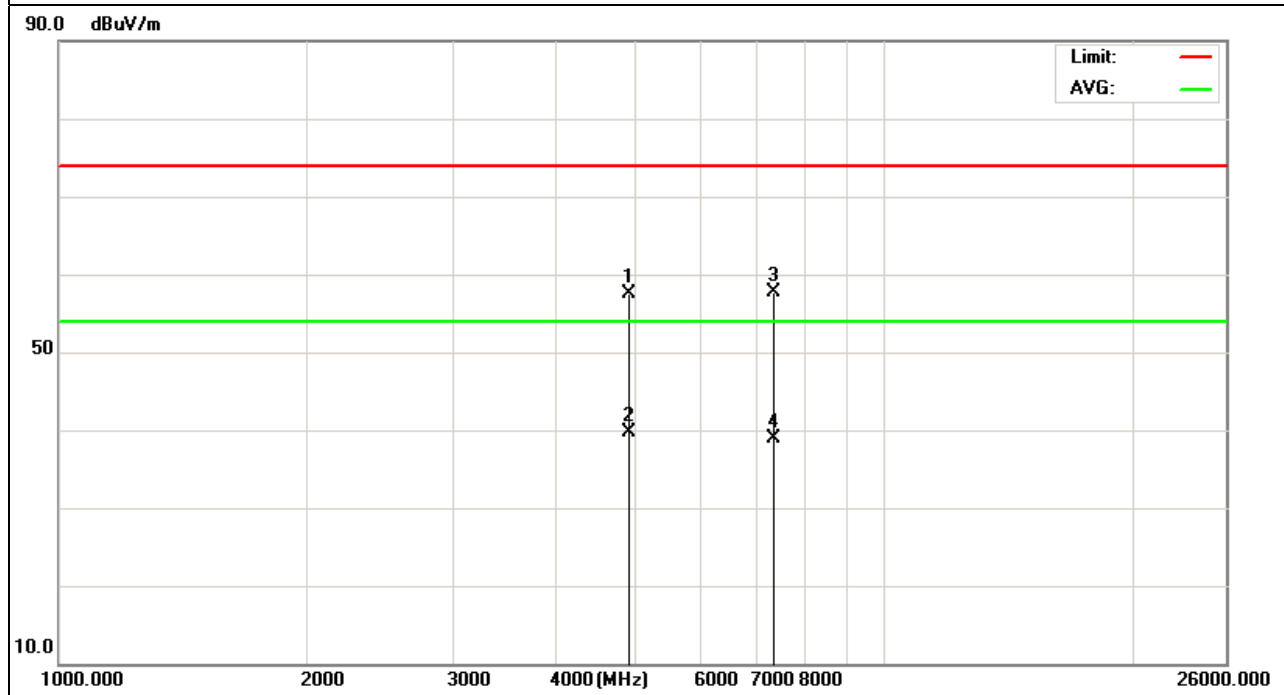
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH9(802.11n Mode) /40MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
4904.834	47.27	10.3	57.57	74	-16.43	peak
4904.834	29.38	10.3	39.68	54	-14.32	AVG
7357.239	44.82	12.79	57.61	74	-16.39	peak
7357.239	26.13	12.79	38.92	54	-15.08	AVG

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

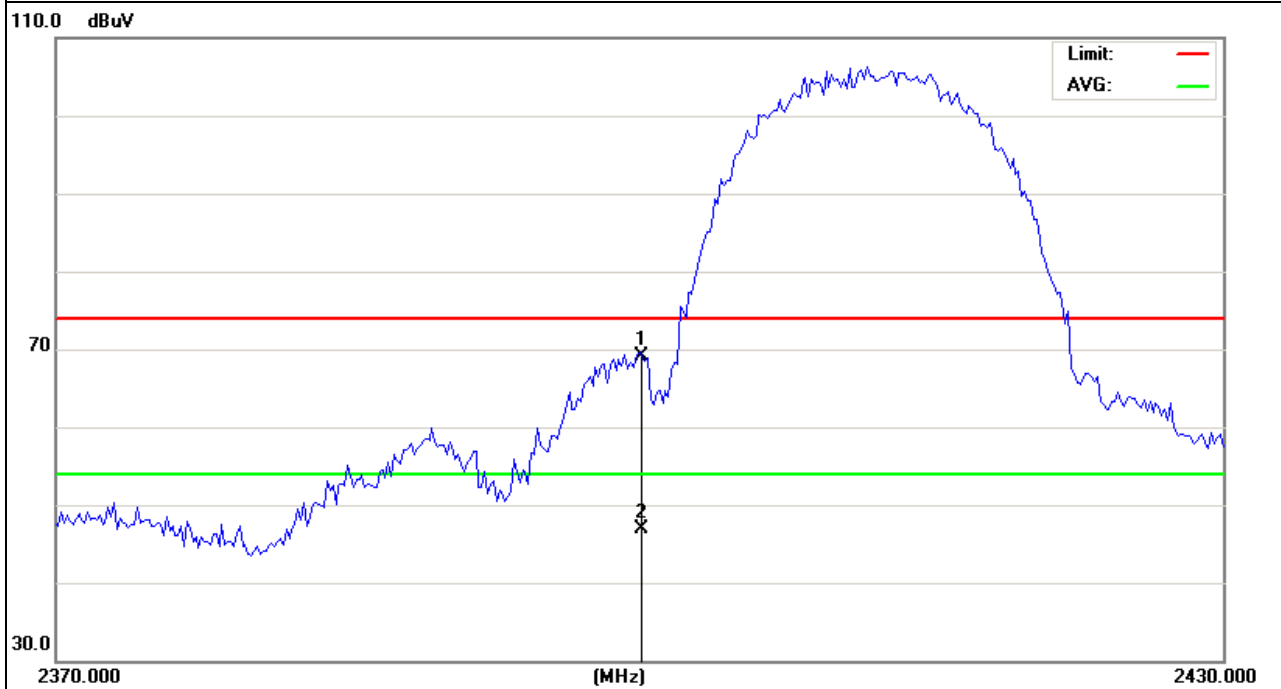


**Band Edge Emission:**

EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
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
2400	82.19	-12.99	69.2	74	-4.8	peak
2400	59.82	-12.99	46.83	54	-7.17	AVG

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

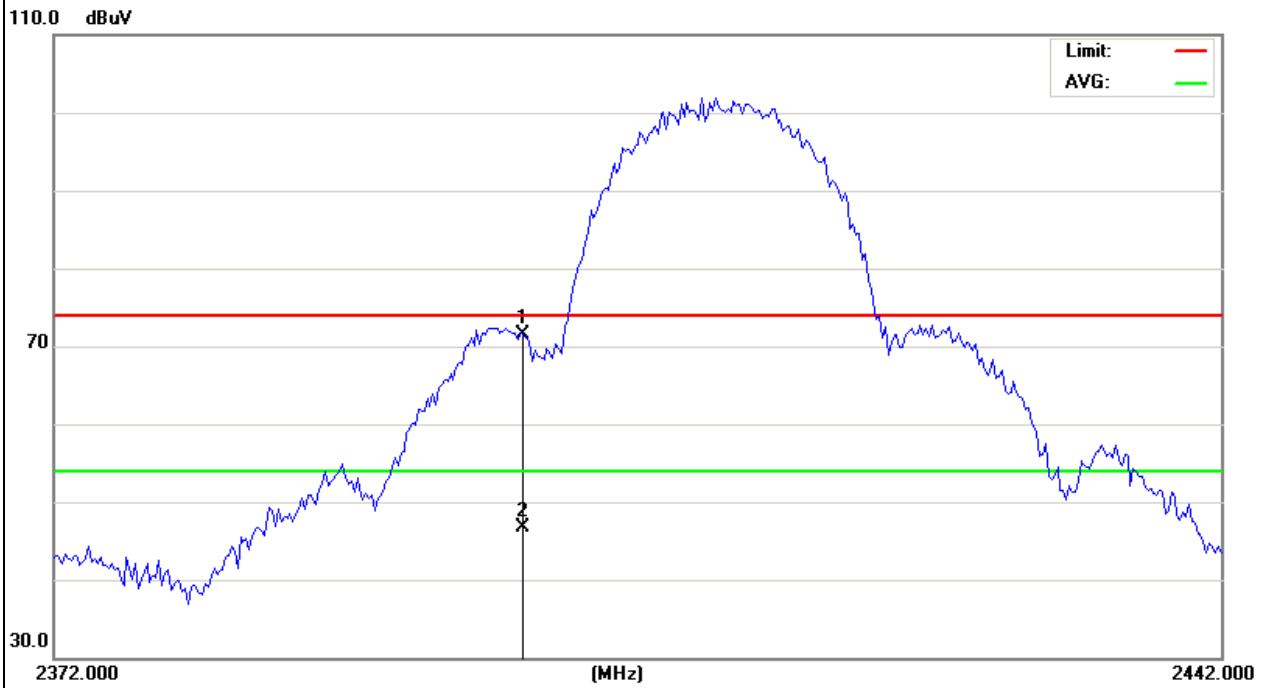




EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH1(802.11b Mode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2400	84.39	-12.99	71.4	74	-2.6	peak
2400	59.62	-12.99	46.63	54	-7.37	AVG

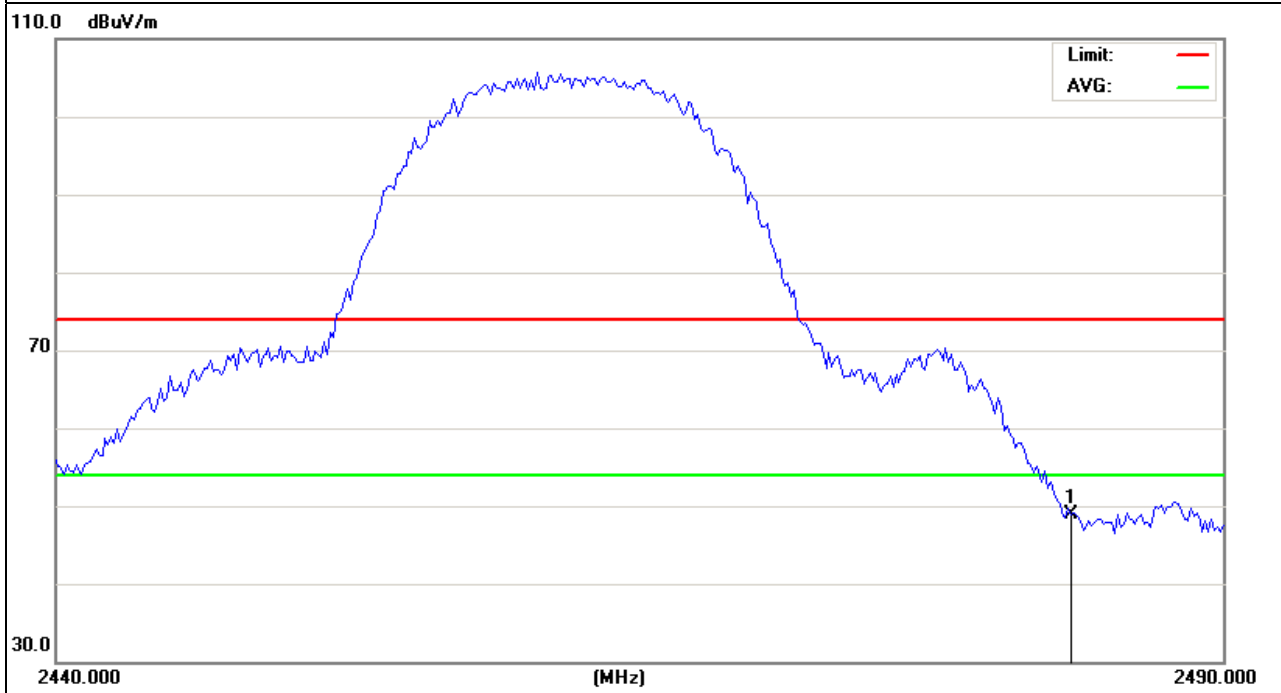
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
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
2483.5	61.68	-12.78	48.9	74	-25.1	peak

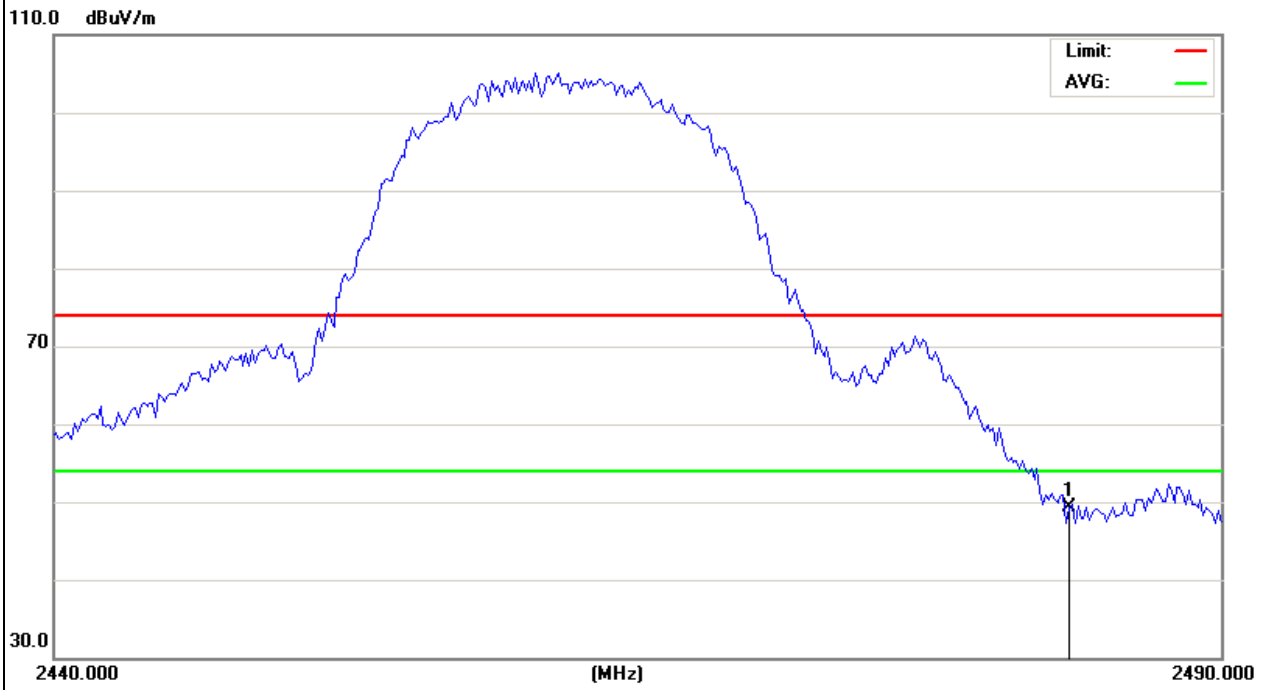
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
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
2483.5	62.18	-12.78	49.4	74	-24.6	peak

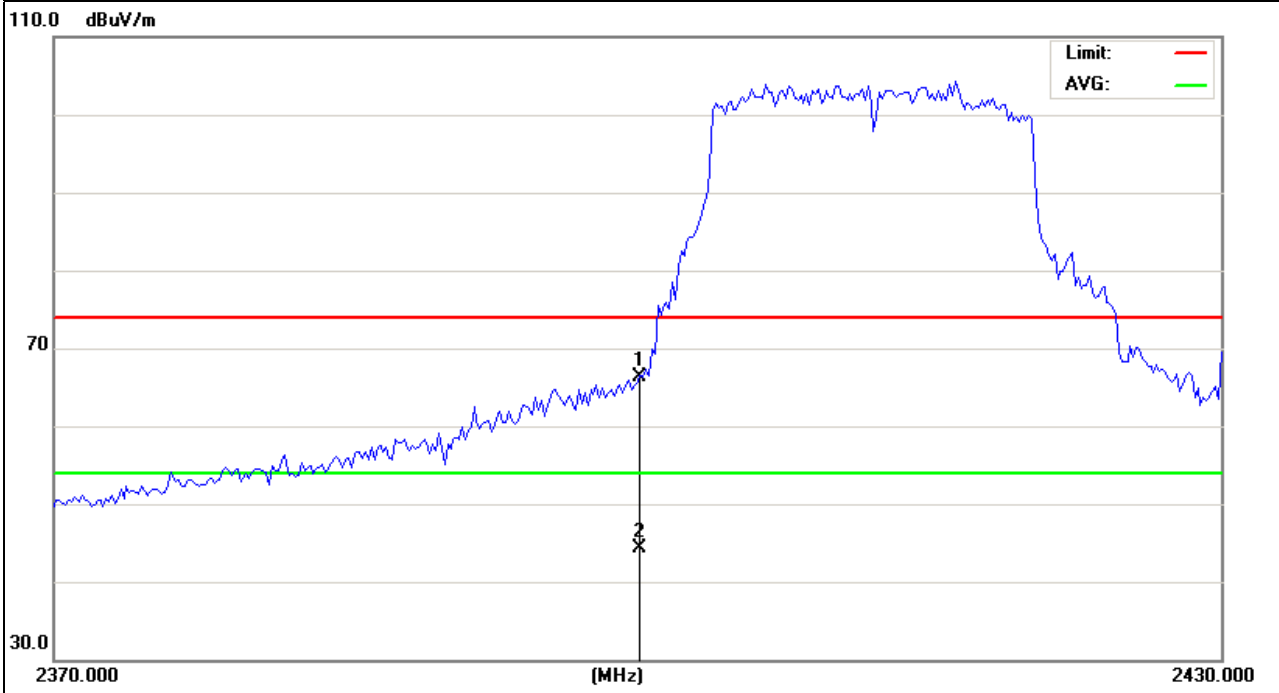
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
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	79.32	-12.99	66.33	74	-7.67	peak
2400	57.27	-12.99	44.28	54	-9.72	AVG

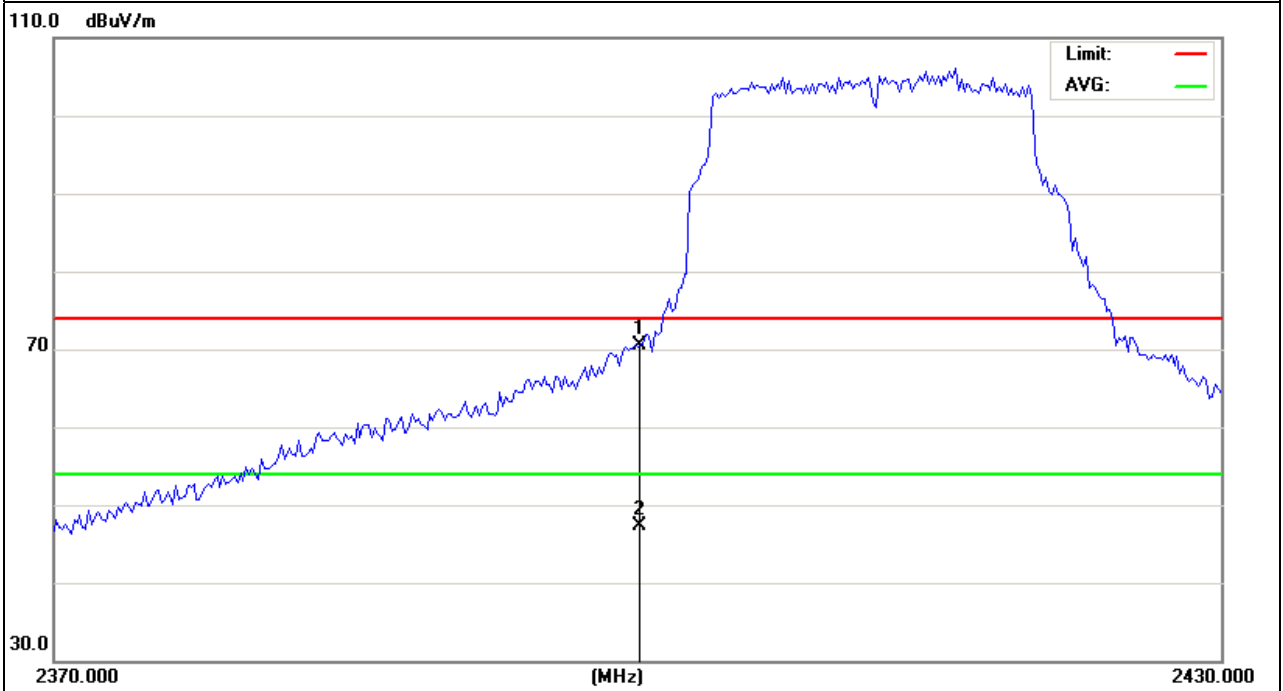
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH1(802.11gMode)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2400	83.59	-12.99	70.6	74	-3.4	peak
2400	60.37	-12.99	47.38	54	-6.62	AVG

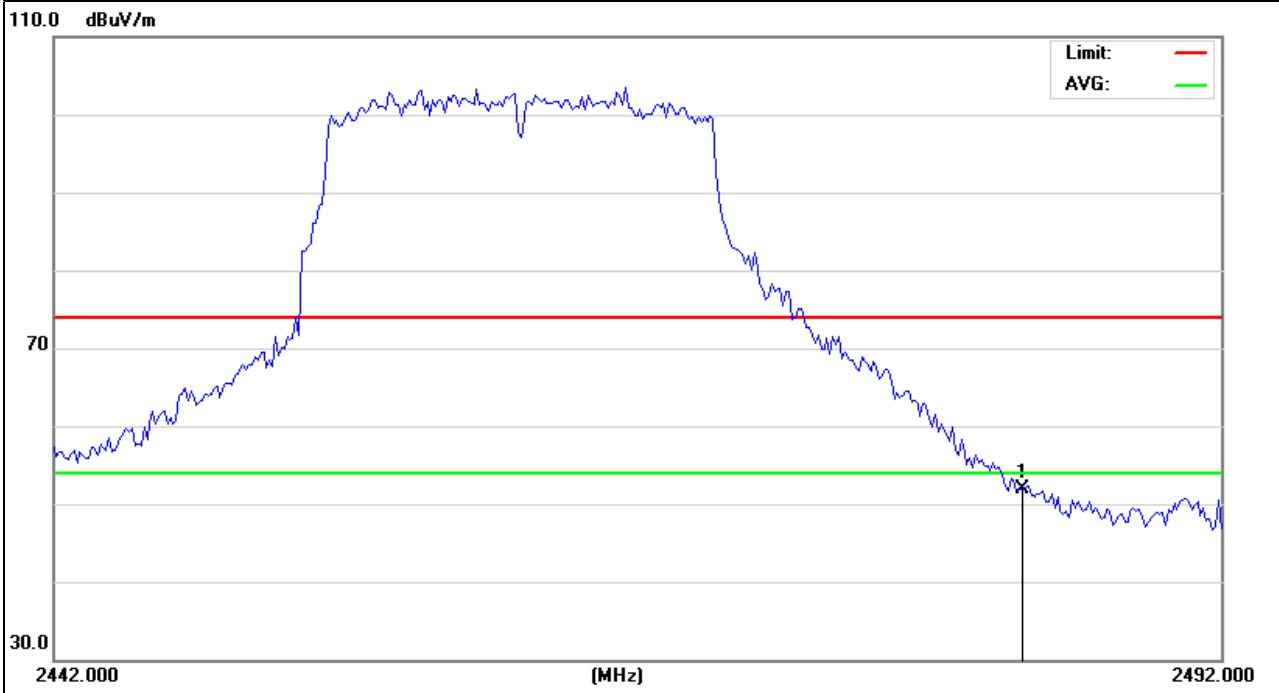
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
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
2483.5	64.68	-12.78	51.9	74	-22.1	peak

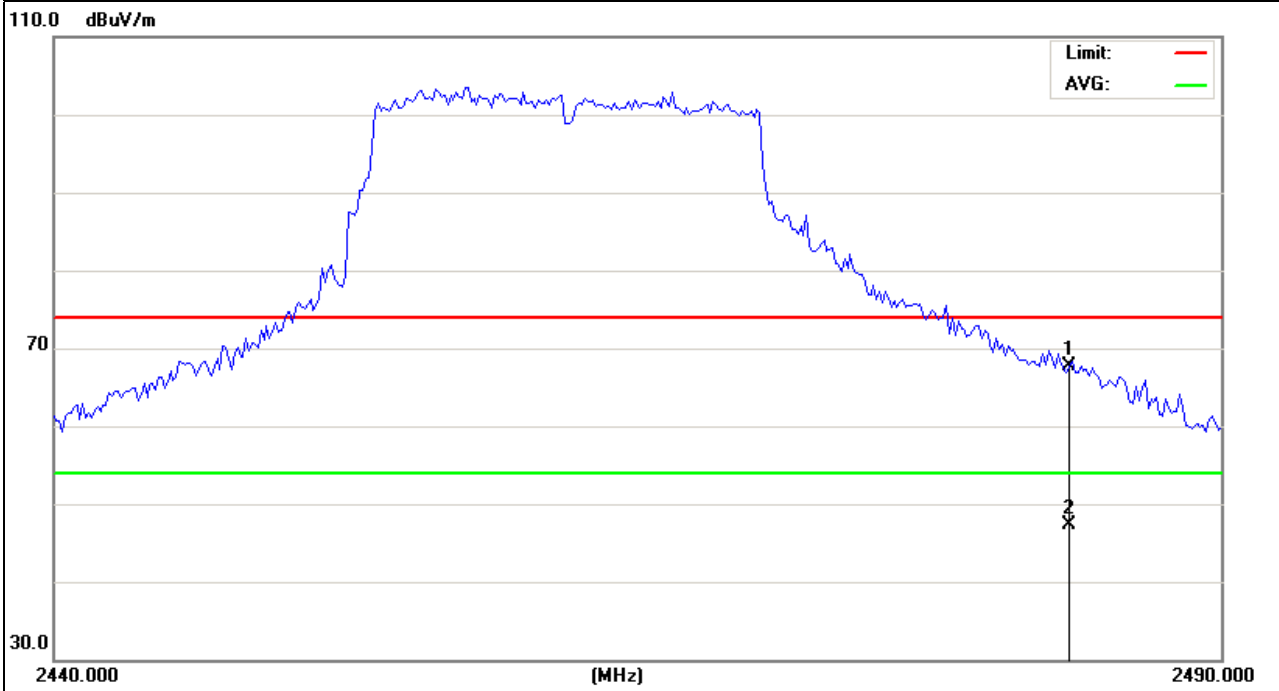
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
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
2483.5	80.4	-12.78	67.62	74	-6.38	peak
2483.5	60.15	-12.78	47.37	54	-6.63	AVG

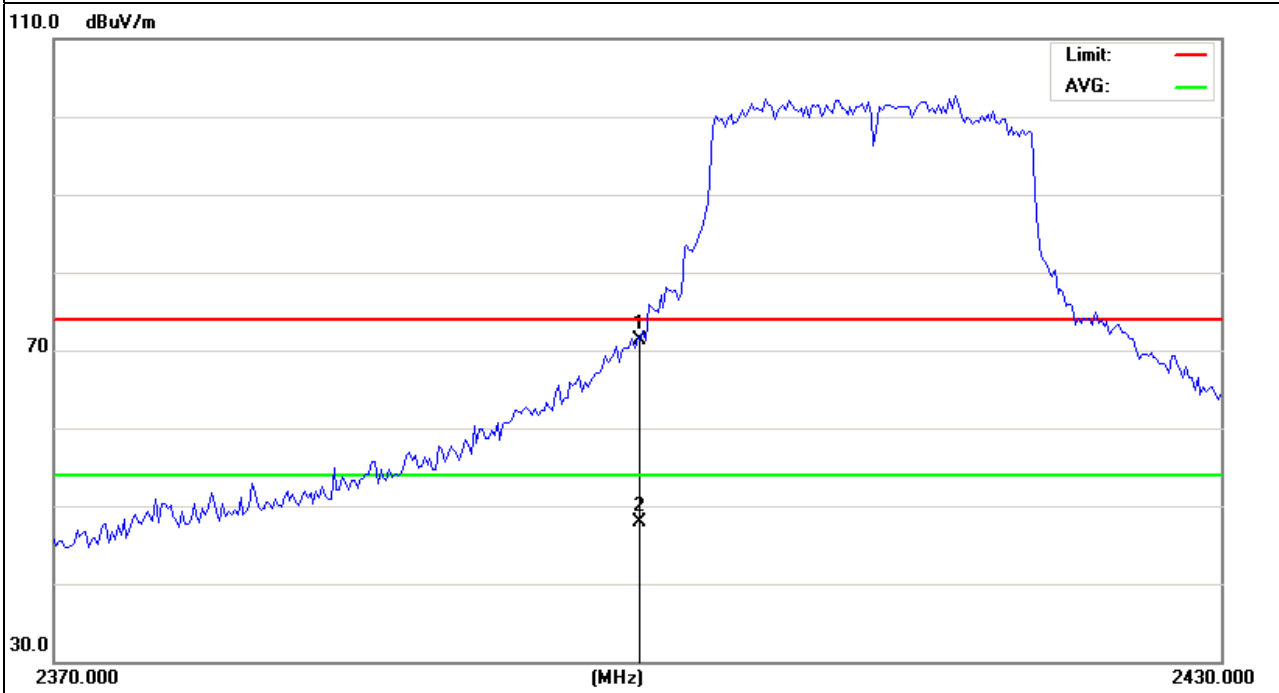
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH1(802.11n Mode/20MHz)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2400	84.29	-12.99	71.3	74	-2.7	peak
2400	60.84	-12.99	47.85	54	-6.15	AVG

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

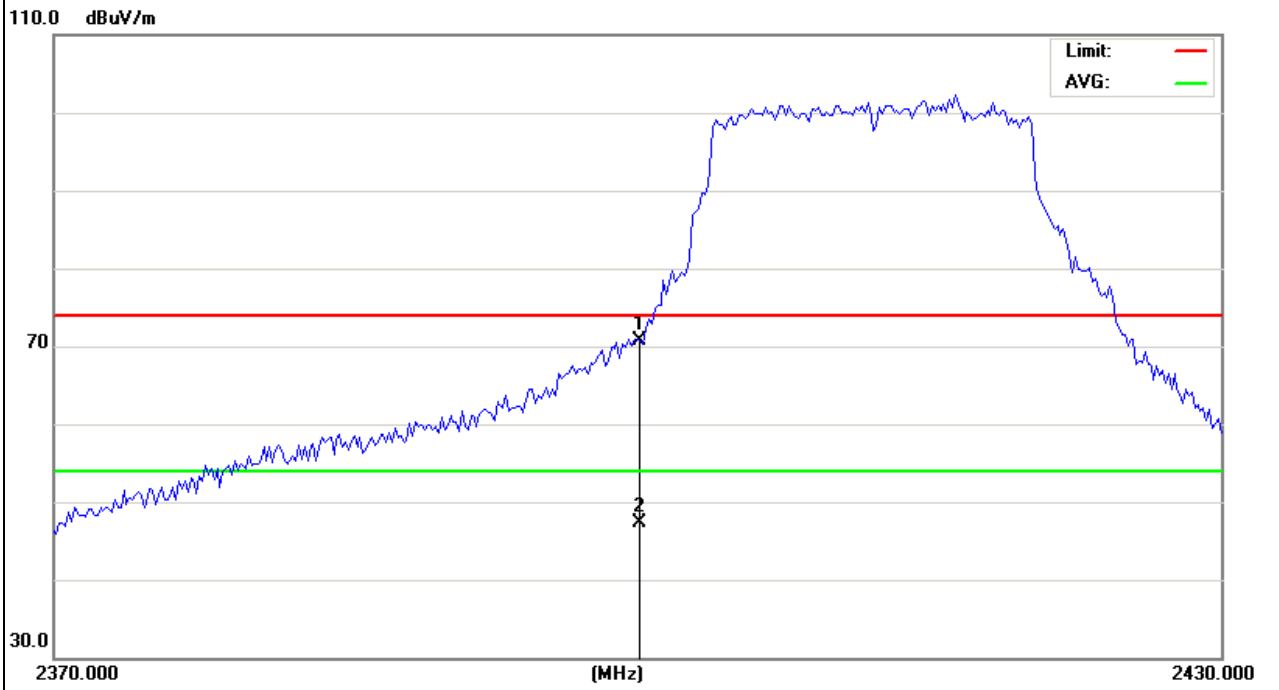




EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH1(802.11n Mode/20MHz)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2400	83.79	-12.99	70.8	74	-3.2	peak
2400	60.33	-12.99	47.34	54	-6.66	AVG

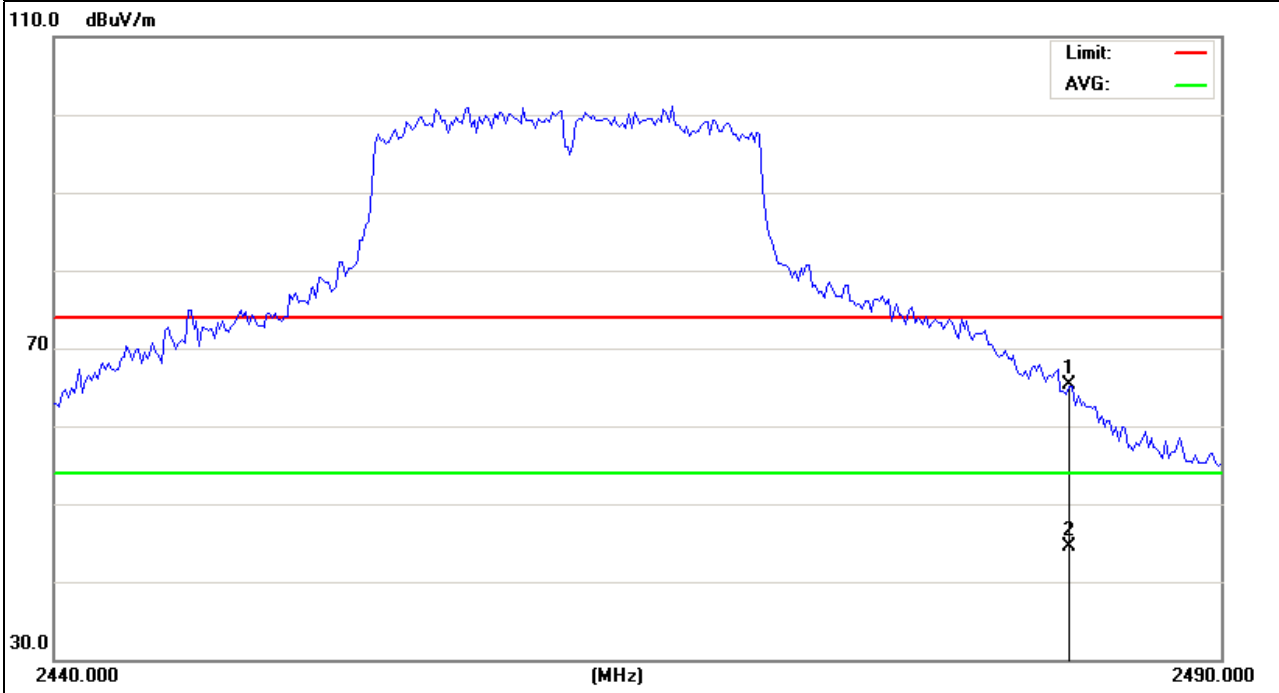
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH11(802.11n Mode/20MHz)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2483.5	78.11	-12.78	65.33	74	-8.67	peak
2483.5	57.19	-12.78	44.41	54	-9.59	AVG

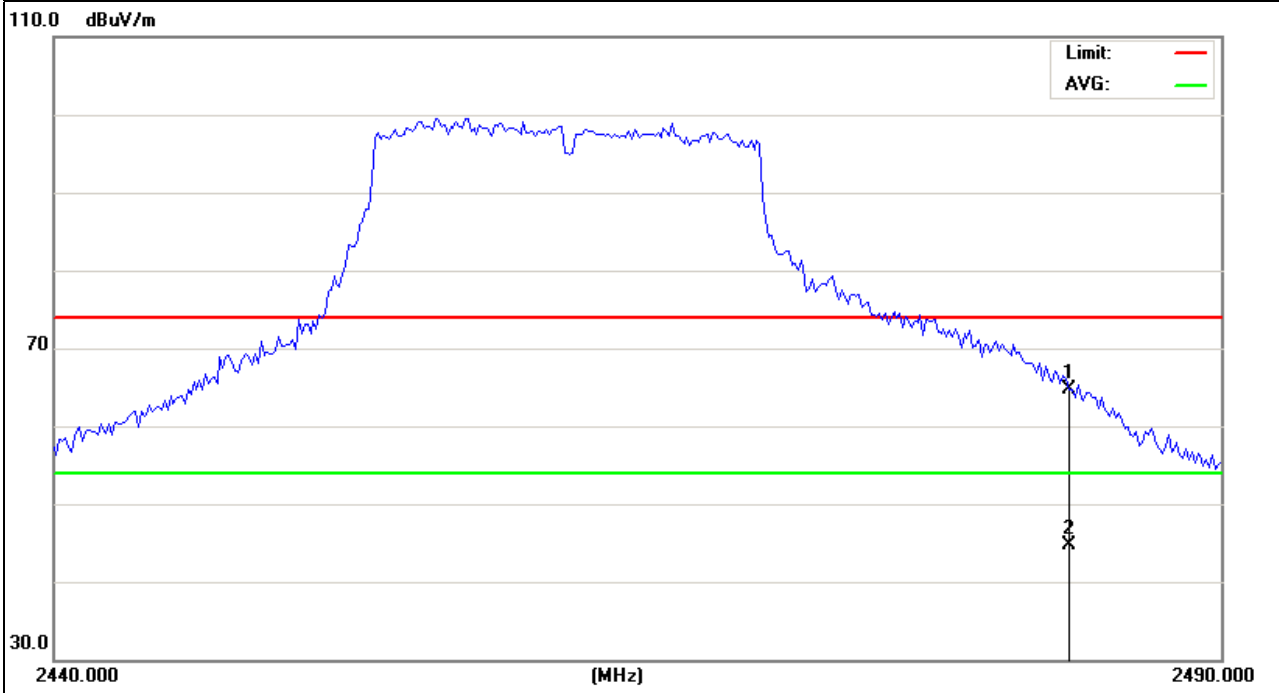
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH11(802.11n Mode/20MHz)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2483.5	77.54	-12.78	64.76	74	-9.24	peak
2483.5	57.46	-12.78	44.68	54	-9.32	AVG

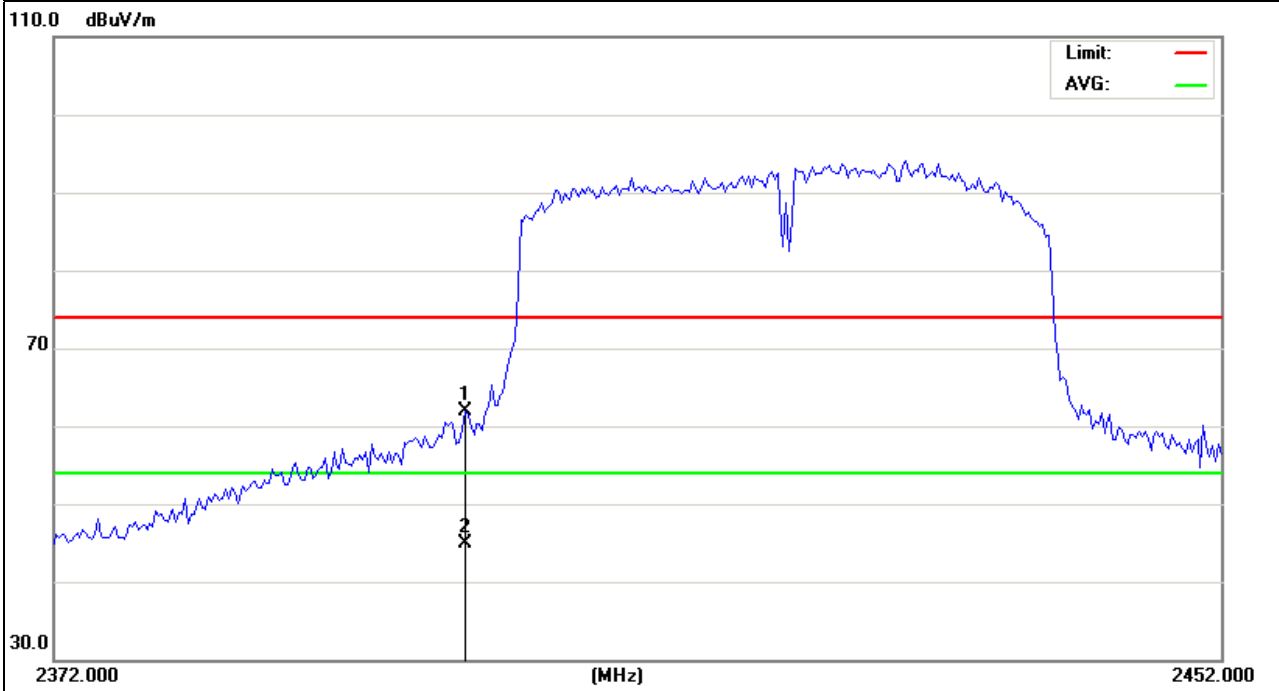
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH3(802.11n Mode/40MHz)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2400	74.99	-12.99	62	74	-12	peak
2400	57.83	-12.99	44.84	54	-9.16	AVG

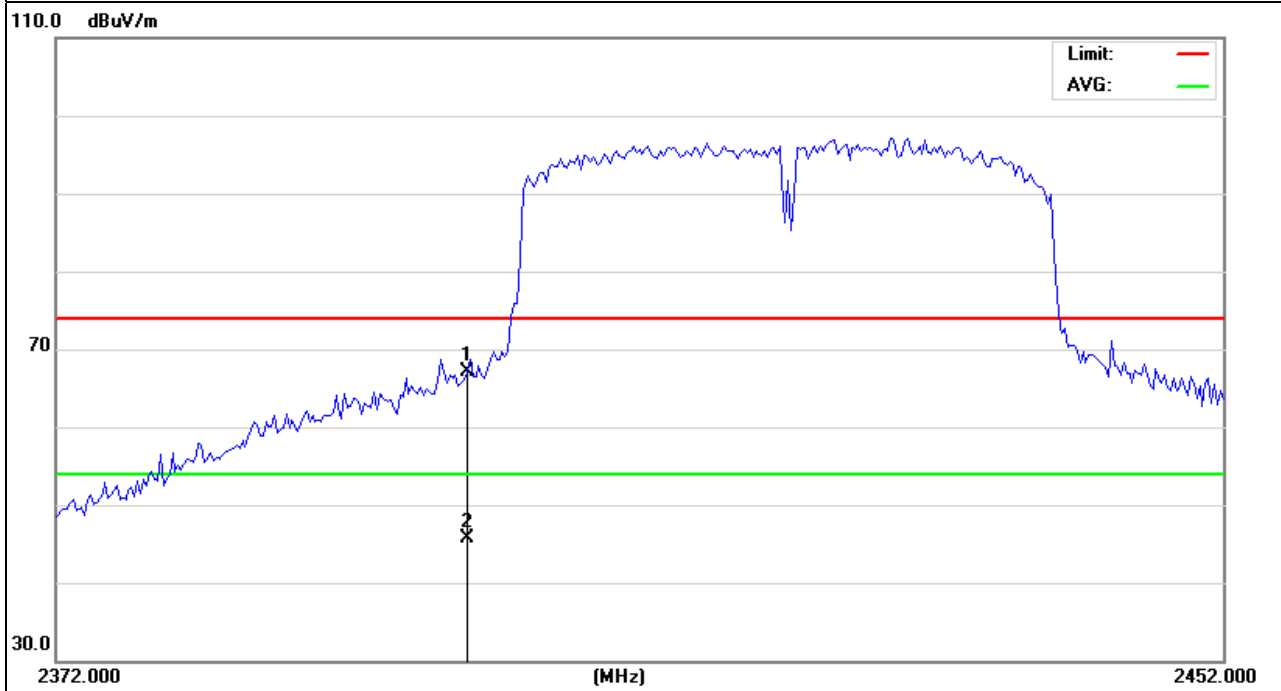
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH3(802.11n Mode/40MHz)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2400	80.11	-12.99	67.12	74	-6.88	peak
2400	58.62	-12.99	45.63	54	-8.37	AVG

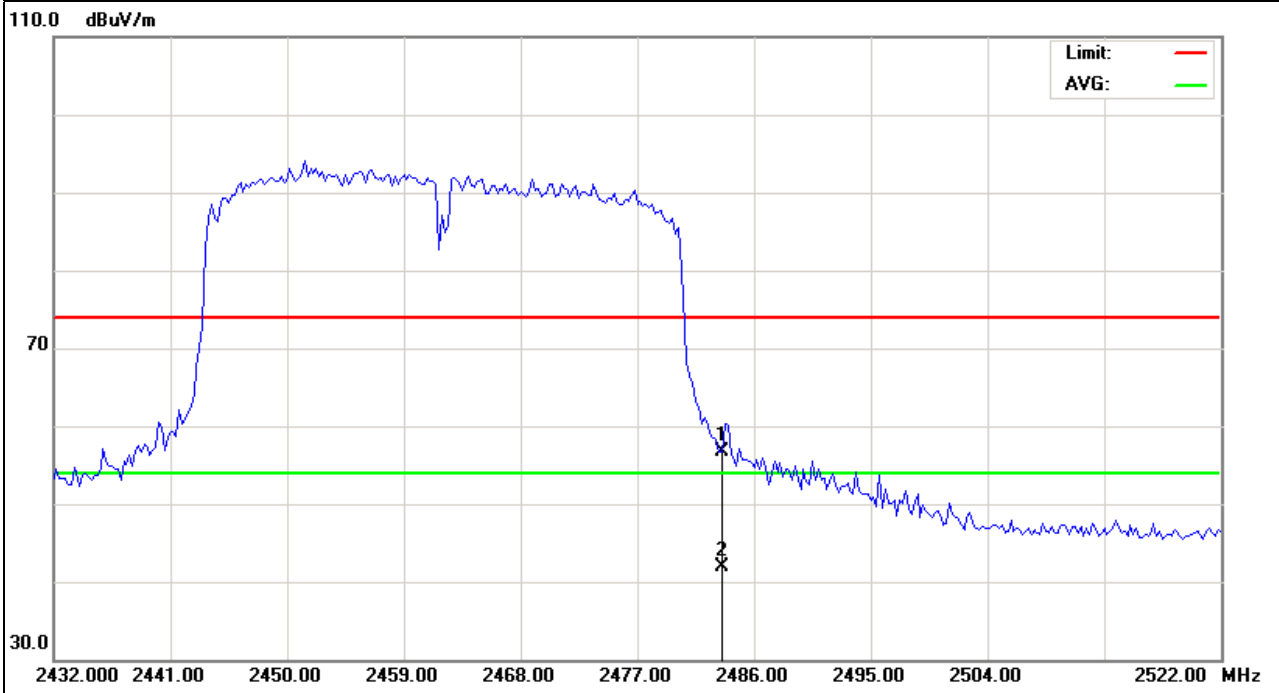
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH9(802.11n Mode/40MHz)	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
2483.5	69.42	-12.78	56.64	74	-17.36	peak
2483.5	54.61	-12.78	41.83	54	-12.17	AVG

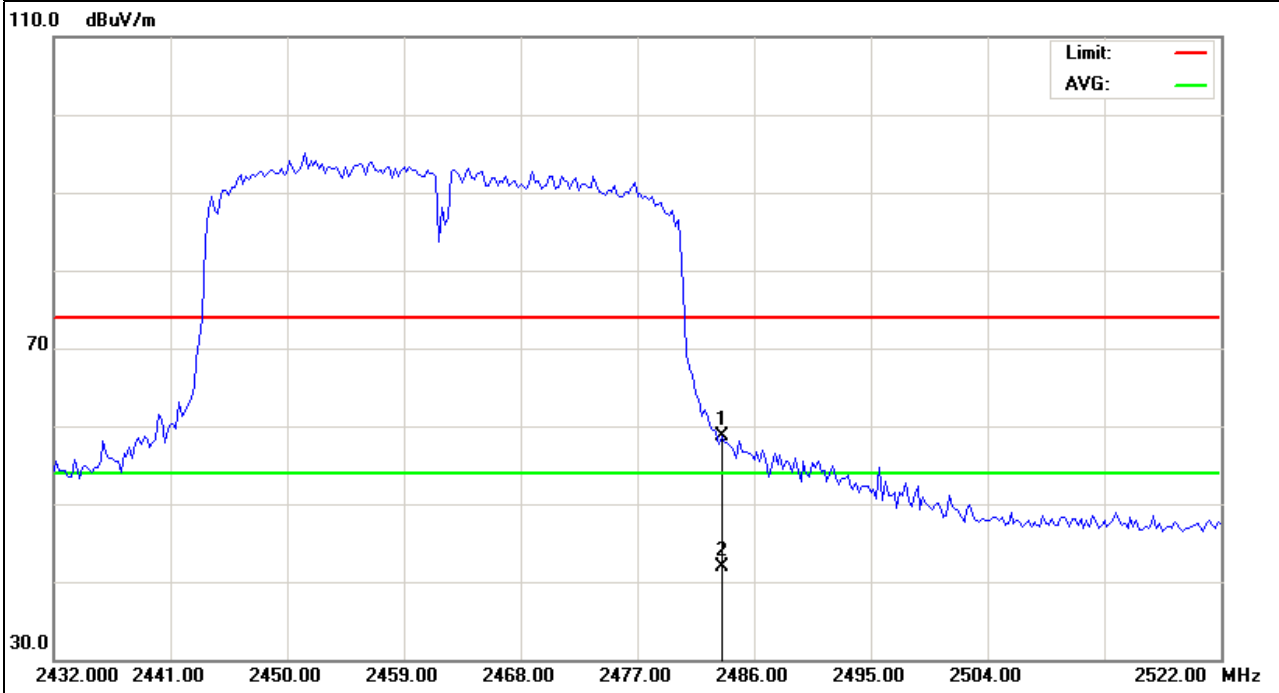
Remark:  
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	CH9(802.11n Mode/40MHz)	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.5	71.58	-12.78	58.8	74	-15.2	peak
2483.5	54.78	-12.78	42	54	-12	AVG

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  $\geq$  3 kHz.
4. Set the VBW  $\geq$  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.



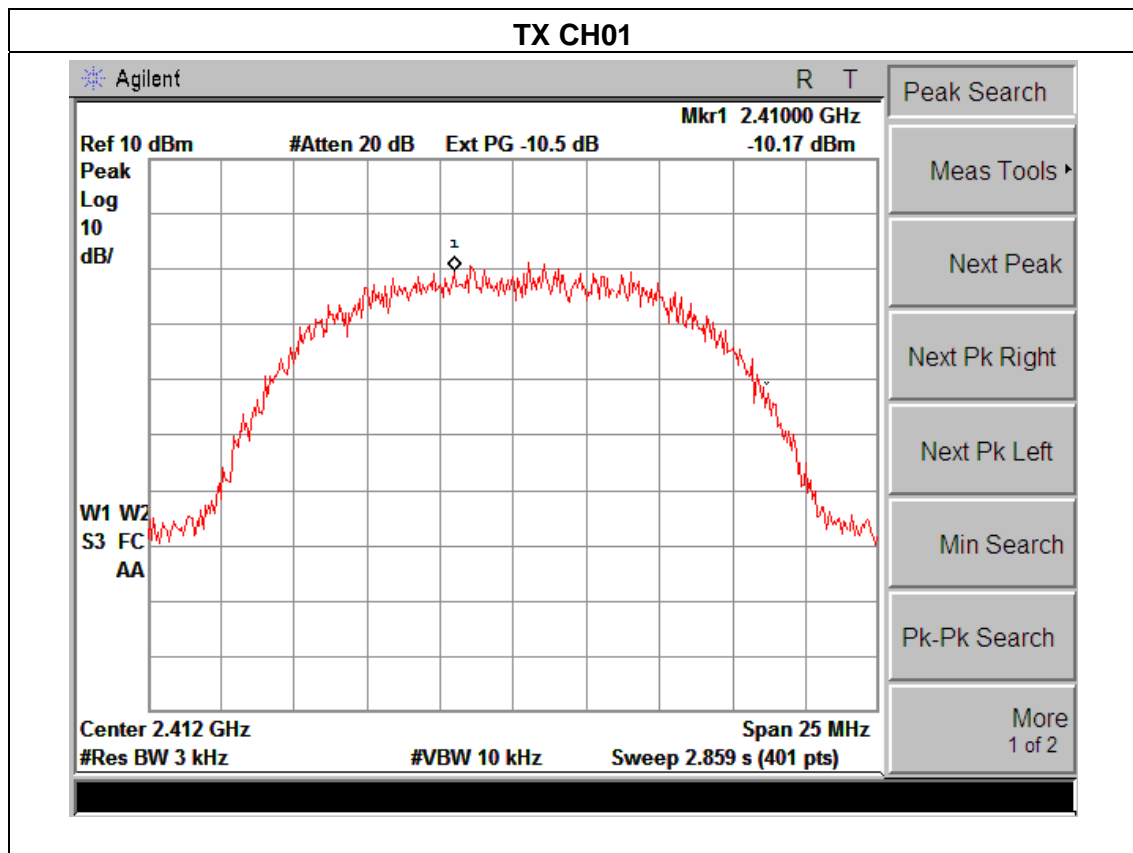
### 4.1.5 TEST RESULTS

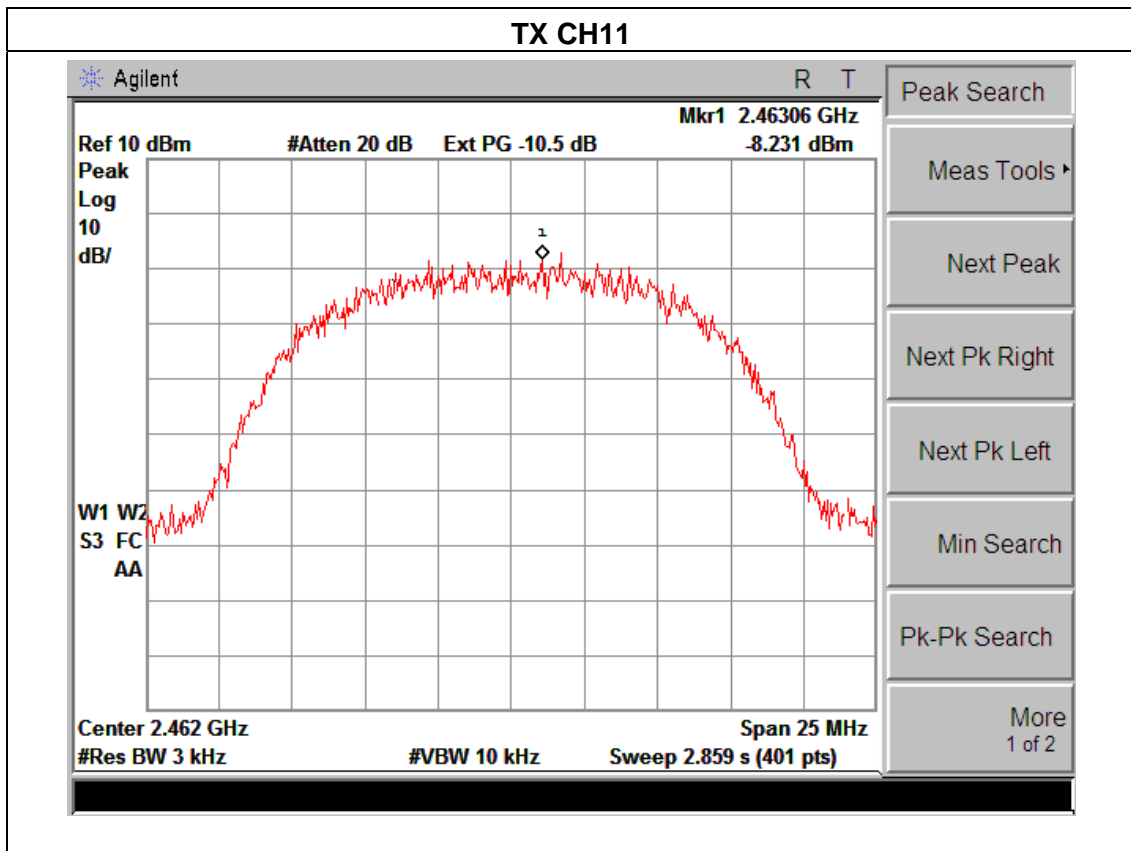
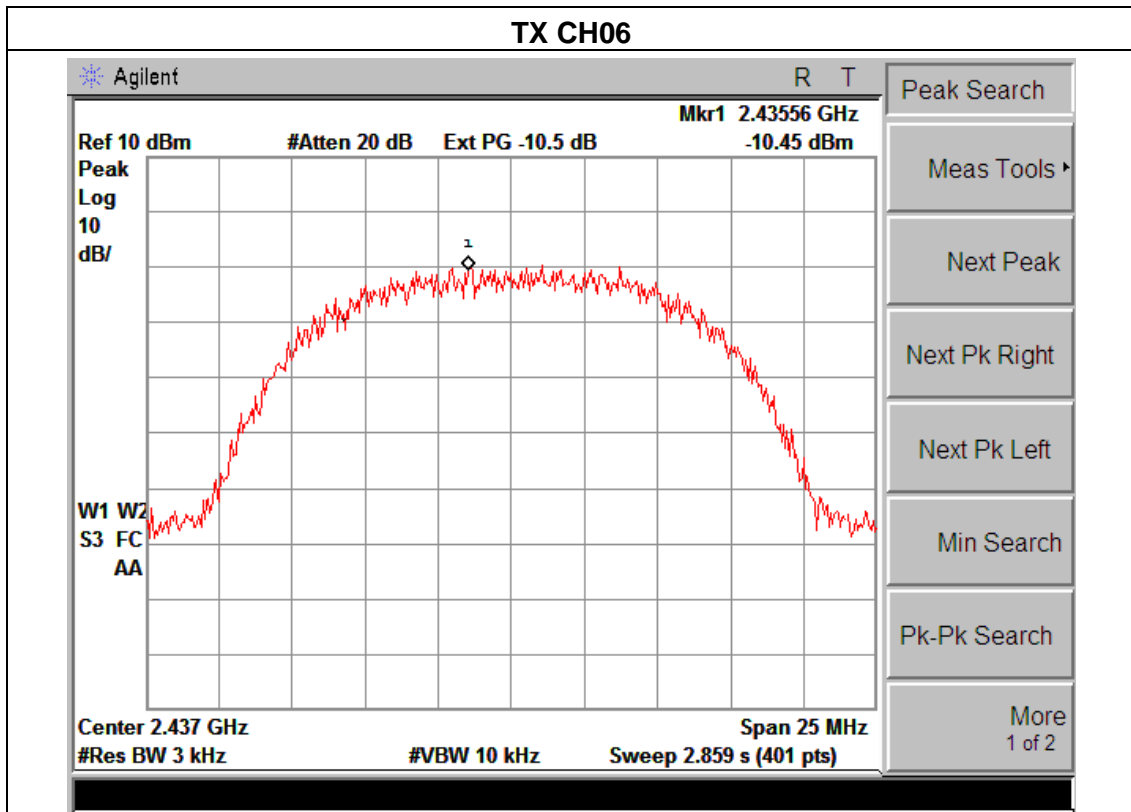
EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1015 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	TX b Mode /CH01, CH06, CH11		

Frequency	Power Density A (dBm)	Power Density B (dBm)	Total Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-10.17	-12.13	-8.03	8	<b>PASS</b>
2437 MHz	-10.45	-12.46	-8.33	8	<b>PASS</b>
2462 MHz	-8.23	-10.11	-6.06	8	<b>PASS</b>

**Note:**

1. A(B) Represent the value of antennaA and B,The worst data is A Antenna a ,only shown Antenna A Plot.



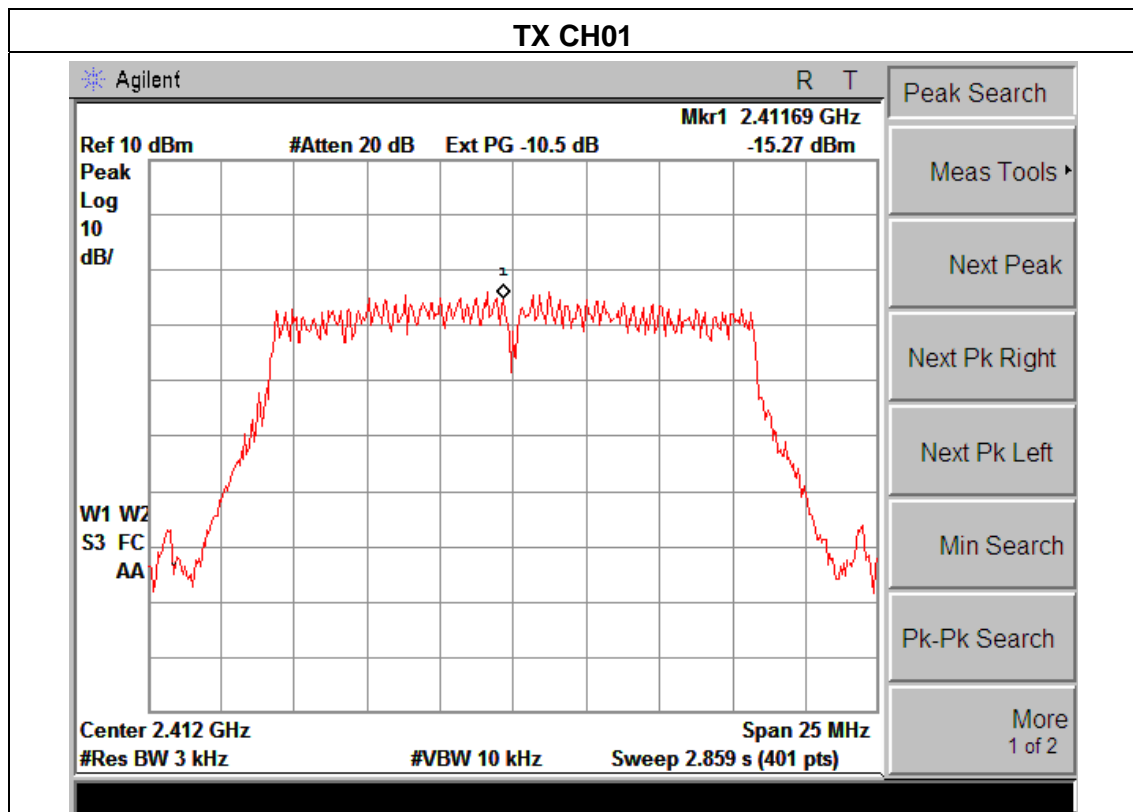


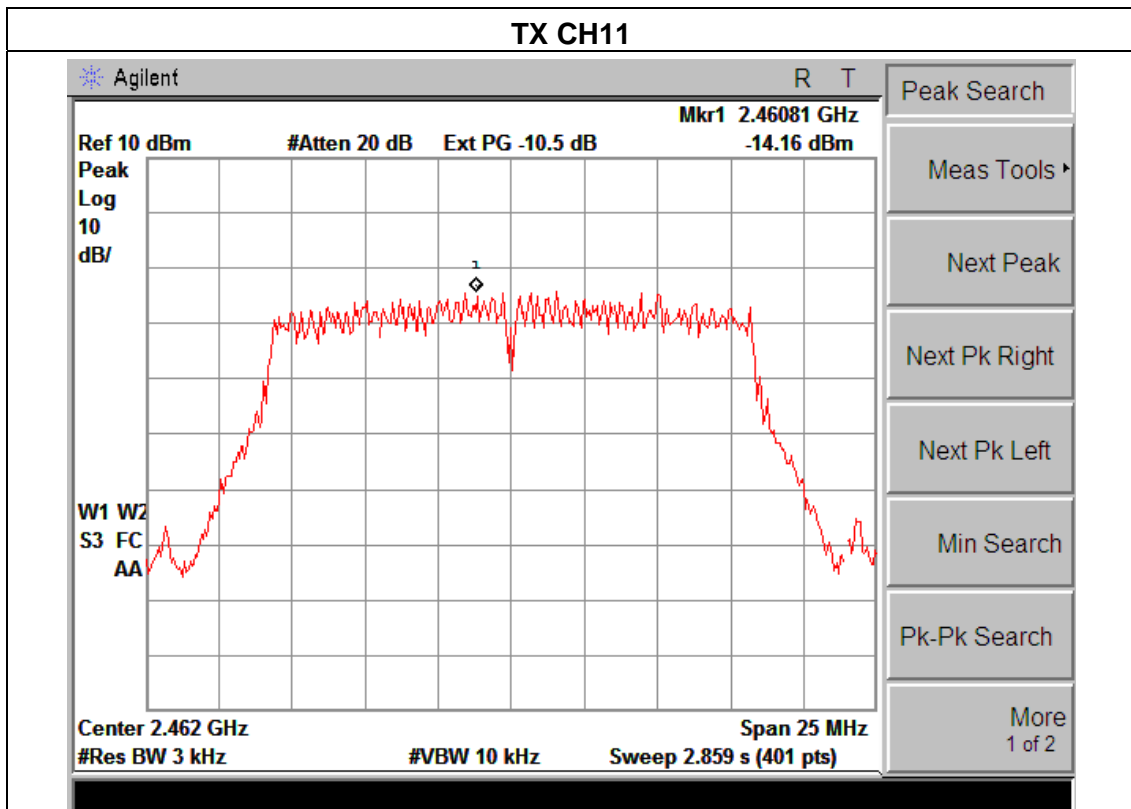
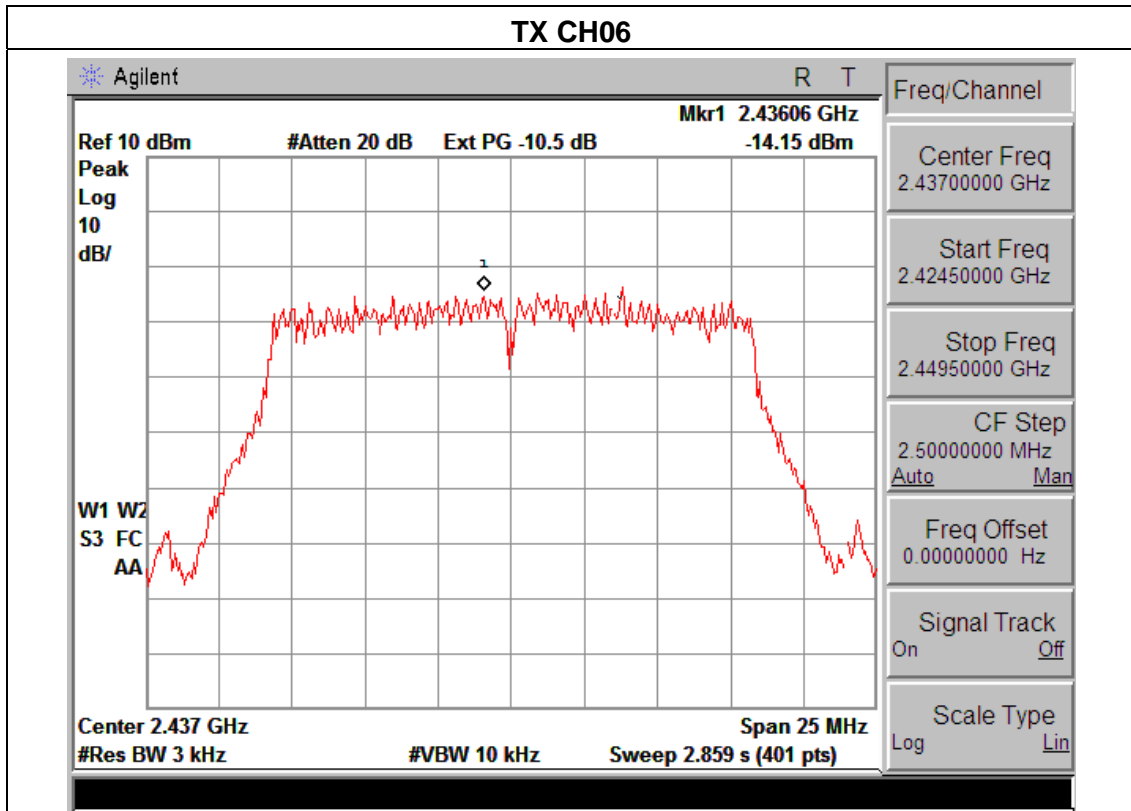
EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1015 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	TX g Mode /CH01, CH06, CH11		

Frequency	Power Density A (dBm)	Power Density B (dBm)	Total Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-15.27	-16.01	-12.61	8	<b>PASS</b>
2437 MHz	-14.15	-17.95	-12.64	8	<b>PASS</b>
2462 MHz	-14.16	-16.26	-12.07	8	<b>PASS</b>

**Note:**

A(B) Represent the value of antenna A and B, The worst data is A Antenna a ,only shown Antenna A Plot.



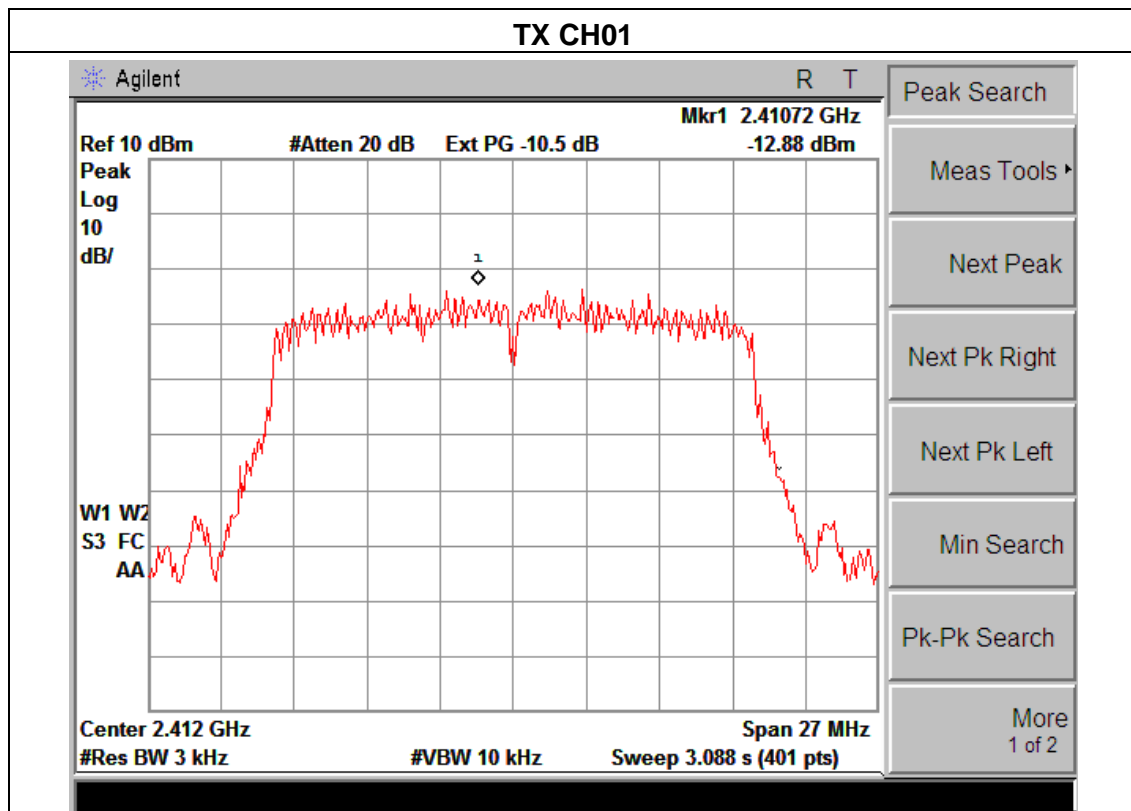


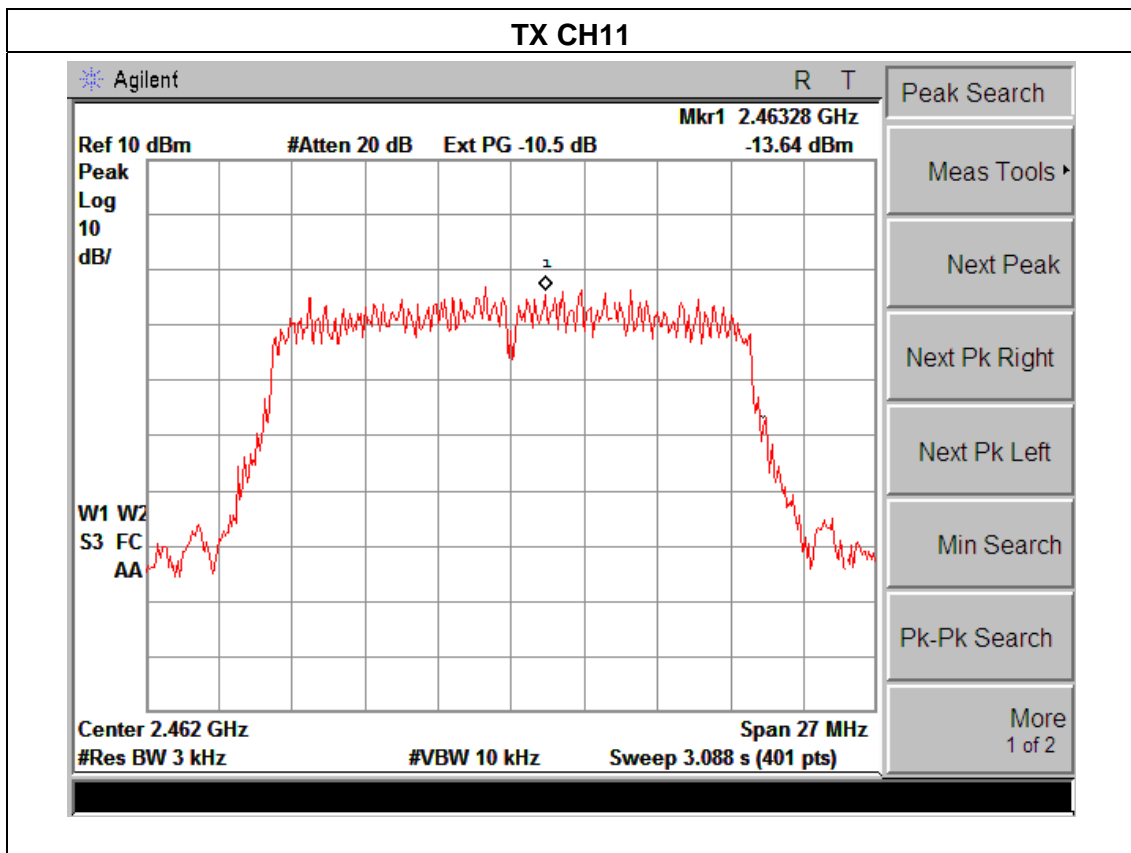
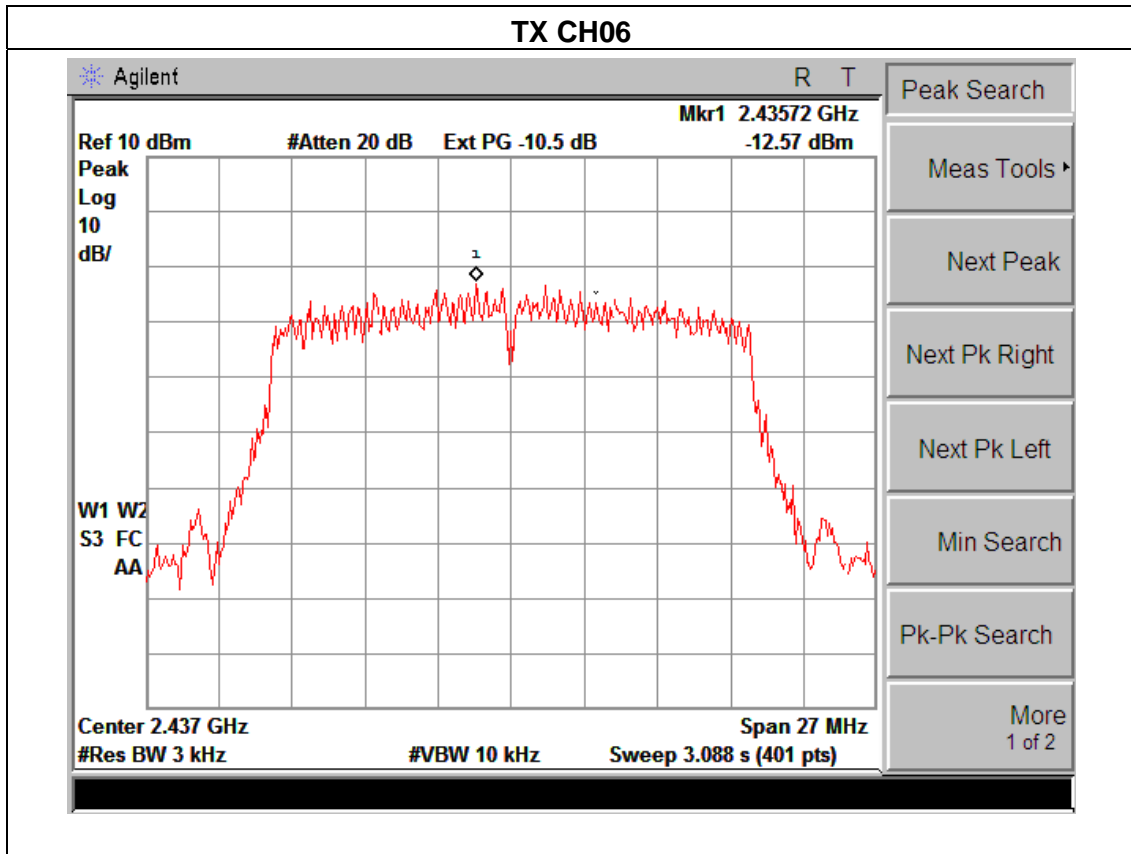
EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1015 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	TX n(20) Mode /CH01, CH06, CH11		

Frequency	Power Density A (dBm)	Power Density B (dBm)	Total Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-12.88	-14.32	-10.53	8	<b>PASS</b>
2437 MHz	-12.57	-14.90	-10.57	8	<b>PASS</b>
2462 MHz	-13.64	-14.54	-11.06	8	<b>PASS</b>

**Note:**

A(B) Represent the value of antennaA and B,The worst data is A Antenna a ,only shown Antenna A Plot.



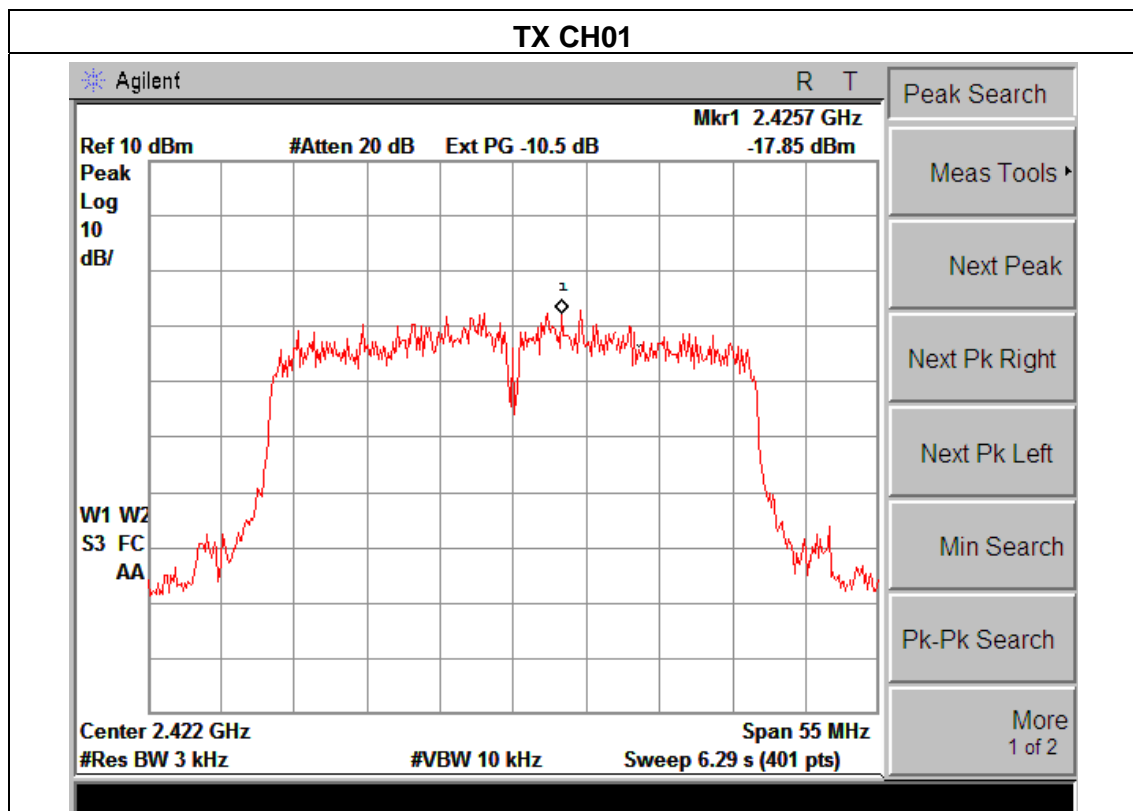


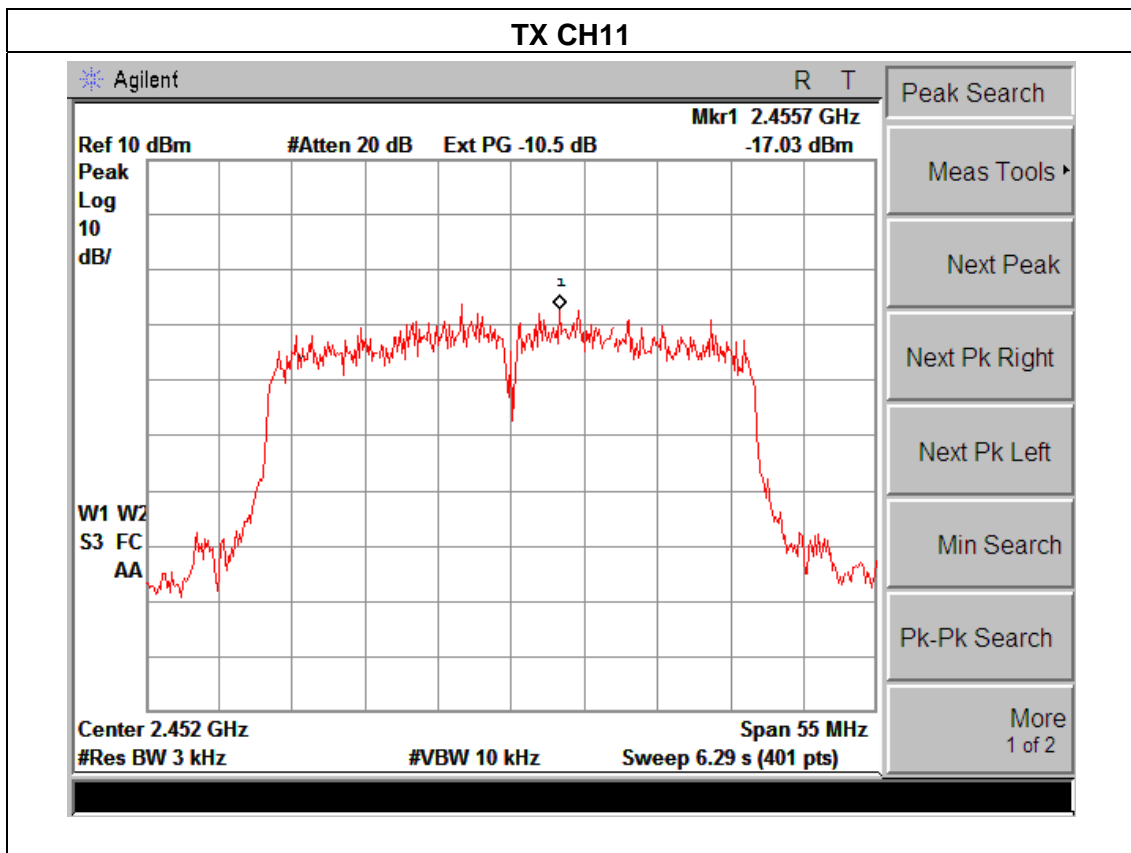
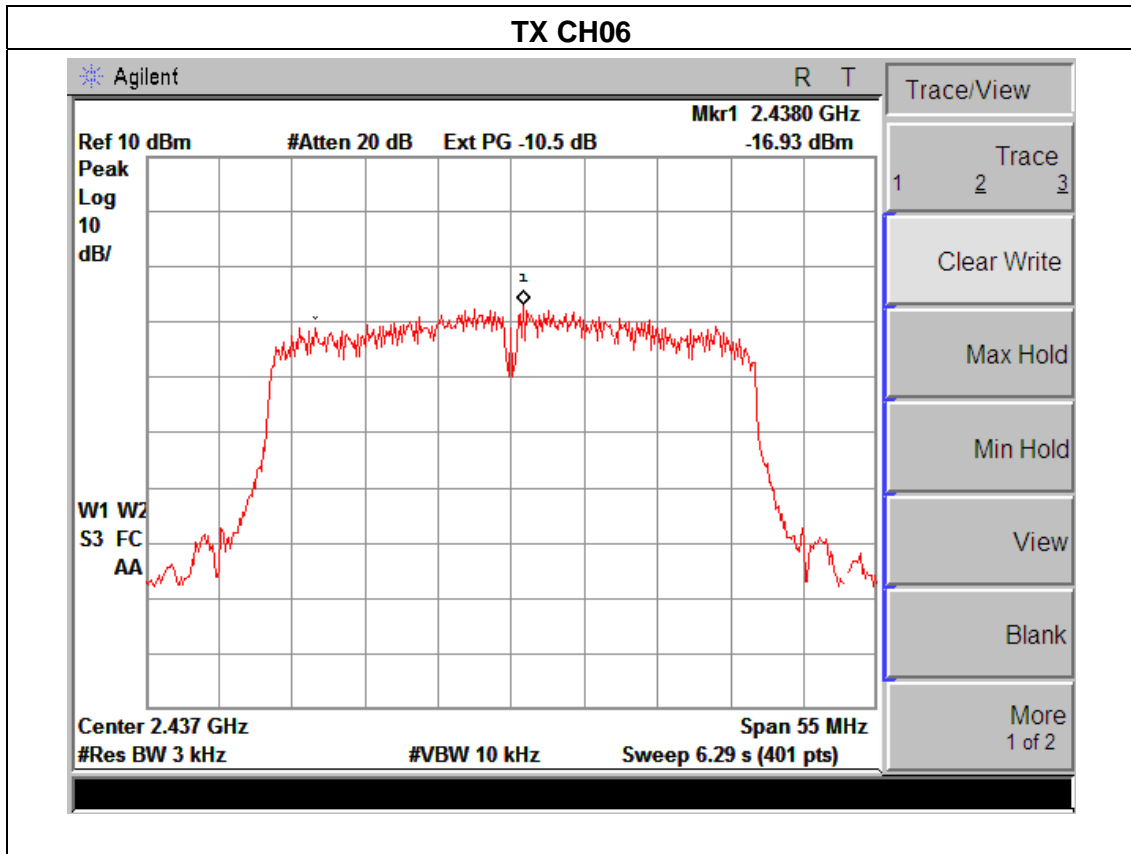
EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1015 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	TX n(40) Mode /CH03, CH06, CH09		

Frequency	Power Density A (dBm)	Power Density B (dBm)	Total Power Density (dBm)	Limit (dBm)	Result
2422 MHz	-17.85	-18.37	-15.09	8	<b>PASS</b>
2437 MHz	-16.93	-18.92	-14.80	8	<b>PASS</b>
2452 MHz	-17.03	-18.65	-14.75	8	<b>PASS</b>

**Note:**

A(B) Represent the value of antennaA and B,The worst data is A Antenna a ,only shown Antenna A Plot.







## 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	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

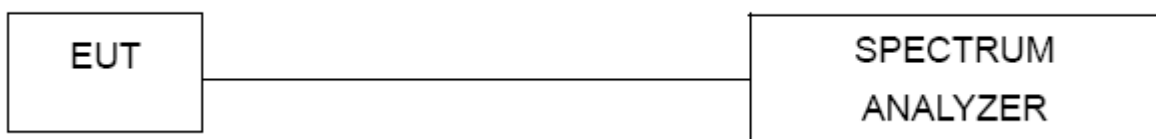
#### 5.1.1 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 1-5% or DTS BW, not to exceed 100 kHz.
2. Set the video bandwidth (VBW)  $\geq 3 \times$  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



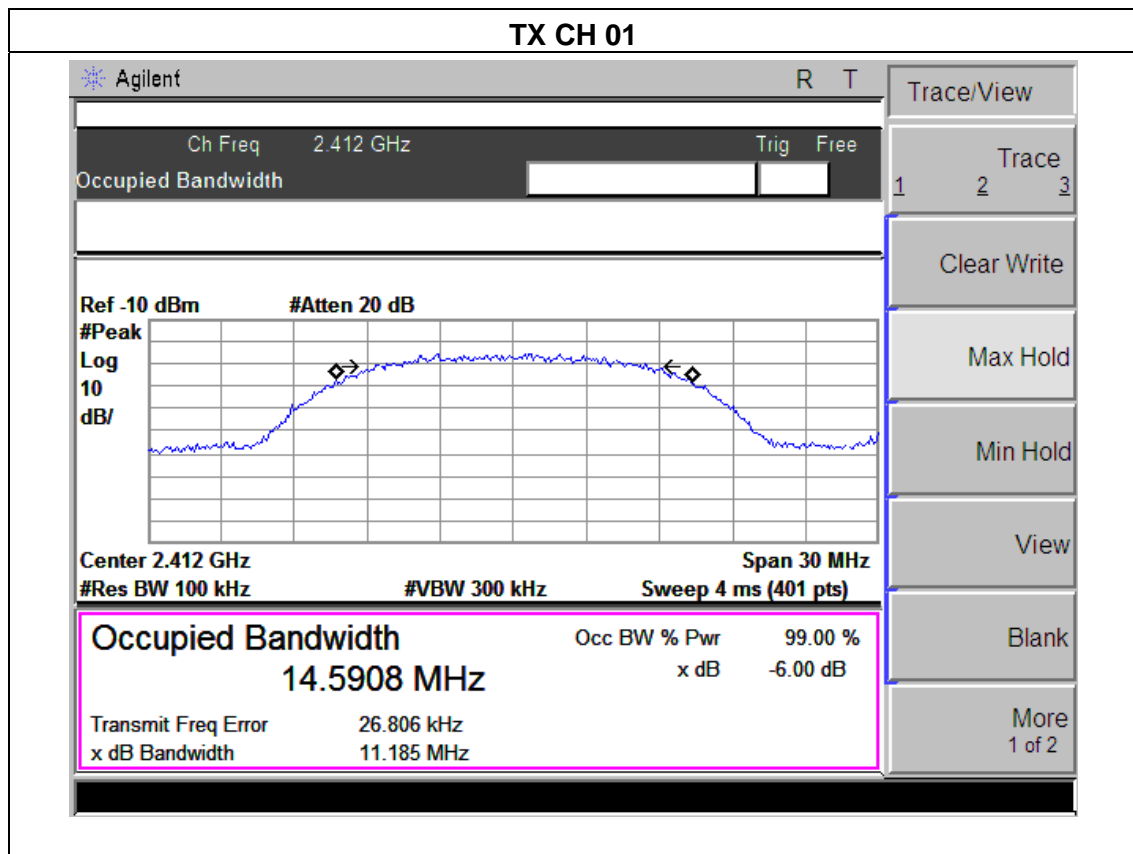
#### 5.1.4 EUT OPERATION CONDITIONS

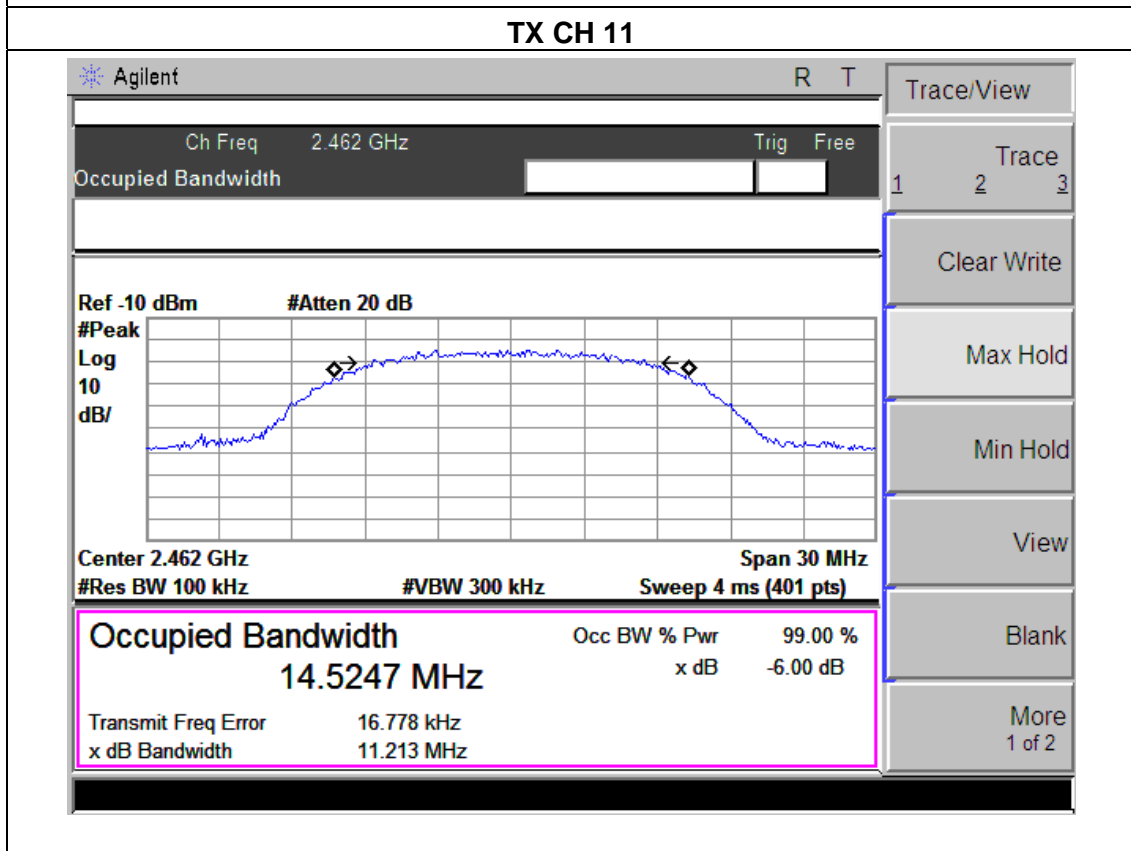
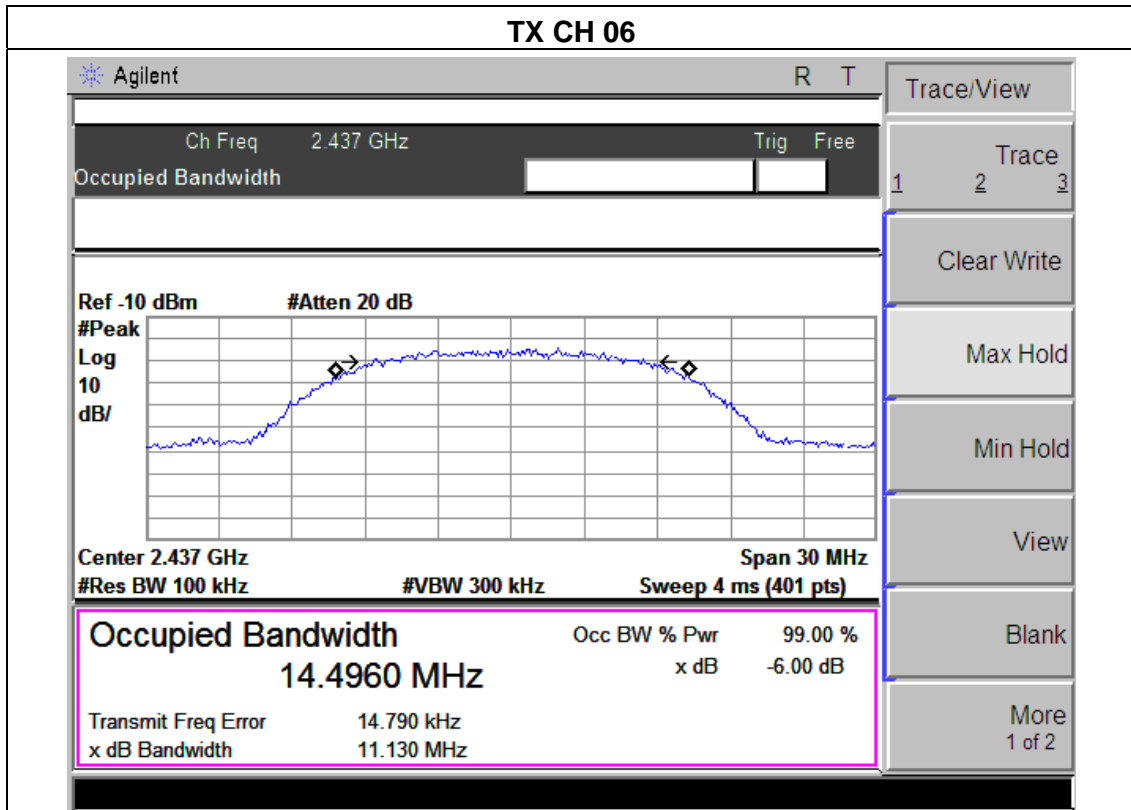
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

### 5.1.5 TEST RESULTS

EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	TX b Mode /CH01, CH06, CH11		

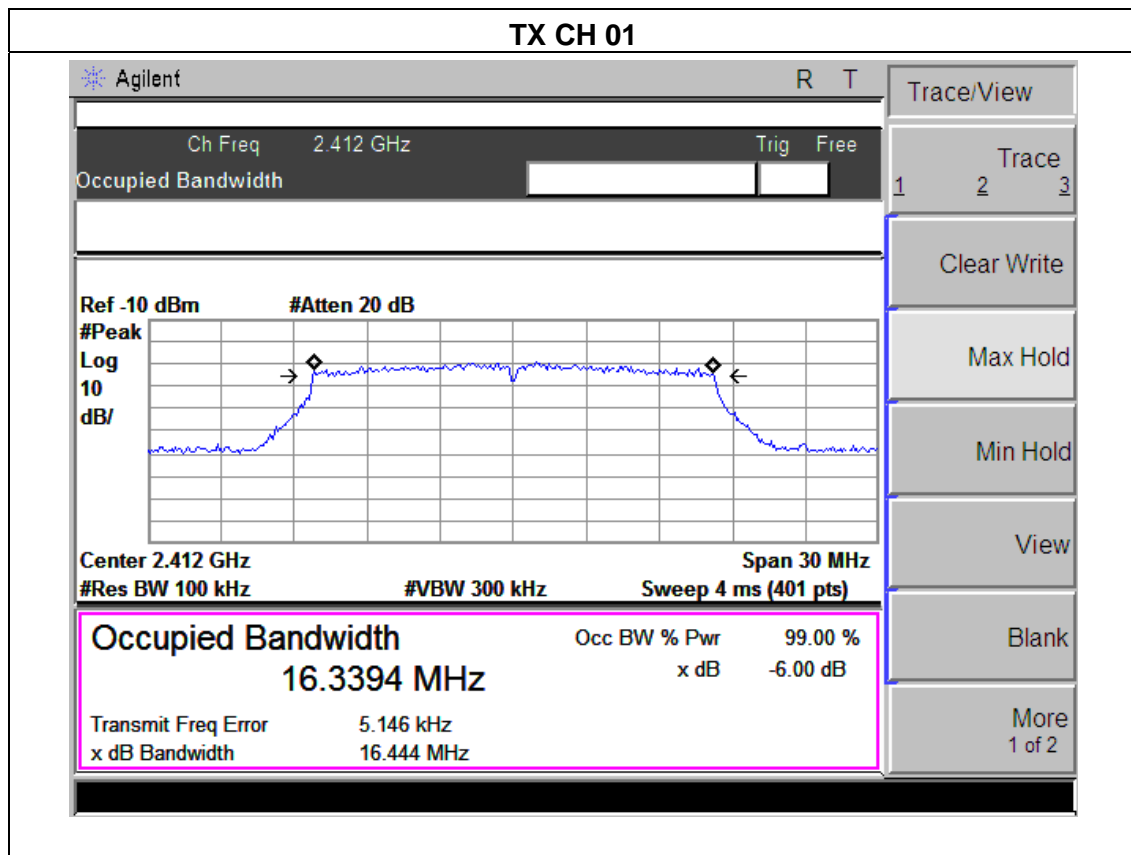
Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
2412 MHz	11.18	>=500KHz	<b>PASS</b>
2437 MHz	11.31	>=500KHz	<b>PASS</b>
2462 MHz	11.21	>=500KHz	<b>PASS</b>



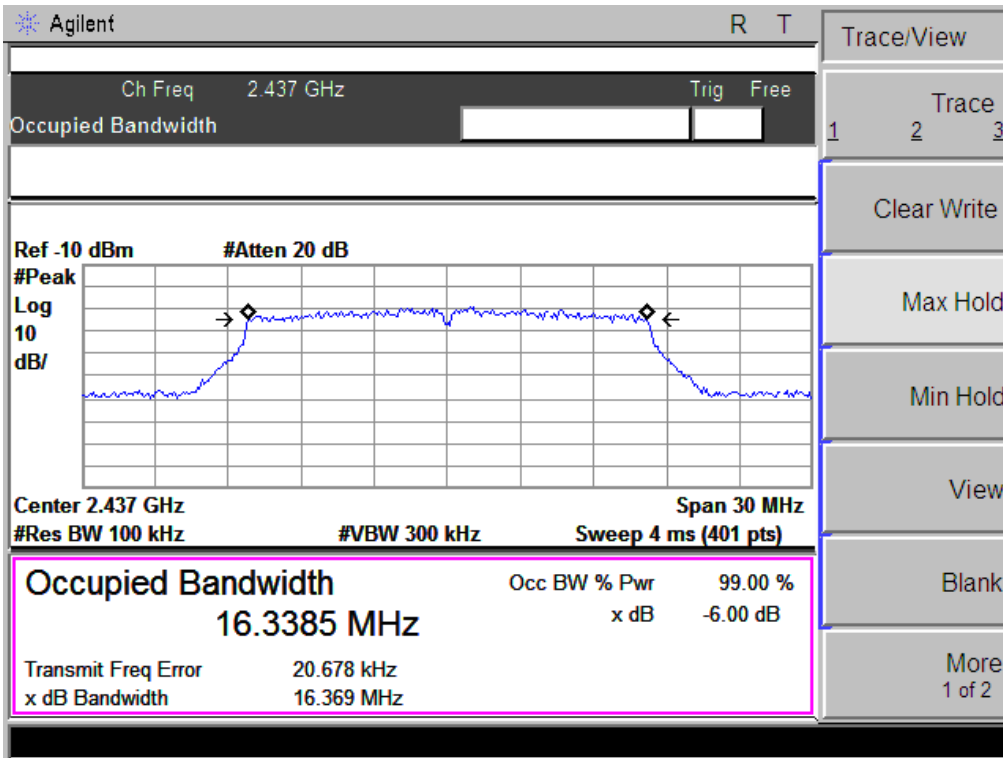


EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	TX g Mode /CH01, CH06, CH11		

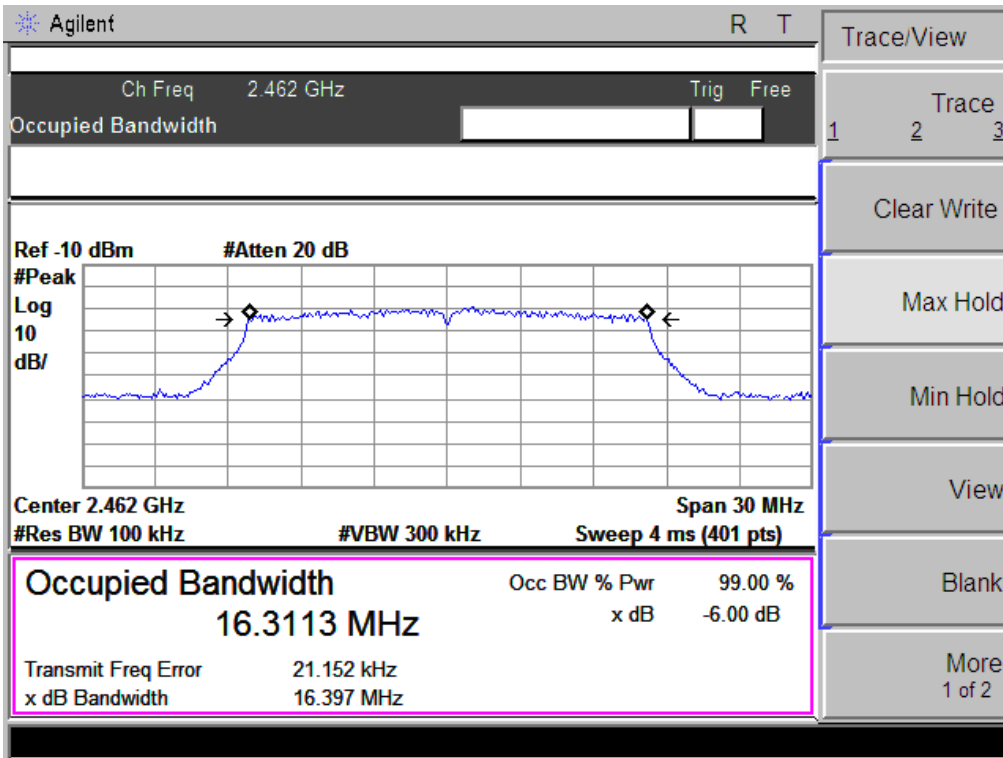
Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
2412 MHz	16.44	>=500KHz	<b>PASS</b>
2437 MHz	16.36	>=500KHz	<b>PASS</b>
2462 MHz	16.39	>=500KHz	<b>PASS</b>



### TX CH 06

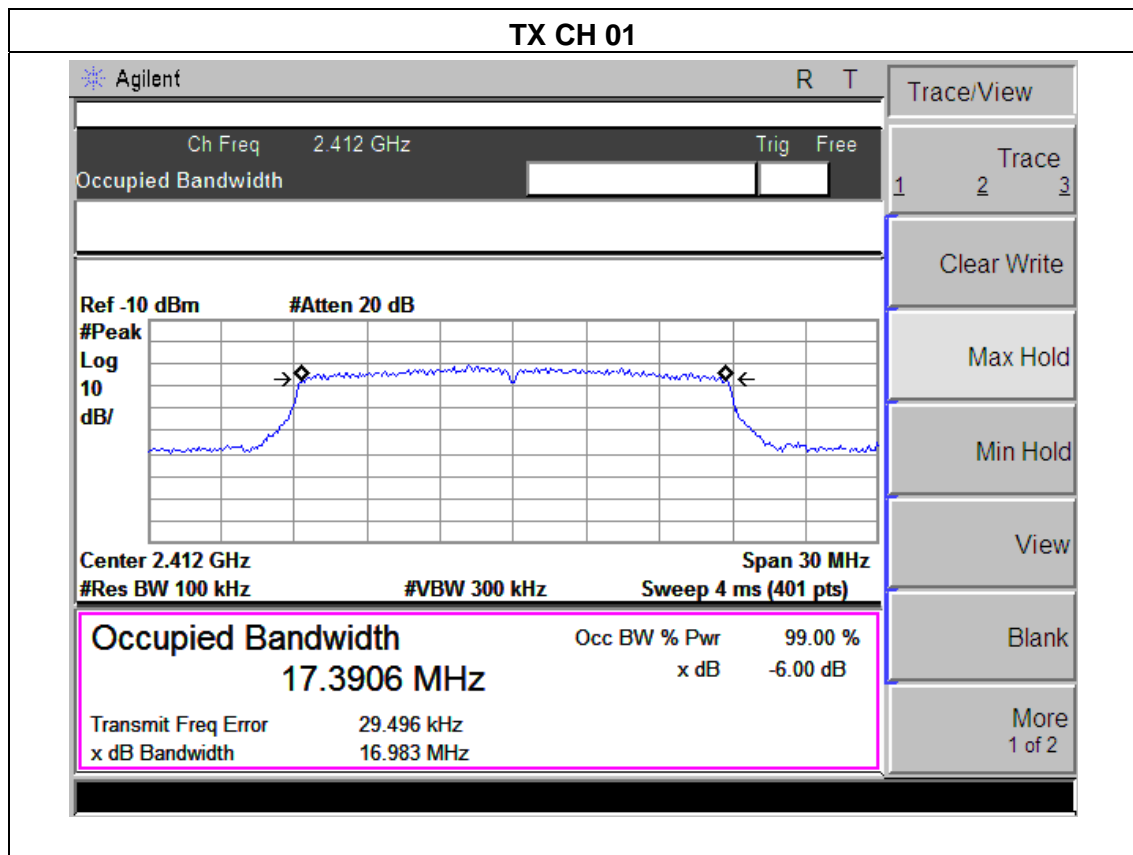


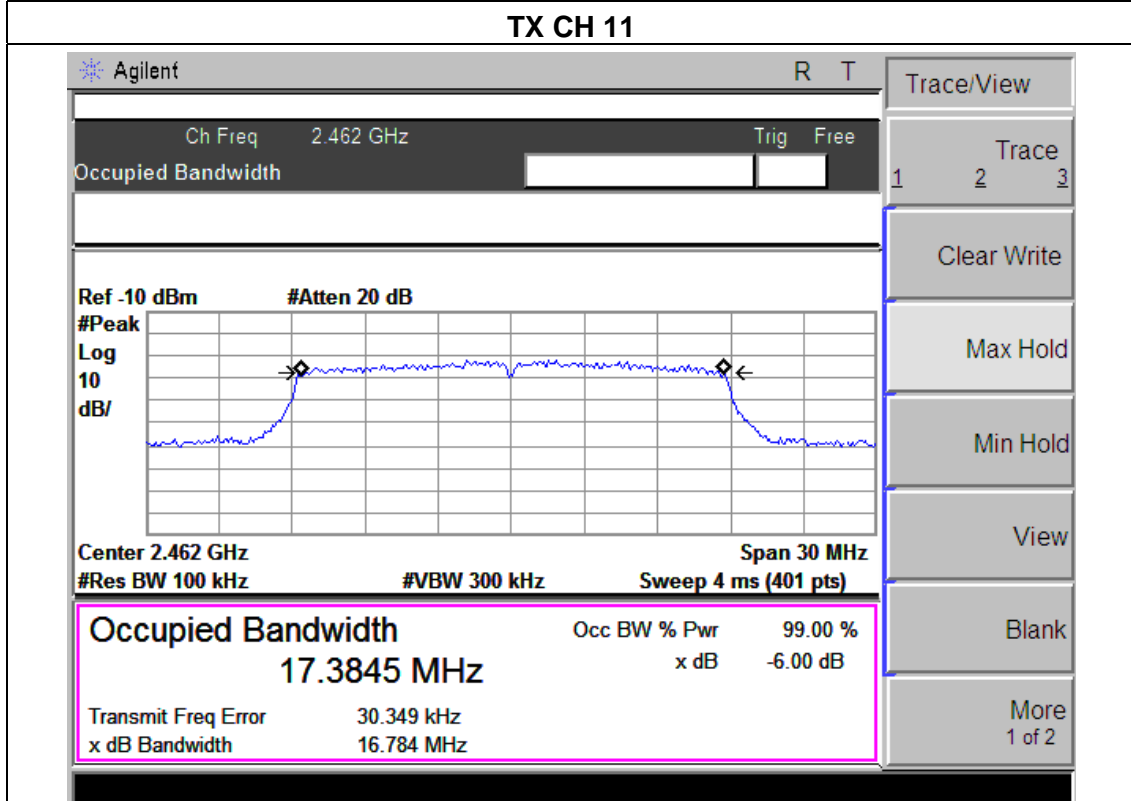
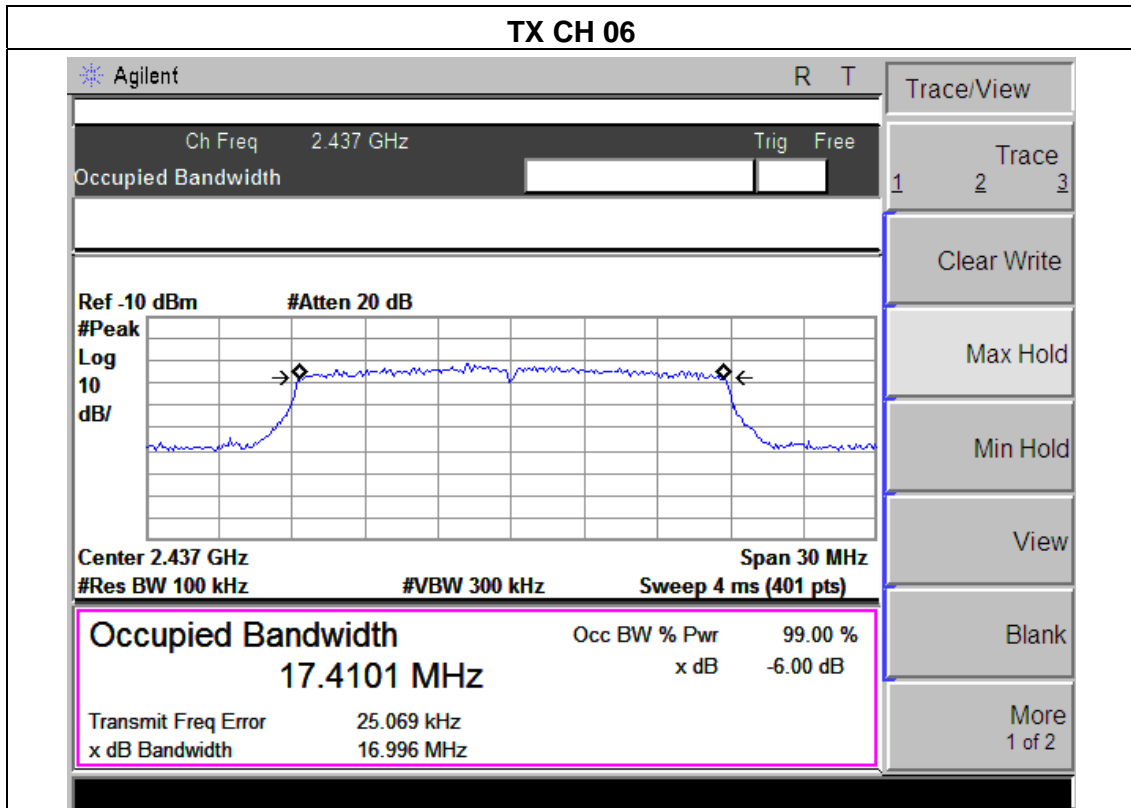
### TX CH 11



EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	TX n(20) Mode /CH01, CH06, CH11		

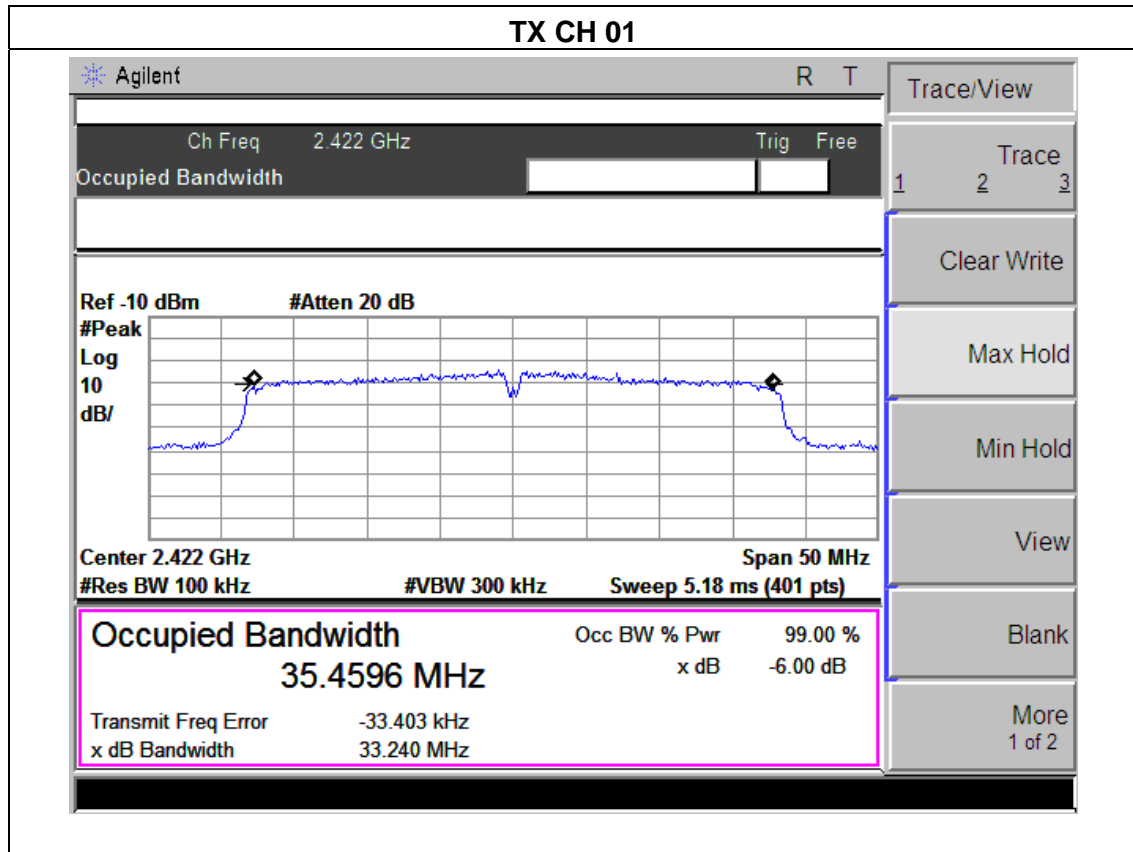
Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
2412 MHz	16.98	>=500KHz	<b>PASS</b>
2437 MHz	16.99	>=500KHz	<b>PASS</b>
2462 MHz	16.78	>=500KHz	<b>PASS</b>



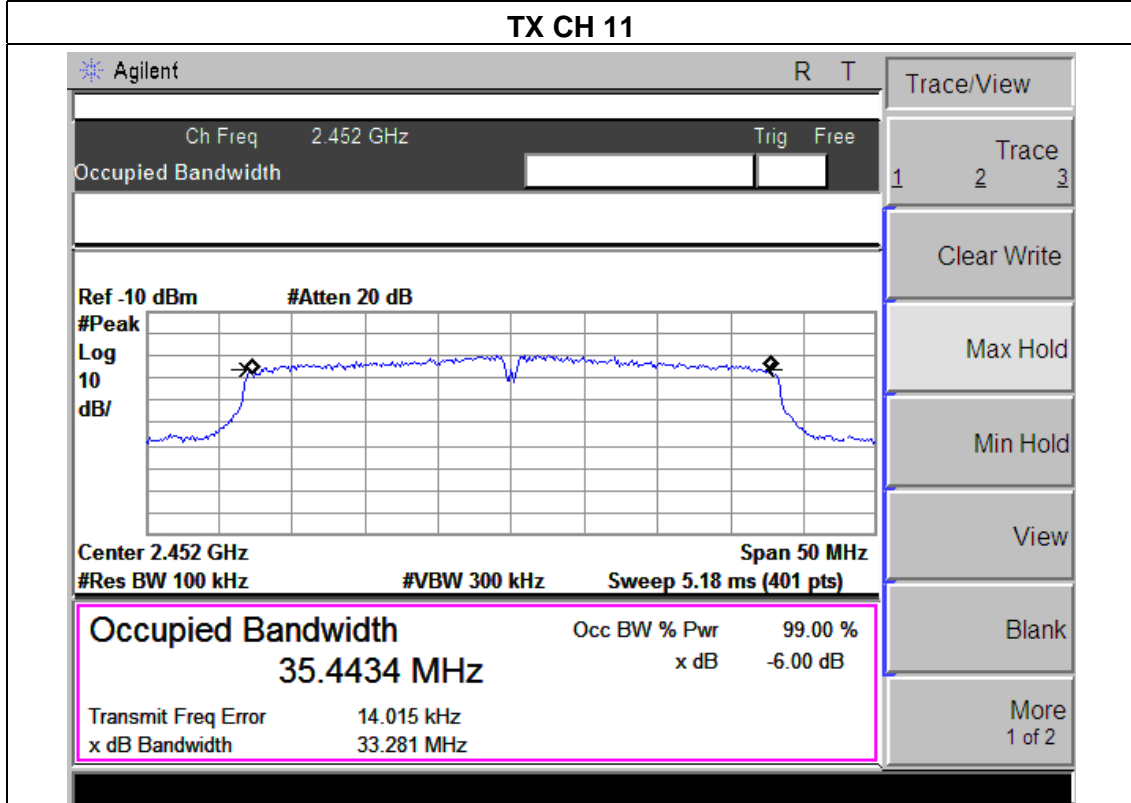
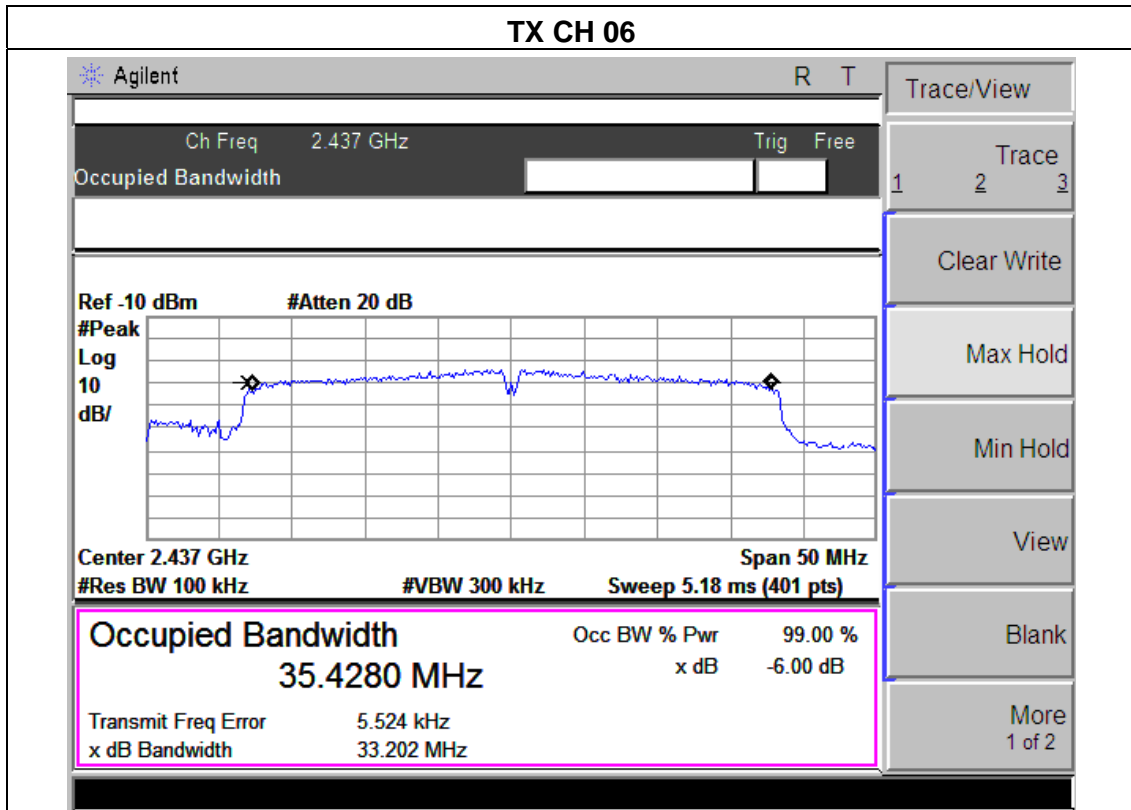


EUT :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	TX n(40) Mode /CH03, CH06, CH09		

Frequency	6dB Bandwidth (MHz)	Channel Separation (MHz)	Result
2422 MHz	33.24	>=500KHz	<b>PASS</b>
2437 MHz	33.20	>=500KHz	<b>PASS</b>
2452 MHz	33.28	>=500KHz	<b>PASS</b>







## 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

- a. The EUT was directly connected to the Power meter

#### 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 :	450 Mbps High Power Gigabit Wireless Router	Model Name :	JHR-N845R
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 12V from adapter AC 120V/60Hz
Test Mode :	TX b/g/n Mode /CH01, CH06, CH11		

<b>TX 802.11b Mode</b>					
Test Channel	Frequency	Peak output power. Antenna A port	Peak output power. Antenna B port	Total Power	LIMIT
	(MHz)	(dBm)	(dBm)	(dBm)	dBm
CH01	2412	22.31	21.56	24.96	30
CH06	2437	22.29	21.42	24.88	30
CH11	2462	22.26	21.31	24.82	30
<b>TX 802.11g Mode</b>					
CH01	2412	20.53	19.87	23.22	30
CH06	2437	20.43	19.87	23.16	30
CH11	2462	20.32	19.76	23.05	30
<b>TX 802.11n/20M Mode</b>					
CH01	2412	20.68	19.95	23.34	30
CH06	2437	20.63	19.54	23.12	30
CH11	2462	20.31	19.31	22.84	30
<b>TX 802.11n/40M Mode</b>					
CH03	2422	19.95	19.57	22.77	30
CH06	2437	19.31	19.42	22.37	30
CH11	2452	19.21	19.19	22.21	30

## **7. ANTENNA REQUIREMENT**

### **7.1 STANDARD REQUIREMENT**

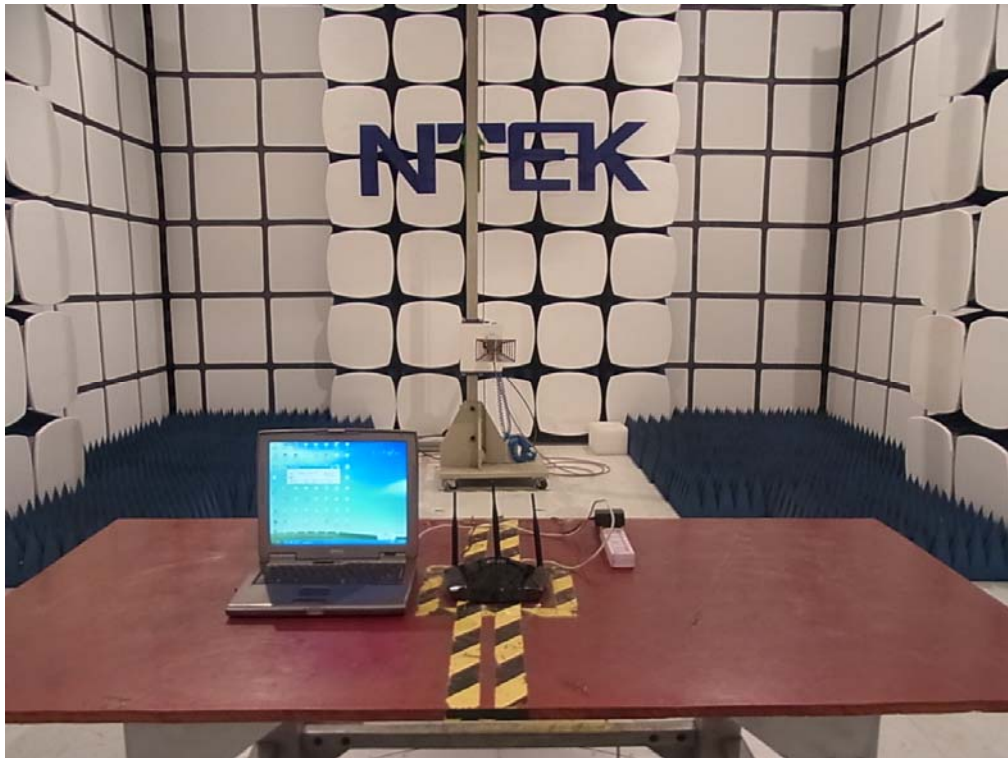
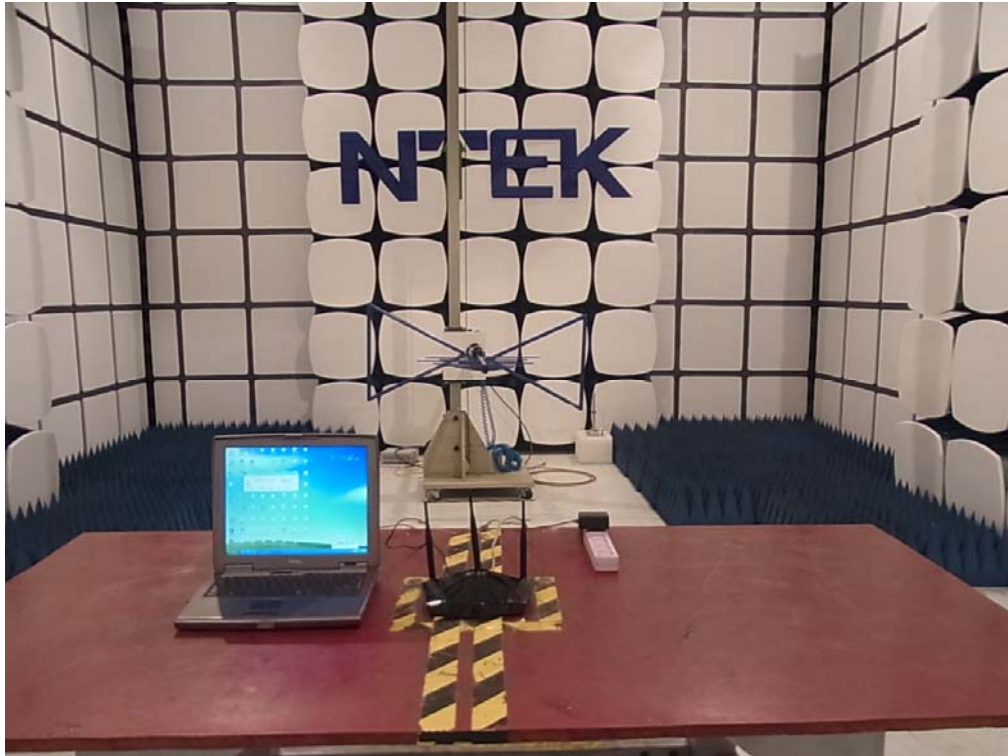
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### **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**

