FCC RADIO TEST REPORT
FCC ID: ZBXMTO-WN711SND

Product：	150M Wireless Adaptor
Trade Name：	N/A
Model Name：	MTO-WN711SND
Serial Model：	N/A
Report No.：	NTEK- 2012NT1023030F

Prepared for

SHENZHEN MTN ELECTRONICS CO.,LTD.

MTN Industrial Park, No.3 Fuhua Road ,Pingxi Neighborhood, Pingdi Town
Longgang Distric,Shenzhen, Guangdong, China

Prepared by

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Website:www.ntek.org.cn

TEST RESULT CERTIFICATION

Applicant's name	:	Shenzhen Mtn Electronics Co., Ltd.
Address	:	MTN Industrial Park, No.3 Fuhua Road ,Pingxi Neighborhood, Pingdi Town, Longgang Distric,Shenzhen, Guangdong, China
Manufacture's Name	:	Shenzhen Mtn Electronics Co., Ltd.
Address	:	MTN Industrial Park, No.3 Fuhua Road ,Pingxi Neighborhood, Pingdi Town, Longgang Distric,Shenzhen, Guangdong, China

Product description

Product name	:	150M Wireless Adaptor
Model and/or type reference	:	MTO-WN711SND
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	:	23 Oct. 2012 ~14 Nov. 2012
Date of Issue	:	15 Nov. 2012
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 ± 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>150M Wireless Adaptor</td></tr>
<tr><td>Trade Name</td><td>N/A</td></tr>
<tr><td>Model Name</td><td>MTO-WN711SND</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 150M Wireless Adaptor
<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>CCK/OFDM/DBPSK/DAPSK</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(20/40MHz):150/144.44/130/117/115.56/104/86.67/78/52/6.5 Mbps</td></tr>
<tr><td>Number Of Channel</td><td>802.11b/g/n20: 11CH
802.11n 40: 7CH</td></tr>
<tr><td>Antenna Designation:</td><td>Please see Note 3.</td></tr>
<tr><td>Output Power(Conducted):</td><td>802.11b: 22.95 dBm (Max.)
802.11g: 20.88 dBm (Max.)
802.11n20: 19.86 dBm (Max.)
802.11n40: 19.79 dBm (Max.)</td></tr>
<tr><td>Antenna Gain (dBi)</td><td>2.0dbi</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>Ratings</td><td>DC 5V (USB) From Notebook with AC 120V/60Hz</td></tr>
<tr><td>Adapter</td><td>N/A</td></tr>
<tr><td>Battery</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(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	2.0	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 CH1/ CH6/ CH11
Mode 4	NORMAL Link

For Conducted Emission	
Final Test Mode	Description
Mode 4	NORMAL Link

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 CH1/ CH6/ CH11
Mode 4	NORMAL Link

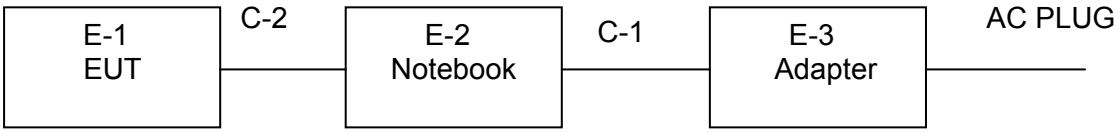
Note:

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

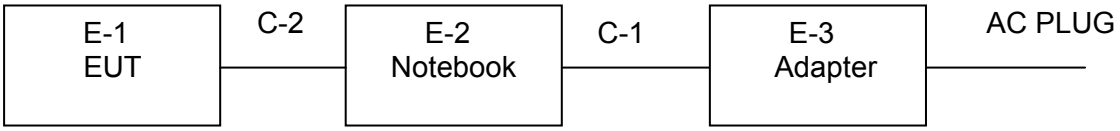
(2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

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	150M Wireless Adaptor	N/A	MTO-WN711SND	N/A	EUT
E-2	Notebook	IBM	2366	N/A	
E-3	Adapter	IBM	08K8202	N/A	

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

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	Agilent	E4407B	160400005	Jul. 06. 2013
2	Test Receiver	R&S	ESPI	101318	Jul. 06. 2013
3	Bilog Antenna	TESEQ	CBL6111D	31216	Jul. 06. 2013
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	Jul. 06. 2013
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	Jul. 06. 2013
6	Horn Antenna	EM	EM-AH-10180	2011071402	Jul. 06. 2013
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	Jul. 06. 2013
8	Amplifier	EM	EM-30180	060538	Jul. 06. 2013
9	Loop Antenna	ARA	PLA-1030/B	1029	Jul. 06. 2013
10	Power Meter	R&S	NRVS	100696	Jul. 06. 2013

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Test Receiver	R&S	ESCI	101160	Jul. 06. 2013
2	LISN	R&S	ENV216	101313	Jul. 06. 2013
3	LISN	EMCO	3816/2	00042990	Jul. 06. 2013
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	Jul. 06. 2013
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	Jul. 06. 2013
6	Absorbing clamp	R&S	MOS-21	100423	Jul. 06. 2013

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

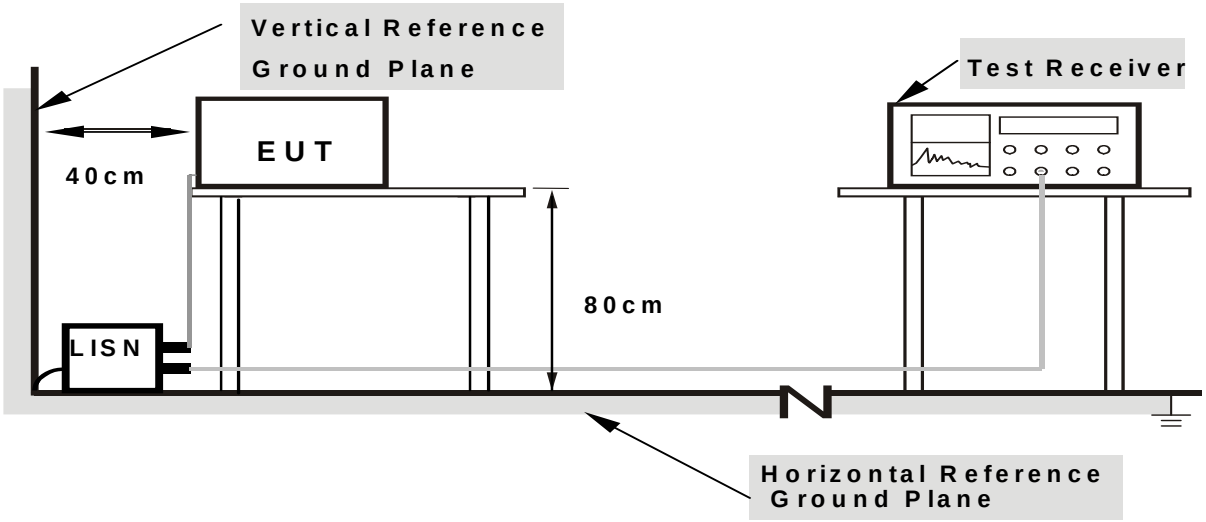
3.1.2 TEST PROCEDURE

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

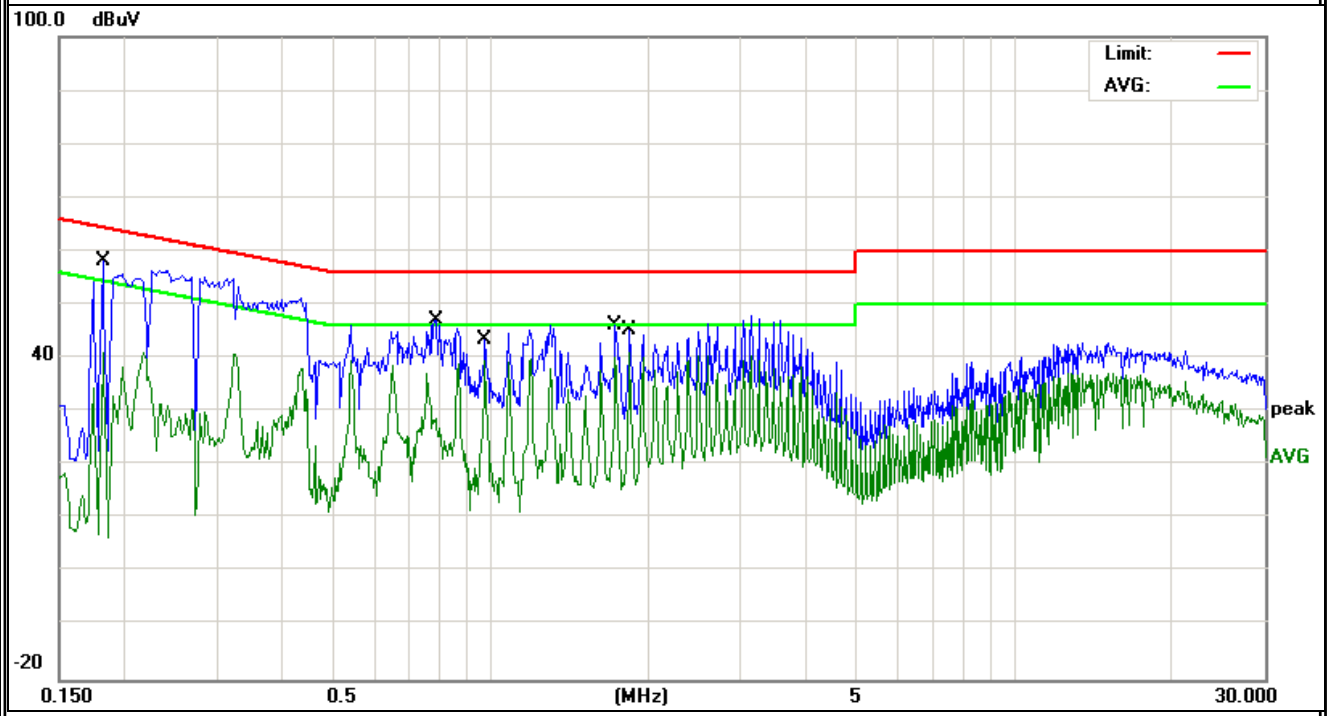
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.6 TEST RESULTS

EUT：	150M Wireless Adaptor	Model Name. ：	MTO-WN711SND
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1010hPa	Phase：	L
Test Voltage ：	DC 5.0V from adapter AC120V/60Hz	Test Mode：	Mode 4

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1819	48.11	10.06	58.17	64.39	-6.22	QP
0.1819	30.86	10.06	40.92	54.39	-13.47	AVG
0.786	36.9	10.22	47.12	56	-8.88	QP
0.974	29.44	10.16	39.6	46	-6.4	AVG
1.734	35.95	10.22	46.17	56	-9.83	QP
1.842	30.82	10.23	41.05	46	-4.95	AVG

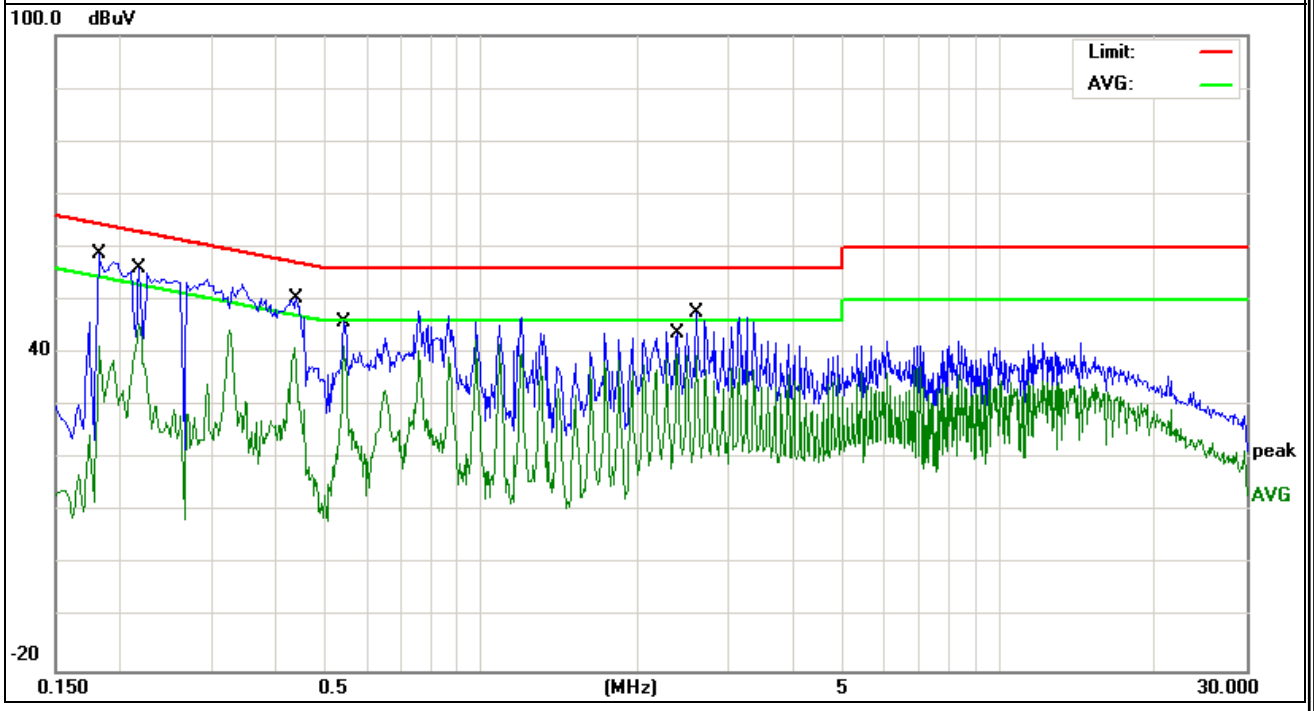
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



EUT：	150M Wireless Adaptor	Model Name. ：	MTO-WN711SND
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1010hPa	Phase：	N
Test Voltage ：	DC 5.0V from adapter AC120V/60Hz	Test Mode：	Mode 4

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1819	48.87	9.79	58.66	64.39	-5.73	QP
0.218	35.72	9.8	45.52	52.89	-7.37	AVG
0.438	40.29	10.11	50.4	57.1	-6.7	QP
0.542	31.22	10.2	41.42	46	-4.58	AVG
2.386	29.73	10.26	39.99	46	-6.01	AVG
2.602	37.52	10.27	47.79	56	-8.21	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

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:

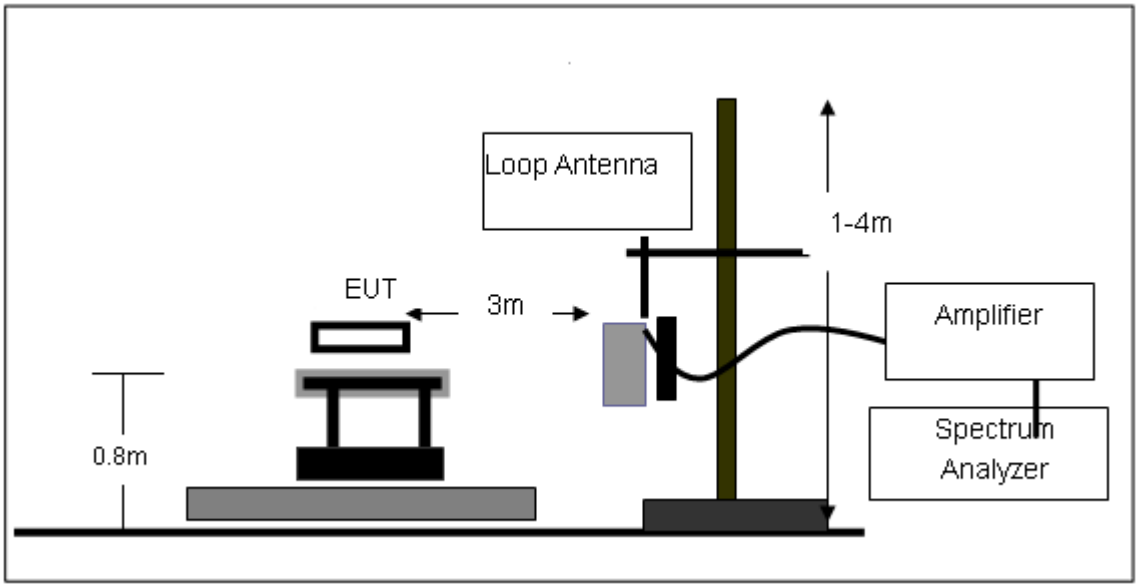
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

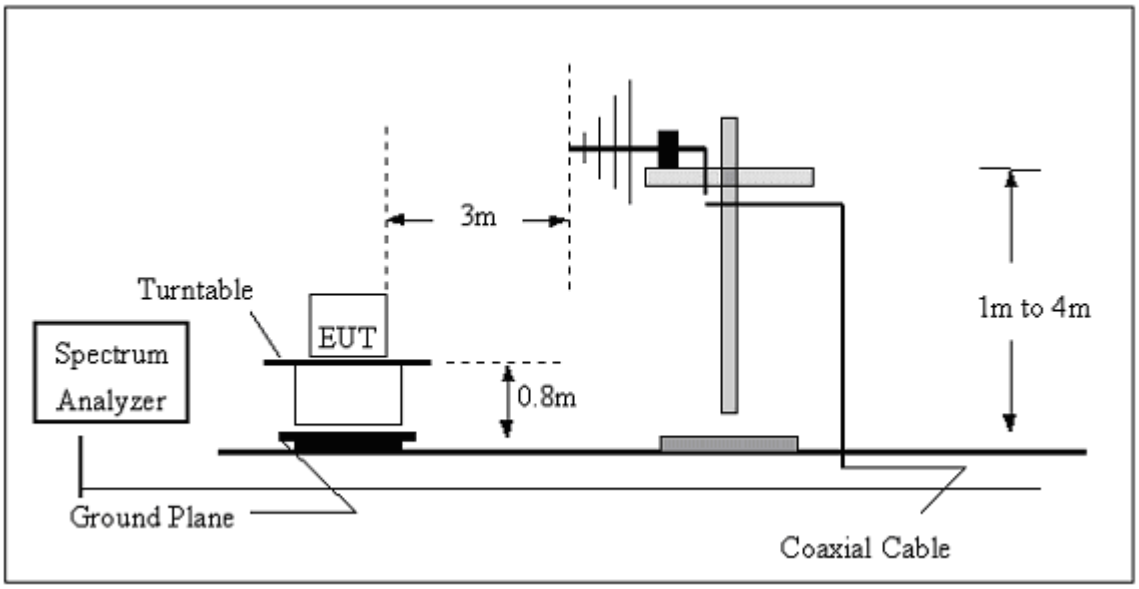
No deviation

3.2.4 TEST SETUP

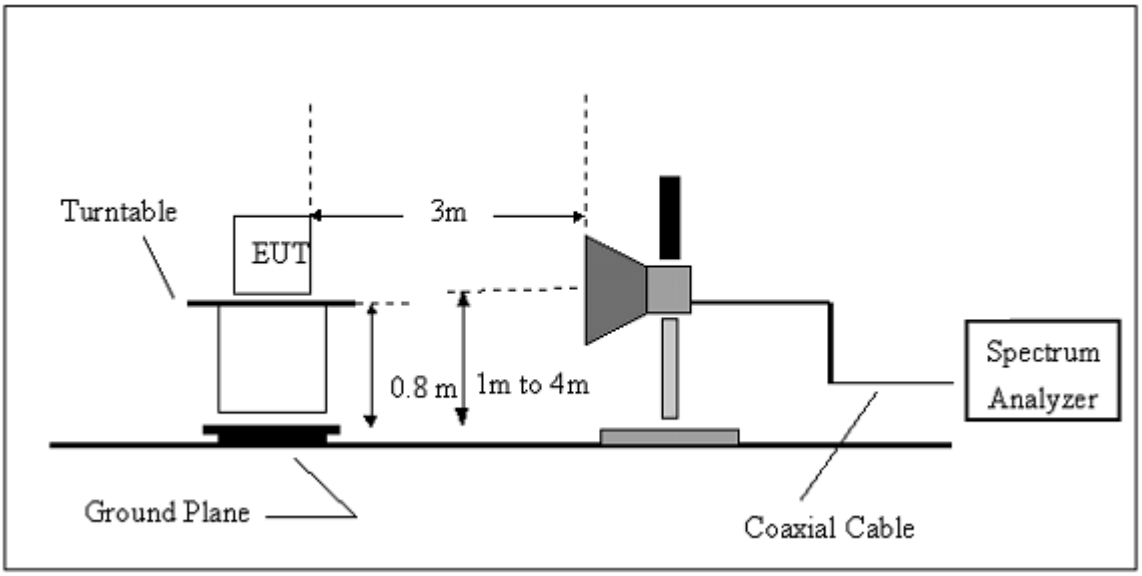
（A）Radiated Emission Test-Up Frequency Below 30MHz



（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：	150M Wireless Adaptor	Model Name. ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidtity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX	Polarization :	--

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

NOTE:

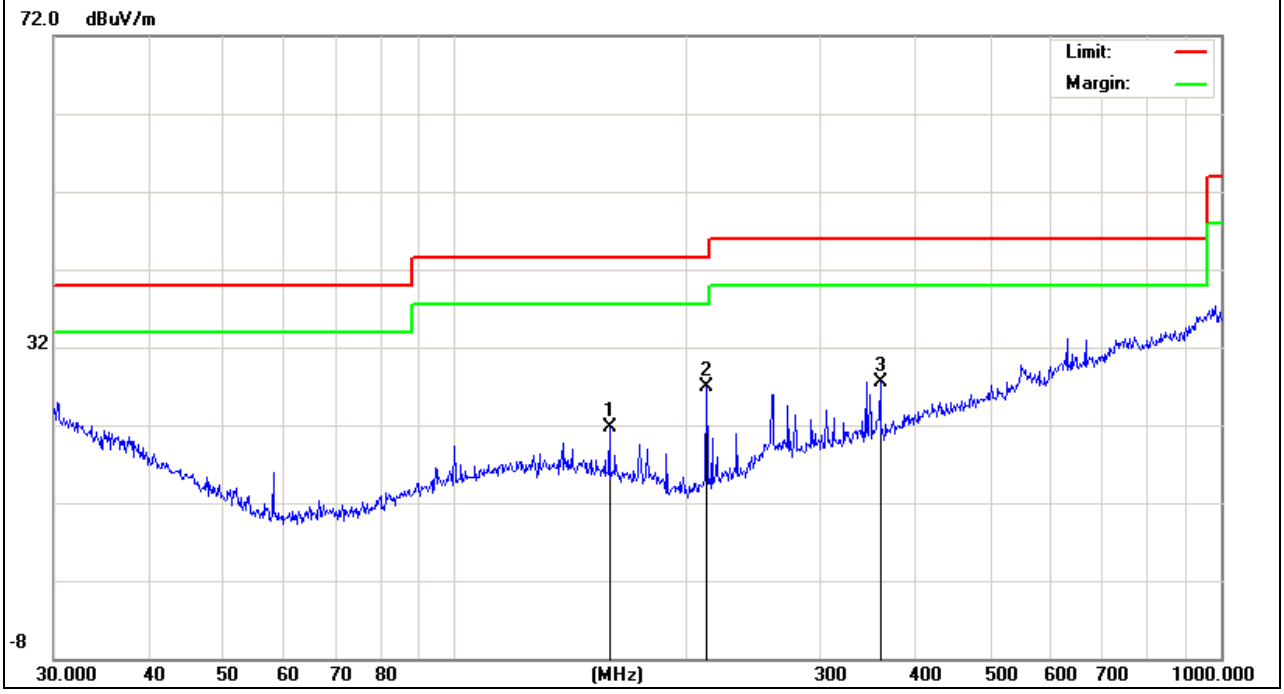
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =20 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
159.2247	10.7	11.08	21.78	43.5	-21.72	QP
213.015	17.04	9.82	26.86	43.5	-16.64	QP
359.1859	11.14	16.44	27.58	46	-18.42	QP

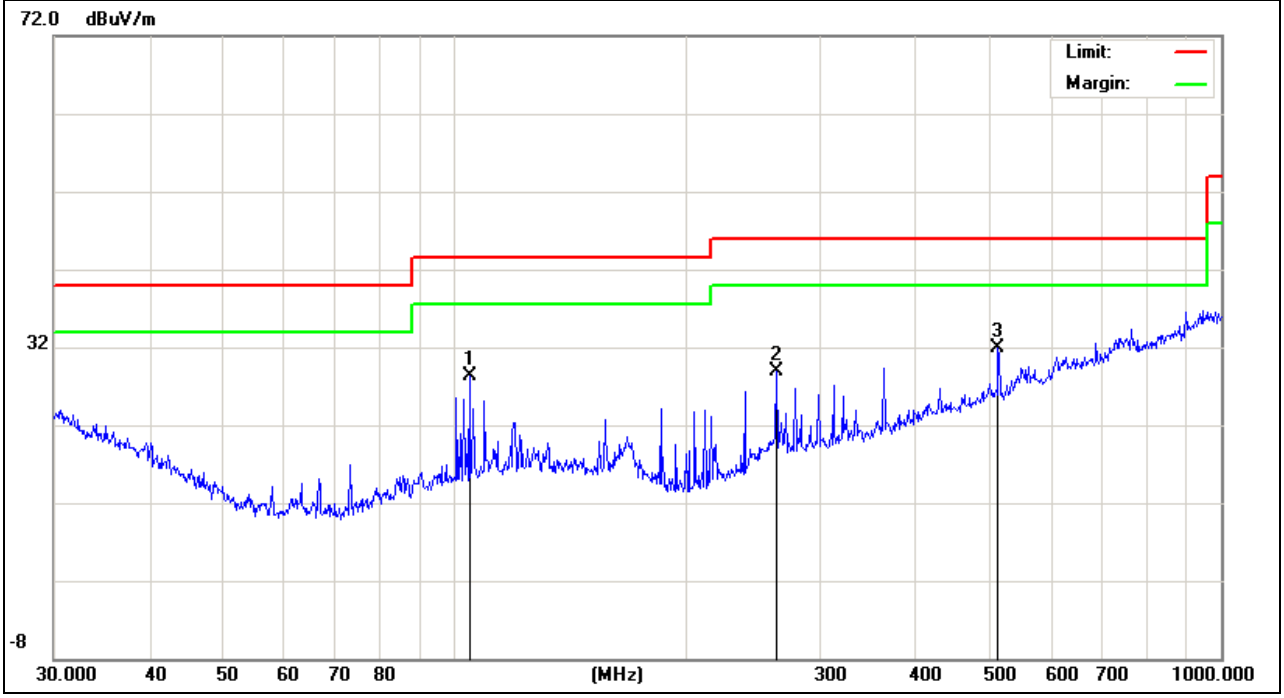
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
104.5361	17.26	11.03	28.29	43.5	-15.21	QP
262.8955	14.15	14.69	28.84	46	-17.16	QP
511.8351	11.22	20.78	32	46	-14	QP

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

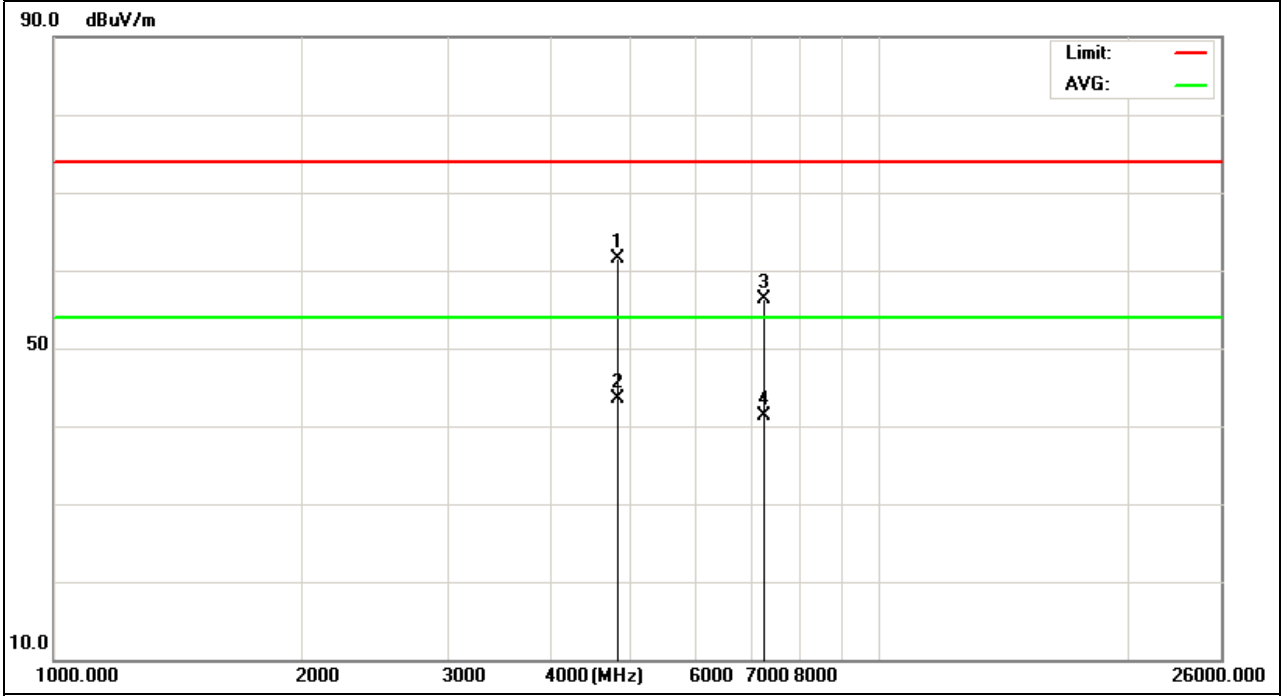


3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH1 (802.11b Mode)/2412	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824.147	51.02	10.44	61.46	74	-12.54	peak
4824.147	33.08	10.44	43.52	54	-10.48	AVG
7236.083	43.94	12.39	56.33	74	-17.67	peak
7236.083	28.99	12.39	41.38	54	-12.62	AVG

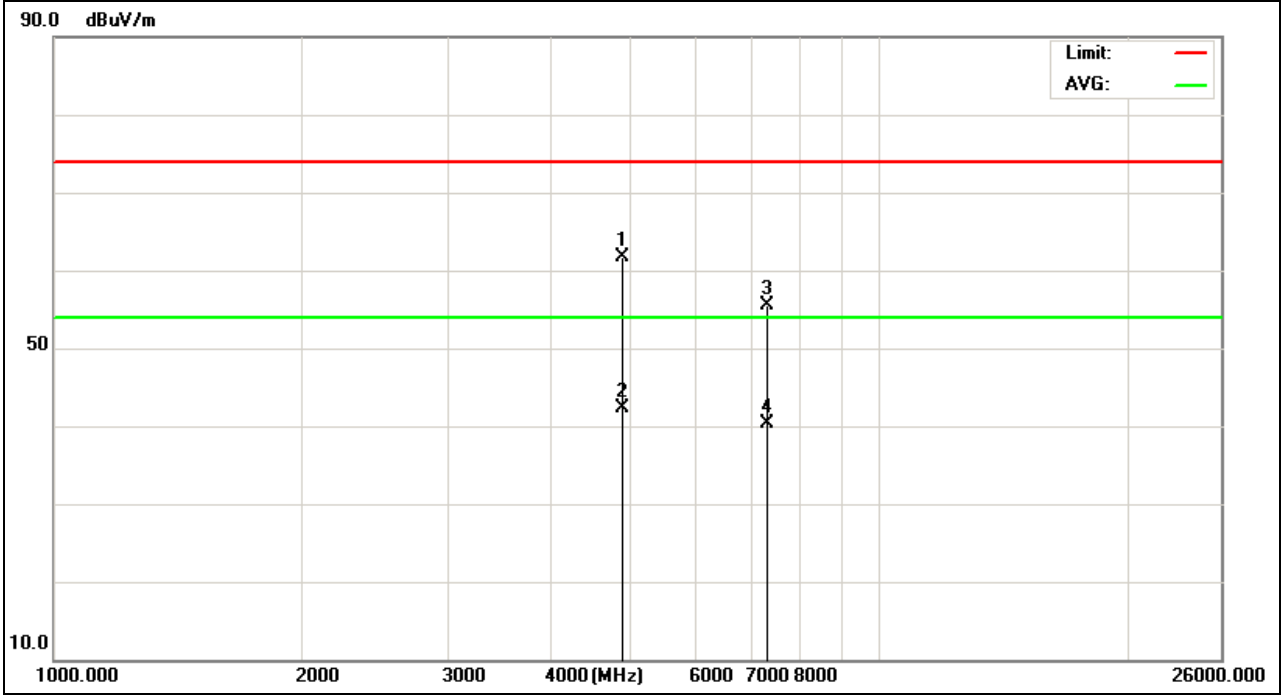
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4874.068	51.28	10.4	61.68	74	-12.32	peak
4874.068	31.95	10.4	42.35	54	-11.65	AVG
7311.075	42.72	12.75	55.47	74	-18.53	peak
7311.075	27.46	12.75	40.21	54	-13.79	AVG

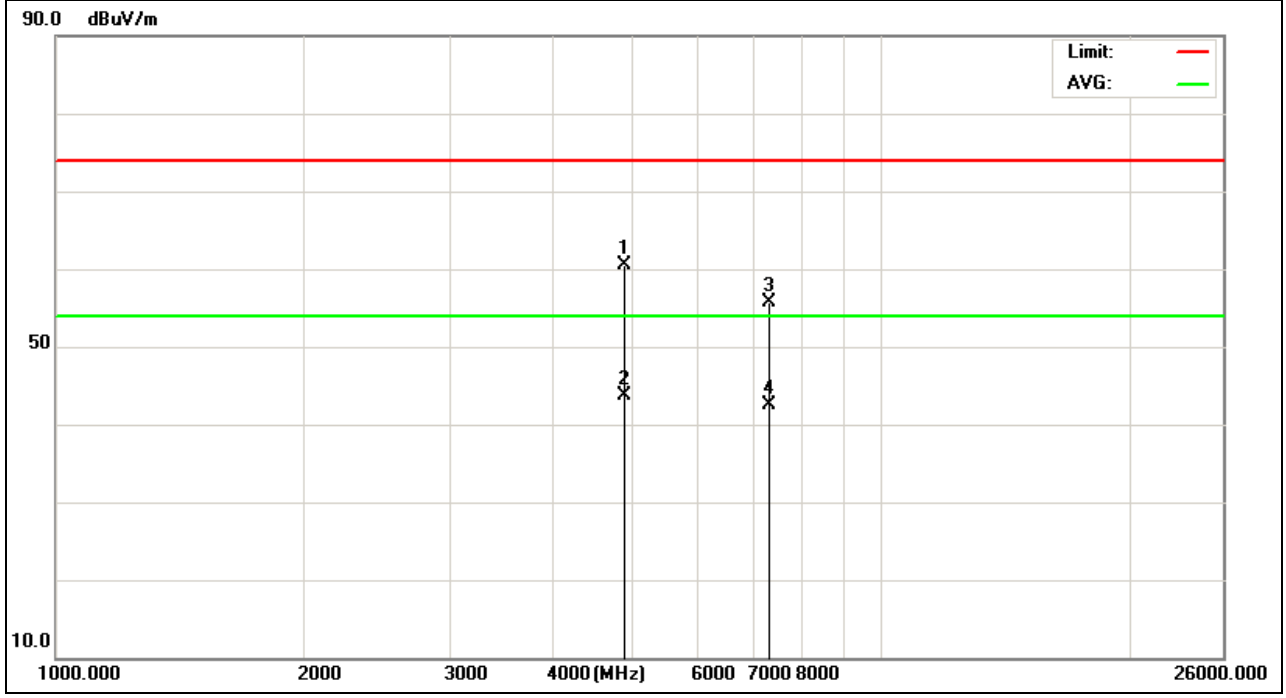
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH6 (802.11b Mode)/2437	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874.082	50.17	10.4	60.57	74	-13.43	peak
4874.082	33.29	10.4	43.69	54	-10.31	AVG
7311.043	42.99	12.75	55.74	74	-18.26	peak
7311.043	29.77	12.75	42.52	54	-11.48	AVG

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

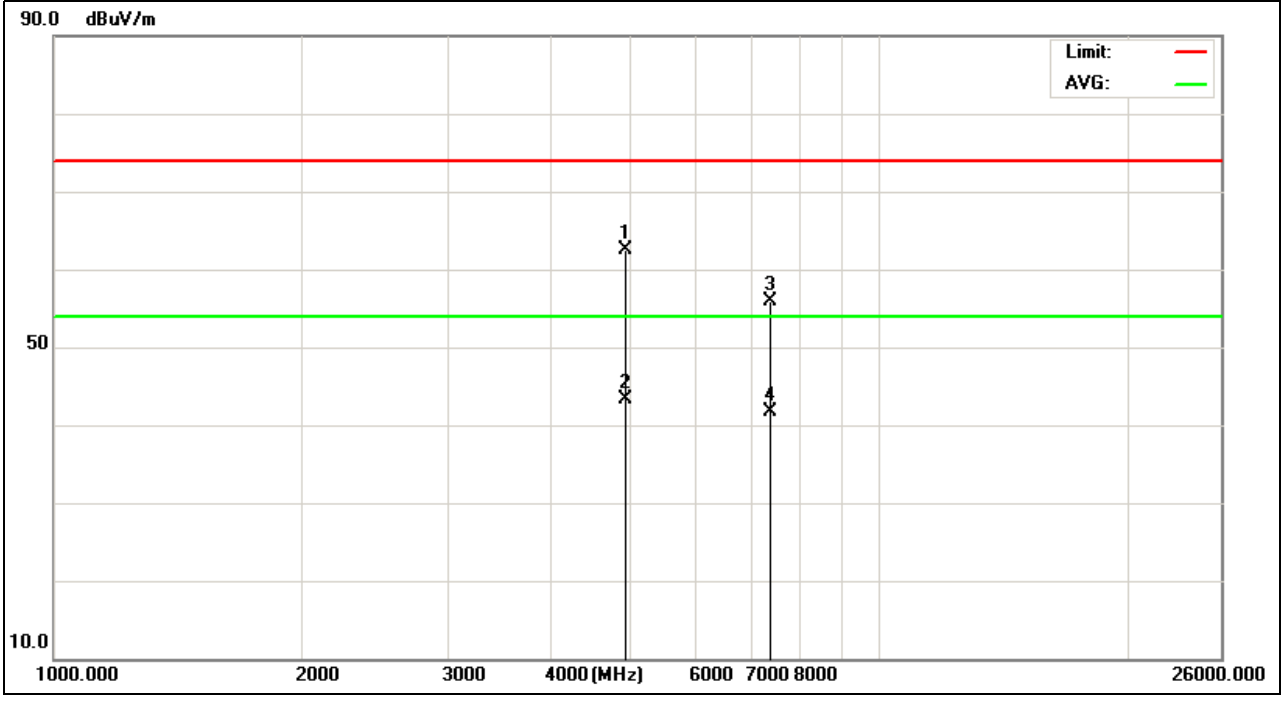


EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH6 (802.11b Mode)/2437	Polarization：	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4924.036	52.2	10.39	62.59	74	-11.41	peak
4934.036	32.94	10.44	43.38	54	-10.62	AVG
7386.029	43.17	12.68	55.85	74	-18.15	peak
7386.029	28.99	12.68	41.67	54	-12.33	AVG

Remark:

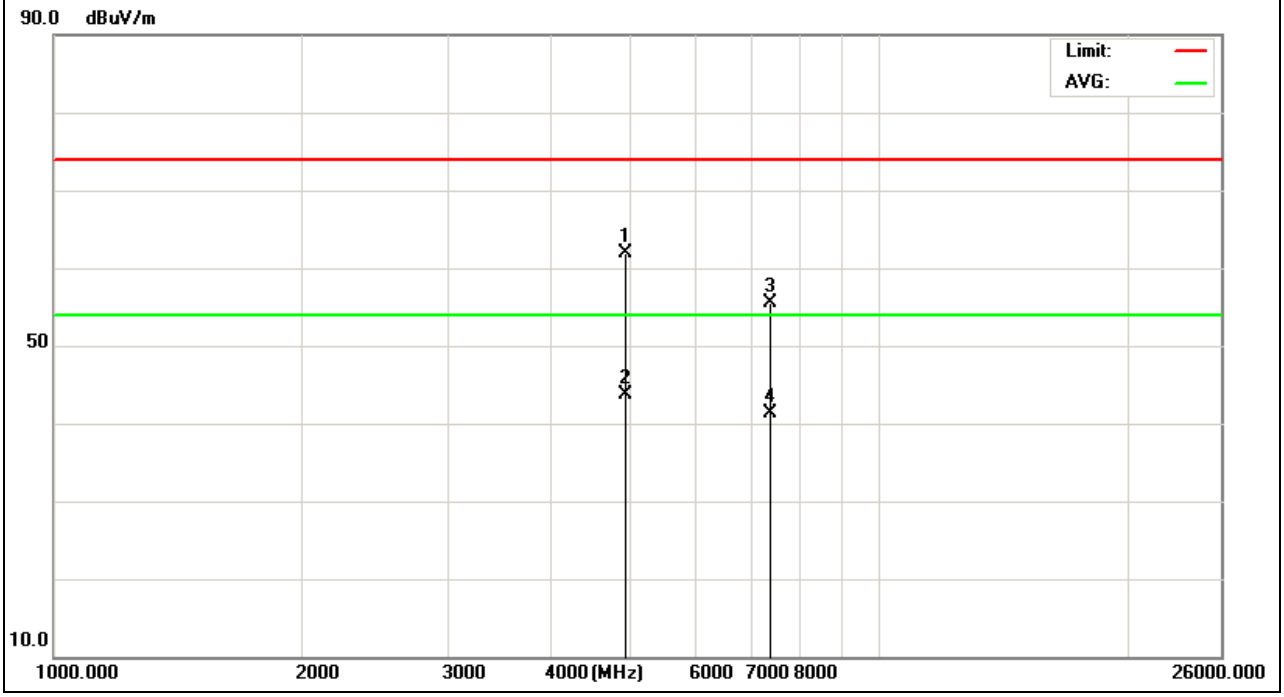
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. No emission detected above 18GHz



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH11 (802.11b Mode)/2462	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924.064	51.42	10.39	61.81	74	-12.19	peak
4924.064	33.26	10.39	43.65	54	-10.35	AVG
7386.013	42.91	12.68	55.59	74	-18.41	peak
7386.013	28.56	12.68	41.24	54	-12.76	AVG

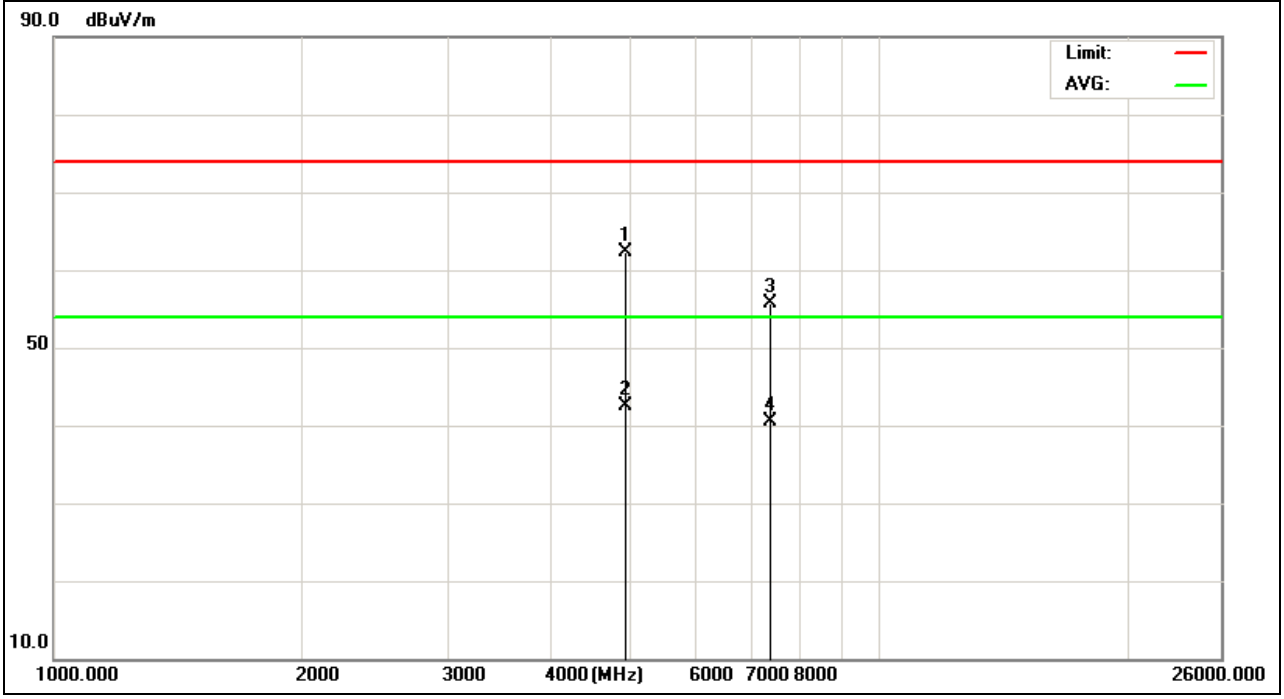
Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. No emission detected above 18GHz



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH11 (802.11b Mode)/2462	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924.238	51.84	10.39	62.23	74	-11.77	peak
4924.238	32.09	10.39	42.48	54	-11.52	AVG
7386.346	42.94	12.68	55.62	74	-18.38	peak
7386.346	27.91	12.68	40.59	54	-13.41	AVG

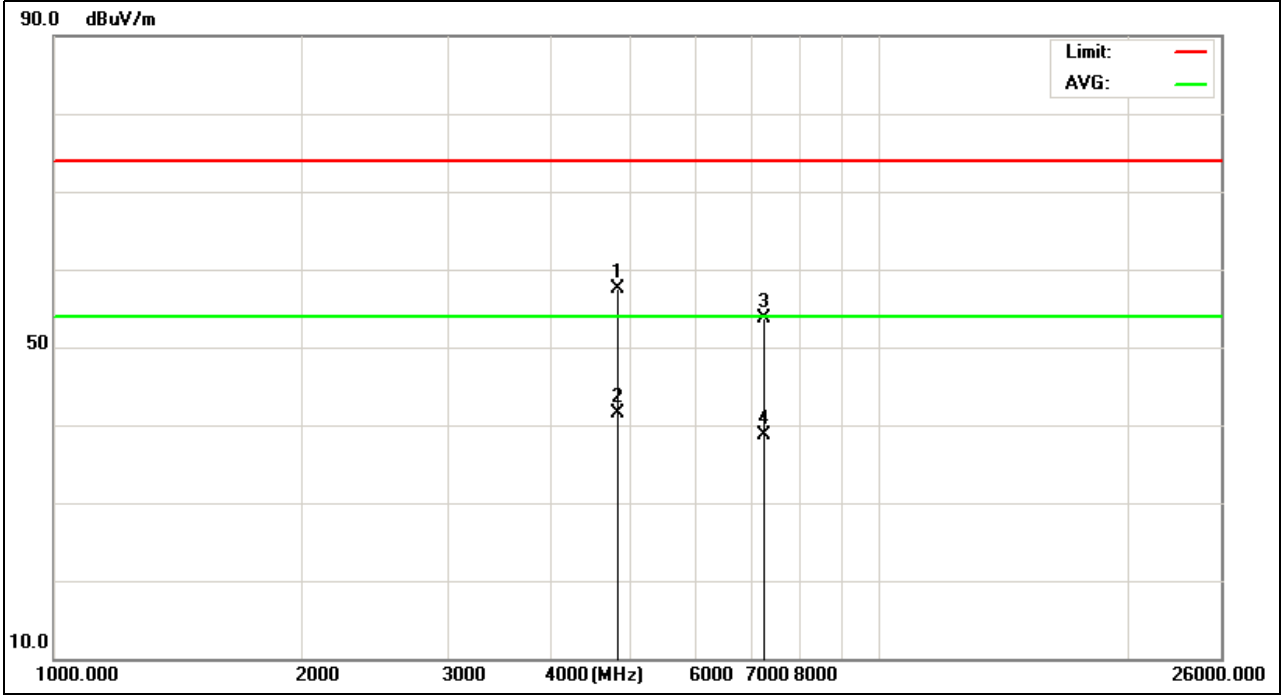
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4824.053	47.09	10.44	57.53	74	-16.47	peak
4824.053	31.14	10.44	41.58	54	-12.42	AVG
7236.022	41.25	12.39	53.64	74	-20.36	peak
7236.022	26.25	12.39	38.64	54	-15.36	AVG

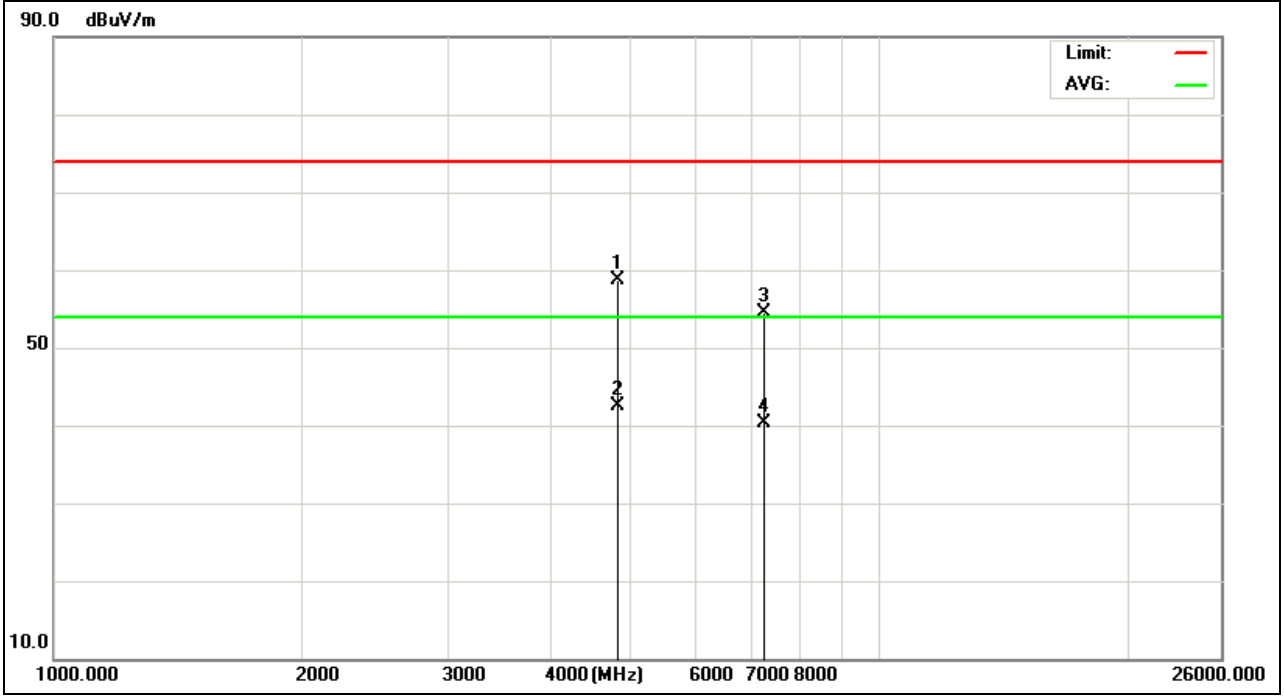
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4824.035	48.21	10.44	58.65	74	-15.35	peak
4824.035	32.03	10.44	42.47	54	-11.53	AVG
7236.026	42.03	12.39	54.42	74	-19.58	peak
7236.026	27.92	12.39	40.31	54	-13.69	AVG

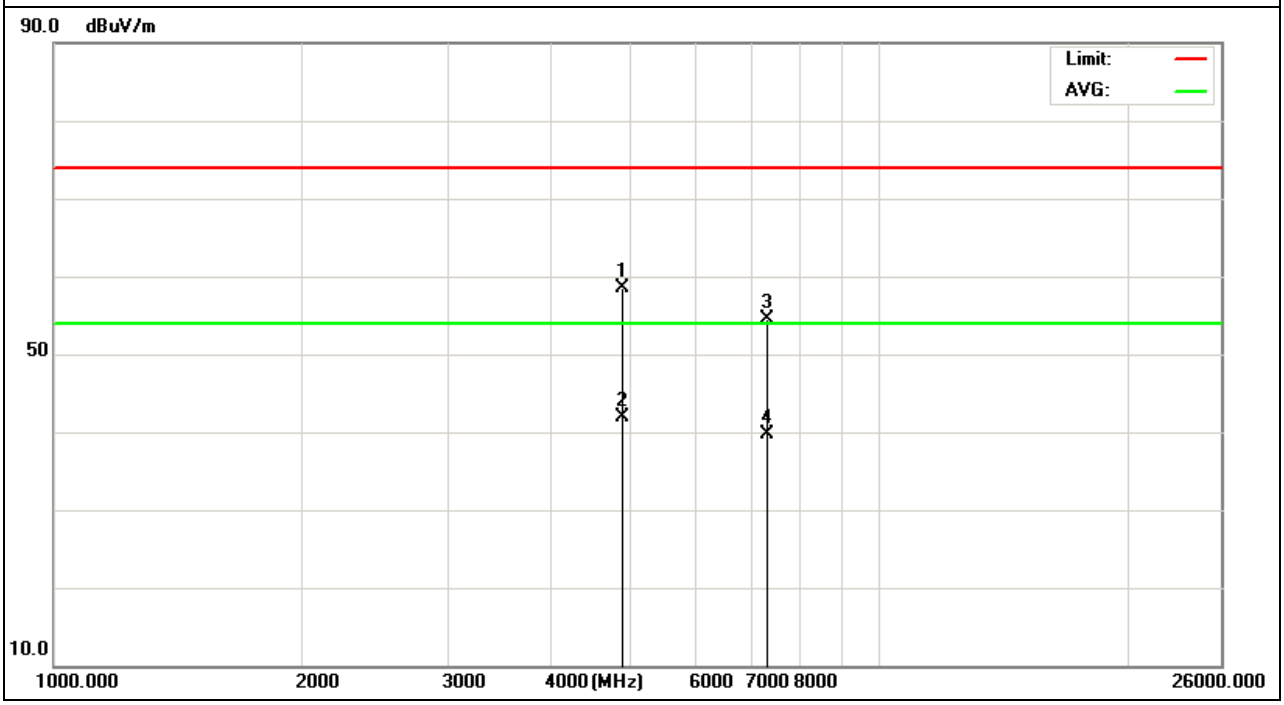
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4874.045	48.03	10.4	58.43	74	-15.57	peak
4874.045	31.46	10.4	41.86	54	-12.14	AVG
7311.026	41.72	12.75	54.47	74	-19.53	peak
7311.026	27	12.75	39.75	54	-14.25	AVG

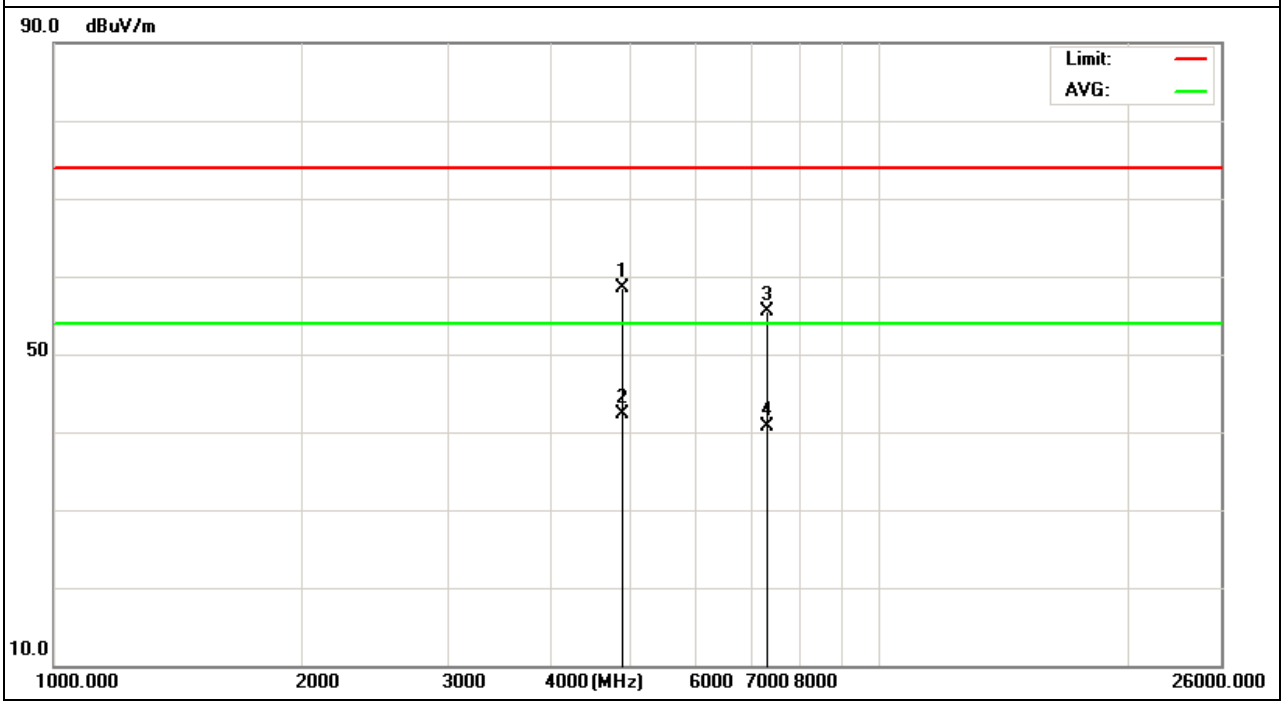
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4874.057	48.18	10.4	58.58	74	-15.42	peak
4874.057	31.96	10.4	42.36	54	-11.64	AVG
7311.014	42.67	12.75	55.42	74	-18.58	peak
7311.014	27.87	12.75	40.62	54	-13.38	AVG

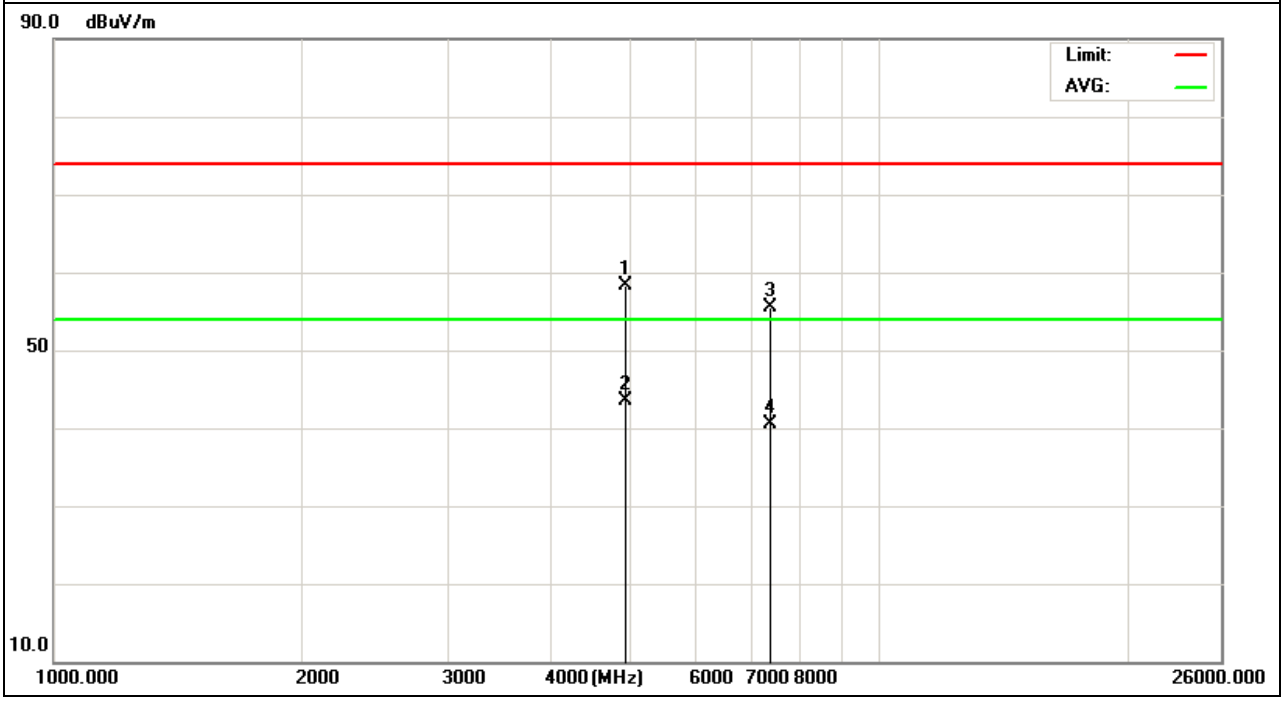
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4924.023	47.87	10.39	58.26	74	-15.74	peak
4924.023	33.1	10.39	43.49	54	-10.51	AVG
7386.031	42.73	12.68	55.41	74	-18.59	peak
7386.031	27.85	12.68	40.53	54	-13.47	AVG

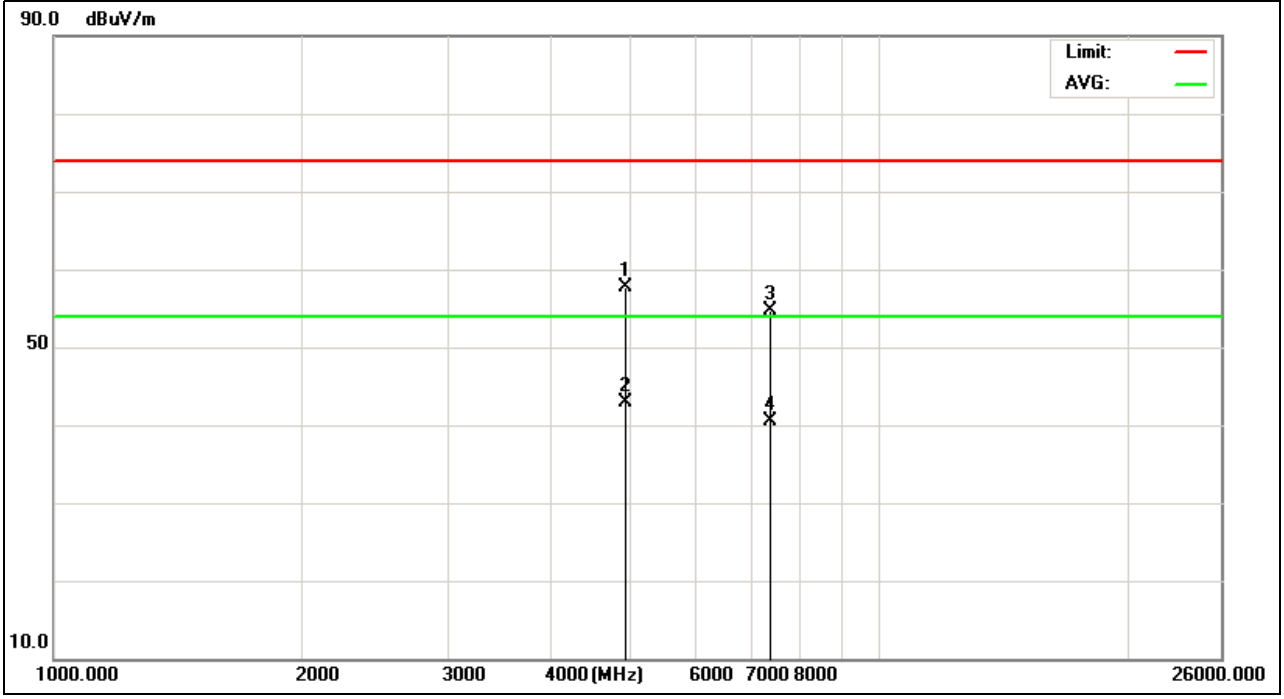
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH11(802.11g Mode)/2462	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924.046	47.39	10.39	57.78	74	-16.22	peak
4924.446	32.46	10.39	42.85	54	-11.15	AVG
7386.025	41.99	12.68	54.67	74	-19.33	peak
7386.025	27.84	12.68	40.52	54	-13.48	AVG

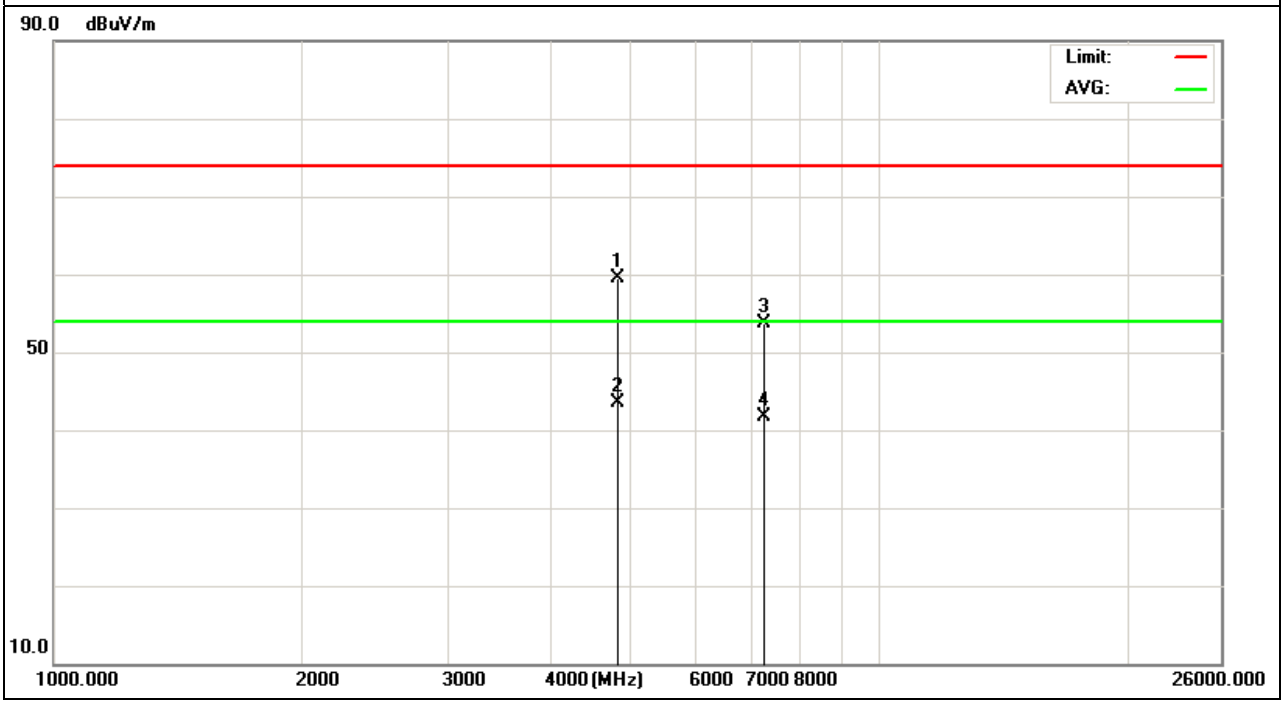
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4824.061	48.98	10.44	59.42	74	-14.58	peak
4824.061	32.97	10.44	43.41	54	-10.59	AVG
7236.035	41.36	12.39	53.75	74	-20.25	peak
7236.035	29.23	12.39	41.62	54	-12.38	AVG

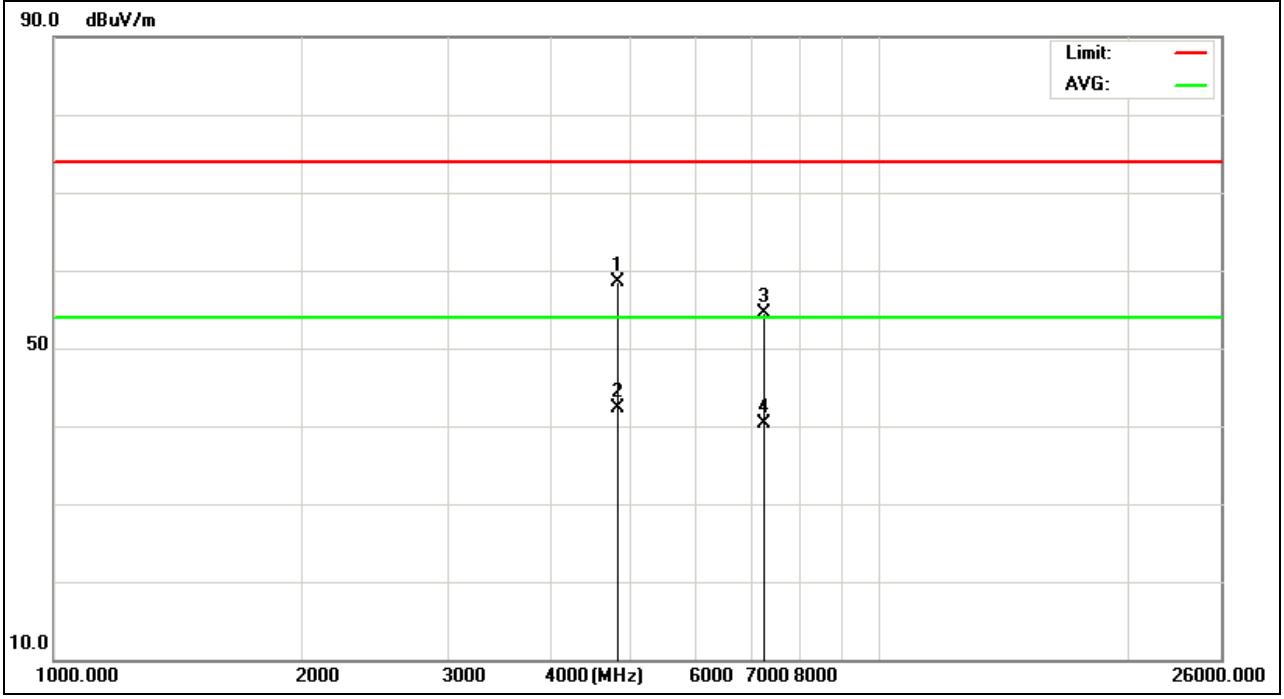
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4824.047	48.1	10.44	58.54	74	-15.46	peak
4824.047	31.91	10.44	42.35	54	-11.65	AVG
7236.033	42.05	12.39	54.44	74	-19.56	peak
7236.033	27.93	12.39	40.32	54	-13.68	AVG

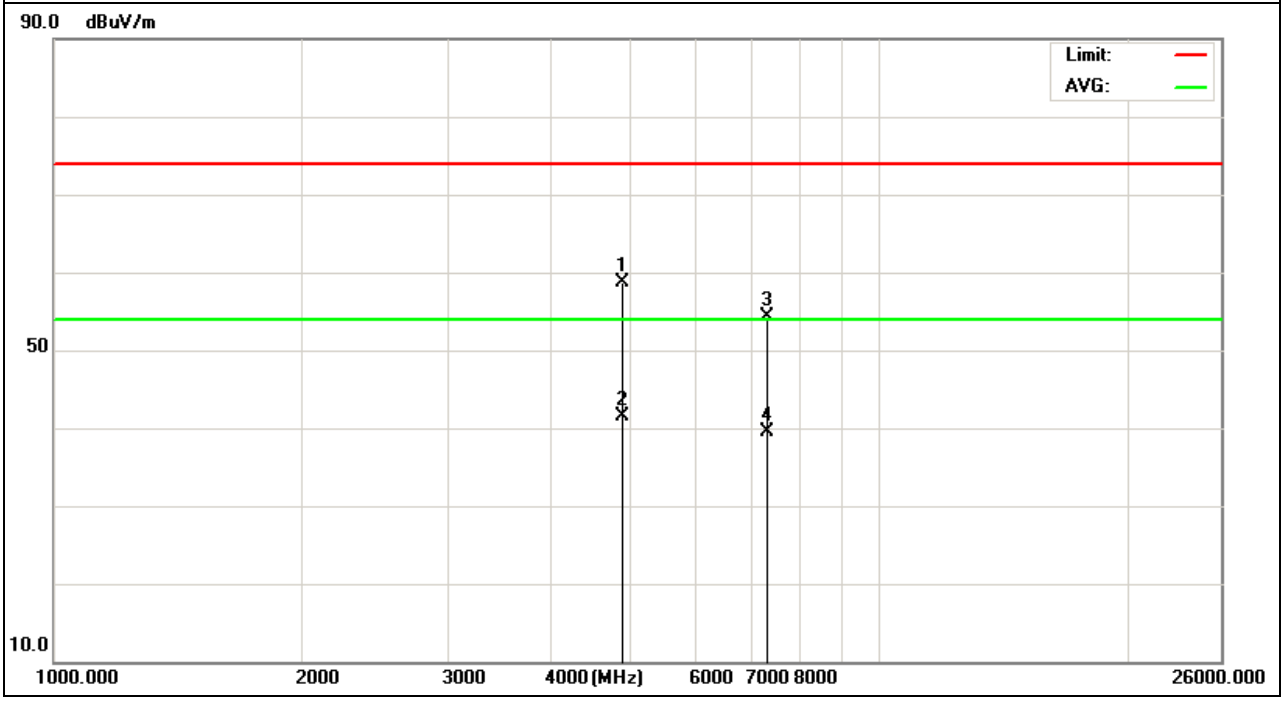
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH6(802.11n Mode)/20MHz	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
4874.043	48.34	10.4	58.74	74	-15.26	peak
4874.043	31.08	10.4	41.48	54	-12.52	AVG
7311.065	41.61	12.75	54.36	74	-19.64	peak
7311.065	26.79	12.75	39.54	54	-14.46	AVG

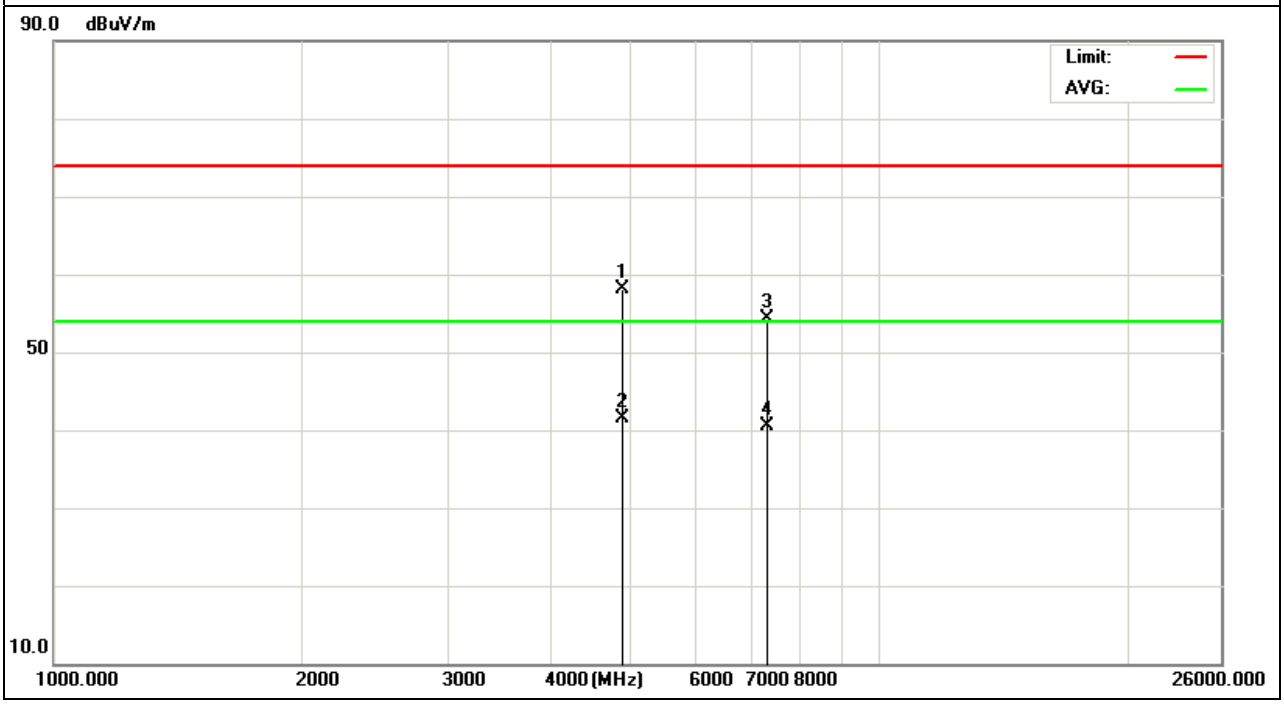
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4874.048	47.74	10.4	58.14	74	-15.86	peak
4874.048	31.18	10.4	41.58	54	-12.42	AVG
7311.037	41.61	12.75	54.36	74	-19.64	peak
7311.037	27.76	12.75	40.51	54	-13.49	AVG

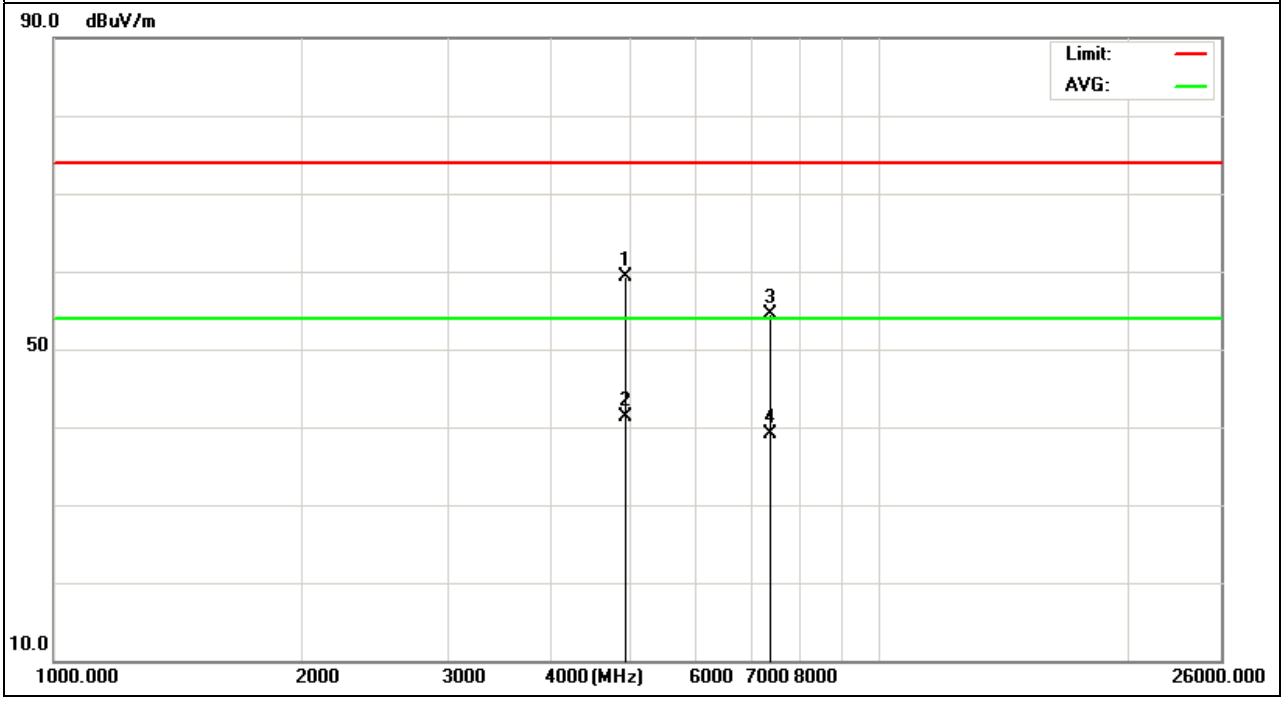
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4924.024	48.86	10.39	59.25	74	-14.75	peak
4924.024	30.98	10.39	41.37	54	-12.63	AVG
7386.038	41.91	12.68	54.59	74	-19.41	peak
7386.038	26.48	12.68	39.16	54	-14.84	AVG

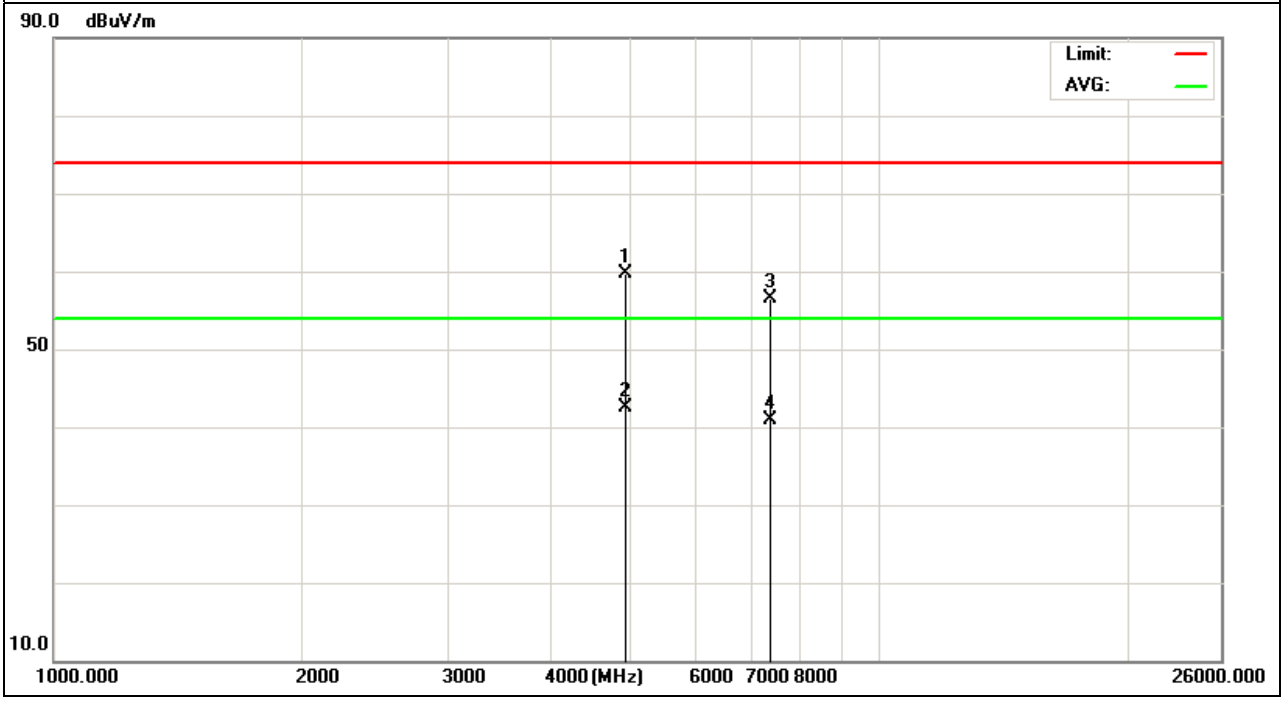
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH11(802.11n Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924.031	49.28	10.39	59.67	74	-14.33	peak
4924.031	32.14	10.39	42.53	54	-11.47	AVG
7386.057	43.81	12.68	56.49	74	-17.51	peak
7386.057	28.19	12.68	40.87	54	-13.13	AVG

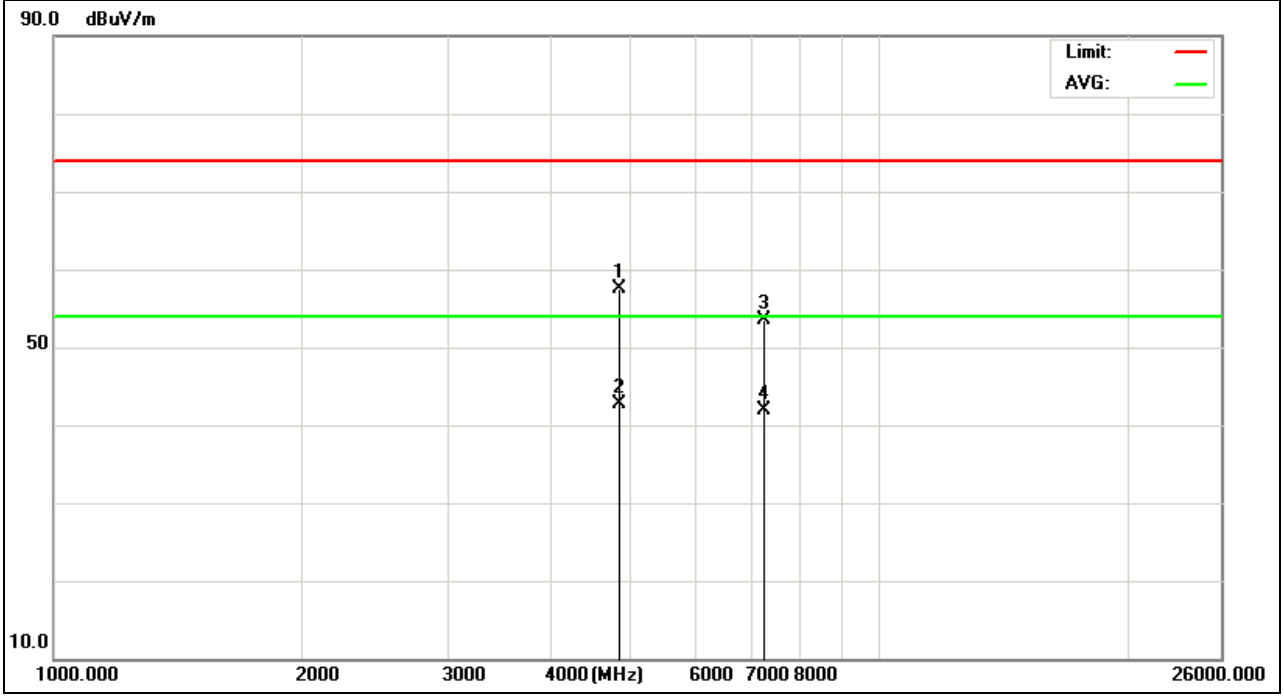
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4844.179	46.98	10.5	57.48	74	-16.52	peak
4844.179	32.27	10.5	42.77	54	-11.23	AVG
7266.305	41.03	12.5	53.53	74	-20.47	peak
7266.305	29.36	12.5	41.86	54	-12.14	AVG

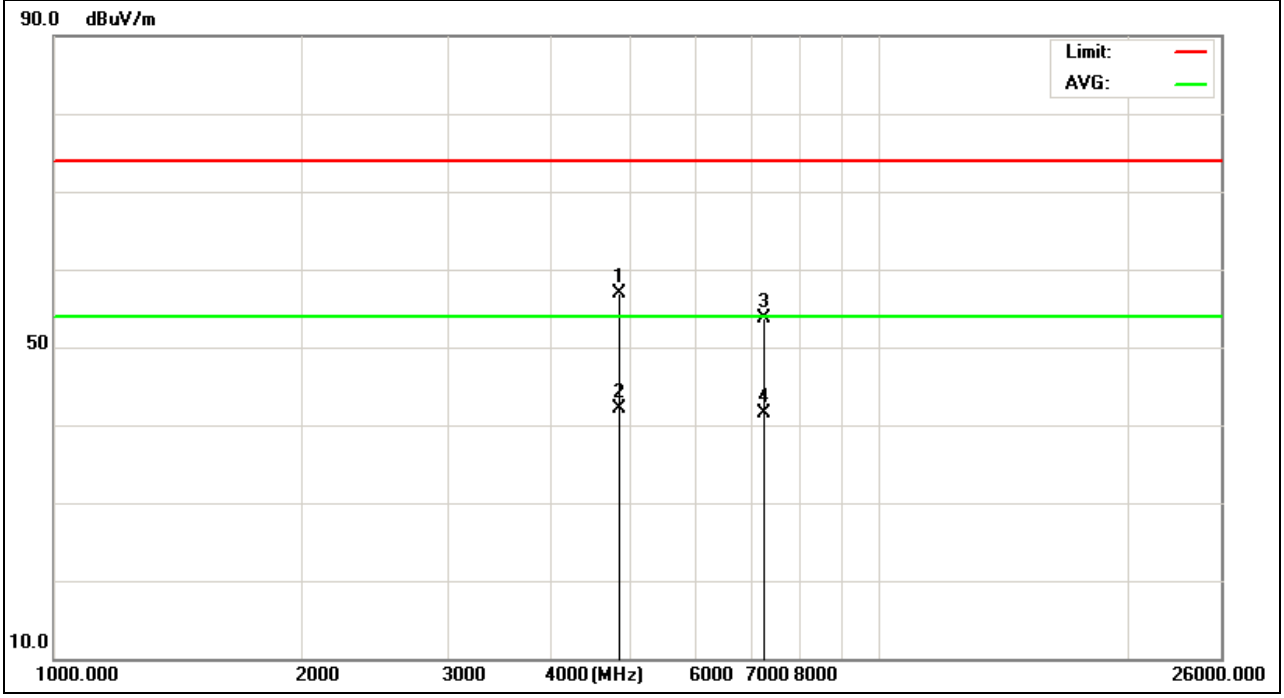
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
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)	
4844.376	46.36	10.5	56.86	74	-17.14	peak
4844.376	31.67	10.5	42.17	54	-11.83	AVG
7266.276	41.17	12.5	53.67	74	-20.33	peak
7266.276	28.92	12.5	41.42	54	-12.58	AVG

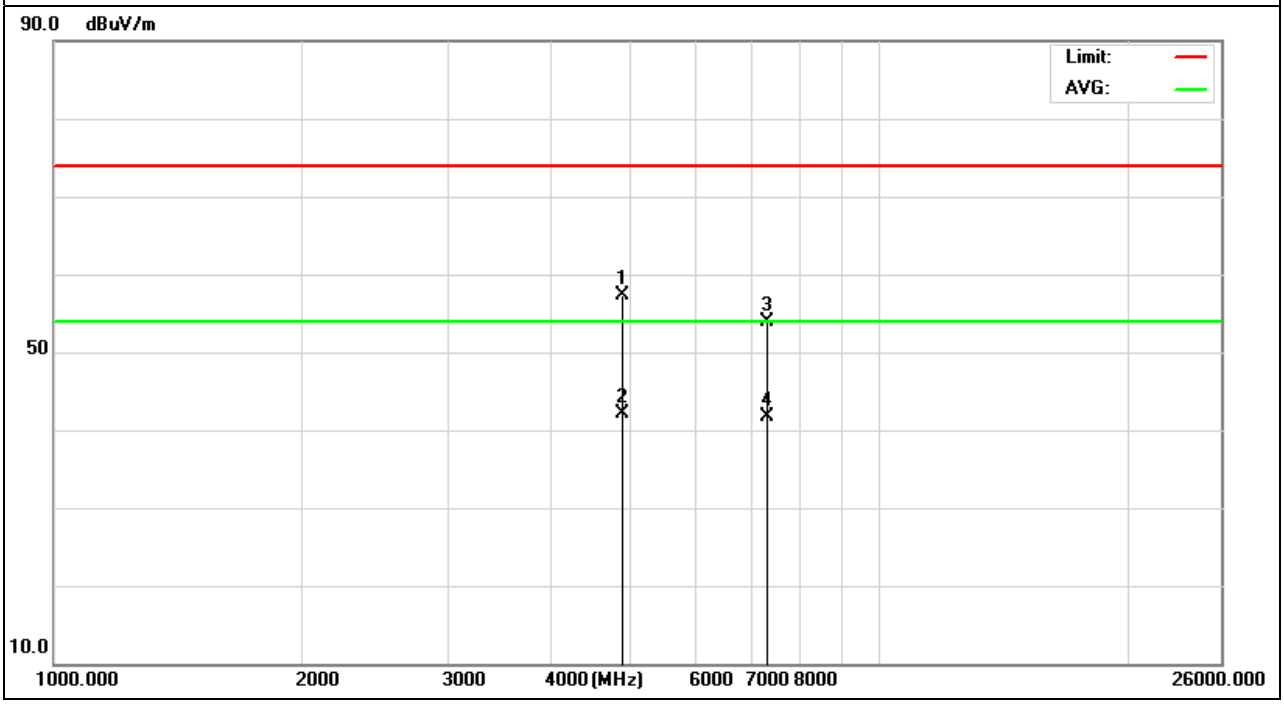
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4874.856	46.99	10.4	57.39	74	-16.61	peak
4874.856	31.74	10.4	42.14	54	-11.86	AVG
7311.075	41.23	12.75	53.98	74	-20.02	peak
7311.075	28.99	12.75	41.74	54	-12.26	AVG

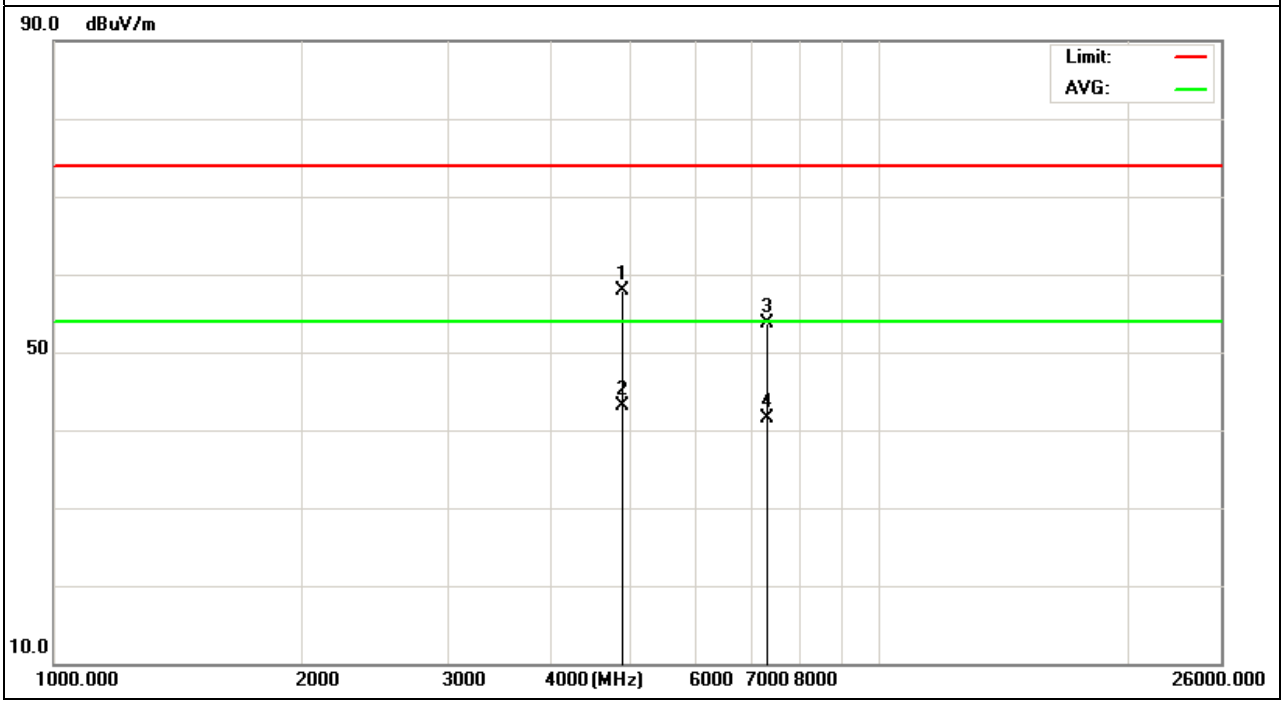
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4874.441	47.48	10.4	57.88	74	-16.12	peak
4874.441	32.63	10.4	43.03	54	-10.97	AVG
7311.239	41.04	12.75	53.79	74	-20.21	peak
7311.239	28.78	12.75	41.53	54	-12.47	AVG

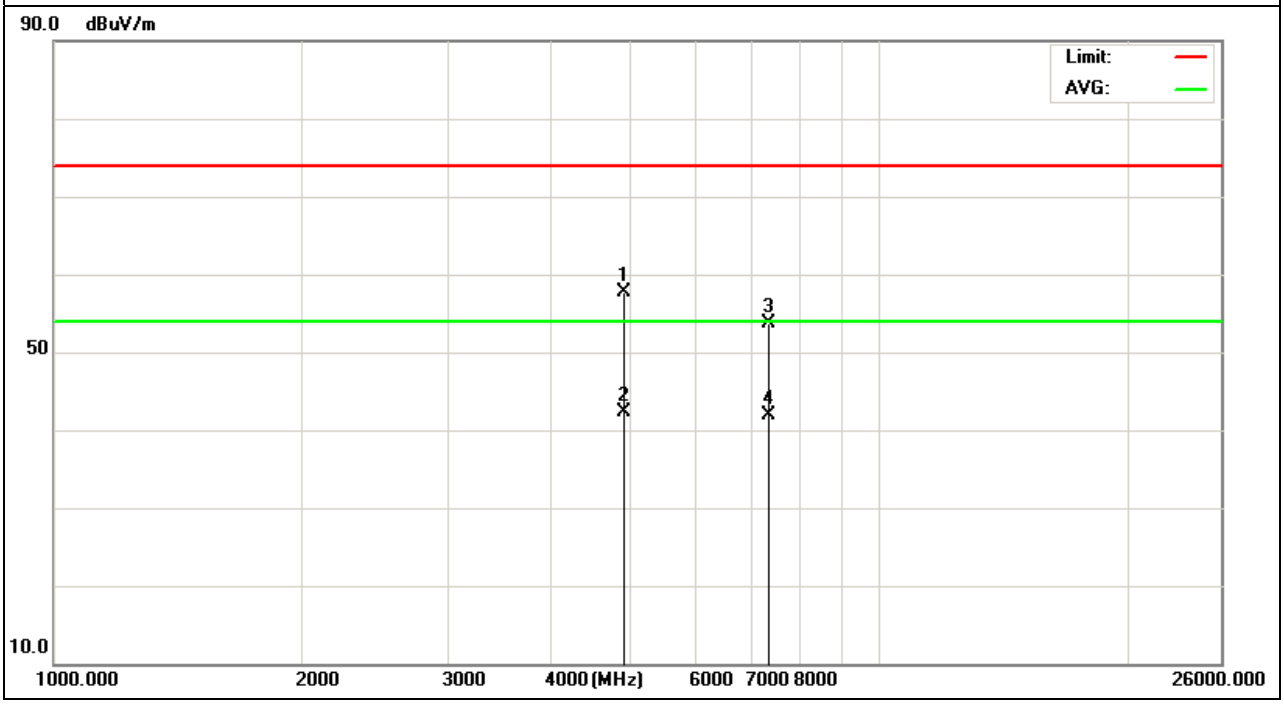
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4904.343	47.46	10.29	57.75	74	-16.25	peak
4904.343	32.04	10.29	42.33	54	-11.67	AVG
7356.297	40.89	12.79	53.68	74	-20.32	peak
7356.297	29.08	12.79	41.87	54	-12.13	AVG

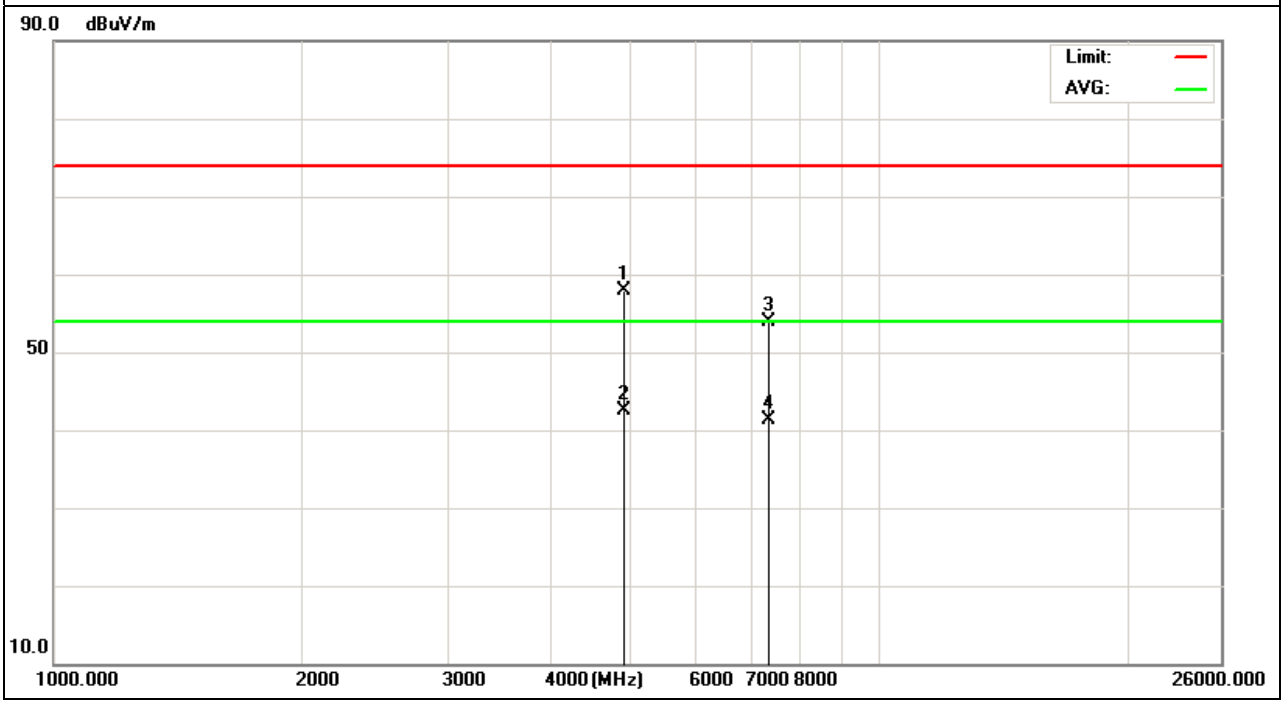
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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
4904.117	47.58	10.29	57.87	74	-16.13	peak
4904.117	32.31	10.29	42.6	54	-11.4	AVG
7356.419	41.17	12.79	53.96	74	-20.04	peak
7356.419	28.43	12.79	41.22	54	-12.78	AVG

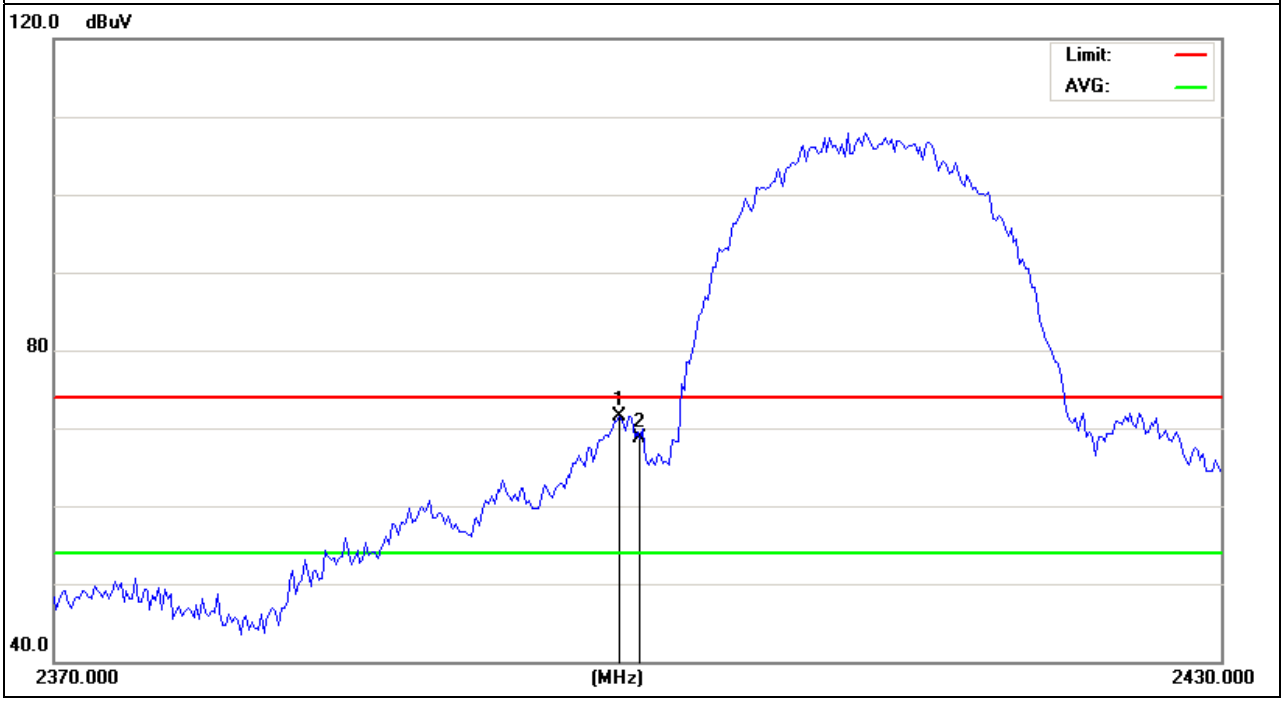
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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)	
2398.95	84.5	-13	71.5	74	-2.5	peak
2400	81.79	-12.99	68.8	74	-5.2	peak

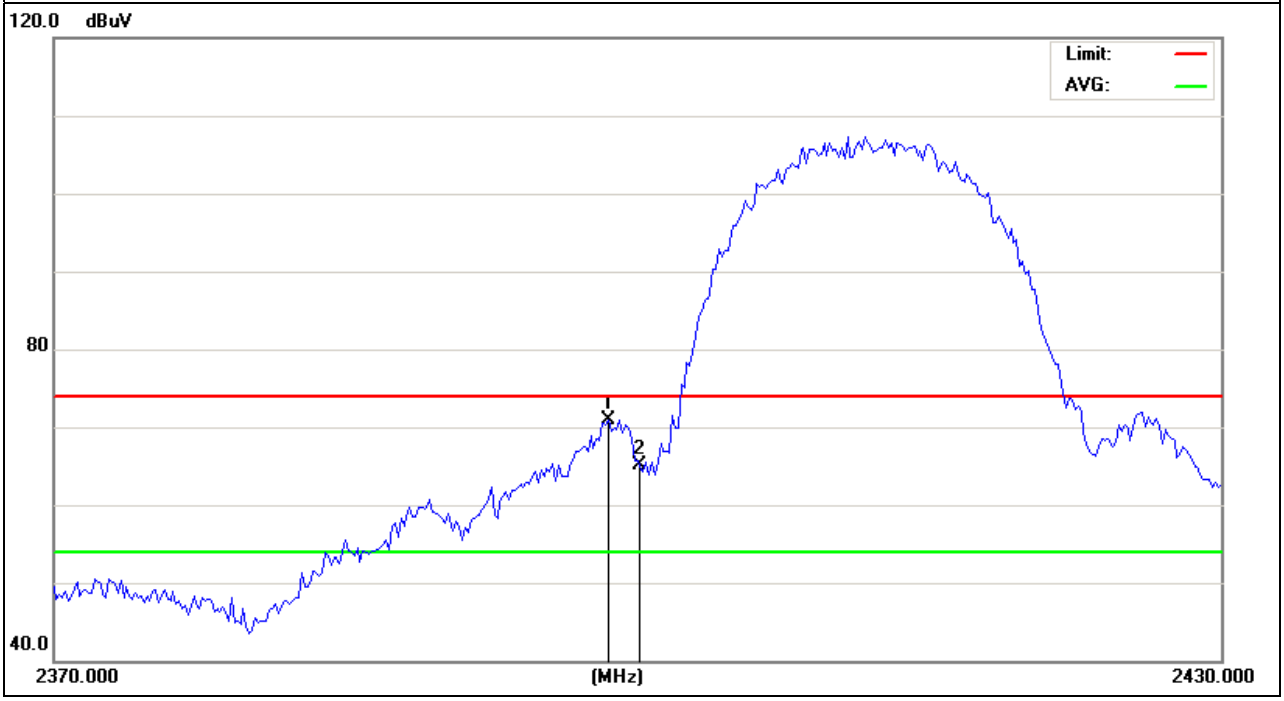
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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)	
2398.35	84	-13	71	74	-3	peak
2400	78.09	-12.99	65.1	74	-8.9	peak

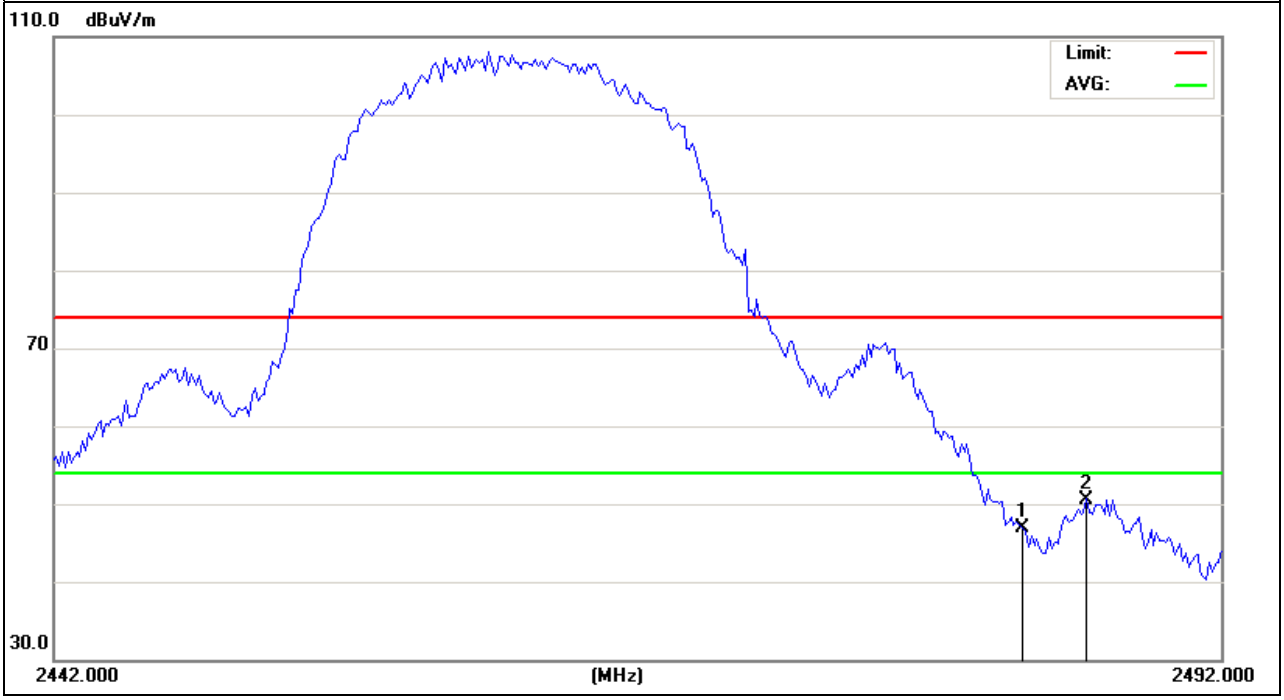
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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	59.68	-12.78	46.9	74	-27.1	peak
2486.25	63.37	-12.77	50.6	74	-23.4	peak

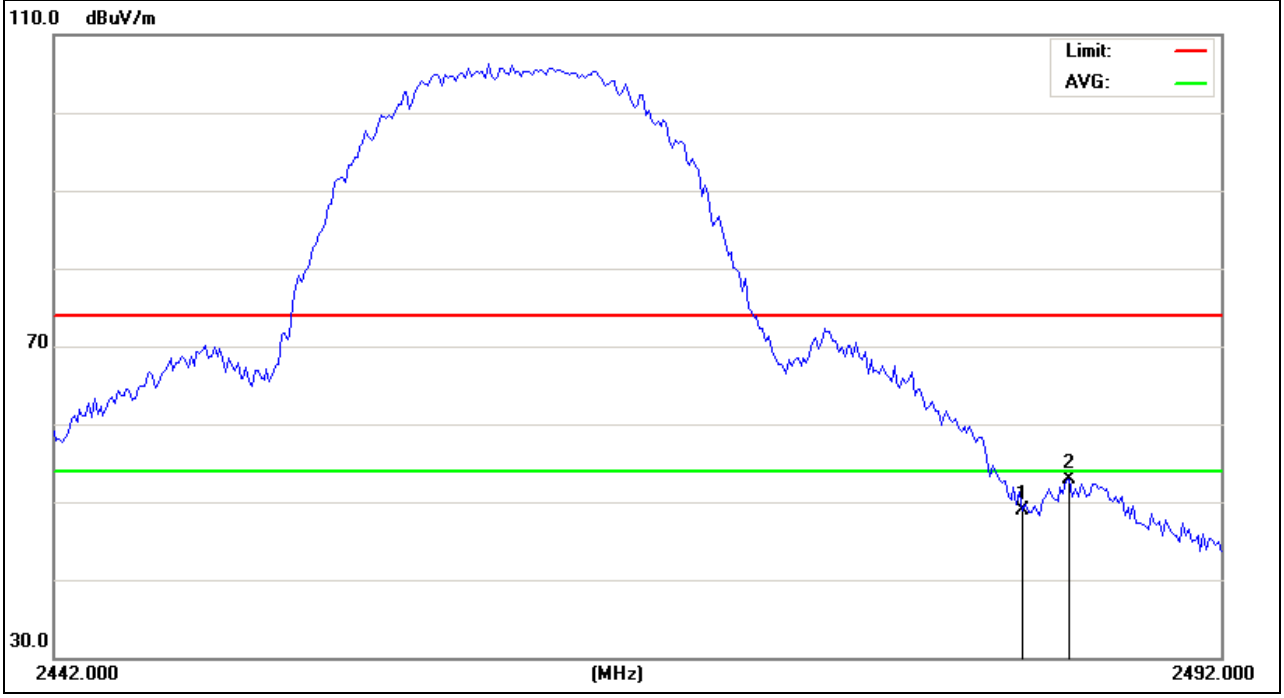
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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	61.68	-12.78	48.9	74	-25.1	peak
2485.5	65.78	-12.78	53	74	-21	peak

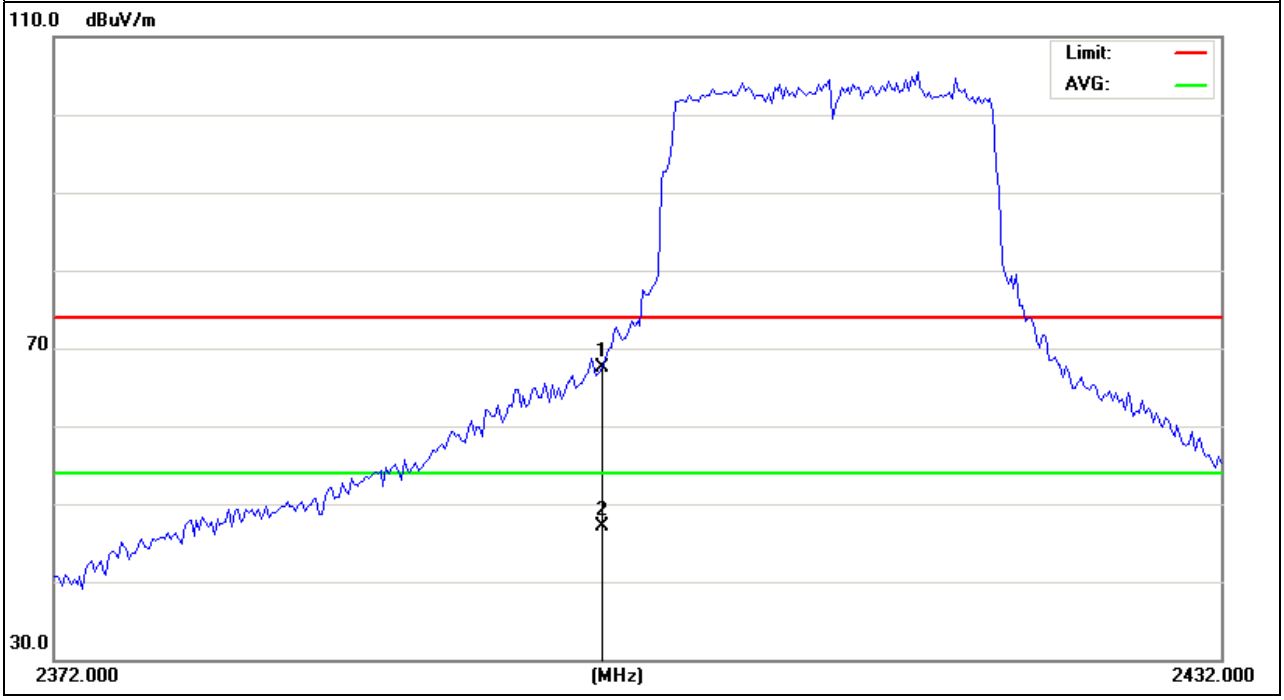
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH1(802.11g Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400	80.49	-12.99	67.5	74	-6.5	peak
2400	60.16	-12.99	47.17	54	-6.83	AVG

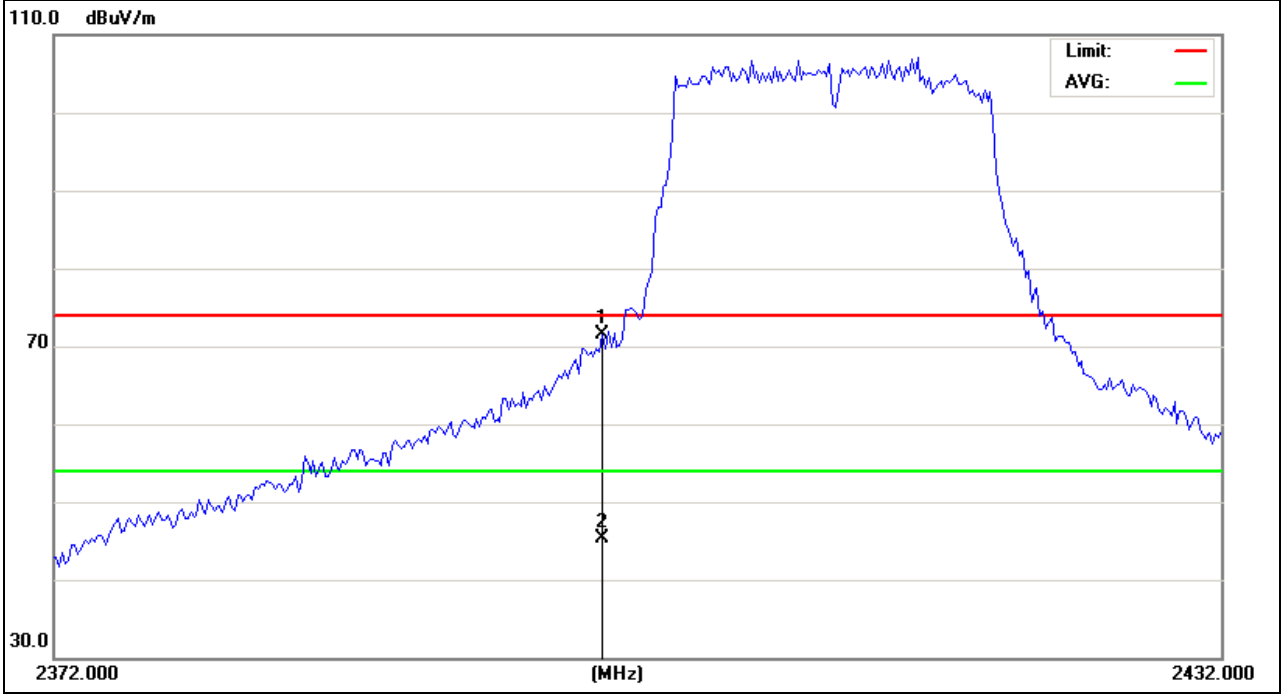
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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	84.39	-12.99	71.4	74	-2.6	peak
2400	58.2	-12.99	45.21	54	-8.79	AVG

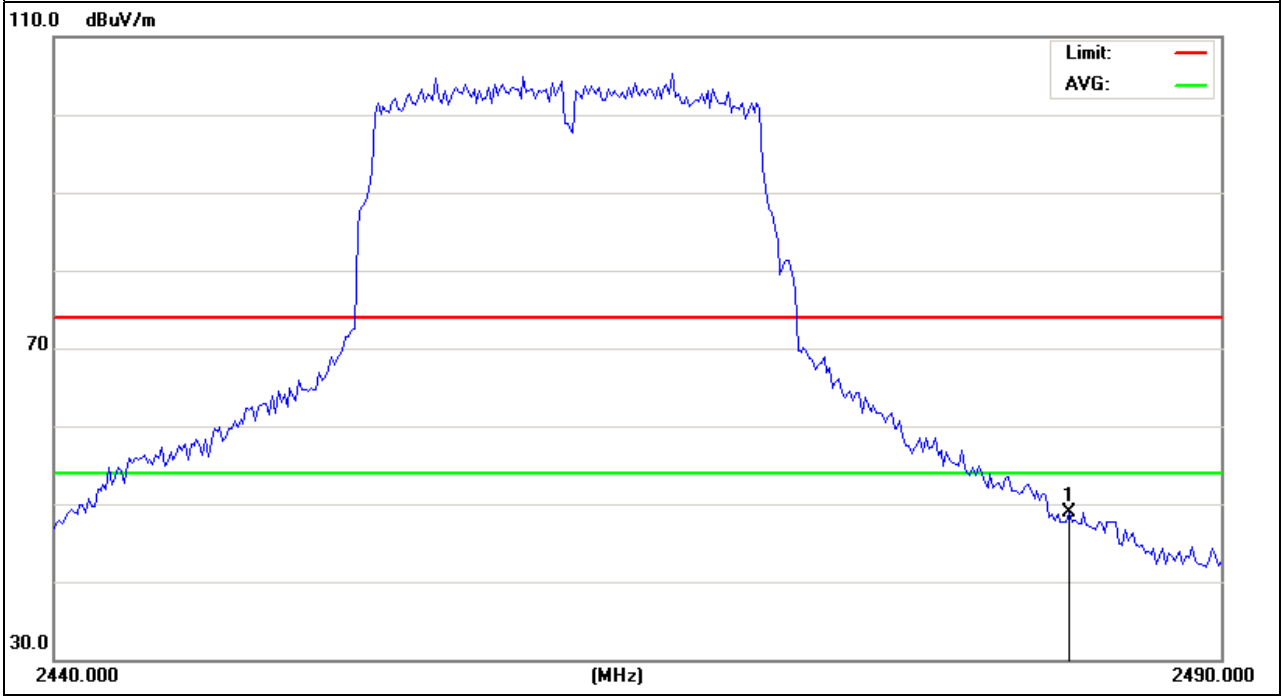
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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	61.78	-12.78	49	74	-25	peak

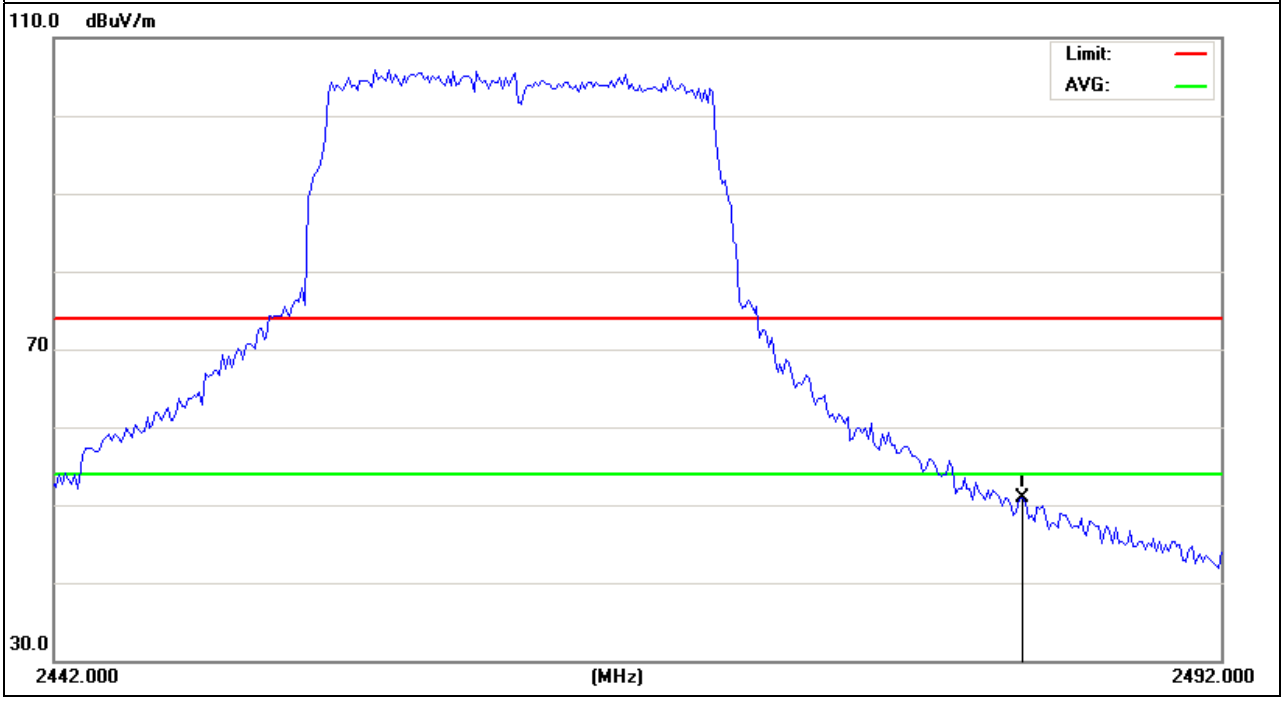
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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	63.78	-12.78	51	74	-23	peak

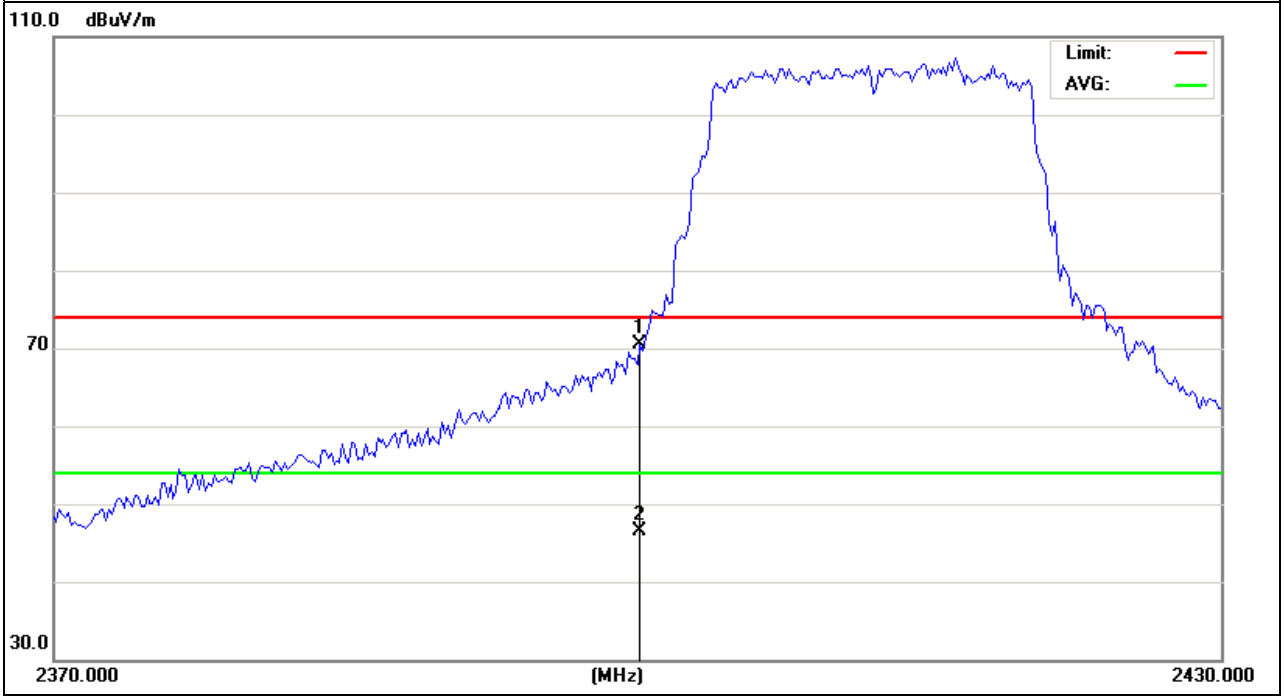
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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	83.59	-12.99	70.6	74	-3.4	peak
2400	59.54	-12.99	46.55	54	-7.45	AVG

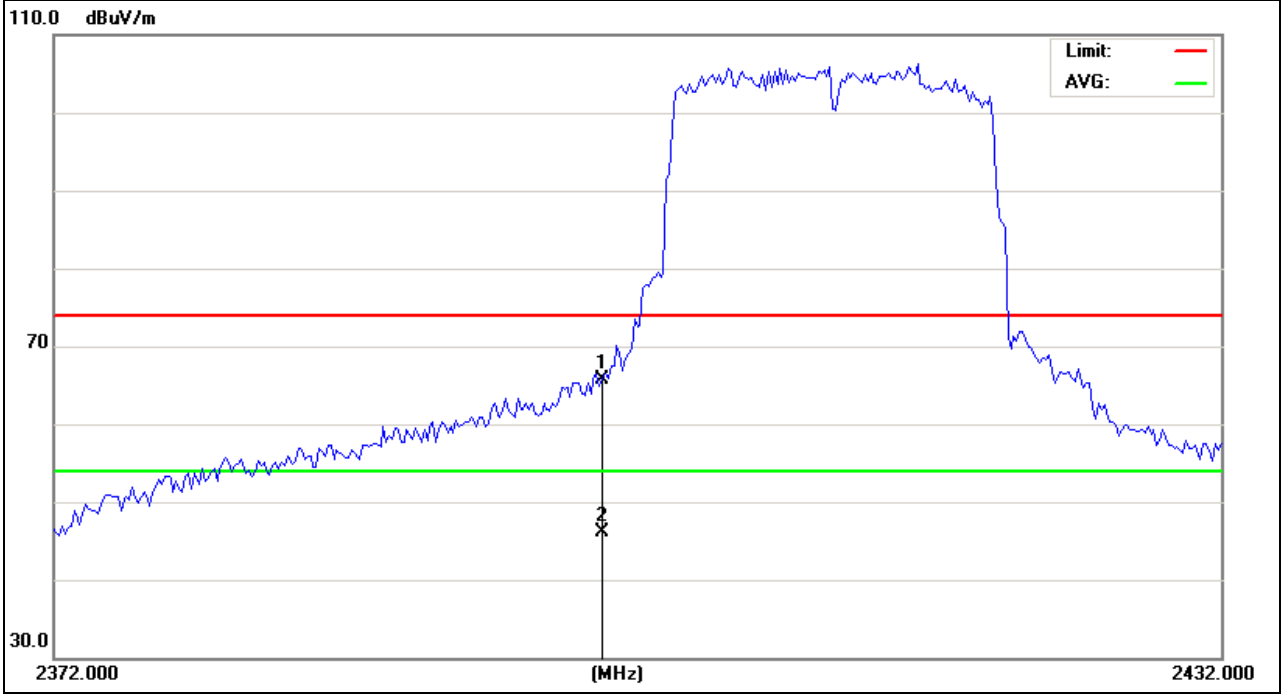
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH1(802.11N Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2400	78.79	-12.99	65.8	74	-8.2	peak
2400	59.18	-12.99	46.19	54	-7.81	AVG

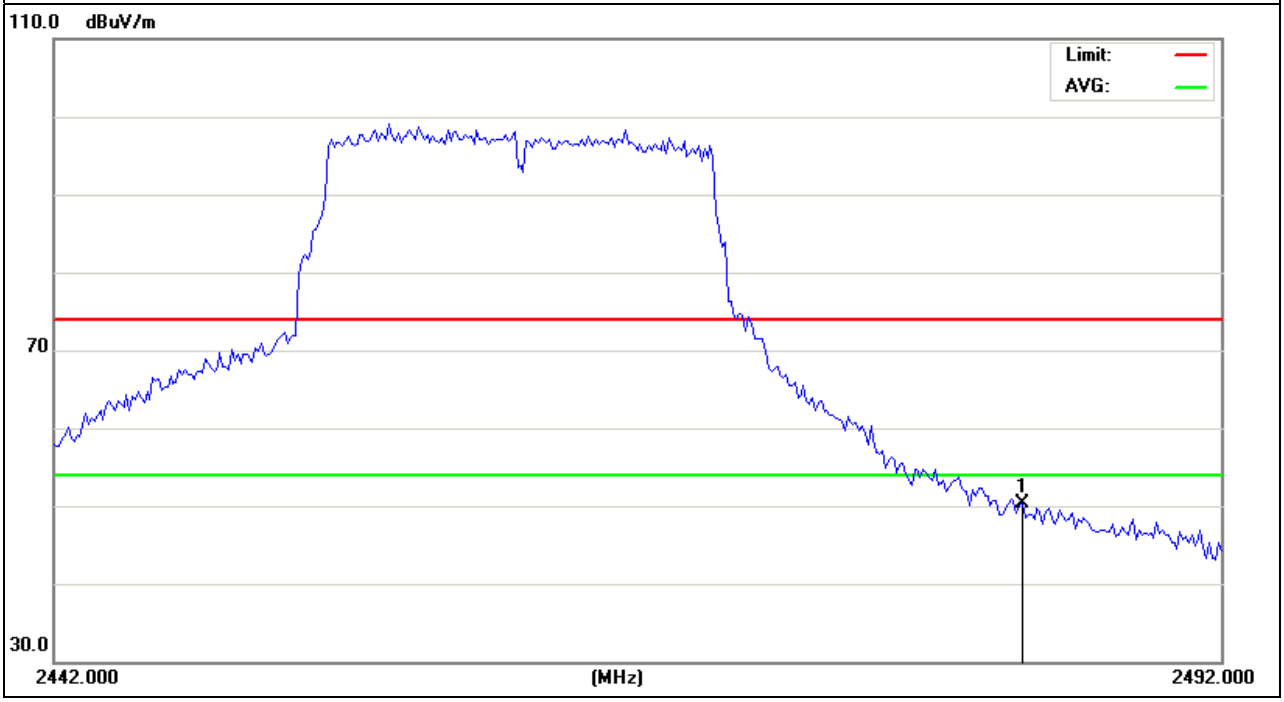
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH11(802.11N Mode)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	63.18	-12.78	50.4	74	-23.6	peak

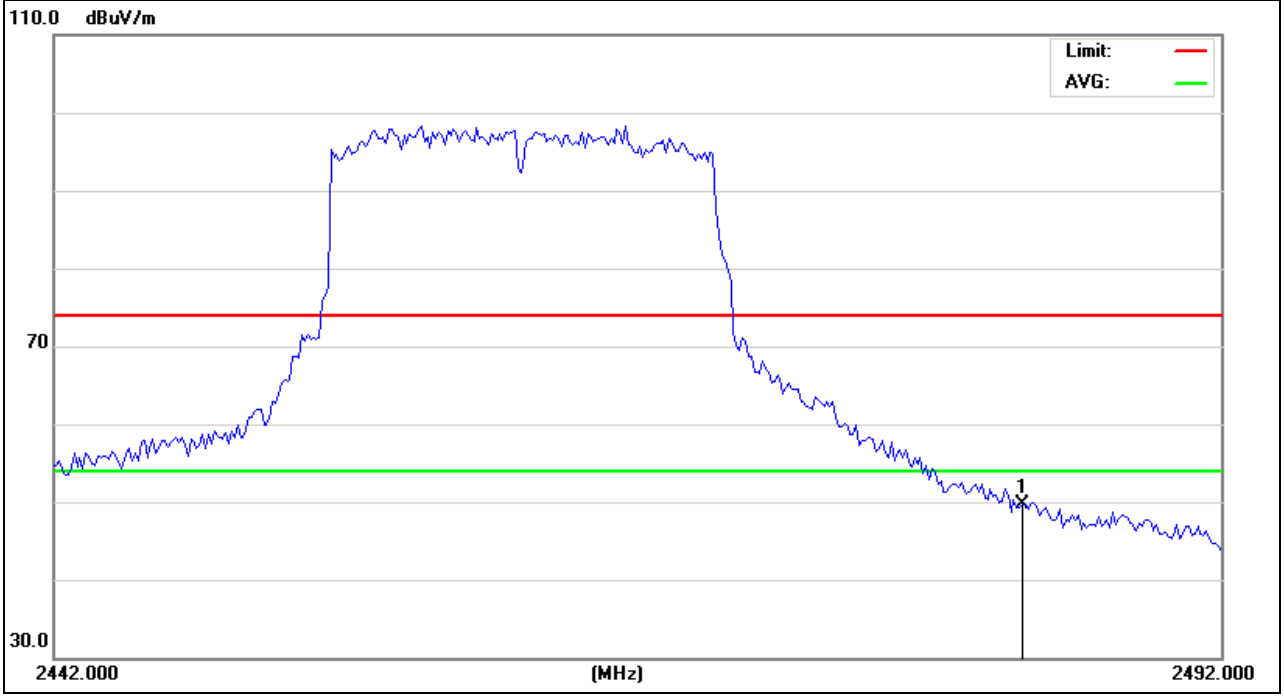
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH11(802.11N Mode)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	62.48	-12.78	49.7	74	-24.3	peak

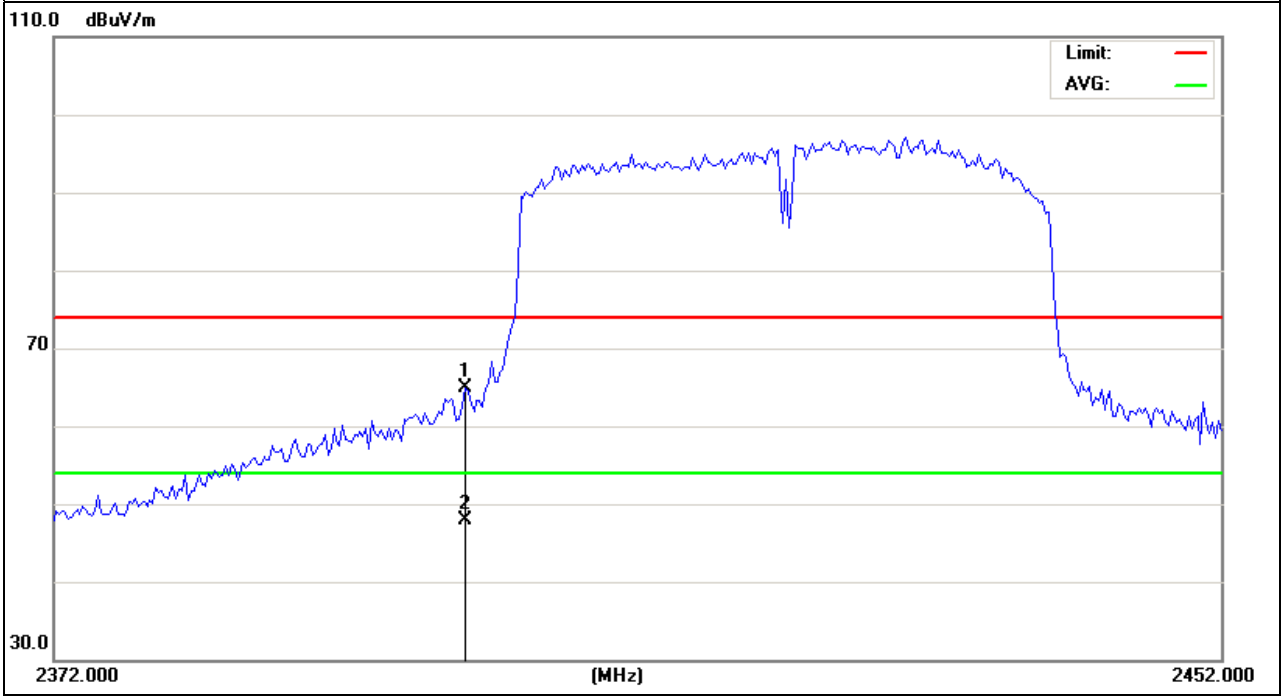
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	CH3(802.11n Mode)/40M	Polarization：	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2400	77.99	-12.99	65	74	-9	peak
2400	60.83	-12.99	47.84	54	-6.16	AVG

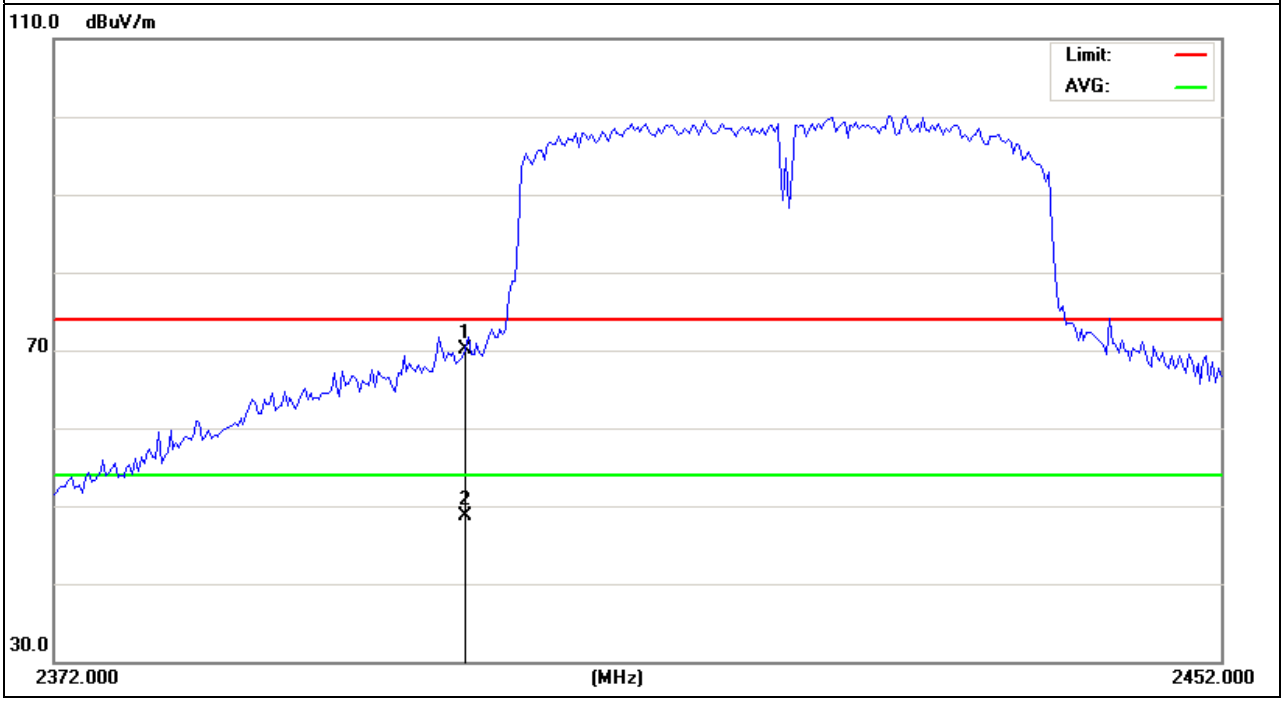
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
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	83.11	-12.99	70.12	74	-3.88	peak
2400	61.62	-12.99	48.63	54	-5.37	AVG

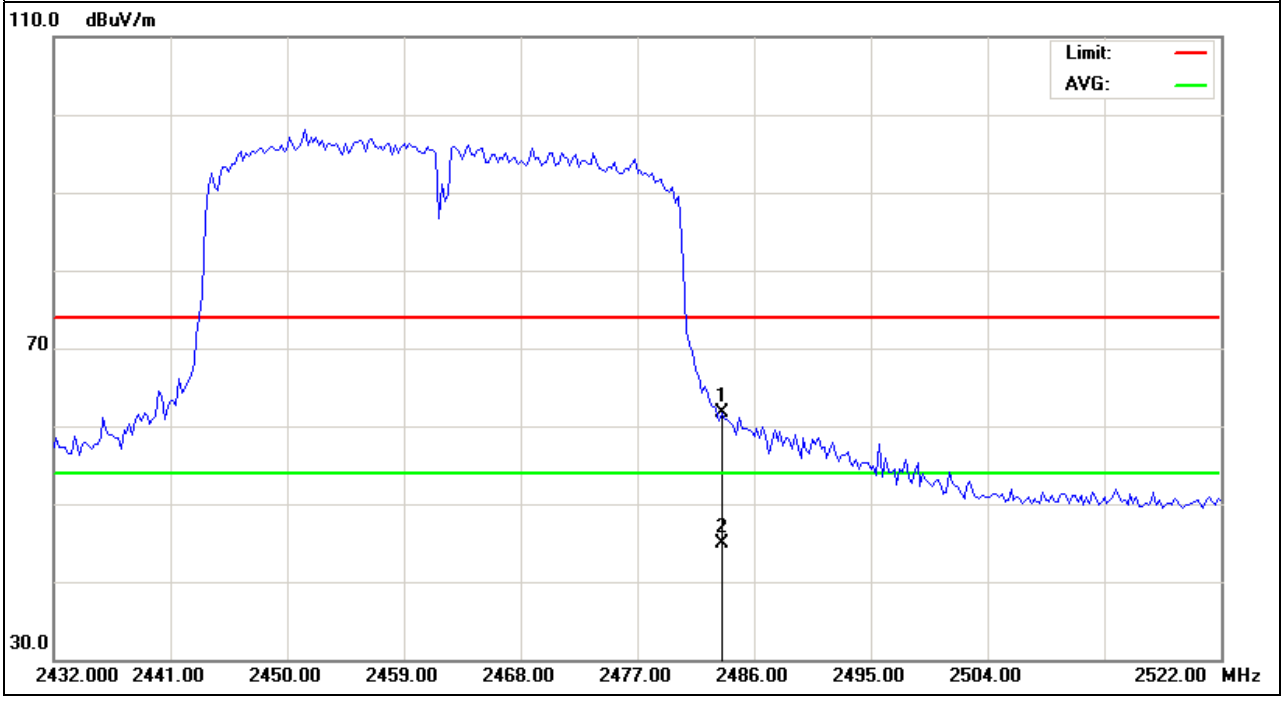
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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	74.58	-12.78	61.8	74	-12.2	peak
2483.5	57.78	-12.78	45	54	-9	AVG

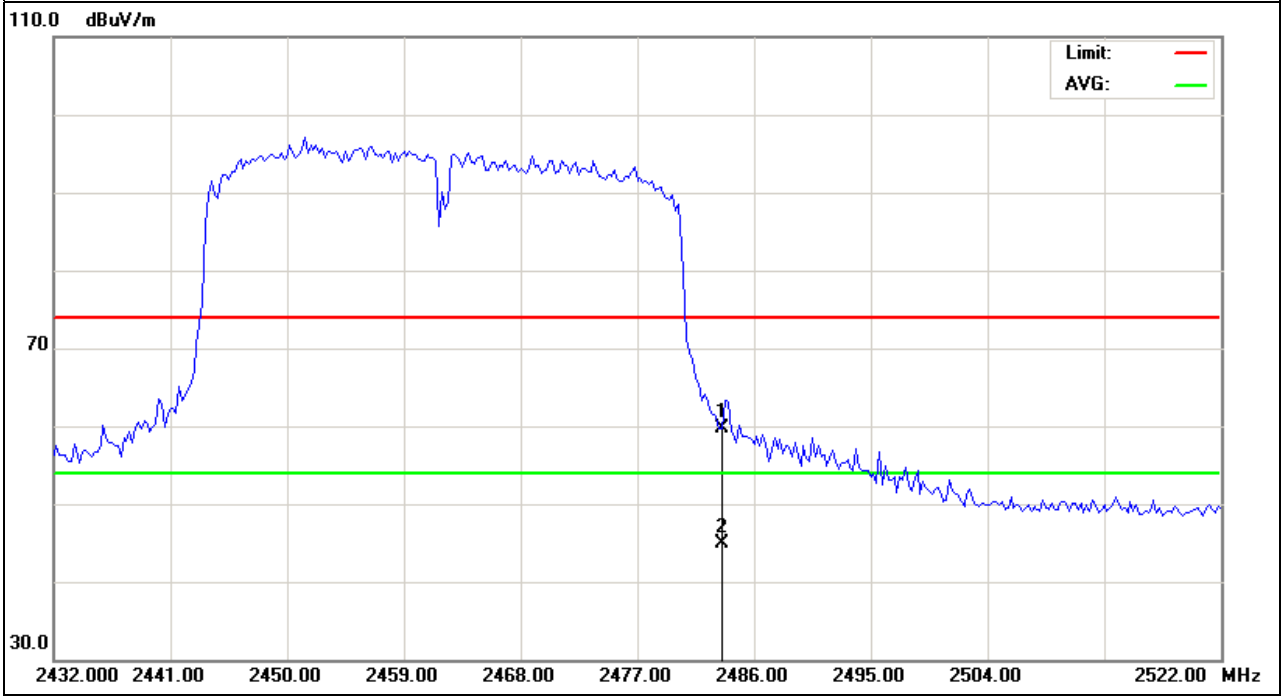
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT：	150M Wireless Router	Model Name ：	MTO-WN711SND
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5.0V
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	72.42	-12.78	59.64	74	-14.36	peak
2483.5	57.61	-12.78	44.83	54	-9.17	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

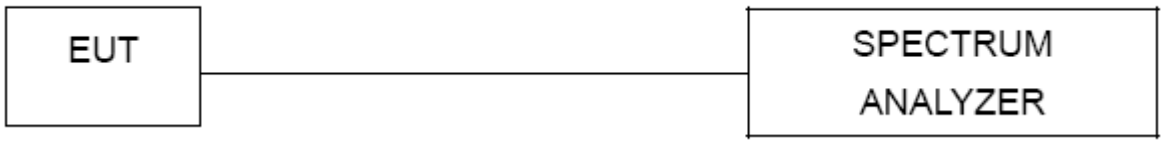
4.1.1 TEST PROCEDURE

1. The testing follows Measurement Procedure PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v01.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Record the measurement data derived from spectrum analyzer.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 KHz. Video bandwidth (VBW) >= 300 KHz In order to make an accurate measurement, set the span to 5-30% greater than Emission Bandwidth (EBW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
6. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log (3 kHz/100 kHz = -15.2 dB).

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

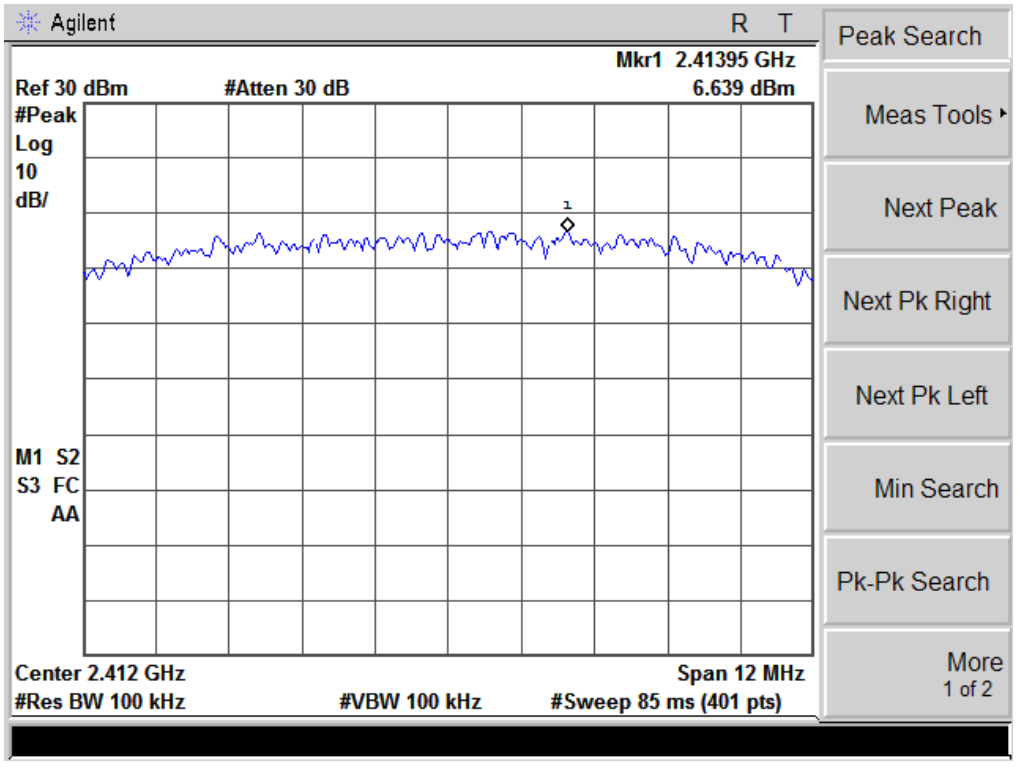
EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1015 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX b Mode /CH01, CH06, CH11		

Frequency	Power Density (dBm)	PSD/ 3KHz (dBm)	Limit (dBm)	Result
2412 MHz	6.64	-8.56	8	**PASS**
2437 MHz	6.06	-9.14	8	**PASS**
2462 MHz	5.21	-9.99	8	**PASS**

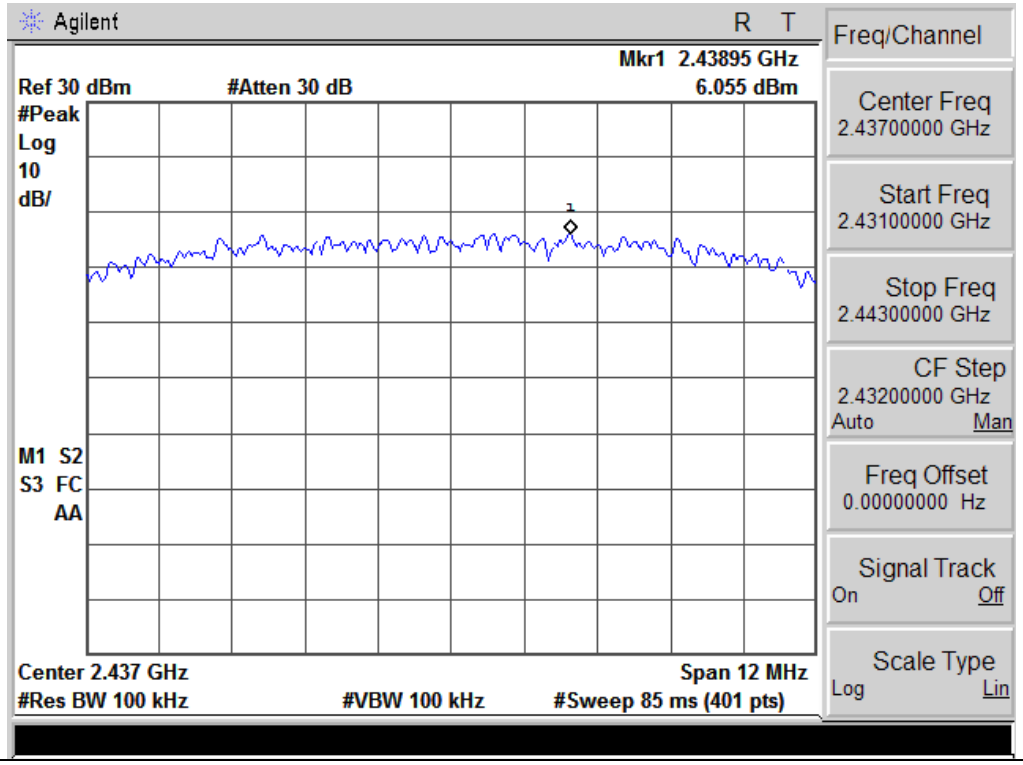
Note:

BWCF = 10log (3 kHz/100 kHz = -15.2 dB).

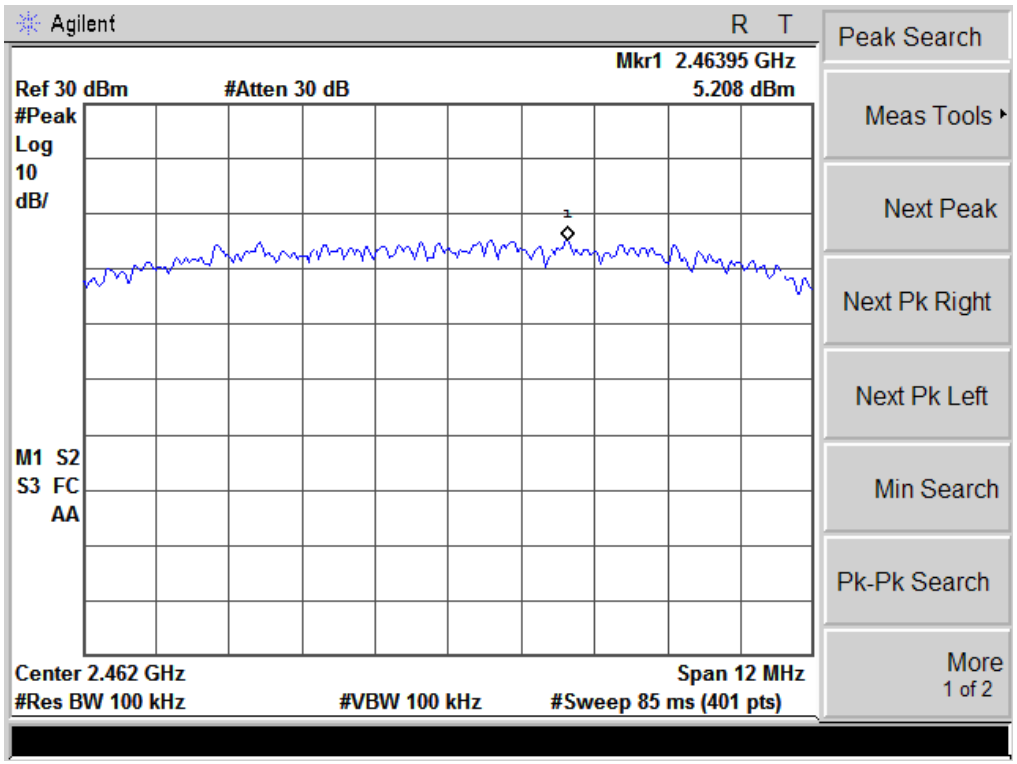
TX CH01



TX CH06



TX CH11



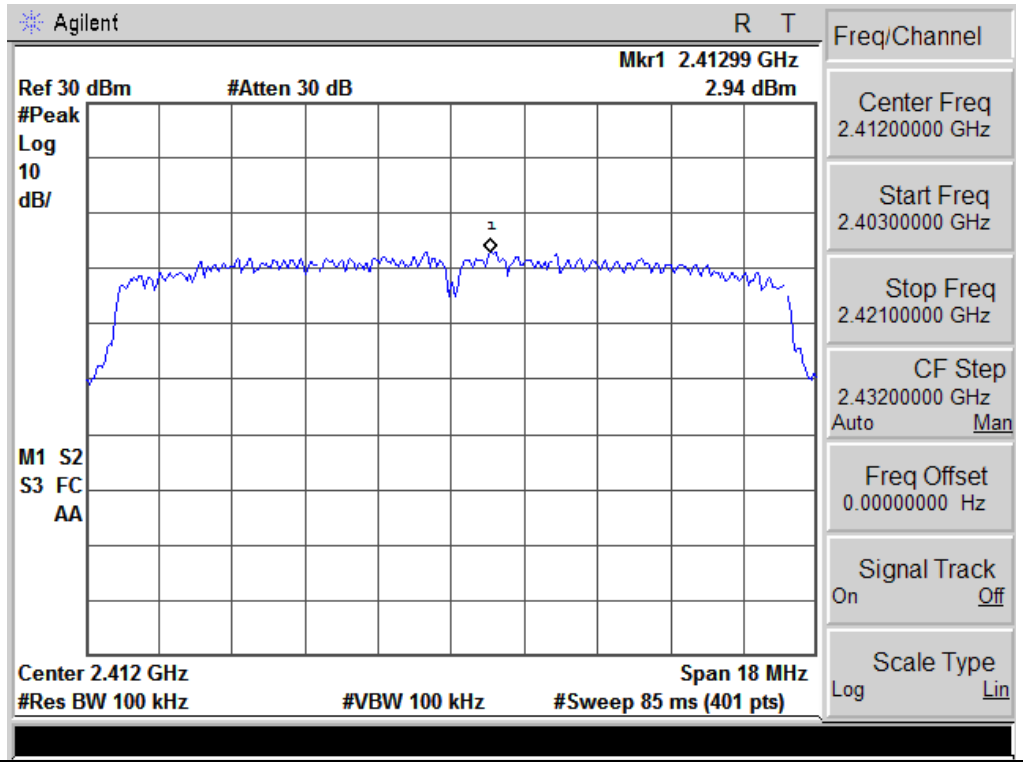
EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1015 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX g Mode /CH01, CH06, CH11		

Frequency	Power Density (dBm)	PSD/ 3KHz (dBm)	Limit (dBm)	Result
2412 MHz	2.94	-12.26	8	**PASS**
2437 MHz	2.00	-13.20	8	**PASS**
2462 MHz	1.83	-13.37	8	**PASS**

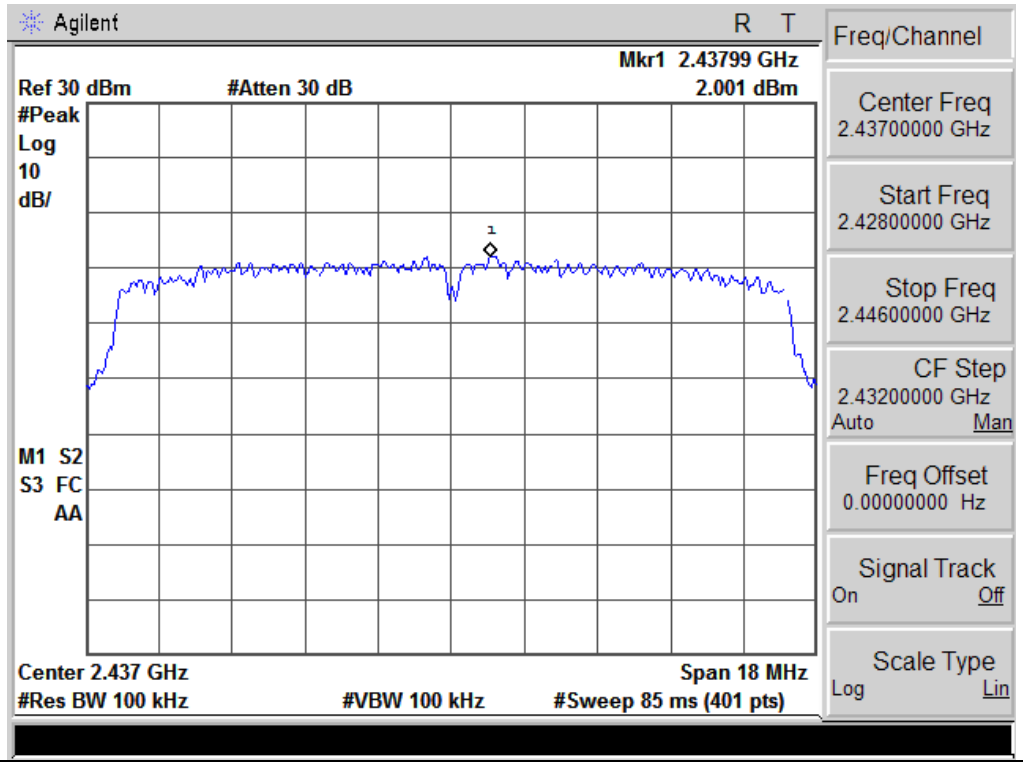
Note:

BWCF = 10log (3 kHz/100 kHz = -15.2 dB).

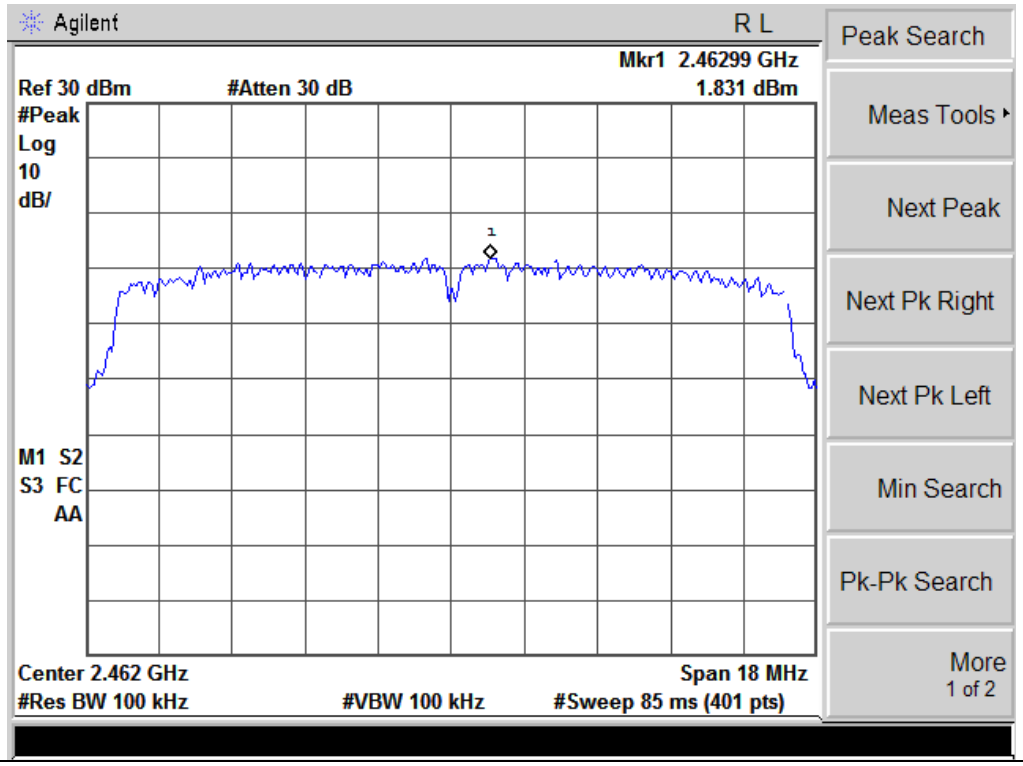
TX CH01



TX CH06



TX CH11



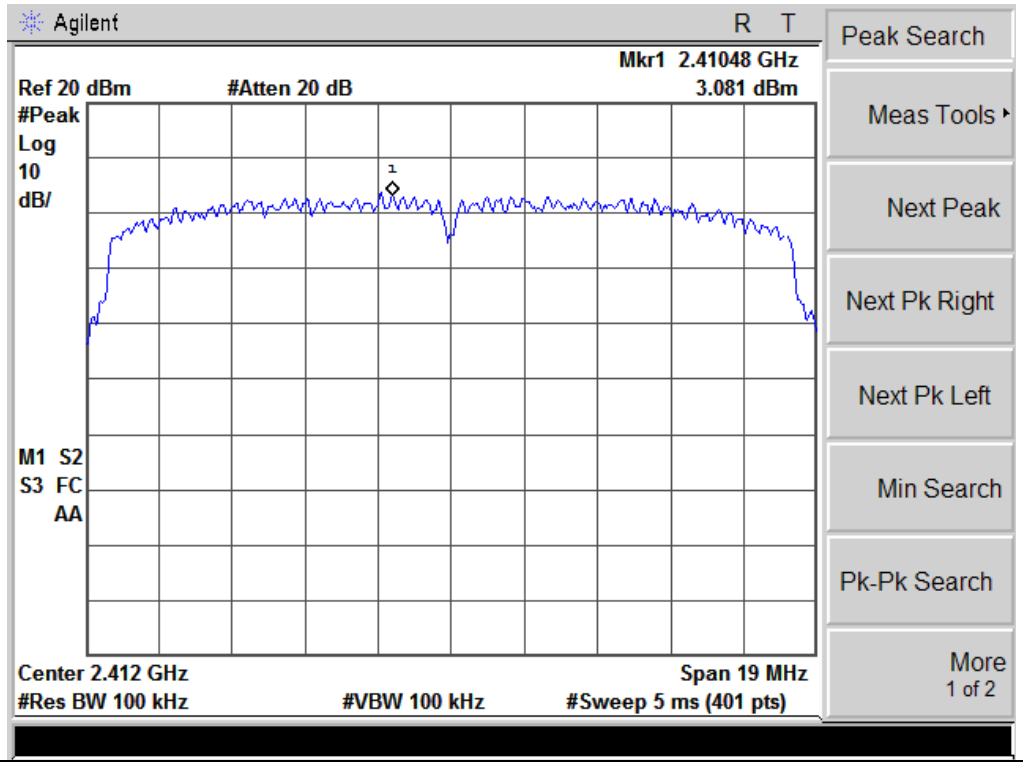
EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1015 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX n Mode(20M) /CH01, CH06, CH11		

Frequency	Power Density (dBm)	PSD/ 3KHz (dBm)	Limit (dBm)	Result
2412 MHz	3.08	-12.12	8	**PASS**
2437 MHz	2.74	-12.46	8	**PASS**
2462 MHz	2.40	-12.80	8	**PASS**

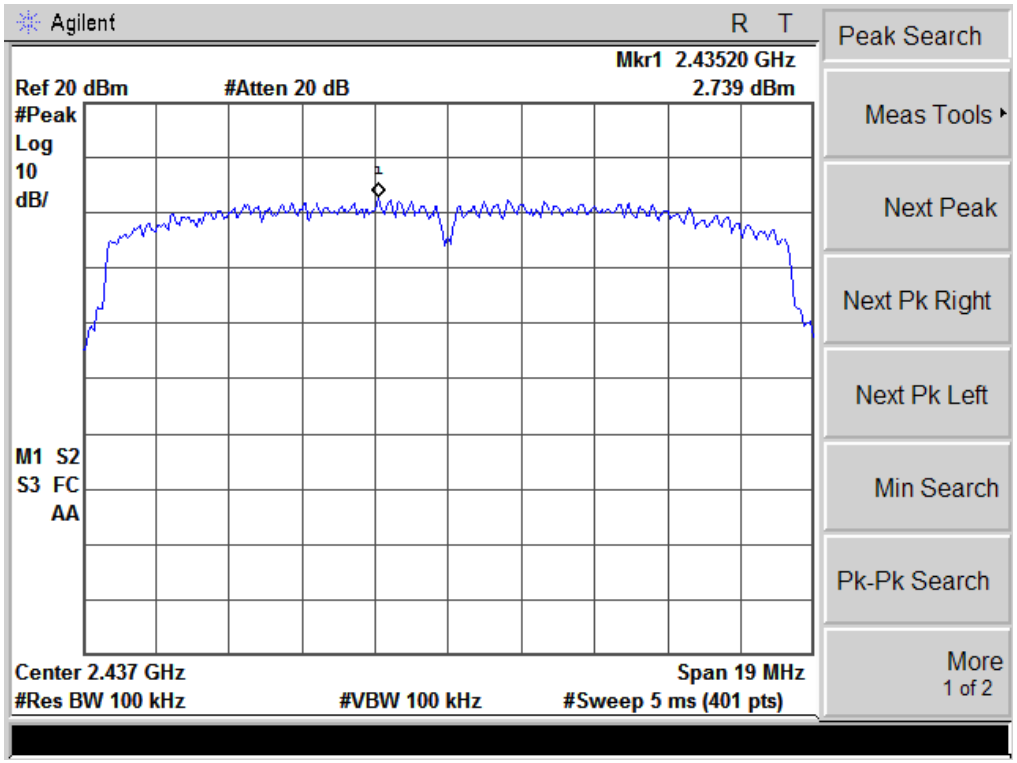
Note:

BWCF = 10log (3 kHz/100 kHz = -15.2 dB).

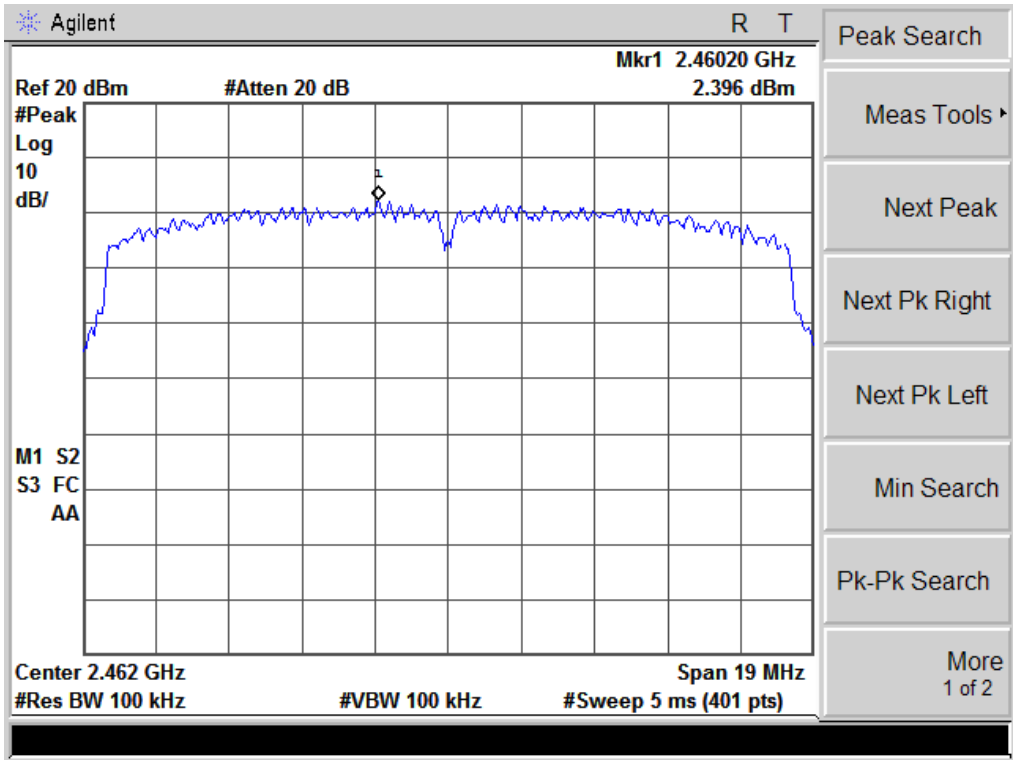
TX CH01



TX CH06



TX CH11



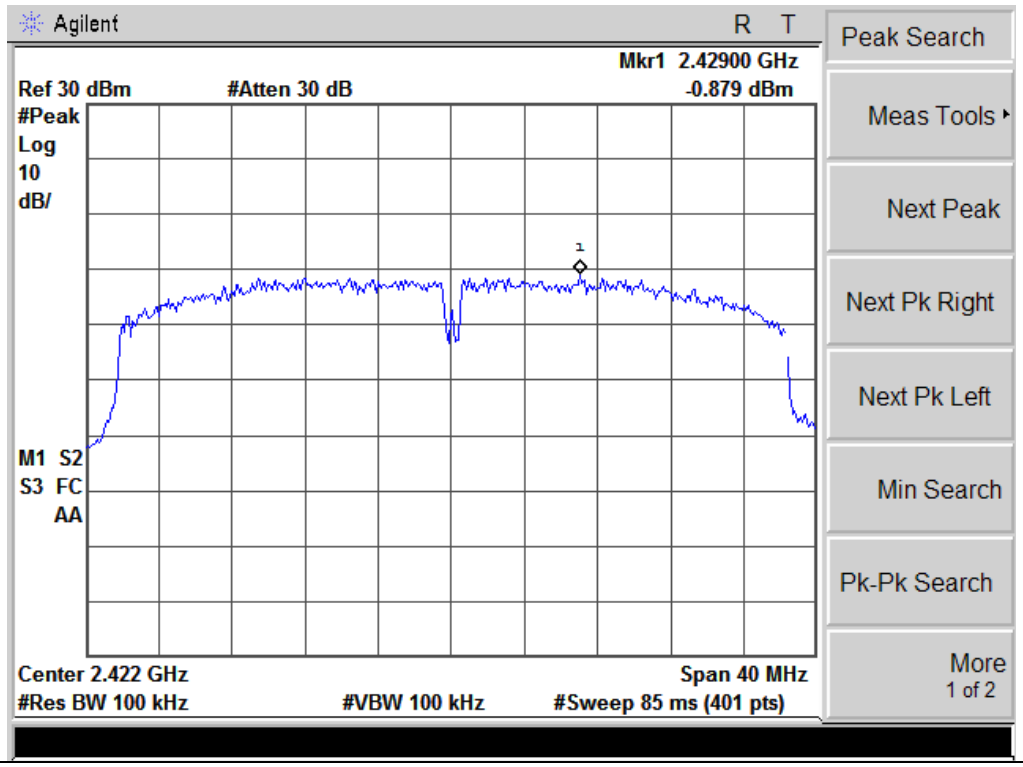
EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1015 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX n Mode(40M) /CH03, CH06, CH09		

Frequency	Power Density (dBm)	PSD/ 3KHz (dBm)	Limit (dBm)	Result
2422 MHz	-0.88	-16.08	8	PASS
2437 MHz	-1.01	-16.21	8	PASS
2452 MHz	-1.71	-16.91	8	PASS

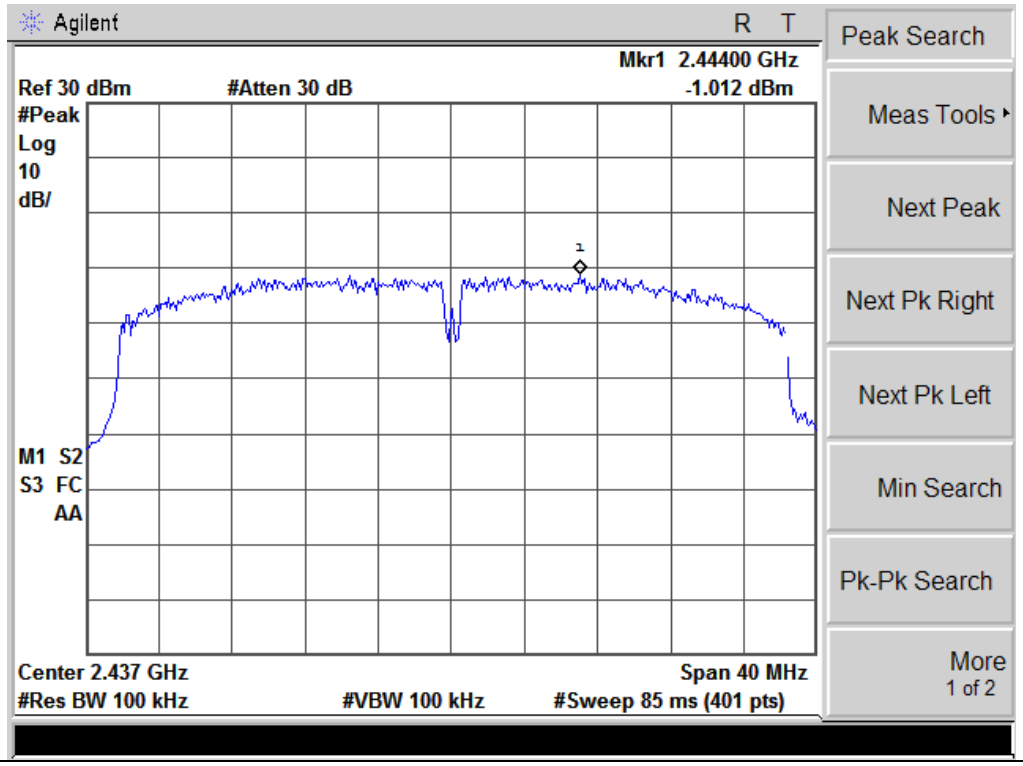
Note:

BWCF = 10log (3 kHz/100 kHz = -15.2 dB).

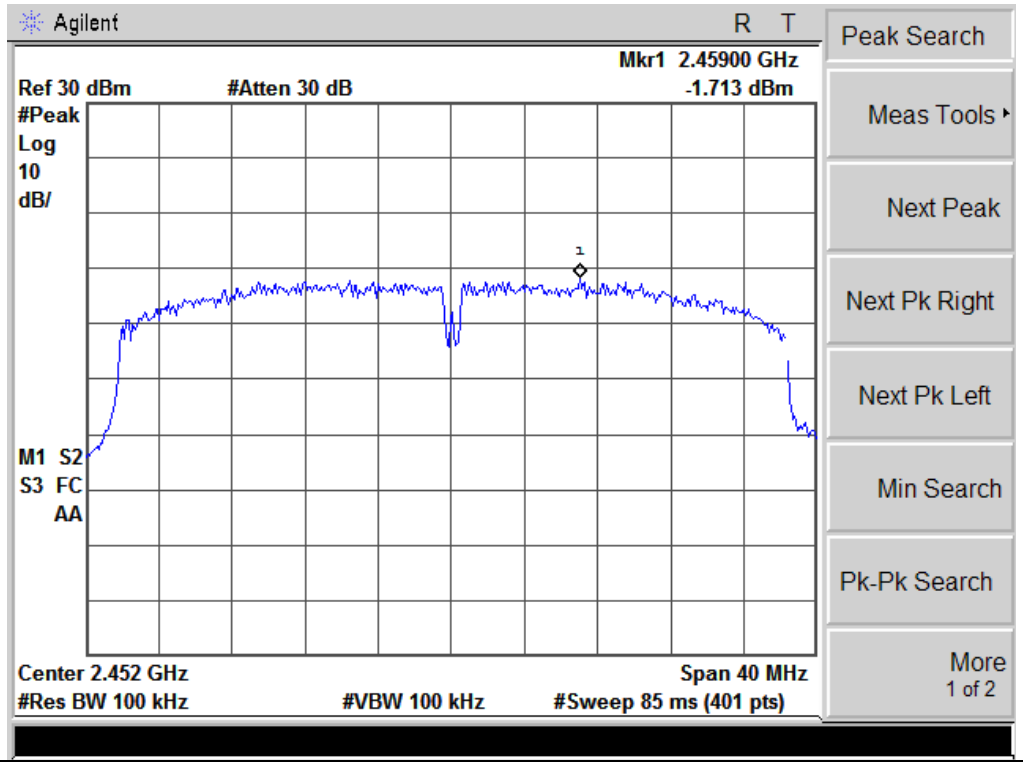
TX CH03



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. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v01.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1-5% of the emission bandwidth (EBW).Set the Video bandwidth (VBW) ≥ 3 * RBW. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

5.1.4 EUT OPERATION CONDITIONS

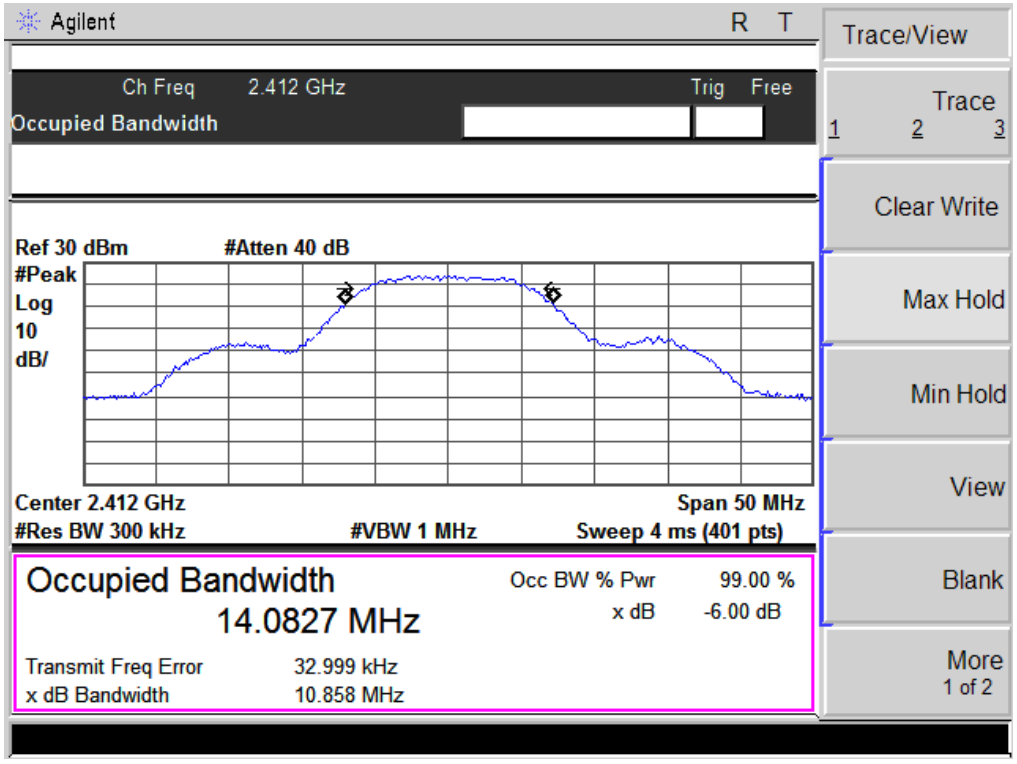
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 TEST RESULTS

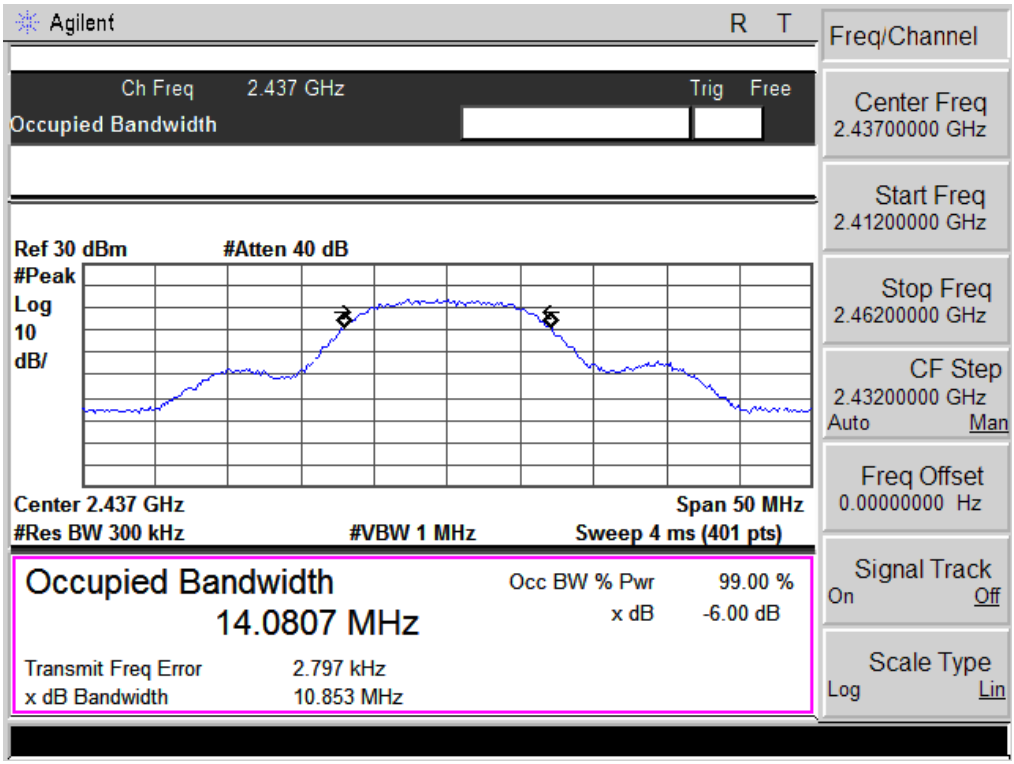
EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX b Mode /CH01, CH06, CH11		

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Channel Separation (MHz)	Result
2412 MHz	10.86	14.08	>=500KHz	**PASS**
2437 MHz	10.85	14.08	>=500KHz	**PASS**
2462 MHz	10.71	14.14	>=500KHz	**PASS**

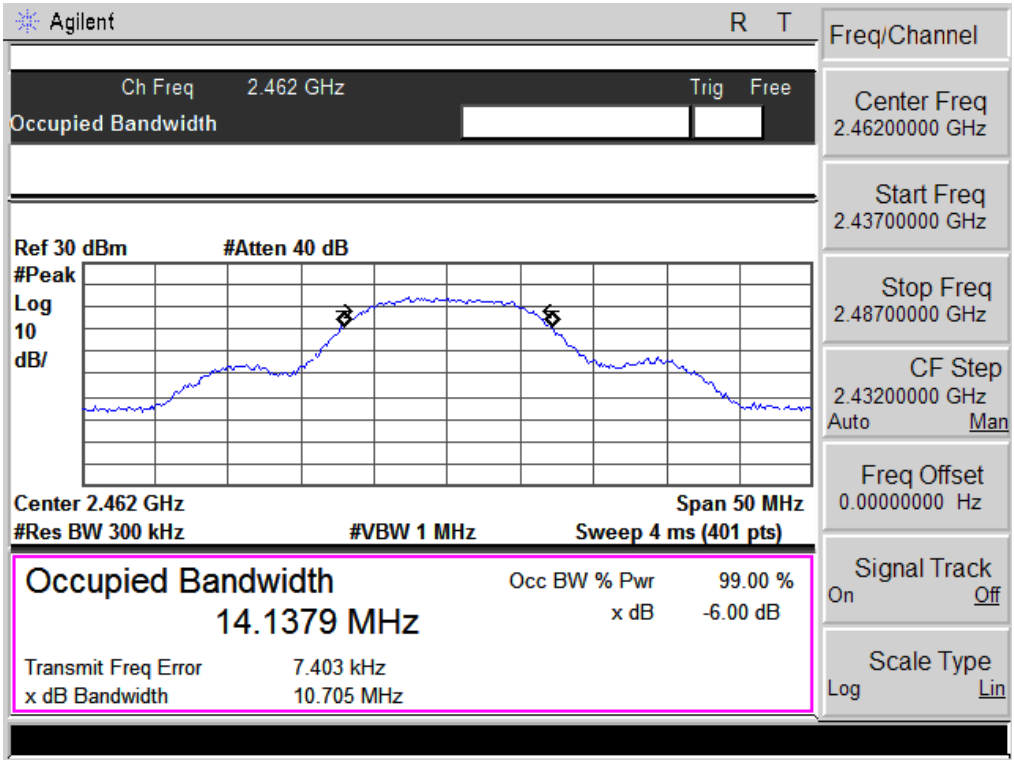
TX CH 01



TX CH 06



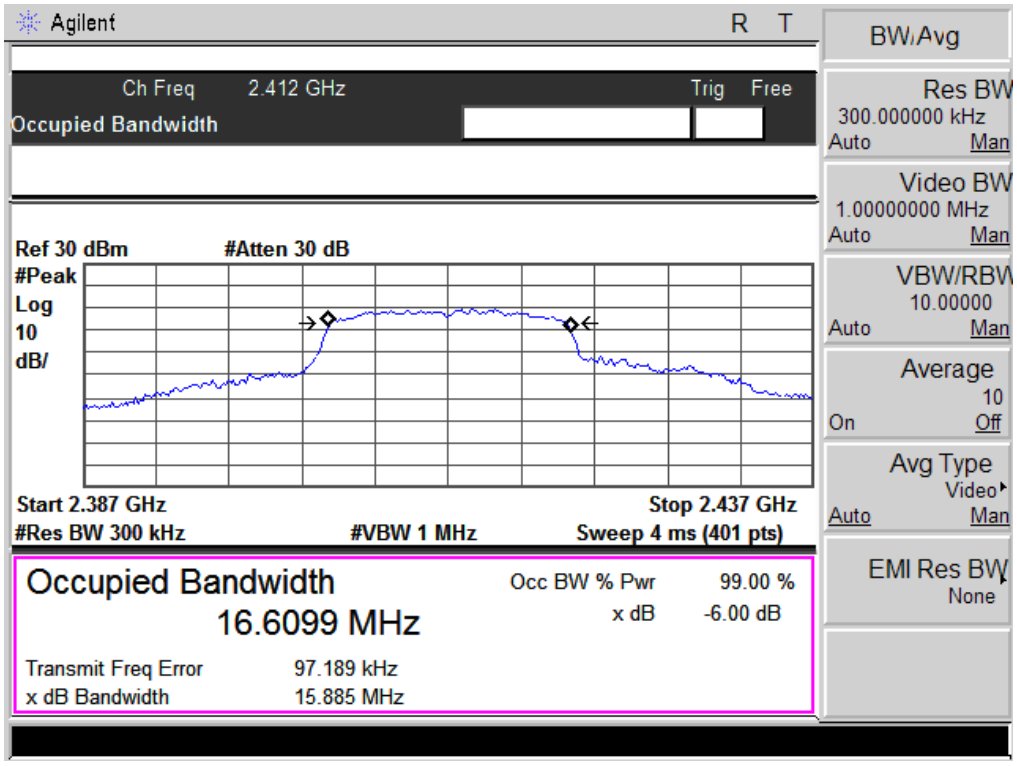
TX CH 11



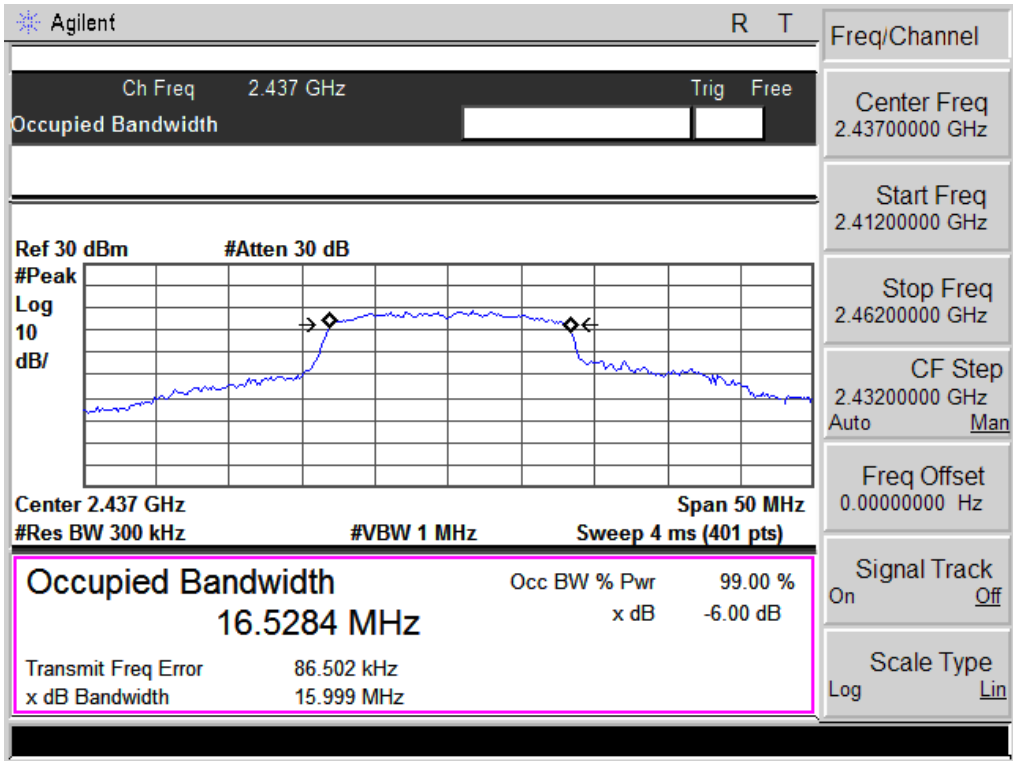
EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX g Mode /CH01, CH06, CH11		

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Channel Separation (MHz)	Result
2412 MHz	15.89	16.61	>=500KHz	**PASS**
2437 MHz	16.00	16.53	>=500KHz	**PASS**
2462 MHz	15.47	16.36	>=500KHz	**PASS**

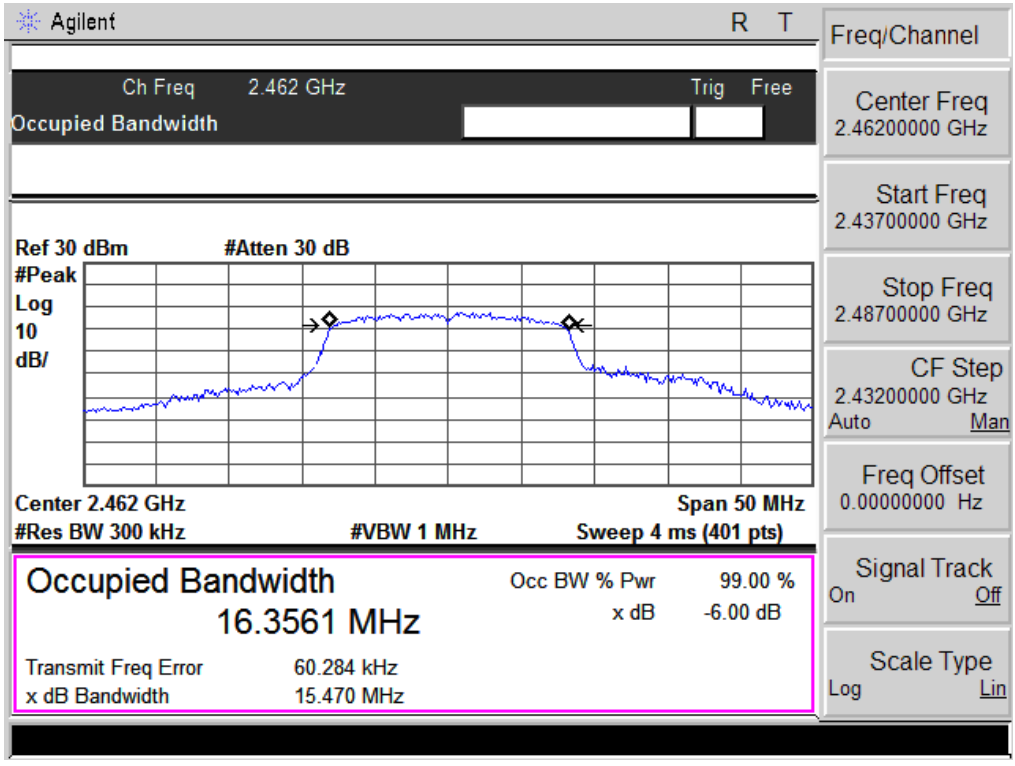
TX CH 01



TX CH 06



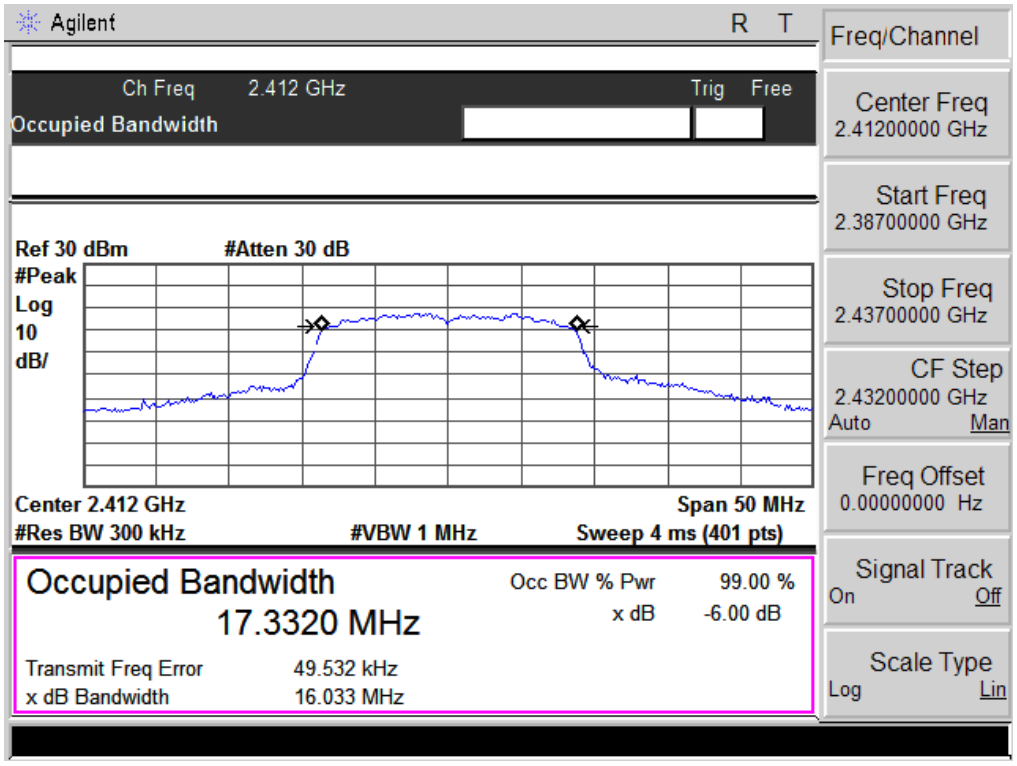
TX CH 11



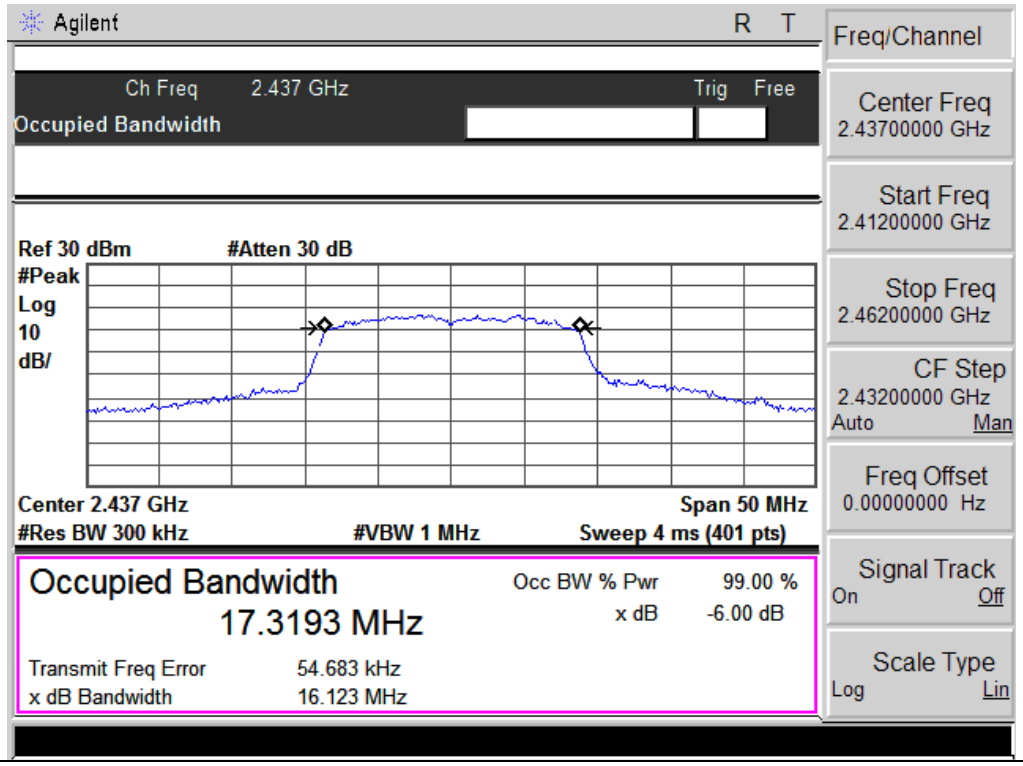
EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX n Mode(20M) /CH01, CH06, CH11		

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Channel Separation (MHz)	Result
2412 MHz	16.03	17.33	>=500KHz	**PASS**
2437 MHz	16.12	17.32	>=500KHz	**PASS**
2462 MHz	16.02	17.31	>=500KHz	**PASS**

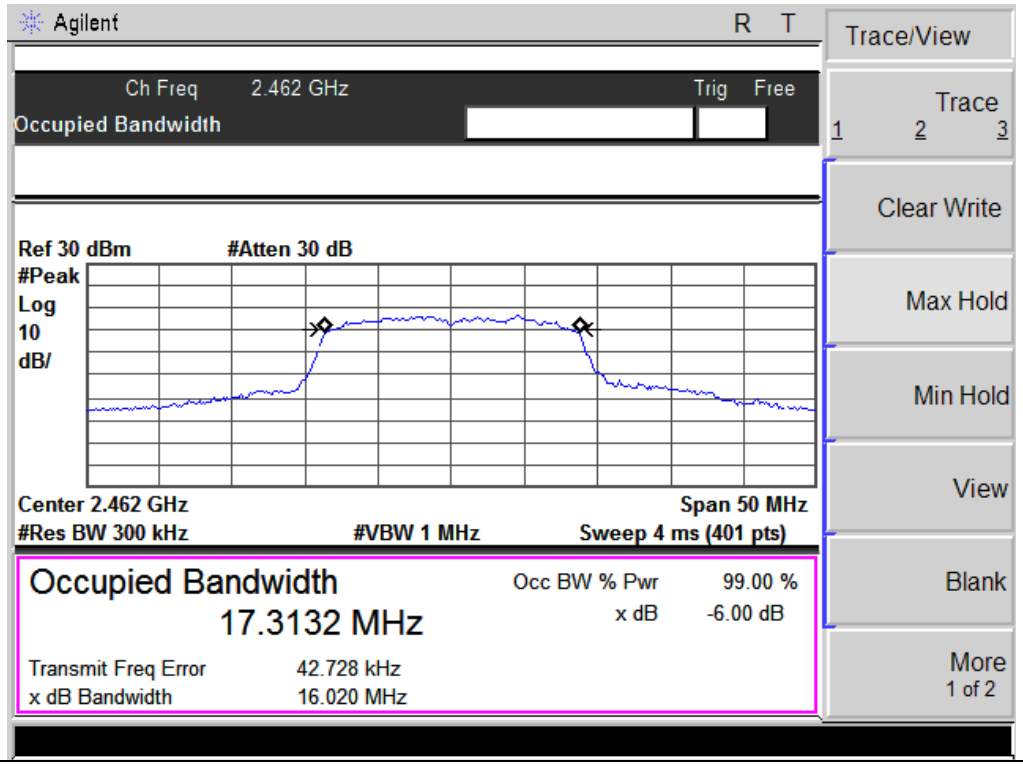
TX CH 01



TX CH 06



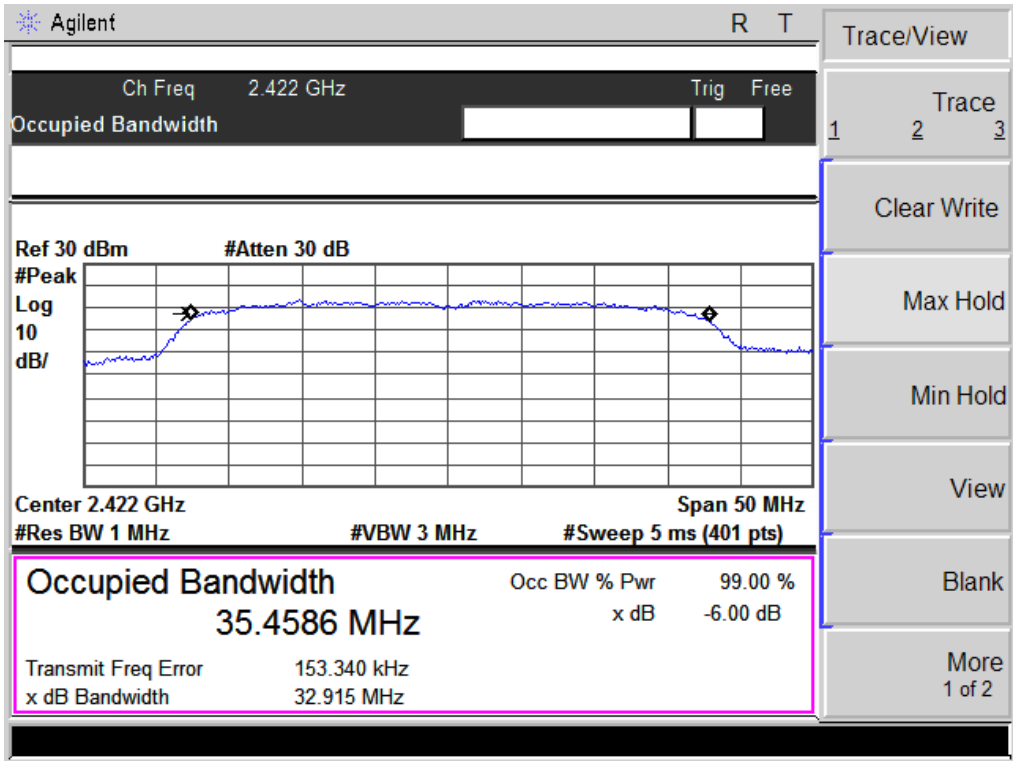
TX CH 11



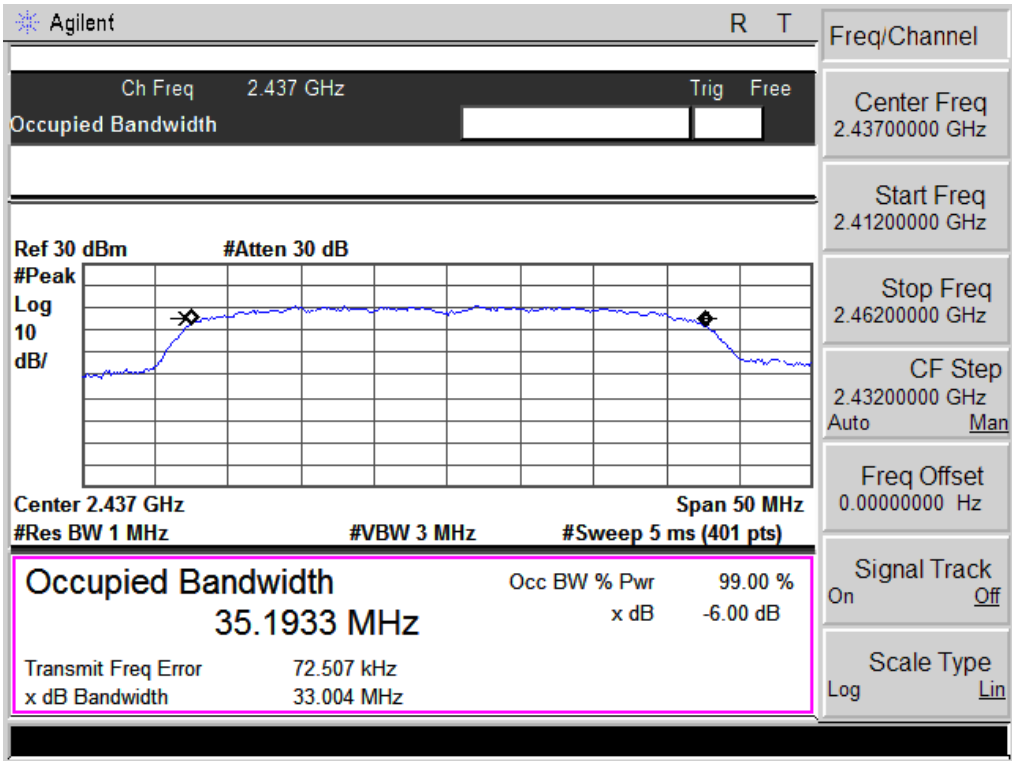
EUT：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX n Mode(40M) /CH03, CH06, CH09		

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Channel Separation (MHz)	Result
2422 MHz	32.92	35.46	>=500KHz	**PASS**
2437 MHz	33.00	35.19	>=500KHz	**PASS**
2452 MHz	32.86	35.12	>=500KHz	**PASS**

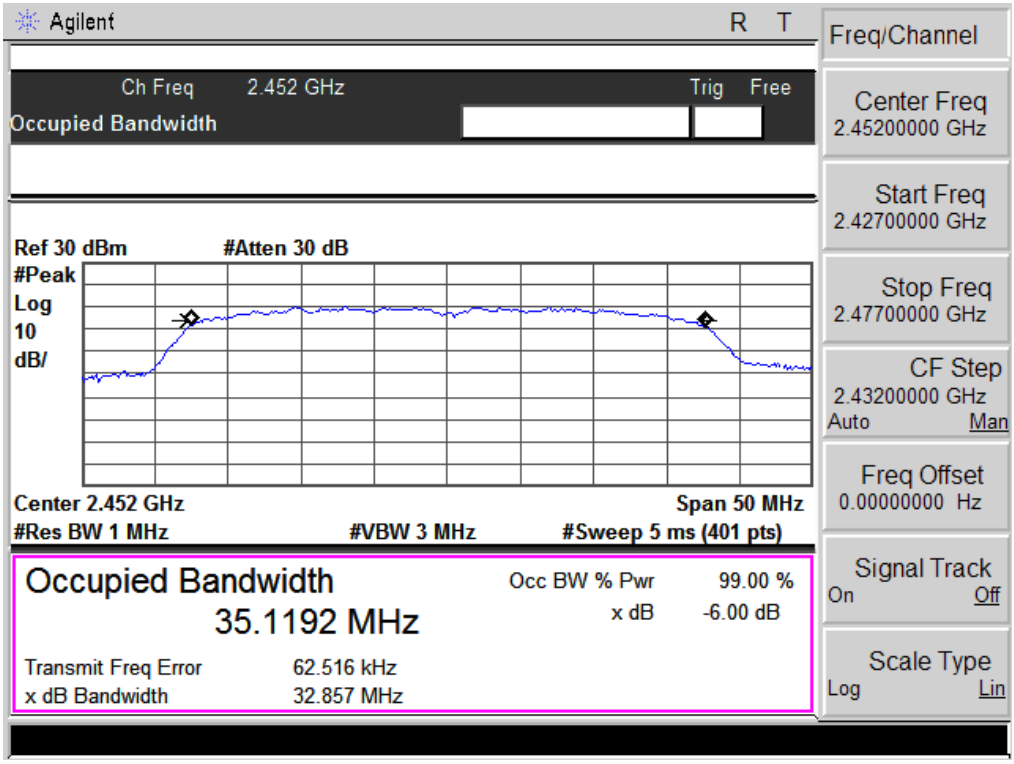
TX CH 03



TX CH 06



TX CH 09



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

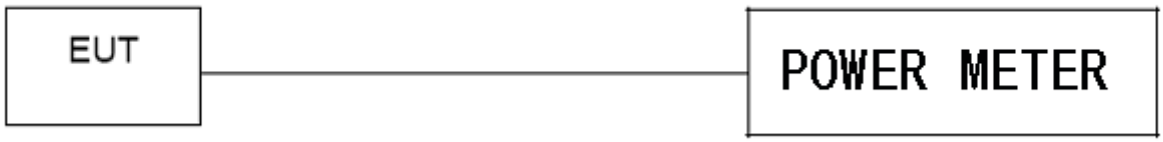
6.1.1 TEST PROCEDURE

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：	150M Wireless Adaptor	Model Name ：	MTO-WN711SND
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 5.0V
Test Mode ：	TX b/g/n(20M,40M) Mode /CH01, CH06, CH11		

TX 802.11b Mode			
Test Channe	Frequency (MHz)	Peak output power. Antenna port (dBm)	LIMIT dBm
CH01	2412	22.95	30
CH06	2437	22.64	30
CH11	2462	22.76	30
TX 802.11g Mode			
CH01	2412	20.88	30
CH06	2437	20.67	30
CH11	2462	20.79	30
TX 802.11n/20M Mode			
CH01	2412	19.86	30
CH06	2437	19.75	30
CH11	2462	19.52	30
TX 802.11n/40M Mode			
CH03	2422	19.79	30
CH06	2437	19.54	30
CH11	2452	19.63	30

7. ANTENNA REQUIREMENT

7.1 STANDARD REQUIREMENT

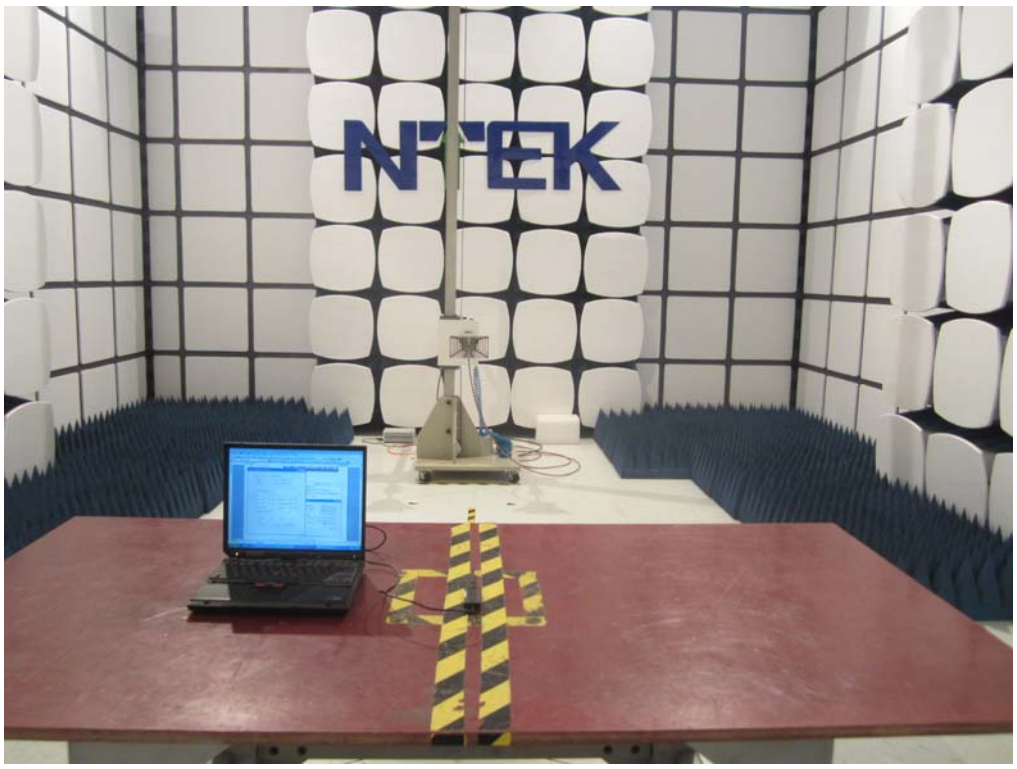
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

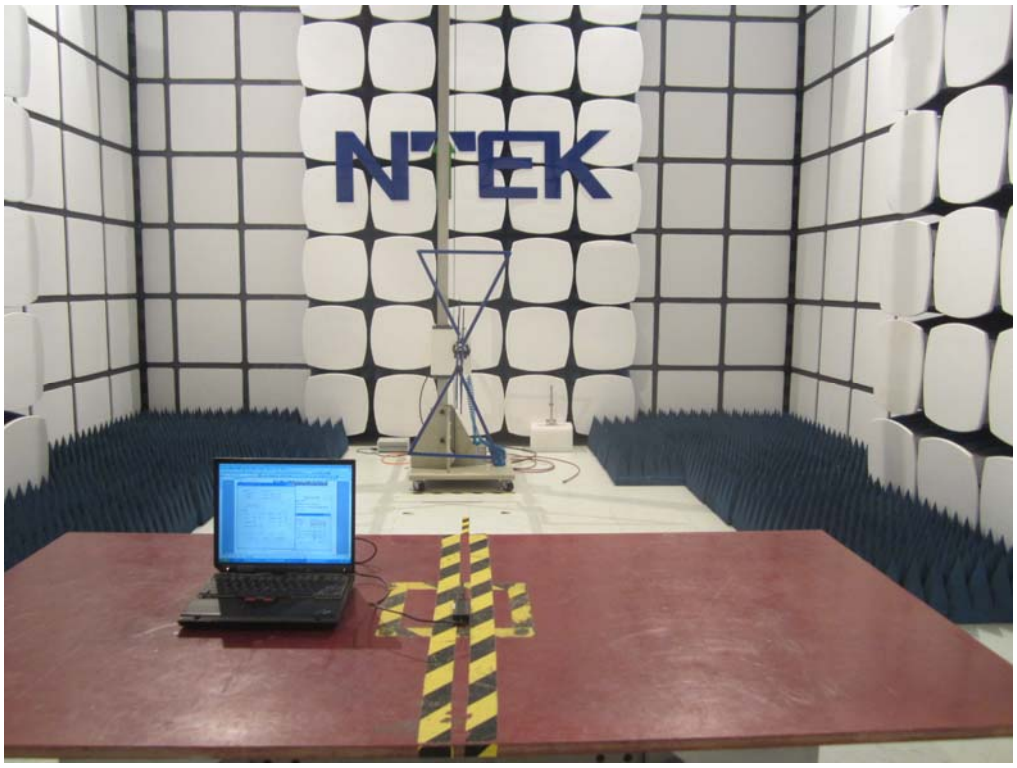
7.2 EUT ANTENNA

The EUT antenna is Integrated antenna(Reserve SMA-type). It comply with the standard requirement.

8. EUT TEST PHOTO

Radiated Measurement Photos





Conducted Measurement Photos