



FCC RADIO TEST REPORT

FCC ID: 2AAZKARG-MS-0032

Product : WIRELESS MOUSE

Trade Name : N/A

Model Name : ARG-MS-0032

Serial Model : RF-8193,RF-8155,RF-8160,RF-8152,RF-8151,RF-8162

Report No. : NTEK-2013NT0909159

Prepared for

Shenzhen Cycer Innovation Technology Co.,Ltd.
4/F, Block 15-2, Chuangye Industrial Area,Shapuwei, SongGang,
ShenZhen, China

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.
1/F, Building E, Fenda Science Park, Sanwei Community,Xixiang Street
Bao'an District, Shenzhen P.R. China
Tel.: +86-0755-61156588 Fax.: +86-0755-61156599
Website:www.ntek.org.cn

TEST RESULT CERTIFICATION**Applicant's name** Shenzhen Cycer Innovation Technology Co.,Ltd.Address 4/F, Block 15-2, Chuangye Industrial Area, Shapuwei, SongGang,
ShenZhen, China**Manufacture's Name** Shenzhen Cycer Innovation Technology Co.,Ltd.Address 4/F, Block 15-2, Chuangye Industrial Area, Shapuwei, SongGang,
ShenZhen, China**Product description**

Product name WIRELESS MOUSE

Model and/or type reference ARG-MS-0032

Serial Model : RF-8193, RF-8155, RF-8160, RF-8152, RF-8151, RF-8162

Standards FCC Part15.249

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.

This report shall not be reproduced except in full, without the written approval of NTEK, this document may be altered or revised by NTEK, personal only, and shall be noted in the revision of the document.

Date of Test

Date (s) of performance of tests 17 Aug. 2013 ~11 Sep. 2013

Date of Issue 12 Sep. 2013

Test Result **Pass**

Testing Engineer : Apple Huang
(Apple Huang)

Technical Manager : Brown Lu
(Brown Lu)

Authorized Signatory : Bovey Yang
(Bovey Yang)

Table of Contents	Page
1 . SUMMARY OF TEST RESULTS	4
1.1 TEST FACILITY	5
1.2 MEASUREMENT UNCERTAINTY	5
2 . GENERAL INFORMATION	6
2.1 GENERAL DESCRIPTION OF EUT	6
2.2 DESCRIPTION OF TEST MODES	8
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	9
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	10
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	11
3 . ANTENNA REQUIREMENT	12
3.1 STANDARD REQUIREMENT	12
3.2 EUT ANTENNA	12
3.3 CONDUCTED EMISSION MEASUREMENT	13
3.3.1 POWER LINE CONDUCTED EMISSION LIMITS	13
3.3.2 TEST PROCEDURE	14
3.3.3 DEVIATION FROM TEST STANDARD	14
3.3.4 TEST SETUP	14
3.2.5 TEST RESULT	15
3.4 RADIATED EMISSION MEASUREMENT	15
3.4.1 RADIATED EMISSION LIMITS	15
3.4.2 TEST PROCEDURE	16
3.4.3 DEVIATION FROM TEST STANDARD	16
3.4.4 TEST SETUP	17
3.4.5 TEST RESULTS (BELOW 30MHZ)	19
3.4.6 TEST RESULTS (BETWEEN 30 – 1000 MHZ)	20
3.4.7 TEST RESULTS (ABOVE 1000 MHZ)	22
3.4.8 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)	28
4 . BANDWIDTH TEST	32
4.1 TEST PROCEDURE	32
4.2 DEVIATION FROM STANDARD	32
4.3 TEST SETUP	32
4.4 TEST RESULTS	33
5 . EUT TEST PHOTO	36
APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C (15.249)			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	
15.203	Antenna Requirement	Pass	
15.249	Radiated Spurious Emission	Pass	
15.205	Band Edge Emission	Pass	
15.249	Occupied Bandwidth	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	WIRELESS MOUSE	
Trade Name	N/A	
Model Name	ARG-MS-0032	
Serial Model	RF-8193,RF-8155,RF-8160,RF-8152,RF-8151,RF-8162	
Model Difference	All the models are the same circuit and RF module, except the model names.	
Product Description	The EUT is a WIRELESS MOUSE	
	Operation Frequency:	2402~2480MHz
	Modulation Type:	DSSS, OQPSK
	Antenna Designation:	PCB Antenna
	Antenna Gain(Peak)	0.25 dBi
	EIRP	73.68dBμV/m
	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.	
Adapter	N/A	
Battery	1.5V* "AAA" alkaline battery	

Note:

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

2.

Channel	Frequency (MHz)
Lowest	2402
...
Middle	2440
...	...
Highest	2480

3.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	PCB Antenna	N/A	0.25	Antenna

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly 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	Link Mode
Mode 2	TX Lowest
Mode 3	TX Middle
Mode 4	TX Highest

For Conducted Emission	
Final Test Mode	Description
Mode 1	Link Mode

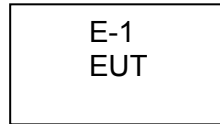
For Radiated Emission	
Final Test Mode	Description
Mode 1	Link Mode
Mode 2	TX Lowest
Mode 3	TX Middle
Mode 4	TX Highest

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The EUT use new battery.

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission And 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	Brand	Model/Type No.	Series No.	Note
E-1	WIRELESS MOUSE	N/A	ARG-MS-0032	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

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	2013.07.06	2014.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2013.06.07	2014.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2013.07.06	2014.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2013.06.07	2014.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2013.06.07	2014.06.06	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2013.07.06	2014.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2013.07.06	2014.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2012.12.22	2013.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2013.06.08	2014.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2013.07.06	2014.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2013.07.06	2014.07.05	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	2013.06.06	2014.06.05	1 year
2	LISN	R&S	ENV216	101313	2013.06.07	2014.06.06	1 year
3	LISN	EMCO	3816/2	00042990	2013.06.07	2014.06.06	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2013.06.07	2014.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2013.06.07	2014.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2013.06.08	2014.06.07	1 year

3. ANTENNA REQUIREMENT

3.1 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.

3.2 EUT ANTENNA

The EUT antenna is integral Antenna. It comply with the standard requirement.

3.3 CONDUCTED EMISSION MEASUREMENT

3.3.1 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			66 - 56 *	56 - 46 *	CISPR
0.50 -5.0			56.00	46.00	CISPR
5.0 -30.0			60.00	50.00	CISPR

0.15 -0.5			66 - 56 *	56 - 46 *	LP002.
0.50 -5.0			56.00	46.00	LP002.
5.0 -30.0			60.00	50.00	LP002.

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

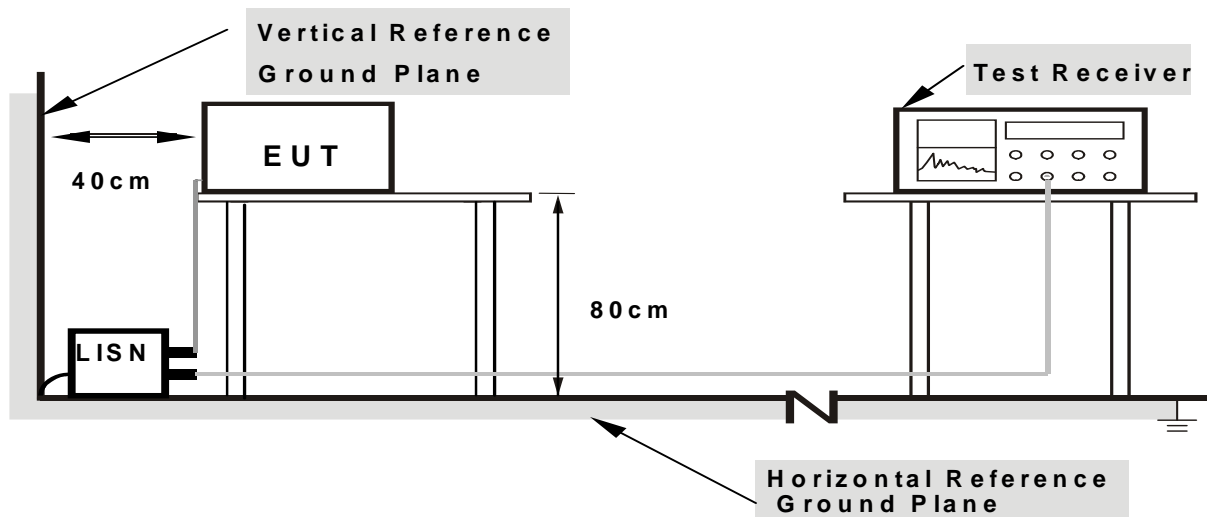
3.3.2 TEST PROCEDURE

- The EUT was placed 0.8 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.
- 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.
- 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.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3.3 DEVIATION FROM TEST STANDARD

No deviation

3.3.4 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 cm from other units and other metal planes

3.2.5 TEST RESULT

EUT :	WIRELESS MOUSE	Model Name. :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	N/A
Test Mode :	N/A	Phase :	L

EUT :	WIRELESS MOUSE	Model Name. :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	N/A
Test Mode :	N/A	Phase :	N

3.4 RADIATED EMISSION MEASUREMENT

3.4.1 Radiated Emission Limits (FCC 15.209)

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

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.249)

Frequency of Emission (MHz)	Field Strength of fundamental ((millivolts /meter)	Field Strength of Harmonics (microvolts/meter)
2400 - 2483.5	50	500

Notes:

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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz

Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak

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

3.4.2 TEST PROCEDURE

- 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.
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- 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.
- 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.
- 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.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

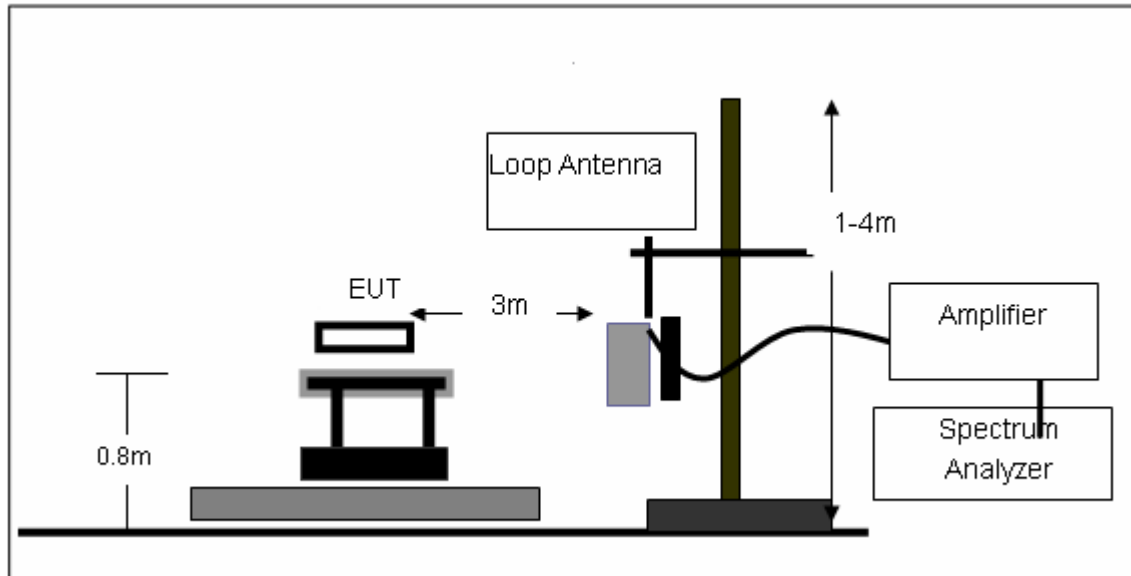
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.4.3 DEVIATION FROM TEST STANDARD

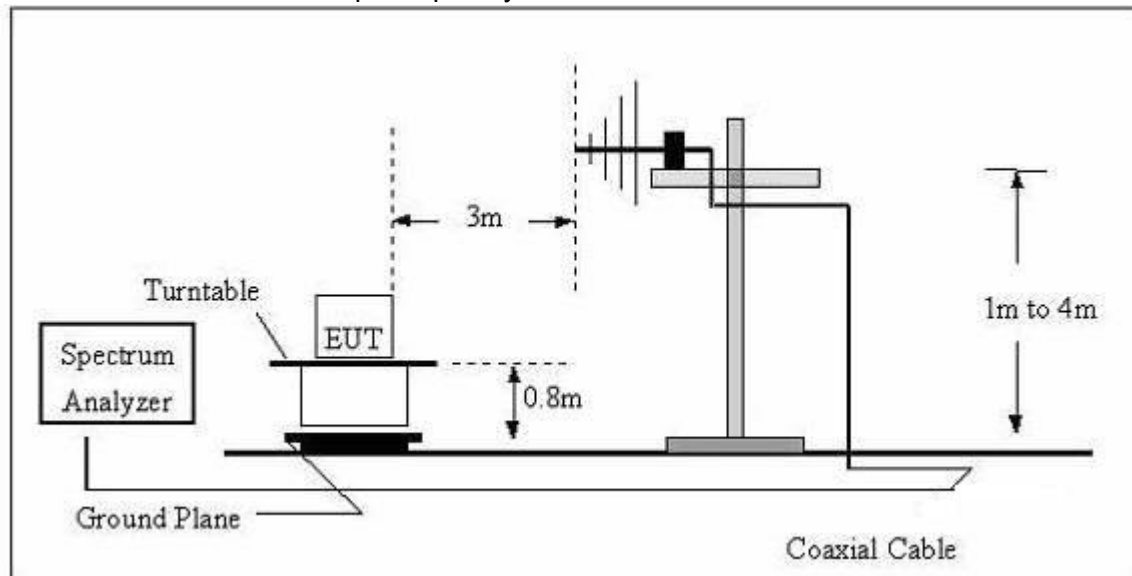
No deviation

3.4.4 TEST SETUP

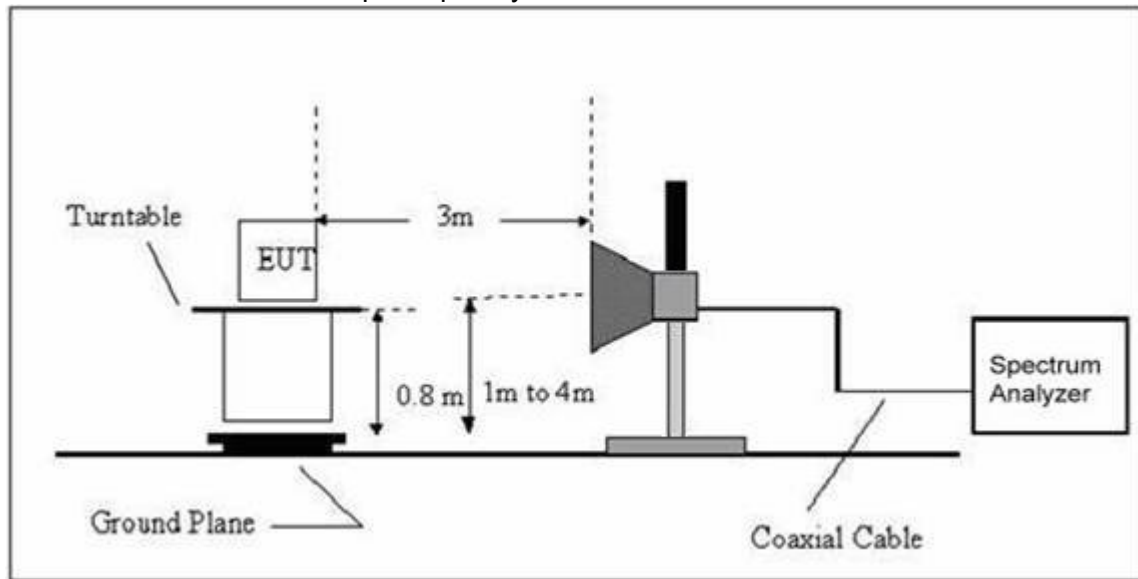
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



3.4.5 TEST RESULTS (BELOW 30MHz)

EUT :	WIRELESS MOUSE	Model Name. :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
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 = $20 \log (\text{specific distance}/\text{test distance})$ (dB);

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

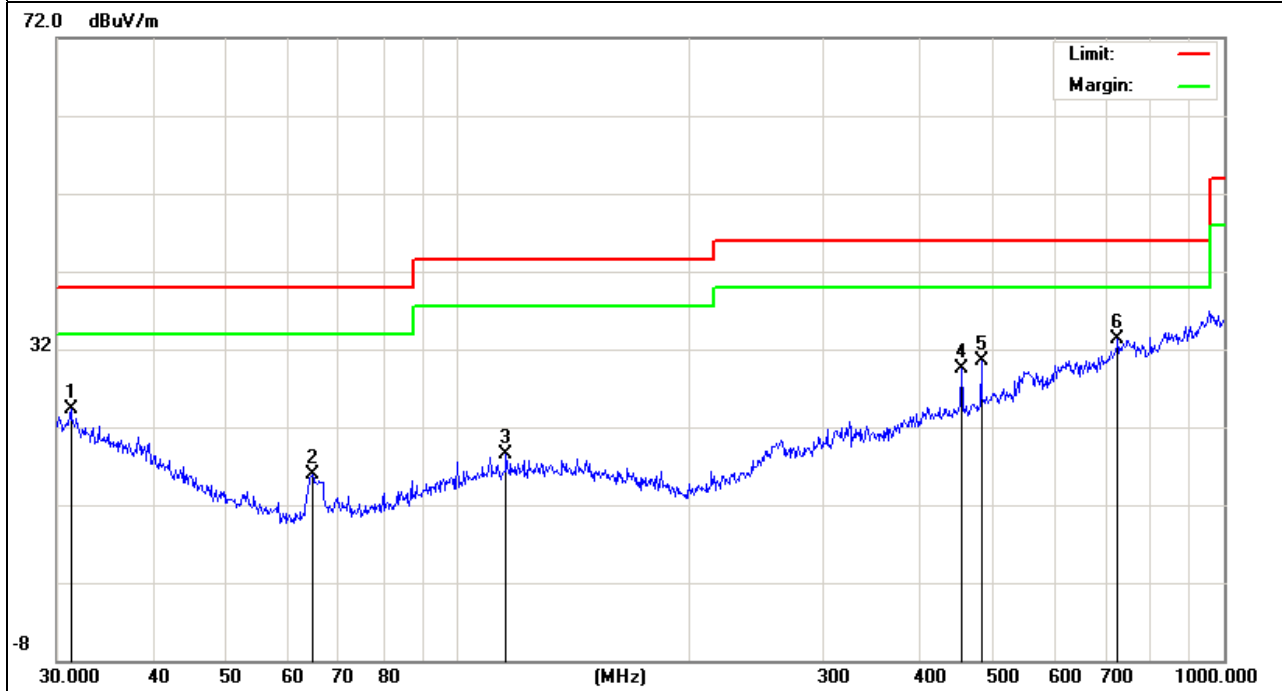
3.4.6 TEST RESULTS (BETWEEN 30 – 1000 MHZ)

EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
31.2893	6.46	17.76	24.22	40.00	-15.78	QP
64.6594	10.41	5.46	15.87	40.00	-24.13	QP
115.7256	6.45	11.97	18.42	43.50	-25.08	QP
454.3100	10.14	19.37	29.51	46.00	-16.49	QP
482.2155	10.31	20.11	30.42	46.00	-15.58	QP
726.8052	7.23	26.00	33.23	46.00	-12.77	QP

Remark:

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

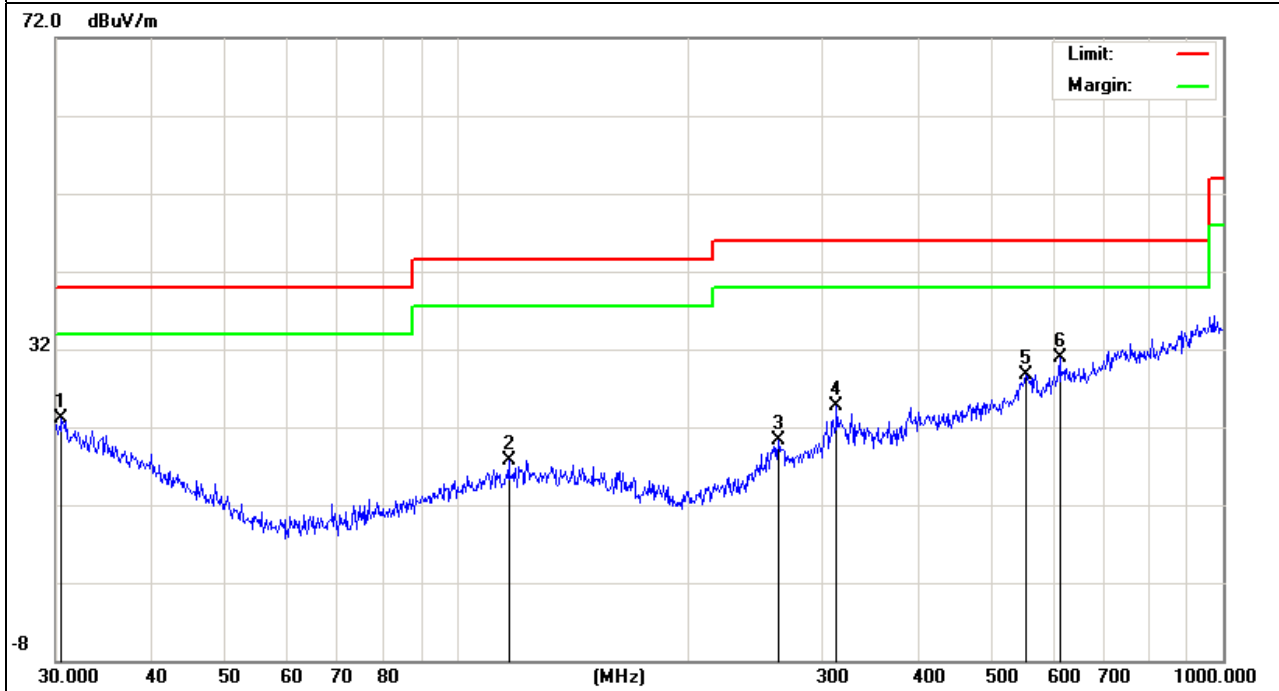


EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
30.5305	5.06	18.09	23.15	40.00	-16.85	QP
116.9495	5.77	12.01	17.78	43.50	-25.72	QP
262.8955	5.58	14.69	20.27	46.00	-25.73	QP
313.2760	9.54	15.17	24.71	46.00	-21.29	QP
552.8832	5.23	23.54	28.77	46.00	-17.23	QP
612.0642	7.52	23.41	30.93	46.00	-15.07	QP

Remark:

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



3.4.7 TEST RESULTS (ABOVE 1000 MHZ)

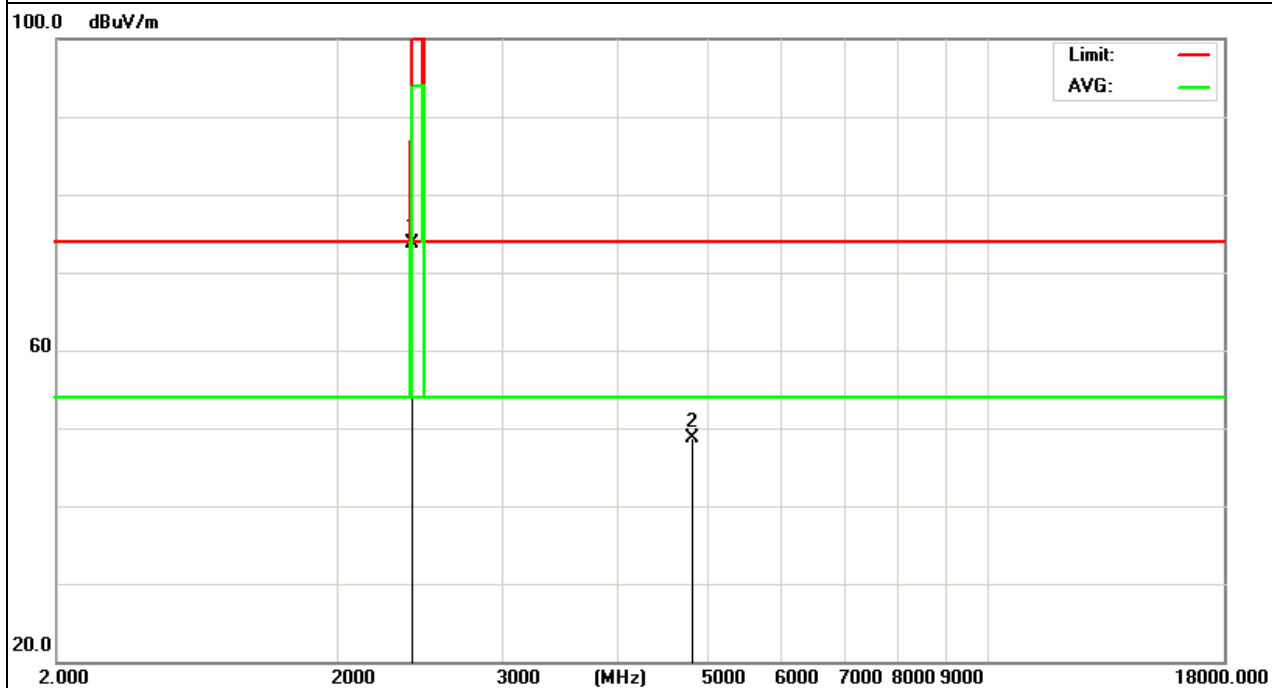
EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2402MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2401.6840	117.63	-43.96	73.67	114.00	-40.33	peak
4804.2680	92.93	-44.24	48.69	74.00	-25.31	peak

Remark:

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

No emission detected above 18GHz.



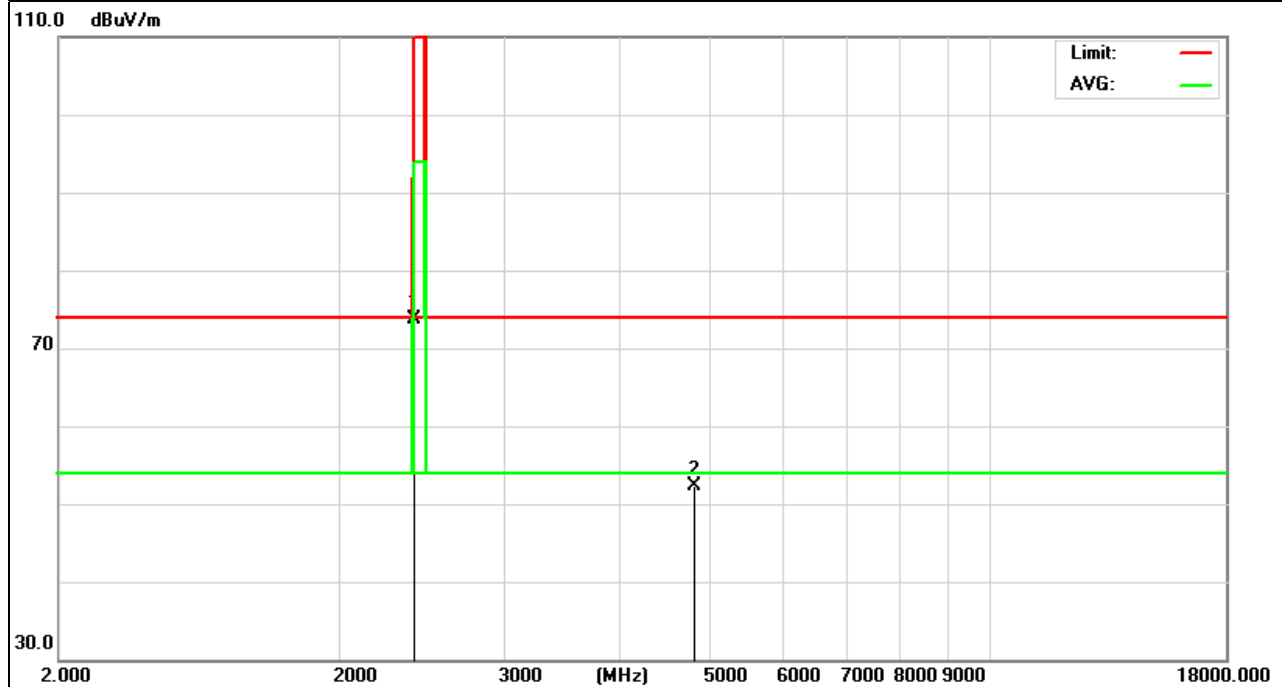
EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2402MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2401.684	117.64	-43.96	73.68	114.00	-40.32	peak
4804.238	96.59	-44.24	52.35	74.00	-21.65	peak

Remark:

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

No emission detected above 18GHz.



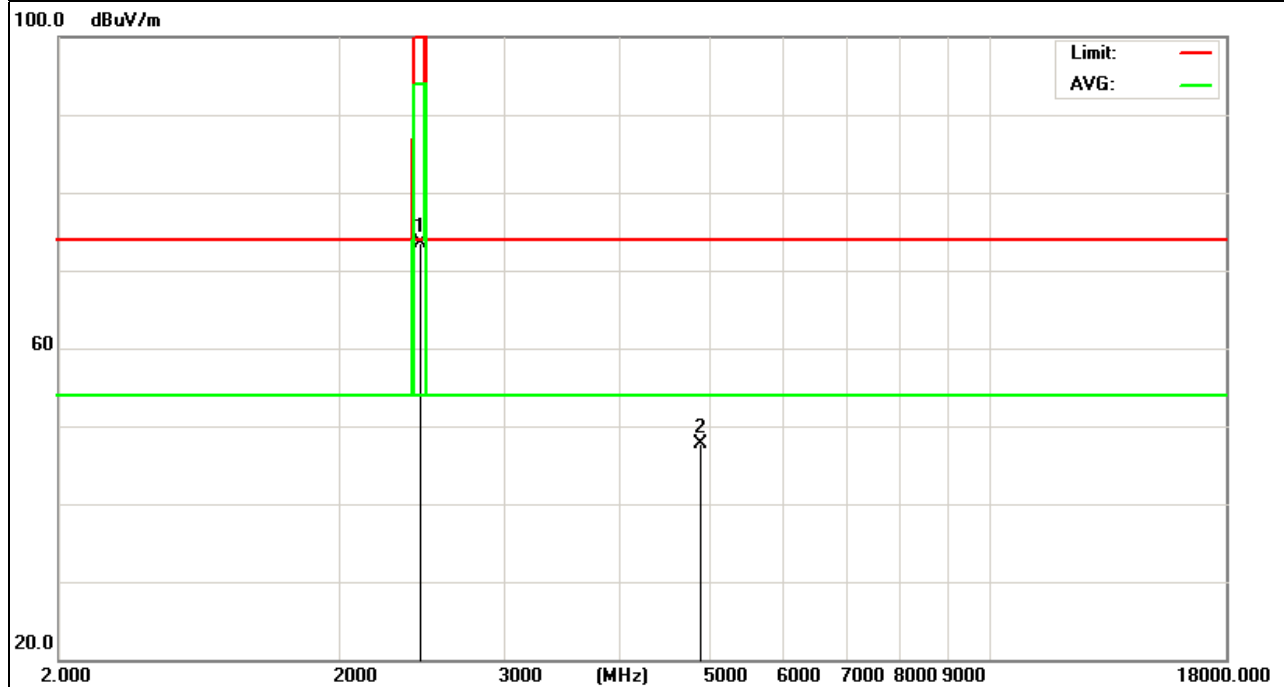
EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2440MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2440.728	117.50	-43.98	73.52	114.00	-40.48	peak
4880.267	91.88	-44.22	47.66	74.00	-26.34	peak

Remark:

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

No emission detected above 18GHz.



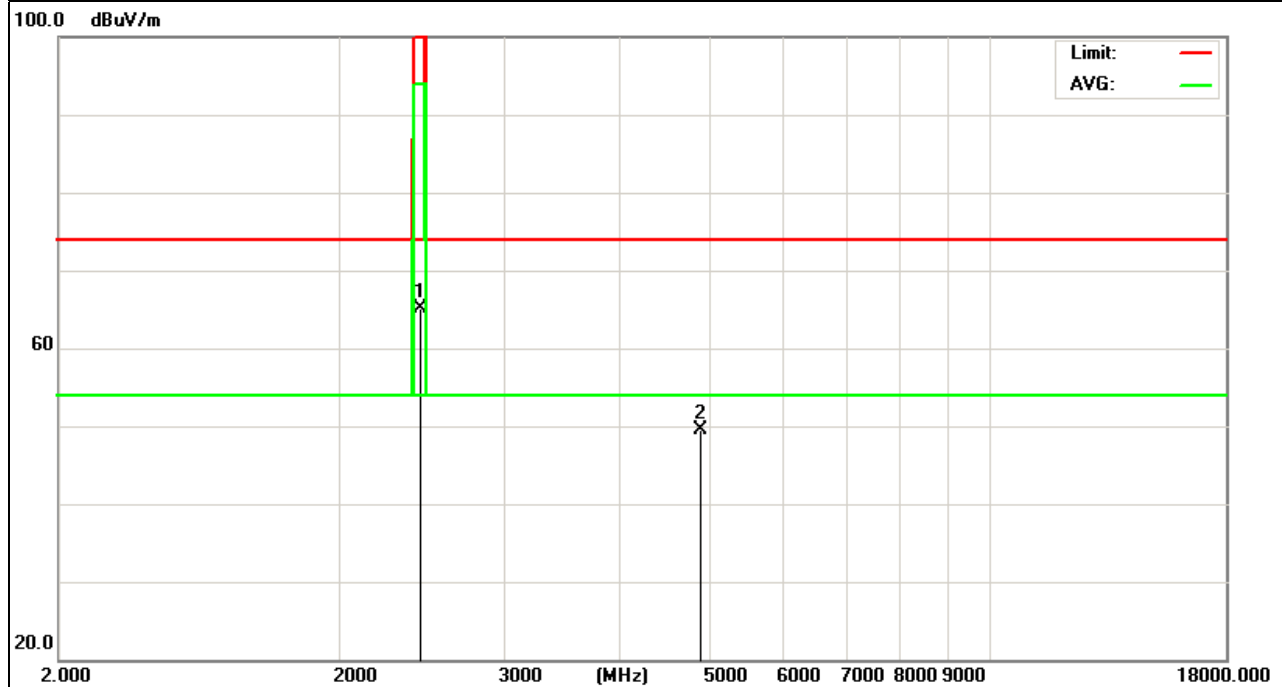
EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2440MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2440.728	109.13	-43.98	65.15	114.00	-48.85	peak
4880.183	93.67	-44.22	49.45	74.00	-24.55	peak

Remark:

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

No emission detected above 18GHz.



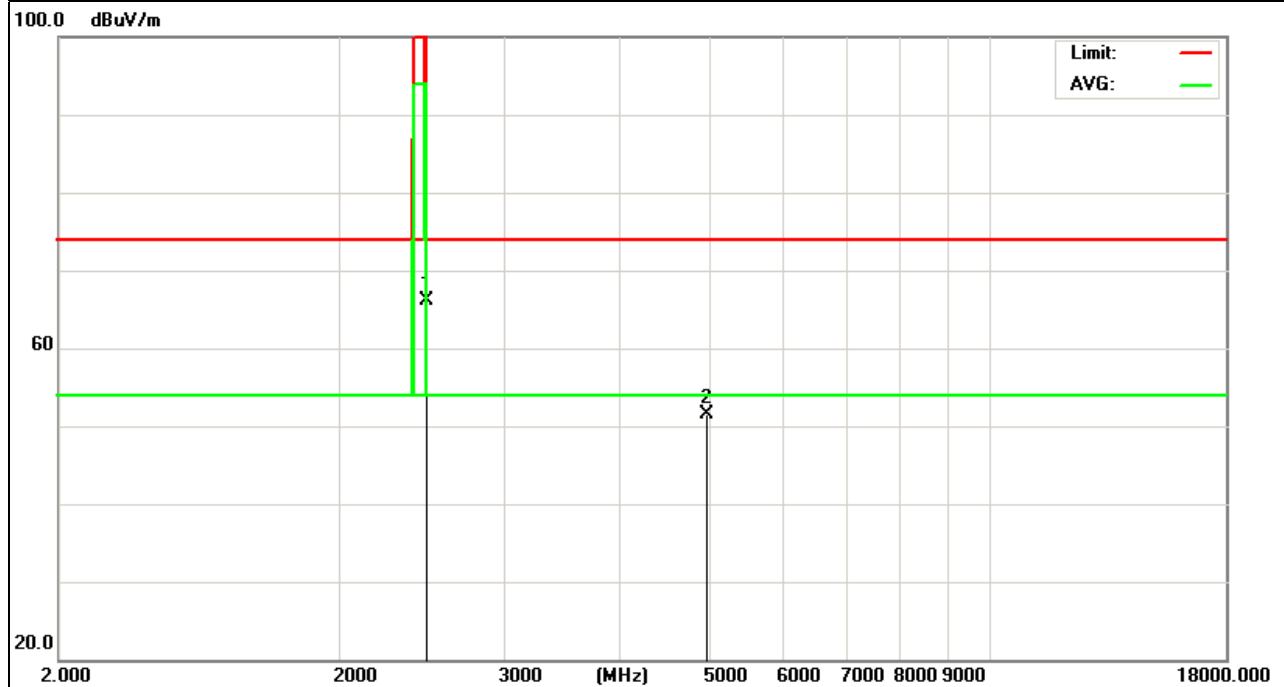
EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2480MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2480.405	110.03	-43.99	66.04	114.00	-47.96	peak
4962.119	95.68	-44.21	51.47	74.00	-22.53	peak

Remark:

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

No emission detected above 18GHz.



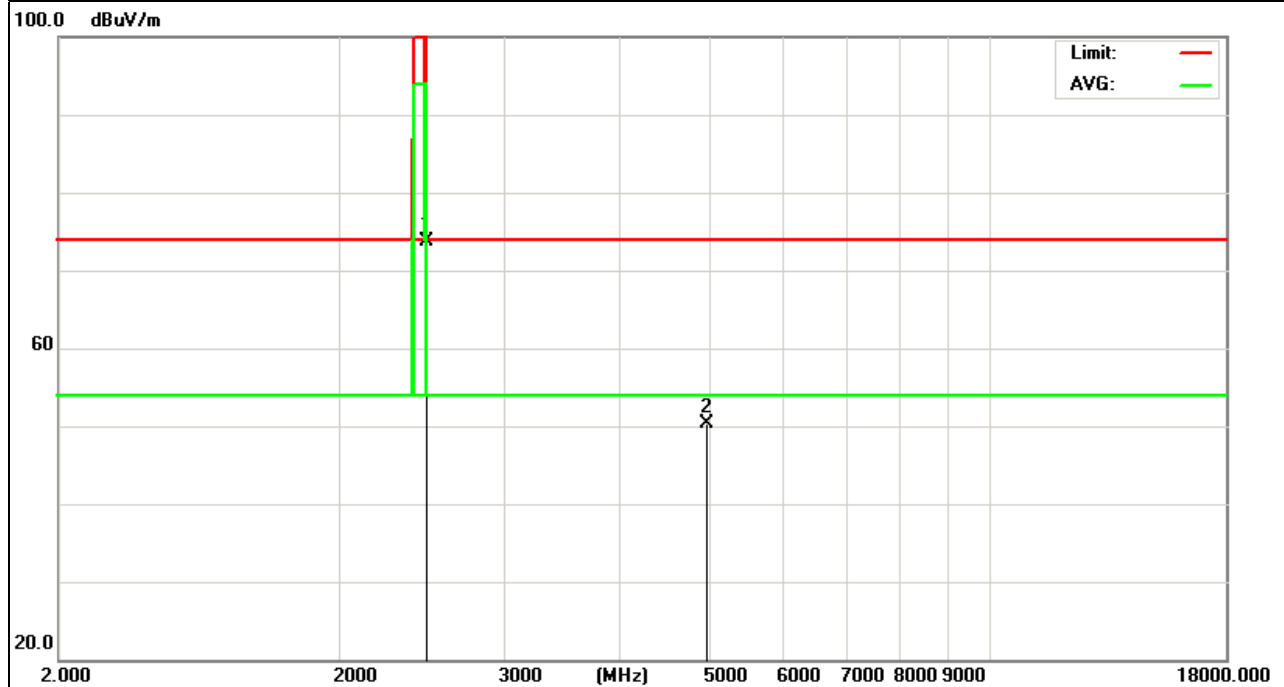
EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2480MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2480.405	117.61	-43.99	73.62	114.00	-40.38	peak
4960.152	94.56	-44.21	50.35	74.00	-23.65	peak

Remark:

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

No emission detected above 18GHz.



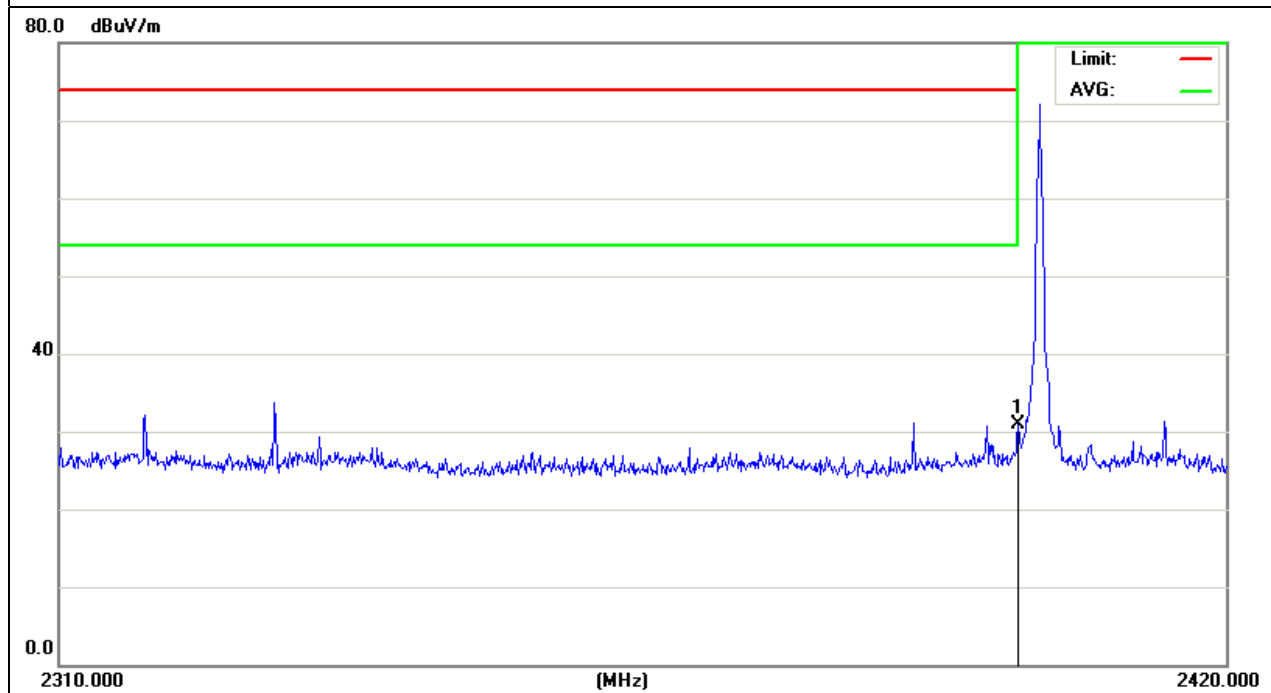
3.4.8 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2402MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2400.0000	43.89	-12.99	30.90	74.00	-43.10	peak

Remark:

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

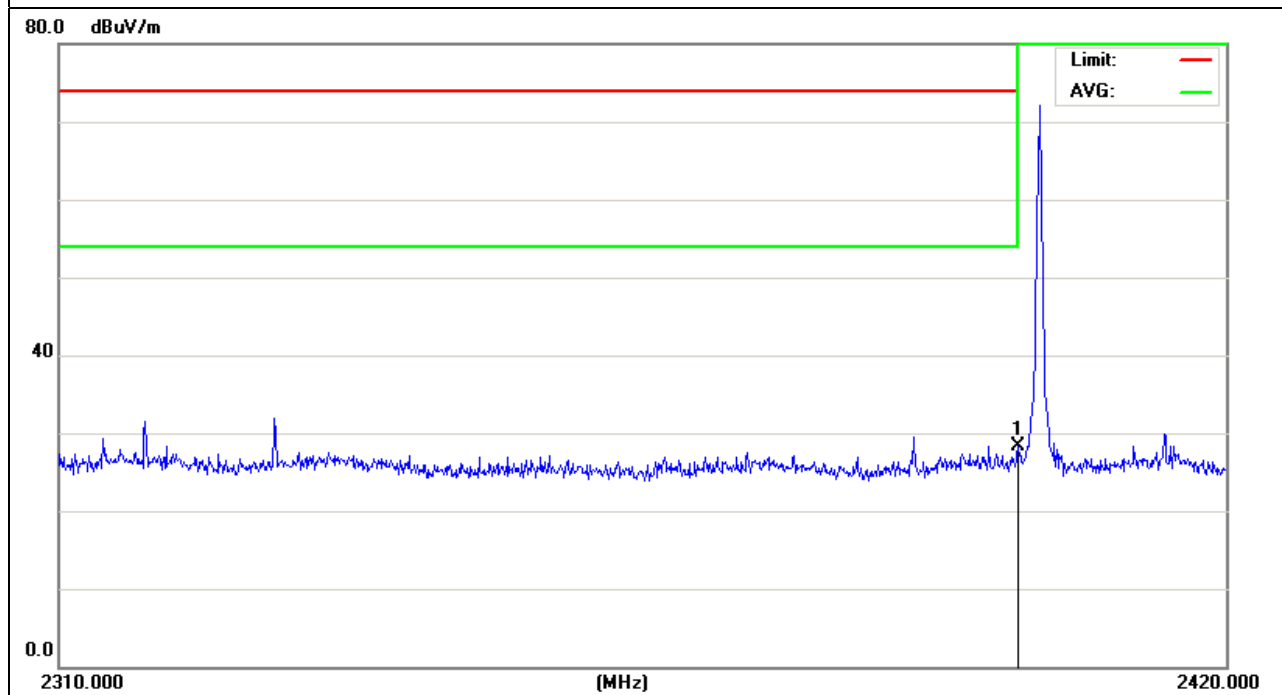


EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2402MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2400.0000	41.31	-12.99	28.32	74.00	-45.68	peak

Remark:

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

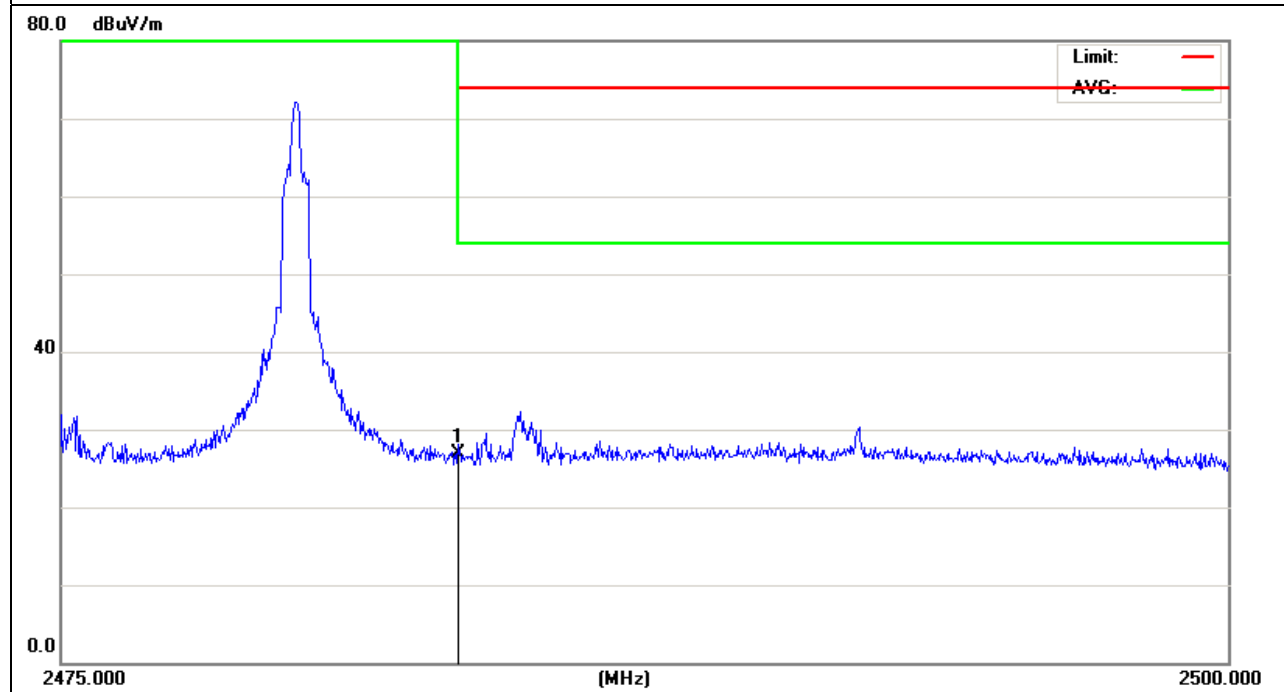


EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2480MHz	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.5000	39.76	-12.78	26.98	74.00	-47.02	peak

Remark:

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

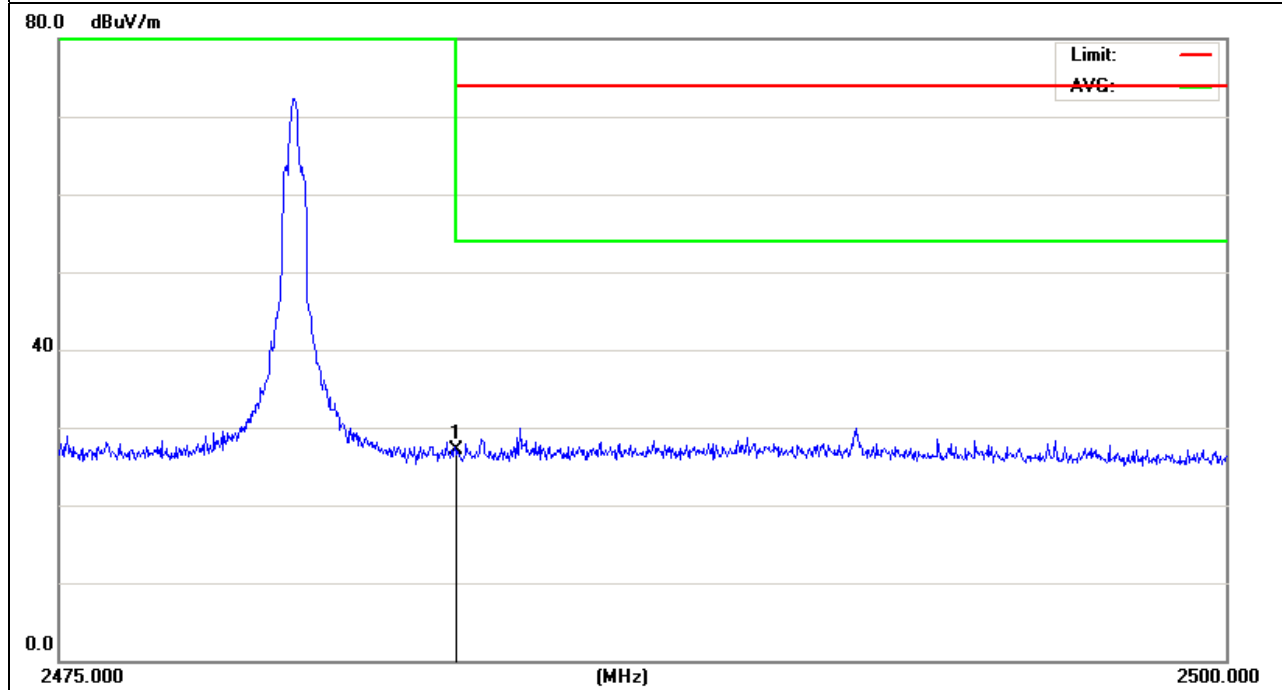


EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V
Test Mode :	TX /2480MHz	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2483.5000	39.96	-12.78	27.18	74.00	-46.82	peak

Remark:

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



4. BANDWIDTH TEST

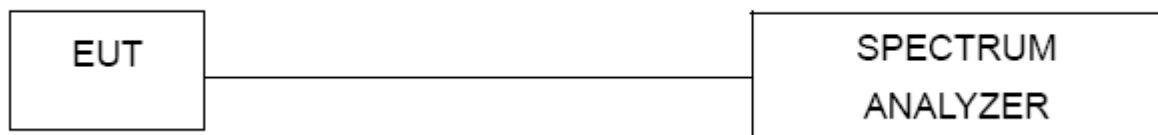
4.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 100KHz, VBW \geq RBW, Sweep time = Auto.

4.2 DEVIATION FROM STANDARD

No deviation.

4.3 TEST SETUP

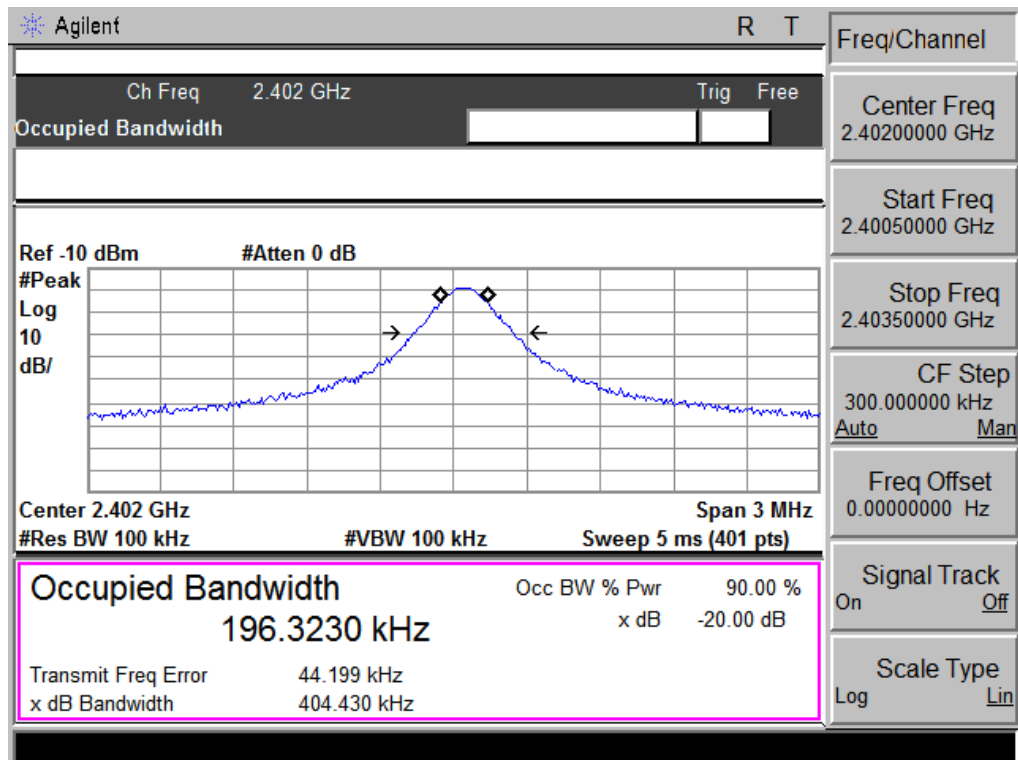


4.4 TEST RESULTS

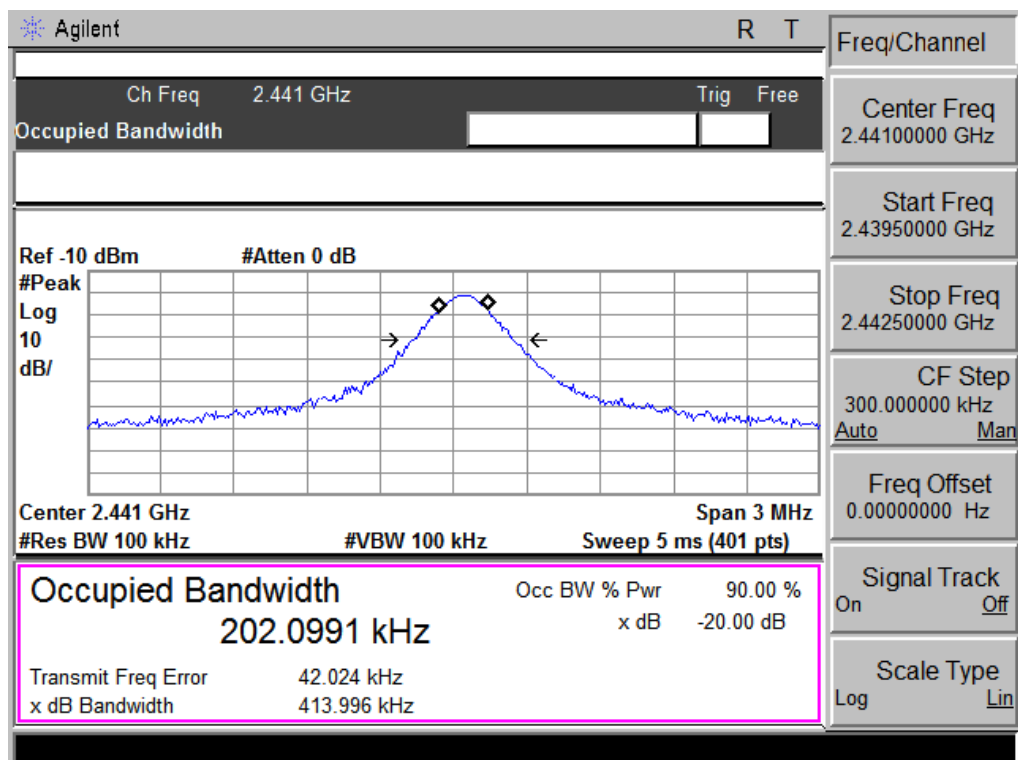
EUT :	WIRELESS MOUSE	Model Name :	ARG-MS-0032
Temperature :	26 °C	Relative Humidity :	53%
Pressure :	1020 hPa	Test Power :	DC 1.5V
Test Mode :	TX CH Lowest/Middle/Highest		

Test Channel	Frequency (MHz)	20 dBc Bandwidth (KHz)	90% Bandwidth (KHz)
CH Lowest	2402	404.430	196.323
CH Middle	2440	413.996	202.099
CH Highest	2480	374.144	182.630

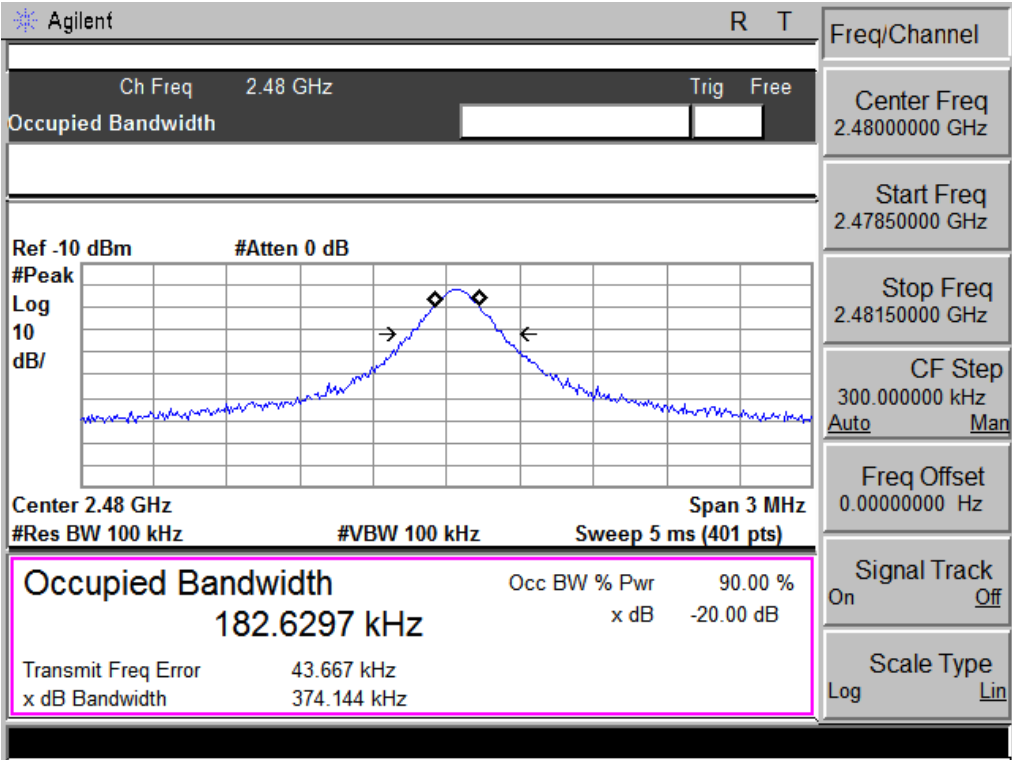
The Lowest Channel: 2402MHz



The Middle Channel: 2440MHz



The Highest Channel:2480MHz



5. EUT TEST PHOTO

Radiated Measurement Photos

