FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

Timi Personal Computing Co., Ltd.

Mi Wireless Mouse

Model No.: WSB01TM

FCC ID: 2ALT9WSB01TM

Prepared for : Timi Personal Computing Co., Ltd.
No.3, 11th floor, The Rainbow City Office Building, 68 Qinghe Mid Street, Haidian District, Beijing, China

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Kefeng Road, Science & Technology Park, Nanshan District , Shenzhen, Guangdong, China

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Report Number : ACS-F17047
Date of Test : Apr.05~06, 2017
Date of Report : May.08, 2017

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TEST REPORT CERTIFICATION

Applicant : Timi Personal Computing Co., Ltd.

Product : Mi Wireless Mouse

FCC ID : 2ALT9WSB01TM

(A)Model No. : WSB01TM
(B) Serial No. : N/A
(C) Power Supply : DC 1.5V
(D) Test Voltage : DC 1.5V

Tested for comply with:
FCC CFR 47 Part 15 Subpart C

Test procedure used:
ANSI C63.10:2013

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to confirm comply with all the FCC Part 15 Subpart C requirements.

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. This report contains data that are not covered by the NVLAP accreditation. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Apr.05~06, 2017 Report of date: May.08, 2017

Prepared by : Monica Liu Reviewed by :

Monica Liu / Assistant Sunny Lu / Deputy Manager

AUDIX® 信華科技（深圳）有限公司
Audix Technology (Shenzhen) Co., Ltd.
EMC 部門報告專用章
Stamp only for EMC Dept. Report
Signature: David Jin

Approved & Authorized Signer

David Jin / Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1.Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	**Standard**	**Results**
Power Line Conducted Emission Test	FCC Part 15C: 15.207 ANSI C63.10-2013	N/A
Radiated Emission Test	FCC Part 15C: 15.209 FCC Part 15C: 15.249 ANSI C63.10-2013	PASS
Band Edge Compliance Test	FCC Part 15: 15.249 ANSI C63.10-2013	PASS
20dB Bandwidth Test	FCC Part 15: 15.215 ANSI C63.10-2013	PASS
N/A is an abbreviation for Not Applicable.		

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product	:	Mi Wireless Mouse
Model No.	:	WSB01TM
FCC ID	:	2ALT9WSB01TM
Operation frequency	:	2403MHz-2479MHz
Antenna	:	PCB antenna, 0dBi
Modulation	:	GFSK
Applicant	:	Timi Personal Computing Co., Ltd. No.3, 11th floor, The Rainbow City Office Building, 68 Qinghe Mid Street, Haidian District, Beijing, China
Date of Test	:	Apr.05~06, 2017
Date of Receipt	:	Mar.20, 2017
Sample Type	:	Prototype production

2.2. EUT Configuration and operation conditions for test

EUT

(EUT: Mi Wireless Mouse)

2.3.Test Facility

Site Description

Name of Firm	:	Audix Technology (Shenzhen) Co., Ltd. No. 6, Kefeng Road, Science & Technology Park, Nanshan District , Shenzhen, Guangdong, China
3m Anechoic Chamber	:	Certificated by FCC, USA Registration Number: 90454 Valid Date: Jul.12, 2017
3m & 10m Anechoic Chamber	:	Certificated by FCC, USA Registration Number: 794232 Valid Date: Jul.12, 2017
EMC Lab.	:	Certificated by Industry Canada Registration Number: IC 5183A-1 Valid Date: May.14, 2017
	:	Certificated by DAkkS, Germany Registration No: D-PL-12151-01-00 Valid Date: Dec.07, 2021
	:	Accredited by NVLAP, USA NVLAP Code: 200372-0 Valid Date: Mar.31, 2018

2.4.Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Uncertainty
Uncertainty for Radiation Emission test in 3m chamber	2.8 dB(30~200MHz, Polarization: H)
	2.8 dB(30~200MHz, Polarization: V)
	3.0 dB(200M~1GHz, Polarization: H)
	3.0 dB(200M~1GHz, Polarization: V)
Uncertainty for Radiation Emission test in 3m chamber (1GHz-18GHz)	5.8 dB (1~6GHz, Distance: 3m)
	5.8 dB (6~18GHz, Distance: 3m)
Uncertainty for Radiated Spurious Emission test in RF chamber	3.6 dB
Uncertainty for Conduction Spurious emission test	2.0 dB
Uncertainty for Output power test	0.8 dB
Uncertainty for Bandwidth test	83 kHz
Uncertainty for DC power test	0.1 %
Uncertainty for test site temperature and humidity	0.6℃
	3%

3. POWER LINE CONDUCTED EMISSION TEST

According to Paragraph (c) of FCC Part 15 section 15.207, Tests to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

4. RADIATED EMISSION TEST

4.1.Test Equipment

Frequency range: 30~1000MHz

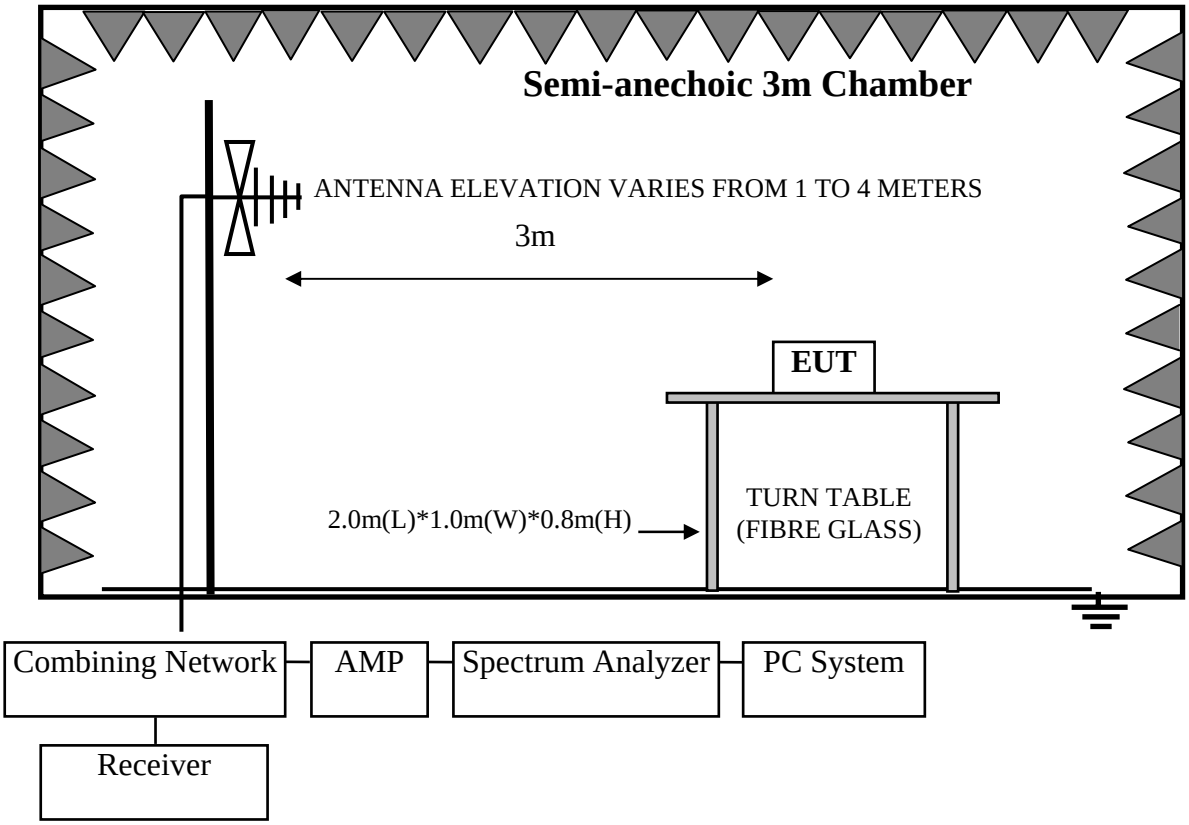
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Mar.28,17	1 Year
2.	Spectrum Analyzer	Agilent	N9010A	MY52220804	Oct.15,16	1 Year
3.	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	Apr.24,16	1 Year
4.	Amplifier	HP	8447D	2648A04738	Apr.24,16	1 Year
5.	Tri-log-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-710	Jul.20,16	1 Year
6.	Loop Antenna	Chase	HLA6120	1062	Sep.25,16	1 Year
7.	RF Cable	MIYAZAKI	CFD400-N W(3.5M)	No.3	Apr.24,16	1 Year
8.	RF Cable	MIYAZAKI	CFD400-L W(22M)	No.7	Apr.24,16	1 Year
9.	Coaxial Switch	Anritsu	MP59B	6201397222	Apr.23,16	1 Year
10.	Test Software	AUDIX	e3	6.2009-5-21a(n)	N/A	N/A
Note: N/A means Not applicable.						

Frequency range: above 1000MHz

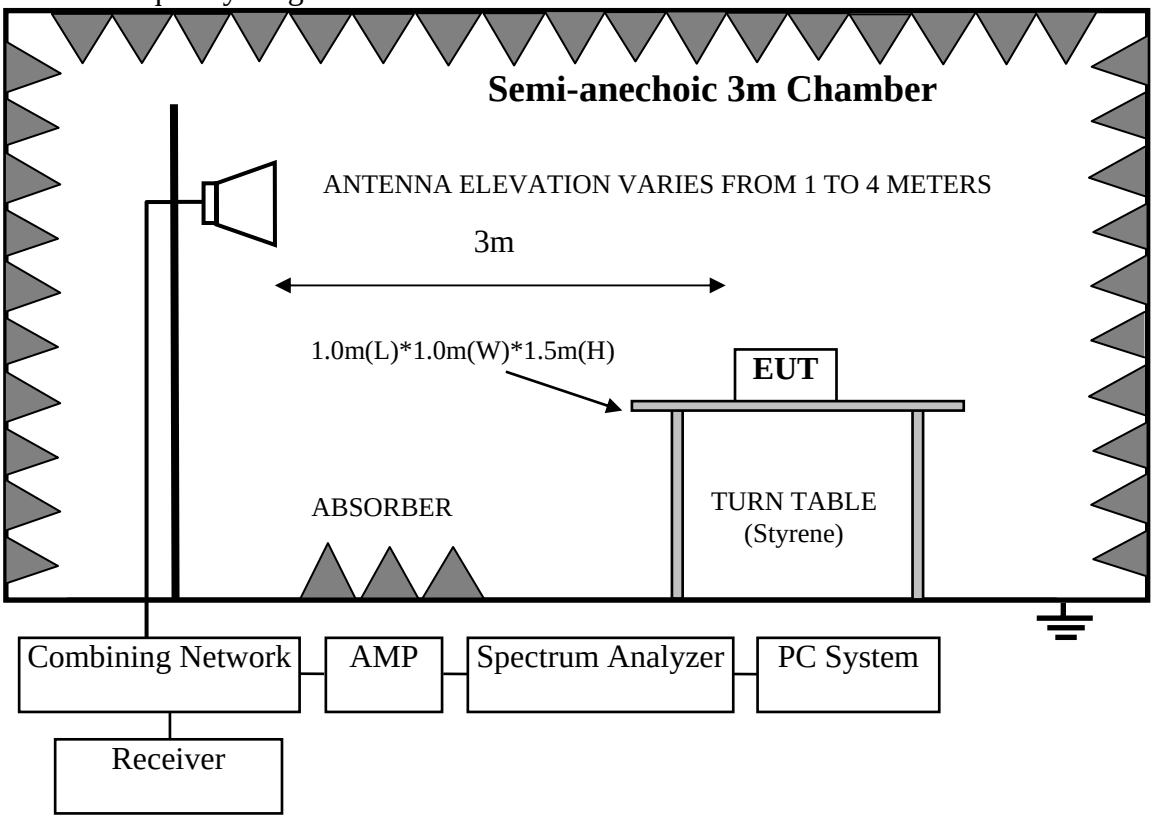
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Mar.28,17	1 Year
2.	Spectrum Analyzer	Agilent	N9010A	MY52220804	Oct.15,16	1 Year
3.	Horn Antenna	ETC	MCTD 1209	DRH15F03007	Apr.11,16	1 Year
4.	Amplifier	Agilent	8449B	3008A02495	Apr.24,16	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX104	274094/4	Apr.24,16	1 Year
6.	Horn Antenna	ETS	3116	00060089	Nov.16,16	1 Year
7.	Test Software	AUDIX	e3	6.2009-5-21a(n)	N/A	N/A
Note: N/A means Not applicable.						

4.2.Block Diagram of Test Setup

For frequency range 30MHz-1000MHz



For frequency range above 1GHz



4.3. Radiated Emission Limit Standard: FCC 15.209 and 15.249

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000MHz	3	74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	
Field Strength of fundamental emissions for 2.4GHz-2.4835GHz	3	114.0 dB(μV)/m (Peak) 94.0 dB(μV)/m (Average)	

Remark： (1) Emission level dBμV = 20 log Emission level μV/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

(4) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

4.4. EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.5. Operating Condition of EUT

4.5.1. Setup the EUT and simulator as shown as Section 4.2.
4.5.2. Turn on the power of all equipments.
4.5.3. Let EUT work in Tx mode.

4.6. Test Procedure

Frequency below 30MHz:
The EUT setup on the turn table which has 0.8 m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2013 regulation.

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground for frequency 30MHz~1000MHz, 1.5 meter high above ground for frequency above 1GHz and put the absorbing with 2.4m(L)*2.4m(W)*0.3m(H) on the ground . The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it.EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna for frequency 30MHz~1000MHz, and the Horm antenna is used as receiving antenna for frequency above 1GHz. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10-2013 on radiated emission Test.

During the pretest the EUT was rotated through three orthogonal axes to determine the attitude that maximizes the emissions.

After that the EUT was manually handled to find the orientation that has the maximum emission, which is the orientation show in the test setup photos.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's RBW is set at 1MHz and VBW is set at 3MHz for peak emissions measurement above 1GHz

This device is pulse modulated, a duty cycle factor was used to calculate average level based measured peak level.

The frequency range from 30MHz to 10th harmonic (25GHz) is checked. And no any emissions were found from 18GHz to 25 GHz, So the radiated emissions from 18GHz to 25GHz were not record.

4.7. Radiated Emission Test Results

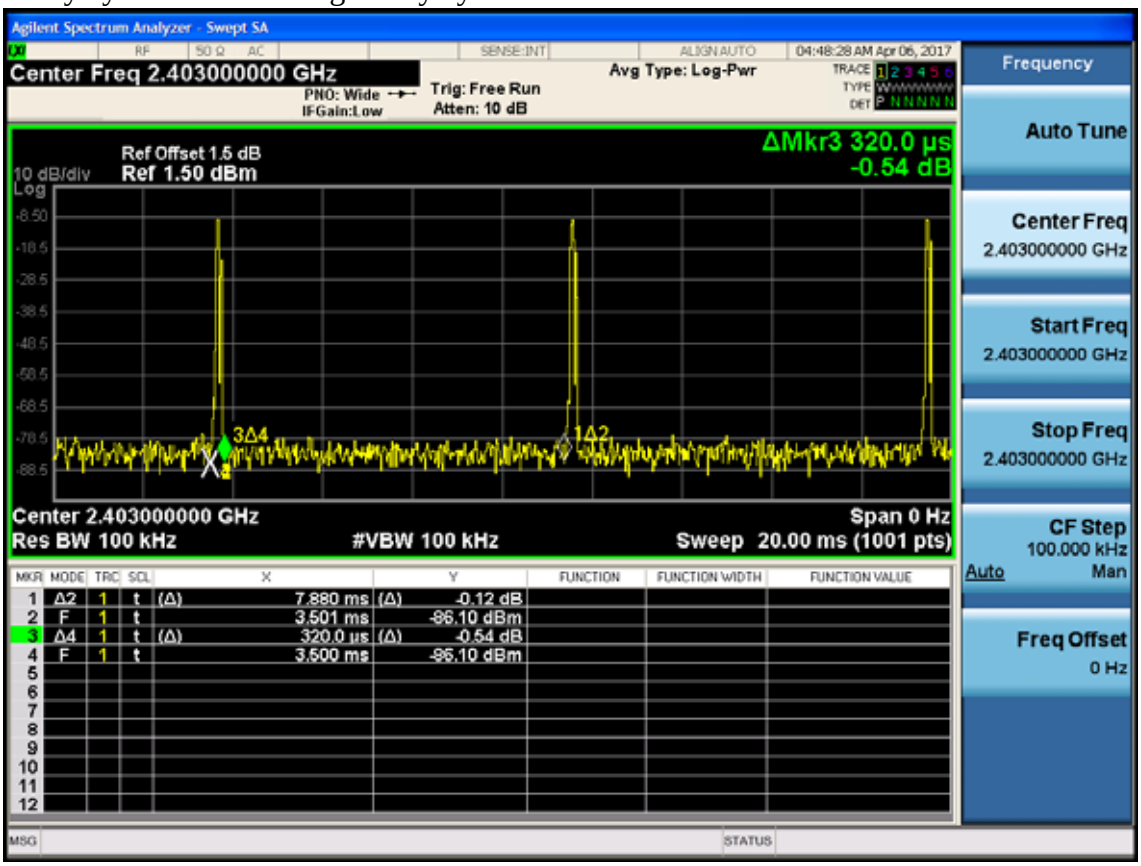
PASS.

All the emissions from 30MHz to 25GHz were comply with the 15.209 Limit.

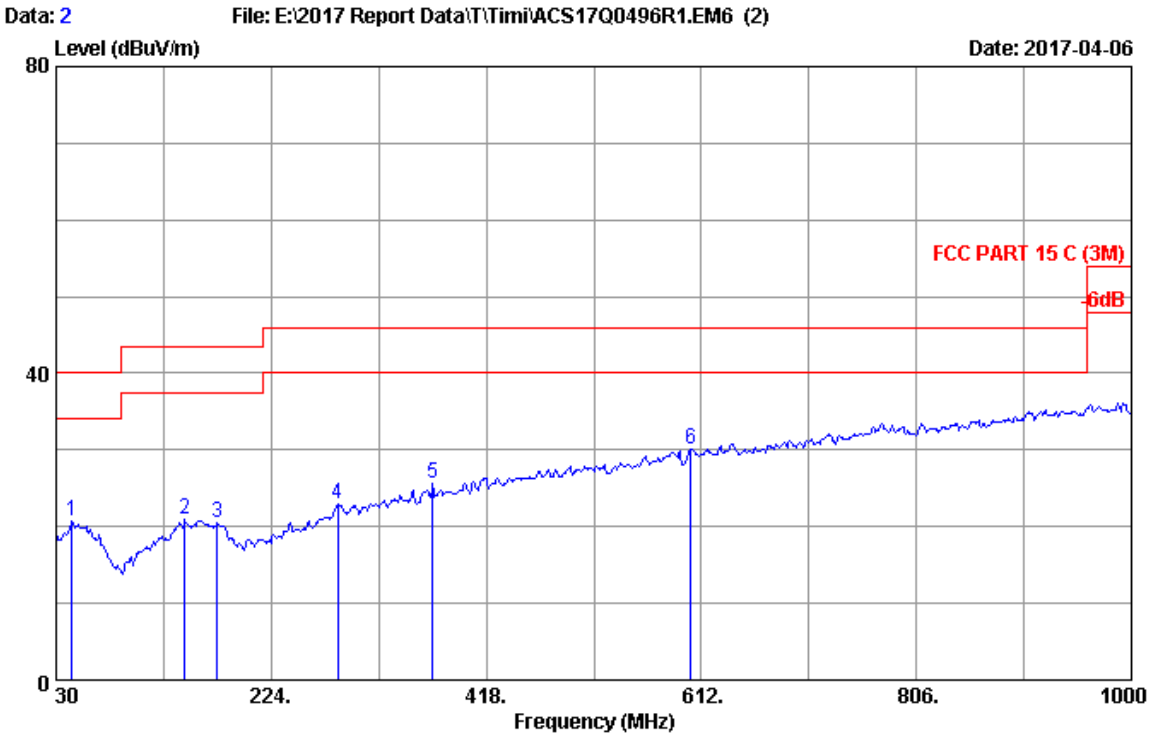
Note 1:The duty cycle factor for calculate average level is -27.828dB, and average limit is 20dB below peak limit, so if peak measured level comply with average limit, the average level was deemed to comply with average limit.

Note 2:The emissions (9kHz~30MHz) not reported for there is no emission be found.

Duty cycle factor = 20log（duty cycle）= -27.828dB



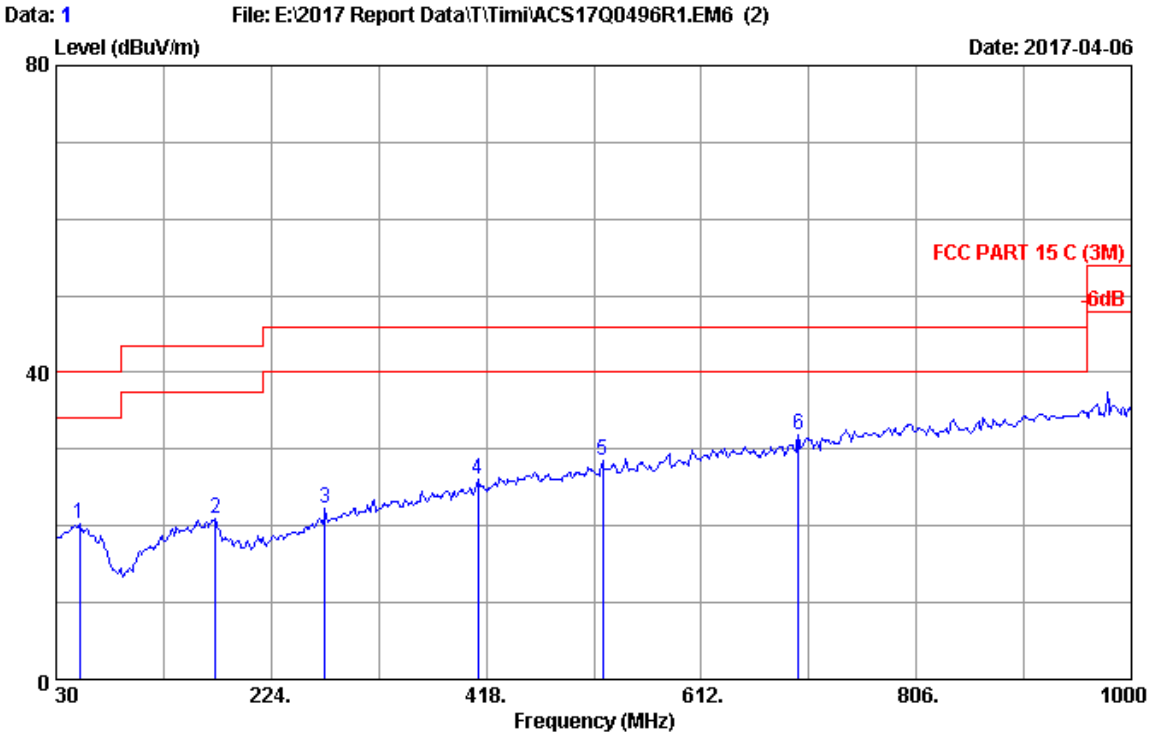
Frequency: 30MHz~1GHz



Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m ANT 2016 9168 710 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 23.7*C/50% Engineer : Garry
EUT : Mi Wireless Mouse M/N:WSB01TM
Power rating : DC 1.5V
Test Mode : TX Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	44.550	20.42	0.75	-0.40	20.77	40.00	19.23	QP
2	146.400	19.59	1.07	0.22	20.88	43.50	22.62	QP
3	175.500	19.06	1.03	0.35	20.44	43.50	23.06	QP
4	284.140	19.49	1.84	1.54	22.87	46.00	23.13	QP
5	369.500	21.43	2.30	1.84	25.57	46.00	20.43	QP
6	602.300	26.06	3.13	0.84	30.03	46.00	15.97	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

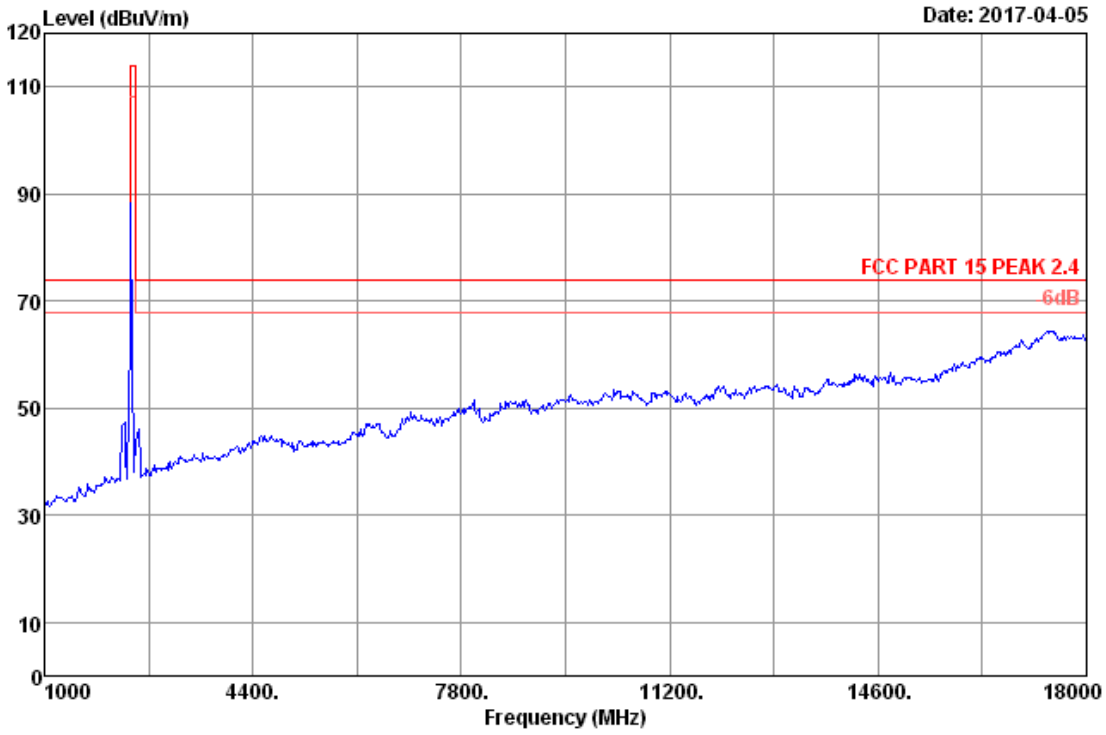


Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m ANT 2016 9168 710 Ant. pol. : VERTICAL
Limit : FCC PART 15 C (3M)
Env. / Ins. : 23.7*C/50% Engineer : Garry
EUT : Mi Wireless Mouse M/N:WSB01TM
Power rating : DC 1.5V
Test Mode : TX Mode

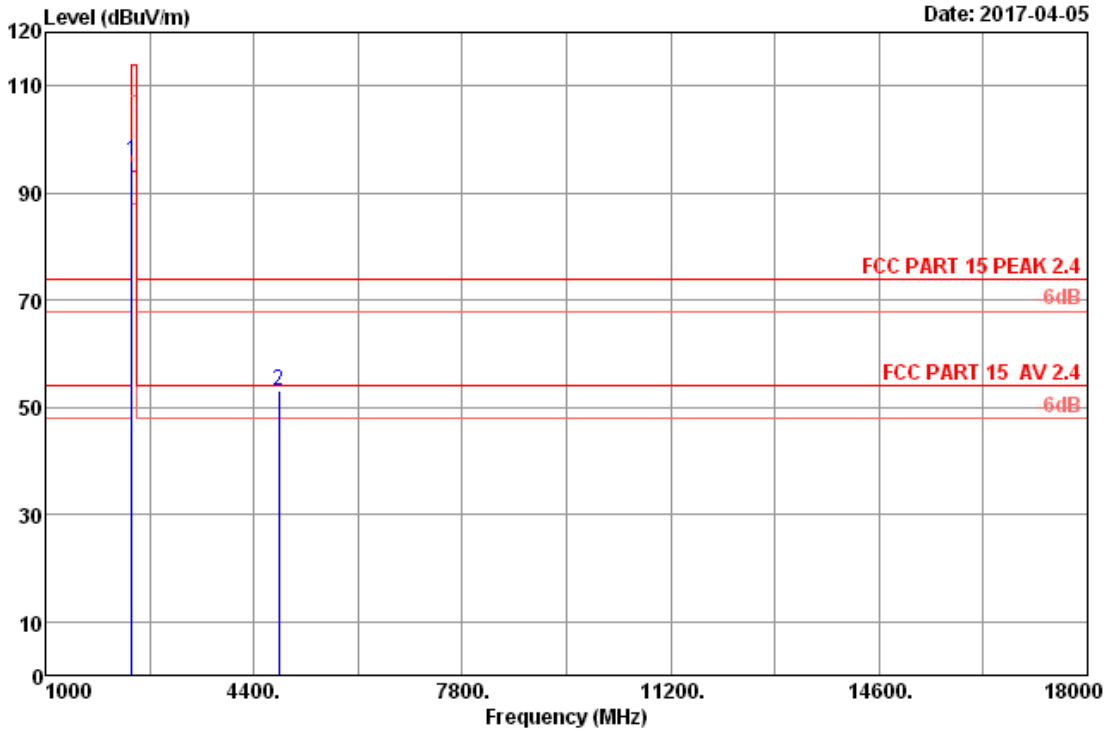
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	51.340	20.47	0.82	-1.04	20.25	40.00	19.75	QP
2	173.560	19.37	1.04	0.43	20.84	43.50	22.66	QP
3	272.500	19.12	1.72	1.39	22.23	46.00	23.77	QP
4	410.240	22.25	2.47	1.37	26.09	46.00	19.91	QP
5	522.760	24.40	2.83	1.27	28.50	46.00	17.50	QP
6	699.300	27.00	3.53	1.27	31.80	46.00	14.20	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Frequency: 1GHz~18GHz



Site no.	: 3m Chamber	Data no.	: 3
Dis. / Ant.	: 3m 2016 MCTD1209 3007	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15 PEAK 2.4	Pre	: 101.2kPa
Env. / Ins.	: 23.4*C/52.9% Engineer	: Alice	
EUT	: Mi Wireless Mouse		
Power rating	: DC 1.5V		
Test Mode	: 2403MHz Tx WSB01TM		

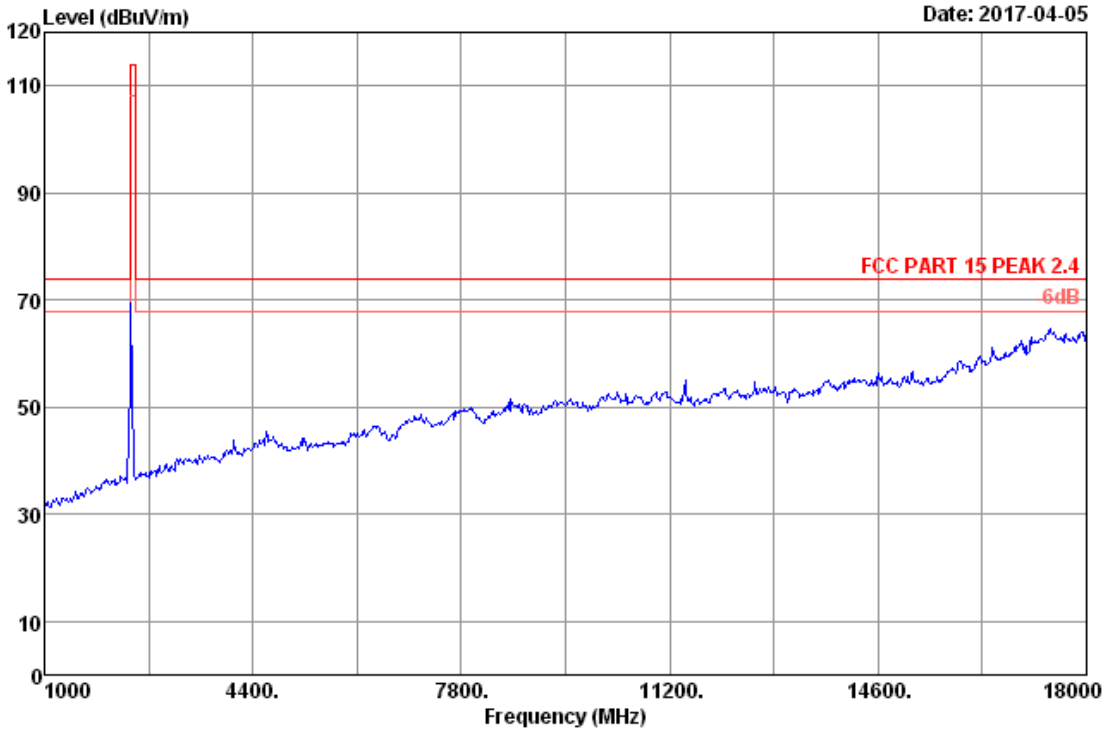


Site no. : 3m Chamber Data no. : 4
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2403MHz Tx
WSB01TM

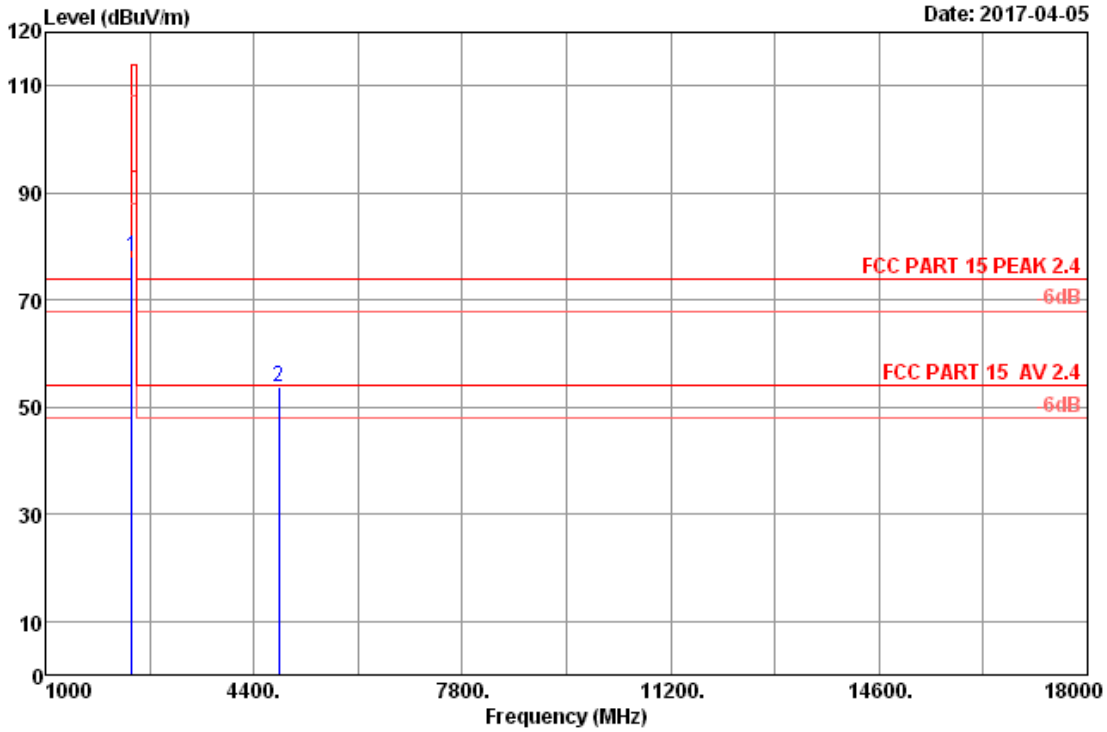
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2403.00	28.14	8.34	94.96	35.33	96.11	114.00	17.89	Peak
2	4806.00	32.79	11.76	44.17	35.65	53.07	74.00	20.93	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Frequency（MHz）	Peak level（dBuv/m）	Duty cycle factor (dB)	AV level (dBuv/m)	Limit(dBuv/m)	Conclusion
2403.00	96.11	-27.828	68.282	94	Pass



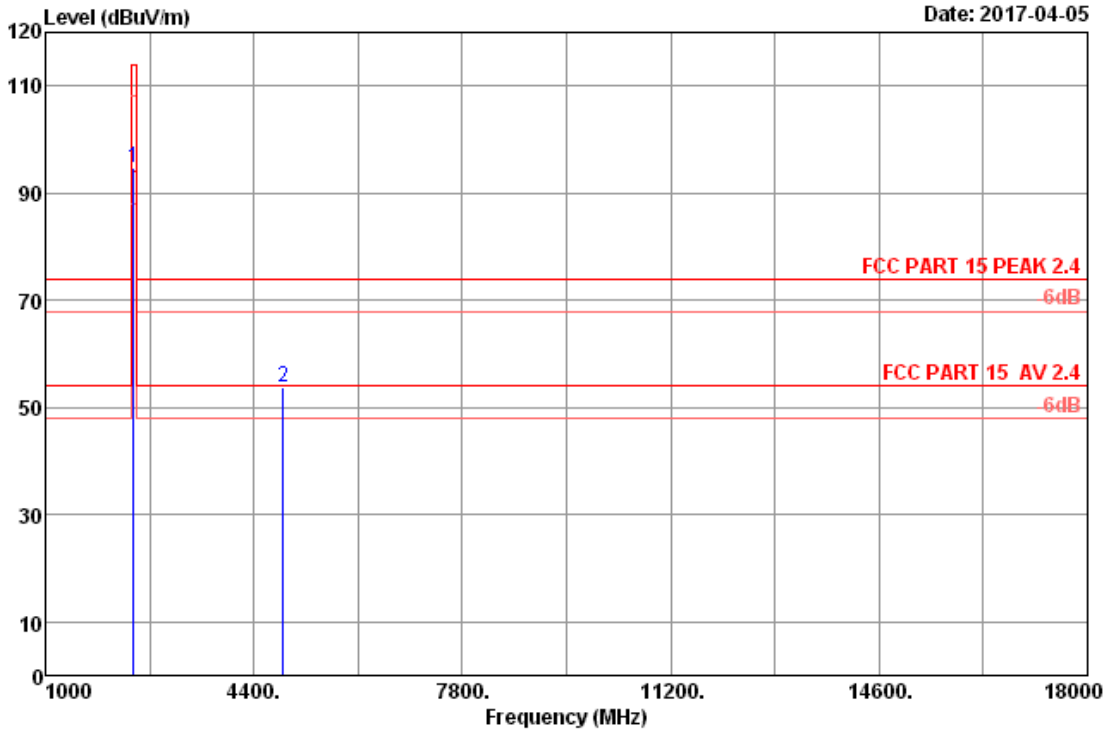
Site no.	: 3m Chamber	Data no.	: 5
Dis. / Ant.	: 3m 2016 MCTD1209 3007	Ant. pol.	: VERTICAL
Limit	: FCC PART 15 PEAK 2.4	Pre	: 101.2kPa
Env. / Ins.	: 23.4*C/52.9% Engineer	: Alice	
EUT	: Mi Wireless Mouse		
Power rating	: DC 1.5V		
Test Mode	: 2403MHz Tx WSB01TM		



Site no. : 3m Chamber Data no. : 6
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2403MHz Tx
WSB01TM

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2403.00	28.14	8.34	76.82	35.33	77.97	114.00	36.03	Peak
2	4806.00	32.79	11.76	44.87	35.65	53.77	74.00	20.23	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

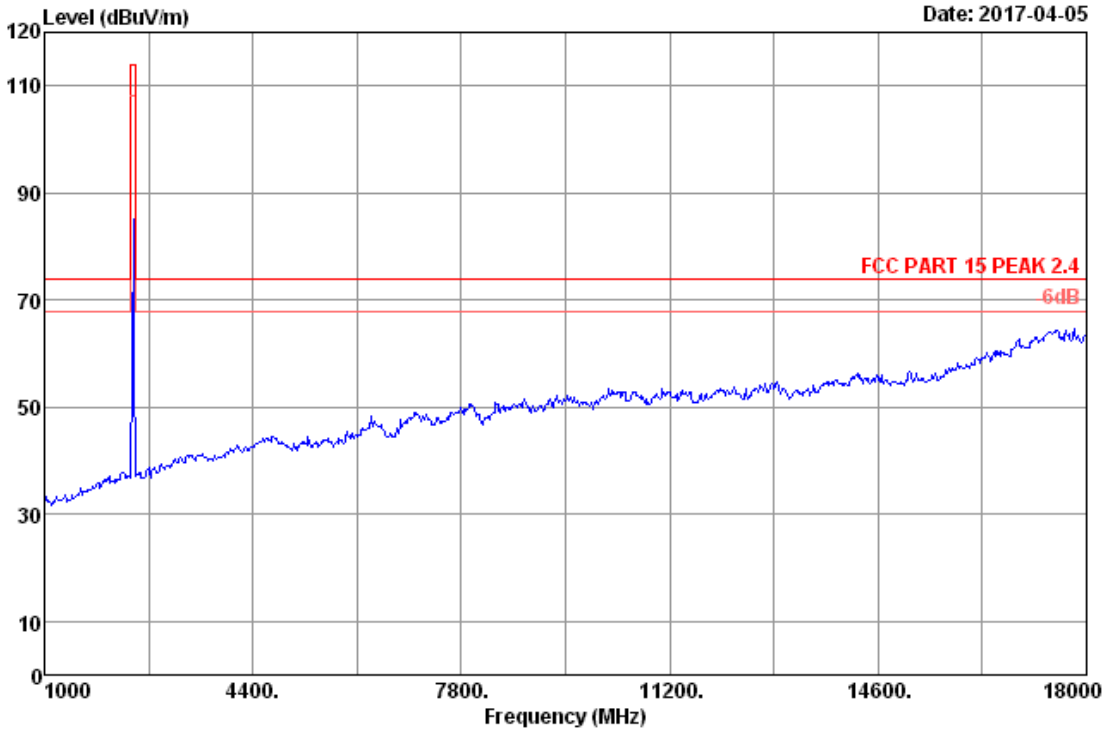


Site no. : 3m Chamber Data no. : 7
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2439MHz Tx
WSB01TM

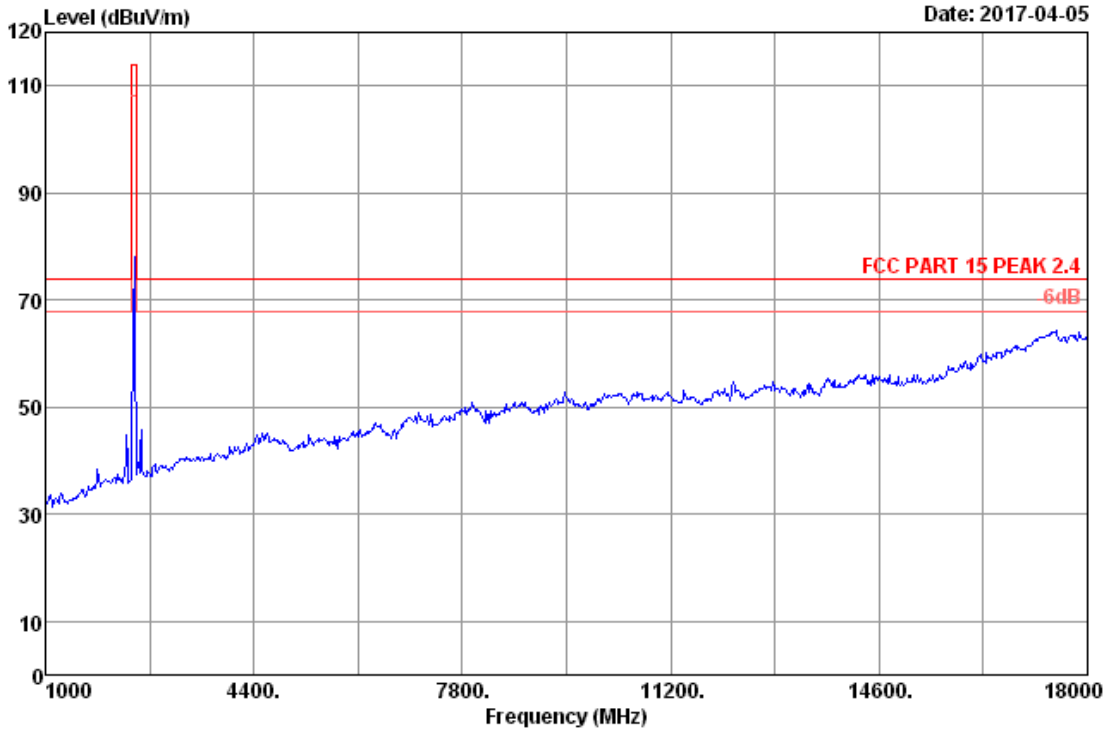
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2439.00	28.20	8.38	93.62	35.33	94.87	114.00	19.13	Peak
2	4878.00	32.64	11.80	44.86	35.64	53.66	74.00	20.34	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

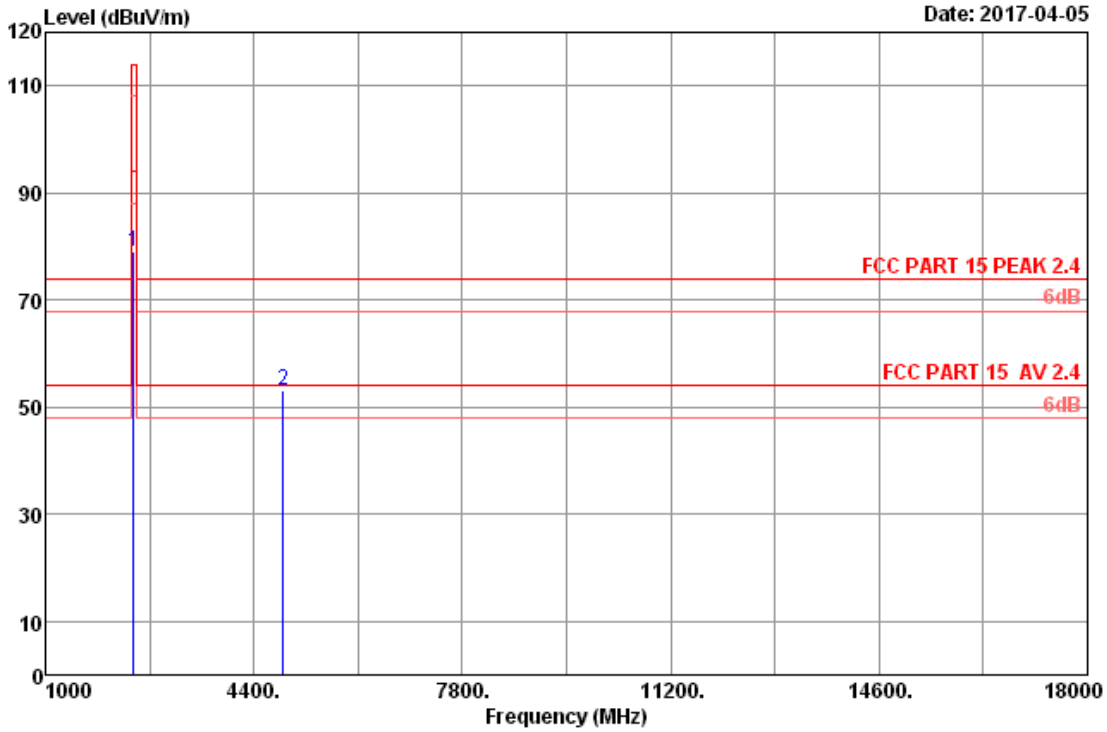
Frequency（MHz）	Peak level（dBuv/m）	Duty cycle factor (dB)	AV level (dBuv/m)	Limit(dBuv/m)	Conclusion
2439.00	94.87	-27.828	67.042	94	Pass



Site no.	: 3m Chamber	Data no.	: 8
Dis. / Ant.	: 3m 2016 MCTD1209 3007	Ant. pol.	: VERTICAL
Limit	: FCC PART 15 PEAK 2.4	Pre	: 101.2kPa
Env. / Ins.	: 23.4*C/52.9% Engineer	: Alice	
EUT	: Mi Wireless Mouse		
Power rating	: DC 1.5V		
Test Mode	: 2439MHz Tx WSB01TM		



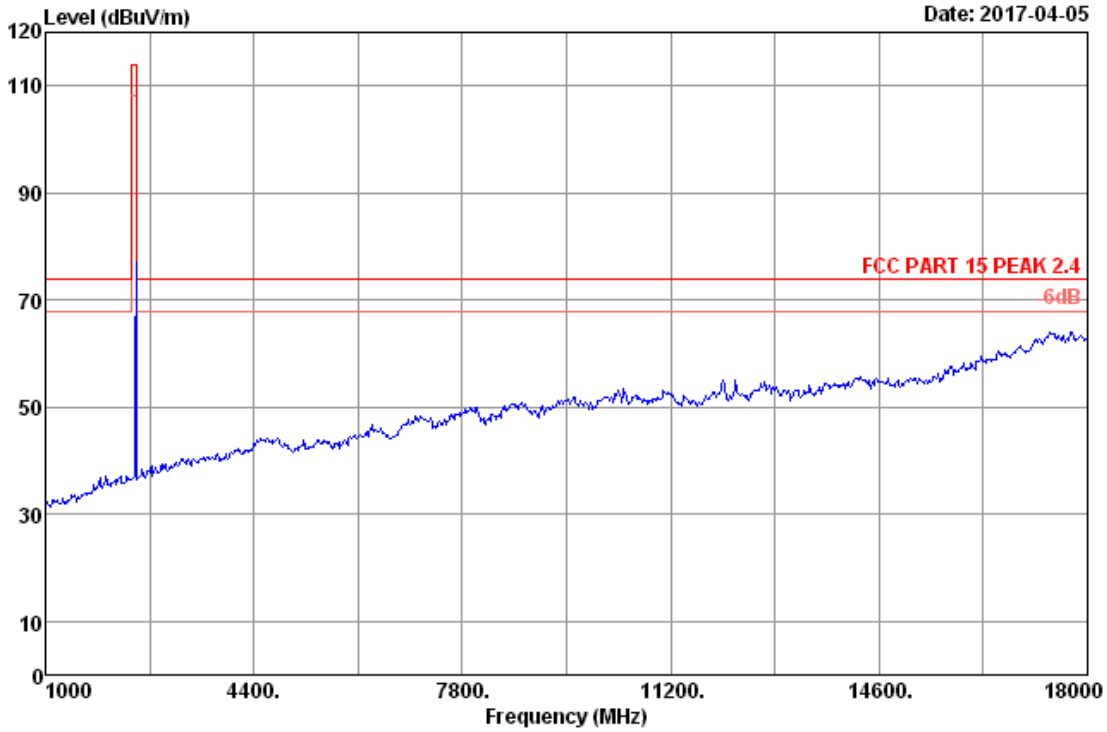
Site no.	: 3m Chamber	Data no.	: 9
Dis. / Ant.	: 3m 2016 MCTD1209 3007	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15 PEAK 2.4	Pre	: 101.2kPa
Env. / Ins.	: 23.4*C/52.9% Engineer	: Alice	
EUT	: Mi Wireless Mouse		
Power rating	: DC 1.5V		
Test Mode	: 2439MHz Tx WSB01TM		



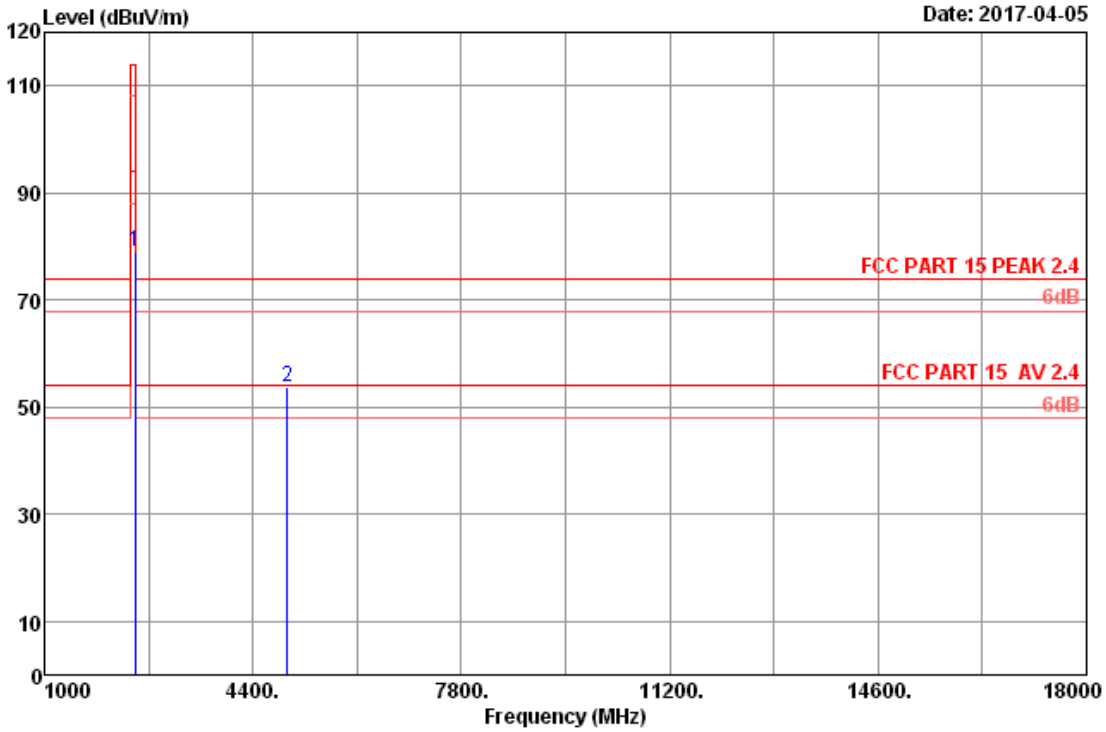
Site no. : 3m Chamber Data no. : 10
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2439MHz Tx
WSB01TM

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2439.00	28.20	8.38	77.94	35.33	79.19	114.00	34.81	Peak
2	4878.00	32.64	11.80	44.32	35.64	53.12	74.00	20.88	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



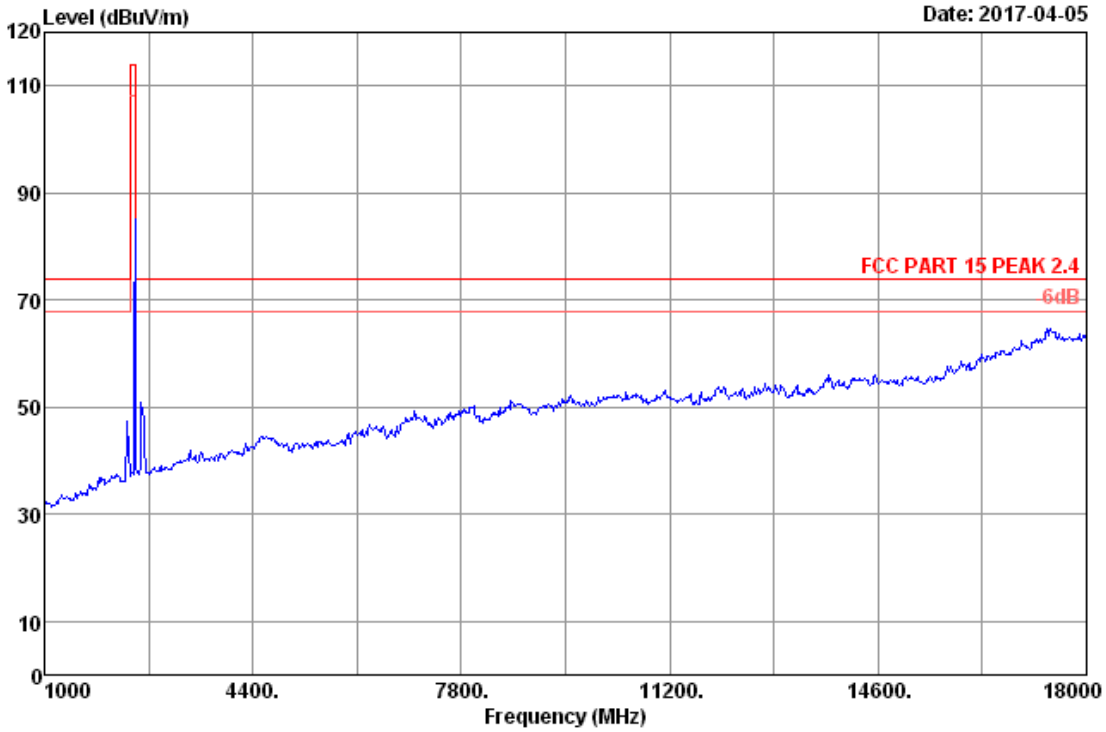
Site no.	: 3m Chamber	Data no.	: 11
Dis. / Ant.	: 3m 2016 MCTD1209 3007	Ant. pol.	: VERTICAL
Limit	: FCC PART 15 PEAK 2.4	Pre	: 101.2kPa
Env. / Ins.	: 23.4*C/52.9% Engineer	: Alice	
EUT	: Mi Wireless Mouse		
Power rating	: DC 1.5V		
Test Mode	: 2479MHz Tx WSB01TM		



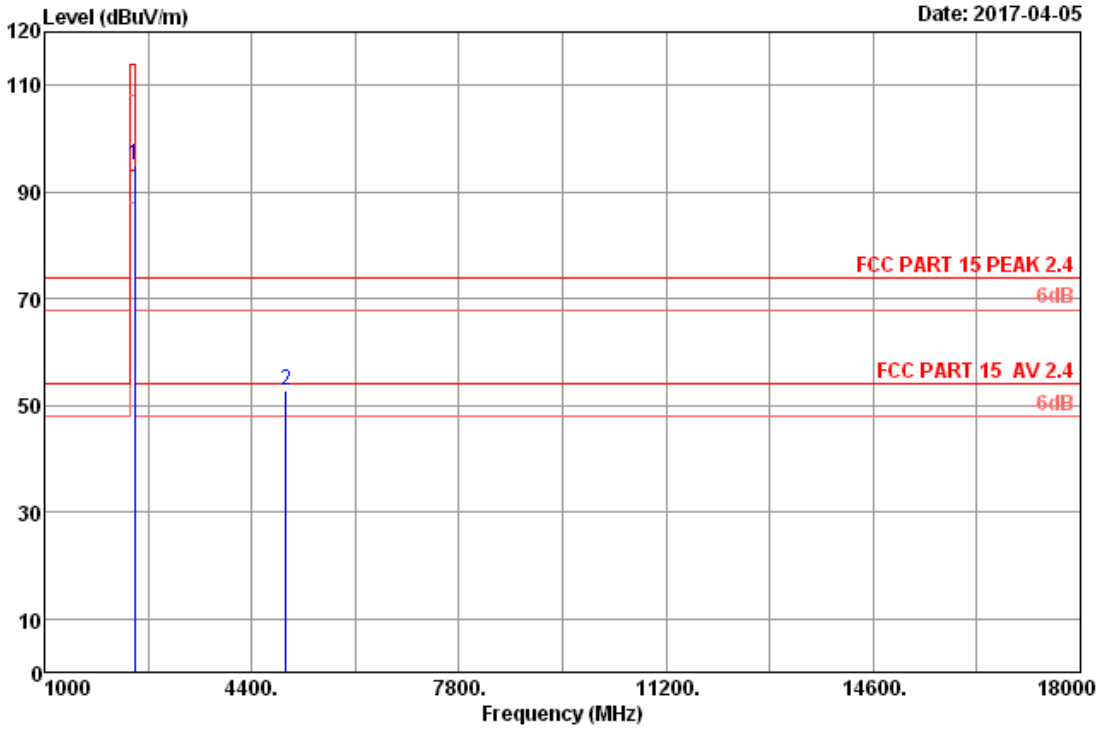
Site no. : 3m Chamber Data no. : 12
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2479MHz Tx
WSB01TM

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.00	28.27	8.42	77.68	35.34	79.03	114.00	34.97	Peak
2	4958.00	32.48	11.85	44.93	35.63	53.63	74.00	20.37	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.



Site no.	: 3m Chamber	Data no.	: 13
Dis. / Ant.	: 3m 2016 MCTD1209 3007	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15 PEAK 2.4	Pre	: 101.2kPa
Env. / Ins.	: 23.4*C/52.9% Engineer	: Alice	
EUT	: Mi Wireless Mouse		
Power rating	: DC 1.5V		
Test Mode	: 2479MHz Tx WSB01TM		



Site no. : 3m Chamber Data no. : 14
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2479MHz Tx
WSB01TM

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.00	28.27	8.42	93.85	35.34	95.20	114.00	18.80	Peak
2	4958.00	32.48	11.85	44.23	35.63	52.93	74.00	21.07	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Frequency（MHz）	Peak level（dBuv/m）	Duty cycle factor (dB)	AV level (dBuv/m)	Limit(dBuv/m)	Conclusion
2479.00	95.20	-27.828	67.372	94	Pass

5. 20 DB BANDWIDTH TEST

5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9010A	MY52220804	Oct.15,16	1Year
2.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr.23,16	1 Year
3.	RF Cable	Marvelous Microwave Inc	SFL402105FLEX	NO.1	Oct.15,16	1 Year

5.2. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

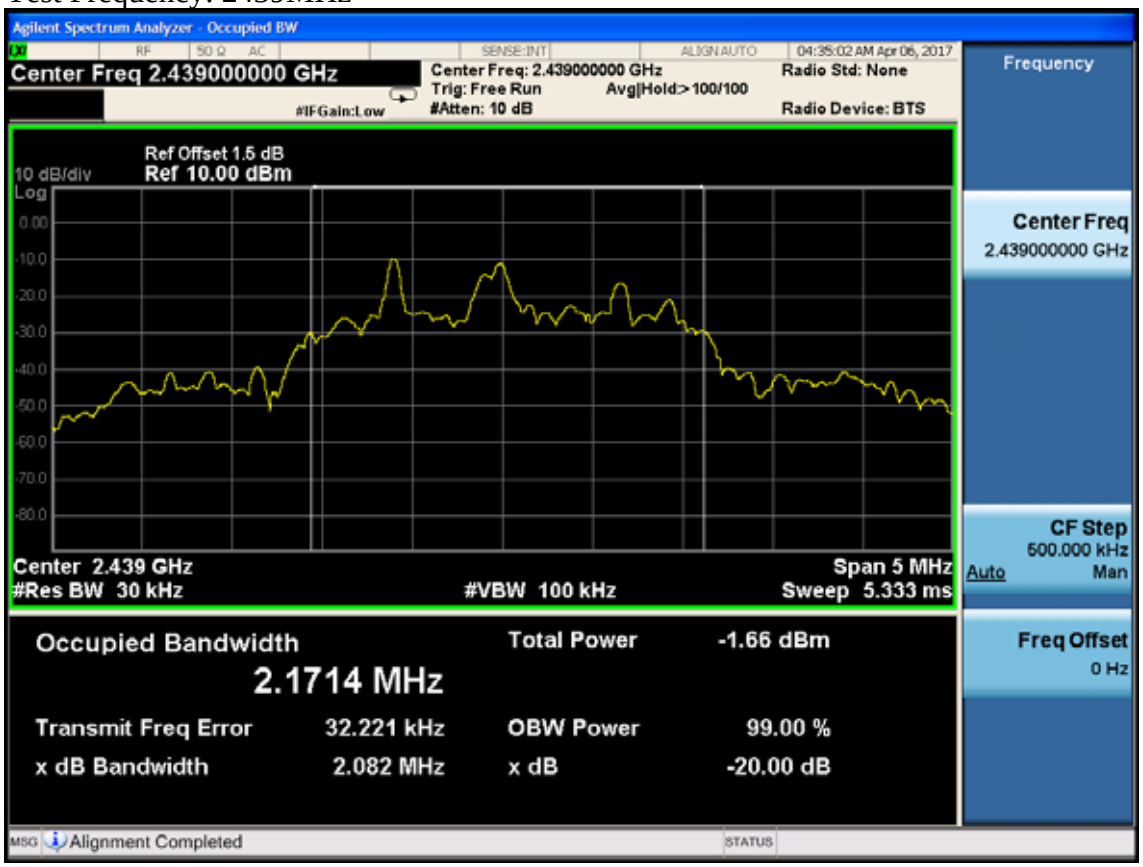
5.3. Test Results

EUT: Mi Wireless Mouse		
M/N：WSB01TM		
Test date: 2017-04-06	Pressure: 102.8±1.0 kpa	Humidity: 52.5±3.0%
Tested by: alice	Test site: RF site	Temperature:23.1±0.6 ℃

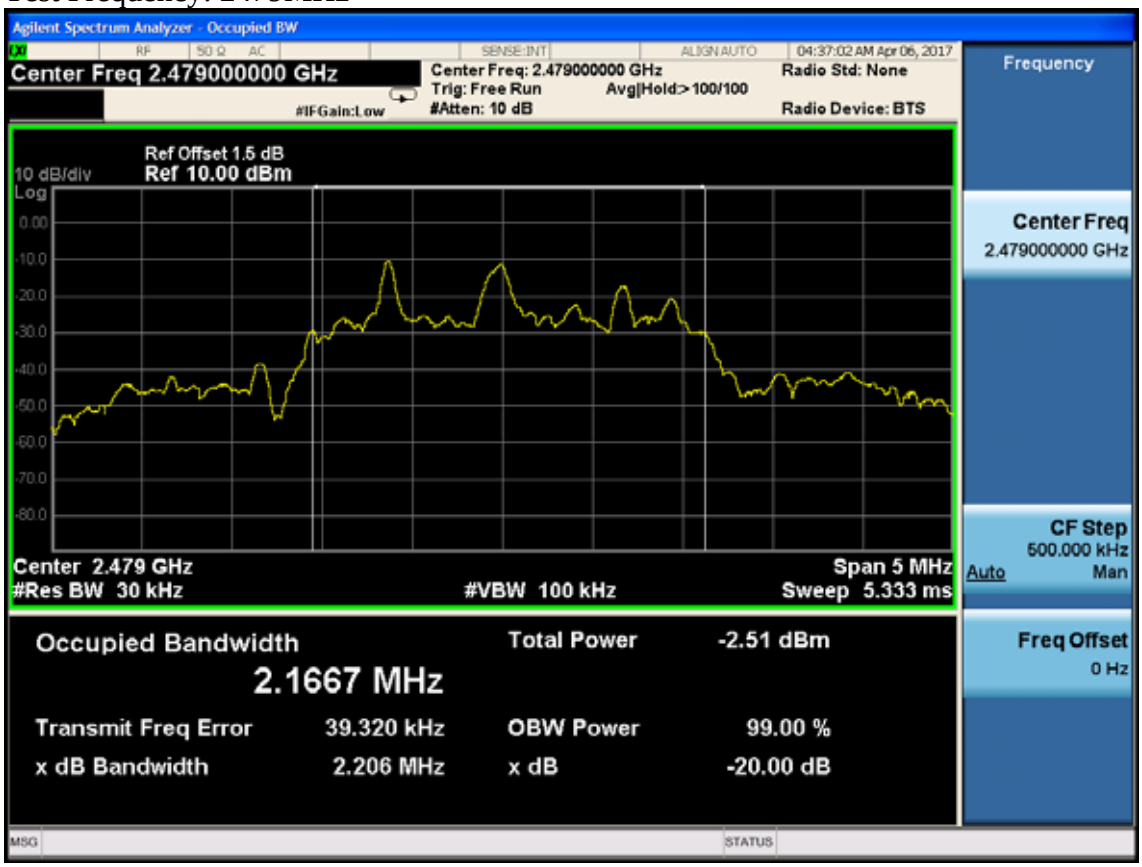
Voltage (V)	Frequency (MHz)	-20dB bandwidth （MHz）	Limit (KHz)
DC 1.5V	2403	1.979	N/A
	2439	2.082	N/A
	2479	2.206	N/A
Conclusion：PASS			

Test Frequency: 2403MHz

Test Frequency: 2439MHz



Test Frequency: 2479MHz



6. BAND EDGE COMPLIANCE TEST

6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Amp	HP	8449B	3008A02495	Apr.24,16	1 Year
2.	Horn Antenna	ETC	MCTD 1209	DRH15F03006	Apr.11,16	1 Year
3.	HF Cable	Hubersuhner	Sucoflex104	274094/4	Apr.24,16	1 Year

6.2. Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 50dB below the fundamental emissions, or comply with 15.209 limits.

6.3. Test Produce

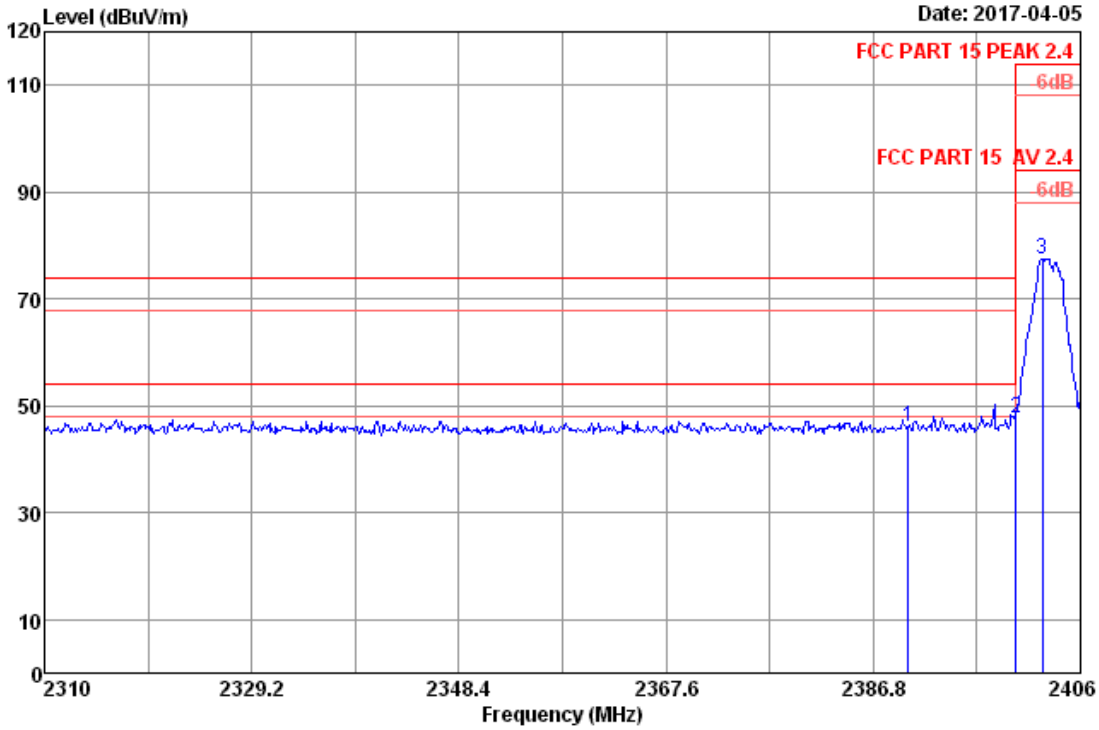
1. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upperband-edges of the emission:
   (a) PEAK: RBW=1MHz ;VBW=3MHz, PK detector, Sweep=AUTO
   (b)This device is pulse modulated, a duty cycle factor was used to calculate average level based measured peak level

6.4. Test Results

Pass (The testing data was attached in the next pages.)

Note: If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.

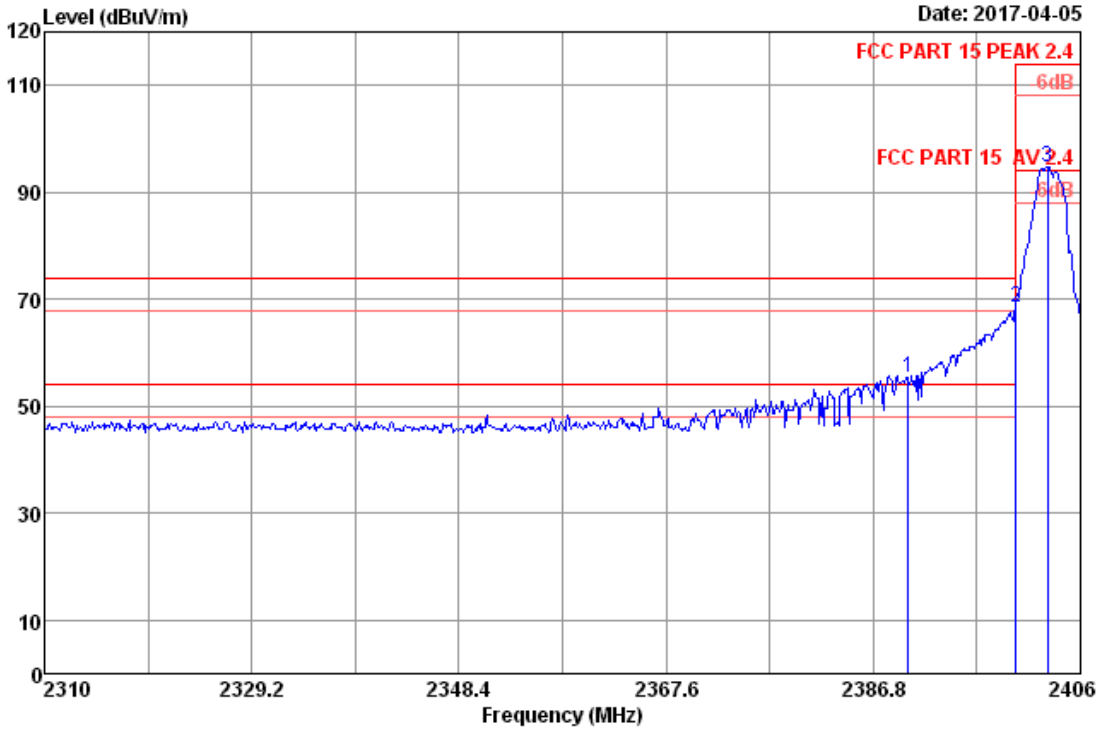
Note: The duty cycle factor for calculate average level is -27.828dB, and average limit is 50dB below peak limit, so if peak measured level comply with average limit, the average level was deemed to comply with average limit.



Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2403MHz Tx
WSB01TM

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	28.12	8.33	44.83	35.33	45.95	74.00	28.05	Peak
2	2400.00	28.14	8.34	46.51	35.33	47.66	74.00	26.34	Peak
3	2402.45	28.14	8.34	76.37	35.33	77.52	114.00	36.48	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

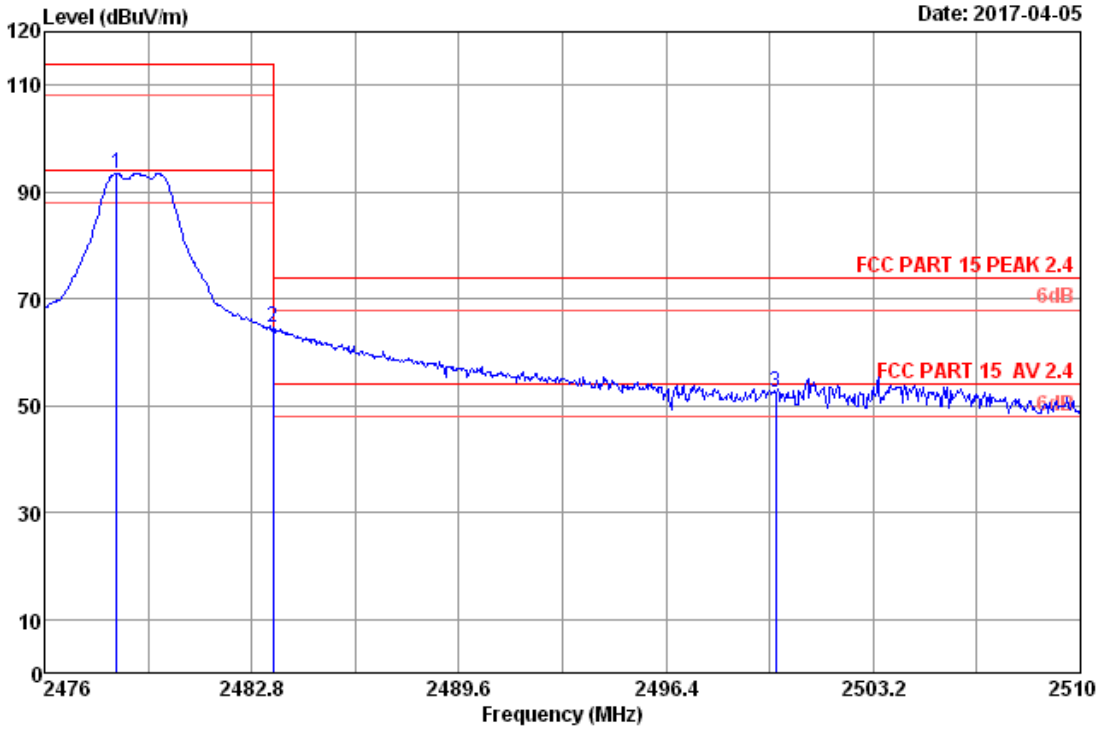


Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2403MHz Tx
WSB01TM

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	28.12	8.33	54.13	35.33	55.25	74.00	18.75	Peak
2	2400.00	28.14	8.34	67.32	35.33	68.47	74.00	5.53	Peak
3	2402.93	28.14	8.34	93.67	35.33	94.82	114.00	19.18	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Frequency（MHz）	Peak level（dBuv/m）	Duty cycle factor (dB)	AV level (dBuv/m)	Limit(dBuv/m)	Conclusion
2390.00	55.25	-27.828	27.422	54	Pass
2400.00	68.47	-27.828	40.642	54	Pass
2402.93	94.82	-27.828	66.992	94	Pass

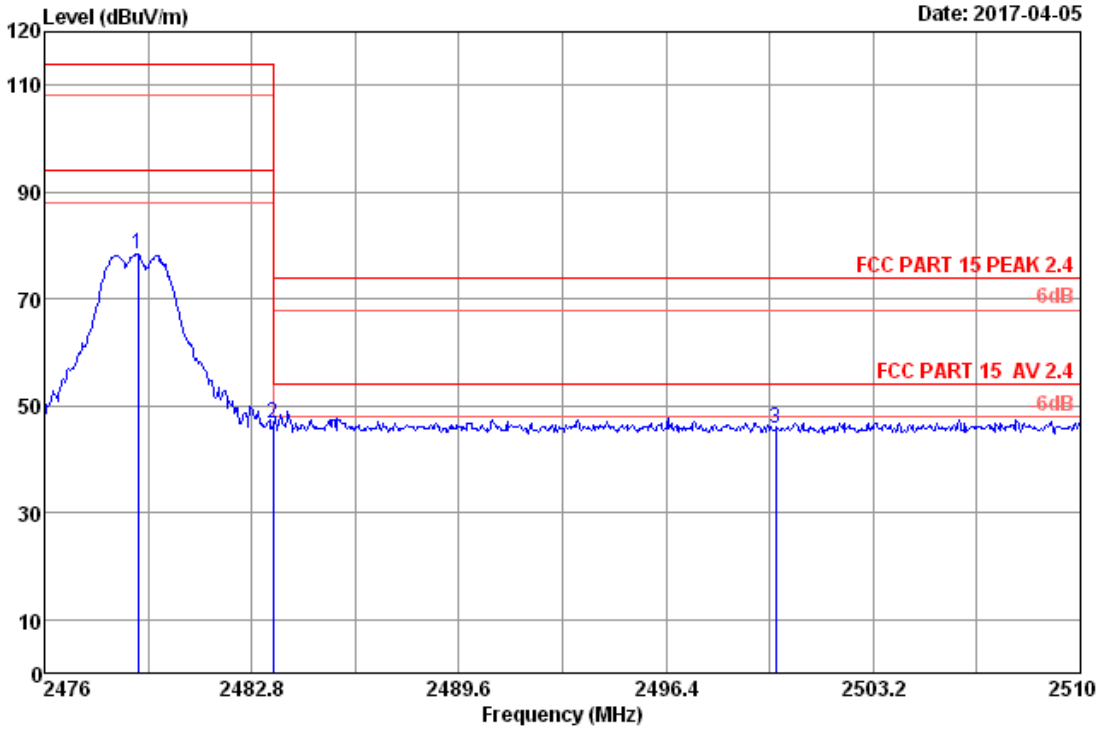


Site no. : 3m Chamber Data no. : 15
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2479MHz Tx
WSB01TM

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2478.38	28.27	8.42	92.11	35.34	93.46	114.00	20.54	Peak
2	2483.50	28.27	8.42	63.16	35.34	64.51	74.00	9.49	Peak
3	2500.00	28.30	8.44	50.95	35.34	52.35	74.00	21.65	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

Frequency（MHz）	Peak level（dBuv/m）	Duty cycle factor (dB)	AV level (dBuv/m)	Limit(dBuv/m)	Conclusion
2483.50	64.51	-27.828	36.682	54	Pass



Site no. : 3m Chamber Data no. : 16
Dis. / Ant. : 3m 2016 MCTD1209 3007 Ant. pol. : VERTICAL
Limit : FCC PART 15 PEAK 2.4 Pre : 101.2kPa
Env. / Ins. : 23.4*C/52.9% Engineer : Alice
EUT : Mi Wireless Mouse
Power rating : DC 1.5V
Test Mode : 2479MHz Tx
WSB01TM

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.06	28.27	8.42	76.95	35.34	78.30	114.00	35.70	Peak
2	2483.50	28.27	8.42	45.49	35.34	46.84	74.00	27.16	Peak
3	2500.00	28.30	8.44	44.43	35.34	45.83	74.00	28.17	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -Amp Factor
2. The emission levels that are 20dB below the official limit are not reported.

7. ANTENNA REQUIREMENT

RESULT : PASS

Test Date : Apr.05~06, 2017

Test standard : FCC Part 15.203

Limit : 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

According to the manufacturer declared, the EUT has an PCB antenna, the directional gain of antenna is 0dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply the provision.

8. RADIO FRREQUENCY EXPOSURE COMPLIANCE

RESULT : PASS

Test standard : FCC KDB Publication 447498 D01 V06

Since maximum peak output power of the transmitter is<10mW, i.e.0.000002019mW<10mW, hence the EUT is excluded from SAR evaluation according to FCC KDB Publication 447498 D01: General RF Exposure Guidance V06.

9. DEVIATION TO TEST SPECIFICATIONS

[NONE]