



Report No.: FCC2005034 File Reference No.: 2020-05-26

Applicant: Eastern Times Technology Co., Ltd

Product: WIRED&WIRELESS GAMING MOUSE

Model No.: M913, DS-2875

Brand Name: REDRAGON

Test Standards: FCC Part 15.249

Test Result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.4&FCC Part 15 Subpart C, Paragraph 15.249 regulations for the evaluation of

electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: May 26, 2020

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

# SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

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# **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

# **CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

# FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

# Industry Canada (IC) — Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

# **A2LA (Certification Number:5013.01)**

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

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# Test Report Conclusion

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The report refers only to the sample tested and does not apply to the bulk.

11.0

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Photo of Test Setup and EUT View.

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#### 1.0 General Details

#### 1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

Site on File with the Federal Communications Commission – United Sates

Registration Number: 744189 For 3m Anechoic Chamber

# 1.2 Applicant Details

Applicant: Eastern Times Technology Co., Ltd

Address: Building D, Nan An Industrial Area, Youganpu Village, Fenggang Town, Dongguan City,

Guangdong, China

Telephone: 13077806581/0769-86800511

Fax: --

# 1.3 Description of EUT

Product: WIRED&WIRELESS GAMING MOUSE

Manufacturer: Eastern Times Technology Co., Ltd

Address: Building D, Nan An Industrial Area, Youganpu Village, Fenggang Town,

Dongguan City, Guangdong, China

Brand Name: REDRAGON

Model Number: M913 Additional Model Name DS-2875

USB Input: DC5V, 300mA Rating: DC3.7V. 14-85mA

Battery: DC 3.7V, 1000mAh Li-ion battery

Modulation Type: GFSK

Operation Frequency 2403-2480MHz

Software Version: V3.07

Hardware Version: CX52810 QFN56

Channel List:

Channel	1	2	3	4	5	6	7	8
Frequency (MHz)	2403	2424	2441	2461	2414	2435	2450	2470
Channel	9	10	11	12	13	14	15	16

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Frequency (MHz)	2409	2429	2455	2475	2419	2445	2465	2480

Antenna Designation PCB antenna with gain -1.0dBi Max

1.4 Submitted Sample

1 Sample

1.5 Test Duration

2020-05-09 to 2020-05-26

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty =6.0dB

Occupied Channel Bandwidth Uncertainty =5%

Conducted Emissions Uncertainty = 3.6dB

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

Test Engineer 1.7

Terry Tang The sample tested by

Print Name: Terry Tang

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2.0 Test Equipment Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2019-06-21	2020-06-20
LISN	R&S	EZH3-Z5	100294	2019-06-21	2020-06-20
LISN	R&S	EZH3-Z5	100253	2019-06-21	2020-06-20
Ultra Broadband ANT	R&S	HL562	100157	2019-06-21	2020-06-20
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2019-06-21	2020-06-20
Loop Antenna	EMCO	6507	00078608	2018-06-25	2021-06-24
Spectrum	R&S	FSIQ26	100292	2019-06-21	2020-06-20
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2019-06-21	2021-06-20
Horn Antenna	R&S	BBHA 9120D	9120D-631	2018-07-09	2021-07-08
Power meter	Anritsu	ML2487A	6K00003613	2019-08-22	2020-08-21
Power sensor	Anritsu	MA2491A	32263	2019-08-22	2020-08-21
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2018-07-04	2021-07-03
9*6*6 Anechoic			N/A	2018-02-07	2021-02-06
EMI Test Receiver	RS	ESVB	826156/011	2019-06-21	2020-06-20
EMI Test Receiver	RS	ESH3	860904/006	2019-06-21	2020-06-20
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2019-06-21	2020-06-20
Spectrum	HP/Agilent	E4407B	MY50441392	2019-06-21	2020-06-20
Spectrum	RS	FSP	1164.4391.38	2020-01-20	2021-01-19
RF Cable	Zhengdi	ZT26-NJ-NJ-8 M/FA		2019-06-21	2020-06-20
RF Cable	Zhengdi	7m		2019-06-21	2020-06-20
RF Switch	EM	EMSW18	060391	2019-06-21	2020-06-20
Pre-Amplifier	Schwarebeck	BBV9743	#218	2019-06-21	2020-06-20
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2019-06-21	2020-06-20
LISN	SCHAFFNER	NNB42	00012	2020-01-07	2021-01-06

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#### 3.0 Technical Details

# 3.1 Summary of test results

	The EUT has	been tested	l according to th	ne following s	specifications:
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Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.207	Conducted Emission Test	PASS	Complies
FCC Part 15 Subpart C Paragraph 15.249(a) & 15.249(b) Limit	Field Strength of Fundamental	PASS	Complies
FCC Part 15, Paragraph 15.209 and RSS-210	Radiated Emission Test	PASS	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Band Edge Test	PASS	Complies

#### 3.2 Test Standards

FCC Part 15 Subpart C, Paragraph 15.249, ANSI C63.4:2014 and ANSI C63.10:2013

# 4.0 EUT Modification

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

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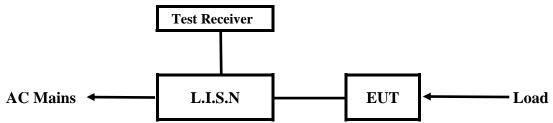
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#### 5. Power Line Conducted Emission Test

#### 5.1 Schematics of the test

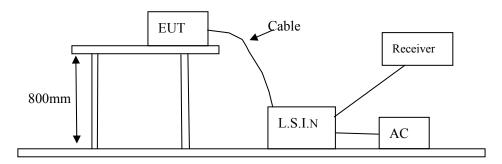


EUT: Equipment Under Test

# 5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4-2014.

#### Block diagram of Test setup



# 5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2014. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

One channels are provided to the EUT

#### A. EUT

Device	Manufacturer	Model	FCC ID
WIRED&WIRELESS	Eastern Times Technology	M012 DC 2075	TUVDS-2875
GAMING MOUSE	Co., Ltd	M913, DS-2875	10 VDS-2873

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#### B. Internal Device

Device	Manufacturer	Model	FCC ID/SDOC
N/A			

# C. Peripherals

Device	Manufacturer	Model	Rating
Power Supply	Keyu	KA-23-0502000DEU	Input:100-240V~,
			50/60Hz,0.35A;
			Output: DC5V, 2A

## 5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2014

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

# 5.5 Power line conducted Emission Limit according to Paragraph 15.107 and 15.207

Eng guar av (MHz)		mits (dBµV)	Class B Limits (dBµV)		
Frequency(MHz)  Quasi-peak Leve		Average Level	Quasi-peak Level	Average Level	
$0.15 \sim 0.50$	79.0	66.0	66.0~56.0*	56.0~46.0*	
$0.50 \sim 5.00$	73.0	60.0	56.0	46.0	
$5.00 \sim 30.00$	73.0	60.0	60.0	50.0	

Notes:

- 1. \*Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

#### 5.6 Test Results: PASS

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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# A: Conducted Emission on Live Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

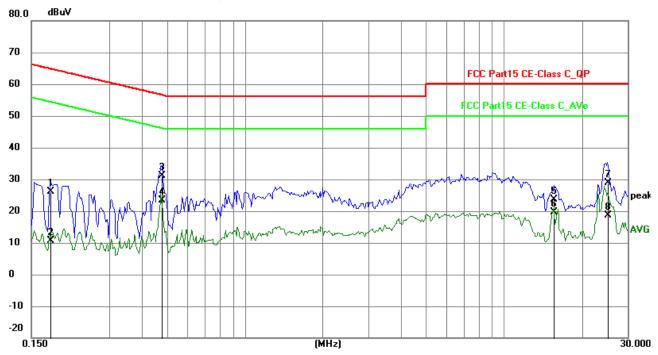
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Charging and Keep Transmitting** 

**Equipment Level: Class B** 

**Results: PASS** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1773	16.24	9.77	26.01	64.61	-38.60	QP	Р
2	0.1773	0.85	9.77	10.62	54.61	-43.99	AVG	Р
3	0.4776	21.25	9.77	31.02	56.38	-25.36	QP	Р
4	0.4776	13.65	9.77	23.42	46.38	-22.96	AVG	Р
5	15.5541	13.30	10.41	23.71	60.00	-36.29	QP	Р
6	15.5541	9.32	10.41	19.73	50.00	-30.27	AVG	Р
7	25.1091	17.82	11.00	28.82	60.00	-31.18	QP	Р
8	25.1091	7.61	11.00	18.61	50.00	-31.39	AVG	Р

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# B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

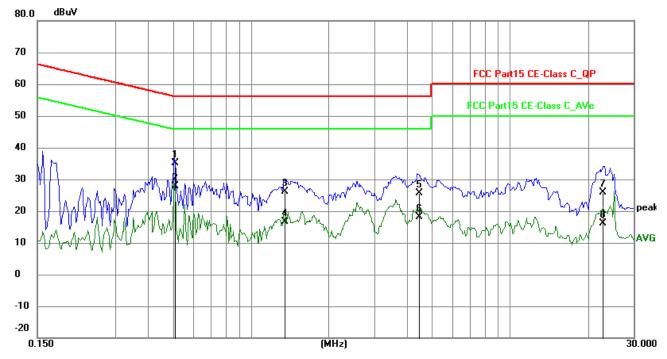
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Charging and Keep Transmitting** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.5088	25.24	9.77	35.01	56.00	-20.99	QP	Р
2	0.5088	18.02	9.77	27.79	46.00	-18.21	AVG	Р
3	1.3450	16.33	9.79	26.12	56.00	-29.88	QP	Р
4	1.3450	6.96	9.79	16.75	46.00	-29.25	AVG	Р
5	4.4305	15.71	9.91	25.62	56.00	-30.38	QP	Р
6	4.4305	8.19	9.91	18.10	46.00	-27.90	AVG	Р
7	22.7755	15.04	10.85	25.89	60.00	-34.11	QP	Р
8	22.7755	5.39	10.85	16.24	50.00	-33.76	AVG	Р

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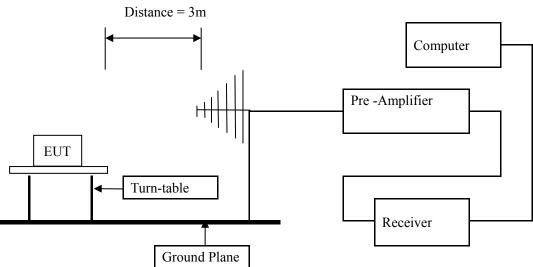
Date: 2020-05-26



#### **6** Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz (Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz). Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) The antenna polarization: Vertical polarization and Horizontal polarization.

# **Block diagram of Test setup**



- 6.2 Configuration of The EUT
  Same as section 5.3 of this report
- 6.3 EUT Operating Condition
  Same as section 5.4 of this report.

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#### 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

# A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency	Field Stre	ength of Fundame	ental (3m)	Field S	trength of Harmo	onics (3m)
(MHz)	mV/m	dBuV/m		uV/m	dBuV/m	
2400-2483.5	50	94 (Average)	94 (Average) 114 (Peak)		54 (Average)	74 (Peak)

Note:

- 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)
- 2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

# B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency Range (MHz)	Distance (m)	Field strength (dBμV/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.
- 5. For radiated emissions below 30MHz, it was the floor noise.
- 6. Full charged battery was used during tests.

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#### 6.5 Test result

#### **A** Fundamental & Harmonics Radiated Emission Data

Product:	WIRED&WIRELESS GAMING	Test Mode:	Keep transmitting-Low Channel
	MOUSE		
Test Item:	Fundamental Radiated Emission	Temperature:	25℃
	Data		
Test Voltage:	DC3.7V	Humidity:	56%
Test Result:	Pass		

Frequency	Emission PK/AV	Horiz /	Limits PK/AV	Margin
(MHz)	(dBuV/m)	Vert	(dBuV/m)	(dB)
2403	90.76 (PK)	Н	114/94	-3.24
2403	80.24 (PK)	V	114/94	-13.76
4806		Н	74/54	
4806		V	74/54	
7209		H/V	74/54	
9612		H/V	74/54	
12015		H/V	74/54	
14418		H/V	74/54	
16821		H/V	74/54	
19224		H/V	74/54	
21627		H/V	74/54	
24030		H/V	74/54	

Note: (1) PK= Peak, AV= Average

- (2) Emission Level = Reading Level + Antenna Factor + Cable Loss Pre-Amplifier
- (3)Margin=Emission-Limits
- (4)According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (5) For test purpose, keep EUT continuous transmitting
- (6) The PK emission level less than the AV limit. No necessary to record the AV emission level.

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Product:	WIRED&WIRELESS GAMING	Test Mode:	Keep transmitting-Middle Channel
	MOUSE		
Test Item:	Fundamental Radiated Emission	Temperature:	25℃
	Data		
Test Voltage:	DC3.7V	Humidity:	56%
Test Result:	Pass		

Frequency	Emission PK/AV	Horiz /	Limits PK/AV	Margin
(MHz)	(dBuV/m)	Vert	(dBuV/m)	(dB)
2441	90.03 (PK)	Н	114/94	-3.97
2441	80.06 (PK)	V	114/94	-13.94
4882	42.66 (PK)	Н	74/54	-11.34
4882		V	74/54	
7323		H/V	74/54	
9764		H/V	74/54	
12205		H/V	74/54	
14646		H/V	74/54	
17087		H/V	74/54	
19528		H/V	74/54	
21969		H/V	74/54	
24410		H/V	74/54	

Note: (1) PK= Peak, AV= Average

- (2) Emission Level = Reading Level + Antenna Factor + Cable Loss Pre-Amplifier
- (3)Margin=Emission-Limits
- (4)According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (5) For test purpose, keep EUT continuous transmitting
- (6) The PK emission level less than the AV limit. No necessary to record the AV emission level.

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Product:	WIRED&WIRELESS GAMING	Test Mode:	Keep transmitting-High Channel
	MOUSE		
Test Item:	Fundamental Radiated Emission	Temperature:	25℃
	Data		
Test Voltage:	DC3.7V	Humidity:	56%
Test Result:	Pass		

Frequency	Emission PK/AV	Horiz /	Limits PK/AV	Margin
(MHz)	(dBuV/m)	Vert	(dBuV/m)	(dB)
2480	92.66 (PK)	Н	114/94	-1.34
2480	80.80 (PK)	V	114/94	-13.2
4960		Н	74/54	
4960		V	74/54	
7440		Н	74/54	
7440		V	74/54	
9920		H/V	74/54	
12400		H/V	74/54	
14880		H/V	74/54	
17360		H/V	74/54	
19840		H/V	74/54	
22320		H/V	74/54	
24800		H/V	74/54	

Note: (1) PK= Peak, AV= Average

- (2) Emission Level = Reading Level + Antenna Factor + Cable Loss Pre-Amplifier
- (3)Margin=Emission-Limits
- (4)According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (5) For test purpose, keep EUT continuous transmitting
- (6) The PK emission level less than the AV limit. No necessary to record the AV emission level.

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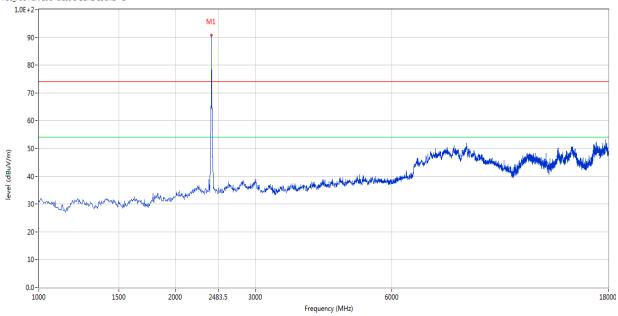
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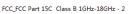
Please refer to the following test plots for details: Low Channel

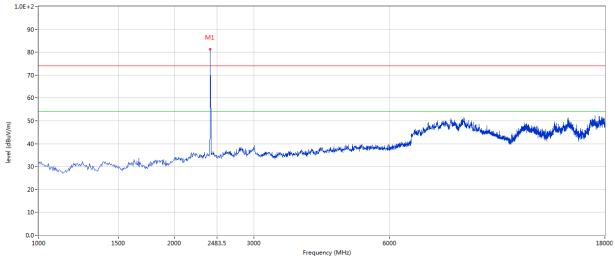
#### **Horizontal**





#### Vertical





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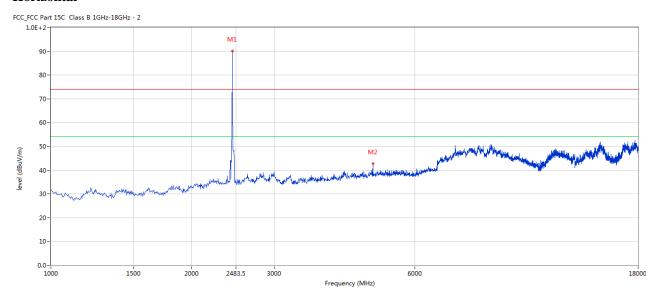
Report No.: FCC2005034

Date: 2020-05-26

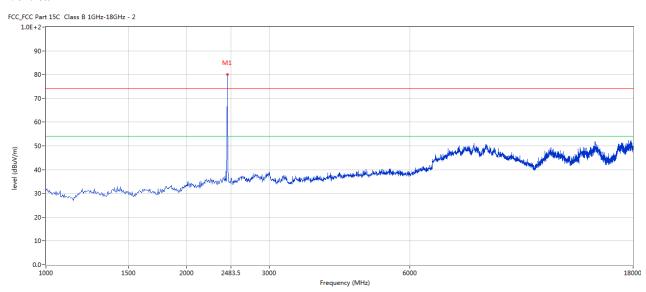


Please refer to the following test plots for details: Middle Channel

#### Horizontal



#### Vertical



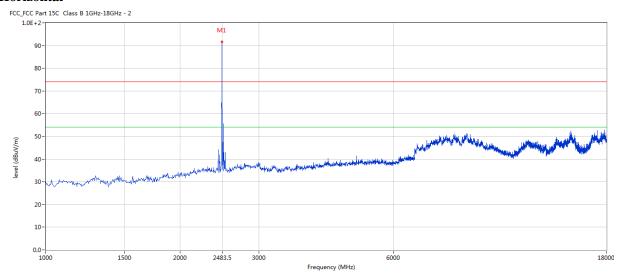
Report No.: FCC2005034

Date: 2020-05-26

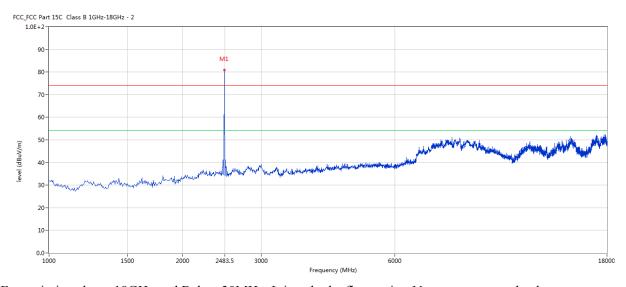


Please refer to the following test plots for details: High Channel

#### **Horizontal**



# Vertical



For emission above 18GHz and Below 30MHz, It is only the floor noise. No necessary to take down.

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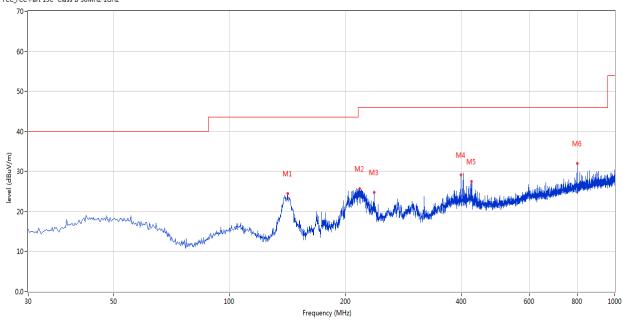
# B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass

Please refer to following diagram for individual

FCC\_FCC Part 15C Class B 30MHz-1GHz



No.	Frequency	Results	Factor (dB)	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)		(dBuV/m)	(dB)		(o)	(cm)		
1	141.522	24.44	-17.28	43.5	-19.06	Peak	283.00	200	Н	Pass
2	217.891	25.71	-13.42	46.0	-20.29	Peak	360.00	200	Н	Pass
3	237.043	24.79	-12.37	46.0	-21.21	Peak	69.00	100	Н	Pass
4	398.508	29.14	-8.65	46.0	-16.86	Peak	203.00	100	Н	Pass
5	424.206	27.49	-8.16	46.0	-18.51	Peak	182.00	100	Н	Pass
6	798.775	31.94	-3.01	46.0	-14.06	Peak	45.00	100	Н	Pass

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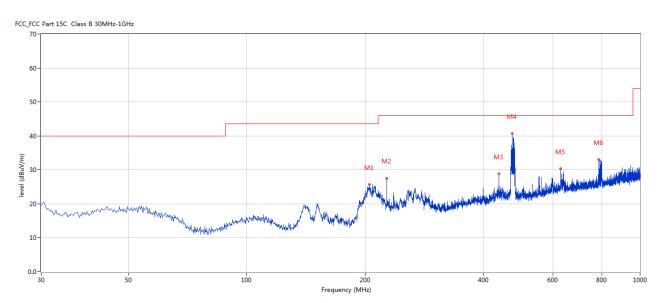


# Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	205.284	25.71	-13.61	43.5	-17.79	Peak	116.00	100	V	Pass
2	226.861	27.55	-12.80	46.0	-18.45	Peak	267.00	100	V	Pass
3	437.298	28.79	-8.03	46.0	-17.21	Peak	343.00	100	V	Pass
4	472.452	40.67	-7.63	46.0	-5.33	Peak	314.00	100	V	Pass
5	628.098	30.35	-4.95	46.0	-15.65	Peak	276.00	100	V	Pass
6	784.956	33.02	-3.08	46.0	-12.98	Peak	314.00	100	V	Pass

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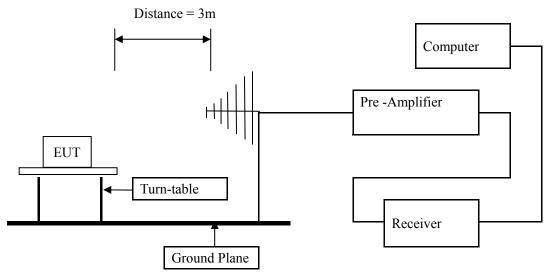


## 7. Band Edge

#### 7.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) Set Spectrum as RBW=1MHz,VBW=3MHz and Peak detector for PK value ,RBW=1MHz ,VBW=10Hz and Peak detector for AV value .
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

# 7. 2 Radiated Test Setup



For the actual test configuration, please refer to the related items – Photos of Testing

# 7.3 Configuration of The EUT

Same as section 5.3 of this report

# 7.4 EUT Operating Condition

Same as section 5.4 of this report.

#### 7.5 Band Edge Limit

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.

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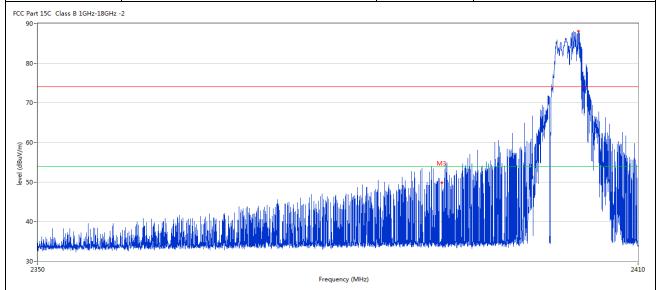
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#### 7.6 Test Result

Product:	WIRED&WIRELESS GAMING MOUSE	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		



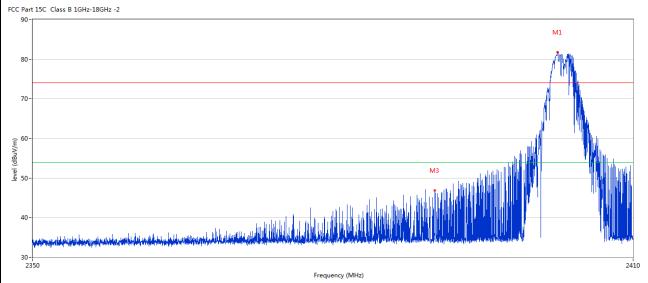
No	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
2**	2400.017	46.69	-3.57	54.0	-7.31	AV	125.00	100	Н	Pass
2	2400.017	66.47	-3.57	74.0	-7.53	Peak	125.00	100	Н	Pass
3	2390.005	49.81	-3.53	54.0	-4.19	Peak	181.00	100	Н	Pass

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Product:	WIRED&WIRELESS GAMING MOUSE	Detector	Vertical		
Mode	Keeping Transmitting	Keeping Transmitting Test Voltage			
Temperature	24 deg. C,	Humidity	56% RH		
Test Result:	Pass				



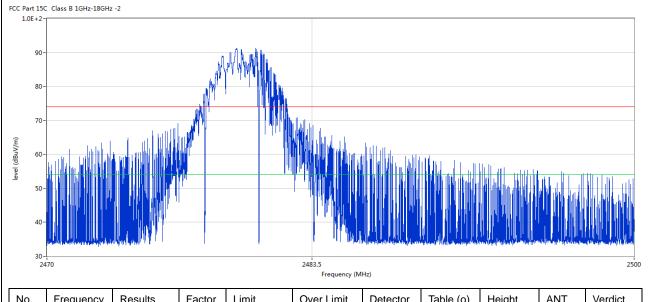
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
2**	2400.102	46.10	-3.57	54.0	-7.90	AV	82.00	100	٧	Pass
2	2400.102	57.15	-3.57	74.0	-16.85	Peak	82.00	100	٧	Pass
3	2390.040	46.87	-3.53	54.0	-7.13	Peak	1.00	100	٧	Pass
	2** 2	(MHz) 2** 2400.102 2 2400.102	(MHz) (dBuV/m) 2** 2400.102 46.10 2 2400.102 57.15	(MHz) (dBuV/m) (dB) 2** 2400.102 46.10 -3.57 2 2400.102 57.15 -3.57	(MHz) (dBuV/m) (dB) (dBuV/m) 2** 2400.102 46.10 -3.57 54.0 2 2400.102 57.15 -3.57 74.0	(MHz)     (dBuV/m)     (dB)     (dBuV/m)     (dB)       2**     2400.102     46.10     -3.57     54.0     -7.90       2     2400.102     57.15     -3.57     74.0     -16.85	(MHz)     (dBuV/m)     (dB)     (dBuV/m)     (dB)       2**     2400.102     46.10     -3.57     54.0     -7.90     AV       2     2400.102     57.15     -3.57     74.0     -16.85     Peak	(MHz)     (dBuV/m)     (dB)     (dBuV/m)     (dB)       2**     2400.102     46.10     -3.57     54.0     -7.90     AV     82.00       2     2400.102     57.15     -3.57     74.0     -16.85     Peak     82.00	(MHz)     (dBuV/m)     (dB)     (dB)     (cm)       2**     2400.102     46.10     -3.57     54.0     -7.90     AV     82.00     100       2     2400.102     57.15     -3.57     74.0     -16.85     Peak     82.00     100	(MHz)     (dBuV/m)     (dB)     (dB)     (cm)       2**     2400.102     46.10     -3.57     54.0     -7.90     AV     82.00     100     V       2     2400.102     57.15     -3.57     74.0     -16.85     Peak     82.00     100     V

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Product:	WIRED&WIRELESS GAMING MOUSE	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		



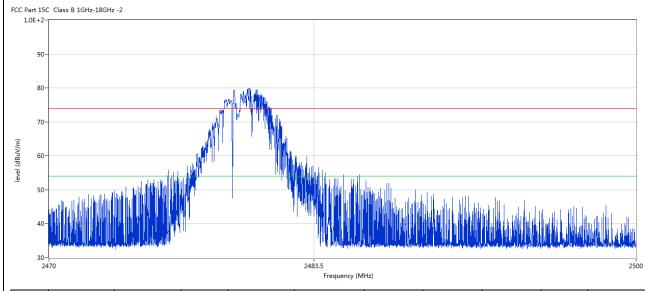
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
2**	2483.500	46.76	-3.57	54.0	-7.24	AV	195.00	100	Н	Pass
2	2483.500	67.72	-3.57	74.0	-6.28	Peak	195.00	100	Н	Pass

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Product:		RELESS GAMING MOUSE	Detector	Vertical
Mode	Keeping	g Transmitting	Test Voltage	DC3.7V
Temperature	24	4 deg. C,	Humidity	56% RH
Test Result:		Pass		1
2483.5MHz	PK (dBμV/m)		Limit	$74~dB\mu V/m$
2483.5MHz	2483.5MHz AV (dBμV/m)		Limit	54 dBμV/m



Ν	lo.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
2	**	2483.500	44.04	-3.57	54.0	-9.96	AV	8.00	100	٧	Pass
2		2483.500	56.56	-3.57	74.0	-17.44	Peak	8.00	100	٧	Pass

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# 8.0 Antenna Requirement

# **Applicable Standard**

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

This product has a PCB antenna. The antenna gain is -1.0dBi Max. It fulfills the requirement of this section. Test Result: Pass

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Delta 1 [T1]  REW 30 kHz RF Att 30 ref Lvl  -0.60 dB VBW 100 kHz  0 dBm 2.02404810 MHz SWT 14 ms Unit  V1 [T1] -33.63 d 2.40199499 d	ng
Test Result:    Pass	
20dB Bandwidth 2.024MHz	
Delta 1 [T1]  RBW 30 kHz RF Att 30 representation of the second of the s	
Ref Lvl	
-10 -10 -10 -20 -30 -30 -30 -30 -30 -40 -40 -50 -50 -50 -50 -50 -70 -70 -70 -70 -70 -70 -70 -70 -70 -7	dВ
-10 -10 -10 -10 -10 -10 -10 -10 -10 -10	dBm
-20 -20 -30 -30 -40 -50 -50 -70 -70 -70 -70 -70 -70 -70 -70 -70 -7	dBm GHz
-30 lD1 -34.35 dBm -40 -50	
-40 -50 -50 -50 -50 -50 -50 -50 -50 -50 -5	
-50	11
-60	M
-70	
-80	
-90	
-100 Center 2.403 GHz 500 kHz/ Span 5 1	

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Product:	LESS GAMI	ESS GAMING MOUSE			Test Mode:			Keep transmitting			
Mode	Keeping Transmitting 24 deg. C, Pass				Test Voltage Humidity			DC3.7V 56% RH PK			
Temperature											
Test Result:					Detector						
20dB Bandwidth	2	.004MHz									
	Delta 1	L [T1]		RE	ЗW	30	kHz	R	F Att	30 c	iв
Ref Lvl 0 dBm		0.0 2.0040080	4 dB 2 MHz		W WT	100 14		U	nit	c	dBm
0						▼:					<u> </u>
						* .	1 [T	LJ	2.43999		lBm Hz
-10		2				<u> </u>	1 [T	1]	(		lB
		Ĭ	À			_			2.00400		IHz
-20						<u>▽</u> ;	2 [T	1]	2.44042		lBm
									2.44042	365 G	mz
-30 - <del>1</del> D1 -33.	61 dBm		W	4	$\sim$	7	<u>J</u>				1MA
4.0	\ \sum_{}	$\mathcal{M}$		V							
-40	Λ / /						V	١	^		
-50								W	√W \~	Mun.	~w
-60											
-70											
-80					$\dashv$						
-90											
-100											
·	.441 GHz	<u> </u>	500 ł	cHz/	!		•		Spa	an 5 M	IHz
Date: 19	9.MAY.2020 13	::29:16									

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Product:	WIRED&WIREI	LESS GAN	AING MO	USE	Т	est Mode	::	Keep tra	ansmitting	
Mode	g Transmi	tting		Te	est Voltag	ge	DC3.7V			
Temperature	24 deg. C, Pass				Humidity		,	56% RH		
Test Result:						Detector		PK		
20dB Bandwidth	1	.994MHz								
Ŕ <b>A</b>	Delta 1	l [T1]		R	.BW	30	kHz F	RF Att	30 dB	
Ref Lvl		-0.	24 dB	V	BW	100	kHz			
0 dBm	:	1.993987	798 MHz	S	WT	14	ms l	Jnit	dBm	l
0						<b>v</b> <sub>1</sub>	[T1]	-33	3.81 dBm	70
								2.47899	299 GHz	A
-10		2				<u> 1</u>	[T1]	- (	0.24 dB	
		<b>\</b>	/			∇ :		1.99398	3798 MHz	
-20		<del>                                     </del>				<u> </u>	[T1]	2.47942	4.22 dBm 2385 GHz	
		$\mathcal{N}$				\ \ \		2.1/212	300 GIIZ	
-30			MA	$\vdash$	$\overline{\sim}$	m //	1			
<u> </u>	22 dBm	M	OU .	W	,	•	1			1MA
-40							1.			
	_						1			
-50	\ .M. \						1	Mar.	\	
							~	rV VV	٧\	
-60 pM							\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	'	W. M.	
-70										
-80										
-90										
-90										
-100										
-100 Center 2	.48 GHz		500	kHz/				Spa	an 5 MHz	1
Date: 19	9.MAY.2020 13	3:34:07								

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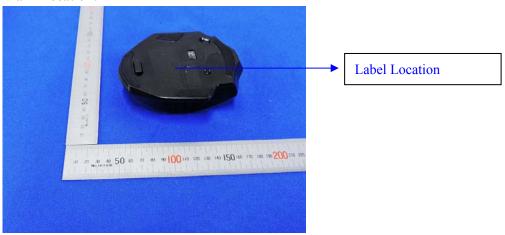


#### 10.0 FCC ID Label

#### FCC ID: TUVDS-2875

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

#### **Mark Location:**



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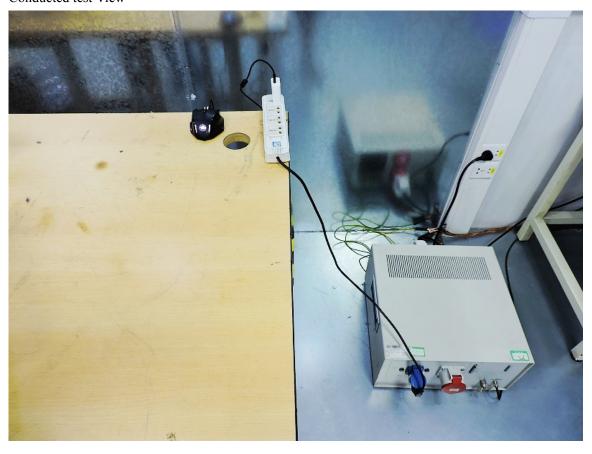
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# 11.0 Photo of testing

# 11.1 Conducted test View



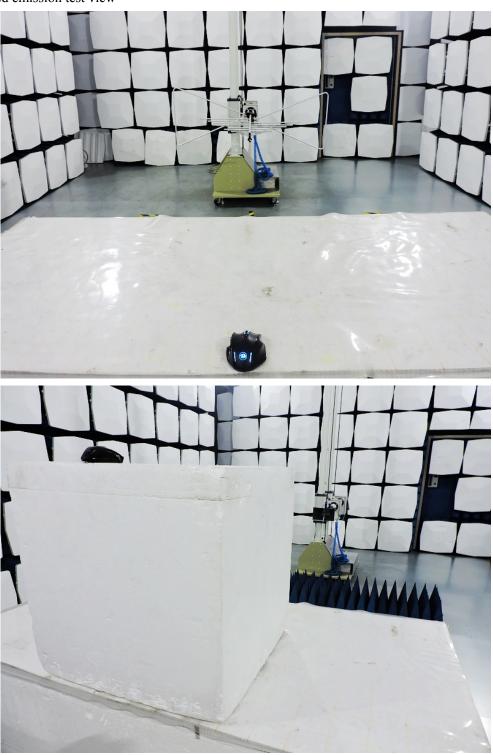
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# 11.2 Radiated emission test view



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# 11.3 Photographs – EUT

#### Outside View





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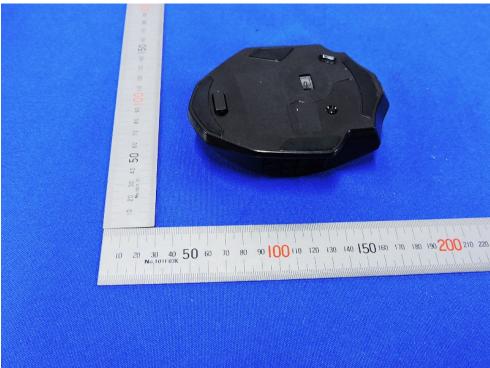
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Outside View





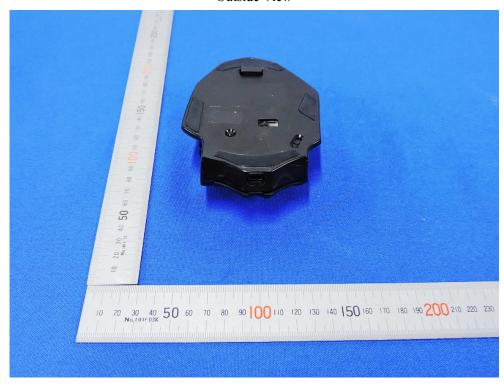
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Outside View



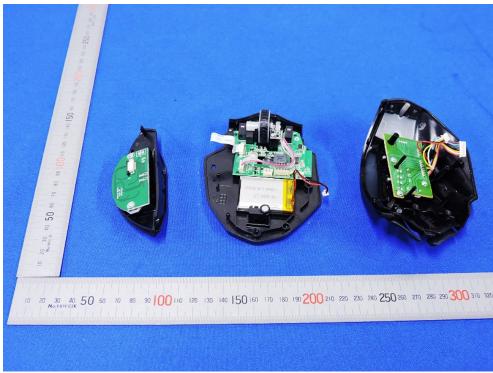
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# Inside view





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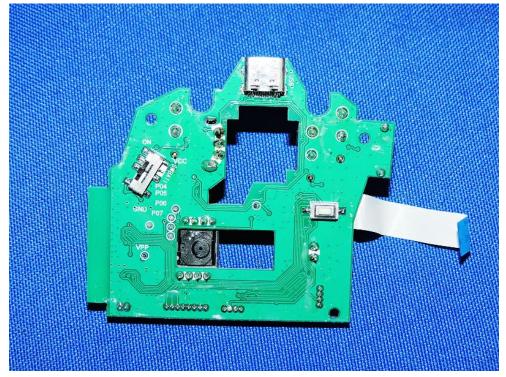
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# Inside view





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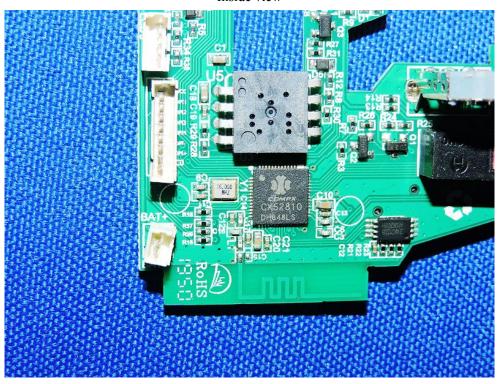
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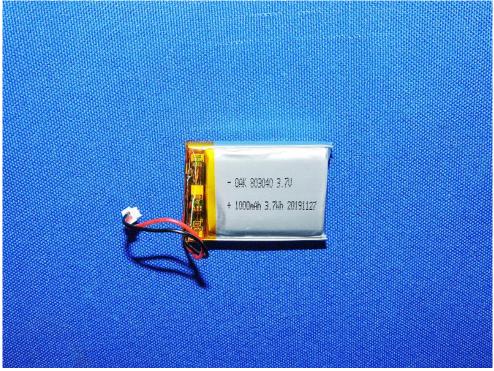
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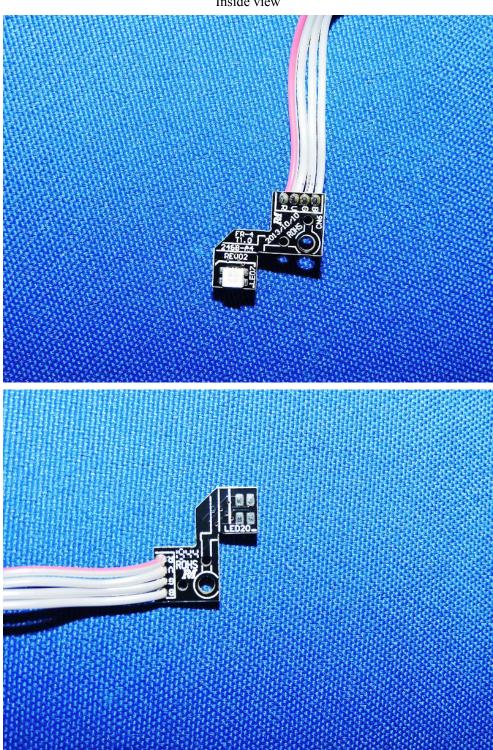
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Inside view



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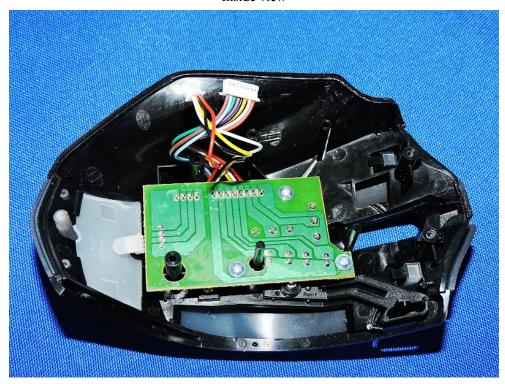
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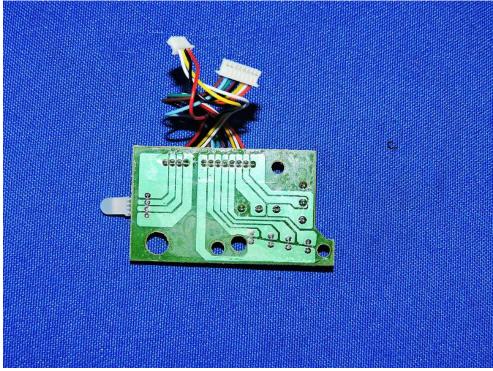
Report No.: FCC2005034

Date: 2020-05-26



Inside view





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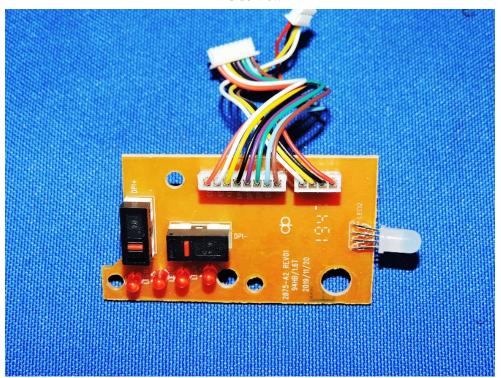
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Inside view





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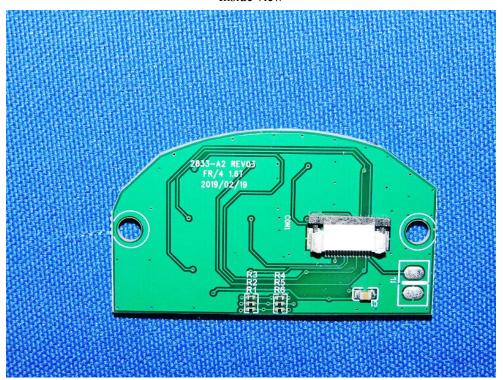
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Inside view





-- End of the report--

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