

withdrawal at

Report No.:	TW2311061-02E	
Applicant:	MICRO COMPUTER (HK) TECH LIMITED	
Product:	Wireless Mouse	
Model No.:	MM-A01, MM-A02, MM-A03, MM-A05, MM-A04, MM-A06, MM-A07, MM-A08, MM-A09, MM-A10	
Trademark:	W MINISFORUM	
Test Standards:	FCC Part 15.249	
Test result:	It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10 & FCC Part 15 Subpart C, Paragraph 15.249 regulations for the evaluation of electromagnetic compatibility	
Approved By		
Terry Tong		
Terry Tang		
Manager		
Dated:	November 24, 2023	
Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to		

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



Special Statement:

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

CAB identifier: CN0033

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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: MICRO COMPUTER (HK) TECH LIMITED
Address: RM 18, 28/F, SHUI ON CENTRE, 6-8 HARBOUR ROAD, WATERFRONT WAN CHAI, HK
Telephone: 0755-84659450
Fax: 0755-

1.3 Description of EUT

1	
Product:	Wireless Mouse
Manufacturer:	MICRO COMPUTER (HK) TECH LIMITED
Address:	RM 18, 28/F, SHUI ON CENTRE, 6-8 HARBOUR ROAD, WATERFRONT
	WAN CHAI, HK
Trademark:	₩/minisforum
Model Number:	MM-A01
Additional Model Name	MM-A02, MM-A03, MM-A04, MM-A05, MM-A06, MM-A07, MM-A08,
	MM-A09, MM-A10
Rating:	Input: DC5V, 2A
Battery:	DC3.7V, 400mAh Li-ion battery
Hardware Version:	MMA01-V1.1
Software Version:	MMA01-V1.1
Serial No.:	MMAXXXX20231205115B
Operation Frequency:	2402-2480MHz (Bluetooth)
Channel Number:	79
Channel Separation:	1MHz
Modulation Type:	GFSK
Antenna Designation	PCB antenna with gain 2.34dBi maximum (Get from the antenna
	specification)

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1.4 Submitted Sample: 2 Samples

- 1.5 Test Duration 2023-11-08 to 2023-11-24
- 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%.

1.7 Test Engineer

Andy - Xing

The sample tested by

Print Name: Andy Xing

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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	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100253	2023-07-14	2024-07-13
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2023-07-14	2024-07-13
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17
Spectrum	R&S	FSIQ26	100292	2023-07-14	2024-07-13
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2022-07-18	2025-07-17
Horn Antenna	R&S	BBHA 9120D	9120D-631	2022-07-18	2024-07-17
Power meter	Anritsu	ML2487A	6K00003613	2023-07-14	2024-07-13
Power sensor	Anritsu	MA2491A	32263	2023-07-14	2024-07-13
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2022-07-18	2025-07-17
9*6*6 Anechoic			N/A	2022-07-26	2025-07-25
EMI Test Receiver	RS	ESVB	826156/011	2023-07-14	2024-07-13
EMI Test Receiver	RS	ESCS 30	834115/006	2023-07-14	2024-07-13
Spectrum	HP/Agilent	E4407B	MY50441392	2023-07-14	2024-07-13
Spectrum	RS	FSP	1164.4391.38	2023-07-14	2024-07-13
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2023-07-14	2024-07-13
RF Cable	Zhengdi	7m		2023-07-14	2024-07-13
Pre-Amplifier	Schwarebeck	BBV9743	#218	2023-07-14	2024-07-13
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2023-07-14	2024-07-13
LISN	SCHAFFNER	NNB42	00012	2023-07-14	2024-07-13
ESPI Test Receiver	R&S	ESPI 3	100379	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13

2.2 Automation Test Software

For Conducted Emission Test

Name	Version
EZ-EMC	Ver.EMC-CON 3A1.1

For Radiated Emissions

Name	Version
EMI Test Software BL410-EV18.91	V18.905
EMI Test Software BL410-EV18.806 High Frequency	V18.06

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The EUT has been tested according to the following specifications:

3.0 Technical Details

3.1 Summary of test results

The EUT has been tested according to the following specifications:				
Standard	Test Type	Result	Notes	
FCC Part 15, Paragraph 15.203	Antenna Requirement	Pass	Complies	
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	Radiated Emission Test	Pass	Complies	
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Band Edge Test	Pass	Complies	
FCC Part 15.215(c)	20dB bandwidth	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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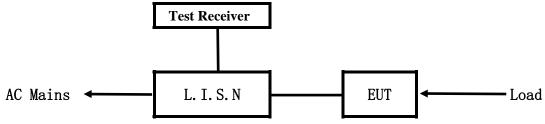
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5.0 Power Line Conducted Emission Test

5.1 Schematics of the test

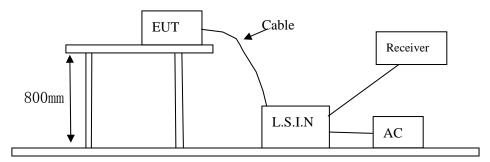


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum from 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10–2013. Test Voltage: 120V~, 60Hz

Block diagram of Test setup



5.3 Configuration of the EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below. 16 channels are provided to the EUT

A.	EUT
	-

Device	Manufacturer	Model	FCC ID
Wireless Mouse	MICRO COMPUTER (HK) TECH LIMITED	MM-A01, MM-A02, MM-A03, MM-A04, MM-A05, MM-A06, MM-A07, MM-A08, MM-A09, MM-A10	2A49R-MMA01

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B. Internal Device

Internal Device			
Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	Rating
Power Supply	KEYU	KA23-0502000DEU	Input: 100-240V~, 50/60Hz, 0.35A;
			Output: DC5V, 2A
PC	ThinkPad	R4	DC19.5V, 2.31A

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013

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 15.207

Frequency	Limits (dB µ V)		
(MHz)	Quasi-peak Level	Average Level	
$0.15~\sim~0.50$	66.0~56.0*	56.0~46.0*	
$0.50~\sim~5.00$	56.0	46.0	
$5.00 \sim 30.00$	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:

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Conducted Emission on Live Terminal (150kHz to 30MHz) A: **EUT Operating Environment** Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa **EUT set Condition: Charging and Keep Transmitting Results: Pass** Please refer to following diagram for individual dBu¥ 80.0 70 FCC Part15 CE-Class C_QP 60 FCC Part 5 CE-Class C_AVe 50 40 peak 30 AVG 20 10 0 -10 -20 30.000 0.150 (MHz)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1582	44.48	9.78	54.26	65.56	-11.30	QP	Ρ
2	0.1582	28.78	9.78	38.56	55.56	-17.00	AVG	Ρ
3	0.2826	27.18	9.76	36.94	60.74	-23.80	QP	Ρ
4	0.2826	10.41	9.76	20.17	50.74	-30.57	AVG	Ρ
5	3.4329	17.40	9.86	27.26	56.00	-28.74	QP	Р
6	3.4329	4.21	9.86	14.07	46.00	-31.93	AVG	Ρ
7	16.9113	20.44	10.49	30.93	60.00	-29.07	QP	Ρ
8	16.9113	15.35	10.49	25.84	50.00	-24.16	AVG	Ρ

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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz) **EUT Operating Environment** Temperature: 25℃ Humidity: 65%RH Atmospheric Pressure: 101 kPa EUT set Condition: Charging and Keep Transmitting **Results: Pass** Please refer to following diagram for individual dBu¥ 80.0 70 FCC Part15 CE-Class C_QP 60 FCC Part 5 CE-Class C_AVe 50 40 30 peak AVG 20 10 0 -10 -20 0.150 (MHz) 30.000

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1695	41.27	9.77	51.04	64.98	-13.94	QP	Ρ
2	0.1695	25.51	9.77	35.28	<mark>54.98</mark>	-19.70	AVG	Ρ
3	0.2670	29.98	9.75	39.73	61.21	-21.48	QP	Ρ
4	0.2670	18.69	9.75	28.44	51.21	-22.77	AVG	Р
5	0.8130	16.69	9.78	26.47	56.00	-29.53	QP	Р
6	0.8130	13.10	9.78	22.88	46.00	-23.12	AVG	Ρ
7	15.6867	21.71	10.42	32.13	60.00	-27.87	QP	Ρ
8	15.6867	15.43	10.42	25.85	50.00	-24.15	AVG	Ρ

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6 Radiated Emission Test

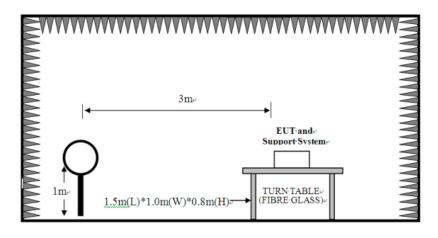
- 6.1 Test Method and test Procedure:
- The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 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 9kHz to 25 GHz was investigated. The frequency spectrum is set as follows:

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
Above IGHZ	Peak	1MHz	10Hz	Average

(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

For radiated emissions from 9kHz to 30MHz

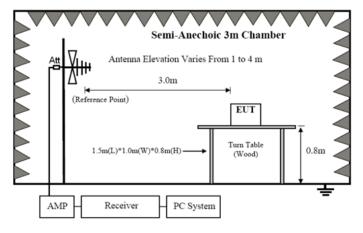


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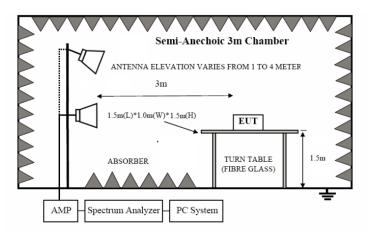
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For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



- 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.
- 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:

Α	FCC Part 15 Subpart C Paragraph 15.249(a) Limit	

Fundamental Frequency	Field Stre	ength of Fundamental (3m)	Field S	trength of Harmonics (3m)
(MHz)	mV/m	dBuV/m	uV/m	dBuV/m

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2	2400-2483.5		94 (Average)	114 (Peak)	500	54 (Average)	74 (Peak)
Note:	1. RF Field Streng	gth (dBuV)	$= 20 \log \text{RF Volt}$	age (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.

1	1	81
Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
0.009-0.490	3	20log(2400/F(kHz)) +40log (300/3)
0.490-1.705	3	20log(24000/F(kHz)) +40log (30/3)
1.705-30	3	69.5
30-80	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. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

6. Battery fully charged was used during the test.

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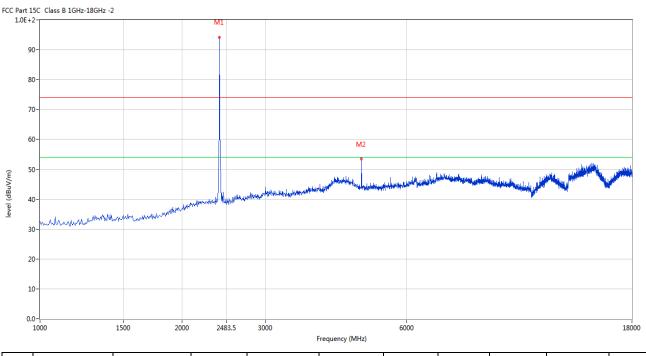


6.5 Test result

A Fundamental & Harmonics Radiated Emission Data

Please refer to the following test plots for details: Low Channel-2402MHz

Horizontal

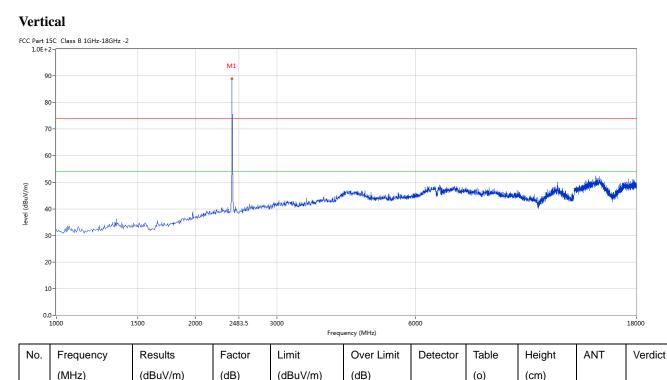


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402	94.20	-3.57	114.0	-19.8	Peak	289.00	100	Horizontal	Pass
1**	2402	85.09	-3.57	94.0	-8.91	AV	289.00	100	Horizontal	Pass
2	4802.799	53.47	3.12	74.0	-20.53	Peak	111.00	100	Horizontal	Pass

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187.00

100

Vertical

Pass

Peak

The report refers only to the sample tested and does not ap	ply to	the bulk.
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88.84

-3.57

114.0

-25.16

2402

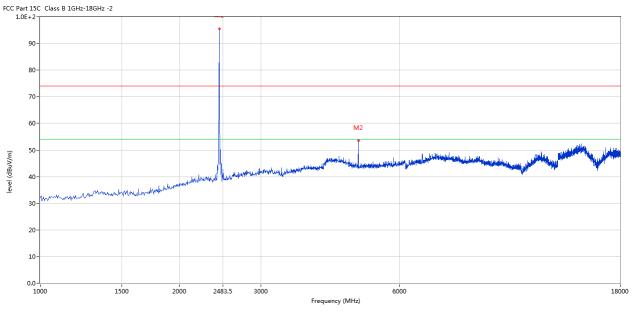
1

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Please refer to the following test plots for details: Middle Channel-2440MHz

Horizontal

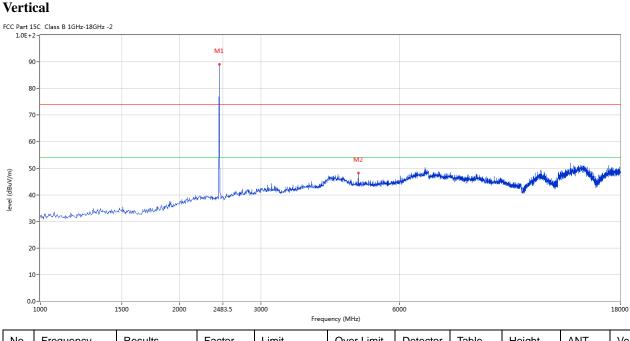


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440	95.50	-3.57	114.0	-18.50	Peak	260.00	100	Horizontal	Pass
1**	2440	86.32	-3.57	94.0	-7.68	AV	260.00	100	Horizontal	Pass
2	4879.280	53.40	3.20	74.0	-20.60	Peak	260.00	100	Horizontal	Pass

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440	89.11	-3.57	114.0	-24.89	Peak	184.00	100	Vertical	Pass
2	4879.280	48.23	3.20	74.0	-25.77	Peak	184.00	100	Vertical	Pass

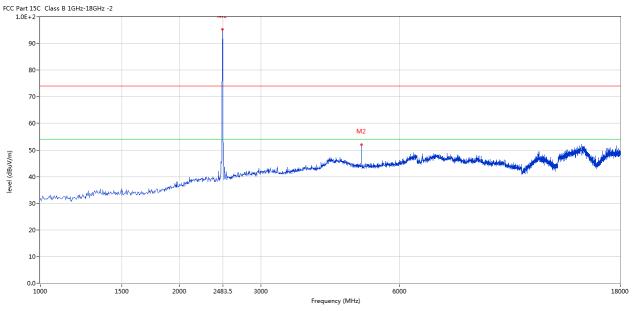
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Please refer to the following test plots for details: High Channel-2480MHz

Horizontal

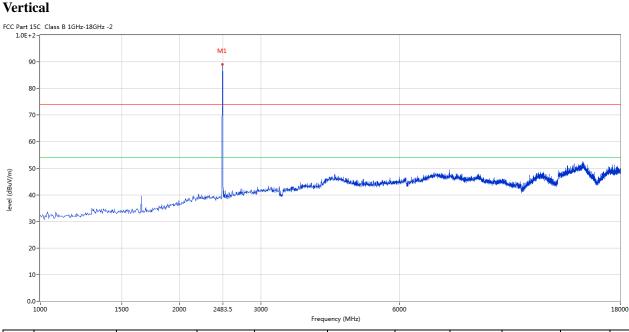


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	95.35	-3.57	114.0	-18.65	Peak	258.00	100	Horizontal	Pass
1	2480	86.19	-3.57	94.0	-7.81	AV	258.00	100	Horizontal	Pass
2	4960.010	51.99	3.36	74.0	-22.01	Peak	253.00	100	Horizontal	Pass

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	89.11	-3.57	114.0	-24.89	Peak	172.00	100	Vertical	Pass

Note: (1) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

(2) Margin=Emission-Limits

(3) According to section 15.35(b), the peak limit is 20dB higher than the average limit

(4) For test purpose, keep EUT continuous transmitting

(5) For emission above 18GHz and Below 30MHz, It is only the floor noise and less than the limit for more than 20dB. No necessary to take down.

(6) the measured PK value less than the AV limit.

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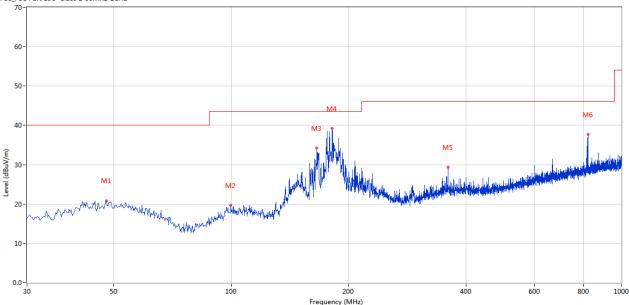
B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

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	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	47.941	20.86	-11.30	40.0	19.14	Peak	333.00	100	Horizontal	Pass
2	99.823	19.66	-13.56	43.5	23.84	Peak	328.00	100	Horizontal	Pass
3	166.008	34.23	-16.10	43.5	9.27	Peak	273.00	100	Horizontal	Pass
4	181.525	39.28	-15.07	43.5	4.22	Peak	241.00	100	Horizontal	Pass
5	359.960	29.38	-9.46	46.0	16.62	Peak	328.00	100	Horizontal	Pass
6	821.322	37.67	-2.73	46.0	8.33	Peak	355.00	100	Horizontal	Pass

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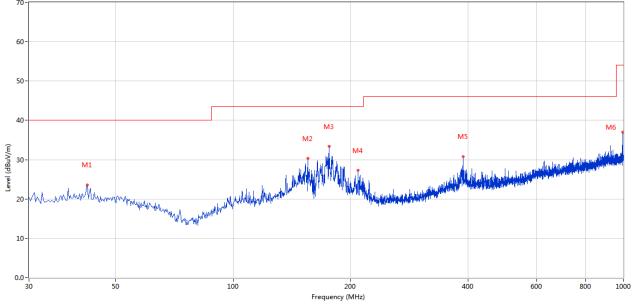
Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual

FCC_FCC Part 15C Class B 30MHz-1GHz



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	42.364	23.63	-11.59	40.0	16.37	Peak	264.00	100	Vertical	Pass
2	155.584	30.31	-16.68	43.5	13.19	Peak	241.00	100	Vertical	Pass
3	176.433	33.39	-15.68	43.5	10.11	Peak	305.00	100	Vertical	Pass
4	209.163	27.33	-13.62	43.5	16.17	Peak	192.00	100	Vertical	Pass
5	388.810	30.83	-8.92	46.0	15.17	Peak	275.00	100	Vertical	Pass
6	997.576	37.07	-1.24	54.0	16.93	Peak	316.00	100	Vertical	Pass

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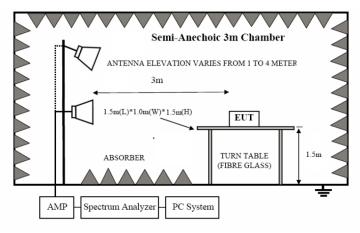


7. Band Edge

7.1 Test Method and test Procedure:

- 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 used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used 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

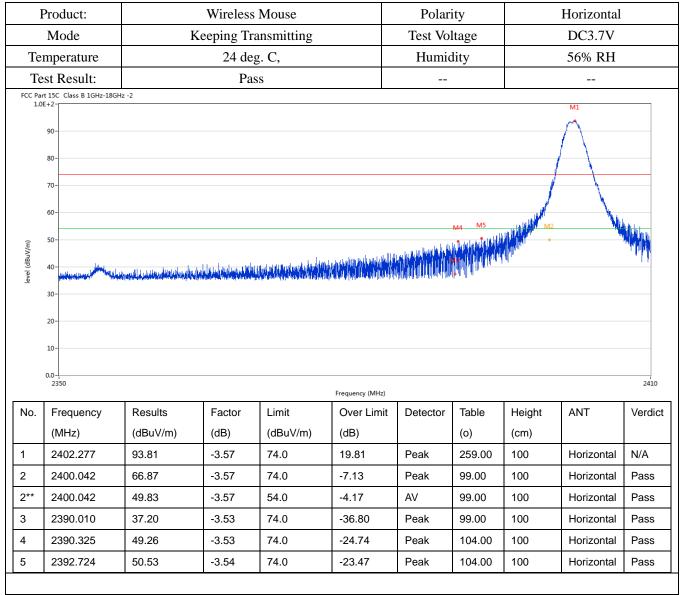
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

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7.6 Test Result



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	Product:	Wireless Mouse Keeping Transmitting				Detector Test Voltage		Vertical		
	Mode							DC3.7V		
Temperature		24 deg. C,				Humidity		56% RH		
Te	est Result:	Pass								
C Part 1.0E+	15C Class B 1GHz-18GH	2								
									M1	
90 -									\wedge	
٤	80-							l.	$/ \rightarrow / -$	
;	70-							/		
(60-							/		
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- : : 0	30- 20- 10- 2350				Frequency (MHz)					
- : : 0	30- 20- 10- 2350 Frequency	Results	Factor	Limit	Frequency (MHz)	Detector	Table	Height	ANT	
- - - - - - - - - - - - - - - - - - -	30- 20- 10- 2350 Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MHz) Over Limit (dB)	Detector	(0)	(cm)		Verdio
3 2 3 2 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	automotion automot	Results (dBuV/m) 88.33	Factor (dB) -3.57	Limit (dBuV/m) 74.0	Frequency (MHz) Over Limit (dB) 14.33	Detector Peak	(o) 171.00	(cm) 100	Vertical	Verdio N/A
No.	ad- ad-	Results (dBuV/m) 88.33 59.31	Factor (dB) -3.57 -3.57	Limit (dBuV/m) 74.0 74.0	Frequency (MHz) Over Limit (dB) 14.33 -14.69	Detector Peak Peak	(o) 171.00 173.86	(cm) 100 100	Vertical Vertical	Verdio N/A Pass
No.	automotion automot	Results (dBuV/m) 88.33 59.31 46.63	Factor (dB) -3.57 -3.57 -3.57	Limit (dBuV/m) 74.0 74.0 54.0	Frequency (MHz) Over Limit (dB) 14.33 -14.69 -7.37	Detector Peak Peak AV	(o) 171.00 173.86 173.86	(cm) 100 100 100	Vertical Vertical Vertical	Verdio N/A Pass Pass
No.	addaexaministication 30- 20- 10- 2350 Frequency (MHz) 2402.247 2400.000 2390.070	Results (dBuV/m) 88.33 59.31 46.63 36.11	Factor (dB) -3.57 -3.57 -3.57 -3.53	Limit (dBuV/m) 74.0 74.0 54.0 74.0	Frequency (MHz) Over Limit (dB) 14.33 -14.69 -7.37 -37.89	Detector Peak Peak AV Peak	(o) 171.00 173.86 173.86 102.00	(cm) 100 100 100 100	Vertical Vertical Vertical Vertical	Verdio N/A Pass
No.	automotion automot	Results (dBuV/m) 88.33 59.31 46.63	Factor (dB) -3.57 -3.57 -3.57	Limit (dBuV/m) 74.0 74.0 54.0	Frequency (MHz) Over Limit (dB) 14.33 -14.69 -7.37	Detector Peak Peak AV	(o) 171.00 173.86 173.86	(cm) 100 100 100	Vertical Vertical Vertical	Pass Pass

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	Product: Wireless Mouse					Р	olarity		Horizont	al
	Mode		Keeping 7	Fransmitting		Test	t Voltage		DC3.7V	1
Te	emperature		24 d	leg. C,		Hı	umidity		56% RH	ł
Te	est Result:		Р	Pass						
CC Part 1.0E	15C Class B 1GHz-18GHz	: -2	19							
			wro	w.						
	90-		WW	h						
1	80-		م م م م م	Why I						
	70-		W MARK	Non-						
	60-		μ	W	Multinese .					
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level (dBuV/m	50			M	2				al de la desta de la desta Na de la desta de la d	
level (dBuV/m	40-			•	2					
level (dbuV/m	40 - ¹¹ 11 - 1 30			• •	2	n da na			ilui <mark>laiki in kana ana a</mark>	
ievei (dbuv/m	30-			M	2				stati kata pana ang p	
level (dbuV/m	40 - 111 - 1 30 - 20 - 10 -			248	35					22
level (dBuV/m	40 - ¹¹ 11 - 1 30			248	2 3.5 Frequency (MHz)					25
level (dbuV/m	40 - 111 - 1 30 - 20 - 10 -	Results	Factor	248 Limit		Detector	Table	Height	ANT	1
level (dbuV/m	40 - 111 - 1 30			T	Frequency (MHz)	Detector	Table	Height (cm)	ANT	1
level (dBuV/m	40- 10- 10- 2470 Frequency	Results	Factor	Limit	Frequency (MHz)	Detector Peak		•	ANT	1
W/Mgb level (dgn/m	40-1-11-1- 30- 20- 10- 2470 Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MHz) Over Limit (dB)		(0)	(cm)		25 Verdia N/A Pass

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Product: Wireless Mouse						Detec	tor		Vertical	
	Mode	ŀ	Keeping Tr	ansmitting		Test Vo	ltage		DC3.7V	
Te	emperature		24 de	g. C,		Humic	lity		56% RH	
	est Result:		Pa	-						
CC Part 15C Class B 16Hz-18GHz -2										
1.02										
	90-			M						
	80-									
	70-		مر المراجع الم	h h						
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		- In diffe								
(m/)	50-		·	M2		Malatiki kata sa				
/el (dBuV/m)	50- 40 -			M2						Millionniki
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level (dBuV/m	30-			M2	^{nende} en de				Allovia a davia da davia	li i i i i i i i i i i i i i i i i i i
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level (dBuV/m	20-			M2						250
level (dBuV/m	30- 20- 10-	Results	Factor		5	Detector	Table	Height	ANT	
level (dBuV/m	30- 20- 10- 2470		Factor (dB)	2483.	5 Frequency (MHz)			Height (cm)	ANT	
No.	30- 20- 10- 2470 Frequency	Results		2483.1	5 Frequency (MHz) Over Limit		Table	-	ANT	
level (dBuV/m	30- 20- 10- 2470 Frequency (MHz)	Results (dBuV/m)	(dB)	2483. Limit (dBuV/m)	5 Frequency (MHz) Over Limit (dB)	Detector	Table (o)	(cm)		250 Verdic N/A Pass

Note: The PK emission level less than the AV limit. No necessary to record the AV emission level.

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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 with gain 2.34dBi maximum. It fulfills the requirement of this section. Test Result: Pass

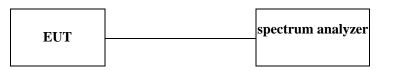
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9.0 20dB Bandwidth Measurement

Test Configuration



Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW.

The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

Limit

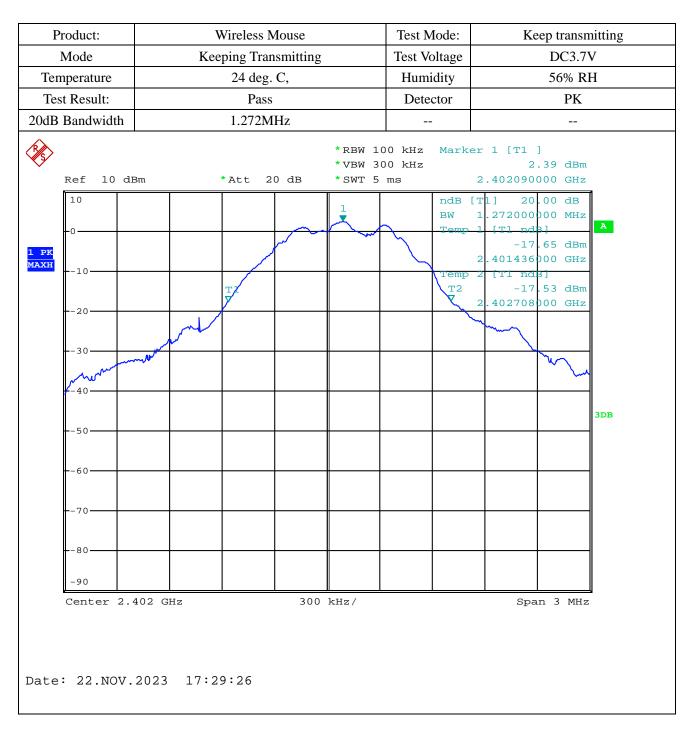
N/A

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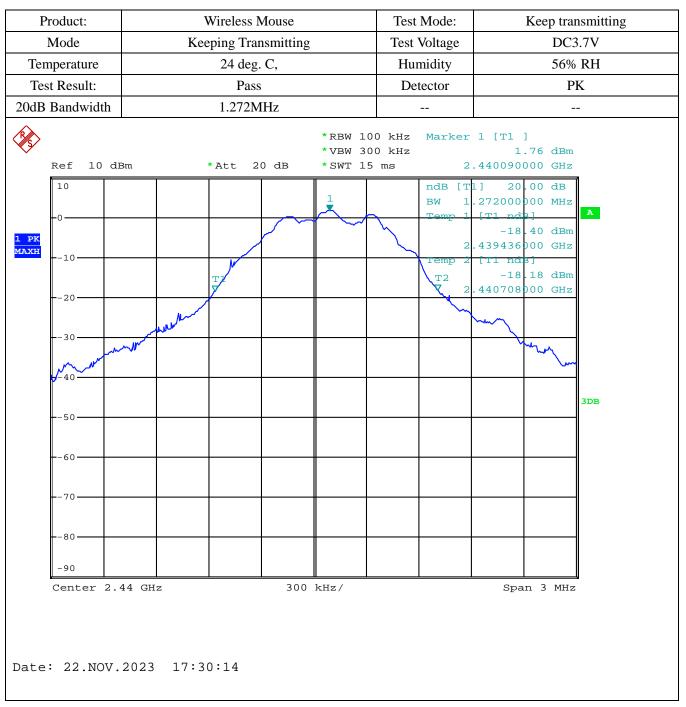
Test Result



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Product:	Wireless Mouse		Test Mode:	Keep tran	smitting
Mode	Keeping Transmitting	5	Test Voltage	DC3	.7V
Temperature	24 deg. C,		Humidity	56%	RH
Test Result:				Pk	X
DdB Bandwidth 1.266MHz					
20dB Bandwidth		* RBW 10 * VBW 30 * SWT 15	0 kHz Marker 0 kHz ms 2 ndB [T BW 1 Temp 1 2 Temp 2 T2	1 [T1] 1.04 dBm .480090000 GHz 1] 20.00 dB .26600000 MHz [T1 ndB] -18.90 dBm	▲
-90					
Center 2.	48 GHz 300	kHz/		Span 3 MHz	
Date: 22.NOV.	2023 17:30:49				

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10.0 FCC ID Label

FCC ID: 2A49R-MMA01

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:

Comment		
MM-A01		
$I \rightarrow I = I = I = I = I$	etooth+2.4G Wireless mouse	FCC Label Location
Made in China		

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11.0 Photo of testing

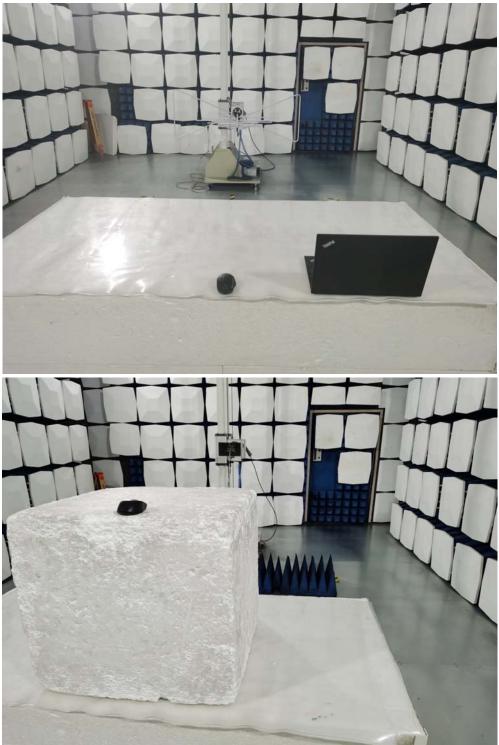
11.1 Conducted test View



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Radiated emission test view



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11.2 Photographs - EUT



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Outside View-Mouse



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Outside View-Mouse



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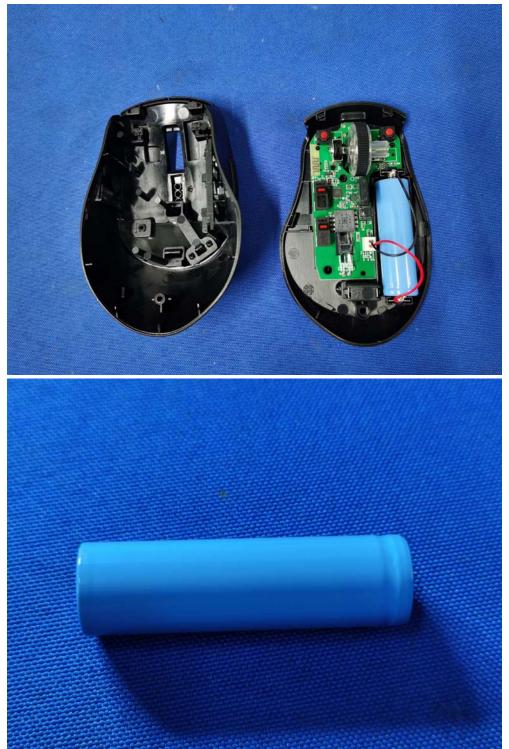
Outside View-Mouse



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Inside View-Mouse

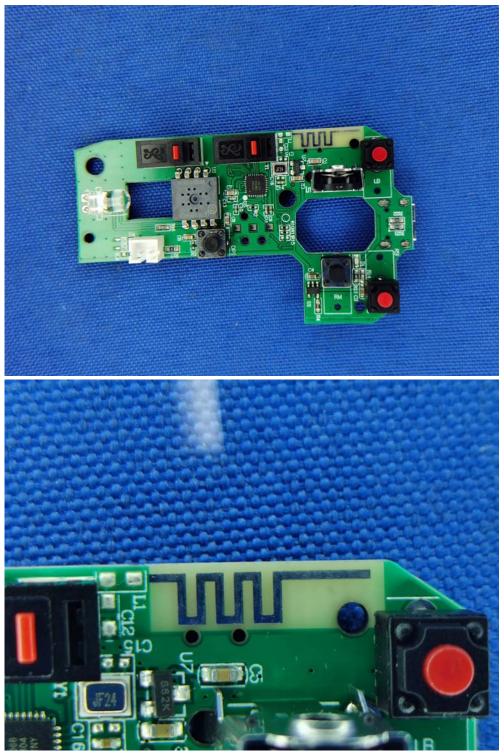


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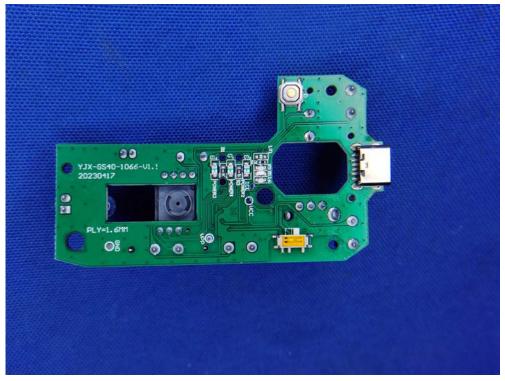
Inside View-Mouse



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Inside View-Mouse



--End of the report--

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