

File reference No.: 2022-07-11

Applicant: Shenzhen Star Sources Electronic Technology Co., Ltd.

Product: 2.4G Wireless Mouse

Model No.: ST-803, 2IHMS1778P0L2, 2IHMS1778G0L2,

2IHMS1778N0L2, ST-788, ST-116, ST-202, ST-201, ST-168, ST-208, ST-209, ST-203, ST-205, ST-207, ST-804, ST-212,

ST-xyz (x=0~9, y=0~9, z=0~9)

Trademark: N/A

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 Tang Manager

Dated: July 11, 2022

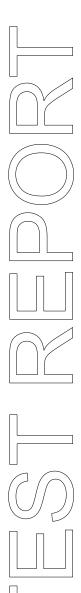
Results appearing herein relate only to the sample tested

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 17025:2017 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

Date: 2022-07-11



## Test Report Conclusion

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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: Shenzhen Star Sources Electronic Technology Co., Ltd.

Address: Room2102, Block 1st, Yi Luan Building, Xixiang Road 230, BaoAn District, Shenzhen, China

Telephone: +86-755-86397260 Fax: +86-755-26609516

## 1.3 Description of EUT

Product: 2.4G Wireless Mouse

Manufacturer: Shenzhen Star Sources Electronic Technology Co., Ltd.

Address: Room2102, Block 1st, Yi Luan Building, Xixiang Road 230, BaoAn District,

Shenzhen, China

Trademark: N/A Model Number: ST-803

Additional Model Name 2IHMS1778P0L2, 2IHMS1778G0L2, 2IHMS1778N0L2, ST-788, ST-116,

ST-202, ST-201, ST-168, ST-208, ST-209, ST-203, ST-205, ST-207, ST-804,

ST-212, ST-xyz (x=0~9, y=0~9, z=0~9)

Rating: 1.5V AA battery

Modulation Type: GFSK

Operation Frequency: 2402-2480MHz

Channel Number: 40
Channel Separation: 2MHz
Hardware Version: V1.3
Software Version: V7.0

Serial No.: 16799LW100001

Antenna Designation PCB antenna with gain -1.52dBi Max (Get from the antenna specification)

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1.4 Submitted Sample: 1 Sample

1.5 Test Duration

2022-06-25 to 2022-07-11

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

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	2022-06-17	2023-06-16
LISN	R&S	EZH3-Z5	100294	2022-06-17	2023-06-16
LISN	R&S	EZH3-Z5	100253	2022-06-17	2023-06-16
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2022-06-17	2023-06-16
Loop Antenna	EMCO	6507	00078608	2021-06-18	2024-06-17
Spectrum	R&S	FSIQ26	100292	2022-06-17	2023-06-16
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2021-07-02	2024-07-01
Horn Antenna	R&S	BBHA 9120D	9120D-631	2021-07-02	2024-07-01
Power meter	Anritsu	ML2487A	6K00003613	2022-06-17	2023-06-16
Power sensor	Anritsu	MA2491A	32263	2022-06-17	2023-06-16
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2021-07-02	2024-07-01
9*6*6 Anechoic			N/A	2022-06-17	2023-06-16
EMI Test Receiver	RS	ESVB	826156/011	2022-06-17	2023-06-16
EMI Test Receiver	RS	ESH3	860904/006	2022-06-17	2023-06-16
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2022-06-17	2023-06-16
Spectrum	HP/Agilent	E4407B	MY50441392	2022-06-17	2023-06-16
Spectrum	RS	FSP	1164.4391.38	2022-01-15	2023-01-14
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2022-06-17	2023-06-16
RF Cable	Zhengdi	7m		2022-06-17	2023-06-16
RF Switch	EM	EMSW18	060391	2022-06-17	2023-06-16
Pre-Amplifier	Schwarebeck	BBV9743	#218	2022-06-17	2023-06-16
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2022-06-17	2023-06-16
LISN	SCHAFFNER	NNB42	00012	2022-01-05	2023-01-04

## 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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#### 3.0 Technical Details

## 3.1 Summary of test results

The E	UT has	been	tested	accord	ling to	o 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	N/A	N/A
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

#### 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

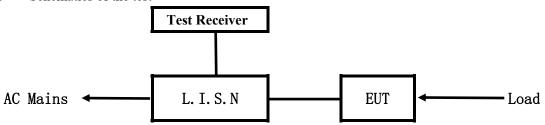
No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

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#### 5. Power Line Conducted Emission Test

### 5.1 Schematics of the test

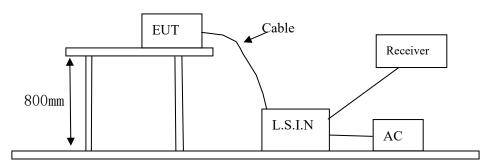


**EUT: Equipment Under Test** 

### 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.

Test Voltage: 120V~, 60Hz 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.

40 channels are provided to the EUT

#### A. EUT

Device	Manufacturer	Model	FCC ID
		ST-803, 2IHMS1778P0L2, 2IHMS1778G0L2,	
2.4G	Shenzhen Star Sources	2IHMS1778N0L2, ST-788, ST-116, ST-202,	
Wireless	Electronic Technology	ST-201, ST-168, ST-208, ST-209, ST-203,	ZJEST-803
Mouse	Co., Ltd.	ST-205, ST-207, ST-804, ST-212, ST-xyz(x=0~9,	
		y=0~9, z=0~9)	

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#### B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

#### C. Peripherals

Device Manufacturer		Model	Rating		
N/A					

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 15.207

Frequency	Limits (dB µ V)			
(MHz)	Quasi-peak Level	Average Level		
$0.15 \sim 0.50$	66.0~56.0*	56.0~4 .0*		
$0.50 \sim 5.00$	56.0	46.0		
5.00 ~ 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:

N/A

Note: EUT powered by AA batteries, this test item not applicable.

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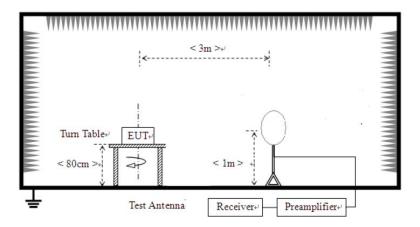


#### **6** Radiated Emission Test

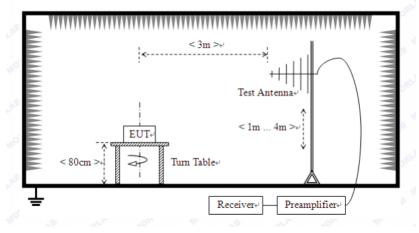
- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size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

For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to1GHz



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

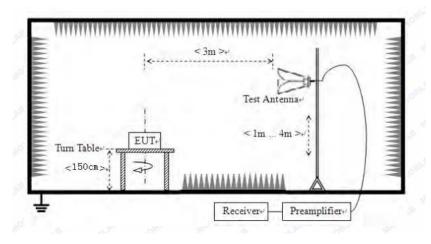
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For radiated emissions above 1GHz



- 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:

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

Fundamental Frequency	Field Stre	Field Strength of Fundamental (3m)			trength of Harmo	onics (3m)
(MHz)	mV/m	dBuV/m		uV/m	dBu	V/m
2400-2483.5	50	94 (Average)	114 (Peak)	500	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.

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

		8 1
Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ 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 60	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. 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.
- 5. 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.
- 6. For radiated emissions from 9kHz to 30MHz, the emission level is much less than the limit for more than 20dB. No necessary to take down the record.
- 7. New battery was used during tests.

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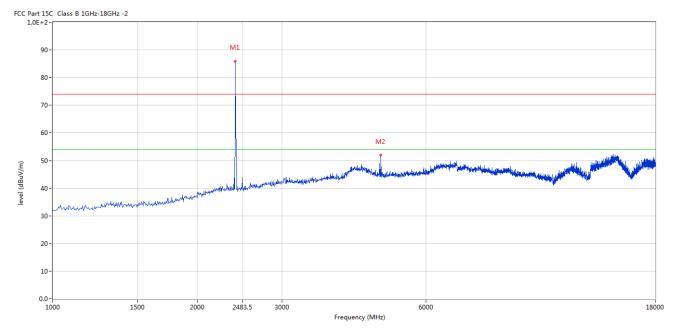


## 6.5 Test result

## A Fundamental & Harmonics Radiated Emission Data

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

#### Horizontal



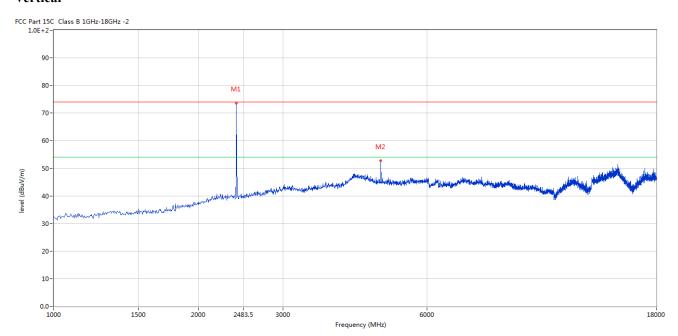
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(0)	(cm)		
1	2402	86.32	-3.57	114.0	-27.68	Peak	82.00	100	Horizontal	Pass
2	4828.293	51.96	3.15	74.0	-22.04	Peak	193.00	100	Horizontal	Pass

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#### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2402	73.85	-3.57	114.0	-40.15	Peak	206.00	100	Vertical	Pass
2	4802.799	52.82	3.12	74.0	-21.18	Peak	253.00	100	Vertical	Pass

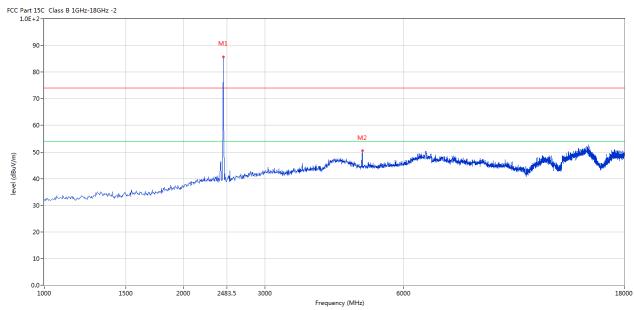
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Please refer to the following test plots for details: Middle Channel-2440MHz

#### Horizontal



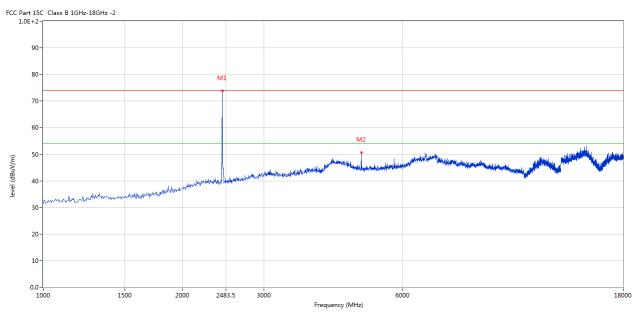
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440	85.77	-3.57	114.0	-28.23	Peak	94.00	100	Horizontal	Pass
2	4879.280	50.40	3.20	74.0	-23.60	Peak	131.00	100	Horizontal	Pass

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## Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440	73.81	-3.57	114.0	-40.19	Peak	14.00	100	Vertical	Pass
2	4879.280	50.61	3.20	74.0	-23.39	Peak	293.00	100	Vertical	Pass

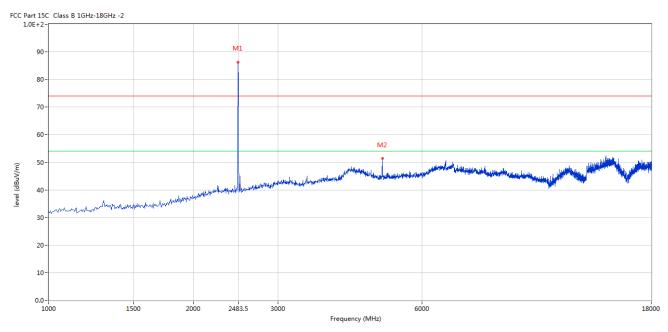
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Please refer to the following test plots for details: High Channel-2480MHz

#### Horizontal



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	86.89	-3.57	114.0	-27.11	Peak	154.00	100	Horizontal	Pass
2	4960.010	51.50	3.36	74.0	-22.50	Peak	0.00	100	Horizontal	Pass

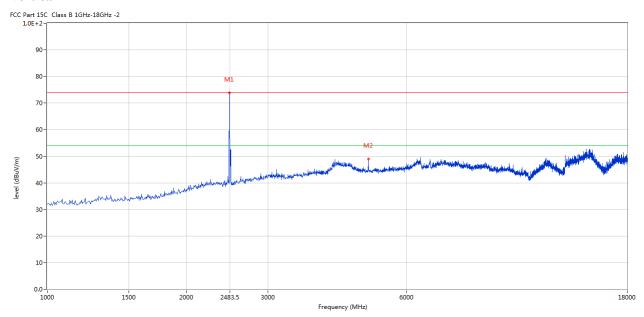
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#### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	73.74	-3.57	114.0	-40.26	Peak	268.00	100	Vertical	Pass
2	4960.010	48.98	3.36	74.0	-25.02	Peak	75.00	100	Vertical	Pass

Note: (2) Emission Level = Reading Level + Antenna Factor + Cable Loss-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
- (5) For emission above 18GHz and Below 30MHz, It is only the floor noise. No necessary to take down.
- (6) the measured PK value less than the AV limit.

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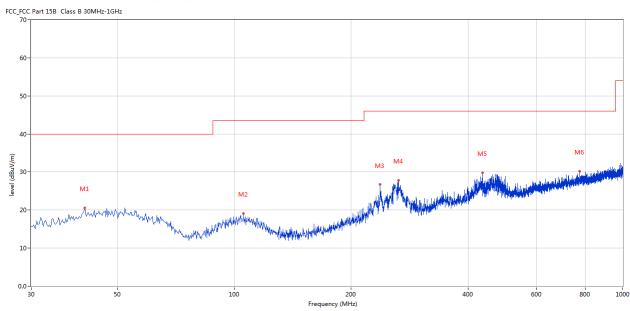


# B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	41.152	20.53	-12.01	40.0	-19.47	Peak	160.00	100	Horizontal	Pass
2	105.641	19.13	-13.27	43.5	-24.37	Peak	262.00	100	Horizontal	Pass
3	237.286	26.70	-12.39	46.0	-19.30	Peak	284.00	100	Horizontal	Pass
4	264.681	27.88	-11.84	46.0	-18.12	Peak	284.00	100	Horizontal	Pass
5	435.359	29.74	-8.01	46.0	-16.26	Peak	104.00	100	Horizontal	Pass
6	775.501	30.24	-3.26	46.0	-15.76	Peak	217.00	100	Horizontal	Pass

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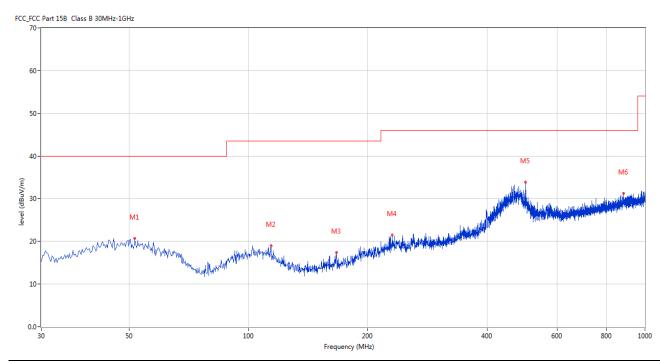


## Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	51.577	20.74	-11.41	40.0	-19.26	Peak	354.00	100	Vertical	Pass
2	113.884	18.96	-14.22	43.5	-24.54	Peak	300.00	100	Vertical	Pass
3	166.493	17.40	-16.05	43.5	-26.10	Peak	357.00	100	Vertical	Pass
4	230.012	21.45	-12.67	46.0	-24.55	Peak	344.00	100	Vertical	Pass
5	499.848	33.83	-6.90	46.0	-12.17	Peak	139.00	100	Vertical	Pass
6	883.387	31.31	-2.06	46.0	-14.69	Peak	22.00	100	Vertical	Pass

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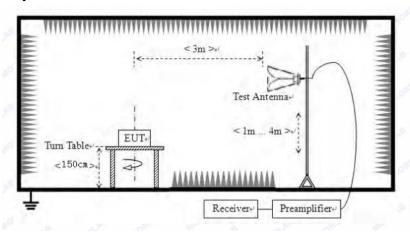


## 7. Band Edge

#### 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 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.

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

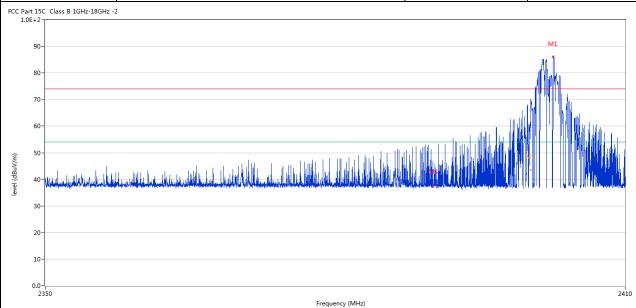
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### 7.6 Test Result

Product:	2.4G Wireless Mouse	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC1.5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402.487	86.01	-3.57	74.0	12.01	Peak	112.00	100	Horizontal	N/A
2	2400.087	59.60	-3.57	74.0	-14.40	Peak	226.00	100	Horizontal	Pass
2**	2400.087	43.53	-3.57	54.0	-10.47	AV	226.00	100	Horizontal	Pass
3	2390.025	37.94	-3.53	74.0	-36.06	Peak	101.00	100	Horizontal	Pass

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24 deg. C,

Report No.: TW2206331E Date: 2022-07-11

Product:

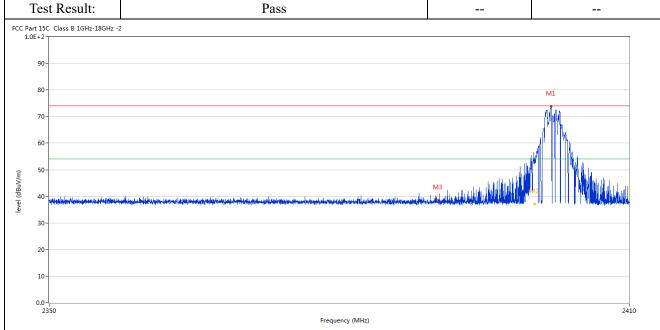
Mode

Temperature

2.4G Wireless Mouse	Detector	Vertical
Keeping Transmitting	Test Voltage	DC1.5V

Humidity

56% RH



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2401.857	73.75	-3.57	74.0	-0.25	Peak	188.00	100	Vertical	Pass
2	2400.087	53.24	-3.57	74.0	-20.76	Peak	152.00	100	Vertical	Pass
2**	2400.087	37.05	-3.57	54.0	-16.95	AV	152.00	100	Vertical	Pass
3	2390.070	38.54	-3.53	74.0	-35.46	Peak	59.00	100	Vertical	Pass

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Product:		ireless Mous	se		Polarity		Horizon	tal	
Mode		g Transmittir	ng	Test Voltage			DC1.5	V	
Temperature	nperature 24 deg. C,					Humidity			Н
Test Result:			Pass						
C Part 15C Class B 1GHz-1	BGHz -2								
90-									
90-		ld the	Ma						
80-		1 1 1							
70-			W. J. A. A. A.						
60-		1111		H 15					
4.4									
50-		ing'i i i i i i	) / / / / / / / / / / / / / / / / / / /			L. Autor	1		
50-			) (#2) (E)					Litaa kadi dika b	
50-			, A 2						
50 - 40 - 30 -									
40-									
40 - 30 - 20 -									
40-									
40 - 40 30 - 20 -			2483.5						2500
40 - 30 - 20 - 10 - 2470			<del></del>	Frequency (MHz)					ı
40 - 30 - 20 - 10 - 2470 No. Frequency		Factor	Limit	Over	Detector	Table	Height	ANT	ı
40- 30- 20- 10- 0.0- 2470 No. Frequency (MHz)	(dBuV/m)	(dB)	Limit (dBuV/m)	Over Limit (dB)		(0)	(cm)		Verd
40- 30- 20- 10- 2470 No. Frequency (MHz) 1 2479.628	(dBuV/m) 86.40	(dB) -3.57	Limit (dBuV/m) 74.0	Over Limit (dB) 12.40	Peak	(o) 129.00	(cm)	Horizontal	Verd
30- 20- 10- 2470 No. Frequency (MHz)	(dBuV/m)	(dB)	Limit (dBuV/m)	Over Limit (dB)		(0)	(cm)		Verd

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]	Product:		2.4G Wireless Mouse				Detector		Vertical	
	Mode Keeping Transmitting					-	Test Volta	age	DC1.5	V
Te	Temperature 24 deg. C,						Humidit	ty	56% R	Н
Te	est Result:		Pass							
CC Part 1 1.0E+	L5C Class B 1GHz-18GHz -	2								
9	10-									
	10									
8	50-		ne e							
7	70-		MANA.	in.						
	60-									
6	10-		- MI III III I	M2						
	.0-			M2	1					
				M2		hts.	المرابع		La can dentre de con	
5	0-			M2		Maladel Marialan	hallande parking place	de grandere calendario e si pareción e	hás pri tenjelitel konnelen erre i	in pullation
	0-			M2		Male i di se i sili kumin lan	n Alesta, medidelika kungan	dependent adams of another	kita pirita yakikita kasa alba wapa k	hapatonia
5 4 3	0-			M2		Male i die ni William i alee.	in Alphanochlid Albanda valang	de grander, all angel annier.	kila pinta pikita kasan benerinsa s	in polyment
3	:o- :o-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			M2		hid identification	adena, estat de la company	la para la constitución de la co	de de la completa de	And Andread
50 4 30 20 10	0-					Ma <mark>laddon Millerada</mark> a	in April 200 April 2	de produces all annother	dett. girl dan dette Una medien stepe ta	2500
50 4 30 20 10				2483.5	quency (MHz)		in department that the second	de servicio de ser	ر در میروند از میداند. در میروند از میداند از میروند	2500
3 3 2 1 1 O.	0-	Results	Factor	2483.5		Detector	Table	Height	ANT	ı
3 2 1 0.	0-2470	Results (dBuV/m)	Factor (dB)	2483.5 Free	quency (MHz)				Ant	ı
(W/\ngp) ja\ab 33 2-	00- 00- 00- 00- 00- 00- 00- 00- 00- 00-			2483.5 Free Limit	quency (MHz) Over Limit		Table	Height	ANT Vertical	2500 Verdi

Note: 1. 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. The antenna gain is -1.52dBi Max. It fulfills the requirement of this section. Test Result: Pass

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9.0 20dB Bandwidth		4G Wireless Mouse	To at M	da. V		
Product:				Test Mod		p transmitting
Mode	K	eeping Transmitting	Test Volta		DC1.5V 56% RH	
Temperature Test Possilti		24 deg. C		Humidi		
Test Result:		Pass 2.194MHz	Detector PK			
20dB Bandwidth						
		1 [T1 ndB]	RBW	100 kHz	RF Att	20 dB
Ref Lvl 10 dBm	ndB BW 2	20.00 dB 2.19438878 MHz	VBW SWT	300 kHz 5 ms	Unit	dBm
10 (18)	BW 2	2.19430070 MHZ	SWI	J IIIS	OHIL	QBIII
				▼1 [T1	] .	-9.17 dBm A
0					2.4023	
				ndB BW	2.1943	20.00 dB 38878 MHz
1.0			1	-		
-10		<b></b>				)3307 GHz
			$\searrow$	∇ <sub>T2</sub> [T	1] -:	29.56 dBm
-20		7		$\sqrt{}$	2.4032	22745 GHz <b>1MA</b>
IMAX	5			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2	IMA
-30	/				•	
-40						<del>                                     </del>
	~~~				\ \ \ \ \	- Marie Comme
-50						
-60						
-70						
-80						
-90						
Center 2.40	02 GHz	500	kHz/		Sı	oan 5 MHz
Date: 11.J						

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Product:	2	2.4G Wireless Mouse	Test Mode:	Keep transmitti	ing	
Mode	ŀ	Keeping Transmitting	Test Voltage	DC1.5V		
Temperature		24 deg. C	Humidity	56% RH		
Test Result:		Pass		Detector	PK	
20dB Bandwidth		2.184MHz				
Ref Lvl	Marke ndB	r 1 [T1 ndB] 20.00 dB	RBW VBW	100 kHz R:	F Att 20 dB	
10 dBm	BW	2.18436874 MH	z SWT	5 ms U	nit dBm	
10				▼ <sub>1</sub> [T1]	9 70 30	
				, 1 [11]	-8.72 dBm 2.44012525 GHz	A
0				ndB	20.00 dB	
			1	BW ⊽⊤1 [⊤1]	2.18436874 MHz -28.44 dBm	
-10			~	* # # 1 # # 1	2.43904309 GHz	
			\ \frac{1}{2}	∇ <sub>T2</sub> [T1]	-28.85 dBm	
-20				7	2.44122745 GHz	
1MAX				F2		1MA
-30	~					
-40	~~~~~~					
-50						
-60						
-00						
-70						
2.0						
-80						
-90						
Center 2	2.44 GHz	50	0 kHz/		Span 5 MHz	
Date: 1	1.JUL.2022	09:17:26				

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Pro	oduct:		2.40	3 Wireless	Mouse		Test	Mode:	Keej	transmitt	ing
M	Mode		Keeping Transmitting					Test Voltage		DC1.5V	
Temp	Temperature Test Result:		24 deg. C Pass					Humidity Detector		56% RH PK	
Test											
20dB B	20dB Bandwidth		2.204MHz								
Ŕ	Ref Lvl		Marker 1 [T1 ndB]				100 k	Hz R	RF Att 20 dB		
<b>4</b> 5/3			ndB 20.00 dB			VBW	300 k	300 kHz			
1.0	10 dBm		BW 2.20440882 MHz			SWT	5 π	5 ms Ui		nit dBm	
10							<b>v</b> <sub>1</sub>	[T1]	-7	.86 dBm	2
									2.48013	527 GHz	A
0							ndI	8	20	.00 dB	
						1	BW		2.20440		
-10							$\nabla_{\mathrm{T}}$	[T1]	2.47903	.81 dBm	
						$\sim$	lacksquare	2 [T1]	-28	.21 dBm	
-20				سريه	مر		7		2.48123	747 GHz	
	1MAX		5	<i>/</i> ~~			~	F2			1MA
-30				7							
			كرس					7			
-40		^ .							A DO	<u>~</u>	
		J ~~							<b>\</b>	and the same	
-50											
-60											
-70											
-80											
-90											
_	Center	2.48 GH	z		500	kHz/			Spa	n 5 MHz	•
Date:	: 1	1.JUL.2	022 09	:43:18							

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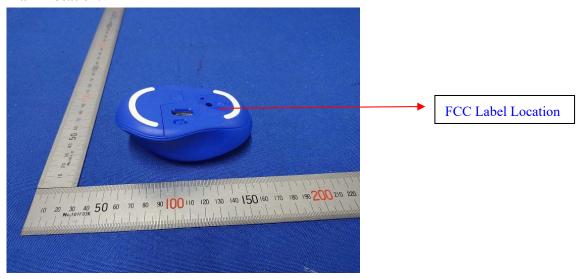


### 10.0 FCC ID Label

#### FCC ID: ZJEST-803

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:**



Date: 2022-07-11



11.0 Photo of testing

11.1 Conducted test View-N/A





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

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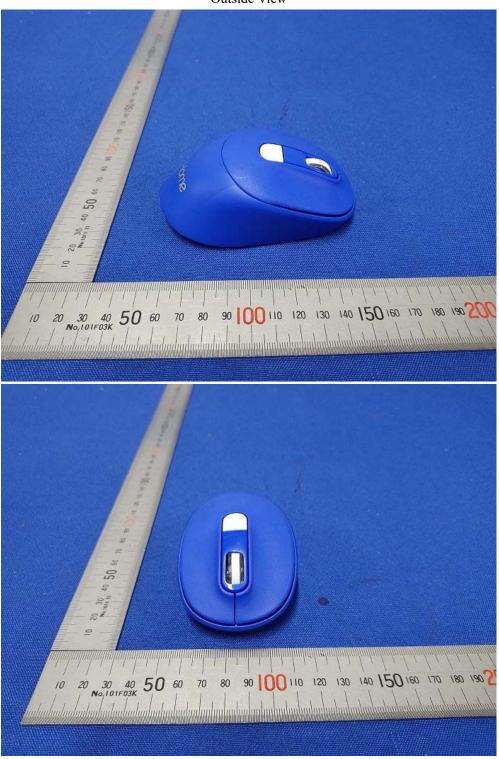
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Date: 2022-07-11



## 11.2 Photographs – EUT

Outside View



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Outside View





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Outside View



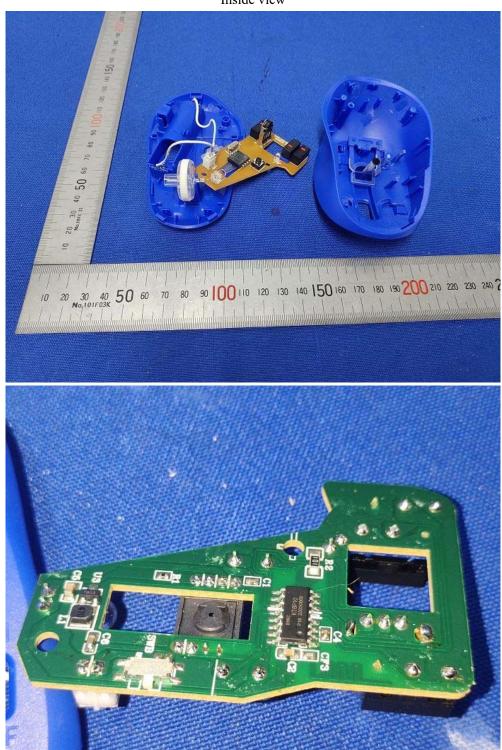
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Inside view



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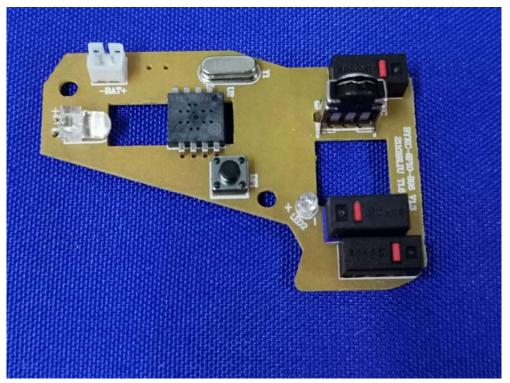
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## Inside view



-- End of the report--