

Applicant: Eastern Times Technology Co.,Ltd

Product: Wireless Mechanical Gaming Keyboard

Model No.: PC372A, ET-8714, JS-8714

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: December 19, 2023

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

Report No.: TW2312041-01E Page 2 of 43

Date: 2023-12-19



# **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** 

Date: 2023-12-19



# Test Report Conclusion

#### Content

1.0	General Details	4
1.1	Test Lab Details	4
1.2	Applicant Details	4
1.3	Description of EUT	4
1.4	Submitted Sample	4
1.5	Test Duration.	5
1.6	Test Uncertainty	5
1.7	Test By	5
2.0	List of Measurement Equipment	6
3.0	Technical Details	7
3.1	Summary of Test Results	7
3.2	Test Standards	7
4.0	EUT Modification	7
5.0	Power Line Conducted Emission Test	8
5.1	Schematics of the Test	8
5.2	Test Method and Test Procedure	8
5.3	Configuration of the EUT	8
5.4	EUT Operating Condition.	9
5.5	Conducted Emission Limit	9
5.6	Test Result.	9
6.0	Radiated Emission test	12
6.1	Test Method and Test Procedure	12
6.2	Configuration of the EUT	13
6.3	EUT Operation Condition.	13
6.4	Radiated Emission Limit	13
6.5	Test Result.	15
7.0	Band Edge	23
7.1	Test Method and Test Procedure.	23
7.2	Radiated Test Setup.	23
7.3	Configuration of the EUT	23
7.4	EUT Operating Condition.	23
7.5	Band Edge Limit.	23
7.6	Band Edge Test Result.	24
8.0	Antenna Requirement	28
9.0	20dB bandwidth measurement	29
10.0	FCC ID Label	33
11.0	Photo of Test Setup and EUT View	34

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Date: 2023-12-19



#### 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: --Fax: --

#### 1.3 Description of EUT

Product: Wireless Mechanical Gaming Keyboard

Manufacturer: Eastern Times Technology Co.,Ltd

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

Dongguan City, Guangdong, China.

Trademark: N/A
Model Number: PC372A

Additional Model Name ET-8714, JS-8714 Rating: Input: DC5V, 2A

Battery: DC3.7V, 1600mAh Li-ion battery

Hardware Version: 8714-A V1
Software Version: B8C0
Serial No.: 22G11

Operation Frequency: 2403-2480MHz

Channel Number: 16

Channel List (Unit: MHz): 2403, 2424, 2441, 2461, 2414, 2435, 2450, 2470, 2409, 2429, 2455, 2475,

2419, 2445, 2465, 2480

Antenna Designation PCB antenna with gain2.34dBi maximum (Get from the antenna specification)

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Report No.: TW2312041-01E Page 5 of 43

Date: 2023-12-19



1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2023-12-05 to 2023-12-19

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

Page 6 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



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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Page 7 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



#### 3.0 Technical Details

# 3.1 Summary of test results

The FIIT has	hoon i	tostad	aaaardin	a to the	o following	specifications:
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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

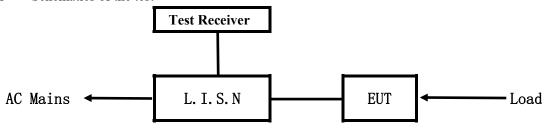
No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

Date: 2023-12-19



#### 5.0 Power Line Conducted Emission Test

#### 5.1 Schematics of the test

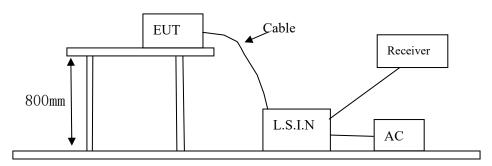


**EUT: Equipment Under Test** 

#### 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 Mechanical	Eastern Times Technology	DC2724 ET 9714 IC 9714	TINET 0714A
Gaming Keyboard	Co.,Ltd	PC372A, ET-8714, JS-8714	TUVET-8714A

#### B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
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Page 9 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



3.7/4	·	·	·
N/A			
1 1/1 1			

#### C. Peripherals

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

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 $\mu$ 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 ~ 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:

Date: 2023-12-19



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

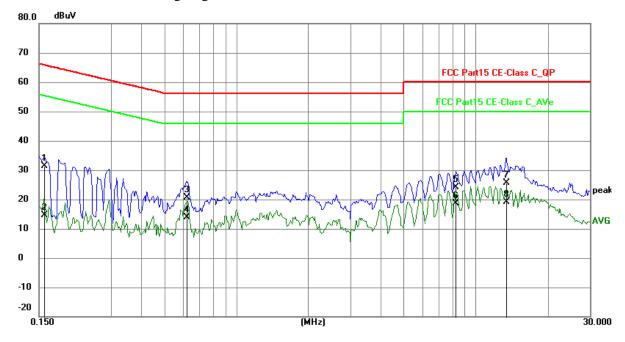
**EUT Operating Environment** 

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



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1578	21.53	9.78	31.31	65.58	-34.27	QP	Р
2	0.1578	4.75	9.78	14.53	55.58	-41.05	AVG	Р
3	0.6180	10.96	9.78	20.74	56.00	-35.26	QP	Р
4	0.6180	4.07	9.78	13.85	46.00	-32.15	AVG	Р
5	8.2610	14.00	10.07	24.07	60.00	-35.93	QP	Р
6	8.2610	8.68	10.07	18.75	50.00	-31.25	AVG	Р
7	13.3935	15.31	10.31	25.62	60.00	-34.38	QP	Р
8	13.3935	8.93	10.31	19.24	50.00	-30.76	AVG	Р

Date: 2023-12-19



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

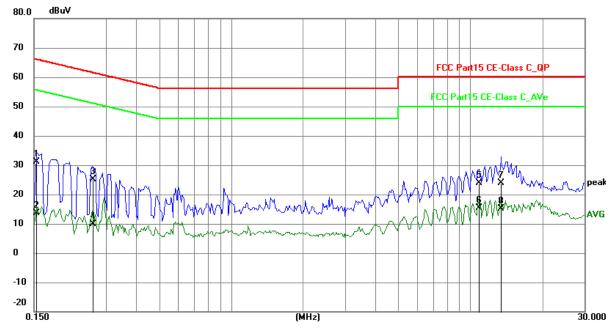
**EUT Operating Environment** 

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



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	21.29	9.78	31.07	65.79	-34.72	QP	Р
2	0.1539	3.84	9.78	13.62	55.79	-42.17	AVG	Р
3	0.2631	15.40	9.75	25.15	61.33	-36.18	QP	Р
4	0.2631	0.24	9.75	9.99	51.33	-41.34	AVG	Р
5	10.8975	13.70	10.20	23.90	60.00	-36.10	QP	Р
6	10.8975	5.10	10.20	15.30	50.00	-34.70	AVG	Р
7	13.4598	13.62	10.31	23.93	60.00	-36.07	QP	Р
8	13.4598	4.79	10.31	15.10	50.00	-34.90	AVG	Р

Date: 2023-12-19



#### **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 9kHz to 25 GHz was investigated. The frequency spectrum is set as follows:

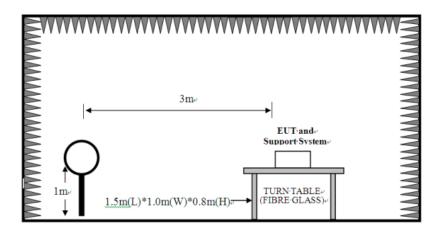
Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
ADOVE IGHZ	Peak	1MHz	10Hz	Average

(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**

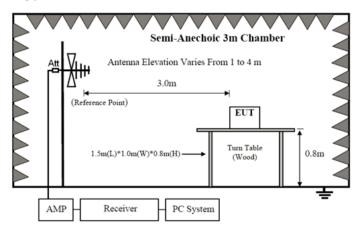
For radiated emissions from 9kHz to 30MHz



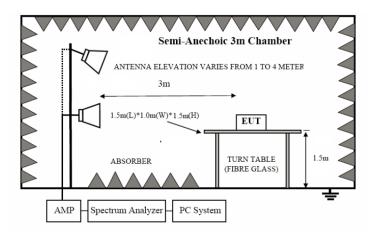
Date: 2023-12-19



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:

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

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

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Report No.: TW2312041-01E Page 14 of 43

Date: 2023-12-19



2400-2483.5 50	94 (Average)	114 (Peak)	500	54 (Average)	74 (Peak)
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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 (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		43.5
21 -960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage  $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 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. Battery fully charged was used during the test.

Report No.: TW2312041-01E Page 15 of 43

Date: 2023-12-19

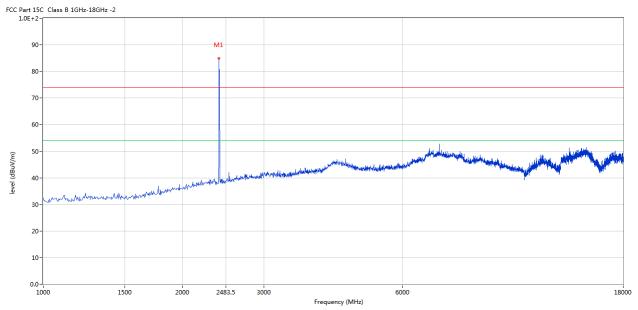


# 6.5 Test result

# A Fundamental & Harmonics Radiated Emission Data

Please refer to the following test plots for details: Low Channel-2403MHz

#### Horizontal



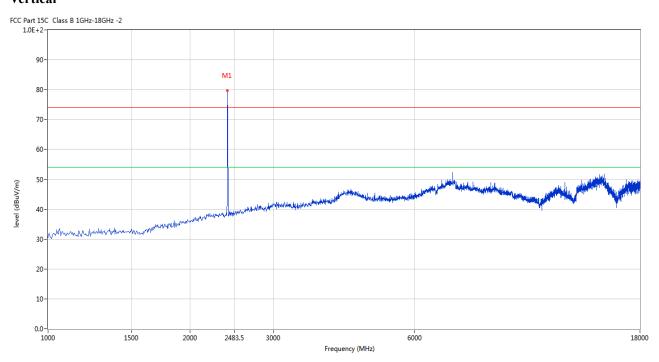
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2403	85.02	-3.57	114.0	-28.98	Peak	273.00	100	Horizontal	Pass

Report No.: TW2312041-01E Page 16 of 43

Date: 2023-12-19



# Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2403	79.68	-3.57	114.0	-34.32	Peak	59.00	100	Vertical	Pass

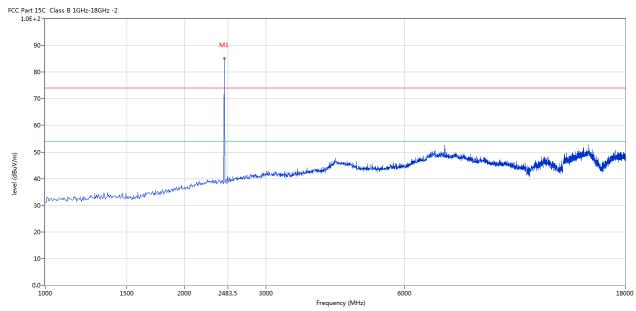
Report No.: TW2312041-01E Page 17 of 43

Date: 2023-12-19



Please refer to the following test plots for details: Middle Channel-2441MHz

#### Horizontal



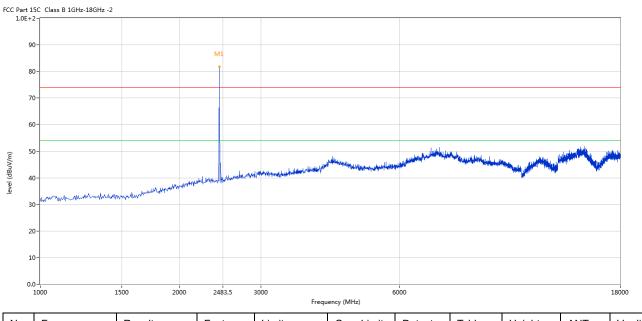
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	85.18	-3.57	114.0	-28.82	Peak	238.00	100	Horizontal	Pass

Report No.: TW2312041-01E Page 18 of 43

Date: 2023-12-19



## Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(0)	(cm)		
1	2441	81.81	-3.57	114.0	-32.19	Peak	281.00	100	Vertical	Pass

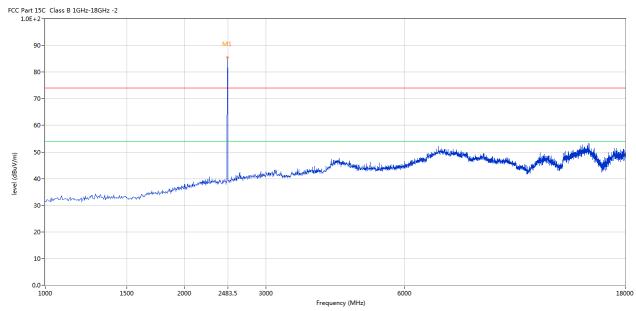
Report No.: TW2312041-01E Page 19 of 43

Date: 2023-12-19



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

#### Horizontal



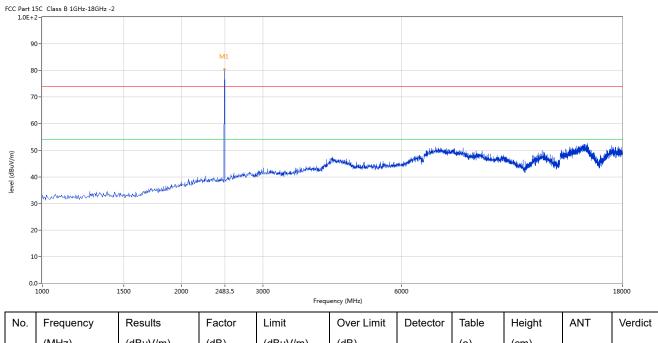
Ī	No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
	1	2480	85.44	-3.57	114.0	-28.56	Peak	245.00	100	Horizontal	Pass

Report No.: TW2312041-01E Page 20 of 43

Date: 2023-12-19



## Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	80.36	-3.57	114.0	-33.64	Peak	280.00	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.

Report No.: TW2312041-01E Page 21 of 43

Date: 2023-12-19

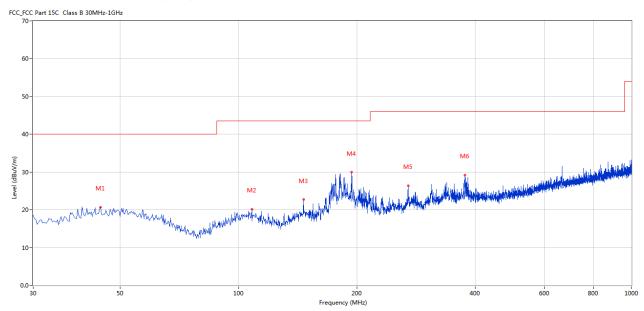


# B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	44.546	20.69	-11.44	40.0	19.31	Peak	359.00	100	Horizontal	Pass
2	108.065	20.18	-13.42	43.5	23.32	Peak	140.00	100	Horizontal	Pass
3	146.371	22.67	-17.27	43.5	20.83	Peak	305.00	100	Horizontal	Pass
4	194.131	29.92	-13.84	43.5	13.58	Peak	82.00	100	Horizontal	Pass
5	270.015	26.40	-11.75	46.0	19.60	Peak	68.00	100	Horizontal	Pass
6	376.688	29.20	-9.38	46.0	16.80	Peak	9.00	100	Horizontal	Pass

Report No.: TW2312041-01E Page 22 of 43

Date: 2023-12-19

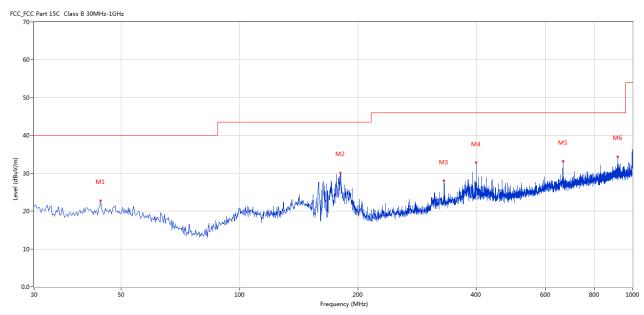


# Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	44.304	22.73	-11.46	40.0	17.27	Peak	110.00	100	Vertical	Pass
2	180.555	30.15	-15.23	43.5	13.35	Peak	215.00	100	Vertical	Pass
3	331.110	27.99	-10.16	46.0	18.01	Peak	50.00	100	Vertical	Pass
4	399.963	32.77	-8.57	46.0	13.23	Peak	360.00	100	Vertical	Pass
5	665.191	33.13	-4.44	46.0	12.87	Peak	15.00	100	Vertical	Pass
6	916.843	34.38	-1.89	46.0	11.62	Peak	357.00	100	Vertical	Pass

Date: 2023-12-19

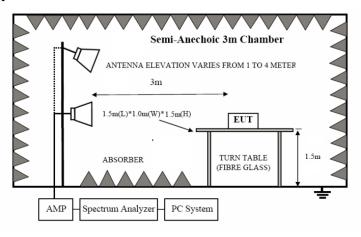


#### 7. Band Edge

#### 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.

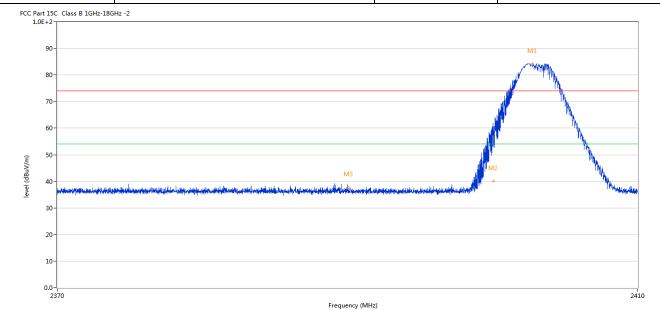
Report No.: TW2312041-01E Page 24 of 43

Date: 2023-12-19



#### 7.6 Test Result

Product:	Wireless Mechanical Gaming Keyboard	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		



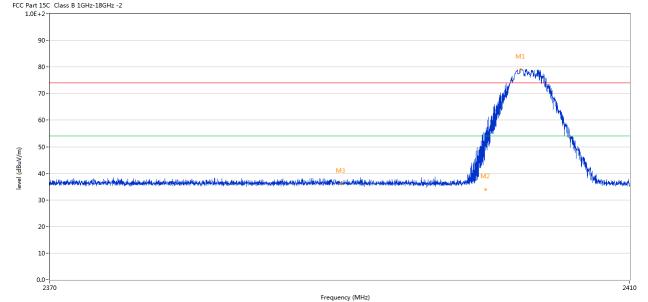
N	0.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1		2402.702	84.24	-3.57	74.0	10.24	Peak	238.00	100	Horizontal	N/A
2		2400.000	54.92	-3.57	74.0	-19.08	Peak	235.22	100	Horizontal	Pass
2*	k*	2400.000	40.16	-3.57	54.0	-13.84	AV	235.22	100	Horizontal	Pass
3		2390.000	37.62	-3.53	74.0	-36.38	Peak	86.00	100	Horizontal	Pass

Report No.: TW2312041-01E Page 25 of 43

Date: 2023-12-19



и т т		
Keeping Transmitting	Test Voltage	DC3.7V
24 deg. C,	Humidity	56% RH
Pass		
	24 deg. C,	24 deg. C, Humidity



					1 7. /					
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402.422	79.13	-3.57	74.0	5.13	Peak	284.00	100	Vertical	N/A
2	2400.000	48.91	-3.57	74.0	-25.09	Peak	279.00	100	Vertical	Pass
2**	2400.000	33.97	-3.57	54.0	-20.03	AV	279.00	100	Vertical	Pass
3	2390.000	36.13	-3.53	74.0	-37.87	Peak	46.50	100	Vertical	Pass

Report No.: TW2312041-01E Page 26 of 43

Date: 2023-12-19

2\*\*

2483.500

39.32



	Product: Wireless Mechanical Gaming I				Keyboard	P	olarity		Horizont	tal
	Mode	Transmitting		Test	t Voltage		DC3.7V	V		
Te	mperature	erature 24 deg. C, Humidity				56% RH		H		
Te	est Result:		F	Pass						
CC Part	t 15C Class B 1GHz-18GF E+2-	-lz -2								
	90-		Market Company	M1						
	70-		New York	300						
			<u> </u>							
level (dBuV/m)	50-	والمعارض والم والمعارض والمعارض والمعارض والمعارض والمعارض والمعارض والمعار	<i>r</i>	M	2	نچ <u>ون چرخانه و داده داده او د</u>	rjudd <del>agu je dada kalada addira addira</del> ti	to an indicate the same of	itiky, or after hely, here affilields, he life do also, we also proved black	physiological and a pro-
(m/\mgo) level	40-	endanian jaerah un <del>tropia</del>	<i>r</i>	M	2	i Miliota wilaya ga kikin kuru ing kilayai	ويدفاه هوي دخينه مايزه ومريد البرمة	mentaniki katala di kangan pangalan da sa	tan distribution d	ing stage and the stage of the
	30 - 20 -	on do ni la crista na crista e de d	<i>r</i>	M	2	radi kunto Sukin (redeki)	rsalesquadamintequadiposi	ensistra ser ensistra de la constitución de la cons	oog o dee infryske med tot de plansk op to	herdepensive entren
	40-whatehirline wheeler and	on de se la company de la comp	<b>/</b>	248		Mild de Lotting y bilde pro-deptique	eselven en electronische en electronische en	entopy of any particular to be	ang o de shiping ada na shika shi na shi	
	30 - 10 - 0.0	Results	Factor	248	3.5	Detector	Table	Height	ANT	25
	30 - 20 - 10 - 2470		Factor (dB)	T	33.5 Frequency (MHz)					25
(m/mgp) level	30 - 20 - 10 - 2470 Frequency	Results		Limit	33.5 Frequency (MHz)		Table	Height		250 Verdi

-14.68

ΑV

100

Horizontal

Pass

260.14

-3.57

54.0

Page 27 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



	Product:	Wireless	Mechanical	l Gaming Ke	yboard	Detec	tor		Vertical	
	Mode	I	Keeping Tr	ansmitting		Test Vo	ltage		DC3.7V	
Te	emperature		24 de	g. C,		Humio	lity		56% RH	
Тє	est Result:		Pa	SS						
	art 15C Class B 1GHz-18G	Hz -2			•			•		
	90-									
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	60-									
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(/m)	50-	ال.		2	<u> </u>					
el (dBuV/m)		de la company			Maria Merodaliana dinana	on programme against conductor and adjug	فيديد بالمتعادف فأدم حداد فاد	المراجعة والمراجعة والمراج	David and the State of the Stat	le in a state of the
level (dBuV/m)	50-	melling sign and a second sign of the latest and th	pi di	2	Mariamondonado	overselebbesyet Newsonia opideselise	والمرافعة	استبطر متاهي أفامل بدسانا ويتعادد عقديا	Dang deng didi atau <sup>kala</sup> pada pada pada pada pada pada pada pa	le in a state of the same
level (dBuV/m)	50- 40- aphylada ayirlada ahan kanada 30-	المرابعة المستعددة والمستعددة والمستعدد والمستعد والمستعدد والمستعدد والمستعدد والمستعدد والمستعدد والمستعدد وال	ja likuru		Makera arapapinan dan men	orania de de la productiva de la contractiva del contractiva de la contractiva de la contractiva de la contractiva de la contractiva del contractiva de la c	فورس فيخطب فالمسرح طاسقون	المستهدات والمراقب وا	gang dengah dan dengah penganan dapa d	let an oblivation of the
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level (dBuV/m)	50- 40- aphylada ayirlada ahan kanada 30-	maghating dight and many companies he			Make a serve de circa de misso	nnesades questa, cataire selendine	ing sile a web all single single	nayla sala kata kata aki	gung dengan kanaman dan pengangan kanaman dan pengangan kanaman dan pengangan kanaman dan pengangan kanaman da	ter and investor
level (dBuV/m)	50- 40- 30- 20- 10-	maghatines, sighe a temperature per per per per per per per per per p				०० करतांक पुरस्क रहते हैं।	nguin a waka di ningi sing pi	inniyde weta jibriin weli an eliku a dii ka	Dought diese land with person light en	W 73 P 7 S S S S S S S S S S S S S S S S S S
level (dBuV/m)	30- 20-	maghating single a second constraint of the		2483.		overseleks ng still verdeje gode sellege	and the second second second	han yaka kata kata da k	gang dengan dan mendengan dan mengan dan men	W 73 P 7 S S S S S S S S S S S S S S S S S S
level (dBuV/m)	50- 40- 30- 20- 10-	Results	Factor	2483.	5	Detector	Table	Height	ANT	2500
	30- 20- 10- 2470		Factor (dB)	1	5 Frequency (MHz)					2500
	30- 20- 10- 2470	Results		Limit	5 Frequency (MHz)		Table	Height		2500 Verdi

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

Date: 2023-12-19



Page 28 of 43

# 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

Date: 2023-12-19



Page 29 of 43

#### 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 30kHz RBW and 100kHz VBW.

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

#### Limit

N/A

Page 30 of 43

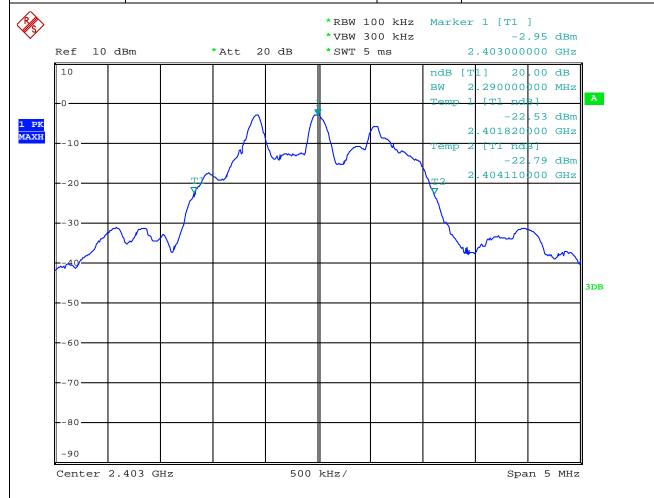
Report No.: TW2312041-01E

Date: 2023-12-19



#### **Test Result**

Product:	Wireless Mechanical Gaming Keyboard	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	2.290MHz		



Date: 15.DEC.2023 15:03:37

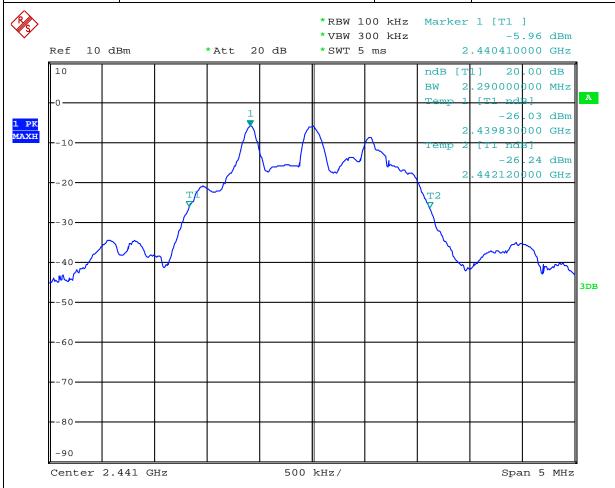
Page 31 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



Product:	Wireless Mechanical Gaming Keyboard	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	2.290MHz		



Date: 15.DEC.2023 15:07:54

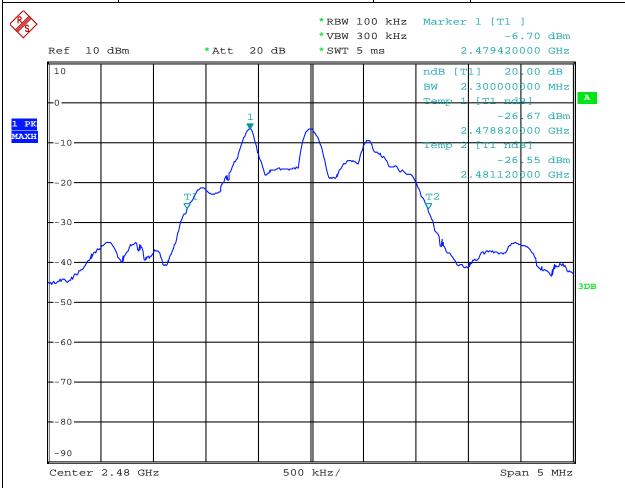
Page 32 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



Product:	Wireless Mechanical Gaming Keyboard	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	2.300MHz		



Date: 15.DEC.2023 15:10:57

Report No.: TW2312041-01E Page 33 of 43

Date: 2023-12-19



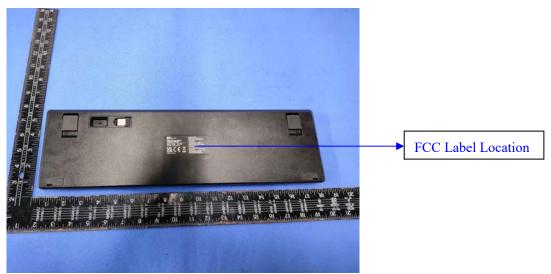
#### 10.0 FCC ID Label

#### FCC ID: TUVET-8714A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

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:



Page 34 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



#### 11.0 Photo of testing

#### 11.1 Conducted test View



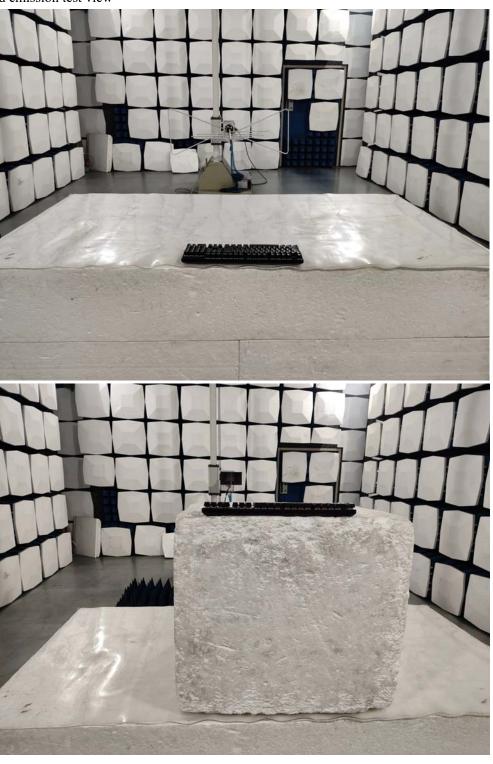
Page 35 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



#### Radiated emission test view



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#### 11.2 Photographs-EUT

#### Outside View



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Page 37 of 43

Report No.: TW2312041-01E

Date: 2023-12-19





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Page 38 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



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Page 39 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



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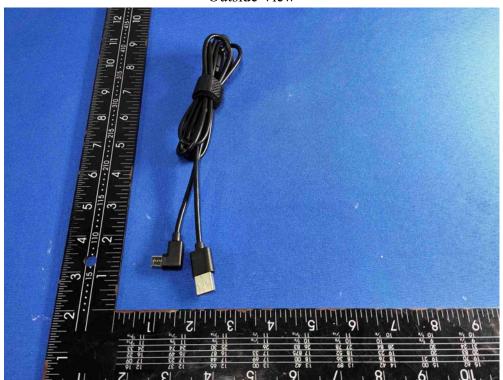
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Report No.: TW2312041-01E Page 40 of 43

Date: 2023-12-19



Outside View



Page 41 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



Inside View



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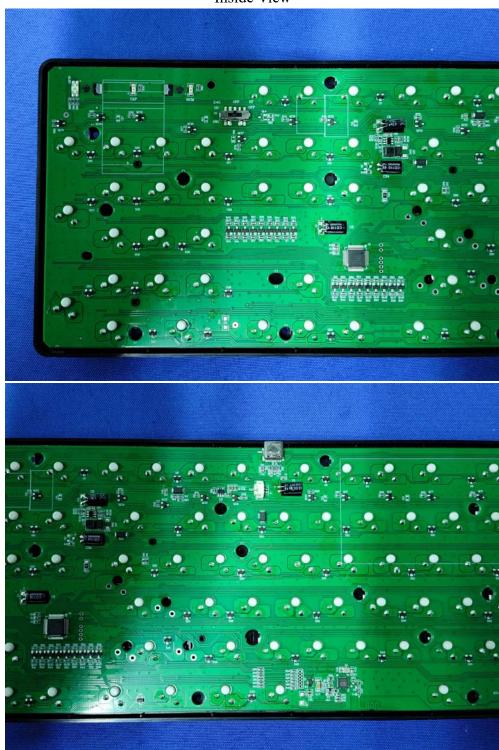
Page 42 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



Inside View



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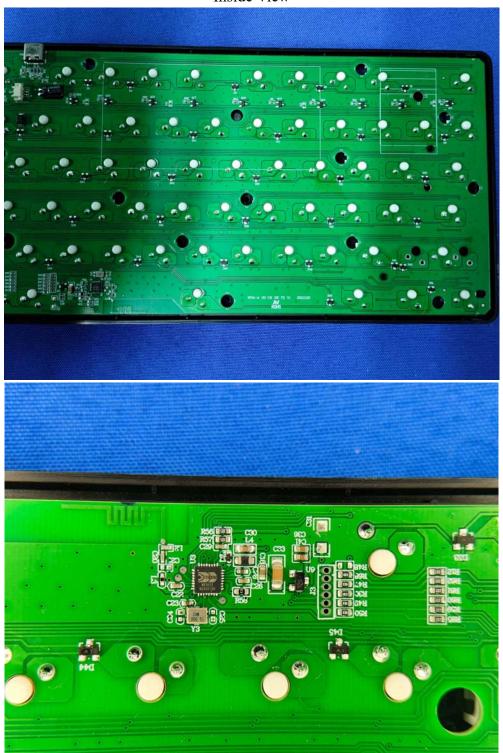
Page 43 of 43

Report No.: TW2312041-01E

Date: 2023-12-19



# Inside View



-- End of the report--

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