



Report No.: File reference No.:	TW2112121-02E 2022-02-28			
Applicant:	Eastern Times Technology Co.,Ltd			
Product:	WIRED/2.4G/BT MECHANICAL GAMING KEYBOARD			
Model No.:	K618-RGB, ET-8536, K618W-RGB			
Trademark:	REDRAGON			
Test Standards:	FCC Part 15.249			
Test result:	It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10 &FCC Part 15 Subpart C, Paragraph 15.249 regulations for the evaluation of electromagnetic compatibility			
Approved By				
Terry Tang Terry Tang				
Manager				
Dated:	February 28, 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



# **Special Statement**:

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

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

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

# CNAS-LAB Code: L2292

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

# FCC-Registration No.: 744189

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

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

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

# A2LA (Certification Number:5013.01)

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

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# 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<br/>Village, Nanshan District, Shenzhen, ChinaTelephone:(755) 83448688Fax:(755) 83442996Site 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.,LtdAddress:Building D, Nan An Industrial Area, Youganpu Village, Fenggang Town, Dongguan City,<br/>Guangdong, China.Telephone:--Fax:--

# 1.3 Description of EUT

Product:	WIRED/2.4G/BT 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:	REDRAGON
Additional Trademark:	N/A
Model Number:	K618-RGB
Additional Model Name	ET-8536, K618W-RGB
Serial No.:	RDK618-RGB21122500001
Rating:	DC5V, 740mA or DC3.7V, 270mA
Battery:	DC3.7V, 1900mAh Li-ion battery
Modulation Type:	GFSK (Bluetooth)
Operation Frequency:	2402-2480MHz
Channel Separate:	1MHz
Channel Number:	79
Antenna Designation	PCB antenna with gain -1.85dBi maximum (Declared by the Manufacturer)

#### 1.4 Submitted Sample: 1 pc

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- 1.5 Test Duration 2021-12-09 to 2022-02-28
- 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	2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date	
ESPI Test Receiver	R&S	ESPI 3	100379	2021-06-18	2022-06-17	
LISN	R&S	EZH3-Z5	100294	2021-06-18	2022-06-17	
LISN	R&S	EZH3-Z5	100253	2021-06-18	2022-06-17	
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2021-06-18	2022-06-17	
Loop Antenna	EMCO	6507	00078608	2021-06-18	2024-06-17	
Spectrum	R&S	FSIQ26	100292	2021-06-18	2022-06-17	
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	2021-06-18	2022-06-17	
Power sensor	Anritsu	MA2491A	32263	2021-06-18	2022-06-17	
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2021-07-02	2024-07-01	
9*6*6 Anechoic			N/A	2021-07-02	2022-07-01	
EMI Test Receiver	RS	ESVB	826156/011	2021-06-18	2022-06-17	
EMI Test Receiver	RS	ESH3	860904/006	2021-06-18	2022-06-17	
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2021-06-18	2022-06-17	
Spectrum	HP/Agilent	E4407B	MY50441392	2021-06-18	2022-06-17	
Spectrum	RS	FSP	1164.4391.38	2022-01-15	2023-01-14	
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2021-06-18	2022-06-17	
RF Cable	Zhengdi	7m		2021-06-18	2022-06-17	
RF Switch	EM	EMSW18	060391	2021-06-18	2022-06-17	
Pre-Amplifier	Schwarebeck	BBV9743	#218	2021-06-18	2022-06-17	
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2021-06-18	2022-06-17	
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 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	

#### 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

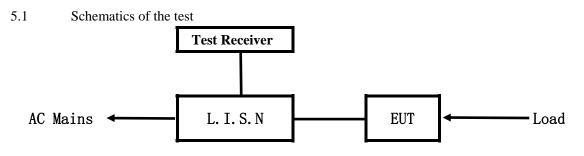
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# 5. Power Line Conducted Emission Test



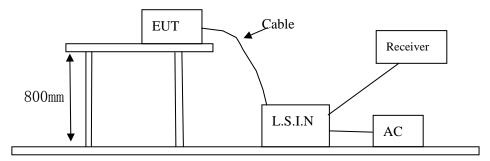
EUT: Equipment Under Test

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 500hm/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. 79 channels are provided to the EUT

A.	EUT

Device	Manufacturer	Model	FCC ID
WIRED/2.4G/BT			
MECHANICAL	Eastern Times	V(10 DCD ET 0526 V(10W DCD	TUVET 9526
GAMING	Technology Co.,Ltd	K618-RGB, ET-8536, K618W-RGB	TUVET-8536
KEYBOARD			

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B. Internal Device

2.	1110011141 200100			
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

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

0 0 1				
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	5 .0		

Notes: 1. \*Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

# 5.6 Test Results:

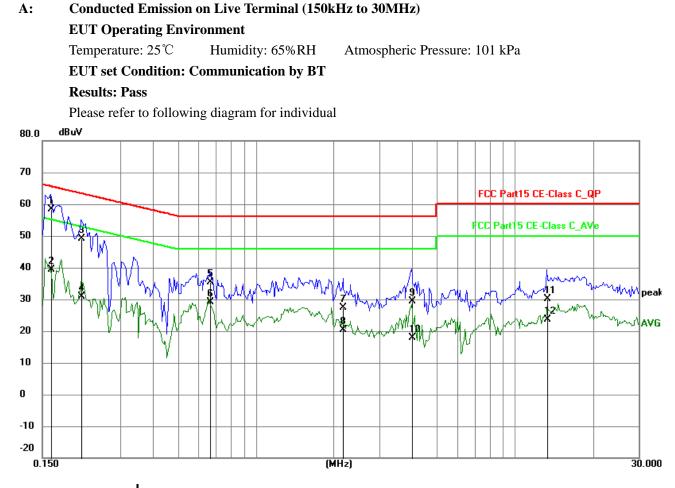
Pass

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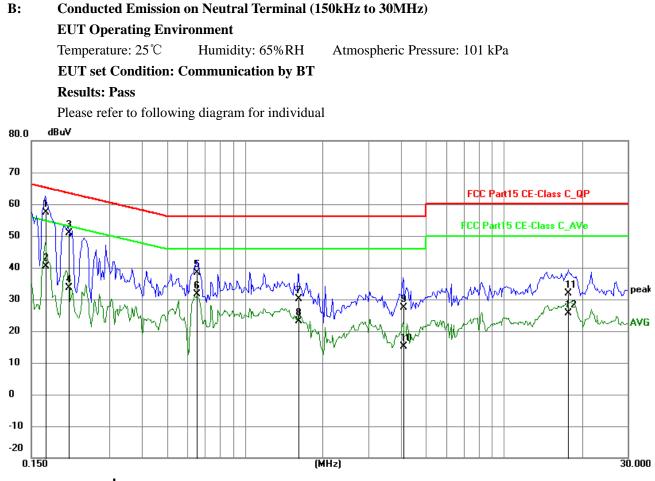


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1617	48.48	9.78	58.26	65.38	-7.12	QP	Ρ
2	0.1617	29.67	9.78	39.45	55.38	-15.93	AVG	Р
3	0.2124	39.36	9.75	49.11	63.11	-14.00	QP	Р
4	0.2124	21.20	9.75	30.95	53.11	-22.16	AVG	Р
5	0.6648	25.68	9.78	35.46	56.00	-20.54	QP	Р
6	0.6648	19.23	9.78	29.01	46.00	-16.99	AVG	Ρ
7	2.1741	17.68	9.81	27.49	56.00	-28.51	QP	Ρ
8	2.1741	10.54	9.81	20.35	46.00	-25.65	AVG	Р
9	3.9906	19.50	9.89	29.39	56.00	-26.61	QP	Ρ
10	3.9906	8.09	9.89	17.98	46.00	-28.02	AVG	Ρ
11	13.2882	19.75	10.30	30.05	60.00	-29.95	QP	Ρ
12	13.2882	13.33	10.30	23.63	50.00	-26.37	AVG	Р

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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1695	47.53	9.77	57.30	64.98	-7.68	QP	Ρ
2	0.1695	30.56	9.77	40.33	54.98	-14.65	AVG	Р
3	0.2094	41.05	9.75	50.80	63.23	-12.43	QP	Ρ
4	0.2094	23.79	9.75	33.54	53.23	-19.69	AVG	Ρ
5	0.6531	28.52	9.78	38.30	56.00	-17.70	QP	Ρ
6	0.6531	21.82	9.78	31.60	46.00	-14.40	AVG	Ρ
7	1.6086	20.25	9.80	30.05	56.00	-25.95	QP	Ρ
8	1.6086	13.33	9.80	23.13	46.00	-22.87	AVG	Р
9	4.0881	17.52	9.89	27.41	56.00	-28.59	QP	Ρ
10	4.0881	5.20	9.89	15.09	46.00	-30.91	AVG	Р
11	17.6640	21.22	10.54	31.76	60.00	-28.24	QP	Ρ
12	17.6640	15.19	10.54	25.73	50.00	-24.27	AVG	Ρ

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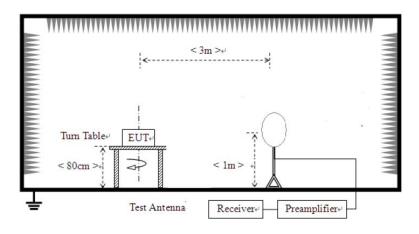


# 6 Radiated Emission Test

- 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

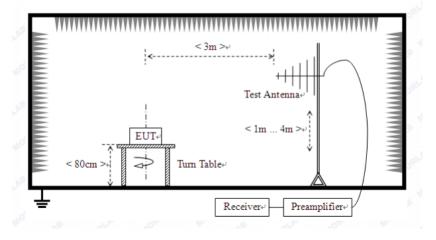


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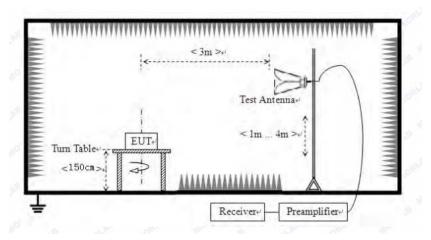
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For radiated emissions from 30MHz to1GHz



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.

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# 6.4 Radiated Emission Limit

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

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

Fundamental Frequency	Field Stre	ength of Fundame	ntal (3m)	Field St	trength of Harmo	nics (3m)
(MHz)	mV/m	dBu	V/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.

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

Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)							
0.009-0.04	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							
30-88	3	40.0							
88-216	3	43.5							
216-960	3	46.0							
Above 960	3	54.0							

Note: 1. RF Voltage  $(dBuV) = 20 \log RF$  Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.

5. 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. 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. Battery full charged during tests.

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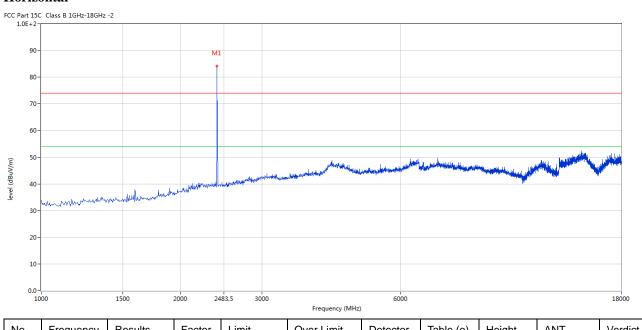


# 6.5 Test result

# A Fundamental & Harmonics Radiated Emission Data

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

## Horizontal

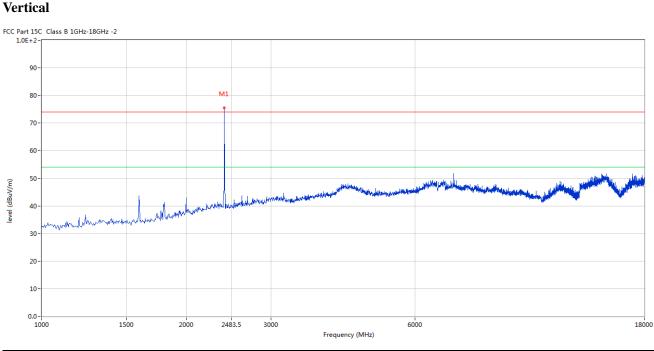


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict	
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)			
1	2402.149	84.60	-3.57	114.0	-29.4	Peak	108.00	100	Horizontal	Pass	

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2402.149	75.78	-3.57	114.0	-38.22	Peak	169.00	100	Vertical	Pass

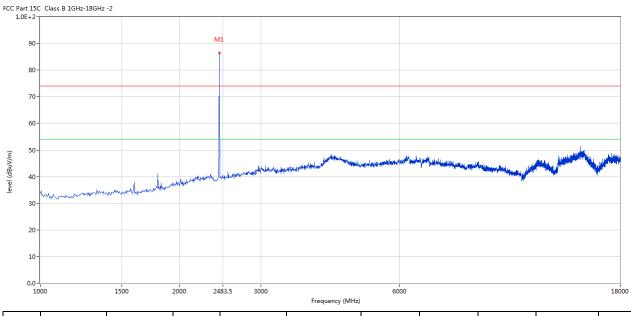
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# Please refer to the following test plots for details: Middle Channel-2441MHz

#### Horizontal

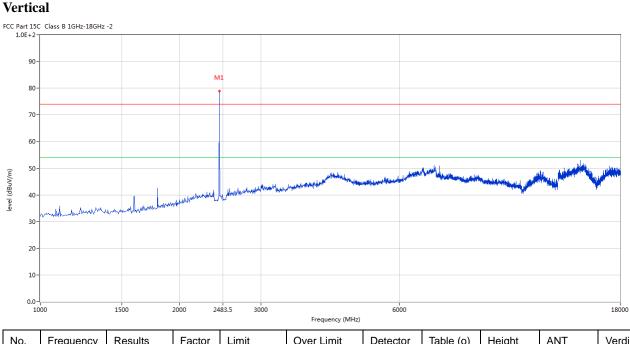


No	).	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1		2440.390	86.43	-3.57	114.0	-27.57	Peak	217.00	100	Horizontal	Pass

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2440.390	78.98	-3.57	114.0	-35.02	Peak	198.00	100	Vertical	Pass

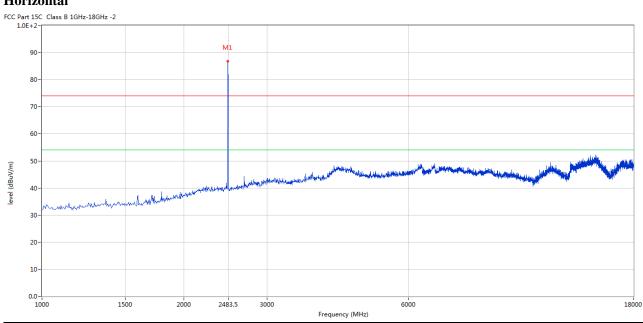
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# Please refer to the following test plots for details: High Channel-2480MHz

#### Horizontal

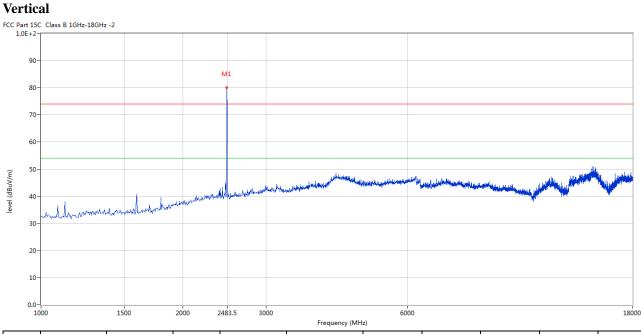


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2479.630	87.56	-3.57	114.0	-26.44	Peak	225.00	100	Horizontal	Pass

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2479.630	79.89	-3.57	114.0	-34.11	Peak	151.00	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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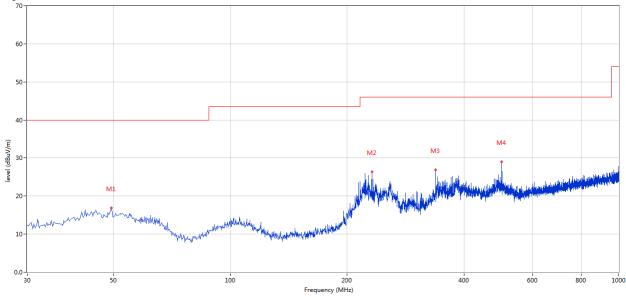
# B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

# Results: Pass

Please refer to following diagram for individual

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



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	49.395	16.87	-11.28	40.0	-23.13	Peak	210.00	200	Horizontal	Pass
2	231.467	26.41	-12.60	46.0	-19.59	Peak	310.00	100	Horizontal	Pass
3	337.413	26.85	-9.83	46.0	-19.15	Peak	41.00	100	Horizontal	Pass
4	500.090	28.99	-6.91	46.0	-17.01	Peak	259.00	200	Horizontal	Pass

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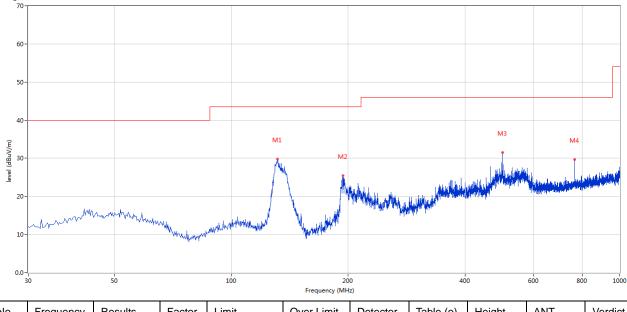
## Radiated Emission In Vertical (30MHz----1000MHz)

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	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	131.582	29.80	-16.93	43.5	-13.70	Peak	95.00	100	Vertical	Pass
2	193.647	25.44	-13.86	43.5	-18.06	Peak	100.00	100	Vertical	Pass
3	500.090	31.51	-6.91	46.0	-14.49	Peak	326.00	200	Vertical	Pass
4	765.561	29.68	-3.23	46.0	-16.32	Peak	20.00	100	Vertical	Pass

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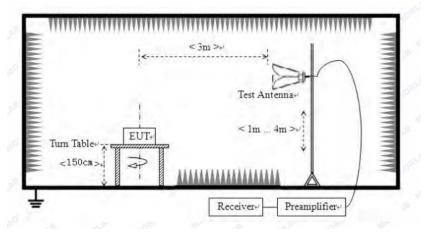


# 7. Band Edge

# 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

P	Product:			/BT MECH G KEYBOA		Po	larity		Horizonta	al
	Mode		Keepin	g Transmitti	ng	Test	Voltage		DC3.7V	
Ter	nperature		24	4 deg. C,		Hur	nidity		I	
Te	Pest Result:   Pass									
1.0E+2 90 80 70		-2							M1	
60 50 40 30 20		nan di mana antari ana di a	lifertion for the state of the	weddiae dwashaan dagaad ywlad ywa	nantaka a kana da ana da an	oseeren beriteelder ogse		Heredente	<sup>M2</sup> ●	-
50 40 30 20 10 0.0		nng die sopre, to behaden degraa gebie		un dina di pasi kana di pana di	Frequency (Mł			hite and his here	* *	2410
50 40 30 20 10 0.0		Results	Factor	Limit			M3 Table (o)	Height	* *	
50 40 30 20 10 0.0 2					Frequency (Mł	Hz)		Height (cm)	ANT	2410
50 40 30 20 10 0.0 2		Results	Factor	Limit	Frequency (MI	Hz)		-	ANT Horizontal	2410
50 40 30 20 10 0.0.2 2 NO.		Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MI Over Limit (dB)	Hz) Detector	Table (o)	(cm)		2410 Verdict
50 40 30 20 10 0.0 2 2 NO.	Frequency (MHz) 2402.172	Results (dBuV/m) 84.59	Factor (dB) -3.57	Limit (dBuV/m) 74.0	Frequency (MF Over Limit (dB) 10.59	Hz) Detector Peak	Table (o) 229.00	(cm) 100	Horizontal	2410 Verdict N/A

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P	roduct:	WI		G/BT MECI NG KEYBO		De	etector	Vertical		
]	Mode		Keeping Transmitting					DC3.7V		
Ten	nperature			24 deg. C,		Hu	VoltageDC3.7Vmidity56% RH			
Tes	st Result:			Pass						
2 Part 150 1.0E+2-	C Class B 1GHz-18GHz	-2								
90-										
80-									M1	
70-										
									$\square$	
60-										
50								•		
50	and all all a second second	hadilarishan da a Afrikasi	National and a substation	hanan ligi kasadan dala Madi	hilassili casta di kurdi	ilenteret street blieft				il and the particular
50- 40-	ng the Berlin State of the Stat	ng blandel som til ga flat veld	ikstopla statu nyaiseksi	hyperally and the field	hija i dek marter a betsen a del	hilanda ana ang kanalikan lika				41
50- 40- 30- 20-	ng the Berlin State of the Stat	ng filosofi son kan kan kan ka	Antonia and a second and	hanna die werden die Meid	had a state of the	ident voor monskladd				in an initial and
50- 40- 30- 20- 10-	un an	an da an	İbdiğ barlatlır yaşı ballıdı	hter lin antipelistic	laha ilah casi pula kitu sel					4)
50- 40- 30- 20- 10- 0.0-	un an	tigg ( han te han an di sa dha an di		มนตร, มีสุข เราะมีรุ่ง ส่ไม่ เฟซไป	Frequency (MF					2410
50- 40- 30- 20- 10- 0.0- 23	needenski dalara a hyranaa	Results	Factor	Limit			Table (o)	Height	ANT	2410
50- 40- 30- 20- 10- 0.0-					Frequency (MF	tz)	Table (o)	Height (cm)	ANT	
50- 40- 20- 10- 2: 70.	Frequency	Results	Factor	Limit	Frequency (MH	tz)	Table (o) 209.00	-	ANT	2410
50- 40- 30- 20- 10- 0.0- 23	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MH Over Limit (dB)	<sup>tz)</sup> Detector		(cm)		2410 Verdict

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F	Product:	WIF		G/BT MECI NG KEYBO		P	olarity		Horizontal	l	
	Mode		Keepi	ng Transmit	tting	Test	t Voltage		DC3.7V		
Tei	mperature		24 deg. C,								
Te	Test Result:		Pass								
C Part 19 1.0E+2	5C Class B 1GHz-18GHz	-2					1				
90 80 70 60	)		and the state of the	Nor Alexandre	4.						
	)- duther half votine frank af the state of the	temennskeisenskeisenskal			M2 M2	vilae sara-de sayai dired	an dip man ministration na bayan	hologyapper and a cody with	ulted ou doning to sight source	ndy, catific and failer	
50 - 40 - 30	) - dogini kajveskom og odjiva i solo kon od )	tranomia special de la constante de la constant			M2 M2	villas signs di ingicialmet	anter man an a the first and the providence of	nan an	ulted for she instruction is the second	ndy,cattionalycoloud	
- 50 - 40 - 30 - 20 - 10 - 0.0	) - dagtertisäyvetrorpoolarijootaiseda )- )-	tracondusses descelation			M2 2483.5		an dip mun ni digilagi ng dun ni kayon	heteringenerationsfaced over a	ulted me docimenta escibilizarian		
- 50 - 40 - 30 - 20 - 10 - 0.0	)- de trait in the second sec				Frequency (MH	+z)				2500	
50 40 30 20 10	)- 4.000000000000000000000000000000000000	Results	Factor	Limit	Frequency (MF		Table (o)	Height	ANT		
40 30 20 0.0.2 NO.	)- - 	Results (dBuV/m)	(dB)	(dBuV/m)	Frequency (MF Over Limit (dB)	<sup>1z)</sup> Detector	Table (o)	Height (cm)	ANT	2500 Verdict	
50 40 30 20 10 10 10 1	)- 	Results (dBuV/m) 87.56	(dB) -3.57	(dBuV/m) 74.0	Frequency (MH Over Limit (dB) 13.56	<sup>tz)</sup> Detector Peak	Table (o) 238.00	Height (cm) 100	ANT Horizontal	2500 Verdict N/A	
50 40 30 20 10	)- - 	Results (dBuV/m)	(dB)	(dBuV/m)	Frequency (MF Over Limit (dB)	<sup>1z)</sup> Detector	Table (o)	Height (cm)	ANT	2500 Verdict	

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P	Product:	WIR		G/BT MECH NG KEYBO		De	tector	Vertical		
	Mode		Keepi	ng Transmit	ting	Test	Voltage		DC3.7V	
Ter	Temperature		/	24 deg. C,		Hu	midity	56% RH		
Te	Test Result:			Pass						
C Part 15 1.0E+2	5C Class B 1GHz-18GHz	-2								
90 80 70				Mar Mar						
60 50 40 30 20 10		ills all all an end at the large of			h h h h h h h h h h h h h h h h h h h	n fattanteta sela de da	asanaa Juni (181a.tu	dil Loidhmithe	illitionen ille antidae	Winner das Alta
50 40 30 20 10 0.0		) ) ) )			2483.5 Frequency (MHz)	al standart an der bie der d	asanad shadhilda ku	filf Lorishneitsen	illettelsongiellessensetelsen	2500
50 40 30 20 10 0.0		Results	Factor	Limit	2483.5 Frequency (MHz)	Detector	Table (o)	Height	ANT	
50 40 30 20 10 0.0 2			Factor (dB)	Limit (dBuV/m)	2483.5 Frequency (MHz)					2500
50 40 30 20 10 0.0 2	P P P P P P P P P P P P P P	Results			2483.5 Frequency (MHz) Over Limit (dB)			Height		2500

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 -1.85dBi maximum. It fulfills the requirement of this section. Test Result: Pass

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GFSK Modulation										
Product:		4G/BT ME ING KEYE		AL	Test Mod	le:	Keep transmitting			
Mode	Kee	ping Transr	nitting		Test Volta	ige	DC3.7V			
Temperature		24 deg. C	,		Humidit	y	56% RH			
Test Result:		Pass			Detecto	r	]	PK		
20dB Bandwidth		1148.29kH	[z							
Ref Lvl 0 dBm	ndB	1 [T1 n 20. 1.148296	00 dB	RBW VBW SWT	30 k 100 k 8.5 m	Hz	F Att nit	20 dB	n	
-10					▼1 ndB BW ▼TI	[T1]	-1 2.40199 20 1.14829 -3	699 GHz .00 dB 659 MHz	A	
-30		^	$\mathcal{N}$	m		? [T1]	2.40144 -3 <sup>1</sup> 2.40259			
-40		Ţ				2			11	
-50										
-70										
-80										
-90										
-100 Center 2.40	2 GHz	I I	300	kHz/	ı		Spa	an 3 MHz	4	

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GFSK Modulat	tion					r			
Product:		.4G/BT MEC IING KEYB	1	Test Mode:	Keep transmitting				
Mode	Kee	eping Transm	itting	Т	est Voltage	DC3.7V 56% RH			
Temperature		24 deg. C,			Humidity				
Test Result:		Pass			Detector		Р	K	
OdB Bandwidth		1070.14kHz	Z				-	-	
Ref Lvl 0 dBm	Mark ndB BW	er 1 [T1 : 20 1.07014	.00 dB	RBW VBW SWT	30 kHz 100 kHz 8.5 ms			20 dB dBm	ı
0					▼1 [5	Г1]	-17	.31 dBm	1
								699 GHz	A
-10					ndB		20	.00 dB	
					BW	1	.07014		
-20				$\sim$	$ abla_{T1}$	[T1]	-37	<u>.00 dBm</u>	
				2	$ abla_{T2}$	[T1]	. 44047 - 37	996 GHz .34 dBm	
-30				L.		2	. 44155	010 GHz	
<b>1MAX</b>					T2 V				1MA
-50	$\sim$	J ~				~			
	~~~~						$\sum$		
-60								$\sim$	
-70									
- 80									
-90									
-100 Center 2	.441 GHz		300 }	KHz/		I	Spar	n 3 MHz	J
Date: 27	.FEB.2022	14:36:53							

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Product:		RED/2.4G/BT MECHANICAL GAMING KEYBOARD				Т	Test Mode:		Keep transmitting		
Mode	ng Transmitting			Test Voltage			DC3.7V				
Temperature		2	4 deg. C,			]	Humidity		56%	6 RH	
Test Result:		Pass				Detector		I	РК		
OdB Bandwidth		99	97.99kHz								
Ref Lvl 0 dBm		dB	1 [T1 r 20. 7.995991	00 dB	7	RBW 7BW SWT	30 kH 100 kH 8.5 ms	z	7 Att nit	20 dB dBn	n
-10								T1]	-17 2.47999	.73 dBm 699 GHz	А
-20				~	, 		ndB BW ♥ <sub>T1</sub>	99 [T1]	20 7.99599 -37	.00 dB 198 kHz .64 dBm	
-30				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m	L	▼12	[T1]	2.47950 -37 2.48050	401 GHz .60 dBm 200 GHz	L
<b>1MAX</b>			TA				T2 T2		2.40000	200 GH2	1MA
-50		$\sim$	•				\	L	~		
-60	مسرسر							$\bigvee$			
-70									لر	$\bigwedge$	
								_		W	
-80											
-90											
-100 Center 2	2.48 GHz		<u> </u>	300	kHz/	,			Spa	.n 3 MHz	J

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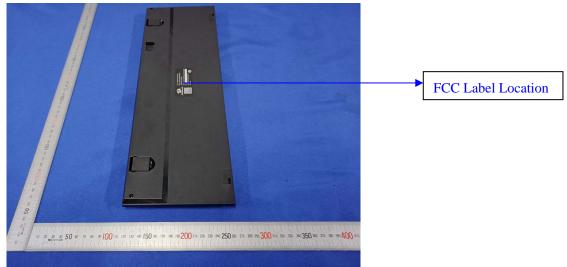
# 10.0 FCC ID Label

# FCC ID: TUVET-8536

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:



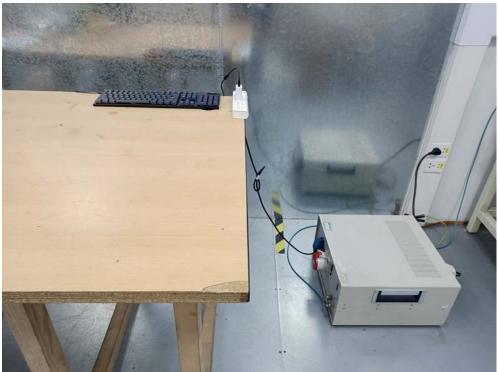
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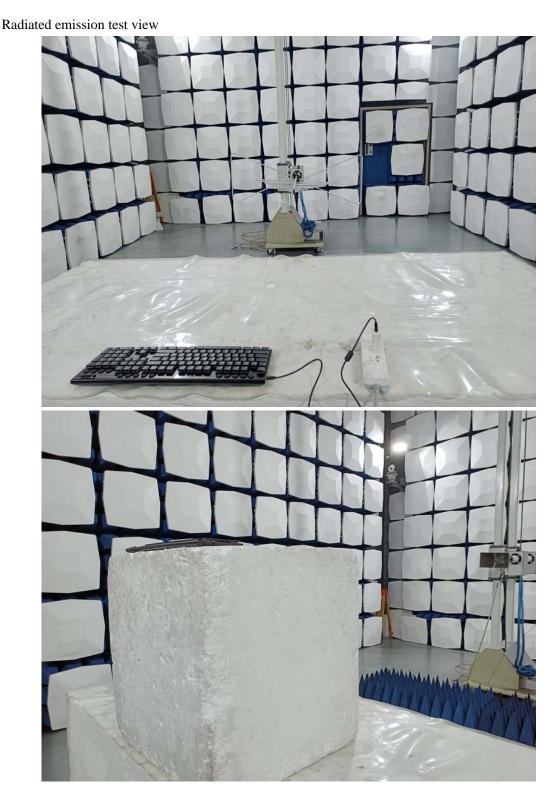
#### 11.0 Photo of testing

11.1 Conducted test View--



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#### 11.2 Photographs - EUT



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Photographs - EUT



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Outside View



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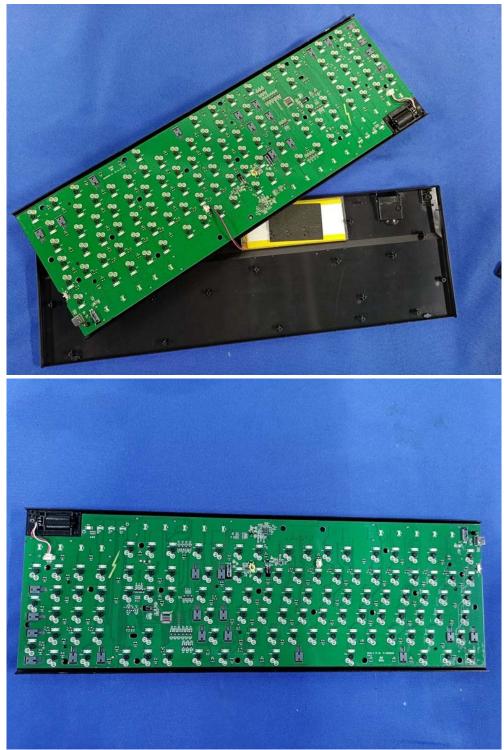
Outside View



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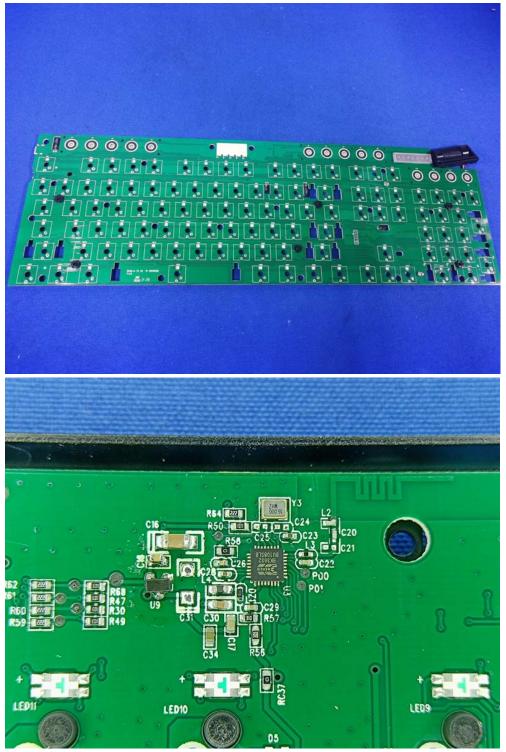
Inside view



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Inside view



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Inside view



--End of the report-

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