

Report No.:	TW2302102-02E
Applicant:	Eastern Times Technology Co.,Ltd
Product:	REDRAGON EXCLUSIVE X1.2 BIG KEYCAP MECHANICAL KEYBOARD
Model No.:	K644CGO-RGB-PRO, ET-8858
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 long

Terry Tang

Manager

Dated:

March 09, 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



## **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

## CAB identifier: CN0033

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### 1.0 General Details

1.1 Test Lab Details

Name:SHENZHEN TIMEWAY TESTING LABORATORIES.Address:Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le<br/>Village, Nanshan District, Shenzhen, ChinaTelephone:(755) 83448688Fax:(755) 83442996Site on File with the Federal Communications Commission – United SatesRegistration Number: 744189For 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:	REDRAGON EXCLUSIVE X1.2 BIG KEYCAP MECHANICAL 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:	K644CGO-RGB-PRO
Additional Model Name	ET-8858
Hardware Version:	8858-A TX V1
Software Version:	2A56
Serial No.:	RDK644CGO-RGB-PRO23011000985
Rating:	Input: DC5V, 650mA or DC3.7V, 150mA
Battery:	DC3.7V, 1600mAh Li-ion battery
Modulation Type:	GFSK
Operation Frequency:	2402-2480MHz
Channel Separate:	1MHz
Channel Number:	79
Antenna Designation	PCB antenna with gain 2.34dBi Max (Get from the antenna specification)

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### 1.4 Submitted Sample: 2 Samples

- 1.5 Test Duration 2023-02-15 to 2023-03-09
- 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 - King

The sample tested by

Print Name: Terry Tang

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2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2022-07-15	2023-07-14
LISN	R&S	EZH3-Z5	100294	2022-07-18	2023-07-17
LISN	R&S	EZH3-Z5	100253	2022-07-18	2023-07-17
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2022-07-18	2023-07-17
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17
Spectrum	R&S	FSIQ26	100292	2022-07-15	2023-07-14
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	2022-07-18	2023-07-17
Power sensor	Anritsu	MA2491A	32263	2022-07-18	2023-07-17
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	2022-07-15	2023-07-14
EMI Test Receiver	RS	ESCS 30	834115/006	2022-07-15	2023-07-14
Spectrum	HP/Agilent	E4407B	MY50441392	2022-07-15	2023-07-14
Spectrum	RS	FSP	1164.4391.38	2022-07-15	2023-07-14
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2022-07-15	2023-07-14
RF Cable	Zhengdi	7m		2022-07-15	2023-07-14
Pre-Amplifier	Schwarebeck	BBV9743	#218	2022-07-15	2023-07-14
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2022-07-15	2023-07-14
LISN	SCHAFFNER	NNB42	00012	2022-08-18	2023-07-17
ESPI Test Receiver	R&S	ESPI 3	100379	2022-07-15	2023-07-14
LISN	R&S	EZH3-Z5	100294	2022-07-18	2023-07-17

#### 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

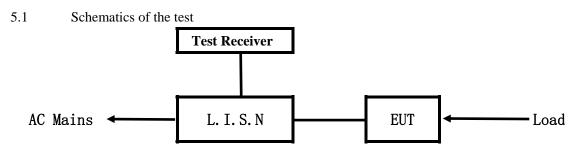
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## 5. Power Line Conducted Emission Test



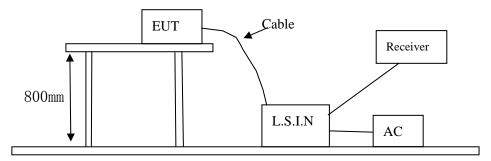
EUT: Equipment Under Test

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
REDRAGON EXCLUSIVE X1.2 BIG KEYCAP MECHANICAL KEYBOARD	Eastern Times Technology Co.,Ltd	K644CGO-RGB-PRO, ET-8858	TUVET-8858A

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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

6 61				
Frequency	Limits (d	lΒ μ V)		
(MHz)	Quasi-peak Level	Average Level		
$0.15~\sim~0.50$	66.0~56.0*	56.0~46.0*		
$0.50~\sim~5.00$	56.0	46.0		
$5.00~\sim~30.00$	60.0	50.0		

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

2. The tighter limit shall apply at the transition frequencies

### 5.6 Test Results:

Pass

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A: Conducted Emission on Live Terminal (150kHz to 30MHz) **EUT Operating Environment** Humidity: 65%RH Atmospheric Pressure: 101 kPa Temperature: 25℃ EUT set Condition: Charging and Communication by BT **Results: Pass** Please refer to following diagram for individual dBu∀ 80.0 70 FCC Part15 CE-Class C\_QP 60 FCC Part 5 CE-Class C\_AVe 50 40 30 peak 20 AVG 10 n -10 -20 0.150 (MHz) 30.000 Frequency Reading Factor Level Limit Margin Detector P/F No. (MHz) (dBuV) (dBuV) (dB) (dB) (dBuV) 0.1850 27.37 9.76 37.13 64.26 -27.13 QP Ρ 1 2 0.1850 9.76 21.23 54.26 -33.03 AVG Ρ 11.47 3 0.2787 26.93 9.76 36.69 60.85 -24.16 QP Ρ 4 0.2787 15.55 9.76 25.31 50.85 -25.54 AVG Ρ 5 0.4932 27.76 9.77 37.53 56.11 QP Ρ -18.586 0.4932 20.09 9.77 29.86 46.11 -16.25 AVG Ρ 7 0.6531 38.79 QP Ρ 29.01 9.78 56.00 -17.21 0.6531 24.18 9.78 33.96 46.00 -12.04 AVG Ρ 8 9 15.4449 30.32 10.41 40.73 60.00 -19.27 QP Ρ 10 15.4449 17.72 10.41 28.13 50.00 -21.87 AVG Ρ 11 21.7824 24.22 10.79 35.01 60.00 -24.99 QP Ρ 12 21.7824 14.83 10.79 25.62 50.00 -24.38 AVG Ρ

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**B**: Conducted Emission on Neutral Terminal (150kHz to 30MHz) **EUT Operating Environment** Temperature: 25℃ Humidity: 65%RH Atmospheric Pressure: 101 kPa EUT set Condition: Charging and Communication by BT **Results: Pass** Please refer to following diagram for individual dBu∀ 80.0 70 FCC Part15 CE-Class C\_QP 60 FCC Part 5 CE-Clask C\_AVe 50 8 8 40 30 peak 20 AVG 10 n -10 -20 0.150 (MHz) 30.000 Frequency Reading Factor Limit Level Margin Detector P/F No. (MHz) (dBuV) (dB) (dBuV) (dBuV) (dB) Ρ 1 0.1929 29.21 9.75 38.96 63.91 -24.95 QP 2 0.1929 12.95 9.75 22.70 53.91 -31.21 AVG Ρ 3 0.3645 27.18 9.76 36.94 58.63 -21.69 QP Ρ 4 0.3645 11.19 9.76 20.95 Ρ 48.63 -27.68 AVG 5 0.6023 29.10 9.77 38.87 56.00 -17.13 QP Ρ 6 0.6023 18.23 9.77 28.00 46.00 -18.00 AVG Ρ 7 0.8130 27.35 37.13 QP Ρ 9.78 56.00 -18.87 8 9.78 Ρ 0.8130 14.81 24.59 46.00 -21.41 AVG 9 15.3513 32.93 10.40 43.33 60.00 -16.67 QP Ρ 10 15.3513 16.35 10.40 26.75 50.00 -23.25 AVG Ρ 22.88 10.79 Ρ 11 21.7746 33.67 60.00 -26.33 QP Ρ 12 21.7746 12.98 10.79 23.77 50.00 -26.23 AVG

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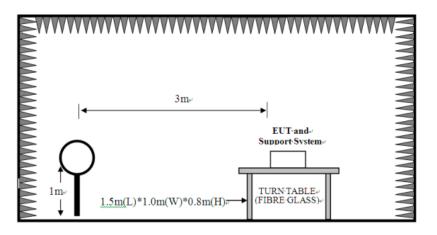


### 6 Radiated Emission Test

- 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

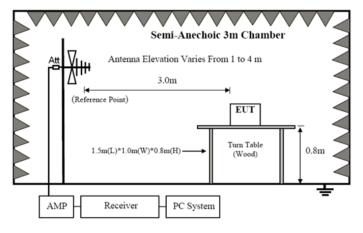


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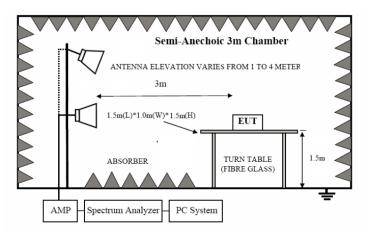
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For radiated emissions from 30MHz to1GHz



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.

1	I I I I I I I I I I I I I I I I I I I	
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
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

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

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

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

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

5. For radiated emissions from 9kHz to 30MHz, the emission level is much less than the limit for more than 20dB. No necessary to take down the record.

6. 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

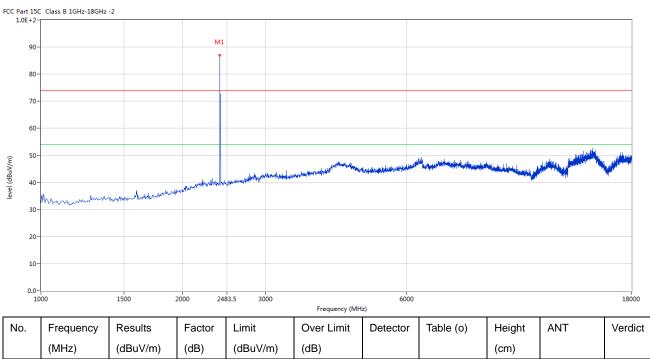
2402

87.25

-3.57

114.0

1



-26.75

Peak

84.00

100

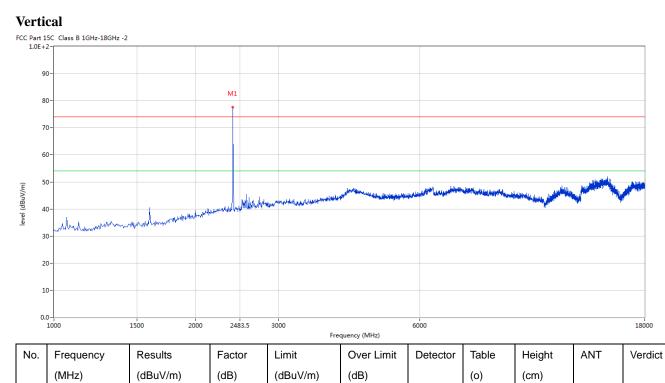
Horizontal

Pass

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-36.63

281.00

100

Vertical

Pass

Peak

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77.37

-3.57

114.0

2402

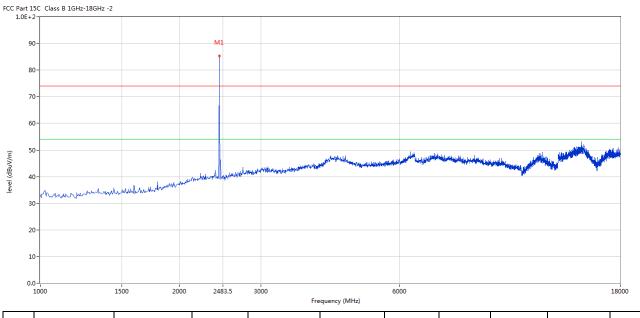
1

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

#### Horizontal

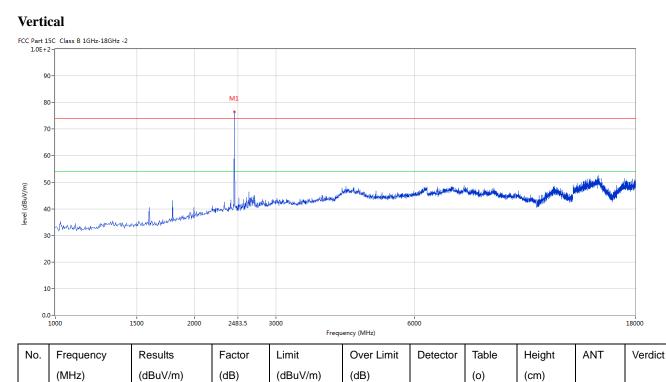


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	85.25	-3.57	114.0	-28.75	Peak	266.00	100	Horizontal	Pass

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178.00

100

Vertical

Pass

Peak

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

76.37

-3.57

114.0

-37.63

2441

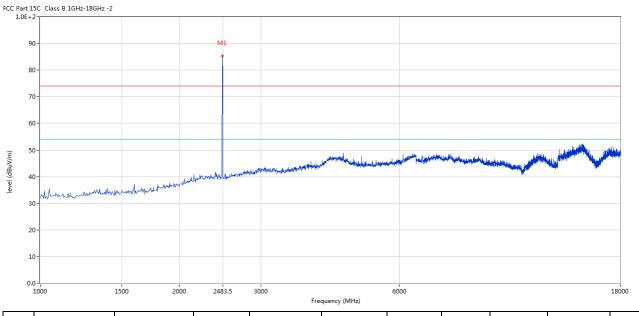
1

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

#### Horizontal

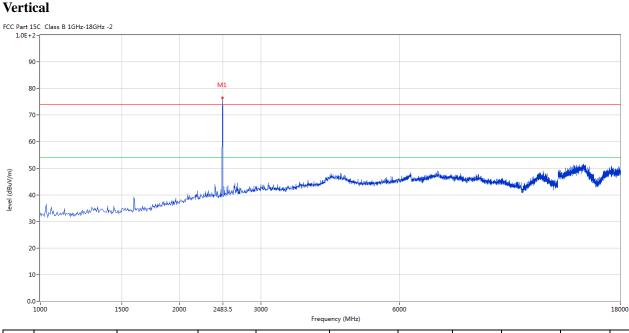


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	85.39	-3.57	114.0	-28.61	Peak	87.00	100	Horizontal	Pass

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	No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
l	1	2480	76.49	-3.57	114.0	-37.51	Peak	0.00	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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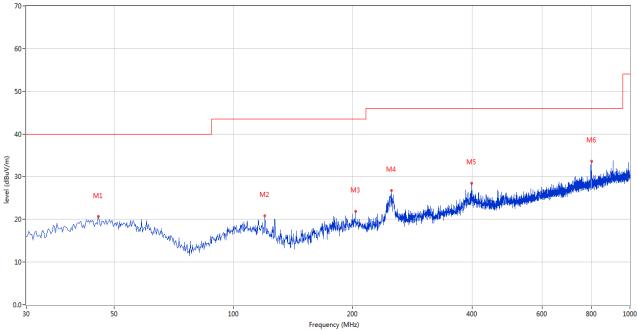
## B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

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	45.516	20.64	-11.39	40.0	-19.36	Peak	180.00	100	Horizontal	Pass
2	119.945	20.86	-15.32	43.5	-22.64	Peak	112.00	100	Horizontal	Pass
3	203.344	21.91	-13.46	43.5	-21.59	Peak	48.00	100	Horizontal	Pass
4	250.135	26.83	-12.06	46.0	-19.17	Peak	320.00	100	Horizontal	Pass
5	399.235	28.48	-8.60	46.0	-17.52	Peak	4.00	100	Horizontal	Pass
6	799.745	33.60	-2.97	46.0	-12.40	Peak	30.00	100	Horizontal	Pass

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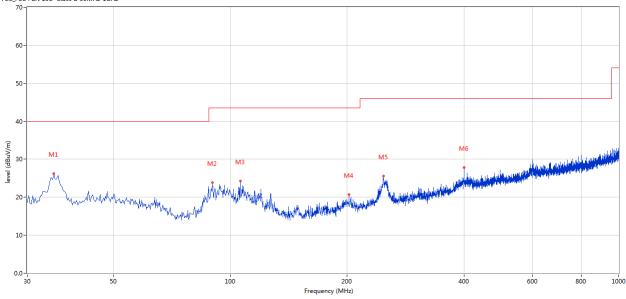
#### Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

#### Results: Pass

Please refer to following diagram for individual

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



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	35.091	26.22	-14.00	40.0	-13.78	Peak	124.00	100	Vertical	Pass
2	89.883	23.81	-15.19	43.5	-19.69	Peak	39.00	100	Vertical	Pass
3	106.126	24.21	-13.32	43.5	-19.29	Peak	0.00	100	Vertical	Pass
4	202.132	20.68	-13.40	43.5	-22.82	Peak	276.00	100	Vertical	Pass
5	247.953	25.58	-12.15	46.0	-20.42	Peak	261.00	100	Vertical	Pass
6	399.963	27.83	-8.57	46.0	-18.17	Peak	285.00	100	Vertical	Pass

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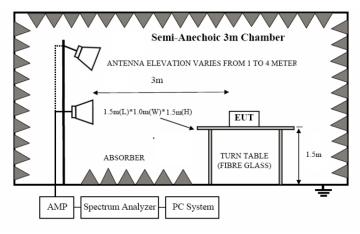


## 7. Band Edge

### 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

Р	roduct:			SIVE X1.2 B	P	olarity		Ho	rizontal	
1	iouuer.	KEYCAP MI			RD	oluilty		110	IIZointui	
	Mode	Kee	ping Trans			t Voltage		D	C3.7V	
	nperature		24 deg. <b>(</b>	Ξ,	Hı	umidity		56	5% RH	
Tes	t Result:		Pass							
2 Part 1 1.0E+	15C Class B 1GHz-18G	+z -2								
g	10-							M	1	
8	:0-							p	Ŋ	
7	·0-								- J	_
e	i0 -									
							M4	M5	<u> </u>	_
	i0 -							•		
5						M3	ו של האיני של האיני לו	h al	h,	
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4 3 2 1	00- 1990- 10- 10-	tenten in normalisen in de service de servic	orgoniskløriktersportationer		quency (MHz)					2410
4 3 2 1	0 - <mark></mark>	Results	Factor		quency (MHz)	Detector	Table	Height	ANT	1
4 3 2 1	0			Fre		Detector	Table (o)	Height (cm)		1
4 3 2 1 0 <b>NO.</b>	0- 0- 0- 2350 Frequency	Results	Factor	Fre	Over Limit	Detector Peak				1
4 3 2 1 0 No.	10 - 10 - 1	Results (dBuV/m)	Factor (dB)	Fre Limit (dBuV/m)	Over Limit (dB)		(0)	(cm)	ANT	Verdi
4 3 2 1 1 0 No.	0 10 10 10 10 10 10 10 10 10 1	Results (dBuV/m) 86.92	Factor (dB) -3.57	Fre Limit (dBuV/m) 74.0	Over Limit (dB) 12.92	Peak	(o) 272.00	(cm) 100	ANT Horizontal	Verdie N/A
• 4 3 1 0 No. 1 2 2**	<ul> <li>Internet of the second s</li></ul>	Results (dBuV/m) 86.92 63.59	Factor (dB) -3.57 -3.57	Free Limit (dBuV/m) 74.0 74.0	Over Limit (dB) 12.92 -10.41	Peak Peak	(o) 272.00 268.00	(cm) 100 100	ANT Horizontal Horizontal	Verdie N/A Pass
, 4 3 2 1	0 	Results (dBuV/m) 86.92 63.59 49.57	Factor (dB) -3.57 -3.57 -3.57	Fre Limit (dBuV/m) 74.0 74.0 54.0	Over Limit (dB) 12.92 -10.41 -4.43	Peak Peak AV	(o) 272.00 268.00 268.00	(cm) 100 100 100	ANT Horizontal Horizontal Horizontal	Verdie N/A Pass Pass

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P	roduct:			SIVE X1.2 BI AL KEYBOA	De	etector		Ver	tical	
]	Mode	Kee	ping Trans	smitting	Test	Voltage		DC	3.7V	
Ten	nperature		24 deg. (	С,	Hu	midity		56%	RH	
Tes	st Result:		Pass					-		
C Part 1 1.0E+	15C Class B 1GHz-18GF -2-	łz -2								
	90 -									
y	- 10							M	1	
8	30 -								1 ~	
7	70-							/-	<u>\</u>	
6	50 -							/	_\	
-	50 -						M4 M5			
							• *	p -		
						M3	italia a casta di di ta	1 M <sup>M2</sup>		
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3	20 - -	hadatiy sovláli debabbi fermi	nan an an Alasan Alasan ing kat	haji-mitterda katakila kati kana penakiti	lattik kura arandakti					de Martydad
3		hadatustatishkiladin di kara		hay,Herabhaabhaabhaabhaabh	leftet less a texade the			**************************************		4.194.144
3 2 1	20 - -	h a h at ye sawihi la dhaalin h a aan d	nasta an statistica da ser se da se da se da se da					•		2410
4 3 2 1 0.	0			Freq	juency (MHz)			•		2410
3 2 1	00- 00- 2350 Frequency	Results	Factor	Free	quency (MHz) Over Limit	Detector	Table	Height	ANT	2410
4 3 2 1 0.	0			Freq	juency (MHz)		Table (o)	Height (cm)		2410
4 3 2 1 0. No.	00- 00- 2350 Frequency	Results	Factor	Free	quency (MHz) Over Limit			•		2410
4 3 2 1 0. No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Free Limit (dBuV/m)	<sup>quency (MHz)</sup> Over Limit (dB)	Detector	(0)	(cm)	ANT	2410 Verdic
4 3 2 1 0. No. 1 2	Frequency (MHz) 2401.797	Results (dBuV/m) 77.11	Factor (dB) -3.57	Free Limit (dBuV/m) 74.0	quency (MHz) Over Limit (dB) 3.11	Detector Peak	(o) 280.00	(cm) 100	ANT	2410 Verdic
4 3 2 1 0.	Frequency (MHz) 2400.087	Results (dBuV/m) 77.11 54.71	Factor (dB) -3.57 -3.57	Free Limit (dBuV/m) 74.0 74.0	uency (MHz) Over Limit (dB) 3.11 -19.29	Detector Peak Peak	(o) 280.00 280.00	(cm) 100 100	ANT Vertical Vertical	2410 Verdic N/A Pass
<pre>4 3 2 1 0. No. 1 2 2**</pre>	Frequency (MHz) 2400.087 2400.087	Results (dBuV/m) 77.11 54.71 40.69	Factor (dB) -3.57 -3.57 -3.57	Free Limit (dBuV/m) 74.0 74.0 54.0	Quency (MHz) Over Limit (dB) 3.11 -19.29 -13.31	Detector Peak Peak AV	(o) 280.00 280.00 280.00	(cm) 100 100 100	ANT Vertical Vertical	2410 Verdic N/A Pass Pass

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Р	roduct:			JSIVE X1.2 BIC CAL KEYBOAR		Polarity		He	orizontal	
	Mode		ping Tran			est Voltag	e	Γ	DC3.7V	
Ter	nperature		24 deg.	-		Humidity		5	6% RH	
	st Result:		Pass							
CC Part 1.0E·	15C Class B 1GHz-18G	Hz -2								
	90		M1							
level (dBuV/m)	60	-	/	M2	New York and a straight straig	defensive to the providence of the second	รรมสารแสดง เห็นสารแสดง เห็นสาร	le na constalem surrel	internationalistante	
level (dbuV/m)	50 - 40	in an	/	2483.5 Freque	Y. M. U. Huy dea	i definantisi tere definantia	92.49/.40.99.49.49 	le og et som Stademing og et sk	hedre gan ding yang kan kalan dan dan dan kan	2500
level (dbuV/m)	50 - 40 - 9 - 9 - 9 - 9 - 9 - 9 - 9 - 9 - 9 - 9	Results (dBuV/m)	Factor (dB)	Freque		Detector	Table (o)	Height (cm)	ANT	
level (dbuV/m)	50- 40- 50- 30- 20- 10- 2470 Frequency	Results		Freque Limit Ov (dBuV/m) Lir	ency (MHz) Ver		Table	Height		2500

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P	roduct:			SIVE X1.2 BIG AL KEYBOARD	Det	tector		Ver	tical	
	Mode	Kee	ping Trans	mitting	Test V	Voltage		DC.	3.7V	
Ten	nperature		24 deg. (		Hun	nidity		56%	6 RH	
	st Result:		Pass					-		
CC Part 1 1.0E+	15C Class B 1GHz-18GF	iz -2								
8	30		M1							
evel (dBuV/m) 6 2 1	00	Hall March Charles Harrison		M2	idaday)), maddeldd ym	induktorialika katisti	Wally and Journal	forigi di La di Angela (angela	n un den fan de finderikken	2500
(W/ANN 1000) 4 2 2 1 0	50 - 10 -		Factor	Frequency (		Detector	Tabla			
(m (10 dBu/)m) 4 4 3 2 1	00	Results (dBuV/m)	Factor (dB)	Frequency (	er Limit	Detector	Table (o)	Height (cm)	ANT	2500 Verdic
(W/ANN 1000) 4 2 2 1 0	00- 10- 10- 10- 10- 10- 10- 2470 Frequency	Results		Limit Ove	er Limit 3)	Detector Peak		-	ANT	

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

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#### 8.0 Antenna Requirement

#### **Applicable Standard**

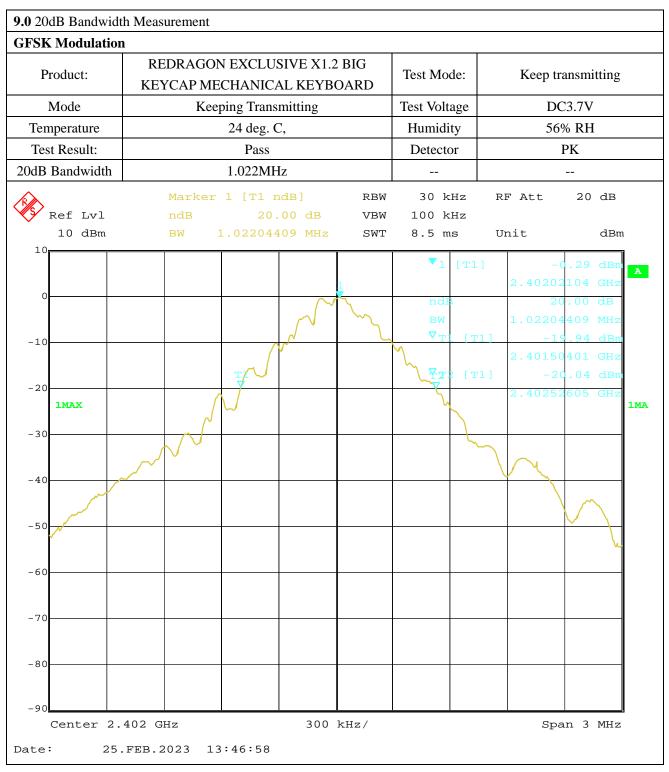
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

This product has a PCB antenna with gain 2.34dBi maximum. It fulfills the requirement of this section. Test Result: Pass

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

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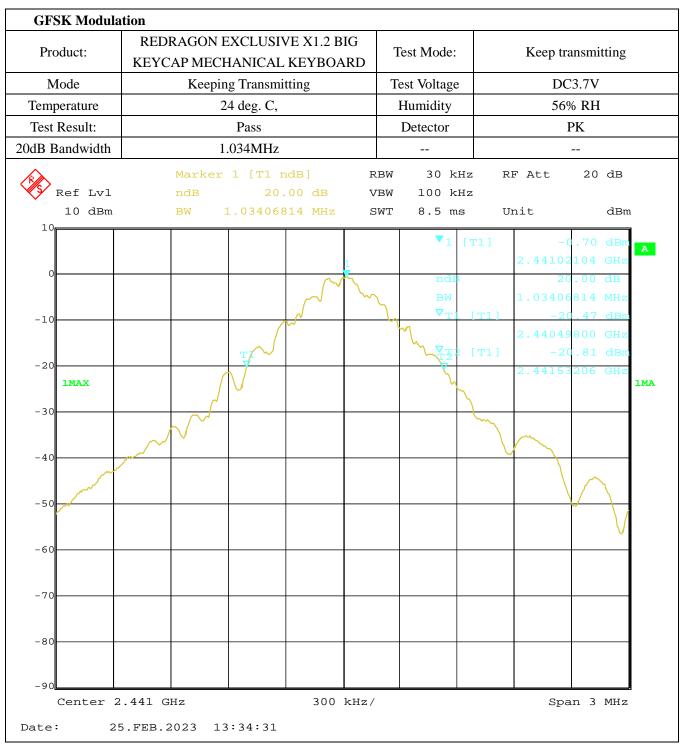




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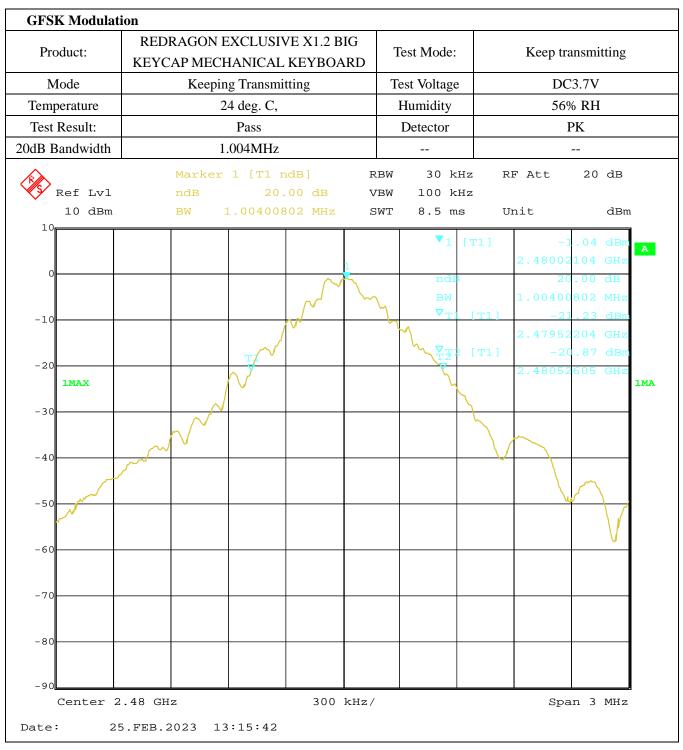




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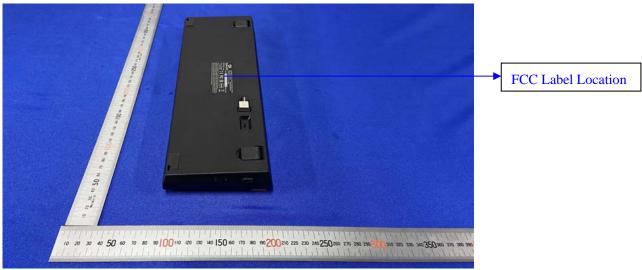


## 10.0 FCC ID Label

### FCC ID: TUVET-8858A

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:



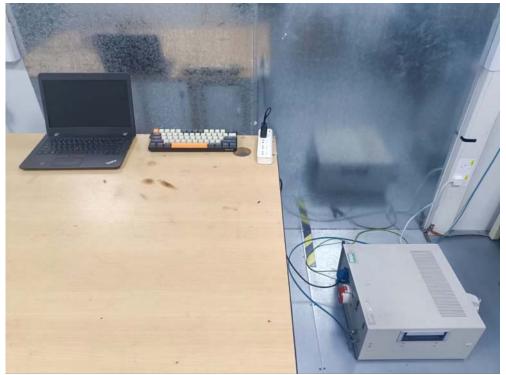
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#### 11.0 Photo of testing

11.1 Conducted test View--



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Radiated emission test view



### Photographs – EUT

Please refer test report TW2302102-01E

#### --End of the report--

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