

TEST REPORT



Report No.: TW2307043-02E

Applicant: Eastern Times Technology Co.,Ltd

Product: WIRELESS 94 KEY HOT-SWAPPABLE MECHANICAL KEYBOARD

Model No.: K658-RGB-PRO, K658CT-RGB-PRO, K658CTB-RGB-PRO, K669CLO-RGB-PRO, ET-8886, ET-8953

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

A handwritten signature in black ink that reads 'Terry Tang'.

Terry Tang

Manager

Dated: August 30, 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

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## 1.0 General Details

### 1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.  
Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China  
Telephone: (755) 83448688  
Fax: (755) 83442996  
Site on File with the Federal Communications Commission – United States  
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 94 KEY HOT-SWAPPABLE 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  
Model Number: K658-RGB-PRO  
Additional Model Name: K658CT-RGB-PRO, K658CTB-RGB-PRO, K669CLO-RGB-PRO, ET-8886, ET-8953  
Rating: Input: DC5V, 720mA or DC3.7V, 290mA  
Battery: DC3.7V, 1600mAh Li-ion battery  
Hardware Version: 8479-A RX V1  
Software Version: C5205  
Serial No.: RDK658CTB-RGB-PRO23051600449  
Operation Frequency: 2402-2480MHz  
Modulation Type: GFSK  
Number of Channels: 79  
Channel Separation: 1MHz  
Antenna Designation: PCB antenna with gain -7.30dBi maximum (Declared by the Manufacturer)

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1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2023-07-04 to 2023-08-30

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

*Andy-xing*

Print Name: Andy Xing

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2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100253	2023-07-14	2024-07-13
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2023-07-14	2024-07-13
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17
Spectrum	R&S	FSIQ26	100292	2023-07-14	2024-07-13
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2022-07-18	2025-07-17
Horn Antenna	R&S	BBHA 9120D	9120D-631	2022-07-18	2024-07-17
Power meter	Anritsu	ML2487A	6K00003613	2023-07-14	2024-07-13
Power sensor	Anritsu	MA2491A	32263	2023-07-14	2024-07-13
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2022-07-18	2025-07-17
9*6*6 Anechoic	--	--	N/A	2022-07-26	2025-07-25
EMI Test Receiver	RS	ESVB	826156/011	2023-07-14	2024-07-13
EMI Test Receiver	RS	ESCS 30	834115/006	2023-07-14	2024-07-13
Spectrum	HP/Agilent	E4407B	MY50441392	2023-07-14	2024-07-13
Spectrum	RS	FSP	1164.4391.38	2023-07-14	2024-07-13
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA	--	2023-07-14	2024-07-13
RF Cable	Zhengdi	7m	--	2023-07-14	2024-07-13
Pre-Amplifier	Schwarebeck	BBV9743	#218	2023-07-14	2024-07-13
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2023-07-14	2024-07-13
LISN	SCHAFFNER	NNB42	00012	2023-07-14	2024-07-13
ESPI Test Receiver	R&S	ESPI 3	100379	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13

## 2.2 Automation Test Software

### For Conducted Emission Test

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

### For Radiated Emissions

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

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### 3.0 Technical Details

#### 3.1 Summary of test results

<b>The EUT has been tested according to the following specifications:</b>			
<b>Standard</b>	<b>Test Type</b>	<b>Result</b>	<b>Notes</b>
<b>FCC Part 15, Paragraph 15.203</b>	<b>Antenna Requirement</b>	<b>Pass</b>	<b>Complies</b>
<b>FCC Part 15, Paragraph 15.207</b>	<b>Conducted Emission Test</b>	<b>Pass</b>	<b>Complies</b>
<b>FCC Part 15 Subpart C Paragraph 15.249(a) &amp; 15.249(b) Limit</b>	<b>Field Strength of Fundamental</b>	<b>Pass</b>	<b>Complies</b>
<b>FCC Part 15, Paragraph 15.209</b>	<b>Radiated Emission Test</b>	<b>Pass</b>	<b>Complies</b>
<b>FCC Part 15 Subpart C Paragraph 15.249(d) Limit</b>	<b>Band Edge Test</b>	<b>Pass</b>	<b>Complies</b>
<b>FCC Part 15.215(c)</b>	<b>20dB bandwidth</b>	<b>Pass</b>	<b>Complies</b>

#### 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

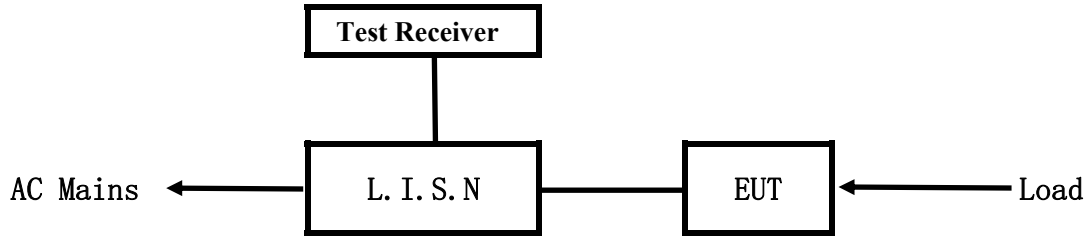
**No modification by SHENZHEN TIMEWAY TESTING LABORATORIES**

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**5.0 Power Line Conducted Emission Test**

5.1 Schematics of the test



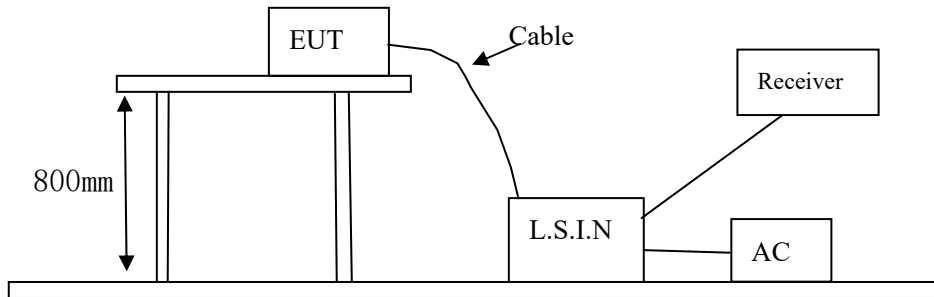
EUT: Equipment Under Test

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.

79 channels are provided to the EUT

A. EUT

Device	Manufacturer	Model	FCC ID
WIRELESS 94 KEY HOT-SWAPPABLE MECHANICAL KEYBOARD	Eastern Times Technology Co.,Ltd	K658-RGB-PRO, K658CT-RGB-PRO, K658CTB-RGB-PRO, K669CLO-RGB-PRO, ET-8886, ET-8953	TUVET-8886B

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B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

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

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 (MHz)	Limits (dB $\mu$ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66.0~56.0*	56.0~46.0*
0.50 ~ 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:

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

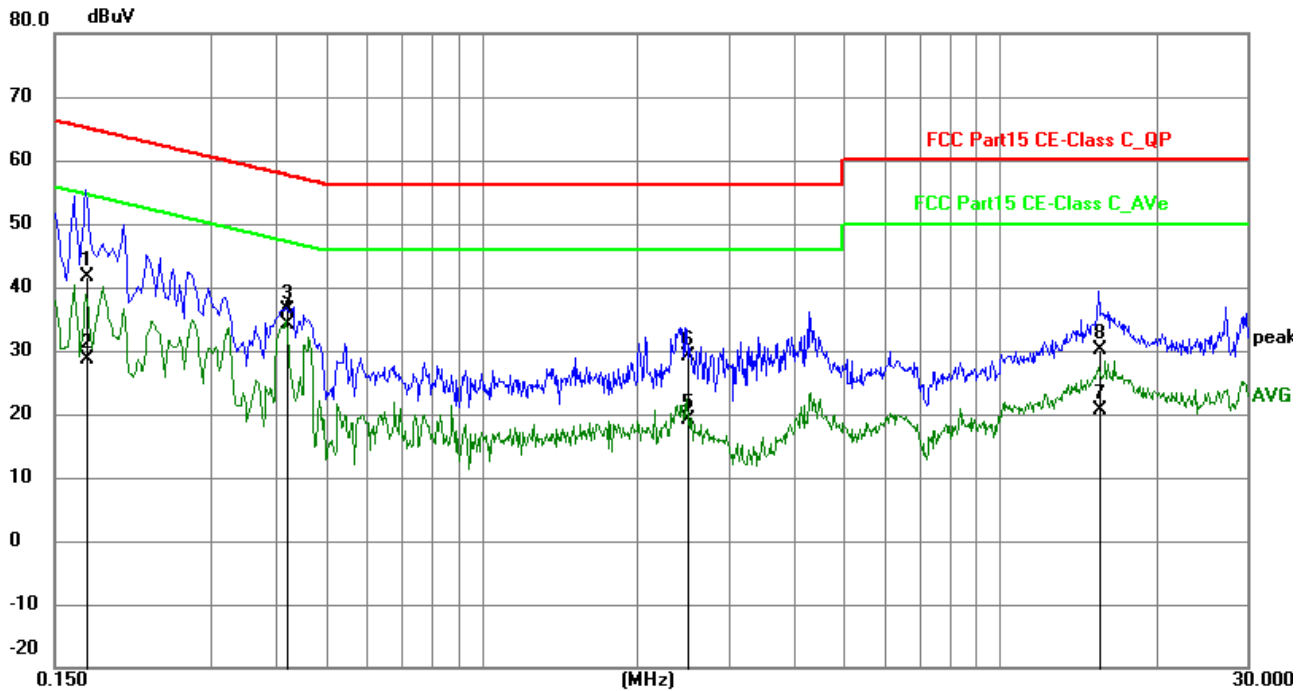
**EUT Operating Environment**

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

**EUT set Condition: Charging + Communication by BT**

**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	0.1730	31.94	9.77	41.71	64.82	-23.11	QP	P
2	0.1730	18.74	9.77	28.51	54.82	-26.31	AVG	P
3	0.4200	26.56	9.76	36.32	57.45	-21.13	QP	P
4	0.4200	24.38	9.76	34.14	47.45	-13.31	AVG	P
5	2.4930	9.40	9.82	19.22	46.00	-26.78	AVG	P
6	2.4949	19.19	9.82	29.01	56.00	-26.99	QP	P
7	15.5260	10.15	10.41	20.56	50.00	-29.44	AVG	P
8	15.5320	19.62	10.41	30.03	60.00	-29.97	QP	P

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

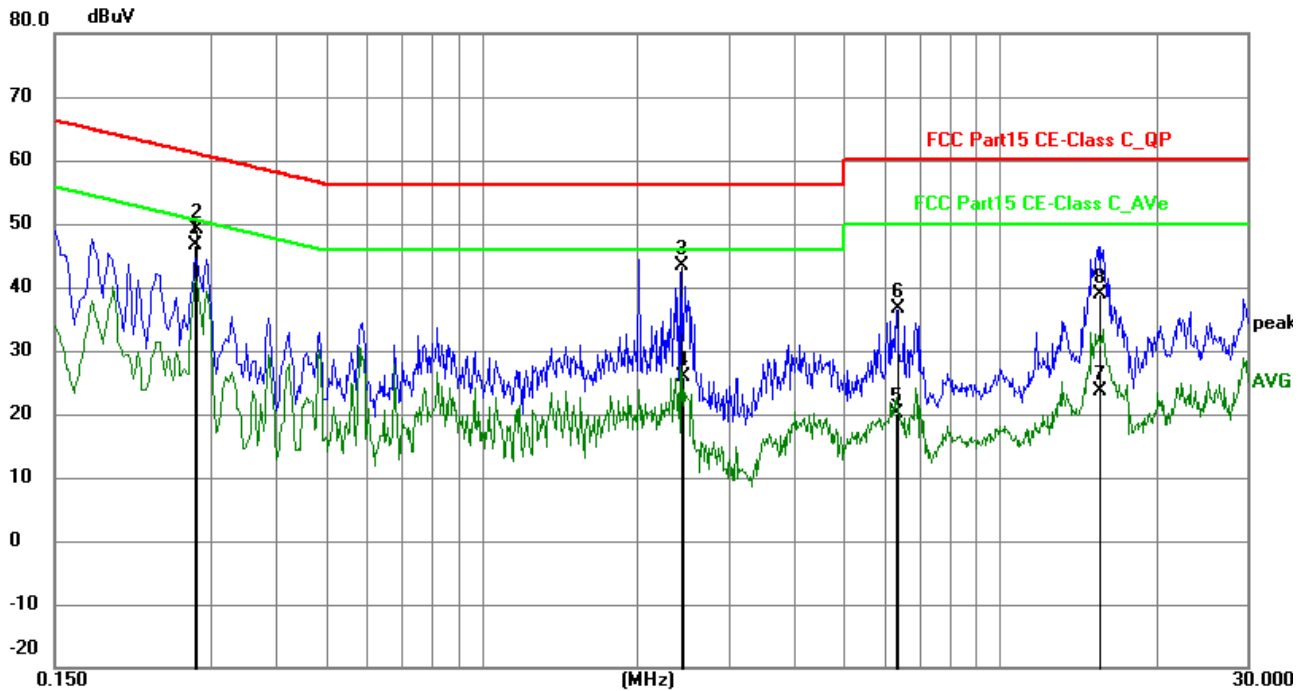
**EUT Operating Environment**

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

**EUT set Condition: Charging + Communication by BT**

**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	0.2800	36.81	9.76	46.57	50.82	-4.25	AVG	P
2	0.2810	39.37	9.76	49.13	60.79	-11.66	QP	P
3	2.4329	33.53	9.82	43.35	56.00	-12.65	QP	P
4	2.4350	16.01	9.82	25.83	46.00	-20.17	AVG	P
5	6.3170	10.22	9.98	20.20	50.00	-29.80	AVG	P
6	6.3210	26.62	9.98	36.60	60.00	-23.40	QP	P
7	15.5310	13.18	10.41	23.59	50.00	-26.41	AVG	P
8	15.5460	28.52	10.41	38.93	60.00	-21.07	QP	P

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

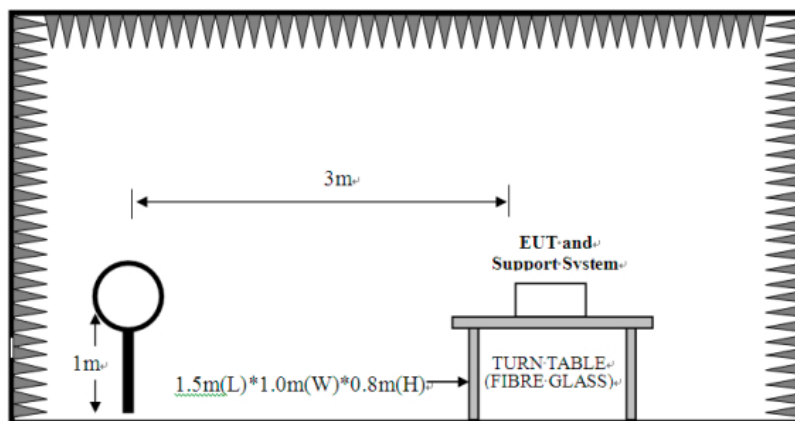
Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

(Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz).  
 Measurements were made at 3 meters.

- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) The antenna polarization: Vertical polarization and Horizontal polarization.

**Block diagram of Test setup**

For radiated emissions from 9kHz to 30MHz



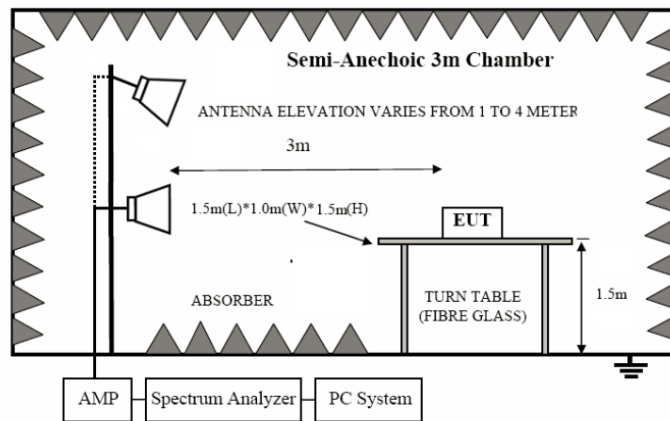
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For radiated emissions from 30MHz to 1GHz



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

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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)
0.009-0.490	3	$20\log(2400/F(\text{kHz})) + 40\log(300/3)$
0.490-1.705	3	$20\log(24000/F(\text{kHz})) + 40\log(30/3)$
1.705-30	3	69.5
30-80	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

- Note:
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
  4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.
  5. Battery fully charged was used during the test.

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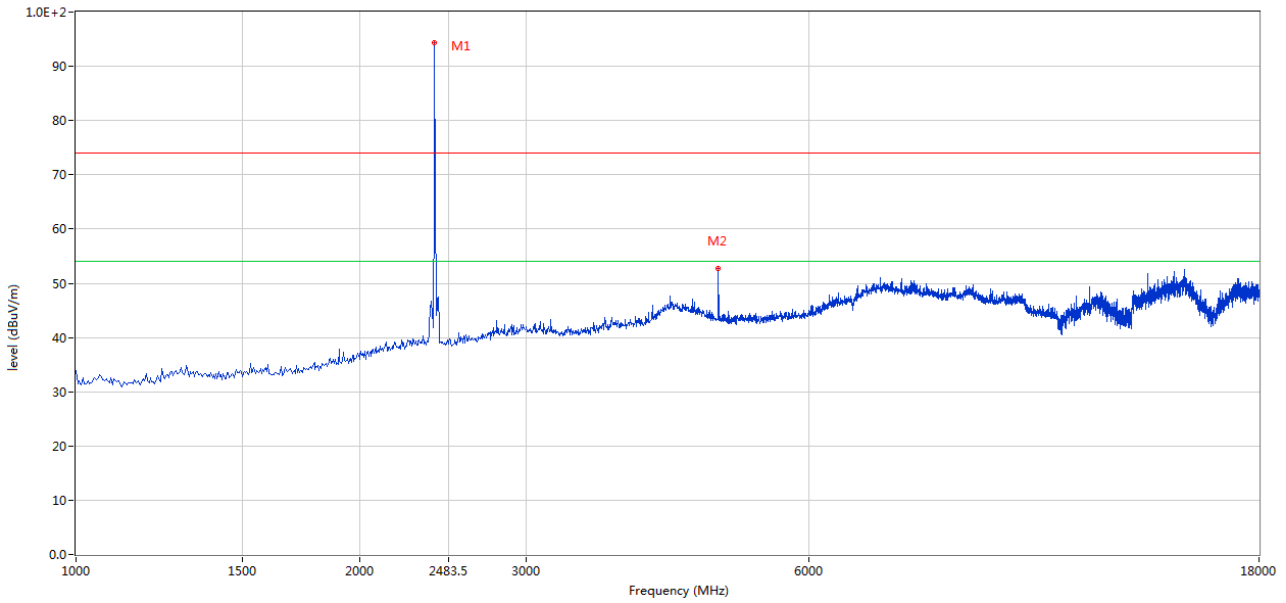
**6.5 Test result**

**A Fundamental & Harmonics Radiated Emission Data**

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

**Horizontal**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2402	94.73	-3.57	114.0	-19.27	Peak	284.00	100	Horizontal	Pass
1*	2402	85.01	-3.57	94.0	-8.99	AV	284.00	100	Horizontal	Pass
2	4802.799	53.65	3.12	74.0	-20.35	Peak	58.00	100	Horizontal	Pass

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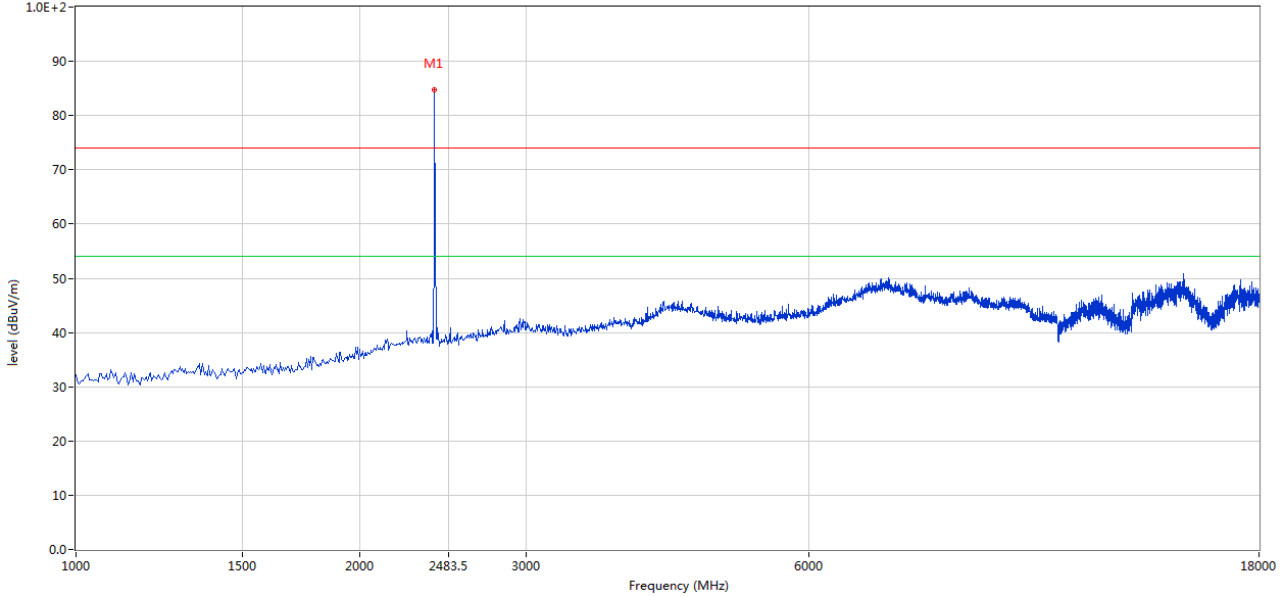
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**Vertical**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2402	85.41	-3.57	114.0	-28.59	Peak	108.00	100	Vertical	Pass

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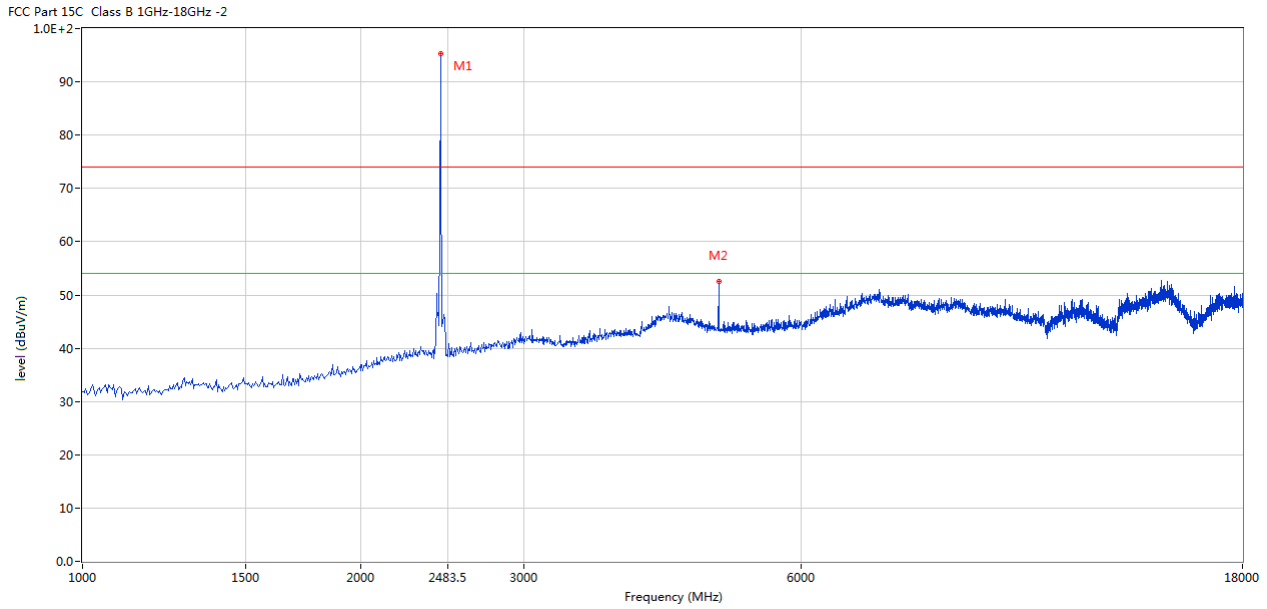
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Please refer to the following test plots for details: Middle Channel-2441MHz

**Horizontal**



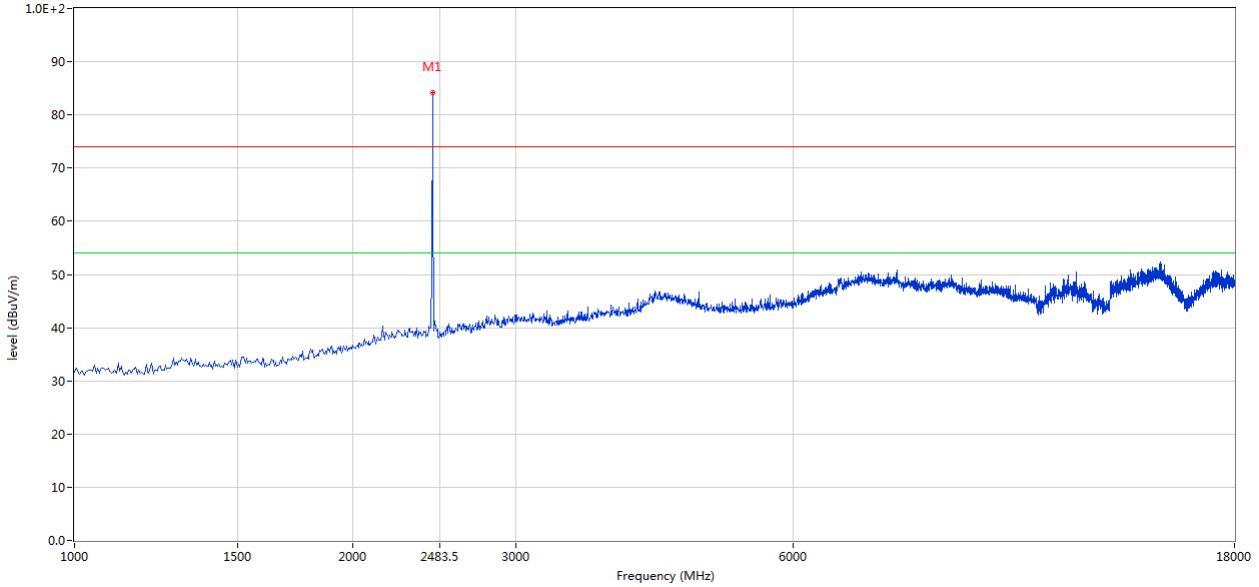
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2441	95.20	-3.57	114.0	-18.80	Peak	77.00	100	Horizontal	Pass
1*	2441	85.38	-3.57	94.0	-8.62	AV	77.00	100	Horizontal	Pass
2	4879.280	53.51	3.20	74.0	-20.49	Peak	274.00	100	Horizontal	Pass

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**Vertical**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2441	84.16	-3.57	114.0	-29.84	Peak	106.00	100	Vertical	Pass

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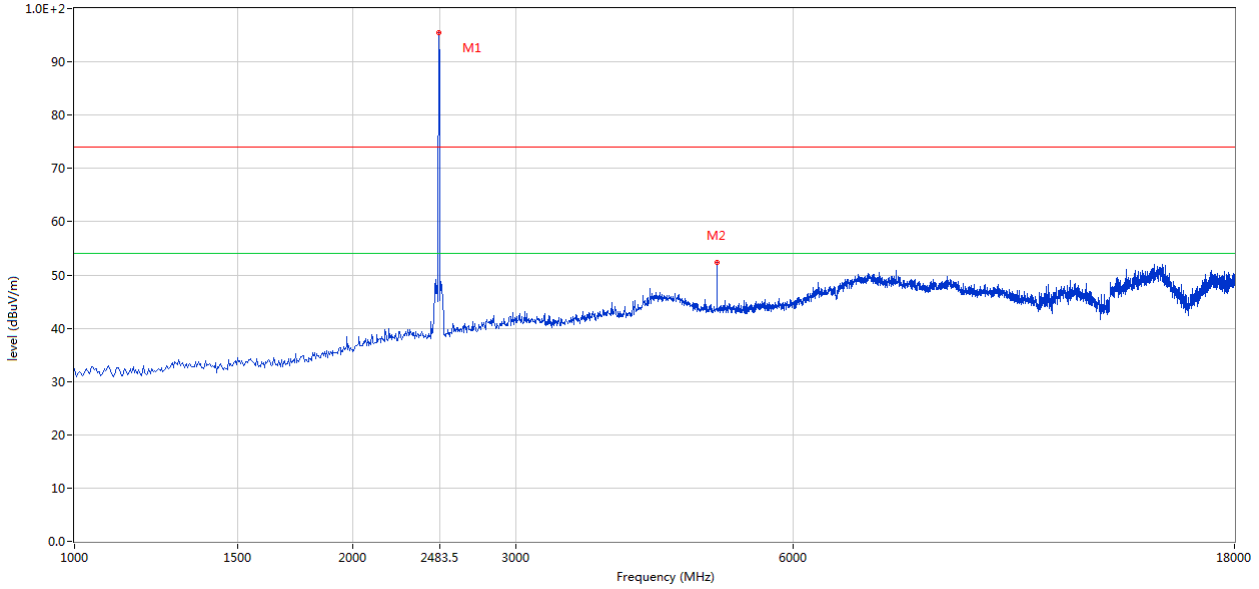
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Please refer to the following test plots for details: High Channel-2480MHz

**Horizontal**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2480	95.56	-3.57	114.0	-18.44	Peak	268.00	100	Horizontal	Pass
1*	2480	85.77	-3.57	94.0	-8.23	AV	268.00	100	Horizontal	Pass
2	4960.010	53.25	3.36	74.0	-20.75	Peak	69.00	100	Horizontal	Pass

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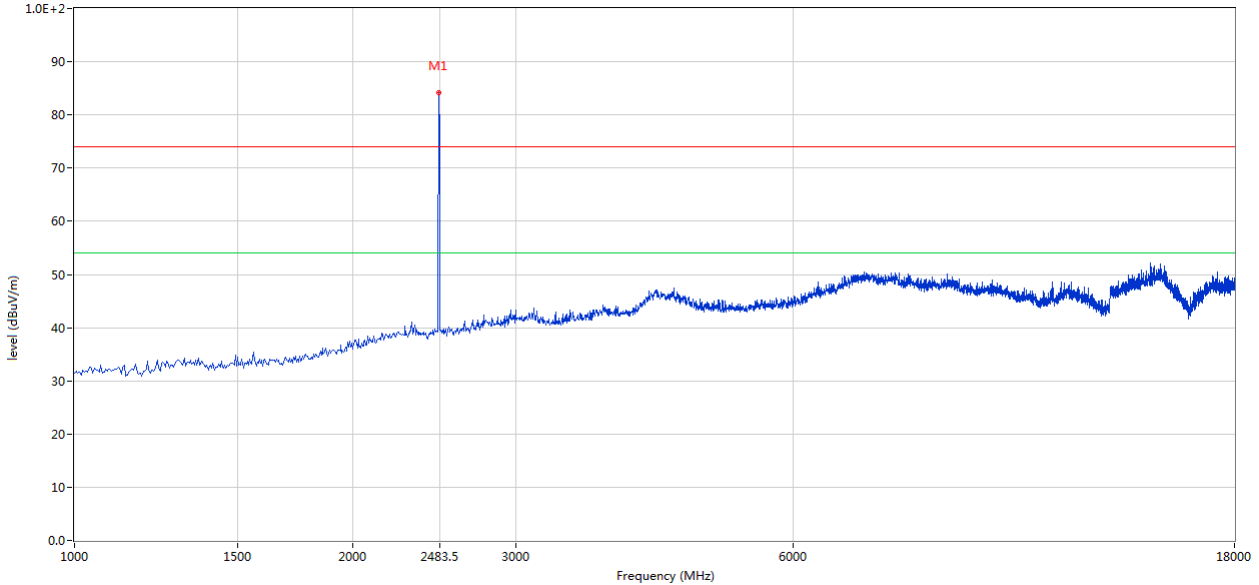
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**Vertical**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2480	84.51	-3.57	114.0	-29.49	Peak	71.00	100	Vertical	Pass

- Note:
- (1) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier
  - (2) Margin=Emission-Limits
  - (3) According to section 15.35(b), the peak limit is 20dB higher than the average limit
  - (4) For test purpose, keep EUT continuous transmitting
  - (5) For emission above 18GHz and Below 30MHz, It is only the floor noise and less than the limit for more than 20dB. No necessary to take down.
  - (6) the measured PK value less than the AV limit.

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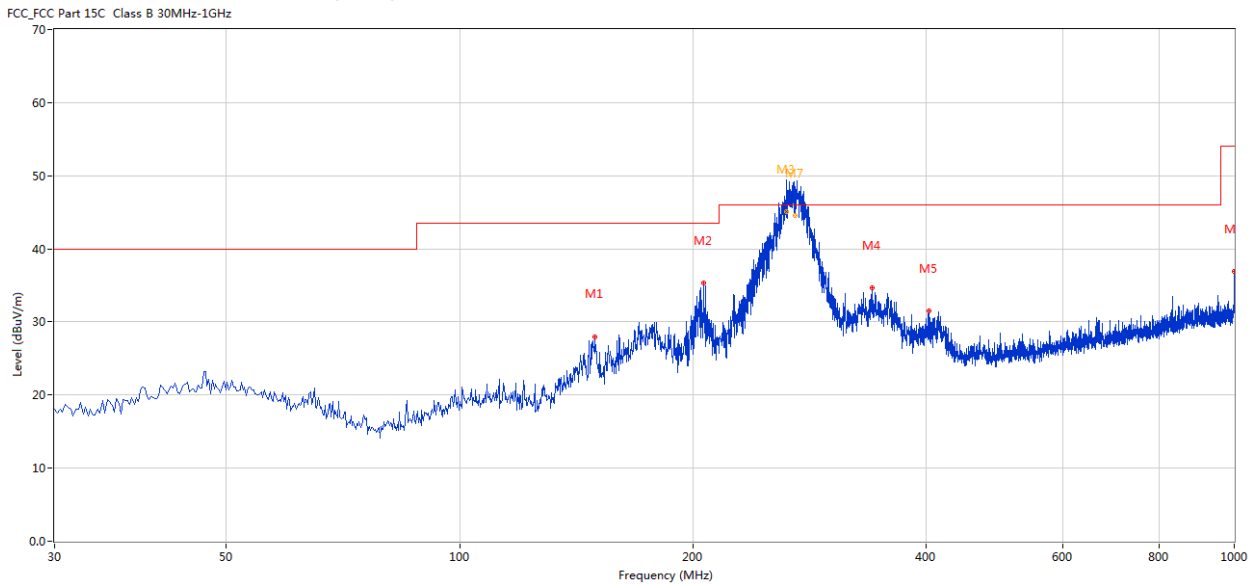


**B. General Radiated Emission Data**  
**Radiated Emission In Horizontal (30MHz----1000MHz)**

EUT set Condition: Keep Tx transmitting

**Results: Pass**

Please refer to following diagram for individual



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	149.523	27.92	-17.07	43.5	15.58	Peak	72.00	100	Horizontal	Pass
2	206.738	35.28	-13.66	43.5	8.22	Peak	34.00	100	Horizontal	Pass
3*	264.349	45.05	-11.82	46.0	0.95	QP	287.00	113	Horizontal	Pass
4	341.050	34.69	-9.75	46.0	11.31	Peak	0.00	100	Horizontal	Pass
5	403.114	31.47	-8.58	46.0	14.53	Peak	192.00	100	Horizontal	Pass
6	999.515	36.97	-1.17	54.0	17.03	Peak	279.00	100	Horizontal	Pass
7*	270.721	44.52	-11.74	46.0	1.48	QP	307.00	121	Horizontal	Pass

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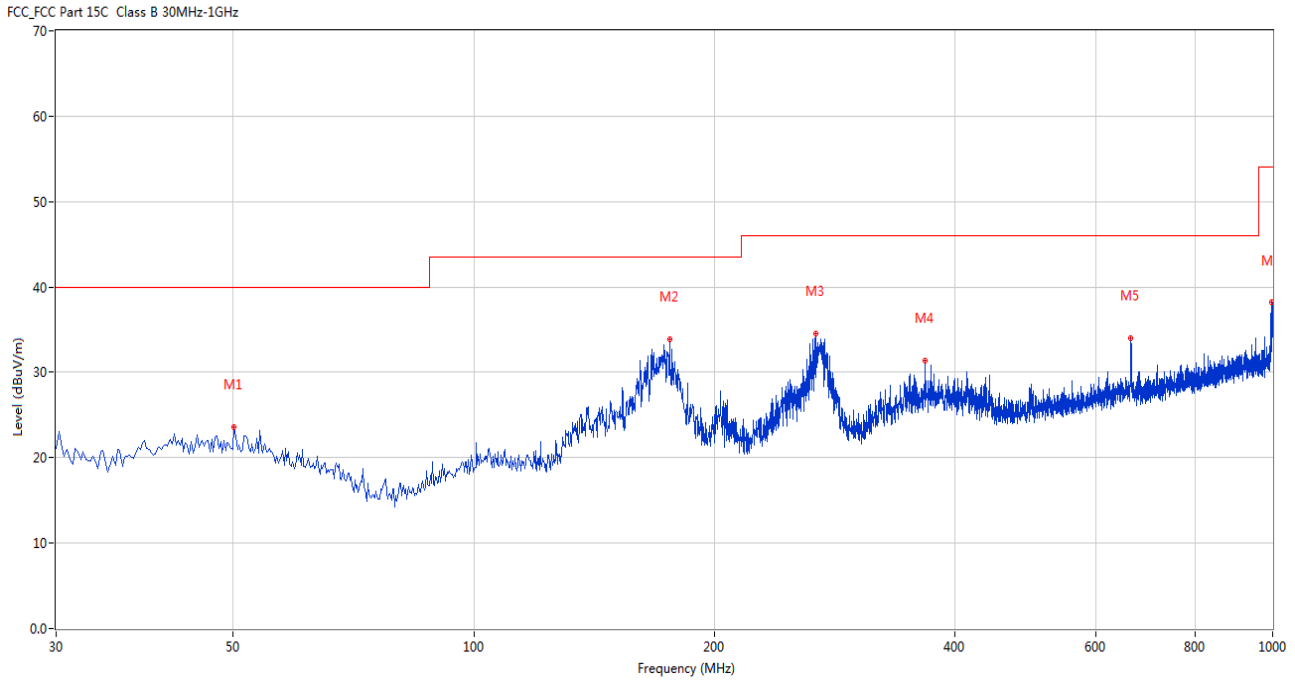


**Radiated Emission In Vertical (30MHz----1000MHz)**

EUT set Condition: Keep Tx transmitting

**Results: Pass**

Please refer to following diagram for individual



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	50.122	23.63	-11.38	40.0	16.37	Peak	236.00	100	Vertical	Pass
2	175.949	33.93	-15.62	43.5	9.57	Peak	196.00	100	Vertical	Pass
3	267.833	34.56	-11.72	46.0	11.44	Peak	168.00	100	Vertical	Pass
4	367.476	31.34	-9.51	46.0	14.66	Peak	52.00	100	Vertical	Pass
5	663.494	34.00	-4.45	46.0	12.00	Peak	344.00	100	Vertical	Pass
6	997.818	38.17	-1.23	54.0	15.83	Peak	32.00	100	Vertical	Pass

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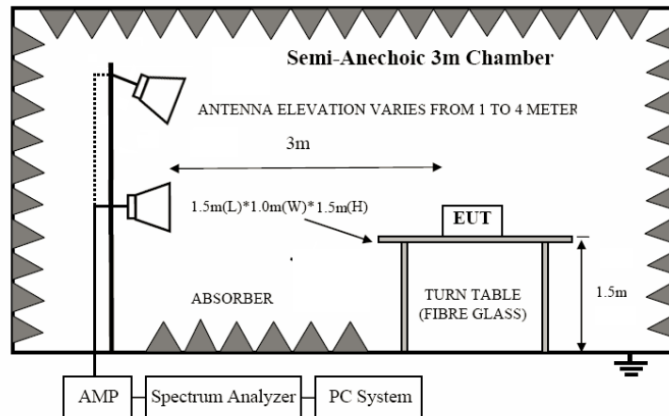


## 7. Band Edge

### 7.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) Set Spectrum as RBW=1MHz, VBW=3MHz and Peak detector used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used for AV value.
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

### 7.2 Radiated Test Setup



For the actual test configuration, please refer to the related items – Photos of Testing

### 7.3 Configuration of the EUT

Same as section 5.3 of this report

### 7.4 EUT Operating Condition

Same as section 5.4 of this report.

### 7.5 Band Edge Limit

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

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

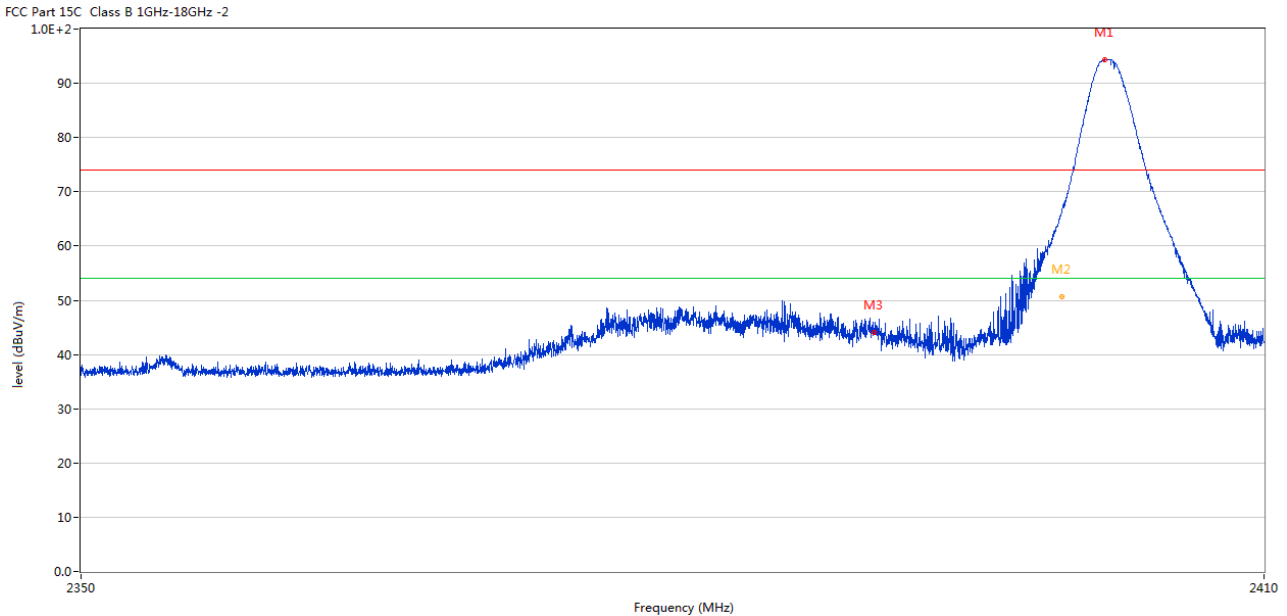
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**7.6 Test Result**

Product:	WIRELESS 94 KEY HOT-SWAPPABLE MECHANICAL KEYBOARD	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--



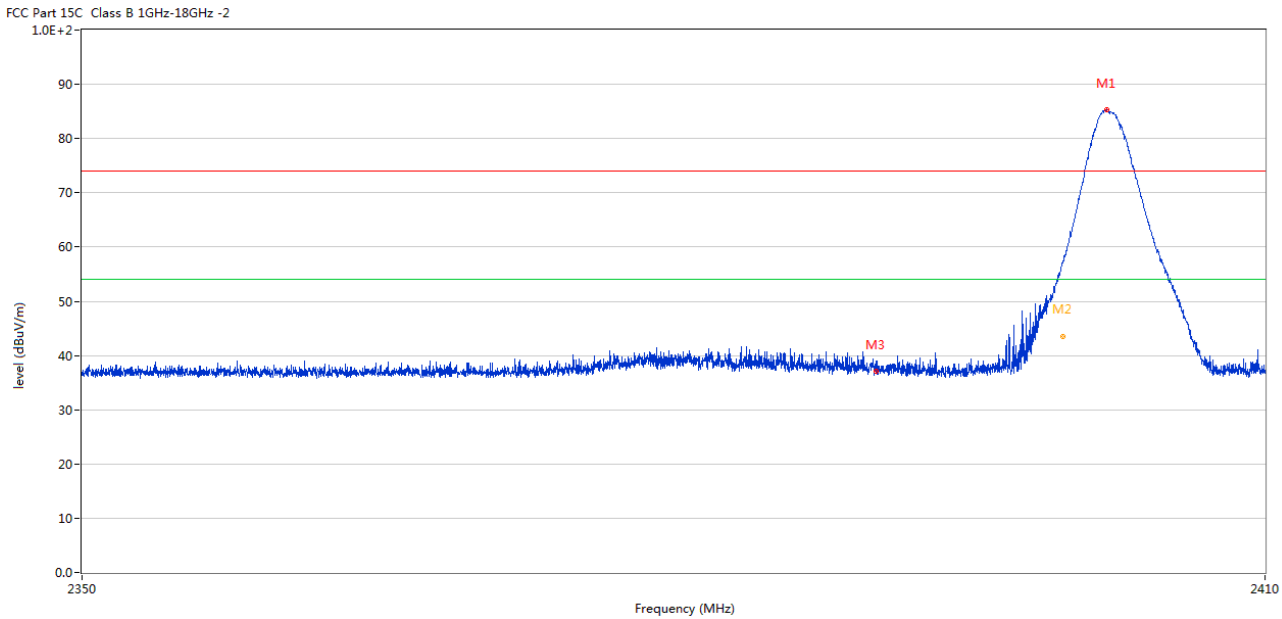
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2401.842	94.41	-3.57	74.0	20.41	Peak	57.00	100	Horizontal	N/A
2	2399.998	66.62	-3.57	74.0	-7.38	Peak	57.00	100	Horizontal	Pass
2**	2399.998	50.70	-3.57	54.0	-3.30	AV	57.00	100	Horizontal	Pass
3	2390.000	44.11	-3.53	74.0	-29.89	Peak	68.33	100	Horizontal	Pass

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Product:	WIRELESS 94 KEY HOT-SWAPPABLE MECHANICAL KEYBOARD	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2401.872	85.26	-3.57	74.0	11.26	Peak	71.00	100	Vertical	N/A
2	2400.000	56.83	-3.57	74.0	-17.17	Peak	71.00	100	Vertical	Pass
2**	2400.000	43.12	-3.57	54.0	-10.88	AV	71.00	100	Vertical	Pass
3	2390.000	36.82	-3.53	74.0	-37.18	Peak	67.67	100	Vertical	Pass

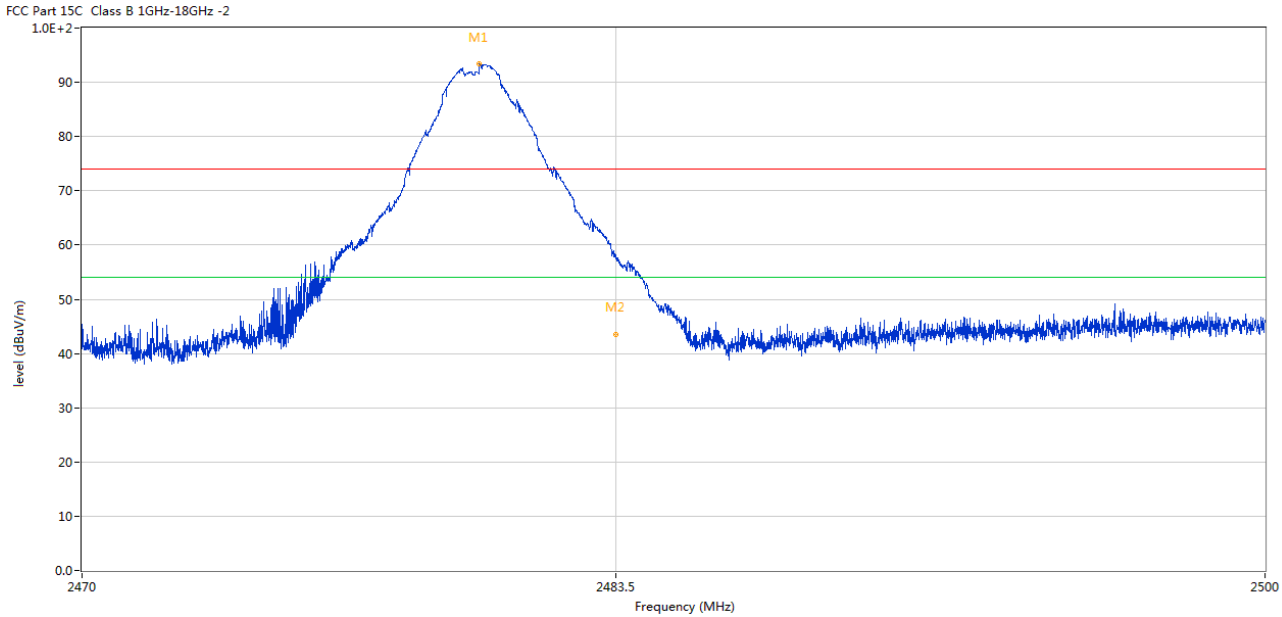
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Product:	WIRELESS 94 KEY HOT-SWAPPABLE MECHANICAL KEYBOARD	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2480.025	93.34	-3.57	74.0	19.34	Peak	270.00	100	Horizontal	N/A
2	2483.500	57.85	-3.57	74.0	-16.15	Peak	64.00	100	Horizontal	Pass
2**	2483.500	43.55	-3.57	54.0	-10.45	AV	64.00	100	Horizontal	Pass

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

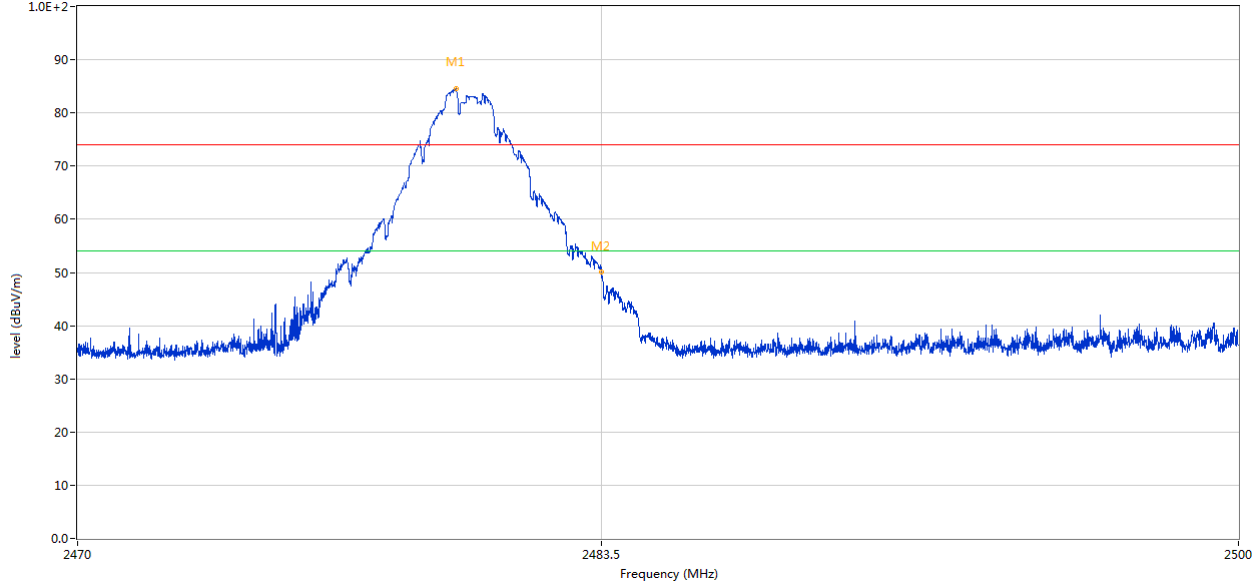
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Product:	WIRELESS 94 KEY HOT-SWAPPABLE MECHANICAL KEYBOARD	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--

FCC Part 15C Class B 1GHz-18GHz -2  
 1.0E+2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2479.755	84.50	-3.57	74.0	10.50	Peak	56.00	100	Vertical	N/A
2	2483.500	50.09	-3.57	74.0	-23.91	Peak	53.86	100	Vertical	Pass

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

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## 8.0 Antenna Requirement

### Applicable Standard

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

This product has a PCB antenna with gain  $-7.30\text{dBi}$  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.

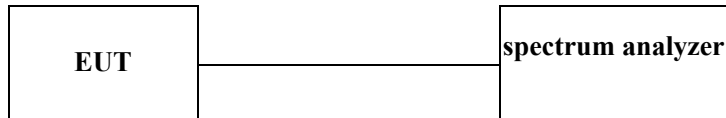
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## 9.0 20dB Bandwidth Measurement

### 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

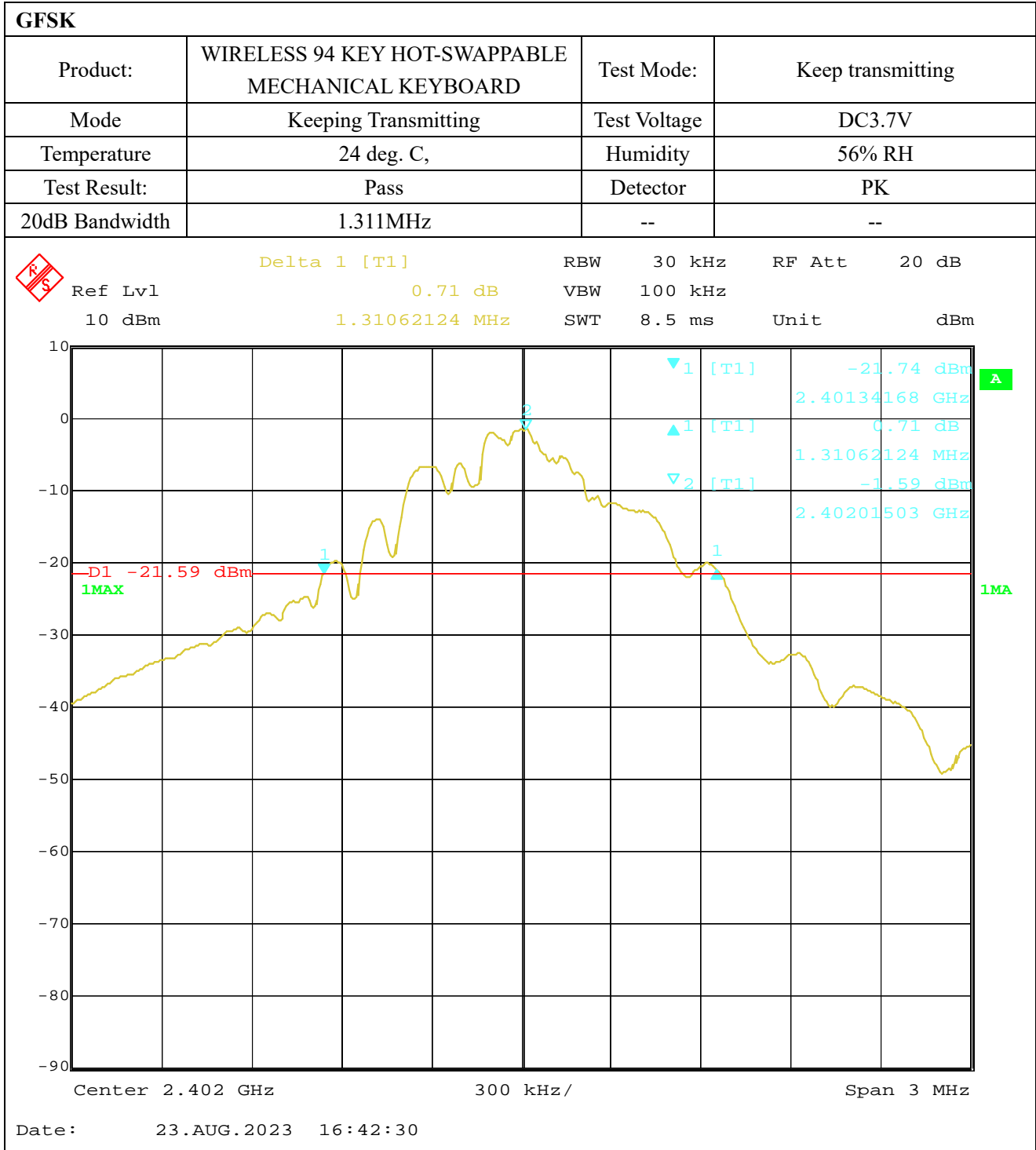
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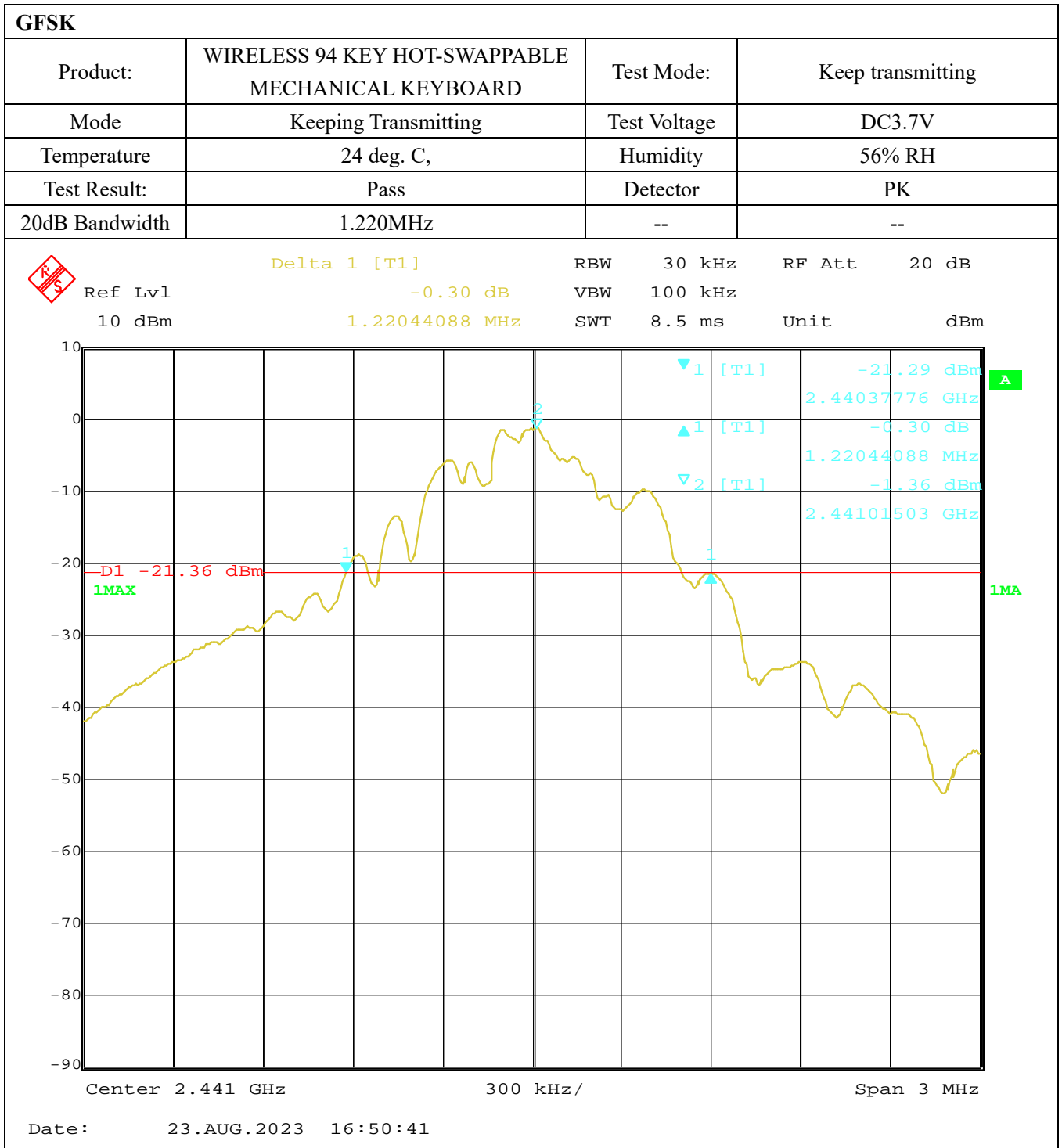
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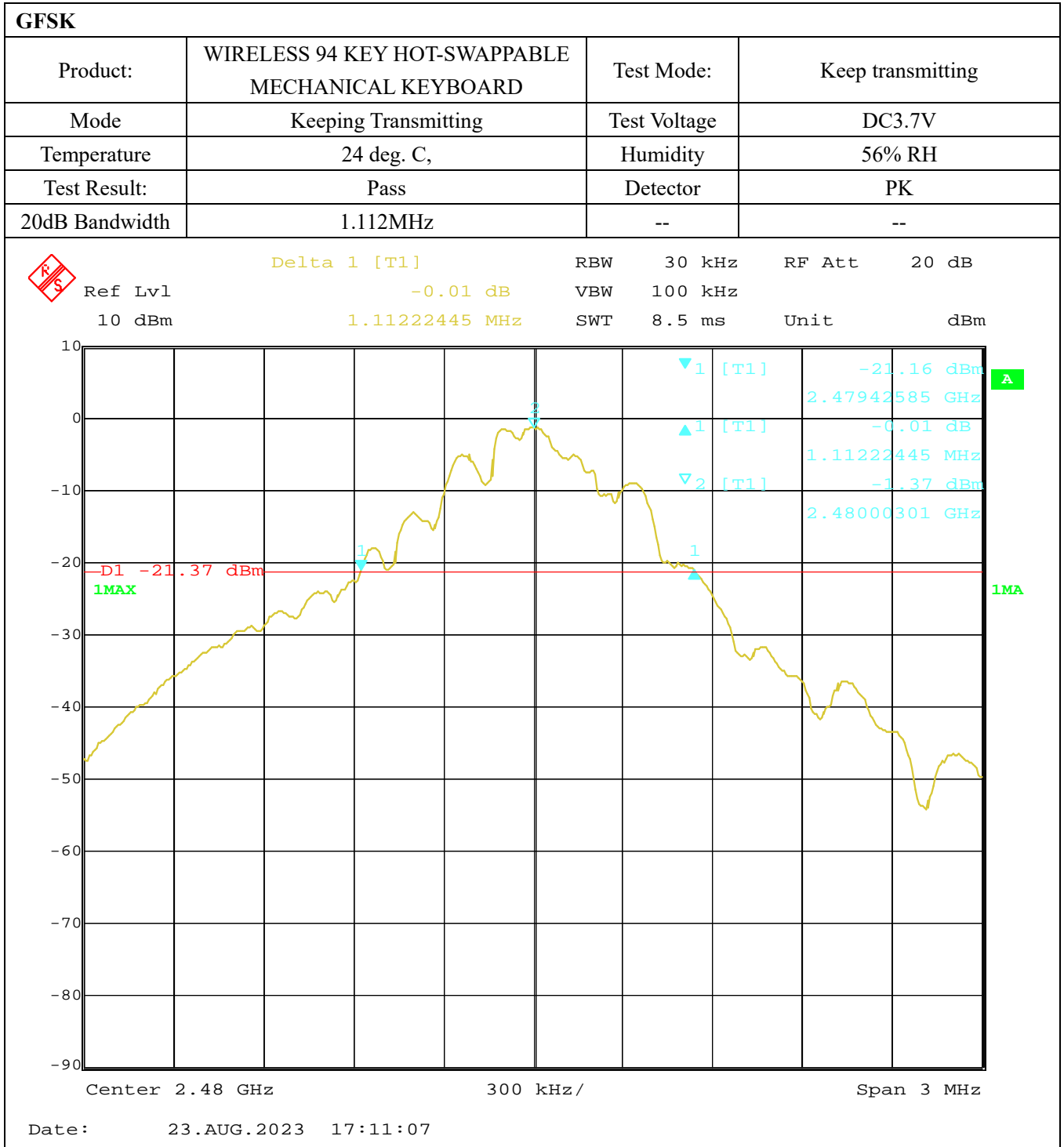
**Test Result**



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### 10.0 FCC ID Label

#### FCC ID: TUVET-8886B

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



11.2 Photographs – EUT

Please refer test report TW2307043-01E

**--End of the report--**

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