



Report No.: TW2204348-02E

File reference No.: 2022-05-13

Applicant: MACVON LLC

Product: Macvon Strength

Model No.: Macvon Strength 1.0, Macvon Strength 2.0,  
Macvon Strength 3.0, Macvon Strength 4.0,  
Macvon Strength 5.0

Trademark: Macvcon

Test Standards: FCC Part 15.249

Test result: It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10 & FCC Part 15 Subpart C, Paragraph 15.249 regulations for the evaluation of electromagnetic compatibility

Approved By

Terry Tang  
Manager

Dated: May 13, 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 17025:2017 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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## Test Report Conclusion

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## 1.0 General Details

### 1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TESTING LABORATORIES.  
Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China  
Telephone: (755) 83448688  
Fax: (755) 83442996  
Site on File with the Federal Communications Commission – United States  
Registration Number: 744189  
For 3m Anechoic Chamber

### 1.2 Applicant Details

Applicant: MACVON LLC  
Address: 101 Morgan Lane Suite 302, Plainsboro, NJ, USA 08536  
Telephone: +12016370158  
Fax: +12016370158

### 1.3 Description of EUT

Product:	Macvon Strength
Manufacturer:	Shenzhen Baofeng Keda Hardware Products Co., Ltd.
Address:	No.10, Xinggong First Road, Hongxing Village, Gongming Town, Guangming New District, Shenzhen
Trademark:	Macvcon
Additional Trademark:	N/A
Model Number:	Macvon Strength 1.0
Additional Model Name	Macvon Strength 2.0, Macvon Strength 3.0, Macvon Strength 4.0, Macvon Strength 5.0
Rating:	120V~, 60Hz, 15A
Modulation Type:	GFSK (Bluetooth Low Energy)
Operation Frequency:	2402-2480MHz
Channel Separate:	2MHz
Channel Number:	40
Hardware Version:	7.1.2
Software Version:	V1.0.1
Serial No.:	00202207
Antenna Designation	Integral antenna with gain 2.0dBi Max (Get from the antenna specification)

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1.4 Submitted Sample: 1 pc

1.5 Test Duration

2022-04-25 to 2022-05-13

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

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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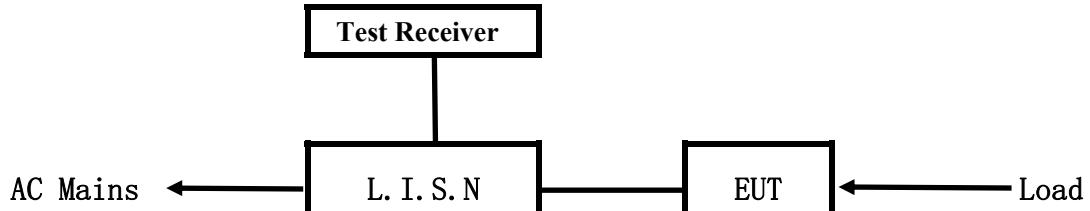
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## 5. Power Line Conducted Emission Test

### 5.1 Schematics of the test



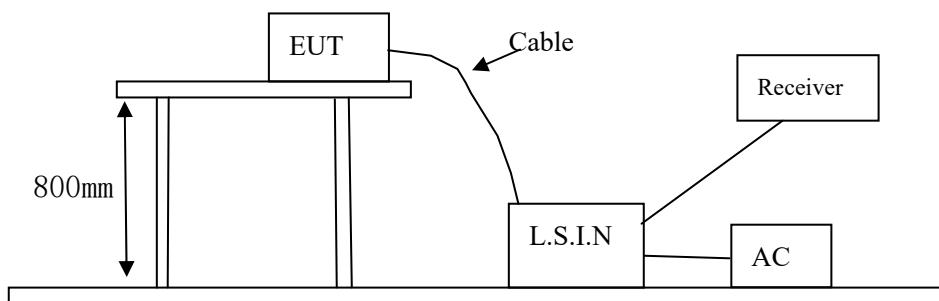
EUT: Equipment Under Test

### 5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. 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.

40 channels are provided to the EUT

#### A. EUT

Device	Manufacturer	Model	FCC ID
Macvon Strength	Shenzhen Baofeng Keda Hardware Products Co., Ltd.	Macvon Strength 1.0, Macvon Strength 2.0, Macvon Strength 3.0, Macvon Strength 4.0, Macvon Strength 5.0	2AX7UMAC VON02

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B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	Rating
N/A			

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013

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:

Pass

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

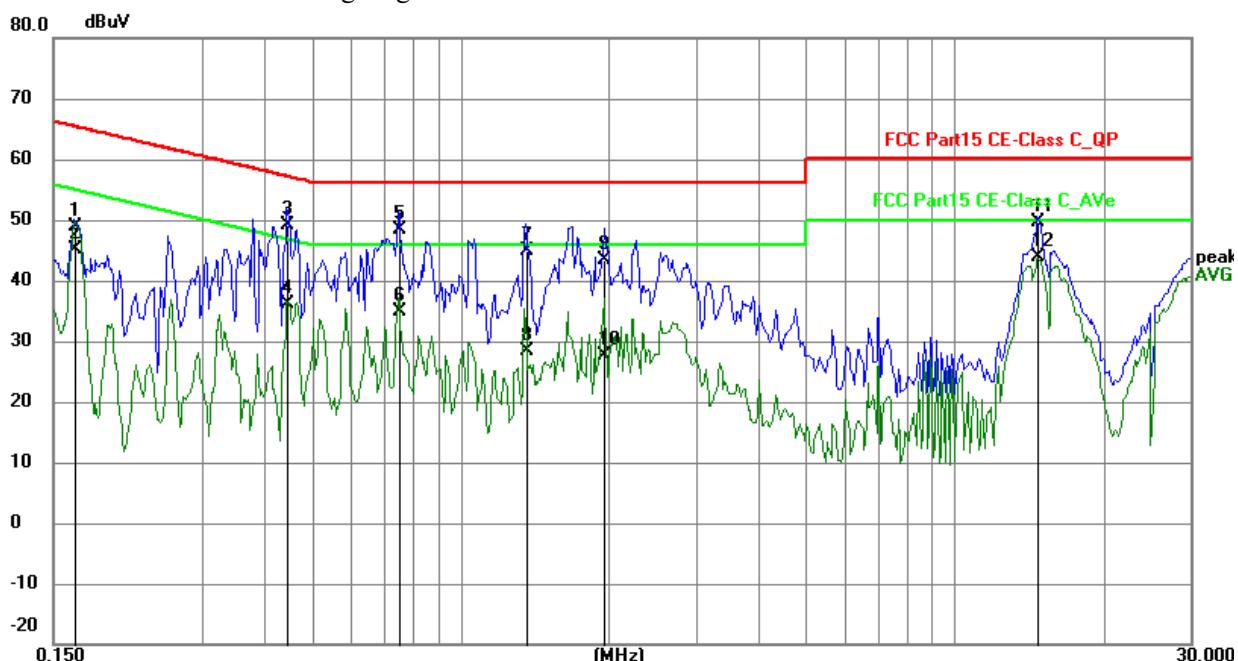
#### EUT Operating Environment

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

#### EUT set Condition: 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	0.1655	39.16	9.77	48.93	65.18	-16.25	QP	P
2	0.1655	35.28	9.77	45.05	55.18	-10.13	AVG	P
3	0.4464	39.26	9.77	49.03	56.94	-7.91	QP	P
4	0.4464	26.46	9.77	36.23	46.94	-10.71	AVG	P
5	0.7506	38.63	9.78	48.41	56.00	-7.59	QP	P
6	0.7506	25.03	9.78	34.81	46.00	-11.19	AVG	P
7	1.3550	35.13	9.79	44.92	56.00	-11.08	QP	P
8	1.3550	18.63	9.79	28.42	46.00	-17.58	AVG	P
9	1.9518	33.58	9.80	43.38	56.00	-12.62	QP	P
10	1.9518	17.81	9.80	27.61	46.00	-18.39	AVG	P
11	14.7195	39.34	10.37	49.71	60.00	-10.29	QP	P
12	14.7195	33.42	10.37	43.79	50.00	-6.21	AVG	P

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

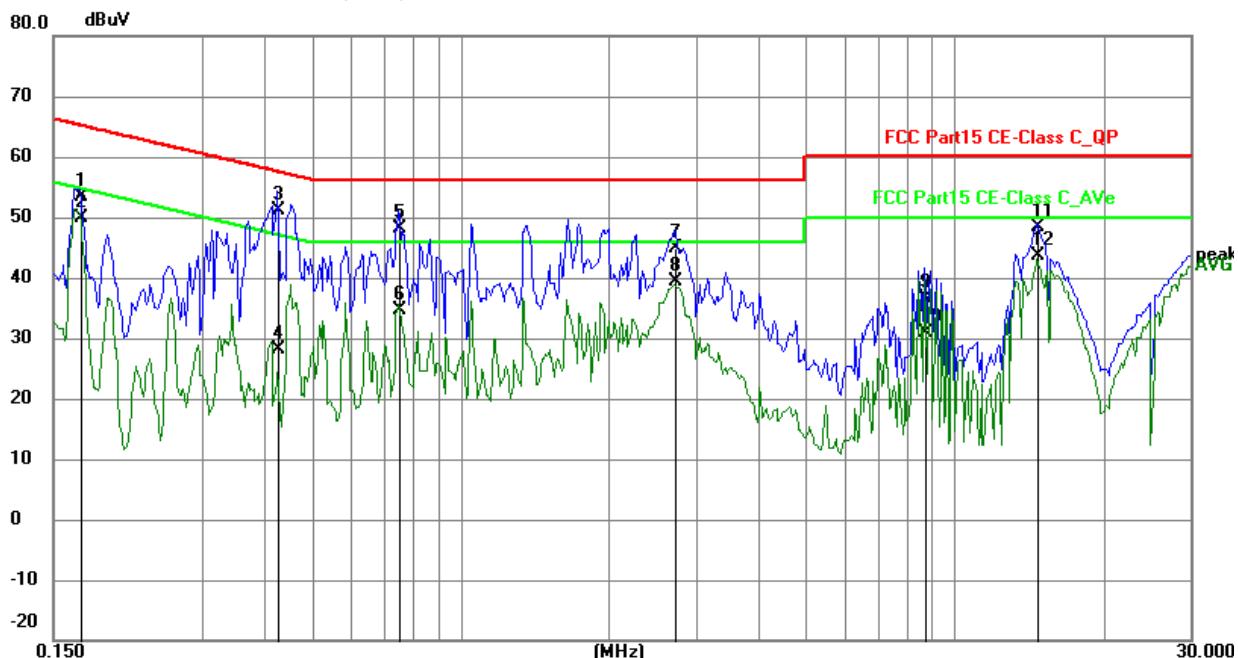
### EUT Operating Environment

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

### EUT set Condition: 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	0.1695	43.59	9.77	53.36	64.98	-11.62	QP	P
2	0.1695	40.17	9.77	49.94	54.98	-5.04	AVG	P
3	0.4269	41.32	9.76	51.08	57.31	-6.23	QP	P
4	0.4269	18.34	9.76	28.10	47.31	-19.21	AVG	P
5	0.7506	38.24	9.78	48.02	56.00	-7.98	QP	P
6	0.7506	24.78	9.78	34.56	46.00	-11.44	AVG	P
7	2.7162	35.04	9.83	44.87	56.00	-11.13	QP	P
8	2.7162	29.47	9.83	39.30	46.00	-6.70	AVG	P
9	8.6901	26.49	10.09	36.58	60.00	-23.42	QP	P
10	8.6901	20.81	10.09	30.90	50.00	-19.10	AVG	P
11	14.7078	38.00	10.37	48.37	60.00	-11.63	QP	P
12	14.7078	33.15	10.37	43.52	50.00	-6.48	AVG	P

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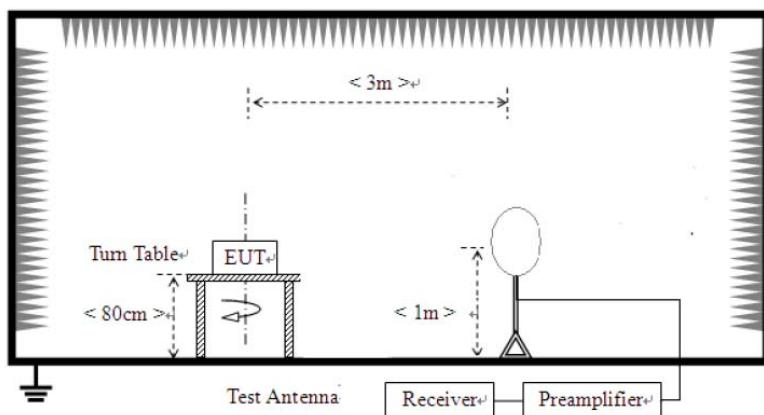
## 6 Radiated Emission Test

### 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 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 height 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



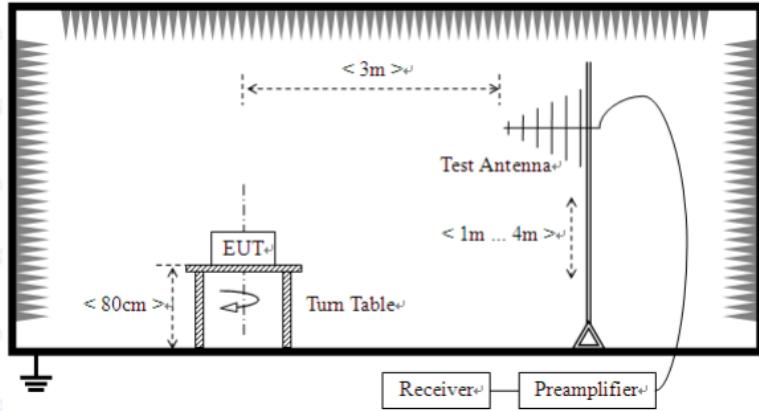
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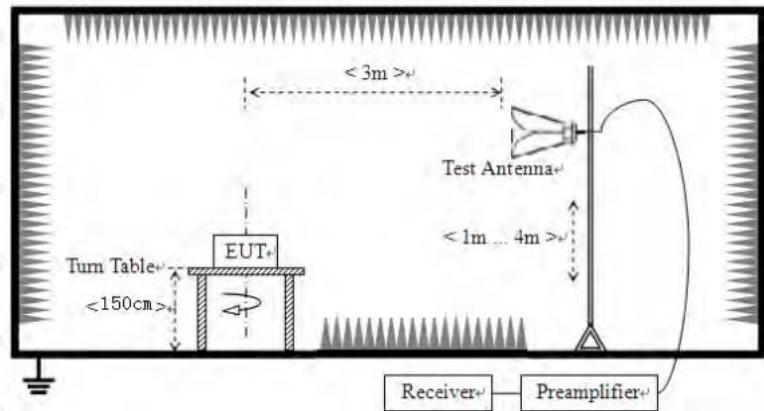
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For radiated emissions from 30MHz to1GHz



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 (MHz)	Field Strength of Fundamental (3m)			Field Strength of Harmonics (3m)		
	<b>mV/m</b>	<b>dBuV/m</b>		<b>uV/m</b>	<b>dBuV/m</b>	
2400-2483.5	50	94 (Average)	114 (Peak)	500	54 (Average)	74 (Peak)

Note:

1. RF Field Strength (dBuV) =  $20 \log_{10} \text{RF Voltage (uV)}$
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	$20\log_{10}(2400/F(\text{kHz})) + 40\log_{10}(300/3)$
0.490-1.705	3	$20\log_{10}(24000/F(\text{kHz})) + 40\log_{10}(30/3)$
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) =  $20 \log_{10} \text{RF Voltage (uV)}$
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.

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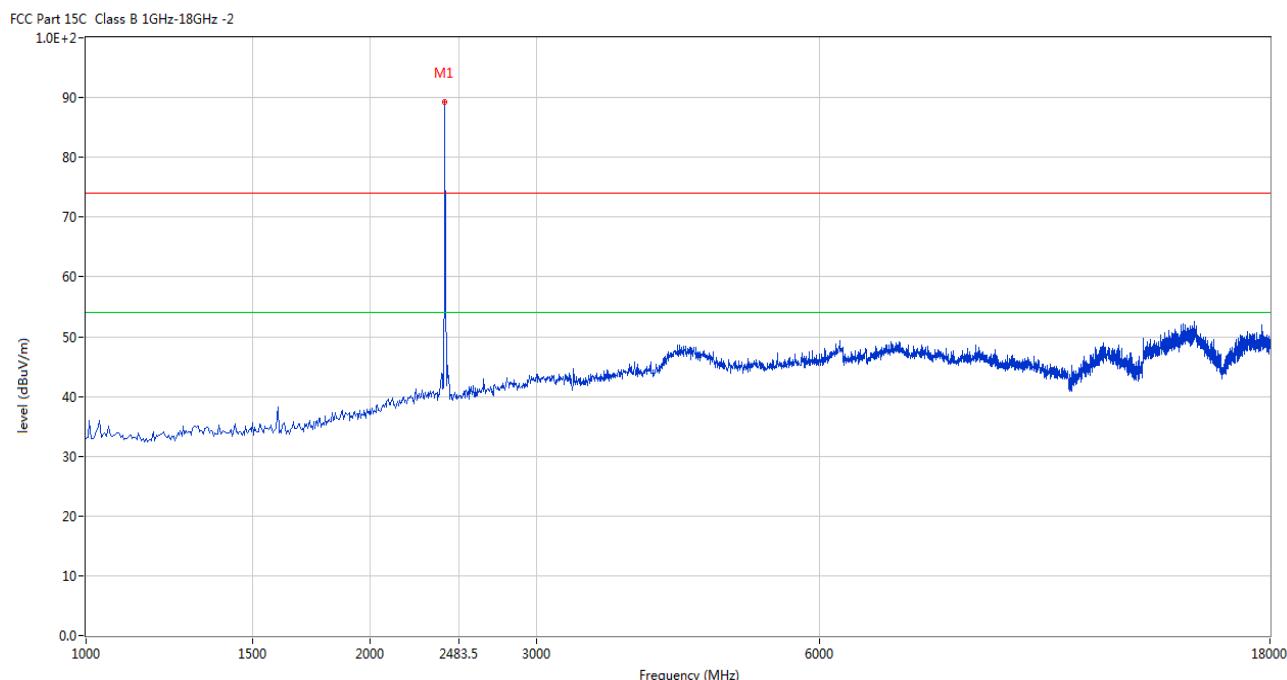


## 6.5 Test result

### A Fundamental & Harmonics Radiated Emission Data

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

#### Horizontal



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2402	89.51	-3.57	114.0	-24.49	Peak	128.00	100	Horizontal	Pass

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

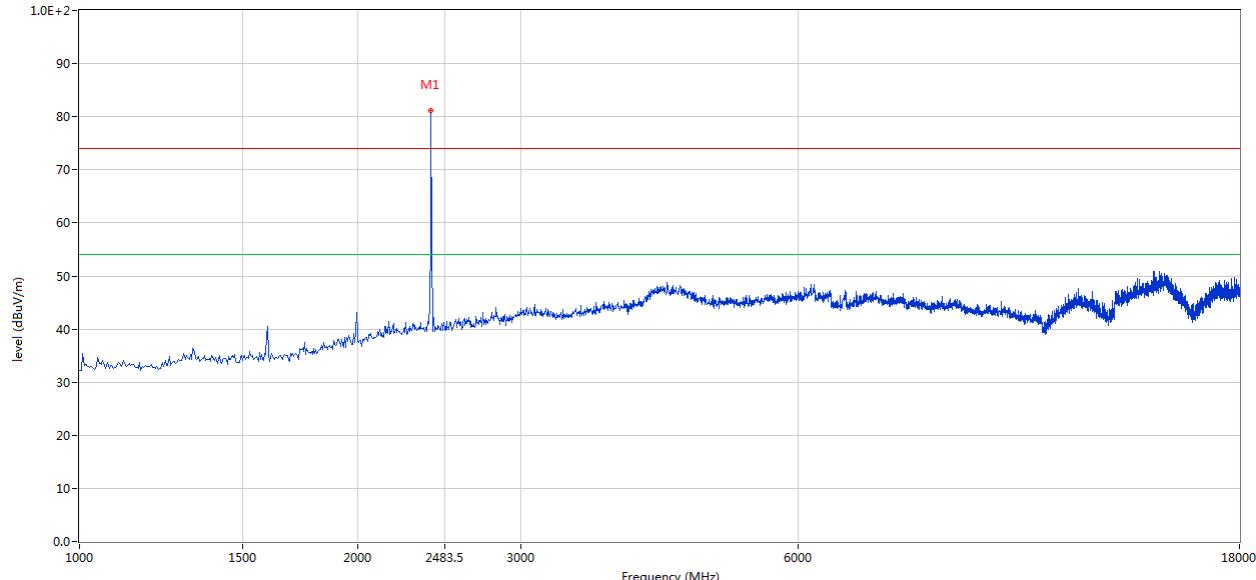
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## Vertical

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	81.10	-3.57	114.0	-32.90	Peak	173.00	100	Vertical	Pass

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

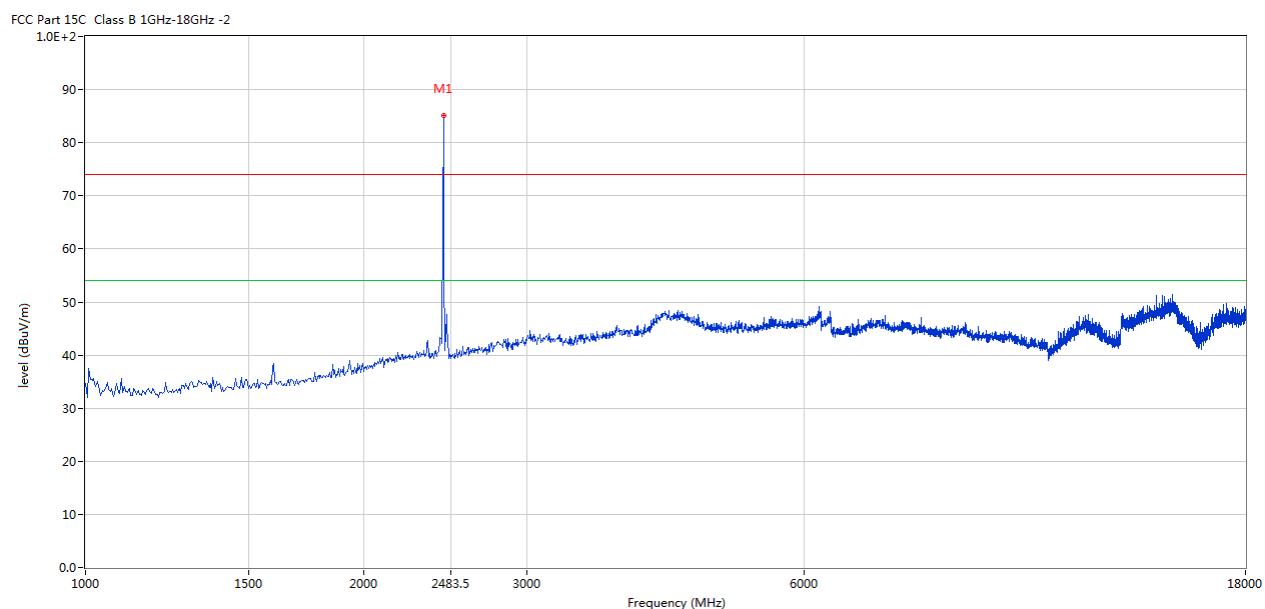
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Please refer to the following test plots for details: Middle Channel-2440MHz

### Horizontal



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2440	85.20	-3.57	114.0	-28.80	Peak	148.00	100	Horizontal	Pass

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

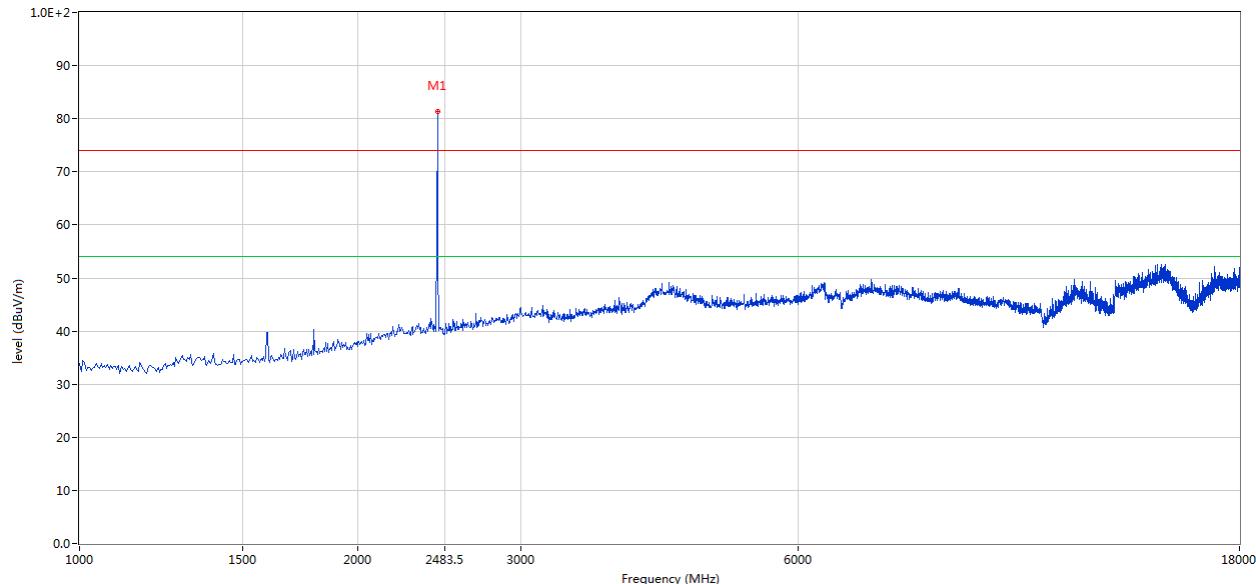
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## Vertical

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	2440	81.30	-3.57	114.0	-32.70	Peak	128.00	100	Vertical	Pass

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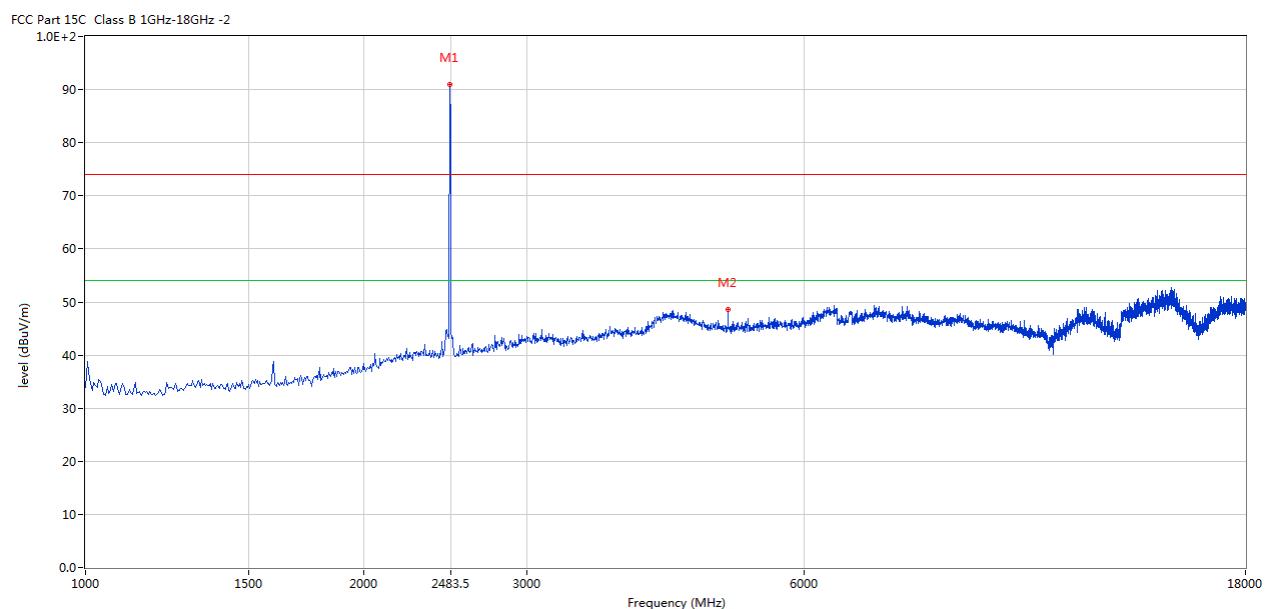
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Please refer to the following test plots for details: High Channel-2480MHz

### Horizontal



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2480	91.30	-3.57	114.0	-22.70	Peak	220.00	100	Horizontal	Pass
2	4960.010	48.63	3.36	74.0	-25.37	Peak	107.00	100	Horizontal	Pass

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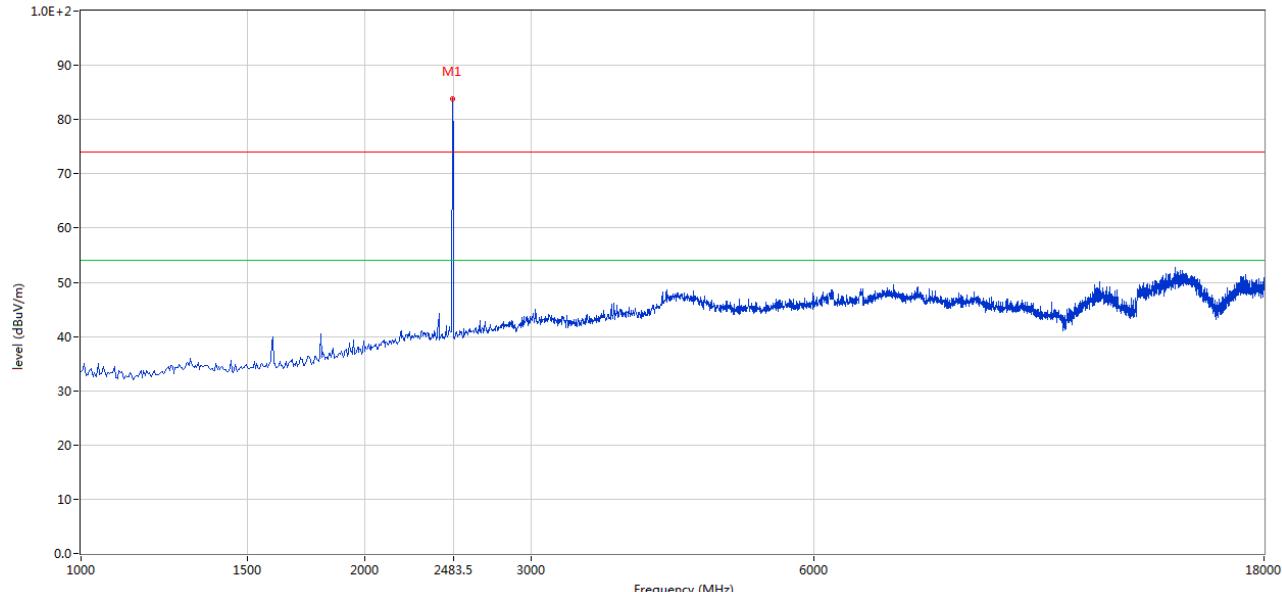
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## Vertical

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	84.36	-3.57	114.0	-29.64	Peak	174.00	100	Vertical	Pass

Note:

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

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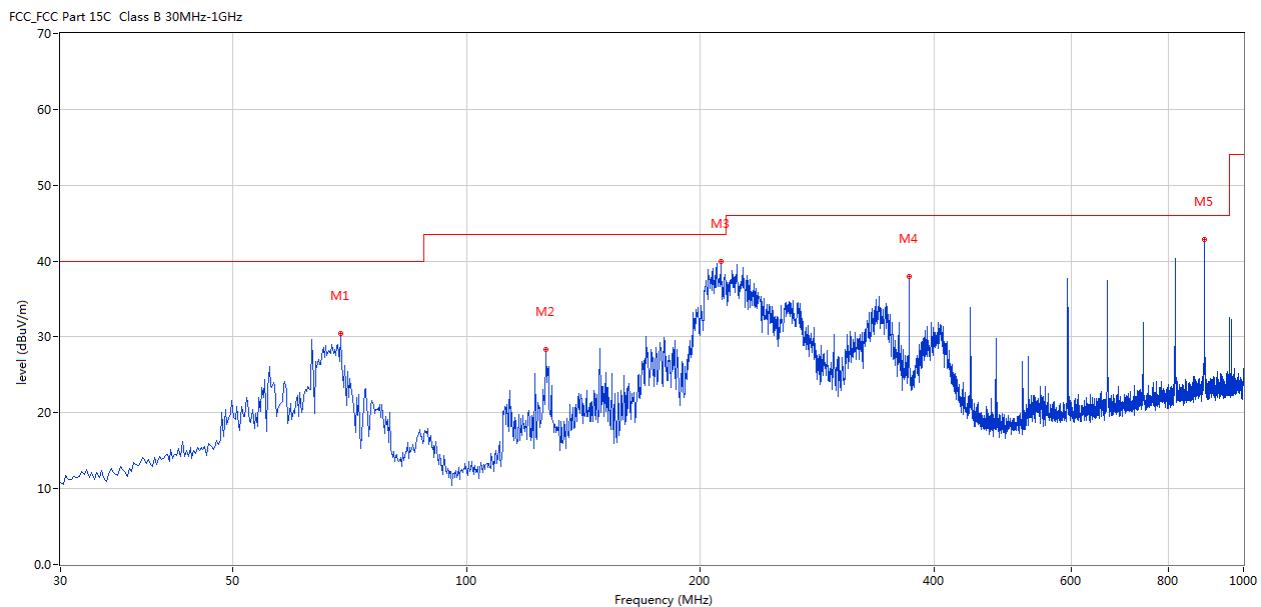
## B. General Radiated Emission Data

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

EUT set Condition: Keep Tx transmitting

**Results: Pass**

Please refer to following diagram for individual



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	68.790	30.41	-15.10	40.0	-9.59	Peak	166.00	100	Horizontal	Pass
2	126.491	28.34	-16.54	43.5	-15.16	Peak	195.00	100	Horizontal	Pass
3	212.799	39.96	-13.67	43.5	-3.54	Peak	306.00	100	Horizontal	Pass
4	371.112	37.95	-9.52	46.0	-8.05	Peak	224.00	100	Horizontal	Pass
5	890.902	42.86	-1.91	46.0	-3.14	Peak	81.00	100	Horizontal	Pass

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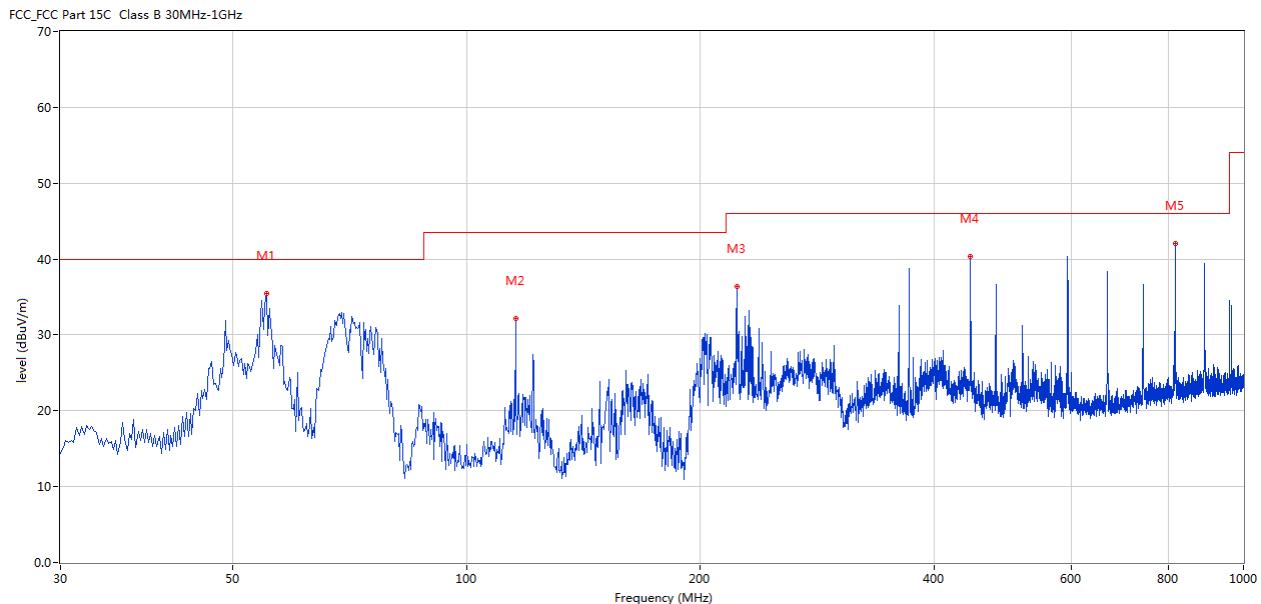


### Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

#### Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	55.214	35.42	-11.83	40.0	-4.58	Peak	254.00	100	Vertical	Pass
2	115.581	32.14	-14.52	43.5	-11.36	Peak	43.00	100	Vertical	Pass
3	222.739	36.45	-13.19	46.0	-9.55	Peak	341.00	100	Vertical	Pass
4	445.299	40.36	-8.00	46.0	-5.64	Peak	0.00	100	Vertical	Pass
5	816.716	42.07	-2.92	46.0	-3.93	Peak	261.00	100	Vertical	Pass

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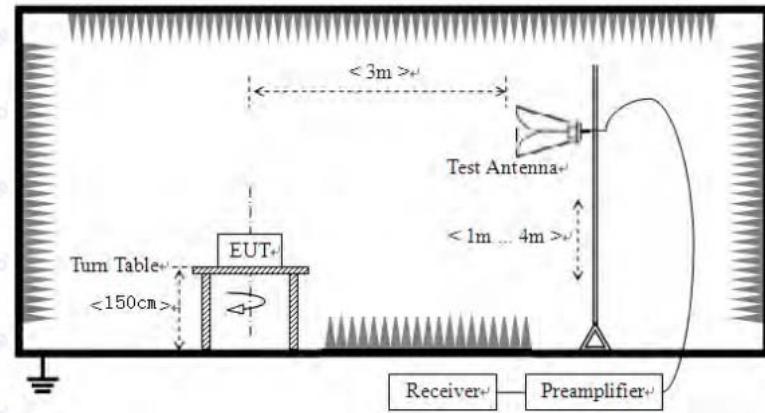


## 7. Band Edge

### 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 height 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

Product:	Macvon Strength		Polarity	Horizontal						
Mode	Keeping Transmitting		Test Voltage	120V~						
Temperature	24 deg. C,		Humidity	56% RH						
Test Result:	Pass		--	--						
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	2402.232	89.44	-3.57	74.0	15.44	Peak	121.00	100	Horizontal	N/A
2	2400.042	68.85	-3.57	74.0	-5.15	Peak	121.00	100	Horizontal	Pass
2**	2400.042	51.41	-3.57	54.0	-2.59	AV	121.00	100	Horizontal	Pass
3	2390.010	41.78	-3.53	74.0	-32.22	Peak	121.00	100	Horizontal	Pass

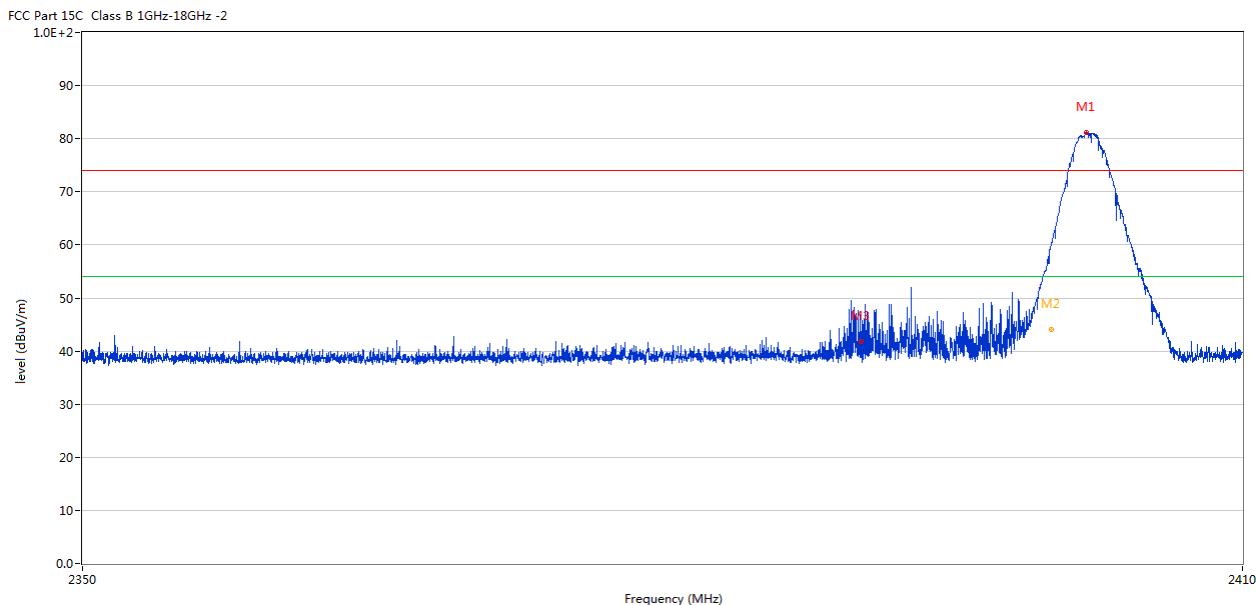
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Product:	Macvon Strength	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2401.827	81.08	-3.57	74.0	7.08	Peak	174.00	100	Vertical	N/A
2	2400.027	60.53	-3.57	74.0	-13.47	Peak	174.00	100	Vertical	Pass
2**	2400.027	44.09	-3.57	54.0	-9.91	AV	174.00	100	Vertical	Pass
3	2390.085	41.81	-3.53	74.0	-32.19	Peak	302.00	100	Vertical	Pass

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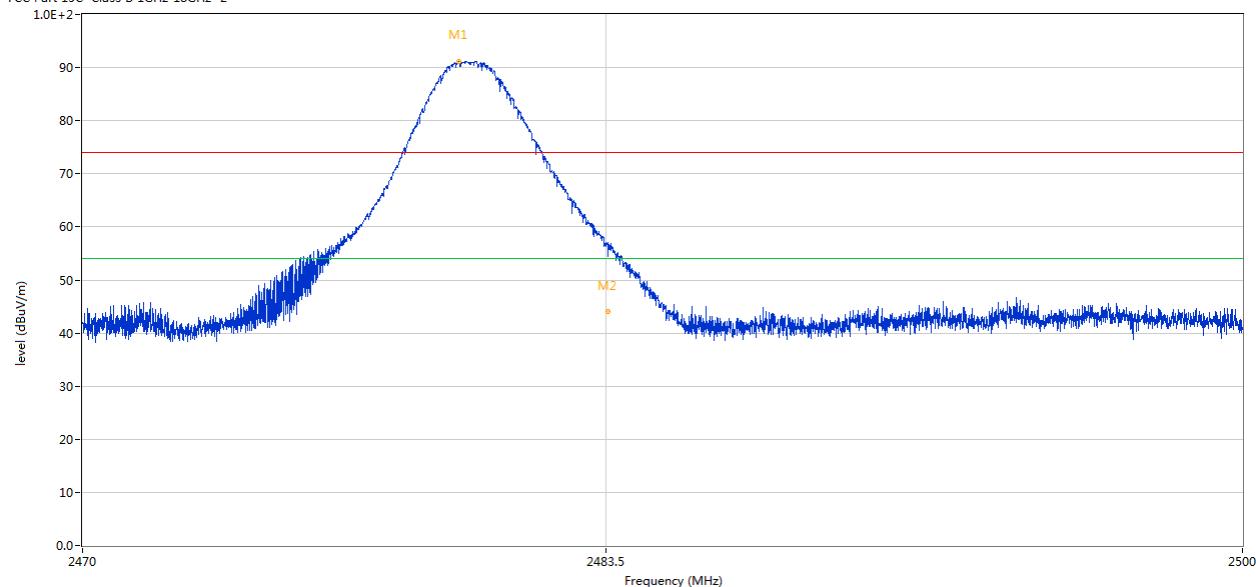
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Product:	Macvon Strength	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--

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	2479.680	91.20	-3.57	74.0	17.20	Peak	128.00	100	Horizontal	N/A
2	2483.542	56.99	-3.57	74.0	-17.01	Peak	123.00	100	Horizontal	Pass
2**	2483.542	44.11	-3.57	54.0	-9.89	AV	123.00	100	Horizontal	Pass

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

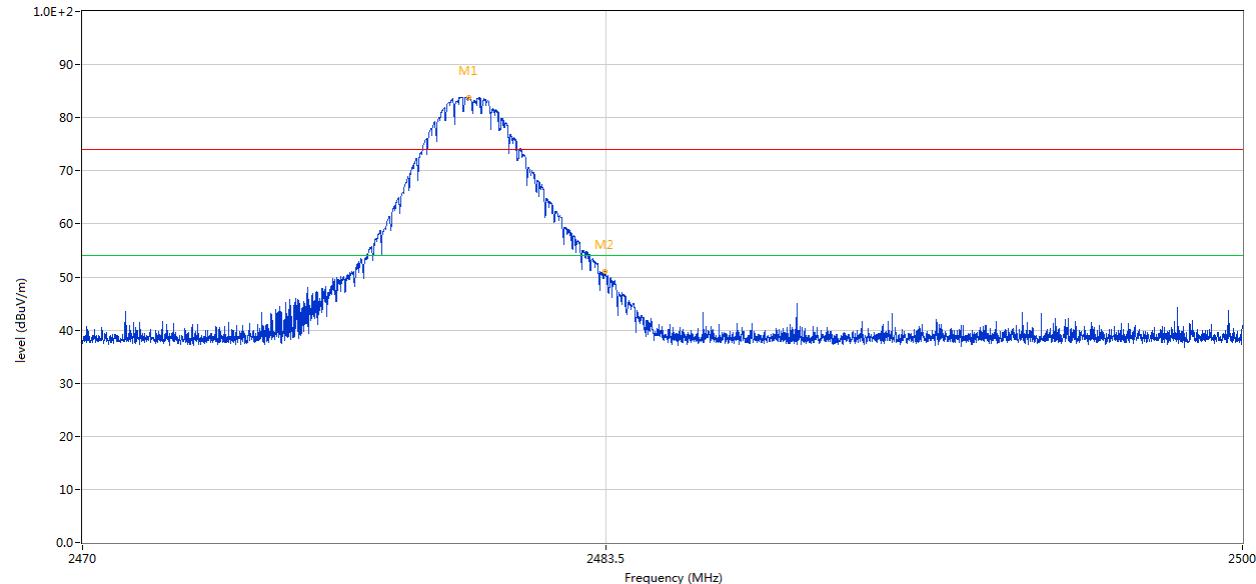
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Product:	Macvon Strength	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--

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	2479.950	83.88	-3.57	74.0	9.88	Peak	153.00	100	Vertical	N/A
2	2483.459	51.12	-3.57	74.0	-22.88	Peak	144.00	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 integral antenna with gain 2.0dBi maximum. It fulfills the requirement of this section.

Test Result: Pass

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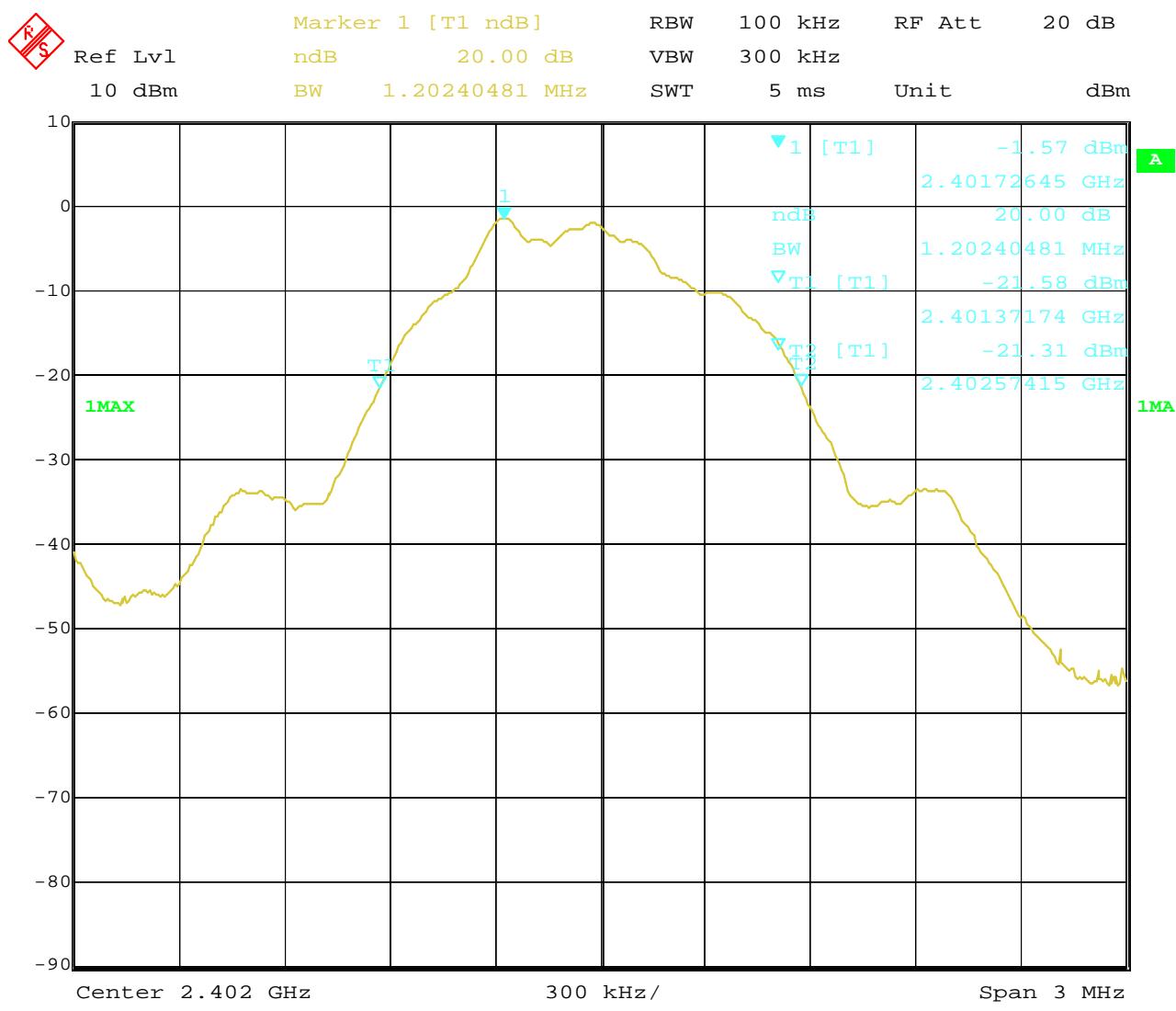
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## 9.0 20dB Bandwidth Measurement

Product:	Macvon Strength	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	1.202MHz	--	--



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Product:	Macvon Strength	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	120V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	1.202MHz	--	--

**Ref Lvl**  
**10 dBm**
**A**

**Marker 1 [T1 ndB]**  
**ndB** **20.00 dB**
**20.00 dB**

**BW** **1.20240481 MHz**
**1.20240481 MHz**

**RBW** **100 kHz**
**100 kHz**

**VBW** **300 kHz**
**300 kHz**

**SWT** **5 ms**
**5 ms**

**RF Att** **20 dB**
**20 dB**

**Unit** **dBm**
**dBm**

**Center 2.44 GHz**      **300 kHz /**      **Span 3 MHz**

**1MAX**      **1MA**

**T1** [T1] **-0.98 dBm**  
**ndB** **20.00 dB**  
**BW** **1.20240481 MHz**  
**T1** [T1] **-20.78 dBm**  
**T2** [T1] **-20.82 dBm**  
**T2** [T1] **2.43937174 GHz**  
**T2** [T1] **2.44057415 GHz**

Date: 12.MAY.2022 12:21:10

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

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In the event of the improper use of the report, The SHENZHEN TIMEWAY TESTING LABORATORIES, reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



Product:	Macvon Strength	Test Mode:	Keep transmitting	
Mode	Keeping Transmitting		Test Voltage	
Temperature	24 deg. C,		Humidity	
Test Result:	Pass		Detector	
20dB Bandwidth	1.202MHz		--	--

Ref Lvl 10 dBm

Marker 1 [T1 ndB] ndB 20.00 dB

BW 1.20240481 MHz

RBW 100 kHz

VBW 300 kHz

SWT 5 ms

RF Att 20 dB

Unit dBm

A

1MAX

1MA

Center 2.48 GHz

300 kHz /

Span 3 MHz

Date: 12.MAY.2022 12:22:24

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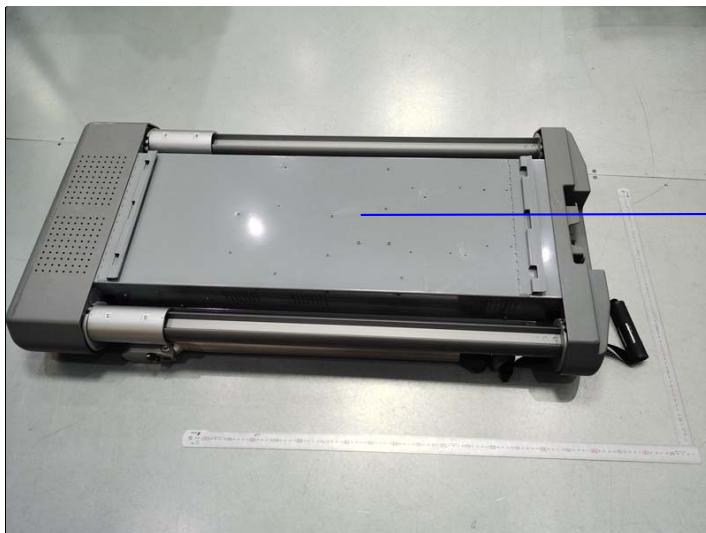
## 10.0 FCC ID Label

### FCC ID: 2AX7UMACVON02

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:



Label Location

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

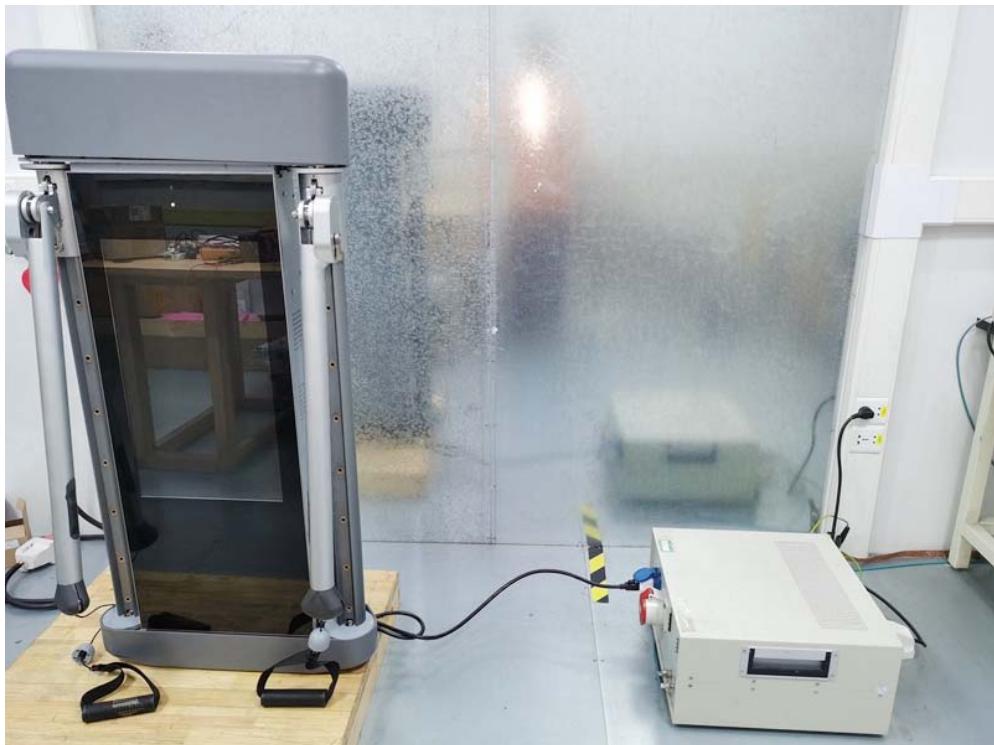
This report is issued in confidence to the client and it will be strictly treated as such by the SHENZHEN TIMEWAY TESTING LABORATORIES. It may not be reproduced rather in its entirety or in part and it may not be used for advertising. The client to whom the report is issued may, however, show or send it or a certified copy thereof prepared by the SHENZHEN TIMEWAY TESTING LABORATORIES to his customer, Supplier or others persons directly concerned. SHENZHEN TIMEWAY TESTING LABORATORIES will not, without the consent of the client enter into any discussion of correspondence with any third party concerning the contents of the report.

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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 TW2204348-01E

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

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