CENTRE OF TESTING SERVICE INTERNATIONAL

OPERATE ACCORDING TO ISO/IEC 17025

FCC TEST REPORT

TEST REPORT NUMBER : CGZ3160715-01241-EF

CENTRE OF TESTING SERVICE CO., LTD.

A101, No.65, Zhuji Highway,Tianhe District, Guangzhou, Guangdong, China

TEST REPORT FOR FCC ID **47 CFR PART 18 OCT, 2015** Industrial, Scientific, and Medical Equipment	
Report Reference No. ..... :	CGZ3160715-01241-EF
Date of issue ..... :	18 July 2016
Testing Laboratory Name..... :	**CENTRE OF TESTING SERVICE CO., LTD.**
Address ..... :	A101, No.65, Zhuji Highway,Tianhe District, Guangzhou, Guangdong, China
Testing location/ procedure..... :	Full application of Harmonised standards ■ Partial application of Harmonised standards □ Other standard testing method □
Applicant's name ..... :	Venture Global Ltd.
Address ..... :	Room 1102, 11/F., Fabrico Industrial Building, 78-84 Kwai Cheong Road, Kwai Chung, N.T., Hong Kong.
Test specification:	
Standard..... :	**47 CFR PART 18 OCT, 2015**
Test Report Form No. ..... :	CTSEMC-1.0
TRF Originator ..... :	CENTRE OF TESTING SERVICE CO., LTD.
Master TRF ..... :	Dated 2009-01
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Test item description.....	Vibration Pad
Trade Mark..... :	Guardman
Manufacturer ..... :	Venture Global Ltd.
Model/Type reference ..... :	WAP-89
Ratings ..... :	Battery 12V
Result	**PASSED**

Compiled by:	**Supervised by:**	**Approved by:**
Kate zhang / File administrators	Duke yang / Technique principal	Vincent yao / Manager

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FCC-- T E S T R E P O R T

Test Report No. :	CGZ3160715-01241-EF	18 July 2016 Date of issue

Type / Model.....	WAP-89
EUT.....	Vibration Pad
Applicant.....	Venture Global Ltd.
Address.....	Room 1102, 11/F., Fabrico Industrial Building, 78-84 Kwai Cheong Road, Kwai Chung, N.T., Hong Kong.
Telephone.....	+852-3529 1206
Fax.....	+852-3692 5980
Contact.....	Liao Weihuang
Manufacturer.....	Venture Global Ltd.
Address.....	Room 1102, 11/F., Fabrico Industrial Building, 78-84 Kwai Cheong Road, Kwai Chung, N.T., Hong Kong.
Telephone.....	+852-3529 1206
Fax.....	+852-3692 5980
Contact.....	Liao Weihuang
Factory……	/
Address.....	/
Telephone.....	/
Fax.....	/
Contact.....	/

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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TABLE OF CONTENTS

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1 TEST STANDARDS

The tests were performed according to following standards:

■ **47 CFR PART 18 OCT, 2015**
■ **ANSI C63.4:2014**

2 SUMMARY

2.1 GENERAL REMARKS

Date of receipt of test sample	15 July 2016
Testing commenced on	15~18 July 2016
Testing concluded on	18 July 2016

2.2 FINAL ASSESSMENT

The FCC requirements pertaining to the technical standards and tested operation modes are

■ - Fulfilled.

□ - **Not** fulfilled.

The equipment under test

■ - Fulfils the FCC requirements cited on page 1.

□ - **Does** not fulfil the FCC requirements cited on page 1.

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3 EQUIPMENT UNDER TEST

3.1 Power supply system utilised

Power supply voltage: ■ Battery 12V
□ Others

3.2 Short description of the Equipment under Test (EUT)

Number of tested samples: 1
Serial number: Prototype

3.3 EUT operation mode

The equipment under test was operated during the measurement under the following conditions:

■ Normal
Operating Mode: Normal

□ The equipment under test was operated during the measurement under the following conditions:
Test program (customer specific)

Emissions tests……..: According to 47 CFR PART 18, searching for the highest disturbance.

3.4 EUT configuration

(The CDF filled by the applicant can be viewed at the test laboratory.)

The following peripheral devices and interface cables were connected during the measurement:

Name:	/
M/N:	/
S/N:	/
Manufacturer:	/
Power Cord:	/
Certificate:	/

□ - unscreened power cables

□ - customer specific cables

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4 TEST ENVIRONMENT

4.1 Address of the test laboratory

A101, No.65, Zhuji Road, Tianhe District, Guangzhou, Guangdong, China
Tel：+86-20-85543113 (32 lines) Fax：+86-20-38780406

4.2 Test facility

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

CNAS-Lab Code: L3394

CENTRE OF TESTING SERVICE CO., LTD. has been assessed and proved to be in compliance with CNAS-CL01: 2006 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

IC-Registration No.: 8374A

The 3m Alternate Test Site of CENTRE OF TESTING SERVICE CO., LTD. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 8374A on May 22, 2014.

FCC-Registration No.: 971995

CENTRE OF TESTING SERVICE CO., LTD., 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.971995, July 13, 2012.

4.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35 ° C
Humidity:	25~75 %
Atmospheric pressure:	86~106 kPa

4.4 Definitions of symbols used in this test report

■ - The black square indicates that the listed condition, standard or equipment is applicable for this report.

□ - The empty square indicates that the listed condition, standard or equipment is **not** applicable for this report.

4.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the CTS quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

4.6 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	±1.22dB	(1)
Power disturbance	30MHz~300MHz	±1.38dB	(1)
Radiation emission (3m)	30MHz~300MHz	±3.14dB	(1)
	300MHz~1000MHz	±3.18dB	(1)

(1)This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4.7 Test Description

4.7.1 Description of Standards and Results

EMISSION		
Description of Test Item	**Standard**	**Results**
Conducted Emission Test	**47 CFR PART 18 OCT, 2015 ANSI C63.4:2014**	**N/A**
Radiated Emission Test	**47 CFR PART 18 OCT, 2015 ANSI C63.4:2014**	**PASSED**

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5 TEST CONDITIONS AND RESULTS

5.1 Conducted disturbance

For test instruments and accessories used see section 7 part **7.2**.

5.1.1 Description of the test location

Test location: Shielded room

5.1.2 Description of the test set-up

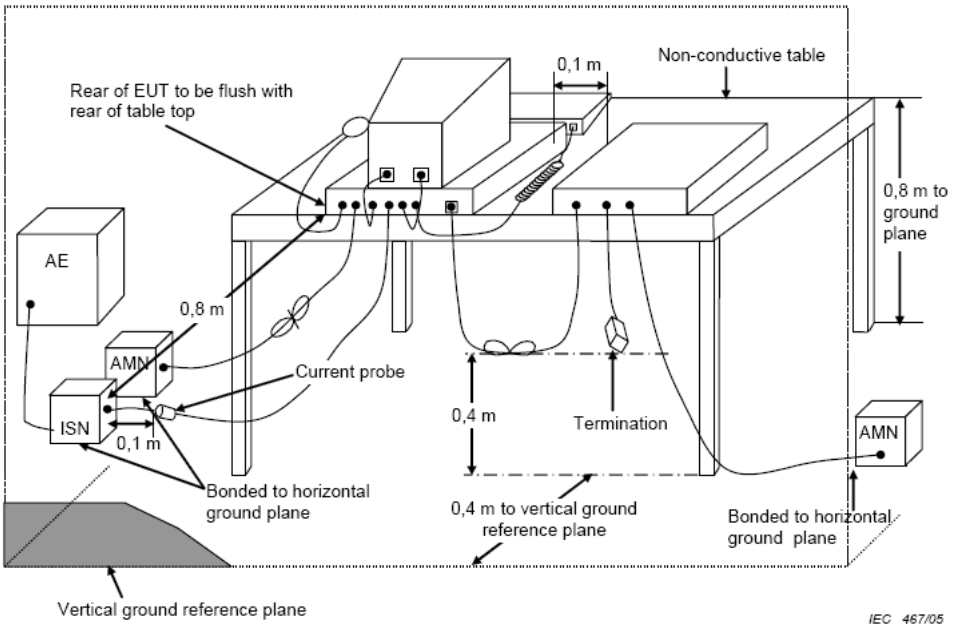
5.1.2.1 Test procedure

The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N). This provides a 50 ohm coupling impedance for the EUT. Please refer the block diagram of the test setup and photographs. let EUT working in test mode, then test it. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC Part 18 on Conducted Emission Test.

The frequency range from 450kHz to 30MHz is checked

The EUT is normal during the test, and the results of the maximum emanation are recorded

5.1.2.2 Block Diagram of Test Setup



5.1.3 Limits disturbance

Frequency			Maximum RF Line Voltage (dBμV)
			Quasi-peak Level
450 k Hz	~	2.51 M Hz	48
2.51 M Hz	~	3 M Hz	69.5
3 M Hz	~	30MHz	48

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

5.1.4 Test result

The requirements are	**Fulfilled**
Band width	9kHz
Frequency range	0.45 MHz - 30 MHz
Min. limit margin	N/A

Remarks: The EUT power supply by battery, Not applicable.

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5.2 Radiated disturbance

For test instruments and accessories used see section 6 part **6.1**.

5.2.1 Description of the test location

Test location : Semi-Anechoic chamber

Test disturbance: 3 Meter

5.2.2 Description of the test set-up

5.2.2.1 Test procedure

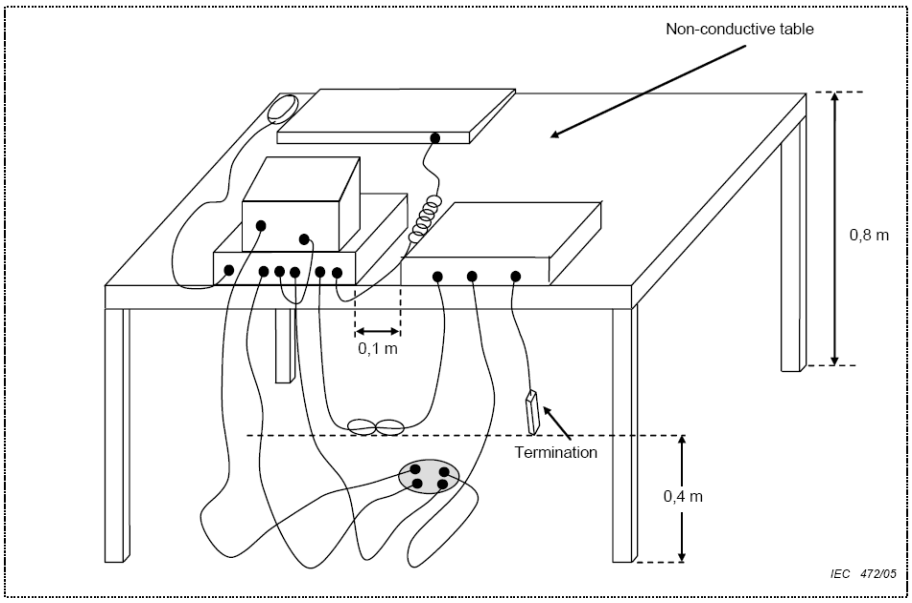
The EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to FCC Part 18 on radiated emission Test.

The frequency range from 30MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 120kHz RBW below 1GHz .

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 300kHz VBW below 1GHz.
The EUT is normal during the test, and the results of the maximum emanation are recorded

5.2.2.2 Block Diagram of Test Setup



5.2.3 Limits of disturbance (FCC Part 18)

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dBμV/m)
30~88	3	40
88~216	3	43.5
216~1000	3	46

5.2.4 Test result

The requirements are	**Fulfilled**
Band width	120kHz
Frequency range	30MHz – 1GHz
Min. limit margin	>6.20 dB at 30MHz – 1GHz

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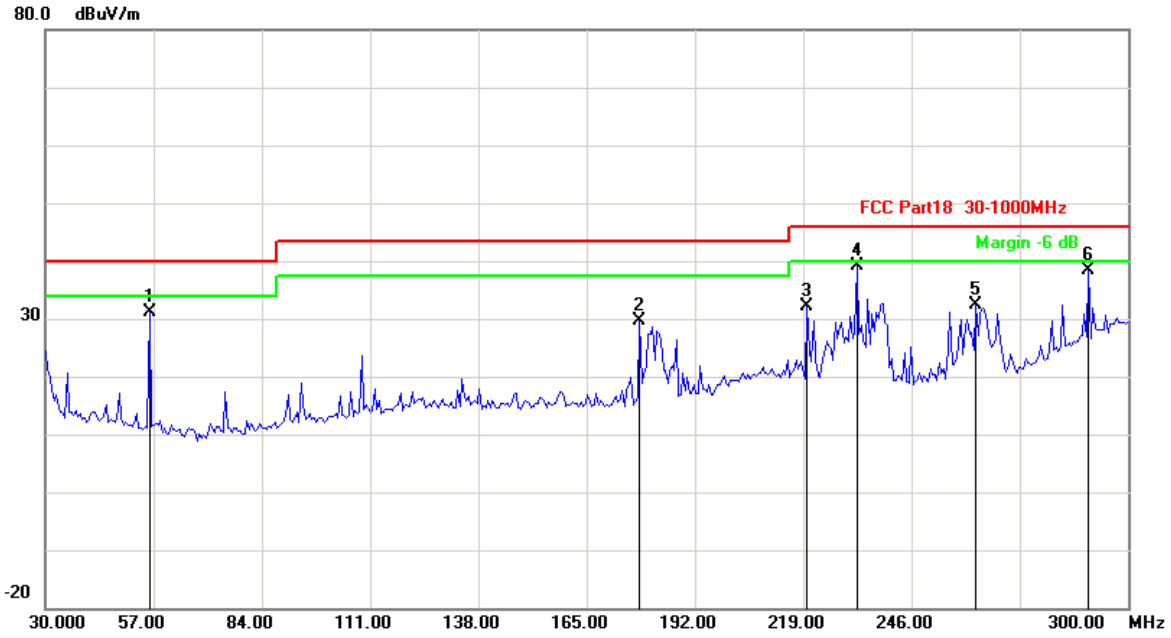
Test point: Test Model: Remarks:	Horizontal Normal	Result:	■ – passed ☐ - not passed

EUT	Vibration Pad
MODEL NO.	WAP-89
Operating Condition	Battery 12V
Test Condition	Ambient Temperature: 24°C Humidity: 56%
Operator	**Duke**



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBμV)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	55.9719	-19.26	50.40	31.14	40.00	-8.86	QP
2	178.2565	-15.32	44.92	29.60	43.50	-13.90	QP
3	219.9198	-10.91	43.14	32.23	46.00	-13.77	QP
4	232.3647	-11.63	50.67	39.04	46.00	-6.96	QP
5	262.1242	-10.66	42.96	32.30	46.00	-13.70	QP
6	290.2605	-4.00	42.37	38.37	46.00	-7.63	QP

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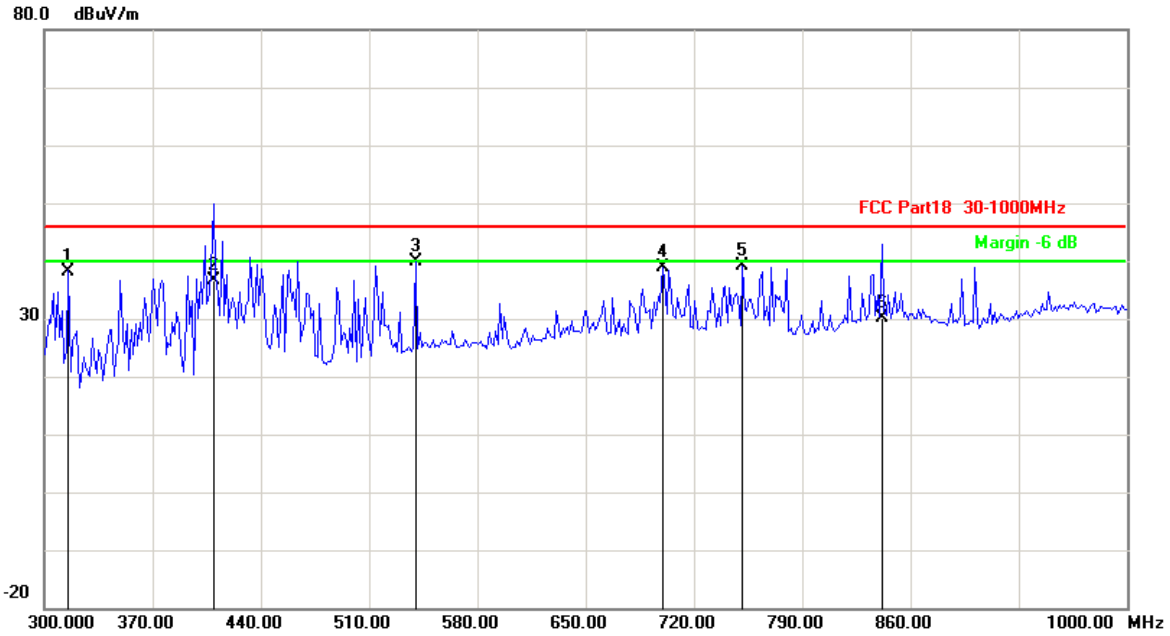

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBμV)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	315.4309	-12.92	51.17	38.25	46.00	-7.75	QP
2	409.4188	-10.12	46.64	36.52	46.00	-9.48	QP
3	539.8798	-6.17	45.97	39.80	46.00	-6.20	QP
4	699.7996	-3.71	42.68	38.97	46.00	-7.03	QP
5	751.7034	-1.66	40.76	39.10	46.00	-6.90	QP
6	841.4830	-0.80	31.01	30.21	46.00	-15.79	QP

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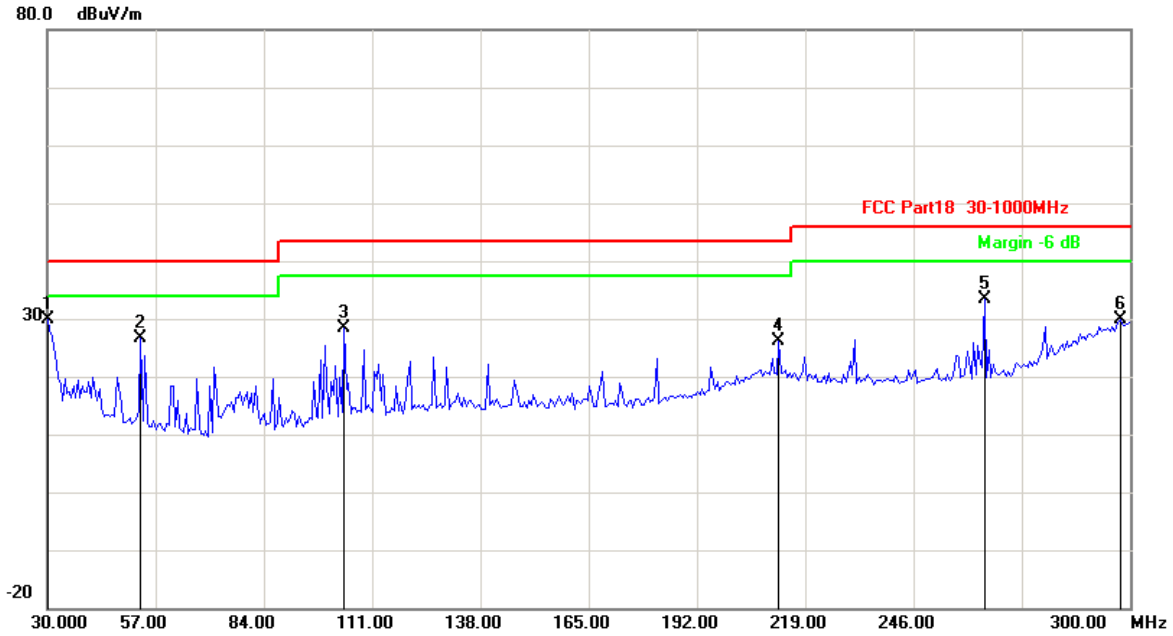
Test point: Test Model: Remarks:	Vertical Normal	Result:	■ – passed □ - not passed

EUT	Vibration Pad
MODEL NO.	WAP-89
Operating Condition	Battery 12V
Test Condition	Ambient Temperature: 24°C Humidity: 56%
Operator	**Duke**



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBµV)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.0000	-16.04	45.91	29.87	40.00	-10.13	QP
2	53.2665	-18.97	45.60	26.63	40.00	-13.37	QP
3	104.1283	-17.84	46.12	28.28	43.50	-15.22	QP
4	212.3447	-10.36	36.37	26.01	43.50	-17.49	QP
5	263.7475	-10.56	44.05	33.49	46.00	-12.51	QP
6	297.8357	-1.99	31.88	29.89	46.00	-16.11	QP

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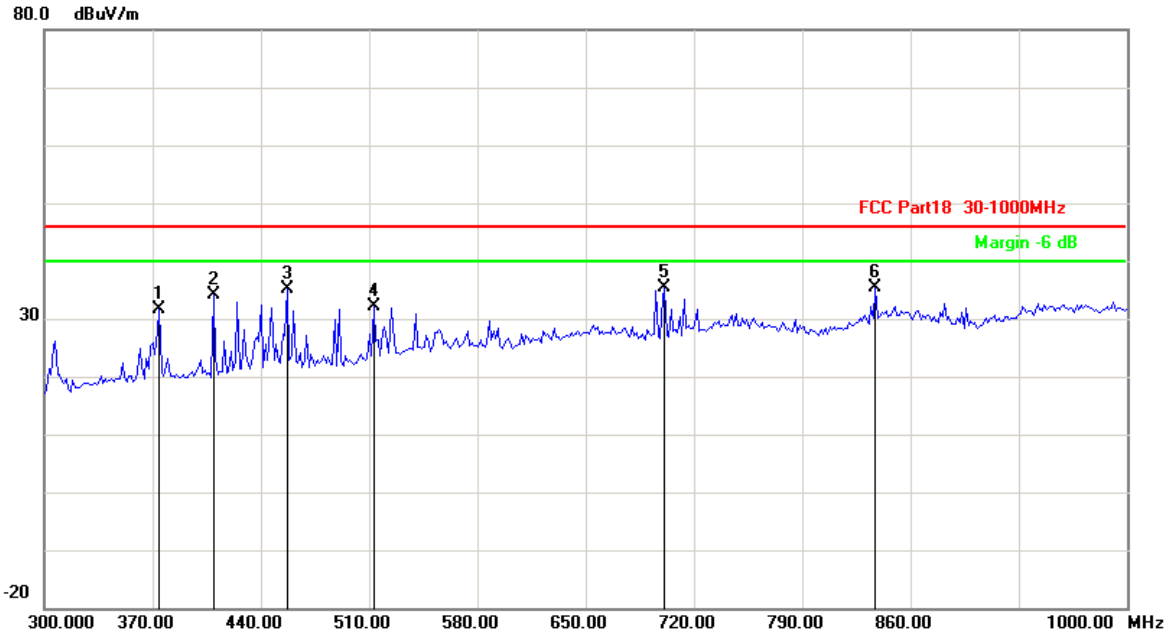

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBμV)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	374.3486	-10.94	42.46	31.52	46.00	-14.48	QP
2	409.4188	-10.12	44.21	34.09	46.00	-11.91	QP
3	457.1142	-8.41	43.57	35.16	46.00	-10.84	QP
4	513.2264	-7.47	39.66	32.19	46.00	-13.81	QP
5	701.2024	-3.66	39.06	35.40	46.00	-10.60	QP
6	837.2745	-1.05	36.37	35.32	46.00	-10.68	QP

Note:Level=Reading+Factor. Margin= Level-Limit.

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6 USED TEST EQUIPMENT

6.1					
Radiated disturbance (Electric field)					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2016/03/24
2	EMI Test Receiver	ROHDE & SCHWARZ	ESVS 10	842885/001	2015/10/30
3	Biconical Antenna	ROHDE & SCHWARZ	HK116	100221	2016/03/26
4	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2016/03/26
5	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2016/03/26
6	Pre-Amplifier	EMC	EMC330	980113	2016/03/24
7	Pre-Amplifier	EMC	EMC012645	980114	2016/03/24
8	EMI Test Software	Farad	EZ-EMC	N/A	N/A

6.2					
Conducted Disturbance					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100868	2015/10/30
2	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/025	2015/10/30
3	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	100140	2015/10/30
4	Pulse Limiter	ROHDE & SCHWARZ	ESHS-Z2	100301	2015/10/30
5	EMI Test Software	Farad	EZ-EMC	N/A	N/A

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7 DEVIATION TO TEST SPECIFICATIONS

1. **47 CFR Part 18: OCT, 2015**
   Industrial, Scientific, and Medical Equipment

2. **ANSI C63.4:2014**
   American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

8 Manufacturer/ Approval holder Declaration

The following identical model(s):

N/A

Belong to the tested device:

Magnifier Lamp **: Vibration Pad**
Model name: **WAP-89**

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