

Verification of Conformity
On Behalf of
SHENZHEN MOPOINT TECHNOLOGY CO., LTD.

Travel Charger

Model No.: USBCHAGTRAAD10AWP
USBCHAGTRAAD10BWP
USBCHAGTRAAD10CWP
USBCHAGTRAAD10DWP
USBCHAGTRAAD10EWP

Prepared for : SHENZHEN MOPOINT TECHNOLOGY CO., LTD.
Address : 2-6/F., Gaofa scientific Technology Industry Park
Maotoushan, Beihuan Road, Nanshan, Shenzhen,
Guangdong, China

Prepared by : SHENZHEN EMTEK CO., LTD.
Address : Bldg 69, Majialong Industry Zone,
Nanshan District, Shenzhen, Guangdong, China

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Report Number : E1711094F
Date of Test : November 21, 2017 to December 12, 2017
Date of Report : December 13, 2017

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TEST REPORT DESCRIPTION

Applicant : SHENZHEN MOPOINT TECHNOLOGY CO., LTD.
Manufacturer : SHENZHEN MOPOINT TECHNOLOGY CO., LTD.
Trademark : mybat
EUT : Travel Charger
Model No. : USBCHAGTRAAD10AWP
USBCHAGTRAAD10BWP
USBCHAGTRAAD10CWP
USBCHAGTRAAD10DWP
USBCHAGTRAAD10EWP

Input Voltage : AC 110V~220V 50/60Hz

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B Class B July 2008 & FCC / ANSI C63.4-2014

The device described above is tested by SHENZHEN EMTEK CO., LTD. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and SHENZHEN EMTEK CO., LTD. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of SHENZHEN EMTEK CO., LTD.


Date of Test: November 21, 2017 to December 12, 2017

Prepared by:



(Engineer)

Reviewer:



(Quality Manager)

Approved & Authorized Signer:



(Manager)



1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : Travel Charger

Model Number : USBCHAGTRAAD10AWP
USBCHAGTRAAD10BWP
USBCHAGTRAAD10CWP
USBCHAGTRAAD10DWP
USBCHAGTRAAD10EWP

(Note: The samples are the same except their appearance and model numbers are different. We prepare VTC-MOT V120/T720/I85/I730 for EMC test.)

Trademark : mybat

Test Voltage Input: AC 120V, 60Hz
Output: 11V \pm 0.5A

Applicant : SHENZHEN MOPOINT TECHNOLOGY CO., LTD.

Address : 2-6/F., Gaofa scientific Technology Industry Park Maotoushan, Beihuan Road, Nanshan, Shenzhen, Guangdong, China

Manufacturer : SHENZHEN MOPOINT TECHNOLOGY CO., LTD.

Address : 2-6/F., Gaofa scientific Technology Industry Park Maotoushan, Beihuan Road, Nanshan, Shenzhen, Guangdong, China

Date of receiver : November 21, 2017

Date of Test : November 21, 2017 to December 12, 2017

1.2. Test Facility

Site Description

EMC Lab.

: Accredited by CNAS, 2013.11.02
The certificate is valid until 2018.11
The Laboratory has been assessed and proved to be in compliance with CNAS-CL01: 2006 (identical to ISO/IEC 17025:2005)
The Certificate Registration Number is L2291.

Accredited by TUV Rheinland Shenzhen, 2017.3
The Laboratory has been assessed according to the requirements ISO/IEC 17025

Accredited by FCC, March 18, 2017
The Certificate Registration Number is 709623.

Accredited by Industry Canada, May 24, 2017
The Certificate Registration Number is 46405-4480.

Name of Firm : SHENZHEN EMTEK CO., LTD

Site Location : Bldg 69, Majialong Industry Zone,
Nanshan District, Shenzhen, Guangdong, China

1.3. Measurement Uncertainty

Conducted Emission Uncertainty : $\pm 1.2656\text{dB}$

Radiated Emission Uncertainty : $\pm 1.4118\text{dB}$

2. POWER LINE CONDUCTED MEASUREMENT

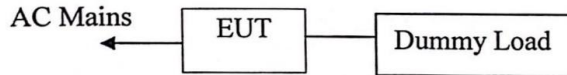
2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS30	8289851018	May 29, 2017	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ESH3-Z5	834549/005	May 29, 2017	1 Year
3.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	May 29, 2017	1 Year
4.	RF Cable	FUJIKURA	RG-55/U	LISN Cable	May 29, 2017	1 Year

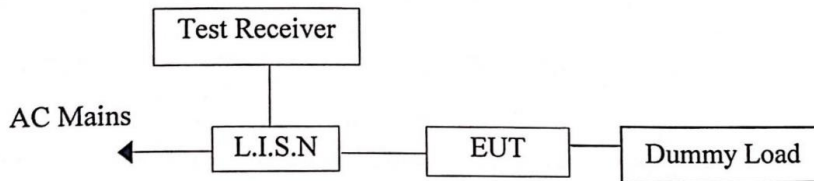
2.2. Block Diagram of Test Setup

2.2.1 Block diagram of connection between the EUT and simulators.



(EUT: Travel Charger)

2.2.2 Block diagram of test setup



(EUT: Travel Charger)

2.3. Power Line Conducted Emission Measurement Limits (Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

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

2. The lower limit shall apply at the transition frequencies.

2.4. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

EUT : Travel Charger
Model Number : USBCHAGTRAAD10BWP

2.5. Operating Condition of EUT

- 2.5.1. Setup the EUT and simulator as shown as Section 2.2.
- 2.5.2. Turn on the power of all equipment.
- 2.5.3. Let the EUT work in test mode (Full Load) and measure it.

2.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. 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/ANSI C63.4-2003 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test result is reported on Section 2.7.

All the scanning waveforms for Conducted Emission Measurement are attached in Appendix I.

2.7. Power Line Conducted Emission Measurement Results

PASS.

The frequency range from 150KHz to 30 MHz is investigated.

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

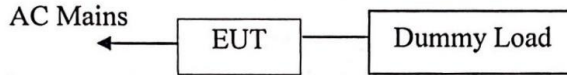
The following test equipments are used during the radiated emission measurement:

3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	ANRITSU	MS2661C	6200140915	May 29, 2017	1 Year
2.	Test Receiver	Rohde & Schwarz	ESCS30	828985/018	May 29, 2017	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB9163	142	May 29, 2017	1 Year
4.	50 Coaxial Switch	Anritsu Corp	MP59B	6100237248	May 29, 2017	1 Year
5.	Cable	Schwarzbeck	AK9513(1m)	CR RX2	May 29, 2017	1 Year
6.	Cable	Schwarzbeck	AK9513(10m)	AC RX1	May 29, 2017	1 Year
7.	Cable	Rosenberger	N/A(6m)	CR RX1	May 29, 2017	1 Year
8.	Cable	Rosenberger	N/A(10m)	FP2RX2	May 29, 2017	1 Year
9.	DC Power Filter	MPE	23872C	N/A	May 29, 2017	1 Year
10.	Single Phase Power Line Filter	MPE	23332C	N/A	May 29, 2017	1 Year
11.	3 Phase Power Line Filter	MPE	23333C	N/A	May 29, 2017	1 Year
12.	Signal Generator	HP	8648A	3625U0057 3	May 29, 2017	1 Year

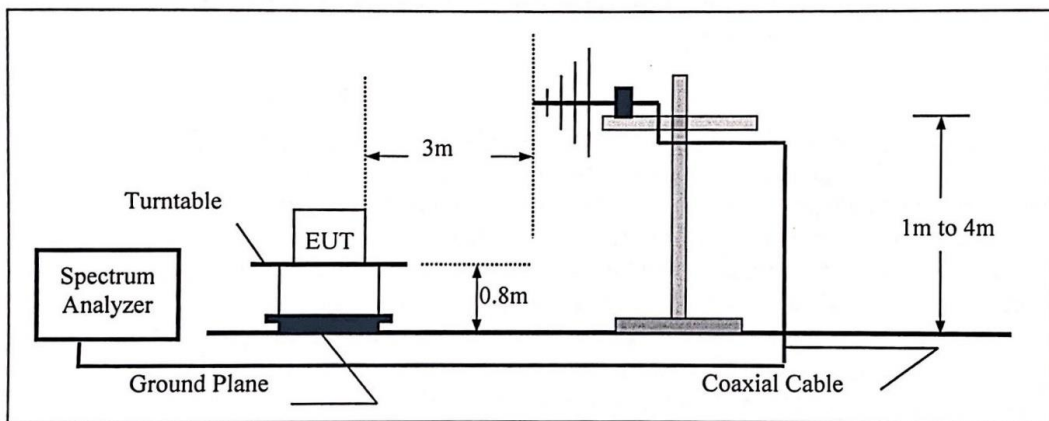
3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: Travel Charger)

3.2.2. Anechoic Chamber Test Setup Diagram



(EUT: Travel Charger)

3.3. Radiated Emission Limit (Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0

- Remark :
- (1) Emission level $(\text{dB})\mu\text{V} = 20 \log$ Emission level $\mu\text{V}/\text{m}$
 - (2) The smaller limit shall apply at the cross point between two frequency bands.
 - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.4.EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

Travel Charger (EUT)

Model Number : USBCHAGTRAAD10BWP
Serial Number : N/A

3.5.Operating Condition of EUT

1. Setup the EUT as shown in Section 3.2.
2. Let the EUT work in test mode (Full Load) and measure it.

3.6.Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 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 measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to FCC/ANSI C63.4-2003 on radiated emission measurement.

The bandwidth of the EMI test receiver (R&S ESCS30) is set at 120KHz.

The frequency range from 30MHz to 1000MHz is checked.

The test mode (Full Load) is tested in chamber and all the scanning waveforms are attached in Appendix II.

3.7.Radiated Emission Measurement Result

PASS.

The frequency range from 30MHz to 1000MHz is investigated.

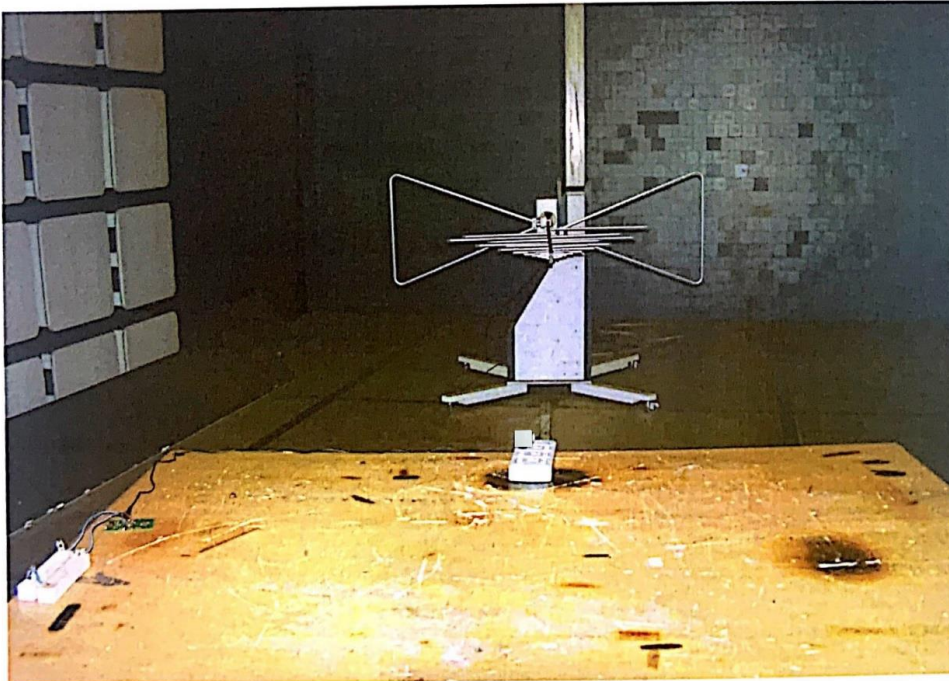
Please reference to the attached data.

4. PHOTOGRAPH

4.1.Photos of Conducted Emission Measurement



4.2.Photo of Radiated Measurement



APPENDIX I

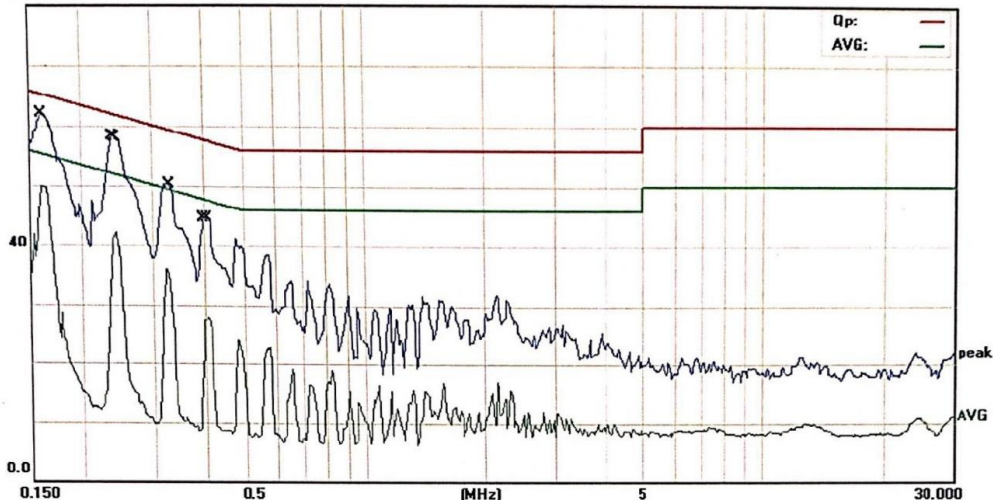
Conducted Emission Measurement

File :Mopoint
80.0 dBuV

Data :#7

Date: 17/12/10/

Time: 8/37/00



Site site #1
 Limit: (CE)FCC PART 15 class B_QP
 EUT: Travel Charger
 M/N: USBCHAGTRAAD10BWP
 Mode: FULL LOAD
 Note:

Phase: N
 Power: AC 120V/60Hz
 Temperature: 22
 Humidity: 50 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1600	62.05	0.00	62.05	65.46	-3.41	QP	
2		0.1600	49.84	0.00	49.84	55.46	-5.62	AVG	
3		0.2400	58.32	0.00	58.32	62.10	-3.78	QP	
4		0.2450	42.30	0.00	42.30	51.92	-9.62	AVG	
5		0.3250	36.15	0.00	36.15	49.58	-13.43	AVG	
6		0.3300	50.40	0.00	50.40	59.45	-9.05	QP	
7		0.4000	44.76	0.00	44.76	57.85	-13.09	QP	
8		0.4100	28.09	0.00	28.09	47.65	-19.56	AVG	

*:Maximum data x:Over limit l:over margin Comment: Factor build in receiver. Operator: MIKE

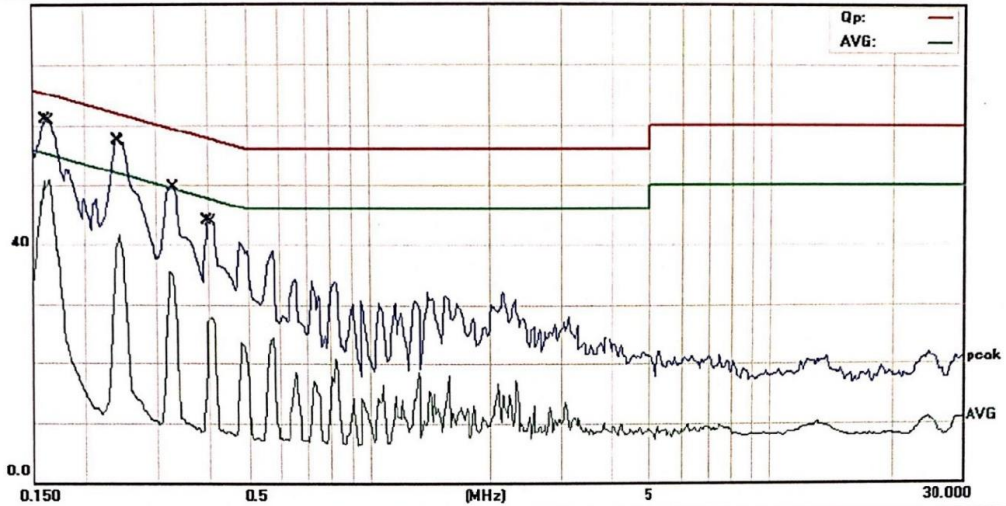
Conducted Emission Measurement

File :Mcpint
80.0 dBuV

Data :#8

Date: 17/12/10/

Time: 8/39/45



Site site #1

Phase: L1

Temperature: 22

Limit: (CE)FCC PART 15 class B_QP

Power: AC 120V/60Hz

Humidity: 50 %

EUT: Travel Charger

M/N: USBCHAGTRAAD10BWP

Mode: FULL LOAD

Note:

No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1 *	0.1600	61.17	0.00	61.17	65.46	-4.29	QP	
2	0.1650	50.91	0.00	50.91	55.21	-4.30	AVG	
3	0.2430	57.36	0.00	57.36	61.99	-4.63	QP	
4	0.2450	41.68	0.00	41.68	51.92	-10.24	AVG	
5	0.3250	35.53	0.00	35.53	49.58	-14.05	AVG	
6	0.3300	49.78	0.00	49.78	59.45	-9.67	QP	
7	0.4040	44.01	0.00	44.01	57.77	-13.76	QP	
8	0.4100	27.98	0.00	27.98	47.65	-19.67	AVG	

*:Maximum data x:Over limit l:over margin Comment: Factor build in receiver. Operator: MIKE

APPENDIX II

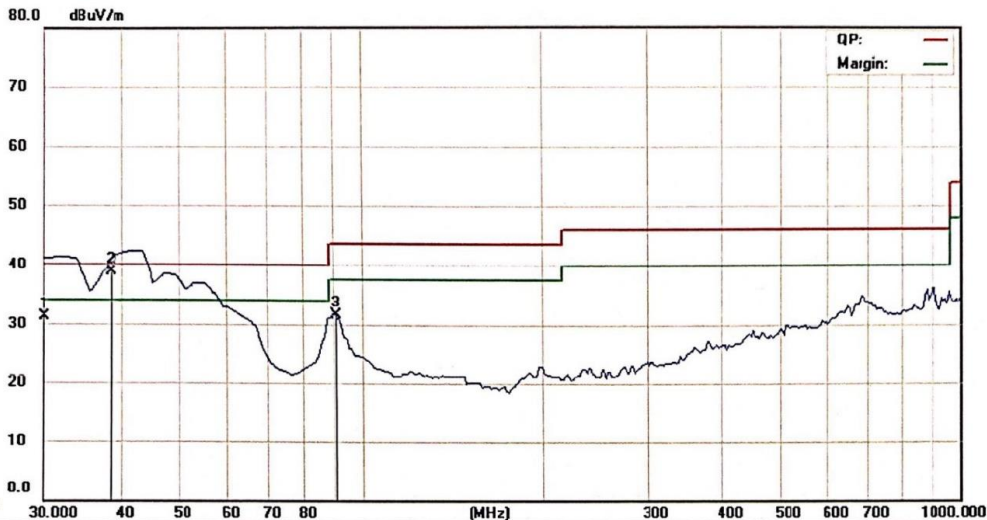
Radiated Emission Measurement

File :Mopoint

Data :#7

Date: 17/11/22/

Time: 9/37/42



Site site #1

Polarization: **Vertical**

Temperature: 26

Limit: (RE)FCC PART 15B

Power: AC 120V/60Hz

Humidity: 60 %

EUT: Travel Charger

M/N: USBCHAGTRAAD10BWP

Mode:FULL LOAD

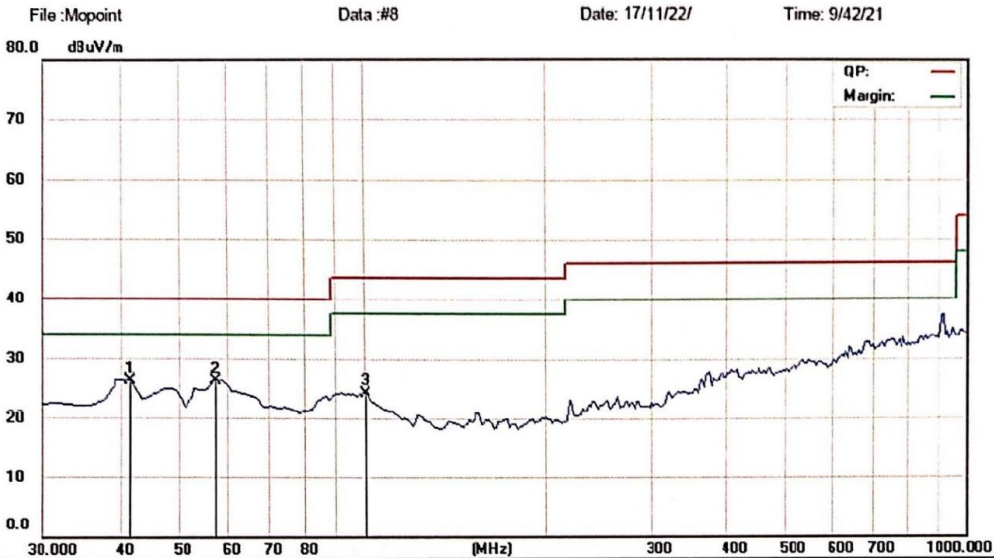
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree		
1		30.0000	17.30	13.93	31.23	40.00	-8.77			QP	
2	*	38.4000	24.80	14.15	38.95	40.00	-1.05			QP	
3		90.2205	19.25	12.48	31.73	43.50	-11.77			QP	

*:Maximum data x:Over limit l:over margin

Operator:

Radiated Emission Measurement



Site site #1 Polarization: **Horizontal** Temperature: 26
 Limit: (RE)FCC PART 15B Power: AC 120V/60Hz Humidity: 60 %
 EUT: Travel Charger
 M/N: USBCHAGTRAAD10BWP
 Mode:FULL LOAD
 Note:

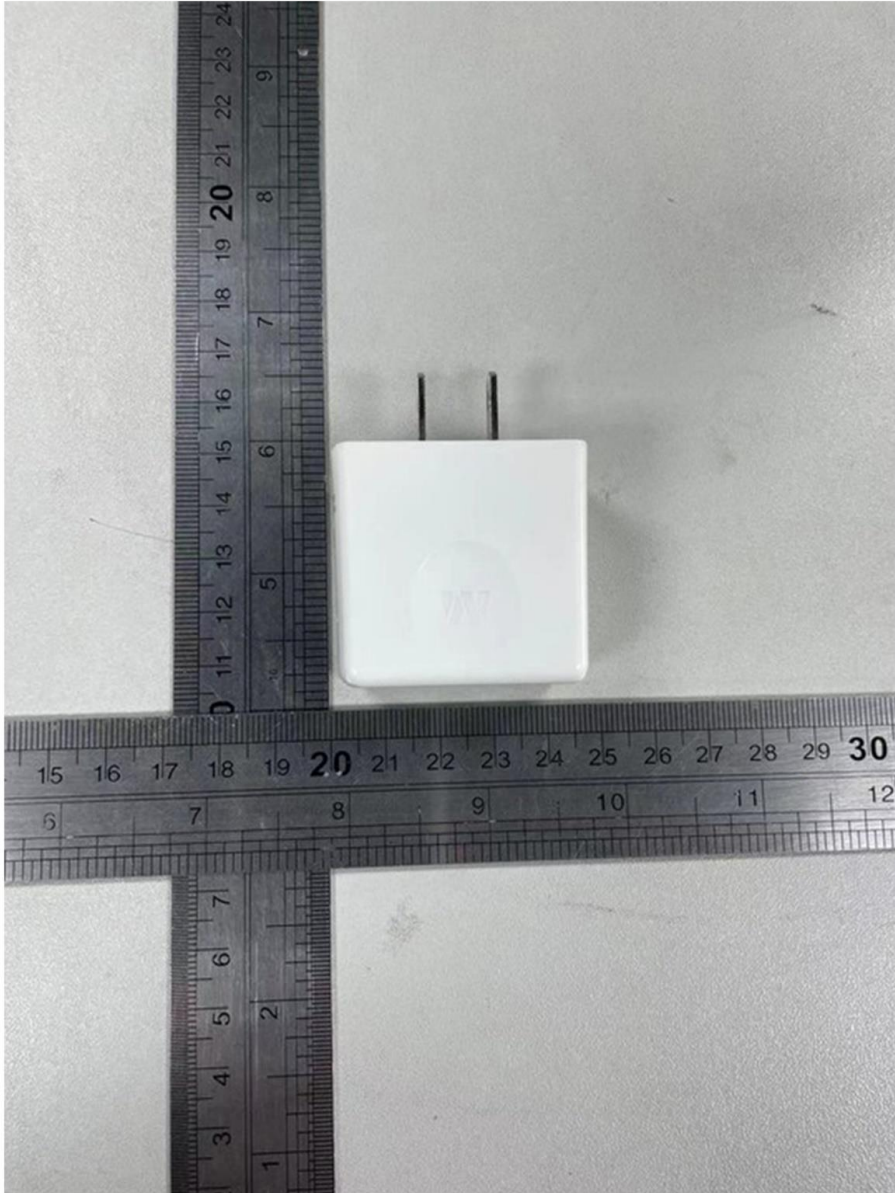
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	41.6400	12.05	14.27	26.32	40.00	-13.68	QP		
2		57.1600	13.00	13.32	26.32	40.00	-13.68	QP		
3		100.2286	10.60	13.70	24.30	43.50	-19.20	QP		

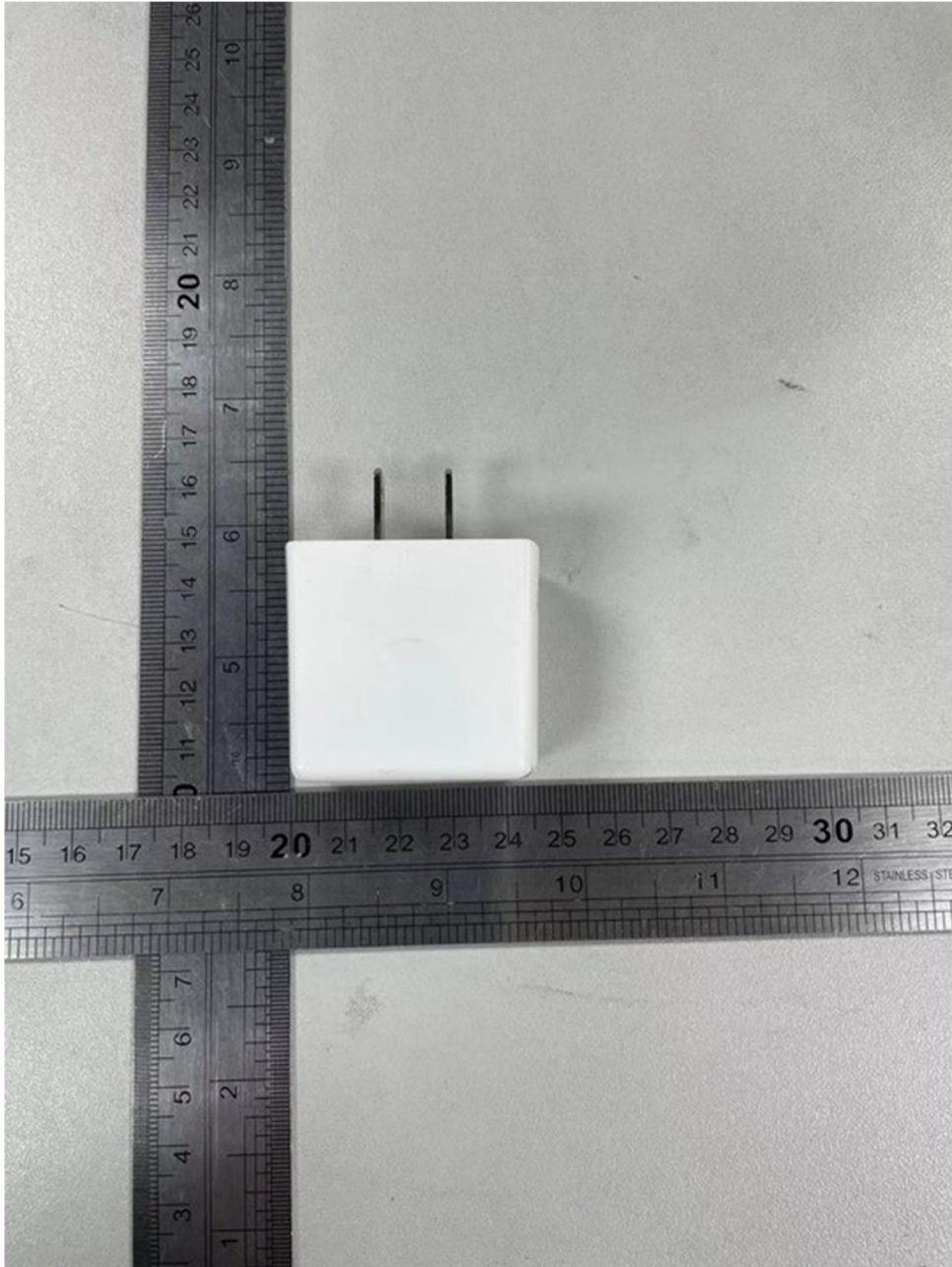
*:Maximum data x:Over limit l:over margin

Operator:

APPENDIX III
(Photos of EUT)

FIGURE 1
GENERAL APPEARANCE OF EUT







China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L2291)

China National Accreditation Service for Conformity Assessment has accredited

Shenzhen Emttek Co., Ltd.

Building 69, Majialong Industry Zone, Nanshan District, Shenzhen,
Guangdong, China

to ISO/IEC 17025:2013 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.

Date of Issue: 2015-05-30

Date of Expiry: 2018-11-01

Date of Initial Accreditation: 2013-11-02

Signed on behalf of China National Accreditation Service
for Conformity Assessment

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation systems for conformity assessment, CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA), and the signatory to Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).



TÜV Rheinland (Shenzhen) Co., Ltd.

Certificate of Qualification

Witness Test Level

for

SHENZHEN EMTEK CO., LTD
Bldg. 69, Majialong Industry Zone
Nanshan District, Shenzhen
Guangdong, P.R. China

has been authorized to carry out EMC tests by order and under supervision of TÜV Rheinland. It has successfully demonstrated capability to conduct measurement and to process test data according to:

**European and international EMC standards
as listed in the**

Scope of Authorization on the attachment to this certificate

An assessment of the facility was conducted according to the document "Laboratory Qualification Program for Second- and Manufacturer Laboratories" by a TÜV Rheinland auditor.

Audit Report: 17008828 001

The certificate is valid until the next scheduled inspection or up to 18 months at the discretion of TÜV Rheinland.

TÜV Rheinland (Shenzhen) Co., Ltd.
Shenzhen, 3 March 2017


Sam Lin
Technical Certifier


Shawn Peng
Certification Body

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

March 18, 2017

Registration Number: 709623

Shenzhen EMTEK Co., Ltd.
Bldg 69, Majialong Industry Zone,
Nanshan District,
ShenZhen, Guangdong, 518052
China

Attention: David Lee


Re: Measurement facility located at Shenzhen
Anechoic chamber (3 meters)
Date of Renewal: March 18, 2017

Dear Sir or Madam:

Your request for renewal of the registration of the subject measurement facility has been received. The information submitted has been placed in your file and the registration has been renewed. The name of your organization will remain on the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,


Phyllis Parrish

Industry Analyst

May 24th, 2017

OUR FILE: 46405-4480
Submission No: 126520

Shenzhen EMTEK Co. Ltd
Bldg. 69, Majialong, Taipingyang Ind. Zone
Nanshan District, Shenzhen Guangdong 518052
China

Attention:

Dear Sir/Madame: David Lee

The Bureau has received your application for the registration / renewal of a 3m alternate test site. Be advised that the information received was satisfactory to Industry Canada. The following number(s) is now associated to the site(s) for which registration / renewal was sought (**4480A-1**). Please reference the appropriate site number in the body of test reports containing measurements performed on the site. In addition, please be informed that the Bureau is now utilizing a **new site numbering scheme** in order to simplify the electronic filing process. Our goal is to reduce the number of secondary codes associated to one particular company. The following changes have been made to your record.

- Your primary code is: **4480**
- The company number associated to the site(s) located at the above address is: **4480A**
- The table below is a summary of the changes made to the unique site registration number(s):

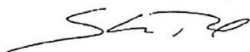
New Site Number	Obsolete Site Number	Description of Site	Expiry Date (YYYY-MM-DD)
4480A-1	4480	3m Chamber	2018-05-24

Furthermore, to obtain or renew a unique site number, the applicant shall demonstrate that the site has been accredited to ANSI C63.4-2014 or later. A scope of accreditation indicating the accreditation by a recognized accreditation body to ANSI C63.4-2014 shall be accepted. Please indicate in a letter the previous assigned site number if applicable and the type of site (example: 3 meter OATS or 3 meter chamber). If the test facility is not accredited to ANSI C63.4-2014 or later, the test facility shall submit test data demonstrating full compliance with the ANSI standard. The Bureau will evaluate the filing to determine if recognition shall be granted.

The frequency for re-validation of the test site and the information that is required to be filed or retained by the testing party shall comply with the requirements established by the accrediting organization. However, in all cases, test site re-validation shall occur on an interval not to exceed two years. There is no fee or form associated with an OATS filing. OATS submissions are encouraged to be submitted electronically to the Bureau using the following URL;
http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h_tt00052e.html.

If you have any questions, you may contact the Bureau by e-mail at certification.bureau@ic.gc.ca Please reference our file and submission number above for all correspondence.

Yours sincerely,



S. Proulx
Test & Measurement Specialist
Certification and Engineering Bureau
3701 Carling Ave., Building 94
Ottawa, Ontario K2H 8S2