REPORT No. : SZ18100140S01

TEST REPORT

APPLICANT	:	ShenZhen Mossloo Industrial Co., Ltd
PRODUCT NAME	:	Wireless Power Bank
MODEL NAME	:	MSL-W195Q
BRAND NAME	:	N/A
FCC ID	:	2AN8F-MSLW195Q
STANDARD(S)	:	47CFR 2.1091
TEST DATE	:	2018-11-16
ISSUE DATE	:	2018-11-16

Edited by: Su Jinhai

Su Jinhai (Rapporteur)

Approved by: Peng Hu

Peng Huarui (Supervisor)

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MORLAB

SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.
FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road,
Block67, BaoAn District, ShenZhen , GuangDong Province, P. R. China

Tel: 86-755-36698555 Fax: 86-755-36698525

Http://www.morlab.cn E-mail: service@morlab.cn

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Change History		
Issue	**Date**	**Reason for change**
1.0	2018-11-16	First edition

Tested By	
Test engineer:	Su Jinhai

1. Technical Information

Note: Provide by Applicant.

1.1. Applicant and Manufacturer Information

Applicant:	ShenZhen Mossloo Industrial Co., Ltd
Applicant Address:	Road One No.4,Science Industrial Park,Shangxue Village, Bantian Street, Longgang District, Shenzhen, China
Manufacturer:	ShenZhen Mossloo Industrial Co., Ltd
Manufacturer Address:	Road One No.4,Science Industrial Park,Shangxue Village, Bantian Street, Longgang District, Shenzhen, China

1.2. Equipment Under Test (EUT) Description

EUT Type:		Wireless Power Bank			
Hardware Version:		N/A			
Software Version:		N/A			
Frequency Bands:		115KHz~205KHz			
MPE:	Transmitted	115KHz	E-field	0.16 V/m	50%Limit: 307(V/m)
			H-field	0.00168 A/m	50%Limit: 0.815(A/m)
		205KHz	E-field	0.25 V/m	50%Limit: 307(V/m)
			H-field	0.0193 A/m	50%Limit: 0.815(A/m)
	Received	205KHz	E-field	0.90 V/m	50%Limit: 307(V/m)
			H-field	0.0294 A/m	50%Limit: 0.815(A/m)

1.3. Photographs of the EUT

Please refer to the External Photos for the Photos of the EUT

1.4. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	**47 CFR§2.1091**	Radio Frequency Radiation Exposure Evaluation: Mobile Devices
2	**680106 D01v03**	RF Exposure Considerations for Low Power Consumer Wireless Power Transfer Applications

2. FCC MPE Requirement

2.1. General Information

For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

2.2. MPE Limit

Basic Restrictions Reference levels

Basic Restriction for electric, magnetic and electromagnetic fields (0Hz to 300GHz)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	$*900/f^2$	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	$*180/f^2$	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

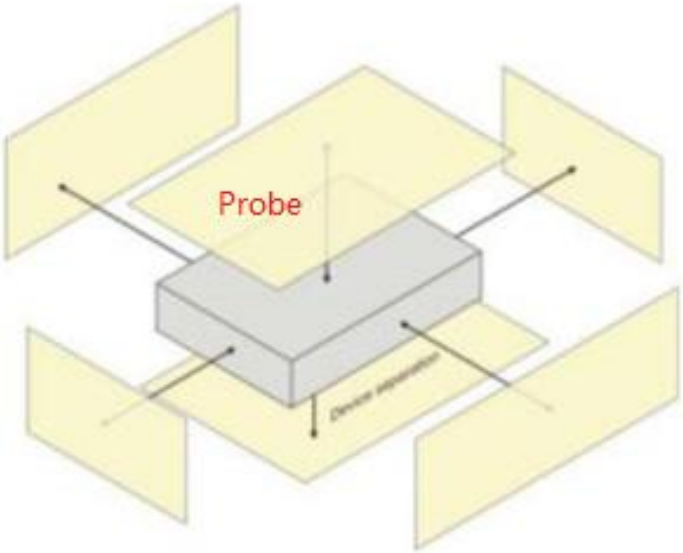
2.3. Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Uncertainty
Uncertainty for Radiated Frequency	$7*10^8$
Uncertainty for test site temperature and humidity	0.6 ℃
	3%

2.4. Test Information

The EUT working at normal charging mode, use the E-Probe measure the H-field Strength, E-field Strength separately.

2.5. Test Setup



3. Assess Results

3.1. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
STT	Broadband Field meter	SEM-600	D-1044	2018.05.29	2019.05.28
STT	Probe	LF-04	I-1044	2018.05.29	2019.05.28
STT	Probe holder	TR-01	N/A	N/A	N/A
STT	Optical fiber line	L=5M	N/A	N/A	N/A

3.2. Test Results

EUT: Wireless charger	Test Date: 2018.11.08
Temperature: 25±2 ℃ Humidity: 20-60%	

<Wireless Power Transmitting Without Loading>

E field strength result (Test frequency range from 115KHz to 205KHz)					
Test Loading	**Exposure Position**	**Distance (cm)**	**E-field Strength (Max. V/m)**	**Limit 50%(V/m)**	**Result**
115K 5V	Front Side	20	0.13	307	PASS
	Back Side	15	**0.16**	307	PASS
	Left Side	15	0.15	307	PASS
	Right Side	15	0.15	307	PASS
	Top Side	15	0.14	307	PASS
	Bottom Side	15	0.11	307	PASS

H- field strength result (Test frequency range from 115KHz to 205KHz)					
Test Loading	**Exposure Position**	**Distance (cm)**	**H-field Strength (Max. A/m)**	**Limit 50%(A/m)**	**Result**
115K 5V	Front Side	20	0.0144	0.815	PASS
	Back Side	15	0.0096	0.815	PASS
	Left Side	15	**0.0168**	0.815	PASS
	Right Side	15	0.0084	0.815	PASS
	Top Side	15	0.0080	0.815	PASS
	Bottom Side	15	0.0104	0.815	PASS

<Wireless Power Transmitting With Loading>

E field strength result (Test frequency range from 115KHz to 205KHz)					
Test Loading	**Exposure Position**	**Distance (cm)**	**E-field Strength (Max. V/m)**	**Limit 50%(V/m)**	**Result**
205K 5V	Front Side	20	**0.25**	307	PASS
	Back Side	15	0.15	307	PASS
	Left Side	15	0.19	307	PASS
	Right Side	15	0.17	307	PASS
	Top Side	15	0.18	307	PASS
	Bottom Side	15	0.10	307	PASS

H- field strength result (Test frequency range from 115KHz to 205KHz)					
Test Loading	**Exposure Position**	**Distance (cm)**	**H-field Strength (Max. A/m)**	**Limit 50%(A/m)**	**Result**
205K 5V	Front Side	20	0.0153	0.815	PASS
	Back Side	15	0.0181	0.815	PASS
	Left Side	15	**0.0193**	0.815	PASS
	Right Side	15	0.0108	0.815	PASS
	Top Side	15	0.0109	0.815	PASS
	Bottom Side	15	0.0126	0.815	PASS

<Wireless Power Receiving>

E field strength result (Test frequency range from 115KHz to 205KHz)					
Test Loading	**Exposure Position**	**Distance (cm)**	**E-field Strength (Max. V/m)**	**Limit 50%(V/m)**	**Result**
205K 5V	Front Side	20	**0.90**	307	PASS
	Back Side	15	0.10	307	PASS
	Left Side	15	0.24	307	PASS
	Right Side	15	0.22	307	PASS
	Top Side	15	0.11	307	PASS
	Bottom Side	15	0.15	307	PASS

H- field strength result (Test frequency range from 115KHz to 205KHz)					
Test Loading	**Exposure Position**	**Distance (cm)**	**H-field Strength (Max. A/m)**	**Limit 50%(A/m)**	**Result**
205K 5V	Front Side	20	**0.0294**	0.815	PASS
	Back Side	15	0.0062	0.815	PASS
	Left Side	15	0.0154	0.815	PASS
	Right Side	15	0.0212	0.815	PASS
	Top Side	15	0.0114	0.815	PASS
	Bottom Side	15	0.0121	0.815	PASS

Note:

1. According to the user manual, output power from each primary coil is less than or equal to 15 watts.
2. According to KDB 680106 D01V03 section 5 b), the aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit
3. This device designed for typical desktop applications, therefore mobile exposure conditions are applied and client device is placed directly in contact with the transmitter.
4. The EUT, when without loading,it works at 115KHz, when with the loading, it works at 205KHz.

Annex A General Information

1. Identification of the Responsible Testing Laboratory

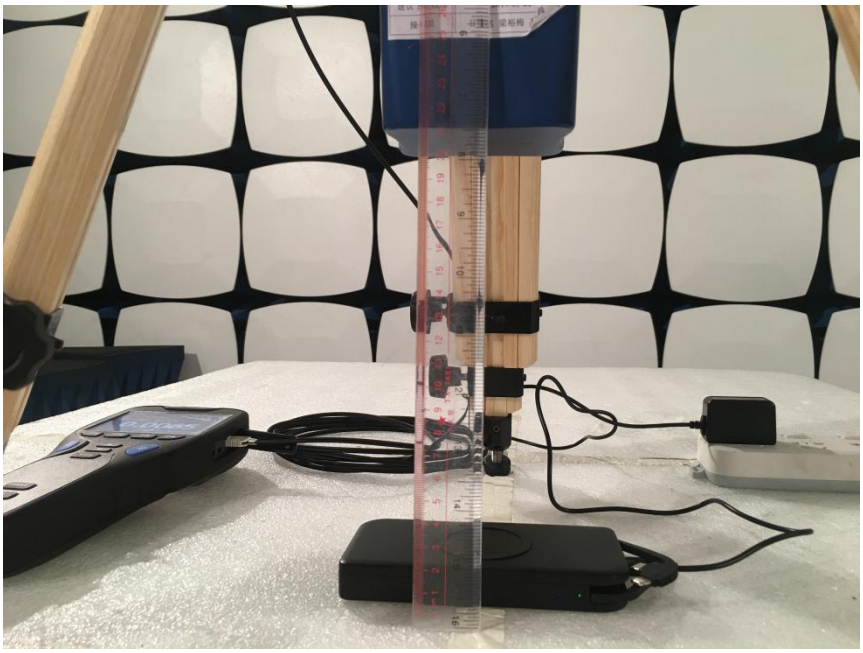
Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Department:	Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Responsible Test Lab Manager:	Mr. Su Feng
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

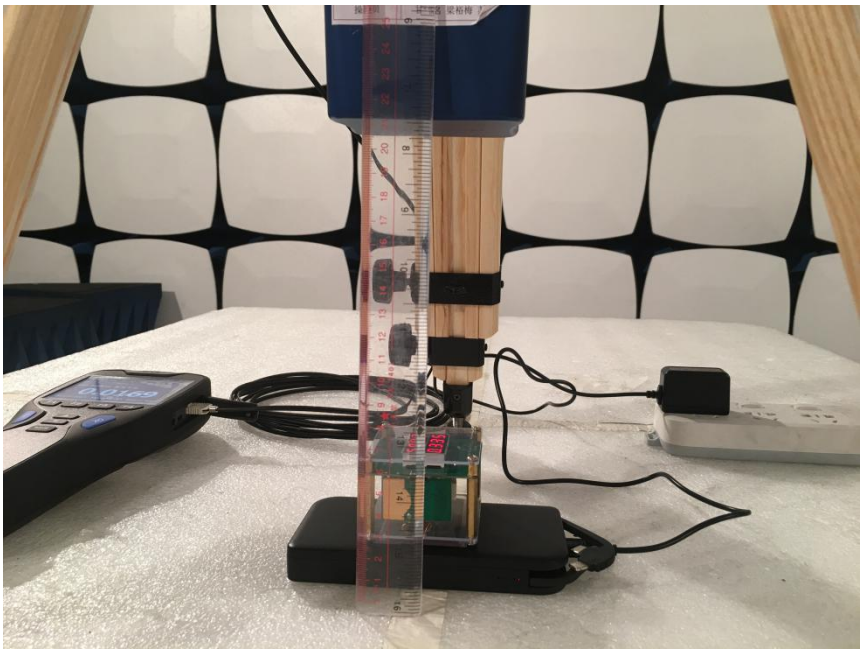
Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

Annex B Test Setup Photos

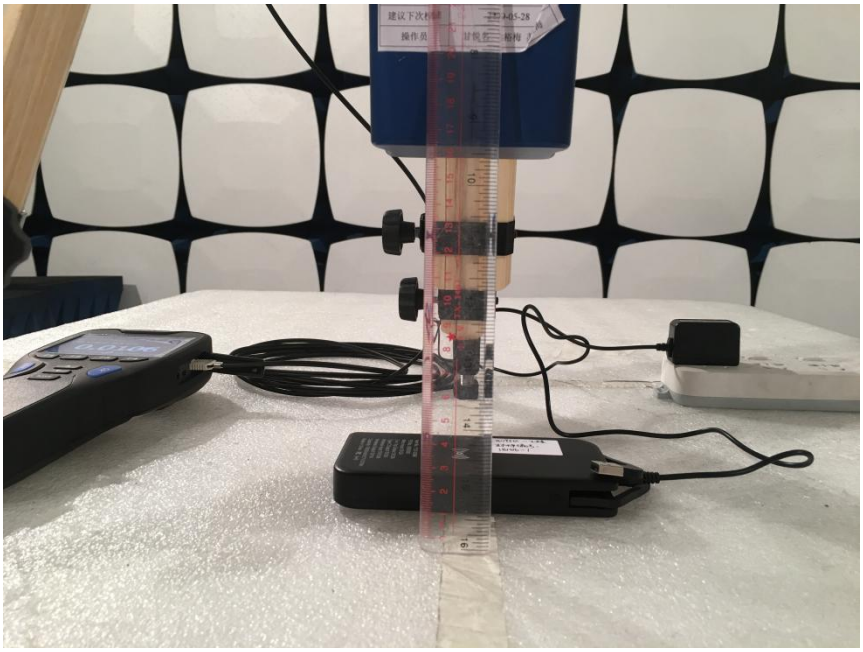
<wireless power transmitting>



Front Side_20cm



Front Side With Loading_20cm



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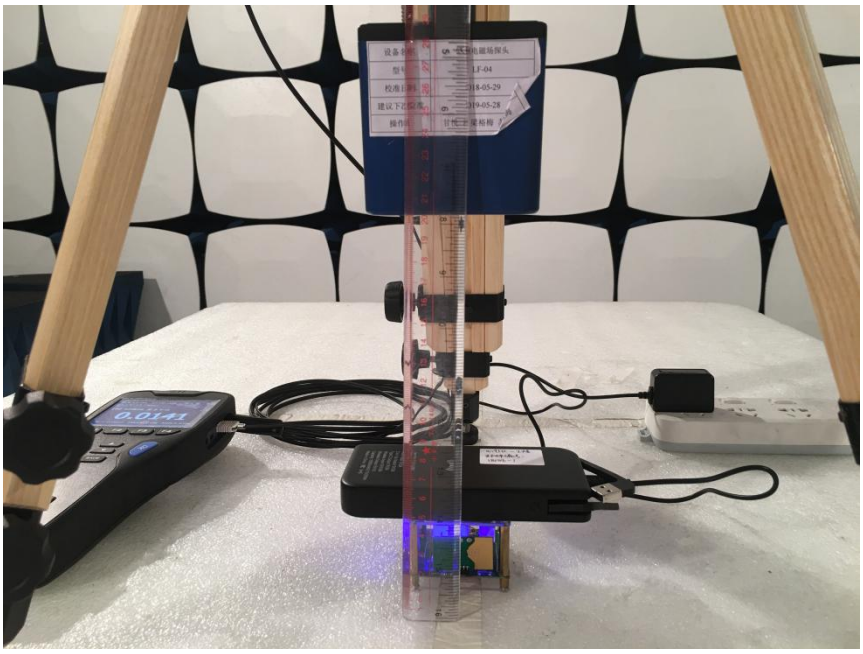

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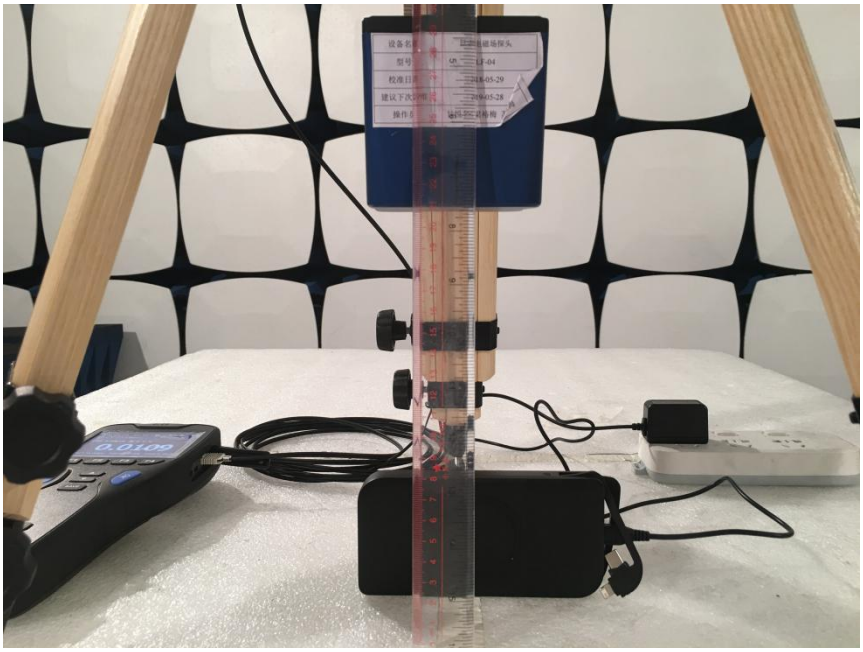
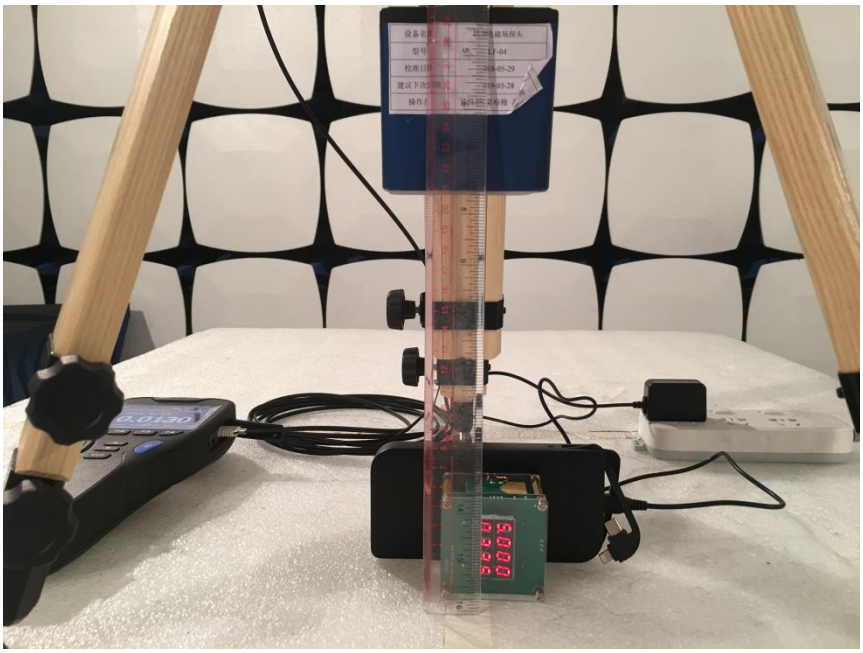
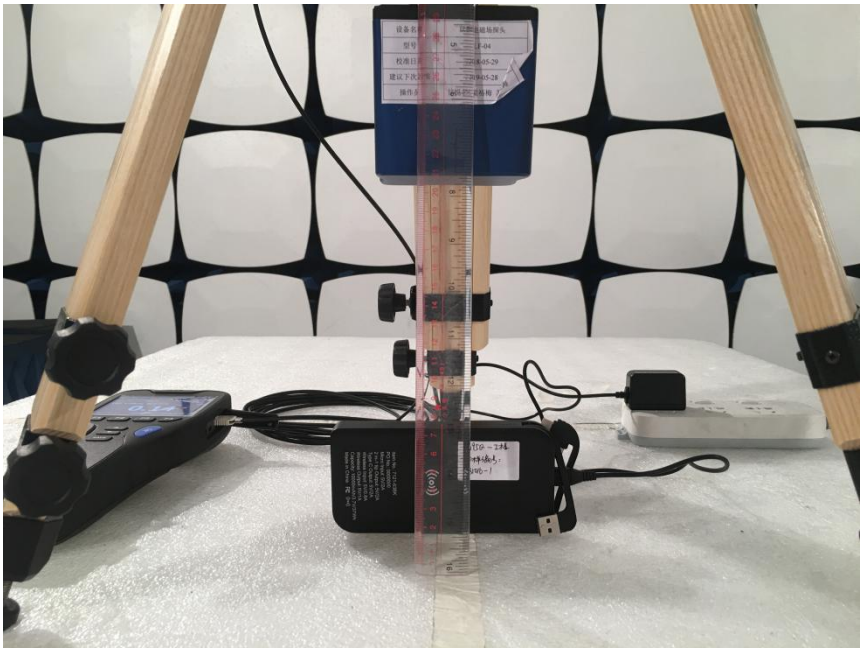


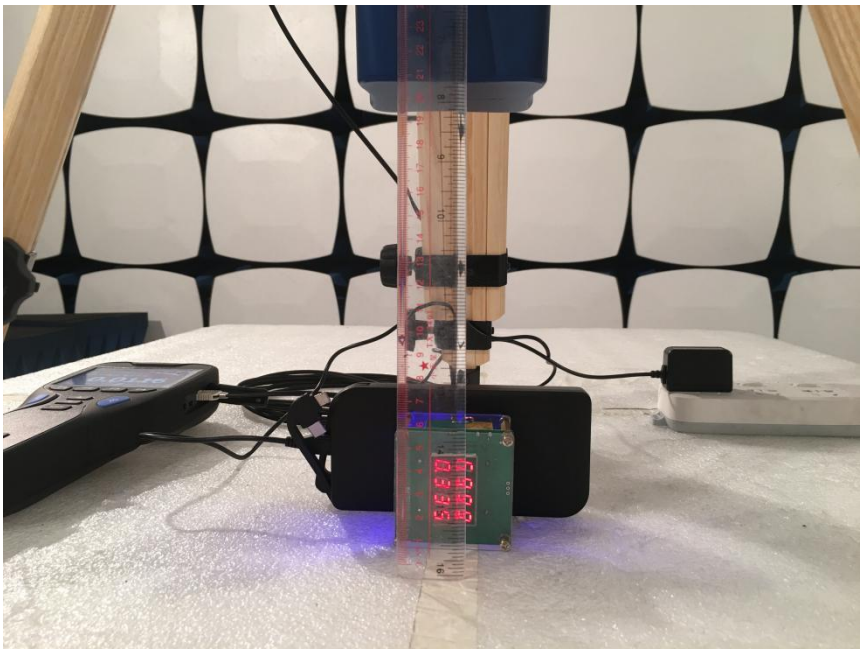
Left Side_15cm



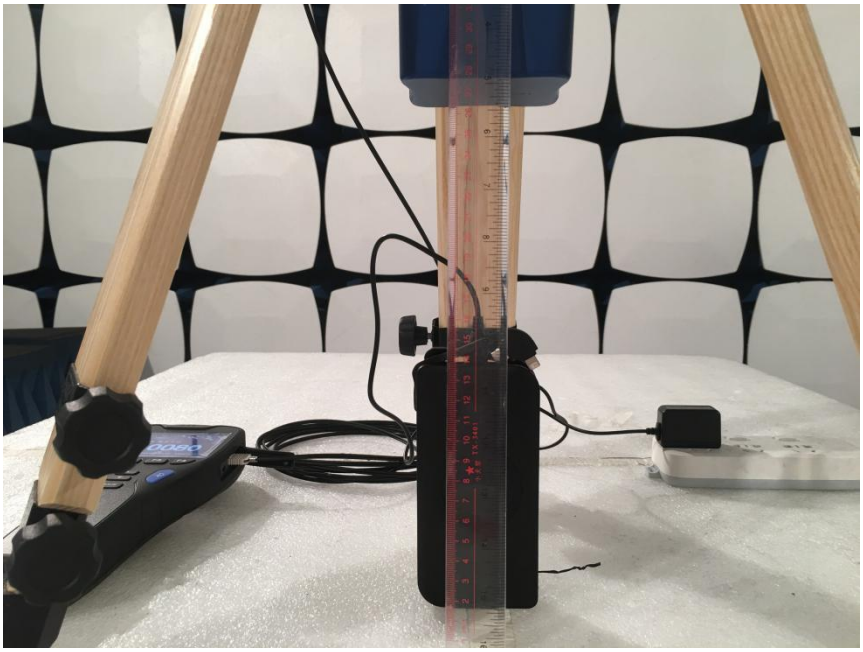
Left Side With Loading_15cm



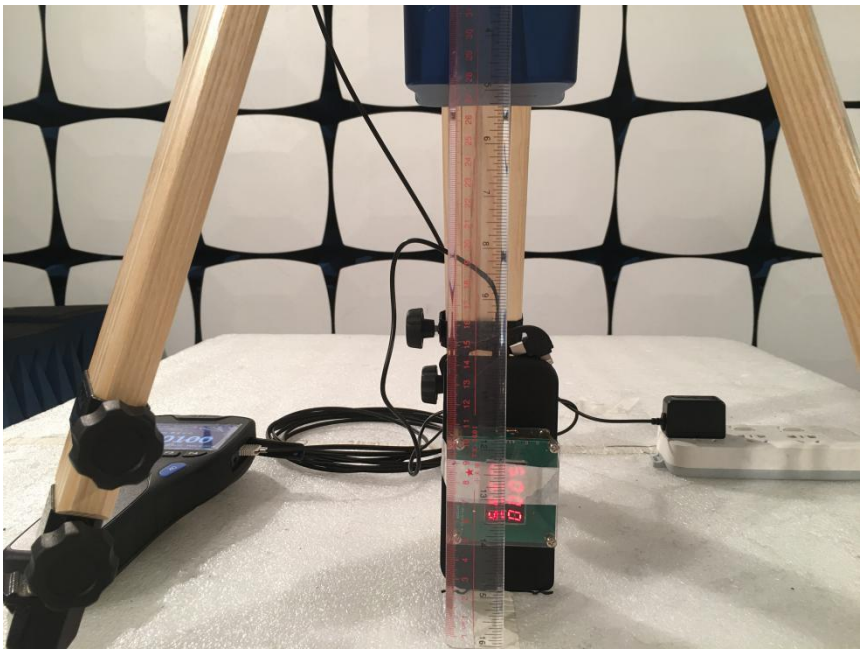
Right Side_15cm



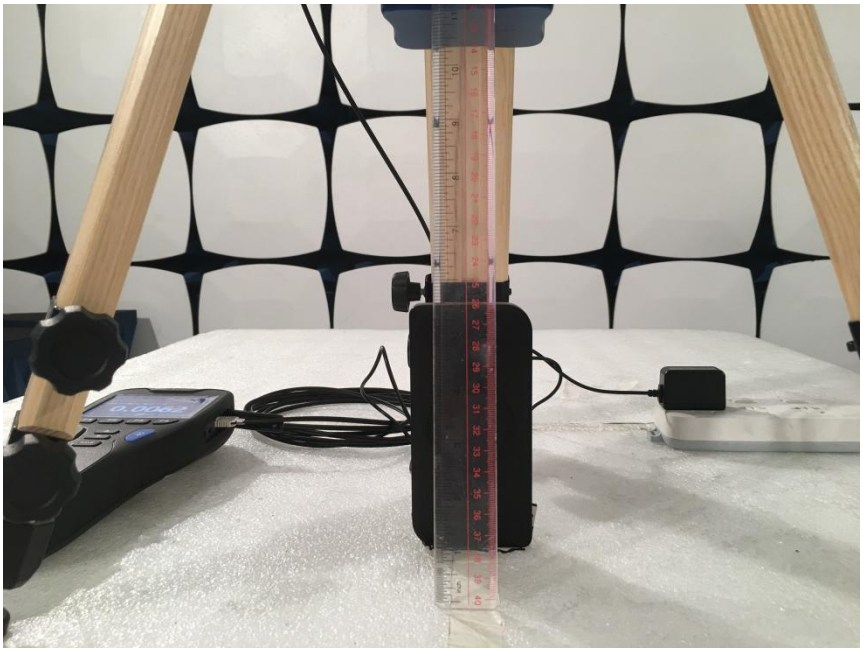
Right Side With Loading_15cm



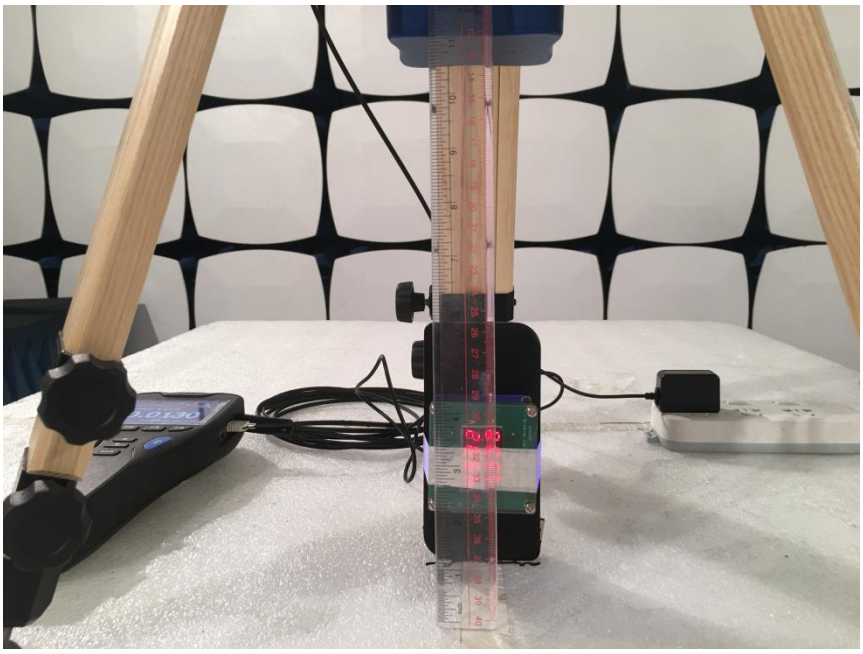
Top Side_15cm



Top Side With Loading_15cm

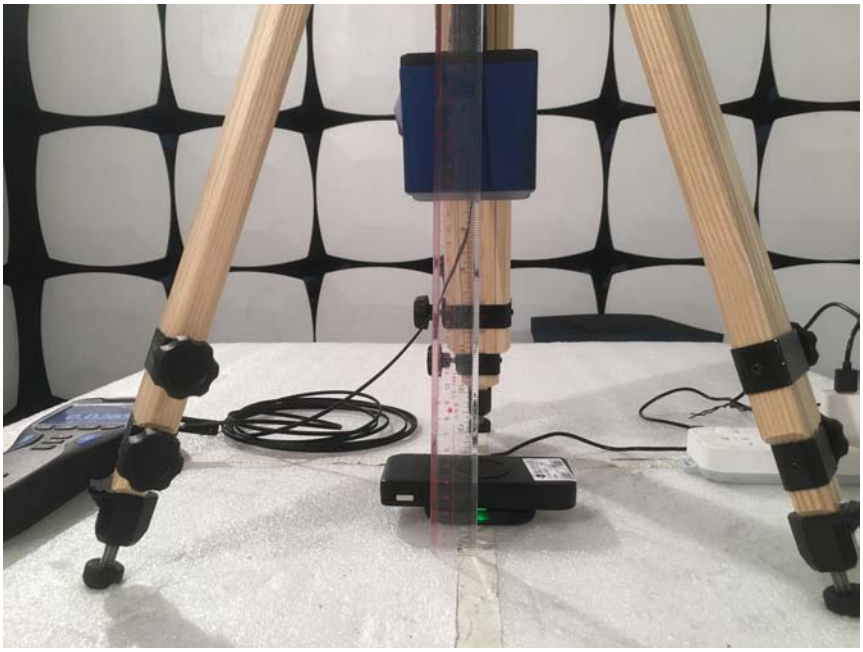


Bottom Side_15cm

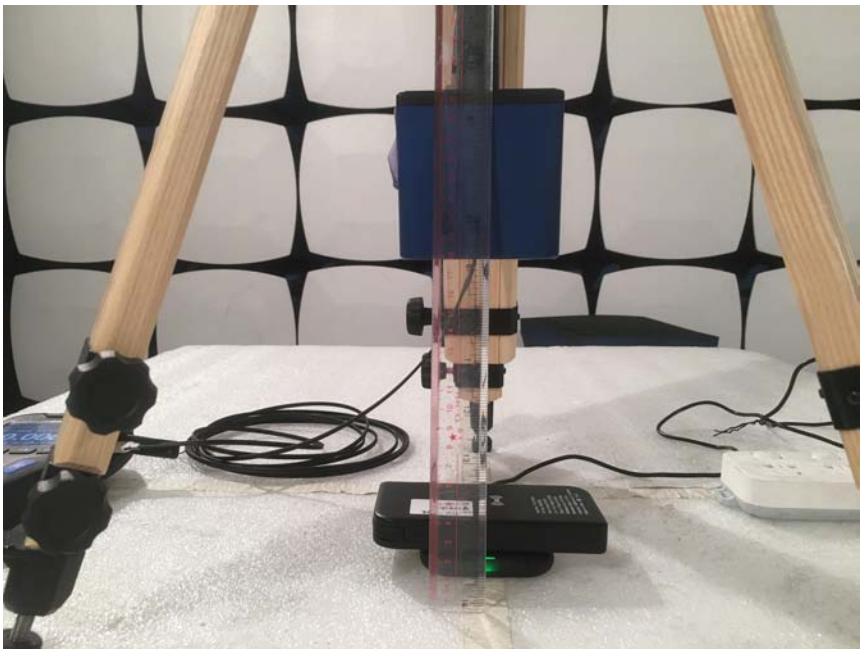


Bottom Side With Loading_15cm

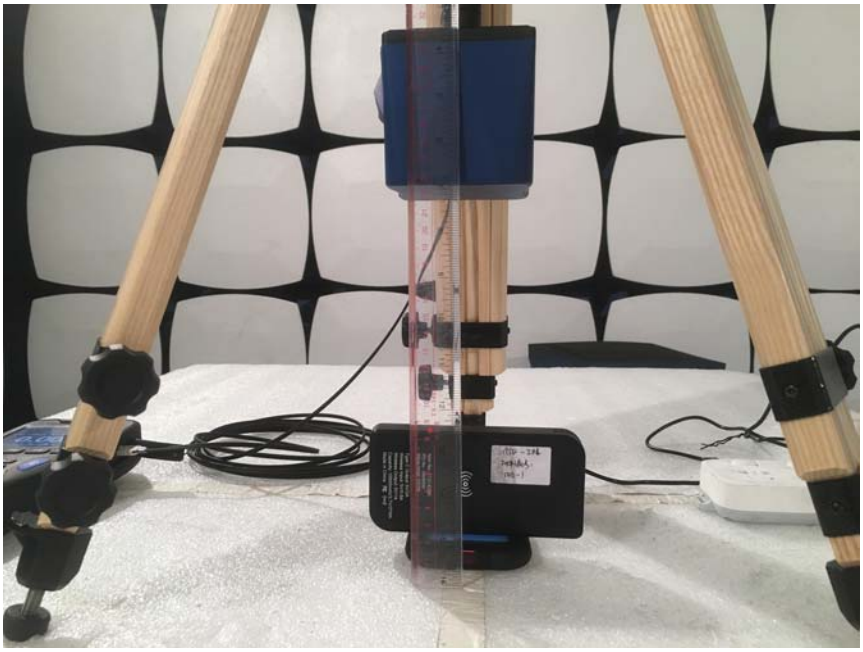
<wireless power receiving>



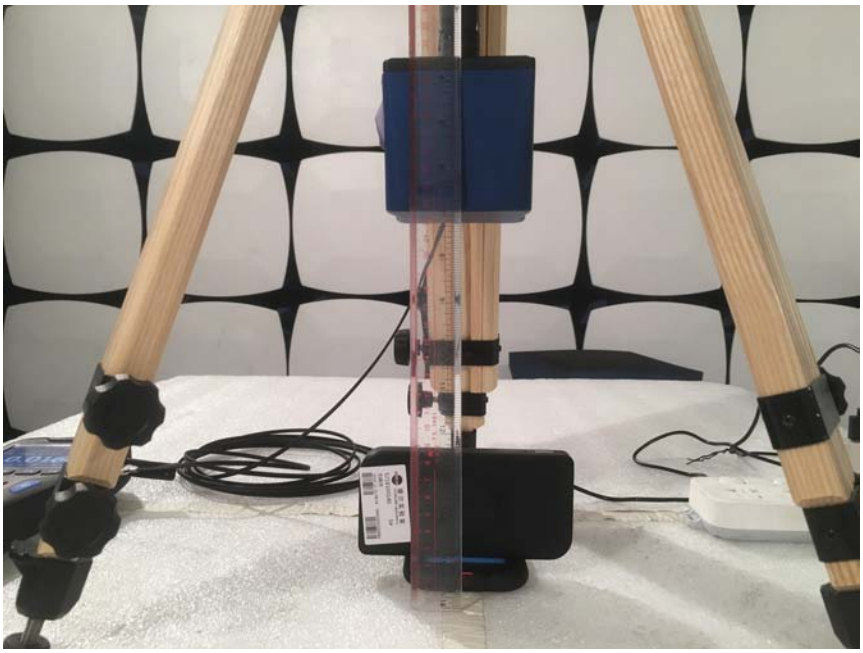
Front Side_20cm



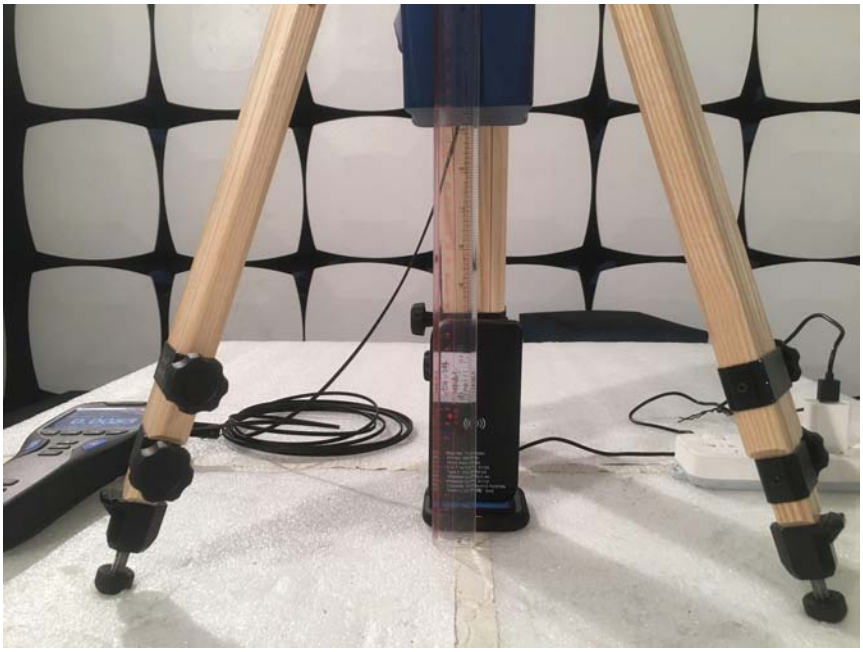
Back Side_15cm



Left Side_15cm



Right Side_15cm



Top Side_15cm

Bottom Side_15cm