

EMC

Measurement and Test Report

Test Standards:	<u>Draft ETSI EN 301 489-1 V2.2.0 (2017-03)</u> <u>Final draft ETSI EN 301 489-3 V2.1.1 (2017-03)</u>
Product Description:	<u>PVC Wireless Charger</u>
Tested Model:	<u>PWCP-011</u>
Report No.:	<u>STR18048159E-3</u>
Tested Date:	<u>2018-04-13 to 2018-04-17</u>
Issued Date:	<u>2018-04-17</u>
Tested By:	<u>Mike Shi/ Engineer</u> <i>Mike Shi</i>
Reviewed By:	<u>Silin Chen / EMC Manager</u> <i>Silin Chen</i>
Approved & Authorized By:	<u>Jandy So / PSQ Manager</u> <i>Jandy So</i>
Prepared By:	

Shenzhen SEM.Test Technology Co., Ltd.
1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road,
Bao'an District, Shenzhen, P.R.C. (518101)
Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM.Test Technology Co., Ltd.

TABLE OF CONTENTS

1. GENERAL INFORMATION	4
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	4
1.2 TEST STANDARDS.....	5
1.3 TEST METHODOLOGY.....	5
1.4 TEST FACILITY.....	5
1.5 EUT SETUP AND OPERATION MODE.....	6
1.6 PERFORMANCE CRITERIA FOR EMS.....	7
1.7 MEASUREMENT UNCERTAINTY.....	8
1.8 TEST EQUIPMENT LIST AND DETAILS.....	9
2. SUMMARY OF TEST RESULTS	10
3. CONDUCTED EMISSIONS	11
3.1 MEASUREMENT UNCERTAINTY.....	11
3.2 TEST PROCEDURE.....	11
3.3 BASIC TEST SETUP BLOCK DIAGRAM.....	11
3.4 ENVIRONMENTAL CONDITIONS.....	12
3.5 SUMMARY OF TEST RESULTS/PLOTS.....	12
3.6 CONDUCTED EMISSIONS TEST DATA.....	12
4. RADIATED EMISSIONS	15
4.1 MEASUREMENT UNCERTAINTY.....	15
4.2 TEST PROCEDURE.....	15
4.3 CORRECTED AMPLITUDE & MARGIN CALCULATION.....	16
4.4 ENVIRONMENTAL CONDITIONS.....	16
4.5 SUMMARY OF TEST RESULTS/PLOTS.....	16
5. HARMONIC CURRENT EMISSIONS	19
5.1 TEST PROCEDURE.....	19
5.2 TEST STANDARDS.....	19
5.3 HARMONIC CURRENT EMISSIONS TEST DATA.....	19
6. VOLTAGE FLUCTUATION AND FLICKER	20
6.1 TEST PROCEDURE.....	20
6.2 TEST STANDARDS.....	20
6.3 VOLTAGE FLUCTUATION AND FLICKER TEST DATA.....	20
7. ELECTROSTATIC DISCHARGE (ESD)	22
7.1 TEST PROCEDURE.....	22
7.2 ELECTROSTATIC DISCHARGE IMMUNITY TEST DATA.....	22
8. RADIO FREQUENCY ELECTROMAGNETIC FIELD (R/S)	23
8.1 TEST PROCEDURE.....	23
8.2 CONTINUOUS RADIATED DISTURBANCES TEST DATA.....	23
9. FAST TRANSIENTS, COMMON MODE (EFT)	24
9.1 TEST PROCEDURE.....	24
9.2 ELECTRICAL FAST TRANSIENTS TEST DATA.....	24
10. SURGES	25
10.1 TEST PROCEDURE.....	25
10.2 SURGE TEST DATA.....	25
11. RADIO FREQUENCY, COMMON MODE (C/S)	26
11.1 TEST PROCEDURE.....	26
11.2 CONTINUOUS CONDUCTED DISTURBANCES TEST DATA.....	26
12. VOLTAGE DIPS AND INTERRUPTIONS	27
12.1 TEST PROCEDURE.....	27
12.2 VOLTAGE DIPS AND INTERRUPTIONS TEST DATA.....	27
EXHIBIT 1 - PRODUCT LABELING	28
EXHIBIT 2 - EUT PHOTOGRAPHS	29

EXHIBIT 3 - TEST SETUP PHOTOGRAPHS.....30

SEM. Test

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Manufacturer:

Address of manufacturer:

General Description of EUT	
Product Name:	PVC Wireless Charger
Trade Name:	/
Model No.:	PWCP-011
Adding Model(s):	PWCP-XYZ (X means number 0 to 9, Y means number 0 to 9, Z means number 0 to 9)
Rated Voltage:	USB Port: DC5V
Power Adaptor Model:	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model PWCP-011, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Frequency Range:	105-210kHz
Radiated H-Field:	26.19dBuA/m(@10m)
Type of Antenna:	Coil Antenna
Highest Internal Frequency:	Below 108MHz

1.2 Test Standards

The tests were performed according to following standards:

Draft ETSI EN 301 489-1 V2.2.0 (2017-03) ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU and the essential requirements of article 6 of Directive 2014/30/EU.

Final draft ETSI EN 301 489-3 V2.1.1 (2017-03) ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with the standard ETSI EN 301489-1, Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.

1.4 Test Facility

FCC – Registration No.: 125990

Shenzhen SEM Test Technology Co., Ltd. Laboratory has been recognized to perform compliance testing on equipment subject to the Commissions Declaration Of Conformity (DOC). The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission/immunity level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	Charging	The EUT charging to the load through wireless.

Accessories Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
USB CABLE	1.0	Shielded	Without Core

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
Adapter	Dell Inc.	PSAI10R-050Q	/
iPhone6 Plus	Apple	MGAJ2ZP/A	FK1PQ4JBG5QW
Wireless Charging Card	/	iPhone 7/6 4.7inch	/

1.6 Performance Criteria for EMS

➤ EN 301 489-3, The performance criteria are:

In the table below:

- performance criterion A applies for immunity tests with phenomena of a continuous nature;
- performance criterion B applies for immunity tests with phenomena of a transient nature.

NOTE: Whether a phenomenon is considered transient, continuous or otherwise is indicated in the test procedures for the phenomenon in ETSI EN 301 489-1 [1], clause 9.

Table 2: Performance Requirements

Criterion	During test	After test
A	Operate as intended No loss of function No unintentional responses	Operate as intended No loss of function No degradation of performance No loss of stored data or user programmable functions
B	May show loss of function No unintentional responses	Operate as intended Lost function(s) shall be self-recoverable No degradation of performance No loss of stored data or user programmable functions

Where "operate as intended" or "no loss of function" is specified, the EUT shall demonstrate correct functioning as described in clause 5.

Where the EUT has more than one mode of operation (see clause 4.5.2), an unplanned transition from one mode to another is considered as an unintentional response. The EUT shall be tested in sufficient modes to confirm there are no such unintentional responses.

1.7 Measurement Uncertainty

Measurement uncertainty	
Parameter	Uncertainty
Uncertainty for Radiated Emission in 3m chamber	@30-200MHz $\pm 4.52\text{dB}$ @0.2-1GHz $\pm 5.56\text{dB}$ @1-6GHz $\pm 3.84\text{dB}$ @6-18GHz $\pm 3.92\text{dB}$
Uncertainty for Conducted Emission	@9-150kHz $\pm 3.74\text{dB}$ @0.15-30MHz $\pm 3.34\text{dB}$
Uncertainty for Harmonic test	3.26%
Uncertainty for Flicker test	4.76%
Uncertainty for RS test	21%, k=2
Uncertainty for CS test	29%, k=2
Uncertainty for ESD test	The immunity measurement system uncertainty is within standard requirement and is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%.
Uncertainty for EFT test	
Uncertainty for Surges test	
Uncertainty for Voltage Dips, Voltage Variations and Short Interruptions Test	
Uncertainty for PFMF test	

1.8 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2017-06-12	2018-06-11
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2017-06-12	2018-06-11
Amplifier	Agilent	8447F	3113A06717	2017-06-12	2018-06-11
Amplifier	C&D	PAP-1G18	2002	2017-06-12	2018-06-11
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2017-06-08	2018-06-07
Horn Antenna	ETS	3117	00086197	2017-06-08	2018-06-07
Loop Antenna	Schwarz beck	FMZB 1516	9773	2017-06-08	2018-06-07
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2017-06-12	2018-06-11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2017-06-12	2018-06-11
AC LISN	Schwarz beck	NSLK8126	8126-224	2017-06-12	2018-06-11
DC LISN	Schwarz beck	NNBM8126D	279	2017-06-12	2018-06-11
8-WIRE LISN	Schwarz beck	8158	CAT3-8158-0059	2017-06-12	2018-06-11
8-WIRE LISN	Schwarz beck	8158	CAT5-8158-0117	2017-06-12	2018-06-11
Digital Power Analyzer	California Instrument	PACS-1	72831	2017-06-12	2018-06-11
Power Source	California Instrument	5001iX	25965	2017-06-12	2018-06-11
ESD Generator	LIOGCEL	ESD-203B	0170901	2017-08-15	2018-08-14
Signal Generator	Rohde & Schwarz	SMT03	100059	2017-06-12	2018-06-11
Voltage Probe	Rohde & Schwarz	URV5-Z2	100013	2017-06-12	2018-06-11
Power Amplifier	AR	150W1000	300999	2017-06-12	2018-06-11
Power Amplifier	AR	25S1G4AM1	305993	2017-06-12	2018-06-11
Transient 2000	EMC PARTNER	TRA2000	863	2017-06-12	2018-06-11
CW Simulator	EM Test	CWS 500C	0900-03	2017-06-12	2018-06-11
CDN	Luthi	L-801M2/M3	2665	2017-06-12	2018-06-11
EMC PRO	KEYTEK	EMCPro	0509124	2017-06-12	2018-06-11
Coil	KEYTEK	F-1000-4-8	0533	2017-06-12	2018-06-11

2. SUMMARY OF TEST RESULTS

Standards	Reference	Description of Test Item	Result
Draft ETSI EN 301 489-1	8.2	Radiated Emissions	Pass
	8.3	Conducted Emissions for DC Power Port	N/A
	8.4	Conducted Emissions for AC Power Port	Pass
	8.5	Harmonic Current Emissions	N/A
	8.6	Voltage Fluctuations and Flicker	Pass
	8.7	Telecommunication Ports	N/A
	9.2	Radio Frequency Electromagnetic Field	Pass
	9.3	Electrostatic Discharge	Pass
	9.4	Fast Transients, Common Mode	Pass
	9.5	Radio Frequency, Common Mode	Pass
	9.6	Transient and Surges in the Vehicular Environment	N/A
	9.7	Voltage Dips and Interruptions	Pass
	9.8	Surges	Pass

Pass: The EUT complies with the essential requirements in the standard
 Fail: The EUT does not comply with the essential requirements in the standard
 N/A: not applicable

3. Conducted Emissions

3.1 Measurement Uncertainty

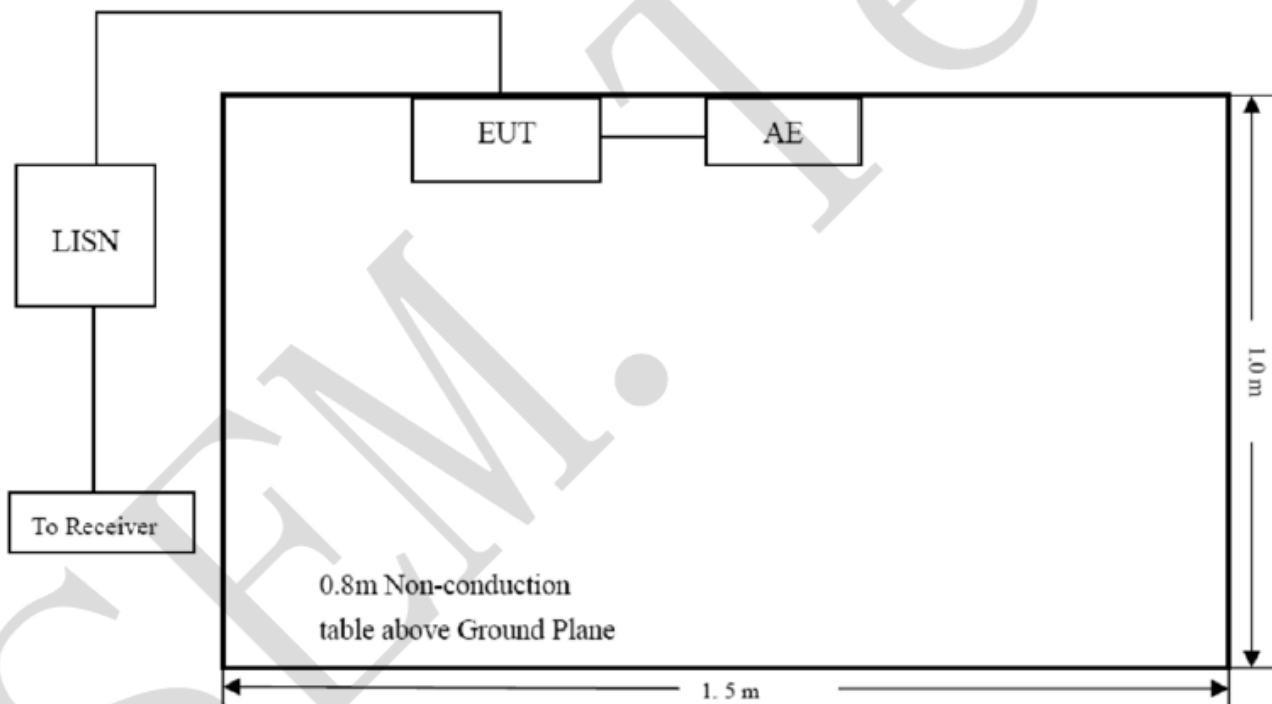
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is

Parameter	Uncertainty
Uncertainty for Conducted Emission	@9-150kHz $\pm 3.74\text{dB}$ @0.15-30MHz $\pm 3.34\text{dB}$

3.2 Test Procedure

Test is conducting under the description of EN55032 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

3.3 Basic Test Setup Block Diagram



3.4 Environmental Conditions

Temperature:	22 ° C
Relative Humidity:	55 %
ATM Pressure:	1015 mbar

3.5 Summary of Test Results/Plots

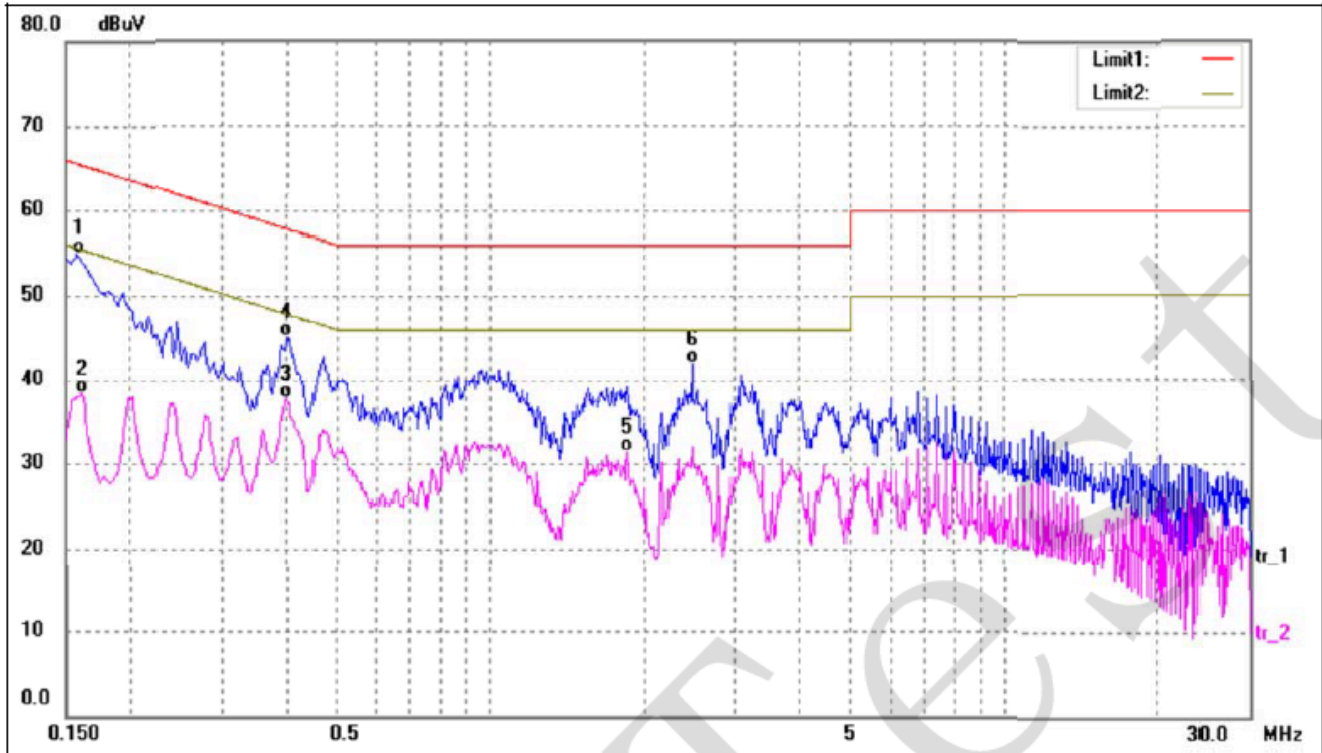
According to the data in section 3.6, the EUT complied with the EN 301489 Conducted margin for a Class B device, with the *worst* margin reading of:

-9.98 dB at 0.1500MHz in the Line, QP detector, 0.15-30MHz

3.6 Conducted Emissions Test Data

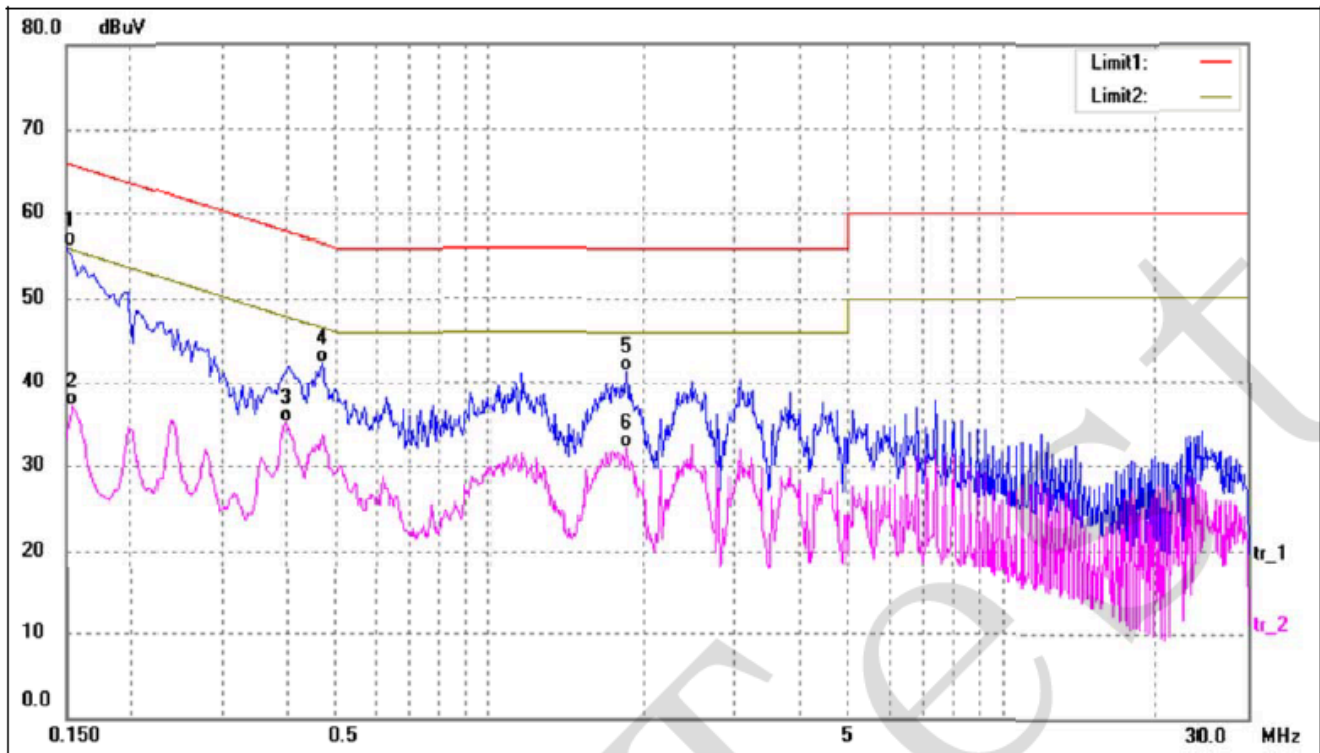
SEM. TEST

Test mode:	TM1	Polarity:	Neutral
------------	-----	-----------	---------



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	45.01	9.84	54.85	65.57	-10.72	QP
2	0.1620	28.56	9.84	38.40	55.36	-16.96	AVG
3*	0.4020	27.93	9.80	37.73	47.81	-10.08	AVG
4	0.4060	35.23	9.80	45.03	57.73	-12.70	QP
5	1.8500	21.65	9.74	31.39	46.00	-14.61	AVG
6	2.4660	32.21	9.72	41.93	56.00	-14.07	QP

Test mode:	TM1	Polarity:	Line
------------	-----	-----------	------



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1500	46.17	9.85	56.02	66.00	-9.98	QP
2	0.1540	27.30	9.85	37.15	55.78	-18.63	AVG
3	0.4020	25.29	9.80	35.09	47.81	-12.72	AVG
4	0.4700	32.53	9.80	42.33	56.51	-14.18	QP
5	1.8500	31.50	9.74	41.24	56.00	-14.76	QP
6	1.8500	22.36	9.74	32.10	46.00	-13.90	AVG

4. Radiated Emissions

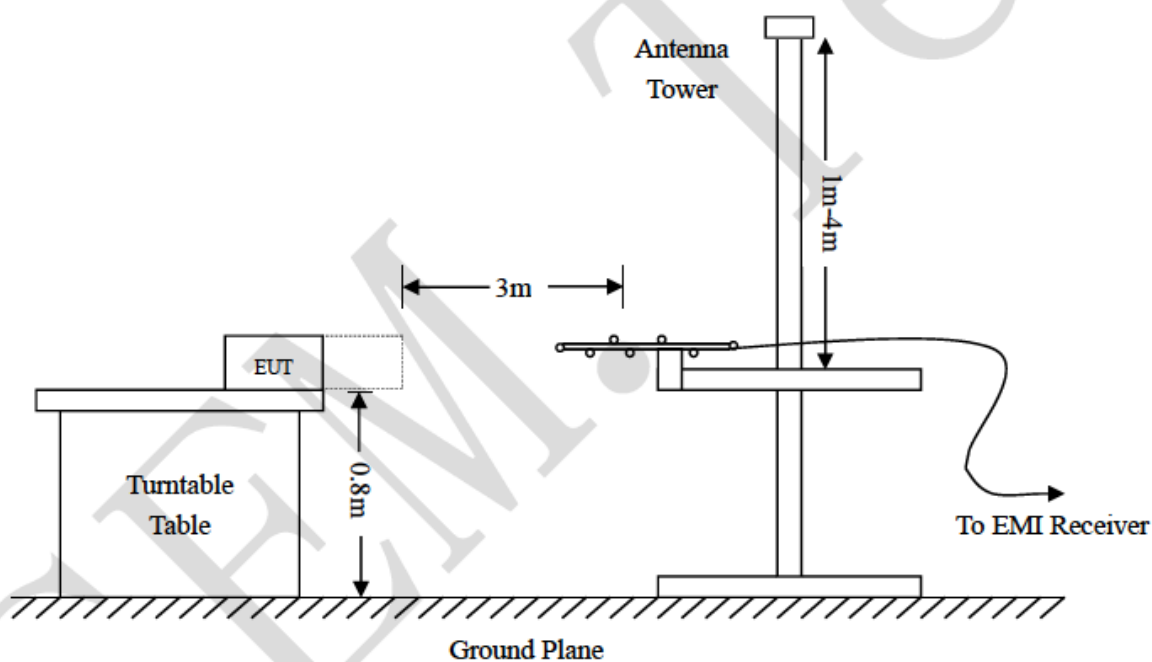
4.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is

Parameter	Uncertainty
Uncertainty for Radiated Emission in 3m chamber	@30-200MHz $\pm 4.52\text{dB}$
	@0.2-1GHz $\pm 5.56\text{dB}$
	@1-6GHz $\pm 3.84\text{dB}$
	@6-18GHz $\pm 3.92\text{dB}$

4.2 Test Procedure

Test is conducting under the description of EN55032 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.



4.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit for Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{EN 301489 Class B Limit}$$

4.4 Environmental Conditions

Temperature:	23° C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

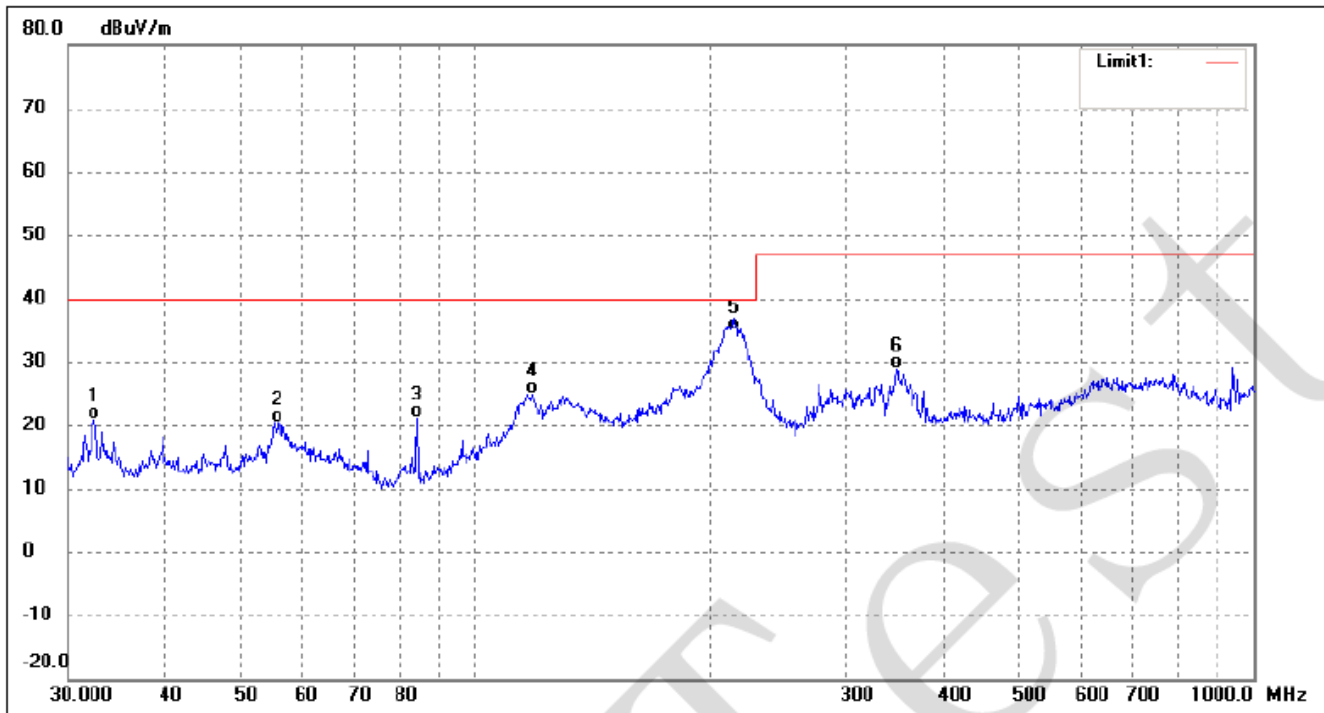
4.5 Summary of Test Results/Plots

According to the data in section 4.5, the EUT complied with the EN 301489 Class B standards, and had the worst margin is:

-4.60dB at 209.3129 MHz in the Vertical polarization 30 MHz to 6 GHz, 3Meters

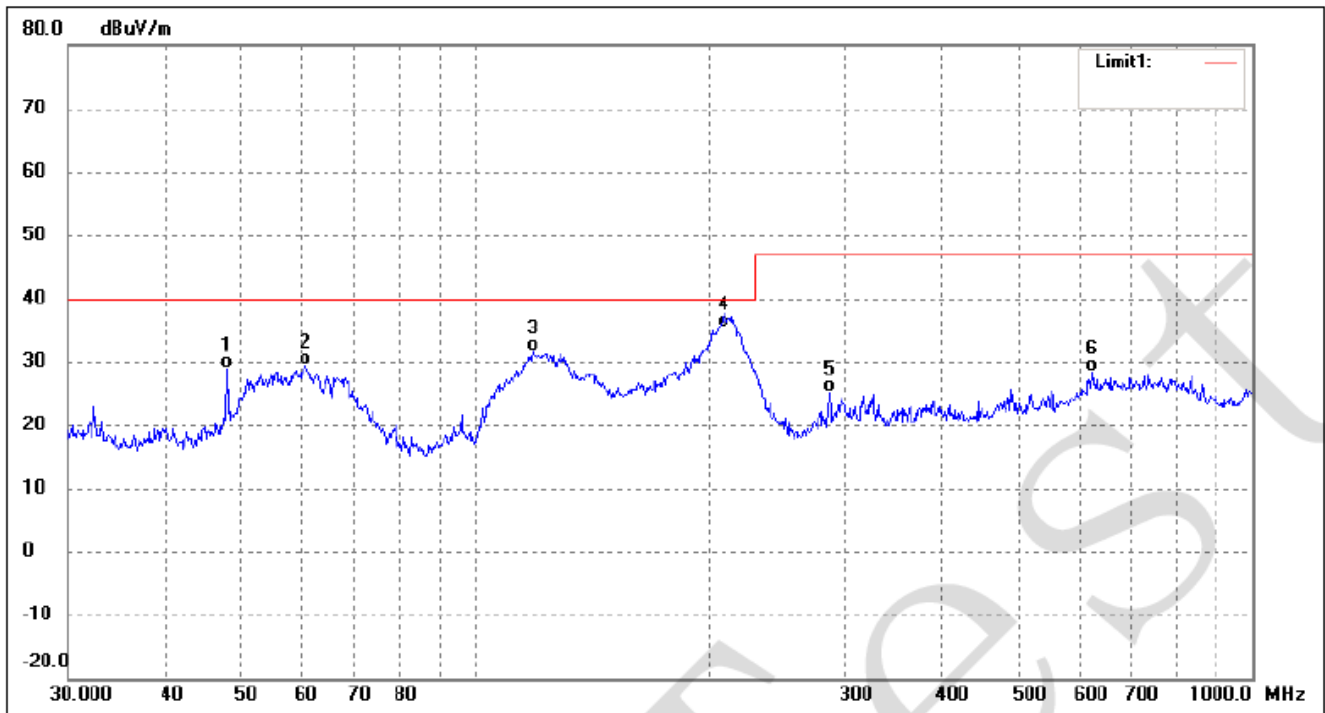
➤ 30MHz to 1GHz

Test mode:	TM1	Polarity:	Horizontal
------------	-----	-----------	------------



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	32.4059	38.62	-17.77	20.85	40.00	-19.15	227	100	QP
2	55.8047	36.97	-16.51	20.46	40.00	-19.54	92	100	QP
3	84.1100	40.35	-19.11	21.24	40.00	-18.76	339	100	QP
4	118.1862	41.52	-16.66	24.86	40.00	-15.14	113	100	QP
5	215.2678	49.68	-14.88	34.80	40.00	-5.20	334	100	QP
6	348.0274	38.30	-9.36	28.94	47.00	-18.06	230	100	QP

Test mode:	TM1	Polarity:	Vertical
------------	-----	-----------	----------



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (*)	Height (cm)	Remark
1	47.9940	45.30	-16.53	28.77	40.00	-11.23	306	100	QP
2	60.7044	46.03	-16.64	29.39	40.00	-10.61	94	100	QP
3	118.6014	48.20	-16.67	31.53	40.00	-8.47	333	100	QP
4	209.3129	51.57	-16.17	35.40	40.00	-4.60	120	100	QP
5	285.9778	35.15	-10.13	25.02	47.00	-21.98	216	100	QP
6	622.8900	29.95	-1.58	28.37	47.00	-18.63	121	100	QP

5. Harmonic Current Emissions

5.1 Test Procedure

Test is conducting under the description of EN61000-3-2.

5.2 Test Standards

EN61000-3-2, Clause 7.1 Limits for Class B equipment.

Environmental Conditions

Temperature:	22 °C
Relative Humidity:	48%
ATM Pressure:	1022 mbar

5.3 Harmonic Current Emissions Test Data

According to Clause 7 of EN61000-3-2, the rated power of the EUT is less than 75W, belong to 'equipment with a rated power of 75W or less', therefore 'limits are not specified in this edition of the standards'. It is deem to full fit the requirements of the standards.

Result: The EUT is compliance with the requirements of this section.

6. Voltage Fluctuation and Flicker

6.1 Test Procedure

Test is conducting under the description of EN61000-3-3.

6.2 Test Standards

EN61000-3-3, Limit: Clause 5.

Environmental Conditions

Temperature:	22 °C
Relative Humidity:	48%
ATM Pressure:	1022 mbar

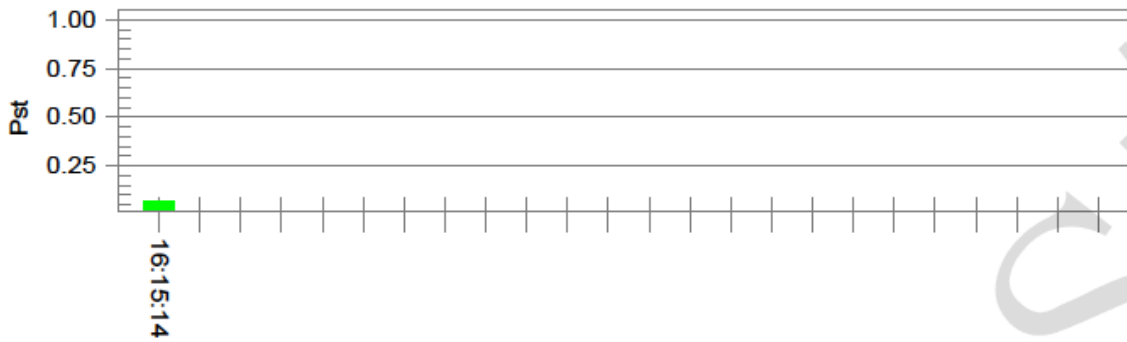
6.3 Voltage Fluctuation and Flicker Test Data

Result: The EUT is compliance with the requirements of this section.

Test mode:	TM1(worst case)
------------	-----------------

Test Result: Pass

Status: Test Completed

Pst and limit line
European Limits

Plt and limit line

Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.84		
T-max (mS):	0	Test limit (mS):	500.0 Pass
Highest dc (%):	0.00	Test limit (%):	3.30 Pass
Highest dmax (%):	0.00	Test limit (%):	4.00 Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000 Pass
Highest Plt (2 hr. period):	0.028	Test limit:	0.650 Pass

7. Electrostatic Discharge (ESD)

7.1 Test Procedure

Test is conducting under the description of IEC61000-4-2.

Test Performance

Performance Criterion: B for TT, TR

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

7.2 Electrostatic Discharge Immunity Test Data

EN 61000-4-2 Test Points	Test Levels (kV)							
	-2	+2	-4	+4	-6	+6	-8	+8
Air Discharge								
Enclosure	A	A	A	A	A	A	A	A
USB Port	B	B	B	B	B	B	B	B
Direct Contact Discharge								
/	/	/	/	/				

EN 61000-4-2 Test Points	Test Levels (kV)							
	Indirect Contact Discharge (HCP)				Indirect Contact Discharge (VCP)			
	-2	+2	-4	+4	-2	+2	-4	+4
Front Side	A	A	A	A	A	A	A	A
Top Side	A	A	A	A	A	A	A	A
Back Side	A	A	A	A	A	A	A	A
Left Side	A	A	A	A	A	A	A	A
Right Side	A	A	A	A	A	A	A	A

Test Result: Pass

8. Radio Frequency Electromagnetic Field (R/S)

8.1 Test Procedure

Test is conducting under the description of IEC61000-4-3.

Test Performance

Performance Criterion: A for CT, CR

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1010 mbar

8.2 Continuous Radiated Disturbances Test Data

Frequency step: 1% of fundamental

Dwell time: 1 second

Modulation: AM by 1kHz sine wave with 80% modulation depth

Frequency Range(MHz)	Field (V/m)	Front		Rear		Left Side		Right Side	
		VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80-1000	3	A	A	A	A	A	A	A	A
1000-3000	3	A	A	A	A	A	A	A	A
3000-6000	3	A	A	A	A	A	A	A	A

Test Result: Pass

9. Fast Transients, Common Mode (EFT)

9.1 Test Procedure

Test is conducting under the description of IEC61000-4-4.

Test Performance

Performance Criterion: B for TT, TR

Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

9.2 Electrical Fast Transients Test Data

EN 61000-4-4 Test Points		Test Levels (kV)							
		+0.5	-0.5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
Power Supply	L1	B	B	B	B	/	/	/	/
	L2	B	B	B	B	/	/	/	/
	PE	/	/	/	/	/	/	/	/
Power Port of EUT	L1+L2	B	B	B	B	/	/	/	/
	L1 + PE	/	/	/	/	/	/	/	/
	L2 + PE	/	/	/	/	/	/	/	/
	L1+L2+PE	/	/	/	/	/	/	/	/
Signal ports		/	/	/	/	/	/	/	/

Test Result: Pass

10. Surges

10.1 Test Procedure

Test is conducting under the description of IEC 61000-4-5.

Test Performance

Performance Criterion: B/C

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

10.2 Surge Test Data

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N	B	/
2	1kV	±	L-N	B	/
3	2kV	±	L-N, L-PE, N-PE	/	/
4	4kV	±	L-N, L-PE, N-PE	/	/

Test Result: Pass

11. Radio Frequency, Common Mode (C/S)

11.1 Test Procedure

Test is conducting under the description of IEC 61000-4-6.

Test Performance

Performance Criterion: A for CT, CR

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

11.2 Continuous Conducted Disturbances Test Data

Sweep frequency range: 150kHz~80MHz

Frequency step: 1% of fundamental

Dwell time: 1 second

Level	Voltage (V) (rms, unmodulated)	Modulation:	Pass	Fail
1	1	AM 80%, 1kHz sinewave	/	/
2	3	AM 80%, 1kHz sinewave	A	/
3	10	AM 80%, 1kHz sinewave	/	/
X	Special	/	/	/

Test Result: Pass

12. Voltage Dips and Interruptions

12.1 Test Procedure

Test is conducting under the description of IEC 61000-4-11.

Test Performance

Performance Criterion: B/C

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

12.2 Voltage Dips And Interruptions Test Data

U: Voltage dips in % U_T (U_T is rated voltage for the EUT)

T: Test duration

Level	U	T	Phase Angle	N	Pass	Fail
1	100%	10ms	0/90/180/270	3	A	/
2	100%	20ms	0/90/180/270	3	A	/
3	30%	500ms	0/90/180/270	3	B	/
4	100%	5000ms	0/90/180/270	3	C	/

Test Result: Pass

EXHIBIT 1 - PRODUCT LABELING

Please refer to “ANNEX_EUT Label & Photos”.

SEM. TEST



Model: PWCP-011

EXHIBIT 2 - EUT PHOTOGRAPHS

Please refer to "ANNEX_EUT Label & Photos".

SEM. Test

Suchen Sie hier nach Werkzeugen.

- PDF-Datei erstellen
- PDF-Datei bearbeiten
- PDF-Datei exportieren
- Komentieren
- Seiten verwalten
- Scans verbessern
- Schützen
- Ausfüllen und unterschreiben
- Formular vorbereiten
- Zum Unterschr. senden
- Senden und verfolgen
- Dateien vergleichen
- Druckproduktion
- Mehr Werkzeuge

Ihr aktueller Plan: Creative Cloud

[Weitere Infos](#)

EXHIBIT 2 - EUT PHOTOGRAPHS

Please refer to “ANNEX_EUT Label & Photos”.

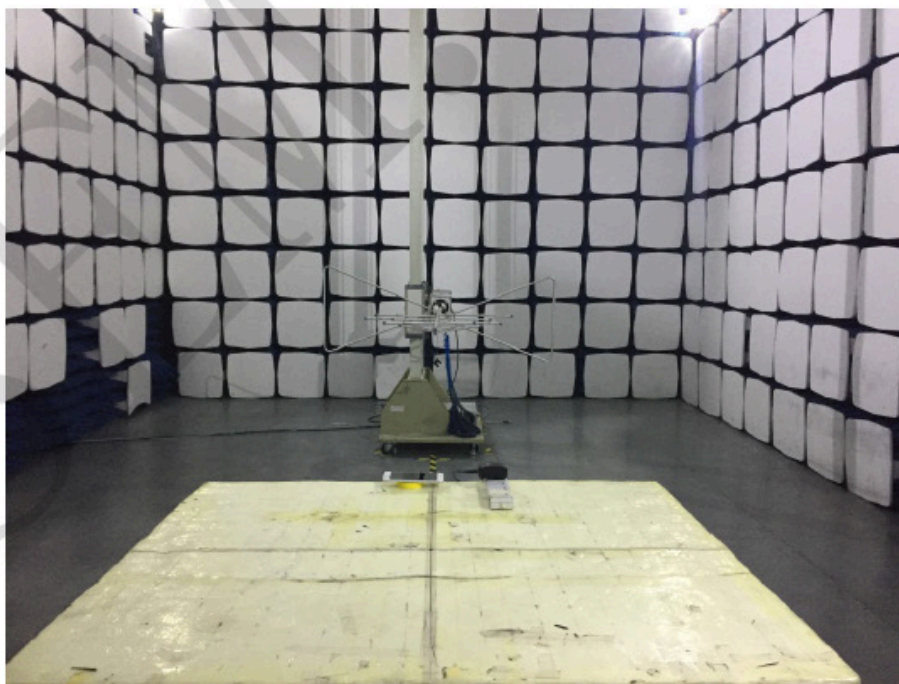
SEM. Test

EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission Test View



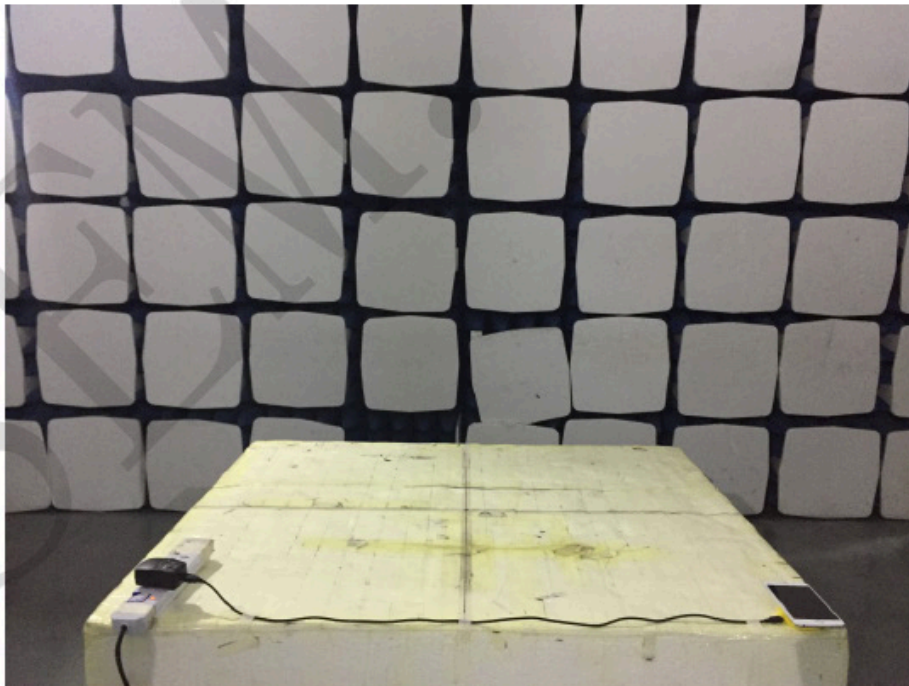
Radiation Emission Test View (Below 1GHz)



Flicker Test View**IEC61000-4-2 Test View**



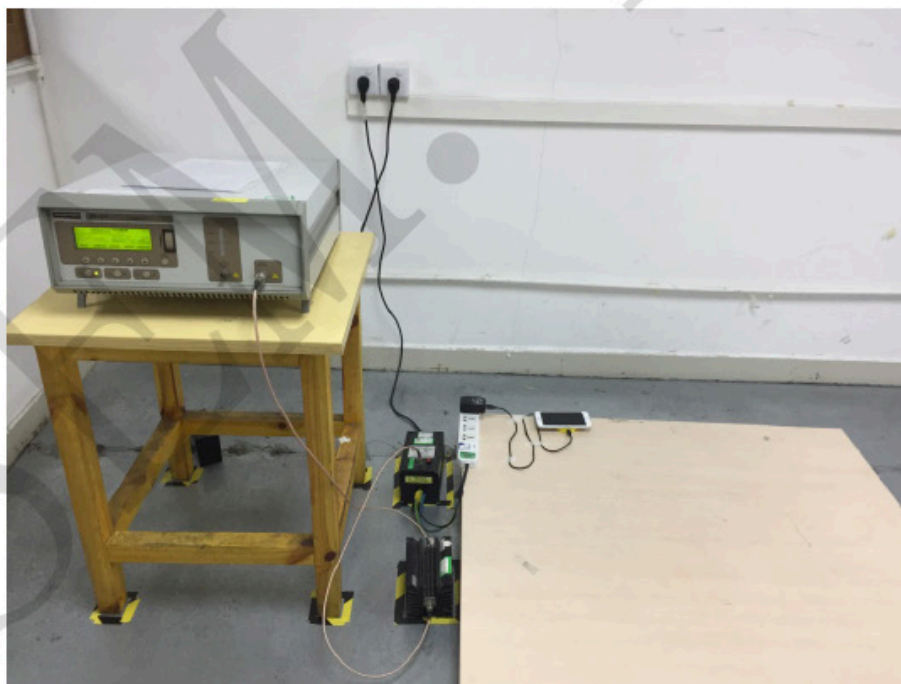
IEC61000-4-3 Test View



IEC61000-4-4/5/11 Test View



IEC61000-4-6 Test View



***** END OF REPORT *****