

EMC Test Report

For

Xu chang shuo niu trade co., LTD

AC EV CHARGER

**Model: ACSN2-7,ACSN2-11,ACSN2-14,ACSN2-22,ACSN2-44,ACSN2-7LD,
ACSN2-11LD,ACSN2-14LD,ACSN2-22LD,ACSN2-44LD,ACSNA-7,
ACSNA-11,ACSNA-14,ACSNA-22,ACSNA-44**

Prepared For : Xu chang shuo niu trade co., LTD
The Intersection Of Jinying Road And Taishan Road, Jinqiao Road
Street, Change City, Xuchang City, Henan Province, China

Prepared By : Beide (Shenzhen) Product Service Limited
China: 6F, Bldg E, Hourui 3rd Ind Zone, Xixiang, Bao'an Dist,
Shenzhen, China

Report Number: B-E210536693
Date of Test: May 21-26, 2021
Date of Report: May 27, 2021

TABLE OF CONTENT

Description	Page
Test Report Declaration	
1. TEST RESULTS SUMMARY	5
2. GENERAL INFORMATION	6
2.1. Report Information	6
2.2. Description of Device (EUT).....	6
2.3. Test Facility	6
2.4. Test Uncertainty.....	6
2.5. Test Condition	7
2.6. Test Conditions.....	7
2.7. Performance Criterion	7
3. TEST INSTRUMENT USED	8
3.1. For Conducted Emission Test.....	8
3.2. For Radiation Emission Test	8
3.3. For Harmonic / Flicker Test	8
3.4. For Electrostatic Discharge Immunity Test.....	8
3.5. For Radio Frequency Electromagnetic Field.....	9
3.6. For Electrical Fast Transient/Burst Test.....	9
3.7. For Surge Test.....	9
3.8. For Injected Currents Susceptibility Test	9
3.9. For Voltage Dips and Interruptions Test	9
4. POWER LINE CONDUCTED EMISSION TEST	10
4.1. Block Diagram of Test Setup	10
4.2. Test Standard	10
4.3. Power Line Conducted Emission Limit.....	10
4.4. EUT Configuration on Test	10
4.5. Operating Condition of EUT	11
4.6. Test Procedure	11
4.7. Power Line Conducted Emission Test Results	11
5. RADIATION EMISSION TEST	12
5.1. Block Diagram of Test Setup	12
5.2. Test Standard	12
5.3. Radiation Emission Limit	12
5.4. EUT Configuration on Test	12
5.5. Operating Condition of EUT	13
5.6. Test Procedure	13
5.7. Radiation Emission Test Results	13
6. HARMONIC CURRENT EMISSION TEST	14
6.1. Block Diagram of Test Setup	14
6.2. Test Standard	14
6.3. Operating Condition of EUT	14
6.4. Test Results.....	14
7. VOLTAGE FLUCTUATIONS & FLICKER TEST	15
7.1. Block Diagram of Test Setup	15
7.2. Test Standard	15
7.3. Operating Condition of EUT	15
7.4. Test Results.....	15
8. ELECTROSTATIC DISCHARGE TEST	16
8.1. Block Diagram of Test Setup	16
8.2. Test Standard	16
8.3. Severity level and Performance criterion.....	17
8.4. EUT Configuration on Test	17

8.5. Operating Condition of EUT	17
8.6. Test Procedure	17
8.7. Test Results.....	17
9. RF FIELD STRENGTH SUSCEPTIBILITY TEST	19
9.1. Block Diagram of Test Setup	19
9.2. Test Standard	19
9.3. Severity level and Performance criterion.....	19
9.4. EUT Configuration on Test	19
9.5. Operating Condition of EUT	19
9.6. Test Procedure	20
9.7. Test Results.....	20
10. ELECTRICAL FAST TRANSIENT/BURST TEST	22
10.1. Block Diagram of Test Setup.....	22
10.2. Test Standard	22
10.3. Severity level and Performance criterion.....	22
10.4. EUT Configuration on Test	22
10.5. Operating Condition of EUT	23
10.6. Test Procedure	23
10.7. Test Results.....	23
11. SURGE TEST.....	25
11.1. Block Diagram of Test Setup.....	25
11.2. Test Standard	25
11.3. Severity level and Performance criterion.....	25
11.4. EUT Configuration on Test	25
11.5. Operating Condition of EUT	25
11.6. Test Procedure	26
11.7. Test Results.....	26
12. INJECTED CURRENTS SUSCEPTIBILITY TEST	28
12.1. Block Diagram of Test Setup.....	28
12.2. Test Standard	28
12.3. Severity Levels and Performance Criterion.....	28
12.4. EUT Configuration on Test	28
12.5. Operating Condition of EUT	28
12.6. Test Procedure	29
12.7. Test Results.....	29
13. VOLTAGE DIPS AND INTERRUPTIONS TEST	31
13.1. Block Diagram of Test Setup.....	31
13.2. Test Standard	31
13.3. Severity level and Performance criterion.....	31
13.4. EUT Configuration	31
13.5. Operating Condition of EUT	32
13.6. Test Procedure	32
13.7. Test Results.....	32
APPENDIX I (TEST DATA)	(6 pages)
APPENDIX II (EUT PHOTOS)	(3 pages)

TEST REPORT DECLARATION

Applicant : Xu chang shuo niu trade co., LTD
Address : The Intersection Of Jinying Road And Taishan Road, Jinqiao Road Street,
Changge City, Xuchang City, Henan Province, China
Client No. : 0374C569
Manufacturer : Same As Holder
EUT Description : AC EV CHARGER
Model No. : ACSN2-7,ACSN2-11,ACSN2-14,ACSN2-22,ACSN2-44,ACSN2-7LD,
ACSN2-11LD,ACSN2-14LD,ACSN2-22LD,ACSN2-44LD,ACSNA-7,
ACSNA-11,ACSNA-14,ACSNA-22,ACSNA-44
Remark : Use ACSN2-22 do all the tests.
Rating Supply : Input:380V~,50/60Hz,32A
Output:380V,32A

Test Procedure Used:

EN 61000-6-3:2007+A1:2011;
EN IEC 61000-6-1:2019 (EN 61000-4-2:2009, EN 61000-4-3:2006+A2:2010,
EN 61000-4-4:2012, EN 61000-4-5:2014+A1:2017,
EN 61000-4-6:2014+AC:2015, EN 61000-4-11:2004+A1:2017)

The device described above is tested by Beide (Shenzhen) Product Service Limited to determine the maximum emission levels emanating from the device, the severe levels which the device can endure and EUT's performance criterion. The test results are contained in this test report. Beide (Shenzhen) Product Service Limited is assumed of full responsibility for the accuracy and completeness of these tests.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Beide (Shenzhen) Product Service Limited.

Note: P=PASS, F=Fail, N/A= Not Applicable

Date of Test : May 21-26, 2021

Prepared by : Sophia jiang
(Sophia jiang)

Checked by : Austin zhong
(Austin zhong)

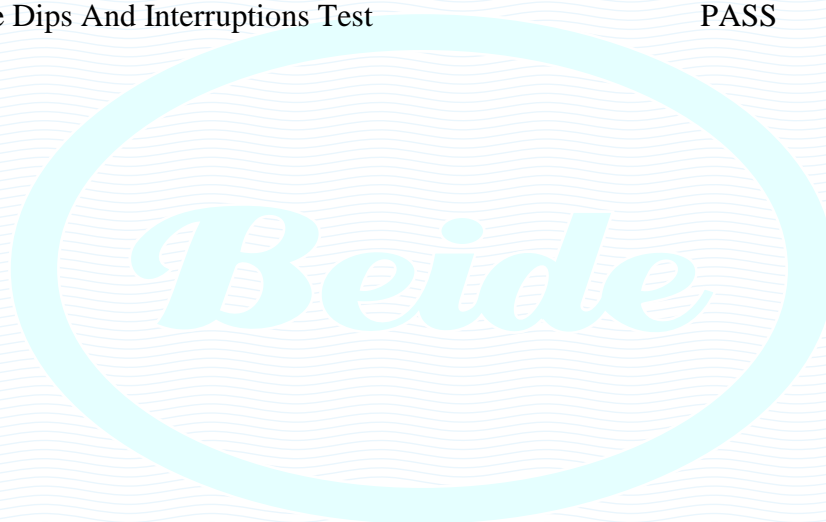
Approved by : Martin wang
(Martin wang)



1. TEST RESULTS SUMMARY

Test Results Summary

Test Items	Test Results
1 Conducted Disturbance Test	PASS
2 Radiation Emission Test	PASS
3 Harmonic Current Emission Test	N/A
4 Voltage Fluctuations & Flicker Test	N/A
5 Electrostatic Discharge Test	PASS
6 Radio Frequency Electromagnetic Field	PASS
7 Electrical Fast Transient/Burst Test	PASS
8 Surge Test	PASS
9 Injected Currents Susceptibility Test	PASS
10 Voltage Dips And Interruptions Test	PASS



2.GENERAL INFORMATION

2.1.Report Information

2.1.1. This report is not a certificate of quality, it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BEIDE approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BEIDE in any way guarantees the later performance of the product/equipment.

2.1.2. The sample/s mentioned in this report is/are supplied by applicant, BEIDE therefore assumes no responsibility for the accuracy of information on the brand names, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the applicant at an additional fee. No third part can obtain a copy of this report through BEIDE, unless the applicant has authorized BEIDE in writing to do so.

2.2.Description of Device (EUT)

Description : AC EV CHARGER

Number Model : ACSN2-22

Applicant : Xu chang shuo niu trade co., LTD
The Intersection Of Jinying Road And Taishan Road, Jinqiao Road
Street, Change City, Xuchang City, Henan Province, China

Manufacturer : Xu chang shuo niu trade co., LTD
The Intersection Of Jinying Road And Taishan Road, Jinqiao Road
Street, Change City, Xuchang City, Henan Province, China

2.3.Test Facility

Site Description

Tested by : Beide (Shenzhen) Product Service Limited

Site Location : China: 6F, Bldg E, Hourui 3rd Ind Zone, Xixiang, Bao'an Dist, Shenzhen,
China

2.4.Test Uncertainty

Conducted Emission Uncertainty = ± 2.66 dB

Radiated Emission Uncertainty = ± 4.26 dB

2.5. Test Condition

Test Mode: ON

2.6. Test Conditions

Temperature: 22°C-28°C

Relative Humidity: 45%-68%

2.7. Performance Criterion

Performance criterion **A**:

The equipment shall continue to operate as intended during the test.

No change of actual operating state (for example change of channel) is allowed as a result of the application of the test.

Multifunction equipment shall for each function meet the relevant requirements.

Evaluation is carried out for audio and video functions.

Performance criterion **B**:

The equipment shall continue to operate as intended after the test. No loss of function is allowed after the test when the apparatus is used as intended. But failures which are recovered automatically but which cause temporary delay in processing, are permissible. No change of actual operating state for example change of channel or stored data and settings is allowed as a result of the application of the test. During the test, degradation of performance is allowed.

3. TEST INSTRUMENT USED

3.1. For Conducted Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Aglient	E4402B-ESA	US1192821	2020.07.15	1 Year
2.	EMI Test Receiver	ROHDE&SCHWARZ	ESPI	101206	2020.07.15	1 Year
3.	L.I.S.N.	SCHWARZBECK	NSLK8126	8126-224	2020.07.15	1 Year
4.	L.I.S.N.	EMCO	3825/2	11977C	2020.07.15	1 Year

3.2. For Radiation Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Rohde&schwarz	FSEA20	DE25181	2020.07.15	1 Year
2.	Positioning Controller	C&C	CC-C-1F	N/A	2020.07.15	1 Year
3.	Trilog Broadband Antenna	Schwarzbeck	VULB9163	9163-333	2020.07.15	1 Year
4.	Horn Antenna	Schwarzbeck	BBHX9120	9120-426	2020.07.15	1 Year
5.	RF Switch	EM	EMSW18	SW060023	2020.07.15	1 Year
6.	Amplifier	Agilent	8447F	3113A06717	2020.07.15	1 Year
7.	Coaxial Cable	Schwarzbeck	AK9513	9513-10	2020.07.15	1 Year
8.	EMI Test Receiver	Rohde&schwarz	ESPI	25498514	2020.07.15	1 Year

3.3. For Harmonic / Flicker Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Conditioning Unit	SCHAFFNER	CCN1000-1	23980/7	2020.07.15	1 Year
2.	Signal Phase Impedance Network	SCHAFFNER	INA2152	0929-2	2020.07.15	1 Year
3.	20KVA AC Power Source	SCHAFFNER	NSG1007	2983332	2020.07.15	1 Year

3.4. For Electrostatic Discharge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Tester	Noiseken	ESS-200AX	0223	2020.07.15	1 Year

3.5. For Radio Frequency Electromagnetic Field

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Generator	IFR	2032	203002/100	2020.07.15	1 Year
2.	Amplifier	A&R	150W1000	301584	2020.07.15	1 Year
3.	Dual Directional Coupler	A&R	DC6080	301508	2020.07.15	1 Year
4.	Power Head	A&R	PH2000	301193	2020.07.15	1 Year
5.	Power Meter	A&R	PM2002	302799	2020.07.15	1 Year
6.	Field Monitor	A&R	FM5004	300329	2020.07.15	1 Year
7.	Field Probe	A&R	FP5000	300221	2020.07.15	1 Year

3.6. For Electrical Fast Transient/Burst Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Ultra Compact Simulator	EM TEST	UCS500M6	0500-19	2020.07.15	1 Year

3.7. For Surge Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Surge Tester	HAEFELY	PSURGE4.1	080107-04	2020.07.15	1 Year

3.8. For Injected Currents Susceptibility Test

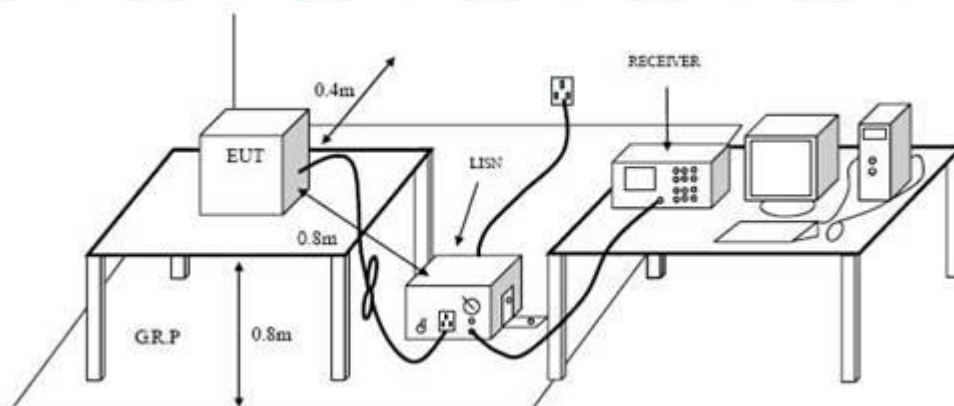
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Generator	IFR	2032	203002/100	2020.07.15	1 Year
2.	Amplifier	A&R	150W1000	301584	2020.07.15	NCR

3.9. For Voltage Dips and Interruptions Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Dips Tester	HEAFELY	PLINE 1610	083732-18	2020.07.15	1 Year

4. POWER LINE CONDUCTED EMISSION TEST

4.1. Block Diagram of Test Setup



4.2. Test Standard

EN 61000-6-3:2007+A1:2011

4.3. Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μ V)	
	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.

4.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet the test requirement and operating in a manner, which tends to maximize its emission characteristics in a normal application.

4.4.1. AC EV CHARGER

Model Number : ACSN2-22
Manufacturer : Xu chang shuo niu trade co., LTD

4.5. Operating Condition of EUT

4.5.1. Setup the EUT and simulators as shown in Section 4.1.

4.5.2. Turn on the power of all equipments.

4.5.3. Let the EUT work in test mode (ON) and test it.

4.6. Test Procedure

The EUT is put on the ground and connected to the AC mains through an Artificial Mains Network (L.I.S.N.). This provided 50ohm-coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the EN 61000-6-3 regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESPI) is set at 10kHz.

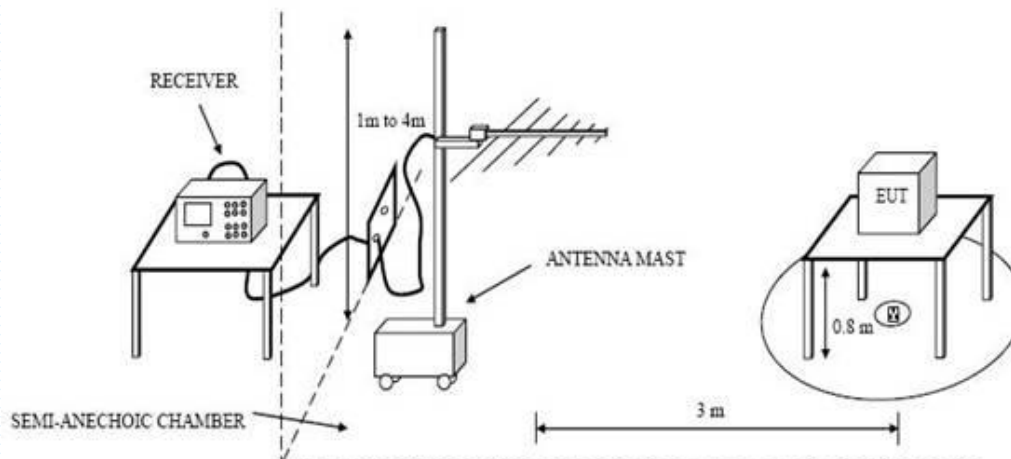
The frequency range from 150 kHz to 30 MHz is investigated. The scanning waveform are attached within Appendix I.

4.7. Power Line Conducted Emission Test Results

PASS

5. RADIATION EMISSION TEST

5.1. Block Diagram of Test Setup



5.2. Test Standard

EN 61000-6-3:2007+A1:2011

5.3. Radiation Emission Limit

All emanations from a Class B computing devices or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dB μ V/m)
30 ~ 230	3	40
230 ~ 1000	3	47

- Notes: 1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

5.4. EUT Configuration on Test

The test Class B regulations test method must be used to find the maximum emission during radiated emission test.

The configuration of EUT is same as used in the test.

5.5.Operating Condition of EUT

- 5.5.1. Setup the EUT as shown on Section 5.1.
- 5.5.2. Turn on the power of all equipments.
- 5.5.3. Let the EUT work in test mode (ON) and measure it and test it.

5.6.Test Procedure

The EUT is placed on a turn table which is 0.8 meter 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 move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna(calibrated by dipole antenna) are used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

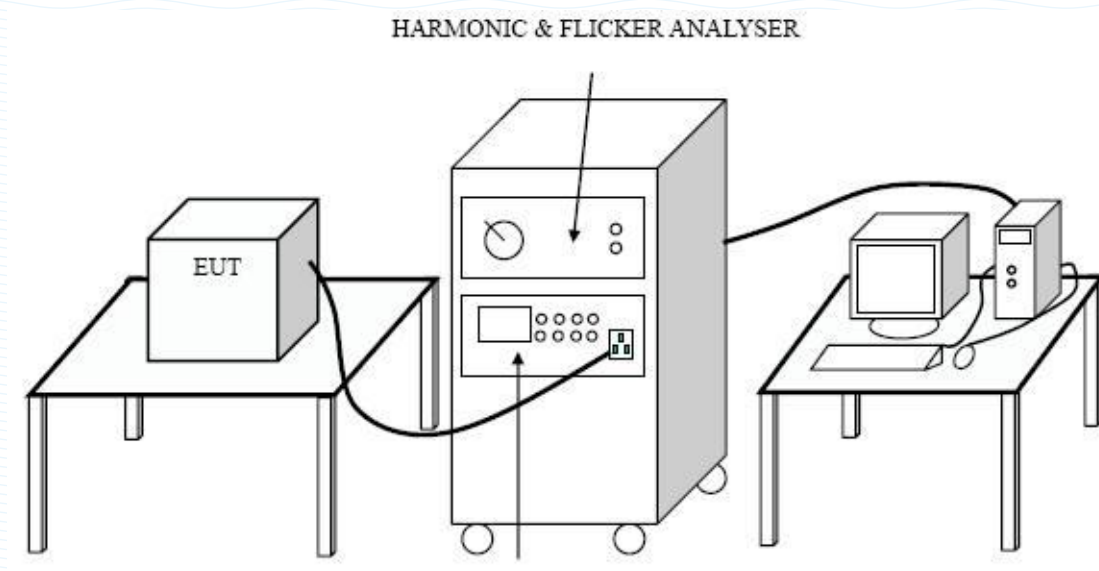
The bandwidth setting on the test receiver(R&S TEST RECEIVER ESPI) is 120kHz. The EUT is tested in Anechoic Chamber.

5.7.Radiation Emission Test Results

PASS

6.HARMONIC CURRENT EMISSION TEST

6.1.Block Diagram of Test Setup



6.2.Test Standard

EN IEC 61000-3-2:2019, Class-A

6.3.Operating Condition of EUT

Same as Section 4.5 except the test set up replaced by Section 6.1.

6.4.Test Results

N/A

The current is greater than 16A

7.VOLTAGE FLUCTUATIONS & FLICKER TEST

7.1.Block Diagram of Test Setup

Same as Section 6.1.

7.2.Test Standard

EN 61000-3-3:2013+A1:2019

7.3.Operating Condition of EUT

Same as Section 4.5 except the test set up replaced by Section 7.1.

7.4.Test Results

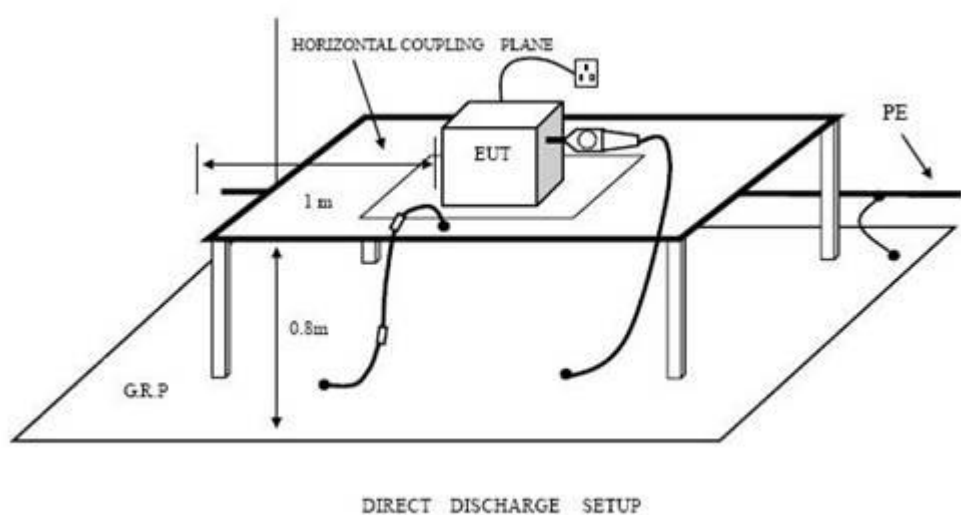
N/A



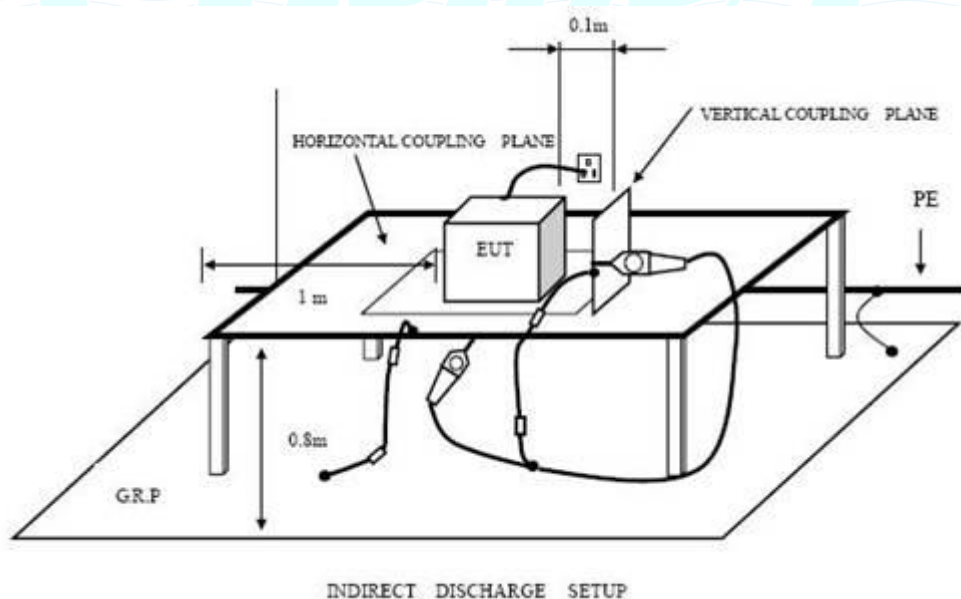
8.ELECTROSTATIC DISCHARGE TEST

8.1.Block Diagram of Test Setup

8.1.1. Block Diagram of ESD Test Setup (Direct Discharge)



8.1.2. Block Diagram of ESD Test Setup (Indirect Discharge)



8.2.Test Standard

EN IEC 61000-6-1:2019 (EN 61000-4-2:2009)
Severity Level 3 for Air Discharge at 8kV
Severity Level 2 for Contact Discharge at 4kV

8.3. Severity level and Performance criterion

Severity level

Level	Test Voltage Contact Discharge (kV)	Test Voltage Air Discharge (kV)
1.	2	2
2.	4	4
3.	6	8
4.	8	15
X.	Special	Special

Performance criterion: **B**

8.4. EUT Configuration on Test

The configuration of EUT is listed in Section 4.4.

8.5. Operating Condition of EUT

8.5.1. Setup the EUT as shown in Section 4.5. except the test set up replaced by section 8.1.

8.6. Test Procedure

8.6.1. Air Discharge:

This test is done on non-conductive surfaces. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT.

After each discharge, the discharge electrode shall be removed from the EUT.

The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

8.6.2. Contact Discharge:

All the procedure shall be same as Section 8.6.1 except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

8.7. Test Results

PASS

Please refer to the following page.

Electrostatic Discharge Test Results

Beide (Shenzhen) Product Service Limited

Date: May 25, 2021

Applicant : Xu chang shuo niu trade co., LTD	Test Date : May 25, 2021
EUT : AC EV CHARGER	Temperature : 24°C
M/N : ACSN2-22	Humidity : 49%
Power Supply : AC380V,50Hz	Test Mode : ON
Test Engineer : Jack	

Air Discharge: ±8kV For each point positive 10 times and negative 10 times

Contact Discharge: ±4kV

Location		Kind	Result
		A-Air Discharge C-Contact Discharge	
Slots	5 points	A	PASS
Surface	5 points	A	PASS
Screw	10 points	A	PASS
HCP	5 points	C	PASS
VCP	5 points	C	PASS

Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).

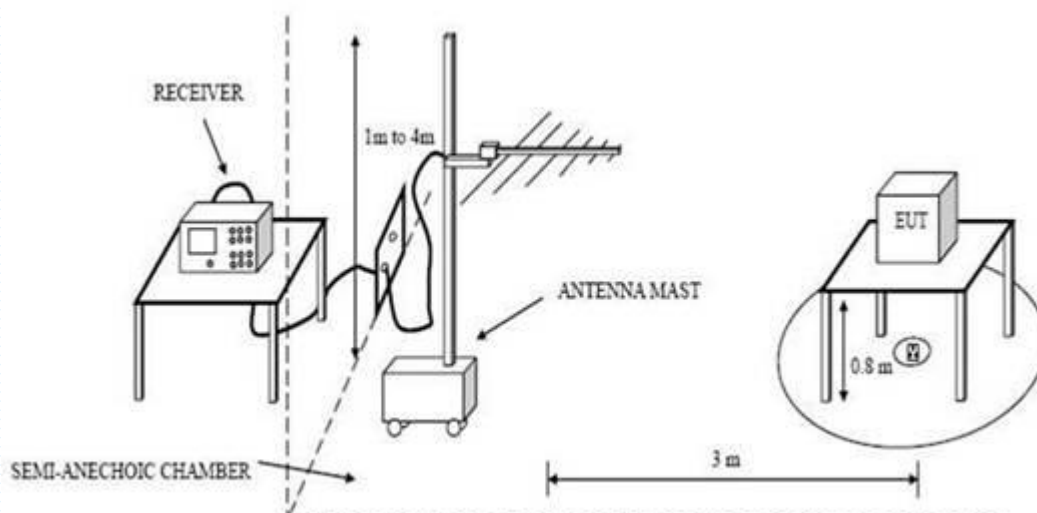
Reviewer:

Justin Zhang

9. RF FIELD STRENGTH SUSCEPTIBILITY TEST

9.1. Block Diagram of Test Setup

9.1.1. Block diagram of Test Setup



9.2. Test Standard

EN IEC 61000-6-1:2019 (EN 61000-4-3:2006+A2:2010)
Severity Level 2 at 3V/m

9.3. Severity level and Performance criterion

9.3.1. Severity level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X.	Special

Performance criterion : A

9.4. EUT Configuration on Test

The configuration of EUT is listed in Section 4.4.

9.5. Operating Condition of EUT

Setup the EUT as shown in Section 9.1. The operating condition of EUT is listed in section 4.5.

9.6. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above the ground. The EUT is set 3 meters away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD camera is used to monitor the EUT. All the scanning conditions are as follows:

Condition of Test	Remarks
Fielded Strength	3 V/m (Severity Level 2)
Radiated Signal	Modulated
Scanning Frequency	--
Sweeping time of radiated	0.0015 decade/s
Dwell Time	1 Sec.

9.7. Test Results

PASS

Please refer to the following page.

RF Field Strength Susceptibility Test Results

Beide (Shenzhen) Product Service Limited

Date: May 25, 2021

Applicant	: Xu chang shuo niu trade co., LTD	Test Date	: May 25, 2021
EUT	: AC EV CHARGER	Temperature	: 24°C
M/N	: ACSN2-22	Humidity	: 49%
Power Supply	: AC380V,50Hz	Test Mode	: ON
Test Engineer	: Jack	Frequency Range	: --
Modulation:	<input checked="" type="checkbox"/> AM	<input type="checkbox"/> Pulse	<input type="checkbox"/> none 1 kHz 80%
Criterion : A			
	Frequency Range: 80 MHz-1000 MHz,1.4 GHz-6.0 GHz		
Steps	1%	1%	
	Horizontal	Vertical	
Front	Pass	Pass	
Right	Pass	Pass	
Rear	Pass	Pass	
Left	Pass	Pass	

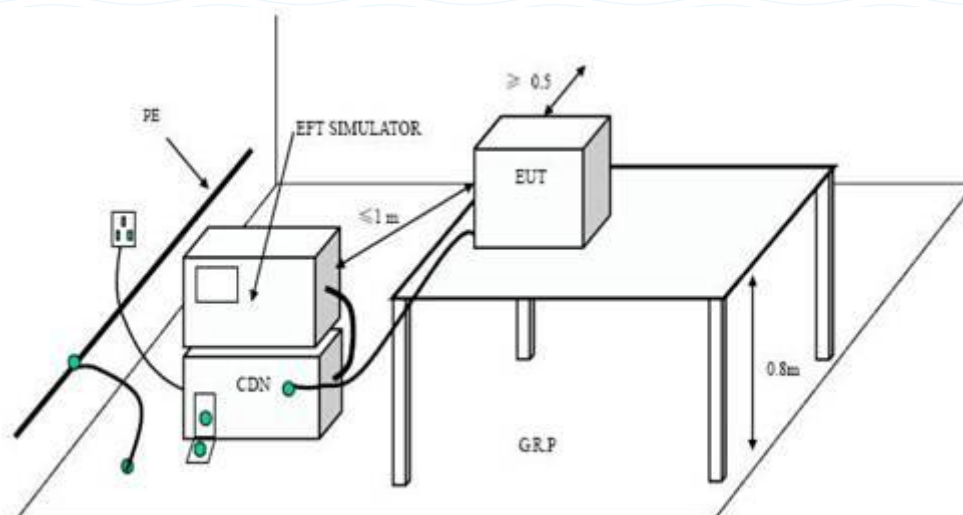
Reviewer :

Austin Zhang

10. ELECTRICAL FAST TRANSIENT/BURST TEST

10.1. Block Diagram of Test Setup

10.1.1. Block diagram of Test Setup



10.2. Test Standard

EN IEC 61000-6-1:2019 (EN 61000-4-4:2012)
Severity Level 2 at 1kV

10.3. Severity level and Performance criterion

10.3.1. Severity level

Level	Open Circuit Output Test Voltage $\pm 10\%$	
	On Power Supply Lines	On I/O (Input/Output) Signal data and control lines
1.	0.5 kV	0.25 kV
2.	1 kV	0.5 kV
3.	2 kV	1 kV
4.	4 kV	2 kV
X	Special	Special

Performance criterion : **B**

10.4. EUT Configuration on Test

The configuration of EUT is listed in Section 4.4.

10.5. Operating Condition of EUT

Setup the EUT as shown in Section 10.1. The operating condition of EUT is listed in section 4.5.

10.6. Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground reference plane which is a min 1m*1m metallic sheet with 0.65mm minimum thickness. This reference ground plane shall project beyond the EUT by at least 0.8m on all sides and the minimum distance between the EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

10.6.1. For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 mins.

10.6.2. For signal lines and control lines ports:

It's unnecessary to test.

10.6.3. For DC output line ports:

It's unnecessary to test.

10.7. Test Results

PASS

Please refer to the following page.

Electrical Fast Transient/Burst Test Results

Beide (Shenzhen) Product Service Limited

Date: May 25, 2021

Applicant	: Xu chang shuo niu trade co., LTD	Test Date	: May 25, 2021
EUT	: AC EV CHARGER	Temperature	: 24°C
M/N	: ACSN2-22	Humidity	: 49%
Power Supply	: AC380V,50Hz	Test Mode	: ON
Test Engineer	: Jack		

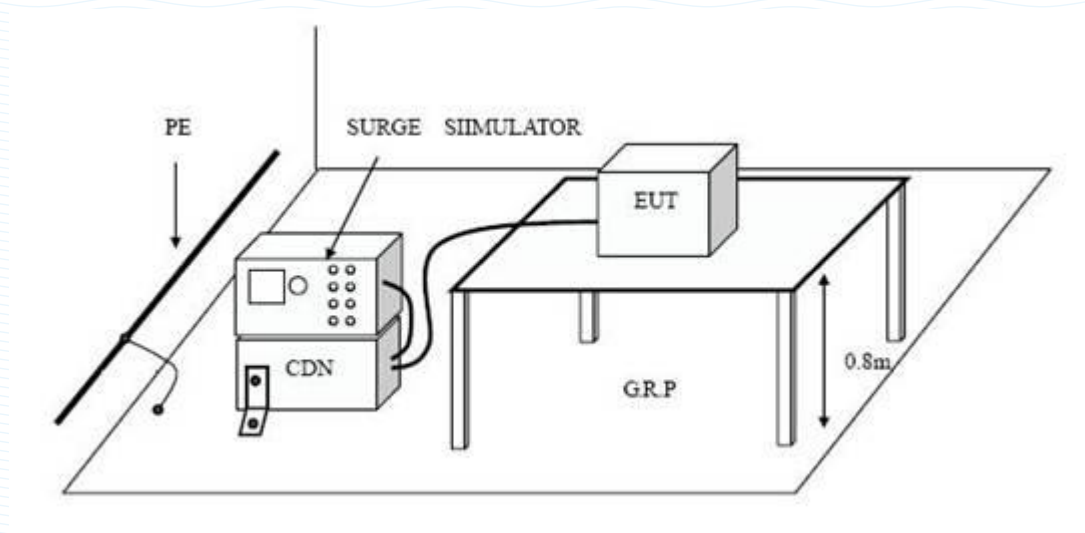
Inject Place : AC Mains									
Inject Line	Voltage kV	Inject Time(s)	Inject Method	Results	Inject Line	Voltage kV	Inject Time(s)	Inject Method	Results
L1	±1	120	Direct	PASS					
L2	±1	120	Direct	PASS					
L3	±1	120	Direct	PASS					
N	±1	120	Direct	PASS					
L1+L2+L3+N+PE	±1	120	Direct	PASS					

Reviewer: Austin Zhang

11. SURGE TEST

11.1. Block Diagram of Test Setup

11.1.1. Block diagram of Test Setup



11.2. Test Standard

EN IEC 61000-6-1:2019 (EN 61000-4-5:2014+A1:2017)

Severity Level 2 at 1kV for line-line, Severity Level 3 at 2 kV for line-earth

11.3. Severity level and Performance criterion

11.3.1. Severity level

Severity Level	Open-Circuit Test Voltage kV
1	0.5
2	1.0
3	2.0
4	4.0
*	Special

Performance criterion: **B**

11.4. EUT Configuration on Test

The configuration of EUT is listed in Section 4.4.

11.5. Operating Condition of EUT

Setup the EUT as shown in Section 11.1. The operating condition of EUT is listed in section 4.5.

11.6. Test Procedure

- 1) Set up the EUT and test generator as shown on section 11.1.
- 2) For line to line coupling mode, provide a 1kV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.
- 3) At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
- 4) Different phase angles are done individually.
- 5) Repeat procedure 2) to 4) except the open-circuit test voltage change from 1kV to 2kV for line to earth coupling mode test.
- 6) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

11.7. Test Results

PASS

Please refer to the following page.



Beide

Surge Immunity Test Results

Beide (Shenzhen) Product Service Limited.

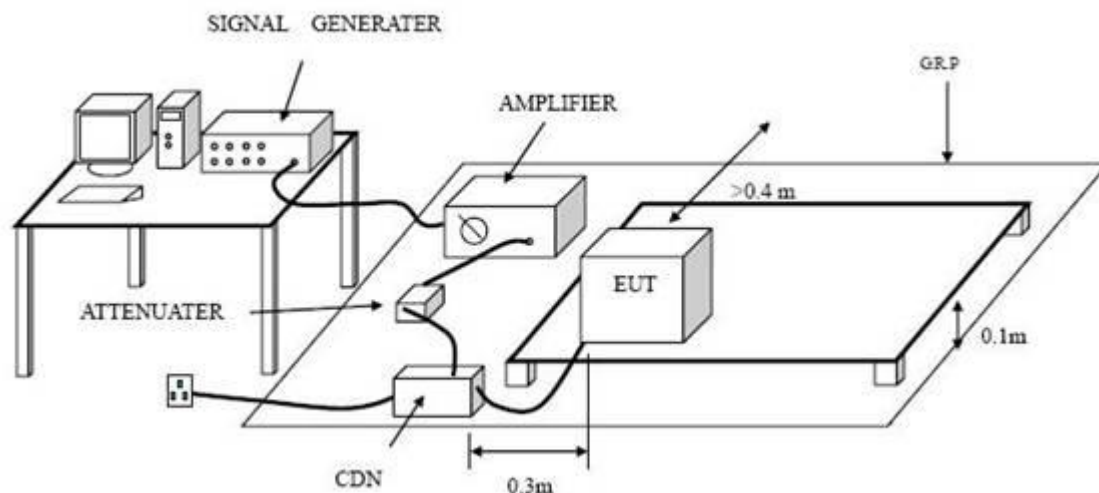
Date: May 25, 2021

Applicant : <u>Xu chang shuo niu trade co., LTD</u>	Test Date : <u>May 25, 2021</u>
EUT : <u>AC EV CHARGER</u>	Temperature : <u>24°C</u>
M/N : <u>ACSN2-22</u>	Humidity : <u>49%</u>
Power Supply : <u>AC380V,50Hz</u>	Test Mode : <u>ON</u>

Location	Polarity	Phase Angle	No of Pulse	Pulse Voltage (kV) IEC 61000-4-5	Result
L1+L2	±	0	5	0.5	Pass
	±	90	5	0.5	Pass
	±	180	5	0.5	Pass
	±	270	5	0.5	Pass
L2+L3	±	0	5	0.5	Pass
	±	90	5	0.5	Pass
	±	180	5	0.5	Pass
	±	270	5	0.5	Pass
L1+ L3	±	0	5	0.5	Pass
	±	90	5	0.5	Pass
	±	180	5	0.5	Pass
	±	270	5	0.5	Pass
L1+PE	±	0	5	1	Pass
	±	90	5	1	Pass
	±	180	5	1	Pass
	±	270	5	1	Pass
L2+PE	±	0	5	1	Pass
	±	90	5	1	Pass
	±	180	5	1	Pass
	±	270	5	1	Pass
L3+PE	±	0	5	1	Pass
	±	90	5	1	Pass
	±	180	5	1	Pass
	±	270	5	1	Pass
N+PE	±	0	5	1	Pass
	±	90	5	1	Pass
	±	180	5	1	Pass
	±	270	5	1	Pass
L1+ L2+ L3+N+PE	±	0	5	1	Pass
	±	90	5	1	Pass
	±	180	5	1	Pass
	±	270	5	1	Pass

12. INJECTED CURRENTS SUSCEPTIBILITY TEST

12.1. Block Diagram of Test Setup



12.2. Test Standard

EN IEC 61000-6-1:2019 (EN 61000-4-6:2014+AC:2015)
Severity Level 2 at 3V (rms), 0.15MHz ~ 80MHz

12.3. Severity Levels and Performance Criterion

12.3.1 Severity level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X	Special

Performance criterion: A

12.4. EUT Configuration on Test

The configuration of EUT is listed in Section 4.4.

12.5. Operating Condition of EUT

12.5.1 Setup the EUT as shown in Section 12.1.

12.5.2 Turn on the power of all equipments.

12.6. Test Procedure

- 1) Set up the EUT, CDN and test generators as shown on Section 12.1.
- 2) Let the EUT work in test mode and test it.
- 3) The EUT are placed on an insulating support 0.8m high above a ground reference plane. CDN(coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).
- 4) The disturbance signal described below is injected to EUT through CDN.
- 5) The EUT operates within its operational mode(s) under intended climatic conditions after power on.
- 6) The frequency range is swept from 150 kHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1 kHz sine wave.
- 7) The rate of sweep shall not exceed 1.5×10^{-3} decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.
- 8) Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

12.7. Test Results

PASS

Please refer to the following page.

Injected Currents Susceptibility Test Results

Beide (Shenzhen) Product Service Limited

Date: May 25, 2021

Applicant : <u>Xu chang shuo niu trade co., LTD</u> EUT : <u>AC EV CHARGER</u> M/N : <u>ACSN2-22</u> Power Supply : <u>AC380V,50Hz</u> Test Engineer : <u>Jack</u>			Test Date : <u>May 25, 2021</u> Temperature : <u>24 °C</u> Humidity : <u>49%</u> Test Mode : <u>ON</u>	
Frequency Range (MHz)	Injected Position	Strength	Criterion	Result
0.15 ~ 80	AC Mains	3V(rms), Unmodulated	A	PASS
Remark : 1. Modulation Signal:1kHz 80% AM			Note:	

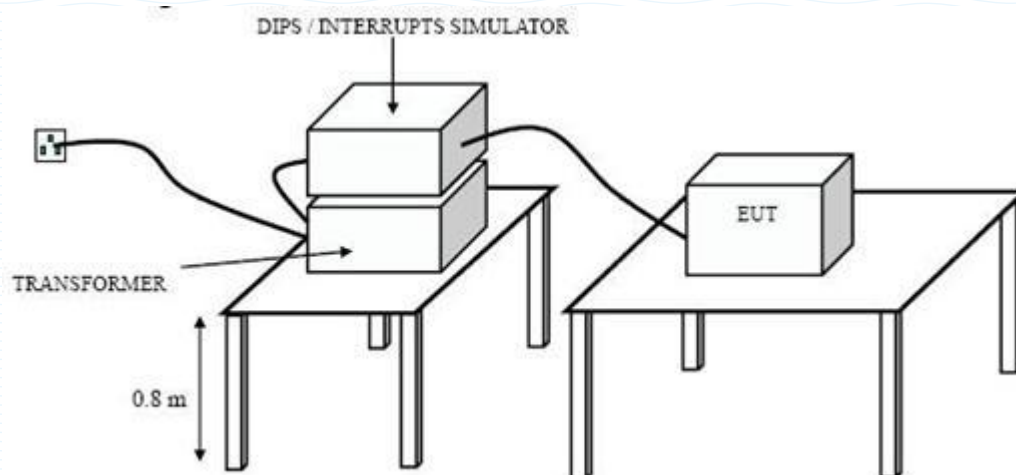
Reviewer: _____

Austin Zhang

13. VOLTAGE DIPS AND INTERRUPTIONS TEST

13.1. Block Diagram of Test Setup

13.1.1. Block diagram of Test Setup



13.2. Test Standard

EN IEC 61000-6-1:2019 (EN 61000-4-11:2004+A1:2017)

13.3. Severity level and Performance criterion

13.3.1. Severity level

Voltage dip and short interruptions $\%U_T$	Duration (in period)
0	0P
0	1P
70	25/30P
0	250/300P

Performance criterion : B

13.4. EUT Configuration

The configuration of EUT is listed in section 4.4

13.5. Operating Condition of EUT

- 13.5.1. Setup the EUT as shown on Section 13.1.
- 13.5.2. Turn on the power of all equipments.
- 13.5.3. Let the EUT work in test mode (ON) and measure it and test it.

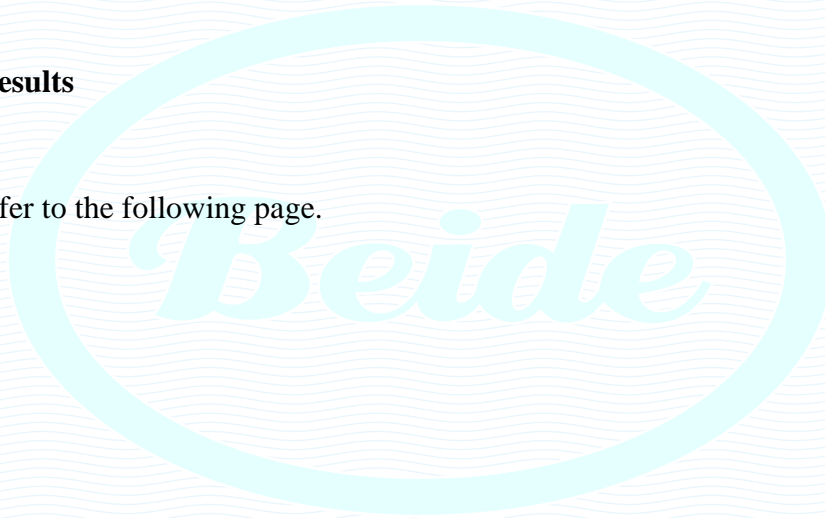
13.6. Test Procedure

- 1) Set up the EUT and test generator as shown on section 13.1.
- 2) The interruption is introduced at selected phase angles with specified duration. There is a 3mins minimum interval between each test event.
- 3) After each test a full functional check is performed before the next test.
- 4) Repeat procedures 2 & 3 for voltage dips, only the test level and duration is changed. Record any degradation of performance.

13.7. Test Results

PASS

Please refer to the following page.



Voltage Dips And Interruptions Test Results

Beide (Shenzhen) Product Service Limited

Date: May 25, 2021

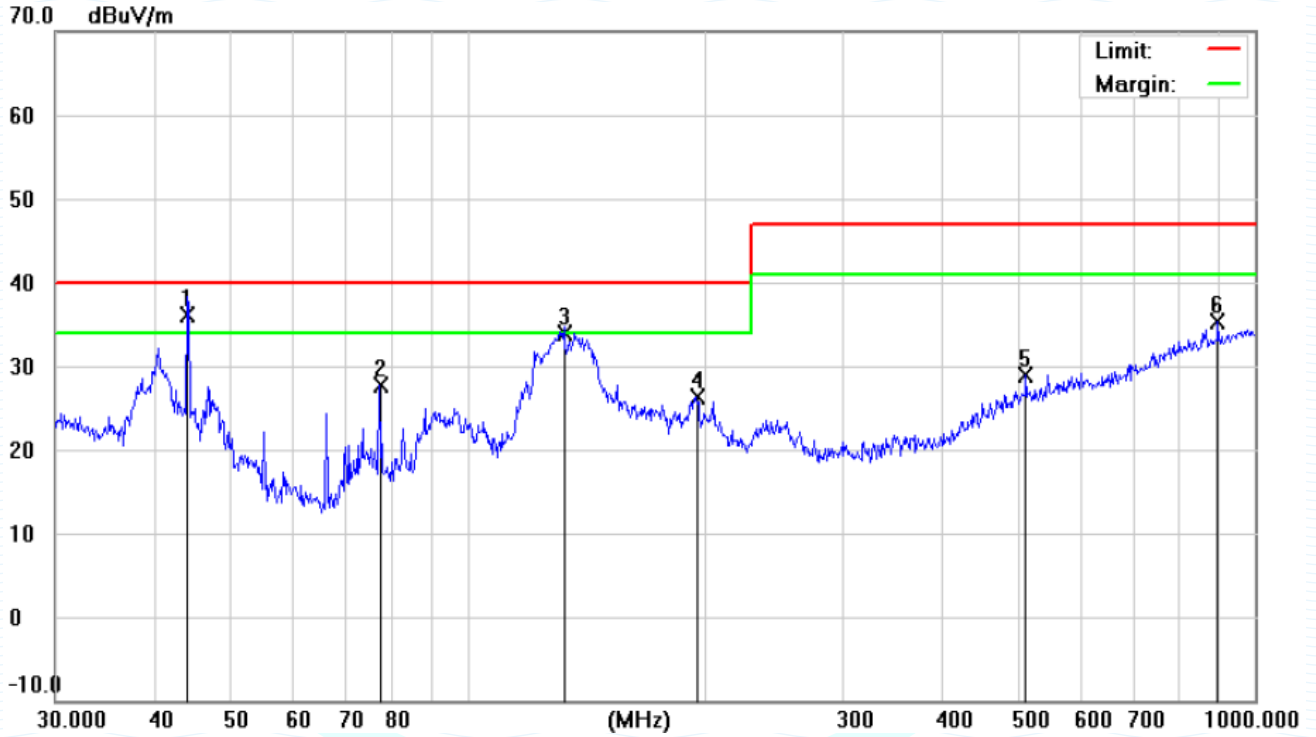
Applicant : <u>Xu chang shuo niu trade co., LTD</u>		Test Date : <u>May 25, 2021</u>		
EUT : <u>AC EV CHARGER</u>		Temperature : <u>24°C</u>		
M/N : <u>ACSN2-22</u>		Humidity : <u>49%</u>		
Power Supply : <u>AC380V,50Hz</u>				
<input checked="" type="checkbox"/> Single Test Voltage		<input type="checkbox"/> Dual Test Voltage		
Test Mode: ON				
Voltage Dips & Short Interruptions % U_T	Duration (in period)	Phase Angle	Criterion	Result
0	0P	0-360	B	Pass
0	1P	0-360	B	Pass
70	25P	0-360	C	Pass
0	250P	0-360	C	Pass
Remark: U_T is the rated voltage for the equipment.				

Reviewer: Austin Zhong



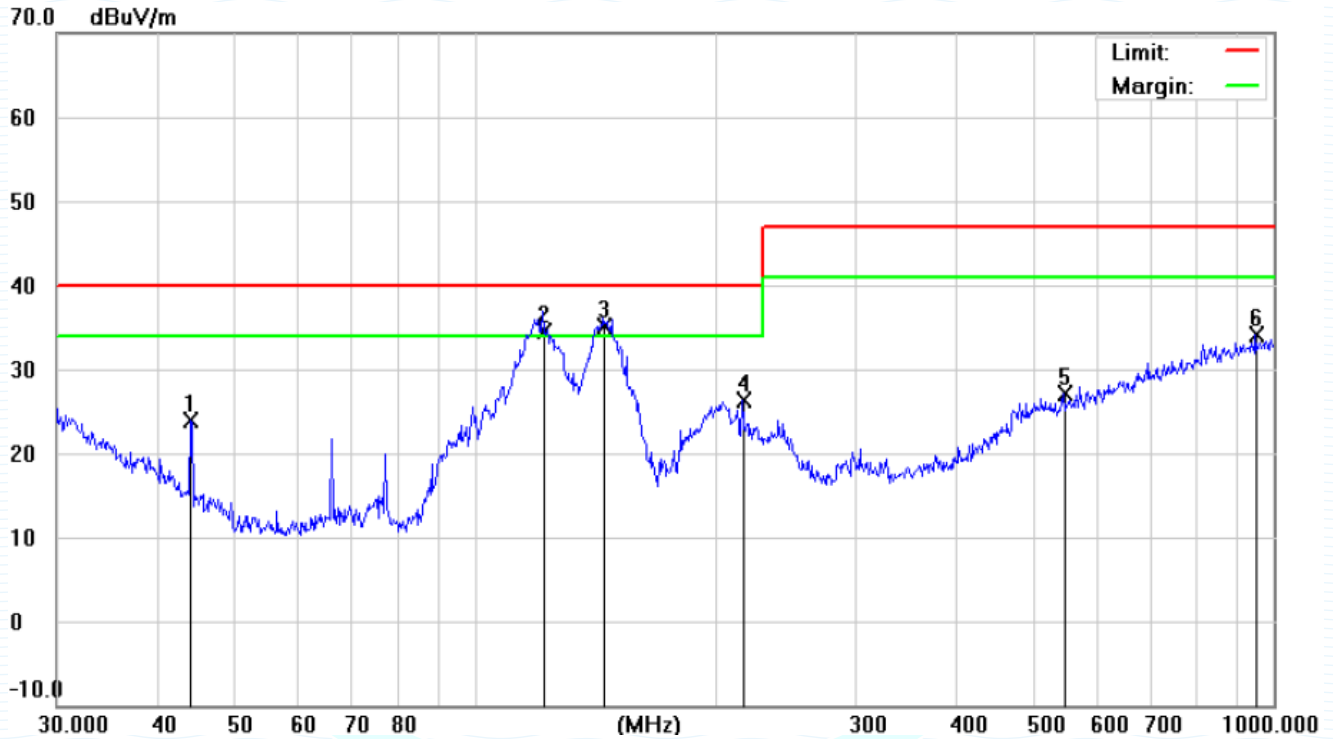
APPENDIX I
(Test Data)

Job No.:		Polarization:	Vertical
Standard:	EN 61000-6-3 ClassB	Power Source:	AC380V,50Hz
Test item:	Radiation Test	Date:	2021/05/26
Temp.(°C)/Hum.(%RH):	24°C/47%RH	Time:	
EUT:	AC EV CHARGER	Test By:	
Model:	ACSN2-22	Distance:	3m
Note:			



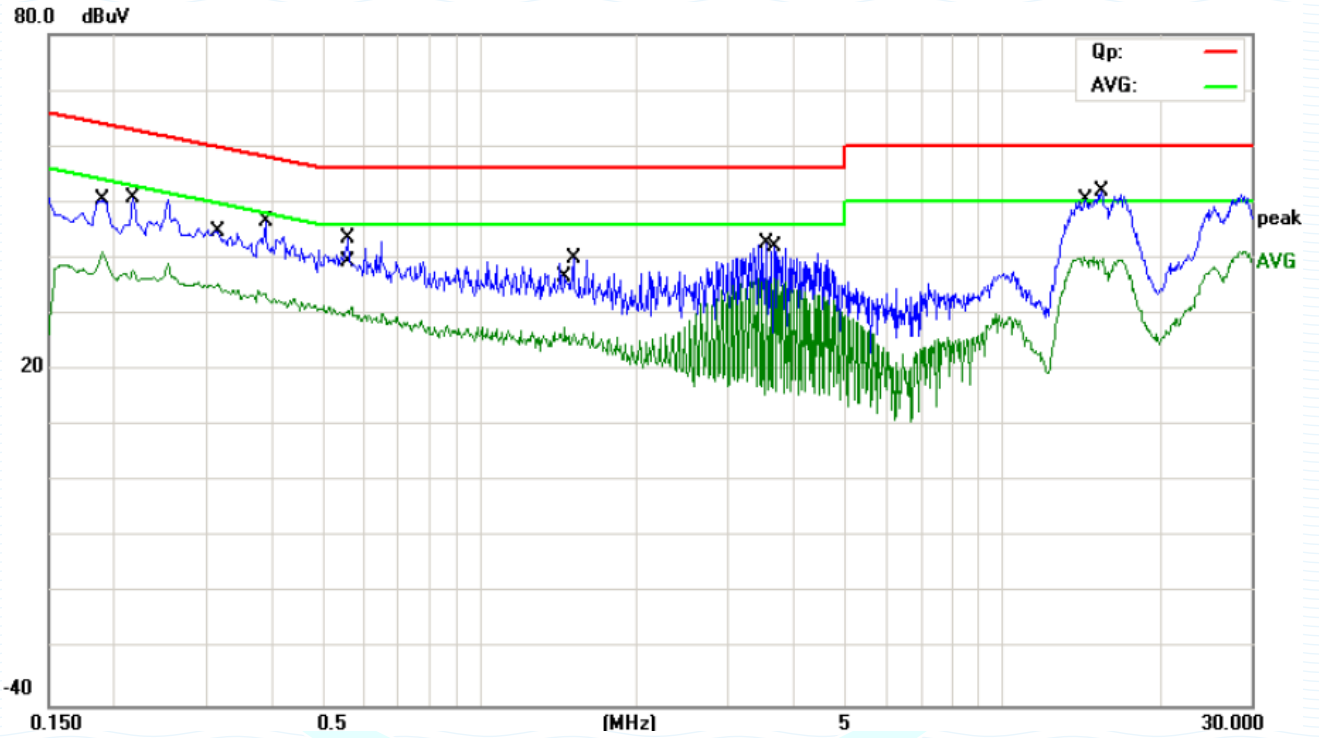
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	44.1202	25.10	11.08	36.18	40.00	-3.82	QP		
2		77.3212	19.62	8.15	27.77	40.00	-12.23	QP		
3		132.6850	20.13	13.69	33.82	40.00	-6.18	QP		
4		195.1365	14.23	12.05	26.28	40.00	-13.72	QP		
5		511.8352	5.99	22.83	28.82	47.00	-18.18	QP		
6		896.9965	6.26	28.97	35.23	47.00	-11.77	QP		

Job No.:		Polarization:	Horizontal
Standard:	EN 61000-6-3 ClassB	Power Source:	AC380V,50Hz
Test item:	Radiation Test	Date:	2021/05/26
Temp.(°C)/Hum.(%RH):	24°C/47%RH	Time:	
EUT:	AC EV CHARGER	Test By:	
Model:	ACSN2-22	Distance:	3m
Note:			



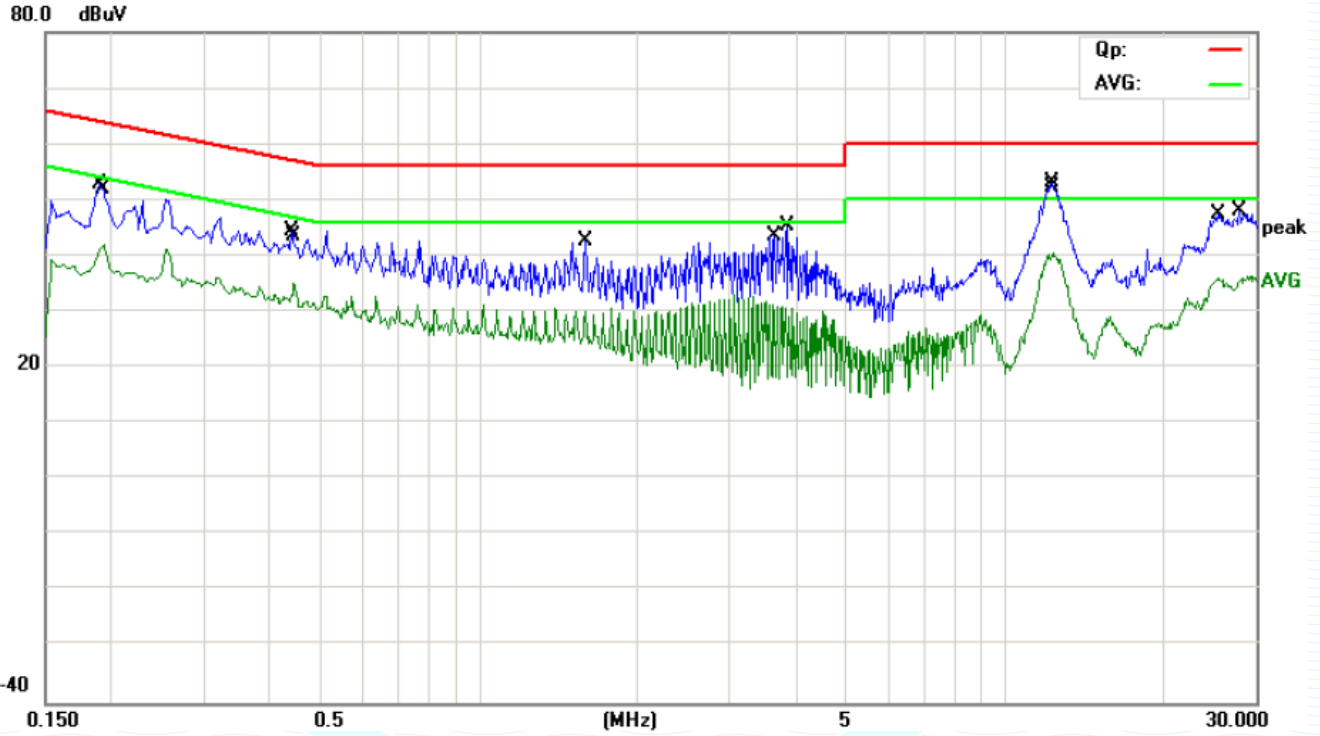
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		44.1202	12.74	11.08	23.82	40.00	-16.18	QP		
2	!	121.5486	20.63	13.86	34.49	40.00	-5.51	QP		
3	*	144.8418	22.00	13.06	35.06	40.00	-4.94	QP		
4		216.0240	14.25	12.07	26.32	40.00	-13.68	QP		
5		545.1826	4.89	22.20	27.09	47.00	-19.91	QP		
6		948.7610	5.57	28.49	34.06	47.00	-12.94	QP		

Job No.:		Polarization:	L1
Standard:	EN 61000-6-3 ClassB	Power Source:	AC380V,50Hz
Test item:	Conduct Test	Date:	2021/05/26
Temp.(°C)/Hum.(%RH):	24°C/47%RH	Time:	
EUT:	AC EV CHARGER	Test By:	
Model:	ACSN2-22	Distance:	-
Note:			



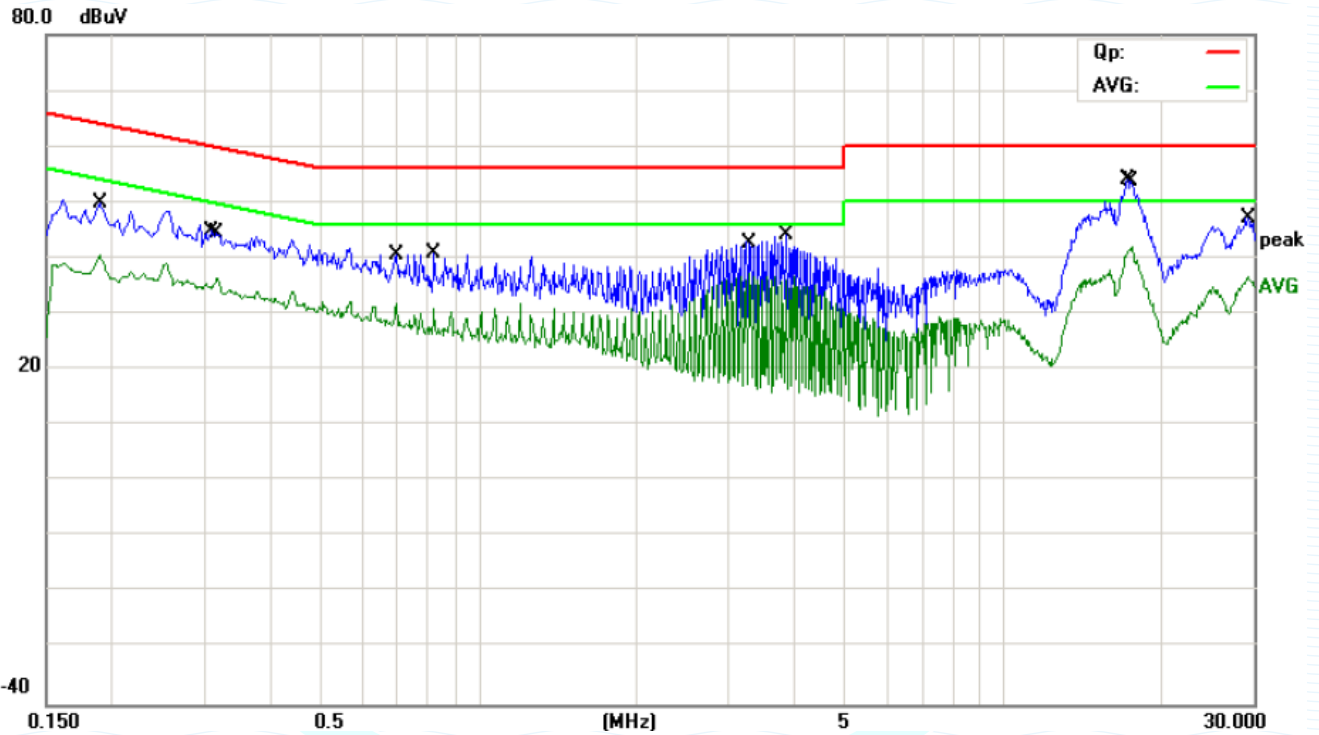
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1900	31.62	9.60	41.22	54.04	-12.82	AVG	
2		0.2180	41.15	9.60	50.75	62.89	-12.14	QP	
3		0.3180	25.77	9.59	35.36	49.76	-14.40	AVG	
4		0.3900	36.81	9.59	46.40	58.06	-11.66	QP	
5		0.5620	34.06	9.59	43.65	56.00	-12.35	QP	
6		0.5700	21.59	9.59	31.18	46.00	-14.82	AVG	
7		1.4580	18.04	9.60	27.64	46.00	-18.36	AVG	
8		1.5140	30.30	9.60	39.90	56.00	-16.10	QP	
9		3.5500	33.05	9.62	42.67	56.00	-13.33	QP	
10		3.6740	26.76	9.62	36.38	46.00	-9.62	AVG	
11		14.3100	30.49	9.70	40.19	50.00	-9.81	AVG	
12	*	15.5140	42.12	9.70	51.82	60.00	-8.18	QP	

Job No.:		Polarization:	L2
Standard:	EN 61000-6-3 ClassB	Power Source:	AC380V,50Hz
Test item:	Conduct Test	Date:	2021/05/26
Temp.(°C)/Hum.(%RH):	24°C/47%RH	Time:	
EUT:	AC EV CHARGER	Test By:	
Model:	ACSN2-22	Distance:	-
Note:			



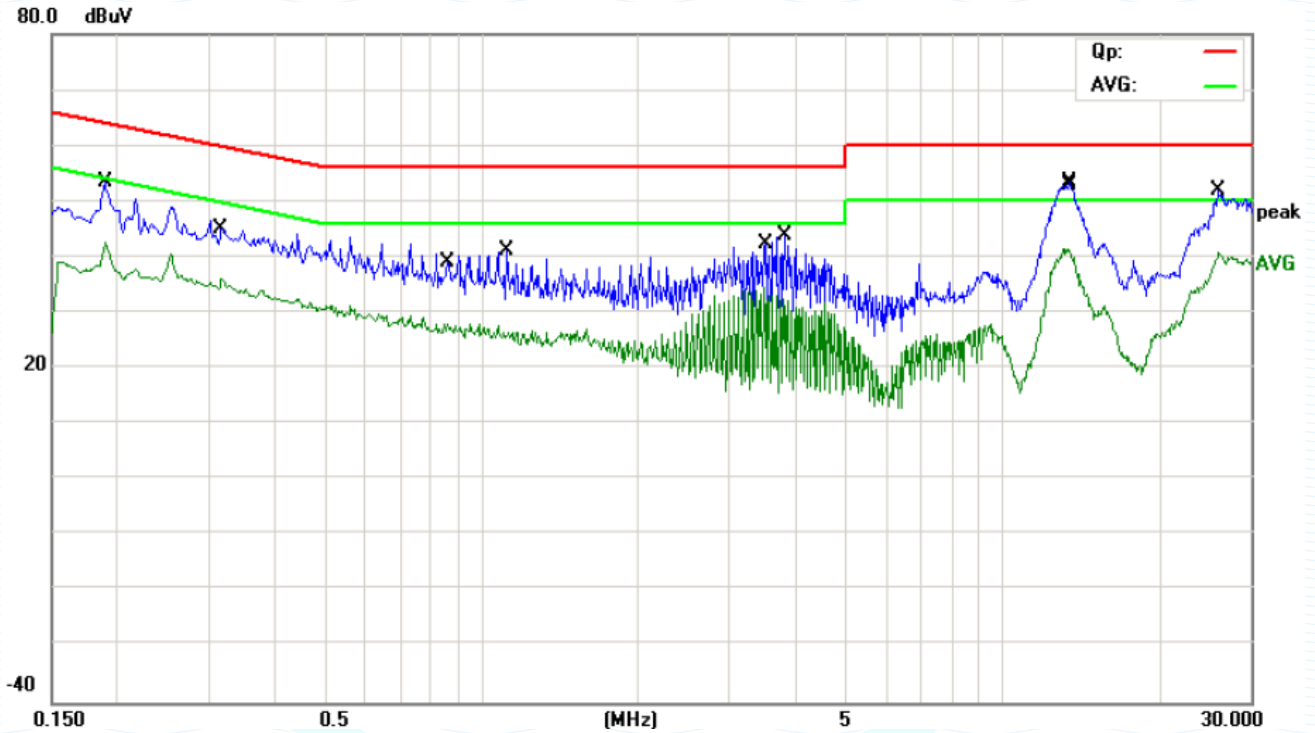
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1900	43.12	9.60	52.72	64.04	-11.32	QP	
2		0.1940	32.35	9.60	41.95	53.86	-11.91	AVG	
3		0.4420	34.93	9.59	44.52	57.02	-12.50	QP	
4		0.4460	25.69	9.59	35.28	46.95	-11.67	AVG	
5		1.5940	32.98	9.60	42.58	56.00	-13.42	QP	
6		1.5940	20.50	9.60	30.10	46.00	-15.90	AVG	
7		3.6340	21.76	9.62	31.38	46.00	-14.62	AVG	
8		3.8460	35.70	9.62	45.32	56.00	-10.68	QP	
9	*	12.3100	43.47	9.69	53.16	60.00	-6.84	QP	
10		12.4340	30.74	9.69	40.43	50.00	-9.57	AVG	
11		25.4260	26.41	9.75	36.16	50.00	-13.84	AVG	
12		27.9020	38.26	9.76	48.02	60.00	-11.98	QP	

Job No.:		Polarization:	L3
Standard:	EN 61000-6-3 ClassB	Power Source:	AC380V,50Hz
Test item:	Conduct Test	Date:	2021/05/26
Temp.(°C)/Hum.(%RH):	24°C/47%RH	Time:	
EUT:	AC EV CHARGER	Test By:	
Model:	ACSN2-22	Distance:	-
Note:			



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1900	40.21	9.60	49.81	64.04	-14.23	QP	
2		0.1900	30.87	9.60	40.47	54.04	-13.57	AVG	
3		0.3100	35.31	9.59	44.90	59.97	-15.07	QP	
4		0.3180	26.89	9.59	36.48	49.76	-13.28	AVG	
5		0.6980	22.27	9.60	31.87	46.00	-14.13	AVG	
6		0.8220	31.38	9.60	40.98	56.00	-15.02	QP	
7		3.2900	27.50	9.61	37.11	46.00	-8.89	AVG	
8		3.8620	34.54	9.62	44.16	56.00	-11.84	QP	
9	*	17.2620	44.45	9.71	54.16	60.00	-5.84	QP	
10		17.5740	32.19	9.72	41.91	50.00	-8.09	AVG	
11		29.3460	37.43	9.77	47.20	60.00	-12.80	QP	
12		29.3460	26.81	9.77	36.58	50.00	-13.42	AVG	

Job No.:		Polarization:	Neutral
Standard:	EN 61000-6-3 ClassB	Power Source:	AC380V,50Hz
Test item:	Conduct Test	Date:	2021/05/26
Temp.(°C)/Hum.(%RH):	24°C/47%RH	Time:	
EUT:	AC EV CHARGER	Test By:	
Model:	ACSN2-22	Distance:	-
Note:			



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1900	43.73	9.60	53.33	64.04	-10.71	QP	
2		0.1900	33.16	9.60	42.76	54.04	-11.28	AVG	
3		0.3200	35.27	9.59	44.86	59.71	-14.85	QP	
4		0.3200	26.22	9.59	35.81	49.71	-13.90	AVG	
5		0.8620	18.46	9.60	28.06	46.00	-17.94	AVG	
6		1.1180	31.43	9.60	41.03	56.00	-14.97	QP	
7		3.5020	24.94	9.62	34.56	46.00	-11.44	AVG	
8		3.8220	34.38	9.62	44.00	56.00	-12.00	QP	
9		13.2300	31.74	9.70	41.44	50.00	-8.56	AVG	
10	*	13.4900	43.63	9.70	53.33	60.00	-6.67	QP	
11		25.9340	42.10	9.75	51.85	60.00	-8.15	QP	
12		26.1180	31.22	9.75	40.97	50.00	-9.03	AVG	

APPENDIX II
(EUT Photos)

Beide

Figure 1
APPEARANCE OF EUT

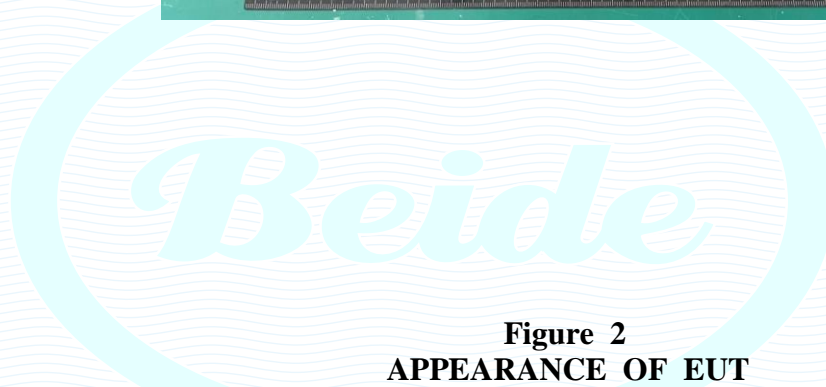
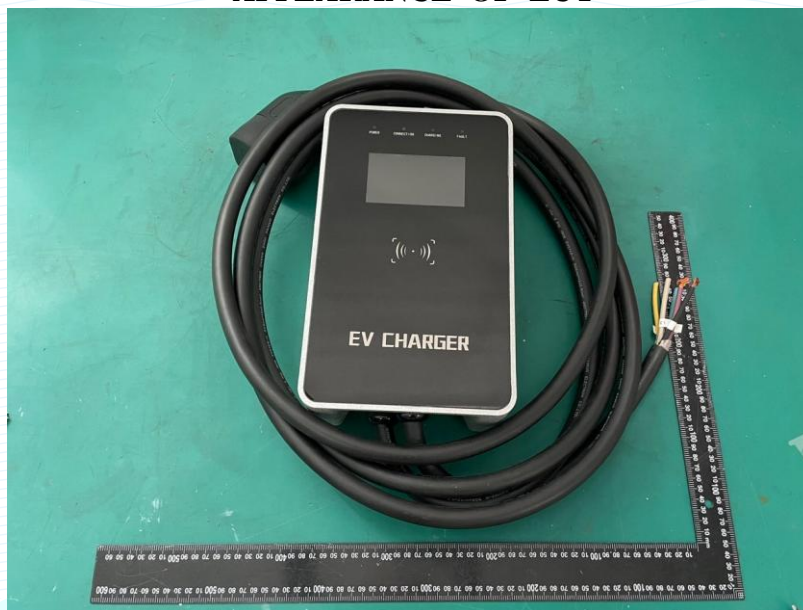


Figure 2
APPEARANCE OF EUT



Figure 3
APPEARANCE OF EUT



Figure 4
APPEARANCE OF EUT



Figure 5
APPEARANCE OF EUT

