

TEST REPORT

Application No.: AHEM2504000371BA
Applicant: Shandong Pomepower Technology Co., Ltd.
Address of Applicant: Building 2, Zhidong industrial Park, Zhangfan Subdistrict, High-tech Zone, Zaozhuang City, Shandong Province
Manufacturer: Shandong Pomepower Technology Co., Ltd.
Address of Manufacturer: Building 2, Zhidong industrial Park, Zhangfan Subdistrict, High-tech Zone, Zaozhuang City, Shandong Province
Factory: Shandong Pomepower Technology Co., Ltd.
Address of Factory: Building 2, Zhidong industrial Park, Zhangfan Subdistrict, High-tech Zone, Zaozhuang City, Shandong Province

Equipment Under Test (EUT):

EUT Name: Rechargeable Li-ion Battery System
Model No.: XC-CWC314/418/D, XC-CWC314/52/D, XC-CWC314/104/D, XC-CWC314/156/D, XC-CWC314/209/D, XC-CWC314/261/D, XC-CWC314/313/D, XC-CWC314/365/D

Remark Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.

Trade mark:


Standard(s) : EN IEC 61000-6-4:2019
EN IEC 61000-6-2:2019

Date of Receipt: 2025-04-23
Date of Test: 2025-08-11 to 2025-08-12
Date of Issue: 2025-08-22

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

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AHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: AHEM250400037101

Page: 2 of 30

Revision Record			
Version	Description	Date	Remark
00	Original	2025-08-12	/

Authorized for issue by:				
Tested By		Ruirui Hu		
		Ruirui Hu (Project Engineer)		
Approved By		Abel Xiao		
		Abel Xiao (Laboratory Manager)		

2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	EN IEC 61000-6-4:2019	CISPR 16-2-1	Table 4	Pass
Radiated Emissions (30MHz-1GHz)	EN IEC 61000-6-4:2019	CISPR 16-2-3	Table 3.1	Pass
Immunity Part				
Item	Standard	Method	Requirement	Result
Electrostatic Discharge	EN IEC 61000-6-2:2019	EN 61000-4-2:2009	4kV Contact Discharge 8kV Air Discharge	Pass
Radiated Immunity (80MHz-1GHz, 1.4GHz-6GHz)	EN IEC 61000-6-2:2019	EN IEC 61000-4-3:2020	10V/m, 80%, 1kHz Amp. Mod. 3V/m, 80%, 1kHz Amp. Mod.	Pass
Electrical Fast Transients/Burst at Power Port	EN IEC 61000-6-2:2019	EN 61000-4-4:2012	2kV 5/50ns Tr/Td 5kHz Repetition Frequency	Pass
Surge at Power Port	EN IEC 61000-6-2:2019	EN 61000-4-5:2014+A1:2017	1.2/50µs Tr/Td 1kV Line to Line 2kV Line to Ground	Pass
Conducted Immunity at Power Port (150kHz-80MHz)	EN IEC 61000-6-2:2019	EN 61000-4-6:2014	10Vrms (emf), 80%, 1kHz Amp. Mod.	Pass
Voltage Interruptions	EN IEC 61000-6-2:2019	EN 61000-4-34:2007+A1:2009 (>16A)	For 50Hz 0 % UT for 250cycles UT is Supply Voltage	Pass

N/A: Not applicable

Note 1: There are series models mentioned in this report, and they are the similar in electrical and electronic characters. Only the model XC-CWC314/418/D was tested since their differences are model number and appearance.



SGS-CSTC Standards Technical Services Co., Ltd. Anhui Branch

AHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: AHEM250400037101

Page: 4 of 30

3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	5
4.1 DETAILS OF E.U.T.	5
4.2 DESCRIPTION OF SUPPORT UNITS	5
4.3 MEASUREMENT UNCERTAINTY	5
4.4 TEST LOCATION	6
4.5 TEST FACILITY	6
4.6 DEVIATION FROM STANDARDS	6
4.7 ABNORMALITIES FROM STANDARD CONDITIONS	6
4.8 MONITORING OF EUT FOR ALL IMMUNITY TEST	6
5 EQUIPMENT LIST	7
6 EMISSION TEST RESULTS	10
6.1 CONDUCTED EMISSIONS AT MAINS TERMINALS (150kHz-30MHz)	10
6.2 RADIATED EMISSIONS (30MHz-1GHz)	14
7 IMMUNITY TEST RESULTS	17
7.1 PERFORMANCE CRITERIA DESCRIPTION IN EN IEC 61000-6-2:2019	17
7.2 ELECTROSTATIC DISCHARGE	18
7.3 RADIATED IMMUNITY (80MHz-1GHz, 1.4GHz-6GHz)	19
7.4 ELECTRICAL FAST TRANSIENTS/BURST AT POWER PORT	20
7.5 SURGE AT POWER PORT	21
7.6 CONDUCTED IMMUNITY AT POWER PORT (150kHz-80MHz)	23
7.7 VOLTAGE INTERRUPTIONS	25
8 PHOTOGRAPHS	26
9 EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	31



SGS-CSTC Standards Technical Services Co., Ltd. Anhui Branch

AHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: AHEM250400037101

Page: 5 of 30

4 General Information

4.1 Details of E.U.T.

Power supply:	AC 230V 50/60Hz
Full-load current:	N/A
Test voltage:	AC 230V 50Hz
Cable:	AC cable: 10m Signal cable: N/A

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

Measurement Uncertainty:

No.	Item	Measurement Uncertainty	
		U_{LAB}	U_{CISPR}
1	Conducted Emission at mains port using AMN	2.6dB (150kHz to 30MHz)	3.4dB (150kHz to 30MHz)
2	Disturbance Power	2.9dB (30MHz to 300MHz)	4.5dB (30MHz to 300MHz)
3	Radiated Emission	4.6dB (30MHz-1GHz)	6.3dB (30MHz-1GHz)
		4.9dB (1GHz-6GHz)	5.2dB (1GHz-6GHz)

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Decision Rule:

- CISPR 16-4-2 for emission measurements is as below described.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

U_{LAB} less than U_{CISPR} , therefore:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Anhui Branch. EMC Laboratory

No.1, Qiaowan Road, Taohua Industrial Park, Hefei, Anhui, China

Tel: (86-551) 6879 5300 Fax: (86-551) 6879 5071

Witness tests at:

SHANDONG POMEPOWER TECHNOLOGY CO.,LTD.

Workshop No. 2 in Zhidong industrial Park, Zhangfan sub-district, High-tech Zone, Zaozhuang City, Shandong Province.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. clock frequency etc) is provided by the applicant. (If applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).
3. Sample source: sent by customer.

4.5 Test Facility

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

• **A2LA (Certificate No. 6658.01)**

SGS-CSTC Standards Technical Services Co., Ltd Anhui Branch is accredited by the American Association for Laboratory Accreditation(A2LA).

• **ISED (CAB Identifier: CN0140)**

SGS-CSTC Standards Technical Services Co., Ltd Anhui Branch has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 29627

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

4.8 Monitoring of EUT for All Immunity Test

Visual: Working status of EUT.

5 Equipment List

Conducted Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESCS30	SHEM015-1	2024/12/19	2025/12/18
EMI Test Receiver	Rohde & Schwarz	ESR7	SHEM162-1	2024/12/19	2025/12/18
EMI test receiver	Rohde & Schwarz	ESU40	SHEM051-1	2024/12/19	2025/12/18
Pulse limiter	Rohde & Schwarz	ESH3-Z2	SHEM029-1	2024/12/19	2025/12/18
Line impedance stabilization network	EMCO	3816	SHEM019-1	2024/12/19	2025/12/18
Passive Voltage probe	Rohde & Schwarz	ESH2-Z3	SHEM028-2	2024/12/19	2025/12/18
CE test Cable	/	/	SHEM172-1	2024/12/19	2025/12/18
V-LISN	SCHWARZBECK	NNLK 8129 RC	SHME035-4	2024/09/19	2025/09/18
Capacitive Voltage Probe (CVP)	SCHWARZBECK	CVP9222 B	SHEM169-1	2025/08/01	2026/07/31
Current Probe (CP)	SCHWARZBECK	SW9605	SHEM170-1	2025/08/01	2026/07/31

Radiated Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EMI Test Receiver	Rohde & Schwarz	ESCS30	SHEM015-1	2024/12/19	2025/12/18
EMI Test Receiver	Rohde & Schwarz	ESR7	SHEM162-1	2024/12/19	2025/12/18
EMI test receiver	Rohde & Schwarz	ESU40	SHEM051-1	2024/12/19	2025/12/18
Broadband Antenna	SCHAFFNER	CBL6143	SHEM230-1	2025/01/12	2027/01/11
Broadband UHF-VHF ANTENNA	SCHWARZBECK	VULB9168	SHEM048-1	2023/09/03	2025/09/02
Pre-Amplifier	Agilent	8447D	SHEM143-1	2024/12/19	2025/12/18
Horn Antenna (1-18GHz)	Schwarzbeck	BBHA9120D	SHEM050-1	2023/09/03	2025/09/02
Pre-amplifier (1-18GHz)	Schwarzbeck	SCU-F0118-G40-BZ4-CSS(F)	SHEM050-2	2024/12/19	2025/12/18
RE test Cable	/	/	SHEM217-2	2024/12/19	2025/12/18

Electrostatic Discharge					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Electrostatic discharge simulator	3CTEST	EDS20H	SHEM199-1	2024/12/19	2025/12/18
Electrostatic Discharge Simulator	TESEQ	NSG 437	SHEM041-2	2025/08/01	2026/07/31
Electrostatic discharge simulator	EM TEST	dito	SHEM289-1	2025/01/15	2026/01/14

SGS-CSTC Standards Technical Services Co., Ltd. Anhui Branch

AHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: AHEM250400037101

Page: 8 of 30

Electrical Fast Transients/Burst

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EFT & Surge Generator	PRIMA	PRM61045TB	SHEM200-1	2024/09/28	2025/09/27
CDN for EFT & Surge	PRIMA	PRM-CDN	SHEM200-2	2024/09/28	2025/09/27
Capacitive coupling clamp	PRIMA	EFT-CLAMP	SHEM200-4	2025/05/26	2026/05/25
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2024/12/19	2025/12/18
Capacitive coupling clamp	EM TEST	HFK	SHEM026-2	2024/12/19	2025/12/18

Surge

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EFT & Surge Generator	PRIMA	PRM61045TB	SHEM200-1	2024/09/27	2025/09/26
CDN for EFT & Surge	PRIMA	PRM-CDN	SHEM200-2	2024/09/27	2025/09/26
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2024/12/19	2025/12/18

Conducted Immunity

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Signal Generator	Rohde & Schwarz	SMB 100A	SHEM141-1	2024/12/19	2025/12/18
Power Amplifier	HAEFELY	PAMP250	SHEM023-1	2024/12/19	2025/12/18
Power Meter	Rohde & Schwarz	NRP	SHEM057-1	2025/08/01	2026/07/31
Sensor of power meter	Rohde & Schwarz	NRP-Z91	SHEM057-3	2025/08/01	2026/07/31
Power meter sensor	Rohde & Schwarz	NRP-Z22	SHEM136-1	2025/08/01	2026/07/31
Electromagnetic Clamp	EM Test	EM-101	SHEM027-1	2025/06/05	2026/06/04
Current Injection Probe	TESEQ	CIP 9136A	SHEM-A039	2025/01/29	2026/01/28
Current Injection Probe	PRANA	IP-DR250	SHEM273-1	2025/01/29	2026/01/28
RF Generator	SCHAFFNER	NSG 2070	SHEM221-1	2024/08/02	2026/08/01
Coupling and Decoupling Network (CDN)	LUTHI	L-801 M2/M3	SHEM023-6	2024/12/19	2025/12/18

SGS-CSTC Standards Technical Services Co., Ltd. Anhui Branch

AHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: AHEM250400037101

Page: 9 of 30

Radiated Immunity					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Signal Generator	Rohde & Schwarz	SMB 100A	SHEM194-1	2024/12/19	2025/12/18
Power Meter	Rohde & Schwarz	NRP	SHEM057-1	2024/08/01	2025/07/31
Sensor of power meter	Rohde & Schwarz	NRP-Z91	SHEM057-3	2024/08/01	2025/07/31
Power meter sensor	Rohde & Schwarz	NRP-Z22	SHEM136-1	2024/08/01	2025/07/31
Biconical VHF-UHF broadband antenna	SCHWARZBECK	VUBA 9117	SHEM008-1	2025/04/30	2027/04/29
Ultra-Broadband Antenna	Rohde & Schwarz	HL562	SHEM010-1	2025/02/24	2027/02/23
Antenna	SCHWARZBECK	STLP9128D	SHEM130-1	N/A	N/A
Antenna	SCHWARZBECK	STLP9149	SHEM131-1	N/A	N/A
Power Amplifier	AR	30W1000B	SHEM059-1	2024/12/20	2026/12/19
Power Amplifier	MILMEGA	80RF1000-250	SHEM132-1	2024/12/19	2025/12/18
Power Amplifier	MILMEGA	AS0840-55-55	SHEM133-1	2024/12/19	2025/12/18
RF Power amplifier	Rohde & Schwarz	BBA150-E60	SHEM171-1	2024/12/19	2025/12/18
Radio	QuanSheng	TG-UV2	/	/	/
Walkie-talkie	QuanSheng	TG-UV2	/	/	/
Remote controller	Somfy	/	/	/	/
Mobile phone	HUAWEI	P20	/	/	/
Wireless router	MI	MIR3	/	/	/
ElectroMagnetic Field Probe	ETS-Lindgren	HI-6113	SHEM134-1	2024/08/24	2025/08/23

Voltage Interruptions					
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date
Immunity Test System	EMC PARTNER	TRA3000 F-S-D-V	SHEM163-1	2024/12/19	2025/12/18
Test Software	EMC-PARTNER	GENECS	Version: 3.29	N/A	N/A
Immunity Test System	TESEQ	NSG 3060	SHEM224-1	2025/08/01	2026/07/31
Coupling / Decoupling Network (CDN)	TESEQ	CDN 3061	SHEM224-3	2025/08/01	2026/07/31
Manual step transformer	TESEQ	INA 6501	SHEM224-4	2025/08/01	2026/07/31

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Digital Multimeter	FLUKE	15B+	SHEM271-8	2025/07/19	2026/07/18
Multi-purpose tong tester	FLUKE	317	SHEM001-2	2025/11/08	2026/11/07
e3 software	AUDIX	E3	N/A	N/A	N/A

6 Emission Test Results

6.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

Test Requirement:	EN IEC 61000-6-4:2019
Test Method:	CISPR 16-2-1
Frequency Range:	150kHz to 30MHz
Limit:	
0.15M-0.5MHz	79dB(μV) quasi-peak, 66dB(μV) average
0.5M-30MHz	73dB(μV) quasi-peak, 60dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.1.1 E.U.T. Operation

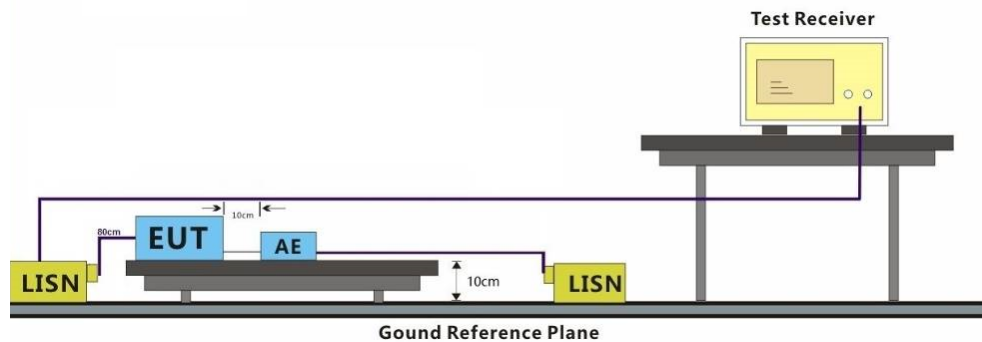
Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

Test mode 00: Running mode: Keep EUT running continuously.

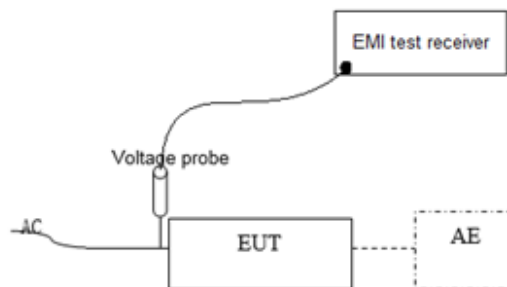
6.1.2 Test Setup Diagram

☐ LISN Test Method



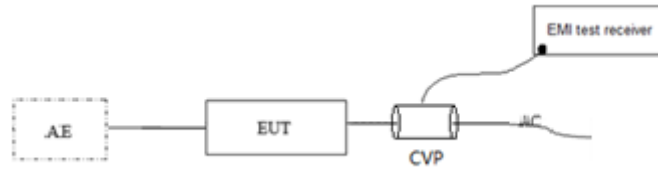
$$\text{Measured Level} = \text{Read level} + \text{Cable Loss} + \text{LISN Factor}$$

☐ VP Test Method



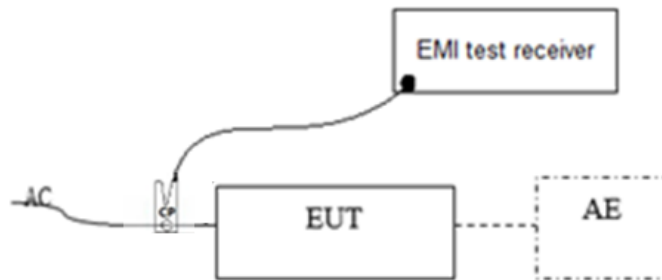
$$\text{Measured Level} = \text{Read level} + \text{Cable Loss} + \text{VP Factor}$$

☒ **CVP Test Method**



$$\text{Measured Level} = \text{Read level} + \text{Cable Loss} + \text{CVP Factor}$$

☐ **CP Test Method**



$$\text{Measured Level} = \text{Read level} + \text{Cable Loss} + \text{CP Factor}$$

6.1.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.



SGS-CSTC Standards Technical Services Co., Ltd. Anhui Branch

AHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: AHEM250400037101

Page: 12 of 30

Mode:00; Line:Live Line

Item	Freq	Read Level	Probe Factor	Cable Loss	Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)	
1	0.151	29.26	30.74	0.01	60.01	66.00	-5.99	Average
2	0.151	41.39	30.74	0.01	72.14	79.00	-6.86	QP
3	0.306	30.99	30.06	0.01	61.06	66.00	-4.94	Average
4	0.306	43.08	30.06	0.01	73.16	79.00	-5.84	QP
5	0.384	30.81	30.04	0.01	60.86	66.00	-5.14	Average
6	0.384	42.05	30.04	0.01	72.10	79.00	-6.90	QP
7	0.744	24.79	29.99	0.01	54.79	60.00	-5.21	Average
8	0.744	36.54	29.99	0.01	66.53	73.00	-6.47	QP
9	1.961	24.82	29.80	0.02	54.64	60.00	-5.36	Average
10	1.961	38.05	29.80	0.02	67.87	73.00	-5.13	QP
11	2.898	23.80	29.74	0.03	53.57	60.00	-6.43	Average
12	2.898	37.91	29.74	0.03	67.68	73.00	-5.32	QP

Mode:00; Line:Neutral Line

Item	Freq	Read Level	Probe Factor	Cable Loss	Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)	
1	0.152	31.60	30.73	0.01	62.33	66.00	-3.67	Average
2	0.152	44.20	30.73	0.01	74.93	79.00	-4.07	QP
3	0.181	30.20	30.35	0.01	60.57	66.00	-5.43	Average
4	0.181	42.25	30.35	0.01	72.61	79.00	-6.39	QP
5	0.441	30.37	30.02	0.01	60.40	66.00	-5.60	Average
6	0.441	42.33	30.02	0.01	72.36	79.00	-6.64	QP
7	0.871	24.85	29.94	0.02	54.81	60.00	-5.19	Average
8	0.871	36.40	29.94	0.02	66.36	73.00	-6.64	QP
9	1.451	24.83	29.85	0.02	54.70	60.00	-5.30	Average
10	1.451	39.08	29.85	0.02	68.95	73.00	-4.05	QP
11	5.665	23.85	29.57	0.04	53.46	60.00	-6.54	Average
12	5.665	38.14	29.57	0.04	67.74	73.00	-5.26	QP

6.2 Radiated Emissions (30MHz-1GHz)

Test Requirement: EN IEC 61000-6-4:2019

Test Method: CISPR 16-2-3

Frequency Range: 30MHz to 1GHz

Measurement Distance: 3m

Limit:

30MHz-230MHz 50 dB(μV/m) quasi-peak

230MHz-1GHz 57 dB(μV/m) quasi-peak

Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz

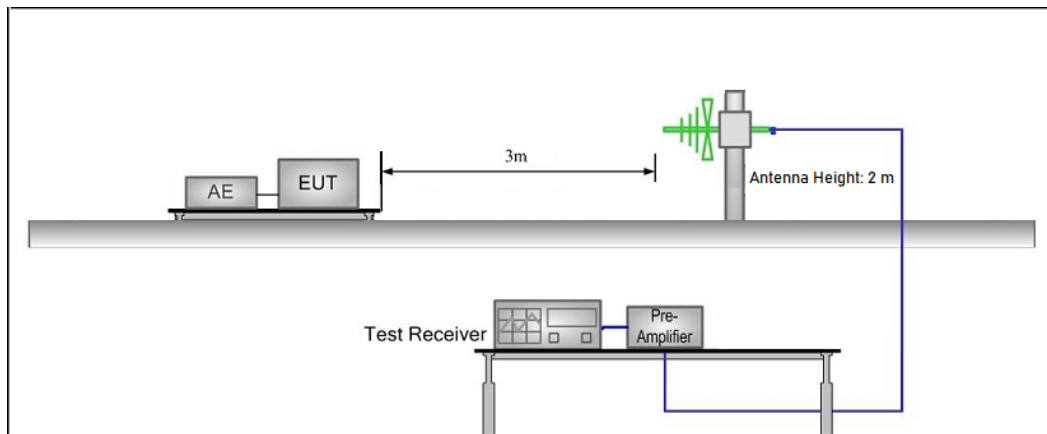
6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

Test mode 00: Running mode: Keep EUT running continuously.

6.2.2 Test Setup Diagram



6.2.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by broadband antenna with 2 orthogonal polarities.

Notes: Measured Level = Read Level + Antenna Factor + Cable Loss

Front Side

Mode:a; Polarization: Horizontal

Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1	42.600	32.40	13.30	0.45	46.16	50.00	-3.84	QP
2	46.340	32.59	13.54	0.48	46.61	50.00	-3.39	QP
3	51.843	31.44	13.58	0.52	45.54	50.00	-4.46	QP
4	62.213	31.82	12.71	0.61	45.13	50.00	-4.87	QP
5	68.631	32.38	11.79	0.66	44.83	50.00	-5.17	QP
6	89.276	37.07	7.94	0.85	45.86	50.00	-4.14	QP

Back Side

Mode:a; Polarization: Horizontal

Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1	32.634	32.95	12.13	0.37	45.46	50.00	-4.54	QP
2	35.499	31.62	12.51	0.39	44.53	50.00	-5.47	QP
3	40.276	30.72	13.08	0.43	44.23	50.00	-5.77	QP
4	65.803	31.13	12.21	0.64	43.97	50.00	-6.03	QP
5	118.601	30.72	11.28	1.04	43.05	50.00	-6.95	QP
6	210.048	31.54	9.75	1.46	42.75	50.00	-7.25	QP

Left Side

Mode:a; Polarization: Horizontal

Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1	30.638	32.87	11.76	0.36	44.99	50.00	-5.01	QP
2	34.882	33.12	12.45	0.39	45.96	50.00	-4.04	QP
3	43.966	30.56	13.41	0.46	44.42	50.00	-5.58	QP
4	49.533	30.47	13.60	0.51	44.57	50.00	-5.43	QP
5	112.524	30.39	10.72	1.01	42.12	50.00	-7.88	QP
6	413.271	32.22	15.86	2.23	50.31	57.00	-6.69	QP

Right Side

Mode:a; Polarization: Horizontal

Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1	33.680	31.75	12.32	0.38	44.46	50.00	-5.54	QP
2	46.016	31.23	13.53	0.48	45.24	50.00	-4.76	QP
3	64.433	33.19	12.39	0.63	46.21	50.00	-3.79	QP
4	83.816	36.29	8.69	0.80	45.78	50.00	-4.22	QP
5	226.099	33.79	10.02	1.52	45.33	50.00	-4.67	QP
6	706.700	25.52	21.25	3.65	50.42	57.00	-6.58	QP



SGS-CSTC Standards Technical Services Co., Ltd. Anhui Branch

AHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: AHEM250400037101

Page: 15 of 30

Front Side

Mode:a; Polarization: Vertical

Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1	52.575	31.93	13.55	0.53	46.00	50.00	-4.00	QP
2	75.977	33.85	10.36	0.73	44.93	50.00	-5.07	QP
3	104.903	35.33	9.50	0.97	45.80	50.00	-4.20	QP
4	270.375	37.71	12.44	1.69	51.84	57.00	-5.16	QP
5	393.472	33.19	15.55	2.16	50.90	57.00	-6.10	QP
6	750.108	25.06	22.22	3.70	50.99	57.00	-6.01	QP

Back Side

Mode:a; Polarization: Vertical

Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1	30.105	33.81	11.67	0.35	45.83	50.00	-4.17	QP
2	37.285	32.01	12.72	0.41	45.14	50.00	-4.86	QP
3	56.792	31.41	13.29	0.56	45.27	50.00	-4.73	QP
4	93.768	36.43	7.90	0.89	45.22	50.00	-4.78	QP
5	216.024	33.27	9.73	1.48	44.48	50.00	-5.52	QP
6	640.611	26.42	20.60	3.32	50.34	57.00	-6.66	QP

Left Side

Mode:a; Polarization: Vertical

Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1	32.979	34.11	12.20	0.37	46.68	50.00	-3.32	QP
2	39.024	33.43	12.93	0.42	46.79	50.00	-3.21	QP
3	75.446	32.15	10.48	0.72	43.34	50.00	-6.66	QP
4	116.950	30.40	11.16	1.03	42.59	50.00	-7.41	QP
5	343.180	35.84	14.42	1.96	52.22	57.00	-4.78	QP
6	768.748	25.40	22.21	3.73	51.34	57.00	-5.66	QP

Right Side

Mode:a; Polarization: Vertical

Item	Freq.	Read Level	Antenna Factor	Cable Loss	Result Level	Limit Line	Over Limit	Detector
(Mark)	(MHz)	(dBμV)	(dB/m)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1	30.962	33.46	11.82	0.36	45.65	50.00	-4.35	QP
2	49.533	32.47	13.60	0.51	46.57	50.00	-3.43	QP
3	77.865	34.85	9.92	0.74	45.51	50.00	-4.49	QP
4	250.301	38.19	11.75	1.61	51.55	57.00	-5.45	QP
5	787.851	24.27	22.61	3.75	50.63	57.00	-6.37	QP
6	916.069	22.02	23.67	3.91	49.60	57.00	-7.40	QP



7 Immunity Test Results

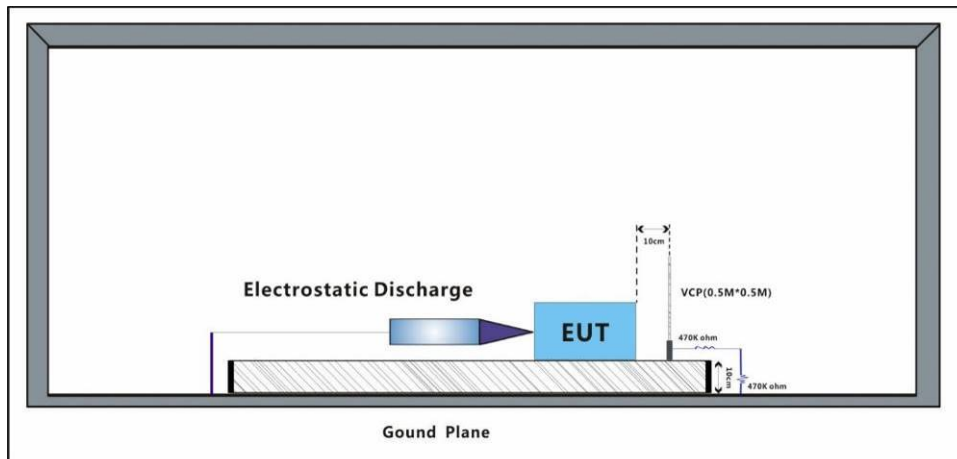
7.1 Performance Criteria Description in EN IEC 61000-6-2:2019

Criterion A	The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.
Criterion B	The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.
Criterion C	Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

7.2 Electrostatic Discharge

Test Requirement: EN IEC 61000-6-2:2019
 Test Method: EN 61000-4-2:2009
 Performance Criterion: B
 Discharge Impedance: 330Ω/150pF
 Number of Discharge: Minimum 10 times at each test point
 Discharge Mode: Single Discharge
 Discharge Period: 1 second minimum

7.2.1 Test Setup Diagram



7.2.2 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar
 Test mode: 00: Running mode: Keep EUT running continuously.

7.2.3 Test Results:

Observations: Test Point:
 1. All insulated enclosure and seams.
 2. All accessible metal parts of the enclosure.
 3. All side

Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	2,4,8	+	1	B
Air Discharge	2,4,8	-	1	B
Contact Discharge	4	+	2	A
Contact Discharge	4	-	2	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A

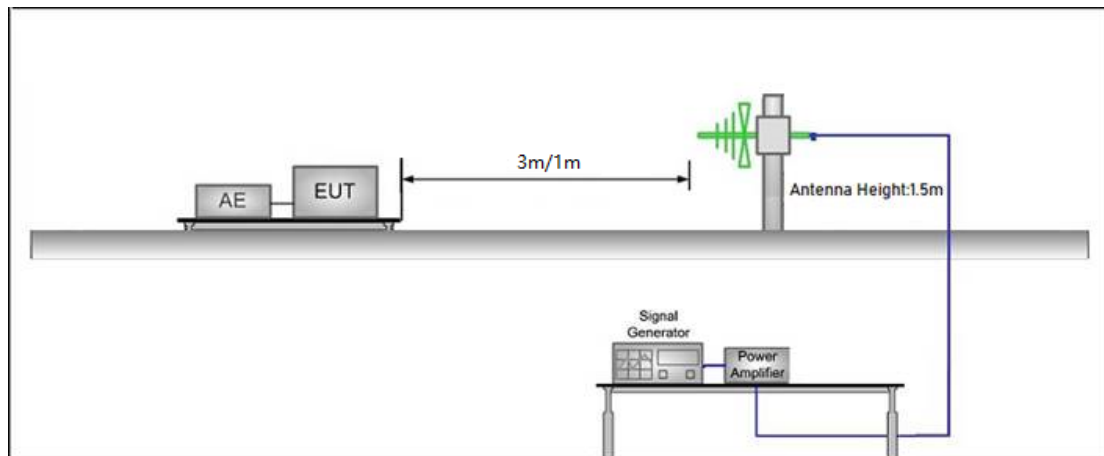
Results:

A: No degradation in the performance of the EUT was observed.

7.3 Radiated Immunity (80MHz-1GHz, 1.4GHz-6GHz)

Test Requirement: EN IEC 61000-6-2:2019
 Test Method: EN IEC 61000-4-3:2020
 Performance Criterion: A
 Frequency Range: 80MHz to 1GHz, 1.4GHz to 6GHz
 Antenna Polarisation: Vertical and Horizontal
 Modulation: 1kHz,80% Amp. Mod,1% increment

7.3.1 Test Setup Diagram



7.3.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

Test mode: 00: Running mode: Keep EUT running continuously.

7.3.3 Test Results:

Frequency	Level (V/m)	EUT Face	Dwell time	Result / Observations
80MHz-1GHz	10	Front	3s	A
80MHz-1GHz	10	Back	3s	A
80MHz-1GHz	10	Left	3s	A
80MHz-1GHz	10	Right	3s	A
1.4GHz-6GHz	3	Front	3s	A
1.4GHz-6GHz	3	Back	3s	A
1.4GHz-6GHz	3	Left	3s	A
1.4GHz-6GHz	3	Right	3s	A

Results:

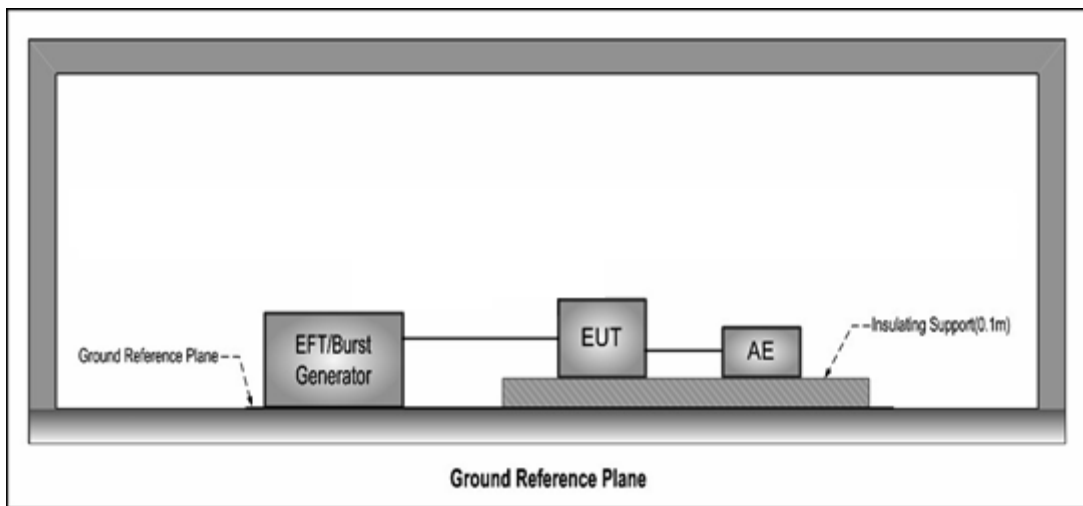
A: No degradation in the performance of the EUT was observed.

7.4 Electrical Fast Transients/Burst at Power Port

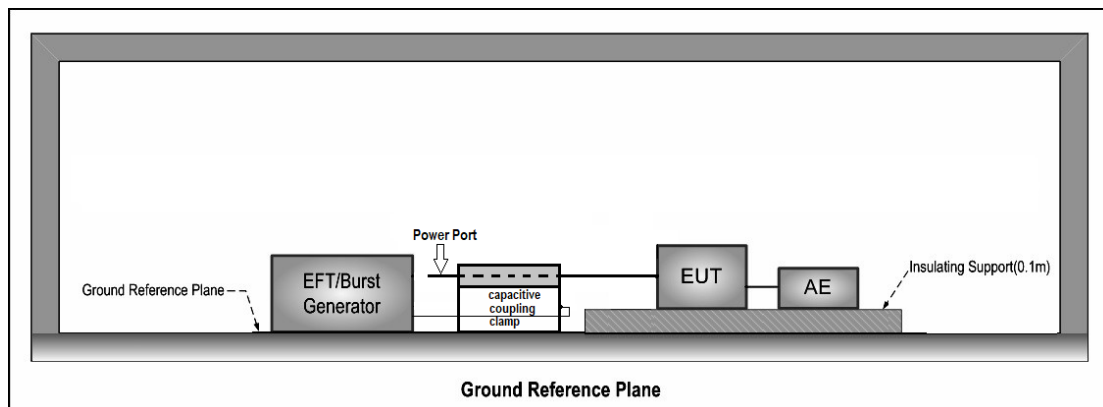
Test Requirement: EN IEC 61000-6-2:2019
 Test Method: EN 61000-4-4:2012
 Performance Criterion: B
 Repetition Frequency: 5kHz
 Burst Period: 300ms
 Test Duration: 2 minute per level & polarity

7.4.1 Test Setup Diagram

☒ CDN Test Method



☐ CCC Test Method



7.4.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

Test mode: a: Running mode: Keep EUT running continuously.

7.4.3 Test Results:

Test Line	Level (kV)	Polarity	CDN/Clamp	Result / Observations
AC power port	2	+	CDN	A
AC power port	2	-	CDN	A

Results:

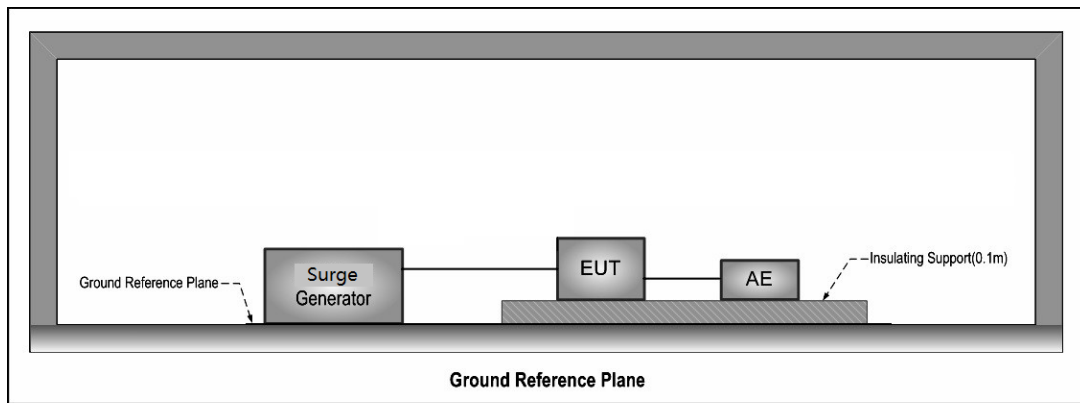
A: No degradation in the performance of the EUT was observed.

7.5 Surge at Power Port

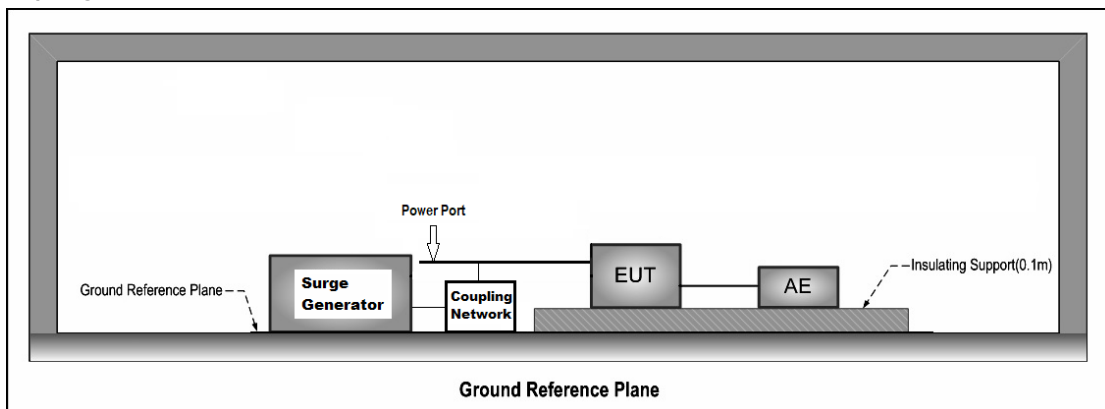
Test Requirement: EN IEC 61000-6-2:2019
 Test Method: EN 61000-4-5: 2014+A1:2017
 Performance Criterion: B
 Interval: 60s between each surge
 No. of surges: 5 positive, 5 negative at 0°, 90°, 180°, 270°.

7.5.1 Test Setup Diagram

☒ CDN Test Method



☐ Coupling Network Test Method



7.5.2 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar
 Test mode: a: Running mode: Keep EUT running continuously.

7.5.3 Test Results:

Test Line	Level (kV)	Polarity	Phase (deg)	Result / Observations
L1-L2	1	+/-	0°, 90°, 180°, 270°	A
L1-L3	1	+/-		A
L2-L3	1	+/-		A
L1-N	N/A	+/-		N/A
L2-N	N/A	+/-		N/A
L3-N	N/A	+/-		N/A
L1-PE	2	+/-		A
L2-PE	2	+/-		A



SGS-CSTC Standards Technical Services Co., Ltd. Anhui Branch

AHEM-TRF-001 Rev. 02 Sep01, 2023

Report No.: AHEM250400037101

Page: 21 of 30

L3-PE	2	+/-		A
N-PE	N/A	+/-		N/A

Results:

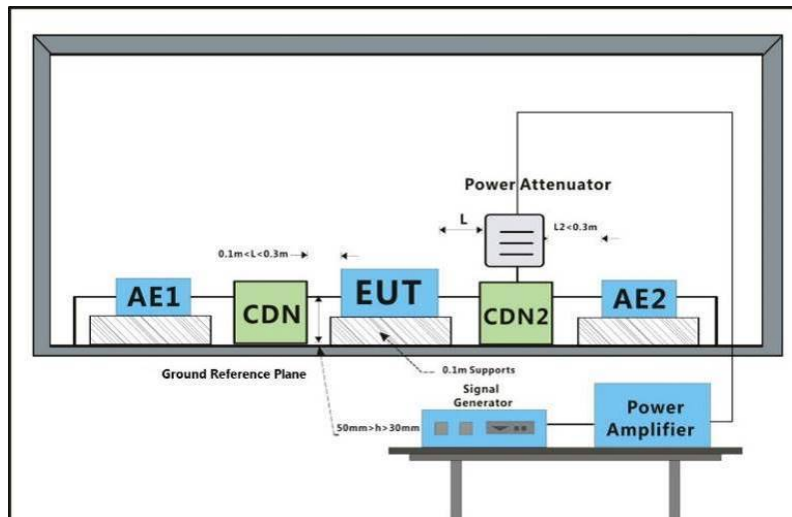
A: No degradation in the performance of the EUT was observed.

7.6 Conducted Immunity at Power Port (150kHz-80MHz)

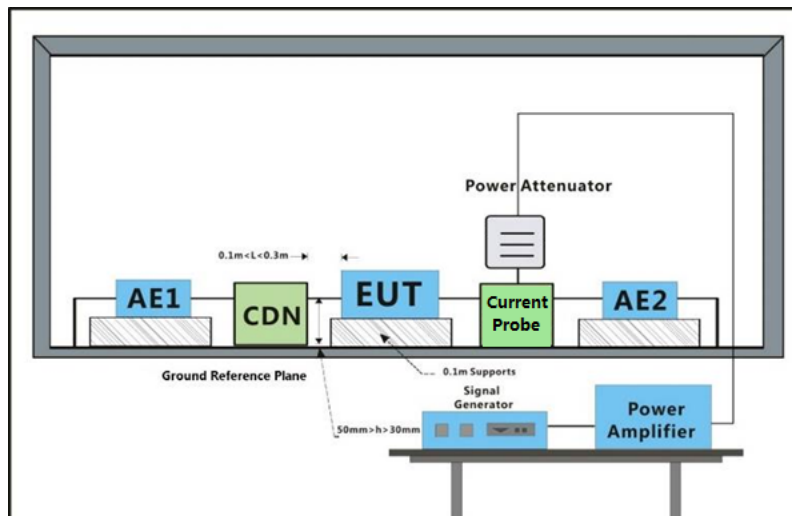
Test Requirement:	EN IEC 61000-6-2:2019
Test Method:	EN 61000-4-6:2014
Performance Criterion:	A
Frequency Range:	0.15MHz to 80MHz
Modulation:	80%, 1kHz Amplitude Modulation
Step Size	1%

7.6.1 Test Setup Diagram

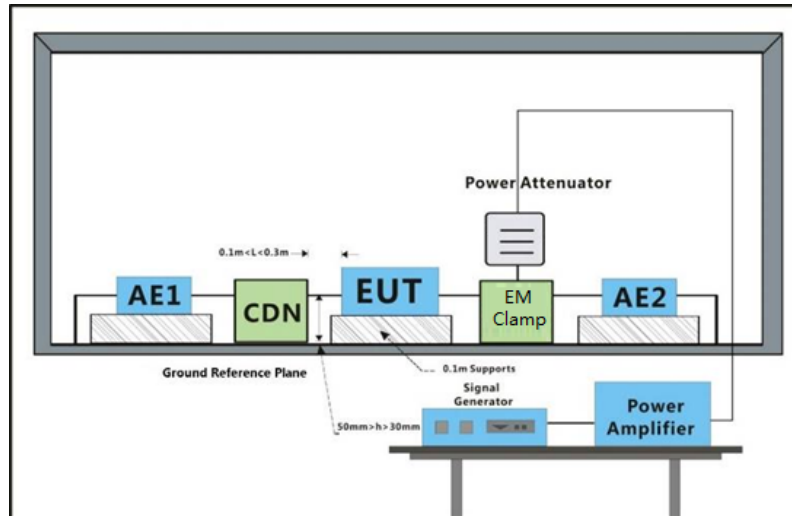
☐ CDN Test Method



☒ Current Clamp Test Method



☐ EM Clamp Test Method



7.6.2 E.U.T. Operation

Operating Environment:

Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

Test mode: a: Running mode: Keep EUT running continuously.

7.6.3 Test Results:

Cable port	Level (Vrms)	CDN/Clamp	Dwell time	Result / Observations
AC power port	10	Current Clamp	3s	A

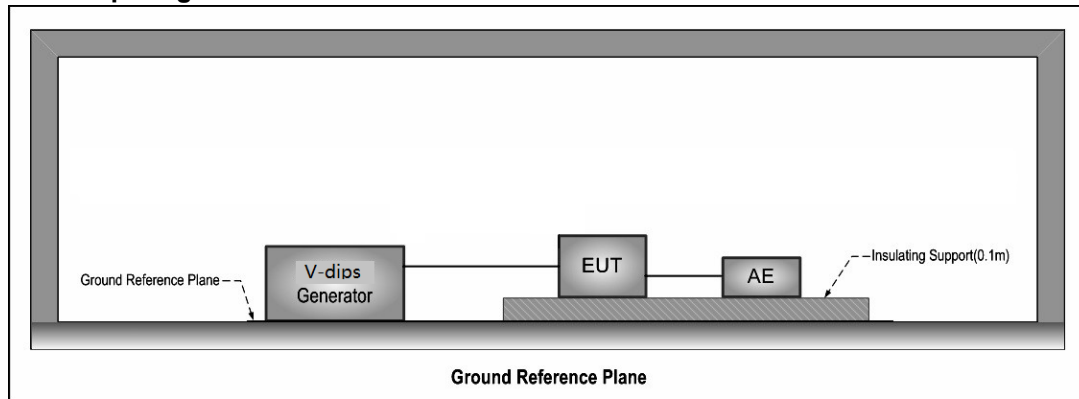
Results:

A: No degradation in the performance of the EUT was observed.

7.7 Voltage Interruptions

Test Requirement: EN IEC 61000-6-2: 2019
 Test Method: EN 61000-4-34:2007+A1:2009
 Performance Criterion: 0% of UT for 250 Cycles: C
 No. of Interruptions: 3 per Level
 Time between dropout 10s

7.7.1 Test Setup Diagram



7.7.2 E.U.T. Operation

Operating Environment:
 Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar
 Test mode: a: Running mode: Keep EUT running continuously.

7.7.3 Test Results:

Level % UT	Duration	No. of interruptions	Result / Observations
0	250 Cycles	3	C

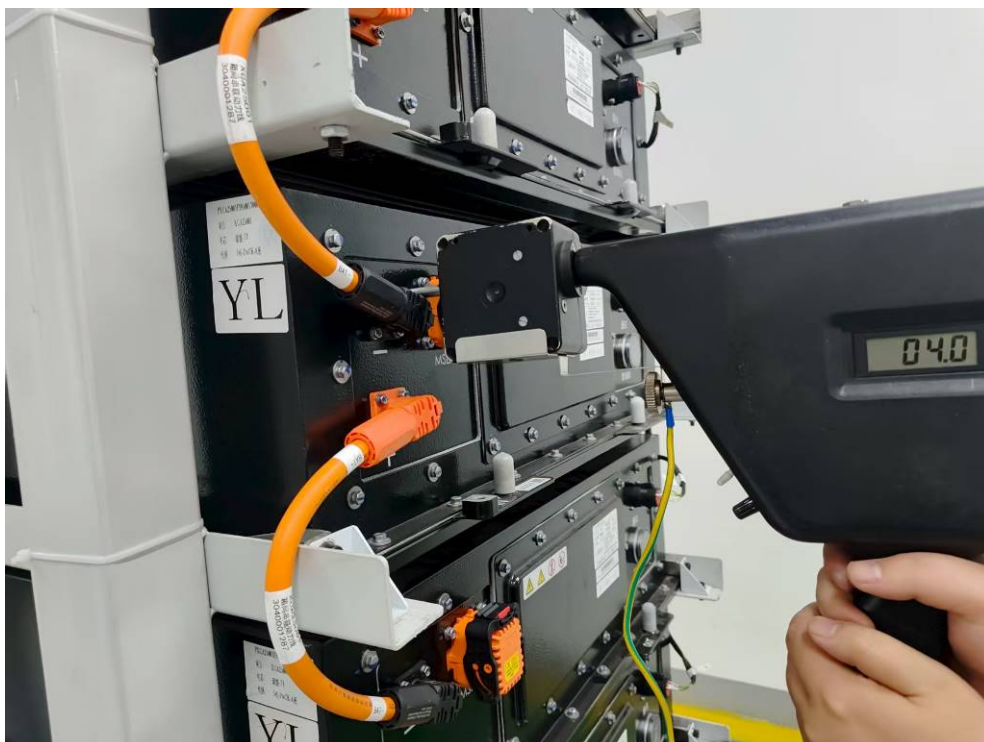
C: During test, the EUT stop working. After test, it's restarted by operator.

8 Photographs

Radiated Emissions (30MHz-1GHz) Test Setup



Electrostatic Discharge Test Setup



Radiated Immunity (80MHz-1GHz, 1.4GHz-6GHz) Test Setup



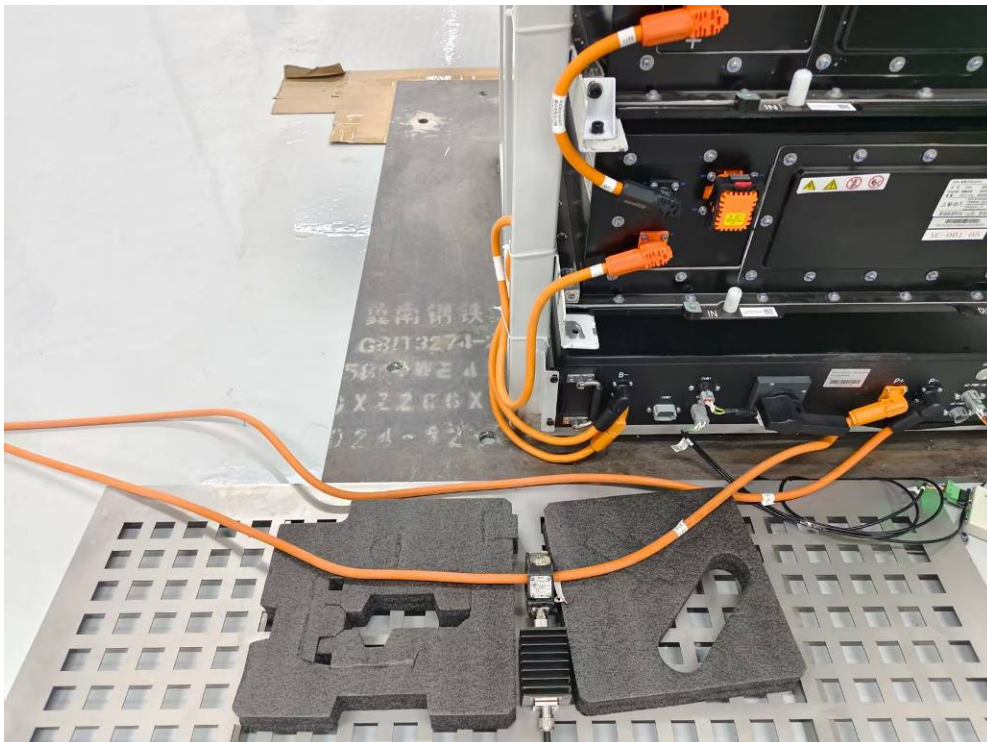
Electrical Fast Transients/Burst at Power Port Test Setup



Surge at Power Port Test Setup



Conducted Immunity at Power Port (150kHz-80MHz) Test Setup



Voltage Interruptions Test Setup



9 EUT Constructional Details (EUT Photos)





- End of the Report -