EMC TEST REPORT

Generic standards – Residential, commercial and light-industrial environments equipment

Test Report No. .....:	TCT250526E012	
Date of issue .....:	May 29, 2025	
Testing laboratory.....:	Shenzhen TCT Testing Technology Co., Ltd.	
Testing location/ address.....:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China	
Applicant's name .....:	Shenzhen Xinpeng New Energy Co., Ltd.	
Address.....:	706a, Building A, Phase I, Zhuoyue Baozhong Times Square, No. 15-1, Haitian Road, N23 District, Haibin Community, Xin 'an Street, Shenzhen, Guangdong, China	
Manufacturer's name .....:	Shenzhen Xinpeng New Energy Co., Ltd.	
Address.....:	706a, Building A, Phase I, Zhuoyue Baozhong Times Square, No. 15-1, Haitian Road, N23 District, Haibin Community, Xin 'an Street, Shenzhen, Guangdong, China	
Standard(s).....:	EN IEC 61000-6-3:2021 EN IEC 61000-6-1:2019	
Test item description.....:	LiFePo4 Battery	
Trade Mark.....:	N/A	
Model/Type reference.....:	17 kWh household energy storage battery, L173F230	
Rating(s) .....:	DC 51.2 V, 320 Ah, 16384 Wh	
Date of receipt of test item.....:	May 26, 2025	
Date (s) of performance of test:	May 26, 2025 ~ May 26, 2025	
Tested by (+signature).....:	Mark ZHANG	
Check by (+signature).....:	Howie LYU	
Approved by (+signature).....:	Tomsin	

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1. General Product Information

1.1.EUT description

Test item description ..... :	LiFePo4 Battery	
Model/Type reference ..... :	17 kWh household energy storage battery	
Rating(s) ..... :	DC 51.2 V, 320 Ah, 16384 Wh	
Highest internal frequency F_x..... :	☒	F_x ≤ 108 MHz
	☐	108 MHz < F_x ≤ 500 MHz
	☐	500 MHz < F_x ≤ 1 GHz
	☐	F_x > 1 GHz
AC Line ..... :	☐Shielded ☐Unshielded ☐Detachable ☐Un-detachable ☒No applicable ☐Length:	
DC Line ..... :	☐Shielded ☐Unshielded ☐Detachable ☐Un-detachable ☒No applicable ☐Length:	

1.2.Model(s) list

No.	Model No.	Tested with
1	17 kWh household energy storage battery	☒
Other models	L173F230	☐

Note: 17 kWh household energy storage battery is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names. So the test data of 17 kWh household energy storage battery can represent the remaining models.

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2. Test Information

2.1.EUT operation mode(s)

Mode #	Operating mode description	Test voltage
1	Discharging	Supply power by internal battery

2.2.Special accessories and auxiliary equipment

Product Type	Manufacturer	Model No.	Serial No.
/	/	/	/

Auxiliary cable description

Port name	Specified length(m)	Shielded	Unshielded
/	/	/	/

2.3.Configuration of system under test

(EUT: LiFePo4 Battery)

2.4.General test conditions

Environmental reference conditions

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment.

The climatic conditions during the tests were within the following limits:

Temperature	Humidity	Atmospheric pressure
15 °C – 35 °C	30 % - 60 %	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product standard the climatic values are recorded and documented separately in this test report.

Measurement uncertainties

Test Item	Uncertainty
Uncertainty for Disturbance voltage at the mains terminals	3.32 dB
Uncertainty for Disturbance voltage at the telecommunication terminals	4.10 dB
Uncertainty for Radiated emission (30 MHz to 1 GHz)	4.86 dB
Uncertainty for Radiated emission (1 GHz to 6 GHz)	4.91 dB

The overall measurement uncertainty of a measurement is defined as the range of which can be supposed that it contains the true value with a specified probability.

This probability is 95 % for the generally specified measurement uncertainty (so-called expanded measurement uncertainty).

The limits for emission measurements and the Test levels for immunity tests in the applied standards were defined taking into consideration the accuracy limits for measurement and testing equipment required by the Basic standards.

All measurement and test results of the EMC laboratory of Shenzhen TCT Testing Technology Co., Ltd. fulfil the requirements for measurement uncertainties according to the standards applied.

Decision rule for statement(s) of conformity is based on simple acceptance specified in Clause 4.3.3 in IEC Guide 115:2023.

3. Test Result Summary

EN IEC 61000-6-3:2021	
Requirement – Test case	**Verdict**
Disturbance voltage at mains terminals	N/A
Disturbance voltage at telecommunication terminals	N/A
Radiated disturbance 30 MHz –6 GHz	Pass
Discontinuous disturbance (Clicks)	N/A
Harmonic current emissions	N/A
Voltage changes, voltage fluctuations and flicker	N/A
EN IEC 61000-6-1:2019	
Requirement – Test case	**Verdict**
Electrostatic discharge immunity (ESD)	Pass
Radiated, radio-frequency, electromagnetic field immunity (RS)	Pass
Electrical fast transient/burst immunity (EFT/B)	N/A
Surge immunity	N/A
Immunity to conducted disturbances, induced by radio-frequency fields (CS)	N/A
Power frequency magnetic field immunity (PFMF)	N/A
Voltage dips, short interruptions and voltage variations immunity (DIPS)	N/A
Remark:---	

Test case verdicts	
- Test case does not apply to the test object ..... :	N/A
- Test object does meet the requirement ..... :	P (Pass)
- Test object does not meet the requirement ..... :	F (Fail)

4. List of Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal. Due
Disturbance voltage at mains terminals				
EMI Test Receiver	R&S	ESCI3	100898	2025/06/26
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	2026/01/20
Attenuator	N/A	10dB	164080	2025/06/26
844 Shielded room	SKET	8m*4m*4m	CR4	2027/06/26
Test software	EZ_EMC	EMEC-3A1	1.1.4.2	/
Disturbance voltage at telecommunication terminals				
EMI Test Receiver	R&S	ESCI3	100898	2025/06/26
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	2026/01/20
ISN	Schwarzbeck	CAT5 8158	151	2026/01/20
ISN	Schwarzbeck	CAT3 8158	00191	2025/06/26
ISN	Schwarzbeck	NTFM 8158	00334	2025/06/26
844 Shielded room	SKET	8m*4m*4m	CR4	2027/06/26
Test software	EZ_EMC	EMEC-3A1	1.1.4.2	/
Radiated emission (30 MHz to 1 GHz)				
Broadband Antenna	Schwarzbeck	VULB 9168	01197	2026/01/22
EMI Test Receiver	R&S	ESCI7	100529	2026/01/20
Pre-amplifier	HP	8447D	2727A05017	2025/06/26
3m Anechoic Chamber	SKET	9m*6m*6m	SA01	2027/06/12
Test software	EZ_EMC	FA-03A2 RE+	1.1.4.2	/
Radiated emission (1 GHz to 6 GHz)				
Horn Antenna	Schwarzbeck	BBHA 9120 D	02372	2026/01/22
Signal Analyzer	R&S	FSQ40	200061	2025/06/26
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	2026/01/20
#3 3m Anechoic Chamber	SKET	9m*6m*6m	SA03	2027/05/29
Test software	EZ_EMC	FA-03A2 RE+	1.1.4.2	/
Harmonic current emissions & Voltage Fluctuations and Flicker				
AC Power Supply	KIKUSUI	PCR4000M	UC002552	2026/01/20
Harmonic/Flicker Analyzer	KIKUSUI	KHA1000	UD002324	2025/06/26
Line Impedance Network	KIKUSUI	LIN1020JF	UC001738	2025/06/26
Test software	KIKUSUI	HarmoCapture	V3.9.1.00	/

Electrostatic discharge immunity (ESD)				
Electrostatic Discharge Generator	3ctest	EDS 30T	ES031000122077	2025/07/02
Radiated, radio-frequency, electromagnetic field immunity (RS)				
Antenna	SKET	STLP 9129_Plus	/	/
Signal Generator	Agilent	N5181A	MY50141997	2026/01/20
Amplifier	SKET	HAP_80M01G-250 W	202105183	2025/06/26
Amplifier	SKET	HAP_01G06G-80W	202305501	2025/06/26
Field Probe	Narda	EP-601	811ZX01057	2025/06/28
USB Power Sensor	Agilent	U2000A	MY53410013	2026/01/20
USB Power Sensor	Agilent	U2001A	MZ54330012	2026/01/20
743 Anechoic Chamber	SKET	7m*4m*3m	SA04	2026/03/02
Test software	SKET	EMC-S	3.1.3.2	/
Electrical fast transient/burst immunity (EFT/B)				
Fast Transient Burst Simulator	Prima	EFT61004BG	PR12074375	2025/06/26
Capacitive Coupling folder	Prima	EFT-CLAMP	N/A	2025/06/26
Surge immunity				
Lightning Surge Generator	Prima	SUG61005BG	PR12125534	2025/06/26
Immunity to conducted disturbances, induced by radio-frequency fields (CS)				
Conducted Immunity Test System	Schloder	CDG-6000-75	126B1290/2014	2025/06/26
CDN	Schloder	CDN M2+M3-16	A2210281/2014	2025/06/26
CDN	Prima	CRF-CDN-TRJ45	PR230681112	2025/06/26
EM-Clamp	Schloder	EMCL-20	132A1194/2014	2025/06/26
RF Attenuator	PE	75W 6dB	N/A	2025/06/26
Test software	HUBERT	IEC/EN61000-4-6	V 1.5	/
Power frequency magnetic field immunity (PFMF)				
Power Frequency Magnetic Field Generator	EVERFINE	EMS61000-8K	G121941CS1341114	2025/06/26
Adjsutable Magnetic Field Coil	EVERFINE	MFC-4	G1242BBS1341114	2025/06/26
Voltage dips, short interruptions and voltage variations immunity (DIPS)				
Cycle Sag Simulator	Prima	DRP61011AG	PR12106201	2025/06/26

5. Test Conditions and Results (Emission)

5.1. Disturbance voltage at mains terminals

Test requirement.....:	EN IEC 61000-6-3:2021		
Test frequency range.....:	150 kHz to 30 MHz		
Limits .....:	**Limits –DC power port**		
	Frequency (MHz)	**dBµV Quasi-peak**	**dBµV Average**
	0.15 to 0.5	79	66
	0.5 to 30	73	60
	Limits –AC mains port		
	Frequency (MHz)	**dBµV Quasi-peak**	**dBµV Average**
	0.15 to 0.5	66 to 56	56 to 46
	0.5 to 5	56	46
	5 to 30	60	50
Test method.....:	The AMN placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0.8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN.		
Ambient temperature.....:	/		
Relative humidity.....:	/		
Test location.....:	/		
Test model(s) .....:	/		
EUT operation mode.....:	/		
Test results.....:	N/A		
Remark.....:	According to the electrical construction of the EUT, there is no AC terminal incorporated. Therefore this test is not applicable for this EUT.		

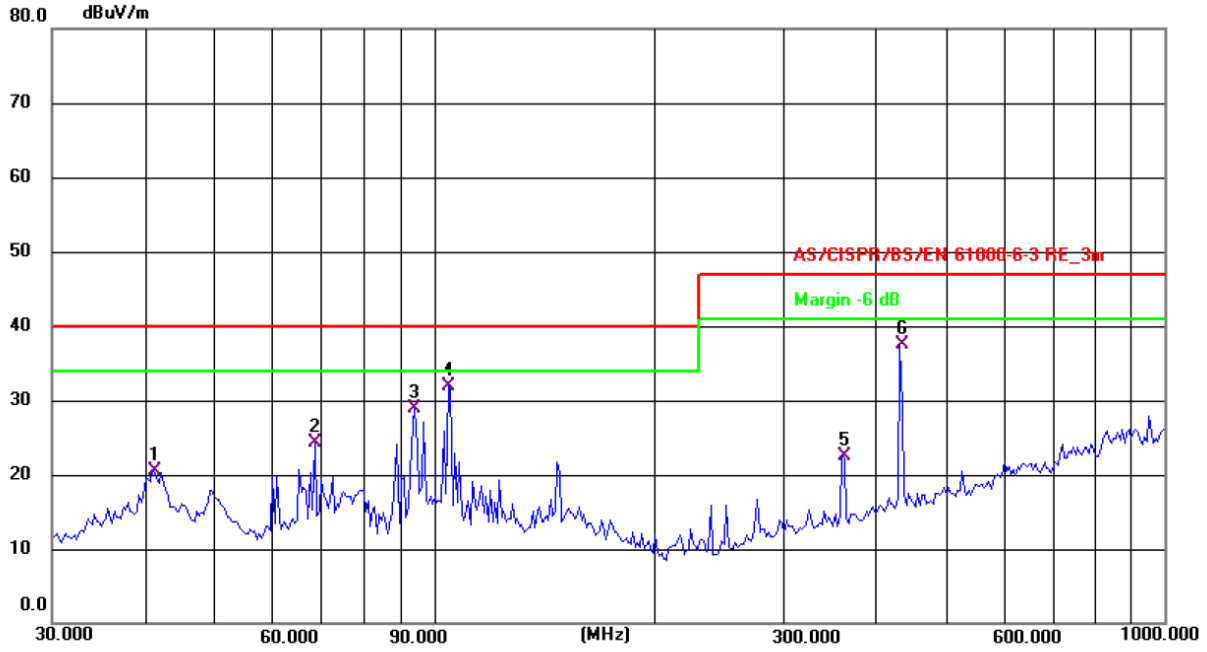
5.2.Disturbance voltage at telecommunication terminals

Test requirement.....:	EN IEC 61000-6-3:2021				
Test frequency range.....:	150 kHz to 30 MHz				
Limits .....:	**Frequency**	**Voltage Limits**		**Current Limits**	
	MHz	**dBµV Quasi-peak**	**dBµV Average**	**dBµV Quasi-peak**	**dBµV Average**
	0.15 to 0.5	84 to 74	74 to 64	40 to 30	30 to 20
	0.5 to 30	74	64	30	20
Test method.....:	The AMN placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0.8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN.				
Ambient temperature.....:	/				
Relative humidity .....:	/				
Test location .....:	/				
Test model(s) .....:	/				
EUT operation mode.....:	/				
Test results .....:	N/A				
Remark.....:	This test isn’t applicable because the EUT doesn’t have relative function. Therefore this test is not applicable for this EUT.				

5.3.Radiated emission

Test requirement.....:	EN IEC 61000-6-3:2021		
Test frequency range..:	30 MHz to 6 GHz		
Limits .....:	**Limits – (30 MHz to 1 GHz)**		
	Frequency (MHz)	**10m measurement distance**	**3 m measurement distance**
		dBµV/m	
	30 to 230	30 Quasi-peak	40 Quasi-peak
	230 to 1000	37 Quasi-peak	47 Quasi-peak
	Limits (1 GHz to 6 GHz)		
	Frequency (MHz)	**Peak**	**Average**
		dBµV/m	
	1000 to 3000	70	50
	3000 to 6000	74	54
Test method.....:	Measurements were made in a 3/10-meter semi-anechoic chamber that complies to CISPR 16. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3/10 meters with the receive antenna located at 1 to 4-meter height in both horizontal and vertical polarities. Final measurements (quasi-peak) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.		
Ambient temperature..:	24.4 °C		
Relative humidity.....:	55 %		
Test location.....:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China		
Test model(s) .....:	17 kWh household energy storage battery		
EUT operation mode..:	Mode 1		
Test results.....:	Pass		
Remark.....:	The EUT highest internal frequency less 108 MHz, So don't need to test above 1GHz.		

Measurement data and Graphical presentation of the result



Site: 3m Anechoic Chamber1 Polarization: ***Horizontal*** Temperature: 24.4(C) Humidity: 55 %

Limit: AS/CISPR/BS/EN 61000-6-3 RE_3m Power: Supply power by internal battery

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	41.1320	32.45	-12.04	20.41	40.00	-19.59	QP	P	
2	68.6310	38.45	-14.07	24.38	40.00	-15.62	QP	P	
3	94.0978	44.98	-16.12	28.86	40.00	-11.14	QP	P	
4 *	104.5360	46.92	-15.03	31.89	40.00	-8.11	QP	P	
5	361.7138	32.49	-9.96	22.53	47.00	-24.47	QP	P	
6	434.0650	45.93	-8.44	37.49	47.00	-9.51	QP	P	

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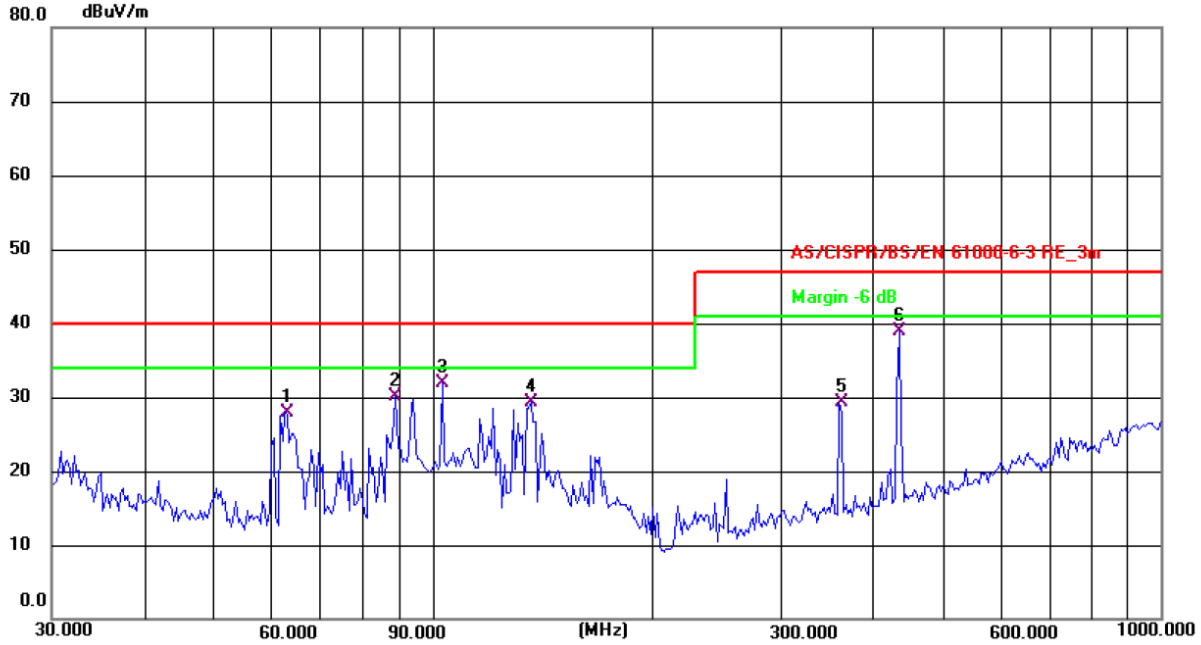


Site: 3m Anechoic Chamber1 Polarization: *Vertical* Temperature: 24.4(C) Humidity: 55 %

Limit: AS/CISPR/BS/EN 61000-6-3 RE_3m Power: Supply power by internal battery

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	62.6506	40.86	-13.05	27.81	40.00	-12.19	QP	P	
2	88.9637	46.78	-16.74	30.04	40.00	-9.96	QP	P	
3 *	103.0800	47.07	-15.09	31.98	40.00	-8.02	QP	P	
4	136.4598	41.62	-12.35	29.27	40.00	-10.73	QP	P	
5	361.7138	39.36	-9.96	29.40	47.00	-17.60	QP	P	
6	437.1200	47.31	-8.43	38.88	47.00	-8.12	QP	P	

5.4.Discontinuous disturbance (Clicks)

Test requirement ..... :	EN IEC 61000-6-3:2021	
Basic Standard: ..... :	EN IEC 55014-1:2021	
Test frequency range..... :	150 kHz to 30 MHz	
Click-analyser..... :	☐	4-channel click analyser
	☐	1-channel click analyser
	☐	Other: ---
Test set-up description ..... :	☐	Set-up Type A (40 cm distance to vertical ground plane, 80 cm over ground plane)
	☐	Set-up Type B (40 cm distance to horizontal ground plane)
	☐	Floor standing equipment set-up (10 cm over ground plane)
	☐	Other: ---
Applied method for discontinuous disturbances .. :	☐	Click rate determined on base of switching operations
	☐	Click rate determined on base of clicks measurements
	☐	Other: ---
Ambient temperature..... :	/	
Relative humidity ..... :	/	
Test location ..... :	/	
Test model(s) ..... :	/	
EUT operation mode..... :	/	
Test results ..... :	N/A	
Remark..... :	This test isn't applicable because the EUT doesn't have relative function.	

5.5.Harmonic current emissions

Test requirement ..... :	EN IEC 61000-6-3:2021	
Basic Standard: ..... :	EN IEC 61000-3-2:2019+A1:2021	
Limit classification in accordance with the standard ..... :	**Limits - Class A equipment**	
	Odd harmonics	
	Harmonic order (n)	**Maximum permissible harmonic current (A)**
	3	2.30
	5	1.14
	7	0.77
	9	0.40
	11	0.33
	13	0.21
	15 ≤ n ≤ 39	0.15 x 15/n
	Even harmonics	
	2	1.08
	4	0.43
	6	0.30
	8 ≤ n ≤ 40	0.23 x 8/n
Test method ..... :	This test consists on the measurement of harmonics components of the input current which may be produced by equipment having an input current up to and including 16 A per phase, and intended to be connected to public low-voltage distribution systems. The equipment is tested under specified conditions of operation.	
Ambient temperature..... :	/	
Relative humidity ..... :	/	
Test location ..... :	/	
Test model(s) ..... :	/	
EUT operation mode..... :	/	
Test results ..... :	N/A	
Remark..... :	According to the electrical construction of the EUT, there is no AC terminal incorporated. Therefore this test is not applicable for this EUT.	

5.6. Voltage changes, voltage fluctuations and flicker

Test requirement ..... :	EN IEC 61000-6-3:2021
Basic Standard: ..... :	EN 61000-3-3:2013+A1:2019+A2:2021
Applied limit ..... :	The value of P_{st} shall be not greater than 1.0 The value of P_{lt} shall be not greater than 0.65 The value of d(t) during a voltage change shall not exceed 3.3 % for more than 500 ms The relative steady-state voltage change, dc shall not exceed 3.3 % The maximum relative voltage change d_{max} shall not exceed: a) 4 % without additional conditions b) 6 % for equipment which is: - switched manually, or - switched automatically more frequently than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds), or manual restart, after a power supply interruption c) 7 % for equipment which is - attended whilst in use (for example : hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as mowers, portable tools such as electric drills), or - switched on automatically, or is intended to be switched on manually, no more than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds) or manual restart, after a power supply interruption.
Test method ..... :	This test consists on the measurement of voltage changes, voltage fluctuations and flicker which may be produced by equipment having an input current ≤ 16 A per phase, and intended to be connected to public low-voltage distribution systems. The equipment is tested under specified conditions of operation.
Observation time ..... :	10 Minutes
	120 Minutes
	24 times switching according to Annex B
Ambient temperature..... :	/
Relative humidity ..... :	/
Test location ..... :	/
Test model(s) ..... :	/
EUT operation mode..... :	/
Test results ..... :	N/A
Remark..... :	According to the electrical construction of the EUT, there is no AC terminal incorporated. Therefore this test is not applicable for this EUT.

6. Test Conditions and Results (Immunity)

6.1.General information

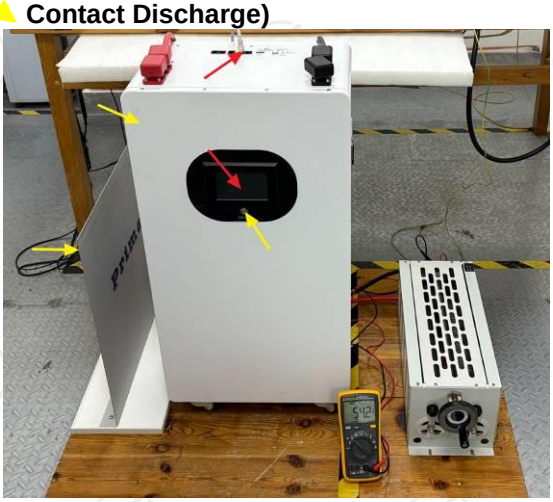
Performance criteria as defined by the standard	
Criterion	**Description from standard**
A	The EUT shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. If the performance level is not specified by the manufacturer, this may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.
B	The EUT 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 EUT is used as intended. The performance level may be replaced by a permissible loss of performance. However, during the test degradation of performance is allowed but 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 equipment if used as intended.
C	Temporary loss of function is allowed during the test, provided the function is self-recoverable or can be restored by the operation of the controls.

6.2.Electrostatic discharge immunity

Test requirement ..... :	EN IEC 61000-6-1:2019	
Basic standard ..... :	EN 61000-4-2:2009	
Test level ..... :	**Discharge type**	**Discharge voltage**
	Contact discharge voltage	±4 kV
	Air discharge voltage	±8 kV
Storage capacitor ..... :	150 pF	
Discharge resistor ..... :	330 Ω	
Horizontal coupling plate ..... :	1.6 x 0.8 m	
Vertical coupling plate ..... :	0.5 x 0.5 m	
Number of discharges ..... :	Min. 10 per discharge location	
Discharge interval ..... :	1 second	
Performance criteria ..... :	B	
Test method ..... :	The table-top equipment under test is placed on a wooden table, 0.8 m high, standing on the ground reference plane. A horizontal coupling plane (HCP), 1.6 x 0.8 m, is placed on the table. The EUT and the cables are isolated from the coupling plane by an insulating support 0.5 mm thick. The floor standing equipment is isolated from the ground reference plane by an insulating support about 0.1 m thick. The vertical coupling plane (VCP) of dimensions 0.5 m x 0.5 m is placed parallel to, and positioned at a distance of 0.1 m from, the EUT.	
Ambient temperature ..... :	23.6 °C	
Relative humidity ..... :	52 %	
Air pressure ..... :	100.4 kPa	
Test location ..... :	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China	
Test model(s) ..... :	17 kWh household energy storage battery	
EUT operation mode ..... :	Mode 1	
Test results ..... :	Pass	
Remark ..... :	/	

6.2.1. Test results for electrostatic discharges

Photos of selected test points:
(Air Discharge)
(Contact Discharge)



Contact discharges			
Test point	Positive polarity	Negative polarity	Observations
	4 kV	4 kV	
VCP- Four Sides	Pass	Pass	☒1 ☐2 ☐3
HCP- Four Sides	Pass	Pass	☒1 ☐2 ☐3
Points on conductive surface as indicated in the picture above	Pass	Pass	☒1 ☐2 ☐3

Air discharges			
Test point	Positive polarity	Negative polarity	Observations
	8 kV	8 kV	
Points on non-conductive surface as indicated in the picture above	Pass	Pass	☒1 ☐2 ☐3

6.2.2. Test results of observations description

/ - Not performed or not required.
1 –No obvious change of function was found after the test.
2 –The function stopped during the test, but can be recoverable by itself operation after the test.
3 –The function stopped during the test, but can be recoverable manually after the test.

6.3.Radiated, radio-frequency, electromagnetic field immunity

Test requirement ..... :	EN IEC 61000-6-1:2019		
Basic standard ..... :	EN IEC 61000-4-3:2020		
Test level ..... :	**Frequency (MHz)**	**Field strength**	**Modulation**
	80 to1000	3 V/m (r.m.s.) (unmodulated)	80% AM (1 kHz)
	1400 to 6000	3 V/m (r.m.s.) (unmodulated)	80% AM (1 kHz)
Dwell time ..... :	1 second		
Step size ..... :	1 %		
Distance antenna to EUT ..... :	3 m		
Performance criteria ..... :	A		
Test method ..... :	Measurements were made in a fully anechoic chamber and the indicated field strength was pre-calibrated prior to placement of the system under test. Tests were performed in both the horizontal and vertical polarities, where applicable. The antenna was placed 3 meters from the product under test. All sides of the EUT were investigated for anomalies.		
Ambient temperature ..... :	23.4 °C		
Relative humidity ..... :	51 %		
Air pressure ..... :	100.4 kPa		
Test location ..... :	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China		
Test model(s) ..... :	17 kWh household energy storage battery		
EUT operation mode ..... :	Mode 1		
Test results ..... :	Pass		
Remark ..... :	/		

6.3.1. Test results for radio-frequency electromagnetic field

Frequency	EUT side	Antenna polarity	Field strength	Observation	Results
☒ 80 MHz to 1 GHz ☒ 1.4 GHz to 6 GHz	Front	Horizontal	3 V/m	☒1 ☐2 ☐3	Pass
	Left Side	Horizontal	3 V/m	☒1 ☐2 ☐3	Pass
	Right Side	Horizontal	3 V/m	☒1 ☐2 ☐3	Pass
	Rear	Horizontal	3 V/m	☒1 ☐2 ☐3	Pass
	Front	Vertical	3 V/m	☒1 ☐2 ☐3	Pass
	Left Side	Vertical	3 V/m	☒1 ☐2 ☐3	Pass
	Right Side	Vertical	3 V/m	☒1 ☐2 ☐3	Pass
	Rear	Vertical	3 V/m	☒1 ☐2 ☐3	Pass

6.3.2. Test results of observations description

/ - Not performed or not required.
1 –No obvious change of function was found after the test.
2 –The function stopped during the test, but can be recoverable by itself operation after the test.
3 –The function stopped during the test, but can be recoverable manually after the test.

6.4.Electrical fast transient/burst immunity

Test requirement ..... :	EN IEC 61000-6-1:2019	
Basic standard ..... :	EN 61000-4-4:2012	
Test level ..... :	**Measurement port**	**Voltage**
	Input a.c. power ports	±1 kV
	Input d.c. power ports	±0.5 kV
	Signal/control ports	±0.5 kV
Burst duration ..... :	15 ms	
Burst period..... :	300 ms	
Repetition frequency ..... :	5 kHz	
Test time ..... :	2 minutes per level & polarity	
Performance criteria..... :	B	
Test method..... :	Measurements were made on a ground plane that extends 0.5-meter minimum beyond all sides of the system under test. Mains power tests were conducted with the product connected to a Coupling/Decoupling Network (CDN). One of each unique interface was tested for a period of 2 minute per polarity. The bursts are applied on the mains supply port by using a coupling decoupling network and on signal and control lines ports by using a capacitive clamp.	
Ambient temperature..... :	/	
Relative humidity ..... :	/	
Air pressure..... :	/	
Test location ..... :	/	
Test model(s) ..... :	/	
EUT operation mode..... :	/	
Test results ..... :	N/A	
Remark..... :	According to the electrical construction of the EUT, there is no AC terminal incorporated and which length was less than 3m. Therefore this test is not applicable for this EUT.	

6.5.Surge immunity

Test requirement ..... :	EN IEC 61000-6-1:2019		
Basic standard ..... :	EN 61000-4-5:2014+A1:2017		
Test level ..... :	**Measurement port**	**Coupling point**	**Open-circuit peak voltage**
	Input a.c. power ports	Line to line	±1 kV
		Line to earth	±2 kV
	Input d.c. power ports	Line to line	±0.5 kV
		Line to earth	±1 kV
Repetition rate ..... :	1/min		
Phase angles ..... :	Positive pulses and negative pulses are applied 0°, 90°, 180° and 270°		
Number of pulses for each coupling ..... :	5		
Performance criteria ..... :	B		
Test method ..... :	Mains power tests were conducted with the product connected to a Coupling/Decoupling Network (CDN). The test voltage was increased from the lowest indicated level up to the maximum level. Five (5) positive surges and five (5) negative surges were applied at each of phases of the A.C. waveform: 0°, 90°, 180° and 270°. Each surge was applied 60 seconds after the previous surge. Signal and Telecommunications ports were subject to five (5) positive and five (negative) surges applied through the appropriate Coupling/Decoupling Network (CDN).		
Ambient temperature ..... :	/		
Relative humidity ..... :	/		
Air pressure ..... :	/		
Test location ..... :	/		
Test model(s) ..... :	/		
EUT operation mode ..... :	/		
Test results ..... :	N/A		
Remark ..... :	According to the electrical construction of the EUT, there is no AC terminal incorporated. Therefore this test is not applicable for this EUT.		

6.6.Immunity to conducted disturbances, induced by radio-frequency fields

Test requirement ..... :	EN IEC 61000-6-1:2019	
Basic standard ..... :	EN IEC 61000-4-6:2023	
Frequency range ..... :	150 kHz to 80 MHz	
Test level ..... :	**Measurement port**	**Voltage**
	Input a.c. power ports	3 V (r.m.s.) (unmodulated)
	Input d.c. power ports	3 V (r.m.s.) (unmodulated)
	Signal/control ports	3 V (r.m.s.) (unmodulated)
Dwell time ..... :	1 second	
Step size ..... :	1 %	
Modulation ..... :	80% AM (1kHz)	
Performance criteria ..... :	A	
Test method ..... :	The test allows estimating of the conducted immunity of electrical and electronic equipment to electromagnetic disturbances coming from intended radio-frequency (RF) transmitters in the frequency range 150 kHz to 80 MHz. The interference is applied on mains supply, signal line and earth connection ports by using coupling decoupling networks or a clamp.	
Ambient temperature ..... :	/	
Relative humidity ..... :	/	
Air pressure ..... :	/	
Test location ..... :	/	
Test model(s) ..... :	/	
EUT operation mode ..... :	/	
Test results ..... :	N/A	
Remark ..... :	According to the electrical construction of the EUT, there is no AC terminal incorporated and which length was less than 3m. Therefore this test is not applicable for this EUT.	

6.7.Power frequency magnetic field immunity (PFMF)

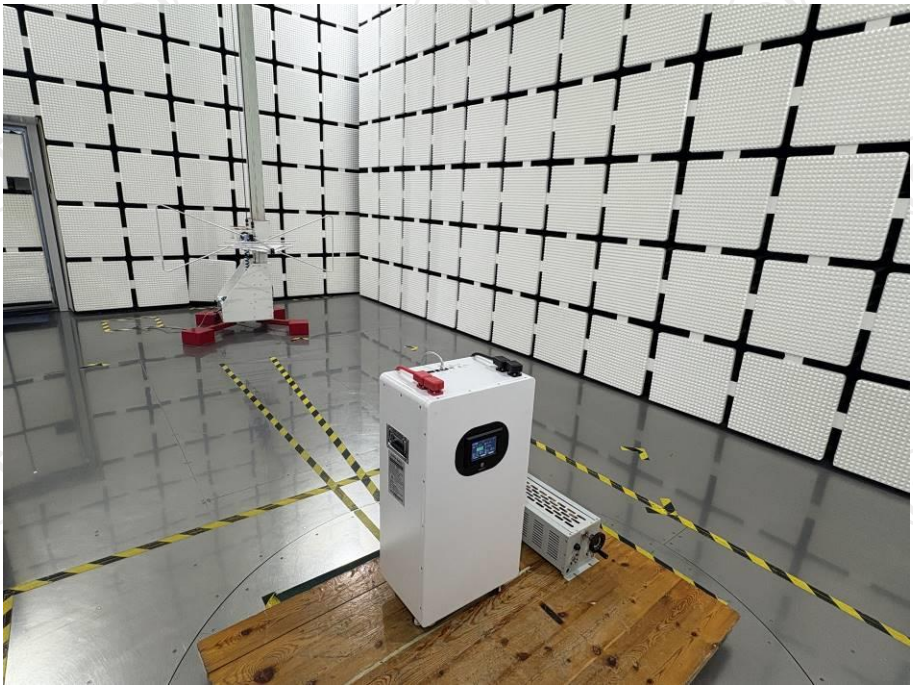
Test requirement ..... :	EN IEC 61000-6-1:2019	
Basic standard ..... :	EN 61000-4-8:2010	
Test level ..... :	**Frequency**	**A/m**
	50/60 Hz	3
Performance criteria ..... :	A	
Test method ..... :	Measurements were made on a ground plane that extends 1-meter minimum beyond all sides of the system under test. The EUT was located 80cm above the reference ground plane and the indicated field was pre-calibrated prior to placement of the system under test.	
Ambient temperature ..... :	/	
Relative humidity ..... :	/	
Air pressure ..... :	/	
Test location ..... :	/	
Test model(s) ..... :	/	
EUT operation mode ..... :	/	
Test results ..... :	N/A	
Remark ..... :	The EUT does not contain components susceptible to magnetic fields, therefore this test is not applicable for this EUT.	

6.8. Voltage dips, short interruptions and voltage variations immunity

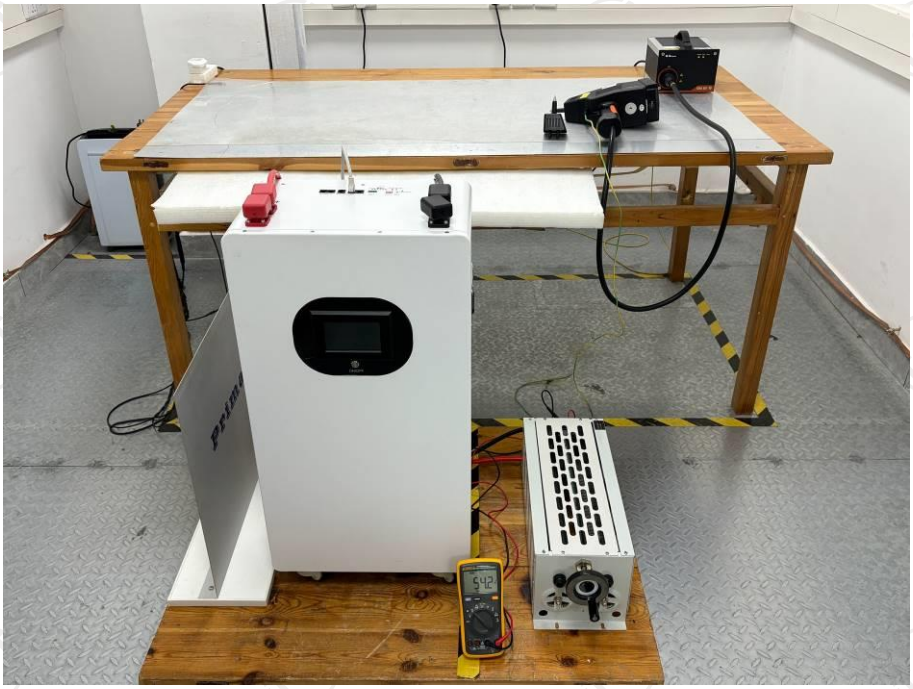
Test requirement ..... :	EN IEC 61000-6-1:2019		
Basic standard ..... :	EN IEC 61000-4-11:2020		
Test level ..... :	**Voltage Dips**		
	Frequency	**Test level in % U_T**	**Duration**
	50 Hz	0	0.5 cycle
	50 Hz	0	1 cycle
	50 Hz	70	25 cycles
	60 Hz	70	30 cycles
	Voltage interruptions		
	Frequency	**Test level in % U_T**	**Duration**
	50 Hz	0	250 cycles
	60 Hz	0	300 cycles
	U_T is the rated voltage of the equipment under test.		
Repetition rate ..... :	10 seconds		
Number of dips or interruptions ..... :	3		
Performance criteria ..... :	B & C		
Test method ..... :	The test allows estimating of the conducted immunity of electrical and electronic equipment connected to low-voltage power supply networks for voltage dips and short interruptions. The interference is applied on mains supply port by using a testing generator.		
Ambient temperature ..... :	/		
Relative humidity ..... :	/		
Air pressure ..... :	/		
Test location ..... :	/		
Test model(s) ..... :	/		
EUT operation mode ..... :	/		
Test results ..... :	N/A		
Remark ..... :	According to the electrical construction of the EUT, there is no AC terminal incorporated. Therefore this test is not applicable for this EUT.		

7. Test set-up photo

Radiated emission (30 MHz-1 GHz) test view



Electrostatic discharge immunity (ESD) test view



Radiated, radio-frequency, electromagnetic field immunity (RS) test view

8. Photo of the EUT


SOC
Link
ALM RUN
ON/OFF
RS485-2
RS232
CAN
RS485-1
DRY
ADD
RST
P+
P-


P+
LiFePO4 Battery


LiFePO4 Battery
51.2V320Ah LiFePo4 Battery
Energy Storage: 16384WH
Output Voltage: 51.2Vdc
Operating Voltage Range: 40-58.4V
Max Discharge Current: 200A
Max Charge Current: 200A
Work Temperature: -10℃~55℃
DANGER ELECTRIC SHOCK RISK
Non-professionals should not open it.
CAUTION:
DON'T DISASSEMBLE
DON'T DISPOSE IN FIRE
DON'T IMPACT OR DROP BATTERY
DON'T SHORT CIRCUIT
HY-LZ2025052002


P-
P+

********End of report********