



EMC TEST REPORT

Applicant : Guangzhou Felicity Solar Technology Co., Ltd.
Address : (Airport Baiyun)No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town,
Baiyun District, Guangzhou,Guangdong, P. R. China

Manufacturer : Guangzhou Felicity Solar Technology Co.,Ltd.
Address : (Airport Baiyun)No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town,
Baiyun District, Guangzhou,Guangdong, P. R. China

Factory : Guangzhou Felicity Solar Technology Co.,Ltd.
Address : (Airport Baiyun)No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town,
Baiyun District, Guangzhou,Guangdong, P. R. China

Product Name : Rechargeable Li-ion Battery Storage System

Brand Name : 
Make life full of hope

Model No. : FLH-E60

Standard : EN IEC 61000-6-1:2019
EN IEC 61000-6-2:2019
EN IEC 61000-6-3:2021
EN IEC 61000-6-4:2019

Date of Receiving Samples : March 19, 2026

Date of Test : March 20, 2026 to March 21, 2026

Date of Report : March 26, 2026

This Test Report is Issued Under the Authority of :
Prepared by

Fancy

Fancy Yang / Engineer

Approved & Authorized Signer



Han Song / Authorized Signatory

This report shows that above equipment is technically compliant with the requirements of the standards above. All test results in this report apply only to the tested sample(s). Without prior written approval of Shenzhen Nore Testing Center Co., Ltd, this report shall not be reproduced except in full.

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Revision History of This Test Report

Report Number	Description	Issued Date
SZNTC2603145EV00	Initial Issue	2026-03-26
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1. SUMMARY OF TEST RESULTS

The E.U.T. has been tested according to the following specifications:

EMISSION			
Standard	Test Type	Verdict	Remarks
EN IEC 61000-6-3:2021 EN IEC 61000-6-4:2019	Conducted Emission Measurement	PASS	Meet the requirements of the Residential Environment Limit
	Radiated Emission Measurement	PASS	Meet the requirements of the Residential Environment Limit
IEC 61000-3-2:2018	Harmonic Current Emission Measurement	PASS	Meet the requirements of the limit
IEC 61000-3-3:2013+ A1:2017	Voltage Fluctuations & Flicker Measurement	PASS	Meet the requirements of the limit
IMMUNITY (EN IEC 61000-6-2:2019)			
Basic Standard	Test Type	Verdict	Results (Performance Criterion)
IEC 61000-4-2:2008	Electrostatic Discharge Test	PASS	A
IEC 61000-4-3:2006+ A1:2007+A2:2010	Radio-Frequency Electromagnetic Field Test	PASS	A
IEC 61000-4-4:2012	Fast Transients Test	PASS	A
IEC 61000-4-5:2005	Surges Test	PASS	A
IEC 61000-4-6:2013	Radio-Frequency Common Mode Test	PASS	A
IEC 61000-4-8:2009	Power-Frequency Magnetic Field Test	PASS	A
IEC 61000-4-11:2004	Voltage Dips and Interruptions Test	PASS	B

2. TEST UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Test item	Uncertainty
Conducted Emission Measurement (0.15-30MHz)	$\pm 2.7\text{dB}$
Radiated Emission Measurement (30-1000MHz)	$\pm 4.3\text{dB}$
Remark: As U_{lab} in all applicable tests listed above are less than U_{CISPR} according to CISPR16-4-2, compliance is deemed to occur if no measured disturbance exceeds the disturbance limit; non-compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.	

3. GENERAL INFORMATION

3.1. Product Information

Product Name:	Rechargeable Li-ion Battery Storage System	
Model No.:	FLH-E60	
Classification of Equipment:	Such equipment would fulfill the tighter emission requirements of the residential environment as well as the severe immunity requirements of the industrial environment.	
Highest internal frequency:	Below 108 MHz (Highest internal frequency below 108MHz, radiation test frequency range 30MHz-1000MHz)	
Typical arrangement:	Floor-standing	
Rating:	Battery Control Unit:	
	Model	FLH48100UCG3
	Operating Voltage	232~691.2Vdc
	Nominal Charge/Discharge Current	100A
	Working Temperature Range	Charge 0°C~+55°C
		Discharge: -20°C~+55°C
	Ingress Protection	IP20
	Dimension (W/D/H)	482.6*565*150mm
	Weight Approximate	10.3kg
	Battery Modules:	
	Model	FLH48100UMG3
	Battery Type	LiFePO4(LFP)
	Nominal Voltage	51.2Vdc
	Rated Capacity	100Ah
	Rated Energy	5.12kWh
	Nominal Charge/Discharge Current	100A
	Charge Temperature	0~55°C
	Discharge Temperature	-20° C~55°C
	Storage Temperature	0° C~35°C
	Ingress Protection	IP20
	Dimension (W/D/H)	482.6x565x133mm
	Weight Approximate	42kg

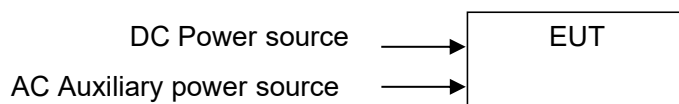
	Thermal Management System:	
	Energy storage Air Conditioner	
	Rated Voltage	AC 230V
	Rated Frequency	50/60Hz
	Rated Cooling Capacity	2000W
	Rated Heating Capacity	1000W
	Rated Cooling Power Input	1000W/1300W
	Rated Heating Power Input	1200W/1300W
	Rated Cooling Current	4.6A/5.7A
	Rated Heating Current	5.3A/5.6A
	Max.Power	1610W
	Max.Current	7A
	Air Flow Volume	800m ³ /h
	Refrigerant	R134a
	Water-proof Class	IP55
	Dimension (W×H×D)	483×220×833 mm
	Net Weight	≈38kg
Sample No.:	SZNTC2603145EV00-001	
Remark:	All the information above is provided by the manufacturer. For more detailed features of the EUT, please refer to the user manual.	

3.2. Description of Support Device

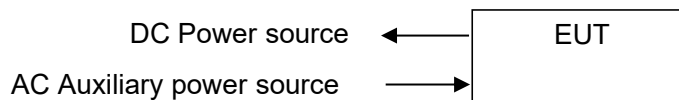
No.	Equipment	Manufacturer	M/N	Cable Specification	Remark
1.	DC Power Cable	---	---	The test uses a power cable of 1.6mm length without magnetic ring and unshielded	Provided by the lab.
2.	DC Source	KEYSIGHT	PV8921A	---	Provided by the lab.
3.	AC Power Cable	---	---	The test uses a power cable of 1.6mm length without magnetic ring and unshielded	Provided by the lab

3.3. Block Diagram of Test Setup

Charging Mode:



Discharging Mode:



3.4. Test Mode

No.	Test Mode	Remark
1.	Charging Mode	Charged by Power Source.
2.	Discharging Mode	Discharged by Power Source.

3.5. Test Conditions

No.	Test Item	Test Mode	Test Voltage	Tested by	Remarks
1.	Conducted Emission - AC power input port	1-2	AC 230V/50Hz	lixinglin	See note 1, 4
2.	Conducted Emission - DC power input port	1-2	DC 614V	lixinglin	See note 1, 4
3.	Conducted Disturbances - Wired network port or signal / control port	---	---	---	---
4.	Radiated Emission	1-2	AC 230V/50Hz & DC 614V	lixinglin	See note 1, 4
5.	Harmonic Current Emission	1	AC 230V/50Hz	June	See note 1, 3
6.	Voltage Fluctuations & Flicker	1	AC 230V/50Hz	June	See note 1, 3
7.	Electrostatic Discharges (ESD)	1-2	AC 230V/50Hz & DC 614V	Chenrongbin	See note 2, 4
8.	Radio-Frequency Electromagnetic Field	1-2	AC 230V/50Hz & DC 614V	Jones	See note 1, 4
9.	Fast Transients	1-2	AC 230V/50Hz & DC 614V	Chenrongbin	See note 1, 4
10.	Surges	1-2	AC 230V/50Hz & DC 614V	Chenrongbin	See note 1, 4
11.	Radio-Frequency Common Mode	1-2	AC 230V/50Hz & DC 614V	Jones	See note 1, 4
12.	Power Frequency Magnetic Field	1-2	AC 230V/50Hz & DC 614V	Chenrongbin	See note 1, 4
13.	Voltage Dips And Interruptions	1-2	AC 230V/50Hz & DC 614V	Chenrongbin	See note 1, 4

Note:

1. The testing climatic conditions for temperature, humidity, and atmospheric pressure are within: 15~35°C, 30~70%, 86~106kPa.
2. The testing climatic conditions for temperature, humidity, and atmospheric pressure are within: 15~35°C, 30~60%, 86~106kPa.
3. Only the worst data were recorded on the report.
4. Only the most stringent limits were recorded on the report.
(This product is suitable for industrial environment, also suitable for residential environment, we use most stringent standards EN IEC 61000-6-3 and EN IEC 61000-6-2 for testing.)

3.6. Sample Calculations

Conducted Emission						
Freq. (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
0.2260	11.56	12.50	24.06	66.00	-41.94	AVG
Where, Freq. = Emission frequency in MHz Reading = Spectrum Analyzer/Receiver Reading Factor = Insertion loss of LISN + Cable Loss Level = Reading + Factor Limit = Limit stated in standard Margin = Level - Limit Detector = Reading for Quasi-Peak / Average / Peak						

Radiated Emission						
Freq. (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
75.9773	-17.06	59.36	42.30	49.00	-6.70	QP
Where, Freq. = Emission frequency in MHz Reading = Spectrum Analyzer/Receiver Reading Factor = Antenna Factor + Cable Loss - Pre-amplifier Level = Reading + Factor Limit = Limit stated in standard Margin = Level - Limit Detector = Reading for Quasi-Peak / Average / Peak						

3.7. Test Facility

Test Site:	Shenzhen Nore Testing Center Co., Ltd.
Accreditations and Authorizations:	The Laboratory is accredited by CNAS (ILAC Member) according to ISO/IEC 17025:2017 with registration number L11038 and valid until May 17, 2030.
Test Site Location:	South, No. 1, Building 10, Maqueling Industrial Zone, Nanshan Shenzhen, Guangdong, 518057, China
Subcontractor:	Dongguan Nore Testing Center Co.,Ltd.
Site Location:	Room 101, 1101, Building 2, No. 61, Hongmei Section, Wangsha Road, Hongmei Town, Dongguan, Guangdong, People's Republic of China
Test Items:	Radio-Frequency Electromagnetic Field Test Radio-Frequency Common Mode Test Harmonic Current/ Flicker Measurement Voltage Dips and Interruptions Test
Remark:	The subcontractor is CNAS qualified.

3.8. Abnormalities from Standard Conditions

None.

4. MEASURING DEVICES AND TEST EQUIPMENT

4.1. For Conducted Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	Test Receiver	Rohde & Schwarz	ESPI-7	100006	Mar. 22, 2025	1 Year
☐	L.I.S.N	Rohde & Schwarz	ESH3-Z5	100157	Mar. 22, 2025	1 Year
☐	L.I.S.N	EMTRACE	PWLHV-5-200	2403	Mar. 22, 2025	1 Year
☐	L.I.S.N	EMTRACE	PWLHV-5-200	2404	Mar. 22, 2025	1 Year
☒	L.I.S.N	Schwarzbeck	NNLK8129	00409	Mar. 22, 2025	1 Year
☐	L.I.S.N	Schwarzbeck	PVDC 8301	8301-0083	Apr. 02, 2025	1 Year
☒	Pulse Limiter	EMTRACE	PL00903	2404	Apr. 07, 2025	1 Year
☒	Test Software	EZ	EZ-EMC (Ver. CT3A11)	N/A	N/A	N/A

4.2. For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	Test Receiver	Rohde & Schwarz	ESPI-7	100006	Mar. 22, 2025	1 Year
☐	Loop Antenna	ZHINAN	ZN30900C	16036	Mar. 23, 2024	2 Year
☒	Composite Logarithmic antenna	Schwarzbeck	VULB 9163	1633	Mar. 23, 2024	2 Year
☐	Horn Antenna	Schwarzbeck	BBHA 9120 D	01884	Mar. 23, 2024	2 Year
☒	Power Amplifier	HP	HP 8447D	2443A04646	Mar. 22, 2025	1 Year
☐	Power Amplifier	KSYET	PAM-118	443007	Apr. 09, 2025	1 Year
☒	Test Software	EZ	EZ-EMC (Ver. CT3A11)	N/A	N/A	N/A

4.3. For Harmonic Current/ Flicker Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	Power Frequency Analyzer	California Instruments	PACS-1	72846	Aug. 23, 2025	1 Year
☒	5KVA AC Power Source	California Instruments	5001iX	60137	Aug. 23, 2025	1 Year
☒	Software	AMETEK	CTS 4, V4.32.0	N/A	N/A	N/A

4.4. For Electrostatic Discharge Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	ESD Tester	HAEFELY	ONYX16	1811981	Apr. 03, 2025	1 Year

4.5. For Radio-Frequency Electromagnetic Field Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	Signal Generator	Agilent	N5181A	MY47070160	Mar. 12, 2025	1 Year
☒	RF Switch	SKET	N/A	N/A	N/A	N/A
☒	Power Amplifier	SKET	HAP801000M_250W	201804008	N/A	N/A
☒	Power Amplifier	SKET	HAP0103G_75W	201804009	N/A	N/A
☒	Power Amplifier	SKET	HAP0306G_50W	201804010	N/A	N/A
☒	Power Meter	Agilent	E4419B	GB40201469	Mar. 12, 2025	1 Year
☒	Power Sensor	Agilent	E9304A	MY41498919	Mar. 12, 2025	1 Year
☒	Power Sensor	Agilent	E9300A	US39211259	Mar. 12, 2025	1 Year
☒	E-Field Probe	Narda	EP-601	N/A	Mar. 23, 2025	1 Year
☒	Antenna	Schwarzbeck	STLP 9129	9129071	N/A	N/A
☐	Audio Analyzer	Rohde & Schwarz	UPV	100894	Mar. 12, 2025	1 Year
☒	Chamber	Chengyu	7*5*3.5m	N/A	Aug. 07, 2025	3 Year
☒	Test Software	SKET	EMC-S, V1.5.0.1	N/A	N/A	N/A

4.6. For Fast Transients Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	EFT Generator	HTEC	HEFT	203601	Mar. 22, 2025	1 Year
☒	CDN	HTEC	HCOUPLER 60E	204301	Mar. 22, 2025	1 Year
☐	Coupling Clamp	HAEFELY	/	/	Mar. 22, 2025	1Year

4.7. For Surges Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	Surge Generator	HTEC	HCWG	205301	Mar. 22, 2025	1 Year
☒	CDN	HTEC	HCOUPLER 60S	204201	Mar. 22, 2025	1 Year
☐	Network CDN	ETEST	ES-CDN-508	N/A	Mar. 22, 2025	1 Year

4.8. For Radio-Frequency Common Mode Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	Signal generator	IFR	2023A	2023051280	Aug. 22, 2025	1 Year
☒	Power Amplifier	SCHAFFNER	CBA9425	1022	N/A	1 Year
☒	6dB 50Watt Attenuator	SCHAFFNER	ATN6025	N/A	Aug. 22, 2025	1 Year
☒	CDN	Lioncel	CDN-M3-16	0170703	Aug. 21, 2025	1 Year
☐	CDN	Lioncel	CDN-M2-16	0180501	Aug. 21, 2025	1 Year
☐	CDN	CDSI	ADN-M5	8105001	Aug. 21, 2025	1 Year
☒	CDN	Lioncel	CDN-M1-16	0220904	Aug. 21, 2025	1 Year
☐	CDN	3CTest	CDN M5-75	ES064005225002	Aug. 22, 2025	1 Year
☒	CDN	3CTest	CDN M2-100	ES064004925002	Aug. 22, 2025	1 Year
☐	EM Clamp	CDSI	EMCL-22	8192007	Aug. 23, 2025	1 Year
☒	Directional Coupler	SCHAFFNER	255	19184	Aug. 21, 2025	1 Year
☐	Audio Analyzer	Rohde & Schwarz	UPV	100894	Aug. 23, 2025	1 Year
☒	Test Software	EZ	EMC-CS, B-3.1	N/A	N/A	N/A

4.9. For Power-Frequency Magnetic Field Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	Magnetic Field Generator	N/A	MS-8000	N/A	Mar. 22, 2025	1 Year

4.10. For Voltage Dips and Interruptions Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☒	Dips Tester	EM TEST	UCS500N	V1104108683	Aug. 28, 2025	1 Year
☒	Dips Modulator	EM TEST	V4780S2	0111-11	Aug. 28, 2025	1 Year
☒	Test Software	EM TEST	Iec. Control, V5.1.5.0	N/A	N/A	N/A