

TEST REPORT

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

No.588 West Jindu Road, Songjiang District, Shanghai, China



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TRF No. EEC_IEC 61215_2_Inmetro_EN A

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SHES230601055771-01
Jun. 13, 2023
11
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China
LUXEN SOLAR ENERGY CO., LTD.
No. 1, Haiyue Road, Suxitong Technologies & Industries Park, Nantong City, Jiangsu Province, P. R. China
Clause MQT 01, MQT 02, MQT 03, MQT 15 of IEC 61215-2:2016
Photovoltaic (PV) module(s)
LUXEN
LUXEN SOLAR ENERGY CO., LTD.
No. 1, Haiyue Road, Suxitong Technologies & Industries Park, Nantong City, Jiangsu Province, P. R. China
LNVT-505M
Refer to marking plate of sample

Signature Tested by: Janine Tian

Tier

Signature Approved by: Van Hua



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List of tests performed						
Test item	Requirement + Test	Result	Verdict			
1	Visual inspection	See Table 1	P			
2	Maximum power determination	See Table 2	P			
3	Insulation test	See Table 3	P			
4	Wet leakage current test	See Table 4	Р			
Pre-conditioning ha	s been performed with an irradiance dose of	5.0 kWh/m².				
The-conditioning ha	is been performed with an inadiance dose of	5.0 KWI/III .				



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Summary of testing

Submitted samples are tested according to Clause MQT 01, MQT 02, MQT 03, MQT 15 of IEC 61215-2:2016. The test results are present within this test report.

Tests performed (name of test and test of	lause): Testing location:
IEC 61215-2-2016:	Guoce Testing Technology (suzhou) Co., Ltd.
Visual inspection (MQT 01)	Building 11, No. 18, Yaofeng East Road, Mudu Town,
Performance at STC (MQT 02)	wuznong District, Suznou, Jiangsu, 215151, China
Insulation test (MQT 03)	
Wet leakage current test (MOT 15)	
Copy of marking plate / device under tes	t:
Module Type: LNVT-505M	
LUXEN SOLA	R ENERGY CO.,LTD.
Rated Maximur	n Power(Pmax) 505W
Open Circuit Vo	oltage(Voc) 46.83±2%V
Max.Power Vol	tage(Vmp) 38.88V
Short Circuit Ci	urrent(lsc) 13.88±2%A
Max.Power Cur	rent(Imp) 12.99A
Max.System Vo	Itage 1500V
Max.Series Fus	e Rating 25A
PV Module Safe	ety Class II
All technical data at st	andard test condition:Am=1.5G E=1000W/ m ⁺ Tc=25°C
TEL: +86-512-0	WARNING/ELECTRICAL HAZARD
ADD:NO.1 Hai 226000,China	yue Road,Suxitong Industrial Park,Nantong,
Λ	larking plate of Sample



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Possible test case verdicts				
- Test case does not apply to the test object	N/A			
- Test object does meet the requirement	Pass (P)			
- Test object does not meet the requirement:	Fail (F)			
General remarks				
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written and laboratory.	oproval of the Issuing testing			
"(See Enclosure #)" refers to additional information appended to the re	port.			
Throughout this report a point is used as the decimal separator.				
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Unless otherwise stated: (a) the results shown in this document refer o such sample(s) are retained for 30 days. This document cannot be rep approval of the company.	nly to the sample(s) tested and (b) roduced except in full, without prior			



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1) The main report

2) Appendix 1: List of measurement equipment

3) Appendix 2: Statement of the estimated uncertainty of the test results

General product information

The product is photovoltaic (PV) module.

Description of	f module co	onstruction

Mode	Model Cell Type No. of cells		o. of cells Dimension [mm]		nsion [mm]				
LNVT-505M		Мо	no-crystalline 132			2094x1134x35			
Technical Data									
Type/Model	Voc [V]	Vmp [V]		/mp [V] Isc		Imp [A	v]	Pmp [W]	Max.System Voltage [V]
LNVT-505M	46.83		38.88	13.	88	12.99)	505	1500
Тур	e/Model		Мо	dule Eff	iciency	[%]	E	Energy Efficie	ncy Class
LNVT-505M			21.27				А		
Supplementary	information	: Energy	efficiency	>13.5%:	Class A	۹.			
			A>13.5%						
			13% <b≤13.5%< td=""></b≤13.5%<>						
Energy efficien	cy classes		12% <c≤13%< td=""></c≤13%<>						
			11% <d≤12%< td=""></d≤12%<>						
		E<11%							



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1. Sampling procedure

Random sampling from production (e.g. during factory audit (FA) or inline inspection)
 Random sampling from the warehouse, container or transportation boxes

Modules have been submitted by the manufacturer/ client without random sampling by SGS

2. Test sample

Sample #	Model Type	Serial Number
01		VTMN314069720490
02		VTMN314069721115

3. Test specification and test result

TABLE 1: MQT 01 Visual inspection					
Test Date [YYYY-MM-DD] :	2023-06-08	—			
Sample #	Nature and position of initial findings	Verdict			
01	No Major visual defects	Р			
02	No Major visual defects	Р			
Supplementary information: N/A					

TABLE 2: MQT 02 Maximum power determination							
Test Date [YYYY-MM-DD]: 2023-06-08					—		
Test method 🛛 indoor 🗌 outdoor					_		
Module temperature [°C]: Corrected to 25.0					_		
Irradiance [W/m ²]: Corrected to 1000					_		
Sample #	Voc [V]	Vmp [V]	mp [V] Isc [A] Imp [A] Pmp [W]			FF [%]	
01	01 45.40 37.70 13.53 12.85 484.4				78.86		
02 45.31 37.91 13.55 12.87 487.8						79.47	
IV Curve:							



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TABLE 3: MQT 03 Insulation test							
Test Date [YYYY-MM-DD]: 2023-06-09							
Test Voltage applied [V]: 4000V 1min/1500V 2min				_			
Size of module [m ²] : 2.37			_				
Sample #	Measured	Required Resistance Dielectric breakdown			Decult		
	MΩ	MΩ	Yes (description)	No	Result		
01	18904	≥16.88	—	No	Р		
02	23836	≥16.88	≥16.88 — No				
Supplemen	Supplementary information: Minimum requirement acc. to IEC 61215:2016 is 40 M Ω *m ² .						



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TABLE 4: MQT 15 Wet leakage current test					
Test Date [Y	YYY-MM-DD]	2023	3-06-09	_	
Test Voltage	applied [V]	150	0V 2min	—	
Solution resi	stivity [Ω cm)	196	7	—	
Solution temperature [°C]:		24.2 -		_	
Size of module [m ²]		2.37	2.37		
Sample # Required Resistance [MΩ]			Measured [MΩ]	Result	
01 ≥16.88			15638	Р	
02 ≥16.88			10944	Р	
Supplementary information: Minimum requirement acc. to IEC 61215:2016 is 40 M Ω *m ² .					

Appendix 1: List of measurement equipments

Clause	Measurement / testing	Testing / measuring equipment / material used	Equipment ID	Calibration due date
4.1	Visual inspection	Luminometer	PM6612L	2024.02.13
4.3	Insulation test	Withstanding voltage/Insulation resistance tester	GCYQ-AG-18	2023.08.18
10.13				
4.6	Performance at STC	Pulsed Solar Simulator	GIV-20A2616	2023.08.02
4.15 10.14	Wet leakage current test	Withstanding voltage/ Insulation resistance	GCYQ-AG-18	2023.08.18
		tester		
		Conductive meter	GCYQ-AG-07	2023.11.01

Appendix 2: Statement of the estimated uncertainty of the test results

The estimated uncertainty fulfils the requirements from the CTL decision sheet DSH 251B / 2009.

----- End of Test Report -----



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