

# **RELATÓRIO DE TESTE**

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

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



Page 2 of 13 Report No.: SHES230601055871-02

Relatório de referência nº .....: SHES230601055871-02

Data de emissão: Jun. 13, 2023

Número total de páginas ...... 13

Endereço: 588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Nome do requerente ...... LUXEN SOLAR ENERGY CO., LTD.

Endereço:

No. 1, Haiyue Road, Suxitong Technologies & Industries Park, Nantong

City, Jiangsu Province, P. R. China

Especificação de teste: Cláusula MQT 01, MQT 02, MQT 03, MQT 15 da IEC 61215-2:2016

Descrição do item de teste.....: Módulo(s) fotovoltaico(s) (PV)

Marca comercial .....:

LUXEN

Fabricante: LUXEN SOLAR ENERGY CO., LTD.

No. 1, Haiyue Road, Suxitong Technologies & Industries Park, Nantong

City, Jiangsu Province, P. R. China

Referência de modelo/tipo .....: LNVU-550M

Classificações ...... Consulte a placa de marcação da amostra

Assinatura

Testado por: Janine Tian

Assinatura

Aprovado por: Van Hua



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## Lista de testes realizados

Item de teste	Requisito + Teste	Resultado	Veredito
1	Inspeção visual	Ver Tabela 1	Р
2	Determinação de potência máxima	Ver Tabela 2	Р
3	Teste de isolamento	Ver Tabela 3	Р
4	Teste de corrente de fuga úmida	Ver Tabela 4	Р

O pré-condicionamento foi realizado com uma dose de irradiância de 5.0 kWh/m².



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#### Resumo do teste

As amostras enviadas são testadas de acordo com a Cláusula MQT 01, MQT 02, MQT 03, MQT 15 da IEC 61215-2: 2016. Os resultados do teste estão presentes neste relatório de teste.

## Testes realizados (nome do teste e cláusula do teste):

IEC 61215-2-2016:

Inspeção visual (MQT 01)

Desempenho em STC (MQT 02)

Teste de isolamento (MQT 03)

Teste de corrente de fuga úmida (MQT 15)

#### Local do teste:

Guoce Testing Technology (suzhou) Co., I td

Building 11, No. 18, Yaofeng East Road, Mudu Town, Wuzhong District, Suzhou, Jiangsu, 215151, China

#### Cópia da placa de marcação/dispositivo em teste:

Tipo de Módulo: LNVU-550M



Placa de marcação da Amostra



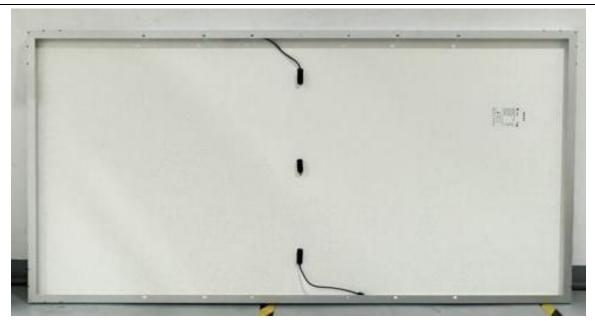
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Vista frontal da amostra



Vista traseira da amostra







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#### Conector





Caixa de Junção



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Possíveis veredictos de caso de teste	
- O caso de teste não se aplica ao objeto de teste :	N/D
- O objeto de teste atende ao requisito:	Passou (P)
- O objeto de teste não atende ao requisito:	Falha (F)

## Observações gerais

Os resultados do teste apresentados neste relatório referem-se apenas ao objeto testado.

Este relatório não deve ser reproduzido, exceto na íntegra, sem a aprovação por escrito do laboratório de testes Emissor.

"(Consulte o Anexo #)" refere-se a informações adicionais anexadas ao relatório.

"(Veja a tabela anexa)" refere-se a uma tabela anexada ao relatório.

Ao longo deste relatório, é usado um ponto como separador decimal.

A lista de equipamentos de teste deve ser mantida em arquivo e disponível para revisão.

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#### Conteúdos:

- 1) O relatório principal
- 2) Apêndice 1: Lista de equipamentos de medição
- 3) Apêndice 2: Declaração da incerteza estimada dos resultados do teste

## Informações gerais do produto

O produto é um módulo fotovoltaico (PV).

## Descrição da construção modular

Modelo		Tipo de Célula		Nº de células	Dime	Dimensão [mm]	
LNVU-550M		Mono-crystalli	ine 144		2279	2279x1134x35	
Dados Técnicos							
Tipo/Modelo	Voc [V]	Vmp [V]	Isc [A]	Imp [A]	Pmp [W]	Tensão Máx. do Sistema [V]	
LNVU-550M	50.32	42.28	13.90	13.01	550	1500	



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Tipo/Modelo eficiência do módulo [%] Classe de eficiência energetica

LNVU-550M 21.28 A

Informação suplementar: Eficiência Energética> 13.5%: Classe A.

A>13.5%

13%<B≤13.5%

12%<C≤13%

11%<D≤12%

E<11%



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# 1. Procedimento de amostragem

<ul> <li>☐ Amostragem aleatória da produção (por ex. durante auditoria de fábrica (FA) ou inspeção em linha)</li> <li>☐ Amostragem aleatória do armazém, contêiner ou caixas de transporte</li> </ul>	
☐ Os módulos foram enviados pelo fabricante/cliente sem amostragem aleatória pela SGS	

## 2. Amostra de teste

Amostra #	Tipo de Modelo	Número de Série
01	LNIVILEEONA	VUMC314163770452
02	LNVU-550M	VUMC314163770839

# 3. Especificação e resultado do teste

TABELA 1: MQT 01 Inspeção visual				
Data do Teste [AAAA-MM-DD] :	2023-06-08	_		
Amostra #	Natureza e posição das descobertas iniciais	Veredito		
01	Sem grandes defeitos visuais	Р		
02	Sem grandes defeitos visuais	Р		
Informação suplementar: N/D				



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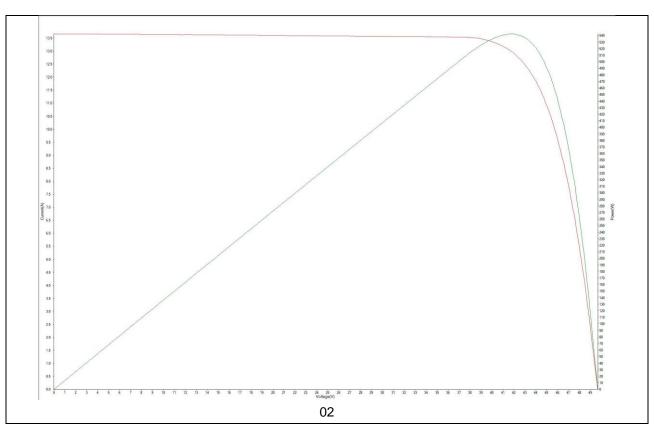


TABELA 2: MQ	T 02 Determin	ação de po	otência máxima				
Data do Teste [/	AAAA-MM-DD].	:	2023-06-08			_	
Método de Teste				☐ exte	rior	_	
Temperatura do	módulo [°C]:		Corrigida para 25	.0		_	
Irradiância [W/m	n <sup>2</sup> ]	:	Corrigida para 10	00		_	
Amostra #	Voc [V]	Vmp [V	] Isc [A]	Imp [A]	Pmp [W]	FF [%]	
01	49.74	41.88	13.72	13.05	546.5	80.08	
02	49.64	41.79	13.66	12.98	542.4	79.95	
			Curva IV:				
Curva IV:							



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Informação suplementar: Consulte o Apêndice 2: Declaração da incerteza estimada dos vereditos do teste. A discrepância entre o valor de potência rotulado e o valor medido não deve exceder o limite de -5%~10%.

TABELA 3: MQT 03 Teste de isolamento						
Data do Teste [AAAA-MM-DD]:		2023-06-09				
Tensão de Teste aplicada [V]:		4000V 1min/1500V 2min				
Tamanho do módulo [m²]:		2.58				
Amostra #	Medido	Resistência Requerida	Quebra dielétrica		Resulta	
	ΜΩ	ΜΩ	Sim (descrição)	Não	do	
01	27452	≥15.50	_	Não	Р	
02	25554	≥15.50	— Não		Р	
Informação suplementar: O requisito mínimo de acordo com IEC 61215:2016 é 40 MΩ *m².						

# TABELA 4: MQT 15 Teste de corrente de fuga úmida



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Data do Teste [AAAA-MM-DD]..... 2023-06-09 Tensão de Teste aplicada [V] ..... 1500V 2min Resistividade da solução [Ω cm)....: 1967 Temperatura da solução [°C]: 24.2 Tamanho do módulo [m²].....: 2.58 Amostra# Resistência Requerida [MΩ] Medido [M $\Omega$ ] Resulta do Ρ 01 ≥15.50 9195 Ρ 02 ≥15.50 17816 Informação suplementar: O requisito mínimo de acordo com IEC 61215:2016 é 40 MΩ \*m².



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# Apêndice 1: Lista de equipamentos de medição

Cláusula	Medição/teste	Teste/equipamento de medição/material usado	ID do Equipamento	Data de vencimento da calibração
4.1 10.2	Inspeção visual	Luminômetro	PM6612L	2024.02.13
4.3 10.13	Teste de isolamento	Testador de resistência à tensão/isolamento	GCYQ-AG-18	2023.08.18
4.6	Desempenho em STC	Simulador Solar Pulsado	GIV-20A2616	2023.08.02
4.15 10.14	Teste de corrente de fuga úmida	Testador de resistência à tensão/isolamento	GCYQ-AG-18	2023.08.18
		Medidor condutor	GCYQ-AG-07	2023.11.01

## Apêndice 2: Declaração da incerteza estimada dos resultados do teste

A incerteza estimada cumpre os requisitos da folha de decisão CTL DSH 251B / 2009.

---- Fim do Relatório de Teste -----



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