CERTIFICATE

TÜV NORD CERT GmbH
herewith declares that

Wuxi Suntech Power Co., Ltd.
No.16, Xinhua Road, Xinwu District
Wuxi City, Jiangsu Province, 214028
P.R. China

is authorized to provide the product mentioned below with the mark as illustrated:

Description of product (details see Annex 2):

PV Modules with Half-cut Mono-crystalline Silicon Solar Cells

Valid from: 2021-03-16
Valid until: 2026-03-15

Tested according to:	P12.4-AA-04 Rev. 00 (IEC 60068-2-68:1994 modified)
Remark:	Test Method Lc1; Dust concentration: 5±0.5g/m³; Wind velocity: 20±2m/s; Test duration: 4 hours each side.
Registered No.:	44 780 21 406749 - 033
Manufacturer:	see Annex 1
Test Report No.:	492011620.001
File No.:	PVP11129/20P-01

TÜV NORD CERT GmbH
Certification Body
Consumer Products

Essen, 2021-03-16

Please also pay attention to the information stated overleaf.

Manufacturer:

Manufacturer:	**Wuxi Suntech Power Co., Ltd.** No.16, Xinhua Road, Xinwu District Wuxi City, Jiangsu Province, 214028, P.R. China
Factory inspection report no.:	862010381.002

Remark:

Factory inspection is mandatory to be performed annually. Please refer to factory inspection report for detailed information.

TÜV NORD CERT GmbH
Certification Body
Consumer Products

Description of product(s):

Module types:	**PV Modules with Half-cut Mono-crystalline Silicon Solar Cells:** 144 cells: STPXXXS-C72/Vmh (XXX = 525-550, in increment of 5) 132 cells: STPXXXS-C66/Wmh (XXX = 480-500, in increment of 5) 108 cells: STPXXXS-C54/Umh (XXX = 390-410, in increment of 5) 108 cells: STPXXXS-C54/Umhm (XXX = 390-410, in increment of 5)
Maximum system voltage:	1500V
Fuse rating:	25A
Application class:	Class A
Electrical protection class:	Class II

Remark:
For detailed product information, please refer to CDF (Constructional Data Form) in Annex 1 of test report.

TÜV NORD CERT GmbH
Certification Body
Consumer Products

Langemarckstr. 20 • 45141 Essen • Fon +49 (0)201 825 5120 • Fax +49 (0)201 825 3209 • Email: prodcert@tuev-nord.de

Prüfbericht-Nr.: *Test Report No.*:	**CN21UGJG 001**	**Auftrags-Nr.:** *Order No.*:	244279109	Seite 1 von 12 *Page 1 of 12*
Kunden-Referenz-Nr.: *Client Reference No.*:	2014517	**Auftragsdatum:** *Order date*:	13/11/2020	

Auftraggeber: *Client*:	**Wuxi Suntech Power Co., Ltd.** No.16 Xinhua Road, Xinwu District, Wuxi, JiangSu Province, 214000 , P. R. China
Prüfgegenstand: *Test item*:	Photovoltaic (PV) Module(s)
Bezeichnung / Typ-Nr.: *Identification / Type No.*:	See module type designation list on page 3
Auftrags-Inhalt: *Order content*:	Salt mist corrosion testing of photovoltaic (PV) modules
Prüfgrundlage: *Test specification*:	IEC 61701:2011, EN 61701:2012 severity 6 Salt mist corrosion testing of photovoltaic (PV) modules

Wareneingangsdatum: *Date of receipt*:	14/12/2020
Prüfmuster-Nr.: *Test sample No.*:	See page 6
Prüfzeitraum: *Testing period*:	14/12/2020 – 05/03/2021
Ort der Prüfung: *Place of testing*:	Refer to page 4
Prüflaboratorium: *Testing laboratory*:	TÜV Rheinland (Shanghai) Co., Ltd.
Prüfergebnis*: *Test result**:	Pass

Detaillierte Fotodokumentation
siehe Anlage zu diesem Bericht

Detailed photo documentation
see appendix to this report

geprüft von / *tested by*:

IvanZhang

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
31/03/2021	Ivan Zhang/ Project Engineer	

kontrolliert von / *reviewed by*:

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
31/03/2021	Angela Yao / Technical Certifier	

Sonstiges / *Other*:
- As requested by customer, all the tests were performed according to standards as above, and the test results were documented within this test report.
- The tests were performed on STP540S-C72/Vmh as representative module.
- Valid only for the material combinations as listed in bill of materials in appendix of this test report.

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt
Condition of the test item at delivery: *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Liste der verwendeten Prüfmittel
List of used test equipment

Prüfmittel *Test equipment*	**Prüfmittel-Nr. / ID-Nr.** *Equipment No. / ID-No.*	**Nächste Kalibrierung** *Next calibration*

All equipment used for tests, including equipment for subsidiary measurements having a significant effect on the accuracy or validity of the result of the test is calibrated before being put into service.
The laboratory has an established programme and procedure for the calibration of its equipment according to EN ISO/IEC 17025 (Reg. no.: D-PL-11097-02-01).

Produktbeschreibung
Product description

1	**Produktdetails** *Product details*
	With mono c-Si cell: **Max. System voltage: 1500V** **STPXXXS-C72/Vmh (xxx = 525-550, in steps of 5)** **STPXXXS-C66/Wmh (xxx = 480-500, in steps of 5)** **STPXXXS-C54/Umh (xxx = 390-410, in steps of 5)** **STPXXXS-C54/Umhm (xxx = 390-410, in steps of 5)** **Max. System voltage: 1000V** **STPXXXS-C72/Vmhb (xxx = 525-550, in steps of 5)** **STPXXXS-C54/Umhb (xxx = 390-410, in steps of 5)**
2	**Verwendete Materialien** *Used materials* See bill of materials in appendix
3	**Adresse(n) der Fertigungsstätte(n)** **Address(es) of the manufacturing site(s)**

Name / Description:	Wuxi Suntech Power Co., Ltd.
Street:	No.16 Xinhua Road, Xinwu District
Postcode / City, Country:	214000, Wuxi, JiangSu Province, P. R. China
Type of production:	C-Si PV-module production
Inspection report No. / Date:	50139230 003/ 16/12/2020

Produktbeschreibung
Product description

4 Zusammenfassung der Prüfergebnisse
Summary of test results

According to the inquiry the resistance to salt mist of photovoltaic (PV) modules should be assessed in accordance with IEC 61701:2011, EN 61701:2012 severity 6.

For the qualification of the modules to this tests initial and final control measurements were performed before and after the salt mist corrosion testing. The measurements included relative power measurements, insulation testing and visual inspection. The maximum permissible power degradation of 5% must not be exceeded. Furthermore the minimum requirements for the insulation test and wet leakage test as defined in IEC 61215-1:2016 MQT 03 and MQT 15 have to be met. No major visual defects as defined in IEC 61215-1:2016 shall occur.

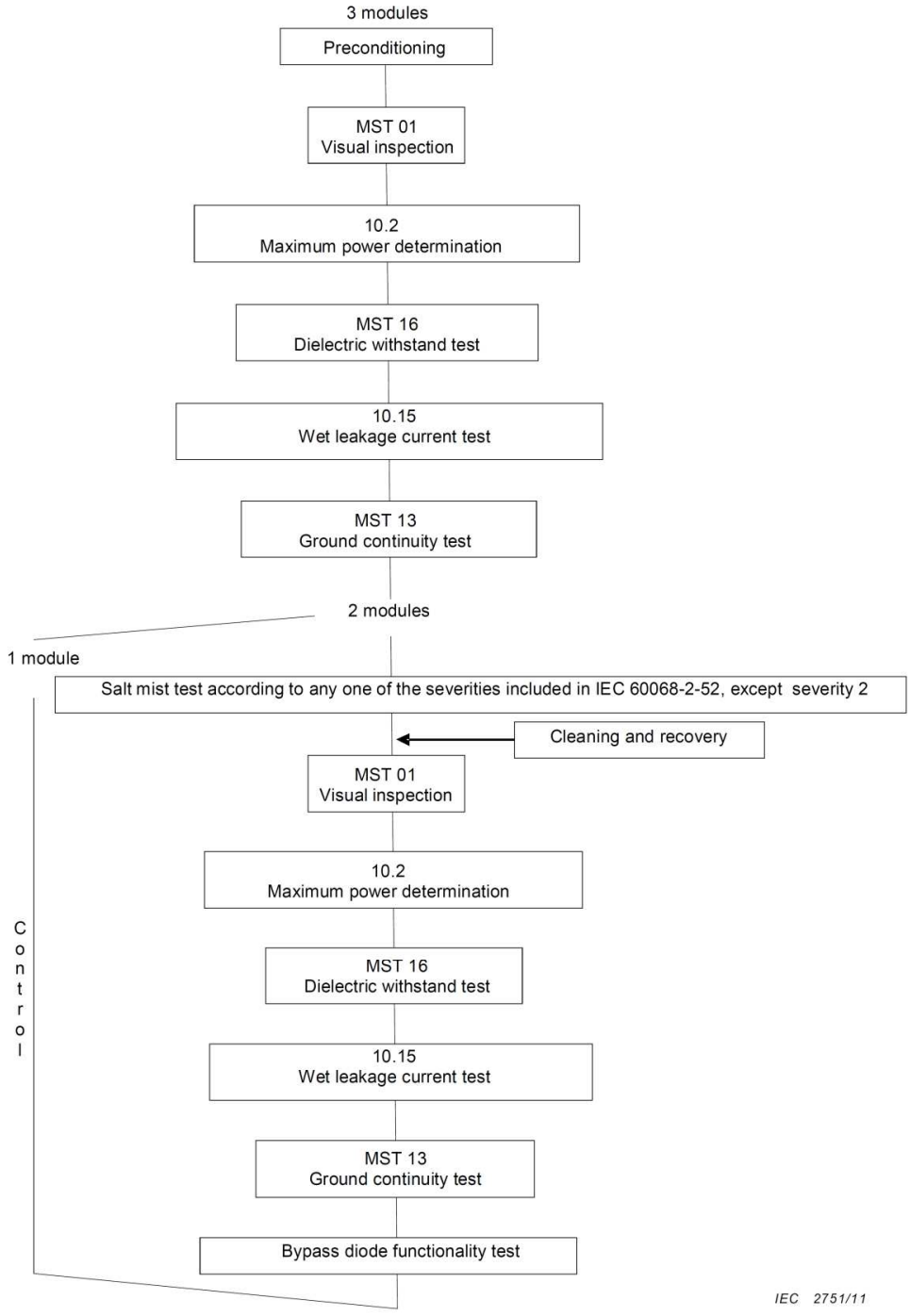
The test of the requirements of IEC 61701:2011, EN 61701:2012 were performed on module type STP540S-C72/Vmh as representative module and the test results are all fulfilled according to its regulations of the pass criteria.

- This report should be read in conjunction with bill of materials in appendix CN21UGJG 001.

The appendix of this test report includes the following annexes (6 pages):
Annex 1: Bill of materials (1 page)
Annex 2: Photos of module (2 pages)
Annex 3: Measurement reports (3 pages)

Absatz	**IEC 61701:2011, EN 61701:2012 severity 6**	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*	*Evaluation*

Test Procedures:



NOTE 1 Preconditioning and tests 10.2 and 10.15 are taken from IEC 61215. Tests MST 01, MST 13 and MST 16 are taken from IEC 61730-2.

NOTE 2 The control module should be used as a check every time the test modules are measured to evaluate the effect of the salt mist test.

Absatz	**IEC 61701:2011, EN 61701:2012 severity 6**	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*	*Evaluation*

List of test samples
Module type: STP540S-C72/Vmh

Sample No.	Sample S/N	Remarks / constructional characteristics
1	STP099830027710124520	Front cover: 3.2mm AR-coating from Wuxi Suntech Power Co.,Ltd Rear cover: BEC-303 from SUZHOU FIRST PV MATERIAL CO., LTD Solar cell: 182*91±0.5mm, Thickness=175±17.5um,6" mono c-si, PJ310BF47B2 from Jiangsu Runergy Yueda PV Technology Co.,Ltd EVA: F406PS(Gram weight≥430g/m2) / F806W(Gram weight≥410g/m2) from Hangzhou First PV Material Co.,Ltd Frame: 35mm 6005 T6 from Wuxi Suntech Power Co.,Ltd Frame and Junction box adhesive: 1527 from Suzhou Tonsan Adhesive Co., Ltd Cell/String connector: Sn60Pb40 Ø= 0.32/4mm*0.4mm from Wuxi Suntech Power Co.,Ltd Junction box: STP-JBOX07 from Wuxi Suntech Power Co., Ltd. Potting material: 1521 from Suzhou Tonsan Adhesive Co., Ltd. Fluxing agent: AATF9800-MBB from Shenzhen Tongfang Electronic New Materials Co., Ltd. Cable: 62930 IEC 131 from Wuxi Suntech Power Co.,Ltd Connector: TL-Cable01S from Jiangsu Tonglin Electric Co.,Ltd. Bypass diode: 30SQ045 from PANJIT International Inc.
2	STP099830027710154520	
3	STP099830027710164520	

—

Supplementary information: 10.1- Visual inspection and constructional check have been performed on this sample.

6.2 c)	**Visual inspection (Initial)**	
Test Date [DD/MM/YYYY]	14/12/2020	—
Sample No.	Nature and position of initial findings	—
1	No visual defects	P
2	No visual defects	P
3	No visual defects	P
Supplementary information: N/A		

Absatz	**IEC 61701:2011, EN 61701:2012 severity 6**	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*	*Evaluation*

6.2 a) Maximum power determination (Initial)

Test Date [DD/MM/YYYY]			15/12/2020				—
Module temperature [°C]			Corrected to 25 °C				
Irradiance [W/m²]			1000*				
Sample No.	Pmax [W]	Vmpp [V]	Impp [A]	Voc [V]	Isc [A]	FF [%]	
1	535.1	41.16	13.001	49.47	13.647	79.26	—
2	534.2	41.11	12.93	49.50	13.657	79.04	—
3	534.5	41.14	12.993	49.45	13.653	79.19	—
* A pulse solar simulator class AAA conforming to the requirements of IEC-60904-9 is used.							
Supplementary information: N/A							

6.2 e) Dielectric withstand test (Initial)

Test Date [DD/MM/YYYY]			15/12/2020			—
Maximum system voltage [V_{DC}]			1500			
High voltage applied [V_{DC}]			8000			
Insulation resistance measured at [V_{DC}]			1500			
Sample No.	Measured	Area	Result*	Dielectric breakdown		
	[GΩ]	[m²]	[GΩ × m²]	Yes (description)	No	
1	5.00	2.59	12.95	-	No	P
2	5.00	2.59	12.95	-	No	P
3	5.00	2.59	12.95	-	No	P
* Minimum requirement acc. to the standard is 0.04 GΩ*m²						
Supplementary information: the insulation tester can mesure up to 5.00 GΩ.						

Absatz	**IEC 61701:2011, EN 61701:2012 severity 6**	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*	*Evaluation*

6.2 b)	**Wet leakage current test (Initial)**			
Test Date [DD/MM/YYYY]		15/12/2020		—
Insulation resistance measured at [V_{DC}]		1500		—
Solution resistivity [Ω cm]		< 3,500		P
Solution temperature [°C]		22 ± 2		P
Sample No.	Measured [MΩ]	Area [m²]	Result* [MΩ × m²]	—
1	2809.0	2.59	7275.0	P
2	2530.0	2.59	6553.0	P
3	2978.0	2.59	7713.0	P
* Minimum requirement acc. to the standard is 40 MΩ × m²				
Supplementary information: N/A				

6.2 d)	**Ground continuity test (Initial)**			
Test Date [DD/MM/YYYY]		15/12/2020		—
Maximum over-current protection rating [A]		25		
Current applied [A]		62.5		
Location of designated grounding point		Grounding point of the long edge		
Location of second contacting point		The greatest physical displacement of adjacent side		
Sample No.	Position in test sequence	Voltage [mV]	Resistance [mΩ]	
1	Reference sample	67.8 71.7 69.5	1.085 1.147 1.112	P
2	Salt mist corrosion test	58.9 50.6 56.4	0.942 0.810 0.902	P
3	Salt mist corrosion test	78.9 77.6 71.0	1.262 1.242 1.136	P
Supplementary information: N/A				

Absatz	**IEC 61701:2011, EN 61701:2012 severity 6**	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*	*Evaluation*

7	**Salt mist corrosion test**	
Test Date [DD/MM/YYYY] start / end	15/12/2020 to 20/02/2021	—
NaCl - concentration [%]	5	
Course of cycle (7 days)	- Spraying: 2h / 15 - 35°C / reaction of NaCl - Humidity storage: 20-22h / 40°C / RH 93% - After four periods of spraying and humidity storage, one storage period under standard atmosphere: 3 days / 23°C / RH 45%-55%	
Duration	8 cycles = 56 days	
Sample No.	—	—
2	—	—
3	—	—
Supplementary information: N/A		

9.2 c)	**Visual inspection after salt mist corrosion test**	
Test Date [DD/MM/YYYY]	05/03/2021	
Sample No.	Nature and position of findings	—
2	Nature and position of findings	—
3	Nature and position of findings	—
Supplementary information: N/A		

Absatz	**IEC 61701:2011, EN 61701:2012 severity 6**	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*	*Evaluation*

9.2 a)	**Maximum power determination after salt mist corrosion test**							
Test Date [DD/MM/YYYY]			05/03/2021					—
Module temperature [°C]			Corrected to 25					
Irradiance [W/m²]			1000					
Sample No.	P_{max} [W]	V_{mpp} [V]	I_{mpp} [A]	V_{oc} [V]	I_{sc} [A]	FF [%]	Degradation [%]	
2	531.8	41.12	12.935	49.48	13.613	78.96	-0.46	P
3	532.2	40.77	13.052	49.43	13.621	79.04	-0.44	P
Supplementary information: The maximum allowable Pmax degradation after this test is 5%.								

9.2 e)	**Dielectric withstand test after salt mist corrosion test**					
Test Date [DD/MM/YYYY]				02/03/2021		—
Maximum system voltage [V_{DC}]				1500		
High voltage applied [V_{DC}]				8000		
Insulation resistance measured at [V_{DC}]				1500		
Sample No.	Measured	Area	Result*	Dielectric breakdown		
	[GΩ]	[m²]	[GΩ × m²]	Yes (description)	No	
2	5.00	2.59	12.95	-	No	P
3	5.00	2.59	12.95	-	No	P
* Minimum requirement acc. to the standard is 0.04 GΩ*m²						
Supplementary information: the insulation tester can mesure up to 5.00 GΩ.						

Absatz	**IEC 61701:2011, EN 61701:2012 severity 6**	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*	*Evaluation*

9.2 b)	**Wet leakage current test after salt mist corrosion test**			
Test Date [DD/MM/YYYY]		02/03/2021		—
Insulation resistance measured at [V_{DC}]		1500		
Solution resistivity [Ω cm]		< 3,500		P
Solution temperature [°C]		22 ± 2		P
Sample No.	Measured [MΩ]	Area [m²]	Result* [MΩ × m²]	—
2	2219.0	2.59	5747.0	P
3	2415.0	2.59	6255.0	P

9.2 d)	**Ground continuity test after salt mist corrosion test**			
Test Date [DD/MM/YYYY]		02/03/2021		—
Maximum over-current protection rating [A]		25		
Current applied [A]		62.5		
Location of designated grounding point		Grounding point of the long edge		
Location of second contacting point		The greatest physical displacement of adjacent side		
Sample No.	Position in test sequence	Voltage [mV]	Resistance [mΩ]	
2	Salt mist corrosion test	83.9 88.7 77.6	1.342 1.419 1.242	P
3	Salt mist corrosion test	79.7 88.1 89.9	1.275 1.410 1.438	P
Supplementary information: N/A				

Absatz	**IEC 61701:2011, EN 61701:2012 severity 6**	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / *Requirements - Tests*	*Measuring results - Remarks*	*Evaluation*

9.2 f)	**Bypass diode functional test after salt mist corrosion test**			
Test Date [DD/MM/YYYY]		05/03/2021		—
Number of diodes in junction box		3		
Diode manufacturer		PANJIT International Inc.		
Diode type designation		30SQ045		
Max. permissible junction temperature Tj_{max} [°C] (according to diode datasheet)		200		
Sample No.	Diode 1	Diode 2	Diode 3	
2	Functional	Functional	Functional	P
3	Functional	Functional	Functional	P
Supplementary information: N/A				

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

Compliance Document

No. D 004313 0004 Rev. 00

Holder of Certificate: **Wuxi Suntech Power Co., Ltd.**
No.16 Xinhua Road, Xinwu District
214000 Wuxi, Jiangsu
PEOPLE'S REPUBLIC OF CHINA

Product: **Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**

Mono-Crystalline Silicon Photovoltaic Module

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: www.tuvsud.com/ps-cert

Test report no.: 704062004709-00

Date, 2021-04-14

(Zhulin Zhang)

TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

TÜV®

Product Service

Compliance Document

No. D 004313 0004 Rev. 00

Model(s):

STPxxxS-C72/Vmhb (xxx=525-550 in step of 5W)
STPxxxS-C72/Vmh (xxx=525-550 in step of 5W)
STPxxxS-C66/Wmh (xxx=480-500 in step of 5W)
STPxxxS-C54/Umhb (xxx=390-410 in step of 5W)
STPxxxS-C54/Umh (xxx=390-410 in step of 5W)
STPxxxS-C54/Umhm (xxx=390-410 in step of 5W)
STPxxxS-C72/Pmh+ (xxx=510-550 in step of 5W)
STPxxxS-C66/Pmh+ (xxx=475-500 in step of 5W)
STPxxxS-C54/Pmh+ (xxx=385-410 in step of 5W)
xxx is standing for rated output power at STC

Parameters:

Safety Class:	Class II
Max. System Voltage:	1000V DC or 1500V DC
Construction:	Framed, with Junction box, cable and connector.
Fire Safety Class:	Class C according to UL790

Tested according to:

IEC 61215-1:2016
IEC 61215-1-1:2016
IEC 61215-2:2016
IEC 61730-1:2016
IEC 61730-2:2016
IEC 62716:2013

TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

TÜV®

TS IEC 62804-1:2015

Photovoltaic (PV) Modules - Test Methods for the detection of potential-induced degradation (PID)
Part 1: Crystalline silicone
Confirmation of test results

VDE Renewables File Ref.: 10011/ET-20201127-293-1

Applicant: Wuxi Suntech Power Co., Ltd.
16 Xin Hua Road, 214028 Wuxi City, China.

Product: Crystalline silicon Photovoltaic (PV)-Modules

Type:
A) STPXXXS-C72/Vmh
B) STPXXXS-C66/Wmh
C) STPXXXS-C54/Umh STPXXXS-C54/Umhm

XXX in the type replaces the power in watt and can be any number between: 525 - 550 for A), 480 - 500 for B), 390 - 410 for C)

Manufacturer: **Wuxi Suntech Power Co., Ltd.**

Standard: TS IEC 62804-1:2015

Test conditions

Testing time:	192 h
Chamber temperature:	85°C
Relative Humidity:	85 %
Potential to ground:	± 1500 V

Pass criteria

Power degradation:	< 5%
Dry Insulation:	> 40 MΩm²
Wet insulation:	> 40 MΩm²

VDE RENEWABLES GMBH
Siemensstraße 30
63755 Alzenau, Germany
Managing Director: Burkhard Holder

Tel: +49 69 6308 5300
Fax: +49 69 6308 5320
Email: renewables@vde.com
www.vde.com/renewables

Location: Alzenau
District Court: Aschaffenburg
Registration No: HRB 13820
Tax Number: 204/141/20793

Bank Information:
Deutsche Bank AG
IBAN: DE14 5007 0010 0235 5006 01
BIC: DEUTDEFFXXX

Summary of test results:

Maximum power degradation:	allowed	max. 5 %
	measured	max. 0.71%

The measured degradation is below the allowed degradation.

Dry insulation resistance:	required	min. 15.5 MΩ
	measured	>500 MΩ

The measured dry insulation resistance is above the limit.

Wet insulation resistance:	required	min. 15.5 MΩ
	measured	>500 MΩ

The measured wet insulation resistance is above the limit.

Visual inspection: No findings

The complete test results and the relevant bill of materials are given in Test Report No.: TRPVM- ET-20201127-293-1.

VDE Renewables GmbH

Dean Wen ***Arnd Roth***

63755 Alzenau, 2021-03-03

证 书

根据

IEC 62941: 2019
(Edition 1.0 2019-12)

基于满足上述规范，证书授予

无锡尚德太阳能电力有限公司

中国江苏省无锡市新吴区新华路 16 号，邮编：214028

范围

晶体硅太阳能电池组件的设计和制造

经 IEC 61215 或 IEC 61646 认证的光伏组件清单见附件

证书编号. CN-44 101 1688 0003

审核报告编号. 2.5-CN1240/2021

有效期起始日 2021-03-29

证书有效期至 2023-03-09

初次认证日期 2017-03-10

打印于
杭州汉德质量认证服务有限公司
上海分公司

之认证机构
杭州汉德质量认证服务有限公司

签发日期： 2021-03-29

这份证书依据杭州汉德质量认证服务有限公司之规定认证和证明并且是受年度审查的规定。

杭州汉德质量认证服务有限公司

中国浙江省杭州经济技术开发区白杨街道科技园路 57 号 17 幢 217 室，邮编：310018

www.tuv-nord.com.cn

附件

证书编号. CN-44 101 1688 0003

IEC 62941: 2019
(Edition 1.0 2019-12)

经 IEC / EN 61215:2016 认证的光伏组件清单

STPXXX-24/Vem
STPXXX-24/Vfw
STPXXX-24/Vfw-MX
STPXXX-24/Vfb
STPXXX-20/Wem
STPXXX-20/Wfw
STPXXX-20/Wfm
STPXXX-20/Wfw-MX
STPXXX-20/Wfm-MX
STPXXX-20/Wfb
STPXXXS-24/Vem
STPXXXS-24/Vfw
STPXXXS-24/Vfw-MX
STPXXXS-24/Vfb
STPXXXS-24/Vfm
STPXXXS-A24/Vfw
STPXXXS-A24/Vfm
STPXXXS-A24/Vfb
STPXXXS-20/Wem
STPXXXS-20/Wfm
STPXXXS-20/Wew
STPXXXS-20/Wfw
STPXXXS-20/Wfw-MX
STPXXXS-20/Wfm-MX
STPXXXS-20/Wfb
STPXXXS-A20/Wfw
STPXXXS-A20/Wfm
STPXXXS-A20/Wfb
STPXXXS-16/Tem
STPXXXS-16/Tfm
STPXXX-16/Tee+

STPXXX-24/Vfh
STPXXX-20/Wfh
STPXXXS-24/Vfh
STPXXXS-24/Vfhb
STPXXXS-A24/Vfh
STPXXXS-A24/Vfhb
STPXXXS-20/Wfh
STPXXXS-20/Wfhm
STPXXXS-20/Wfhb
STPXXXS-A20/Wfh
STPXXXS-A20/Wfhm
STPXXXS-A20/Wfhb
STPXXXS-A20/Wfh-J
STPXXX-24/Vem
STPXXX-24/Vfw
STPXXX-24/Vfw-MX
STPXXX-20/Wem
STPXXX-20/Wfw
STPXXX-20/Wfm
STPXXX-20/Wfw-MX
STPXXX-20/Wfm-MX
STPXXXS-24/Vem
STPXXXS-24/Vfw
STPXXXS-24/Vfw-MX
STPXXXS-24/Vfm
STPXXXS-A24/Vfw
STPXXXS-A24/Vfm
STPXXXS-20/Wem
STPXXXS-20/Wfm
STPXXXS-20/Wew
STPXXXS-20/Wfw

STPXXXS-20/Wfw-MX
STPXXXS-20/Wfm-MX
STPXXXS-A20/Wfw
STPXXXS-A20/Wfm
STPXXXS-16/Tem
STPXXXS-16/Tfm
STPXXX-16/Tee+
STPXXX-24/Vfh
STPXXX-20/Wfh
STPXXXS-24/Vfh
STPXXXS-A24/Vfh
STPXXXS-20/Wfh
STPXXXS-20/Wfhm
STPXXXS-A20/Wfh
STPXXXS-A20/Wfhm
STPXXX-24H/Vem
STPXXX-24H/Vfw
STPXXX-24H/Vfw-MX
STPXXX-20H/Wem
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STPXXX-20H/Wfw-MX
STPXXX-20H/Wfm-MX
STPXXXS-24H/Vem
STPXXXS-24H/Vfw
STPXXXS-24H/Vfw-MX
STPXXXS-24H/Vfm
STPXXXS-A24H/Vfw
STPXXXS-A24H/Vfm
STPXXXS-20H/Wem
STPXXXS-20H/Wfm
STPXXXS-20H/Wew
STPXXXS-20H/Wfw
STPXXXS-20H/Wfw-MX
STPXXXS-20H/Wfm-MX
STPXXXS-A20H/Wfw
STPXXXS-A20H/Wfm
STPXXXS-16H/Tem
STPXXXS-16H/Tfm
STPXXX-16H/Tee+
STPXXX-24H/Vfh
STPXXX-20H/Wfh
STPXXX-24H/Vfh
STPXXXS-A24H/Vfh
STPXXXS-20H/Wfh
STPXXXS-20H/Wfhm
STPXXXS-A20H/Wfh
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STPXXXS-72/Vfh
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STPXXXS-A72/Vfhb
STPXXXS-72/Vfh
STPXXXS-A72/Vfh
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STPXXXS-A66/Wfhm
STPXXXS-A66/Wfhb
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STPXXXS-A60/Wfhb
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STPXXXS-A21/Wfh
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STPXXX-72H/Vnh
STPXXX-66/Wnh

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STPXXXS-A16H/Tfh
STPXXXS-A16H/Tfhm
STPXXX-20/Wfj
STPXXX-24/Vfj
STPXXX-20/Wfk
STPXXX-24/Vfk
STPXXXS-60/Pfd
STPXXXS-72/Pfd
STPXXXS-72/Pfd+
STPXXXS-60/Pfd+
STPXXXS-72/Pfh
STPXXXS-60/Pfh
STPXXXS-72/Pfh+
STPXXXS-60/Pfh+
STPXXXS-72/Nfd+
STPXXXS-60/Nfd+
STPXXXS-72/Nfd
STPXXXS-60/Nfd
STPXXXS-72/Nfh+
STPXXXS-60/Nfh+
STPXXXS-72/Nfh
STPXXXS-60/Nfh
STPXXXS-A72/Pfh+

STPXXXS-24/Vfk
STPXXXS-20/Wfk
STPXXXS-A24/Vfk+
STPxxxS-B60/Wnh
STPxxxS-B60/Wnhm
STPxxxS-B60/Wnhb
STPxxxS-B72/Vnh
STPxxxS-B72/Vnhm
STPxxxS-B72/Vnhb
STPxxxS-B72/Pnh+
STPxxxS-B72/Pnhg
STPxxxS-C54/Umh
STPxxxS-C54/Umhm
STPxxxS-C54/Umhb
STPxxxS-C72/Vmh
STPxxxS-C72/Vmhm
STPxxxS-C72/Vmhb
STPxxxS-C72/Pmh+
STPxxxS-C72/Pmhg
STPxxxS-D60/Wmh
STPxxxS-D60/Wmhm
STPxxxS-D60/Wmhb
STPxxxS-D60/Pmh+
STPxxxS-D60/Pmhg

列表完

之认证机构
杭州汉德质量认证服务有限公司

打印于：
杭州汉德质量认证服务有限公司上海分公司
签发日期：2021-03-29

杭州汉德质量认证服务有限公司
中国浙江省杭州经济技术开发区白杨街道科技园路 57 号 17 幢 217 室，邮编：310018
www.tuv-nord.com.cn

CERTIFICATE

According to

IEC 62941: 2019
(Edition 1.0 2019-12)

Evidence of conformity with the above specification has been furnished and is certified for

Wuxi Suntech Power Co., Ltd.

No.16, Xinhua Road, NewWu District, Wuxi City, Jiangsu Province, 214028, P.R. China

Scope

Design and Manufacture of Crystalline Silicon Solar Cells Modules

With the attached list of photovoltaic (PV) modules certified to IEC 61215 or IEC 61646

Certificate Registration No. CN-44 101 1688 0003
Audit Report No. 2.5-CN1240/2021

Valid from 2021-03-29
Valid until 2023-03-09
Initial Certification 2017-03-10

Printing at
TUV NORD Hangzhou Co., Ltd.
Shanghai Branch

Certification Body
at TÜV NORD (Hangzhou) Co., Ltd.

Issue Date: 2021-03-29

This certification was conducted in accordance with the TÜV NORD (Hangzhou) Co., Ltd. auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD (Hangzhou) Co., Ltd.
Room 217, Building 17, No. 57, Science Park Road, Baiyang Street, Hangzhou Economic and Technological Development Zone, 310018 Zhejiang Province, China
www.tuv-nord.com.cn

ANNEX

Appendix to Certificate Registration No. CN-44 101 1688 0003

IEC 62941: 2019

(Edition 1.0 2019-12)

List of photovoltaic (PV) modules certified to: IEC / EN 61215:2016;

STPXXX-24/Vem
STPXXX-24/Vfw
STPXXX-24/Vfw-MX
STPXXX-24/Vfb
STPXXX-20/Wem
STPXXX-20/Wfw
STPXXX-20/Wfm
STPXXX-20/Wfw-MX
STPXXX-20/Wfm-MX
STPXXX-20/Wfb
STPXXXS-24/Vem
STPXXXS-24/Vfw
STPXXXS-24/Vfw-MX
STPXXXS-24/Vfb
STPXXXS-24/Vfm
STPXXXS-A24/Vfw
STPXXXS-A24/Vfm
STPXXXS-A24/Vfb
STPXXXS-20/Wem
STPXXXS-20/Wfm
STPXXXS-20/Wew
STPXXXS-20/Wfw
STPXXXS-20/Wfw-MX
STPXXXS-20/Wfm-MX
STPXXXS-20/Wfb
STPXXXS-A20/Wfw
STPXXXS-A20/Wfm
STPXXXS-A20/Wfb
STPXXXS-16/Tem
STPXXXS-16/Tfm
STPXXX-16/Tee+
STPXXX-24/Vfh
STPXXX-20/Wfh
STPXXXS-24/Vfh
STPXXXS-24/Vfhb
STPXXXS-A24/Vfh
STPXXXS-A24/Vfhb
STPXXXS-20/Wfh
STPXXXS-20/Wfhm
STPXXXS-20/Wfhb
STPXXXS-A20/Wfh
STPXXXS-A20/Wfhm
STPXXXS-A20/Wfhb
STPXXXS-A20/Wfh-J
STPXXX-24/Vem
STPXXX-24/Vfw
STPXXX-24/Vfw-MX
STPXXX-20/Wem
STPXXX-20/Wfw
STPXXX-20/Wfm
STPXXX-20/Wfw-MX
STPXXX-20/Wfm-MX
STPXXXS-24/Vem
STPXXXS-24/Vfw
STPXXXS-24/Vfw-MX
STPXXXS-24/Vfm
STPXXXS-A24/Vfw
STPXXXS-A24/Vfm
STPXXXS-20/Wem
STPXXXS-20/Wfm
STPXXXS-20/Wew
STPXXXS-20/Wfw

STPXXXS-20/Wfw-MX
STPXXXS-20/Wfm-MX
STPXXXS-A20/Wfw
STPXXXS-A20/Wfm
STPXXXS-16/Tem
STPXXXS-16/Tfm
STPXXX-16/Tee+
STPXXX-24/Vfh
STPXXX-20/Wfh
STPXXXS-24/Vfh
STPXXXS-A24/Vfh
STPXXXS-20/Wfh
STPXXXS-20/Wfhm
STPXXXS-A20/Wfh
STPXXXS-A20/Wfhm
STPXXX-24H/Vem
STPXXX-24H/Vfw
STPXXX-24H/Vfw-MX
STPXXX-20H/Wem
STPXXX-20H/Wfw
STPXXX-20H/Wfm
STPXXX-20H/Wfw-MX
STPXXX-20H/Wfm-MX
STPXXXS-24H/Vem
STPXXXS-24H/Vfw
STPXXXS-24H/Vfw-MX
STPXXXS-24H/Vfm
STPXXXS-A24H/Vfw
STPXXXS-A24H/Vfm
STPXXXS-20H/Wem
STPXXXS-20H/Wfm
STPXXXS-20H/Wew
STPXXXS-20H/Wfw
STPXXXS-20H/Wfw-MX
STPXXXS-20H/Wfm-MX
STPXXXS-A20H/Wfw
STPXXXS-A20H/Wfm
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STPXXXS-16H/Tfm
STPXXX-16H/Tee+
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STPXXX-20H/Wfh
STPXXXS-24H/Vfh
STPXXXS-A24H/Vfh
STPXXX-20H/Wfh
STPXXXS-20H/Wfh
STPXXXS-A20H/Wfh
STPXXX-20H/Wfl
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STPXXXS-20/Wfl
STPXXXS-A20/Wfl
STPXXX-20H/Wfl
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STPXXXS-A20H/Wfl
STPXXX-78/Vfh
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STPXXXS-78/Vfh
STPXXXS-A78/Vfh
STPXXXS-78H/Vfh
STPXXXS-A78H/Vfh
STPXXX-72/Vfh
STPXXX-72/Vfh
STPXXX-72H/Vfh
STPXXXS-72/Vfh
STPXXXS-A72/Vfh
STPXXXS-A72/Vfhb
STPXXXS-72/Vfh
STPXXXS-A72/Vfh
STPXXXS-72H/Vfh
STPXXXS-A72H/Vfh
STPXXX-66/Wfh
STPXXX-66/Wfh
STPXXX-66H/Wfh
STPXXXS-66/Wfh
STPXXXS-A66/Wfh
STPXXXS-A66/Wfhm
STPXXXS-A66/Wfhb
STPXXXS-66/Wfh

STPXXXS-A66/Wfh
STPXXXS-A66/Wfhm
STPXXXS-66H/Wfh
STPXXXS-A66H/Wfh
STPXXXS-A66H/Wfhm
STPXXX-60/Wfh
STPXXX-60/Wfh
STPXXX-60H/Wfh
STPXXXS-60/Wfh
STPXXXS-A60/Wfh
STPXXXS-A60/Wfhm
STPXXXS-A60/Wfhb
STPXXXS-60/Wfh
STPXXXS-A60/Wfh
STPXXXS-A60/Wfhm
STPXXXS-60H/Wfh
STPXXXS-A60H/Wfh
STPXXXS-A60H/Wfhm
STPXXX-21/Wfh
STPXXX-21/Wfh
STPXXX-21H/Wfh
STPXXXS-21/Wfh
STPXXXS-21/Wfhm
STPXXXS-21/Wfhb
STPXXXS-A21/Wfh
STPXXXS-A21/Wfhm
STPXXXS-A21/Wfhb
STPXXXS-21/Wfh
STPXXXS-21/Wfhm
STPXXXS-A21/Wfh
STPXXXS-A21/Wfhm
STPXXXS-21H/Wfh
STPXXXS-21H/Wfhm
STPXXXS-A21H/Wfh
STPXXXS-A21H/Wfhm
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STPXXX-78/Vnh
STPXXX-78H/Vnh
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STPXXX-20/Wnh
STPXXX-20/Wnh
STPXXX-20H/Wnh
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STPXXXS-A16/Tfhm
STPXXXS-A16/Tfhb
STPXXXS-A16/Tfh
STPXXXS-A16/Tfhm
STPXXXS-A16H/Tfh
STPXXXS-A16H/Tfhm
STPXXX-20/Wfj
STPXXX-24/Vfj
STPXXX-20/Wfk
STPXXX-24/Vfk
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STPXXXS-72/Pfd+
STPXXXS-60/Pfd+
STPXXXS-72/Pfh
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STPXXXS-60/Pfh+
STPXXXS-72/Nfd+
STPXXXS-60/Nfd+
STPXXXS-72/Nfd
STPXXXS-60/Nfd
STPXXXS-72/Nfh+
STPXXXS-60/Nfh+
STPXXXS-72/Nfh
STPXXXS-60/Nfh
STPXXXS-A72/Pfh+

STPXXXS-24/Vfk
STPXXXS-20/Wfk
STPXXXS-A24/Vfk+
STPxxxS-B60/Wnh
STPxxxS-B60/Wnhm
STPxxxS-B60/Wnhb
STPxxxS-B72/Vnh
STPxxxS-B72/Vnhm
STPxxxS-B72/Vnhb
STPxxxS-B72/Pnh+
STPxxxS-B72/Pnhg
STPxxxS-C54/Umh
STPxxxS-C54/Umhm
STPxxxS-C54/Umhb
STPxxxS-C72/Vmh
STPxxxS-C72/Vmhm
STPxxxS-C72/Vmhb
STPxxxS-C72/Pmh+
STPxxxS-C72/Pmhg
STPxxxS-D60/Wmh
STPxxxS-D60/Wmhm
STPxxxS-D60/Wmhb
STPxxxS-D60/Pmh+
STPxxxS-D60/Pmhg

End of the list

Certification Body
at TÜV NORD (Hangzhou) Co., Ltd.

Printing at
TUV NORD Hangzhou Co., Ltd. Shanghai Branch
Issue Date: 2021-03-29

This certification was conducted in accordance with the TÜV NORD (Hangzhou) Co., Ltd. auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD (Hangzhou) Co., Ltd.
Room 217, Building 17, No. 57, Science Park Road, Baiyang Street, Hangzhou Economic and Technological Development Zone, 310018 Zhejiang Province, China
www.tuv-nord.com.cn

此为证书 CN09/32341 译本

下述组织

无锡尚德太阳能电力有限公司

注册地址: 无锡市新吴区新华路 9 号、16 号

经营地址: 中国江苏省无锡市新吴区新华路 9 号、16 号

统一社会信用代码 9132021372655423XN

的管理体系已经过审核，并被证明符合下述要求

ISO 9001:2015

所涉及的活动范围覆盖

晶体硅太阳能电池组件的设计和制造

该证书的有效期自 2021 年 08 月 17 日至 2024 年 08 月 16 日
组织必须定期接受监督审核并经审核合格此证书方继续有效
持续认证至少在证书失效前 60 天执行
版本号 1. 初始注册日期 2009 年 08 月 17 日

签署

SGS United Kingdom Ltd
Rossmore Business Park Ellesmere Port Cheshire CH65 3 EN UK
t +44 (0)151 350-6666 f +44 (0)151 350-6600 www.sgs.com
本证书信息可在国家认证认可监督管理委员会官方网站www.cnca.gov.cn上查询

HC SGS 9001 2015 0118

Certificate CN09/32341

The management system of

Wuxi Suntech Power Co., Ltd.

Business Registration Address: No. 9, 16, Xinhua Road,
Xinwu District, Wuxi City

Business Operation Address: No. 9, 16, Xinhua Road,
Xinwu District, Wuxi City, Jiangsu Province, P.R. China

Unified Social Credit Code 9132021372655423XN

has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

Design and manufacture of crystalline silicon solar cells modules

This certificate is valid from 17 August 2021 until 16 August 2024
and remains valid subject to satisfactory surveillance audits.
Recertification audit due a minimum of 60 days before the expiration date.
Issue 1. Certified since 17 August 2009

Authorised by

SGS United Kingdom Ltd
Rossmore Business Park Ellesmere Port Cheshire CH65 3EN UK
t +44 (0)151 350-6666 f +44 (0)151 350-6600 www.sgs.com
The certification information can be verified on the web site of Certification and Accreditation Administration of the People's Republic of China www.cnca.gov.cn

HC SGS 9001 2015 0118

此为证书 CN09/21487 译本

下述组织

无锡尚德太阳能电力有限公司

注册地址: 无锡市新吴区新华路 9 号、16 号

经营地址: 中国江苏省无锡市新吴区新华路 9 号、16 号

的管理体系已经过审核，并被证明符合下述要求

ISO 14001:2015

所涉及的活动范围覆盖

晶体硅太阳能电池组件的设计和制造

该证书的有效期自 2021 年 08 月 06 日至 2024 年 08 月 05 日
并须经过符合要求的监督审核保持有效
持续认证至少在证书失效前 60 天执行
版本号 7. 初始注册日期 2009 年 08 月 06 日

签署

SGS United Kingdom Ltd
Rossmore Business Park Ellesmere Port Cheshire CH65 3 EN UK
t +44 (0)151 350-6666 f +44 (0)151 350-6600 www.sgs.com

HC SGS 14001 2015 0118

Certificate CN09/21487

The management system of

Wuxi Suntech Power Co., Ltd.

Business Registration Address: No. 9, 16, Xinhua Road,
Xinwu District, Wuxi City

Business Operation Address: No. 9, 16, Xinhua Road,
Xinwu District, Wuxi City, Jiangsu Province, P.R. China

has been assessed and certified as meeting the requirements of

ISO 14001:2015

For the following activities

Design and manufacture of crystalline silicon solar cells modules

This certificate is valid from 6 August 2021 until 5 August 2024
and remains valid subject to satisfactory surveillance audits.
Recertification audit due a minimum of 60 days before the expiration date
Issue 7. Certified since 6 August 2009

Authorised by

SGS United Kingdom Ltd
Rossmore Business Park Ellesmere Port Cheshire CH65 3EN UK
t +44 (0)151 350-6666 f +44 (0)151 350-6600 www.sgs.com

HC SGS 14001 2015 0118

Certificate CN19/21424.00

The management system of

Wuxi Suntech Power Co., Ltd.

Unified Social Credit Code: 9132021372655423XN
Business Registration Address: No. 9, 16, Xinhua Road, Xinwu District, Wuxi City
Business Operation Address: No. 9, 16, Xinhua Road, Xinwu District, Wuxi City, Jiangsu Province, P.R. China

has been assessed and certified as meeting the requirements of

ISO 45001:2018

For the following activities

Design and manufacture of crystalline silicon solar cells modules

This certificate is valid from 28 October 2022 until 10 October 2025 and remains valid subject to satisfactory surveillance audits.
Issue 3. Certified since 11 October 2019

Last certificate expiry date 10 October 2022
Recertification audit date 31 August 2022

Authorised by
Jonathan Hall
Global Head - Certification Services

SGS United Kingdom Ltd
Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN, UK
t +44 (0)151 350-6666 - www.sgs.com

UKAS MANAGEMENT SYSTEMS 0005

此为证书 CN19/21424.00 译本

下述组织

无锡尚德太阳能电力有限公司

统一社会信用代码：9132021372655423XN
注册地址：无锡市新吴区新华路 9 号、16 号
经营地址：中国江苏省无锡市新吴区新华路 9 号、16 号

的管理体系已经过审核，并被证明符合下述要求

ISO 45001:2018

所涉及的活动范围覆盖

晶体硅太阳能电池组件的设计和制造

该证书的有效期自 2022 年 10 月 28 日 至 2025 年 10 月 10 日 并须经过符合要求的监督审核保持有效
版本号 3. 初始注册日期 2019 年 10 月 11 日

上一次证书有效期截止日期 2022 年 10 月 10 日
再认证审核日期 2022 年 08 月 31 日

签署
Jonathan Hall
Global Head -
Certification Services

SGS United Kingdom Ltd
Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN, UK
t +44 (0)151 350-6666 - www.sgs.com

此为证书 CN22/00003932 译本

下述组织

无锡尚德太阳能电力有限公司

中国江苏省无锡市新吴区新华路 9 号

的管理体系已经过审核，并被证明符合下述要求

SA8000:2014

所涉及的活动范围覆盖

晶体硅太阳能电池和太阳能电池组件的设计和制造（主要过程包括制绒、扩散、退火、清洗、等离子化学气相沉积、丝网印刷、裁切、焊接、层叠、装框、终测）

在 SA8000 认证过程中社会责任国际(SAI)和其他利益相关者仅承认由获得 SAAS 认可合格的认可机构颁发的 SA8000 证书，不承认由未经认可的组织或由除 SAAS 之外的任何实体认可的组织颁发的 SA8000 证书的有效性。请参考 SAAS 网站 https://sa-intl.org/sa8000-search/for 认可证书的有效性。

该证书的有效期自 2022 年 11 月 16 日 至 2025 年 11 月 15 日 并须经过符合要求的监督审核保持有效

版本号 1. 初始注册日期 2022 年 11 月 16 日

在其它场所实施的认证活动在后续页面上列出

签署

Nilesh Jadhav

SGS India Private Ltd.
4B Adi Shankaracharya Marge, Vikhroli (West), Mumbai- 400 083. India
t +91 22 604 08888 - www.sgs.com

此为证书 CN22/00003932 译本，续

无锡尚德太阳能电力有限公司

SA8000:2014

版本号 1
场所
无锡尚德太阳能电力有限公司 中国江苏省无锡市新吴区新华路 9 号 晶体硅太阳能电池的设计和制造（主要过程包括制绒、扩散、退火、清洗、等离子化学气相沉积、丝网印刷）
无锡尚德太阳能电力有限公司 中国江苏省无锡市新吴区新华路 16 号 晶体硅太阳能电池组件的设计和制造（主要过程包括裁切、焊接、层叠、装框、终测）

Certificate CN22/00003932

The management system of

Wuxi Suntech Power Co., Ltd.

No. 9, Xinhua Road, Xinwu District, Wuxi City, Jiangsu Province, P.R. China

has been assessed and certified as meeting the requirements of

SA8000:2014

For the following activities

Design and manufacture of crystalline silicon solar cells and silicon solar cell modules (with primary processes of texturizing, diffusing, annealing, cleaning, plasma enhanced chemical vapor depositing, screen printing, cutting, welding, laminating, framing, final testing)

Social Accountability International and other stakeholders in the SA8000 process only recognize SA8000 certificates issued by qualified CBs granted accreditation by SAAS and do not recognize the validity of SA8000 certificates issued by unaccredited organizations or organizations accredited by any entity other than SAAS. Pls refer to SAAS website https://sa-intl.org/sa8000-search/for the validity of accredited certificates.

This certificate is valid from 16 November 2022 until 15 November 2025 and remains valid subject to satisfactory surveillance audits.

Issue 1. Certified since 16 November 2022
Certified activities performed by additional sites are listed on subsequent pages.

Authorised by
Nilesh Jadhav

SGS India Private Ltd.
4B Adi Shankaracharya Marge, Vikhroli (West), Mumbai- 400 083. India
t +91 22 604 08888 - www.sgs.com

Certificate CN22/00003932, continued

Wuxi Suntech Power Co., Ltd.

SA8000:2014

Issue 1
Sites
Wuxi Suntech Power Co., Ltd. No. 9, Xinhua Road, Xinwu District, Wuxi City, Jiangsu Province, P.R. China Design and manufacture of crystalline silicon solar cells (with primary processes of texturizing, diffusing, annealing, cleaning, plasma enhanced chemical vapor depositing, screen printing)
Wuxi Suntech Power Co., Ltd. No. 16, Xinhua Road, Xinwu District, Wuxi City, Jiangsu Province, P.R. China Design and manufacture of crystalline silicon solar cell modules (with primary processes of cutting, welding, laminating, framing, final testing)

C E R T I F I C A T E
of Conformity

TÜVRheinland®

Registration No.: AK 50497629 0001

Report No.: CN21D5Y4 001

Holder:
Wuxi Suntech Power Co., Ltd.
No.16 Xinhua Road,
Xinwu District Wuxi,
214000 Jiangsu
P.R. China

Product: PV Module

Identification:
Type Designations:
With mono c-Si cell:
STP540S-C72/Vmh
Remarks:
- The above listed PV modules may be used in PV plants at a maximum system voltage (Voc at STC) of up to 1500 VDC.
- Module types listed above fulfill the requirements of Light and Elevated Temperature Induced Degradation (LeTID) : Detection

Tested acc. to: 2 PfG 2689/04.19

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Certification Body

TÜV Rheinland LGA Products GmbH

Date 15.03.2021

Dipl.-Ing. (FH) Tim Kirschner

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

TÜV Rheinland (China) Ltd.
Member of TÜV Rheinland Group

TÜVRheinland®
Precisely Right.

Wuxi Suntech Power Co., Ltd.
Jing Li

No.16 Xinhua Road,
Xinwu District Wuxi,
214000 Jiangsu
P.R. China

Date : 15/03/2021
Our ref. : CLI 01
Your ref.: J.L.

Ref : AK Certificate of Conformity

Type of Equipment : PV Module
Model Designation : See Certificate
Certificate No. : AK 50497629 0001
Report No. : CN21D5Y4 001

Dear Jing Li,

Thank you very much for your interest in our services.

Please find enclosed your certification documents.

We appreciate your support and would like to offer our assistance in the approval of your future products through our extensive range of technical services.

Please feel free to contact us whatever your requirements may be.

With kind regards,

Certification Body

Dipl.-Ing. (FH) Tim Kirschner

CC: Wuxi Suntech Power Co., Ltd.

Enclosure

CE Declaration letter

Company: Wuxi Suntech Power Co., Ltd.
Address: No. 16 Xinhua Road, Xinwu District, 214028 Wuxi, Jiangsu, China
Product: Photovoltaic Module (PV)
Date: Nov. 22. 2022

Module type/product list

STPXXX-20/Wfh(m, b) (XXX=275-300)
STPXXXS-A60/Wfh(m, b) (XXX=300-350)
STPXXXS-A72/Pfh+ (XXX=370-410)
STPXXXS-B72/Vnh(m, b) (XXX=415-465)
STPXXXS-C54/Umh(m, b) (XXX=390-435)
STPXXXS-C72/Pmh+ (XXX=510-550)
STPXXXS-C72/Nmh+ (XXX=540-580)
STPXXXS-D66/Wmh(b) (XXX=640-665)
STPXXXS-C72/Nsh(m,b) (XXX=545-580)
STPXXXS-D60/Pmh+ (XXX=580-620)
STPXXXS-C54/Nshm(b)+ (XXX=405-435)
STPXXX-24/Vfh(m, b) (XXX=325-360)
STPXXXS-A72/Vfh(m, b) (XXX=360-420)
STPXXXS-B60/Wnh(m, b) (XXX=345-385)
STPXXXS-B72/Pnh(m)+ (XXX=425-450)
STPXXXS-C72/Vmh(m, b) (XXX=525-585)
STPXXXS-C54/Nmhm(b)+ (XXX=405-435)
STPXXXS-D60/Wmh(b) (XXX=580-600)
STPXXXS-D66/Pmh+ (XXX=640-685)
STPXXXS-C54/Nsh(m,b,y) (XXX=405-435)
STPXXXS-C72/Nsh+ (XXX=545-580)

We hereby declare that, under our sole responsibility, the aforementioned products manufactured by Wuxi Suntech Power Co., Ltd. at its VDE verified addresses comply with the standards described below, and CE marking has been imprinted.

- EN 61730 -1, 2016
- EN 61730 -2, 2016
- EN 61215 -1, 2016
- EN 61215 -2, 2016
- Directive 2014/35/EU (Low Voltage Directive)

Wuxi Suntech Power Co., Ltd.
Tel: +86 (510) 8531 8888
Fax: +86 (510) 8534 3321

REA MI 1466310
R.I./C.F./P.I. 11360160151
Cap. Soc. € 1.040.000

CERTIFICATO DI PROVA

CSI/0029/23/RF

Pratica n.037/23

emesso per materiali di limitata produzione di cui alla lett. c, co. 1 dell'art. 10 del decreto del Ministero dell'Interno del 26 giugno 1984 recante "Classificazione di reazione al fuoco ed omologazione dei materiali ai fini della prevenzione incendi" e ss.mm. di cui al Decreto del Ministero dell'Interno del 3 settembre 2001 e di cui all'art. 5 del Decreto del Ministero dell'Interno del 14 ottobre 2022 (S.O. alla G.U. n° 234 del 25 agosto 84 - S.O. alla G.U. n° 242 del 17 ottobre 2001 - S.O. alla G.U. n° 251 del 26 ottobre 2022).

Visto l'esito degli accertamenti effettuati, si certifica che al manufatto rientrante nell'elenco di cui all'allegato A.2.1 al D.M. 26/06/1984 e s.m.i. con la

codifica alfanumerica	Risoluzione 40,
prodotto da:	Suntech Deutschland GmbH – 65760 Eschborn (Germania),
denominato:	STPXXXS-C72/Vmh,
impiegato come:	Pannello fotovoltaico,
posto in opera:	//

è attribuita in conformità a UNI 8457 (1987) e UNI 8457/A1:1994 - UNI 9174 (1987) e UNI 9174/A1:1994

la **CLASSE DI REAZIONE AL FUOCO: 1 (UNO)**

Costituiscono parte integrante del presente certificato gli allegati costituiti da facciate scritte n. 6, tra i quali sono presenti i seguenti rapporti tecnici di prova:
CSI/0029/23/RF pagine 1/6 redatto in conformità a UNI 8457 (1987) e UNI 8457/A1:1994
CSI/0029/23/RF pagine 2/6 e 3/6 redatto in conformità a UNI 9174 (1987) e UNI 9174/A1:1994

Il presente certificato è valido unicamente per la campionatura sottoposta a prova.
Il prodotto "STPXXXS-C72/Vmh" non ricade nel campo di applicazione di norme armonizzate CPR e per il prodotto medesimo della Ditta "Suntech Deutschland GmbH" non risulta ottenuto il rilascio di ETA (European Technical Assessment), ai sensi dell'Allegato IV del CPR né ricade nella procedura di cui alla lett. a, co. 4, art. 5 del derceto del Ministro dell'Interno del 14 ottobre 2022 (G.U. n° 251 del 26 ottobre 2022)..

Data 06/02/2023

Il Direttore del Laboratorio
(Ing. P. Fumagalli)

MI02RF02

CSI S.P.A. A SOCIO UNICO
SOGGETTA AD ATTIVITÀ DI DIREZIONE
E COORDINAMENTO DI IMQ GROUP S.R.L.

Sede legale
Italia 20030 Senago (MI)
Cascina Traversagna 21
direzione-csi@legalmail.it
info@csi-spa.com
www.csi-spa.com

Sedi operative
20021 Bollate (MI)
viale Lombardia 20/B
tel. (+39) 02 38330 1
fax (+39) 02 35039 40

10028 Trofarello (TO)
via Cuneo 12
tel. (+39) 011 6493 311
fax (+39) 011 6496 041

RAPPORTO DI PROVA n. CSI/0029/23/RF **PRATICA n. 037/23**

Pannello fotovoltaico **STPXXXS-C72/Vmh**

D.M. 26/06/1984 - METODO DI PROVA: UNI 8457 (1987) e UNI 8457 / A1 (maggio 1996)

Descrizione: - Pannello fotovoltaico
Superficie esposta: - Lato posteriore
Posizione: -Verticale senza supporto incombustibile
Risoluzioni applicate: 40
Preparazione: - D come da UNI 9176 (1998)

Provetta n°	Tempo post-combustione		Tempo post-incandescenza		Zona danneggiata		Gocciolamento	
	sec.	livello	sec.	livello	mm	livello	rilevazione	livello
1	*0*	1	*0*	1	*29*	1	*assente*	1
2	*0*	1	*0*	1	*27*	1	*assente*	1
3	*0*	1	*0*	1	*30*	1	*assente*	1
4	*0*	1	*0*	1	*26*	1	*assente*	1
5	*0*	1	*0*	1	*30*	1	*assente*	1
6	*0*	1	*0*	1	*32*	1	*assente*	1
7	*0*	1	*0*	1	*27*	1	*assente*	1
8	*0*	1	*0*	1	*29*	1	*assente*	1
9	*0*	1	*0*	1	*26*	1	*assente*	1
10	*0*	1	*0*	1	*28*	1	*assente*	1

PARAMETRI	Livello attribuito	CATEGORIA
Tempo di post-combustione	1	
Tempo di post-incandescenza	1	
Zona danneggiata	1	
Gocciolamento	1	I

NOTE: - Provette da n.1 a n.5 senso longitudinale
- Provette da n.6 a n.10 senso trasversale

DATA 06/02/2023

S.p.A.
bardia, 20/B
BOLLATE (MI)

RAPPORTO DI PROVA n. CSI/0029/23/RF — **PRATICA n. 037/23**

Pannello fotovoltaico — **STPXXXS-C72/Vmh**

D.M. 26/06/84 - METODO DI PROVA: UNI 9174 (ottobre 1987) e UNI 9174 / A1 (maggio 1996)

Descrizione: - Pannello fotovoltaico
Superficie esposta: - Lato posteriore, senso longitudinale
Posizione : - A parete senza supporto incombustibile

Risoluzioni applicate: 40

Preparazione: - D come da UNI 9176 (1998)

Tempi (sec) impiegati dal fronte di fiamma per coprire la distanza di 50 mm tra due traguardi consecutivi

mm	Provetta n. 1	Provetta n. 2	Provetta n. 3
50	*122*	*98*	*106*
100			
150			
200			
250			
300			
350			
400			
450			
500			
550			
600			
650			
700			
750			
800			
Tempo di post-incand. (sec)	0	0	0
Zona danneggiata (mm)	50	50	50

Velocità media (mm/s) di propagazione del fronte di fiamma tra due traguardi consecutivi

mm	Provetta n. 1	Provetta n. 2	Provetta n. 3
50			
100			
150			
200			
250			
300			
350			
400			
450			
500			
550			
600			
650			
700			
750			
800			
Media delle velocità (mm/min)	/	/	/
Gocciolamento	*Assente*	*Assente*	*Assente*

PARAMETRI	**LIVELLI** Provetta n.1	Provetta n.2	Provetta n.3	**Livello attribuito**	**CATEGORIA**
Velocità di propagazione del fronte di fiamma	1	1	1	**1**	
Zona danneggiata	1	1	1	**1**	
Tempo di post-incandescenza	1	1	1	**1**	
Gocciolamento	1	1	1	**1**	**I**

NOTE: -

DATA 06/02/2023

CSI S.p.A.
Viale Lombardia, 20/8
20021 BOLLATE (MI)

RAPPORTO DI PROVA n. CSI/0029/23/RF	PRATICA n. 037/23
Pannello fotovoltaico	STPXXXS-C72/Vmh

D.M. 26/06/84 - METODO DI PROVA: UNI 9174 (ottobre 1987) e UNI 9174 / A1 (maggio 1996)

Descrizione: - Pannello fotovoltaico **Superficie esposta: - Lato posteriore, senso trasversale** **Posizione : - A parete senza supporto incombustibile**	**Risoluzioni applicate: 40** **Preparazione: - D come da UNI 9176 (1998)**

Tempi (sec) impiegati dal fronte di fiamma per coprire la distanza di 50 mm tra due traguardi consecutivi

mm	Provetta n. 1	Provetta n. 2	Provetta n. 3
50	*138*	*119*	*141*
100			
150			
200			
250			
300			
350			
400			
450			
500			
550			
600			
650			
700			
750			
800			
Tempo di post-incand. (sec)	0	0	0
Zona danneggiata (mm)	50	50	50

Velocità media (mm/s) di propagazione del fronte di fiamma tra due traguardi consecutivi

mm	Provetta n. 1	Provetta n. 2	Provetta n. 3
50			
100			
150			
200			
250			
300			
350			
400			
450			
500			
550			
600			
650			
700			
750			
800			
Media delle velocità (mm/min)	/	/	/
Gocciolamento	*Assente*	*Assente*	*Assente*

PARAMETRI	LIVELLI			Livello attribuito	CATEGORIA
	Provetta n.1	Provetta n.2	Provetta n.3		
Velocità di propagazione del fronte di fiamma	1	1	1	1	
Zona danneggiata	1	1	1	1	
Tempo di post-incandescenza	1	1	1	1	
Gocciolamento	1	1	1	1	**I**

NOTE: -

DATA 06/02/2023

S.p.A.
Lombardia, 20/B
OLLATE (MI)

SUNTECH

SUNTECH DEUTSCHLAND GMBH
Alfred-Herrhausen-Allee 3-5, 65760 Eschborn
Registered in Eschborn: HRB 113050, VAT: DE310680559

Modello C

A) AZIENDA PRODUTTRICE: SUNTECH DEUTSCHLAND GMBH

B) DENOMINAZIONE COMMERCIALE DEL MATERIALE:
STPXXXS-C72/Vmh,

C) DESCRIZIONE: Pannello fotovoltaico cristallino

C. 1) Natura dei componenti

1. Vetro: spessore 3.2mm, peso 8000g/m2
2. Pellicola in POE: spessore 0.50±0.05mm, peso 430 g/m2
3. Celle in silico monocristallio: spessore 0,18 mm, peso 430 g/m2
4. Pellicola in EVA: spessore 0.45 mm peso 410 g/m2
4. Backsheet: CPC, spessore 0.3 mm peso 430 g/m2

C. 2) Formato: lunghezza 2278mm, larghezza 1134mm, spessore 4,63 mm; Peso: 9700 g/m²;
Lavorazione: Laminazione e taglio

D) ASSIEMAGGIO DEI DIVERSI COMPONENTI: Laminazione

F) IMPIEGO: PANNELLO FOTOVOLTAICO.

G) MANUTENZIONE: METODO "D" COME DA UNI 9176:1998

Date 29/11/2022 Signature + Stamps .....

Suntech Deutschland GmbH
Alfred-Herrhausen-Allee 3-5
65760 Eschborn, Germany

CSI S.p.A.
Via Lombardia, 20/B
20021 BOLLATE (MI)

SUNTECH

SUNTECH DEUTSCHLAND GMBH
Alfred-Herrhausen-Allee 3-5, 65760 Eschborn
Registered in Eschborn: HRB 113050, VAT: DE310680559

Modello D.20

Il sottoscritto Yuan Fei residente in China Documento di identità EB3917710 rilasciato dalla Reppublica Chinese il 20/11/1988., in qualità di Rappresentante Legale della ditta Suntech Deutschland GmbH

DICHIARA

sotto la propria responsabilità civile e penale, che i pannelli fotovoltaici di seguito elencati:

STPXXX-20/Wd,
STPXXXS-C72/Vmhb,
STPXXXS-C72/Vmh,
STPXXXS-C66/Wmh,
STPXXXS-C54/Umhb,
STPXXXS-C54/Umh,
STPXXXS-C54/Umhm,
STPXXXS-C54/Umhy,
STPXXXS-D66/Wmh,
STPXXXS-D66/Wmhb,
STPXXXS-D60/Wmh,
STPXXXS-D60/Wmhb,
STPXXXS-C72/Nsh,
STPXXXS-C72/Nshb,
STPXXXS-C72/Nshm,
STPXXXS-C54/Nsh,
STPXXXS-C54/Nshb,
STPXXXS-C54/Nshm,
STPXXXS-C54/Nshy

Sono realizzati con i medesimi componenti, danno luogo alla medesima campoinatura di prova e differiscono tra loro unicamente per forma e/o dimensione e/o colore.

Suntech Deutschland GmbH
Alfred-Herrhausen-Allee 3-5
65760 Eschborn, Germany

Date 29/11/2022

Signature + Stamps

CSI S.p.A.
Viale Lombardia, 20/B
20021 BOLLATE (MI)

SUNTECH

SUNTECH DEUTSCHLAND GMBH
Alfred-Herrhausen-Allee 3-5, 65760 Eschborn
Registered in Eschborn: HRB 113050, VAT: DE310680559

Modello D.13

Il sottoscritto Yuan Fei residente in China Documento di identità EB3917710 rilasciato dalla Reppublica Chinese il 20/11/1988., in qualità di Rappresentante Legale della ditta Suntech Deutschland GmbH

DICHIARA

sotto la propria responsabilità civile e penale che per la intera realizzazione di una delle due superfici del materiale denominato STPXXXS-C72/Vmh, è utilizzato il seguente componente "vetro" che rientra nell'elenco dei materiali di cui all'art. 1 del D.M. 14/01/85 (G.U n. 16 del 19/01/1985).

Suntech Deutschland GmbH

Date 29/11/2022 Signature + Stamps Alfred-Herrhausen-Allee 3-5
65760 Eschborn, Germany

CSI S.p.A.
Viale Lombardia, 20/B
20021 BOLLATE (MI)