NTEK 北测

Report No.: S24033001201001

CE EMC Test Report

F

(Declaration of Conformity) For Electromagnetic compatibility Of

Product: Solar Panels Trade Mark : Eleksol

Model Number :

ELEK425WM, ELEK10WM, ELEK20WM, ELEK50WM, ELEK60WM, ELEK80WM, ELEK100WM, ELEK140WM, ELEK150WM, ELEK160WM, ELEK200WM, ELEK220WM, ELEK250WM, ELEK280WM, ELEK300WM, ELEK350WM, ELEK410WM

Prepared for

Distribuciones Solares del Principado S.L B74219346 Pl. Promogranda, 22 Granda Siero 33199 Asturias Spain

Prepared by

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- T & X	EST RESULT CERTIFICATION
Applicant's Name:	Distribuciones Solares del Principado S.L
Address:	B74219346 Pl. Promogranda, 22 Granda Siero 33199 Asturias Spain
Manufacturer's Name:	Tangshan Jingxin Science And Technology Company Limited
Address:	Vineyard, North Zhaozhuang Village, Kaiping Town, Kaiping District, Tangshan City, Hebei, China.
Factory's Name	Tangshan Jingxin Science And Technology Company Limited
Address:	Vineyard, North Zhaozhuang Village, Kaiping Town, Kaiping District, Tangshan City, Hebei, China.
Product description	
Product Name:	Solar Panels
	ELEK425WM, ELEK10WM, ELEK20WM, ELEK50WM,
	ELEK60WM, ELEK80WM, ELEK100WM, ELEK140WM,
Model Number	
	ELEK250WM, ELEK280WM, ELEK300WM, ELEK350WM,
	ELEK410WM
Standards	EN IEC 61000-6-3:2021 EN IEC 61000-6-1:2019
This report shall not be repro	oduced except in full, without the written approval of NTEK, this
document may be altered or	revised by NTEK, personal only, and shall be noted in the revision of
the document.	
Test Sample Number	
Date of Test	
Date (s) of performance of te	ests : 30 Mar. 2024 ~ 11 Apr. 2024
Date of Issue	: 11 Apr. 2024

Pass

Testing Engineer

Test Result

Technical Manager

Ron. Xiong (Ron Xiong) 5, by shang

(Sky Zhang)

Authorized Signatory

Hes

(Alex)

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1. TEST SUMMARY

Test procedures according to the technical standards:

	EMC Emission							
Standard	Test Item	Limit	Judgment	Remark				
<	Conducted Emission		N/A	4.				
EN IEC 61000-6-3:2021	Radiated Emission	<u> </u>	PASS	1				
	EMC Immunity							
Section EN IEC 61000-6-1:2019	Test Item	Performance Criteria	Judgment	Remark				
EN 61000-4-2	Electrostatic Discharge	В	PASS	4				
EN 61000-4-3	RF electromagnetic field	А	PASS	Note (2)				
EN 61000-4-4	Fast transients	В	N/A					
EN 61000-4-5	Surges	В	N/A	4				
EN 61000-4-6	Continuous radio frequency disturbances	A	N/A					
EN 61000-4-8	Power Frequency Magnetic Field	A	N/A					
EN 61000-4-11	Volt. Interruption Volt. Dips	B/B/C/C	N/A	at -				

NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report
- (2) The test site is located in site B.
- (3) For client's request and manual description, the test will not be executed.

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	1.1 TEST FACILITY	
	Shenzhen NTEK Test	ng Technology Co., Ltd.
		ding E, Fenda Science Park Sanwei, Hangcheng, Bao'an District g, People's Republic of China
	Add.(Site B) : Building	30, Furong Third Road, Furong Industrial Zone, Xinqiao Street, Bao'an
ľ	District	
	CNAS-Lab.	: The Laboratory has been assessed and proved to be in compliance
l		with CNAS-CL01:2018 (identical to ISO/IEC 17025:2017)
		The Certificate Registration Number is L5516
	ISED-Registration	: The Company Number: 9270A.
		CAB identifier: CN0074.
	FCC- Accredited	: Test Firm Registration Number: 463705
		Designation Number: CN1184
	A2LA-Lab.	: The Certificate Registration Number is 4298.01
l		This laboratory is accredited in accordance with the recognized
l		International Standard ISO/IEC 17025:2017 General requirements for
		the competence of testing and calibration laboratories.
ľ		This accreditation demonstrates technical competence for a defined
		scope and the operation of a laboratory quality management system
		(refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

		14	
Test Item	Measurement Frequency Range	K	U(dB)
Conducted Emission	0.009MHz ~ 0.15MHz	2	3.6
Conducted Emission	0.15MHz ~ 30MHz	2	3.1
Telecom Conducted Emission(Cat 3)	0.15MHz ~ 30MHz	2	3.1
Telecom Conducted Emission(Cat 5)	0.15MHz ~ 30MHz	2	3.6
Telecom Conducted Emission(Cat 6)	0.15MHz ~ 30MHz	2	4.2
Radiated Emission	30MHz ~ 1000MHz	2	5.2
Radiated Emission	1000MHz ~ 18000MHz	2	5.1
Power Clamp	30MHz ~ 300MHz	2	2.2

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Report No.	Version	Description	Issued Date
S24033001201001	Rev.01	Initial issue of report	Apr. 11, 202
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#### 2. GENERAL INFORMATION

#### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Solar Panels			
Model Number	ELEK425WM			
Additional Model Number(s)	ELEK100WM, ELEK140	<i>I</i> , ELEK50WM, ELEK60WM, ELEK80WM, WM, ELEK150WM, ELEK160WM, WM, ELEK250WM, ELEK280WM, WM, ELEK410WM		
Model Difference	All models are identical except model's name.			
Product Description	User's Manual, the EUT i	Below 108MHz (Declaration by Manufacturer) N/A , features, or specification exhibited in s considered as a Residential, commercial ore details of EUT technical specification,		
Power Source	DC Voltage			
Power Rating	Output: DC 31.91V, 13.32	2A,		

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#### 2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

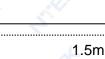
Pretest Mode	Description
Mode 1	- Working L
	For Radiated Test
Final Test Mode	Description
Mode 1	Working S
	For EMS Test
Final Test Mode	Description
Mode 1	Working
x c	

2.3 DESCRIPTION OF TEST SETUP

Mode RE : Working

Table

0.8m



E-3

Lamp

E-1 EUT

E-2

Load

#### 2.4 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Brand Model/Type No.		Note
E-1	Solar Panels	Eleksol	ELEK425WM	N/A	EUT
E-2	Load	N/A	N/A	N/A	7
E-3	Lamp	N/A	N/A	N/A	
Item	Item Shielded Type Ferrite		Length	Note	Э
		~ ~	X		
A	7		at si	<	
	7	4	3		

#### Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in  $\[$  Length  $\]$  column.
- (3) "YES" means "shielded" "with core"; "NO" means "unshielded" "without core".

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#### 2.5 MEASUREMENT INSTRUMENTS LIST

#### 2.5.1 RADIATED TEST

2.5	.1 RADIATED TEST						
Item	Name of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	3m Anechoic Chamber	N/A	9*6*6	N/A	May 14, 2021	May 13, 2024	3 years
2	3m Anechoic Chamber	N/A	9*6*6	N/A	Jul. 28, 2022	Jul. 27, 2025	3 years
3	EMI Test Receiver	R&S	ESPI7	101318	Mar. 27, 2023	Mar. 26, 2024	1 year
4	Bilog Antenna	TESEQ	CBL6111D	31216	Mar. 16, 2023	Mar. 15, 2024	1 year
5	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	May 06, 2023	May 05, 2026	3 years
6	Cable	Talent Microwave	A81-NWMS MAM-12M	21120897	Dec. 16, 2021	Dec. 15, 2024	3 years
7	Cable	Talent Microwave	A81-NMNM -10M	24012011	Jan. 23, 2024	Jan. 22, 2027	3 years
8	Cable	Talent Microwave	A81-NMNM -10M	22084896	Feb. 01, 2024	Jan. 31, 2027	3 years
9	Log-Periodic Antenna	SCHWARZB ECK	VULB 9162	584	Dec. 29, 2023	Dec. 28, 2024	1 year
10	Log-Periodic Antenna	SCHWARZB ECK	VULB 9162	586	Dec. 29, 2023	Dec. 28, 2024	1 year
11	Cable	Talent Microwave	A81-NMNM -2M	22084895	Sep. 09, 2022	Sep. 08, 2025	3 years
12	Attenuator	Eastsheep	5W-N-JK-6 G-6DB	N/A	Aug. 08, 2023	Aug. 07, 2024	1 year
13	Attenuator	Eastsheep	5W-N-JK-6 G-6DB	N/A	Jul. 31, 2023	Jul. 30, 2024	1 year
14	Broadband Horn Antenna	EM	EM-AH-101 80	2011071402	Mar. 31, 2022	Mar. 30, 2025	3 years
15	Broadband Horn Antenna	SCHWARZB ECK	BBHA 9120 D	2816	Jan. 12, 2023	Jan. 11, 2026	3 years
16	Broadband Horn Antenna	SCHWARZB ECK	BBHA 9120 D	2817	Jan. 12, 2023	Jan. 11, 2026	3 years
17	Spectrum Analyzer	Keysight	N9020A	MY532802 44	Nov. 03, 2023	Nov. 02, 2024	1 year
18	Spectrum Analyzer	Agilent	E4440A	MY410001 30	Mar. 27, 2023	Mar. 26, 2024	1 year
19	Pre-Amplifier	EMC	EMC05183 5SE	980246	May 29, 2023	May 28, 2024	1 year
20	Cable	Keysight	A40-2.92M 2.92M-2M	1808041	Nov. 01, 2022	Oct. 31, 2025	3 years
2.5	.2 ESD						
Item		Manufacturer	Type No.	Serial No.	Last	Calibrated	Calibration

l	ltem	Name of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
	1	ESD Generator	EVERFINE	EMS61000- 2A	P615727TA 1421113	Jul. 06, 2023	Jul. 05, 2024	1 year
	2	Electrostatic Discharge Generator	Lioncel	ESD-203B	ESD203B0 150402	Aug. 11, 2023	Aug. 10, 2024	1 year

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2.	5.3 RS	× 4	<i>4</i>	•		4	4
Item	Name of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	RF Test System Controller	AR	SC1000	0350156	Feb. 01, 2024	Jan. 31, 2027	3 years
2	3m Anechoic Chamber	N/A	9*6*6	N/A	Mar. 24, 2023	Mar. 23, 2026	3 years
3	3m Anechoic Chamber	N/A	7*5*4	N/A	May 19, 2023	May 18, 2026	3 years
4	Broadband Amplifier	AR	60S1G6	0350414	Mar. 21, 2023	Mar. 20, 2024	1 year
5	Bilog Antenna	ETS	3142E	00214344	Nov. 07, 2023	Nov. 06, 2025	3 years
6	Power Amplifier	rflight	NTWPA-00 810200	17063153	May 29, 2023	May 28, 2024	1 year
7	ESG Vetctor Signal Generator	Agilent	E4438C	MY450933 47	Mar. 21, 2023	Mar. 20, 2024	1 year

#### 2.6 MEASUREMENT SOFTWARE

RADIATED TEST								
Software name	Version number							
EZ-EMC_RE	EZ-EMC_RE Farad							
	RF ELECTROMAGNETIC FIELD TEST							
Software name	Manufacturer	Version number						
Emcware AR RF/Microwave Instrumentation 3.2.0.4								

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#### 3. EMC EMISSION TEST

#### 3.1 RADIATED EMISSION MEASUREMENT

#### 3.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT (Below 1000MHz)

	Limits For S	AC(dBuV/m)		
FREQUENCY (MHz)	🗌 At 10m	⊠At 3m		
30 - 230		40		
230 - 1000	37	47		

#### Note:

(1) The tighter limit applies at the band edges.

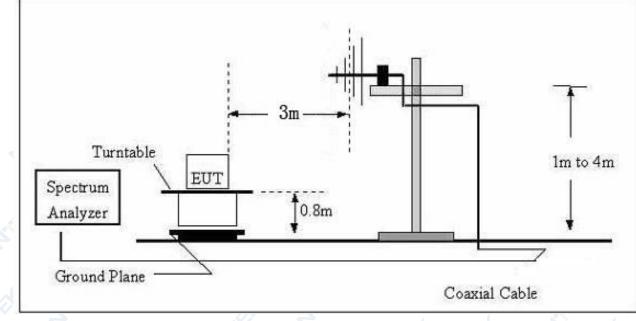
(2) Emission level (dBµV/m)=20log Emission level (µV/m).

#### 3.1.2 TEST PROCEDURE

- a. The measuring distance of at 3m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured, above 1G Average detector mode will be instead.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP(AV) Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item -EUT Test Photos.

#### 3.1.3 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



#### 3.1.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

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#### 3.1.5 TEST RESULTS (30-1000MHz)

EUT:	Solar Panels	Model Name:	ELEK425WM				
emperature:	23.8°C	Relative Humidity:	52%RH				
Pressure:	1010hPa	Test Date:	2024-04-07				
est Mode:	Working	Polarization:	Horizontal				
est Power:	Output: DC 31.91V						
30.0 dBu∀/m							
			Limit: — Margin: —				
40			E companya and a companya				
Month Martine Contraction	A B A A A A A A A A A A A A A A A A A A	An an Alexander and the and a start and the					

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	34.5173	5.53	23.83	29.36	40.00	-10.64	QP			
2		54.2610	5.34	13.11	18.45	40.00	-21.55	QP			
3		81.2117	6.25	15.43	21.68	40.00	-18.32	QP			
4		155.9101	5.98	18.14	24.12	40.00	-15.88	QP			
5	;	334.8589	5.80	20.99	26.79	47.00	-20.21	QP			
6	(	663.4729	7.41	27.43	34.84	47.00	-12.16	QP			

#### Remark:

Factor = Antenna Factor + Cable Loss.

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EUT:	Solar Panels	Model Name:	ELEK425WM
emperature:	23.8°C	Relative Humidity:	52%RH
Pressure:	1010hPa	Test Date:	2024-04-07
est Mode:	Working	Polarization:	Vertical
est Power:	Output: DC 31.91V		
80.0 dBu∀/m		<u></u>	1
			Limit: — Margin: —
40	n when and the second s	Mary shindle area doubt for many shindle and the	Martin and a second a

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment	
1	*	32.9791	5.53	24.68	30.21	40.00	-9.79	QP				
2		46.5030	4.33	17.15	21.48	40.00	-18.52	QP				
3		94.7601	5.45	17.12	22.57	40.00	-17.43	QP				
4		148.4410	6.29	18.40	24.69	40.00	-15.31	QP				
5	:	338.4001	4.67	21.21	25.88	47.00	-21.12	QP				
6	ł	845.0878	6.13	30.14	36.27	47.00	-10.73	QP				

#### Remark:

Factor = Antenna Factor + Cable Loss.

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#### 4. EMC IMMUNITY TEST

#### 4.1 STANDARD COMPLIANCE/SEVERITY LEVEL/CRITERIA

TEST SPECIFICATION	Test Mode	Perform
	Test Ports	Criteria
8kV air discharge	Direct Mode	B
4kV contact discharge	Direct Mode	
4kV HCP discharge	Indiract Made	В
4kV VCP discharge	mairectimode	В
80 MHz to 1000 MHz;		X
1400 MHz to 6000 MHz;	Enclosure	A
1 kHz, 80%, AM modulated		
	4kV contact discharge 4kV HCP discharge 4kV VCP discharge 80 MHz to 1000 MHz; 1400 MHz to 6000 MHz;	TEST SPECIFICATIONTest Ports8kV air dischargeDirect Mode4kV contact dischargeDirect Mode4kV HCP dischargeIndirect Mode4kV VCP dischargeIndirect Mode80 MHz to 1000 MHz;Enclosure

#### 4.2 GENERAL PERFORMANCE CRITERIA

According to EN IEC 61000-6-1 standard, the general performance criteria as following:

0	
Criterion A	The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
Criterion B	After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test.
Criterion C	Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

#### 4.3 GENERAL PERFORMANCE CRITERIA TEST SETUP

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

#### 4.4 ESD TESTING

#### 4.4.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-2
Discharge Impedance:	330ohm / 150pF
Required Performance:	В
Discharge Voltage:	Air Discharge: 2kV/4kV/8kV (Direct) Contact Discharge: 2kV/4kV (Direct/Indirect)
Polarity:	Positive & Negative
Number of Discharge:	Air Discharge: min. 20 times at each test point Contact Discharge: min. 20 times at each test point
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum

#### 4.4.2 TEST PROCEDURE

The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

- a. Indirect application of the discharge:
  - Vertical Coupling Plane (VCP):
  - At least 10 single discharges (in the most sensitive polarity) shall be applied to the centre of one vertical edge of the coupling plane. The coupling plane, of dimensions  $0,5 \text{ m} \times 0,5 \text{ m}$ , is placed parallel to, and positioned at a distance of 0,1 m from, the EUT.

Discharges shall be applied to the coupling plane, with sufficient different positions such that the four faces of the EUT are completely illuminated. One VCP position is considered to illuminate 0,5 m  $\times$  0,5 m area of the EUT surface.

Horizontal Coupling Plane (HCP):

Discharge to the HCP shall be made horizontally to the edge of the HCP.

At least 10 single discharges (in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the centre point of each unit (if applicable) of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

The discharge electrode shall be in contact with the edge of the HCP before the discharge switch is operated

b. Direct application of discharges to the EUT

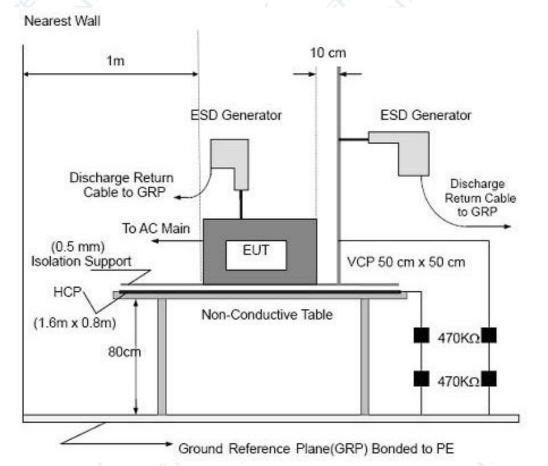
The test shall be performed with single discharges. On each pre-selected point at least 10 single discharges (in the most sensitive polarity) shall be applied.

For the time interval between successive single discharges an initial value of 1 s is recommended. Longer intervals may be necessary to determine whether a system failure has occurred.

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#### 4.4.3 TEST SETUP



Note:

#### TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table 0.8 meters high standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A Horizontal Coupling Plane (1.6m x 0.8m) was placed on the table and attached to the GRP by means of a cable with 940k total impedance. The equipment under test, was installed in a representative system as described in section 7 of IEC/EN 61000-4-2, and its cables were placed on the HCP and isolated by an insulating support of 0.5mm thickness. A distance of1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

#### FLOOR-STANDING EQUIPMENT

The equipment under test was installed in a representative system as described in section 7 of IEC/EN 61000-4-2, and its cables were isolated from the Ground Reference Plane by an insulating support of 0.1-meter thickness. The GRP consisted of a sheet of aluminum that is at least 0.25mm thick, and 2.5meters square connected to the protective grounding system and extended at least 0.5 meters from the EUT on all sides.

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#### 4.4.4 TEST RESULTS

4.4.4 TEST RES	ULI	3																
EUT:	Sola	ar P	ane	els						0 N	Model Name:						ELEK425WN	Л
Temperature:	25.4	4°C										ative	e Hu	umio	dity:		54%RH 🏑	4 S.
Pressure:	101	1010hPa						Г	<b>Fest</b>	Da	te:				2024-04-08			
Test Mode:	Wo	Working																
Test Power:	Out	put	: D(	C 31	1.91	V			L						7			A L
Mode				(	Con	tac	t Dis	sch	arg	e (l	ndir	ect)	)					
Test Level(kV)	-		<u> </u>			2	2			4	4			6	5		Criterion	Result
Test Location	16	est	Poli	nt	-	F	-		-	F		-	-	ł	-			
4	Front		F	)	Р	$\langle \mathcal{O} \rangle$	F	2	F	5								
	🔔 Rear 🔨				P P		F	2	Р			2			Complice			
HCP / VCP		Le	eft		F	)	Р		F	2	F	>		k			< [₿]	Complies
		Riç	ght		F	D	Р	F	F	י בי	F	5						
Mode			Air	Dis	cha	rge				Сс	onta	ct D	Disc	har	qe			
Test Level(kV)	2		4		8	<u> </u>	15	5	2	2	4 6			8		Criterion	Result	
Test Location	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-		
Gap	Р	Р	Ρ	Р	Ρ	Ρ												*
DC port									Ρ	Ρ	Ρ	Ρ		X			<i>к</i> В 🗹	Complies
		2		-								-	1					

Note:

(1) +/- denotes the Positive/Negative polarity of the output voltage.

(2) In the table: 'P' represents 'PASS'; 'F' represents 'FAIL'.

- (3) Criteria A: Normal performance within limits specified by the manufacturer, requestor or purchaser.
- (4) Criteria B: Temporary loss of function or degradation of performance which ceases after the disturbance ceases, and from which the EUT recovers its normal performance, without operator intervention.
- (5) Criteria C: Temporary loss of function or degradation of performance, the correction of which requires operator intervention.
- (6) Criteria D: Loss of function or degradation of performance which is not recoverable, owing to damage to hardware or software, or loss of data.

#### 4.5 RS TESTING

#### 4.5.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-3
Required Performance:	A
Frequency Range:	80 MHz to 1000 MHz, 1400 MHz to 6000 MHz
Field Strength:	3 V/m
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1 % of fundamental
Polarity of Antenna:	Horizontal and Vertical
Test Distance:	3 m
Antenna Height:	1.5 m
Dwell Time:	3 seconds

#### 4.5.2 TEST PROCEDURE

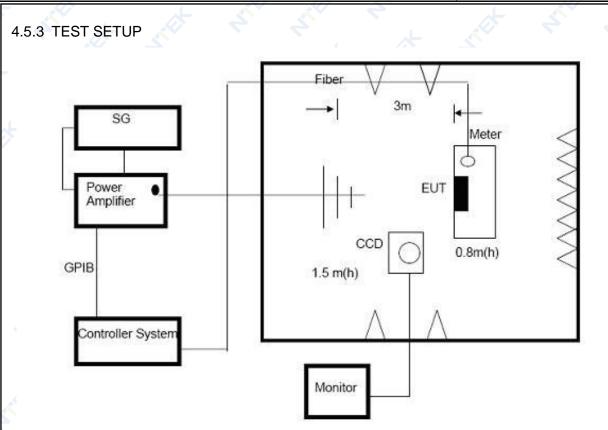
The EUT and support equipment, which are placed on a table that is 0.8 meter above ground and the testing was performed in a fully-anechoic chamber.

The testing distance from antenna to the EUT was 3 meters.

The other condition as following manner:

- a. The frequency range is swept from 80 MHz to 1000 MHz & 1400 MHz to 6000 MHz with the signal 80% amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x 10-3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
- b. Sweep Frequency 900 MHz, with the Duty Cycle: 1/8 and Modulation: Pulse 217 Hz (if applicable)
- c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
- d. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

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#### Note:

#### TABLE-TOP EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

#### FLOOR-STANDING EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

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#### 4.5.4 TEST RESULTS

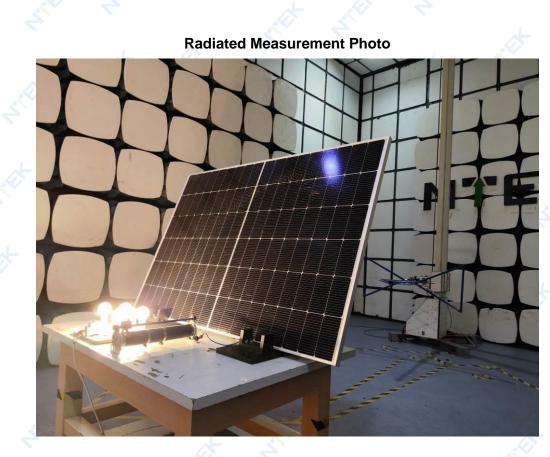
				(			4
EUT:	Sola	ar Panels	L.	Model Name: ELEK425WM			
Temperature:	24.8	°C		Relative	Humidity:	53%RH	* 2.
Pressure:	101	0hPa		Test Da	te:	2024-04-09	
Test Mode:	Wor	king 🔷					
Test Power:	Out	out: DC 31.91V			,		X
Frequency Rar (MHz)	nge	RF Field Position	R.F. Field Stre	ength	Azimuth	Result	
80, 1000			×		Front		4
80 - 1000		3 V/m (r. AM Modu		Rear		Complian	
				ated 80%	Left	A	Complies
1400 - 6000		•		ACT.	Right		

Note:

- (1) Criteria A: There was no change operated with initial operating during the test.
- (2) Criteria B: The EUT function loss during the test, but self-recoverable after the test.
- (3) Criteria C: The system shut down during the test.

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#### 5. EUT TEST PHOTO



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