




URS PRODUCTS AND TESTING PRIVATE LIMITED

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 CIN NO U21014UP1987PTC008956



TEST REPORT

TEST REPORT NO:	URS/LAB/02/RID/24-25/12092	DATE OF ISSUE:	03/01/2025
ULR NUMBER	ULR-TC64682510000056F		
NAME OF LABORATORY:	URS PRODUCTS AND TESTING PRIVATE LIMITED		
ADDRESS OF LABORATORY:	A-29, Sector 5, Noida-201301, India		
TESTING LOCATION:	A-29, Sector 5, Noida-201301, India		
CUSTOMER NAME:	ICON SOLAR-EN POWER TECHNOLOGIES PRIVATE LIMITED		
CUSTOMER ADDRESS:	Village Dighari, Tehsil -Arang, Dist.Raipur, Chhattisgarh,493441		
TEST ITEM DESCRIPTION			
PRODUCT NAME:	SOLAR PV MODULE		
DATE OF RECEIPT	26/08/2024	SAMPLE CONDITION:	OK
RECEIPT NUMBER	URS/LAB/PVMODULE/24-25/19A4A69A	NO. OF SAMPLE	3
TRADE MARK		SERIAL NUMBER	ICON550B1011111329 ICON550B1011111337 ICON550B1011111343
MODEL	Lead Model: ISEN550-Bi Series Model:- 144 Half cut cell family with system voltage 1500V ISEN545-Bi, ISEN540-Bi, ISEN535-Bi, ISEN530-Bi, ISEN525-Bi, ISEN520-Bi 132 Half cut cell family with system voltage 1500V ISEN505-Bi, ISEN500-Bi, ISEN495-Bi, ISEN490-Bi, ISEN485-Bi, ISEN480-Bi 120 Half cut cell family with system voltage 1500V ISEN460-Bi, ISEN455-Bi, ISEN450-Bi, ISEN445-Bi, ISEN440-Bi, ISEN435-Bi, ISEN430-Bi, ISEN425-Bi, ISEN420-Bi 108 Half cut cell family with system voltage 1500V ISEN410-Bi, ISEN405-Bi, ISEN400-Bi, ISEN395-Bi, ISEN390-Bi, ISEN385-Bi, ISEN380-Bi		
RATINGS/SPECIFICATION	See the marking Label		
NAME OF MANUFACTURER	Icon Solar-En Power Technologies Pvt. Ltd.		
ADDRESS OF MANUFACTURER	Village Dighari, Tehsil -Arang, Dist. Raipur, Chhattisgarh,493441		
TEST SPECIFICATION			
TEST METHOD / STANDARD	IS 16170 : Part 1 : 2014/IEC 61853-1 : 2011 Photovoltaic (PV) module performance testing and energy rating Part 1: Irradiance and temperature performance measurements and power rating		
TEST START DATE	26/08/2024	TEST END DATE	03/01/2025
ENVIRONMENTAL CONDITIONS	15-35°C, 45-75%RH		
CONCLUSION			
TEST RESULT	The test result Conforms to the requirement of the standard/test protocol based on the obtained test values/results mentioned in this test report.		
REMARK	Compliance statement in this report has been made considering decision rule as inherent in its test standard and latest version of ILAC G-8.		

TESTED BY

Harshit Gupta
Analyst



AUTHORIZED SIGNATURE



Paras Singh
Vice President (Technical)

ISSUED BY



Hebin Manuel
Lab Manager

Note:

1. This test report is valid only for the sample(s) tested in our laboratory. 2. The test report is not permitted to be duplicated/reproduced in part or in extract in any circumstances. 3. URS lab is not responsible for authenticity of photocopied or reproduced test report. 4. The test results reported in this report are valid at the time of and under the stated conditions of measurements. 5. The remnant(Tested Samples)shall be destroyed after 07days from the date of testing unless specified otherwise in writing. 6. Any correction/erasure shall invalidate the test report. 7. This test report pertains to the test(s) carried out as requested by the customer. 8. This test report shall not be utilized for any legal purpose and shall not be produced in the court of law & no responsibility would be attached to URS Lab 9. URS reports, in general, are formally released in soft copy through reports@urs-labs.com , client portal, unless client will specifically request with sign & stamped letter with the intent to issue test reports in hard copy form. URS will not acknowledge for the reports said to be released through other means such as what's app. Test Reports for specific schemes such as BIS CRS/LRS schemes, are issued as per specific scheme requirements.



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CUSTOMER NAME: ICON SOLAR-EN POWER TECHNOLOGIES PRIVATE LIMITED

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Copy of Marking Plate (Model No. Tested: ISEN550-Bi)			
 Icon Solar-En Power Technologies Private Limited Factory Address: Village-Dighari, Teh - Arang, Dist.- Raipur, Chhattisgarh, India-493441. Tel: +91 771-4065755	Model No : ISEN550-Bi Pmax (W) : 550 Wp, 0/+3% Voc (V) : 49.60 V Vm (V) : 41.97 V Isc (A) : 13.98 A Imax (A) : 13.11 A Electrical parameters measured at STC (Irradiance 1000W/M ² , Cell Temperature 25 °C, AM 1.5)	Dimension (L x W x H) : 2278 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C  WARNING ELECTRICAL HAZARD This unit produces electricity if exposed to light. Do not disconnect under load.	 IS 14286:2014/ IEC 61215:2005, IS/IEC 61710 (Part-1 & Part-2:2004) R-59000740 www.bis.gov.in  www.iconsolar-en.com

Polarity marking on Junction Box



Polarity marking on Connectors



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Harshit

Harshit Gupta
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General product information:	
PV module type reference.....:	ISEN550-Bi
Nominal maximum power (Pmax)	550W
Nominal open circuit voltage at (Voc)	49.60V
Nominal short circuit current at (Isc)	13.98A
Nominal maximum power voltage (Vmax)	41.97V
Nominal maximum power current (Imax).....	13.11A
Maximum system voltage.....	1500V
Sampling procedure: <input type="checkbox"/> Random sampling from production <input checked="" type="checkbox"/> Prototype submitted by client	
Description of similarity (differences) between the applied model and the previously tested model: N/A	

Model Name	Sample No.	Serial Number
ISEN550-Bi	1	ICON550B1011111329
	2	ICON550B1011111337
	3	ICON550B1011111343

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Table 1: Marking requirements	
Requirements	Verdict
Name, monogram or symbol of the manufacturer	P
Type or model number	P
Serial number	P
Polarity of terminals or leads (colour coding is permissible)	P
Nominal and minimum values of maximum output power at STC after preconditioning, as specified by the manufacturer for the product type (see Clause 5).	P
The date and place of manufacture shall be marked on the module or be traceable from the serial number.	P
Supplementary information: Nil.	

Table 2: Visual Inspection		
Sample No.	Findings	Verdict
1	No visual defects	P
2	No visual defects	P
3	No visual defects	P

Table 3: Maximum power determination (after preconditioning)						Verdict
Module temperature [°C]		25				-
Irradiance [W/m ²]:		1000				-
Sample no.	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1	550.52	13.980	49.61	13.120	41.96	79.38
2	550.90	13.978	49.59	13.123	41.98	79.48
3	550.99	13.982	49.60	13.122	41.99	79.45
Supplementary information: Nil						

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Table 4: Averaging of three test modules

Test Date [DD/MM/YYYY].....:		03/09/2024 to 21/09/2024						
Irradiance [W/m ²]	Temp. [°C]	Sample no.	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1100	75°C	1	509.02	15.750	43.20	14.750	34.51	74.81
		2	509.39	15.751	43.21	14.752	34.53	74.84
		3	508.69	15.748	43.18	14.749	34.49	74.81
		Average	509.03	15.750	43.20	14.750	34.51	74.82
	50°C	1	557.13	15.560	46.50	14.700	37.90	77.00
		2	557.54	15.562	46.50	14.703	37.92	77.04
		3	556.95	15.558	46.49	14.699	37.89	77.00
		Average	557.20	15.560	46.50	14.701	37.90	77.02
	25°C	1	605.46	15.380	49.80	14.660	41.30	79.05
		2	605.25	15.382	49.82	14.662	41.28	78.98
		3	605.67	15.379	49.79	14.658	41.32	79.10
		Average	605.46	15.380	49.80	14.660	41.30	79.04
1000	75°C	1	463.99	14.320	43.00	13.410	34.60	75.35
		2	464.22	14.318	43.02	13.409	34.62	75.37
		3	462.71	14.319	42.99	13.412	34.50	75.17
		Average	463.64	14.319	43.00	13.410	34.57	75.29
	50°C	1	508.44	14.150	46.30	13.380	38.00	77.61
		2	508.86	14.153	46.31	13.384	38.02	77.64
		3	508.96	14.147	46.28	13.383	38.03	77.74
		Average	508.75	14.150	46.30	13.382	38.02	77.66
	25°C	1	551.03	13.980	49.60	13.310	41.40	79.47
		2	550.51	13.984	49.62	13.307	41.37	79.34
		3	550.86	13.982	49.63	13.309	41.39	79.38
		Average	550.80	13.982	49.62	13.309	41.39	79.40
15°C	1	567.06	13.910	50.90	13.280	42.70	80.09	
	2	566.71	13.912	50.93	13.278	42.68	79.98	
	3	566.84	13.911	50.93	13.278	42.69	80.01	
	Average	566.87	13.911	50.92	13.279	42.69	80.03	
800	75°C	1	370.57	11.450	42.60	10.710	34.60	75.97
		2	370.42	11.452	42.62	10.709	34.59	75.89
		3	370.25	11.451	42.63	10.707	34.58	75.85
		Average	370.41	11.451	42.62	10.709	34.59	75.90

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Harshit Gupta
Analyst



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800	50°C	1	386.46	11.320	45.90	10.170	38.00	74.38
		2	386.12	11.317	45.89	10.169	37.97	74.35
		3	386.59	11.318	45.87	10.168	38.02	74.46
		Average	386.39	11.318	45.89	10.169	38.00	74.40
	45°C	1	413.70	11.290	46.60	10.690	38.70	78.63
		2	414.25	11.288	46.58	10.693	38.74	78.78
		3	413.96	11.289	46.59	10.691	38.72	78.71
		Average	413.97	11.289	46.59	10.691	38.72	78.71
	25°C	1	440.91	11.180	49.20	10.650	41.40	80.16
		2	441.16	11.177	49.18	10.651	41.42	80.26
		3	441.35	11.179	49.19	10.653	41.43	80.26
		Average	441.14	11.179	49.19	10.651	41.42	80.23
	15°C	1	455.39	11.130	50.50	10.640	42.80	81.02
		2	455.09	11.132	50.51	10.638	42.78	80.94
		3	455.14	11.131	50.52	10.639	42.78	80.94
		Average	455.21	11.131	50.51	10.639	42.79	80.97
600	75°C	1	276.58	8.590	41.90	8.040	34.40	76.84
		2	276.35	8.593	41.92	8.038	34.38	76.72
		3	276.46	8.592	41.91	8.039	34.39	76.78
		Average	276.46	8.592	41.91	8.039	34.39	76.78
	50°C	1	303.58	8.490	45.30	8.010	37.90	78.93
		2	303.31	8.493	45.31	8.007	37.88	78.82
		3	303.30	8.491	45.33	8.009	37.87	78.80
		Average	303.39	8.491	45.31	8.009	37.88	78.85
	25°C	1	329.99	8.390	48.70	7.990	41.30	80.76
		2	330.27	8.388	48.68	7.993	41.32	80.88
		3	330.31	8.389	48.70	7.992	41.33	80.86
		Average	330.19	8.389	48.69	7.992	41.32	80.83
	15°C	1	340.32	8.350	50.000	7.970	42.70	81.51
		2	340.61	8.346	49.997	7.973	42.72	80.99
		3	340.69	8.348	49.998	7.973	42.73	81.06
		Average	340.54	8.348	49.998	7.972	42.72	81.19
500	15°C	1	283.10	6.960	49.70	6.630	42.70	81.84
		2	283.43	6.958	49.69	6.633	42.73	81.98
		3	283.25	6.961	49.71	6.632	42.71	81.86
		Average	283.26	6.960	49.70	6.632	42.71	81.89

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Harshit Gupta
Analyst

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TC-6468

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400	50°C	1	200.78	5.660	44.50	5.340	37.60	79.72
		2	201.06	5.658	44.49	5.343	37.63	79.87
		3	201.00	5.657	44.48	5.343	37.62	79.88
		Average	200.95	5.658	44.49	5.342	37.62	79.82
	25°C	1	218.24	5.590	47.90	5.310	41.10	81.51
		2	218.39	5.589	47.88	5.311	41.12	81.61
		3	218.52	5.588	47.87	5.313	41.13	81.69
		Average	218.38	5.589	47.88	5.311	41.12	81.60
	15°C	1	225.25	5.570	49.30	5.300	42.50	82.03
		2	225.48	5.568	49.27	5.303	42.52	82.19
		3	225.45	5.567	49.29	5.301	42.53	82.16
		Average	225.40	5.568	49.29	5.301	42.52	82.13
200	25°C	1	106.91	2.800	46.60	2.647	40.39	81.94
		2	107.05	2.798	46.57	2.649	40.41	82.15
		3	107.07	2.797	46.58	2.649	40.42	82.18
		Average	107.01	2.798	46.58	2.648	40.41	82.09
	15°C	1	110.77	2.780	48.00	2.650	41.80	83.01
		2	110.91	2.776	47.98	2.652	41.82	83.27
		3	111.02	2.778	47.97	2.654	41.83	83.31
		Average	110.90	2.778	47.98	2.652	41.82	83.20
100	25°C	1	51.88	1.400	45.40	1.320	39.30	81.62
		2	51.99	1.399	45.38	1.322	39.33	81.90
		3	51.94	1.398	45.37	1.321	39.32	81.89
		Average	51.94	1.399	45.38	1.321	39.32	81.80
	15°C	1	53.86	1.390	46.80	1.320	40.80	82.79
		2	53.91	1.389	46.78	1.321	40.81	82.97
		3	53.95	1.387	46.79	1.322	40.81	83.13
		Average	53.91	1.389	46.79	1.321	40.81	82.96

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Analyst



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Table 5: Test matrix of module performance with respect to temperature and irradiance

Table 5.1: Pmp [W] versus irradiance and temperature

Irradiance [W/m ²]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	605.46	N/A	557.20	509.03
1000	AM 1.5	566.87	550.80	N/A	508.75	463.64
800	AM 1.5	455.21	441.14	413.97	386.39	370.41
600	AM 1.5	340.54	330.19	N/A	303.39	276.46
500	AM 1.5	283.26	N/A	N/A	N/A	N/A
400	AM 1.5	225.40	218.38	N/A	200.95	N/A
200	AM 1.5	110.90	107.01	N/A	N/A	N/A
100	AM 1.5	53.91	51.94	N/A	N/A	N/A

Table 5.2: Isc [A] versus irradiance and temperature

Irradiance [W/m ²]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	15.380	N/A	15.560	15.750
1000	AM 1.5	13.911	13.982	N/A	14.150	14.319
800	AM 1.5	11.131	11.179	11.289	11.318	11.451
600	AM 1.5	8.348	8.389	N/A	8.491	8.592
500	AM 1.5	6.960	N/A	N/A	N/A	N/A
400	AM 1.5	5.568	5.589	N/A	5.658	N/A
200	AM 1.5	2.778	2.798	N/A	N/A	N/A
100	AM 1.5	1.389	1.399	N/A	N/A	N/A

Table 5.3: Voc [V] versus irradiance and temperature

Irradiance [W/m ²]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	49.80	N/A	46.50	43.20
1000	AM 1.5	50.92	49.62	N/A	46.30	43.00
800	AM 1.5	50.51	49.19	46.59	45.89	42.62
600	AM 1.5	49.998	48.69	N/A	45.31	41.91
500	AM 1.5	49.70	N/A	N/A	N/A	N/A
400	AM 1.5	49.29	47.88	N/A	44.49	N/A
200	AM 1.5	47.98	46.58	N/A	N/A	N/A
100	AM 1.5	46.79	45.38	N/A	N/A	N/A

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Irradiance [W/m ²]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	41.30	N/A	37.90	34.51
1000	AM 1.5	42.69	41.39	N/A	38.02	34.57
800	AM 1.5	42.79	41.42	38.72	38.00	34.59
600	AM 1.5	42.72	41.32	N/A	37.88	34.39
500	AM 1.5	42.71	N/A	N/A	N/A	N/A
400	AM 1.5	42.52	41.12	N/A	37.62	N/A
200	AM 1.5	41.82	40.41	N/A	N/A	N/A
100	AM 1.5	40.81	39.32	N/A	N/A	N/A

Irradiance [W/m ²]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	14.660	N/A	14.701	14.750
1000	AM 1.5	13.279	13.309	N/A	13.382	13.410
800	AM 1.5	10.639	10.651	10.691	10.169	10.709
600	AM 1.5	7.972	7.992	N/A	8.009	8.039
500	AM 1.5	6.632	N/A	N/A	N/A	N/A
400	AM 1.5	5.301	5.311	N/A	5.342	N/A
200	AM 1.5	2.652	2.648	N/A	N/A	N/A
100	AM 1.5	1.321	1.321	N/A	N/A	N/A

Irradiance [W/m ²]	Temp. [°C]	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1000	25	550.80	13.982	49.62	13.309	41.39	79.40
800	NOCT	413.97	11.289	46.59	10.691	38.72	78.71
200	25	107.01	2.798	46.58	2.648	40.41	82.09
1000	75	463.64	14.319	43.00	13.410	34.57	75.29
500	15	283.26	6.960	49.70	6.632	42.71	81.89

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Table 7: Maximum power determination (after matrix generation)						P
Module temperature [°C]		25				-
Irradiance [W/m ²]:		1000				-
Sample no.	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1	550.17	13.980	49.61	13.118	41.94	79.33
2	550.34	13.978	49.59	13.119	41.95	79.40
3	550.38	13.978	49.60	13.120	41.95	79.39
Supplementary information: Nil.						

Table 8: Comparison of measured power with name plate of the module after matrix generation			
Sample no.	Power measured at STC after matrix in [W]	Power on name plate	Verdict
1	550.17	550W(-/+2%)	P
2	550.34		P
3	550.38		P

Table 9: Measurement of temperature coefficients			
Ambient air temperature [°C]		25	
Irradiance [W/m ²]		1000	
Module temperature [°C] high/low		65/25	
Sample No.	α [%/°C]	β [%/°C]	γ [%/°C]
1	0.0489	-0.2859	-0.3128
2	0.0482	-0.2852	-0.3118
3	0.0472	-0.2842	-0.3113
Average	0.0481	-0.2851	-0.3120
Supplementary information: Nil.			

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CUSTOMER CITY:RAIPUR

ANNEXES:-

- ANNEX 1: EQUIPMENT USED
- ANNEX 2 : Photographs of EUT
- ANNEX 3 : BOM DETAILS

ANNEX 1: EQUIPMENT USED

Equipment Used	
Description	Identification#
Sun simulator	URS/LAB/Lab/841
IV Curve tracer	URS/LAB/Lab/1046
Heat chamber	URS/LAB/Lab/1381
Reference Module	URS/LAB/Lab/1449
Temperature data logger	URS/LAB/Lab/925
Solar PV Array	URS/TEE/LAB/633

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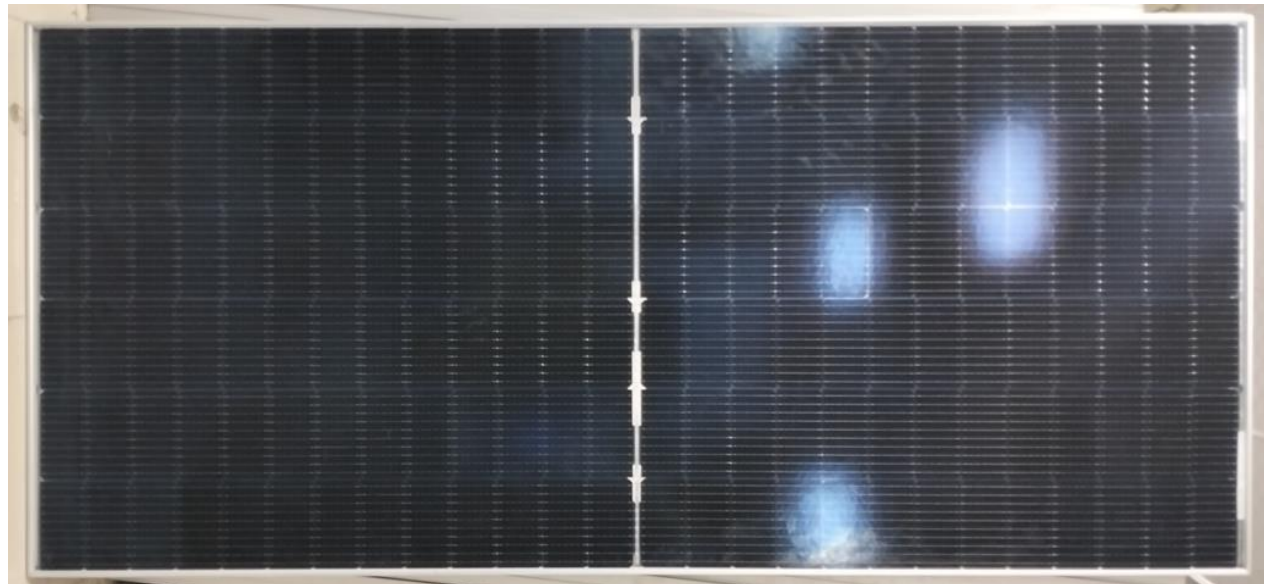
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ANNEX 2: Photographs of EUT

Photographs of EUT



Rear view



Front view

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ANNEX:-3 BOM DETAILS

A1.1	MODULE TYPE/S
	Model Tested: ISEN550-Bi Series Model:- 144 Half cut cell family with system voltage 1500V ISEN545-Bi, ISEN540-Bi, ISEN535-Bi, ISEN530-Bi, ISEN525-Bi, ISEN520-Bi 132 Half cut cell family with system voltage 1500V ISEN505-Bi, ISEN500-Bi, ISEN495-Bi, ISEN490-Bi, ISEN485-Bi, ISEN480-Bi 120 Half cut cell family with system voltage 1500V ISEN460-Bi, ISEN455-Bi, ISEN450-Bi, ISEN445-Bi, ISEN440-Bi, ISEN435-Bi, ISEN430-Bi, ISEN425-Bi, ISEN420-Bi 108 Half cut cell family with system voltage 1500V ISEN410-Bi, ISEN405-Bi, ISEN400-Bi, ISEN395-Bi, ISEN390-Bi, ISEN385-Bi, ISEN380-Bi

A1.2	MODULE DESIGN –DIMENSIONS				
	Module dimensions (L x W x H) [mm].....: <table border="0" style="margin-left: 20px;"> <tr> <td>2278*1134*35 for 144 half cut cell family</td> </tr> <tr> <td>2094*1134*35 for 132 half cut cell family</td> </tr> <tr> <td>1908*1134*35 for 120 half cut cell family</td> </tr> <tr> <td>1722*1134*35 for 108 half cut cell family</td> </tr> </table>	2278*1134*35 for 144 half cut cell family	2094*1134*35 for 132 half cut cell family	1908*1134*35 for 120 half cut cell family	1722*1134*35 for 108 half cut cell family
2278*1134*35 for 144 half cut cell family					
2094*1134*35 for 132 half cut cell family					
1908*1134*35 for 120 half cut cell family					
1722*1134*35 for 108 half cut cell family					

A1.3	SOLAR CELL								
	<table border="0"> <tr> <td>Cell type reference.....:</td> <td> Main: 182.2 MONO PERC SOLAR CELL PIRANHA P-TYPE BI-FACIAL, Manufactured by: Premier Energies Alternate: WS182MP10, Manufactured by: Websol Energy System Limited </td> </tr> <tr> <td>Cell dimensions L x W x T (± %) [mm].....:</td> <td> Main: 91.1mm *182.2mm (±0.25 mm) Alternate: 91.1mm *182.2mm (±0.5 mm) </td> </tr> <tr> <td>Cell thickness [µm].....:</td> <td> Main: 145 ± 25 µm Alternate: 150 ± 15 µm </td> </tr> <tr> <td>Cell area [cm²].....:</td> <td> Main: 165.984 Alternate: 165.984 </td> </tr> </table>	Cell type reference.....:	Main: 182.2 MONO PERC SOLAR CELL PIRANHA P-TYPE BI-FACIAL, Manufactured by: Premier Energies Alternate: WS182MP10, Manufactured by: Websol Energy System Limited	Cell dimensions L x W x T (± %) [mm].....:	Main: 91.1mm *182.2mm (±0.25 mm) Alternate: 91.1mm *182.2mm (±0.5 mm)	Cell thickness [µm].....:	Main: 145 ± 25 µm Alternate: 150 ± 15 µm	Cell area [cm ²].....:	Main: 165.984 Alternate: 165.984
Cell type reference.....:	Main: 182.2 MONO PERC SOLAR CELL PIRANHA P-TYPE BI-FACIAL, Manufactured by: Premier Energies Alternate: WS182MP10, Manufactured by: Websol Energy System Limited								
Cell dimensions L x W x T (± %) [mm].....:	Main: 91.1mm *182.2mm (±0.25 mm) Alternate: 91.1mm *182.2mm (±0.5 mm)								
Cell thickness [µm].....:	Main: 145 ± 25 µm Alternate: 150 ± 15 µm								
Cell area [cm ²].....:	Main: 165.984 Alternate: 165.984								

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A1.4	IDENTIFICATION OF MATERIALS	
	Front cover.....:	Solar Glass Tempered AR Coated; THICKNESS: 3.2mm ± 0.2mm; Manufactured by: BOROSIL RENEWABLES LTD.
	Rear cover.....:	PRESERV 1- 300 TF; THICKNESS: 360 µm, Rated voltage: 1500V, FSI :29.5, RTI 140°C and 150°C Manufactured by: Renewsys India Private LTD. Partial discharge reference project no. 4789424469 tested by UL India Pvt Ltd
	Encapsulation material.....:	T601FC/ B601FC, Thickness: 0.60mm; Manufactured by: Sunlink Photovoltaic Pvt. Ltd.
	Frame parts.....:	Material/Coating: Alloy 6063, T6, Thickness: 35mm; Manufactured by Sudarshan Alluminium India Limited
	Mounting parts.....:	As per installation manual
	Adhesive for frame.....:	Fasto SM30, White colour; Manufactured by FASTO ADVANCE MATERIALS INDIA PVT. LTD.
	Cell connector.....:	Solder tin plated copper ribbons, Sn60%/Pb40% Dimensions [mm]: 0.32 mm; Manufactured by: GEBA CABLES & WIRES INDIA PRIVATE LIMITED
	String connector.....:	Busbar, Sn60%/Pb40%, Dimensions [mm]: 4x 0.40mm & 6x 0.40mm, Manufactured by: GEBA CABLES & WIRES INDIA PRIVATE LIMITED
	Fluxing agent.....:	952-S, Low-Solids, No-Clean Liquid Flux, Manufactured by Kester
	Junction box.....:	GXSB-01, Rated voltage: 1.5KVDC, Rated Current: 25A, IP68, Ambient Temperature: -40°C to +85°C, Manufactured by GENX PV INDIA PRIVATE LIMITED. Certified by TUV SUD; certificate no.: B1157770002
	Cable	BIRLA UNISTAR solar cable 1CX4.0mm ² , Rated voltage: 1.8 kV DC (Max.), Temperature: - 40°C to +90°C, Max. temperature at conductor:120°C, Manufactured by VINDHYA TELELINKS LIMITED Certificate no.: R 60148057, Tested by TUV Rheinland.
	Connector.....:	GXC-01, Rated voltage: 1500VDC, Rated current: 40A, IP68, Ambient Temperature: -40°C to 85°C, Manufactured by GENX PV INDIA PRIVATE LIMITED. Certificate no.: B 115777 0001 Rev. 00, Tested by TUV SUD.
	Bypass diode.....:	MK5045, Tj [°C]: -55 to +200°C, V _{RMS} : 31.5V; I _{FSM} : 400A; RθJC: 2°C/W, Manufactured by GENX PV INDIA PRIVATE LIMITED.
	Potting material.....:	Fasto SP70, White colour; Manufactured by FASTO ADVANCE MATERIALS INDIA PVT. LTD.
	Adhesive for junction box.....:	Fasto SM30, White colour; Manufactured by FASTO ADVANCE MATERIALS INDIA PVT. LTD.
	Soldering Material.....:	N/A
	Additional material (e. g. insulation tape)....:	N/A

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Adhesive for junction box.....:	Fasto SM30, White colour; Manufactured by FASTO ADVANCE MATERIALS INDIA PVT. LTD.
Soldering Material.....:	N/A
Additional material (e. g. insulation tape)....:	N/A

A1.5	MODULE DESIGN - MINIMUM DISTANCES	
Between cells.....:	Top to bottom: 1.4mm Along the side: 1.8mm	
Between cell and edge of laminate.....:	13.5mm	
Between any current carrying part and edge of laminate....:	14mm	

A1.6	MODULE DESIGN - ELECTRICAL CONFIGURATION	
Total number of cells.....:	144; 132; 120; 108	
Serial-parallel connection of cells.....:	Series parallel	
Cells per bypass diode.....:	48 for 144 half cut cell family 44 for 132 half cut cell family 40 for 120 half cut cell family 36 for 108 half cut cell family	
No. of bypass diodes.....:	3	

*SHARED BY CUSTOMER

--END OF TEST REPORT--

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