



# URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301  
 T +91 (120) 4516264-65 F +91 (120) 4750296  
 E info@urs-labs.com W www.urs-labs.com  
 CIN NO U21014UP1987PTC008956



## TEST REPORT

TEST REPORT NO:	URS/LAB/02/RID/24-25/463	DATE OF ISSUE:	18/04/2024
ULR NUMBER	ULR-TC646824100002580F		
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:	PH. NO. 09, GRAM- DIGHARI, MANDIR HASAUD, TEH ARANG, CHHATTISGARH, RAIPUR-492001.		
<b>TEST ITEM DESCRIPTION</b>			
PRODUCT NAME:	Solar PV Module		
DATE OF RECEIPT	14/03/2024	SAMPLE CONDITION:	ok
RECEIPT NUMBER	URS/LAB/PVMODULE/23-24/F55AA65C	NO. OF SAMPLE	3
TRADE MARK		SERIAL NUMBER	Refer to page no. 05
MODEL	Lead model:ISEN540 Series Models:ISEN535,ISEN530		
RATINGS/SPECIFICATION	See marking label on page no. 03		
NAME OF MANUFACTURER	Icon Solar-En Power Technologies Private Limited		
ADDRESS OF MANUFACTURER	PH. NO. 09, GRAM- DIGHARI, MANDIR HASAUD, TEH ARANG, CHHATTISGARH, RAIPUR-492001		
<b>TEST SPECIFICATION</b>			
TEST METHOD / STANDARD	IEC 61853-1 :2011		
TEST START DATE	14/03/2024	TEST END DATE	18/04/2024
ENVIRONMENTAL CONDITIONS	15-35°C, 45-75%RH		
<b>CONCLUSION</b>			
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

*Puja*

PUJA KUMARI  
Asst.Manager



AUTHORIZED SIGNATURE



Paras Singh  
General Manager

ISSUED BY

*Paras Singh*

Paras Singh  
General 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.

URS/TEE/F/19 Issue No. 05



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S.No	TEST PARAMETER (CLAUSE REFERENCE)	TEST METHOD	REQUIREMENT	TEST RESULT / OBSERVATION
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1	Procedure for Irradiance and temperature performance measurement (Clause 8)	IEC 61853-1 :2011	Procedure for Irradiance and temperature performance measurement	See table 4
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*Puja*

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Asst.Manager

AUTHORIZED SIGNATURE



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General Manager

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## Copy of Marking Plate

(Model No. Tested: ISEN540)

MODEL NO	ISEN540
MAXIMUM POWER (Pmax)	540 Wp, 0/+3%
VOLTAGE AT MAXIMUM POWER (Vmp)	41.64 V
CURRENT AT MAXIMUM POWER (Imp)	12.97 A
OPEN CIRCUIT VOLTAGE (Voc)	49.60 V
SHORT CIRCUIT CURRENT (Isc)	13.86 A
MAXIMUM SYSTEM VOLTAGE	1500 V
SERIES FUSE RATING	25 A
MAXIMUM DESIGN LOAD	5400 Pa
APPLICATION CLASS	CLASS A
SAFETY CLASS	CLASS II
FIRE SAFETY CLASS	CLASS C

**WARNING**  
ELECTRICAL HAZARD

THIS UNIT PRODUCES ELECTRICITY WHEN EXPOSED TO LIGHT. COVER GLASS BEFORE CONNECTING TO THE LOAD.

POWER SPECIFICATION MEASURED AT STANDARD TEST CONDITIONS.  
(Cell Temperature 25°C, Irradiance 1000W/m<sup>2</sup> & AM 1.5)  
Operating Condition:- 40°C to 85°C & 85 RH.

IS 14286-2010/  
IEC 61215-2:2005,  
IS/IEC 61730  
(Part-1 & Part-2):2004

R-59000140  
www.bis.gov.in

Marking inside the laminate

Polarity marking on Junction Box

## Polarity marking on Connectors

TESTED BY



Puja

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AUTHORIZED SIGNATURE



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Series Models																																																	
Series model: ISEN535	Series model: ISEN530																																																
 <p>Icon Solar-En Power Technologies Pvt. Ltd.            Factory Address - PH No. 09, Gram-Dighari            Mandir Hasaud, Teh Arang, Raipur 492001            Chhattisgarh, India            Tel : +91 771- 4065755            www.iconsolar-en.com</p> <table border="1"> <tr><td>MODEL NO</td><td>ISEN535</td></tr> <tr><td>MAXIMUM POWER (Pmax)</td><td>535 Wp, 0/+3%</td></tr> <tr><td>VOLTAGE AT MAXIMUM POWER (Vmp)</td><td>41.47 V</td></tr> <tr><td>CURRENT AT MAXIMUM POWER (Imp)</td><td>12.91 A</td></tr> <tr><td>OPEN CIRCUIT VOLTAGE (Voc)</td><td>49.45 V</td></tr> <tr><td>SHORT CIRCUIT CURRENT (Isc)</td><td>13.79 A</td></tr> <tr><td>MAXIMUM SYSTEM VOLTAGE</td><td>1500 V</td></tr> <tr><td>SERIES FUSE RATING</td><td>25 A</td></tr> <tr><td>MAXIMUM DESIGN LOAD</td><td>5400 Pa</td></tr> <tr><td>APPLICATION CLASS</td><td>CLASS A</td></tr> <tr><td>SAFETY CLASS</td><td>CLASS II</td></tr> <tr><td>FIRE SAFETY CLASS</td><td>CLASS C</td></tr> </table> <p><b>WARNING</b> ELECTRICAL HAZARD</p> <p>THIS UNIT PRODUCES ELECTRICITY WHEN EXPOSED TO LIGHT. COVER GLASS BEFORE CONNECTING TO THE LOAD.</p> <p>POWER SPECIFICATION MEASURED AT STANDARD TEST CONDITIONS.            (Cell Temperature 25°C, Irradiance 1000W/m<sup>2</sup> &amp; AM 1.5)            Operating Condition:- 40°C to 85°C &amp; 95 RH.</p> <p>IS 14286-2010/ IEC 61215-2005, IS/IEC 61730 (Part 1 &amp; Part 2):2004</p>  <p>R-59000140 www.bis.gov.in</p>	MODEL NO	ISEN535	MAXIMUM POWER (Pmax)	535 Wp, 0/+3%	VOLTAGE AT MAXIMUM POWER (Vmp)	41.47 V	CURRENT AT MAXIMUM POWER (Imp)	12.91 A	OPEN CIRCUIT VOLTAGE (Voc)	49.45 V	SHORT CIRCUIT CURRENT (Isc)	13.79 A	MAXIMUM SYSTEM VOLTAGE	1500 V	SERIES FUSE RATING	25 A	MAXIMUM DESIGN LOAD	5400 Pa	APPLICATION CLASS	CLASS A	SAFETY CLASS	CLASS II	FIRE SAFETY CLASS	CLASS C	 <p>Icon Solar-En Power Technologies Pvt. Ltd.            Factory Address - PH No. 09, Gram-Dighari            Mandir Hasaud, Teh Arang, Raipur 492001            Chhattisgarh, India            Tel : +91 771- 4065755            www.iconsolar-en.com</p> <table border="1"> <tr><td>MODEL NO</td><td>ISEN530</td></tr> <tr><td>MAXIMUM POWER (Pmax)</td><td>530 Wp, 0/+3%</td></tr> <tr><td>VOLTAGE AT MAXIMUM POWER (Vmp)</td><td>41.31 V</td></tr> <tr><td>CURRENT AT MAXIMUM POWER (Imp)</td><td>12.83 A</td></tr> <tr><td>OPEN CIRCUIT VOLTAGE (Voc)</td><td>49.30 V</td></tr> <tr><td>SHORT CIRCUIT CURRENT (Isc)</td><td>13.72 A</td></tr> <tr><td>MAXIMUM SYSTEM VOLTAGE</td><td>1500 V</td></tr> <tr><td>SERIES FUSE RATING</td><td>25 A</td></tr> <tr><td>MAXIMUM DESIGN LOAD</td><td>5400 Pa</td></tr> <tr><td>APPLICATION CLASS</td><td>CLASS A</td></tr> <tr><td>SAFETY CLASS</td><td>CLASS II</td></tr> <tr><td>FIRE SAFETY CLASS</td><td>CLASS C</td></tr> </table> <p><b>WARNING</b> ELECTRICAL HAZARD</p> <p>THIS UNIT PRODUCES ELECTRICITY WHEN EXPOSED TO LIGHT. COVER GLASS BEFORE CONNECTING TO THE LOAD.</p> <p>POWER SPECIFICATION MEASURED AT STANDARD TEST CONDITIONS.            (Cell Temperature 25°C, Irradiance 1000W/m<sup>2</sup> &amp; AM 1.5)            Operating Condition:- 40°C to 85°C &amp; 95 RH.</p> <p>IS 14286-2010/ IEC 61215-2005, IS/IEC 61730 (Part 1 &amp; Part 2):2004</p>  <p>R-59000140 www.bis.gov.in</p>	MODEL NO	ISEN530	MAXIMUM POWER (Pmax)	530 Wp, 0/+3%	VOLTAGE AT MAXIMUM POWER (Vmp)	41.31 V	CURRENT AT MAXIMUM POWER (Imp)	12.83 A	OPEN CIRCUIT VOLTAGE (Voc)	49.30 V	SHORT CIRCUIT CURRENT (Isc)	13.72 A	MAXIMUM SYSTEM VOLTAGE	1500 V	SERIES FUSE RATING	25 A	MAXIMUM DESIGN LOAD	5400 Pa	APPLICATION CLASS	CLASS A	SAFETY CLASS	CLASS II	FIRE SAFETY CLASS	CLASS C
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General product information:	
PV module type reference.....:	ISEN540
Nominal maximum power (Pmax) .....	540W
Nominal open circuit voltage at (Voc) .....	49.60V
Nominal short circuit current at (Isc) .....	13.86A
Nominal maximum power voltage (Vmax) .....	41.64V
Nominal maximum power current (Imax).....:	12.97A
Maximum system voltage.....:	1500V
Sampling procedure: [ ] Random sampling from production [X] Prototype submitted by client	
Description of similarity (differences) between the applied model and the previously tested model: N/A	

Sample Number	Serial Number
1	ICON5401002153043
2	ICON5401002153044
3	ICON5401002153045

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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)						
Module temperature [°C]		25				-
Irradiance [W/m²]:		1000				-
Sample no.	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1	540.7	13.861	49.63	13.160	41.12	78.60
2	541.5	13.859	49.61	13.163	41.14	78.76
3	541.6	13.863	49.62	13.162	41.15	78.74
Supplementary information: Nil						

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Table 4: Averaging of three test modules								
Irrad [W/m <sup>2</sup> ]	Temp. [°C]	Sample no.	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1100	75°C	1	497.1	15.60	43.10	14.54	34.20	73.93
		2	497.6	15.60	43.11	14.54	34.22	73.99
		3	496.9	15.60	43.08	14.54	34.18	73.95
		Average	497.2	15.60	43.10	14.54	34.20	73.96
	50°C	1	546.2	15.42	46.50	14.51	37.60	76.18
		2	546.0	15.42	46.50	14.51	37.62	76.13
		3	545.4	15.42	46.49	14.51	37.59	76.09
		Average	545.9	15.42	46.50	14.51	37.60	76.13
	25°C	1	593.8	15.25	49.80	14.48	41.00	78.19
		2	593.5	15.25	49.82	14.48	40.98	78.10
		3	593.9	15.25	49.79	14.48	41.02	78.22
		Average	593.7	15.25	49.80	14.48	41.00	78.17
1000	75°C	1	452.6	14.18	42.90	13.23	34.20	74.40
		2	452.7	14.18	42.92	13.23	34.22	74.39
		3	451.2	14.18	42.89	13.23	34.10	74.20
		Average	452.2	14.18	42.90	13.23	34.17	74.33
	50°C	1	497.4	14.02	46.30	13.19	37.70	76.63
		2	497.7	14.02	46.31	13.19	37.72	76.64
		3	497.8	14.02	46.28	13.19	37.73	76.73
		Average	497.6	14.02	46.30	13.19	37.72	76.67
	25°C	1	540.7	13.86	49.60	13.16	41.10	78.65
		2	540.4	13.86	49.62	13.16	41.07	78.55
		3	540.7	13.86	49.63	13.16	41.09	78.59
		Average	540.6	13.86	49.62	13.16	41.09	78.60
	15°C	1	557.7	13.80	50.90	13.12	42.50	79.40
		2	557.3	13.80	50.93	13.12	42.48	79.28
		3	557.4	13.80	50.93	13.12	42.49	79.30
		Average	557.4	13.80	50.92	13.12	42.49	79.32
800	75°C	1	362.4	11.34	42.40	10.57	34.30	75.37
		2	362.4	11.34	42.42	10.57	34.29	75.33
		3	362.2	11.34	42.43	10.57	34.28	75.28
		Average	362.3	11.34	42.42	10.57	34.29	75.33

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Puja

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800	50°C	1	398.3	11.22	45.80	10.56	37.70	77.51
		2	397.8	11.22	45.79	10.56	37.67	77.44
		3	398.2	11.22	45.77	10.56	37.72	77.56
		Average	398.1	11.22	45.79	10.56	37.70	77.50
	45°C	1	405.4	11.19	46.50	10.55	38.40	77.91
		2	405.7	11.19	46.48	10.55	38.44	78.01
		3	405.4	11.19	46.49	10.55	38.42	77.93
		Average	405.5	11.19	46.49	10.55	38.42	77.95
	25°C	1	433.3	11.09	49.20	10.50	41.30	79.41
		2	433.9	11.09	49.18	10.50	41.32	79.58
		3	434.1	11.09	49.19	10.50	41.33	79.58
		Average	433.8	11.09	49.19	10.50	41.32	79.52
	15°C	1	446.9	11.04	50.50	10.49	42.60	80.16
		2	446.6	11.04	50.51	10.49	42.58	80.07
		3	446.6	11.04	50.52	10.49	42.58	80.07
		Average	446.7	11.04	50.51	10.49	42.59	80.10
600	75°C	1	270.8	8.51	41.80	7.92	34.20	76.13
		2	270.6	8.51	41.82	7.92	34.18	76.02
		3	270.8	8.51	41.81	7.92	34.19	76.08
		Average	270.7	8.51	41.81	7.92	34.19	76.07
	50°C	1	297.9	8.41	45.30	7.90	37.70	78.19
		2	297.6	8.41	45.31	7.90	37.68	78.06
		3	297.6	8.41	45.33	7.90	37.67	78.04
		Average	297.7	8.41	45.31	7.90	37.68	78.10
	25°C	1	324.3	8.32	48.70	7.87	41.20	80.04
		2	324.5	8.32	48.68	7.87	41.22	80.15
		3	324.6	8.32	48.70	7.87	41.23	80.12
		Average	324.5	8.32	48.69	7.87	41.22	80.10
	15°C	1	334.6	8.28	50.00	7.86	42.60	81.12
		2	335.1	8.28	50.00	7.86	42.62	80.99
		3	335.2	8.28	50.00	7.86	42.63	81.06
		Average	335.0	8.28	50.00	7.86	42.62	81.25
500	15°C	1	278.0	6.90	49.70	6.54	42.50	81.07
		2	278.3	6.90	49.69	6.54	42.53	81.19
		3	278.1	6.90	49.71	6.54	42.51	81.07
		Average	278.1	6.90	49.70	6.54	42.51	81.11

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Puja

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CUSTOMER CITY:RAIPUR

400	50°C	1	196.8	5.61	44.50	5.26	37.40	78.83
		2	197.0	5.61	44.49	5.26	37.43	78.96
		3	196.9	5.61	44.48	5.26	37.42	78.97
		Average	196.9	5.61	44.49	5.26	37.42	78.92
	25°C	1	214.5	5.54	47.90	5.23	41.00	80.83
		2	214.6	5.54	47.88	5.23	41.02	80.91
		3	214.7	5.54	47.87	5.23	41.03	80.99
		Average	214.6	5.54	47.88	5.23	41.02	80.91
	15°C	1	221.4	5.52	49.30	5.21	42.50	81.36
		2	221.7	5.52	49.27	5.21	42.52	81.53
		3	221.6	5.52	49.29	5.21	42.53	81.50
		Average	221.6	5.52	49.29	5.21	42.52	81.46
200	25°C	1	104.8	2.77	46.60	2.60	40.30	81.19
		2	104.9	2.77	46.57	2.60	40.32	81.39
		3	104.9	2.77	46.58	2.60	40.33	81.42
		Average	104.9	2.77	46.58	2.60	40.32	81.33
	15°C	1	108.4	2.76	48.00	2.60	41.70	81.82
		2	108.6	2.76	47.98	2.60	41.72	82.09
		3	108.7	2.76	47.97	2.60	41.73	82.13
		Average	108.5	2.76	47.98	2.60	41.72	82.02
100	25°C	1	50.7	1.39	45.40	1.29	39.30	80.34
		2	50.8	1.39	45.38	1.29	39.33	80.62
		3	50.8	1.39	45.37	1.29	39.32	80.61
		Average	50.8	1.39	45.38	1.29	39.32	80.52
	15°C	1	52.4	1.38	46.80	1.29	40.70	81.13
		2	52.6	1.38	46.78	1.29	40.71	81.47
		3	52.6	1.38	46.79	1.29	40.71	81.64
		Average	52.5	1.38	46.79	1.29	40.71	81.41

TESTED BY



Puja

PUJA KUMARI  
Asst.Manager

AUTHORIZED SIGNATURE



Paras Singh  
General Manager

ISSUED BY

Paras Singh

Paras Singh  
General Manager



# URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301  
 T +91 (120) 4516264-65 F +91 (120) 4750296  
 E info@urs-labs.com W www.urs-labs.com  
 CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/24-25/463

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CUSTOMER NAME: ICON SOLAR-EN POWER TECHNOLOGIES PRIVATE LIMITED

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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 <sup>2</sup> ]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	593.7	N/A	545.9	497.2
1000	AM 1.5	557.4	540.6	N/A	497.6	452.2
800	AM 1.5	446.7	433.8	405.5	398.1	362.3
600	AM 1.5	335.0	324.5	N/A	297.7	270.7
500	AM 1.5	278.1	N/A	N/A	N/A	N/A
400	AM 1.5	221.6	214.6	N/A	196.9	N/A
200	AM 1.5	108.5	104.9	N/A	N/A	N/A
100	AM 1.5	52.5	50.8	N/A	N/A	N/A

Table 5.2: Isc [A] versus irradiance and temperature

Irradiance [W/m <sup>2</sup> ]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	15.25	N/A	15.42	15.60
1000	AM 1.5	13.80	13.86	N/A	14.02	14.18
800	AM 1.5	11.04	11.09	11.19	11.22	11.34
600	AM 1.5	8.28	8.32	N/A	8.41	8.51
500	AM 1.5	6.90	N/A	N/A	N/A	N/A
400	AM 1.5	5.52	5.54	N/A	5.61	N/A
200	AM 1.5	2.76	2.77	N/A	N/A	N/A
100	AM 1.5	1.38	1.39	N/A	N/A	N/A

Table 5.3: Voc [V] versus irradiance and temperature

Irradiance [W/m <sup>2</sup> ]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	49.80	N/A	46.50	43.10
1000	AM 1.5	50.92	49.62	N/A	46.30	42.90
800	AM 1.5	50.51	49.19	46.49	45.79	42.42
600	AM 1.5	50.00	48.69	N/A	45.31	41.81
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

TESTED BY



Puja

PUJA KUMARI  
Asst.Manager

AUTHORIZED SIGNATURE



Paras Singh  
General Manager

ISSUED BY

Paras Singh

Paras Singh  
General Manager



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Irradiance [W/m <sup>2</sup> ]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	41.00	N/A	37.60	34.20
1000	AM 1.5	42.49	41.09	N/A	37.72	34.17
800	AM 1.5	42.59	41.32	38.42	37.70	34.29
600	AM 1.5	42.62	41.22	N/A	37.68	34.19
500	AM 1.5	42.51	N/A	N/A	N/A	N/A
400	AM 1.5	42.52	41.02	N/A	37.42	N/A
200	AM 1.5	41.72	40.32	N/A	N/A	N/A
100	AM 1.5	40.71	39.32	N/A	N/A	N/A

Irradiance [W/m <sup>2</sup> ]	Spectrum	Module Temperature				
		15°C	25°C	NOCT	50°C	75°C
1100	AM 1.5	N/A	14.48	N/A	14.51	14.54
1000	AM 1.5	13.12	13.16	N/A	13.19	13.23
800	AM 1.5	10.49	10.50	10.55	10.56	10.57
600	AM 1.5	7.86	7.87	N/A	7.90	7.92
500	AM 1.5	6.54	N/A	N/A	N/A	N/A
400	AM 1.5	5.21	5.23	N/A	5.26	N/A
200	AM 1.5	2.60	2.60	N/A	N/A	N/A
100	AM 1.5	1.29	1.29	N/A	N/A	N/A

Irradiance [W/m <sup>2</sup> ]	Temp. [°C]	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1000	25	540.6	13.86	49.62	13.16	41.09	78.60
800	NOCT	405.5	11.19	46.49	10.55	38.42	77.95
200	25	104.9	2.77	46.58	2.60	40.32	81.33
1000	75	452.2	14.18	42.90	13.23	34.17	74.33
500	15	278.1	6.90	49.70	6.54	42.51	81.11

TESTED BY



Puja

PUJA KUMARI  
Asst.Manager

AUTHORIZED SIGNATURE



Paras Singh  
General Manager

ISSUED BY

Paras Singh

Paras Singh  
General Manager



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Table 7: Maximum power determination (after matrix generation)						P
Module temperature [°C]		25				-
Irradiance [W/m <sup>2</sup> ]:		1000				-
Sample no.	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1	540.2	13.85	49.58	13.15	41.08	78.67
2	540.3	13.86	49.60	13.16	41.06	78.60
3	540.1	13.85	49.61	13.15	41.07	78.60

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	540.2	0/+3%	P
2	540.3		P
3	540.1		P

Table 9: Measurement of temperature coefficients			
Ambient air temperature [°C] .....		25	
Irradiance [W/m <sup>2</sup> ] .....		1000	
Module temperature [°C] high/low .....		65/25	
Sample No.	$\alpha$ [%/°C]	$\beta$ [%/°C]	$\gamma$ [%/°C]
1	0.0573	-0.3048	-0.3528
2	0.0628	-0.3177	-0.3591
3	0.0561	-0.3191	-0.3575
Average	0.0587	-0.3139	-0.3565

Supplementary information: Nil.

TESTED BY



Puja

PUJA KUMARI  
Asst.Manager

AUTHORIZED SIGNATURE



Paras Singh  
General Manager

ISSUED BY

Paras Singh

Paras Singh  
General Manager



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<b>Description of module construction:</b> (Manufactories and part numbers, unless otherwise specified)	
Sample.....:	Random sampling
Module	
Front cover	AR Coated Tempered solar Glass, Thickness: 3.2mm, Manufactured by: Borosil Renewables Limited.
Rear cover	Preserv A 275WN, Thickness: 365µm, Max. system voltage: 1500V, RTI electrical: 140°C and RTI strength: 150°C, Flame spread index: 28.6, Manufactured RenewSys India Pvt. Ltd , Cenified by UL FSI ( Certificate No.: 4788556277.2.1) and Partial discharge (Report No.: 4788556277.2.1)
Encapsulation material	SS-UFC-T100 EVA, Thickness: 0.65 mm , Manufactured by Sheetsol Pvt. Ltd.
Frame	Alloy 6063, T6, Thickness: 35mm, Manufactured by Alom Extrusions Limited
Dimensions (l x w x h) mm	2465x 1134 x 35
Module area [m <sup>2</sup> ]	2.80
Minimum distance between current carrying parts and module edge [mm]	14mm
<b>Cell</b>	
Cell (include type)	S18210BB023 , MONO PERC Solar Cell, half cut cell, Manufactured by solar space (Representative model) 182,MONO PERC BI_182_B247_10BB_FBBO.1_RBB1.4_ 144F, MONO PERC SOLAR CELL, half cut cell , Manufactured by Jupiter international limited (Tested model)
Cells (lxw) [mm]	182 mm x 91mm) ± 0.50mm (Representative model) (182 mm X 91 mm ) ± 0.25mm (Tested model)
Cell thickness [µm]	160±16 µm 150±20/10 µm
Cell area [cm <sup>2</sup> ]	165.62 cm <sup>2</sup> (Representative model/Tested Model)
Number of cells	156 cells (for representative model & retest model)
<b>Components and other</b>	
Cells per bypass diode	52 (for representative model & retest model)
Type of bypass diode	MK5045,VRRM: 45V, I <sub>F(AV)</sub> : 50A, T <sub>j</sub> : 200°C, R <sub>θJ-C</sub> : 0.8 °C/W, Manufactured by Taizhou Chuangda Electronic Co Ltd.
No. of bypass diode	3
Cell connector	Solder tin plated copper ribbons, Coating(Sn60/Pb40) , Dimension:0.35mm, Manufactured by Valeo Product LLP
String connector	Solder tin plated copper ribbons, Coating(Sn60/Pb40) , Dimension: 4x0.35mm, 6x 0.40 mm, Manufactured by Valeo Product LLP

TESTED BY



Puja

PUJA KUMARI  
Asst.Manager

AUTHORIZED SIGNATURE



Paras Singh  
General Manager

ISSUED BY

Paras Singh

Paras Singh  
General Manager



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Junction box	DSJB12y (y=b), Rated voltage: 1500V, Rated current: 25A, IP68, Ambient Temperature: - 40°C - + 85°C, Manufactured DhaSh PV Technologies Pvt. Ltd., Tested by TUV Rheinland (Test report no :IN220JV3 001)
Cable	62930 IEC 131, 1X4 mm2, Rated voltage: 1.8kV DC, Ambient Temperature: -40 to +90°C, Max. Temperature at conduct : 120°C, Manufactured by Vindhya Telelinks Ltd , Certified by TUV Rheinland (Certificate No.: R 50520444)
Connectors	DS01, Rated voltage: 1500VDC, Rated current:35A, IP68, Ambient Temperature:-40°C to 85°C, Manufactured by DhaSh PV Technologies Private Limited , Certified by TUV Rheinland (Certificate No.: R 60152493 )
Adhesive for frame	Super Neutral RTV Silicon Sealant, White colour, Manufactured by Adarsha Specialty Chemicals Pvt Ltd
Adhesives (junction box)	
Potting material (junction box)	ADSIL JB 597, White colour, Manufactured by Adarsha Specialty Chemicals Pvt Ltd
Others	N/A

TESTED BY



*Puja*

PUJA KUMARI  
Asst.Manager

AUTHORIZED SIGNATURE



Paras Singh  
General Manager

ISSUED BY

*Paras Singh*

Paras Singh  
General Manager



**URS PRODUCTS AND TESTING PRIVATE LIMITED**

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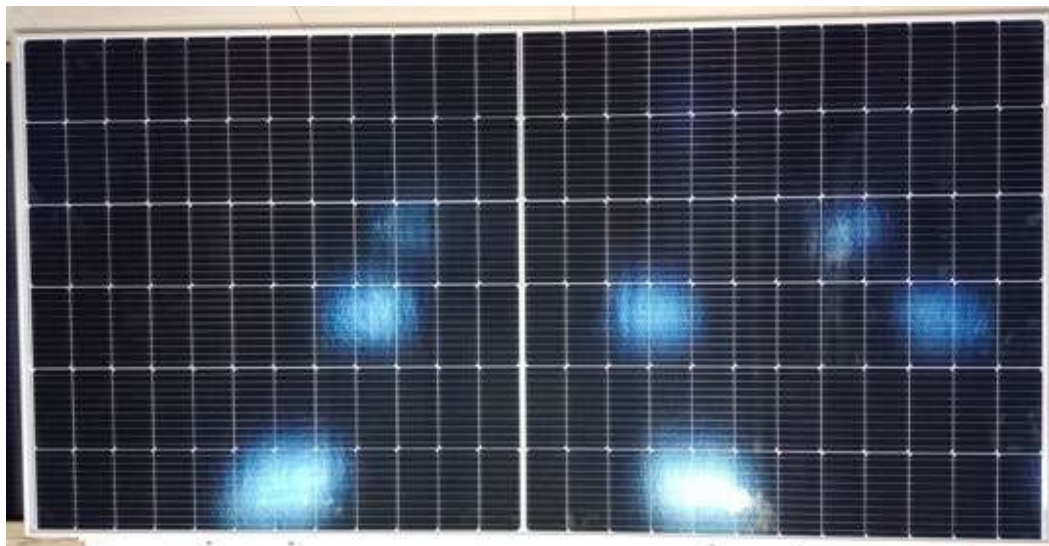
CUSTOMER NAME: ICON SOLAR-EN POWER TECHNOLOGIES PRIVATE LIMITED

CUSTOMER CITY:RAIPUR

Photographs



Rear view



Front view

--END OF REPORT--

TESTED BY



*Puja*

PUJA KUMARI  
Asst.Manager

AUTHORIZED SIGNATURE



Paras Singh  
General Manager

ISSUED BY

Paras Singh  
General Manager