



URS PRODUCTS AND TESTING PRIVATE LIMITED

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CIN NO U21014UP1987PTC008956



TEST REPORT

TEST REPORT NO:	URS/LAB/02/RID/25-26/2915		DATE OF ISSUE:	21/05/2025
ULR NUMBER	ULR-TC646825100014710F			
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:	INTEGRATED BATTERIES INDIA PRIVATE LTD.			
CUSTOMER ADDRESS:	Plot no. 40 Sector Ecotech 10 Greater Noida Uttar Pradesh 201301.			
TEST ITEM DESCRIPTION				
PRODUCT NAME:	SOLAR PV MODULE			
DATE OF RECEIPT	01/04/2025	SAMPLE CONDITION:	OK	
RECEIPT NUMBER	URS/LAB/PVMODULE/25-26/8EEF5A6F	NO. OF SAMPLE	3	
TRADE MARK		SERIAL NUMBER	IB6400525200683 IB6400525200684 IB6400525200685	
MODEL	IBMPH-640 (TESTED MODEL)			
RATINGS/SPECIFICATION	See the marking Label			
NAME OF MANUFACTURER	INTEGRATED BATTERIES INDIA PRIVATE LTD.			
ADDRESS OF MANUFACTURER	Plot no. 40 Sector Ecotech 10 Greater Noida Uttar Pradesh 201301.			
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	01/04/2025	TEST END DATE	22/04/2025	
ENVIRONMENTAL CONDITIONS	23±5°C, =70%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



Paras Singh
Vice President (Technical)

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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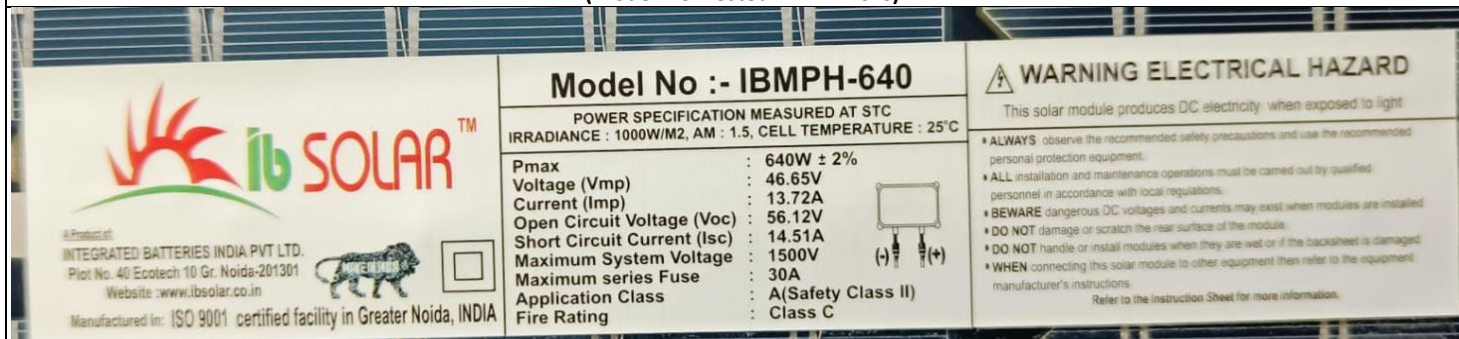
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Copy of Marking Plate (Model No. Tested: IBMPH-640)



Polarity marking on Junction Box



Polarity marking on Connectors



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Harshit Gupta
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General product information:	
PV module type reference.....:	IBMPH-640
Nominal maximum power (Pmax)	640W
Nominal open circuit voltage at (Voc)	56.12 V
Nominal short circuit current at (Isc)	14.51 A
Nominal maximum power voltage (Vmax)	46.65 V
Nominal maximum power current (Imax).....	13.72 A
Maximum system voltage.....	1500V DC
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	

Model Name	Sample No.	Serial Number
IBMPH-640	1	IB6400525200683
	2	IB6400525200684
	3	IB6400525200685

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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)						P
Module temperature [°C]		25				-
Irradiance [W/m²]:		1000				-
Sample no.	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1	640.81	14.508	56.10	13.723	46.70	78.73
2	640.82	14.512	56.11	13.722	46.70	78.70
3	640.83	14.509	56.09	13.722	46.70	78.74
Supplementary information: Nil						

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Table 4: Averaging of three test modules								
Test Date [DD/MM/YYYY].....:			05/04/2025 to 20/04/2025					
Irradiance [W/m ²]	Temp. [°C]	Sample no.	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1100	75°C	1	488.21	15.601	41.61	14.582	33.48	75.21
		2	488.10	15.598	41.58	14.579	33.48	75.26
		3	488.35	15.601	41.63	14.582	33.49	75.19
		Average	488.25	15.600	41.60	14.580	33.49	75.24
	50°C	1	652.28	16.142	53.00	15.233	42.82	76.24
		2	652.09	16.138	52.99	15.229	42.82	76.25
		3	652.23	16.143	53.00	15.232	42.82	76.23
		Average	652.26	16.140	53.00	15.231	42.81	76.25
	25°C	1	703.55	15.962	56.32	15.202	46.28	78.26
		2	703.52	15.959	56.29	15.198	46.29	78.31
		3	703.77	15.963	56.32	15.197	46.31	78.28
		Average	703.49	15.960	56.30	15.200	46.29	78.29
1000	75°C	1	547.11	14.838	49.42	13.879	39.42	74.61
		2	547.09	14.839	49.39	13.882	39.41	74.65
		3	547.41	14.842	49.41	13.883	39.43	74.65
		Average	546.87	14.839	49.40	13.880	39.41	74.60
	50°C	1	594.46	14.673	52.81	13.844	42.94	76.72
		2	594.56	14.667	52.78	13.843	42.95	76.80
		3	594.24	14.672	52.77	13.842	42.93	76.75
		Average	594.41	14.670	52.80	13.842	42.93	76.74
	25°C	1	640.83	14.514	56.12	13.817	46.38	78.68
		2	640.79	14.512	56.13	13.819	46.37	78.67
		3	640.90	14.508	56.08	13.823	46.37	78.77
		Average	640.84	14.512	56.12	13.819	46.37	78.69
	15°C	1	658.79	14.442	57.43	13.788	47.78	79.43
		2	658.93	14.441	57.43	13.788	47.79	79.45
		3	658.98	14.439	57.39	13.792	47.78	79.52
		Average	658.94	14.441	57.42	13.789	47.79	79.47
800	75°C	1	437.58	11.872	48.82	11.109	39.39	75.50
		2	437.39	11.871	48.83	11.107	39.38	75.46
		3	437.59	11.868	48.79	11.112	39.38	75.57
		Average	437.59	11.871	48.82	11.109	39.39	75.51

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Harshit

Harshit Gupta
Analyst



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Vice President (Technical)

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800	50°C	1	476.37	11.737	52.29	11.099	42.92	77.62
		2	476.33	11.738	52.27	11.098	42.92	77.64
		3	476.21	11.741	52.31	11.103	42.89	77.54
		Average	476.37	11.738	52.29	11.099	42.91	77.61
	45°C	1	483.99	11.708	52.88	11.093	43.63	78.17
		2	483.79	11.709	52.89	11.091	43.62	78.12
		3	483.61	11.713	52.92	11.087	43.62	78.02
		Average	483.93	11.709	52.89	11.091	43.62	78.14
	25°C	1	513.85	11.607	55.58	11.041	46.54	79.65
		2	513.83	11.609	55.59	11.043	46.53	79.62
		3	513.38	11.612	55.62	11.038	46.51	79.49
		Average	513.93	11.609	55.59	11.041	46.52	79.64
	15°C	1	528.50	11.562	57.01	11.038	47.88	80.18
		2	528.44	11.561	57.02	11.039	47.87	80.16
		3	528.41	11.558	56.97	11.043	47.85	80.25
		Average	528.58	11.561	57.01	11.039	47.88	80.20
600	75°C	1	327.52	8.903	48.12	8.338	39.28	76.45
		2	327.64	8.902	48.11	8.339	39.29	76.50
		3	327.55	8.898	48.08	8.343	39.26	76.56
		Average	327.64	8.902	48.11	8.339	39.29	76.50
	50°C	1	356.63	8.803	51.61	8.317	42.88	78.50
		2	356.64	8.801	51.63	8.319	42.87	78.49
		3	356.76	8.798	51.59	8.322	42.87	78.60
		Average	356.73	8.801	51.61	8.319	42.88	78.53
	25°C	1	386.26	8.708	54.98	8.303	46.52	80.68
		2	386.29	8.709	55.00	8.302	46.53	80.65
		3	386.15	8.713	55.02	8.299	46.53	80.55
		Average	386.17	8.709	54.99	8.302	46.52	80.63
	15°C	1	397.57	8.666	56.397	8.293	47.94	80.99
		2	397.48	8.668	56.398	8.293	47.93	81.06
		3	397.28	8.672	56.402	8.287	47.94	81.84
		Average	397.38	8.668	56.398	8.292	47.92	81.09
500	15°C	1	330.37	7.218	55.99	6.913	47.79	81.75
		2	330.46	7.221	56.01	6.912	47.81	81.71
		3	330.48	7.218	55.98	6.908	47.84	81.79
		Average	330.38	7.220	56.00	6.912	47.80	81.72

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Analyst



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400	50°C	1	236.72	5.868	50.69	5.553	42.63	79.58
		2	236.67	5.867	50.68	5.553	42.62	79.60
		3	236.58	5.869	50.69	5.551	42.62	79.52
		Average	236.61	5.868	50.69	5.552	42.62	79.54
	25°C	1	256.11	5.799	54.18	5.541	46.22	81.51
		2	256.25	5.798	54.17	5.543	46.23	81.59
		3	256.10	5.797	54.19	5.542	46.21	81.52
		Average	256.10	5.799	54.18	5.541	46.22	81.51
	15°C	1	263.56	5.778	55.47	5.523	47.72	82.23
		2	263.52	5.777	55.49	5.521	47.73	82.20
		3	263.45	5.777	55.48	5.522	47.71	82.20
		Average	263.46	5.778	55.49	5.521	47.72	82.17
200	25°C	1	125.45	2.898	52.67	2.762	45.42	82.19
		2	125.48	2.897	52.68	2.762	45.43	82.22
		3	125.32	2.898	52.70	2.761	45.39	82.06
		Average	125.41	2.898	52.68	2.761	45.42	82.13
	15°C	1	129.59	2.886	54.08	2.762	46.92	83.03
		2	129.58	2.888	54.07	2.764	46.88	82.98
		3	129.57	2.888	54.09	2.762	46.91	82.94
		Average	129.54	2.888	54.08	2.762	46.90	82.93
100	25°C	1	61.26	1.449	51.18	1.382	44.33	82.61
		2	61.21	1.448	51.17	1.381	44.32	82.61
		3	61.24	1.448	51.19	1.382	44.31	82.61
		Average	61.20	1.449	51.18	1.381	44.32	82.52
	15°C	1	63.26	1.439	52.68	1.381	45.81	83.45
		2	63.31	1.437	52.69	1.382	45.81	83.61
		3	63.31	1.439	52.68	1.382	45.81	83.51
		Average	63.26	1.439	52.69	1.381	45.81	83.45

TESTED BY

Harshit Gupta

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	703.49	N/A	652.26	599.62
1000	AM 1.5	658.94	640.84	N/A	594.41	546.87
800	AM 1.5	528.58	513.93	483.93	476.37	437.59
600	AM 1.5	397.38	386.17	N/A	356.73	327.64
500	AM 1.5	330.38	N/A	N/A	N/A	N/A
400	AM 1.5	263.46	256.10	N/A	236.61	N/A
200	AM 1.5	129.54	125.41	N/A	N/A	N/A
100	AM 1.5	63.26	61.20	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	15.960	N/A	16.140	16.320
1000	AM 1.5	14.441	14.512	N/A	14.670	14.839
800	AM 1.5	11.561	11.609	11.709	11.738	11.871
600	AM 1.5	8.668	8.709	N/A	8.801	8.902
500	AM 1.5	7.220	N/A	N/A	N/A	N/A
400	AM 1.5	5.778	5.799	N/A	5.868	N/A
200	AM 1.5	2.888	2.898	N/A	N/A	N/A
100	AM 1.5	1.439	1.449	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	56.30	N/A	53.00	49.60
1000	AM 1.5	57.42	56.12	N/A	52.80	49.40
800	AM 1.5	57.01	55.59	52.89	52.29	48.82
600	AM 1.5	56.39	54.99	N/A	51.61	48.11
500	AM 1.5	56.00	N/A	N/A	N/A	N/A
400	AM 1.5	55.49	54.18	N/A	50.69	N/A
200	AM 1.5	54.08	52.68	N/A	N/A	N/A
100	AM 1.5	52.69	51.18	N/A	N/A	N/A

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Analyst



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Table 5.4: Vmp [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	46.29	N/A	42.81	39.29
1000	AM 1.5	47.79	46.37	N/A	42.93	39.41
800	AM 1.5	47.88	46.52	43.62	42.91	39.39
600	AM 1.5	47.92	46.52	N/A	42.88	39.29
500	AM 1.5	47.80	N/A	N/A	N/A	N/A
400	AM 1.5	47.72	46.22	N/A	42.62	N/A
200	AM 1.5	46.90	45.42	N/A	N/A	N/A
100	AM 1.5	45.81	44.32	N/A	N/A	N/A

Table 5.5: Imp [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	15.200	N/A	15.231	15.260
1000	AM 1.5	13.789	13.819	N/A	13.842	13.880
800	AM 1.5	11.039	11.041	11.091	11.099	11.109
600	AM 1.5	8.292	8.302	N/A	8.319	8.339
500	AM 1.5	6.912	N/A	N/A	N/A	N/A
400	AM 1.5	5.521	5.541	N/A	5.552	N/A
200	AM 1.5	2.762	2.761	N/A	N/A	N/A
100	AM 1.5	1.381	1.381	N/A	N/A	N/A

Table 6: Summary of reference power conditions (at AM 1,5)

Irradiance [W/m ²]	Temp. [°C]	Pmp [W]	Isc [A]	Voc [V]	Imp [A]	Vmp [V]	FF [%]
1000	25	640.84	14.512	56.12	13.819	46.37	78.69
800	NOCT	483.93	11.709	52.89	11.091	43.62	78.14
200	25	125.41	2.898	52.68	2.761	45.42	82.13
1000	75	546.87	14.839	49.40	13.880	39.41	74.60
500	15	330.38	7.220	56.00	6.912	47.80	81.72

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TEST REPORT NO.: URS/LAB/02/RID/25-26/2915

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ULR: ULR-TC646825100014710F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY: Noida

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	640.18	14.507	56.09	13.720	46.66	78.67
2	640.22	14.507	56.10	13.721	46.66	78.67
3	640.31	14.508	56.09	13.720	46.67	78.69
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	640.18	640W(-/+2%)	P
2	640.22		P
3	640.31		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	0.0452	-0.2508	-0.2908
2	0.0458	-0.2510	-0.2911
3	0.0454	-0.2504	-0.2916
Average	0.0455	-0.2507	-0.2912
Supplementary information: Nil.			

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TC-6468

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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/1653
Temperature data logger	URS/LAB/Lab/925
Solar PV Array	URS/TEE/LAB/633

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TC-6468

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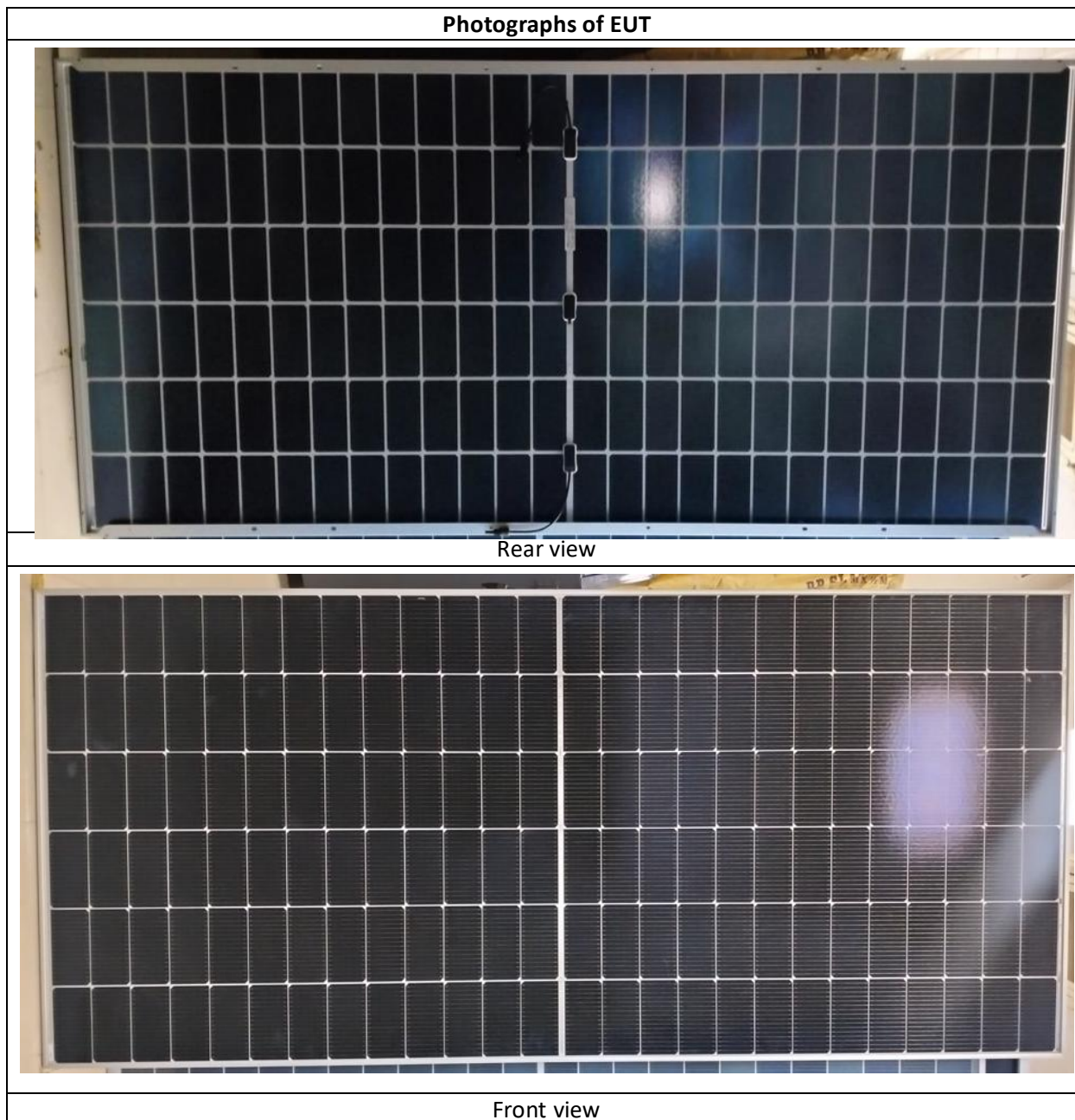
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ANNEX 2: Photographs of EUT



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ANNEX-3:BOM Details

A1.1	MODULE TYPE/S	
	Model Tested: IBMPH-640	
	<u>Series Models:</u> 156 Half cut cell family IBMPH-635, IBMPH-630, IBMPH-625, IBMPH-620, IBMPH-615, IBMPH-610, IBMPH-605 144 Half cut cell family IBMPH-600, IBMPH-595, IBMPH-590, IBMPH-585, IBMPH-580, IBMPH-575, IBMPH-570, IBMPH-565, IBMPH-560, IBMPH-555, IBMPH-550, IBMPH-545, IBMPH-540, IBMPH-535, IBMPH-530, IBMPH-525, IBMPH-520, IBMPH-515, IBMPH-510, IBMPH-505. 132 Half cut cell family IBMPH-500, IBMPH-495, IBMPH-490, IBMPH-485, IBMPH-480, IBMPH-475, IBMPH-470, IBMPH-465, IBMPH-460 120 Half cut cell family IBMPH-455, IBMPH-450, IBMPH-445, IBMPH-440, IBMPH-435, IBMPH-430, IBMPH-425, IBMPH-420, IBMPH-415 108 Half cut cell family IBMPH-410, IBMPH-405, IBMPH-400, IBMPH-395, IBMPH-390, IBMPH-385, IBMPH-380.	
A1.2	MODULE DESIGN –DIMENSIONS	
	Module dimensions (L x W x H) [mm].....:	2466 x 1135x 35 for 156 cell family 2278 x 1134 x 35 for 144 cell family 2094 x1134 x 35 for 132 cell family 1908 x1134 x 35 for 120 cell family 1723 x1134 x 35 for 108 cell family
A1.3	SOLAR CELL	
	Cell type reference.....:	Primary: TN182A-R16D1, Monocrystalline Bifacial TOPCon Cell, Manufactured by: Solar N Plus New Energy Technology Co., Ltd
	Cell dimensions L x W x T (± %) [mm].....:	Primary: 182mmx91mm (±0.5mm)
	Cell thickness [μm].....:	Primary: 130μm (±13μm)
	Cell area [cm ²].....:	Primary: 165.62
A1.4	IDENTIFICATION OF MATERIALS	
	Front cover.....:	Primary: Low Iron Solar AR Coated Patterned Glass; Thickness: 2.0mm ± 0.2mm, Manufactured by: Borosil Renewables Limited Alternative: Low Iron Solar Anti-Reflective Coated Patterned Glass), Thickness: 2.0 mm ± 0.2 mm, Manufactured by: Triveni Renewables Pvt. Limited <i>Alternate Front cover having same strengthening process and same surface treatment and same material all technical details are same as the main model, only change in manufacturer name as per declared by manufacturer .</i>

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	Rear cover.....:	Primary: Low Iron Solar AR Coated Patterned Glass; Thickness: 2.0mm $\pm$ 0.2mm; Manufactured by: Borosil Renewables Limited. Alternative: Low Iron Solar Anti-Reflective Coated Patterned Glass, Thickness: 2.0 mm $\pm$ 0.2 mm, Manufactured by: Triveni Renewables Pvt. Limited Alternate Rear cover having same strengthening process and same surface treatment and same material all technical details are same as the main model, only change in manufacturer name as per declared by manufacturer
	Encapsulation material.....:	Primary: CONSERV P - 14 FC, Thickness: 0.45 $\pm$ 5%, Width: upto 1240 mm, Manufactured by: Renewsys India Private Limited. Alternative: ALISHAN FC, Manufactured by: Alishan Green Energy Pvt. Ltd Alternate Encapsulation material having same technical details as per declared by Manufacturer.
	Frame parts.....:	Primary: 6005 T6, Cross section: 35mm x 35 mm; Manufactured by Perfect Alex Pvt. Ltd. Alternative: DV-A-700, Cross section: 35mm x 35 mmManufactured by: Jiangsu Yuejia Metallic Technology Co.Ltd Alternate Frame having same technical details only change in manufacturer name as per declared by manufacturer
	Mounting parts.....:	as per installation manual
	Adhesive for frame.....:	Primary: 1527 Silicone Sealant For PV Modules, White colour; Manufactured by Tonsan Adhesive, Inc. Alternative: Manufactured by: Shanghai Huitian new material Co., Ltd Alternate Adhesives having same technical details only change in manufacturer name as per declared by manufacturer
	Cell connector.....:	Primary: Type: TPVIR2660, Sn60%/Pb40%, Dimensions [mm]: 0.26 mm; Manufactured by: VALEO PRODUCTS LLP Alternative: Manufactured by: VIDYA WIRES PVT LTD. Alternate cell connector having same technical details only change in manufacturer name as per declared by manufacturer.

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	String connector.....:	Primary: Type: TPV1603580, Sn60%/Pb40%, Dimensions [mm]: 6x 0.35mm Manufactured by: Valeo Products LLP Alternative: Manufactured by: VIDYA WIRES PVT LTD. <i>Alternate string connector having same technical details only change in manufacturer name as per declared by manufacturer.</i>
	Fluxing agent.....:	Primary: 952-S, Low-Solids, No-Clean Liquid Flux, Manufactured by Kester
	Junction box.....:	Primary: GXSB-01, Rated voltage: 1.5KVDC, Rated Current: 45A, IP68, Ambient Temperature: -40°C to +85°C, Manufactured by GENX PV INDIA PRIVATE LIMITED. Certified by TUV SUD; certificate no.: B1157770002
	Cable	Primary: 1X4mm ² , Electric Cables for Photovoltaic Systems for Rated Voltage 1500V d.c., for sizes upto and including 400 Sqmm, Conductor Class-5, Manufactured by APAR INDUSTRIES LTD (CM/L- 7100058704).
	Connector.....:	Primary: 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.....:	Primary: MK6045, Tj [°C]: -55 to +200°C, V _{RMS} : 45 V; I _{FSM} : 450A; RθJC:1.2°C/W, VDC 45V, Manufactured by Genx Pv India Private Limited.
	Potting material.....:	Primary: 1521 Potting Materials, White colour; Manufactured by Tonsan Adhesive Inc. Alternative: Manufactured by: Shanghai Huitian new material Co., Ltd <i>Alternate Potting material having same technical details only change in manufacturer name as per declared by manufacturer</i>
	Adhesive for junction box.....:	Primary: 1527 Silicone Sealant For PV Modules, White colour; Manufactured by Tonsan Adhesive, Inc. Alternative: Manufactured by: Shanghai Huitian new material Co., Ltd <i>Alternate Adhesives having same technical details only change in manufacturer name as per declared by manufacturer</i>
	Soldering Material.....:	Primary: Alpha Telecore HF-850, Manufactured by: ALPHA Global
	Additional material (e. g. insulation tape)....:	N/A

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A1.5	MODULE DESIGN - MINIMUM DISTANCES	
	Between cells.....:	1.4 mm
	Between cell and edge of laminate.....:	17 mm
	Between any current carrying part and edge of laminate....:	15 mm

A1.6	MODULE DESIGN - ELECTRICAL CONFIGURATION	
	Total number of cells.....:	156 for 156 cell family 144 for 144 cell family 132 for 132 cell family 120 for 120 cell family 108 for 108 cell family
	Serial-parallel connection of cells.....:	78 cells in series and parallel connection:2 72 cells in series and parallel connection:2 66 cells in series and parallel connection:2 60 cells in series and parallel connection:2 54 cells in series and parallel connection:2
	Cells per bypass diode.....:	52 for 156 cell family 48 for 144 cell family 44 for 132 cell family 40 for 120 cell family 36 for 108 cell family
	No. of bypass diodes.....:	3

Note: Bill of material are same for all series family models.

--END OF TEST REPORT--

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