

Government of India
Ministry of Communications and Information Technology
Department of Information Technology, Standardisation Testing & Quality Certification Directorate
ELECTRONICS REGIONAL TEST LABORATORY (EAST)

TEST REPORT ON SOLAR PHOTOVOLTAIC MODULE

PAGE 01 OF 4

1.0 SCOPE

- 1.1 Service Request No.** : TE/0109/06-11
- 1.2 Test Report No.** : ERTL(E)/TES/P293/0108/06-11
Date : 26/07/2011
- 1.3 Requested by** : **PHOTONIX SOLAR PVT. LTD**
(Name & Address : 38/1,SAHAKAR VRIND SOCIET
of the organisation) Y,PAUD ROAD,KOTHRUD
PUNE 411038
MAHARASTRA

- 1.4 Description , Identification of the item to be tested**
- | | | |
|--------|---|---------------------------|
| Item | : | SOLAR PHOTOVOLTAIC MODULE |
| Make | : | PHOTONIX |
| Model | : | PNX-74 |
| Sl.No. | : | PNX157975201106 |
| Qty. | : | 1 |

1.4.1 Applicable Spec.of the item(s) tested:

- 1.4.1 Characterisation and condition of the item**
- | | | |
|------------------|---|------------------|
| Characterisation | : | Not applicable / |
| Condition | : | Satisfactory / |

- 1.5 Date of item receipt of item** : 29/06/2011
- 1.6 Date of completion of testing** : 26/07/2011
- 1.7 Location where testing performed** : In house
- 1.8 Ambient condition during measurement** : 25 +/- 1.5°C
70% RH. Max.
- 1.9 Spec. used for testing** : AS PER MNRE SPECIFICATION
- 1.9.1 Details of non-standard method followed (if any)** : NIL



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TEST REPORT NO.	: ERTL (E) / TES / P 293 / 0108 / 06 - 11		
TEST REPORT ON	: SOLAR PHOTOVOLTAIC MODULE		
MAKE	: PHOTONIX SOLAR PVT LTD	TEST ENGR.	DATE
MODEL / TYPE	: PNX-74		
SERIAL NO.	: PNX157975201106		
JOB NO.	: 0108 / TE / 06 - 11	<i>A. Birwa</i>	26-Jul-11

TEST RESULTS :

TEST NO.	TEST OR ENVIRONMENT	CLAUSE NO.	QUANTITY		SPECIFICATION LIMIT	TEST RESULT	REMARKS
			TESTED	FAILED			
1	Power output (Wp) under Standard Test Condition (STC)		1	-	Not Specified	76.987 W	
2	Open circuit voltage (Voc)		1	-	Not Specified	22.038 V	
3	Peak voltage (V pk)		1	-	Not Specified	17.743 V	
4	Short circuit current (Isc)		1	-	Not Specified	4.678 A	
5	Peak current (I pk)		1	-	Not Specified	4.339 A	
6	Fill Factor		1	-	Not Specified	74.7%	

A. Birwa

Tested by :
(Test. Engr.)

KB
 Checked by
 K.B Chowdhury
 Scientist 'E'
 (OIC Lab.)

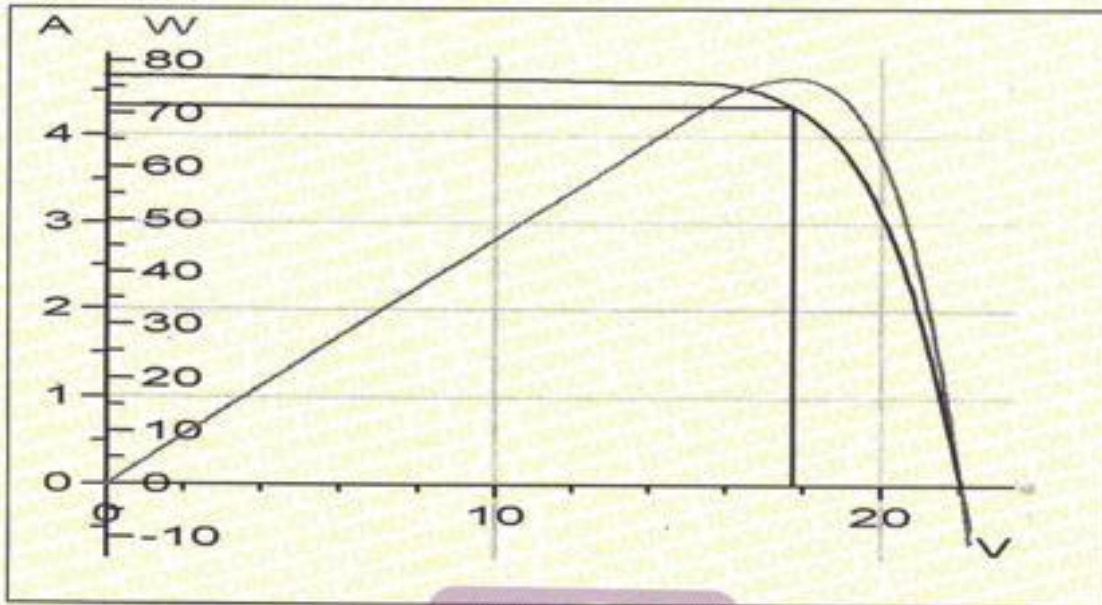
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ELECTRONICS REGIONAL TEST LABORATORY (EAST)

TE/0109/06-11,

J-108

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Panel :
 Type :
 Panel no :
 Serial no :
 Date :
 Mon. cell :
 Sensitivity :
 Act. Temp. :
 Result :

STQC
 PHOTONIX
 74W, Mod. PNX-74
 PNX157975201106
 19-07-11
 Poly+Th+filter - 10-0656-01
 0.000077 mV
 29.0 °C
 16

Temp. = 25.0 °C
 Irrad. = 1.0 kW/m²
 Isc = 4.678 A
 Voc = 22.038 V
 Eff. = 16.2 %
 FF = 74.7 %
 MPP = 76.987 W
 V@MPP = 17.743 V
 I@MPP = 4.339 A
 Rser. = 0.5 Ohm
 Rsht = 321.5 Ohm
 Ref Voltage 16.4 V
 I Ref Voltage 4.564 A
 P Ref Voltage 74.843 W

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[Signature]

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TEST REPORT ON : SOLAR PHOTOVOLTAIC MODULE

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Test Report No. : ERTL(E)/TES/P293/0108/06-11
 Date : 26/07/2011

3.0 Major Equipment used

EQPT_NO	NAME	MAKE	MODEL	CAL. VALID UPTO
1482	SUN SIMULATOR	PASAN	3C	23/11/2011

4.0 Remarks (if any)

NIL




 RELEASED BY
 (signature & date) 28.7.11
SONALI JANA
 Scientist - C
 Electronics Regional Test Laboratory (East)
 STQC Directorate, Deptt. of Info. Technology
 Ministry of Comm. & Info. Technology
 Government of India
 Kolkata-700 091

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ELECTRONICS REGIONAL TEST LABORATORY (EAST)

TEST REPORT ON SOLAR PHOTOVOLTAIC MODULE

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1.0 SCOPE

1.1 Service Request No. : TE/0109/06-11
 1.2 Test Report No. : ERTL(E)/TES/P293/0106/06-11
 Date : 26/07/2011

1.3 Requested by : **PHOTONIX SOLAR PVT. LTD**
 (Name & Address : 38/1,SAHAKAR VRIND SOCIET
 of the organisation) Y,PAUD ROAD,KOTHRUD
 PUNE 411038
 MAHARASTRA

1.4 Description , Identification of the item to be tested

Item	:	SOLAR PHOTOVOLTAIC MODULE
Make	:	PHOTONIX
Model	:	PNX-05
Sl.No.	:	PNX159305201106
Qty.	:	1



1.4.1 Applicable Spec.of the item(s) tested:

1.4.1 Characterisation and condition of the item

Characterisation	:	Not applicable /
Condition	:	Satisfactory /

1.5 Date of item receipt of item : 29/06/2011

1.6 Date of completion of testing : 26/07/2011

1.7 Location where testing performed : In house

1.8 Ambient condition during measurement : 25 +/- 1.5°C
 70% RH. Max.

1.9 Spec. used for testing : AS PER MNRE SPECIFICATION

1.9.1 Details of non-standard method followed (if any) : NIL



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TEST REPORT NO.	: ERTL (E) / TES / P 293 / 0106 / 06 - 11		
TEST REPORT ON	: SOLAR PHOTOVOLTAIC MODULE		
MAKE	: PHOTONIX SOLAR PVT LTD	TEST ENGR.	DATE
MODEL / TYPE	: PNX-05		
SERIAL NO.	: PNX159305201106		
JOB NO.	: 0106 / TE / 06 - 11	A. Biswas	26-Jul-11

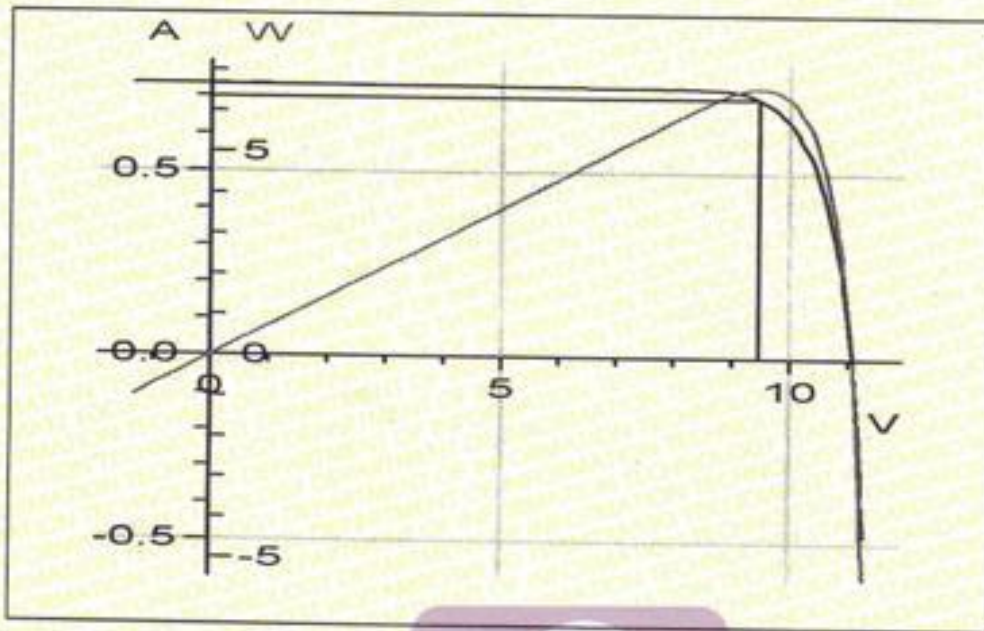
TEST RESULTS :

TEST NO.	TEST OR ENVIRONMENT	CLAUSE NO.	QUANTITY		SPECIFICATION LIMIT	TEST RESULT	REMARKS
			TESTED	FAILED			
1	Power output (Wp) under Standard Test Condition (STC)		1	-	Not Specified	6.625 W	
2	Open circuit voltage (Voc)		1	-	Not Specified	11.075 V	
3	Peak voltage (V pk)		1	-	Not Specified	9.479 V	
4	Short circuit current (Isc)		1	-	Not Specified	0.735 A	
5	Peak current (I pk)		1	-	Not Specified	0.699 A	
6	Fill Factor		1	-	Not Specified	81.4%	

A. Biswas
Tested by :
(Test. Enggr.)

Chowdhury
Checked by
K B Chowdhury
Scientist 'E'
(OIC Lab.)

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ELECTRONICS REGIONAL TEST LABORATORY (EAST)
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Panel :
 Type :
 Panel no :
 Serial no :
 Date :
 Mon. cell :
 Sensitivity :
 Act. Temp. :
 Result :

STQC
 PHOTONIX SOLAR PVT L
 5W
 1
 PNX159305201106
 18-07-11
 Poly+Th+filter - 10-0656-01
 0.000077 mV
 29.3 °C
 16

Temp. = 25.0 °C
 Irrad. = 1.0 kW/m2
 Isc = 0.735 A
 Voc = 11.075 V
 Eff. = 18.1 %
 FF = 81.4 %
 MPP = 6.625 W
 V@MPP = 9.479 V
 I@MPP = 0.699 A
 Rser. = 0.8 Ohm
 Rsht = 1161.6 Ohm
 Ref Voltage 8.2 V
 I Ref Voltage 0.727 A
 P Ref Voltage 5.958 W

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TEST REPORT ON : SOLAR PHOTOVOLTAIC MODULE

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Test Report No. : ERTL(E)/TES/P293/0106/06-11
 Date : 26/07/2011

3.0 Major Equipment used

EQPT_NO	NAME	MAKE	MODEL	CAL. VALID UPTO
1482	SUN SIMULATOR	PASAN	3C	23/11/2011

4.0 Remarks (if any)

NIL



RELEASED BY
 (signature & date)

S. Jana 22.7.11
SONALI JANA
 Scientist 'C'
 Electronics Regional Test Laboratory (East)
 A-100, Block-3, Sector-10, IT Park,
 Ministry of Comm. & Info. Technology
 Government of India
 Kolkata-700 091

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TEST REPORT ON SOLAR PHOTOVOLTAIC MODULE

PAGE 01 OF 4

1.0 SCOPE

- 1.1 Service Request No.** : TE/0109/06-11
- 1.2 Test Report No.** : ERTL(E)/TES/P293/0107/06-11
Date : 26/07/2011
- 1.3 Requested by** : **PHOTONIX SOLAR PVT. LTD**
(Name & Address of the organisation)
38/1,SAHAKAR VRIND SOCIET
Y,PAUD ROAD,KOTHRUD
PUNE 411038
MAHARASTRA

- 1.4 Description , Identification of the item to be tested**
- | | | |
|--------|---|---------------------------|
| Item | : | SOLAR PHOTOVOLTAIC MODULE |
| Make | : | PHOTONIX |
| Model | : | PNX-37 |
| Sl.No. | : | PNX159437201106 |
| Qty. | : | 1 |

**1.4.1 Applicable Spec.of the item(s) tested:**

- 1.4.1 Characterisation and condition of the item**
- | | | |
|------------------|---|------------------|
| Characterisation | : | Not applicable / |
| Condition | : | Satisfactory / |

- 1.5 Date of item receipt of item** : 29/06/2011
- 1.6 Date of completion of testing** : 26/07/2011
- 1.7 Location where testing performed** : In house
- 1.8 Ambient condition during measurement** : 25 +/- 1.5°C
70% RH. Max.
- 1.9 Spec. used for testing** : AS PER MNRE SPECIFICATION
- 1.9.1 Details of non-standard method followed (if any)** : NIL



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TEST REPORT NO.	: ERTL (E) / TES / P 293 / 0107 / 06 - 11		
TEST REPORT ON	: SOLAR PHOTOVOLTAIC MODULE		
MAKE	: PHOTONIX SOLAR PVT LTD	TEST ENGR.	DATE
MODEL / TYPE	: PNX-37		
SERIAL NO.	: PNX159437201106		
JOB NO.	: 0107 / TE / 06 - 11	<i>A. Biswas</i>	26-Jul-11

TEST RESULTS :

TEST NO.	TEST OR ENVIRONMENT	CLAUSE NO.	QUANTITY		SPECIFICATION LIMIT	TEST RESULT	REMARKS
			TESTED	FAILED			
1	Power output (Wp) under Standard Test Condition (STC)		1	-	Not Specified	39.967 W	
2	Open circuit voltage (Voc)		1	-	Not Specified	21.867 V	
3	Peak voltage (V pk)		1	-	Not Specified	18.006 V	
4	Short circuit current (Isc)		1	-	Not Specified	2.398 A	
5	Peak current (I pk)		1	-	Not Specified	2.220 A	
6	Fill Factor		1	-	Not Specified	76.2%	

A. Biswas

Tested by :
(Test. Engr.)

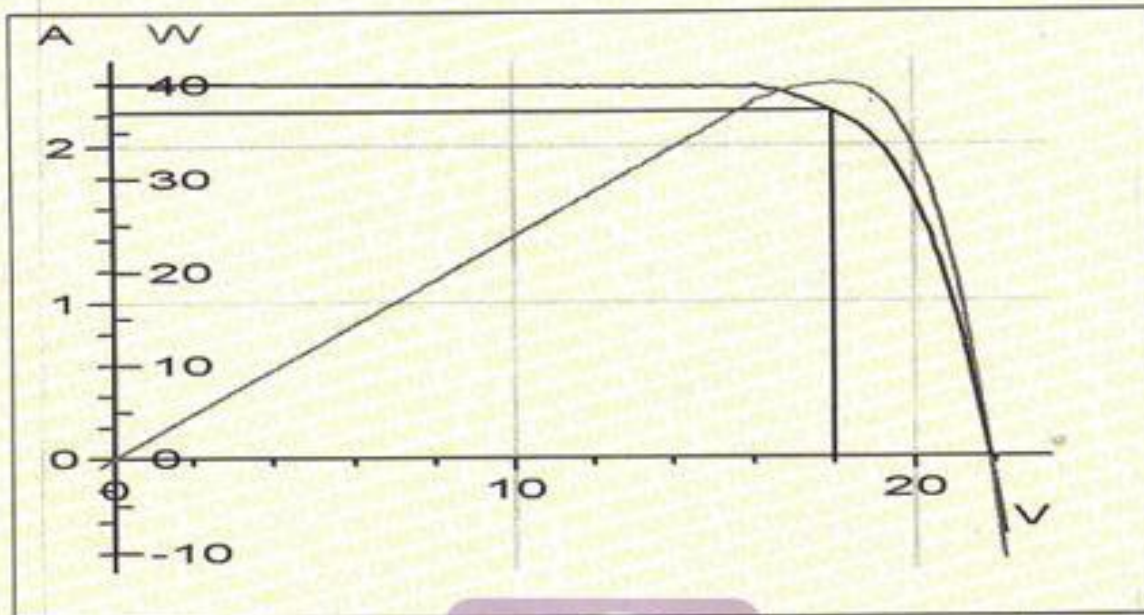
K B Chowdhury
Checked by
K B Chowdhury
Scientist 'E'
(OIC Lab.)

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ELECTRONICS REGIONAL TEST LABORATORY (EAST)

TE/0109/06-11,

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Panel :
 Type :
 Panel no :
 Serial no :
 Date :
 Mon. cell :
 Sensitivity :
 Act. Temp. :
 Result :

STQC
 PHOTONIX SOLAR PVT.
 37W, Model: PNX-37

PNX159437201106

19-07-11

Poly+Th+filter - 10-0656-01

0.000077 mV

28.1 °C

16

Temp. = 25.0 °C
 Irrad. = 1.0 kW/m2
 Isc = 2.398 A
 Voc = 21.867 V
 Eff. = 16.2 %
 FF = 76.2 %
 MPP = 39.967 W
 V@MPP = 18.006 V
 I@MPP = 2.220 A
 Rser. = 0.9 Ohm
 Rsh = 559.7 Ohm
 Ref Voltage 16.4 V
 I Ref Voltage 2.351 A
 P Ref Voltage 38.551 W

Asim Bhowmik

[Signature]

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TEST REPORT ON : SOLAR PHOTOVOLTAIC MODULE

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Test Report No. : ERTL(E)/TES/P293/0107/06-11
 Date : 26/07/2011

3.0 Major Equipment used

EQPT_NO	NAME	MAKE	MODEL	CAL. VALID UPTO
1482	SUN SIMULATOR	PASAN	3C	23/11/2011

4.0 Remarks (if any)

NIL



RELEASED BY
 (signature & date)

Sonali Jana
 28.7.11
SONALI JANA
 Scientist - C

Electronics Regional Test Laboratory (East)
 STQC Directorate, Dept. of Info. Technology
 Ministry of Comm. & Info. Technology
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