

Laboratory Test Instruction

Solar Panel Reflectivity

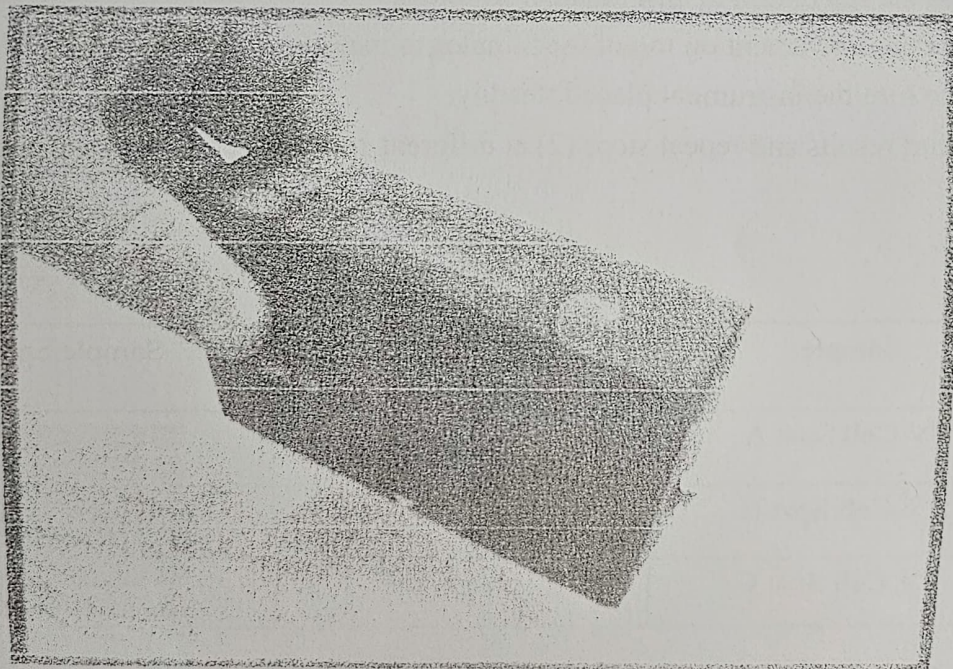
Experiment: Solar panel reflectance level

Location: City University of Hong Kong, School of Data Science Laboratory

Expected Duration: 1 Hour

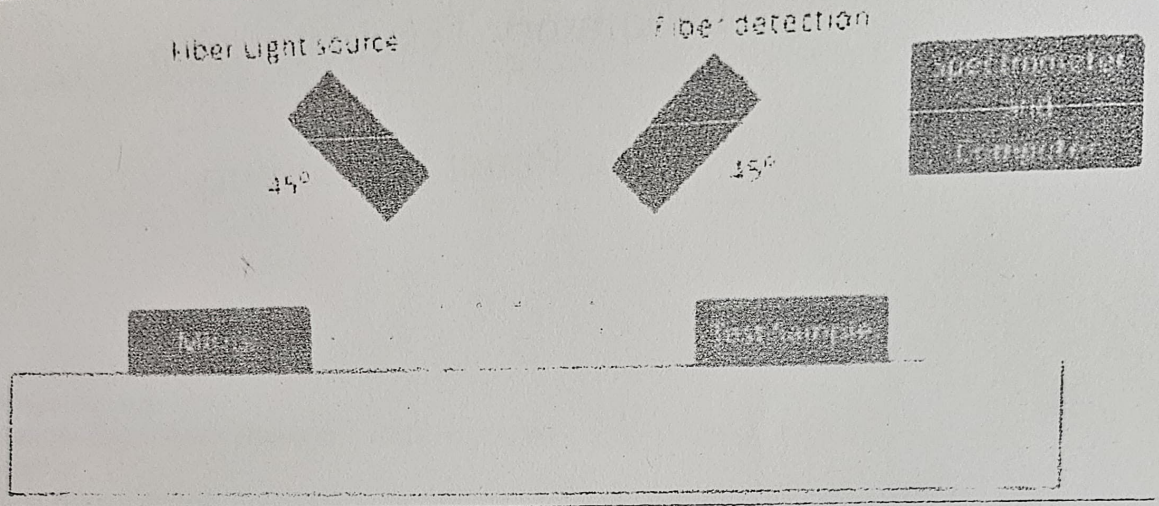
Objective: To measure and investigate reflectance level on solar panel's plane

Apparatus: JFL-R 反射率測定儀



Specification:

1. Reflectance range: 0-100%
2. Accuracy: 1.0%, repeat: 0.2%
3. Operating Power: internally installed battery (4.8v) and charger
4. Dimension: 114x35x65 mm³
5. Emission condition: 0/45



Instrument Operating Conditions:

1. Ambient temperature: 0-40
2. Relative humidity: <85%

Experimental Procedures

1. Press the red button to turn on the instrument.
2. Place the instrument on top of the samples to measure the reflectance level and make sure the instrument placed steadily.
3. Record results and repeat steps (2) at different spot of testing sample 1 and 2.

Results

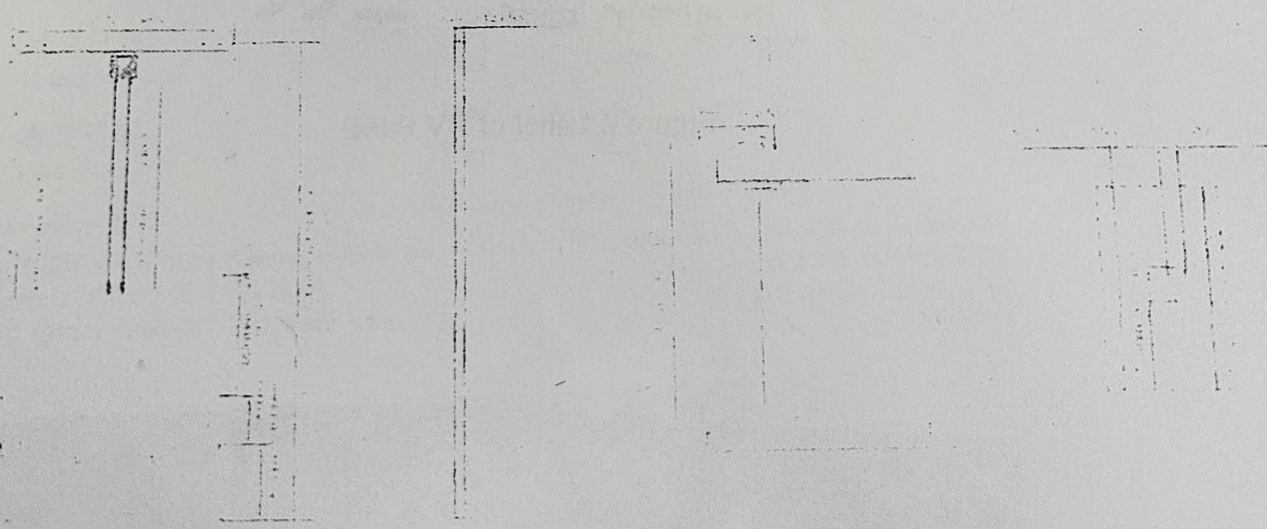
Sample	Average Reflectivity	Sample Spot
PV Cell Spat A	0.6	
PV Cell Spat B	1.1	
PV Cell Spat C	1.5	

Solar Panel Specification

Description

Service Item	PV Module
Brand Name	ASTRONERGY
Model No	CHSM6612M-365
Rated Output	365Wp
Rated Voltage	39.38 V
Rated Current	9.27 V
Open Circuit Voltage	47.82 V
Short Circuit Voltage	9.75 V
Module Efficiency	18.9%
Maximum System Voltage	1000V DC or 1500V DC
Number of Diodes	3
Junction box IP Rating	IP67
Maximum Series Fuse Rating	15 A
Outer Dimensions (L x W x H)	1954 x 990 x 40 mm
Frame Technology	Aluminum
Module Composition	Glass / EVA / Backsheet (White)
Front glass thickness	3.2 mm
Cable Length	1150 mm
Maximum Mechanical Test Load	6000 Pa
Fire Performance	Class C (IEC) or Type (UL)
Connector Type	MC4 Compatible
Weight	21.8 kg

Module Dimension Details.



Appendix 2
Photos of module

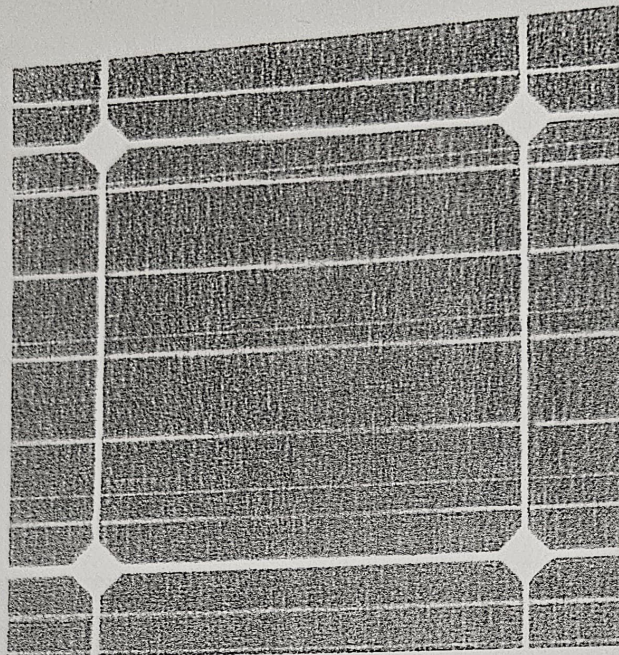


Figure 1 Cell Close up

Photovoltaic Module

Module Name	AGTRON 150W
Maximum Power	150.0W
Open Circuit Voltage(V _{oc})	41.50V
Short Circuit Current(I _{sc})	3.75A
Voltage at Maximum Power	35.50V
Current at Maximum Power	4.23A
Use Rating	1SA
Maximum System Voltage	DC1500V
Power Temperature	0°C~45°C
Standard Operating Cell Temp(25°C)	25°C
Cell Technology	Monocr. Si
Temp rating	Class 0
Module Application Class A	Module Safety Class 0 (E)

All technical data at standard test condition (STC) (1000W/m², 25°C)

Warning

Some modules generate electricity all the time as they are exposed to light.
The module can be used as a source of energy with a low and constant voltage.
Module is connected in parallel during the installation of panels.
To prevent the current flow, please disconnect the circuit.

Company Name: CHINT SOLAR ZHEJIANG Co., Ltd.
Add: 1525 Zhong Rd, Ningbo City, Zhejiang Province, Hangzhou 311123, China
Tel: +86-571-86031608
Tel: +86-571-86031600
Http: www.chintenergy.com
Made in China



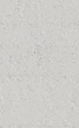






Figure 2 Label of PV Panel



山东省计量科学研究院
Shandong Institute of Metrology

第 1 页 共 1 页
Page 1 of 1

检定证书

Verification certificate

证书编号: C18-20161406
Certificate No.

送检单位: 天津市金孚伦科技有限公司
Applicant

计量器具名称: 白板 (反射率)
Name of instrument

型号/规格: /
Type/Specification

出厂编号: /
Serial No.

制造单位: /
Manufacturer

检定依据: JJG453-2002 标准色板检定规程
Verification Regulation

检定结论: 合格
Conclusion

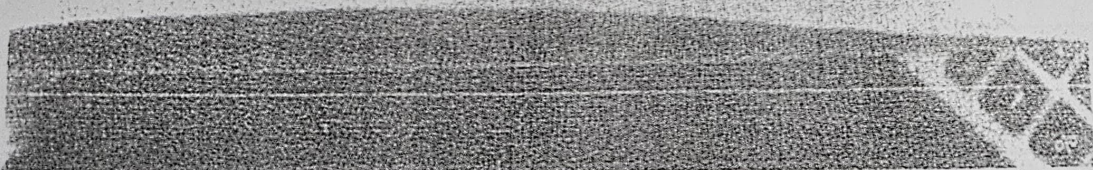
检定专用章
(Stamp)

批准人: [Signature]
Approved by
核验员: [Signature]
Checked by
检定员: [Signature]
Verified by

检定日期: 2016 年 10 月 08 日
Date of verification Year Month Day

有效期至: 2017 年 10 月 07 日
Valid until Year Month Day

本机构的检测证书符合 Authorization Certificate No. 11 (国家计量 [2012] 401024 号) 的要求 (Tel: 0531-8266506)
地址: 济南市经二路 28 号 邮编: (Post Code) 250011
fax: 0531-8266506 网址: www.sdime.com.cn 组织机构代码: 391001104000000001



LETTER OF WITNESSING TEST VERIFICATION

Participant: Dr. ZHANG Zijun (張子鈞博士)

Date of Test: 29/3

Location: City University of Hong Kong, Data Analysis and Computational Intelligence Laboratory

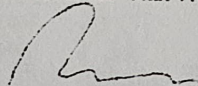
Witnessing Test: Solar panel reflectance level

Test Results: The reflectivity level of the selected solar panel module is smaller than 5%

Reviewed & approved by:

Dr. ZHANG Zijun

PRINTED NAME OF REPRESENTATIVE



SIGNATURE OF REPRESENTATIVE

29/3

DATE