TEST REPORT

Report No.: HY202011015(1)

Application	:	Shenzhen SOFARSOLAR Co., Ltd
Address	:	401, Building 4, AnTongDa Industrial Park, District 68, XingDong Community, XinAn Street, BaoAn District, Shenzhen, China
Specimen Description	:	Solar Grid-tied Inverter
Model/Type	:	SOFAR 24KTLX-G3 (SOFAR 15KTLX-G3, SOFAR 17KTLX-G3, SOFAR 20KTLX-G3, SOFAR 22KTLX-G3)
Quantity	:	1pcs (Actual test model/type: SOFAR 24KTLX-G3)
Serial/Specimen No.	:	PO202011014-1#
Specimen Source	:	Submitted by applicant
Received Date	:	Nov.05, 2020
Processed Date	:	Nov.11, 2020
Test Criteria	:	IEC 60068-2-1:2007, IEC 60068-2-2:2007, IEC 60068-2-14:2009 IEC 60068-2-30:2005

Tested:	Lam Wan Fung	Date:	Nov.12,2020
Checked:	Eleven Wang	Date:	Nov.12,2020
Approved:	July Liu	Date:	Nov.12, 2020

Test laboratory: Shenzhen Huayan Testing technology Co., Ltd.
Address:101, Factory Building 10, Rongcheng Research Town, Xinfeng 1st Road, Yangguang Community, Xili Street, Nanshan District, Shenzhen. Tel:0086-0755-23227536 Web: http://www.huayantesting.com/

CONTENTS

1、SUMMARY

Table 1 Test overview

Test Items	Test Status	Serial/Specimen NO.	Test Conclusion	Processed Date
Low temperature test	Unpackaged, non-operating	PO202011014-1#	Pass	Nov.05, 2020~ Nov.06, 2020
Dry heat test	Unpackaged, non-operating	PO202011014-1#	Pass	Nov.06, 2020~ Nov.07, 2020
Temperature change Test	Unpackaged, non-operating	PO202011014-1#	Pass	Nov.07, 2020~ Nov.08, 2020
Cyclic damp heat test	Unpackaged, non-operating	PO202011014-1#	Pass	Nov.09, 2020~ Nov.11, 2020

2、DECLACATION OF SPECIMEN

The model/type under test was SOFAR 24KTLX-G3, but there was no great difference between SOFAR 24KTLX-G3 and SOFAR 15KTLX-G3, SOFAR 17KTLX-G3, SOFAR 20KTLX-G3, SOFAR 22KTLX-G3 except number of components used, refer to table 2 shown as below for more information.

Table 2 Difference between each model/type

Item	SOFAR 15KTLX-G3	SOFAR 17KTLX-G3	SOFAR 20KTLX-G3	SOFAR 22KTLX-G3	SOFAR 24KTLX-G3
BUS film capacitor	4pcs 110μF/550v	6pcs 110μF/550v			
Inverter IGBT	6pcs 40A /1200V	6pcs 75A /1200V			
Number of fans	1pcs		2pcs		

3、AMBIENT CONDITION

Ambient Temperature（℃）: 25~28

Relative Humidity（%）: 73~75

Atmospheric Pressure（kPa）:100~101

4、INITIAL TEST

Before the test, the specimen exhibited no appearance and structure damage

（Refer to appendix A No.1~ No.4）

5、LOW TEMPERATURE TEST

5.1 Test requirement

Test criteria: IEC 60068-2-1:2007

Specimen No.: PO202011014-1#

Specimen status: Unpackaged, non-operating

Temperature: (-25±2)℃

Rate of temperature change: 1℃/min

Test duration: 16h

Recovery duration: 2h

5.2 Acceptance Criteria

After the test, the specimen should exhibit no appearance or structure damage.

5.3 Test Results

After the test, the specimen exhibited no appearance and structure damage. (Refer to appendix A No.5~ No.9 and appendix B No.10)

5.4 Test Conclusion

Pass

6、DRY HEAT TEST

6.1 Test requirement

Test criteria：IEC 60068-2-2:2007

Specimen No.: PO202011014-1#

Specimen status: Unpackaged, non-operating

Temperature: (60±2)℃

Rate of temperature change: 1℃/min

Test duration: 16h

Recovery duration: 2h

6.2 Acceptance Criteria

After the test, the specimen should exhibit no appearance or structure damage.

6.3 Test Results

After the test, the specimen exhibited no appearance and structure damage. (Refer to appendix A No.5~ No.9 and appendix B No.11)

6.4 Test Conclusion

Pass

7、TEMPERATURE CHANGE TEST

7.1 Test requirement

Test criteria：IEC 60068-2-14:2009

Specimen No.: PO202011014-1#

Test status: Unpackaged, non-operating

Low temperature: (-25±2)℃

High temperature: (60±2)℃

Dwell time:180min at each temperature extreme

Temperature change rate: 1℃/min

Number of Cycles:2

Test duration:18h

7.2 Acceptance Criteria

After the test, the specimen should exhibit no appearance or structure damage.

7.3 Test Results

After the test, the specimen exhibited no appearance and structure damage. (Refer to appendix A No.5~ No.9 and appendix B No.12)

7.4 Test Conclusion

Pass

8、CYCLIC DAMP HEAT TEST

8.1 Test requirement

Test criteria: IEC 60068-2-30:2005 Db , method 1

Specimen No.: PO202011014-1#

Specimen status: Unpackaged, non-operating

Test procedure: Refer to Table 3

Table 3 Procedure

Step	Description	Temperature (℃)	Relative Humidity (%)	Duration (min)
1	Increase humidity	25±2	97±2	0.5
2	Increase temperature	40±2	97±2	3
3	Dwell	40±2	93±2	9
4	Decrease temperature	25±2	97±2	3
5	Dwell	25±2	97±2	9
6	Decrease humidity	25±2	75±2	1
7	Dwell	25±2	75±2	2

Cycles mode: From step 2 to step 5, Number of cycles: 2

8.2 Acceptance Criteria

After the test, the specimen should exhibit no appearance or structure damage.

8.3 Test Results

After the test, the specimen exhibited no appearance and structure damage.

(Refer to appendix A No.5~ No.9 and appendix B No.13)

8.4 Test Conclusion

Pass

APPENDIX A TEST PHOTO

No.1 Inspection before test

No.2 Inspection before test

No.3 Inspection before test

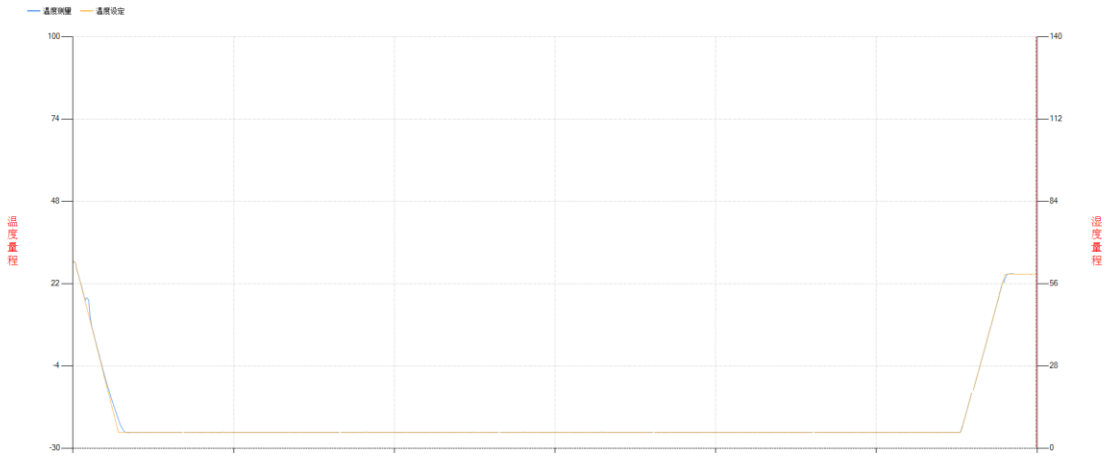
No.4 Inspection before test

No.5 Low temperature, dry heat, temperature change and cyclic damp heat test.

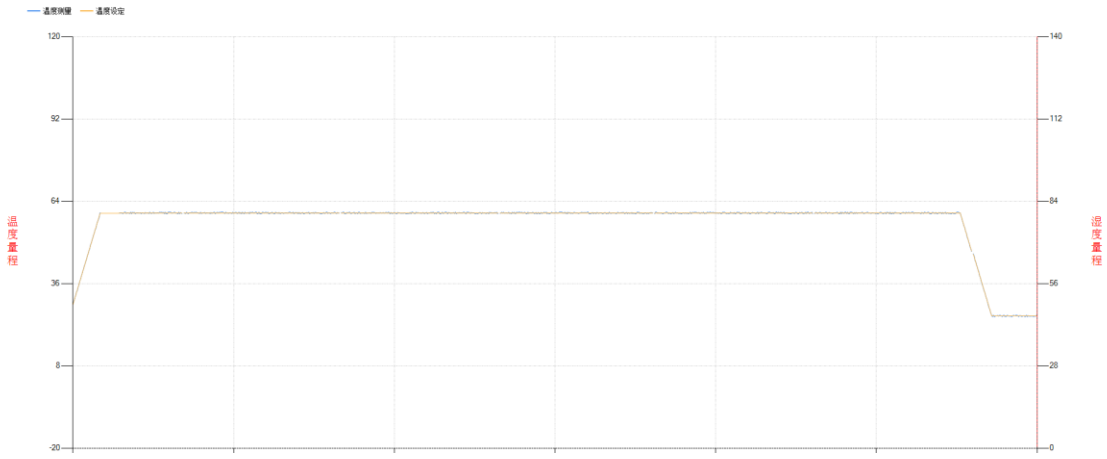
No.6 Inspection after test

 No.7 Inspection after test	 No.8 Inspection after test
 No.9 Inspection after test	N/A

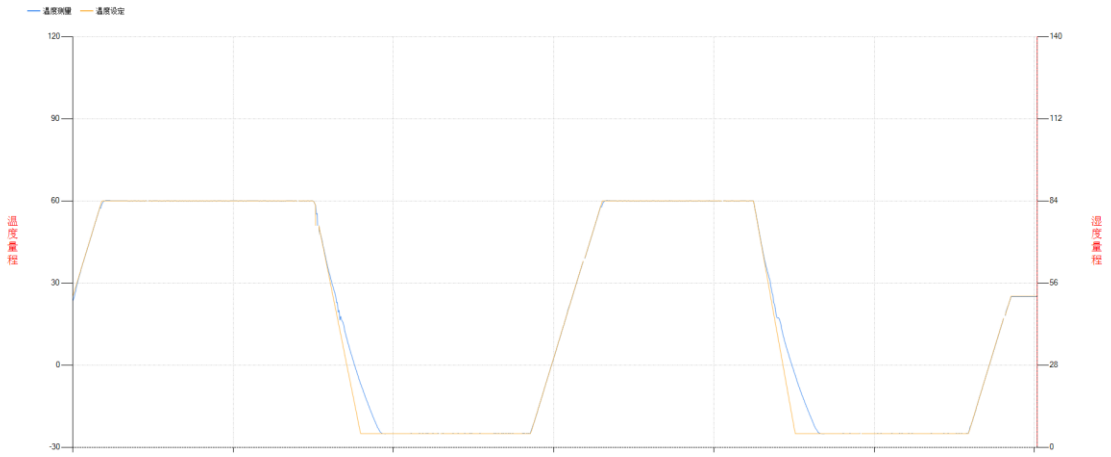
APPENDIX B TEST PROFILE



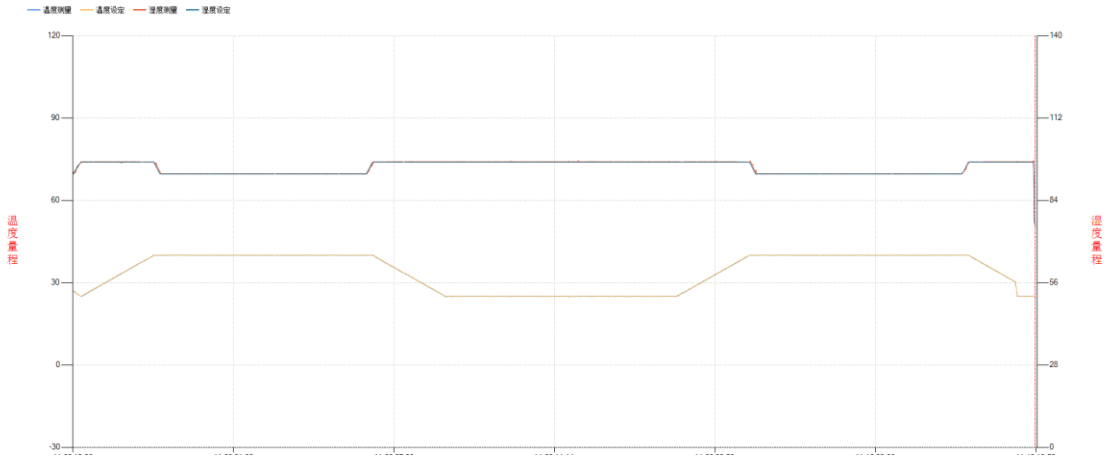
No.10 Low temperature test profile



No.11 Dry heat test profile



No.12 Temperature change Test profile



No.13 Cyclic damp heat test profile

APPENDIX C EQUIPMENT USED FOR TEST

Table 4 Equipment used

No.	Equipment	Equipment No.	Model/Type	Manufacturer	Due to
1	Temperature and humidity test chamber	201900183	SDJ61F	CHONGQING YINHE	Jul.22, 2021

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