AGD-315D V2

Environment Test Report

Report NO: 15P020009

Summary	☑ **Pass** ☐ **Fail** Note : There is/are ___ defect(s) not list in the report, please check it in the DTS Website. ☐ **Pass with Deviation** **Comment: _____**

Issue date	Approval	Test Engineer
2015-05-04	**KJ Wang**	**Rex Chang/Juno**

Test item list

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Testing Result

Num	Test item list	Result	Remark
1	High Temperature operation test	Pass	
2	Temperature variation operation test	Pass	
3	High temperature storage test	Pass	
4	Low temperature storage test	Pass	
5	Humidity test	Pass	
6	Cold start and hot start test	Pass	

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Configuration of EUT

Num	Item	Spec
1.	Rugged Touch Display	AGD-315D V2
	1. LCD	TFT 15".MITSUBISHI. AC150 XA02 1024*768. 18 & 24 Bits 1ch Ivds (450cd/m2)
	2. Touch Screen Control Board	EETI control board (USB/RS232 auto-detect board)
	3. A/D Board	ADG/ACD Series. RGBTECH.F2281L-14
	4. Power Board	PER-P17D Rev. B1.0_0_0
2.	Adapter	FSP120-AAB
3.	Equipment	Embedded motherboard with Intel Atom D2250 /1.86GHz
	1. Main Board	BOXER-6914 A1.0
	2. BIOS Ver.	BOXER-6914 R1.0 (B914AM10)(03/04/2015)
	3. Test Softwar :	Windows XP / Run 3DMark06

System Picture

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High Temperature Operation test

Test Date: 04-29～30-2015

Test Product: AGD-315D V2

Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-2 Testing procedures
Test Bd: Dry Heat Test (Operation)

Test Equipment:

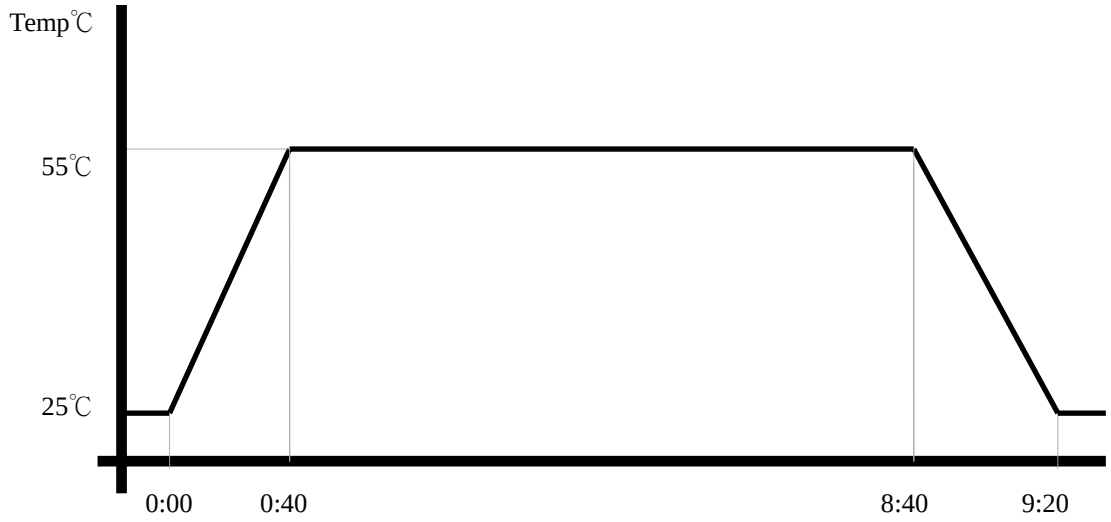
Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-D7S-100+1 N2
Date of Calibration: 10/09/'14
Serial Number: 3898

Temperature Measurement:

40 Channel Thermal Recorder:
YOKOGAWA Inc,
Model: DA100-13-1D
Date of Calibration: 11/09/2014
Serial Number: 12A32319

Testing Item:

1. Test Temperature: 55℃
2. Test Times: 8Hrs
3. Test Software: Windows XP / Run 3DMark06
4. Test Environment Curve:



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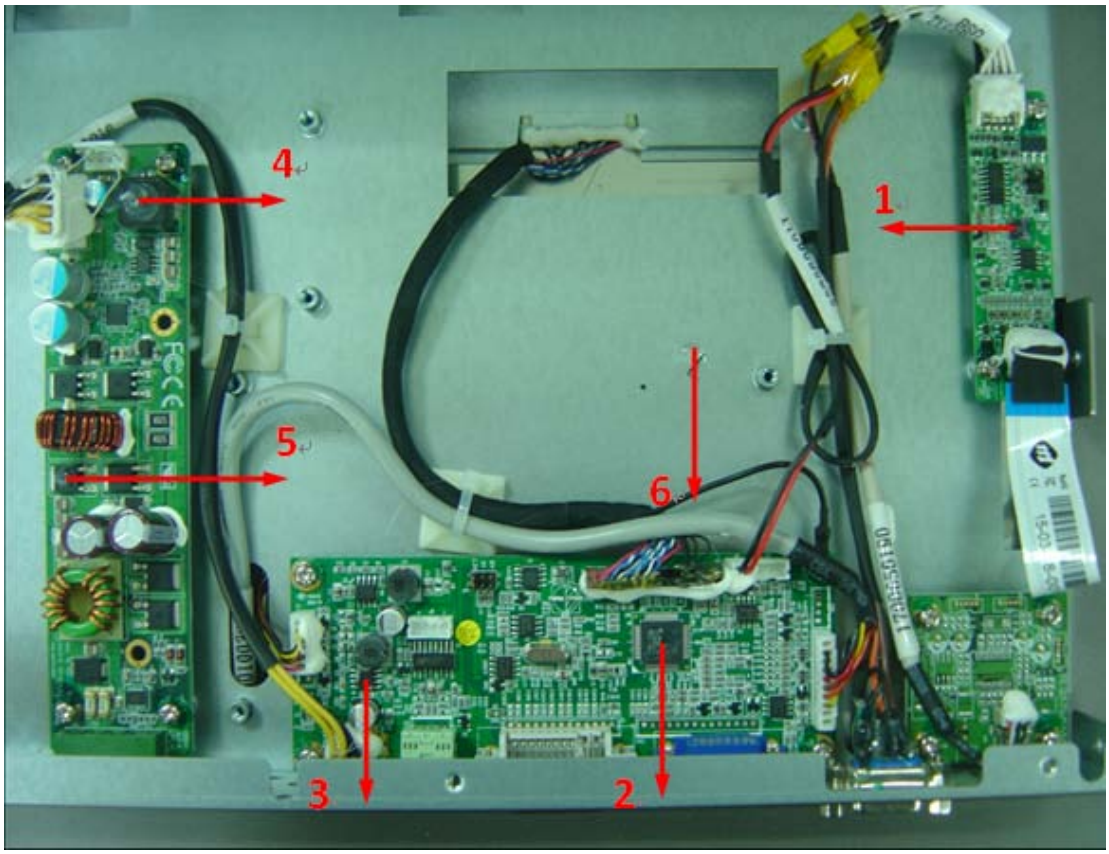
High Temperature Operation test

Measuring Thermal Couple Position：



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High Temperature Operation test

AGD-315D V2 (With 0.5m/sec airflow)

Thermal profile data:

Point \ Temp. Stage(℃)	Spec	55	25
Touch Screen Control Board			
01. U4 – EETI S458XRUP	85	62.1	32.1
F2281L-14 AD Board			
02. U9 - 1920 scaler, RTD2281L	85	77.9	47.9
03. U1 – Eutech Microelectronics EUP3484S Converter	85	67.3	37.3
POWER BORAD .PER-P17D B1_0_0			
04. L1- COIL. SMD.GOTREND.GSDRH-127-P-T-150M	85	62.1	32.1
05. Q5- PWR.SMD.TO-252AA.N-Channel MOSFET.FAIRCHILD.FDD5670	125	64.2	34.1
06. Control Box Inside Air Temperature	N/A	58.4	28.4
07. Control Box External Surface	N/A	56.5	26.5
08. Chamber Air Temperature	N/A	54.8	24.8

Note(*):
1. "Tc" indicates the component's case maximum temperature value specified in its datasheet.
2. "Tm" indicates the measured Tc value under working environmental temperature within product specification.
3. Judgment Criteria:
- **Fail** : Tm > Tc; The measured value is over specification.
- **Margin Pass** : Tc > Tm > Tc-5℃; The measured value is within specification with margin.
  It is strongly recommended to add thermal dissipation design for better reliability.
- **Pass** : Tm < Tc-5℃; The measured value is with safety margin.

4. Defect NO.

Sample Configuration & Quantity Under Test:

Quantity: 1 (AGD-315D V2)

Test Result:

No problem was found during the temperature rise operation test.

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Temperature variation operation test

Test Date: 04-27~29-2015

Test Product: AGD-315D V2

Test Site: AAEON QE Dept.

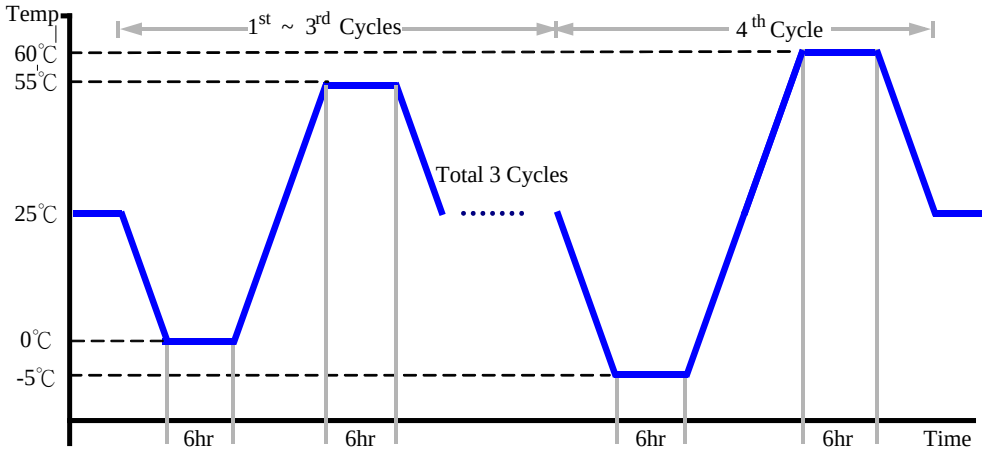
Test Standard: Reference IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 10/09/14
Serial Number: 2582

Test Condition:

1. Test Low Temperature: 0℃ (1~3 cycles)
   -5℃ (4^{th} cycle)
2. Test High Temperature: 55℃ (1~3 cycles)
   60℃ (4^{th} cycle)
3. Test dwell time: 6Hrs
4. Temperature slope: 2℃/min
5. Test cycle: 4 cycles
6. Test Software: Windows XP / Run 3DMark06
7. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (AGD-315D)

Test Result:

No problem was found during the temperature operation cycle test.

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High temperature storage test

Test Date: 04-25~27-2015

Test Product: AGD-315D V2

Test Site: AAEON QE Dept..

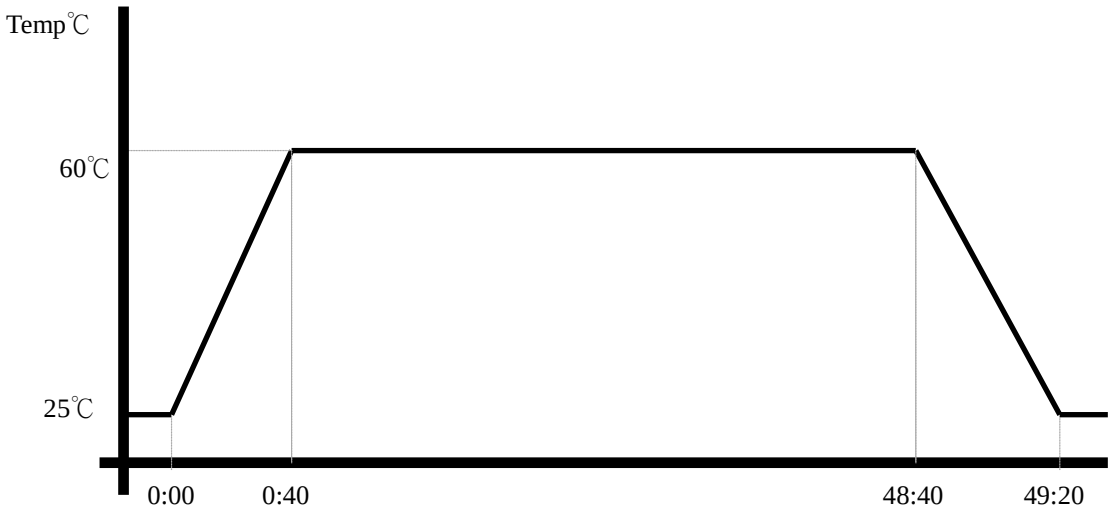
Test Standard: Reference IEC 68-2-2 Testing procedures
Test Bb: Dry Heat Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 10/09/14
Serial Number: 2582

Testing Item:

5. Test Temperature: 60℃
6. Test Times: 48Hrs
7. Test Software: Windows XP / Run 3DMark06
8. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AGD-315D V2)

Test Result:
No problem was found after the high temperature storage test.

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Low temperature storage test

Test Date: 04-23~25-2015

Test Product: AGD-315D V2

Test Site: AAEON QE Internal Lab.

Test Standard: Reference IEC 68-2-1 Testing procedures
Test Ab: Cold Test (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 10/09/14
Serial Number: 2582

Testing Item:

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: Windows XP / Run 3DMark06
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:

Quantity: 1 (AGD-315D V2)

Test Result:

No problem was found after the low temperature storage test.

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Humidity test

Test Date: 04-21~23-2015

Test Product: AGD-315D V2

Test Site: AAEON QE Internal Lab.

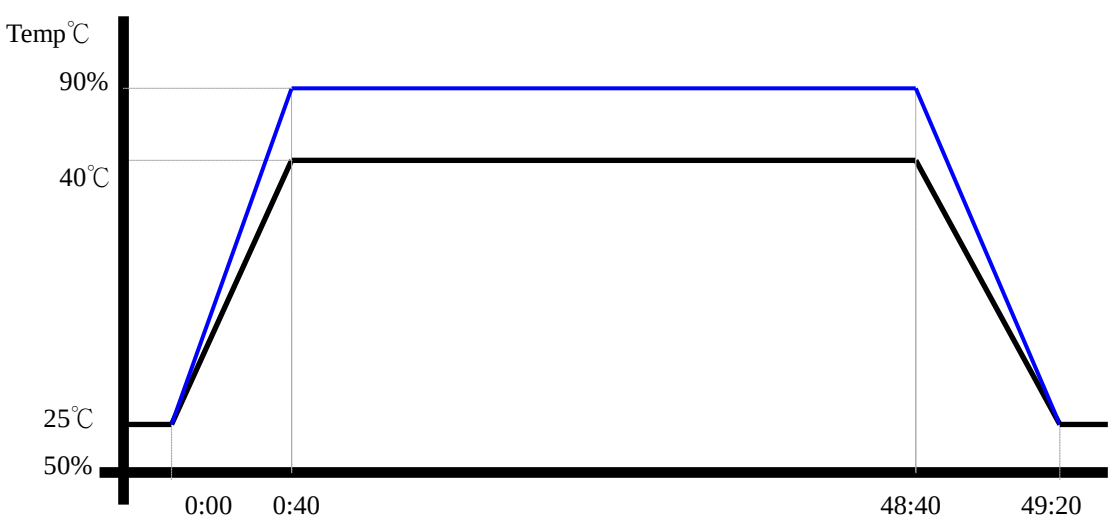
Test Standard: Reference IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 10/09/14
Serial Number: 2582

Testing Item:

1. Test Temperature: 40℃
2. Test Humidity: 90%RH
3. Test Times: 48Hrs
4. Test Software: Windows XP / Run 3DMark06
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AGD-315D V2)

Test Result:
No problem was found after the humidity storage test.

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Cold start and hot start test

Test Date: 04-20~21-2015

Test Product: AGD-315D V2

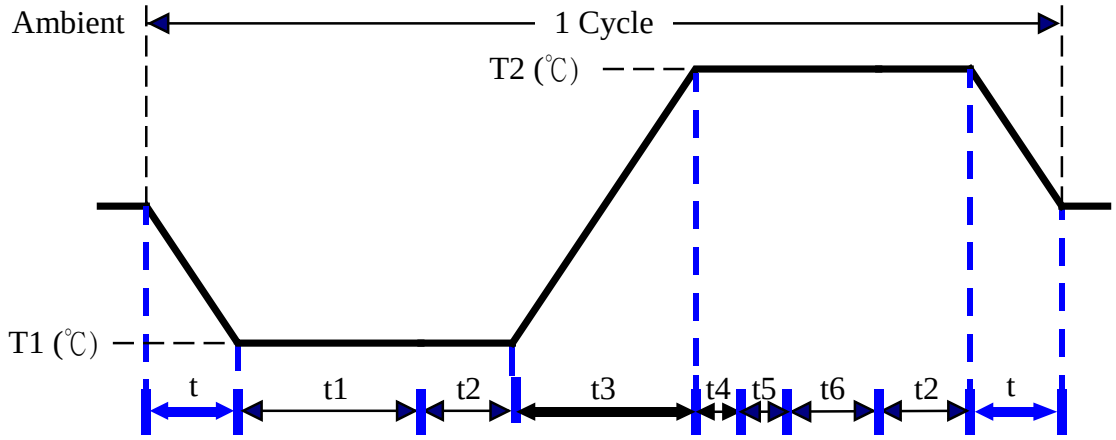
Test Site: AAEON QE Internal Lab.

Test Standard: Reference IEC 68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber
K.SON. INS. TECH. CORP.
Model: THS-D4H+-100
Date of Calibration: 10/09/14
Serial Number: 2582

Test Condition:



Parameters	Description
T1	-5℃
T2	55℃
t1	4 hrs
t2, t6	2 hrs
t4, t5	1hrs
t, t3	2℃/min
n (Cycle)	1

t = temprature slope
t , t1, t6: Power Off
t2: Power on/off test 10 times (on 2 min / off 5min)
t3, t4: 3DMARK’ 06
t5: Windows XP Software restart test 3 times
Test Software: Windows XP

Test Result:

a. No problem was found during the cold start test.

b. No problem was found during the hot start test.

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