AIS-E2-CV1

Environment Test Report

Report NO: 13I020022

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
2013-07-31	**Tom Lin**	**Jerry Chen**

Configuration of EUT

Testing Result

Num	Test item list	Result	Remark
1	Temperature rise test	Pass	
2	Temperature cycle 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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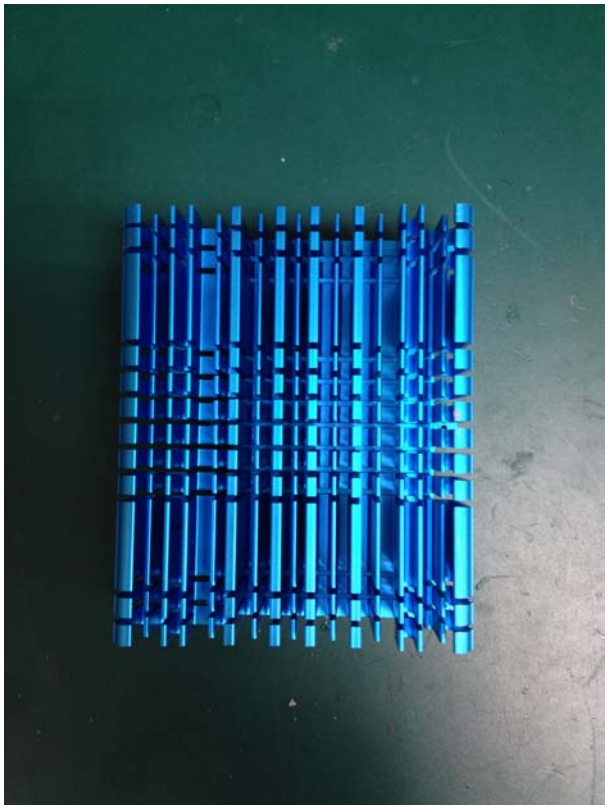
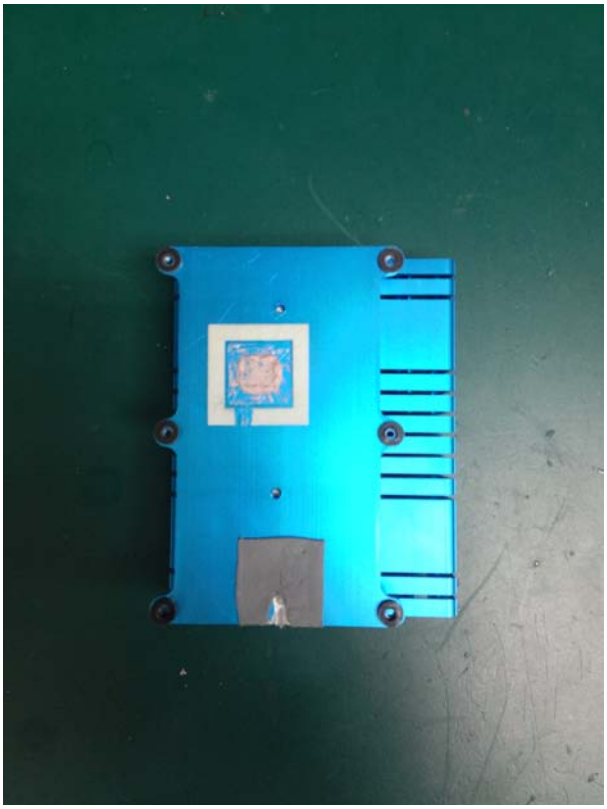
Configuration of EUT

Num	Item	Spec
1.	**Control Box**:	AIS-E2-CV1 A1.0
	1. Main Board	EMB-CV1
	2. BIOS Ver.	EMB-CV1 R1.6 (10/23/2012)
	3. CPU	Intel Atom D2550 B3 Processor / 1.86GHz
	4. Memory	ELPIDA J2108BCSE-DJ-F / DSL DDR3 1066 / 4GB
	5. HDD	TOSHIBA MK1676GSX SATA 2.5 HDD 160GB
	6. Test Software	Windows 7 / Run PassMark Burn In Test 7.0 Pro
2.	**AC Adapter**	FSP. FSP084-DMAA1 Output: 12V; 7.0A (84W MAX)

Heat Sink





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Temperature rise test

Test Date: 07-30-2013

Test Product: AIS-E2-CV1

Test Site: AAEON QE Dept.

Test Standard: Reference EN 61131-2(94), UL508 (94)

Temperature Measurement:

40 Channel Thermal Recorder: (YOKOGAWA Inc,)
Model: DA100-13-1D
Date of Calibration: 10/08/12
Serial Number: 12A323190

Test Condition:

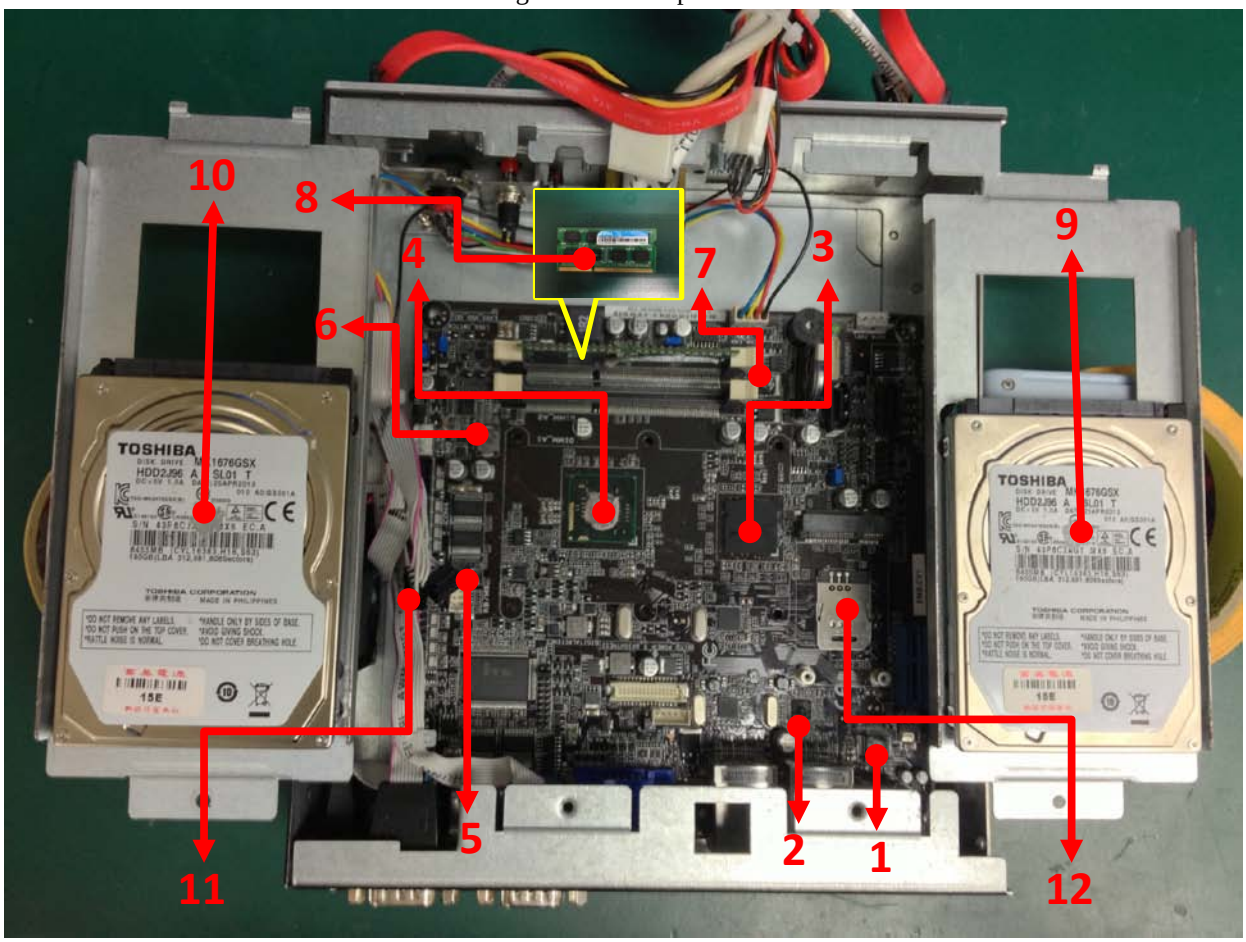
Ambient temperature: 45℃
Continuous running till thermal stability (within less than 1℃)

Test Software:

Windows 7 / Run PassMark Burn In Test 7.0 Pro

Terminal Recorder:

Measuring Thermal Couple Position：



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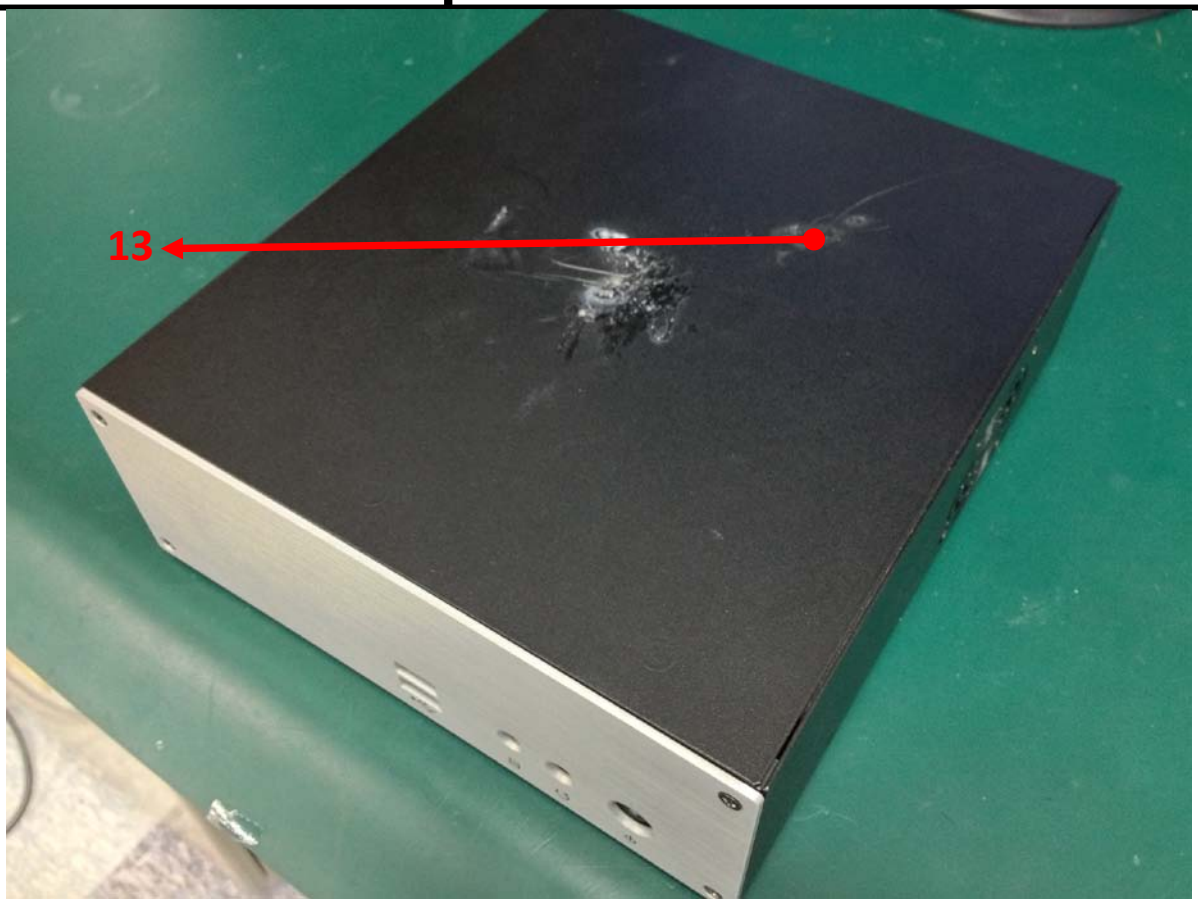
Temperature rise test



AIS-E2-CV1

Point \ Temp. Stage(℃)	Spec	45	25	Note
AIS-E2-CV1				
01. AU1 - C.S VT1708S EUP (CD) LQFP48 VIA TAIWAN/CU-WIRE [HF].SMD	100	65.6	45.6	
02. LU1 - (TF)IC.PCI-express.Gigabit Ethernet.REALTEK.RTL8111E-VL-CG	100	51.6	31.6	
03. SU1 - (TF)IC.SMD.NM10 Express Chipset.INTEL.CG82NM10.SLGXX	115	54.7	34.7	
04. U1 - (TF)INTEL Cedarview CPU.2.13Ghz.D2700	100	65.1	45.1	
05. OU11 - (TF)IC.SMD.SSOP RS232 Driver ESD 15KV.AD.ADM213EARSZ	100	54.5	34.5	
06. PL4 - INDUCTOR 2.2UH/8A CYNTEC/PCMB063T-2R2MS [HE].SMD	125	58.5	38.5	
07. PQ404 - (TF)PWR.SMD.3P.N-Channel MOSFET.NIKO-SEM.P0903BDL	125	62.2	42.2	
08. Memory - Chipset	95	63.3	43.3	
09. HDD-1	63	48.8	28.8	
10. HDD-2	63	50.4	30.4	
11. Control Box Inside Air Temperature – 1	N/A	48.8	28.8	
12. Control Box Inside Air Temperature – 2	N/A	46.7	26.7	
13. Control Box External Surface - 1	N/A	46.2	26.2	
14. Chamber Air Temperature	N/A	45	25	

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:

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Temperature rise test

- **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 (AIS-E2-CV1)

Test Result:

No issues were found during the temperature rise test.

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Temperature cycle operation test

Test Date: 07-19 ~ 22-2013

Test Product: AIS-E2-CV1

Test Site: AAEON QE Dept.

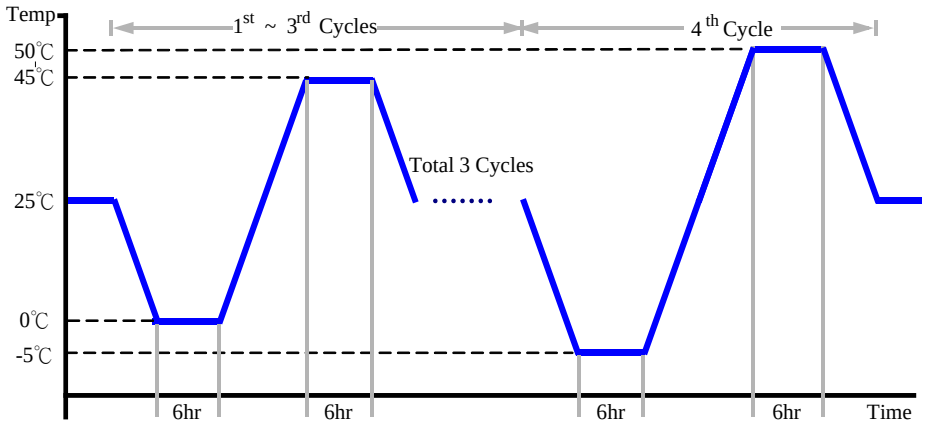
Test Standard: Refer to IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150+LN2
Date of Calibration: 03/07/13
Serial Number: 6487KT

Test Condition:

1. Test Low Temperature: 0℃ (1~3 cycles)
   -5℃ (4^{th} cycle)
2. Test High Temperature: 45℃ (1~3 cycles)
   50℃ (4^{th} cycle)
3. Test dwell time: 6Hrs
4. Temperature slope: 2℃/min
5. Test cycle: 4 cycles
6. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (AIS-E2-CV1)

Test Result:

No issues were found during the temperature operation cycle test.

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High temperature storage test

Test Date: 07-22 ~ 24-2013

Test Product: AIS-E2-CV1

Test Site: AAEON QE Dept.

Test Standard: Refer to 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-B6T-150+LN2
Date of Calibration: 03/07/13
Serial Number: 6487KT

Testing Item:

1. Test Temperature: 60℃
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:

Quantity: 1 (AIS-E2-CV1)

Test Result:

No issues were found after the high temperature storage test.

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Low temperature storage test

Test Date: 07-24~ 26-2013

Test Product: AIS-E2-CV1

Test Site: AAEON QE Dept.

Test Standard: Refer to 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-B6T-150+LN2
Date of Calibration: 03/07/13
Serial Number: 6487KT

Testing Item:

1. Test Temperature: -20℃
2. Test Times: 48Hrs
3. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
4. Test Environment Curve:

Sample Configuration & Quantity Under Test:

Quantity: 1 (AIS-E2-CV1)

Test Result:

No issues were found after the low temperature storage test.

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Humidity test

Test Date: 07-26 ~ 29-2013

Test Product: AIS-E2-CV1

Test Site: AAEON QE Dept.

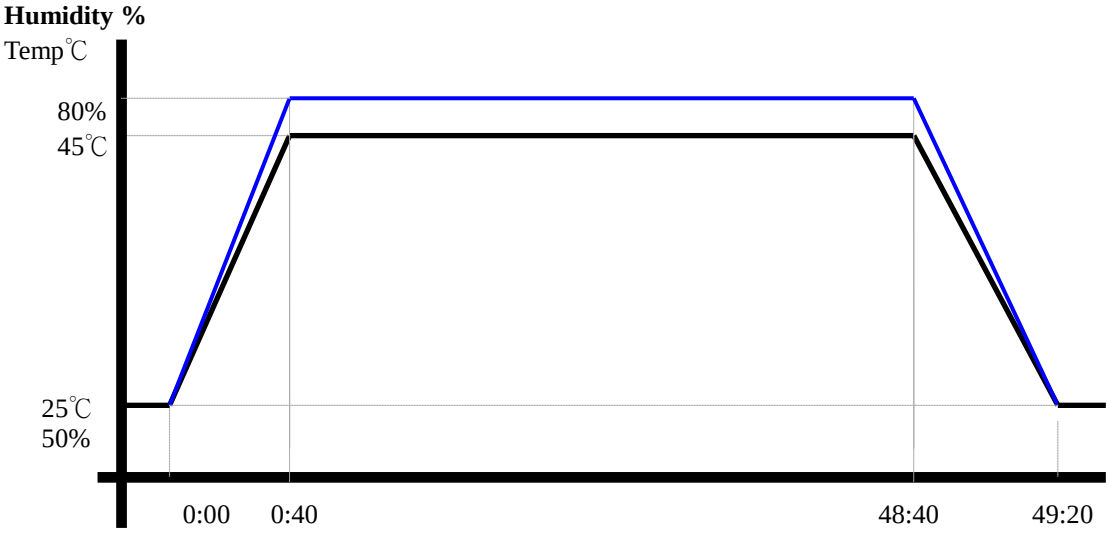
Test Standard: Refer to IEC 68-2-3 Testing procedures
Test Ca: Damp heat, steady state (Non-operation)

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150+LN2
Date of Calibration: 03/07/13
Serial Number: 6487KT

Testing Item:

1. Test Temperature: 45℃
2. Test Humidity: 80%RH
3. Test Times: 48Hrs
4. Test Software: Windows 7 / Run PassMark Burn In Test 7.0 Pro
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:
Quantity: 1 (AIS-E2-CV1)

Test Result:

No issues were found after the humidity storage test.

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Cold start and hot start test

Test Date: 07-29~30-2013

Test Product: AIS-E2-CV1

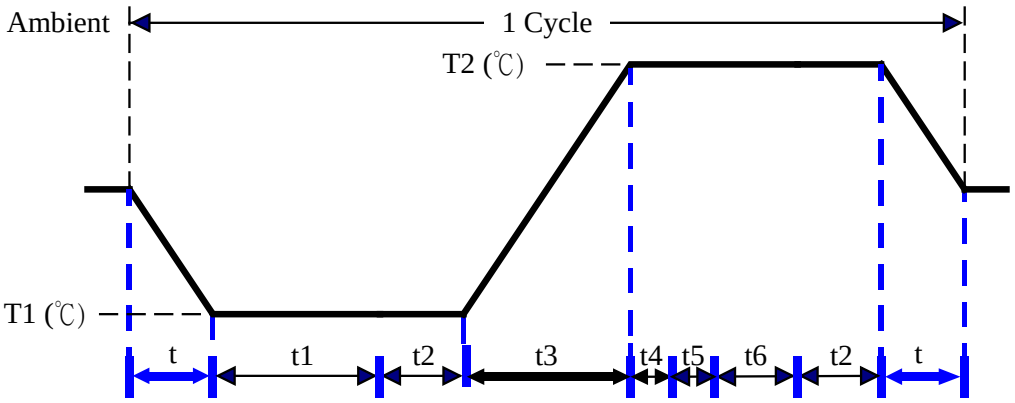
Test Site: AAEON QE Dept.

Test Standard: Refer to 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-B6T-150+LN2
Date of Calibration: 03/07/13
Serial Number: 6487KT

Test Condition:



Parameters	Description
T1	-5℃
T2	50℃
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 5 times (on 2 min / off 5min)
t3, t4: Run PassMark BurnIn Test 7.0 Pro
t5: Win 7 Software restart test 3 times
Test Software:Windows 7

Test Result:

a. No issues were found during the cold start test.
b. No issues were found during the hot start test.

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