EMB-A50M

Thermal Image Analysis Report

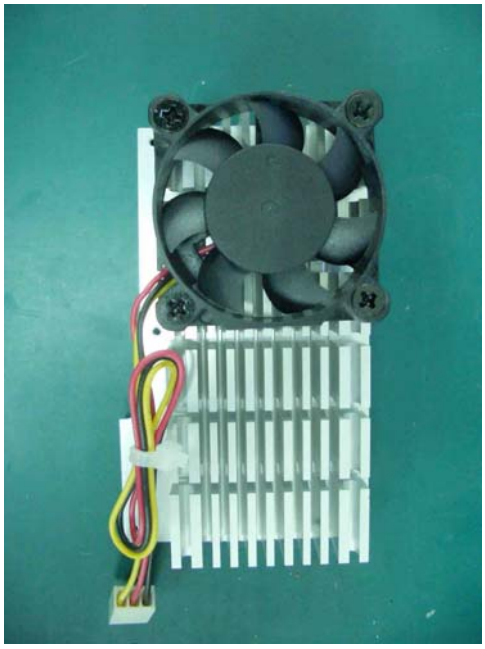
Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: Three temperature point need improving**

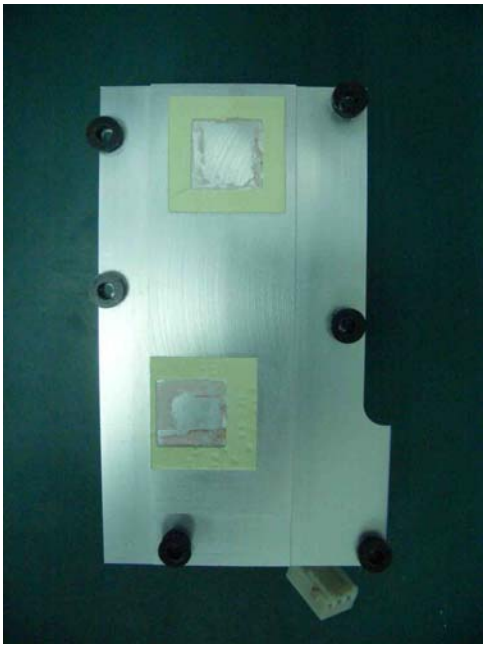
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	1
Defect Unsolved	0	0	0	1

Issue date	Approval	Test Engineer
2012 / 01 / 05	Jansin Lee	Rex Chang

Sample Configuration & Quantity Under Test

- **Model name : EMB-A50M A0.2**
- **CPU Board : EMB-A50M A0.2**
- **CPU : Onboard AMD G-T56N / 1.65GHz**
- **Memory : Transcend 4GB * 2 / DDR3 1333 / Hynix H5TQ2G83BFR**
- **SATA HDD : Seagate SATA 2.5“ 120G / ST9120823AS**
- **BIOS : EM50AM06(11/07/2011)**
- **Test Software : Windows 7 / Run PassMark Burn In Test 6.0 Pro**
- **Power : ATX Power**
- **CPU Cooler :**





Thermal Image Analysis

1. Test Date: 2012-01-04

2. Test Product: EMB-A50M A0.2

3. Test Site: AAEON QE Dept.

4. Temperature Measurement:

4.1. 40 Channel Thermal Recorder:

4.1.1 YOKOGAWA Inc,

4.2.2 Model: DA100-13-1D

Date of Calibration: 2011/10/12

Serial Number: 12A323190

4.2. IR Scanner: Infrared Camera

4.2.1 NIPPON AVIONICS CO., LTD.

4.2.2 Model: TVS-100

Date of Calibration: 2011/07/11

Serial Number: 0179L2746

5. Test Condition:

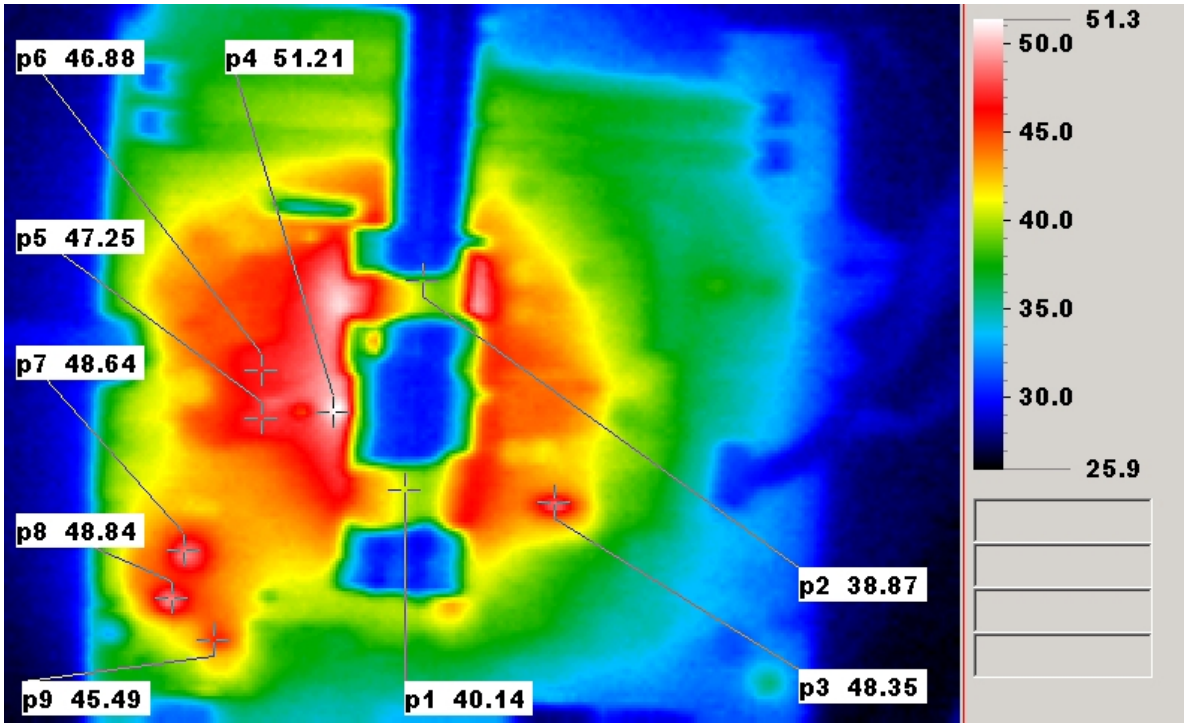
Test by DA-100: 60.0℃ with Cooler

6. Take Picture Time:

After power on 2 hours

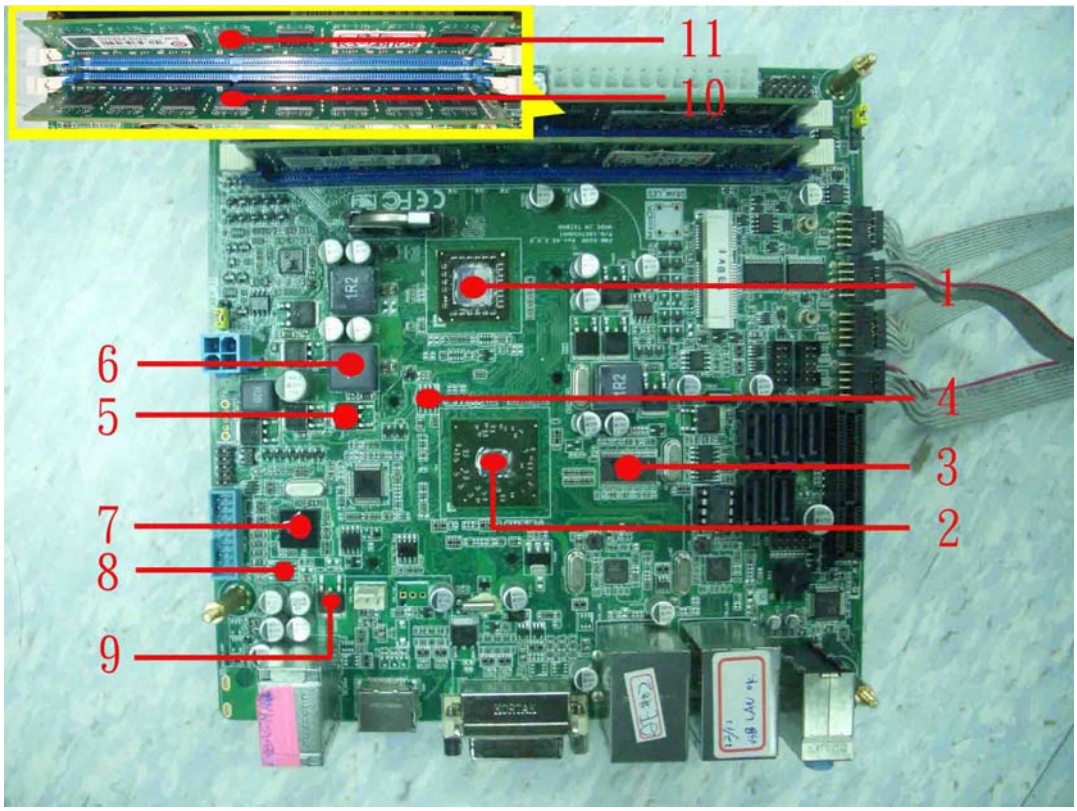
Temperature Profile Test:

Component Side:



Terminal Recorder:

Measuring Thermal Couple Position：



Using YOKOGAWA / DARWIN DA100-100-13-1D test

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under 60℃	Note
1	HU1	(TF)G-T56N.AMD.GET56NGBB22GVE	90	87.0	Note4
2	SU1	(TF)AMD Hudson-M1 Fusion.AMD.A50M.100-CG2198	105	76.2	
3	U6	(TF)CLOCK GENERATOR.IDT.ICS9LPRS483AGLFT	115	88.9	
4	PU4	(TF)Low-Voltage LDO Regulator.UPI.UP0105PSW8	100	84.1	
5	PQ8	(TF)PWR.N-Channel MOSFET.NIKO-SEM.P0903BDL	100	82.9	
6	PL2	(TF)INDUCTOR.CHUNG SHUO.CS1112-1R2-I43U	125	78.7	
7	U32U1	(TF)USB3.0 Host Controller.NEC.UPD720200AF1-DAP-A	100	94.7	Note4
8	U32PU1	(TF)Low-Voltage LDO Regulator.UPI.UP0104PSU8	100	96.3	Note4
9	U32PU2	(TF)Low-Voltage LDO Regulator.GS.GS1085LDF	100	89.2	
10	-	Memory chipset - 1	95	72.4	
11	-	Memory chipset - 2	95	74.2	

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+5℃; The measured value is over specification plus margin.
- **Margin** : Tc+5℃ > Tm > Tc-10℃; The measured value is within specification with margin. For FANLESS system application, it is strongly recommended to add thermal dissipation design for better reliability.
- **Pass** : Tm < Tc-10℃; The measured value is with safety margin.

4. Defect NO. I110707QED04