EPIC-KB07

Thermal Image Analysis Report

Summary	☑ **Pass** ☐ **Fail** ☐ **Pass with Deviation** **Comment:**

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

Issue date	Approval	Test Engineer
2014 / 05 / 22	Tom Lin	Juno Cheng

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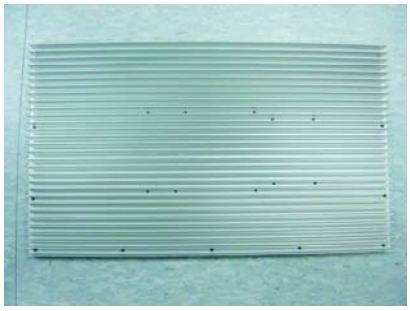
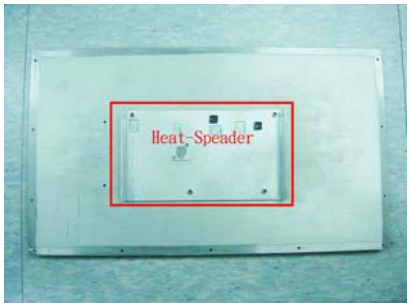
Test Product: EPIC-KB07 A0.2

Sample Configuration & Quantity Under Test:

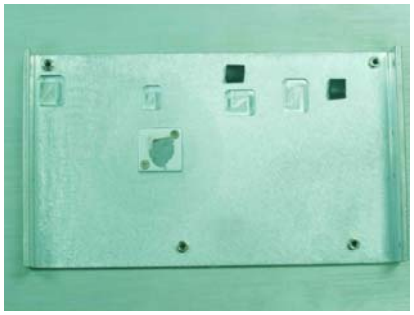
- **CPU : AMD eKABINI A6-5200 APU 2000MHz (Quad Core)**
- **Chipset: AMD SoC APU**
- **USB Flash: Transcend 8GB (For DOS Mode Power On/Off Test)**
- **Memory : DSL 4GB * 1 / DDR3 1066 / SEC K4B1G0846G**
- **3.5" SATA HDD : TOSHIBA DT01ACA050 / 500GB**
- **BIOS : Ver. R0.7(PKB7AM07)**
- **Test Software : Windows 7 / Run PassMark Burn In Test 7.1 Pro**
- **Power : Zippy HG2-6400P**
- **Heat Sink:**

Heat sink(P/N: M169655000)





Heat-Spreader (P/N: M10KB07000)



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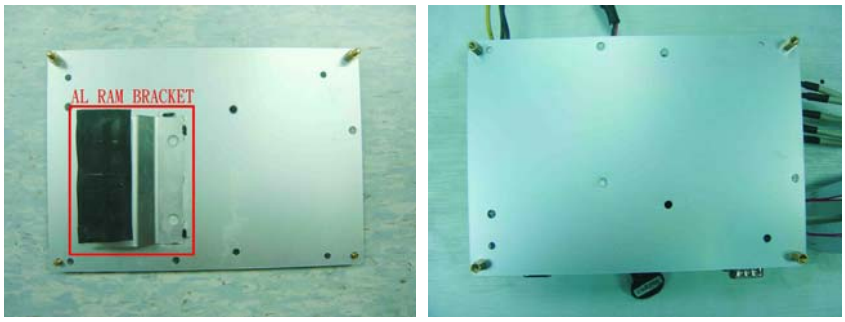
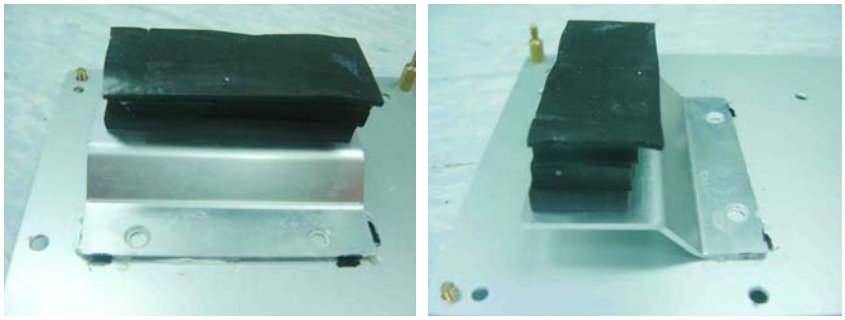
Test Product: EPIC-KB07 A0.1

Sample Configuration & Quantity Under Test:

AL plate (P/N: M16WITAS00)



AL RAM BRACKET (P/N: M19HD07000)



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Thermal Image Analysis

1. Test Date: 2014-05-22
2. Test Product: EPIC-KB07
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: 2013/10/01
Serial Number: 12A323190
4.2. IR Scanner: Infrared Camera
4.2.1 NEC Avio Infrared Technologies Co., Ltd.
4.2.2 Model: Thermo GEAR G100W2-D
Date of Calibration: 2013/01/08
Serial Number: 1051444
5. Test Condition:
Test by DA-100: 25.0℃ with Heat Sink
6. Take Picture Time:
After power on 2 hours

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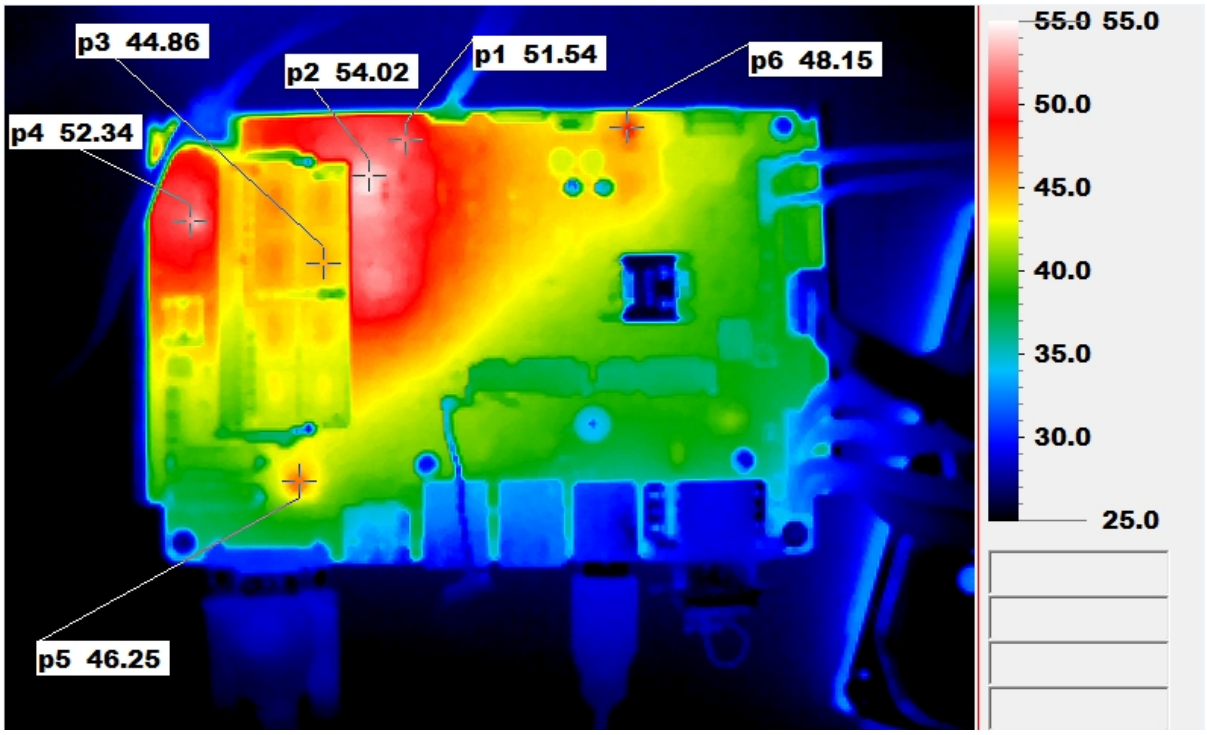
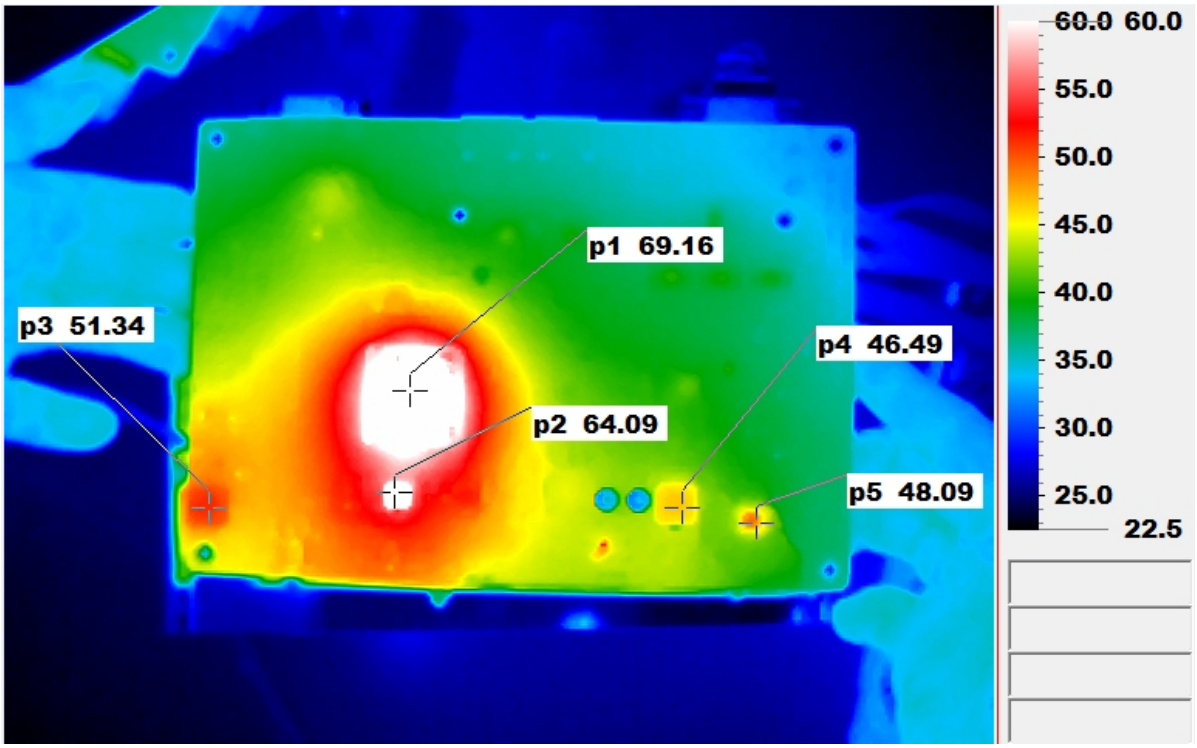
Temperature Profile Test:

Component Side:



Back Side



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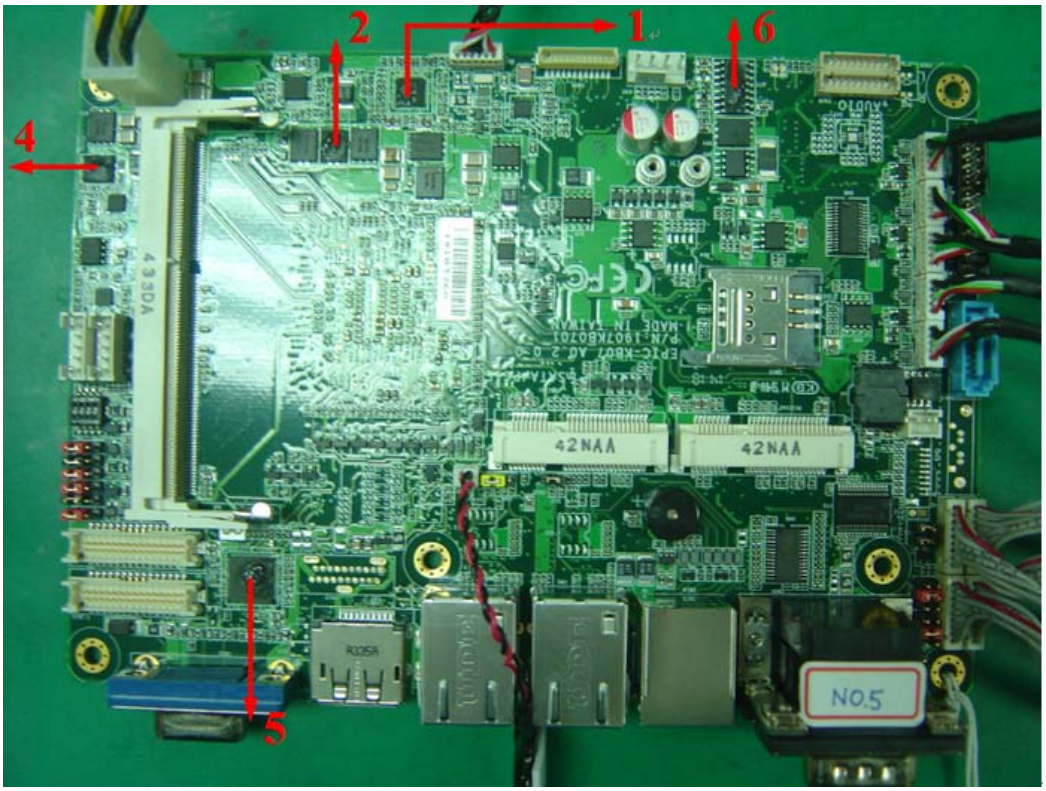
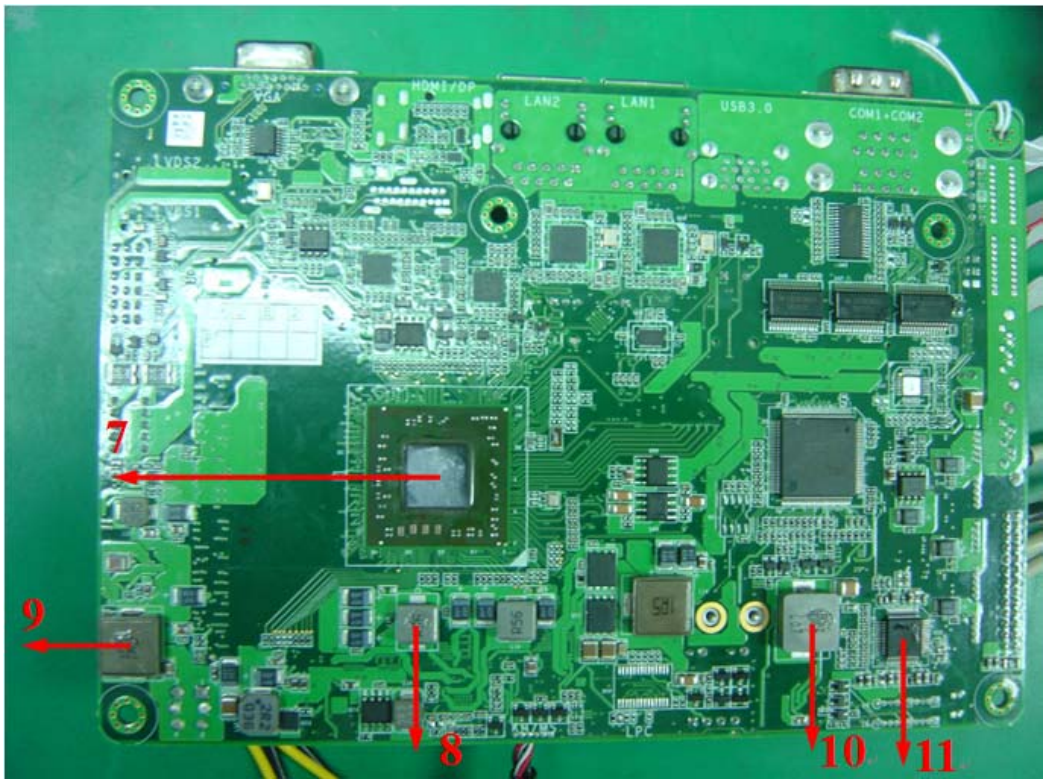
Terminal Recorder :

Measuring Thermal Couple Position：





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

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25.0℃	60℃	
1	U71	(TF)IC.VID.Dual Single-Phase.SMD.O2.OZ8321LN	100	49.4	84.4	
2	Q95	(TF)PWR.SMD N-MOSFET.ON SEMI.	125	50.7	85.7	
3		DIMMP	95	44.1	79.1	
4	Q93	(TF)PWR. N-MOSFET.ON SEMI.	125	46.8	81.8	
5	U22	(TF)IC.QFN.SMD.Chrontel.CH7511B-BF(new:GBC)	125	47.6	82.6	
6	U72	(TF)IC.Low Voltage Synchronous Boost.IC2185YM	100	49.1	84.1	
7	U1	(TF)AMD BGA 769.GE420CIAJ44HM	90	45.1	80.1	
8	L18	(TF)COIL.Zenithtek.ZPWM-6030M-R56M	125	63.0	98.0	
9	L13	(TF)COIL.ZenithTek.ZPWM-1040MB-1R5M	125	44.4	79.4	
10	L20	(TF)COIL.CYNTEC.PCMB104E-4R7MS	125	44.5	79.5	
11	U58	(TF)IC. Definition.Audio SMD.REALTEK.ALC892-CG	85	37.9	72.9	

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.

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