EPIC-BT07

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: 1. There are two temperatures no Tj or Tc , we can not determine.** **2. Temperature at 2 component was estimated to be in marginal temperature point in comparison with component datasheet.**

Test Result Summary

	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	4
Defect Unsolved	0	0	0	4

Issue date	Approval	Test Engineer
2015 / 05 / 28	KJ Wang	Juno Cheng

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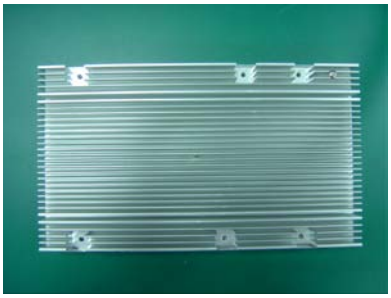
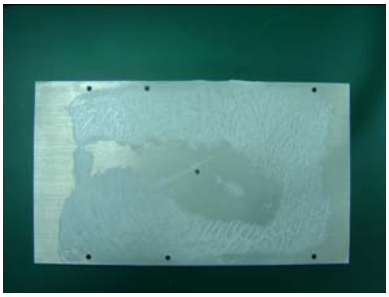
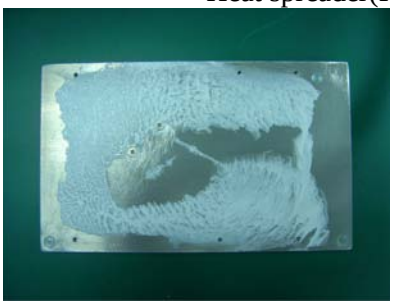
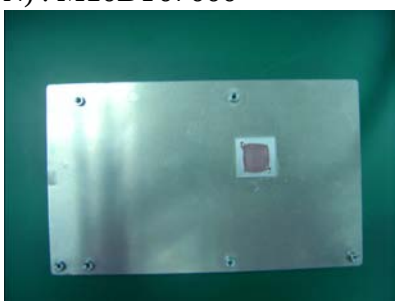
Sample Configuration & Quantity Under Test

- **Model name : EPIC-BT07 Rev. A0.2**
- **Mother Board : EPIC-BT07 Rev. A0.2**
- **BIOS : PBT7AM09**
- **CPU : Intel Atom J1900 CPU @1.99 GHz**
- **Memory :Transcend DDR3L -1600 4GB (SEC 249 K4B4G0846B)**
- **3.5“ SATA HDD : Seagate / 9VMPDGG3 / 500GB**
- **Test Software : Windows 8/ Run PassMark Burn In Test 8.0 Pro**
- **AT Power Supply: HG2-6400P**
- **Heat Sink with Fan & Heat spreader:**

Heat Sink with Fan(P/N) : M16ULT7XX1

Heat spreader(P/N) : M10BT07000

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Thermal Image Analysis

1. Test Date: 05-28-2015

2. Test Product: EPIC-BT07 Rev. 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: 2014/09/11

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: 2014/12/19

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25℃ with Heat Sink

6. Take Picture Time:

After power on 2 hours

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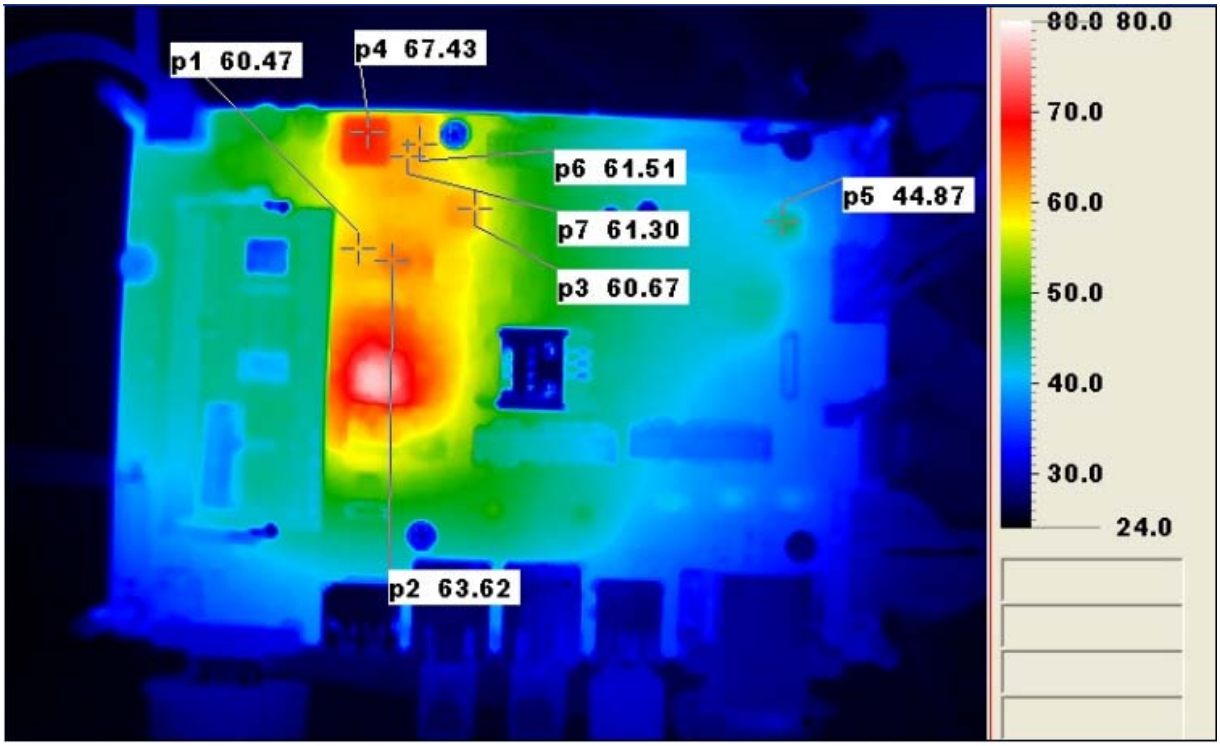
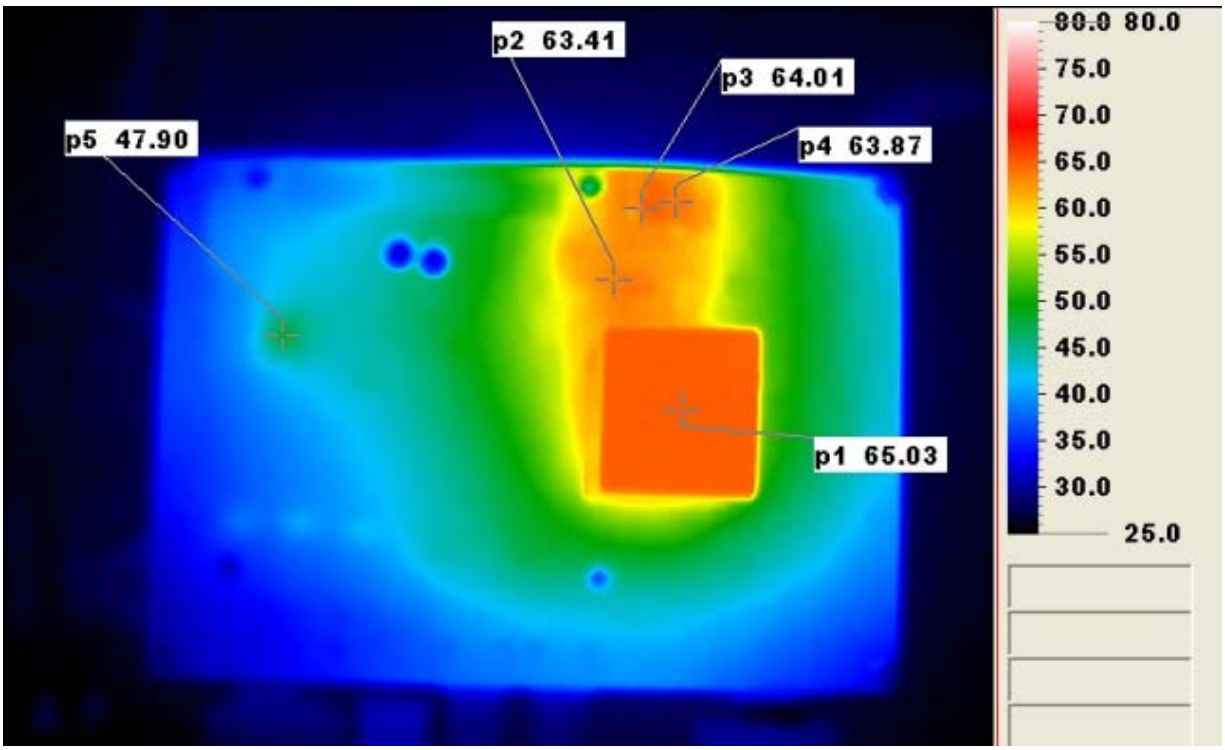
Temperature Profile Test:

Component Side:



Back Side:



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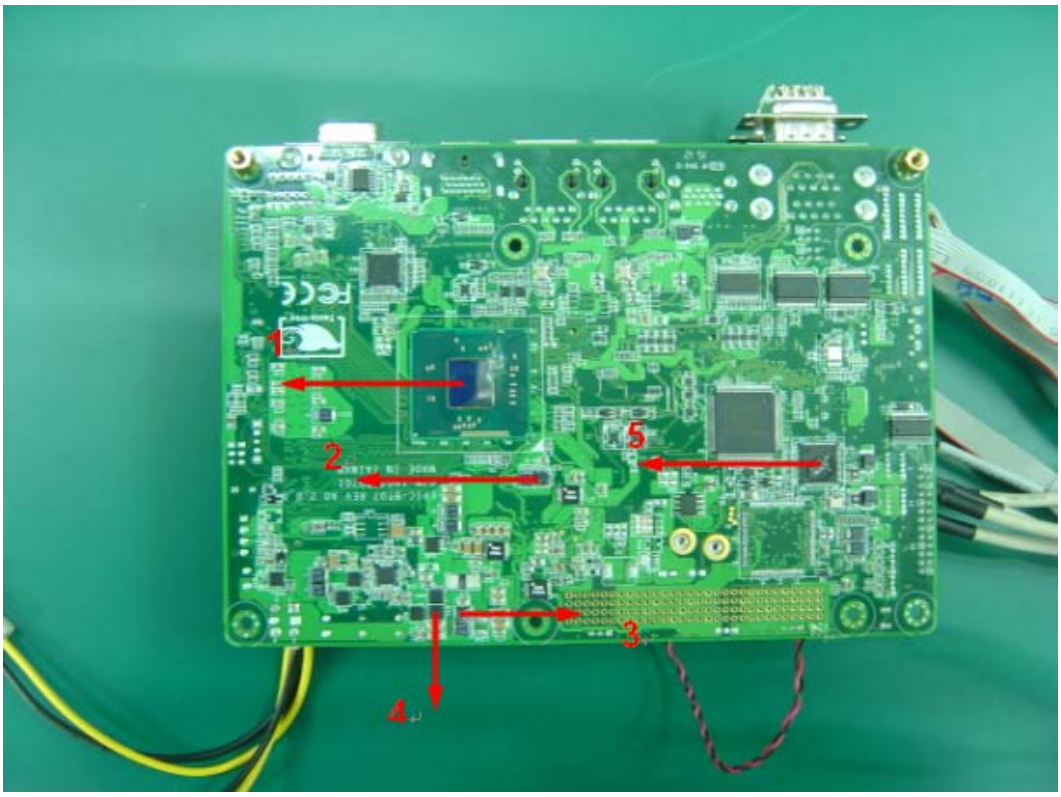
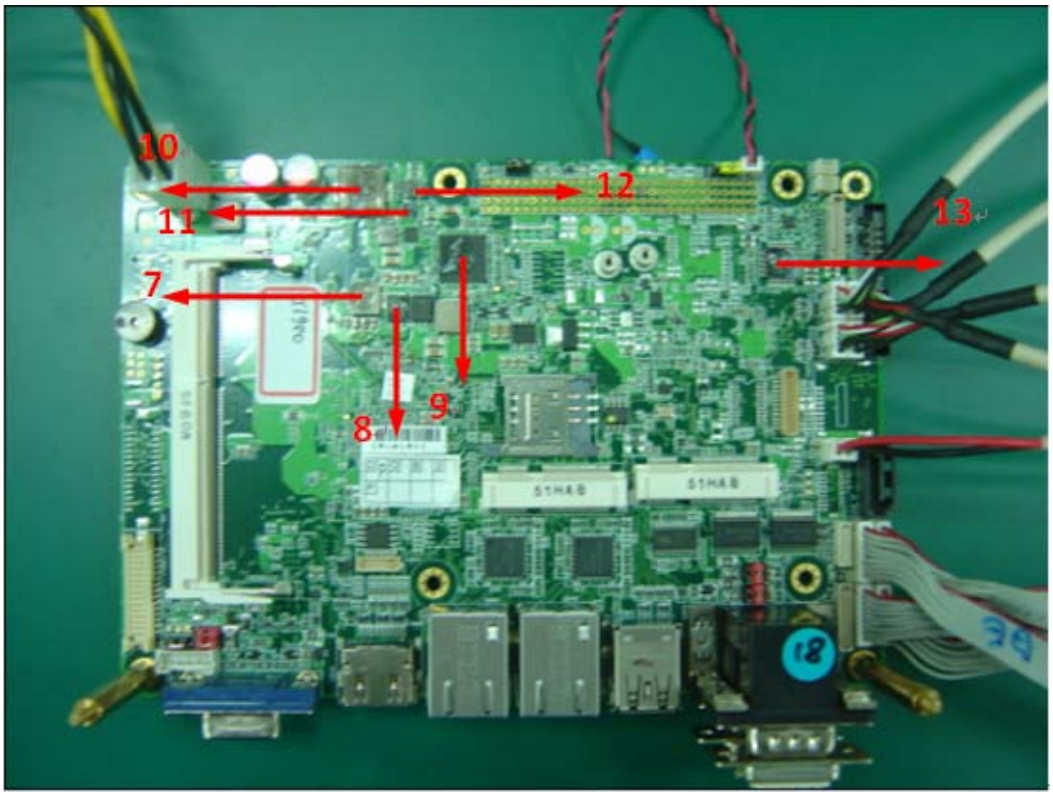
Terminal Recorder:

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℃	60℃	
1	U45	INTEL Bay Trail-D.J1900	105	50.6	85.6	
2	C496	NEC-TOKIN. TEPSLB20E227M(15)8R	120	62.1	97.1	
3	C378	NEC-TOKIN. TEPSLB20J227M(25)8R	120	64.3	99.3	
4	Q32	FAIRCHILD. FDMC8327L	125	63.7	98.7	
5	U37	SMSC.USB2517i-JZX	100	54.9	89.9	
6	DIMM	Transcend. 4GB DDR3L 1600 SO-DIMM 1Rx8	95	54.3	89.3	Margin
7	L5	HDTPower. MPC-7066CZ-R33-M	NA	65.9	100.9	
8	Q9	FAIRCHILD. FDMS3664S	125	68.7	103.7	
9	U2	ROHM. BD9596BMWV	125	66.8	101.8	
10	L2	Zenithtek. ZPWM-1040M-1R0M	NA	72.3	107.3	
11	Q3	FAIRCHILD. FDMC7200S	125	64.2	99.2	
12	L1	Zenithtek. ZPWM-4020M-1R0M	140	63.0	98.0	
13	U3	REALTEK. ALC892-CG	100.5	50.6	85.6	
14	CN2	MITSUBISHI. BP-CR2032-M114-002 (Battery)	70	33.3	68.3	Margin

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.: E141107QEE09

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