EPIC-BDU7

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: 1.Under PassMark Burn In Test 8.0 Pro, test Network set loading to 100% test failed (Error message shows "Timeout waiting for packet") , but change to 99% test pass. Please refer to for PASSMARK SOFTWARE (DTS NO. E140502QED10** http://www.passmark.com/forum/showthread.php?2931-How-to-test-burnin-test-with-Network

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 / 04 / 24	KJ Wang	Juno Cheng

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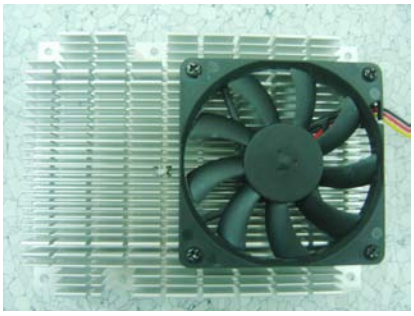
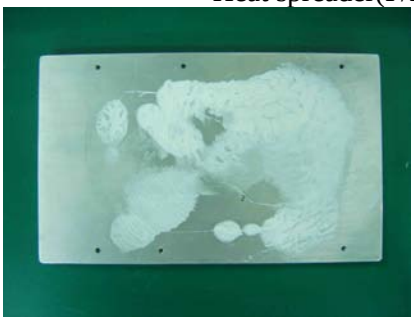
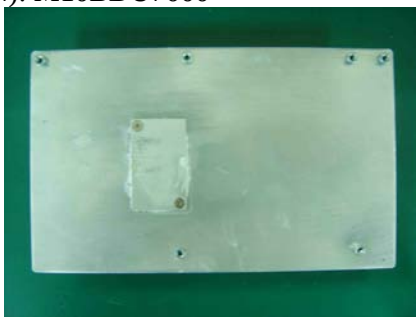
Sample Configuration & Quantity Under Test

- **Model name : EPIC-BDU07 Rev. A0.2**
- **Mother Board : ECB-BDU7 REV. R0.B**
- **BIOS : PB9UAMOB(03/18/2015)**
- **CPU : Intel i7-5650U CPU @2.20GHz**
- **Memory : DSL DDR3L-1600 4GB (Sk hynix H5TC4G83AFR)**
- **3.5“ SATA HDD : Toshiba / DT01ACA050 / 500GB**
- **Test Software : Windows 8/ Run PassMark Burn In Test 8.0 Pro**
- **ATX Power Supply: CWT DSA400P-C**
- **Heat Sink with Fan & Heat spreader:**

Heat Sink with Fan(P/N): 17592QM770




Heat spreader(P/N): M10BDU7000

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Thermal Image Analysis

1. Test Date: 04-24-2015

2. Test Product: EPIC-BDU7 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+Fan

6. Take Picture Time:

After power on 2 hours

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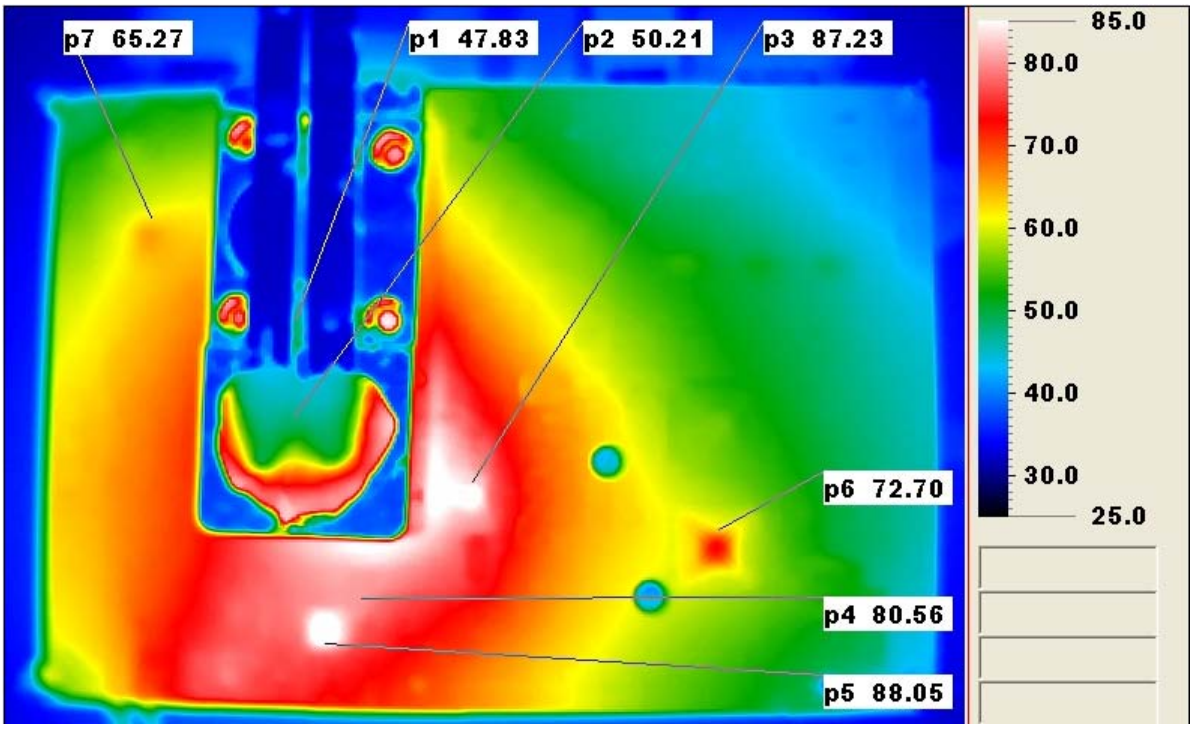
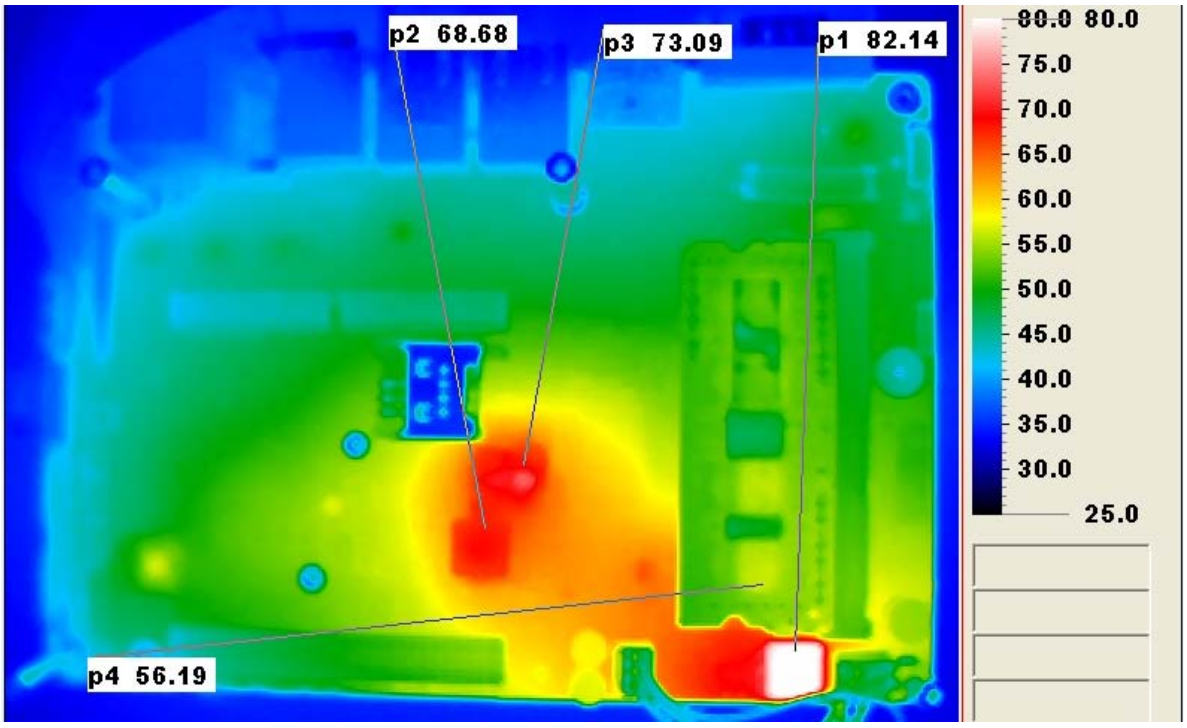
Temperature Profile Test:

Component Side:



Back Side:



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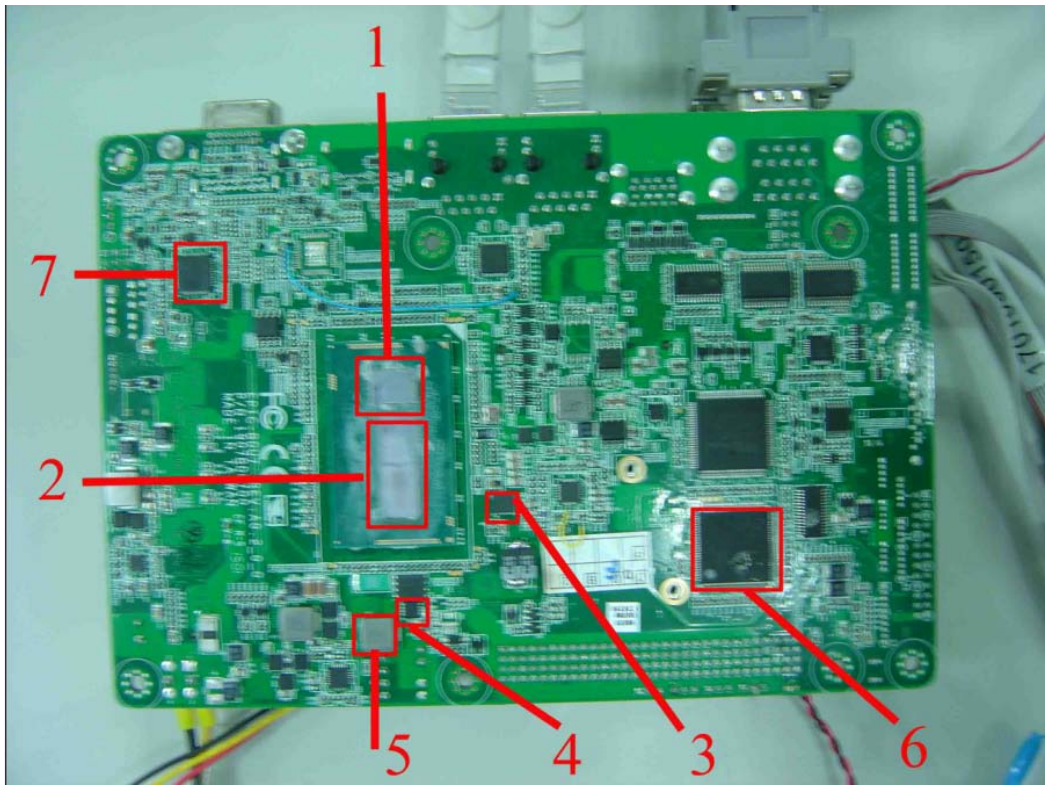
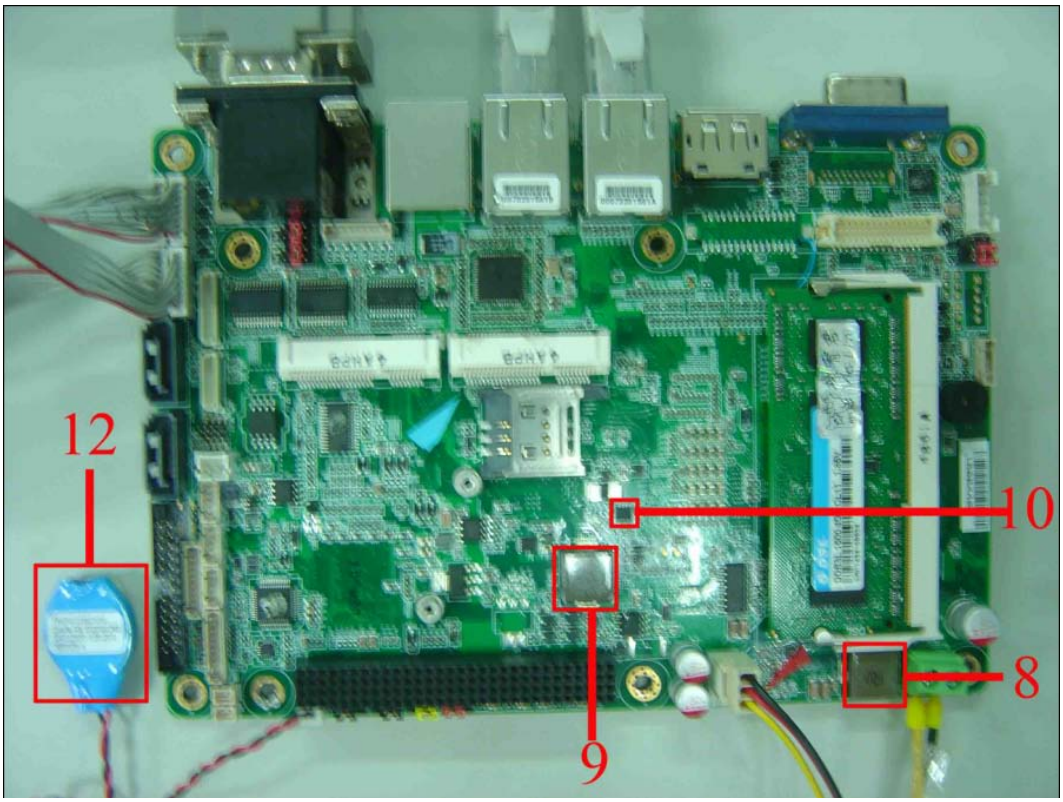
Terminal Recorder:

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	U39	Intel.i7-5650U 2.2Ghz Broadwell-U	105	40.5	75.3	
2	U39	Intel HD Graphics 6000	105	41.2	76.2	
3	U37	TI.CSD97374Q4M Power Stage	125	63.7	98.7	
4	Q36	FAIRCHILD.FDMS7698 PWR NMOS	125	54.0	89.0	
5	L6	ZenithTek.ZPWM-6030M-3R3M 6A COIL	100	64.3	99.3	Margin
6	U32	ITE.IT8892E PCIe to PCI Bridge	96	59.9	94.9	Margin
7	U24	NXP.PTN3460BS Display Port to LVDS Converter	125	47.4	82.4	
8	L5	Zenithtek.ZPWM-1040M-1R0M 21A COIL	125	70.0	105.0	
9	L7	GOTREND.GSTD1040PE-R19M 40A COIL	125	61.4	96.4	
10	Q12	FAIRCHILD.FDMC4435BZ PWR PMOS	125	64.1	99.1	
11		DIMM	95	53.2	88.2	Margin
12		MITSUBISHI.BP-CR2032-M114-002 Li BATTERY	70	26.4	61.4	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.: E140502QED11

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