EPIC-KBS8

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment:** 1. There is one temperature point (No.1) marginal passed but function is stable. 2. There are three temperature points (No.6, 10, 15) lack the Tc specifications, so we are unable to determine.

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	4
Defect Unsolved	0	0	0	4

Issue date	QE Manager	Test Engineer
2018 / 04 / 03	KJ Wang	Jerry Chen

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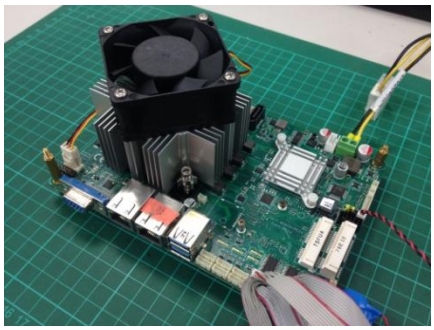
Sample Configuration & Quantity Under Test

- **Model name : EPIC-KBS8**
- **M/B Name : EPIC-KBS8 / Rev. A1.0_0_2**
- **CPU : Intel Core i7-7700T CPU @ 2.90GHz**
- **BIOS : EPIC-KBS8 R0.7 (EKS8AM07) (03/14/2018)**
- **Chipset: PCH H110**
- **Memory：DSL / DDR4 2666 8GB CL18 ECC / D4XM1G081SH26A-C**
- **2.5” SATA HDD: HITACHI / Z5K320-160 / 160GB**
- **Test Software：Windows 10 / Run PassMark Burn In Test 8.1 Pro (1022)**
- **Power Supply: Zippy EMACS / HG2-6400P / 400W (MAX)**
- **Cooler:**



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Thermal Image Analysis

1. Test Date: 2018-04-02

2. Test Product: EPIC-KBS8

3. Test Site: AAEON QE Dept.

4. Temperature Measurement:

4.1. 20 Channel Thermal Recorder:

4.1.1 OMRON Inc,

4.2.2 Model: ZR-RX45

Date of Calibration: 12/19/2017
Due date of Calibration: 12/18/2018
Serial Number: H30481978

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: 11/23/2017
Due date of Calibration: 11/22/2018
Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25.0℃ with Cooler

6. Take Picture Time:

After power on 2 hours

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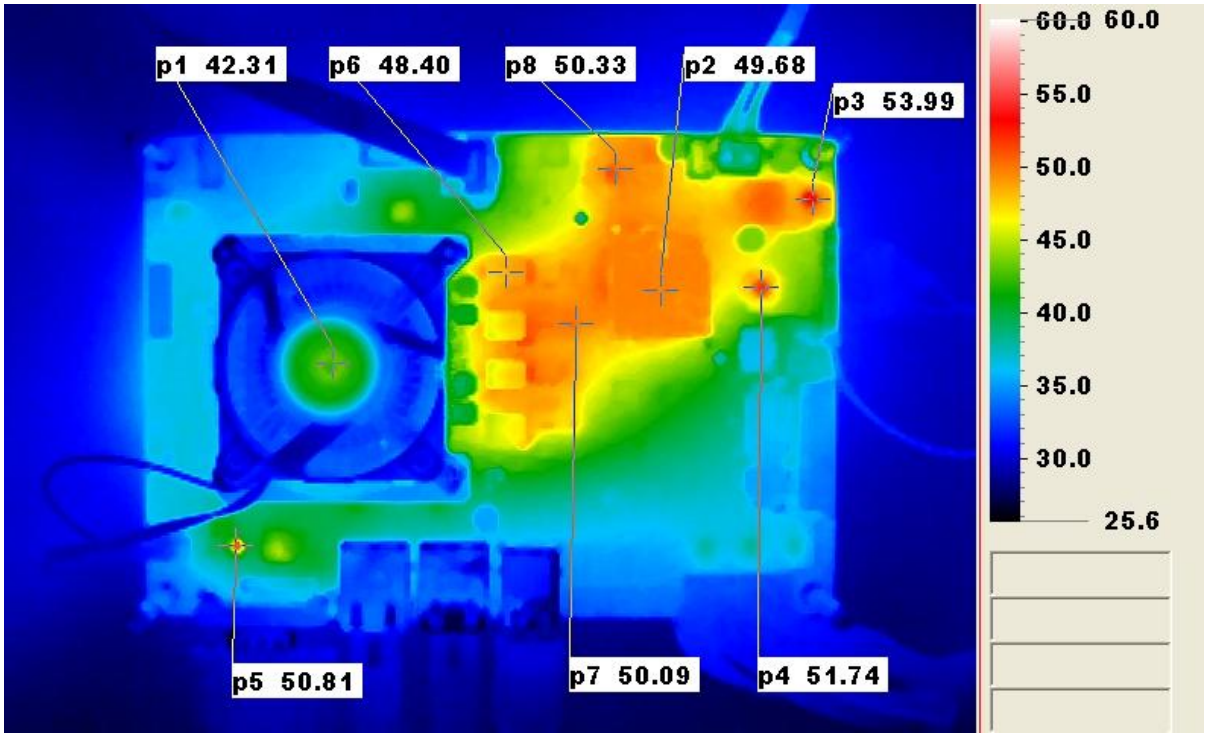
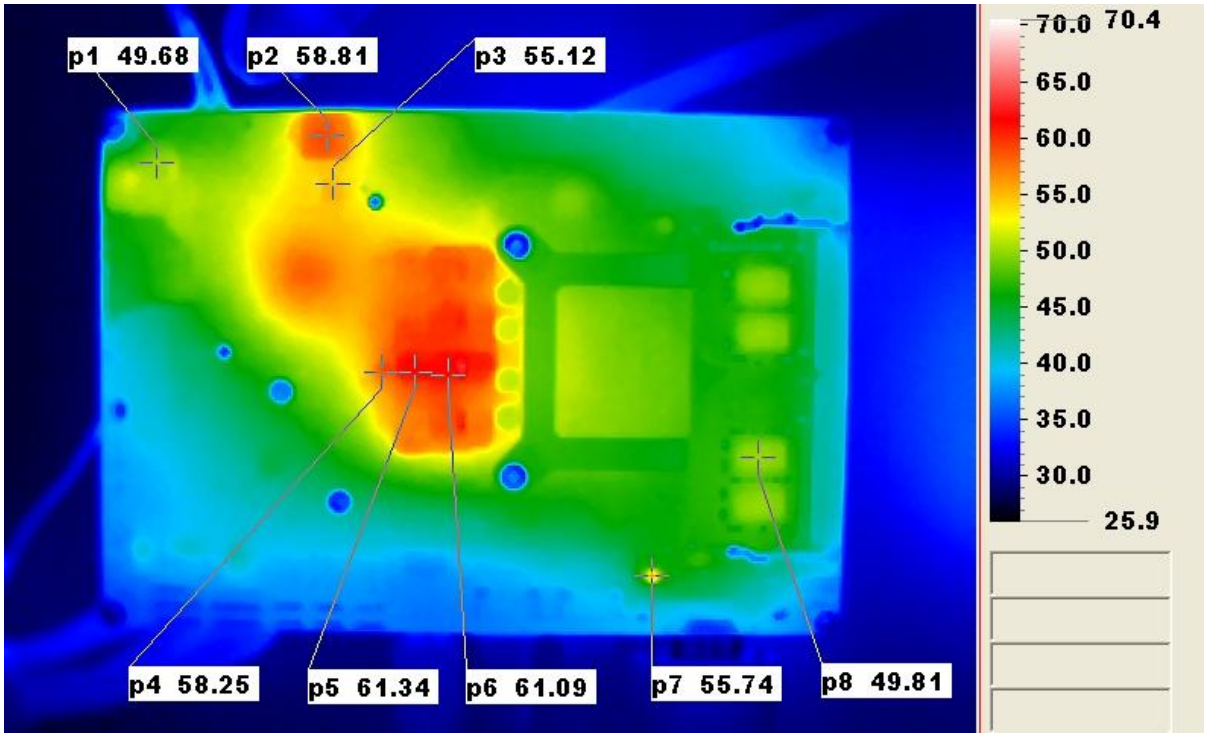
Temperature Profile Test:

Front Side:



Rear Side:



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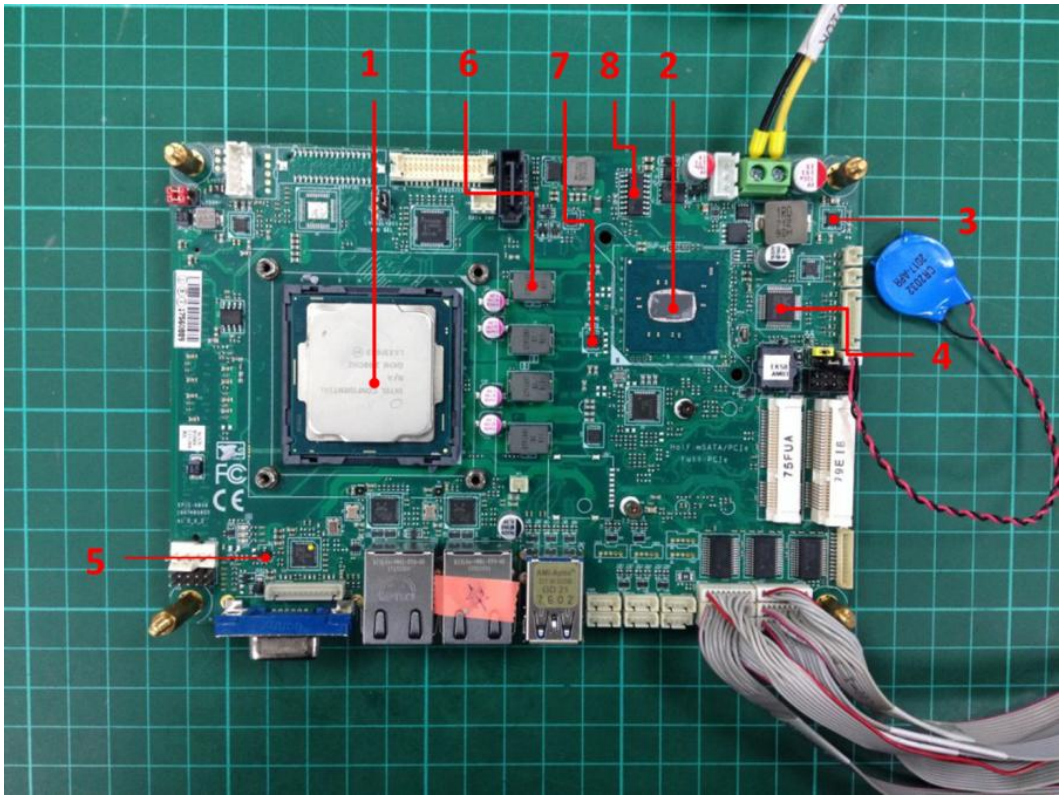
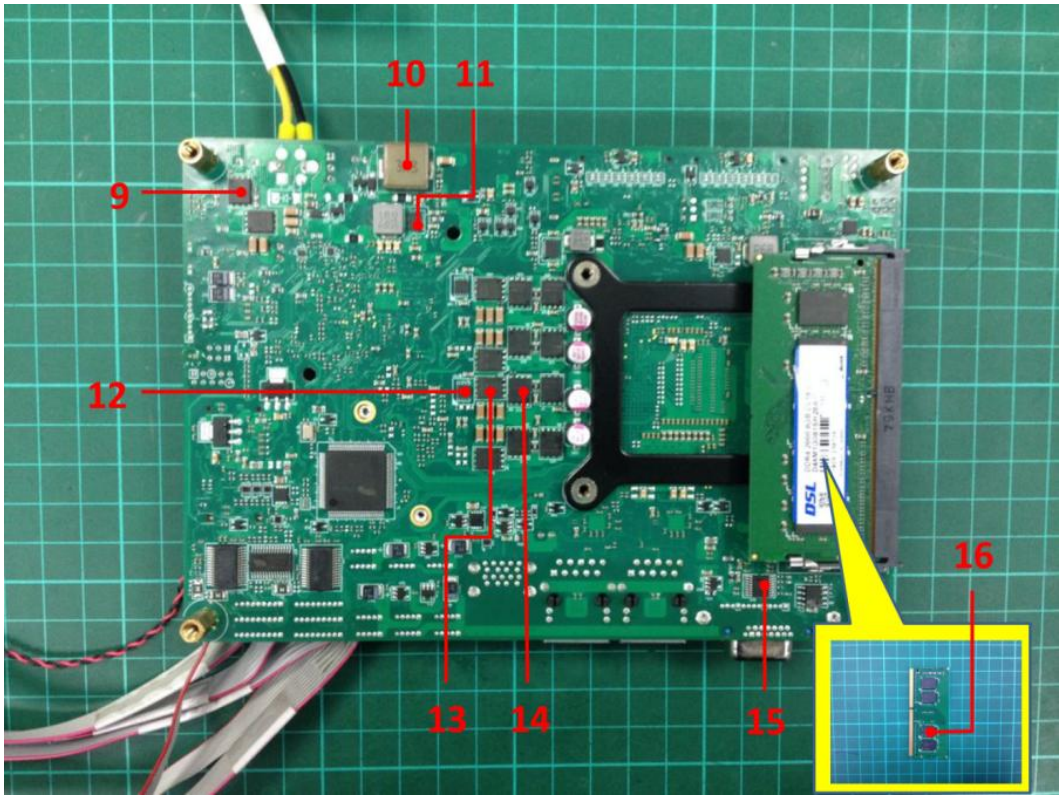
Terminal Recorder:

Measuring Thermal Couple Position：

Front Side:



Rear Side:



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Using OMRON Inc / ZR-RX45 test

Point	Position	Describe	Tc (*1) (℃)	TAT(*2)	TPT(*3)	Note
				25℃	60℃	
1	CPU1	Intel Core i7-7700T CPU @ 2.90GHz	66.1	33.3	**68.3**	**Note 4**
2	U12	INTEL.CHIPSET.GL82H110	100	42.9	77.9	
3	U5	Single Synchronous Step-Down.TI.TPS53219ARGTR	125	47.5	82.5	
4	U10	High Definition.Audio Codec. REALTEK.ALC892-CG	105	42.9	77.9	
5	Q11	P-Channel MOSFET. APEC.AP2P053N	125	29.9	64.9	
6	L4	INDUCTOR.0.15uH.GOTREND.GTV1005PR1-R15K	N/A	37.7	**72.7**	**Note 6**
7	U14	IC.Single Phase Buck.MOSFET Driver. .Richtek.RT9624FGQW	125	37.5	72.5	
8	U2	Low Voltage Synchronous Boost Control IC.MICREL.MIC2185YM	100	41.8	76.8	
9	Q18	N-Channel. MOSFET. Infineon.BSC027N04LSG	125	40.8	75.8	
10	L13	COIL.3.3uH. ZenithTek.ZPWM-1040MB-3R3M	N/A	46.9	**81.9**	**Note 6**
11	U55	Synchronous Step down. MPS.MP8762GLE-Z	100	42.5	77.5	
12	U63	IC.Single Phase Buck.MOSFET Driver. .Richtek.RT9624FGQW	125	41.7	76.7	
13	Q32	N-Channel MOSFET. Infineon.BSC093N04LS G	125	43.8	78.8	
14	Q34	N-Channel. MOSFET. Infineon.BSC027N04LSG	125	42.6	77.6	
15	U76	VGA ESD Protection Array.CMD.CM2009-02QR	N/A	30.3	**65.3**	**Note 6**
16	Memory	Memory chipset	95	40.9	75.9	
17	Air	Air temperature	N/A	25	60	

Note(*):

1. "Tc" indicates the component's case maximum temperature value specified in its datasheet.

2. "TAT" indicates the actual measured temperature under 25℃ working environmental.

3. "TPT" indicates the predicted temperature under product specification.

4. 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.

5. RTC battery avoid to put on heat position. Please do not exceed battery temperature specification.

6. Defect NO. : BUL1806LABD01

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