EMB-BT4

INTEL Bay Trail-D J1900 1.99G CPU

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment:** There are nine temperature point marginal passed, the functions are stable,

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	9
Defect Unsolved	0	0	0	9

Issue date	QE Manager	Test Engineer
2016 / 10 / 14	KJ Wang	Ben Sun

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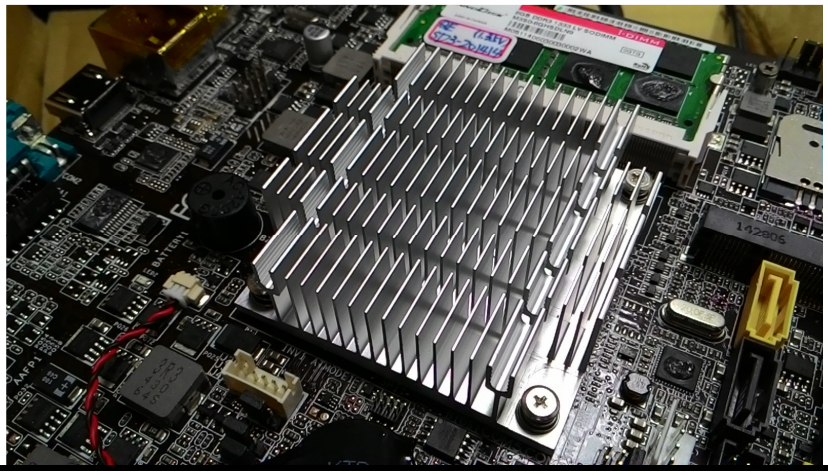
Test Product: EMB-BT4 REV. A1.1

Sample Configuration & Quantity Under Test:

1. CPU: INTEL Bay Trail-D J1900 2G
2. BIOS Ver.: EMB-BT4 R1.6(EBT4DM16)
3. Chipset: N/A
4. Memory: Innodisk DDR3-1333 8GB *1
5. USB Flash: Transcend 4GB (For DOS Mode Power On/Off Test)
6. 2.5” SATA HDD: WD500BPKX 500GB
7. Test Software: Windows 8 / Run PassMark Burn In Test 8.1 Pro
8. AT Power Supply
9. CPU Cooler:



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Thermal Image Analysis

1. Test Date: 2016-10-11

2. Test Product: EMB-BT4 A1.6

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: 2016/09/09

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: 2015/12/01

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25.8℃ with Heat Sink & Fan

6. Take Picture Time:

After power on 2 hours

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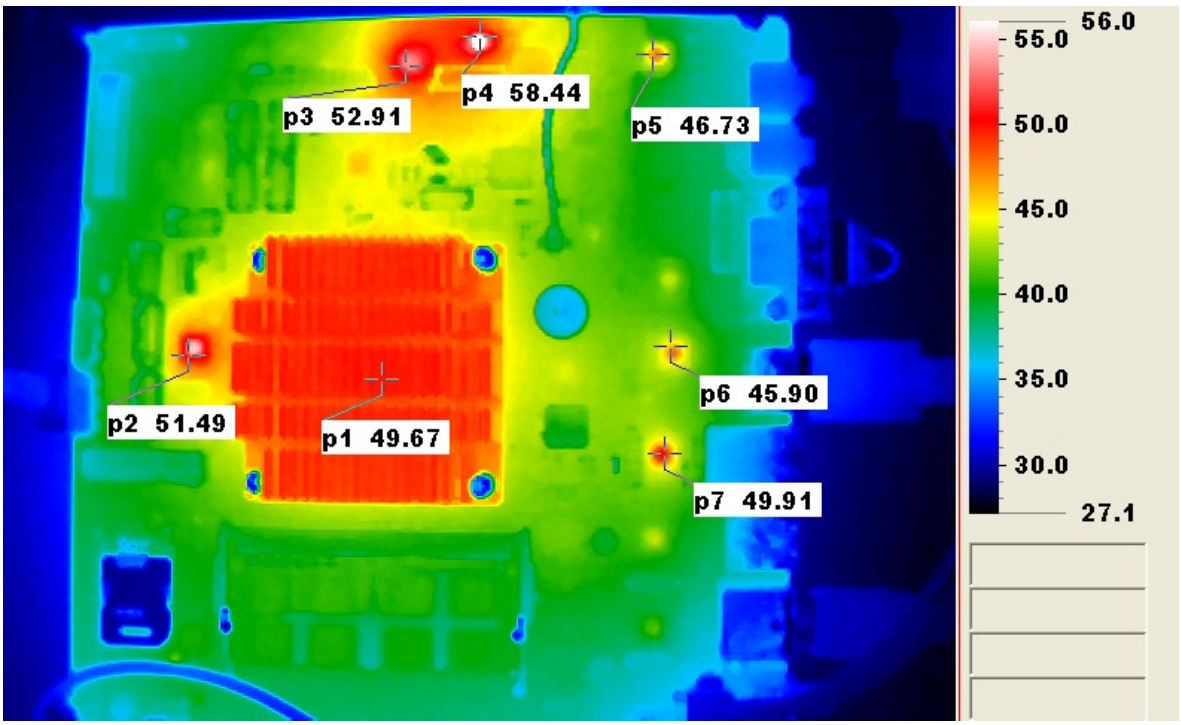
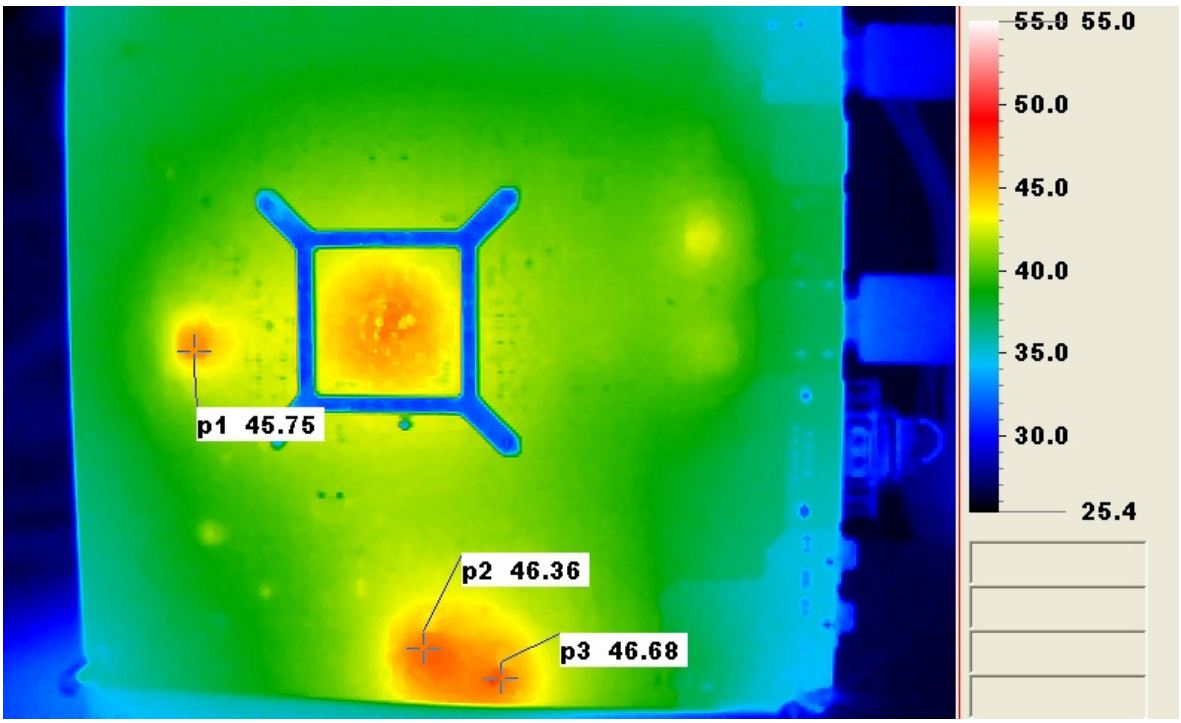
Temperature Profile Test:

Component Side:





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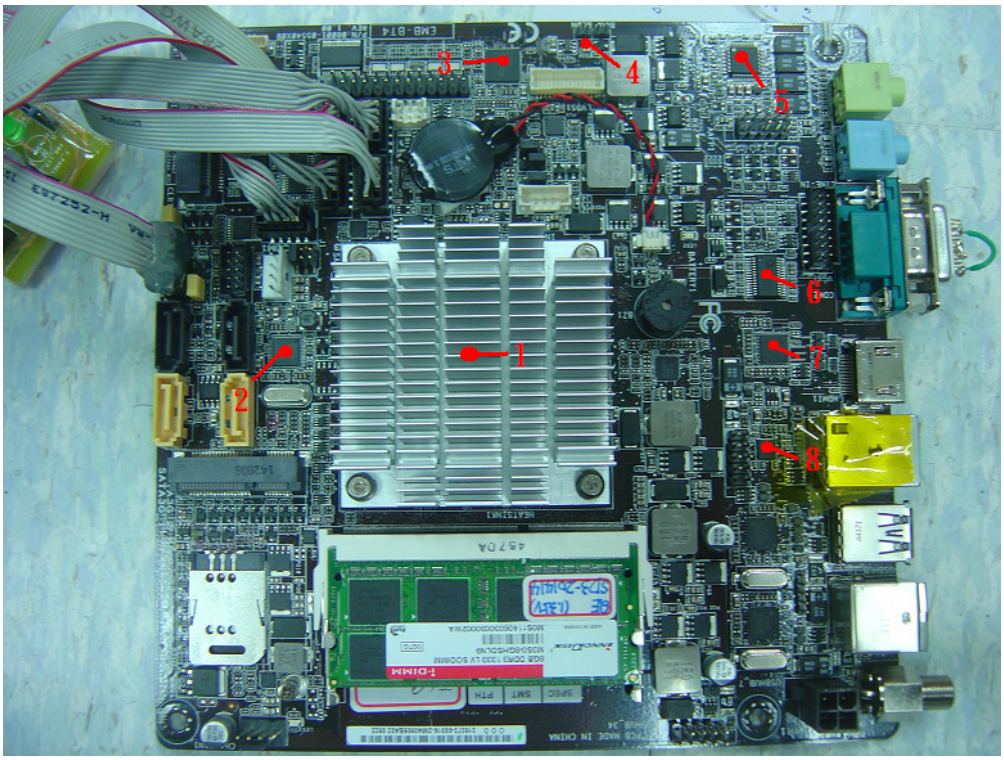
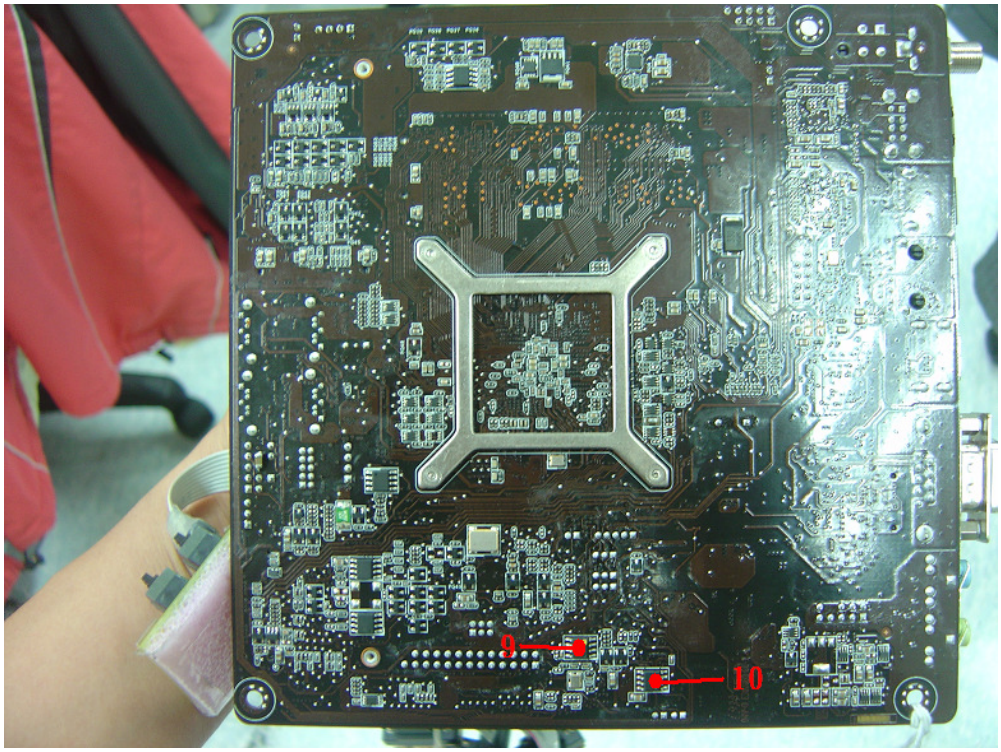
Terminal Recorder:

Measuring Thermal Couple Position：





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

Point	Position	Describe	Tc (*1) (℃)	TAT(*2)	TPT(*3)	Note
				27.0℃	60℃	
1	CPU	Intel CPU J1900 1.99GHz	105	69.3	102.3	NOTE4
2	TU2	C.S ASM1061 (A3) QFN48L// ASMEDIA	95	59.4	92.4	NOTE4
3	LVU1	C.S CH7511B-BF QFN68// CHRONTEL CH7511B-BF DP TO LVDS	95	54.9	87.9	NOTE4
4	WU2	LDO REG. G9141T11U SOT23-5//GMT	100	50.1	83.1	
5	AU1	C.S ALC887-VD2-CG LQFP-48//REALTEK	85	49.7	82.7	NOTE4
6	U8	INTERFACE ADM213EARSZ SSOP-28//A.D.	100	47.2	80.2	
7	DU1	C.S ASM1442K (A1) QFN-48//ASM HDMI LEVELSHIFTER	85	49.2	82.2	NOTE4
8	U29	C.S RTL8111G-CG QFN-32//REALTEK	85	45.9	78.9	NOTE4
9	U27	EEPROM 9904AMF SOP-8//CHRONTEL 64K EMB-H61A 120430	85	53.2	86.2	NOTE4
10	Q31	P-MOSFET EMB07P03G SOP-8//EXCELLIANCE	90	53.9	86.9	NOTE4
11		Memory	85	51.9	84.9	NOTE4

Note(*):

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

2. "TAT" indicates the actual measured temperature under product specification.

3. "TPT" indicates the predicted temperature under 25℃ working environmental.

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.

4. Defect NO. BUL1417QEE09

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