EMB-H110B

Intel Core i7-6700 / 3.4GHz CPU

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: Temperature at 1 component were estimated to be in marginal temperature point in comparion with component datasheets.**

Test Result Summary

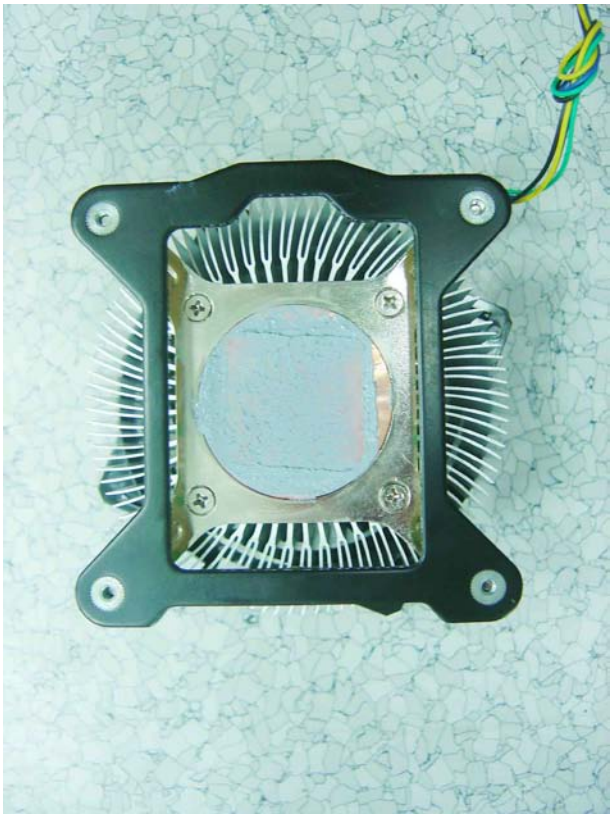
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	1
Defect Unsolved	0	0	0	1

Issue date	QE Manager	Test Engineer
2016 / 02 / 15	KJ Wang	Rex Chang

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1053

Sample Configuration & Quantity Under Test

- **Model name: EMB-H110B Rev. A1.01**
- **CPU: Intel Core i7-6700 3.4GHz**
- **BIOS: R0.6 (EHB0AM06)(12/16/2015)**
- **Chipset: Intel H110**
- **Memory: Transcend DDR4-2133 16GB * 2 / SEC K4A8G08 5WB BCPB**
- **2.5“ HDD: Western Digital WD3200LPVX / 320GB**
- **Test Software: Windows 8/ Run PassMark Burn In Test 8.1 Pro**
- **AT Power Supply: Zippy HG2-6400P**
- **CPU Cooler:**



AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1053

Thermal Image Analysis

1. Test Date: 2016-02-05

2. Test Product: EMB-H110B

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: 2015/09/10

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: 25.0℃ with Heat Sink + FAN (Full speed)

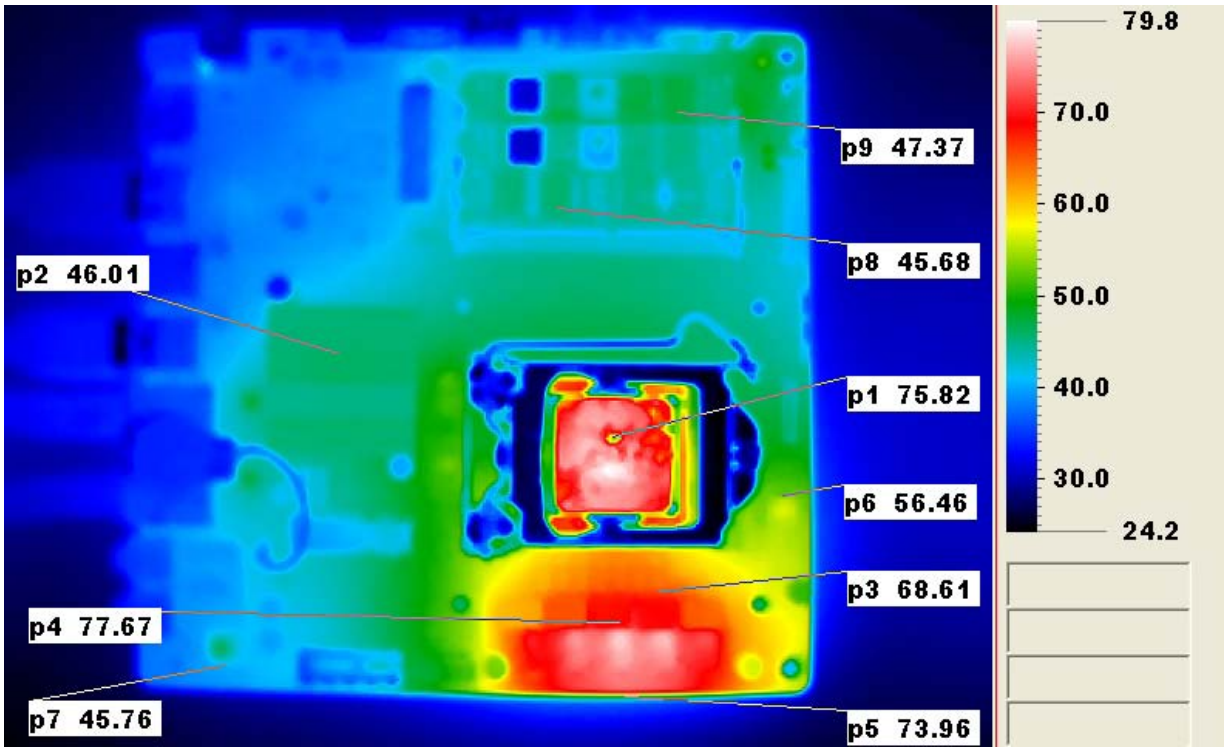
6. Take Picture Time:

After power on 2 hours

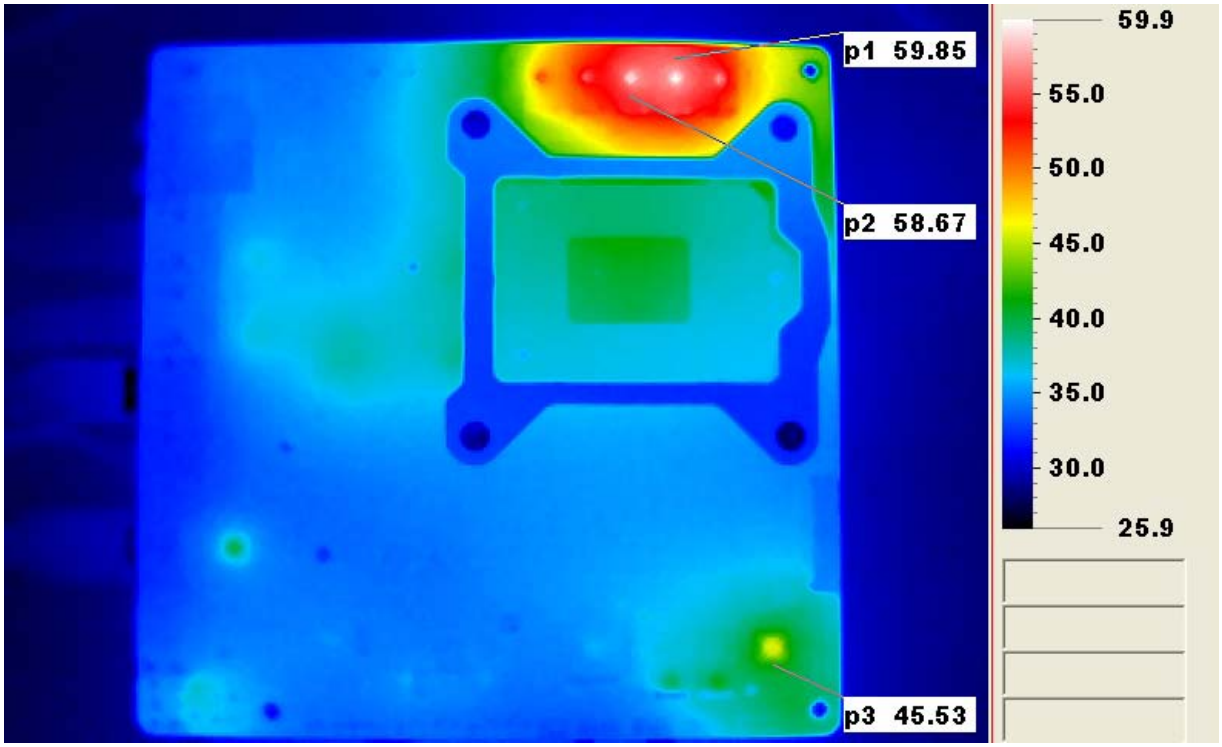
AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1053

Temperature Profile Test:

Component Side:



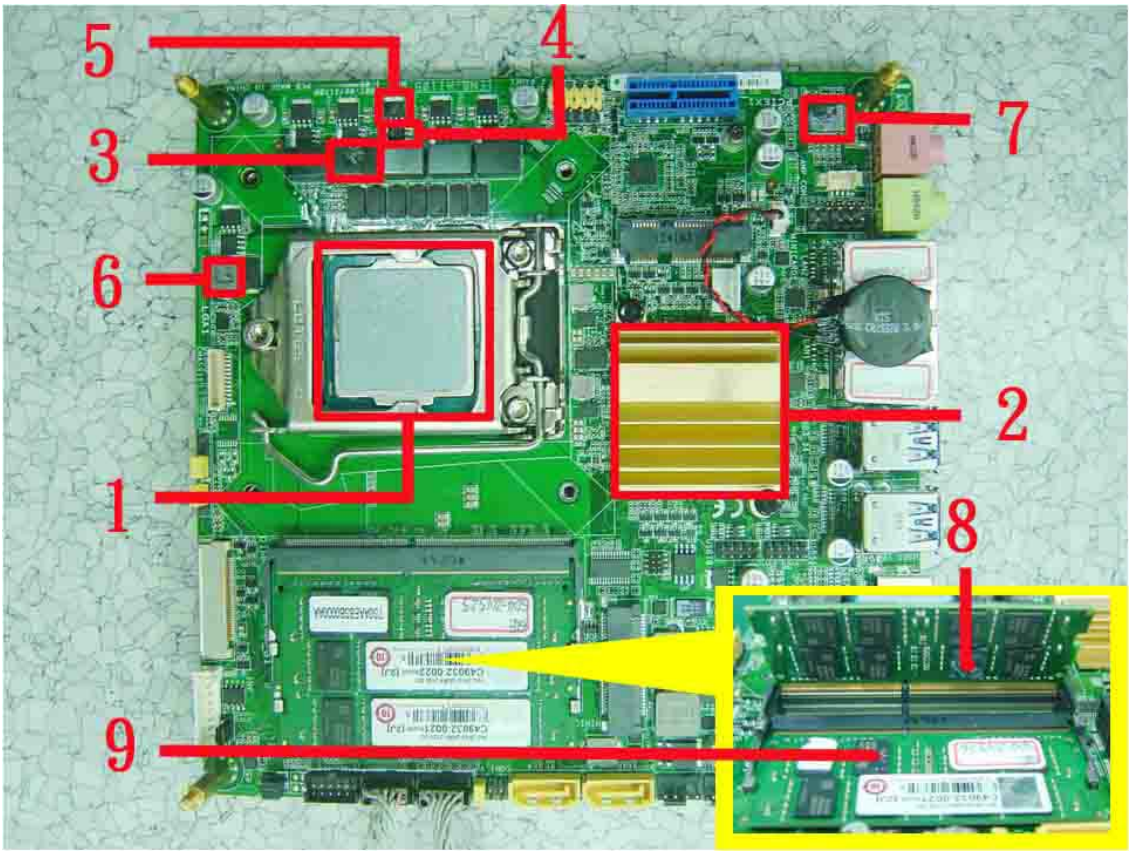
Back Side:

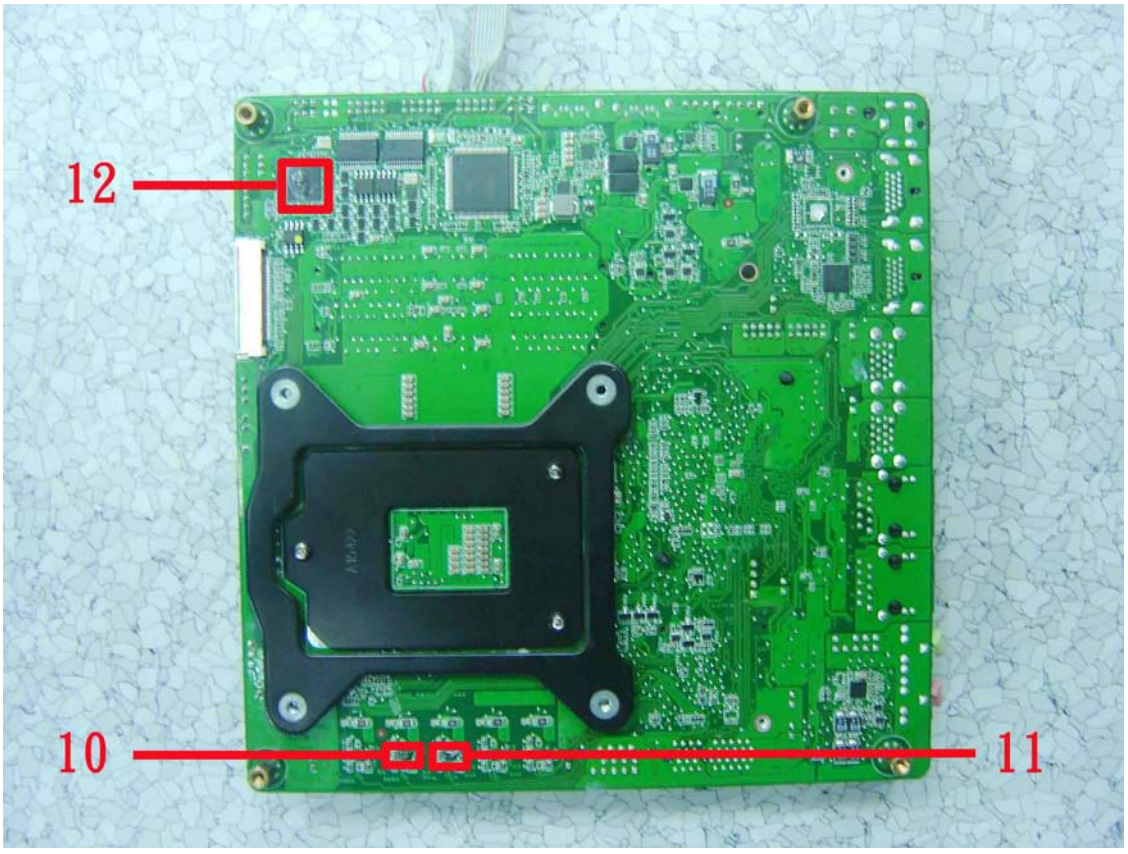


AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1053

Terminal Recorder :

Measuring Thermal Couple Position：





AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1053

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

Point	Position	Describe	Tc (*1) (℃)	TAT(*2)	TPT(*3)	Note
				25.0℃	60℃	
01	U40	CPU - Intel Core i7-6700 3.4GHz	71	34.8	69.8	Note4
02	SU1	C.S SKYLAKE GL82H110 PCH-H DT	108	34.1	69.1	
03	PL9	INDUCTOR 0.215UH/48A SMD 10%/ MAGIC	125	33.8	68.8	
04	PQ30	N-MOSFET PH1530CL SOT-669	150	46.6	81.6	
05	PQ29	N-MOSFET PH6030DLB SOT669	150	34.1	69.1	
06	PL7	POWER INDUCTOR 0.68UH/16A 20%	125	34.3	69.3	
07	AU1	C.S ALC887-VD2-CG LQFP-48	100	37.7	72.7	
08	DIMM_A1	Memory Chipset - 1	95	34.0	69.0	
09	DIMM_A2	Memory Chipset - 2	95	36.2	71.2	
10	PU10	MOSFET DRIVER IC RT9624GGQWA	100	49.6	84.6	
11	PU9	MOSFET DRIVER IC RT9624GGQWA	100	50.6	85.6	
12	LU1	C.S CH7511B-BF QFN68	125	40.8	75.8	
13	Air	Air Temperature	N/A	25.0	60.0	

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. : W150914QED03

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1053