IMBM-Q67

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: Temperature at 3 component was estimated to be in marginal temperature point in comparion with component datasheet.**

Test Result Summary

	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	3
Defect Unsolved	0	0	0	3

Issue date	Approval	Test Engineer
2012 / 09 / 07	Tom Lin	Rex Chang

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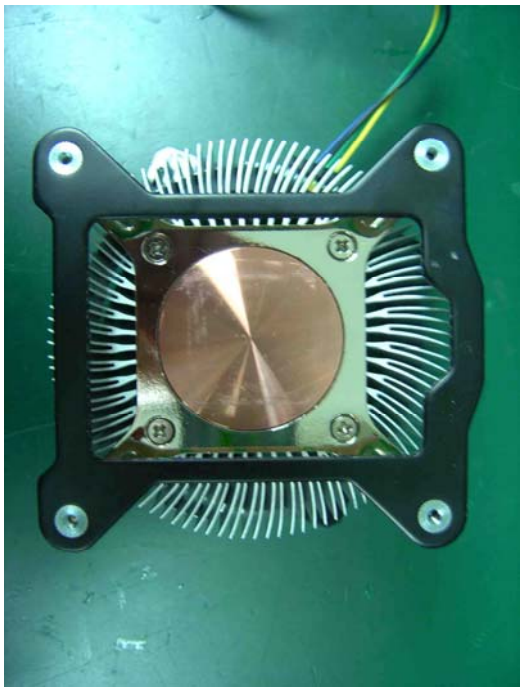
Sample Configuration & Quantity Under Test

- **Model name : IMBM-Q67 1.02**
- **CPU Board : IMBM-Q67 1.02**
- **CPU : Intel i7- 2700 / 3.5GHz**
- **Memory : InnoDisk 8GB * 2 / DDR3 1333 / Hynix H5TQ4G83MFR-PBC-212AK**
- **SATA HDD : HITACHI SATA 3.5“ 500GB / HDS721050CLA362**
- **BIOS : 0203 (08/06/2012)**
- **Test Software : Windows 7 / Run PassMark Burn In Test 7.0 Pro**
- **Power : ATX Power**
- **CPU Cooler :**



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Thermal Image Analysis

1. Test Date: 2012-09-06

2. Test Product: IMBM-Q67 1.02

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: 2011/10/12

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: 2012/01/03

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25.1℃ with Heat Sink + FAN (Full speed)

6. Take Picture Time:

After power on 2 hours

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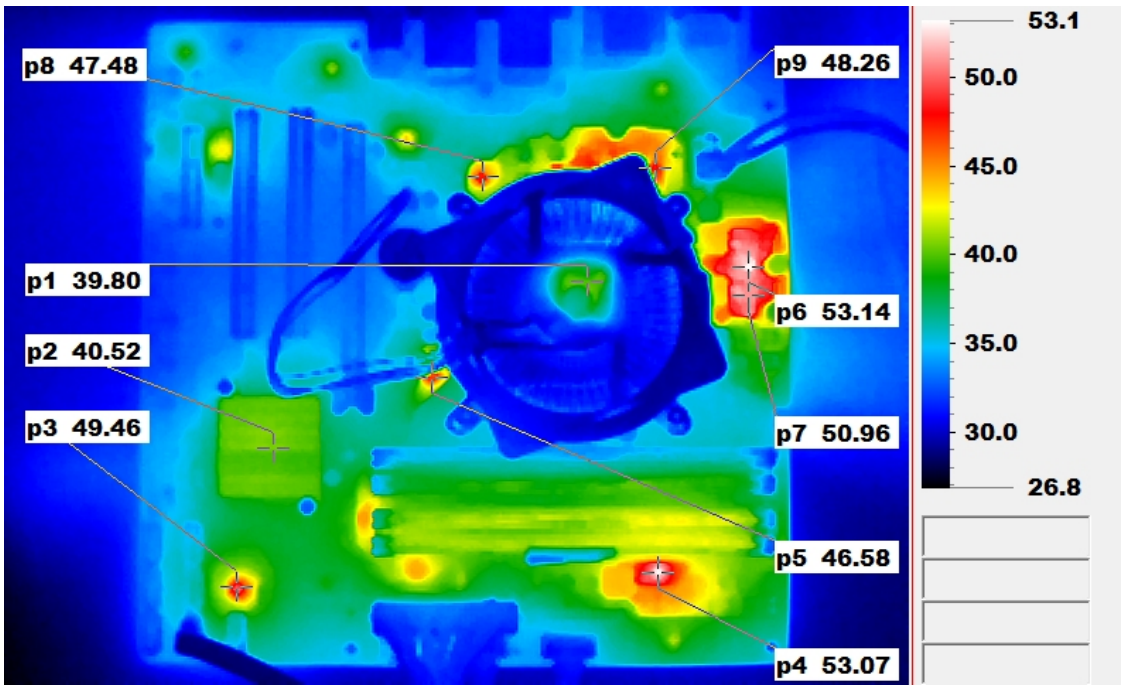
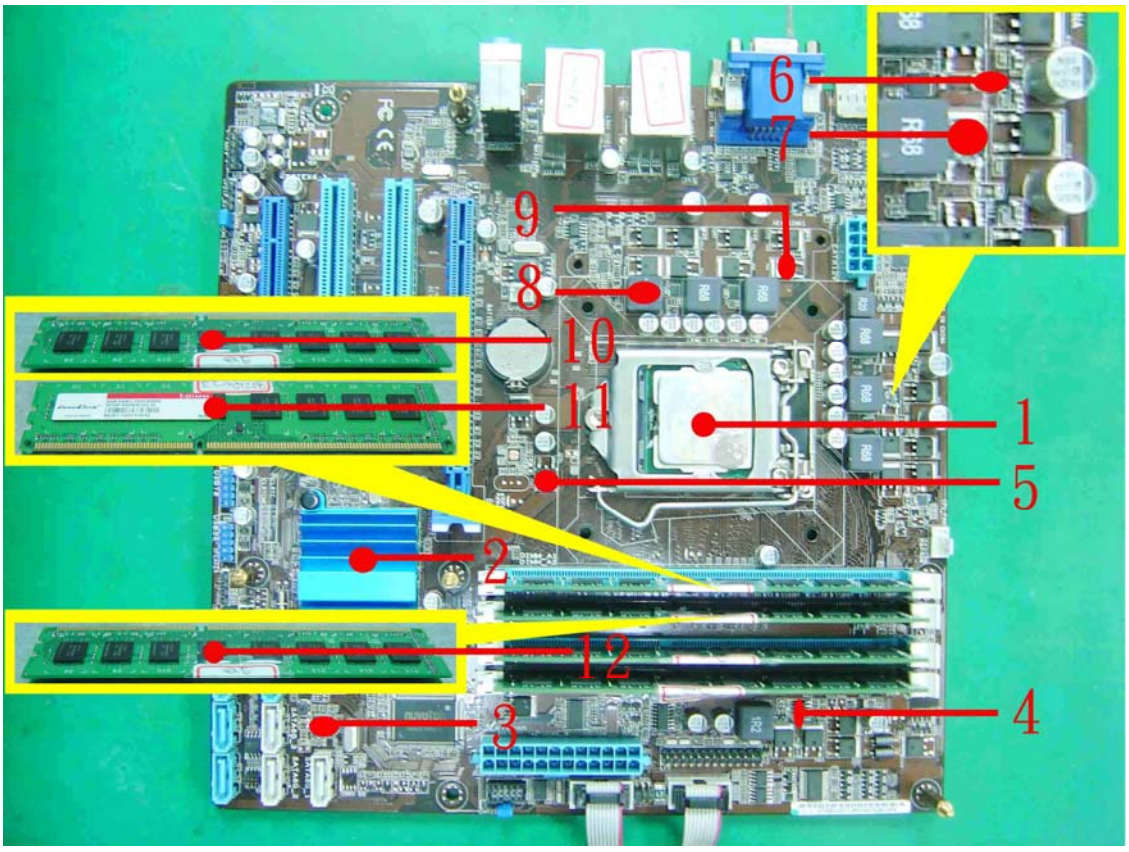
Temperature Profile Test:

Component Side:



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
				25.1℃	60℃	
1	CPU	INTEL i7- 2700K / 3.5GHz CPU	72.6	37.8	72.7	Note4
2	SU1	INTEL FCBGA942 SLJ4D/914397	104	40.7	75.6	
3	U2	C.S ASM1061 (A2) QFN48L//ASMEDIA	85	45.6	80.5	Note4
4	PU13	PWM CONTROLLER RT8120HGSP//RICHTEK SOP-8	125	48.5	83.4	
5	PQ22	N-MOSFET P0903BDL TO-252//NIKO-SEM	125	38.5	73.4	
6	PR97	RES 1 OHM 1/4W(1206)5%//YAGEO/RC1206JR-071RL	85	46.3	81.2	Note4
7	PQ8	N-MOSFET P0603BDL TO-252//NIKO-SEM	125	43.9	78.8	
8	PL7	INDUCTOR 0.68UH/35A 1.5φ/CHUNG SHUO/CS1112-R68-I43U	125	32.8	67.7	
9	PQ4	N-MOSFET P0603BDL TO-252//NIKO-SEM	125	38.7	73.6	
10	-	Memory chipset - 1	85	31.9	66.8	
11		Memory chipset - 2	85	33.2	68.1	
12	-	Memory chipset - 3	85	36.4	71.3	

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. BUL1206QED01

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