COM-QM87

Thermal Image Analysis Report

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

Test Result Summary

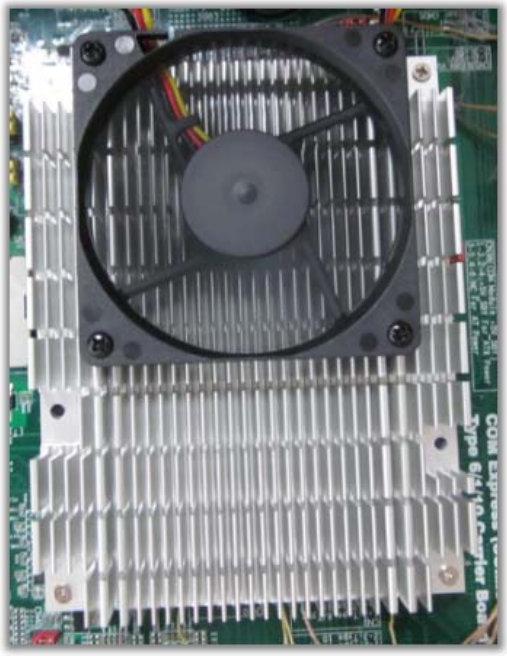
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	1
Defect Unsolved	0	0	0	1

Issue date	Approval	Issued by	Test Engineer
2013/06/19	TOM	Rex Chang	ET Chen

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 : COM-QM87 A0.2**
- **CPU Board : COM-QM87 A0.2**
- **CPU : Intel Core i5-4400E (2.70 GHz)**
- **Memory : Transcend DDR3L 1600 8GB x 2**
- **HDD : WD WD5000AAKX 3.5” 500G**
- **BIOS : COM-QM87 R0.2 (CM87AM02)**
- **Test Software : Windows 7/ Run PassMark Burn In Test 7.0**
- **Power : AT Power**
- **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: 2013-06-18

2. Test Product: COM-QM87

3. Test Site: QE Dept.

4. Temperature Measurement:

4.1. 40 Channel Thermal Recorder:

4.1.1 OMRON Inc,

4.2.2 Model: ZR-RX40

Date of Calibration: 2012/12/11

Serial Number: H004528074.2. IR Scanner: Infrared Camera

4.2.1 NEC

4.2.2 Model: G100D

Date of Calibration: 2013-01-08

Serial Number: 1051444

5. Test Condition:

Component Side-1 (Test by ZR-RX40):25.0°C With CPU Fan

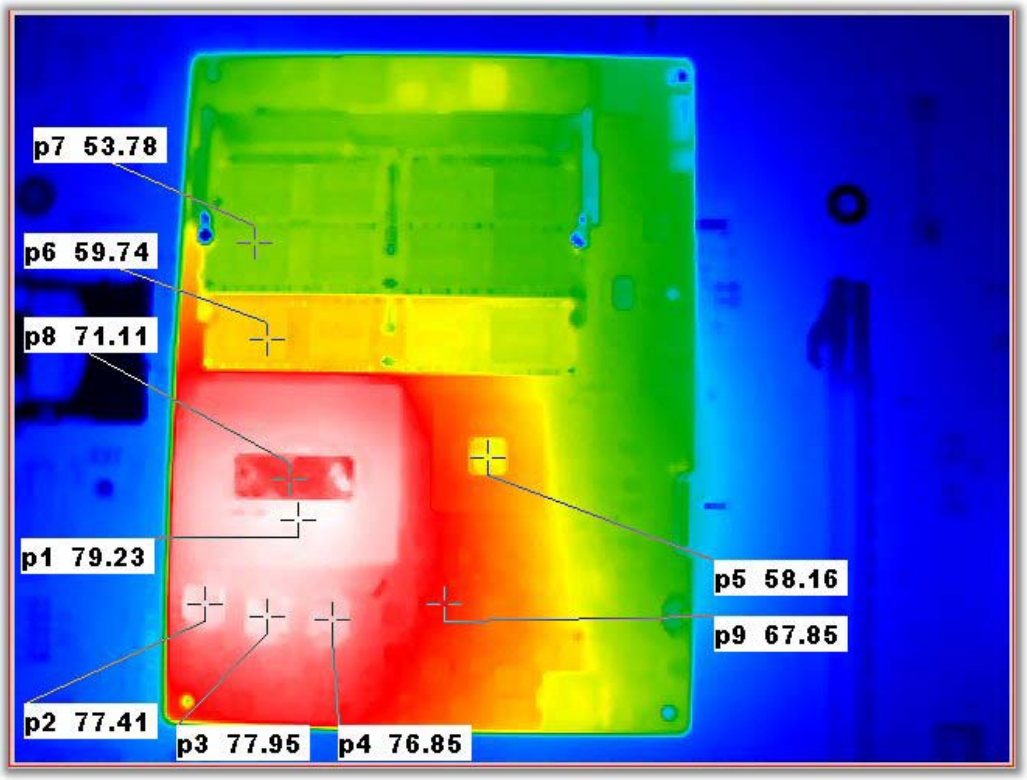
6. Take Picture Time:

After power on 2 hours

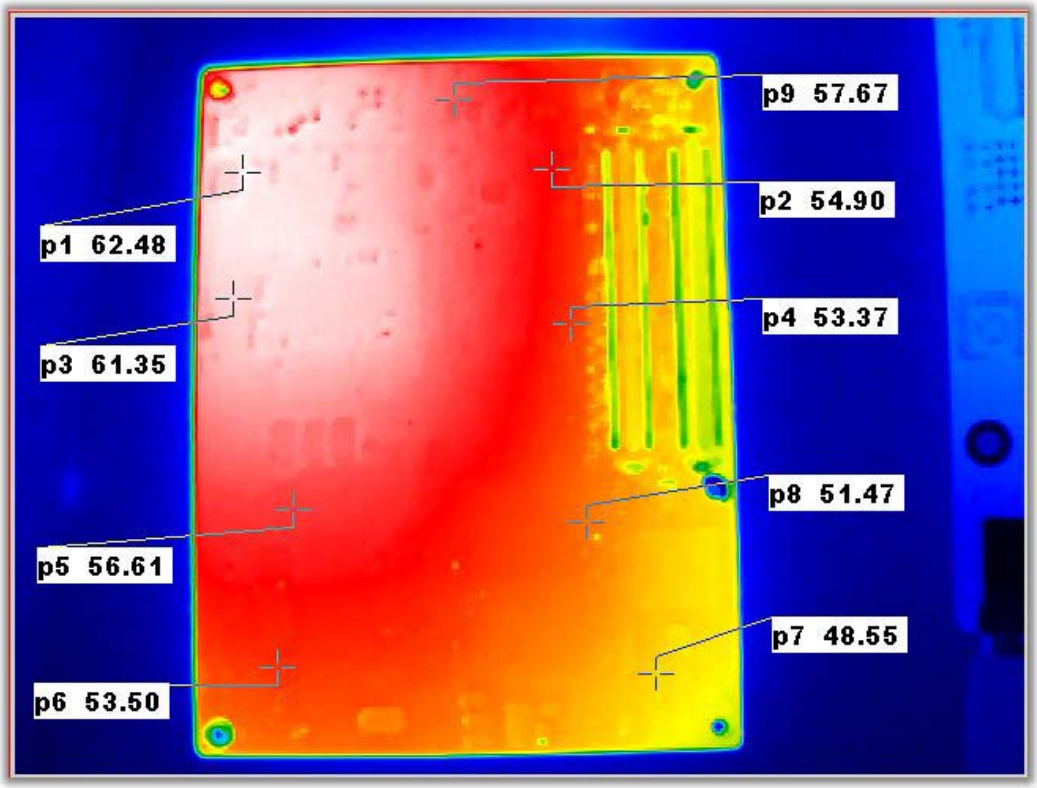
AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1053

Temperature Profile Test:

Component Side:



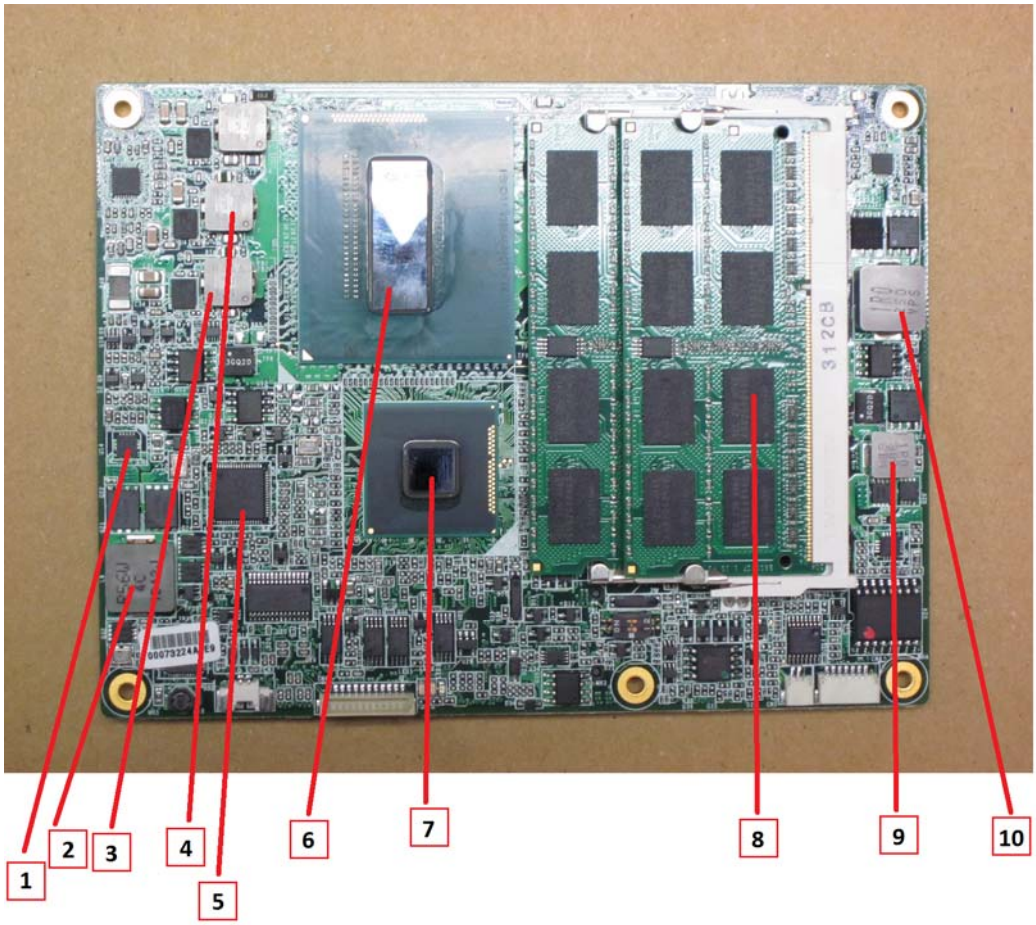
Back Side:



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) (℃)	Tm (*2) Measured Under		Note
				25℃	60℃	
1	U14	Single Synchronous.Step-Down Controller.TI.TPS51217DSCR	100	49.1	84.1	
2	L9	Simple Sequencers.AD.ADM1085AKSZ	130	39.4	74.4	
3	L3	Panasonic.ETQP4LR24AFM	130	41.1	76.1	
4	L2	Panasonic.ETQP4LR24AFM	130	43.0	78.0	
5	U16	DisplayPort to LVDS Converter.Chrontel.CH7511B-BF	85	51.4	86.4	Note4
6	U5	INTEL CPU.Haswell Mobile.BGA1364P	100	45.0	80.0	
7	U15	Chipset PCH.SMD.INTEL.BD82QM87	108	44.2	79.2	
8	Memory	Transcend DDR3L 1600 8GB	85	41.8	76.8	
9	L8	GOTREND.GSTC063P-1R0MN	125	43.2	78.2	
10	L4	GOTREND.GSTC104P-1R0MN	125	41.4	76.4	

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.C121209QED01**

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