GENE-QM67

A0.3

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: Two temperature point need improving**

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	2
Defect Unsolved	0	0	0	2

Issue date	Approval	Test Engineer
2011 / 12 / 05	Jansin Lee	Clement Chien

Sample Configuration & Quantity Under Test

- **Model name :** GENE-QM67
- **CPU :** Intel Core i5-2510E Processor / 2.50 GHz
- **Memory :** DSL DDR3 1333 4GB CL9 ELPIDA J2108BCSE-DJ-F
- **HDD :** Seagate 2.5” SATA HDD 120GB
- **BIOS :** GENE-QM67 R0.A
- **Test Software :** Windows 7 / Run PassMark Burn In Test 6.0 Pro
- **Power :** AT Power
- **CPU Cooler:**

Thermal Image Analysis

1. Test Date: 2011-12-02

2. Test Product: GENE-QM67

3. Test Site: AAEON Internal Lab.

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 NIPPON AVIONICS CO., LTD.

4.2.2 Model: TVS-100

Date of Calibration: 2011/07/11

Serial Number: 0179L2746

5. Test Condition:

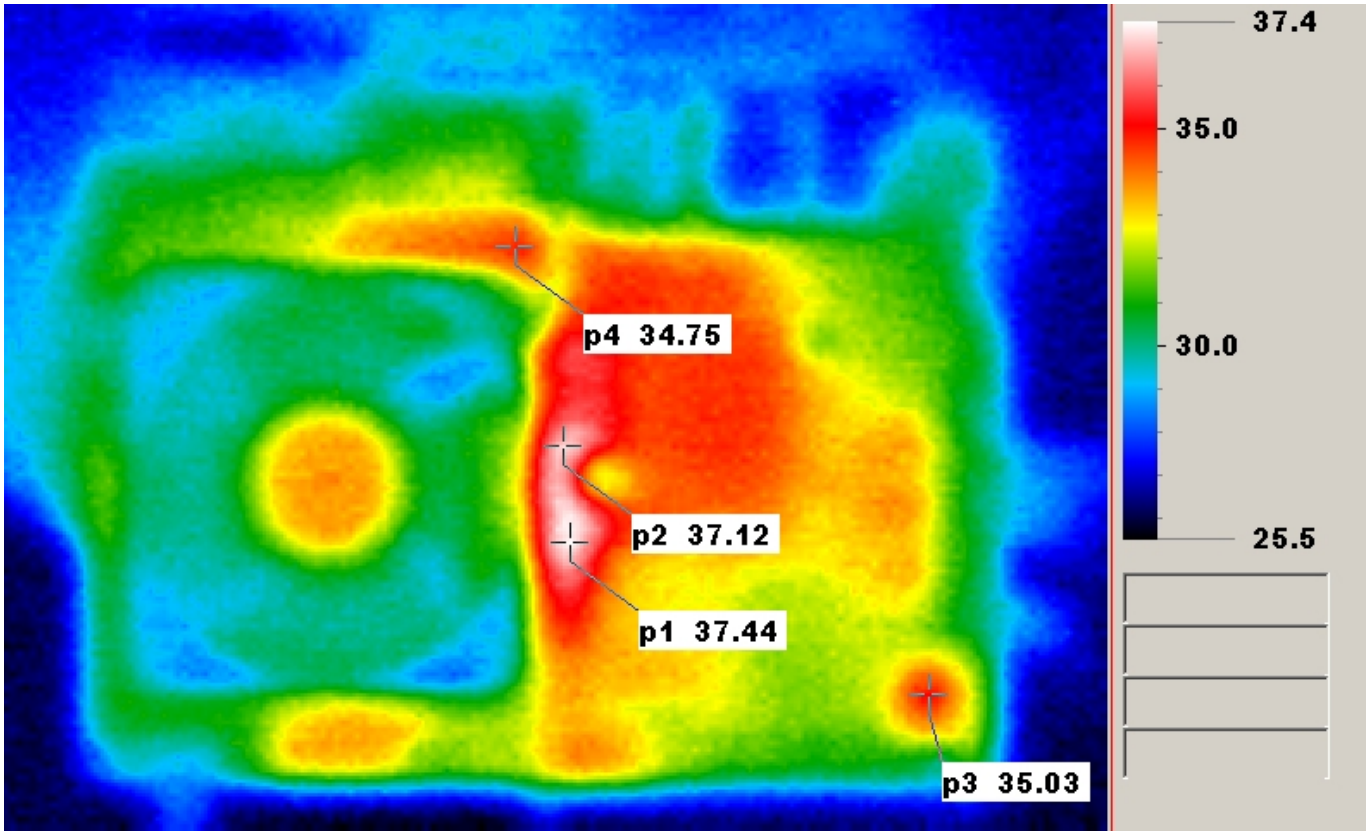
Component Side-1 (Test by DA-100): 25.0℃ With Cooler

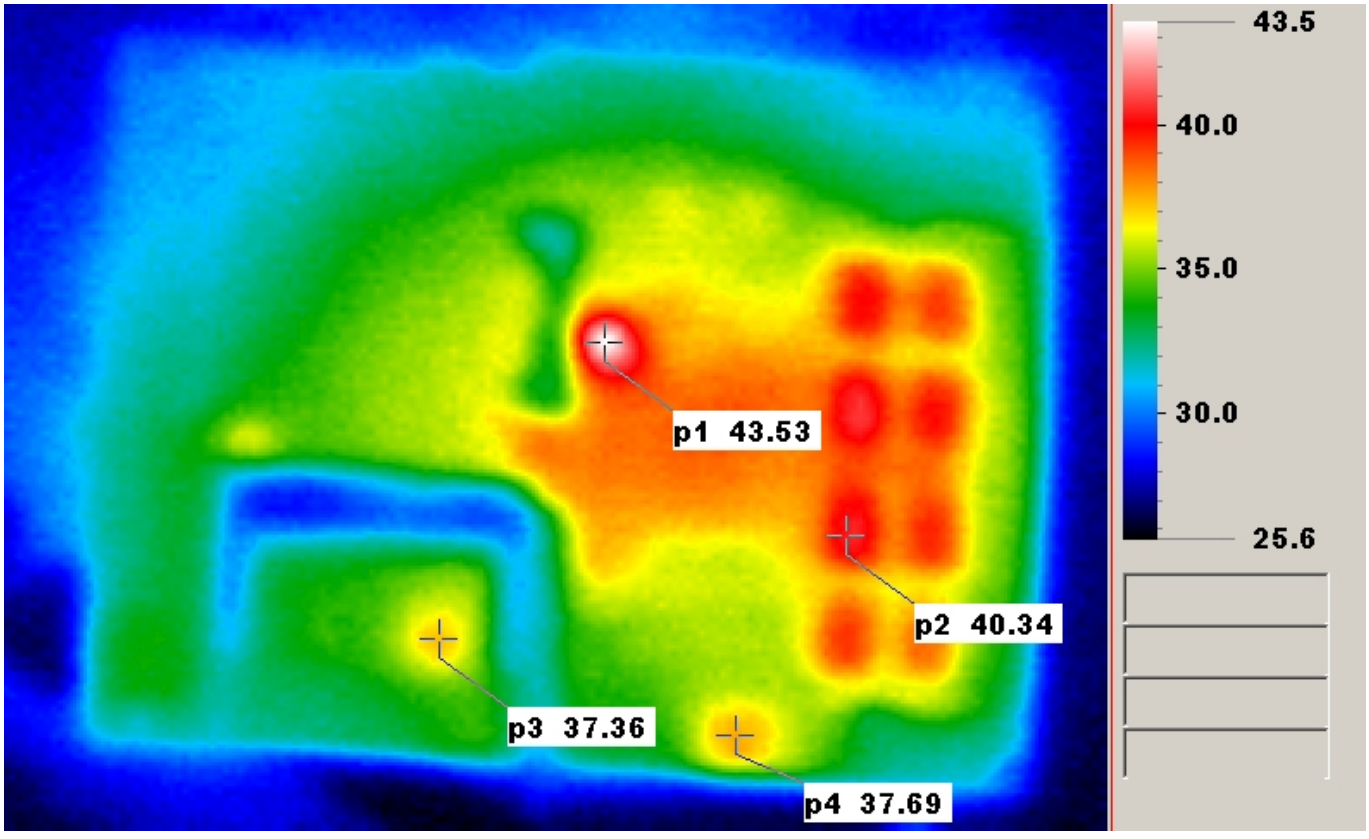
6. Take Picture Time:

After power on 2 hours

Temperature Profile Test:

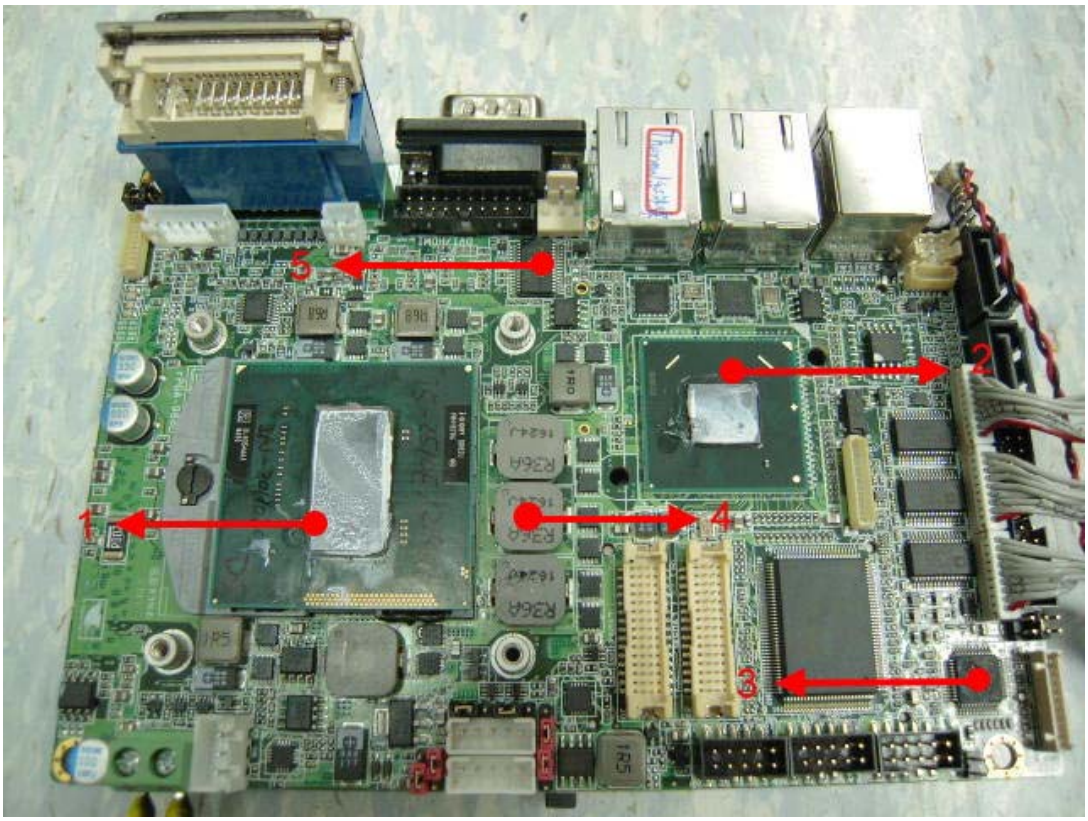
Component Side:

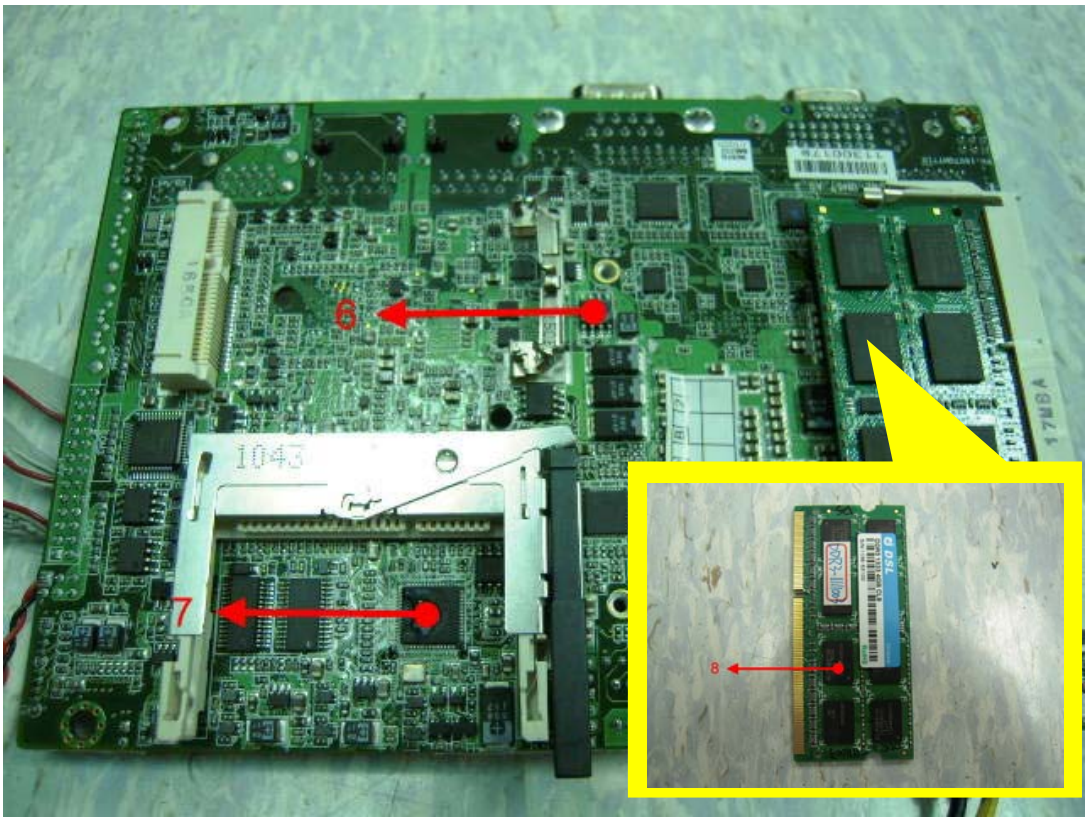




Terminal Recorder:

Measuring Thermal Couple Position：





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

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25℃	60℃	
1	U27	(TF)Intel i5-2510E 2.50GHz	100	36.2	71.2	
2	U31	(TF)Chipset PCH.INTEL.BD82QM67 SLJ4M	108	41.0	76.0	
3	U11	(TF)High Definition.Audio codec.REALTEK.ALC892-GR	85	39.8	74.8	
4	L5	(TF)COIL.0.36uH.Panasonic.ETQP4LR36AFC	130	37.2	72.2	
5	U50	(TF)RS232 Driver ESD 15KV.AD.ADM213EARSZ;EE-A970562	100	36.9	71.9	
6	U80	(TF)Low dropout Linear Regulator.ANPEC.APL5912-KAC-TRL	100	54.0	89.0	
7	U59	(TF)DisplayPort to LVDS Converter.Chrontel.CH7511B-BF	85	40.9	75.9	
8	Memory	DSL DDR3 1333 4GB CL9 ELPIDA J2108BCSE-DJ-F	85	46.5	81.5	

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.