ReportNO: 11E080011

GENE-QM57

With Intel Core i7 620M / 2.66GHz CPU

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	1
Defect Unsolved	0	0	0	1

Issue date	Approval	Test Engineer
2011 / 07 / 05	Jansin Lee	Rex Chang

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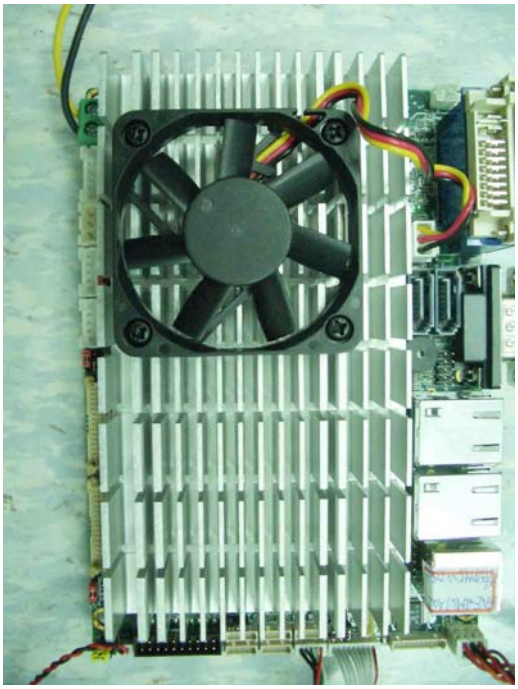
Sample Configuration & Quantity Under Test

- **Model name : GENE-QM57 A0.3**
- **CPU Board : GENE-QM57 A0.3**
- **CPU : Intel Core i7 620M / 2.66GHz**
- **Memory : ADATA DDR3 2GB / Hynix H57Q1G838BFR G7C**
- **3.5” SATA HDD : Seagate HDD 160GB / ST3160811AS**
- **BIOS : GENE-QM57 1.0 (05/31/2011)**
- **Test Software : Windows XP sp3 / Run Prime95 v26.5**
- **Power : AT Power**
- **Cooler:**



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Thermal Image Analysis

1. Test Date: 2011-07-05

2. Test Product: GENE-QM57 A0.3

3. Test Site: AAEON Internal Lab.

4. Temperature Measurement:

1. 40 Channel Thermal Recorder:

YOKOGAWA Inc,

Model: DA100-13-1D

Date of Calibration: 2010/11/08

Serial Number: 12A323190

2. IR Scanner: Infrared Camera

NIPPON AVIONICS CO., LTD.

Model: TVS-100

Date of Calibration: 2010/08/10

Serial Number: 0179L2746

5. Test Condition:

Test by DA-100: 26.0℃ with cooler

6. Take Picture Time:

After power on 2 hours

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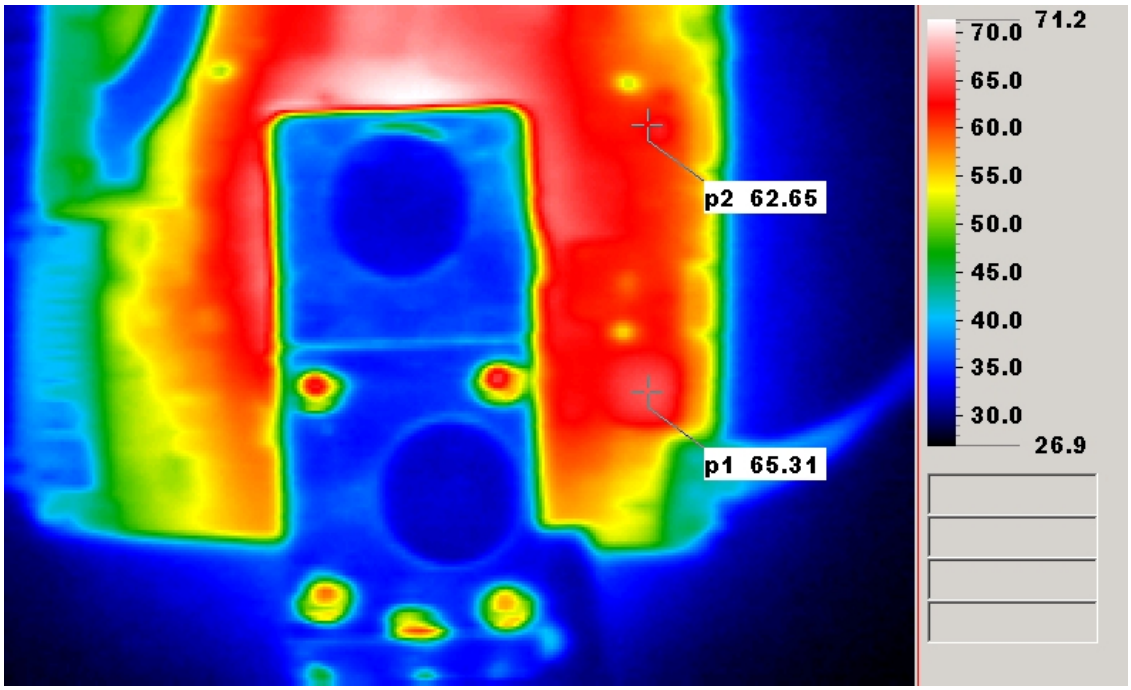
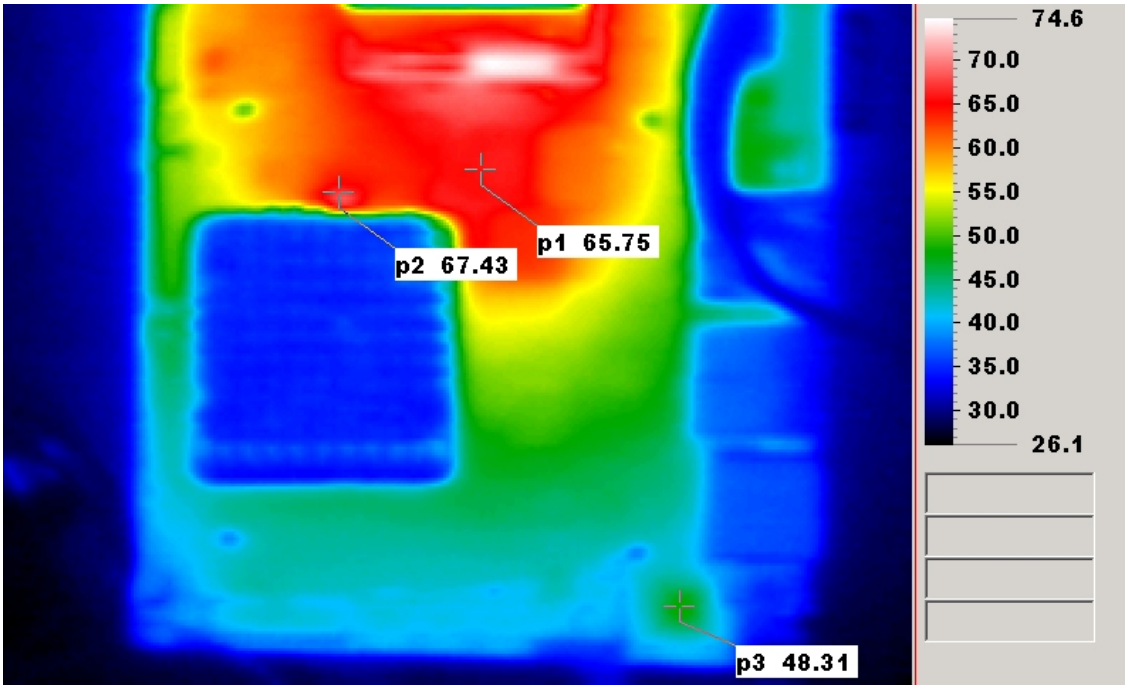
Temperature Profile Test:

Component Side:





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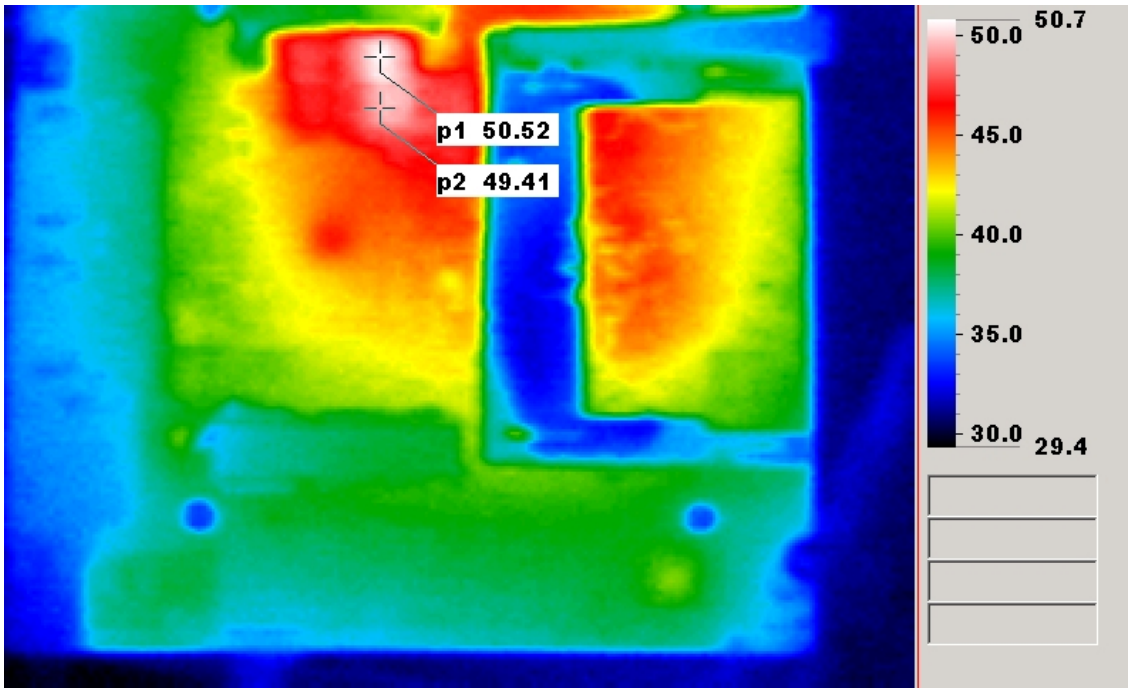
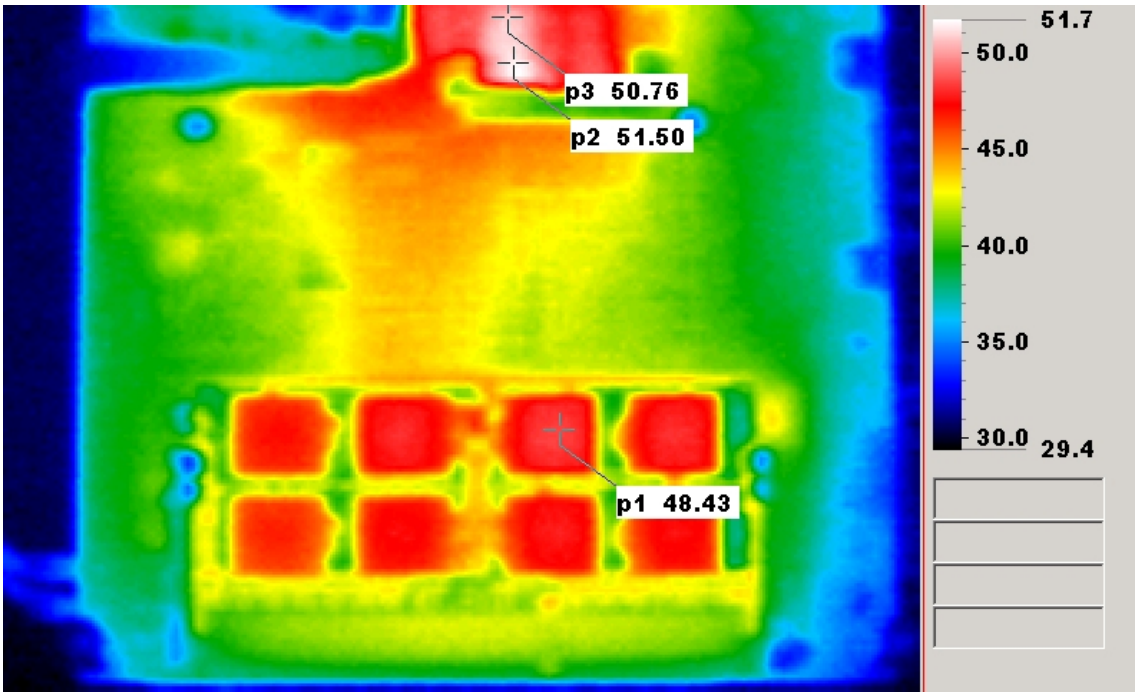
Back Side:





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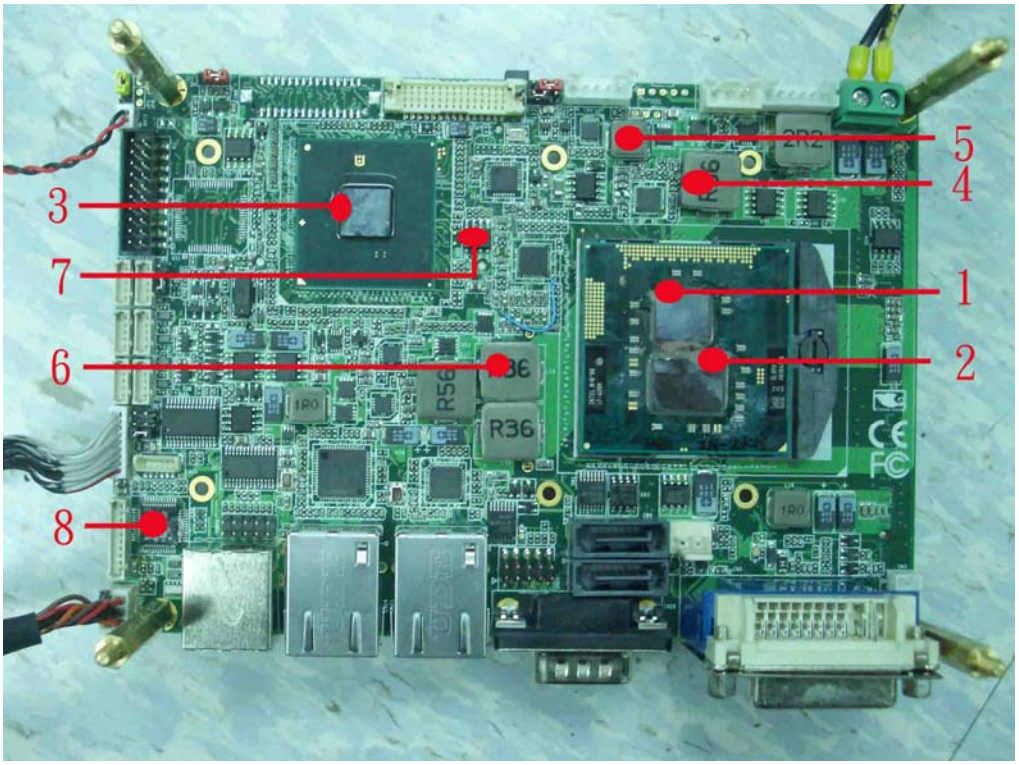
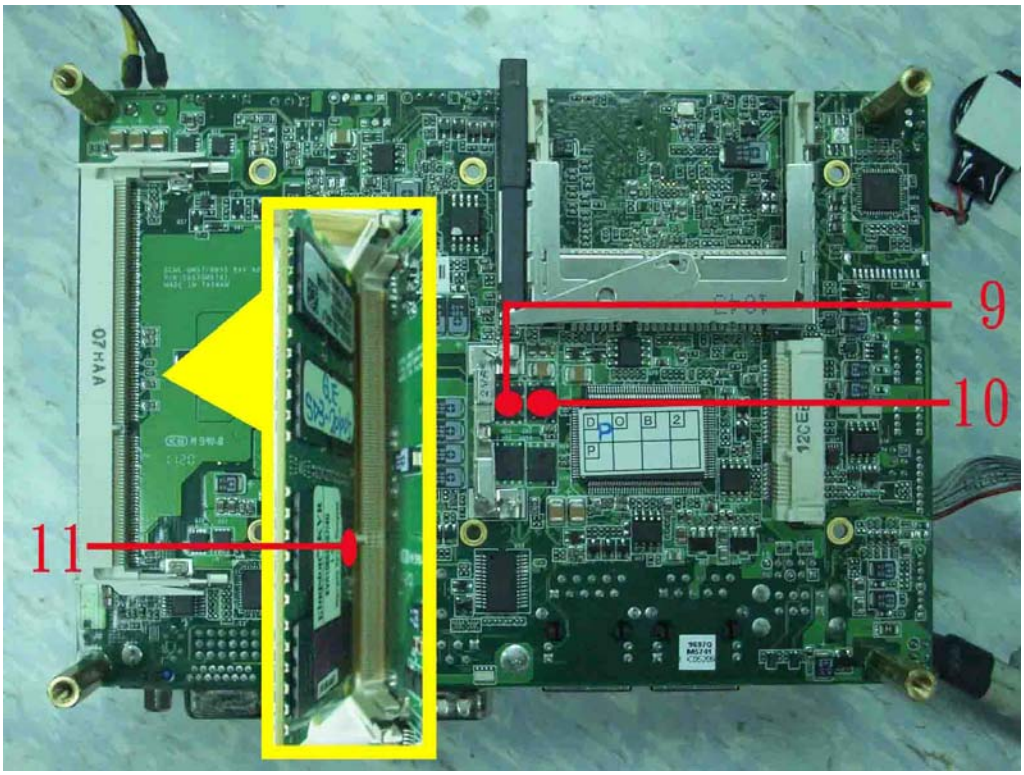
Terminal Recorder:

Measuring Thermal Couple Position：





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

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				24.3℃	60℃	
1	U1	(TF)Intel Core i7 620M CPU - 1	100	47.8	81.8	
2	U1	(TF)Intel Core i7 620M CPU - 2	100	50.6	84.6	
3	U2	(TF)Chipset PCH.INTEL.BD82QM57 SLGZQ	111	50.9	84.9	
4	U52	(TF)Regulator.ANPEC.APL5912-KAC-TRL	85	42.5	76.5	Note 4
5	L12	(TF)COIL. ZenithTek.ZPWM-1040MA-R36M	125	42.3	76.3	
6	L16	(TF)COIL. ZenithTek.ZPWM-6030M-1R5M	125	48.0	82.0	
7	L13	(TF)COIL. ZenithTek.ZPWM-1040MA-R36M	125	59.7	93.7	
8	U22	(TF)High Definition Audio Codec.REALTEK.ALC888-GR	100.5	49.4	83.4	
9	Q53	(TF)PWR. PMPAK5X6 N-MOSFET. APEC.AP0503GMT-HF	125	59.3	93.3	
10	Q54	(TF)PWR. PMPAK5X6 N-MOSFET. APEC.AP3R303GMT-HF	125	59.1	93.1	
11	-	Memory chipset	95	57.7	91.7	Note 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. E100714QED01

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