GENE-HD05

With AMD G-T56N CPU

Thermal Image Analysis Report

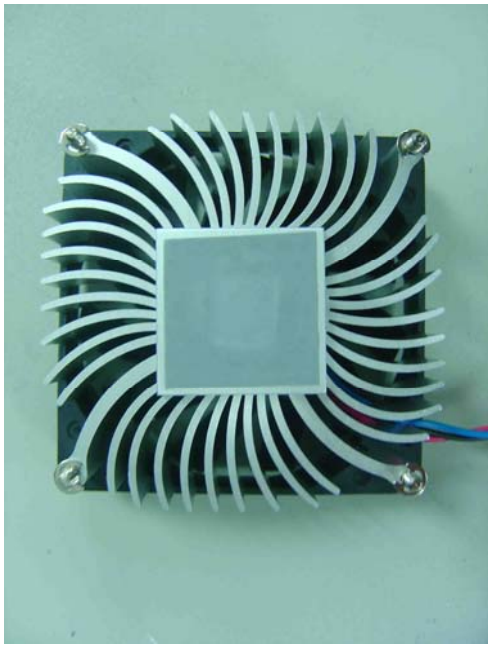
Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: <u>One temperature point need improving</u>**

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	1
Defect Unsolved	0	0	0	1

Issue date	Approval	Test Engineer
2012 / 06/ 15	Vincent Chen	Rex Chang

Sample Configuration & Quantity Under Test

- **Model name : GENE-HD05 A0.2**
- **CPU Board : GENE-HD05 A0.2**
- **CPU : Onboard AMD G-T56N / 1.65GHz**
- **Memory : Kingston 4GB * 2 / DDR3 1333 / Kingston D2568JENPGD9U**
- **SATA HDD : TOSHIBA SATA 2.5“ 160GB / MK1676GSX**
- **BIOS : GENE-HD05 R0.6 (GHD05AM06) (06/04/2012)**
- **Test Software : Windows 7 / Run PassMark Burn In Test 7.0 Pro**
- **Power : AT Power**
- **CPU Cooler :**



Thermal Image Analysis

1. Test Date: 2012-06-14

2. Test Product: GENE-HD05 A0.2

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:

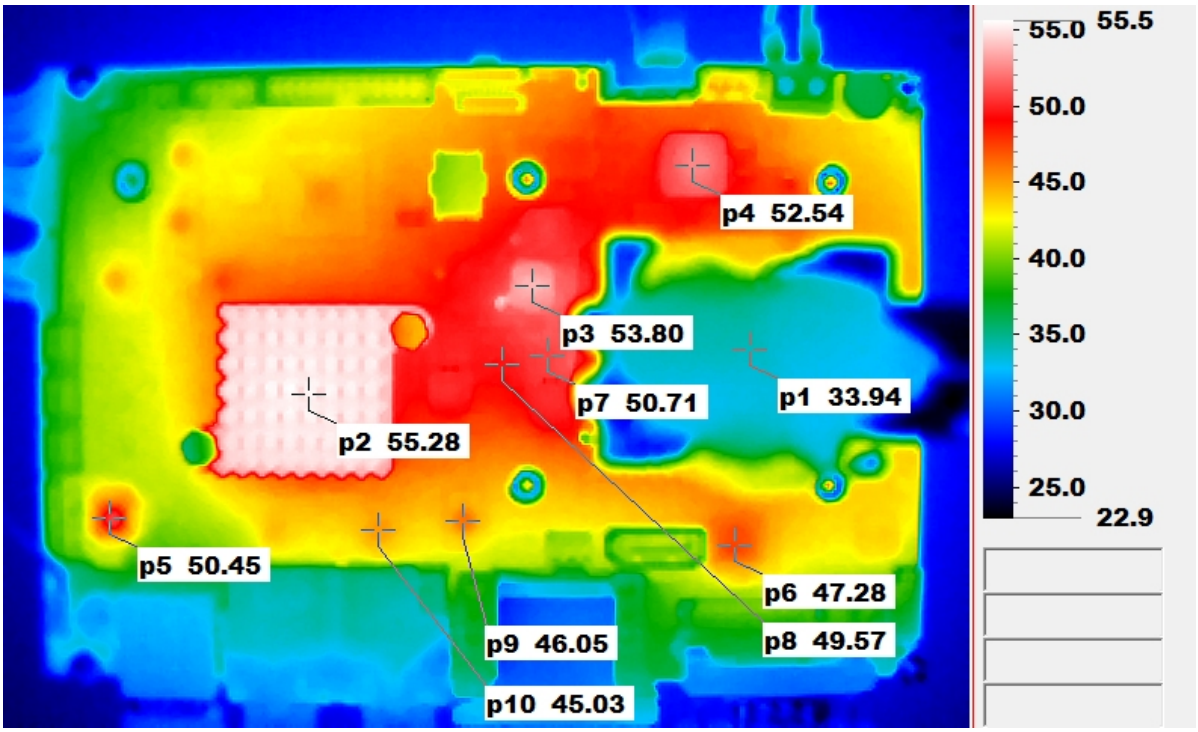
Test by DA-100: 60.0℃ with CPU Cooler

6. Take Picture Time:

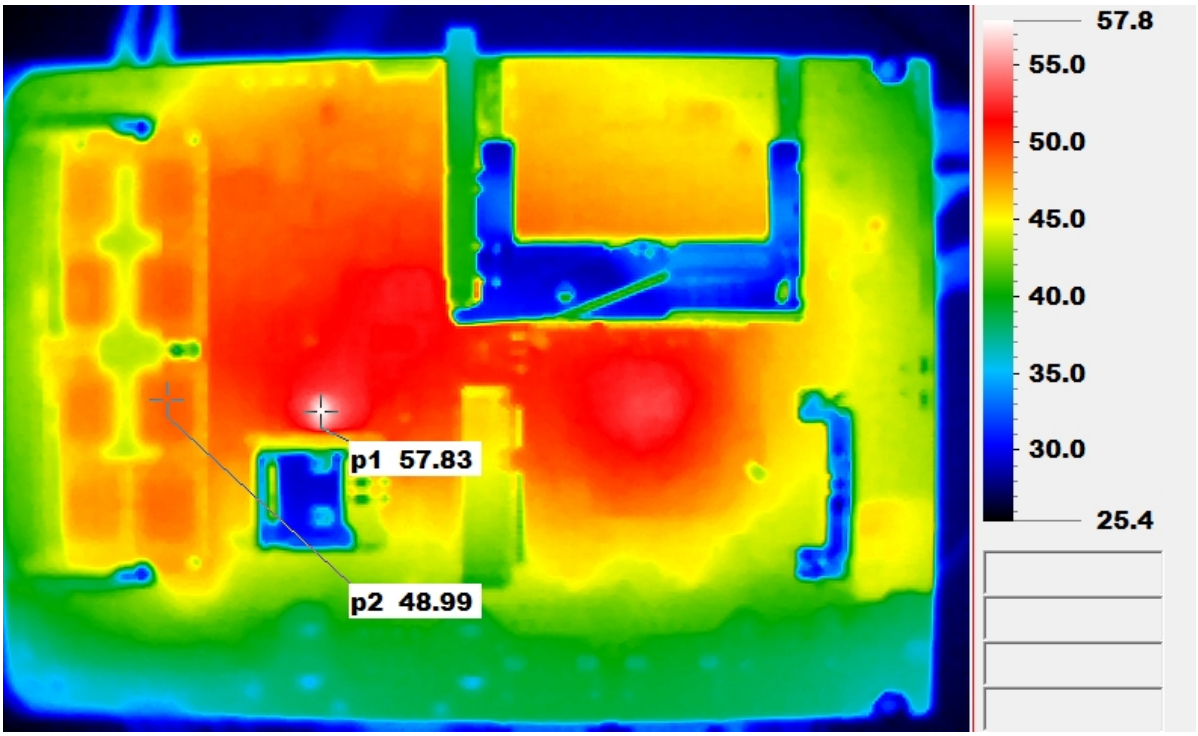
After power on 2 hours

Temperature Profile Test:

Component Side:

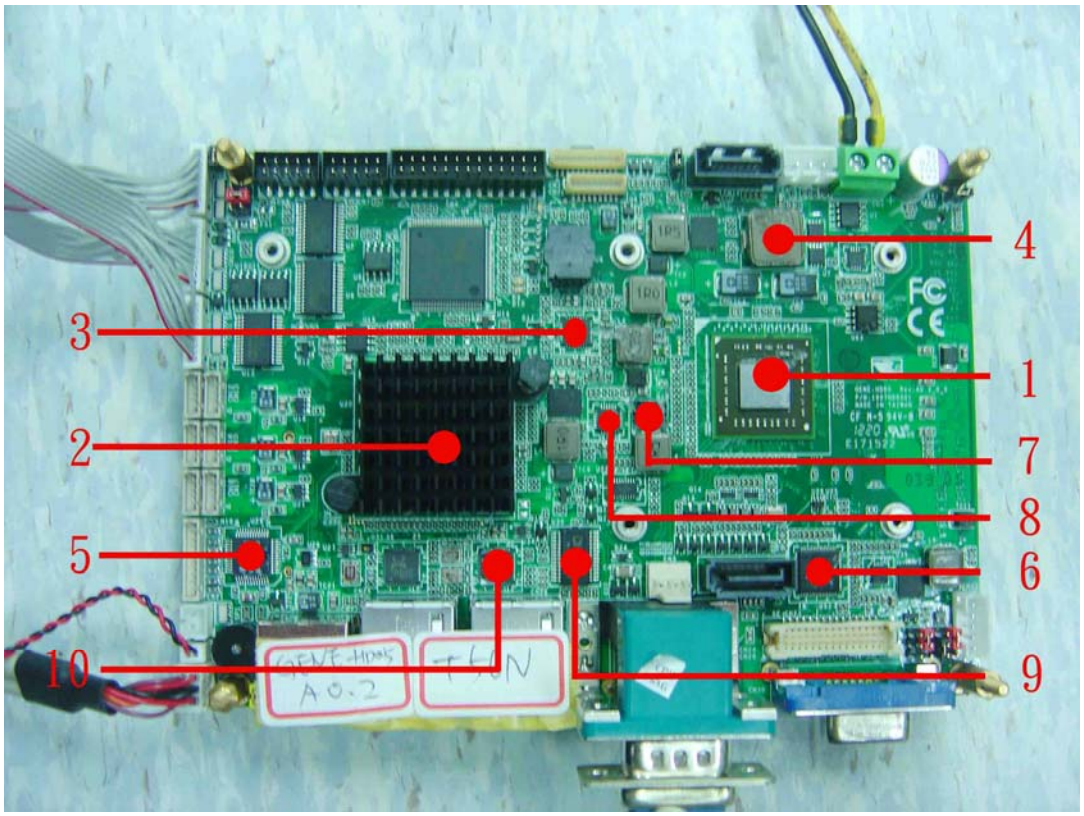


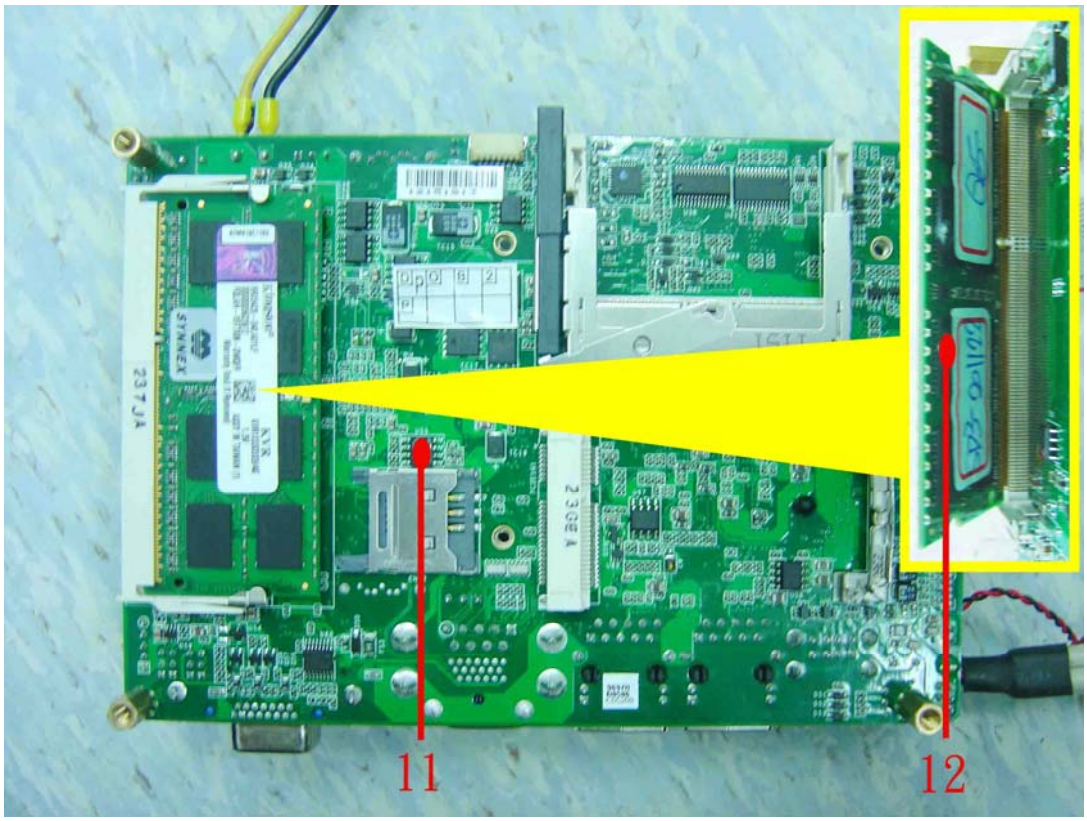
Back Side:



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 60℃	Note
1	U17	(TF) AMD APU.G-series.1.65GHz. GET56NGBB22GVE.T56N	90	71.8	
2	U20	(TF)AMD Hudson-M1 Fusion.AMD.A50M.100-CG2198	105	73.8	
3	L4	(TF)COIL. Zenithtek.ZPWM-6030M-1R0M	125	71.6	
4	L2	(TF)COIL. ZenithTek.ZPWM-1040MB-3R3M	125	69.0	
5	U29	(TF)HIGH DEFINITIOND.AUDIO CODEC.REALTEK.ALC662-GR	100.5	73.9	
6	U33	(TF)IC. DisplayPort to LVDS Converter.Chrontel.CH7511B-BF	85	70.1	
7	Q10	(TF)PWR. PMPAK5X6 DUAL N-MOSFET.FAIRCHILD.FDMS7620S	125	69.9	
8	U19	(TF) DUAL SYNCHRONOUS STEP-DOWN CON.TI.TPS51124RGE	100	66.6	
9	U30	(TF)RS232 Driver ESD 15KV.AD.ADM213EARSZ	100	68.5	
10	U32	(TF)PCI-express.Gigabit Ethernet Chip.REALTEK.RTL8111E-VB-GR	100	68.7	
11	U55	(TF) Low dropout Linear Regulator.GMT.G9731F11U	100	72.8	
12	-	Memory chipset	85	75.8	Note4

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. E111225QED03