GENE-9455

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** Comment: There are 7 temperature points marginal passed, the function is normal, hope to get improvement for the next generation.

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	7
Defect Unsolved	0	0	0	7

Issue date	Approval	Test Engineer
2014 / 01 / 29	Tom Lin	Juno Cheng

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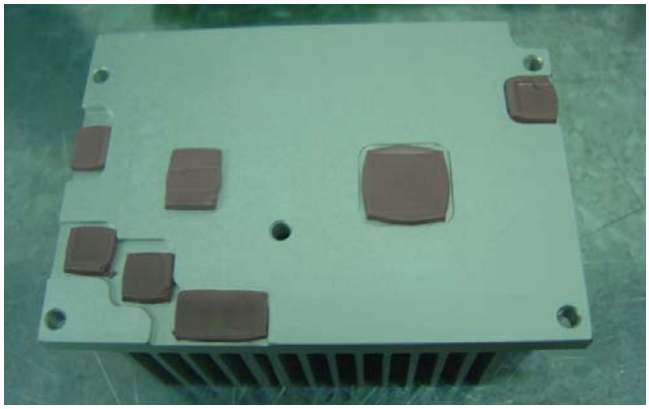
Sample Configuration & Quantity Under Test

- **Model name : GENE-9455 B2.0.0.1**
- **M/B Board : GENE-9455 B2.0.0.1**
- **CPU : Intel Atom N270 1.6GHz**
- **Memory : Transcend DDR2-667 2GB CL5/ SEC K4T1G084QF**
- **2.5" SATA HDD : WD WD3200BEVT-75A23T0 / 320GB**
- **BIOS : GENE-9455 R1.0 (06/08/2010)**
- **Test Software : Windows 7 / Run PassMark Burn In Test 7.0 Pro**
- **Power : SP2-4300F**
- **Heat Sink :**



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Thermal Image Analysis

1. Test Date: 2014-01-29

2. Test Product: GENE-9455

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: 2013/10/01

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: 2013/12/30

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25.0℃ with Heat Sink

6. Take Picture Time:

After power on 2 hours

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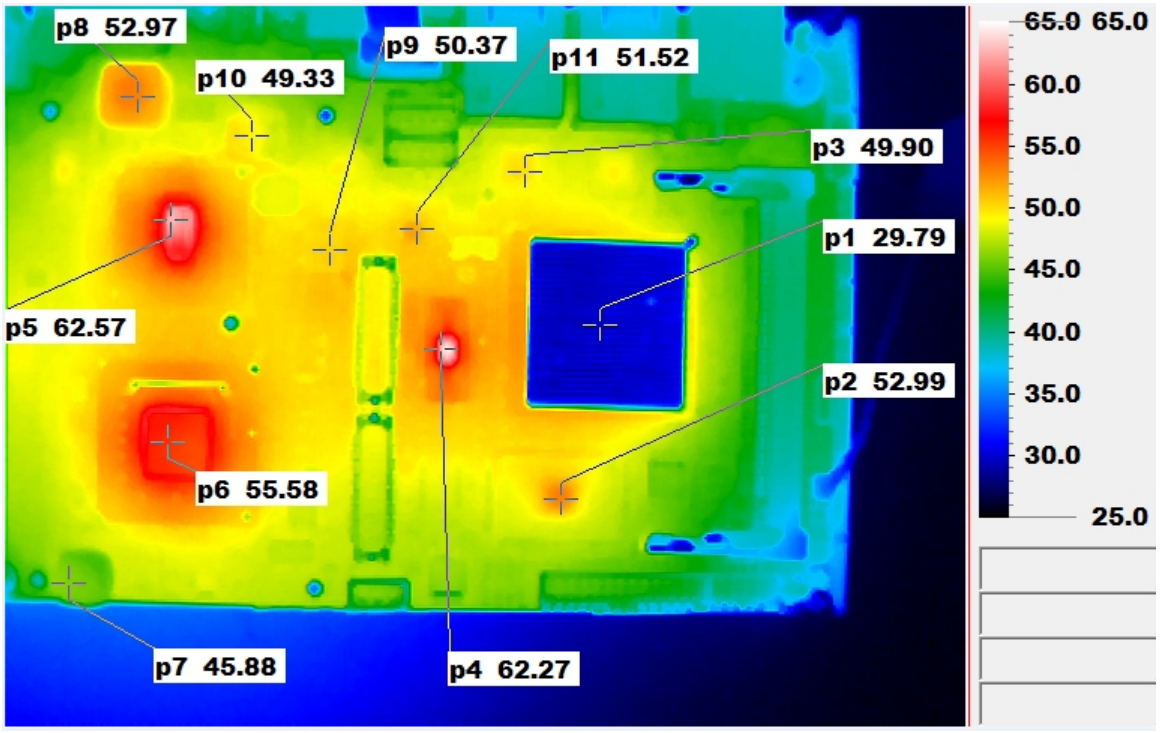
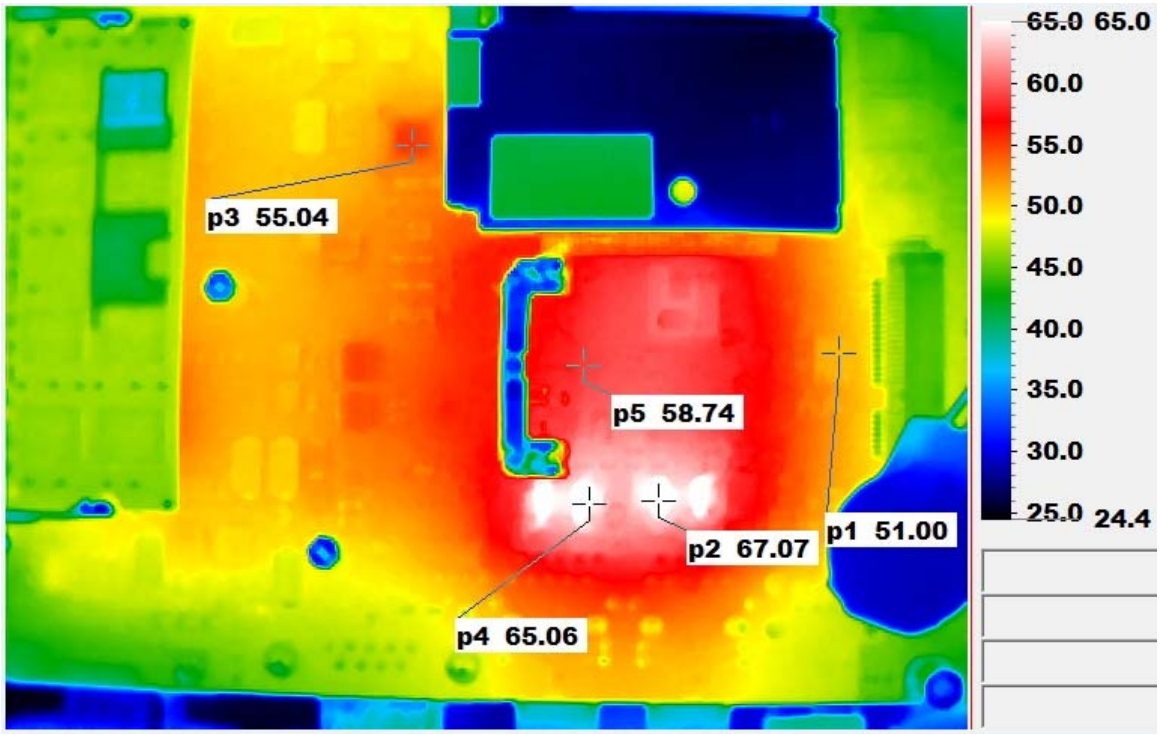
Temperature Profile Test:

Component Side:



Back Side:



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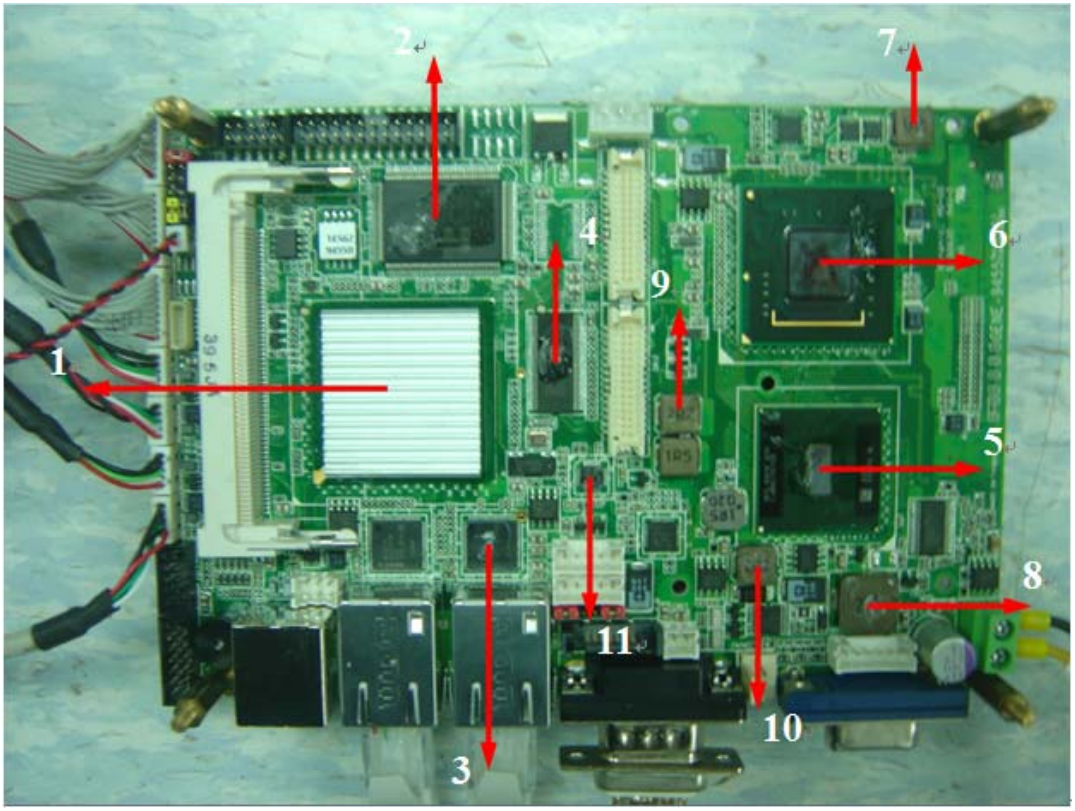
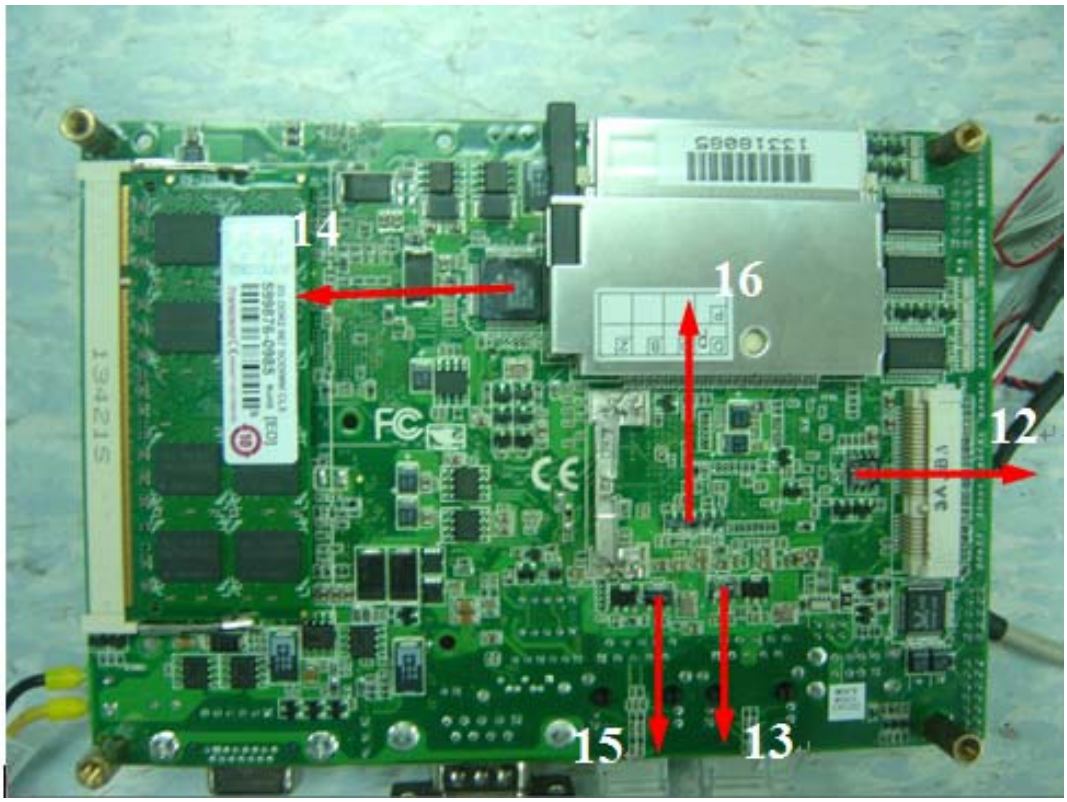
Terminal Recorder:

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
				25.0℃	60℃	
1	U4	(TF) Chipset ICH7M.Intel.NH82801GBM SL8YB	99	63.6	98.6	Note3
2	U9	(TF) Super I/O w/4 COMs.ITE.IT8781F/AX-L	100	55.4	90.4	
3	U7	(TF) GigaBit Ethernet Chipset.Intel.WG82574L	109	70.4	105.4	Note 3
4	U3	(TF) CLOCK GENERATOR.IDT.9LPRS501PGLF	100	62.3	97.3	Note 3
5	U15	CPU Intel Atom N270 1.60GHz	90	55.1	90.1	Note 3
6	U13	(TF) 6 Channel AC'97 Audio Codec.REALTEK.ALC655-LF	105	54.2	89.2	
7	L12	(TF)ZenithTek.ZPWM-6030M-1R5M	150	53.4	88.4	
8	L8	(TF)ZenithTek.ZPWM-1040M-2R2M	150	56.6	91.6	
9	L14	(TF)DCR=18mohm.Idc=8Amp.ZenithTek.ZPWM-6030M-2R2M	150	57.0	92.0	
10	L7	(TF)SMD.Panasonic.ETQP3W1R5WFN	150	56.0	91.0	
11	U69	(TF)IC.SMD.VQFN SYNCHRONOUS CON.TI.TPS51124RGE	100	65.6	100.6	Note 3
12	U49	(TF)IC.Voltage Resetting IC.SMD.RENESAS.RNA51957A	100	57.3	92.3	Note 3
13	Q31	(TF) Low Frequency Transistor.ROHM.2SB1386T100R	125	72.4	107.4	
14	U43	(TF)IC.SMD.LQFP 64Pin.LVDS Transmitter.CH7308B-TF	100	63.4	98.4	Note3
15	Q34	(TF) Low Frequency Transistor.ROHM.2SB1386T100R	125	72.9	107.9	
16	D34	(TF) DIODE.SMD.DUAL SOT-23 BAV99LT1.ON.BAV99LT1	125	67.1	102.1	
17		Memory chipset - 2	95	53	88	Note 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. :** E130606QED01

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