ReportNO:10E080017

GENE-U15B

Intel Z5x0P(T) SubCompact Board

Thermal Image Analysis Report

Summary	☐ Pass ☐ Fail ☑ Pass with Deviation Comment: One 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
2010 / 10 /22	Jansin Lee	Allen Hsu

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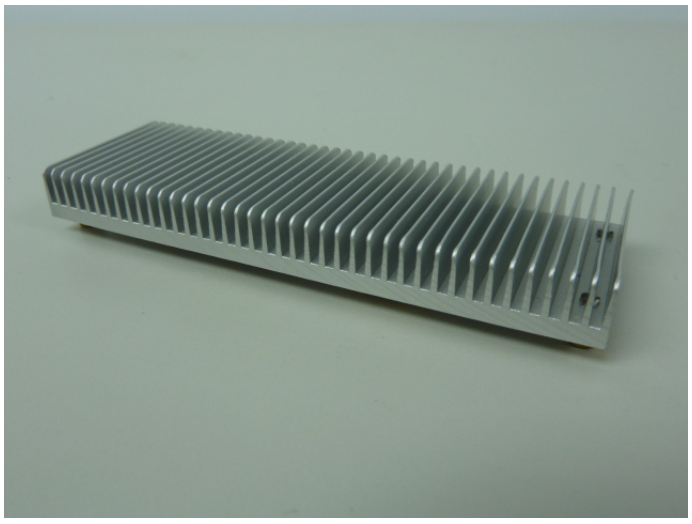
Sample Configuration & Quantity Under Test

- **Model name : GENE-U15B**
- **CPU Board: GENE-U15B Rev A0.2**
- **Carrier Board: N/A**
- **CPU: Intel(R) Atom(TM) CPU Z530 @1.60GHz**
- **Memory: Transcend DDR2 SO-DIMM / 667 2GB / SEC 804 HCE6 K4T1G084QQ**
- **HDD: Onboard SST SSD 4G**
- **BIOS : GENE-U15B 0.2.2(08/06/2010)**
- **Test Software: Windows XP sp3 / Run Prime95 v25.11**
- **AT Power Supply: LEMACS 300W SP2-4300F**
- **Heat Sink:**



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Thermal Image Analysis

1. Test Date: 10/21/2010

2. Test Product:GENE-U15B

3. Test Site: AAEON Internal Lab.

4. Temperature Measurement:
   1. GRAPHTEC midi LOGGER TYPE - GL200
   2. IR Scanner: Infrared Camera
      NIPPON AVIONICS CO., LTD.
      Model: TVS-100
      Date of Calibration: 08/10/2010
      Serial Number: 0179L2746

5. Test Condition:
   Component Side-1 (Test by TVS-100): 22.7℃ With cooler
   Component Side-2 (Test by TVS-100): 22.3℃ With cooler

6. Test Software:
   Windows XP sp3 / Run Prime 95 v25.11

7. Take Picture Time:
   After power on 2 hours

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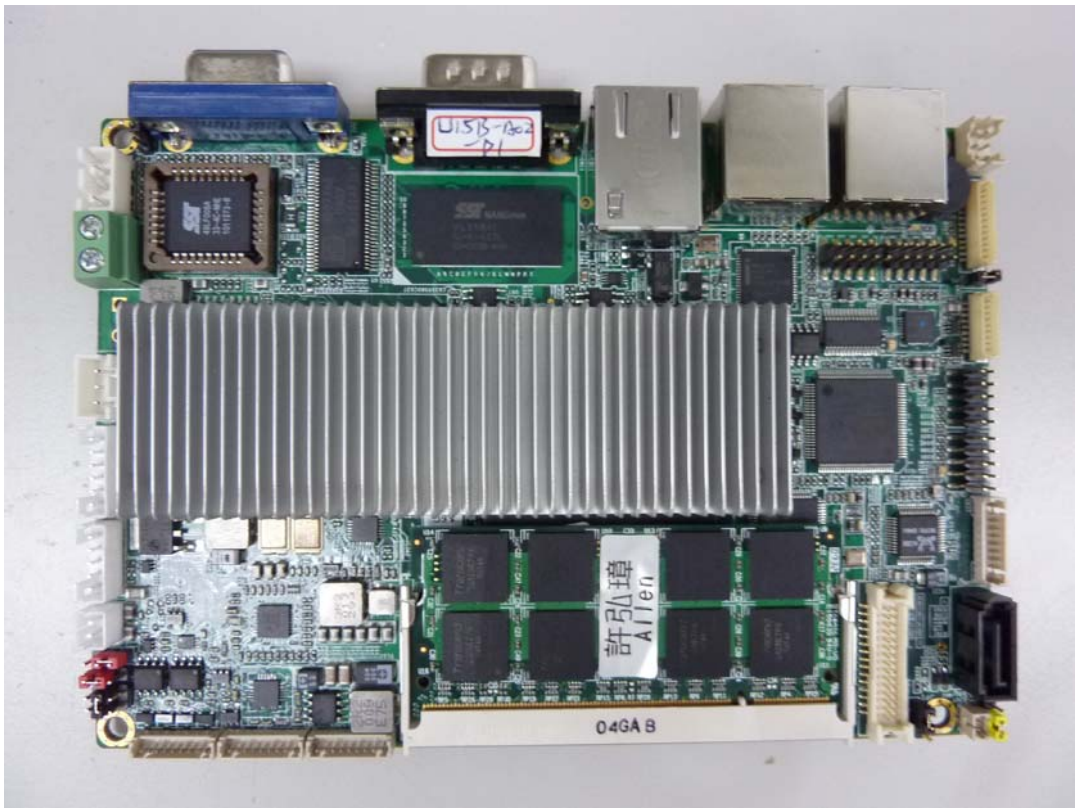
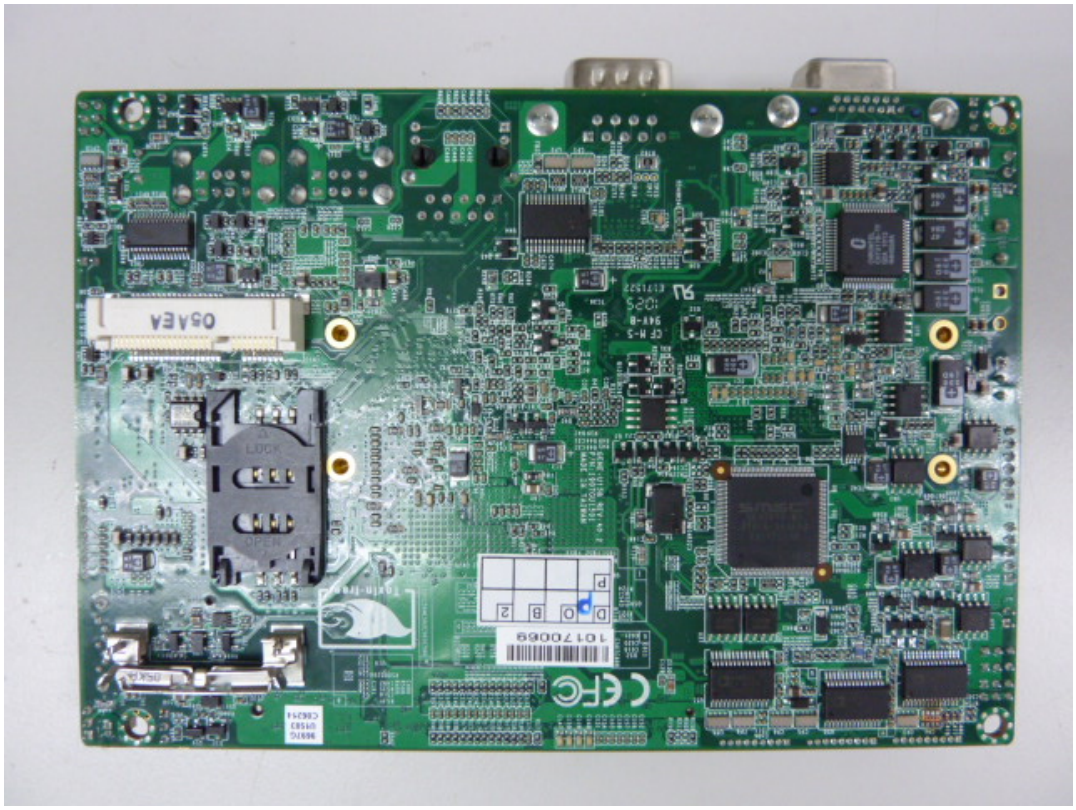
Temperature Profile Test:





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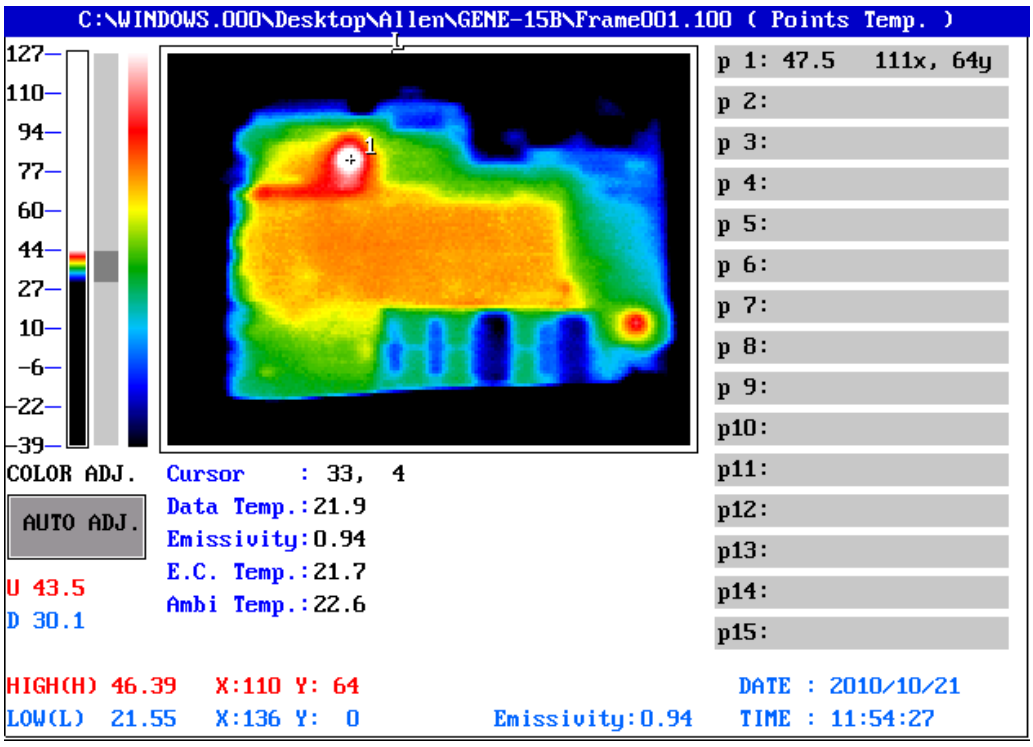
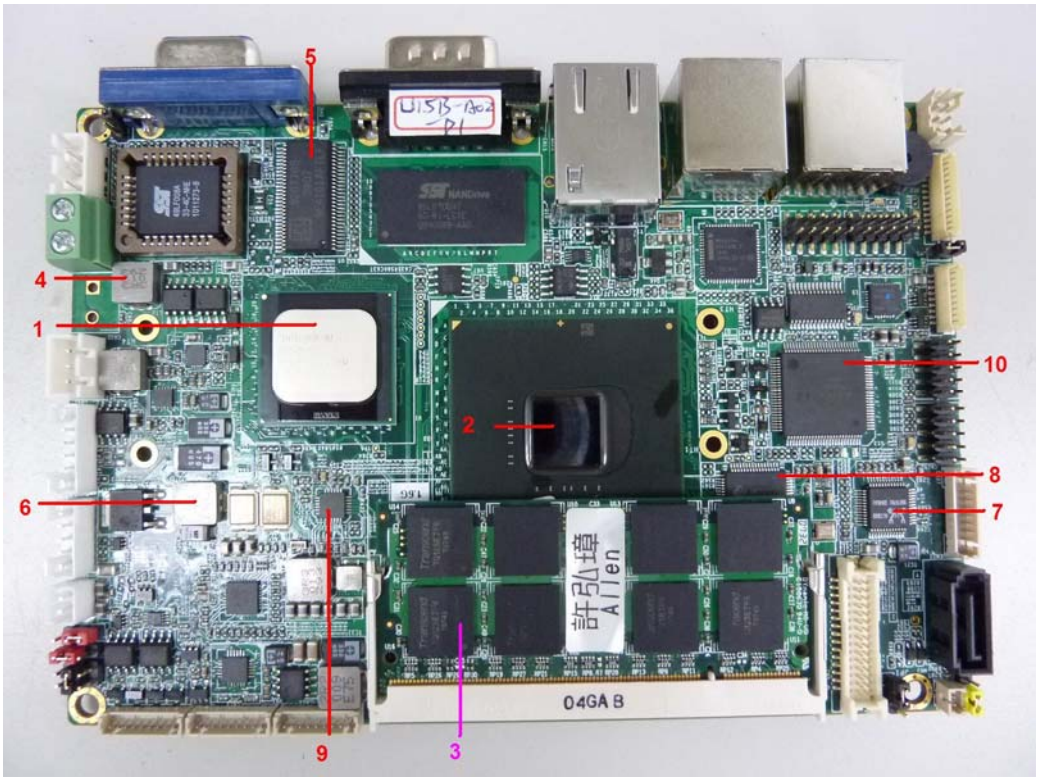
Component Side-1:





Red line – it's front side

Pink line – it's rear side

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Using GRAPHTEC midi LOGGER TYPE - GL200 test

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				22.7℃	60℃	
1	U1	INTEL CPU.Silverthorne XL.1.6GHz/533.	90	51.2	88.5	Defect NO. E091236 QED04
2	U3	IC.SMD.Chipset SCH.Poulsbo XL.	105	51.2	88.5	
3	RAM	Transcend DDR2 SO-DIMM / 667 2GB / SEC 804 HCE6 K4T1G084QQ	125	45.5	82.8	
4	L12	GOTREND.GSTC063P-3R3MN	125	52.6	89.9	
5	U5	Clock Generator.ICS.ICS9E4101yFILFT	115	57.3	94.6	
6	L100	GOTREND.GSTC063P-1R0MN	125	42.9	80.2	
7	U14	7.1+2 Channel High Definition.Audio Codec.REALTEK.ALC888-GR	100	48.3	85.6	
8	U58	SATA to IDE/ATA Chip.JMicron.JM20330APC0-TGCA	100	51.6	88.9	
9	U31	Dual Synchronous Buck Control.Semtech.SC415MLTRT	100	49.3	86.6	
10	U13	TQPF 100P.CPLD.Altera.EPM240T100C5N	110	43.2	80.5	

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.

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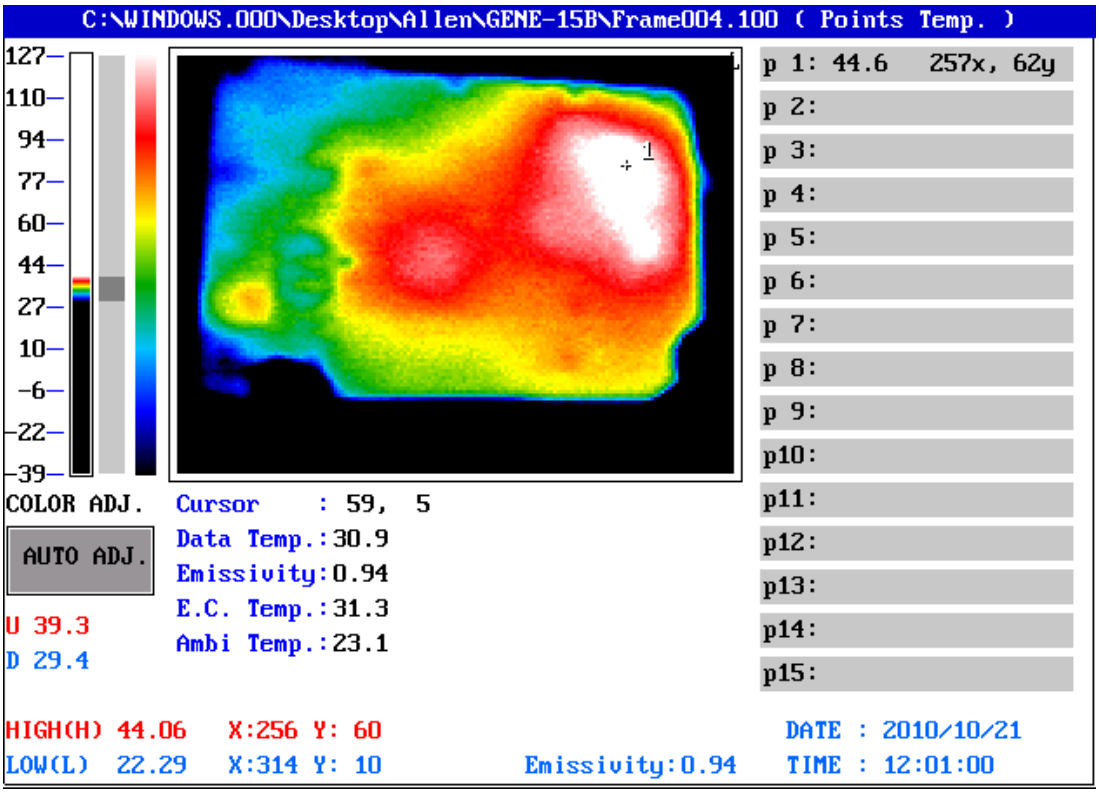
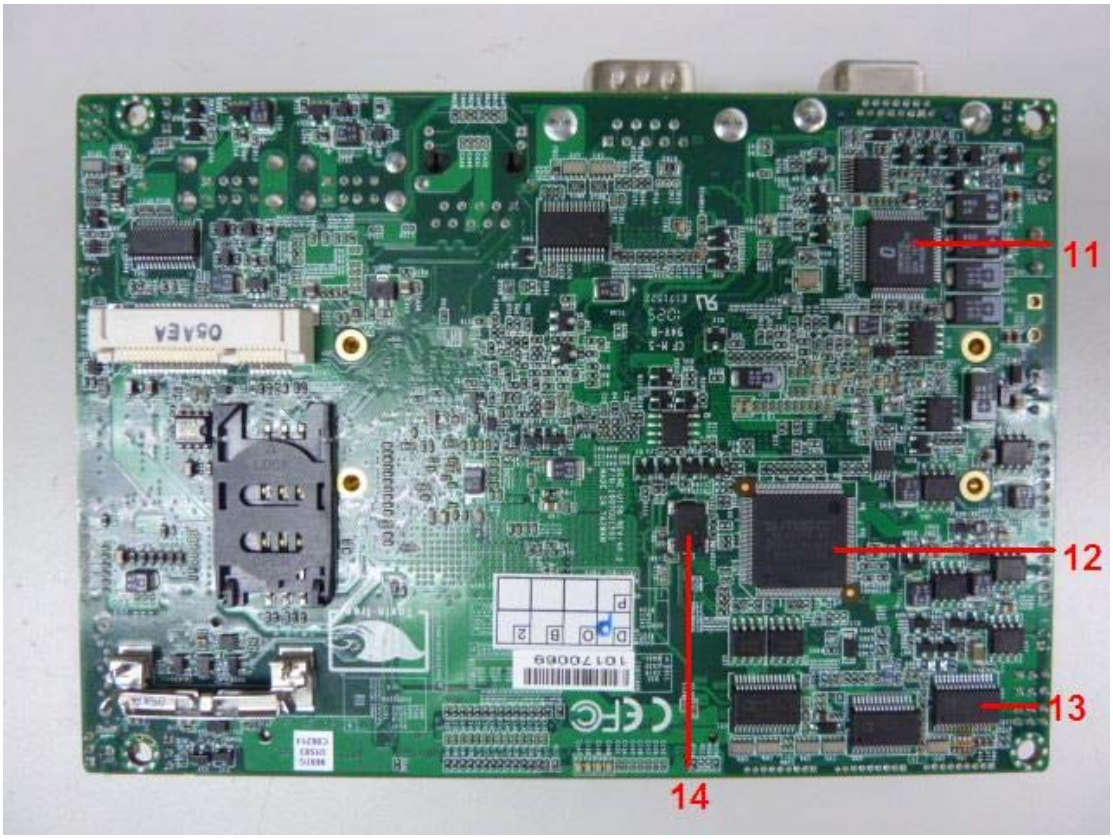
Component Side-2:





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Using GRAPHTEC midi LOGGER TYPE - GL200 test

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				22.3℃	60℃	
11	U80	CRT Transmitter.CHRONTEL.CH7317B-TF	125	61.5	99.2	
12	U7	Super I/O.SMSC.SCH3114-NU	100	50.1	87.8	
13	U45	SSOP RS232 Driver ESD 15KV.AD.ADM213EARSZ	115	45.6	83.3	
14	Y4	4P.3.3V 5+/-27PPM.ARGO.Epson SG3030JF	115	49.1	86.8	

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.

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