Report NO:10E080010

GENE-LN05

Intel Luna Pier (refresh) SubCompact Board

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** Comment: Please refer to page 7 U19 temperature margin

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

Issue date	Approval	Test Engineer
2010 / 08 / 23	Jansin Lee	Shu Lai

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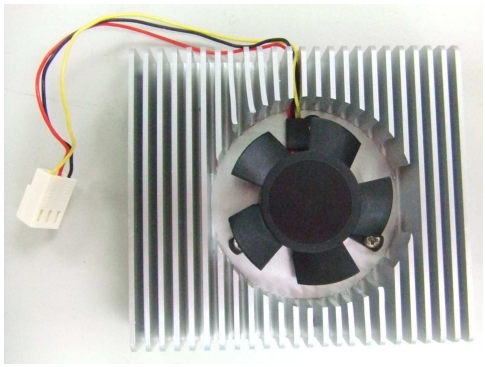
Sample Configuration & Quantity Under Test

- **Model name : GENE-LN05 Rev.A0.2**
- **CPU Board: GENE-LN05 Rev.A0.2**
- **Carrier Board: N/A**
- **CPU: Intel® Atom™CPU D510 @4.66GHZ / FSB 667MHZ**
- **Memory: DSL 1G DDRII 667MHZ ELPIDA(64MX8).E5108AJBG-6E-E**
- **HDD: FUJITSU 2.5 SATA HD 80GB**
- **BIOS : GENE-LN05 BIOS Rev 0.41 (08/04/2010)**
- **Test Software: Windows XP sp3 / Run Prime95 v256**
- **ATX Power Supply: ZECK ZKS-300W**
- **Cooler:**



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Thermal Image Analysis

1. Test Date: 08/20/2010

2. Test Product: GENE-LN05

3. Test Site: AAEON QA Internal Lab.

4. Temperature Measurement:
   1. YOKOGAWA UR1000
   2. IR Scanner: Infrared Camera
      NIPPON AVIONICS CO., LTD.
      Model: TVS-100
      Date of Calibration: 07/22/2010
      Serial Number: 0179L2746

5. Test Condition:
   Component Side-1 (Test by TVS-100): 23.9℃ with cooler
   Component Side-2 (Test by TVS-100): 24.7℃ with cooler
   Component Side-3 (Test by TVS-100): 26.4℃ with cooler

6. Test Software:
   Windows XP sp3 / Run Prime 95 v256

7. Take Picture Time:
   After power on 2 hours

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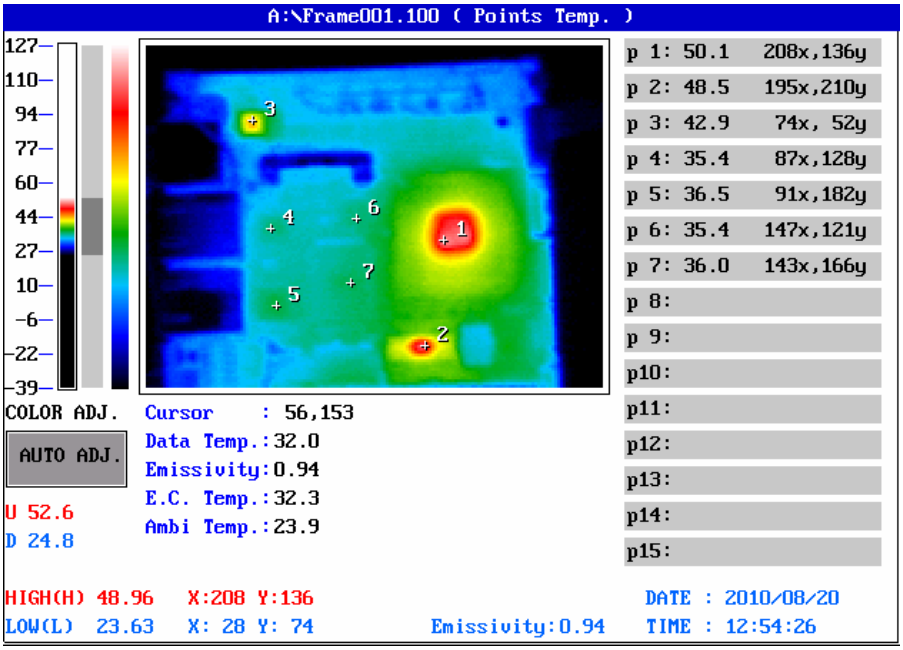
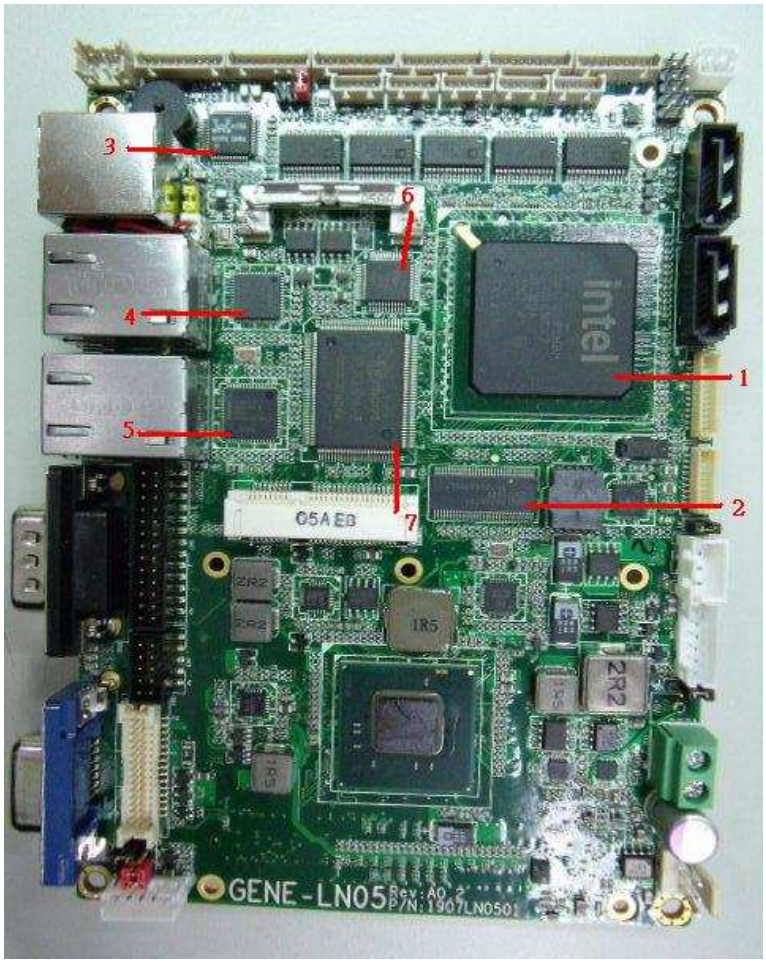
Temperature Profile Test:

Component Side-1:





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Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				23.9℃	60℃	
1	U11	(TF)IC.SMD.Chipset ICH8M.INTEL.NH82801HBM.SLB9A	----	50.1	86.2	
2	U15	(TF)IC.SMD.TSSOP 64P.CLOCK GENERATOR.IDT.9LPRS501PGLF	100	48.5	84.6	
3	U37	(TF)IC.SMD.LQFP 48P.7.1+2 Channel High Definition.Audio Codec.REALTEK.ALC888-GR	100	42.9	79	
4	U33	(TF)IC.SMD.QFN 56P.GigaBit Ethernet PHY.INTEL.WG82567V SLAW7	100	35.4	71.5	
5	U34	(TF)IC.SMD.QFN 64P.PCI-E GigaBit Ethernet Chipset.Intel.WG82583V	100	36.5	72.6	
6	U21	(TF)IC.SMD.LQFP 48P.LPC to 4 UART.FINTEK.F81216DG	100	35.4	71.5	
7	U26	(TF)IC.SMD.PQFP 128Pin.LPC Super I/O.Winbond.W83627DHG-P	100	36.0	72.1	

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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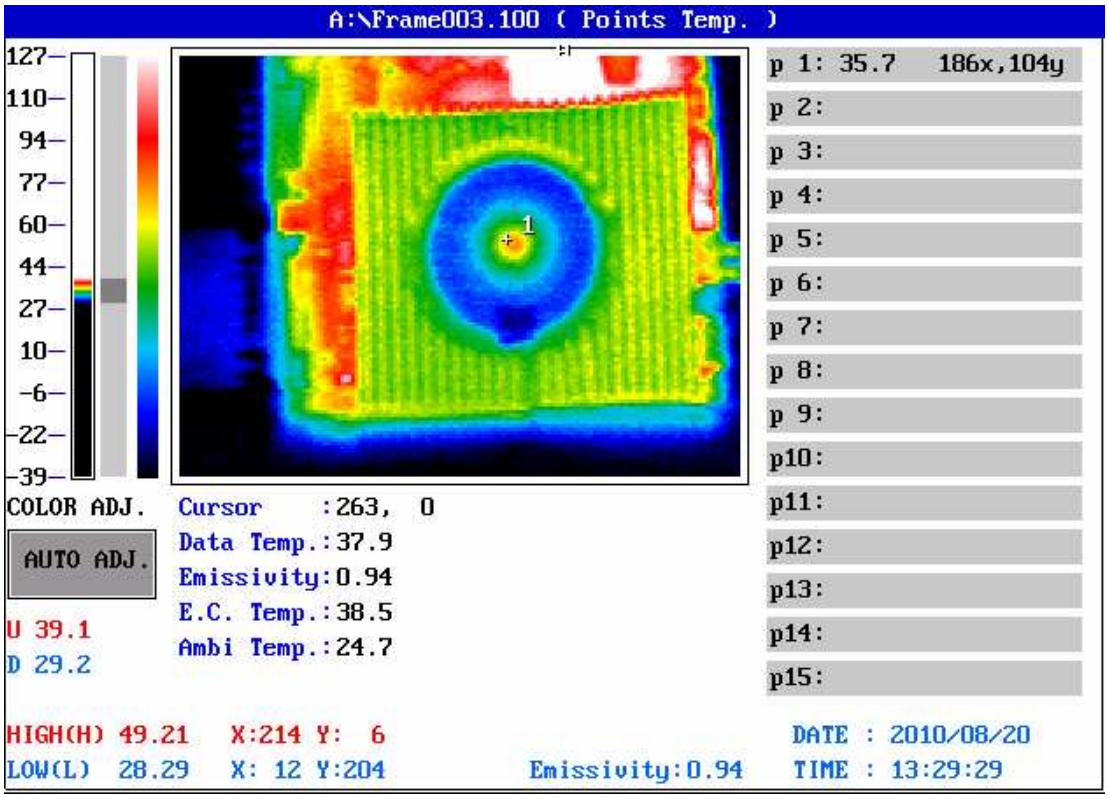
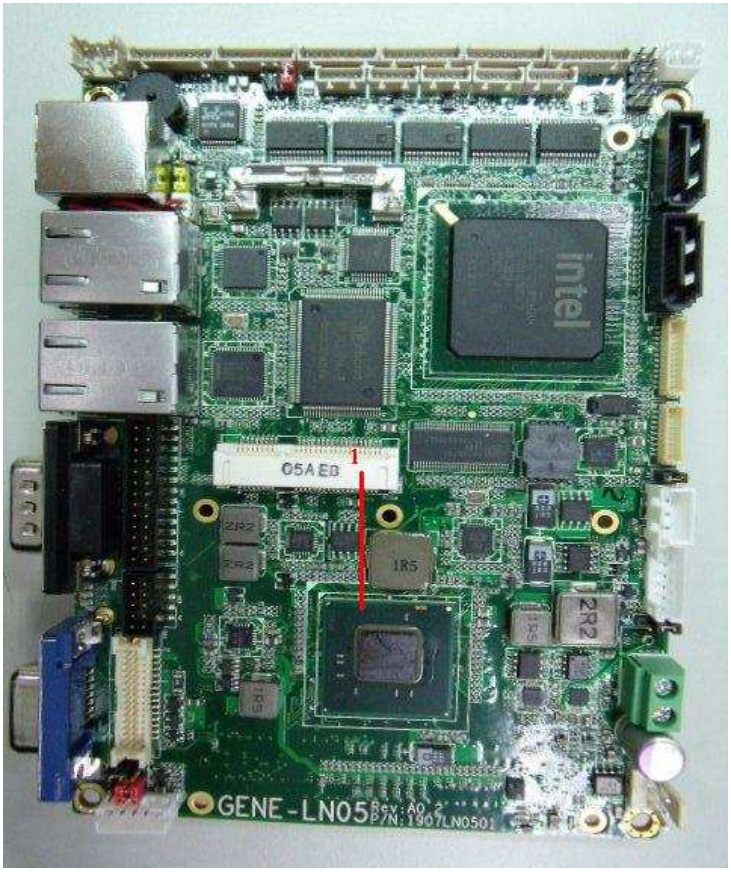
Component Side-2:





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Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				24.7℃	60℃	
1	U19	(TF)Intel CPU.Pineview D.DUAL CORE.D510.1.66GHz.Micro-FCBGA8.559Pins.AU80610004 392AA SLBLA	75	35.7	71	

Note(*):
1. "Tc" indicates the component's case maximum temperature value specified in its datasheet.
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3. Judgment Criteria:
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- **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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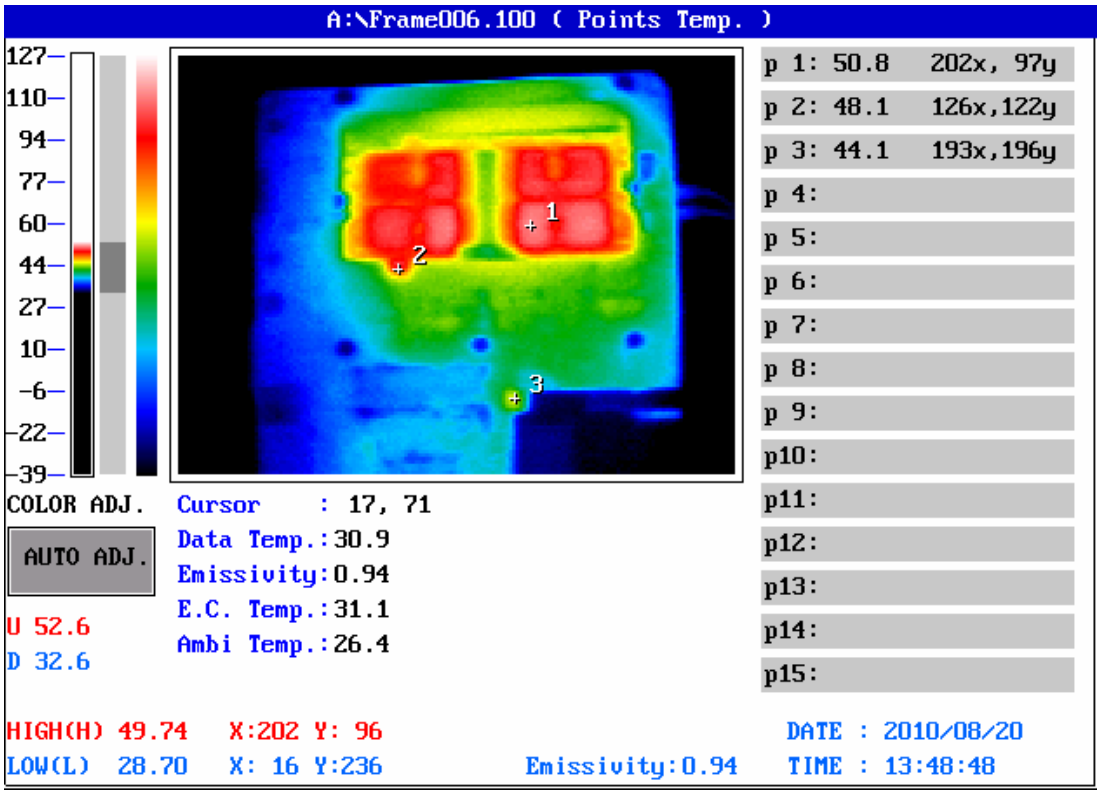
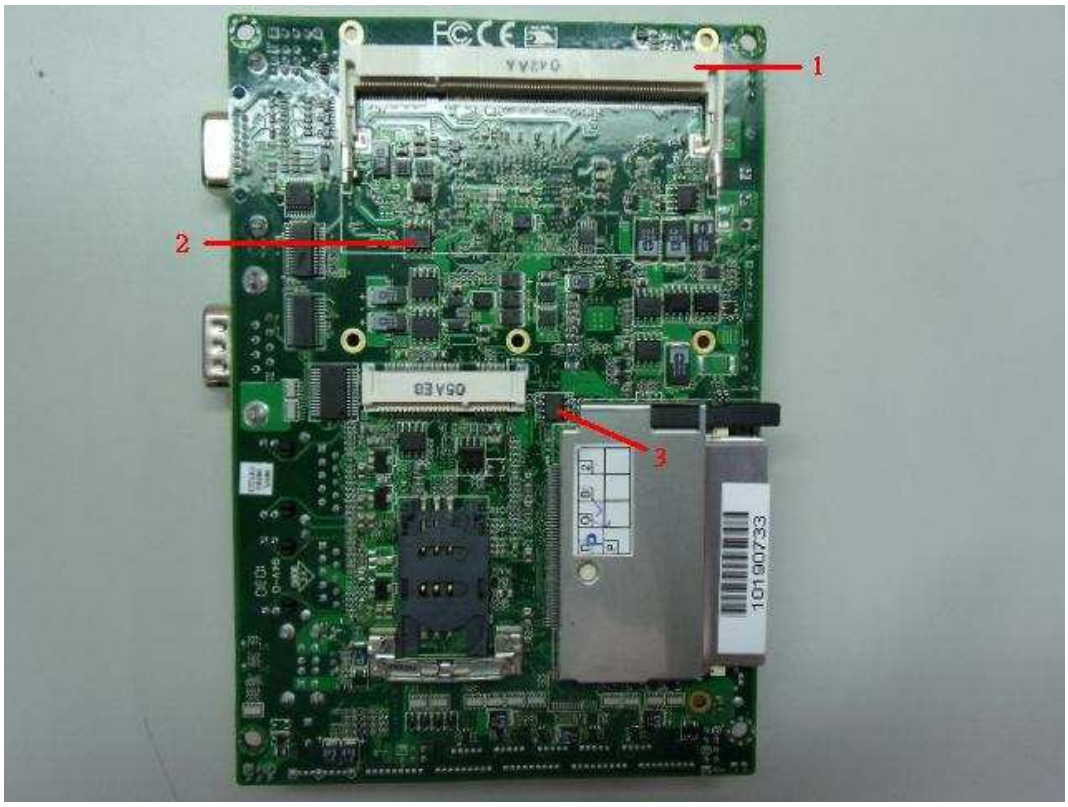
Component Side-3:





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Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				26.4℃	60℃	
1	DIMM1	DSL 1G DDRII 667MHZ ELPIDA(64MX8).E5108AJBG-6E-E	----	50.8	84.4	
2	U61	(TF)IC.SMD SO-8.1.5A.Low Dropout Regulator.Adj(1.2~4.8V).SEMTECH.SC1565IS-TRT	125	48.1	81.7	
3	U52	(TF)IC.SMD SOP 8P.Clock Output Buffer.ICS.ICS9112M-16LF-T	100	44.1	77.7	

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.
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