Report NO: 10E080008

COM-U15

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: Please refer to Page4 Position of U1 & U3 & U38**_____

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

Issue date	Approval	Test Engineer
2010/5/7	Jansin Lee	Leo Liu

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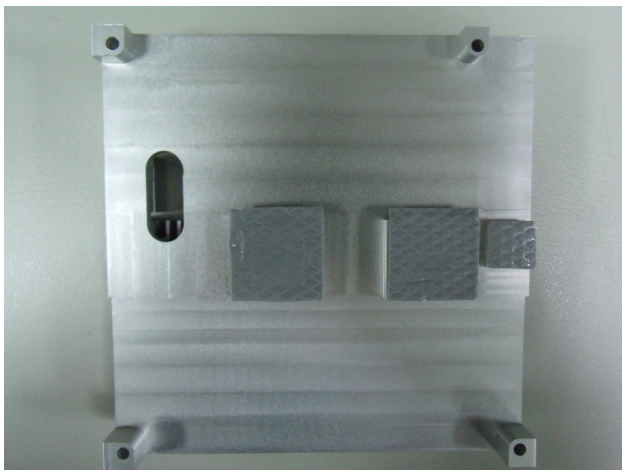
Sample Configuration & Quantity Under Test

- **CPU Board: COM-U15 Rev. A1.1**
- **Carrier Board:ECB-951D Rev. A1**
- **CPU: Intel® Atom® Z530 1.6GHz**
- **Memory: SO-DIMM Transcend DDR2-667 2GB(7TE17 D9HNL)**
- **HDD: PATA SSD 4GB on board (SST PATA SSD) (Master device)**
- **BIOS : COM-U15/NANO COM-U15 Rev 2.0 Legacy Free (01/11/2010)**
- **Test Software: Windows XP sp3 / Run Prime95 v25.9**
- **DC Power: ENG 19V**
- **Cooler:**



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Thermal Image Analysis

1. Test Date: 05/07/2010

2. Test Product: COM-U15 A2.0

3. Test Site: AAEON QA Internal Lab.

4. Temperature Measurement:

1. GRAPHTEC midi LOGGER TYPE - GL200

5. Test Condition:

Component Side-1 (Test by GL200): 25.3℃ With cooler
Component Side-2 (Test by GL200): 25.2℃ With cooler

6. Test Software:

Windows XP sp3 / Run Prime 95 v25.9

7. Take Picture Time:

After power on 2 hours

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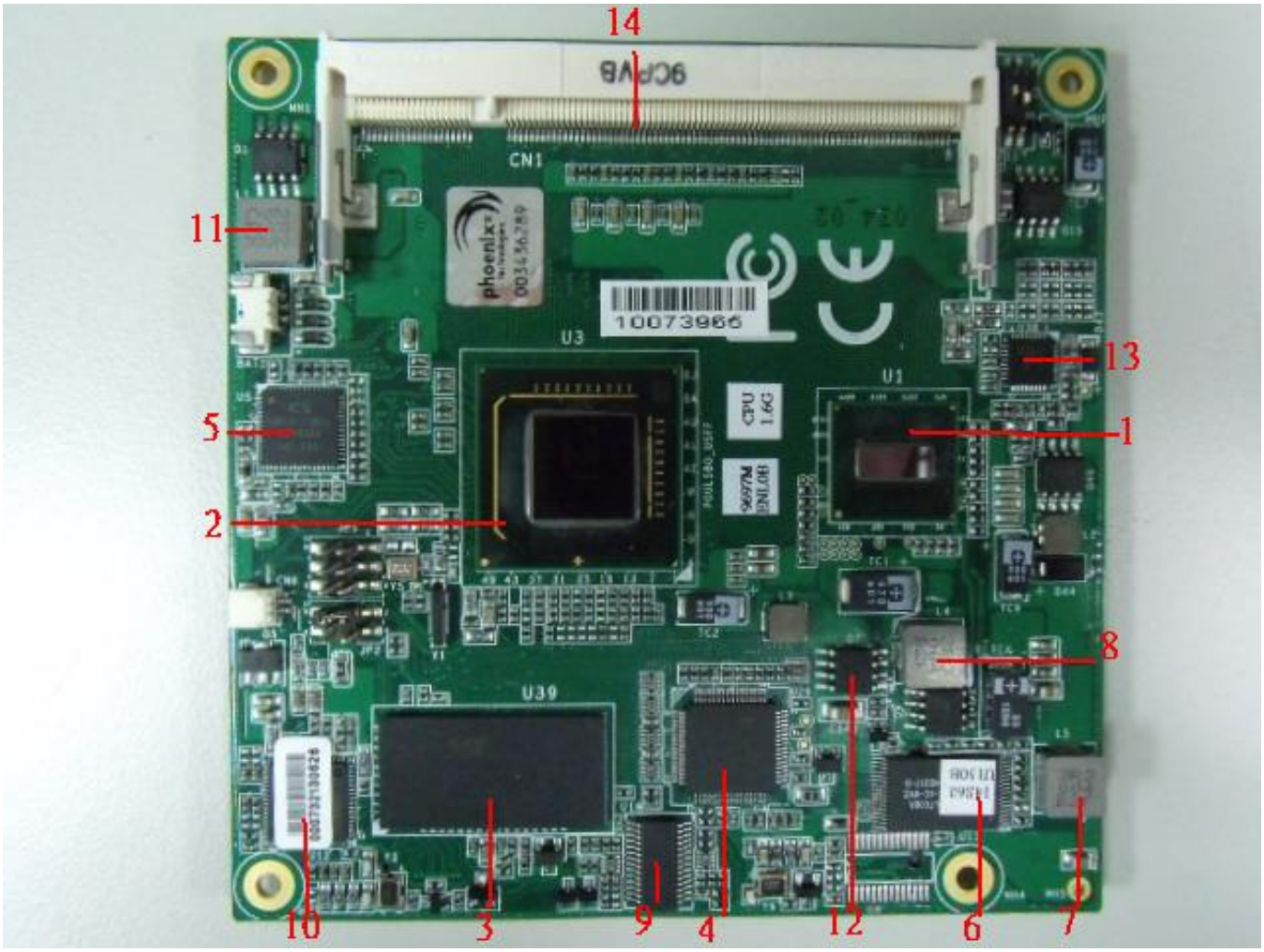
Temperature Profile Test:

Component Side-1:



Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25.3℃	60℃	
1	U1(CPU)	(TF)INTEL CPU.Silverthorne.1.6GHz/533.AC80566UE025DW SLB6P	90	51.4	86.1(*3)	GL200 measured
2	U3	(TF)IC.SMD.Chipset SCH.Poulsbo.INTEL.AF82US15W SLGFQ	90	51.3	86(*3)	
3	U39	(TF)IC.SMD.LBGA 91P.PATA SSD 4G.SST.SST85LD1004T-60-RI-LCTE	115	54	88.7	

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4	U29	(TF)IC.SMD.TQFP 64P.SATA to IDE/ATA Chip.JMicron.JM20330APC0-TGCA	115	62	96.7	
5	U5	(TF)IC.SMD.MLF 56P.Clock Generator.IDT.ICS9UMS9001AKLFT	100	49.6	84.3	
6	U13	(TF)Flash PLCC BIOS.1024K.CS:C551h.COM-U15/Nano COM-U15.Rev.1.2.Legacy Free	115	57.2	91.9	
7	L5	(TF)COIL.3.3uH.SMD.7.3*6.8*3.0mm.DCR=28m ohm.Irms=6Amp.GOTREND.GSTC063P-3R3MN	155	65.3	100	
8	L4	(TF)COIL.3.3uH.SMD.7.3*6.8*3.0mm.DCR=28m ohm.Irms=6Amp.GOTREND.GSTC063P-3R3MN	155	60.1	94.8	
9	U16	(TF)IC.SMD.SSOP 28P.WatchDog.Fintek.F75111RG	115	56.3	91	
10	U12	(TF)IC.SMD.QFN 64P.PCI-E GigaBit Ethernet Chipset.Intel.WG82574L SLBA8	100	54.7	89.4	
11	L1	(TF)COIL.1uH.+/-20%.SMD.7.3*6.8*3.0mm.DCR=9mohm.Irms=11 Amp.GOTREND.GSTC063P-1R0MN	155	53.8	88.5	
12	Q7	(TF)Dual N-Channel.SO-8.SMD.Vds=30V.Vgs=(+/-)20V.Ids=10/7A.Rds=14/ 20mohm.APEC.AP4224GM	125	59.4	94.1	
13	U38	(TF)IC.SMD.MLP5x5-32P.IMVP6 Single Phase PWM.SEMTECH.SC454MLTRT	100	58.6	93.3(*3)	
14	CN1	SO-DIMM DDR2-667 1GB	N/A	57.2	91.9	

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:

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25.2℃	60℃	
1	U23	(TF)IC.SMD.CP 132P.CoolRunner-II CPLD.USER NB:0171.Power Control.Xilinx.XC2C128-7CPG132C	N/A	55.3	90.1	

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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