HSB-800P

AMD LX800/CS5536 PCI Half-Size SBC

Thermal Image Analysis Report

Report NO: 09I080006

Release Date: Oct 22, 2009

2009/10/22	*Wenyuan Yang*	*Danny Chen*
Issue Stamp	**Manager**	**Test Engineer**

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Thermal Image Analysis

Ⅰ. Model Name: HSB-800P A0.2

Ⅱ. Description: AMD LX800/CS5536 PCI Half-Size SBC

Ⅲ. Date: Oct 22, 2009

Ⅳ. Measure Site: AAEON QE Dept.

Ⅴ. Issued by : Danny Chen

Ⅵ.Equipment:

TVS-100 series by NIPPON AVIONICS CO., LTD.

Ⅶ. Simulation Environment:

•Temperature: Component Side-1 (Test by TVS-100): 24.4℃ / 25.5℃, Component Side-2 (Test by TVS-100): 25.1℃ / 25.2℃

- **CPU : Geode LX800 500MHz**
- **RAM : Onboard Memory SANSUNG K4H511638F-LCCC DDR400 256MB**
- **BIOS : HSB-800P BIOS Rev 1.0 (09/03/2009)**
- **CF Card : N/A**
- **HDD : Western Digital WD800BB 80GB**
- **Application Software: Run Prime95 under Windows XP Professional V2002 Service Pack 3**
- **Take Picture Time: After Power on 2 hours.**

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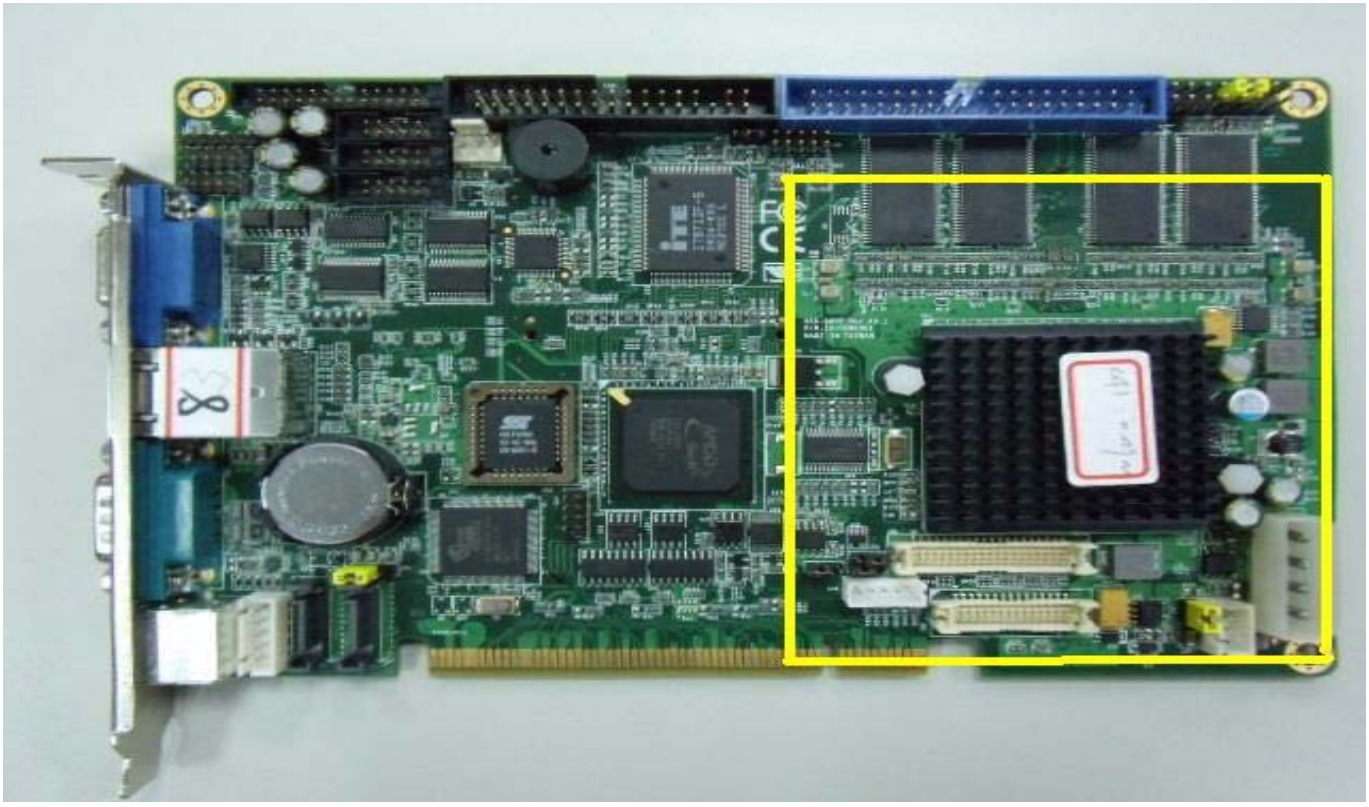
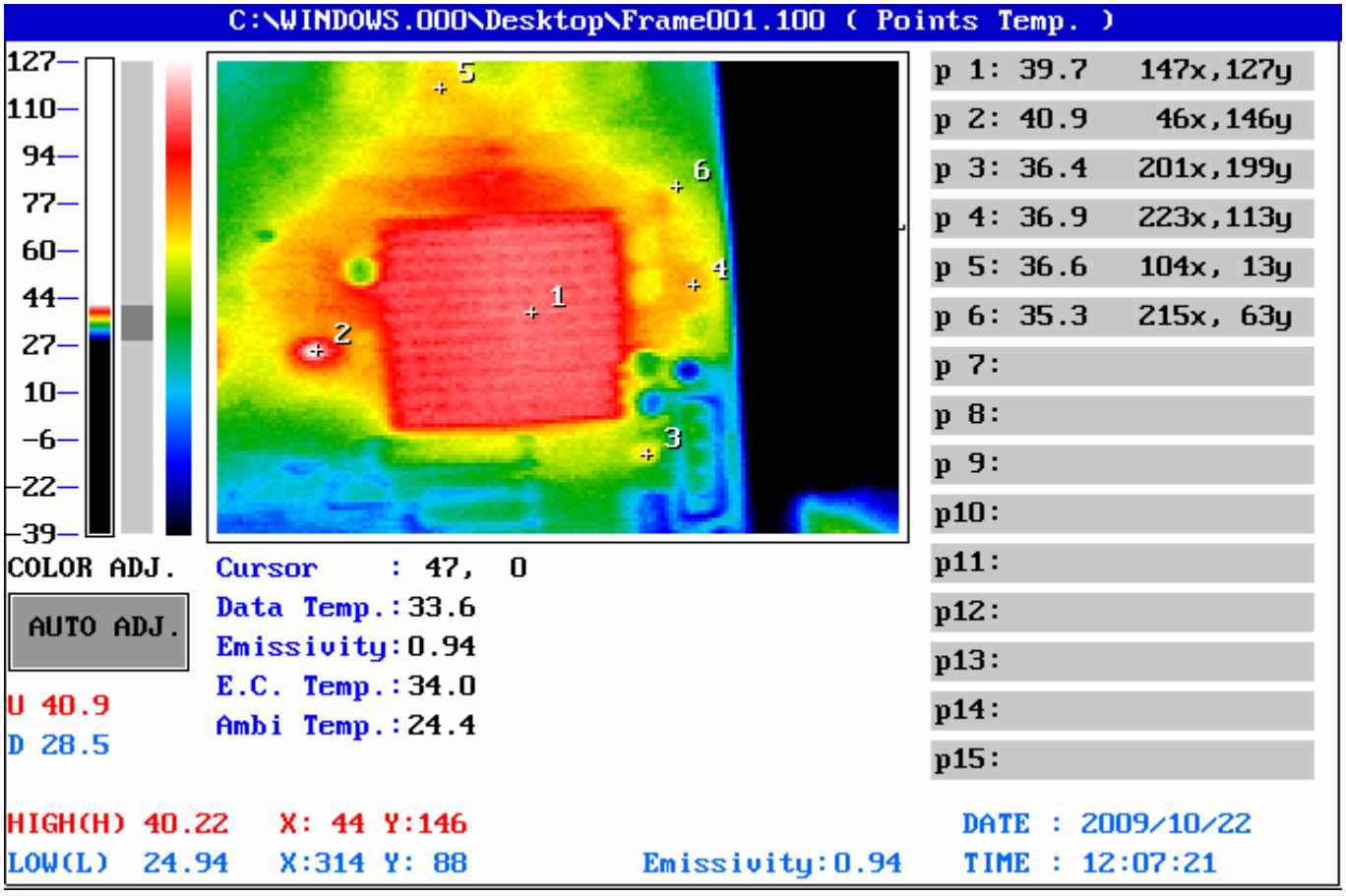
Temperature Profile Test:

Component Side-1:





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Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				24.4℃	60℃	
1	U21	(TF)AMDCPU.BGU481.LX-800.500MHz.1.25V.AMD.ALXD800EEXJ2VD C3	85	89.7	75.3	
2	U24	(TF)IC.SMD.SSOP28.Clock Generator.ICS.MK1491-09FLN	100	40.9	76.5	
3	U33	(TF)IC.SMD SOP.8Pin Switching PWM Controller.IR.IRU3037CSPbF	100	36.4	72	
4	L2	(TF)COIL.4.7uH.+/-20%.SMD.7.3*6.8*3.0mm.DCR=37mohm.Irms=5.5Amp.GOTREND.GSTC063P-4R7MN	125	36.9	72.5	
5	U2	(TF)IC.DDR-SDRAM.32M*16(bit).SMD TSOP-II 66P.400MHz.Samsung.K4H511638"X"-LCCC	------	36.6	72.2	
6	U18	(TF)IC.SMD TSSOP14.Synchronous Buck Regulator.NS.LM2727	125	35.3	70.9	

Note(*):
1. Tc is meaning the component Tcase value that specified in the component datasheet.
2. Tm is meaning the Measured Tcase value when the component operated under temperature stably.
3. The Tm value showed in **BLUE** words which meaning the MEASURED operation temperature within (Tc-10℃)<Tm <(Tc +5℃), particular thermal dissipation design is needed if you wanna to utilize this board in an enclosure box or chassis.
4. Any Tm value showed in **RED** words which meaning the operation temperature is over (Tc+5 degree C). The result is “Failed” and must be solved before the product launched into next design stage.

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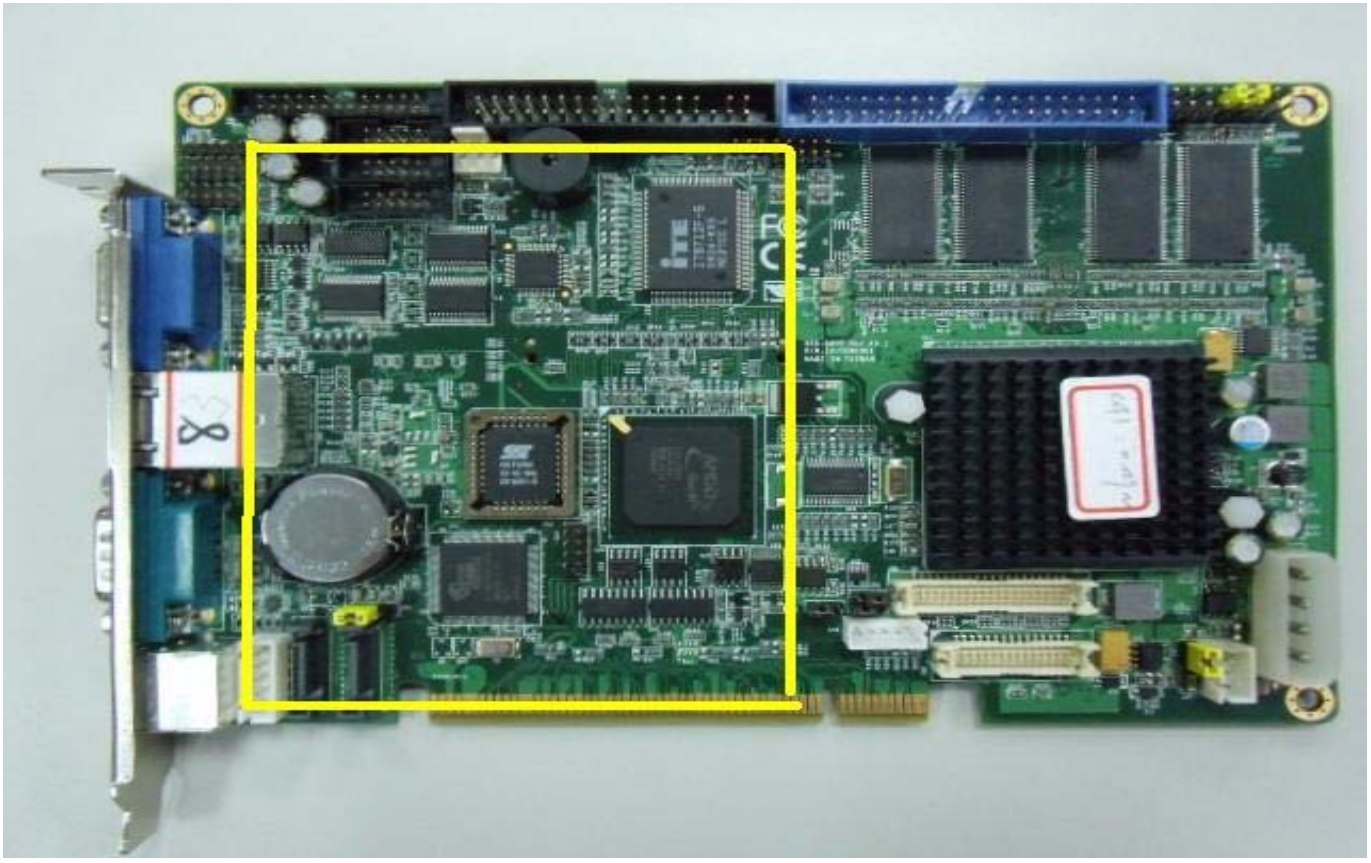
Component Side-1:



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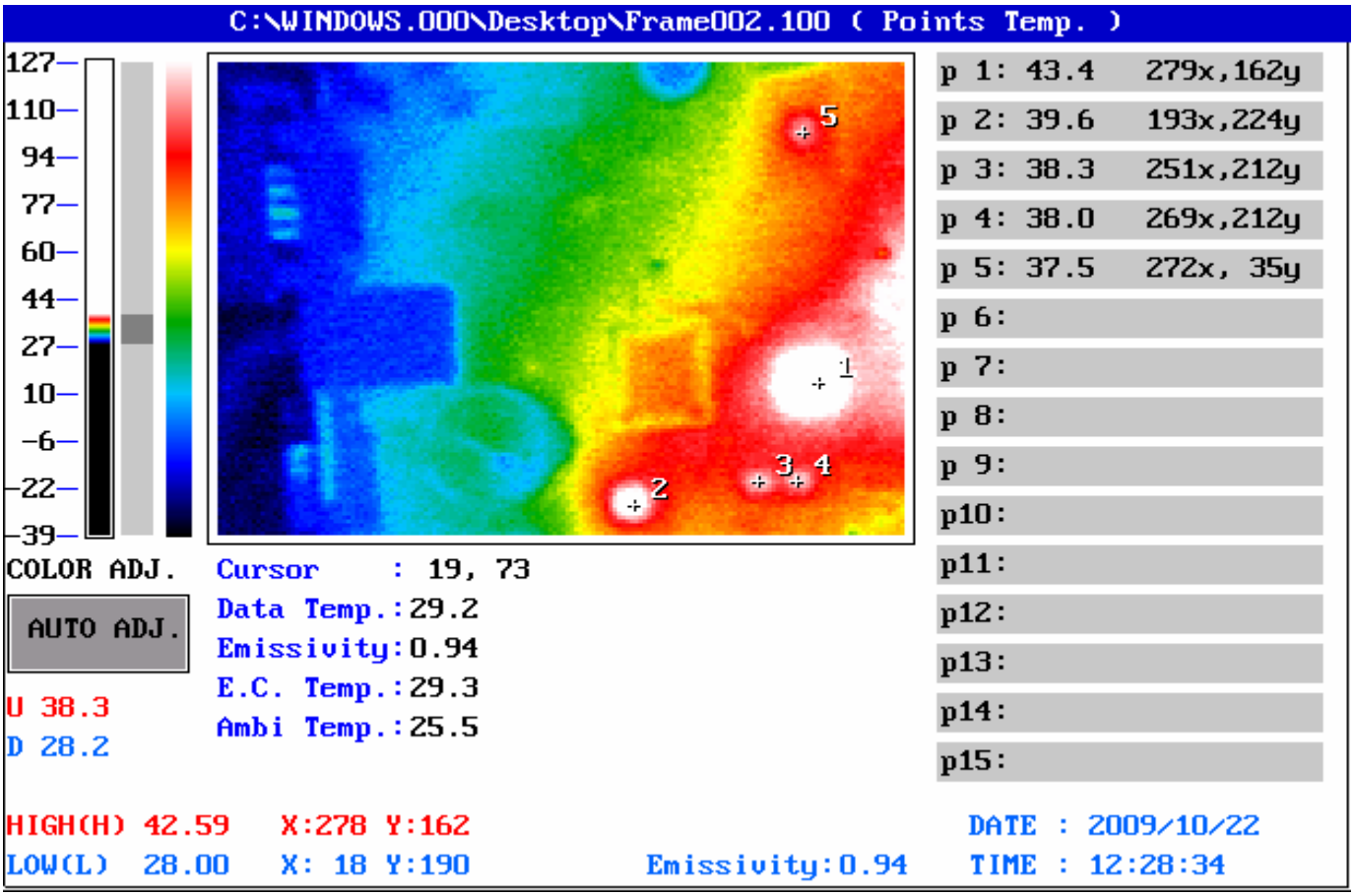

Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				25.5℃	60℃	
1	U23	(TF)IC.SMD 208PBGA.I/O Companion.Multi-Function South Bridge.AMD.CS5536AD	140	43.4	77.9	
2	U31	(TF)IC.PCI to Serial ATA Controller.Silicon Image.Sil3512ECTU128	------	39.6	74.1	
3	U26	(TF)IC.SMD SOP 8P.Clock Output Buffer.ICS.ICS9112M-16LF-T	100	38.3	72.8	
4	U27	(TF)IC.SMD SOP 8P.Clock Output Buffer.ICS.ICS9112M-16LF-T	100	38.0	72.5	
5	U7	(TF)IC.SMD.QFP128P Super I/O.ITE.IT8712F/KX-L	100	37.5	72	

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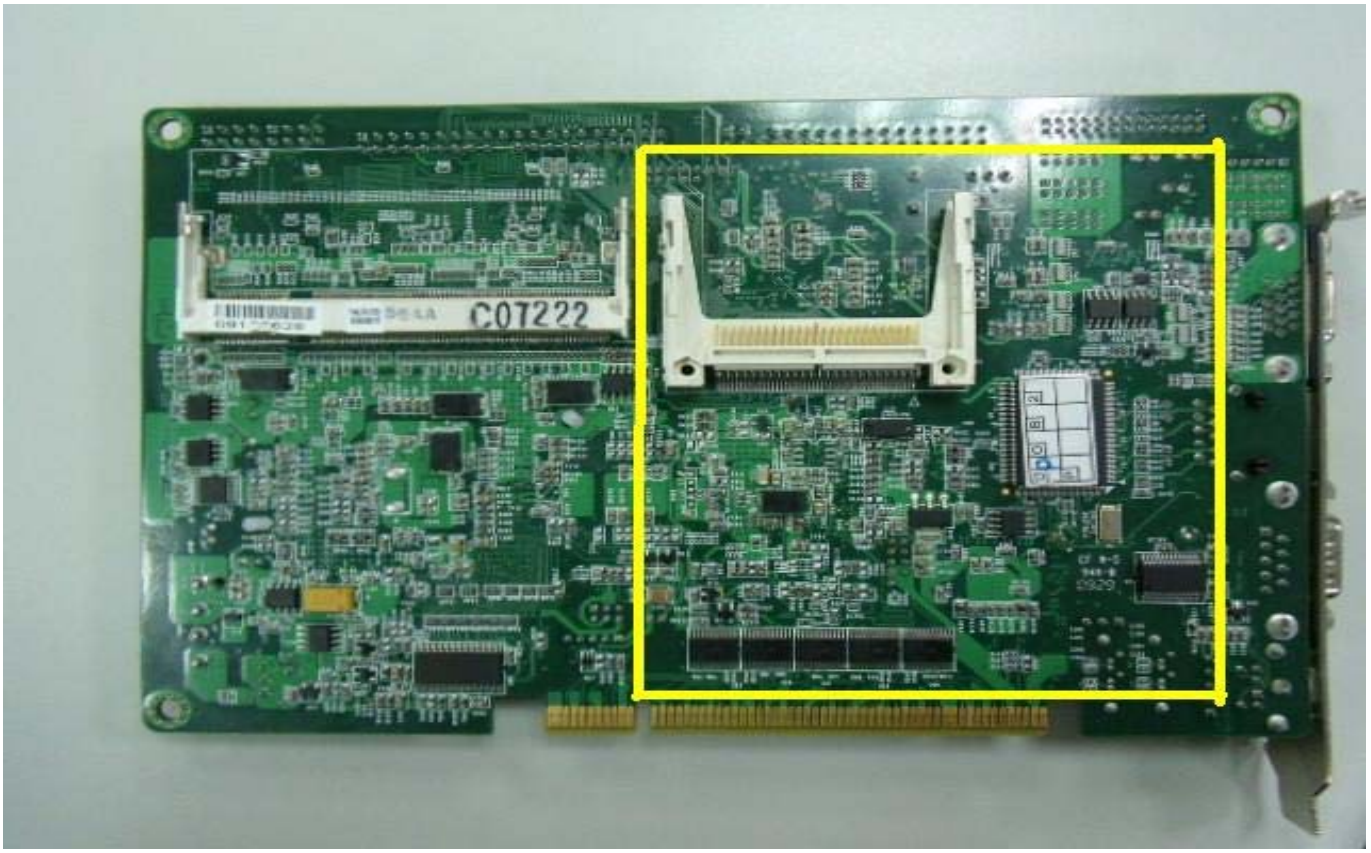
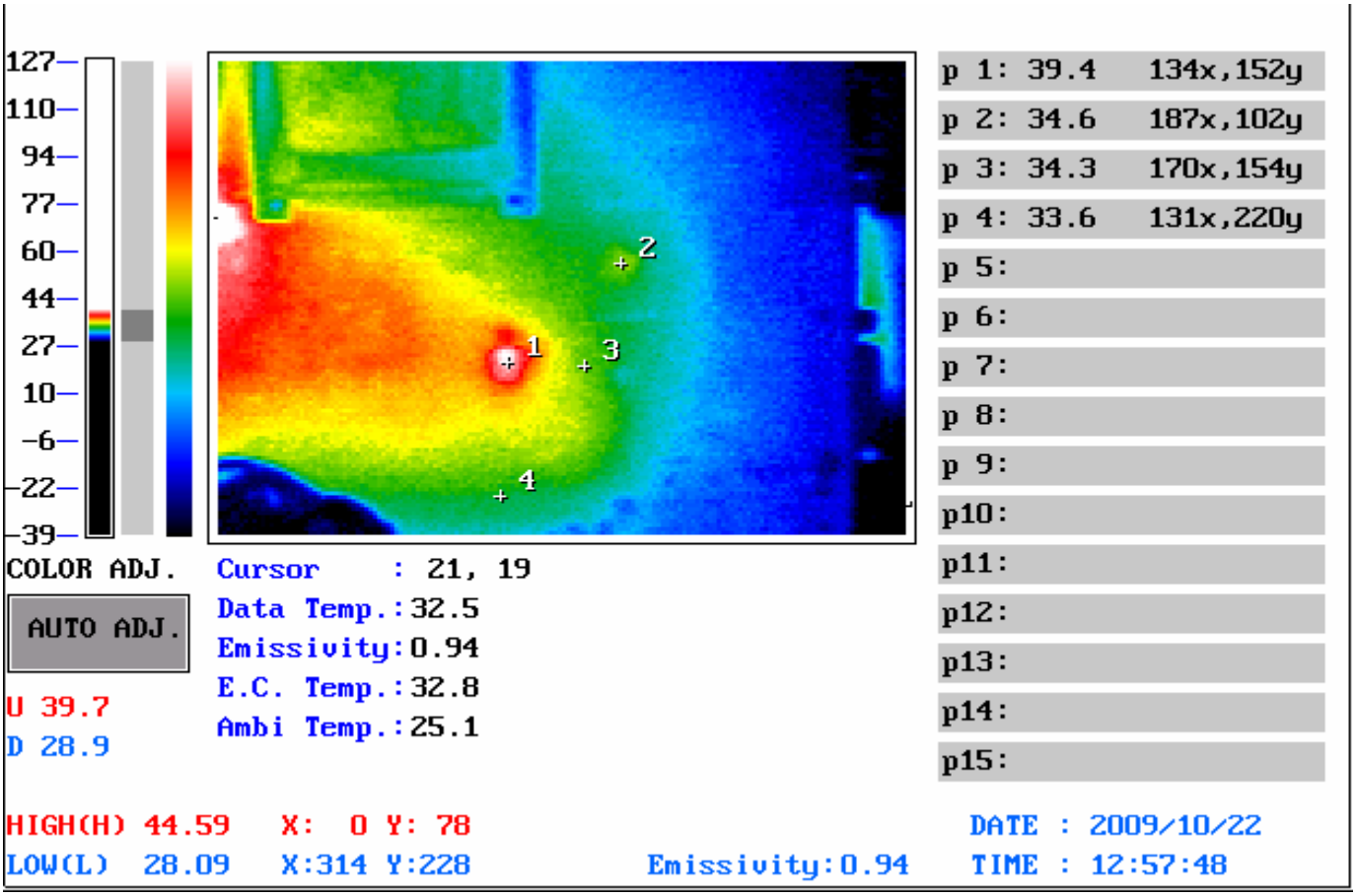
Component Side-2:





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Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				25.1℃	60℃	
1	U49	(TF)REG.SMD.SOT-223.1A Dorpout Regulator.AMS.AMS1117	125	39.4	74.3	
2	U44	(TF)IC.SMD QFP 128P.PCI Ethernet Chip 10/100BaseT.REALTEK.RTL8100C-LF	100	34.6	69.5	
3	U50	(TF)IC.SMD.SOIC 8P.2.5V 1K bits.Microchip.93LC46B/SN	125	34.3	69.2	
4	U59	(TF)IC.SMD.TSSOP24.10Bit Bus Switch w/Level Shift.TI.SN74CBTD3861PWR	115	33.6	68.5	

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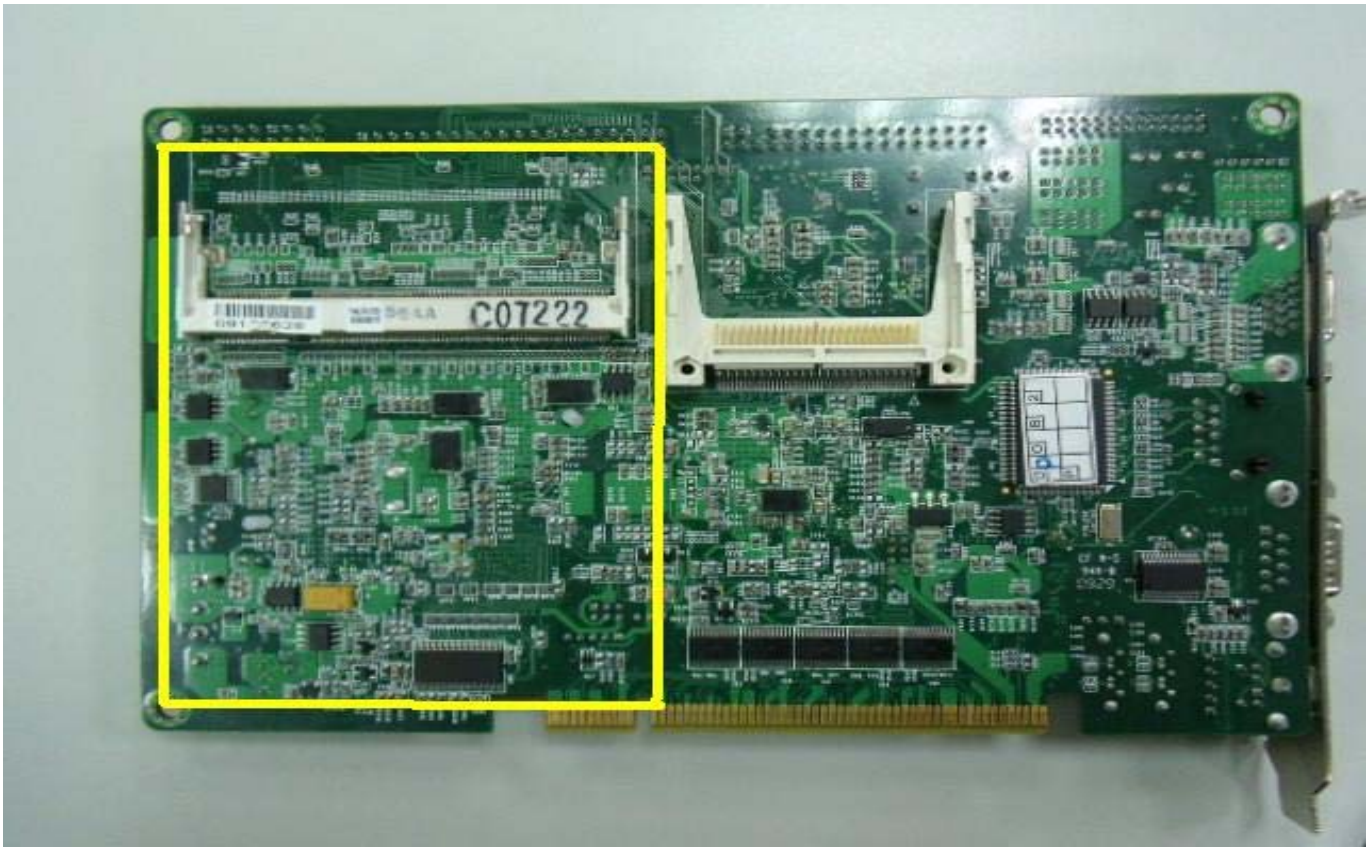
Component Side-2:



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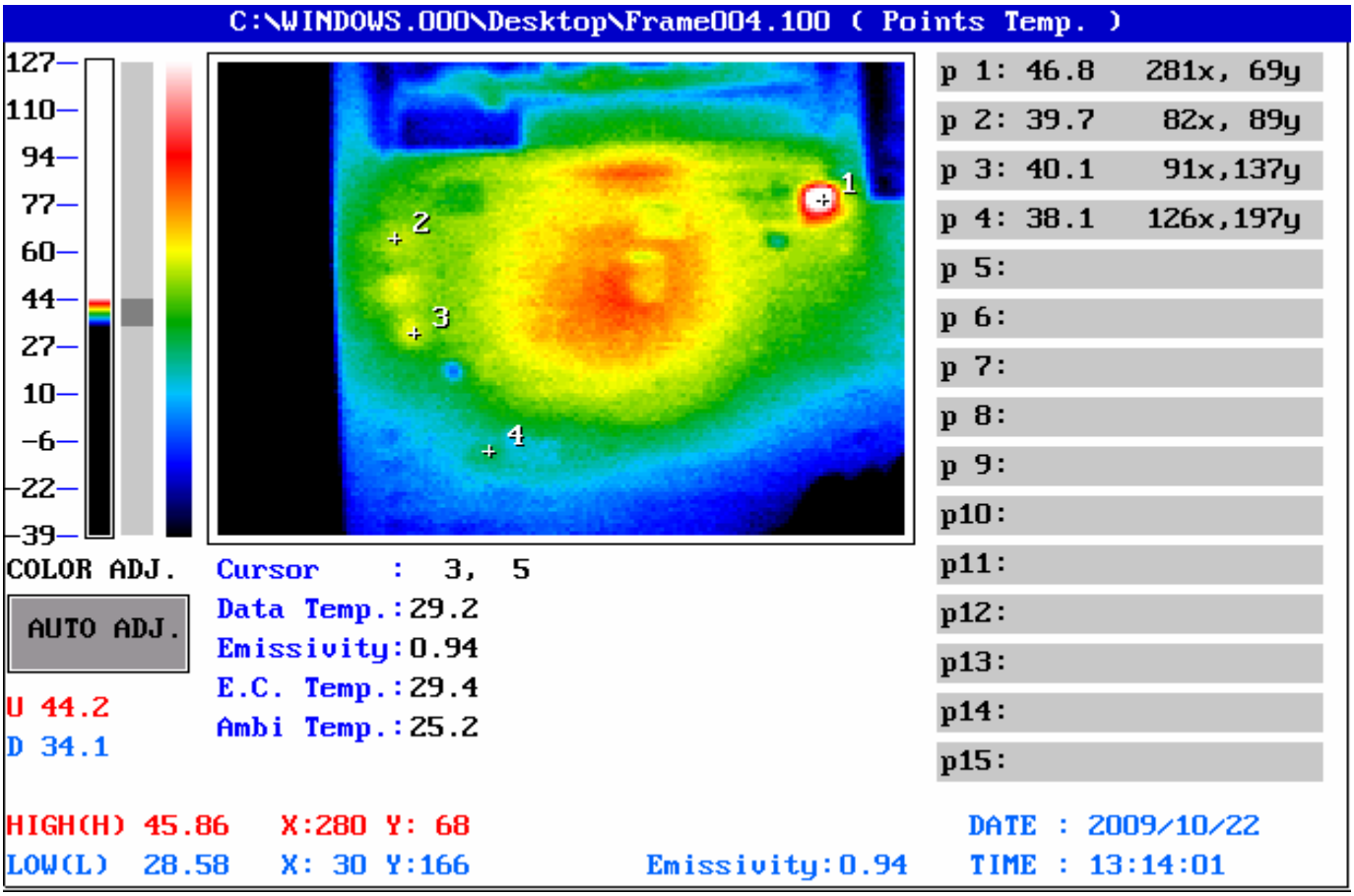

Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				25.2℃	60℃	
1	U42	(TF)IC.SMD SO8.3A Linear Regulator.Anpec.APL5331KC-TRG	100	46.8	81.6	
2	U43	(TF)PWR.SMD.SOP8.Dual N MOSFET.30V.9.1A/6.8A.CET.CEM3138	120	39.7	74.5	
3	U48	(TF)IC.SMD TSSOP14.Synchronous Buck Regulator.NS.LM2727	120	40.1	74.9	
4	U52	(TF)Dual N-Channel.SMD SO-8.2.5V MOSFET.APEC.AP9926GM	120	38.1	72.9	

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