HSB-945P

PICMG/PCI Half-size card

Thermal Image Analysis Report

Report NO: 09I080005

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-945P A1.0

Ⅱ. Description: PICMG/PCI Half-size card

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): 25.6℃ / 26.0℃, Component Side-2 (Test by TVS-100): 25.4℃ / 26.1℃

- **CPU : Intel ® Atom ™ 1.60GHz (133*12)**
- **RAM : Transcend DDR2 667 SODIMM 1GB (ELPIDA E5108AJBG-6E-E)**
- **BIOS : HSB-945P BIOS Rev 1.0 (10/12/2009)**
- **CF Card : N/A**
- **HDD : Seagate ST3160815AS 160GB**
- **Application Software: Run Prime95 under Windows XP Professional V2002 Service Pack 3**
- **Take Picture Time: After Power on 2 hours.**

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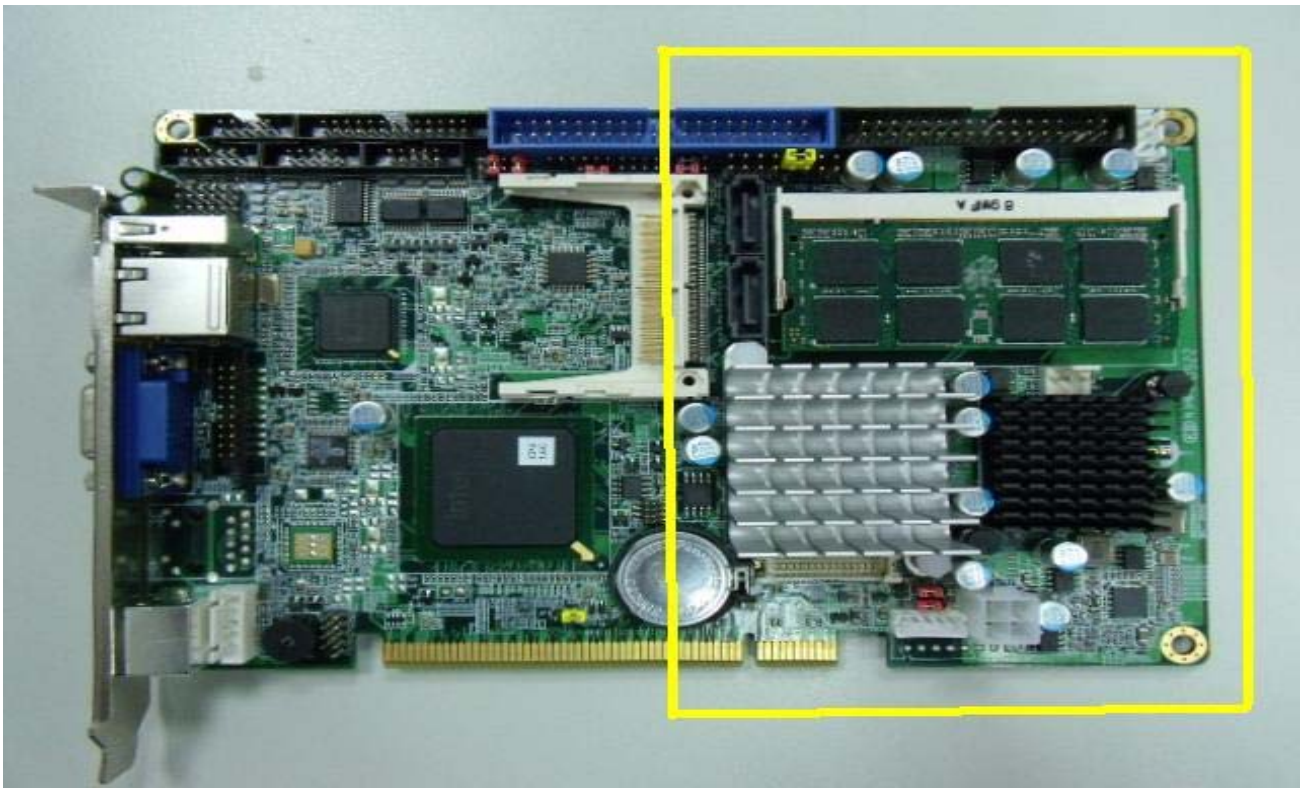
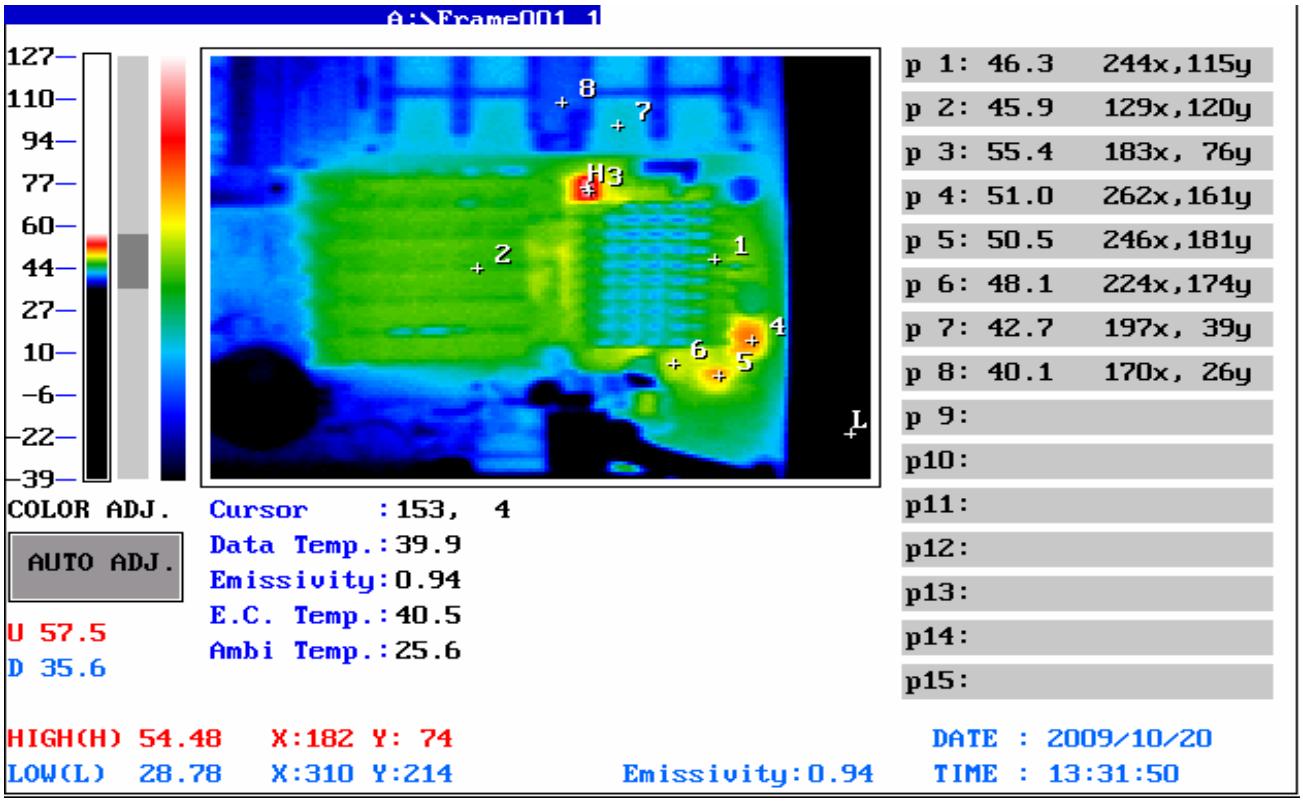
Temperature Profile Test:

Component Side-1:





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Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				25.6℃	60℃	
1	U12	(TF)Intel CPU.Diamondville.N270.1.6GHz/FSB 533MHz.FCBGA8.437Pins.STEPPING CODE:SLB73.AU80586GE025D	90	46.3	80.7	
2	U11	(TF)IC.SMD.Intel 945GSE Express Chipset.Intel.QG82945GSE SLB2R	105	45.9	80.3	
3	Q15	(TF)PWR.SMD SO8.N-Channel POWER MOSFET.FAIRCHILD.FDS6680AS_NL	125	55.4	89.8	
4	L6	(TF)COIL.0.68uH.+/-20%.7.1*6.6*3.0mm.DCR=5mohm.Irms=15.5Amp.YAGEO.SLH0630-R68M-N	125	51.0	85.4	
5	Q25	(TF)PWR.SMD.SOP8.Dual N MOSFET.30V.9.1A/6.8A.CET.CEM3138	125	50.5	84.9	
6	L7	(TF)COIL.1uH.+/-20%.7.1*6.6*3.0mm.DCR=9mohm.Irms=11Amp.YAGEO.SLH0630-1R0M-N	125	48.1	82.5	
7	Memory	Transcend DDR2 667 SODIMM 1GB (ELPIDA E5108AJBG-6E-E)	-----	42.7	77.1	
8	Memory	Transcend DDR2 667 SODIMM 1GB	70	40.1	74.5	

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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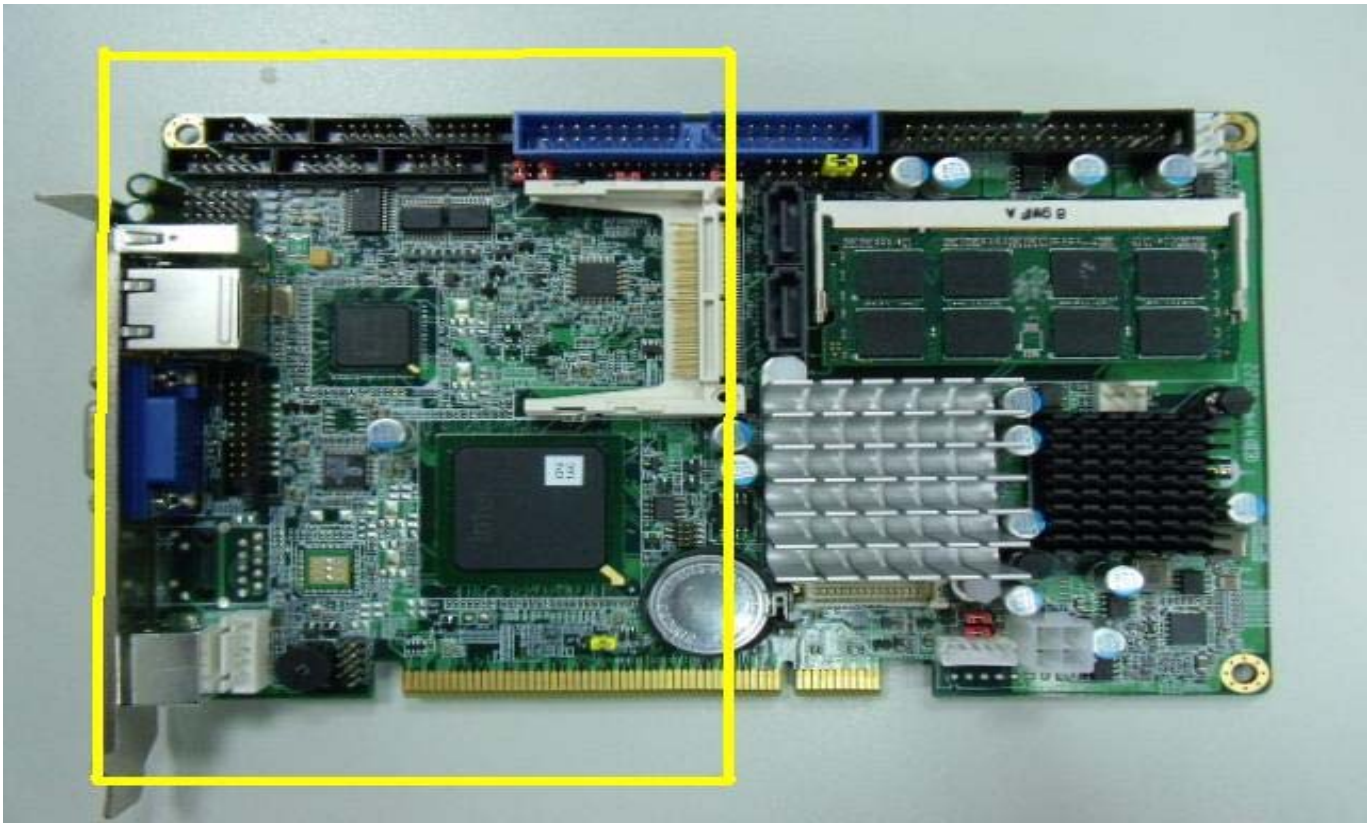
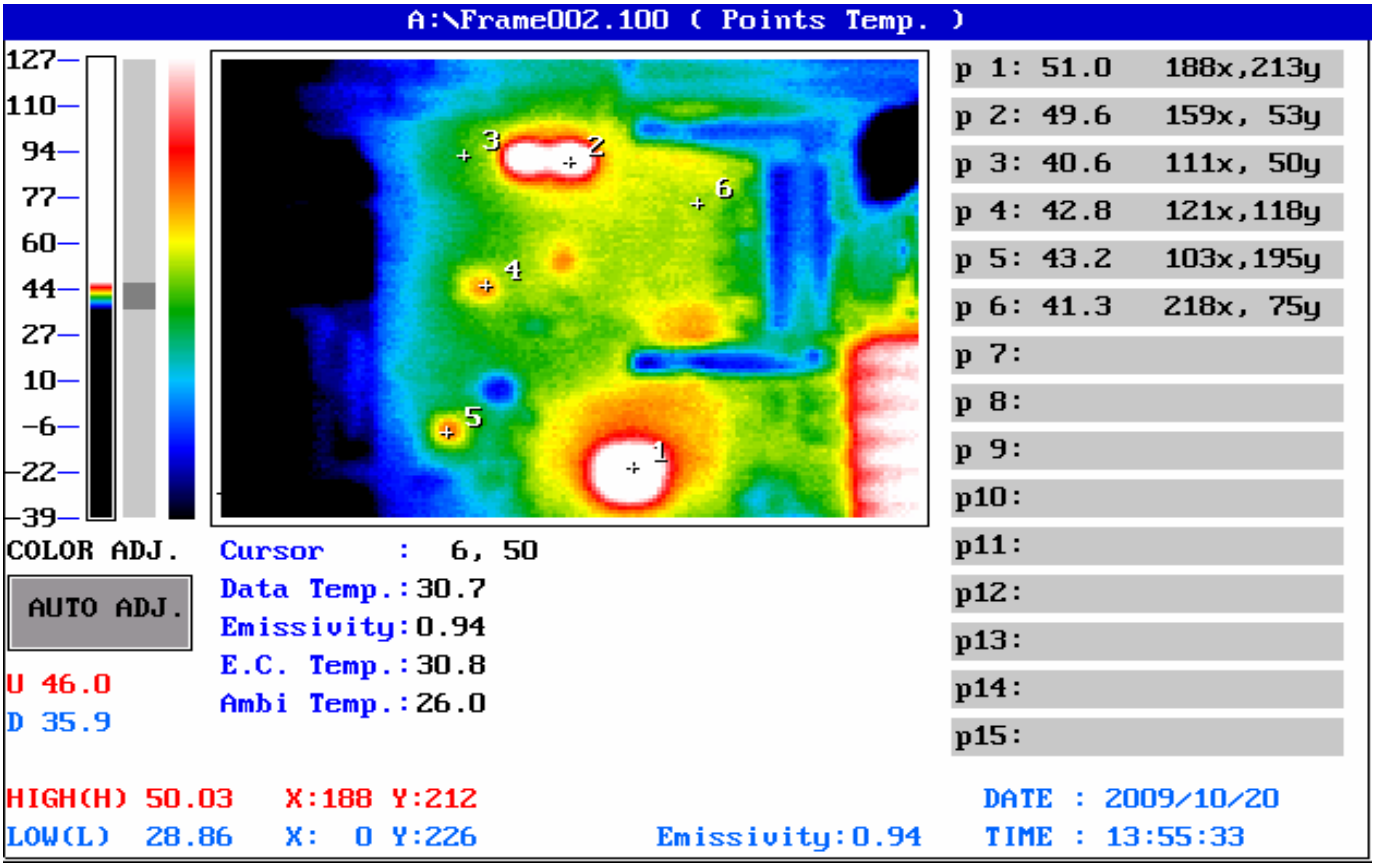
Component Side-1:





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Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				26.0℃	60℃	
1	U13	(TF)IC.SMD.Chipset ICH7M.Intel.NH82801GBM SL8YB	107	51.0	85	
2	U2	(TF)IC.SMD SSOP.20Pin RS-232 Driver&Receivers.TI.GD75232DBR	100	49.6	83.6	
3	U1	(TF)IC.SMD.SSOP RS232 Driver ESD 15KV.AD.ADM213EARSZ	115	40.6	74.6	
4	U8	(TF)IC.SMD.BGA 196P.GigaBit Ethernet Chipset.Intel.PC82573L	100	42.8	76.8	
5	U10	(TF)IC.SMD LQFP.48P.DVI Transmitter.CHRONTEL.CH7307C-DEF	105	43.2	77.2	
6	U5	(TF)IC.SMD.LQFP 48P.LPC to 4 UART.FINTEK.F81216DG	100	41.3	75.3	

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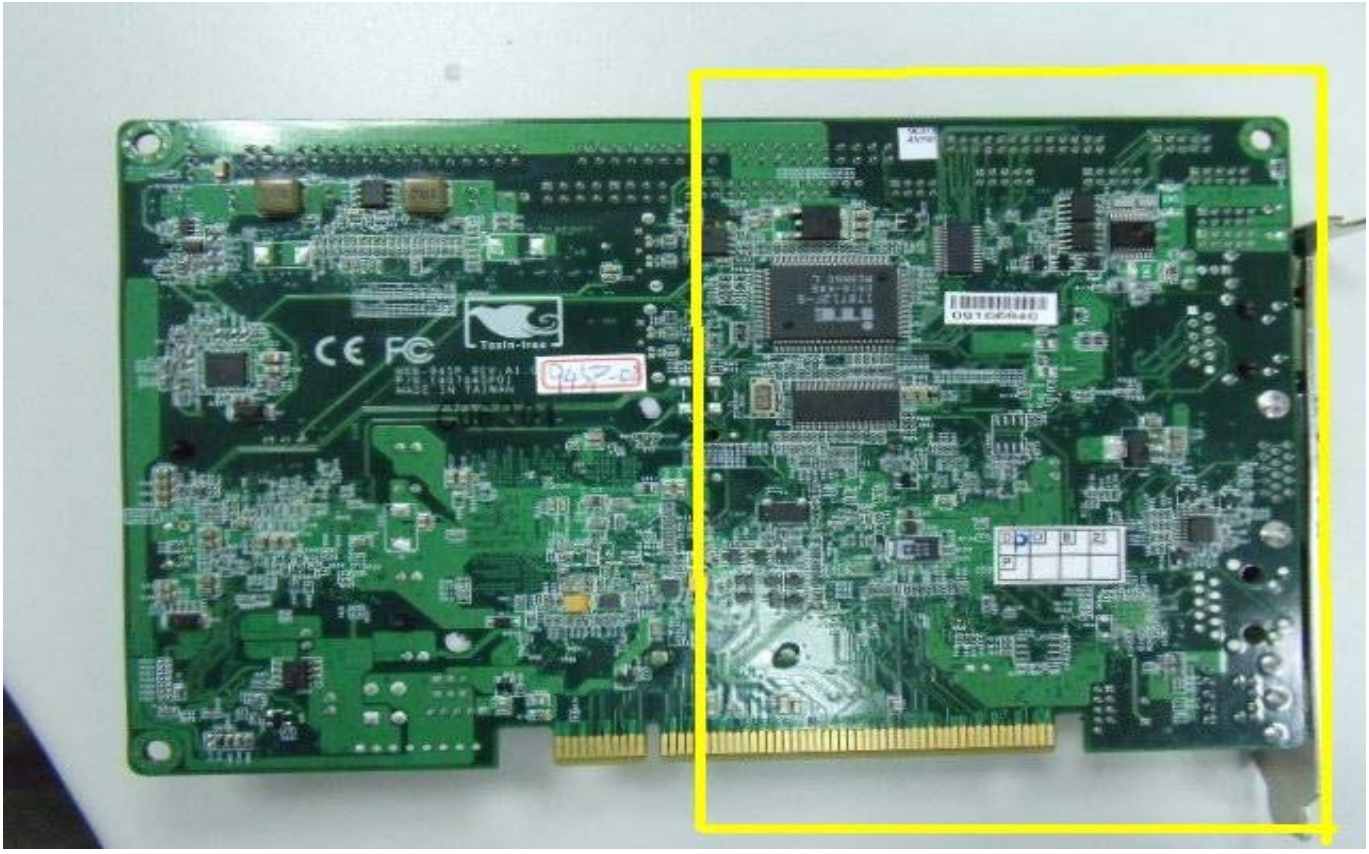
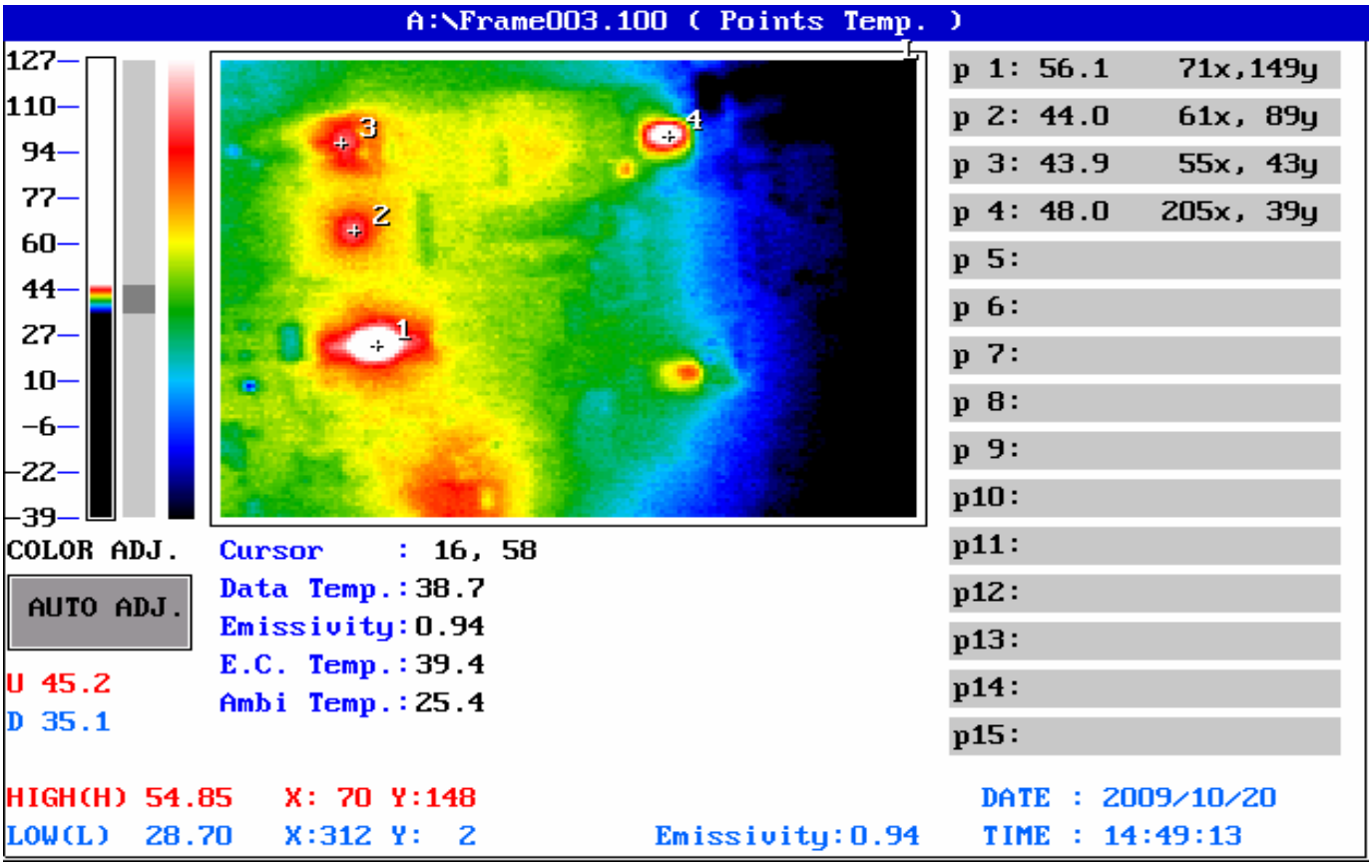
Component Side-2:





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Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				25.4℃	60℃	
1	U35	(TF)IC.SMD.TSSOP 64P.CLOCK GENERATOR.ICS.ICS9LPR501HGLFT	150	56.1	90.7	
2	U31	(TF)IC.SMD.QFP128P Super I/O.ITE.IT8712F/KX-L	100	44.0	78.6	
3	U22	(TF)REG.SMD.TO-252 5A Linear Regulator.Diodes.AP1084DG-13	100	43.9	78.5	
4	U23	(TF)IC.SMD SSOP.20Pin RS-232 Driver&Receivers.TI.GD75232DBR	100	48.0	82.6	

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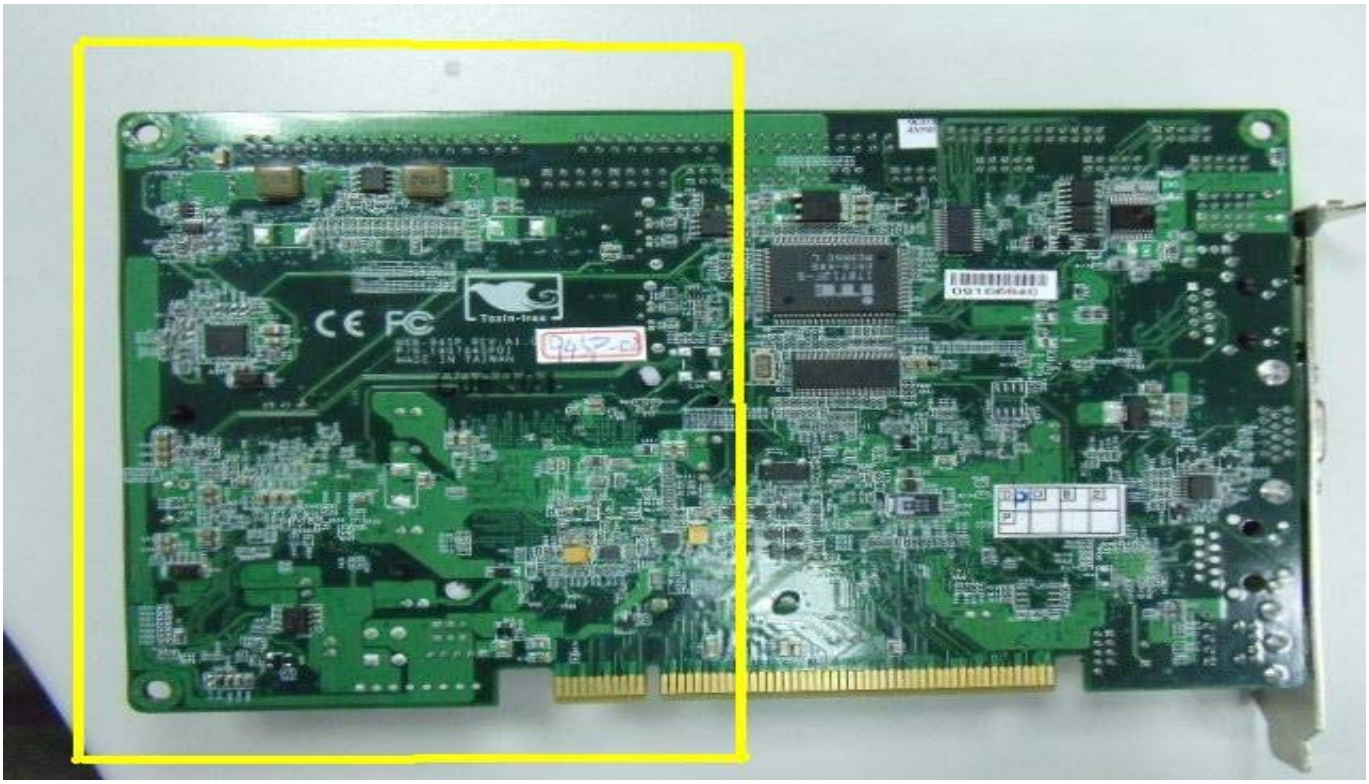
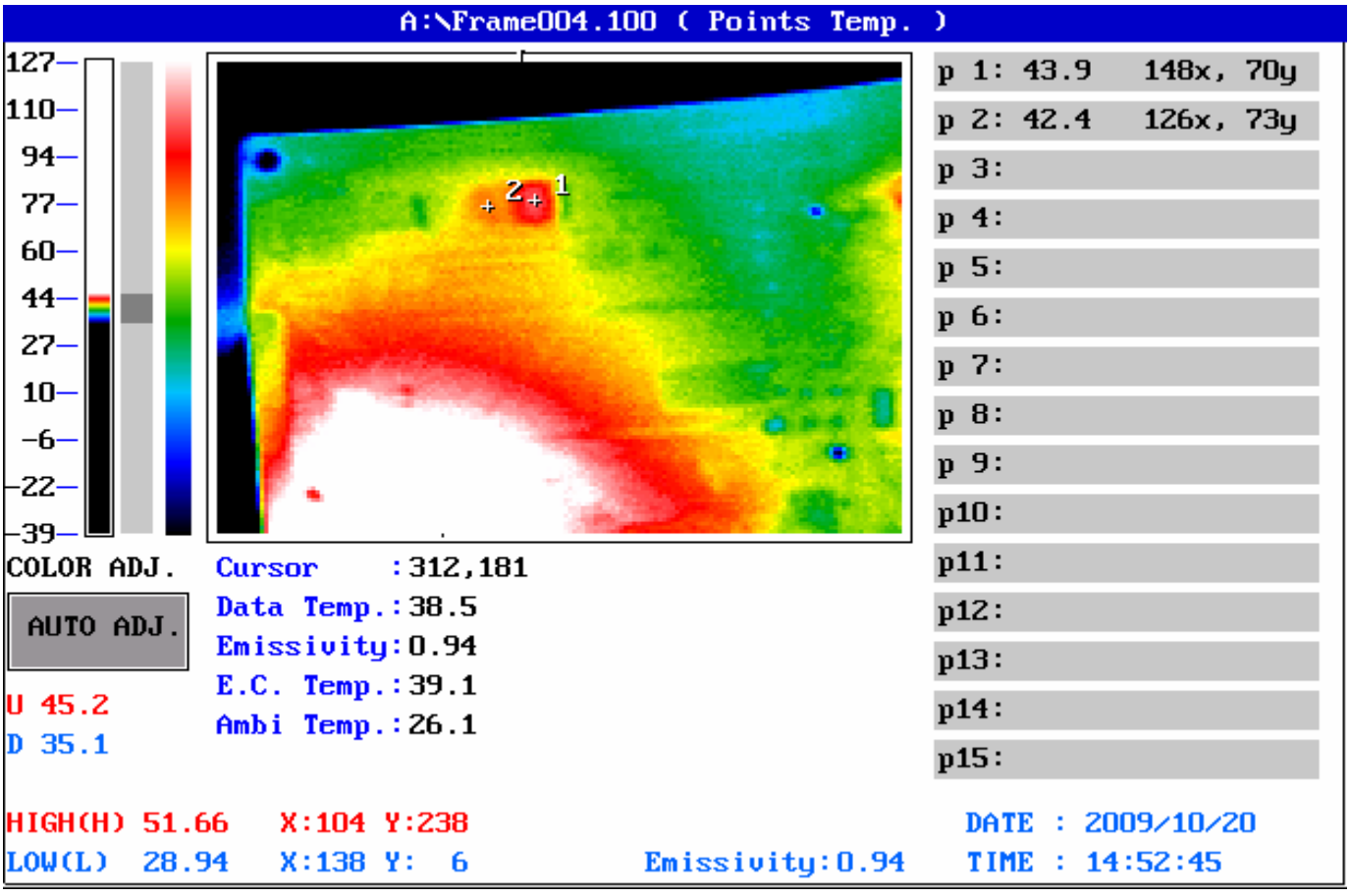
Component Side-2:





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Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				26.1℃	60℃	
1	L9	(TF)COIL.1uH.+/-20%.7.1*6.6*3.0mm.DCR=9mohm.Irms=11 Amp.YAGEO.SLH0630-1R0M-N	155	43.9	77.8	
2	Q33	(TF)PWR.SMD SO8.N-Channel MOSFET 30V 15A.FAIRCHILD.FDS8896	125	42.4	76.3	

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