EMB-9459T

Intel 945GSE + ICH7M

Thermal Image Analysis Report

Report NO: 09E080016

2009/7/10	*Wenyuan Yang*	*Anderson Lin*
Issue Stamp	**Manager**	**Test Engineer**

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056

Thermal Image Analysis

Ⅰ. Model Name: EMB-9459T Rev:A1.0

Ⅱ. Description: Intel 945GSE + ICH7-M

Ⅲ. Date: 2009/7/10

Ⅳ. Measure Site: AAEON QE Dept.

Ⅴ. Issued by : Anderson Lin

Ⅵ.Equipment:

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

Ⅶ. Simulation Environment:

•Temperature: Component Side-1 : 24.3℃ , Component Side-2 : 23.9℃ , Component Side-3 : 23.7℃ , Component Side-4 : 24.4℃

•CPU : Intel ATOM N270 1.6GHz

•RAM : Transcend DDR2-800 512MB

•BIOS : EMB-9459T BIOS Rev 1.0 (4/17/2009)

•CF Card : N/A

•HDD : Seagate IDE H.D 160G- ST3160815A

•Application Software: Run Prime95 under Windows XP Professional Service Pack 3

•Take Picture Time: After Power on 2 hours.

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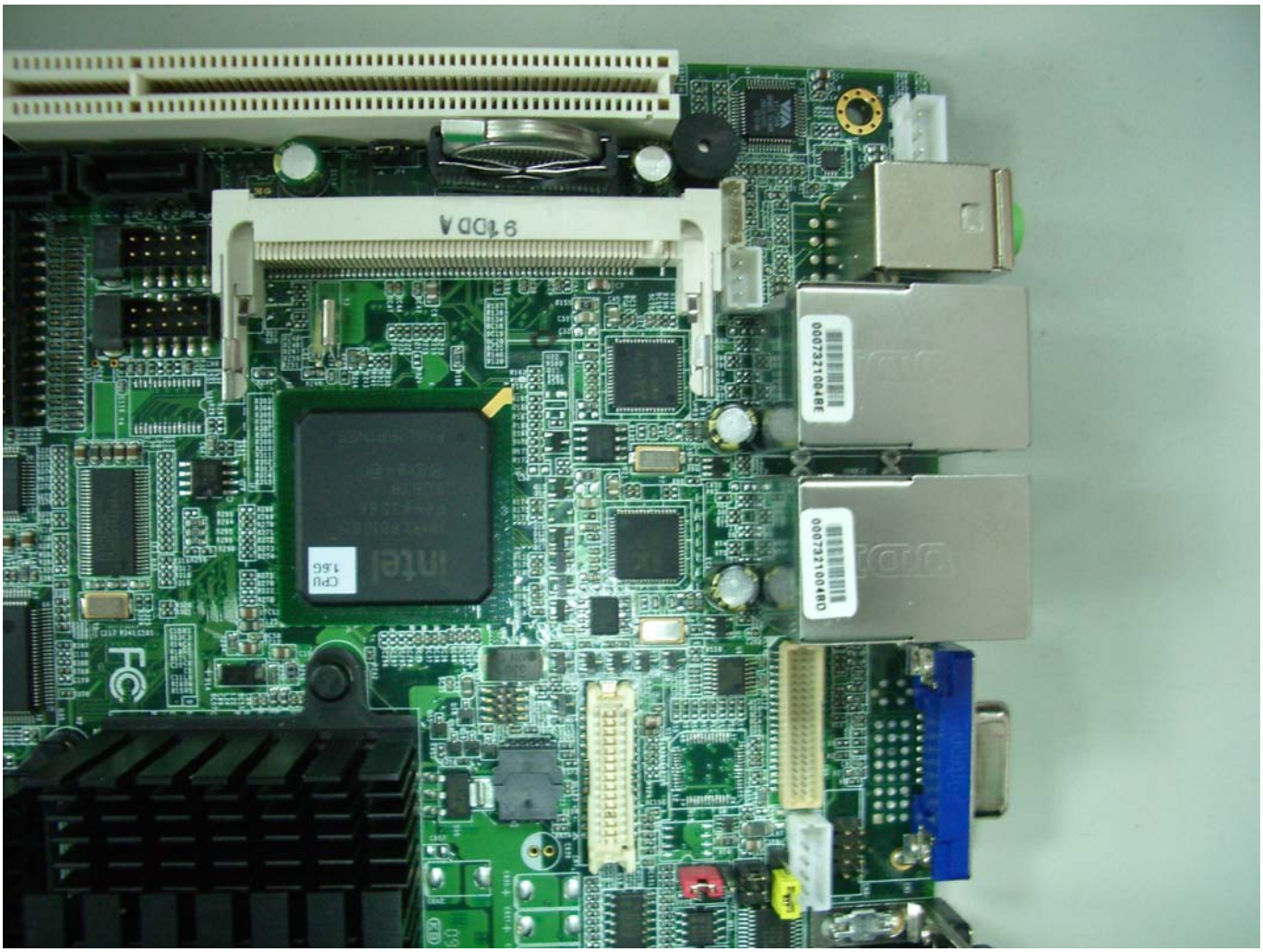
Temperature Profile Test:

Component Side-1:



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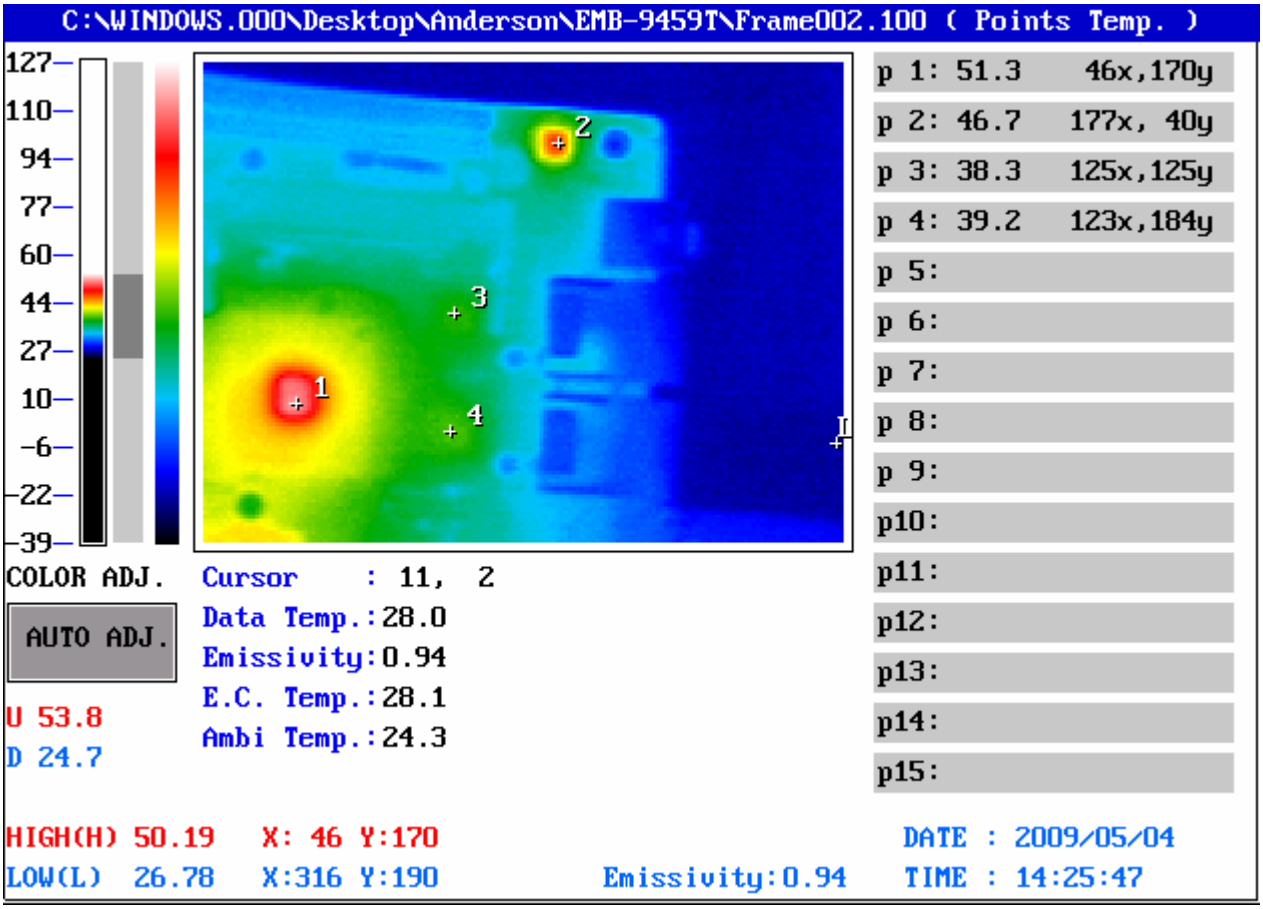

Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				24.3℃	60℃	
1	U28	(TF)IC.SMD.Chipset ICH7M.Intel.NH82801GBM SL8YB	100	51.3	87	
2	U2	(TF)IC.SMD.LQFP 48P.7.1Channel HD Audio Codec.VIA.VT1708B	85	46.7	82.4	
3	U17	(TF)IC.SMD.QFN.64P.PCI-express.Gigabit Ethernet Chip.REALTEK.RTL8111C-VB-GR	100	38.3	74	
4	U18	(TF)IC.SMD.QFN.64P.PCI-express.GigabitEthernet Chip.REALTEK.RTL8111C-VB-GR	100	39.2	74.9	

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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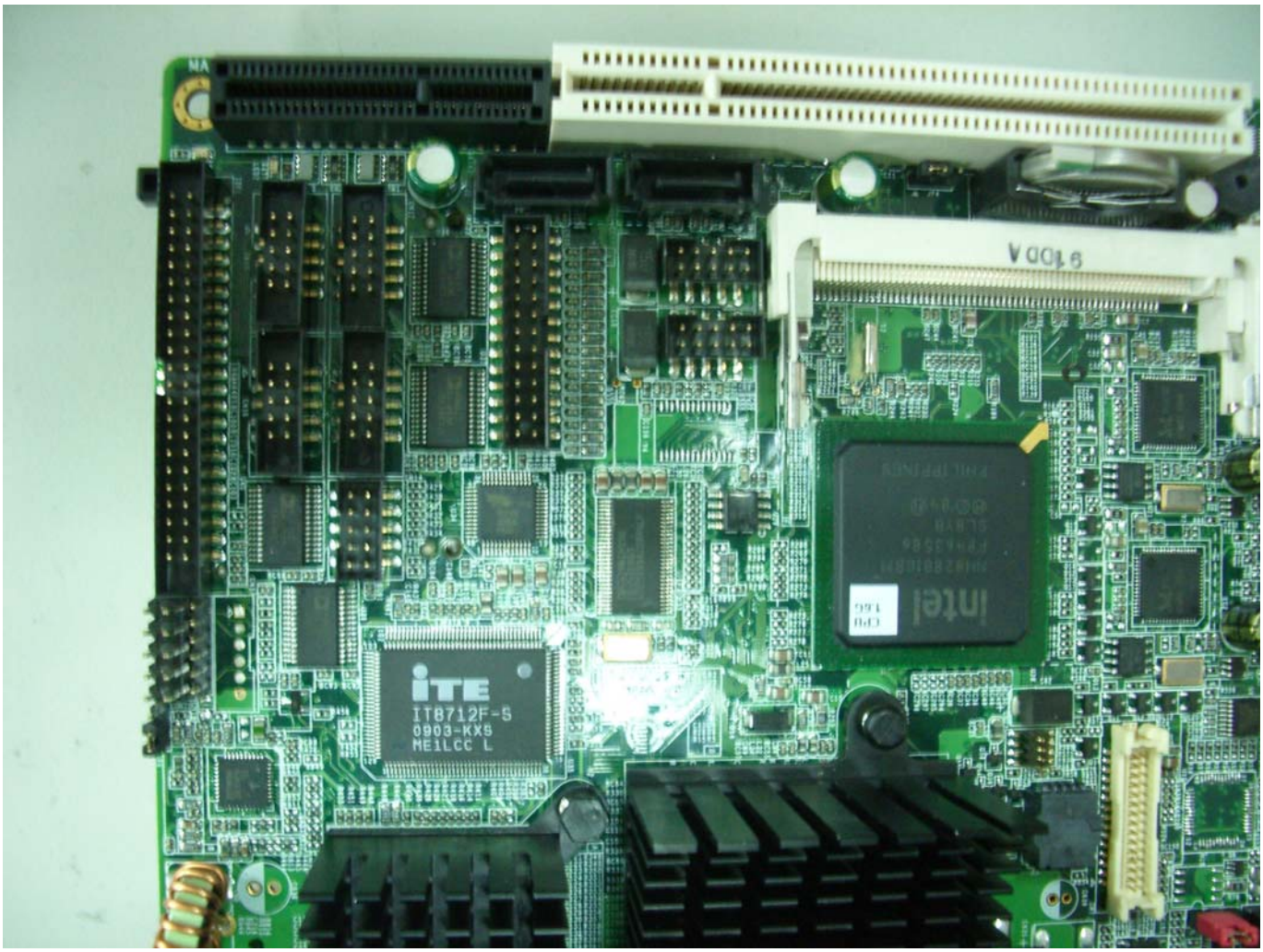
Component Side-2:



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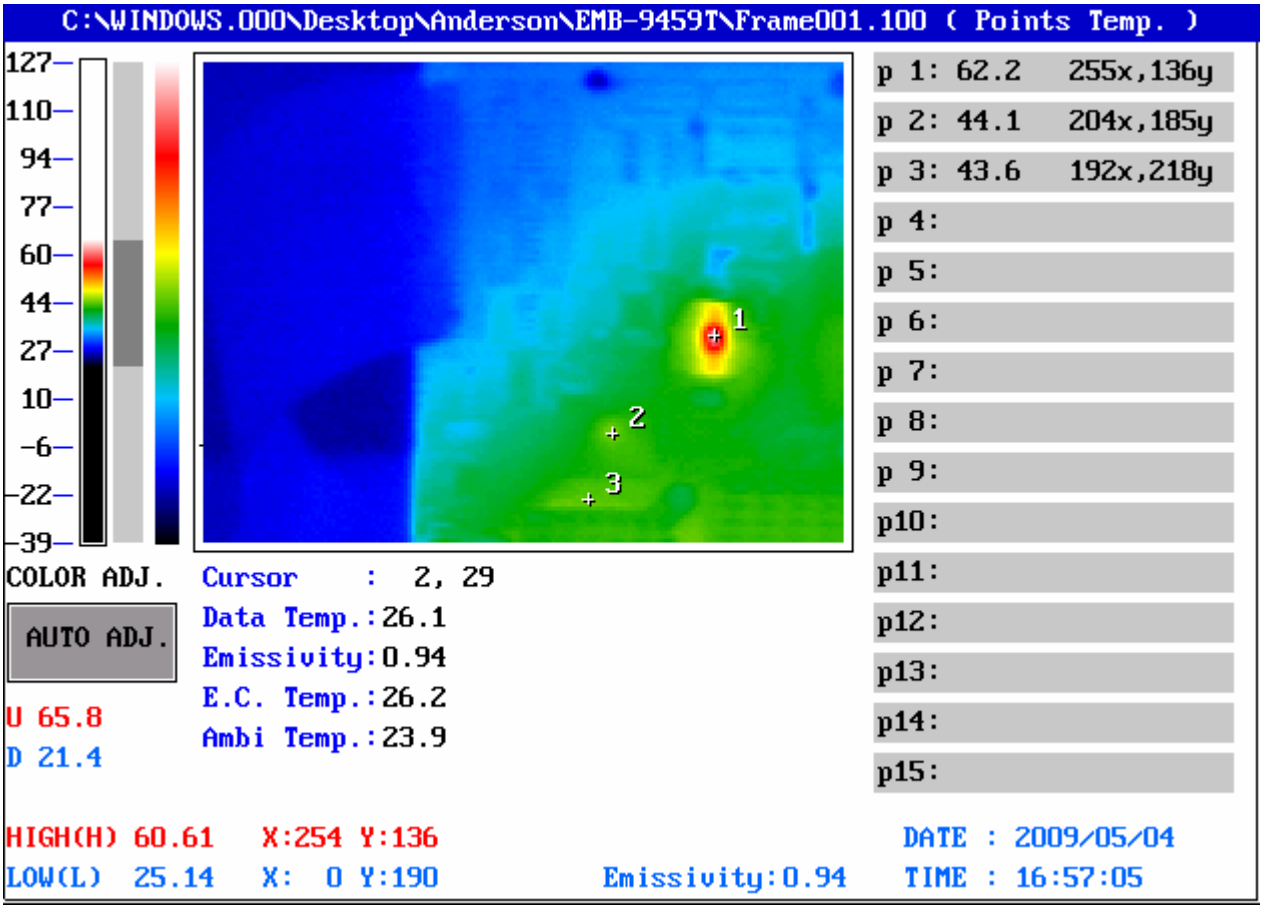

Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				23.9℃	60℃	
1	U33	(TF)IC.SMD.TSSOP 56P.CLOCK GENERATOR.ICS.ICS954226AGLF	115	62.2	98.3	
2	U34	(TF)IC.SMD.LQFP 48P.LPC to 4 UART.FINTEK.F81216DG	100	44.1	80.2	
3	U35	(TF)IC.SMD.QFP128P Super I/O.ITE.IT8712F/KX-L	100	43.6	79.7	

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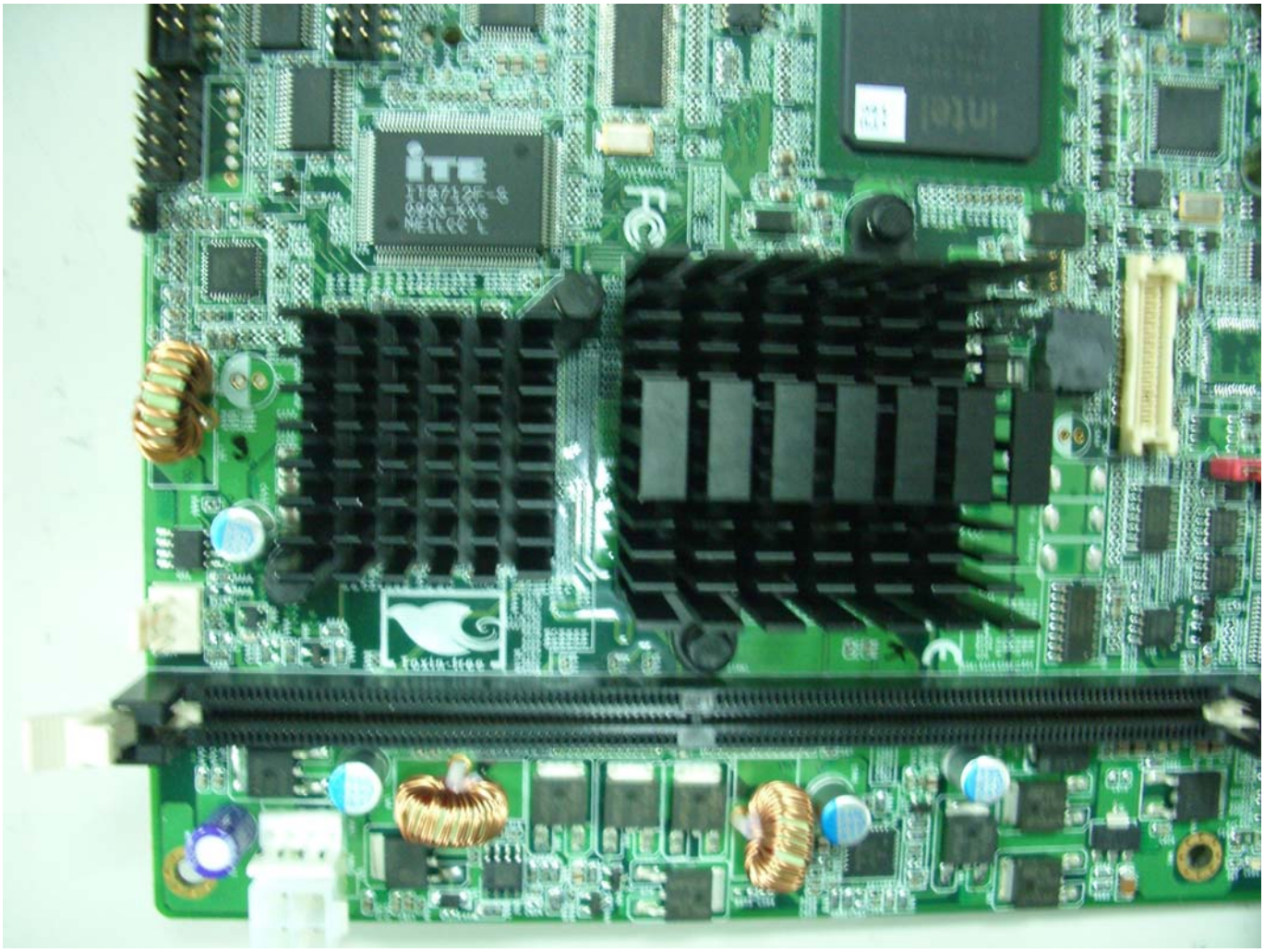
Component Side-3:



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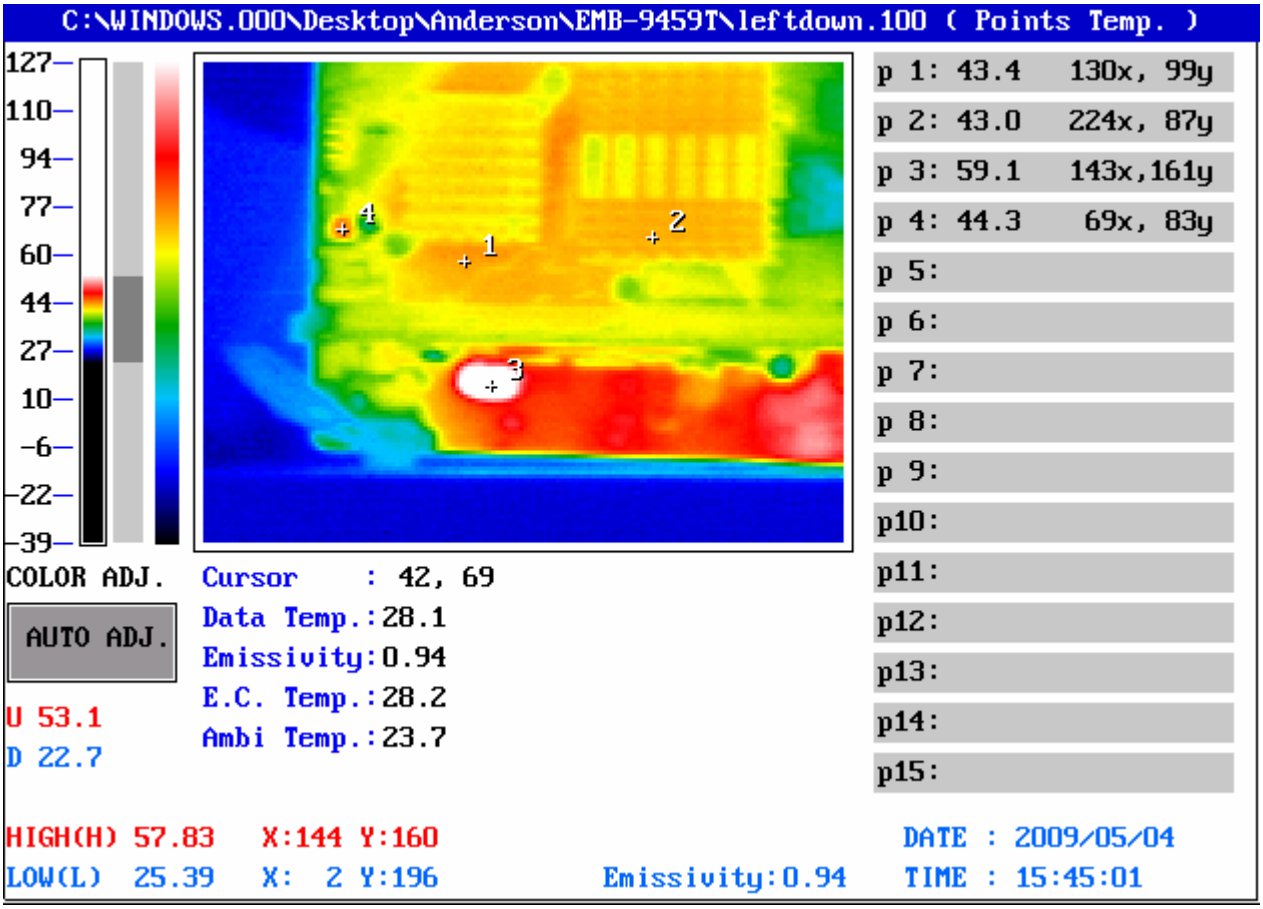

Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				23.7℃	60℃	
1	U38(CPU)	(TF)Intel CPU.Diamondville.N270.1.6GHz/FSB 533MHz.FCBGA8.437Pins.STEPPING CODE:SLB73.AU80586GE025D	90	43.4	79.7	
2	U30(NB)	(TF)IC.SMD.Intel 945GSE Express Chipset.Intel.QG82945GSE SLB2R	105	43.0	79.3	
3	Memory	Transcend DDR2 -800 512MB	----	59.1	95.4	
4	Q66	(TF)PWR.SMD.SOP8.Dual N MOSFET.30V.9.1A/6.8A.CET.CEM3138	125	44.3	80.6	

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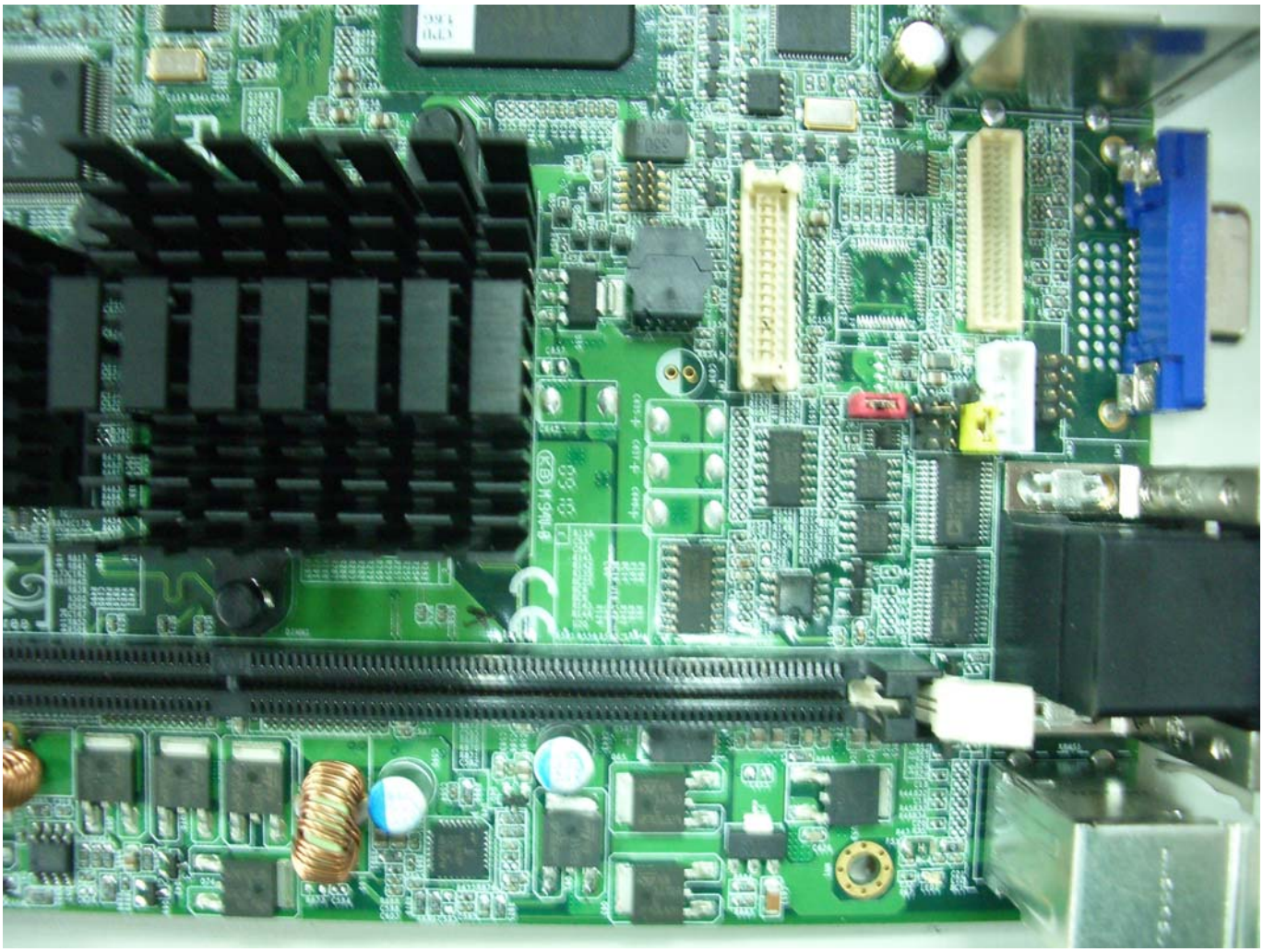
Component Side-4:



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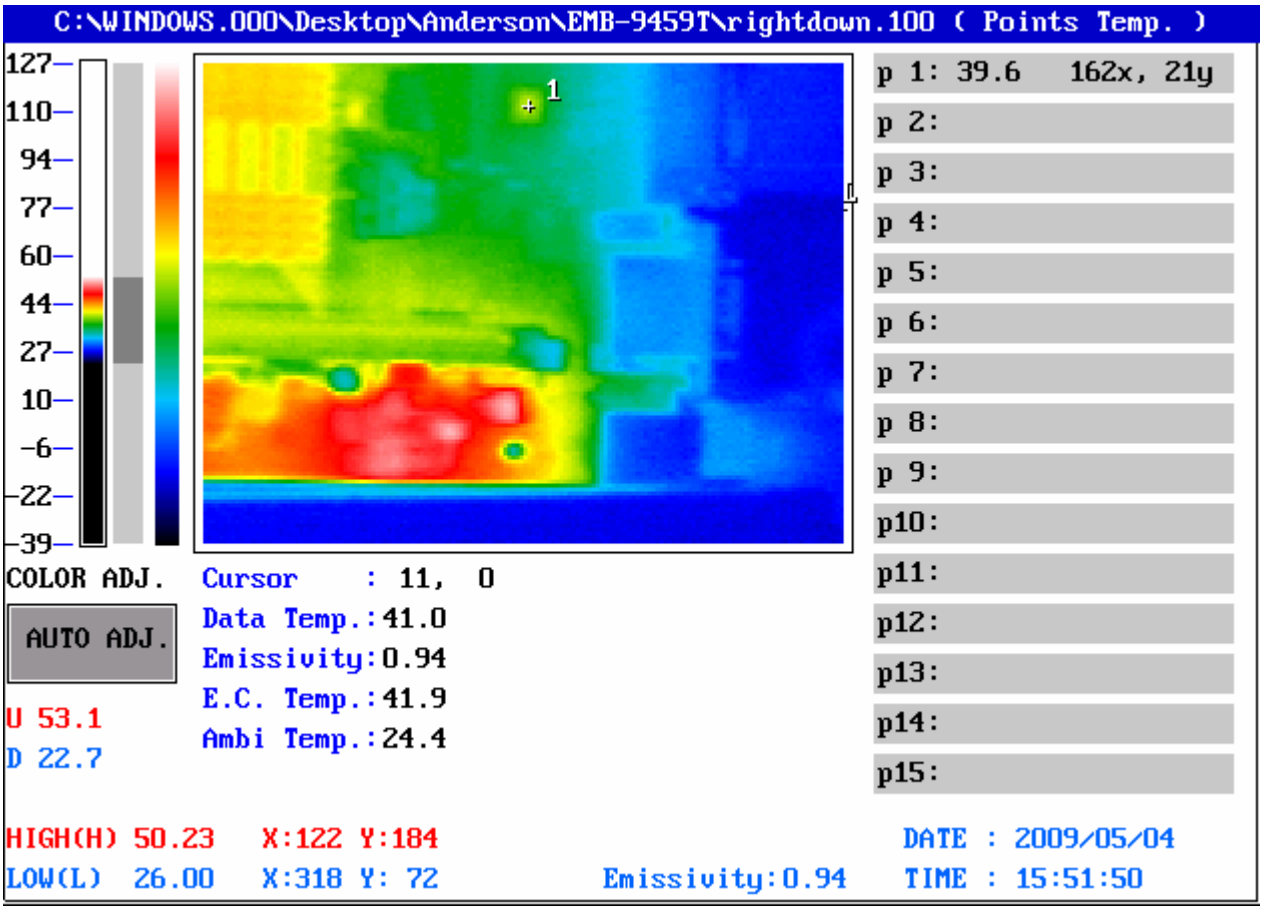

Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				24.4℃	60℃	
1	U10	(TF)IC.SMD LQFP.48P.DVI Transmitter.CHRONTEL.CH7307C-DEF	115	39.6	75.2	

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