PFM-945C

Intel Navy Pier (Diamondville)

Thermal Image Analysis Report

Report NO: 09E080013

Release Date: June 1, 2009

2009/06/01	*Wenyuan Yang*	*Eva Yeh*
Issue Stamp	**Manager**	**Test Engineer**

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Thermal Image Analysis

Ⅰ. Model Name: PFM-945C A1.0

Ⅱ. Description: Intel Navy Pier(Diamondville)

Ⅲ. Date: June 1, 2009

Ⅳ. Measure Site: AAEON QE Dept.

Ⅴ. Issued by : Eva Yeh

Ⅵ.Equipment:

PR1000(TH-046)
TVS-100 series by NIPPON AVIONICS CO., LTD.

Ⅶ. Simulation Environment:

- **Temperature: Component Side-1 (Test by PR1000): 26.1℃ / 26.0℃, Component Side-2 (Test by TVS-100): 25.6℃**
- **CPU : Intel(R) Atom(TM) CPU N270 1.6GHz**
- **RAM : On Board Hynix DDRII 1GB(hynix HY5PS1G1631CFP-Y5)**
- **BIOS : PFM-945C BIOS Rev 1.0 (2009/05/15)**
- **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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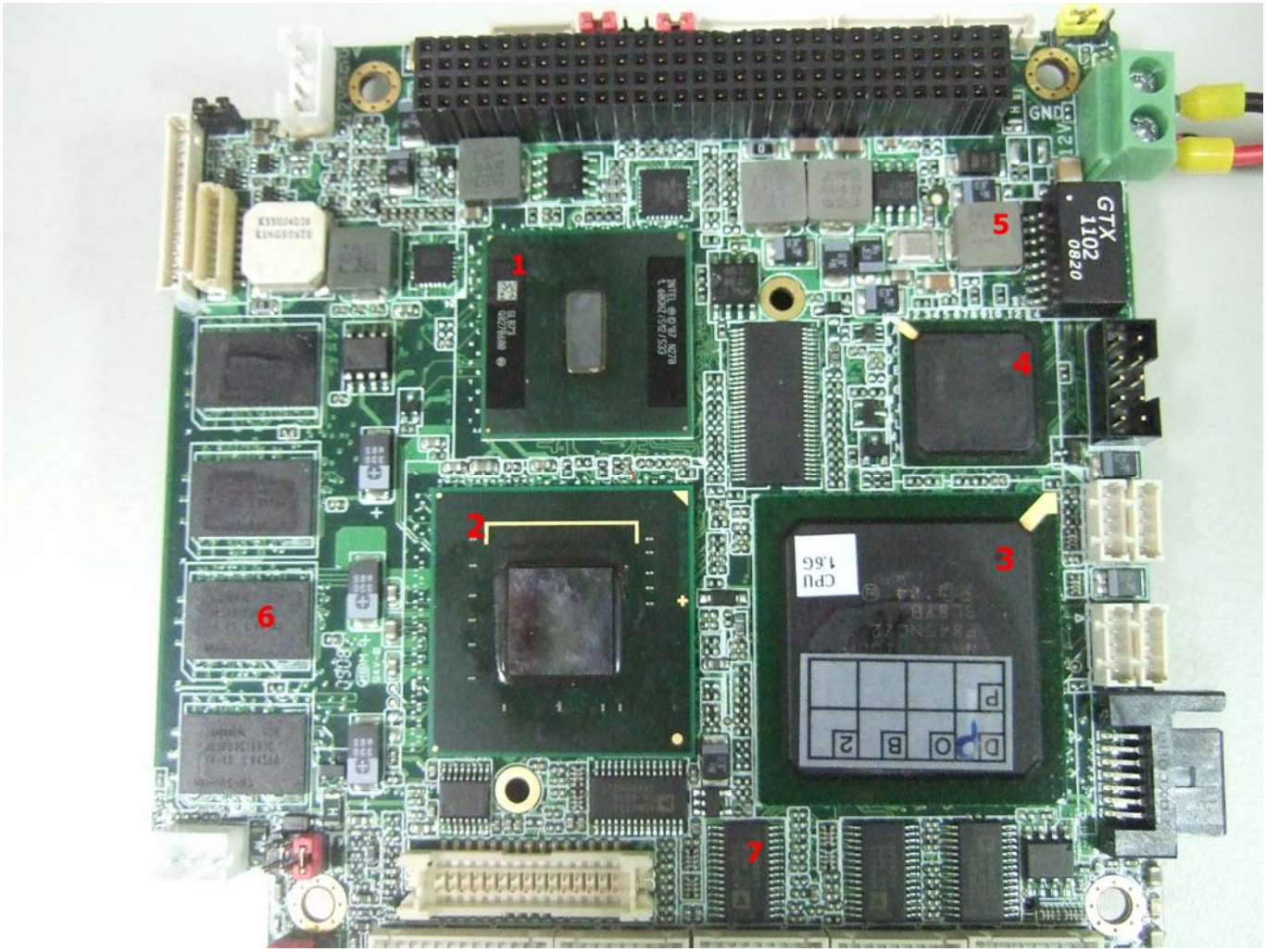
Temperature Profile Test:

Component Side-1:



Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				26.1℃	60℃	
1	U7	(TF)Intel CPU.Diamondville.N270.1.6GHz/FSB 533MHz.FCBGA8.437Pins.STEPPING CODE:SLB73.AU80586GE025D	90	53.4	87.3	
2	U14	(TF)IC.SMD.Intel 945GSE Express Chipset. Intel.QG82945GSE SLB2R	105	37.3	71.2	
3	U15	(TF)IC.SMD.Chipset ICH7M.Intel.NH82801GBM SL8YB	99	38.9	72.8	

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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Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				26.0℃	60℃	
4	U10	(TF)IC.SMD PBGA 196P.PCI Ethernet 10/100BaseT.Intel.LU82551ER	85	41.2	75.2	
5	L4	(TF)COIL.2.2uH.SMD.7.3*6.8*3.0mm.+/-20%.DCR=18mohm.Irms=8Amp.GOTREND.GSTC063P-2R2MN	125	42.6	76.6	
6	U13	(TF)IC.DDRII-SDRAMDDRII-SDRAM.64Mbx16(bit).SMD.667MHz.TFBGA 84P.1.8V.HYNIX.HY5PS1G1631C(L)FP-Y5	125	34.8	68.8	
7	U21	(TF)IC.SMD TSSOP 28P.2.7V to 3.6V.RS232 Transceivers ESD 15KV.ANALOG DEVICES.ADM3311EARUZ	115	34.2	68.2	

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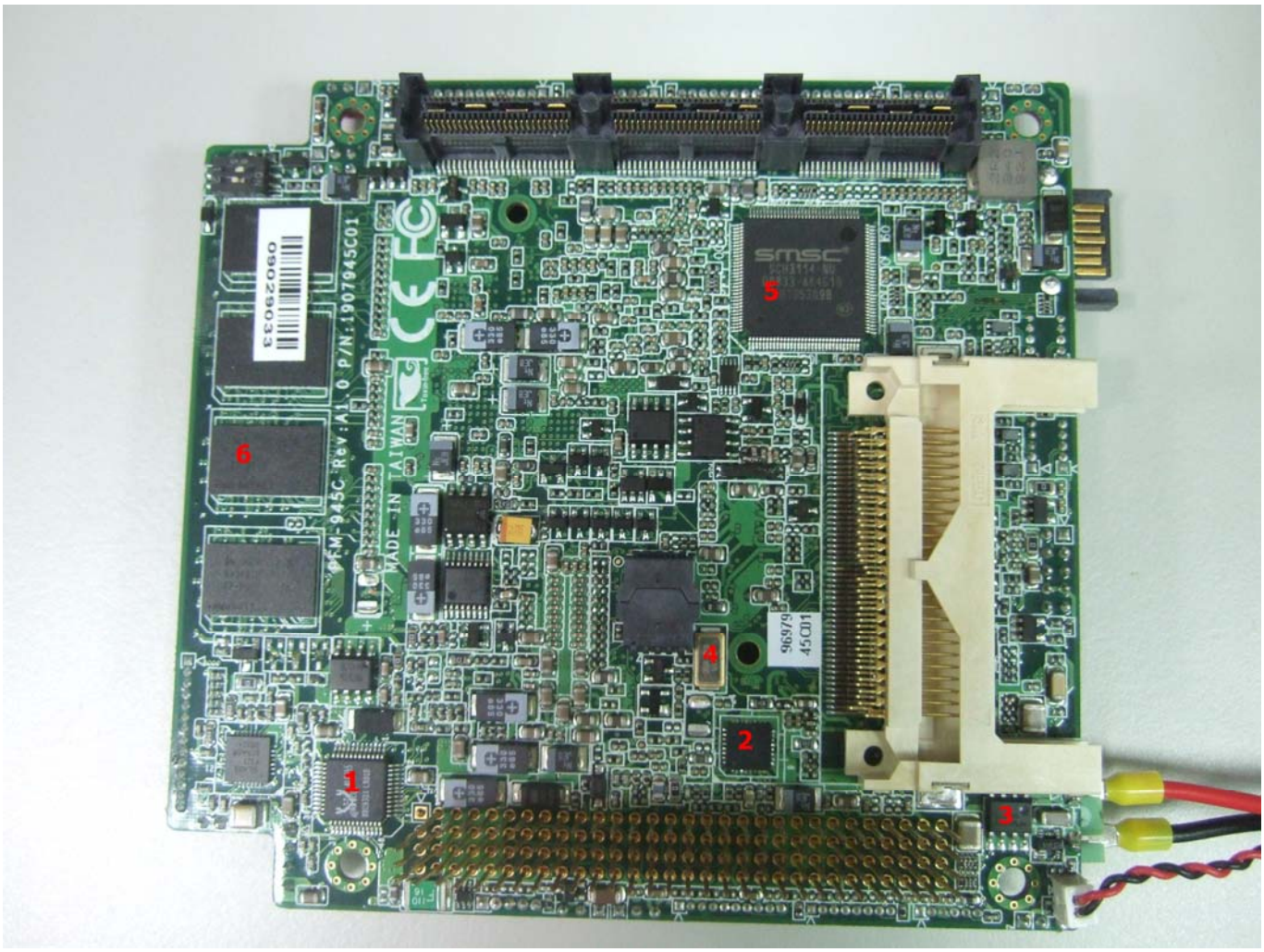
Component Side-2:



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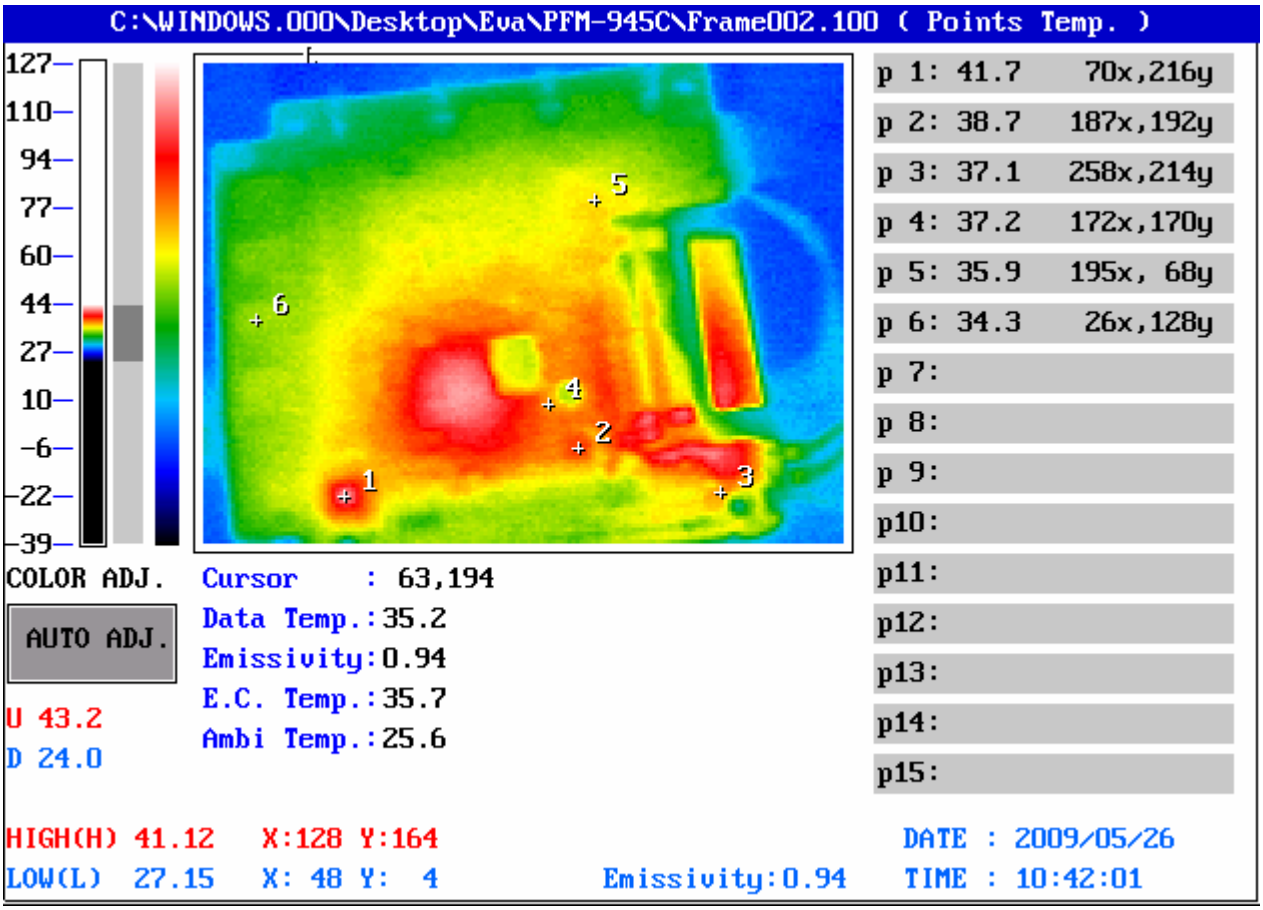

Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				25.6℃	60℃	
1	U26	(TF)IC.SMD LQFP 48Pin.6 Channel AC'97 Audio Codec.REALTEK.ALC655-LF	100	41.7	76.1	
2	U27	(TF)IC.SMD.MLPQ-32P 5*5.Single Phase DC-DC Converter.with Programmable LDO.Semtech.SC417MLTRT	125	38.7	73.1	
3	Q5	(TF)PWR.SMD SO-8.P-Channel MOSFET.Vgs=-4.5V/-10V.Ids=-13A.Rds=13m/9m.Vds=-30V.ANPEC.APM4429KC-TRL	125	37.1	71.5	
4	Y2	(TF)X'TAL SMD.14.31818MHz.6*3.5 mm 20PPM.2P. VIC-DAWN.XSX143180-S632-20	100	37.2	71.6	
5	U49	(TF)IC.SMD.VTQF-128Pin.Super I/O.SMSC.SCH3114-NU	100	35.9	70.3	
6	U42	(TF)IC.DDRII-SDRAMDDRII-SDRAM.64Mbx16(bit).SMD.667MHz.TFBGA 84P.1.8V.HYNIX.HY5PS1G1631C(L)FP-Y5	125	34.3	68.7	

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