

PCM-8152

Intel Pentium-M / Celeron-M Compact Board

Thermal Image Analysis Report

Report NO: 06E080041

Release Date: November 30, 2006

2006/11/30

Issue Stamp

Wenyuan Yang

Manager

Jojo Lin

Test Engineer

Thermal Image Analysis

I . Model Name: PCM-8152 A1.0(TF-PCM-8152-A10)

II . Description: Intel Pentium-M / Celeron-M Compact Board

III . Date: November 30, 2006

IV . Measure Site: AAEON QE Dept.

V . Issued by : Jojo Lin

VI.Equipment:

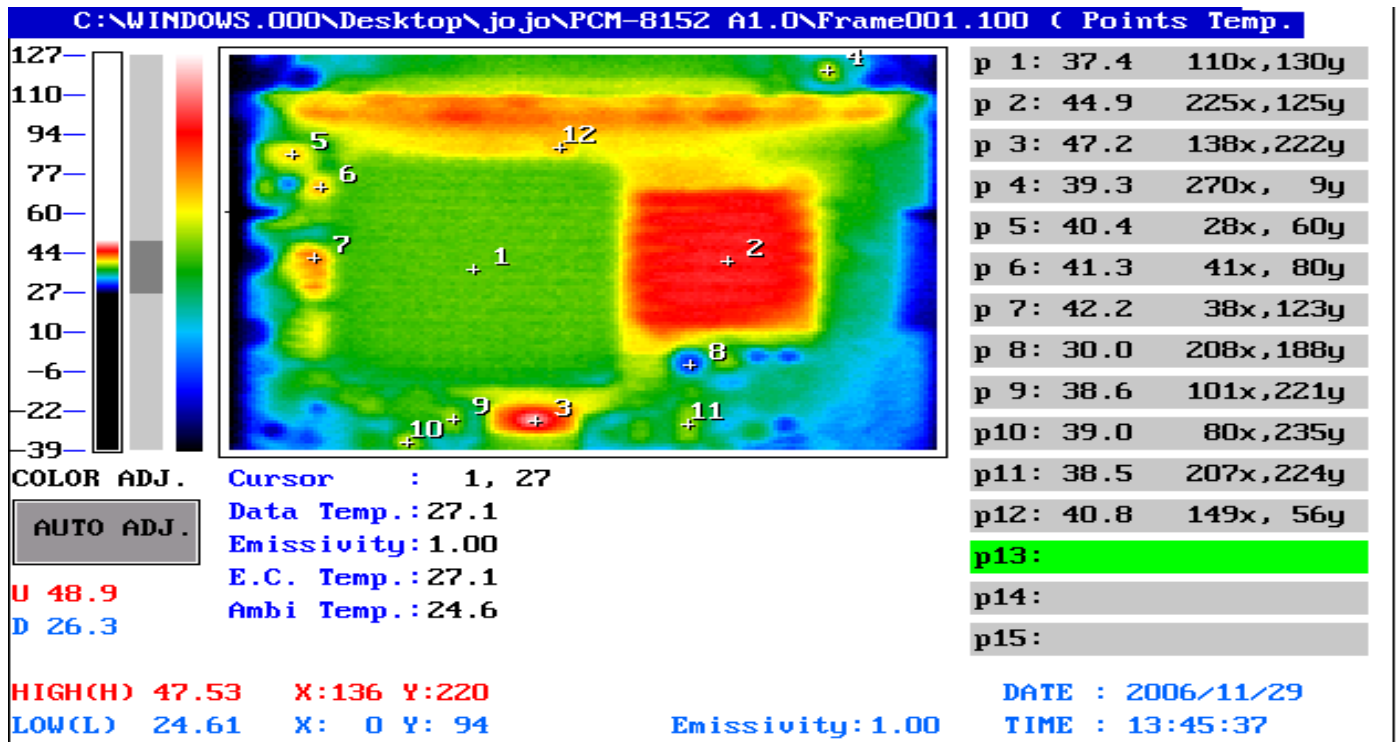
TVS-100 series by NIPPON AVIONICS CO., LTD.

VII. Simulation Environment:

- **Temperature: Component Side-1: 24.6°C , Component Side-2: 25.0°C
: Solder Side-3: 24.9°C , Solder Side-4: 25.1°C**
- **CPU : Intel Ultra Voltage Celeron-M 600MHz (Onboard)**
- **RAM : ARMAS DDR266 SDRAM 256MB (SAMSUNG K4H280838B-TCB0) x 1 pcs**
- **BIOS : PCM-8152 BIOS Rev 1.1 (11/15/2006)**
- **CF Card : N/A**
- **HDD: Seagate 2F040L0 40GB IDE HDD**
- **Application Software: Run Prime95 under Windows XP Professional V2002 Service Pack 2**
- **Take Picture Time: After Power on 2 hours.**

Temperature Profile Test:

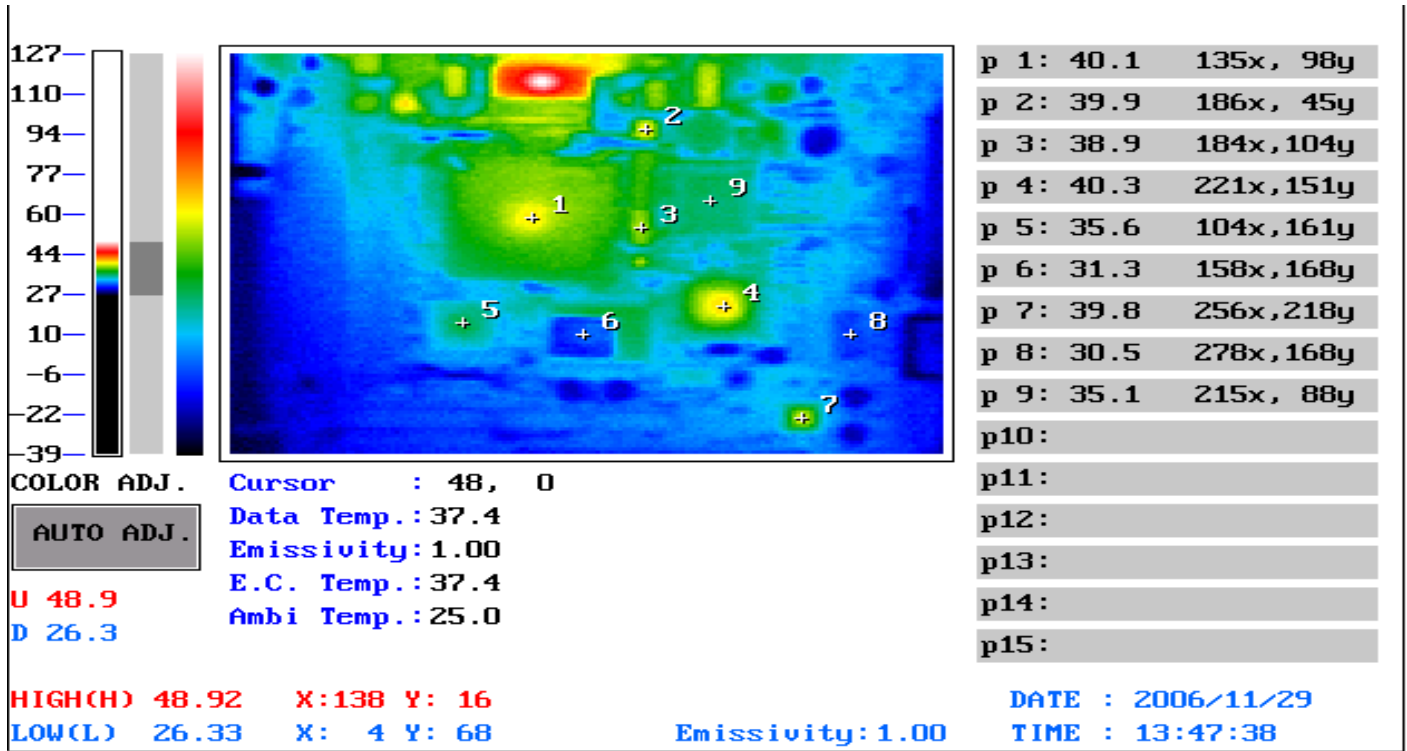
1. Component Side-1:



| Point | Position | Describe | Tc (°C) | Tm (24.6°C) | Tm (60°C) | Note |
|-------|----------|---|-----------|-------------|-----------|------|
| 1 | U19 | (TF)INTELCPU.Celeron-M.ULV-600MHz.512Kcache.mFCBGA479.RJ80535VC600512;EE-A060186;14S4060002;TWN | 25 ~ 75 | 37.4 | 72.8 | |
| 2 | U4 | (TF)IC.SMD.BGA732.Chipset.NB82852GM.Intel.JG82852GM-SL7VP;EE-A051180;14S4285202;TWN | 110 | 44.9 | 80.3 | |
| 3 | U16 | (TF)IC.SMD.SSOP56PinClockGenerator.ICS.ICS950201GLF-T;EE-A020140;14S3020101;TWN | 115 | 47.2 | 82.6 | |
| 4 | Q4 | (TF)IC.SMDSO8.3ALinearRegulator.Anpec.APL5331KC-TRL;EE-A041712;14S2533100;TWN | 25 ~ 125 | 39.3 | 74.7 | |
| 5 | L26 | (TF)Coil.3.3uH.+/-20%.DCR=0.0075Ohm.Idc=10A.WireSize=0.8mm.DIP.GOTREND.C4452P-08A09YDPS;EE-A061414;121110336G;TWN | -55 ~ 115 | 40.4 | 75.8 | |
| 6 | U21 | (TF)IC.SMD.SO8.Step-DownDC/DCController.Anpec.APW7057KC-TRL;EE-A040426;14S2705700;TWN | 25 ~ 100 | 41.3 | 76.7 | |
| 7 | L24 | (TF)COIL.1uH.+/-25%.DCR=0.08Ohm.Idc=20A.WireSize=0.6*3mm*7.5TS.DIP.GOTREND.C5008P-06C07YDPS;EE-A060375;121110010Y;TWN | -55 ~ 115 | 42.2 | 77.6 | |
| 8 | C104 | (TF)PS-CON.(270~1000)uF.(2.5~10)V.20%.DIP.Pinlength=3.5mm.NIPPONCHEMI-CON.PSA Series;EE-A050052;11*****8*;TWN | -85 ~ 135 | 30.0 | 65.4 | |
| 9 | C148 | (TF)SPCAP.[8.2uF~470uF].[2V~8V].20%.SMD.Panasonic.EEF/ECG 系列 (耐溫 260);EE-A060158;118*****8*;TWN | -70 ~ 135 | 38.6 | 74.0 | |
| 10 | U22 | (TF)IC.SMD.SO8.Step-DownDC/DCController.Anpec.APW7057KC-TRL;EE-A040426;14S2705700;TWN | 25 ~ 100 | 39.0 | 74.4 | |
| 11 | U5 | (TF)IC.SMDTSSOP-28.DualPowerSupplyController.SEMTECH.SC1485ITSTRT;EE-A031097;14S4148500;TWN | -15 ~ 100 | 38.5 | 73.9 | |
| 12 | C111 | (TF)SPCAP.[8.2Mf~470uF].[2V~8V].20%.SMD.Panasonic.EEF/ECG 系列 (耐溫 260);EE-A060158;118*****8*;TWN | 70 ~ 135 | 40.8 | 76.2 | |

1. Tm (Measured operation temperature) must be less than Tc (Specified case temperature) +5 degree C
 2. Any Tm value showed in red words which meaning the value is over the Tc+ 5 degree C of this device specification

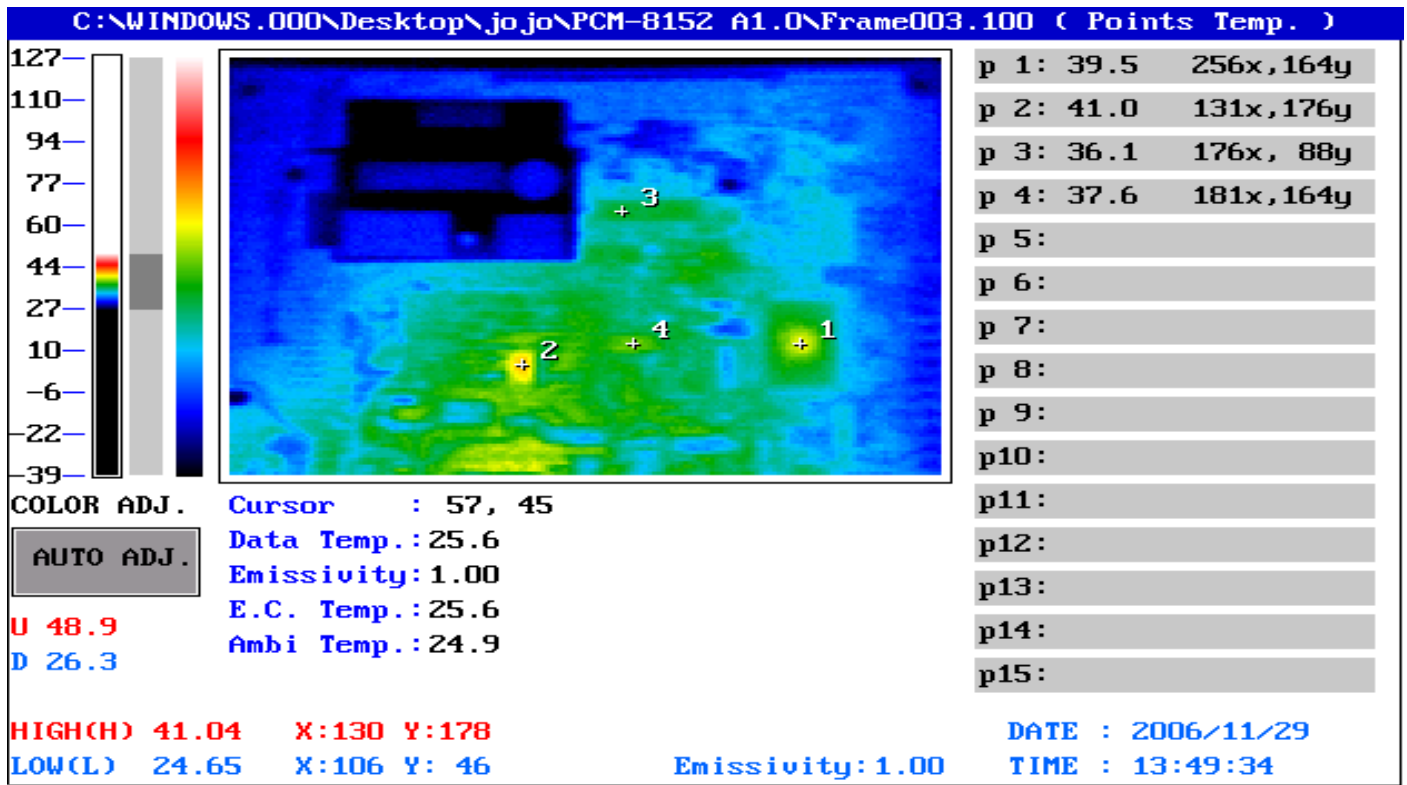
2. Component Side-2:



| Item | Position | Describe | Tc (°C) | Tm (25.0°C) | Tm (60°C) | Not e |
|------|----------|---|-----------|-------------|-----------|-------|
| 1 | U18 | (TF)IC.SMD.ChipsetICH4.INTEL.NH82801DBSL8DE;EE-A031271;14S4280106;TWN | 0 ~ 110 | 40.1 | 75.1 | |
| 2 | Q15 | (TF)PWR.SMD.SO-8.N-Channel.30V.10A.13.5mΩ.MOSFET.APEC.AP4410GM;EE-A030505;1315441012;TWN | -30 ~ 125 | 39.9 | 74.9 | |
| 3 | U12 | (TF)IC.SMD SO.14Pin.PHILIPS.74LVC06AD;EE-A000474;14S5A00600;TWN | -70 ~ 115 | 38.9 | 73.9 | |
| 4 | U10 | (TF) IC.SMD TSSOP.20P.TI.SN74HCT245PWR;EE-A020055;14S5A00401;TWN | -70 ~ 115 | 40.3 | 75.3 | |
| 5 | U48 | (TF)IC.SMD TFBGA.160P.PCI to ISA Bridge Chip.ITE.IT8888G-L;EE-A051091;14S4888801;TWN | -30 ~ 100 | 35.6 | 70.6 | |
| 6 | U38 | (TF)IC.SMD.QFP128P Super I/O.ITE.IT8712F-A/IX-L;EE-A050785;14S4871203;TWN | -30 ~ 100 | 31.3 | 66.3 | |
| 7 | U1 | (TF)IC.SMD LQFP 48Pin.6 Channel AC'97 Audio Codec.REALTEK.ALC655-LF;EE-A040125;14S3065500;TWN | -30 ~ 100 | 39.8 | 74.8 | |
| 8 | TF1 | (TF)IC.SMD.24P.10/100BASE-T TRANSFORMER.AG.S32430N;EE-A061602;14S3324301;TWN | -30 ~ 100 | 30.5 | 65.5 | |
| 9 | U7 | AAEON(TF)FLASH FWH PLCC BIOS.512K.CS:57BCH.PCM-8152.Rev.1.1.;EE-A061721;14S6281521;TWN | N/A | 35.1 | 70.1 | |
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1. Tm (Measured operation temperature) must be less than Tc (Specified case temperature) +5 degree C
 2. Any Tm value showed in red words which meaning the value is over the Tc+ 5 degree C of this device specification

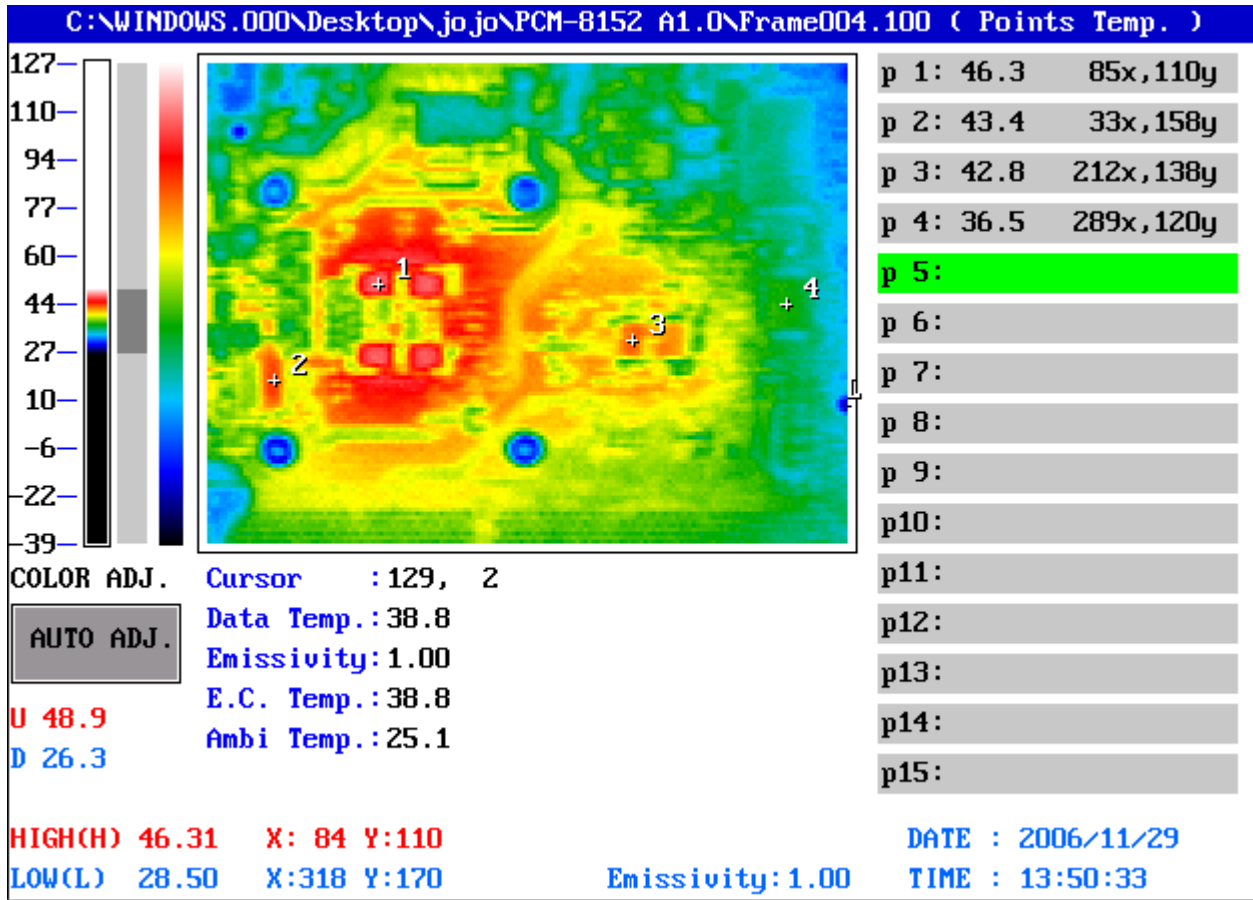
3. Solder Side-3:



| Item | Position | Describe | Tc (°C) | Tm (24.9°C) | Tm (60°C) | Note |
|------|----------|--|-----------|-------------|-----------|------|
| 1 | U41 | (TF)IC.SMD.QFP128PSuperI/O.ITE.IT8712F-A/IX-L;EE-A050785;14S4871203;TWN | -30 ~ 100 | 39.5 | 74.6 | |
| 2 | Q41 | (TF)REG.SMD.TO-2525ALinearRegulator.ATC.AP1084DL-ADJ;EE-A011431;1314108412;TWN | 25 ~ 125 | 41.0 | 76.1 | |
| 3 | U30 | (TF)IC.SMDSSOP28P.RS232DriverESD15KV.INTERSIL.HIN213ECAZ;EE-A000060;14S4021310;TWN | -30 ~ 100 | 36.1 | 71.2 | |
| 4 | U45 | (TF)IC.SMD.SOIC14Pin.TL.SN74LVC125A;EE-A011204;14S5A12502;TWN | -70 ~ 105 | 37.6 | 72.7 | |
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3. Tm (Measured operation temperature) must be less than Tc (Specified case temperature) +5 degree C
 4. Any Tm value showed in red words which meaning the value is over the Tc+ 5 degree C of this device specification

4. Solder Side-4:



| Item | Position | Describe | Tc (°C) | Tm (25.1°C) | Tm (60°C) | Note |
|------|----------|--|------------|----------------|--------------|------|
| 1 | C639 | (TF)SP CAP.[8.2µF~470µF].[2V~8V].20%.SMD.Panasonic.EEF/ECG 系列 (耐溫 260);EE-A060158;118*****8*;TWN | 70~135 | 46.3 | 81.2 | |
| 2 | U37 | (TF)IC.SMD TSSOP-38 IMVP4.Dual Phase PWM Controller.SEMTECH.SC1476ITSTR;EE-A031099;14S4147600;TWN | -15 ~ 100 | 43.4 | 78.3 | |
| 3 | C454 | (TF)SP CAP.[8.2µF~470µF].[2V~8V].20%.SMD.Panasonic.EEF/ECG 系列 (耐溫 260);EE-A060158;118*****8*;TWN | 70~135 | 42.8 | 77.7 | |
| 4 | U25 | (TF)IC.SMD LQFP.64P DVI/TV ENCODER.CHRONTEL.CH7009B-TF;EE-A051609;14S47009B0;TWN | 25~125 | 36.5 | 71.4 | |
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5. Tm (Measured operation temperature) must be less than Tc (Specified case temperature) +5 degree C
 6. Any Tm value showed in red words which meaning the value is over the Tc+ 5 degree C of this device specification