AAEON Technology INC.
ISO-9001/ISO-14001 Certified
Industrial Automation PCs

HSB-460I A0.2
Thermal Image Analysis Report

Release Date: Jun. 20, 2003

2003-06-20	Wayne Chen	Rex Chang
Issue Stamp	**A.V.P.**	**Test Engineer**

Thermal Image Analysis

Ⅰ. Model Name: HSB-460I Rev.A0.2 (BIOS:0.4)

Ⅱ. Description: Half-size CPU Card

Ⅲ. Date: JUN. 20, 2003

Ⅳ. Measure Site: AAEON DV Dept.

Ⅴ. Issued by : Rex Chang

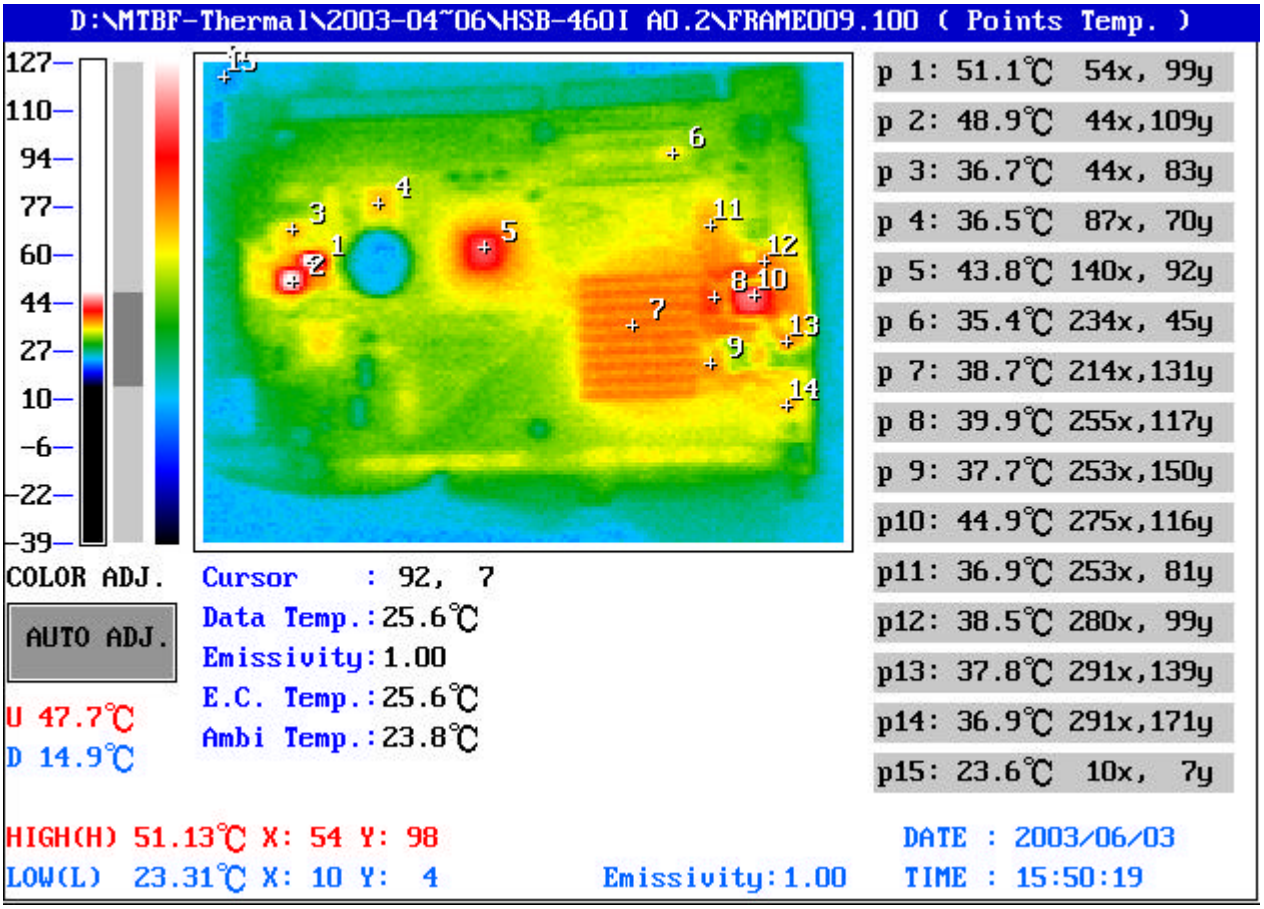
Ⅵ.Equipment: TVS-100 series by NIPPON AVIONICS CO., LTD.

Ⅶ. Simulation Environment:

- **Temperature:**
  1. **Component Side : 23.6 degrees C**
  2. **Solder Side : 25.4 degrees C**
- **CPU: NS Geode GX1 300MHz**
- **RAM: Onboard 64MB SDRAM SAMSUNG K4S281632D-TC75**
- **HDD : Western Digital WD400BB-75DEA0 40GB**
- **Application Software: Windows 98SE Run HCT9.5**
- **Take Picture Time: Power on 2 Hours after**

Temperature Profile Test:

Component Side :

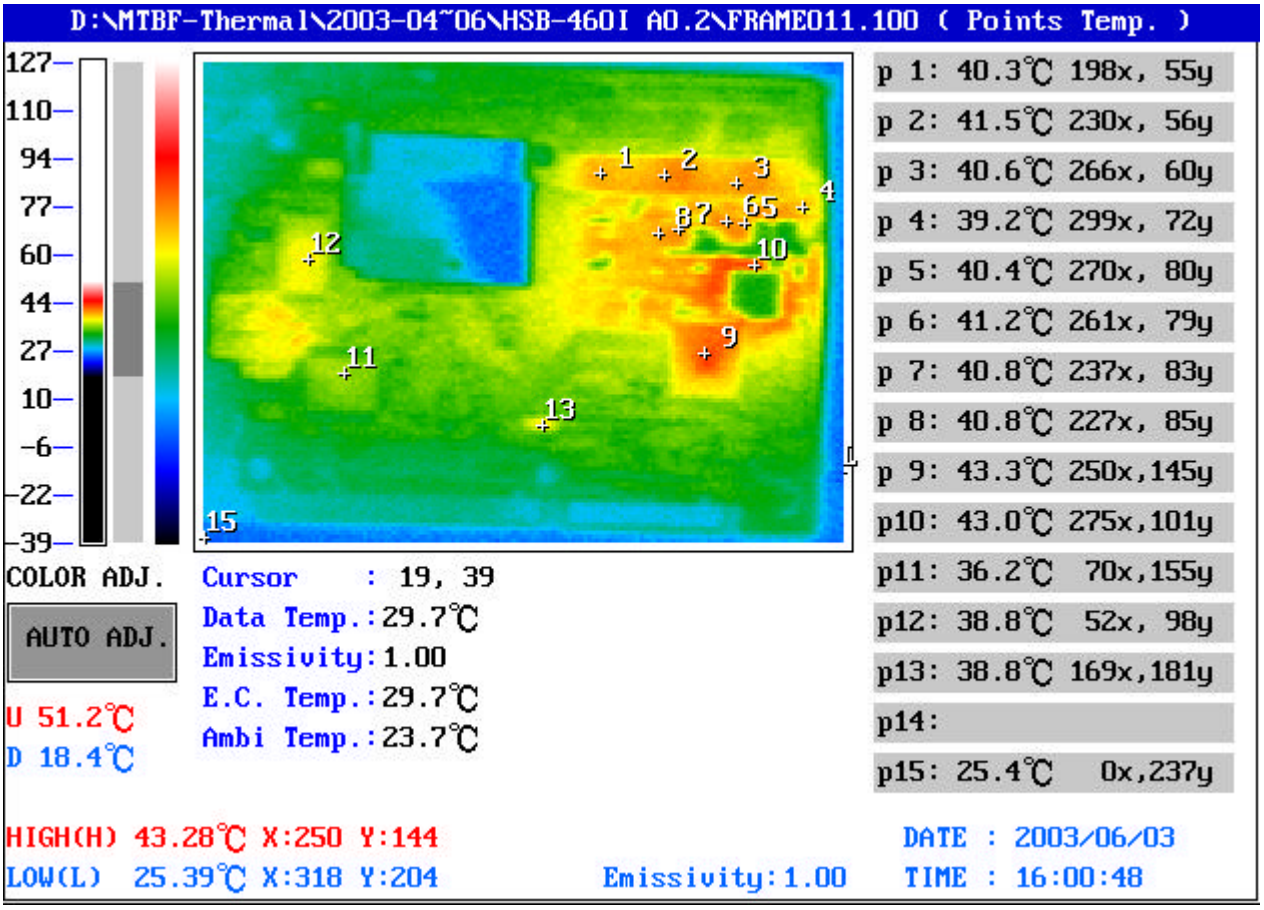


Point	Position	Describe	Ts	Tm	Note
1	CT17	Polymer tan Cap.100uF.10V.20%.D(7.3*4.3*2.8mm).55mOHM SMD.NICHICON.F551A107MNC		51.1 ℃	
2	U17	IC.SMD.AC'97 Sound Port Codec.ANDEV.AD1819BJST		48.9 ℃	
3	U18	IC.SMD.Dual 250mw Audio AMP.NS.LM4880M		36.7 ℃	
4	U13	GAL.PLCC.20P Blank.LATTICE.GAL16V8D-25LJ		36.5 ℃	
5	U11	IC.SMD 352PBGA.I/O Companion.Multi-Function South Bridge.N.S..CS5530A		43.8 ℃	
6	U4	IC.SMD.SOP.TI.7407		35.4 ℃	
7	U5	NS CPU.BGA GX1-300B 2.0V 85C		38.7 ℃	
8	CT9	Polymer tan Cap.220uF.6.3V.20%.D(7.3*4.3*2.8mm).40mOHM SMD.NICHICON.F550J227MNC		39.9 ℃	
9	CT7	Polymer tan Cap.330uF.6.3V.20%.D(7.3*4.3*2.8mm).40mOHM SMD.NICHICON.F550J337MNC		37.7 ℃	
10	Q3	REG.SMD.5V TO 3.3V 5A TO -263.LINFINY.LX8384-00CDDT		44.9 ℃	
11	U2	IC.SMD SDRAM.1M*16 143MHz TSOPII 50P 3.3V.TM.T431616A-7S		36.9 ℃	
12	Q2	Dual P-Channel MOSFET 2.7V.SMD SO 8Pin.SILICON.S I9933ADY-T1		38.5 ℃	
13	Q1	Dual N-Channel.SMD SO-8.2.5V MOSFET.APEC.AP9926M		37.8 ℃	
14	U1	IC.SMD SOP.8Pin Switching PWMController.Intersil.ISL6520A		36.9 ℃	
15		The Room Temperature		23.6 ℃	

1. Operation Temperature (℃):
   Ts = Defined by component specification ; Tm = Measured by DV

Temperature Profile Test:

Solder Side :



Point	Position	Describe	Ts	Tm	Note
1	U24	IC.SMD SDRAM.8M*16.PC -133 TSOPII 54P 3.3V.SAMSUNG.K4S281632D-TC75		40.3 ℃	
2	U21	IC.SMD SDRAM.8M*16.PC -133 TSOPII 54P 3.3V.SAMSUNG.K4S281632D-TC75		41.5 ℃	
3	U20	IC.SMD SDRAM.8M*16.PC -133 TSOPII 54P 3.3V.SAMSUNG.K4S281632D-TC75		40.6 ℃	
4	CT23	Polymer tan Cap.150uF.6.3V.20%.D(7.3*4.3*2.8mm).55mOHM SMD.NICHICON.F550J157MNC		39.2 ℃	
5	CT26	Polymer tan Cap.100uF.10V.20%.D(7.3*4.3*2.8mm).55mOHM SMD.NICHICON.F551A107MNC		40.4 ℃	
6	CT27	Polymer tan Cap.100uF.10V.20%.D(7.3*4.3*2.8mm).55mOHM SMD.NICHICON.F551A107MNC		41.2 ℃	
7	CT29	Polymer tan Cap.100uF.10V.20%.D(7.3*4.3*2.8mm).55mOHM SMD.NICHICON.F551A107MNC		40.8 ℃	
8	CT31	Polymer tan Cap.100uF.10V.20%.D(7.3*4.3*2.8mm).55mOHM SMD.NICHICON.F551A107MNC		40.8 ℃	
9	U22	IC.SMD LQFP 144Pin.Flat Panel Display Controller.NS.CS9211		43.3 ℃	
10	U5	Reversed side of PCB (NS CPU.BGA GX1-300B 2.0V 85C)		43.0 ℃	
11	U34	IC.SMD.FDC37C669.Super I/O Controller.SMC.FDC37C669		36.2 ℃	
12	U36	IC.SMD.128P QFP Super I/O.Winbond.W83977F-A		38.8 ℃	
13	U27	IC.SMD.SOP.TI.SN74F125D		38.8 ℃	
14					
15		The Room Temperature		25.4 ℃	

1. Operation Temperature (℃):
   Ts = Defined by component specification ; Tm = Measured by DV