HSB-800I

AMD LX-800/CS5536 ISA Half-Size SBC

Thermal Image Analysis Report

Report NO: 08I080004

Release Date: Apr 02 2008

2008/04/02	*Wenyuan Yang*	*Eva Yeh*
Issue Stamp	**Manager**	**Test Engineer**

Thermal Image Analysis

Ⅰ. Model Name: HSB-800I A1.0

Ⅱ. Description: AMD LX-800/CS5536 ISA Half-Size SBC

Ⅲ. Date: Apr 02 2008

Ⅳ. Measure Site: AAEON QE Dept.

Ⅴ. Issued by : Eva Yeh

Ⅵ.Equipment:

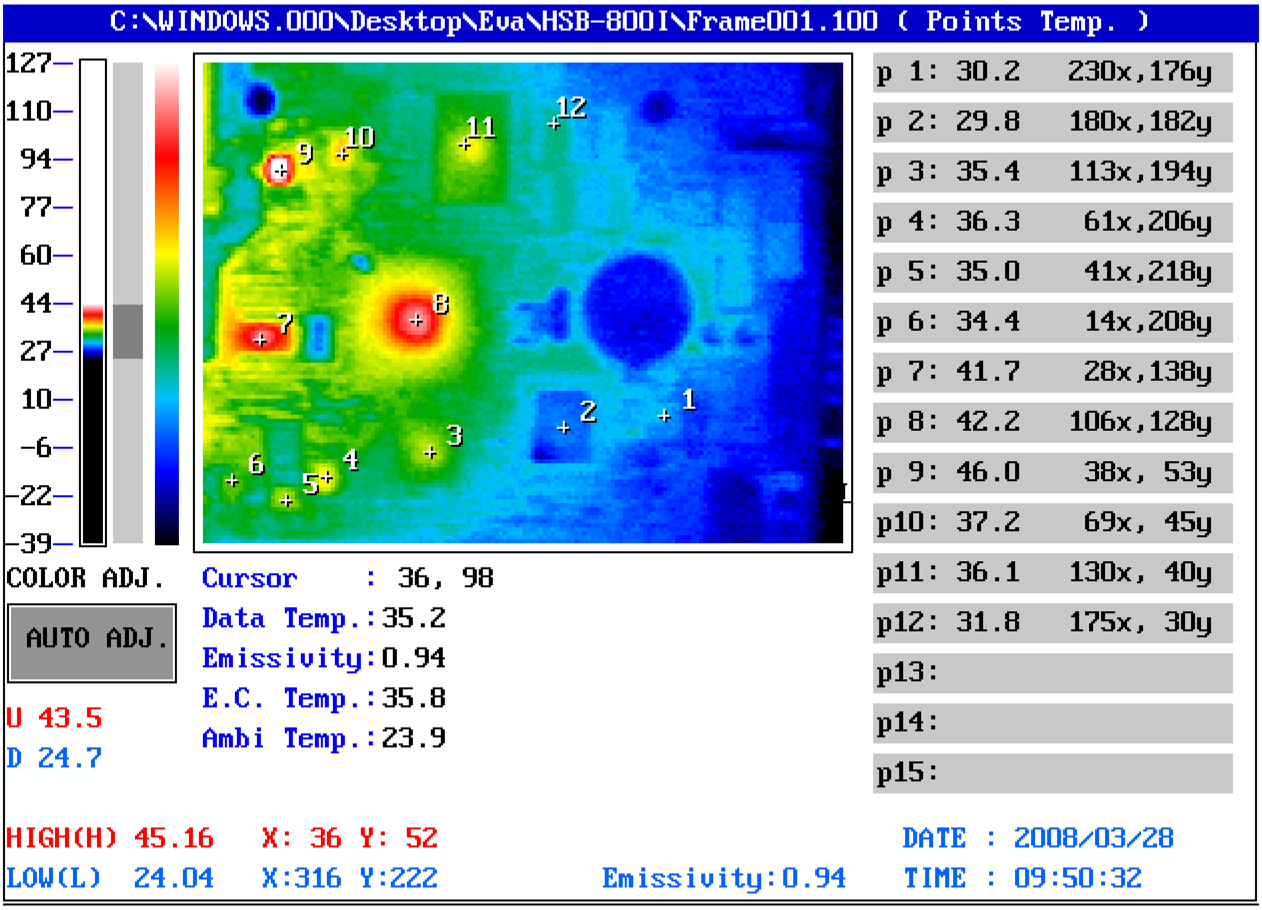
TVS-100 series by NIPPON AVIONICS CO., LTD.

Ⅶ. Simulation Environment:

- **Temperature: Component Side-1 : 23.9℃ , Component Side-2 : 24.2℃ , Component Side-3 : 24.8℃ , Component Side-4 : 25.0℃**
- **CPU : AMD LX-800 500 MHz**
- **RAM : On Board 128MB DDR400(ESMT M13S2561616A-5T)**
- **BIOS : HSB-800I BIOS Rev 1.1 (03/25/2008)**
- **CF Card : N/A**
- **HDD : WD800JB-00JJC0 80GB**
- **Application Software: Run Prime95 under Windows XP Professional V2002 Service Pack 2**
- **Take Picture Time: After Power on 2 hours.**

Temperature Profile Test:

Component Side-1:



C:\WINDOWS.000\Desktop\Eva\HSB-800I\Frame001.100 (Points Temp.)

p 1: 30.2 230x,176y
p 2: 29.8 180x,182y
p 3: 35.4 113x,194y
p 4: 36.3 61x,206y
p 5: 35.0 41x,218y
p 6: 34.4 14x,208y
p 7: 41.7 28x,138y
p 8: 42.2 106x,128y
p 9: 46.0 38x, 53y
p10: 37.2 69x, 45y
p11: 36.1 130x, 40y
p12: 31.8 175x, 30y
p13:
p14:
p15:

Cursor : 36, 98
Data Temp.:35.2
Emissivity:0.94
E.C. Temp.:35.8
Ambi Temp.:23.9

U 43.5
D 24.7

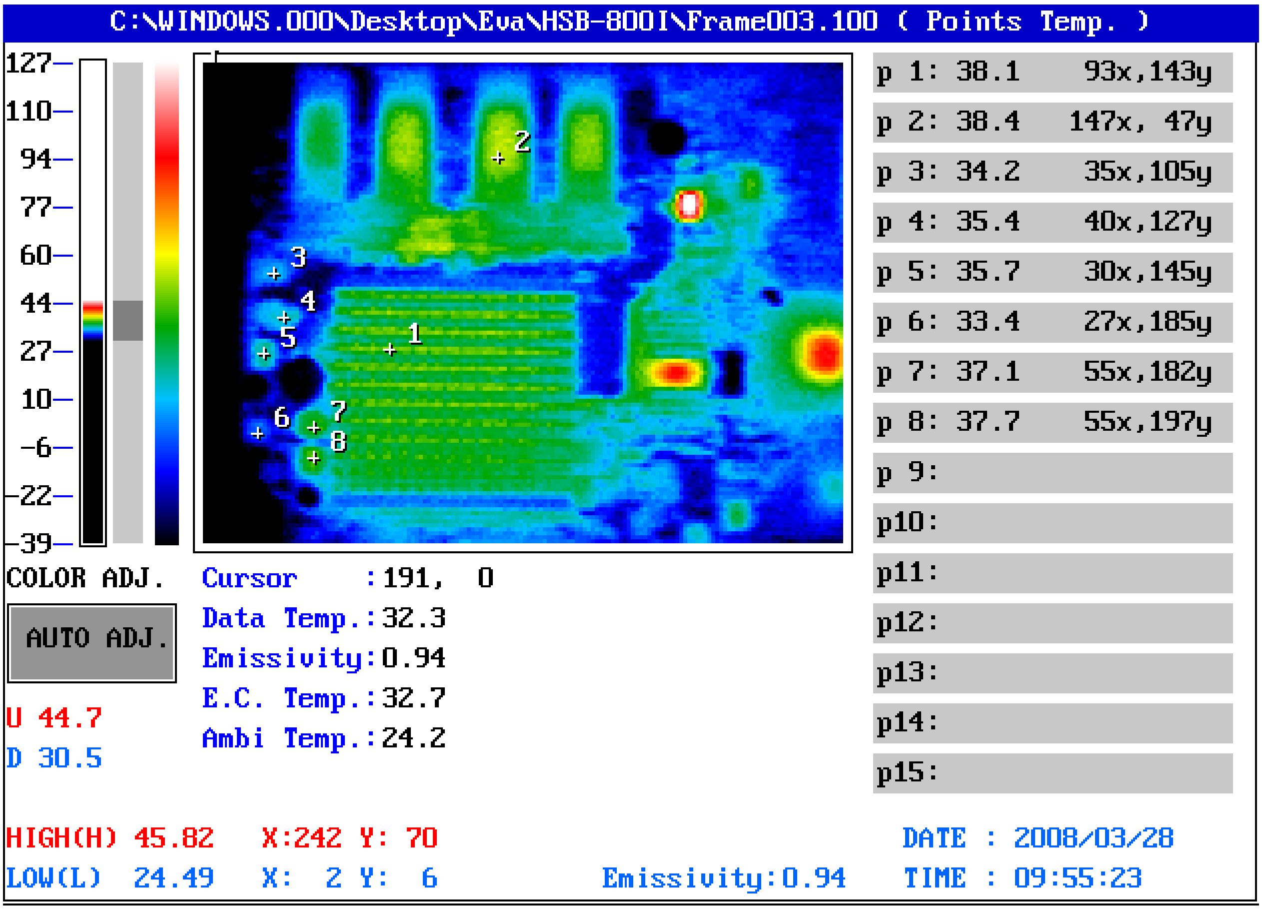
HIGH(H) 45.16 X: 36 Y: 52
LOW(L) 24.04 X:316 Y:222
Emissivity:0.94
DATE : 2008/03/28
TIME : 09:50:32

Point	Position	Describe	Tc (℃)	Tm (23.9℃)	Tm (60℃)	Note
1	U24	(TF)IC.SMD.SOIC 8P.2.5V 1K bits.Microchip. 93LC46B/SN;EE-A990454;14S6334610;TWN	155	30.2	66.3	
2	U25	AAEON/(TF)Flash PLCC BIOS.1024K.CS:4C55h.HSB-800I.Rev 1.0.;EE-A080091;14S62800I0;TWN	N/A	29.8	65.9	
3	U27	(TF)IC.SMD TFBGA.160P.PCI to ISA Bridge Chip. ITE.IT8888G-L;EE-A051091;14S4888801;TWN	70	35.4	71.5	
4	U28	(TF)IC.SMD SOP.8Pin Switching PWM Controller. IR.IRU3037CSPbF;EE-A020732;14S2303700;TWN	125	36.3	72.4	
5	U30	(TF)Dual N-Channel.SMD SO-8.2.5V MOSFET.APEC.AP9926GM;EE-A030055;1315992601;TWN	125	35.0	71.1	
6	U29	(TF)PWR.SMD SO-8.P-Channel 2.5V(G-S) MOSFET. VISHAY.SI9933BDY-T1-E3;EE-A041262;1315993311;TWN	125	34.4	70.5	
7	U19	(TF)IC.SMD.SSOP28.Clock Generator. ICS.MK1491-09FLN;EE-A051233;14S3149103;TWN	100	41.7	77.8	

8	**U17**	**(TF)IC.SMD 208PBGA.I/O Companion.Multi-Function South Bridge.AMD.CS5536AD;EE-A061313;14S4553600;TWN**	**110**	**42.2**	**78.3**	
9	**U11**	**(TF)IC.SMD SO8.3A Linear Regulator. Anpec.APL5331KC-TRL;EE-A041712;14S2533100;TWN**	**125**	**46.0**	**82.1**	
10	**U9**	**(TF)IC.SMD SO-8.1.5A.Low Dropout Regulator.Adj(1.2~4.8V). SEMTECH.SC1565IS-TRT;EE-A031087;14S3156500;TWN**	**125**	**37.2**	**73.3**	
11	**U8**	**(TF)IC.SMD.QFP128P Super I/O. ITE.IT8712F/KX-L;EE-A061481;14S4871204;TWN**	**100**	**36.1**	**72.2**	
12	**U5**	**(TF)IC.SMD.SSOP 28P.RS232 Driver ESD 15KV. ZYWYN.ZT213LEEA;EE-A071674;14S4021305;TWN**	**85**	**31.8**	**67.9**	

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

Component Side-2:



C:\WINDOWS.000\Desktop\Eva\HSB-800I\Frame003.100 (Points Temp.)

p 1: 38.1 93x,143y
p 2: 38.4 147x, 47y
p 3: 34.2 35x,105y
p 4: 35.4 40x,127y
p 5: 35.7 30x,145y
p 6: 33.4 27x,185y
p 7: 37.1 55x,182y
p 8: 37.7 55x,197y
p 9:
p10:
p11:
p12:
p13:
p14:
p15:

Cursor :191, 0
Data Temp.:32.3
Emissivity:0.94
E.C. Temp.:32.7
Ambi Temp.:24.2

U 44.7
D 30.5

HIGH(H) 45.82 X:242 Y: 70
LOW(L) 24.49 X: 2 Y: 6
Emissivity:0.94
DATE : 2008/03/28
TIME : 09:55:23

Point	Position	Describe	Tc (℃)	Tm (24.2 ℃)	Tm (60℃)	Note
1	U20	(TF)AMD CPU.BGU481.LX-800.500MHz.1.25V. AMD.ALXD800EEXJ2VD C3;EE-A080020;14S4800004;TWN	85	38.1	73.9	
2	U3	(TF)IC.SMD.SDRAM.16Mb*16.DDR400.TSOP-II 66P.2.5V. ESMT.M13S2561616A-5TG;EE-A071532;14S6861601;TWN	85	38.4	74.2	
3	C31	(TF)SP CAP.[8.2μF～470μF].[2V～8V].20%.SMD.Panasonic. EEF/ECG 系列 (耐溫 260℃);EE-A060158;118*****8*;TWN	105	34.2	70	
4	L1	(TF)COIL.4.7uH 2.5A.+-20%.SMD.SMTDR54N-4R7M.震元.430-02210;EE-A051286;1211104769;TWN	85	35.4	71.2	
5	U18	(TF)PWR.SMD.SOP8.Dual N MOSFET.30V.9.1A/6.8A. CET.CEM3138;EE-A051316;1315313800;TWN	125	35.7	71.5	
6	U22	(TF)PWR.SMD SO-8.P-Channel MOSFET. ANPEC.APM4463KC-TRL;EE-A041711;1315446310;TWN	125	33.4	69.2	
7	L2	(TF)COIL.4.7uH 2.5A.+-20%.SMD.SMTDR54N-4R7M.震元.430-02210;EE-A051286;1211104769;TWN	85	37.1	72.9	

8	**U26**	**(TF)PWR.SMD.SOP8.Dual N MOSFET.30V.9.1A/6.8A. CET.CEM3138;EE-A051316;1315313800;TWN**	**125**	**37.7**	**73.5**	

1. Tm (Measured operation temperature) must be less than Tc (Specified case temperature) +5 degree C
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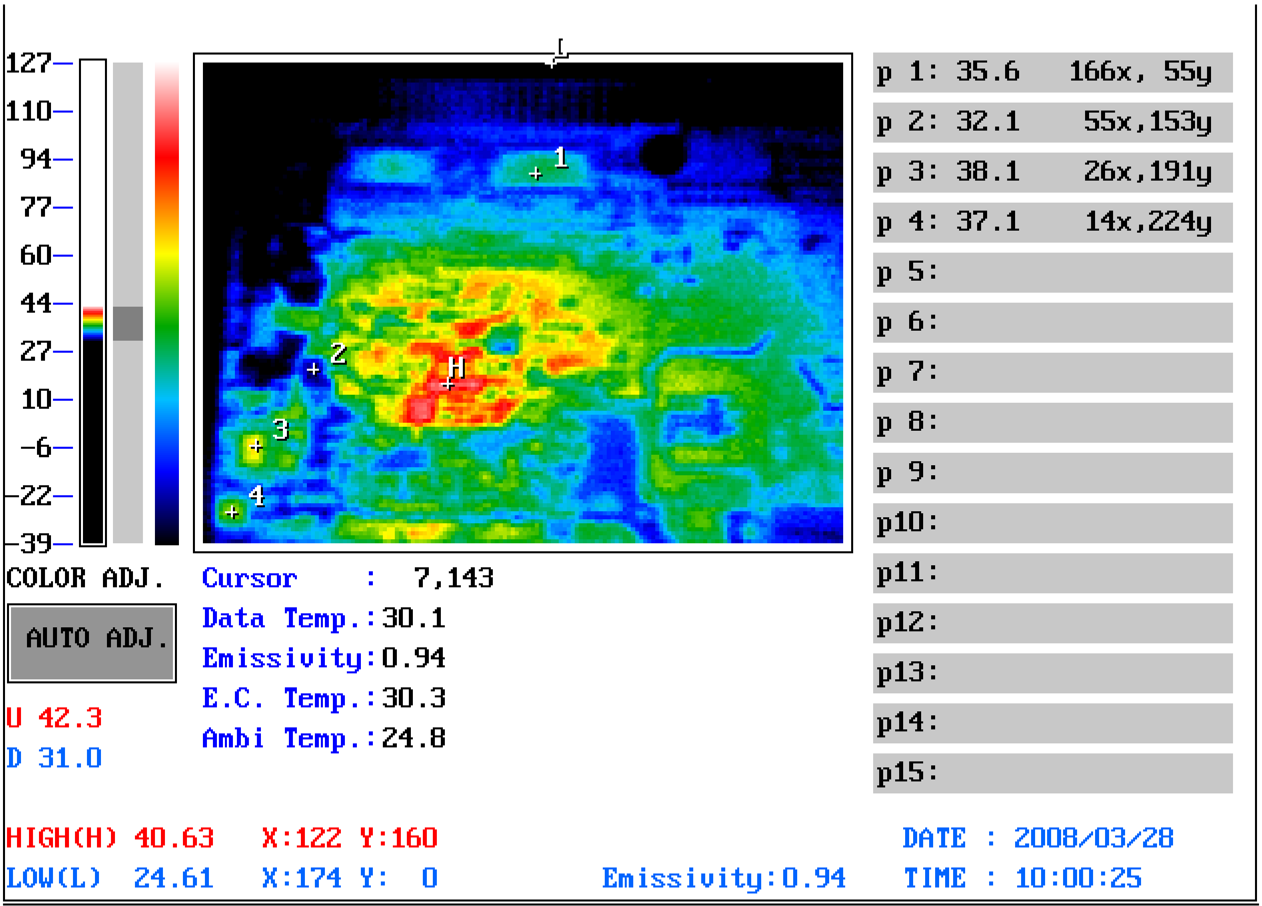
Component Side-3:



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COLOR ADJ.      Cursor     :  7,143
                Data Temp.:30.1
 AUTO ADJ.      Emissivity:0.94
                E.C. Temp.:30.3
U 42.3          Ambi Temp.:24.8
D 31.0

p 1: 35.6   166x, 55y
p 2: 32.1    55x,153y
p 3: 38.1    26x,191y
p 4: 37.1    14x,224y
p 5:
p 6:
p 7:
p 8:
p 9:
p10:
p11:
p12:
p13:
p14:
p15:

HIGH(H) 40.63   X:122 Y:160                        DATE : 2008/03/28
LOW(L)  24.61   X:174 Y:  0        Emissivity:0.94 TIME : 10:00:25
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Point	Position	Describe	Tc (℃)	Tm (24.8 ℃)	Tm (60℃)	Note
1	U52	(TF)IC.SMD.TSSOP56.FlatLink Transmitter. TI.SN75LVDS83;EE-A051271;14S4758300;TWN	100	35.6	70.8	
2	U48	(TF)PWR.SMD SO-8.P-Channel MOSFET. ANPEC.APM4463KC-TRL;EE-A041711;1315446310;TWN	125	32.1	67.3	
3	U45	(TF)IC.SMD TSSOP14.Synchronous Buck Regulator. NS.LM2727;EE-A051265;14S2272700;TWN	100	38.1	73.3	
4	U42	(TF)IC.SMD TSSOP14.Synchronous Buck Regulator. NS.LM2727;EE-A051265;14S2272700;TWN	100	37.1	72.3	

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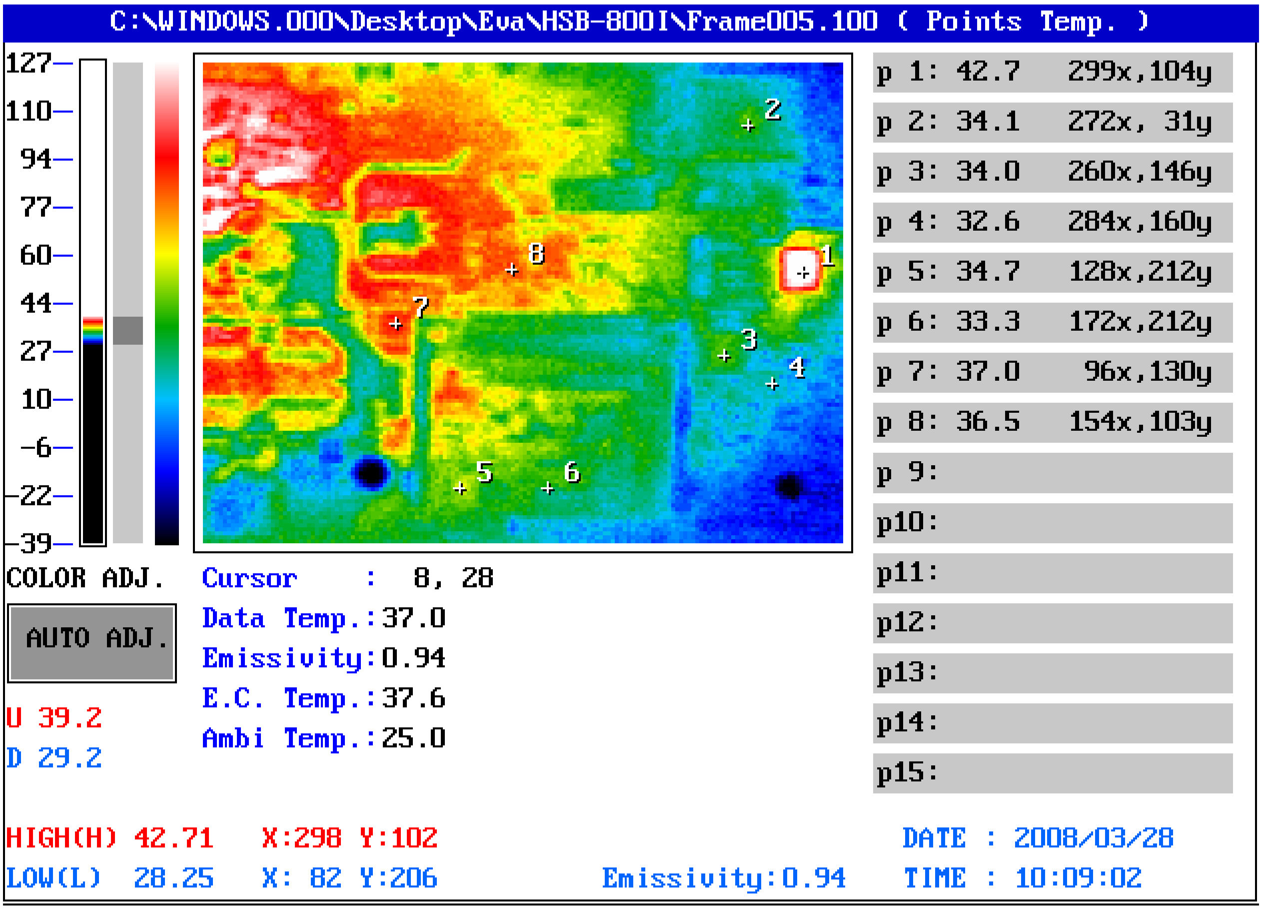
Component Side-4:



C:\WINDOWS.000\Desktop\Eva\HSB-800I\Frame005.100 (Points Temp.)

p 1:	42.7	299x,104y
p 2:	34.1	272x, 31y
p 3:	34.0	260x,146y
p 4:	32.6	284x,160y
p 5:	34.7	128x,212y
p 6:	33.3	172x,212y
p 7:	37.0	96x,130y
p 8:	36.5	154x,103y
p 9:		
p10:		
p11:		
p12:		
p13:		
p14:		
p15:		

Cursor : 8, 28
Data Temp.:37.0
Emissivity:0.94
E.C. Temp.:37.6
Ambi Temp.:25.0

U 39.2
D 29.2

HIGH(H) 42.71 X:298 Y:102
LOW(L) 28.25 X: 82 Y:206
Emissivity:0.94
DATE : 2008/03/28
TIME : 10:09:02

Point	Position	Describe	Tc (℃)	Tm (25.0 ℃)	Tm (60℃)	Note
1	U46	(TF)IC.SMD.2 Channel Audio Codec. Realtek.ALC203-LF;EE-A051262;14S3020300;TWN	100	42.7	77.7	
2	U49	(TF)IC.SMD QFP 128P.PCI Ethernet Chip 10/100BaseT. REALTEK.RTL8100C-LF;EE-A031177;14S4810001;TWN	70	34.1	69.1	
3	U41	(TF)IC.SMD.LQFP 48P.LPC to 4 UART. FINTEK.F81216DG;EE-A050807;14S4121601;TWN	70	34.0	69	
4	U40	(TF)IC.SMD SOIC 8P.Dual USB PowerControl Switch. MICREL.MIC2026-1YM;EE-A020283;14S2202600;TWN	115	32.6	67.6	
5	U32	(TF)IC.SMD.TSSOP 14P. PHILIPS.74HCT14PW;EE-A021239;14S5801402;TWN	115	34.7	69.7	
6	U34	(TF)IC.SMD.QSOP 28P.IEEE 1284 Termination Network. CMD.PACSZ1284-04QR;EE-A060352;14S3128421;TWN	85	33.3	68.3	
7	U43	(TF)IC.SO8 SMD.Voltage Detecting.System Resetting IC. MITSUBISHI.M51957A;EE-A060753;14S4195710;TWN	85	37.0	72	
8	C175	(TF)SP CAP.[8.2μF～470μF].[2V～8V].20%.SMD. Panasonic.EEF/ECG 系列(耐溫 260℃); EE-A060158;118*****8*;TWN	105	36.5	71.5	

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