ReportNO:10I080005

IMBI-Q57

Intel Q57 chipset Advance Mini-ITX Board

Thermal Image Analysis Report

Summary	☑ **Pass** ☐ **Fail** ☐ **Pass with Deviation** **Comment:** _____

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	1
Defect Unsolved	0	0	0	1

Issue date	Approval	Test Engineer
2010 / 09 / 07	Jansin Lee	Allen Hsu

AAEON Technology Inc.
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Sample Configuration & Quantity Under Test

- **Model name : IMBI-Q57 Rev A0.2**
- **CPU Board: IMBI-Q57 Rev A0.2**
- **Carrier Board: N/A**
- **CPU: Intel Pentium CPU G6950 @2.80GHz / 32nm / QPI 2400MHz**
- **Memory: DSL DDR3 / 1066 / 2GB CL7 / ELPIDA J1108BABG-DJ-E**
  DSL DDR3 / 1066 / 1GB CL7 / ELPIDA J1108BABG-DJ-E
- **HDD: TOSHIBA 2.5”SATA H.D 160GB / MK1655GSX**
- **BIOS : IMBIQ57 1.00 09/03/2010**
- **Test Software: Windows XP sp3 / Run Prime95 v26.01**
- **ATX Power Supply: Delta ATX Power 350W GPS-350EB-102A**
- **Cooler:**

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Thermal Image Analysis

1. Test Date: 09/07/2010

2. Test Product: IMBI-Q57

3. Test Site: AAEON QA Internal Lab.

4. Temperature Measurement:

1. GRAPHTEC midi LOGGER TYPE - GL200

2. IR Scanner: Infrared Camera

NIPPON AVIONICS CO., LTD.

Model: TVS-100

Date of Calibration: 09/17/09

Serial Number: 0179L2746

5. Test Condition:

Component Side-1 (Test by TVS-100): 25.2℃ With cooler
Component Side-2 (Test by TVS-100): 24.5℃ With cooler
Component Side-2 (Test by UR1000): 24.8℃ With cooler

6. Test Software:

Windows XP sp3 / Run Prime 95 v26.01

7. Take Picture Time:

After power on 2 hours

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Temperature Profile Test:

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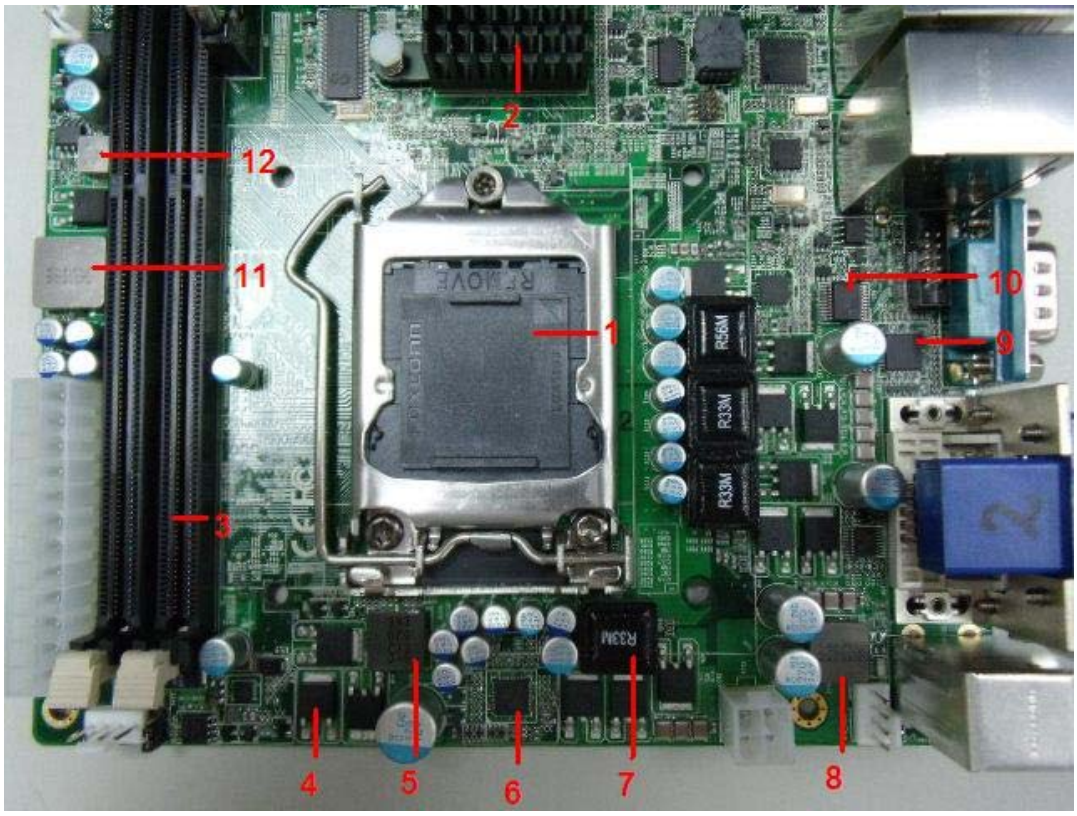
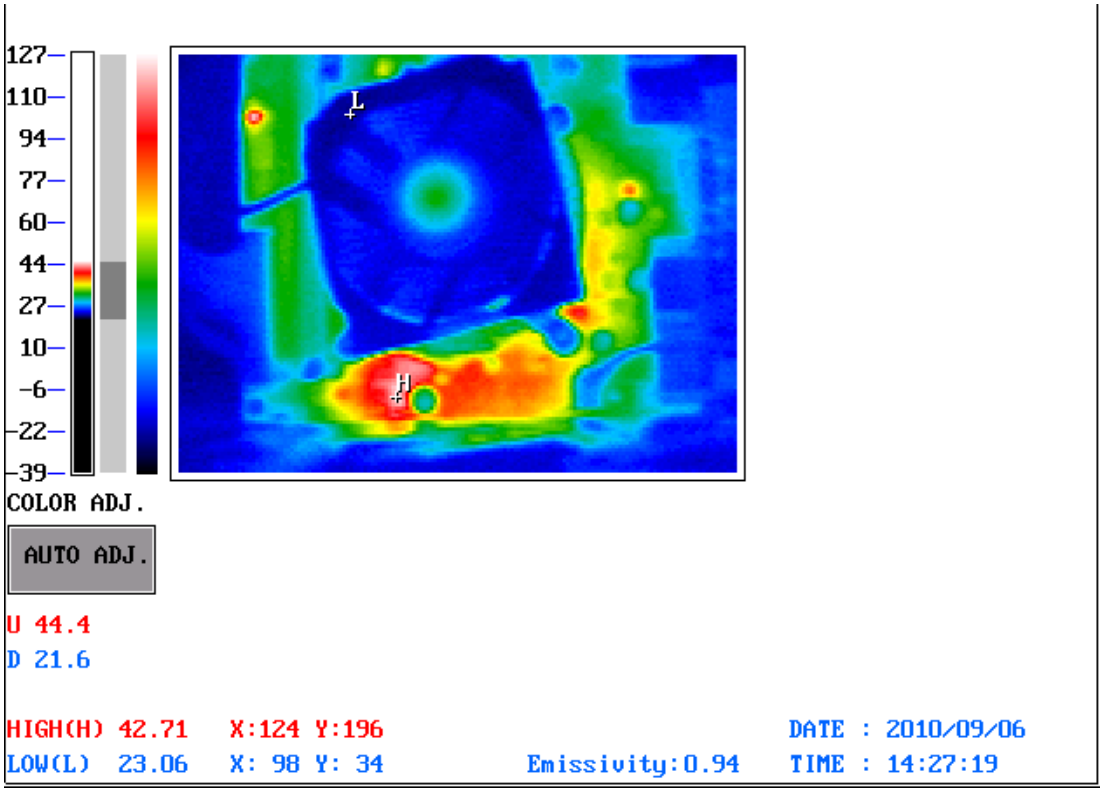
Component Side-1:





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Using GRAPHTEC midi LOGGER TYPE - GL200 test

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25.2℃	60℃	
1	CPU	Intel® Pentium® Processor G6950 (3M Cache, 2.80 GHz)	72.6	42.8	77.6	Defect NO. I090912 QEE44
2	U13	(TF)IC.SMD.Chipset Ibex Peak PCH951P.INTEL.BD82Q57,SLGZW	111	41.2	76.0	
3	RAM	DSL DDR3 / 1066 / 2GB CL7 / ELPIDA J1108BABG-DJ-E	95	33.1	67.9	
4	Q11	(TF)PWR.SMD.TO-252.30V 94A.N-channel Power MOSFET.FAIRCHILD.FDD8896_NL;EE-A070814;1315889612;TWN	150	36.0	70.8	
5	L7	(TF)COIL.0.15uH.Irms=40A.Isat=75A.20%.SMD(11.5x10.3x4.0)2pin.RDC=0.5.GOTREND.GSTC104P-R15MN	-----	38.5	73.3	
6	U12	(TF)IC.SMD.QFN 40Pin.VR11.1 4Phase PWM Controler.Intersil.ISL6334CRZ;EE-A090093;14S3633400;TWN	100	38.0	72.8	
7	L8	(TF)COIL.0.33uH.20%.DIP.40A.GOTREND.GMAT-131210-P-R33-M	-----	37.2	72.0	
8	L12	(TF)COIL.0.56uH.Irms=25A.Isat=40A.20%.SMD(11.5x10.3x4.0).2pin.RDC=1.8m Ohm.GOTREND.GSTC104P-R56MN;EE-A061714;1211105673;TWN	125	33.4	68.2	
9	U29	(TF)IC.SMD.10P.Ultra Low Capacitance.TVS Arrays.SEMTECH.RClamp0524P.TCT;EE-A090136;14S3052400;TWN	100	36.9	71.7	
10	U23	(TF)IC.SMD SSOP.20Pin RS-232 Driver&Receivers.TI.GD75232DBR;EE-A010945;14S5A23200;TWN	100	35.9	70.7	
11	L1	(TF)COIL.2.2uH.SMD.13.8*12.8*5.0mm.DCR=4.6mohm.Irms=20A.GOTREND.GSTC135P-2R2MF;EE-A070367;1211102266;TWN	125	35.7	70.5	
12	L2	(TF)COIL.1uH.+/-20%.SMD.7.3*6.8*3.0mm.DCR=9mohm.Irms=11Amp.GOTREND.GSTC063P-1R0MN;EE-A061520;1211000180;TWN	125	37.8	72.6	

Note(*):

1. **"Tc"** indicates the component's case maximum temperature value specified in its datasheet.
2. **"Tm"** indicates the measured Tc value under working environmental temperature within product specification.
3. **Judgment Criteria:**
   - **Fail** : Tm > Tc+5℃; The measured value is over specification plus margin.
   - **Margin** : Tc+5 ℃ > Tm > Tc -10℃; The measured value is within specification with margin. For FANLESS system application, it is strongly recommended to add thermal dissipation design for better reliability.
   - **Pass** : Tm < Tc-10℃; The measured value is with safety margin.

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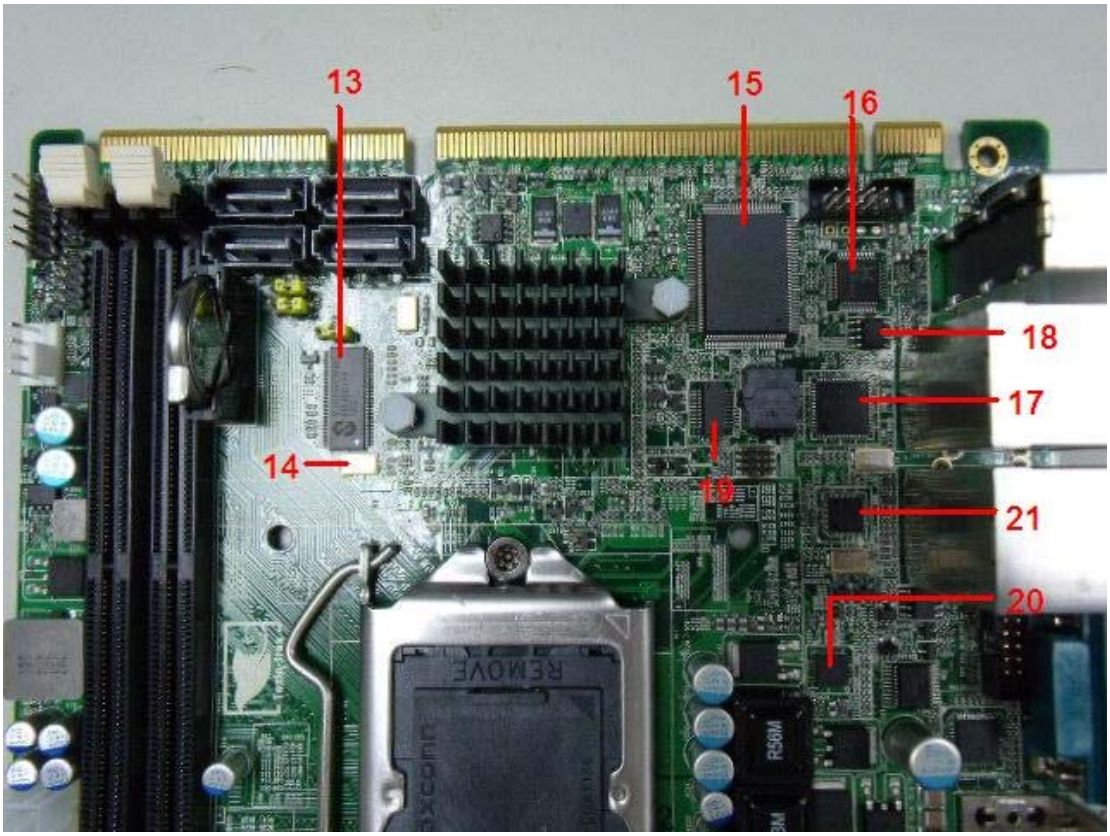
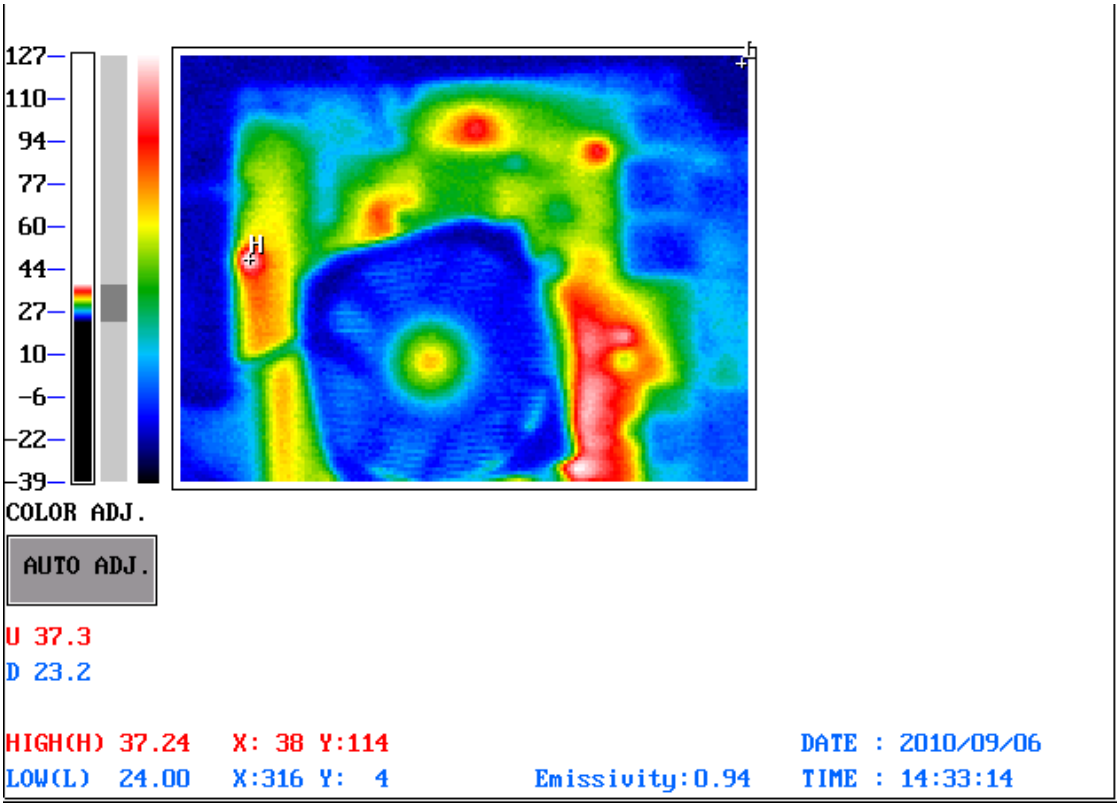
Component Side-2:





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Using GRAPHTEC midi LOGGER TYPE - GL200 test

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				24.5℃	60℃	
13	U9	(TF)IC.SMD.TSSOP 64P.CLOCK GENERATOR.SILEGO.SLG505YC264BTTR;EE-A081678;14S3050500;TWN	100	32.3	67.8	
14	Y1	(TF)XTAL SMD.14.31818MHz.6*3.5 mm 20PPM.2P. 仕野.XSX143180-S632-20;EE-A050533;123131435B;TWN	-----	34.9	70.4	
15	U15	(TF)IC.SMD.QFP128P Super I/O.ITE.IT8718F/HX-L;EE-A090544;14S4871800;TWN	100	42.1	77.6	
16	U19	(TF)IC.SMD.LQFP 48P.7.1Channel HD Audio Codec.REALTEK.ALC888-VC2-GR;EE-A081306;14S3088801;TWN	100	47.2	82.7	
17	U18	(TF)IC.SMD.QFN 64P.PCI-E GigaBit Ethernet Chipset.Intel.WG82574L SLBA8;EE-A081303;14S4825740;TWN	109	38.3	73.8	
18	U20	(TF)IC.SMD.SOIC.8P.8K SPI Bus Serial EEPROM.ATMEL.AT25080AN-10SU-2.7;EE-A061337;14S6308001;TWN	115	37.4	72.9	
19	U34	IDT/(TF)IC.SMD QSOP.20P.8 Bit Bus Switch.IDT.IDTQS3245QG;EE-A000251;14S5A24540;TWN	115	38.2	73.7	
20	U16	(TF)IC.SMD.QFN 32P.PWM Controller.INTERSIL.ISL6314CRZ-T	-----	37.2	72.7	
21	U17	(TF)IC.SMD.QFN 48P.PCI-E GigaBit Ethernet Chipset.Intel.WG82578DM SLGY6	85	35.9	71.4	

Note(*):
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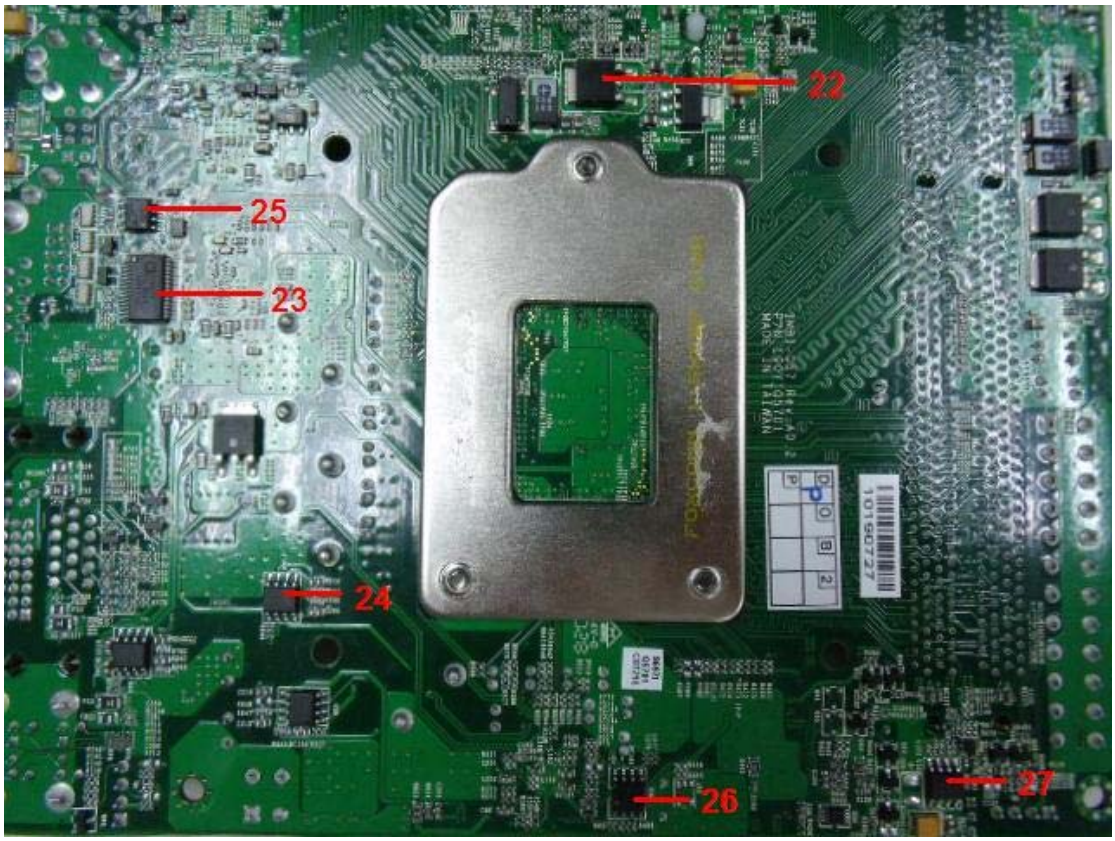
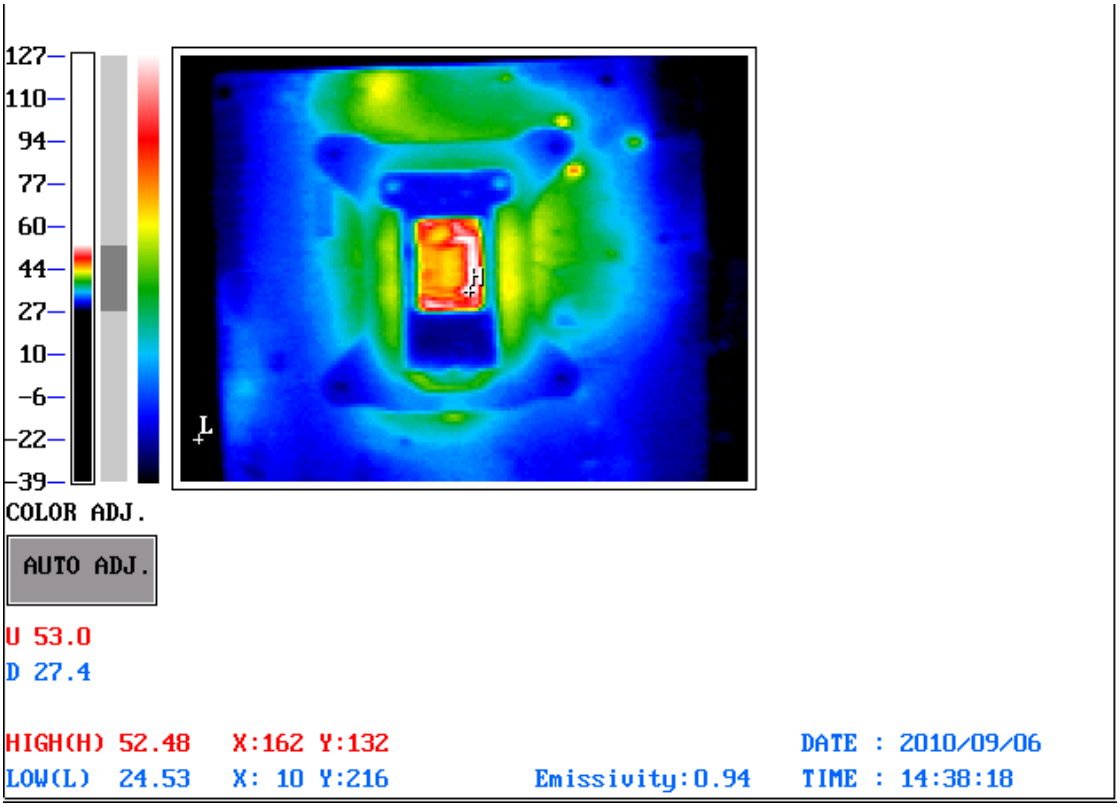
Component Side-3:





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Using GRAPHTEC midi LOGGER TYPE - GL200 test

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				24..8℃	60℃	
22	U37	(TF)PNP.SMD.SC-62LowFrequencyTransistor.ROHM.2SB1386T100R;EE-A070393;1311138610;TWN	100	48.0	83.2	
23	U42	(TF)IC.SMD.SSOP RS232 Driver ESD 15KV.AD.ADM213EARSZ;EE-A970562;14S4021301;TWN	115	40.8	76	
24	U40	(TF)IC.SMD.SOIC 8Pin.MOSFET Drivers.INTERSIL.ISL6612ACBZ;EE-A061931;14S9661200;TWN	115	53.5	88.7	
25	U44	(TF)IC.SMD.SO8.RS-485Transceiver.Analog.ADM485JRZ;EE-A050755;14S4048502;TWN	115	42.1	77.3	
26	U36	(TF)IC.SO8 SMD.Voltage Detecting.System Resetting IC.MITSUBISHI.M51957A;EE-A060753;14S4195710;TWN	----	46.1	81.3	
27	U32	(TF)REG.SMD SOP-8.2A Bus.Termination Regulator.RichTek.RT9173CPSP;EE-A071496;131491731 4;TWN	95	37.4	72.6	

Note(*):

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