

# IMBM-935

Intel Nineveh Platform  
Bearlake-Q35 Solution

## Thermal Image Analysis Report

Report NO : 08I080003

Release Date: Mar. 20 , 2008

2008/03/20

Issue Stamp

Wenyuan Yang

Manager

Roger Yang

Test Engineer

# Thermal Image Analysis

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**I . Model Name: IMBM-935 A0.2**

**II . Description: Intel Nineveh Platform  
Bearlake-Q35 Solution**

**III . Date: Mar. 20, 2008**

**IV. Measure Site: AAEON QE Dept.**

**V. Issued by : Roger Yang**

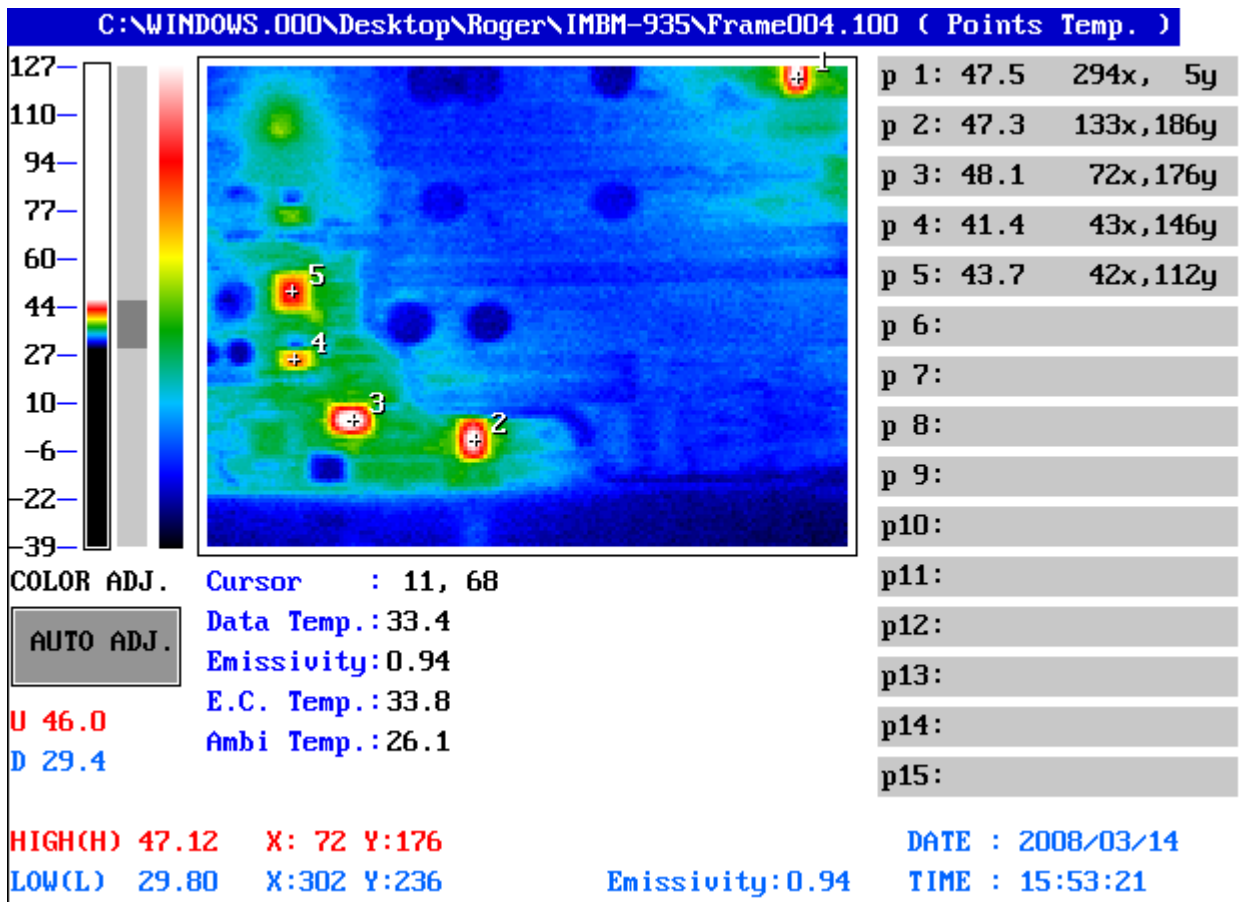
**VI. Equipment:  
TVS-100 series by NIPPON AVIONICS CO., LTD.**

**VII. Simulation Environment:**

- **Temperature: Component Side-1 : 26.1°C  
Component Side-2 : 25.6°C  
Component Side-3 : 25.1°C  
Component Side-4 : 25.8°C  
Component Side-5 : 26.0°C  
Component Side-6 : 25.1°C**
- **CPU : Intel Core 2 Duo E6400 2.13GHz FSB:1066MHz**
- **RAM : Kingston DDRII 800MHz 1GB x 2 (V59C1512804QCF25)**
- **BIOS : IMBM-935 BIOS Rev1.0 for G2 (02/13/2008)**
- **CF Card : N/A**
- **HDD : Western Digital WD1200BEVS 2.5" SATA HDD 120GB**
- **Application Software: Run Prime95 under Windows XP Professional English Version V2002  
Service Pack 2**
- **Take Picture Time: After Power on 2 hours.**

## Temperature Profile Test:

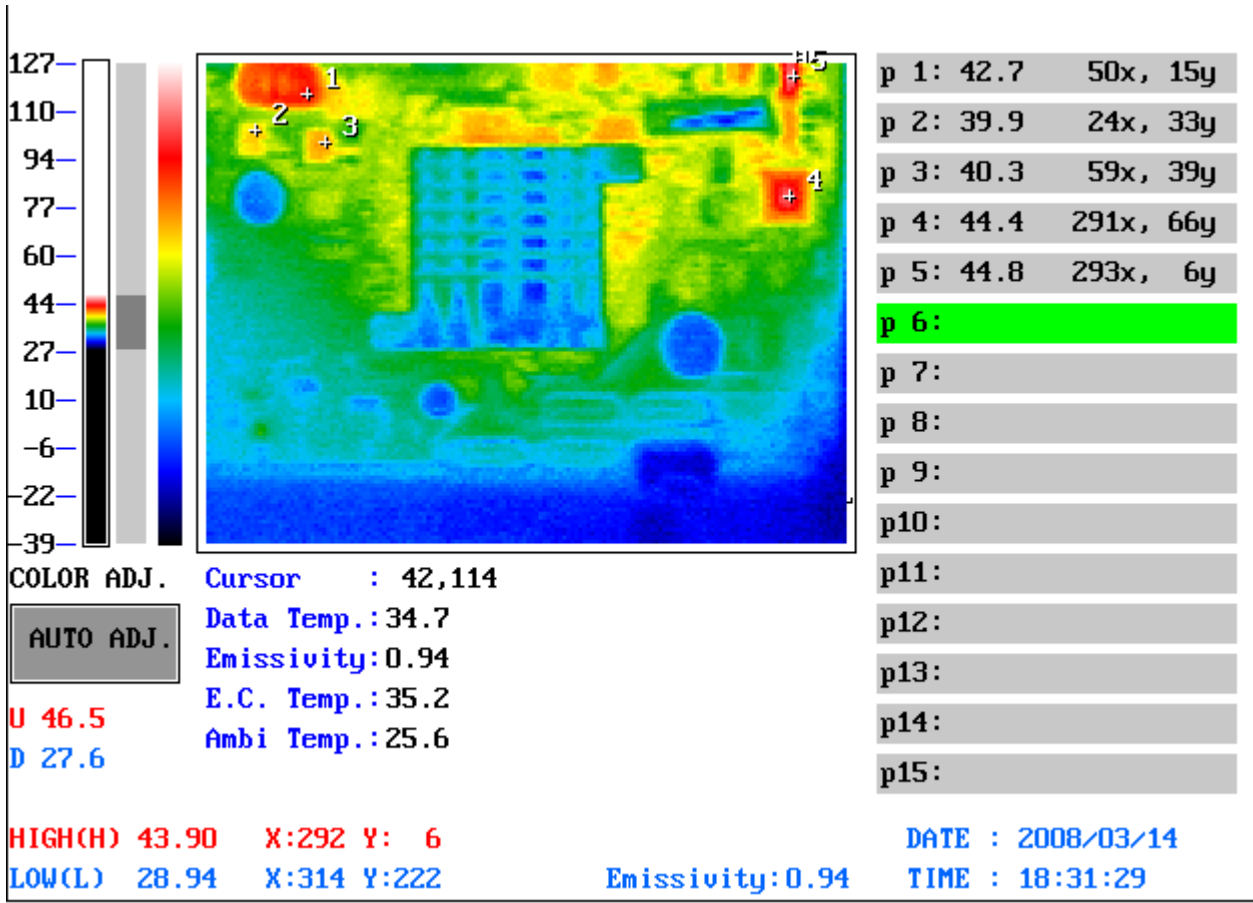
### Component Side-1:



Point	Position	Describe	Tc (°C)	Tm (26.1 °C)	Tm (60°C)	Note
1	U23	(TF)IC.SMD.SOP 8P.Switching PWM Controller.Richtek.RT9214PS;EE-A060043;14S2921400;TWN	125	47.5	81.4	
2	U13	(TF)IC.SMD SSOP.20Pin RS-232 Driver&Receivers.TI.GD75232DBR;EE-A010945;14S5A23200;TWN	100	47.3	81.2	
3	U9	(TF)IC.SMD SSOP.20Pin RS-232 Driver&Receivers.TI.GD75232DBR;EE-A010945;14S5A23200;TWN	100	48.1	82.0	
4	Q3	(TF)REG.SMD SOT223.1A Adjustable Linear Regulator.ANPEC.APL1117-VC-TRL;EE-A060717;131411171C;TWN	125	41.4	75.3	
5	U5	(TF)IC.SMD.LQFP 48P.HIGH DEFINITIOND.AUDIO CODEC.REALTEK.ALC662-GR;EE-A071460;14S3066200;TWN	100	43.7	77.6	

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

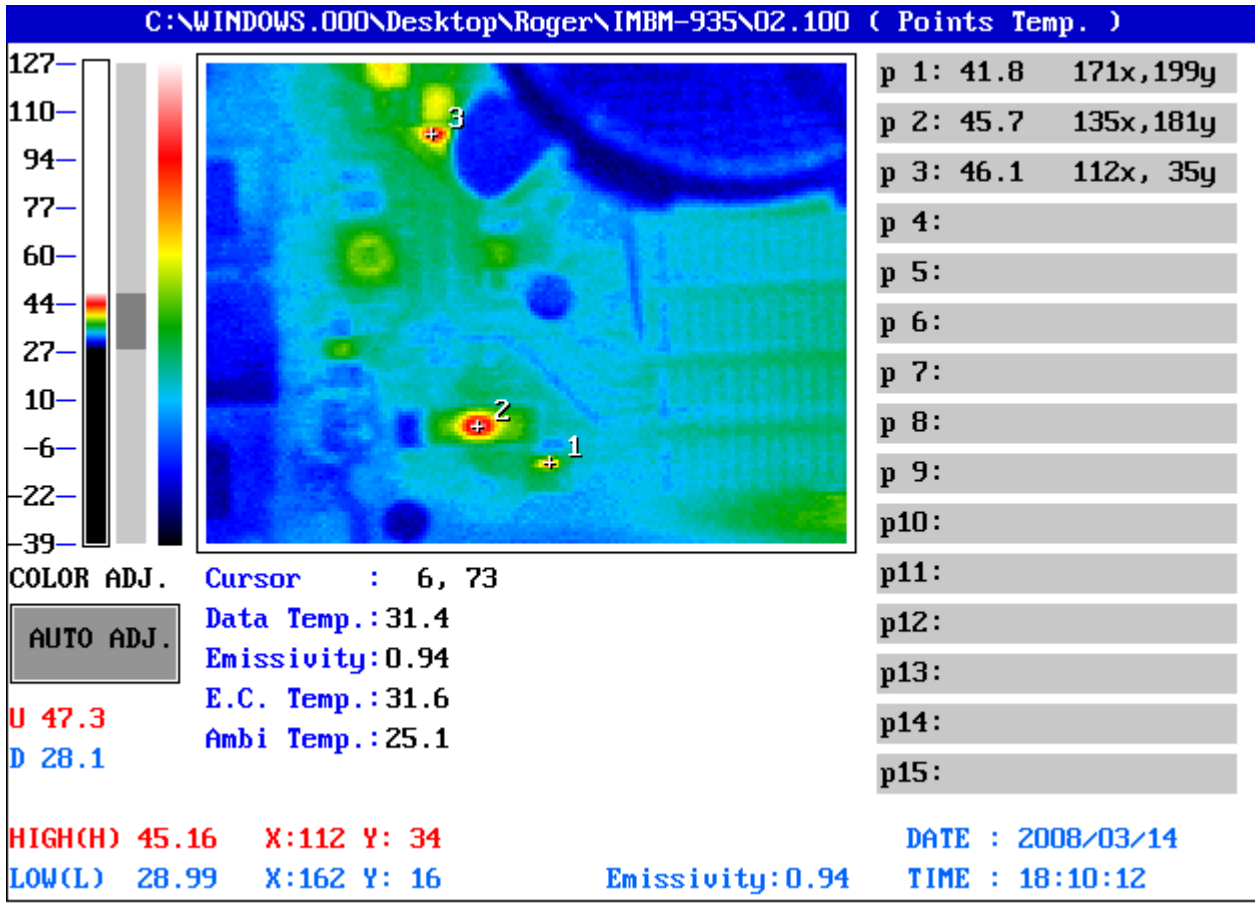
Component Side-2:



Point	Position	Describe	Tc (°C)	Tm (25.6 °C)	Tm (60°C)	Note
1	L27	(TF)COIL.2.5uH.DIP.Pinlength=3.0mm.Wire Size 0.7*3Pmm.52 材 3Wire*8 30Amp. 震元.TC5052N-2R5M-UL;EE-A020924;1211102560;TWN	115	42.7	77.1	
2	Q44	(TF)PWR.SMD TO-252.30V 58A.N-channel Power MOSFET.FAIRCHILD.FDD8880;EE-A061121;1315888010;TWN	150	39.9	74.3	
3	Q45	(TF)PWR.SMD.TO-252.30V 94A.N-channel Power MOSFET.FAIRCHILD.FDD8896_NL;EE-A070814;1315889612;TWN	150	40.3	74.7	
4	U46	(TF)IC.SMD.TQFP 64P.SATA to IDE/ATA Chip.JMicron.JM20330APB5-TGCA;EE-A080101;14S4033000;TWN	100	44.4	78.8	
5	Q81	(TF)REG.SMD SOT223.1A Adjustable Linear Regulator.ANPEC.APL1117-VC-TRL;EE-A060717;131411171C;TWN	125	44.8	79.2	

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

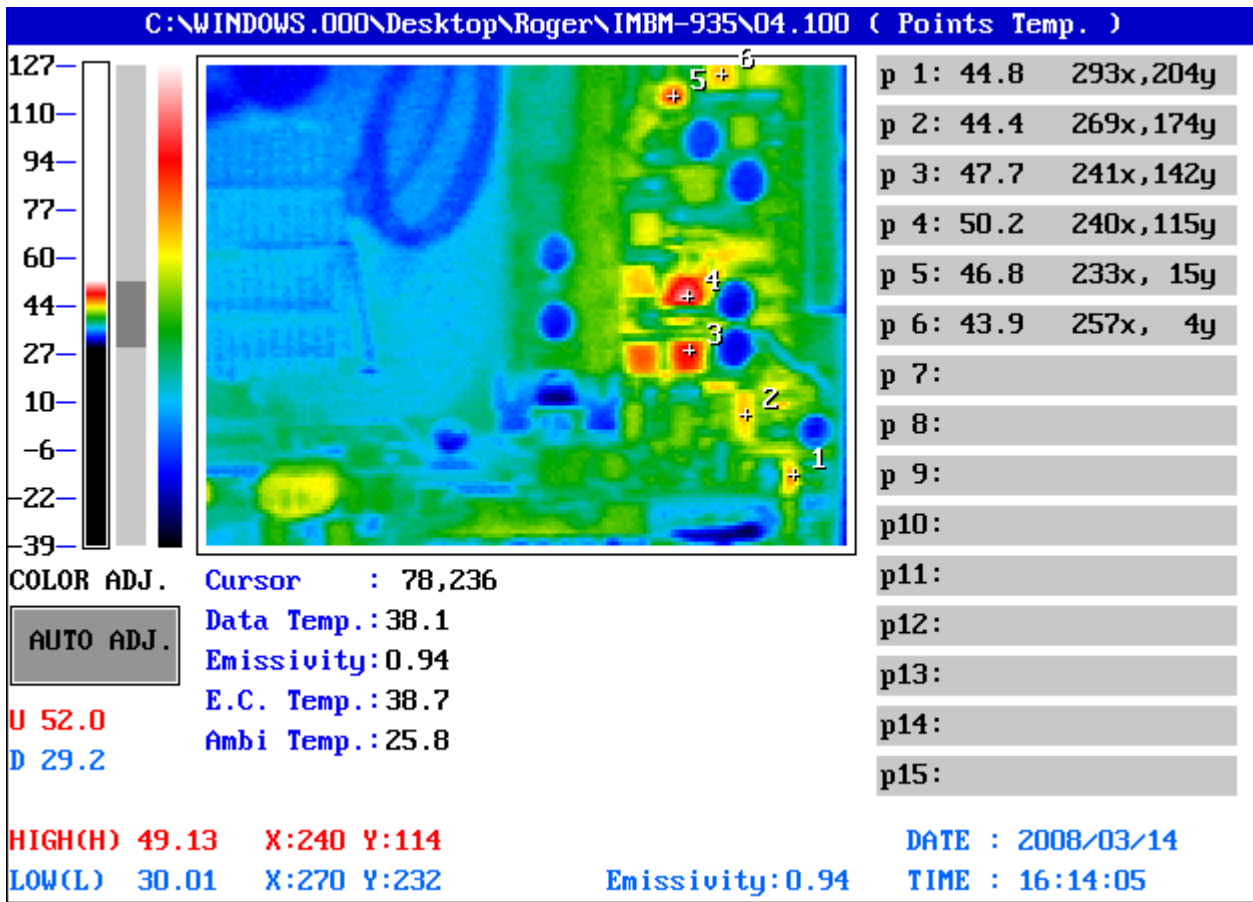
Component Side-3:



Point	Position	Describe	Tc (°C)	Tm (25.1 °C)	Tm (60°C)	Note
1	Q21	(TF)NPN.SMD.SOT-23 3P.FAIRCHILD.MMBT3904_NL;EE-A020879;1310390411;TWN	125	41.8	76.7	
2	U14	(TF)IC.SMD.TSSOP 64P.CLOCK GENERATOR.SILEGO.SLG505YC64LT;EE-A071713;14S3056400;TWN	100	45.7	80.6	
3	Q15	(TF)PWR.SMD.TO-252.30V 94A.N-channel Power MOSFET.FAIRCHILD.FDD8896_NL;EE-A070814;1315889612;TWN	150	46.1	81.0	

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

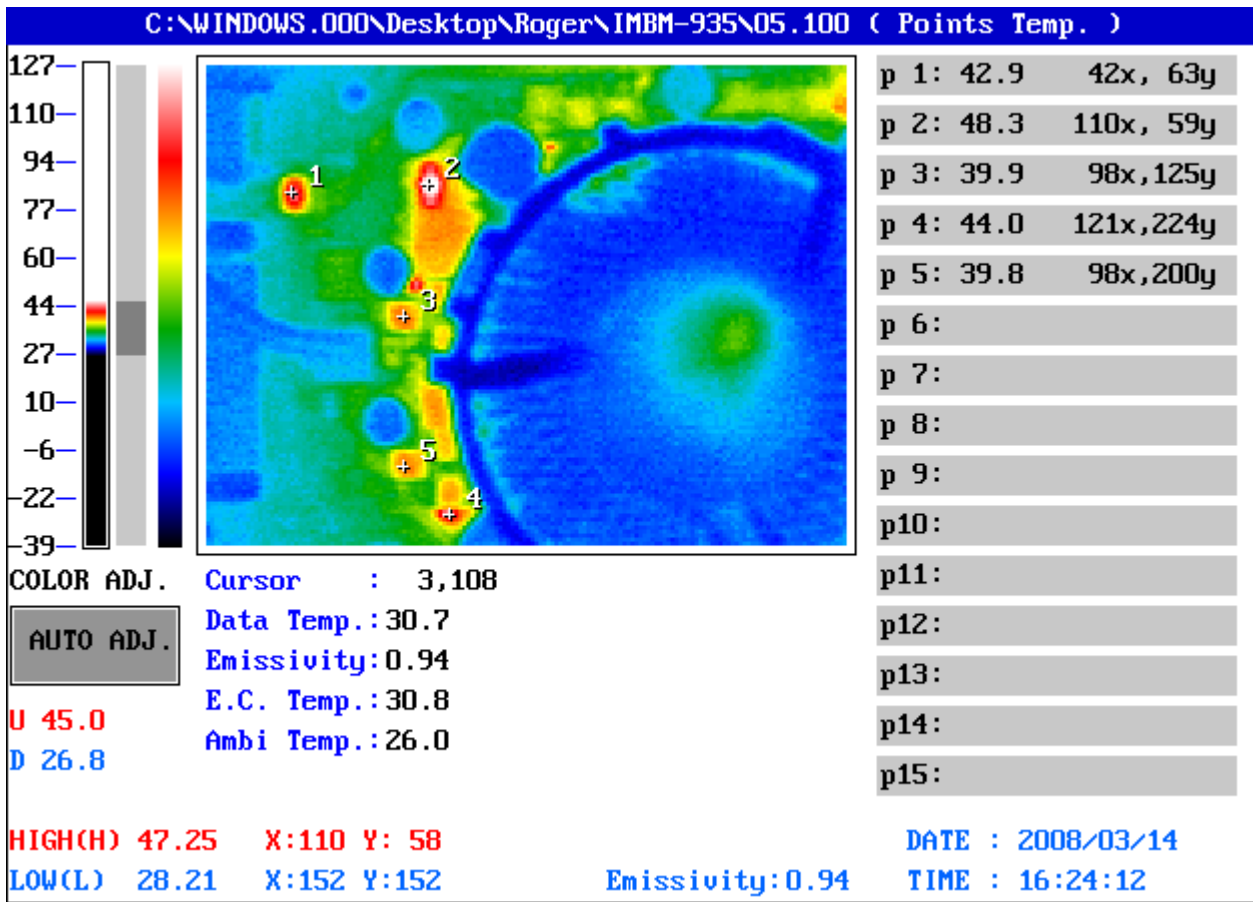
## Component Side-4:



Point	Position	Describe	Tc (°C)	Tm (25.8 °C)	Tm (60°C)	Note
1	Q82	(TF)REG.SMD SOT223.1A Adjustable Linear Regulator.ANPEC.APL1117-VC-TRL;EE-A060717;131411171C;TWN	125	44.8	79.0	
2	U42	(TF)IC.SMD.SOIC 14P.OP.AMP.TILM324D;EE-A071497;14S1032403;TWN	125	44.4	78.6	
3	Q63	(TF)PWR.SMD.TO-252.N-Channel PowerMosfet.ANPEC.APM3054NUC-TR-L;EE-A071574;1315305411;TWN	125	47.7	81.9	
4	U34	(TF)REG.SMD.TO-252 5A Linear Regulator.ATC.AP1084DL-ADJ;EE-A011431;1314108412;TWN	100	50.2	84.4	
5	U33	(TF)REG.SMD SOP-8.2A Bus Termination Regulator.RichTek.RT9173BPS;EE-A050152;1314917312;TWN	125	46.8	81.0	
6	Q70	(TF)PWR.SMD TO-252.30V 58A.N-channel Power MOSFET.FAIRCHILD.FDD8880;EE-A061121;1315888010;TWN	150	43.9	78.1	

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 2.Any Tm value showed in red words which meaning the value is over the Tc+ 5 degree C of this device specification

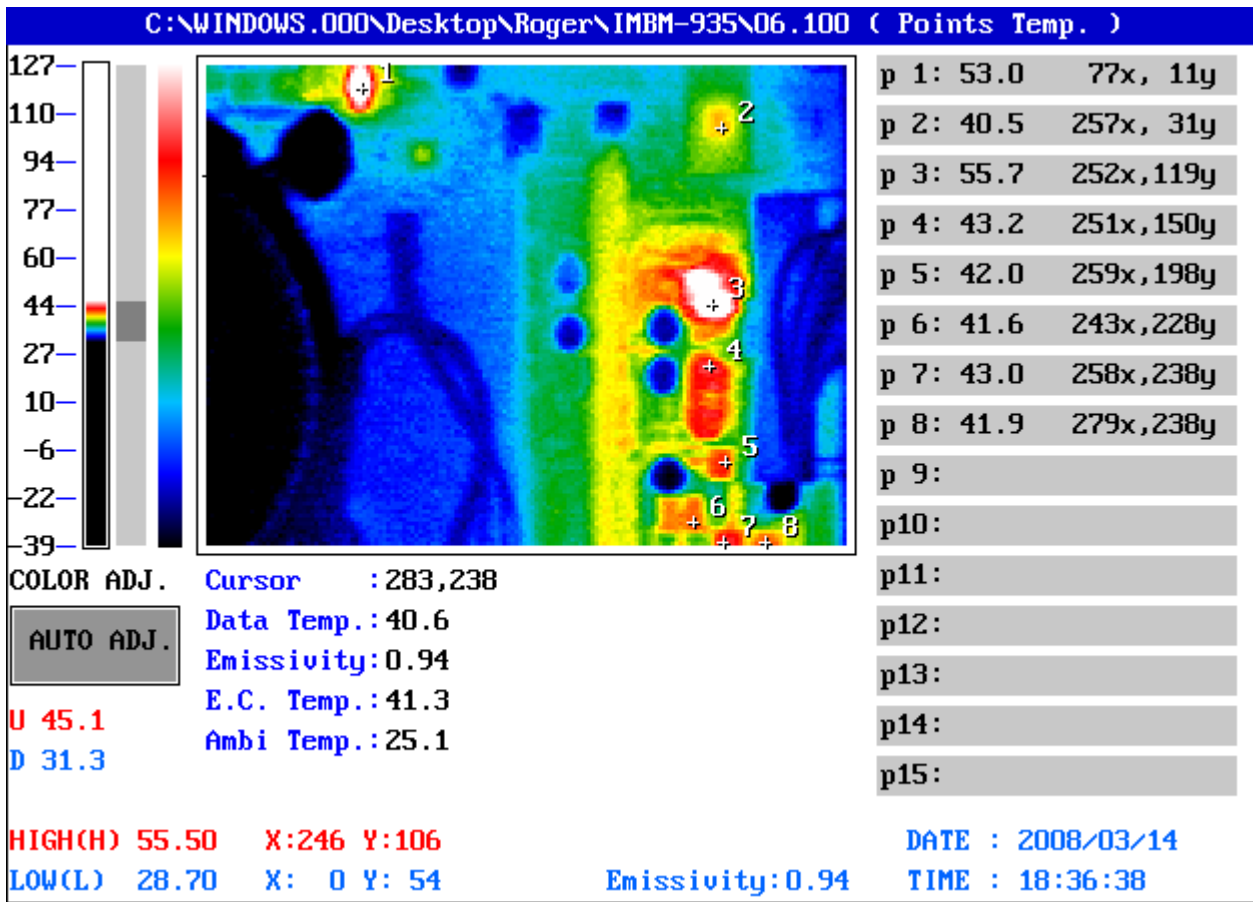
## Component Side-5:



Point	Position	Describe	Tc (°C)	Tm (26.0 °C)	Tm (60°C)	Note
1	U4	(TF)IC.SMD SSOP.20Pin RS-232 Driver&Receivers.TI.GD75232DBR;EE-A010945;14S5A23200;TWN	100	42.9	76.9	
2	U12	(TF)IC.SMD.SOIC 14Pin.MosFET Driver.Intelsil.ISL6614ACBZ;EE-A061489;14S4661400;TWN	115	48.3	82.3	
3	Q8	(TF)PWR.SMD TO-252.30V 58A.N-channel Power MOSFET.FAIRCHILD.FDD8880;EE-A061121;1315888010;TWN	125	39.9	73.9	
4	Q7	(TF)PWR.SMD TO-252.30V 58A.N-channel Power MOSFET.FAIRCHILD.FDD8880;EE-A061121;1315888010;TWN	150	44.0	78.0	
5	Q15	(TF)PWR.SMD.TO-252.30V 94A.N-channel Power MOSFET.FAIRCHILD.FDD8896_NL;EE-A070814;1315889612;TWN	150	39.8	73.8	

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-6:



Point	Position	Describe	Tc (°C)	Tm (25.1 °C)	Tm (60°C)	Note
1	U28	(TF)IC.SMD.SOIC 14Pin.MosFET Driver.Intelsil.ISL6614ACBZ;EE-A061489;14S4661400;TWN	115	53.0	87.9	
2	U39	(TF)IC.SMD.PQFP 128Pin.LPC Super I/O.Winbond.W83627DHG;EE-A071663;14S4362705;TWN	100	40.5	75.4	
3	U35	(TF)IC.SMD.SOP 8P.Switching PWM Controller.Richtek.RT9214PS;EE-A060043;14S2921400;TWN	125	55.7	90.6	
4	L37	(TF)COIL.2.5uH.DIP.Pinlength=3.0mm.Wire Size 0.7*3Pmm.52 材 3Wire*8 30Amp. 震元.TC5052N-2R5M-UL;EE-A020924;1211102560;TWN	115	43.2	78.1	
5	Q67	(TF)PWR.SMD.TO-252.30V 94A.N-channel Power MOSFET.FAIRCHILD.FDD8896_NL;EE-A070814;1315889612;TWN	125	42.0	76.9	
6	EC52	(TF)POSCAP.[68,100,150,220,330,470,680,1000]uF.[2.5,4.0,6.3,10.0]V.2 0%.[9,12,15,18,25,35]mohm.SMD.SANYO.TPE series;EE-A060324;11896*****;TWN	105	41.6	76.5	



7	Q70	(TF)PWR.SMD TO-252.30V 58A.N-channel Power MOSFET.FAIRCHILD.FDD8880;EE-A061121;1315888010;TWN	150	43.0	77.9	
8	Q74	(TF)PWR.SMD.TO-252.N-Channel PowerMosfet.ANPEC.APM3054NUC-TR-L;EE-A071574;1315305411; TWN	125	41.9	76.8	

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