COM-45GS

Intel GS45+ICH9M SFF COM Express CPU Module

Thermal Image Analysis Report

Report NO: 09E080024

Release Date: Oct 23, 2009

2009/10/23	*Wenyuan Yang*	*Eva Yeh*
Issue Stamp	**Manager**	**Test Engineer**

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Thermal Image Analysis

Ⅰ. Model Name: COM-45GS A0.2

Ⅱ. Description: Intel GS45+ICH9M SFF COM Express CPU Module

Ⅲ. Date: Oct 23, 2009

Ⅳ. Measure Site: AAEON QE Dept.

Ⅴ. Issued by : Eva Yeh

Ⅵ.Equipment:

GAAPHTEC midi LOGGER TYPE GL200

Ⅶ. Simulation Environment:

- **Temperature: Component Side-1: 25.7 ℃, Component Side-2 : 25.6℃**
- **CPU : Intel ® Core™ 2 Duo 2.26GHz SP9300 (Penryn) / FSB: 1066MHz / L2: 6MB**
- **RAM : KINGSTON DDR3 1066 SODIMM KVR1066D3S7 4GB x 2 pcs**
- **BIOS : COM-45GS BIOS Rev.0.24(08/25/2009)**
- **Carrier Board : ECB-916M A1.0**
- **CF Card : N/A**
- **HDD : Seagate ST3160815A 160GB IDE 3.5” HDD**
- **Application Software: Run Prime95 under Windows XP Professional V2002 Service Pack 3**
- **Take Picture Time: After Power on 2 hours.**

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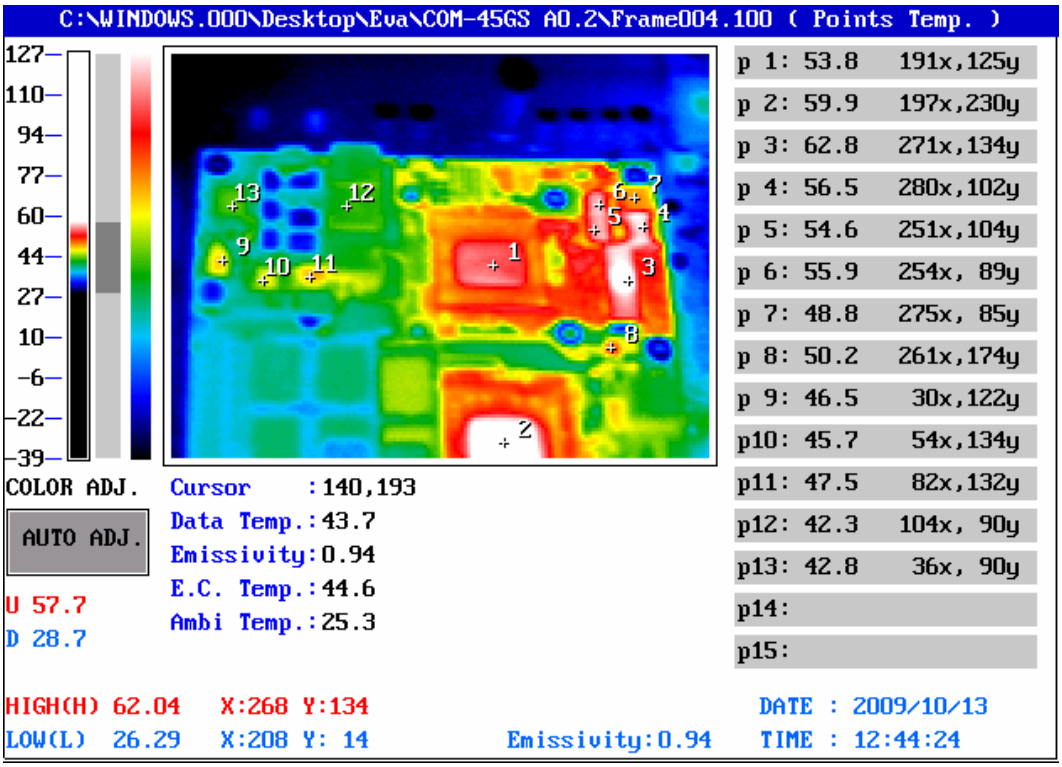
Temperature Profile Test:

Component Side-1:



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Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				25.7℃	60℃	
1	U9	Intel ® Core™ 2 Duo 2.26GHz SP9300 (Penryn) / FSB: 1066MHz / L2: 6MB	105	47.1	81.4	
2	U29	(TF)IC.SMD.FCBGA 1363P.Chipset.Intel.AC82GS45.SLB92	100	37.0	71.3	
3	U12	(TF)IC.SMD.TSSOP 64P.CLOCKGENERATOR. SILEGO.SLG505YC264BTTR;EE-A081678;14S3050500;TWN	100	37.9	72.2	
4	Q15	(TF)PWR.SMD SO-8.P-Channel MOSFET.ANPEC. APM4463KC-TRL;EE-A041711;1315446310;TWN	125	46.6	80.9	
5	Q11	(TF)PWR.SMD SO-8.P-Channel MOSFET.ANPEC. APM4463KC-TRL;EE-A041711;1315446310;TWN	125	46.9	81.2	
6	Q12	(TF)PWR.SMD.SO-8.N-Channel.30V.10A.13.5mΩ.MOSFET.APEC .AP4410GM;EE-A030505;1315441012;TWN	125	50.4	84.7	
7	L12	(TF)COIL.3.3uH.SMD.7.3*6.8*3.0mm.DCR=28m ohm.Irms=6Amp.GOTREND.GSTC063P-3R3MN;EE-A061509;12 1110336L;TWN	125	54.0	88.3	
8	U11	(TF)IC.SMD.MSOP-8.Temperature Monitor.GMT.G781P8f;EE-A080957;14S9781800;TWN	125	38.3	72.6	
9	Q1	(TF)Dual N-Channel.SO-8.SMD.Vds=30V.Ids=6A. Rds=21/27mohm.Vgs=10/4.5V.ANPEC.APM7313KC-TRL;EE-A06 0563;1315731310;TWN	125	36.5	70.8	
10	U5	(TF)IC.SMD MLPQ-24.Dual Synchronous Buck Control.Semtech.SC415MLTRT;EE-A071927;14S2041500;TWN	100	38.4	72.7	
11	Q6	(TF)Dual N-Channel.SO-8.SMD.Vds=30V.Ids=6A. Rds=21/27mohm.Vgs=10/4.5V.ANPEC.APM7313KC-TRL;EE-A06 0563;1315731310;TWN	125	38.1	72.4	
12	L4	(TF)COIL.0.56uH.Irms=25A.Isat=40A.20%.SMD(11.5x10.3x4.0).2 pin.RDC=1.8m Ohm.GOTREND.GSTC104P-R56MN; EE-A061714;1211105673;TWN	125	35.0	69.3	
13	U1	(TF)IC.SMD.QFN 48P.IMVP6 Two Phase PWM.Intersil.ISL6262ACRZ-T;EE-A081065;14S3626201;TWN	125	31.0	65.3	

Note(*):
1. Tc is meaning the component Tcase value that specified in the component datasheet.
2. Tm is meaning the Measured Tcase value when the component operated under temperature stably.
3. The Tm value showed in **BLUE** words which meaning the MEASURED operation temperature within (Tc-10℃)<Tm <(Tc +5℃), particular thermal dissipation design is needed if you wanna to utilize this board in an enclosure box or chassis.
4. Any Tm value showed in **RED** words which meaning the operation temperature is over (Tc+5 degree C). The result is “Failed” and must be solved before the product launched into next design stage.

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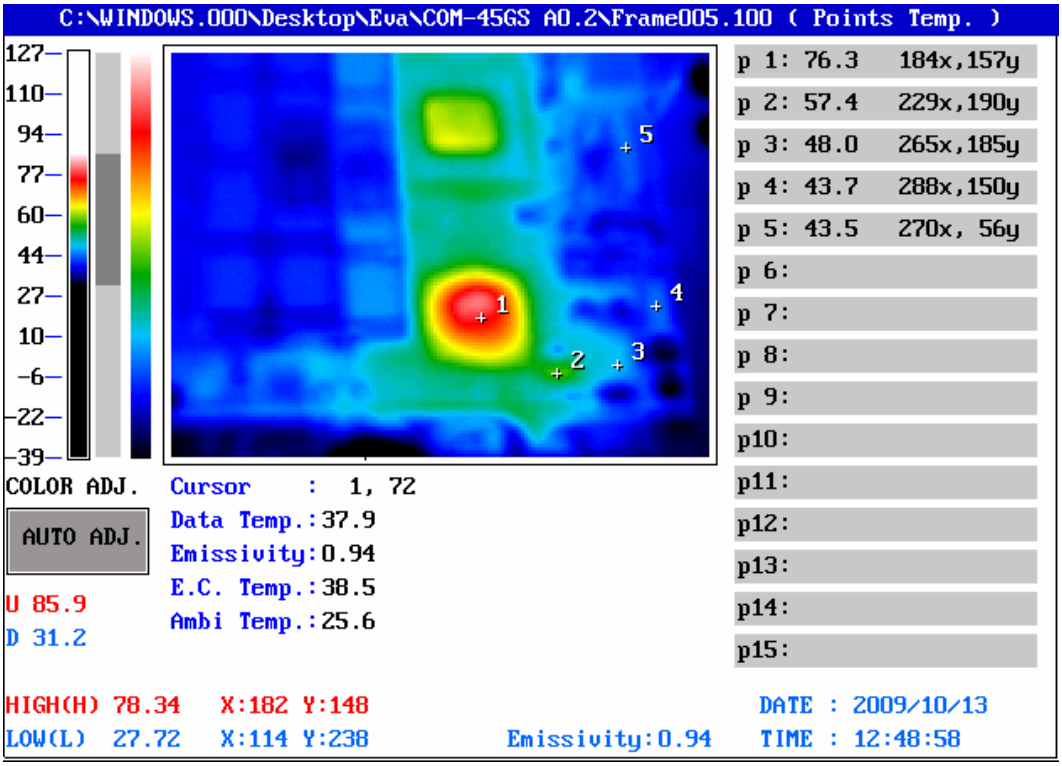
Component Side-2:



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Point	Position	Describe	Tc (℃)*1	Tm*2 Measured Under		Note
				25.6℃	60℃	
1	U30	(TF)IC.SMD.Chipset ICH9M-SFFE.INTEL.AM82801IUX.SLB8N	110	33.3	67.7	
2	Q60	(TF)REG.SMD SOT223.1A Adjustable Linear Regulator. Diodes.AP1117EL-13;EE-A090067;131411171G;TWN	125	41.1	75.5	
3	U31	(TF)IC.SMD.QFN 56P.GigaBit Ethernet Chipset.INTEL. WG82567LM SLAVV;EE-A081561;14S4256700;TWN	100	37.8	72.2	
4	U17	(TF)IC.SMD TSSOP28.Trusted Platform Module.Infineon. SLB9635TT1.2;EE-A071258;14S4963500;TWN	100	35.5	69.9	
5	U16	(TF)IC.SMD.SSOP 28P.WatchDog. Fintek.F75111RG;EE-A061692;14S4751100;TWN	115	36.3	70.7	
6	Memory (Up)	KINGSTON DDR3 1066 SODIMM KVR1066D3S7 4GB	85	29.4	63.8	
7	Memory (Inside)	KINGSTON DDR3 1066 SODIMM KVR1066D3S7 4GB	85	30.0	64.4	
8	Memory (Down)	KINGSTON DDR3 1066 SODIMM KVR1066D3S7 4GB	85	34.7	69.1	

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