GENE-9655

Thermal Image Analysis Report

Report NO: 10E080004

Sample Configuration & Quantity Under Test

- CPU Board: GENE-9655 Rev.A0.3
- Carrier Board:N/A
- CPU: Intel® Celeron® Processor 550
- Memory: Transcend DDR2 SO-DIMM 667 1GB
- HDD: WD(Western Digltal) 2.5 SATA H.D 80GB - WD800BEVS
- BIOS : GENE-9655 BIOS Rev 1.0 (3/10/2010)
- Test Software: Windows XP sp3 / Run Prime95 v25.11
- ATX Power Supply: Delta 350W GPS-350EB-102A(Short PS-ON and GND to simulate AT mode)
- Cooler:

Test Result Summary

☐ **Pass**

☐ **Fail**

☑ **Pass with Deviation**

Comment: Please refer to U1

2010/03/26	*Jansin Lee*	*Allen Hsu*
Issue Stamp	**Manager**	**Test Engineer**

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Thermal Image Analysis

1. Test Date: 03/25/2010

2. Test Product: GENE-9655

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 & TH-046): 25.3 ℃ With cooer

Component Side-2 (Test by TVS-100): 25.2 ℃ With cooler

6. Test Software:

Windows XP sp3 / Run Prime 95 v25.11

7. Take Picture Time:

After power on 2 hours

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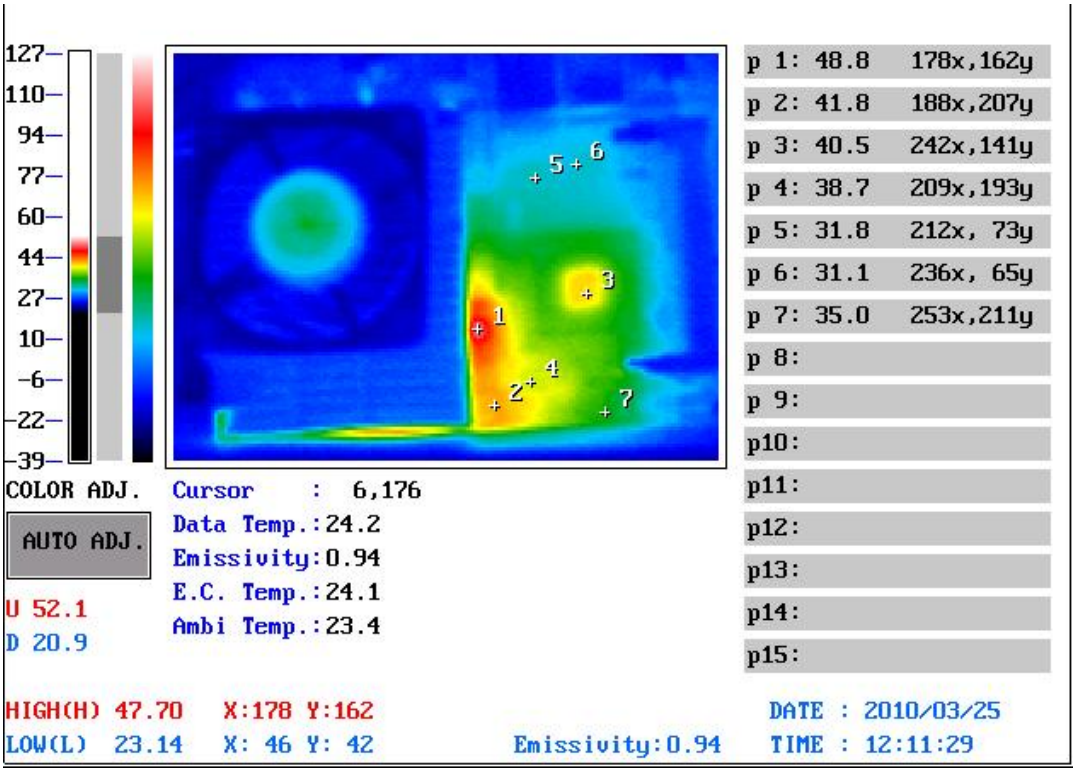
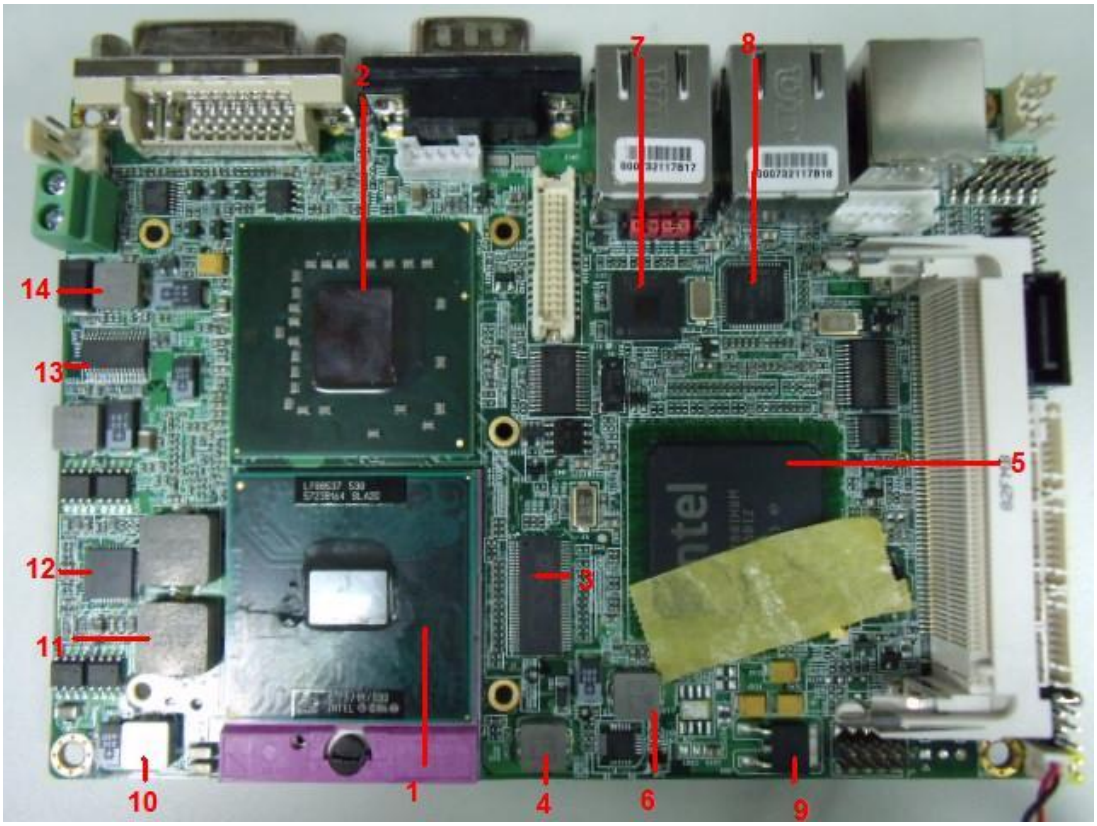
Temperature Profile Test:

Component Side-1:





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Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25.3℃	60℃	
1	U1(CPU)	Intel® Celeron® Processor 550 (1M Cache, 2.00 GHz, 533 MHz FSB)	100	62.1	96.8(*3)	GL200 measured
2	U2	(TF)IC.SMD.FCBGA1299Pin.Chipset.Intel.LE82GME965.SLA9F.;EE-A071936;14S4296501;TWN	105(Td)	40.6	75.3	
3	U5	(TF)IC.SMD.TSSOP64P.CLOCKGENERATOR.ICS.ICS9LP505-1HGLFT;EE-A071253;14S3950500;TWN	100	48.8	83.5	
4	L14	(TF)COIL.1uH.+/-20%.SMD.7.3*6.8*3.0mm.DCR=9mohm.Irms=11Amp.GOTREND.GSTC063P-1R0MN;EE-A061520;1211000180;TWN	125	41.8	76.5	
5	U3	(TF)IC.SMD.ChipsetICH8M.INTEL.NH82801HBM.SLB9A;EE-A081571;14S4280121;TWN	----	40.5	75.2	
6	L13	(TF)COIL.3.3uH.SMD.7.3*6.8*3.0mm.DCR=28mohm.Irms=6Amp.GOTREND.GSTC063P-3R3MN;EE-A061509;121110336L;TWN	125	38.7	73.4	
7	U11	(TF)IC.SMD.BGA81P.GigaBitEthernetChipset.INTEL.RU82566MM;EE-A080233;14S4256610;TWN	125	31.8	66.5	
8	U9	(TF)IC.SMD.QFN64P.PCI-EGigaBitEthernetChipset.Intel.WG82574L SLBA8;EE-A081303;14S4825740;TWN	109	31.1	65.8	
9	Q58	(TF)PWR.SMD.TO-252.N-Channel Power 25V 60A MOSFET.APEC.AP70T03GH;EE-A031083;1315700310;TWN	150	35.0	69.7	
10	L15	(TF)COIL.2.2uH.SMD.7.3*6.8*3.0mm.+/-20%.DCR=18mohm.Irms=8Amp.GOTREND.GSTC063P-2R2MN;EE-A081766;121110226C;TWN	125	39.1	73.8	GL200 measured
11	L10	(TF)COIL.0.56uH.Irms=25A.Isat=40A.20%.SMD(11.5x10.3x4.0).2pin.RDC=1.8mOhm.GOTREND.GSTC104P-R56MN;EE-A061714;1211105673;TWN	125	46.6	81.3	
12	U32	(TF)IC.SMD.QFN48P.IMVP6TwoPhasePWM.Intersil.ISL6262ACRZ-T;EE-A081065;14S3626201;TWN	100	54.9	89.6	
13	U39	(TF)IC.SMD.eTSSOP-28.DualSynchronousController.NS.LM5642XMH;EE-A091655;14S1564201;TWN	100	38.6	73.3	
14	L12	(TF)COIL.3.3uH.SMD.7.3*6.8*3.0mm.DCR=28mohm.Irms=6Amp.GOTREND.GSTC063P-3R3MN;EE-A061509;121110336L;TWN	125	38.5	73.2	

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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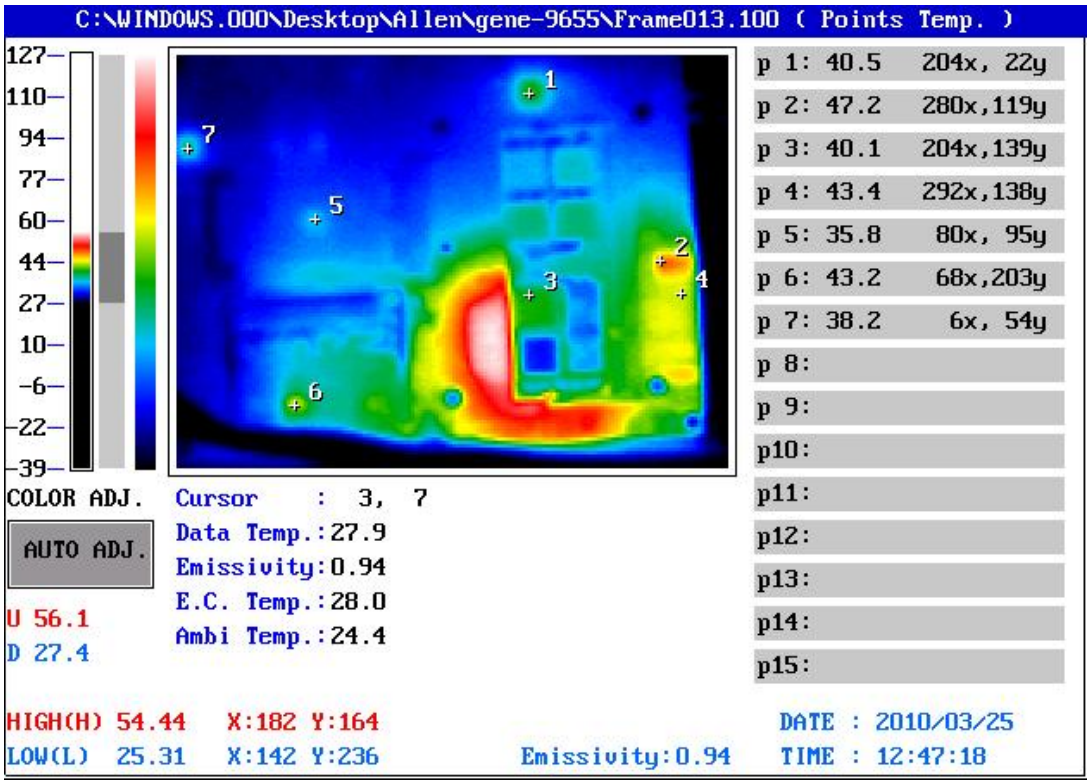
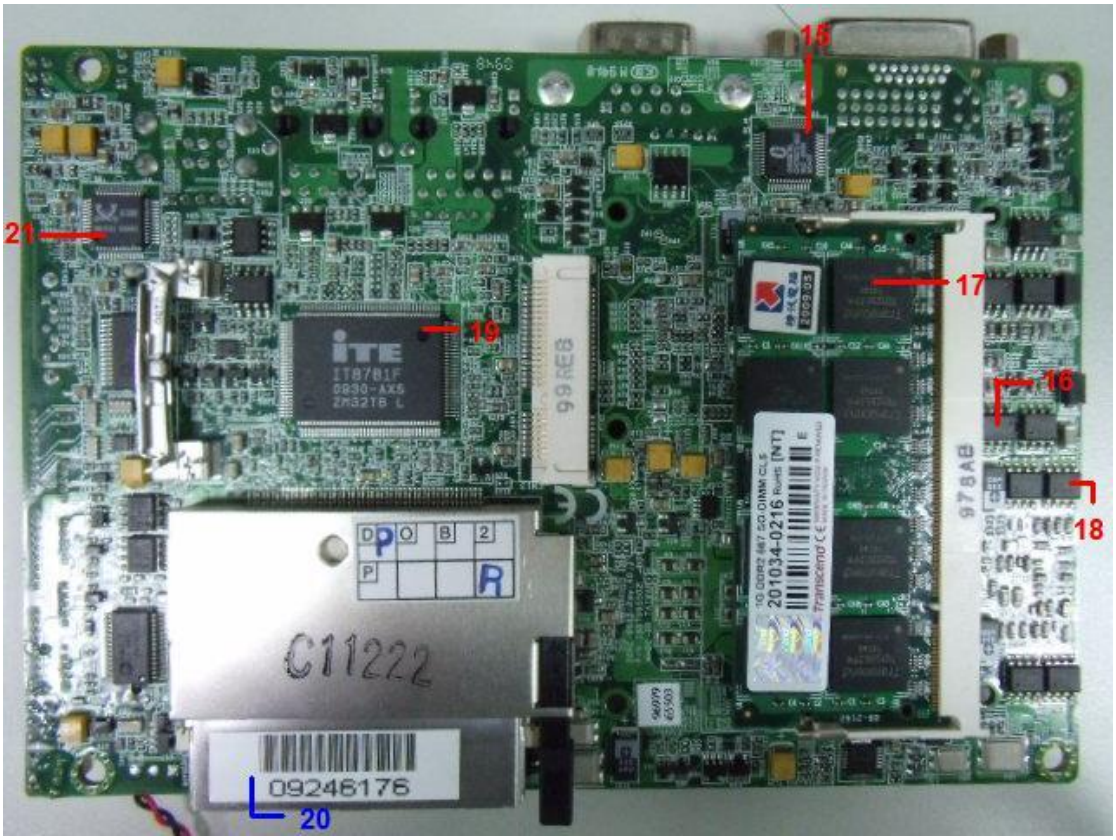
Component Side-2:





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Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25.2℃	60℃	
15	U8	(TF)IC.SMDLQFP.48P.DVITransmitter.CHRONTEL.CH7307C-DEF;EE-A050797;14S4730701;TWN	125	40.5	75.3	
16	U37	(TF)PWR.SMD.SOP8.30V.11A.SingleN-Channel.FAIRCHILD.FDS6690A;EE-A071202;1315669000;TWN	125	47.2	82.0	
17	DIMM1(RAM)	Transcend DDR2 SO-DIMM 667 1GB - TQ123EJF6 T0743	85	40.1	74.9	
18	U29	(TF)PWR.SMDSO8.N-ChannelMOSFET30V15A.FAIRCHILD.FDS8896;EE-A070070;1315889611;TWN	125	43.4	78.2	
19	U13	(TF)IC.SMD.QFP128P.SuperI/Ow/4COMs.ITE.IT8781F/AX-L;EE-A081754;14S4878100;TWN	100	35.8	70.6	
20	U44	(TF)PWR.SMD.SO-8P.P-ChannelMOSFET.APEC.AP6679GM-HF;EE-A071268;1315667910;TWN	125	43.2	78.0	
21	U12	(TF)IC.SMD.LQFP 48P.7.1+2 Channel High Definition.Audio Codec.REALTEK.ALC888-GR;EE-A071056;14S3088800;TWN	100	38.2	73.0	

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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