GENE-BT06

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment:** There are three temperature point marginal passed, the functions are normal,

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	3
Defect Unsolved	0	0	0	0

Issue date	Approval	Test Engineer
2015 / 05 / 28	KJ Wang	Ben Sun

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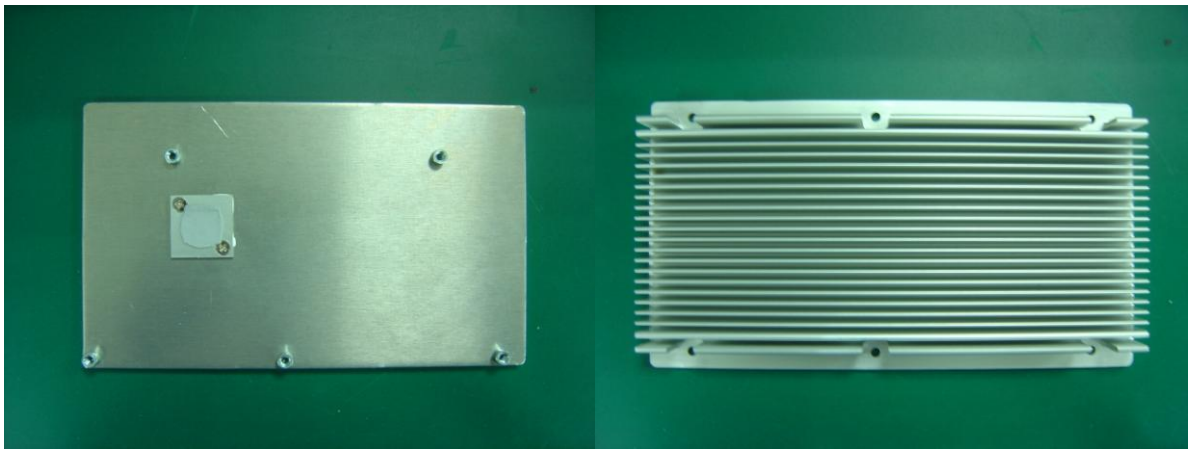
Sample Configuration & Quantity Under Test

- **Model name : GENE-BT06 A1.0**
- **Mother Board : GENE-BT06**
- **CPU : Intel Atom E3845 1.91GHz**
- **Memory : On board / DDR3L-1666 4GB**
- **3.5” HDD : Maxtor SEM3160811AS 160GB**
- **Test Software : Windows 8 / Run Run BurnIn test 8.0 Pro**
- **Power : AT Power**
- **Heat Sink :**



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Thermal Image Analysis

1. Test Date: 2015-05-27

2. Test Product: GENE-BT06 A1.0

3. Test Site: AAEON QE Dept.

4. Temperature Measurement:

4.1. 40 Channel Thermal Recorder:

4.1.1 YOKOGAWA Inc,

4.2.2 Model: DA100-13-1D

Date of Calibration: 2014/09/11

Serial Number: 12A323190

4.2. IR Scanner: Infrared Camera

4.2.1 NEC Avio Infrared Technologies Co., Ltd.

4.2.2 Model: Thermo GEAR G100W2-D

Date of Calibration: 2014/12/30

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25.2℃ with Heat Sink

6. Take Picture Time:

After power on 2 hours

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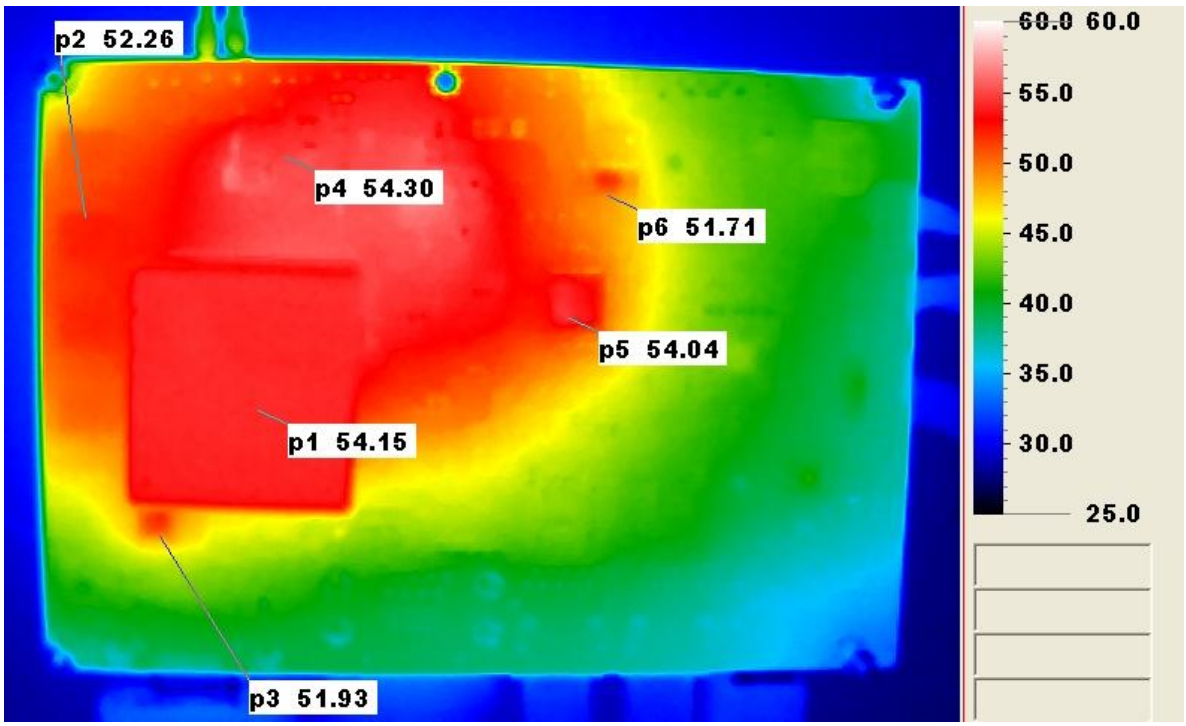
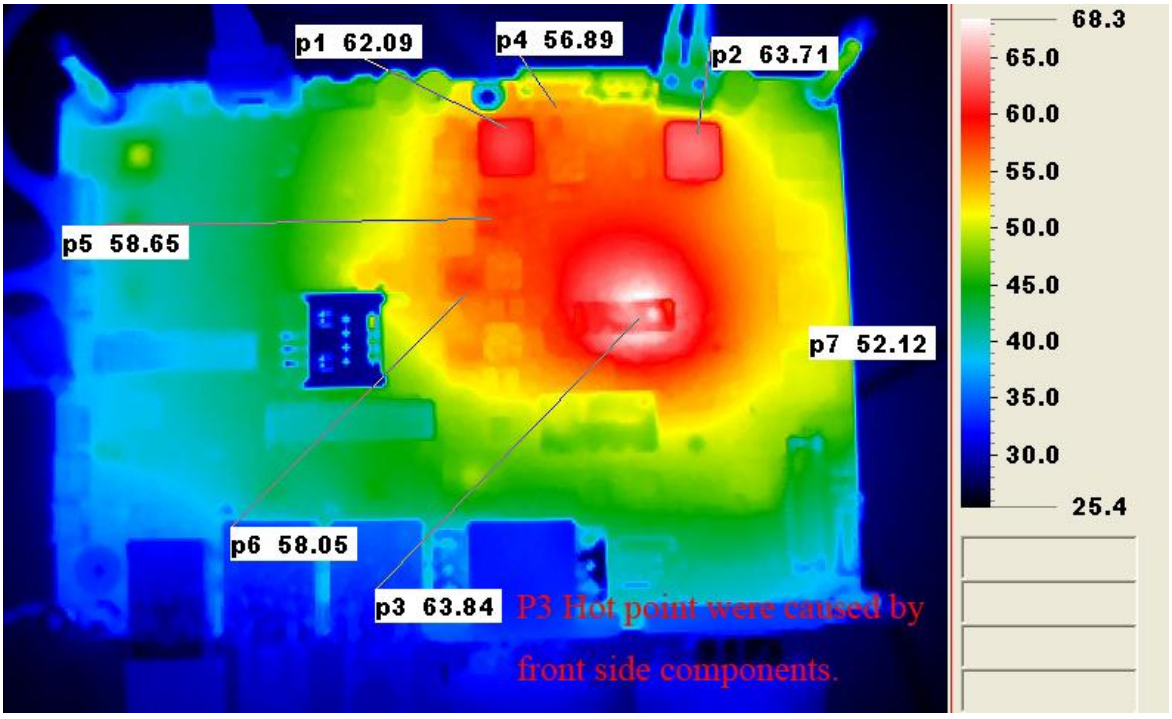
Temperature Profile Test:

Component Side:





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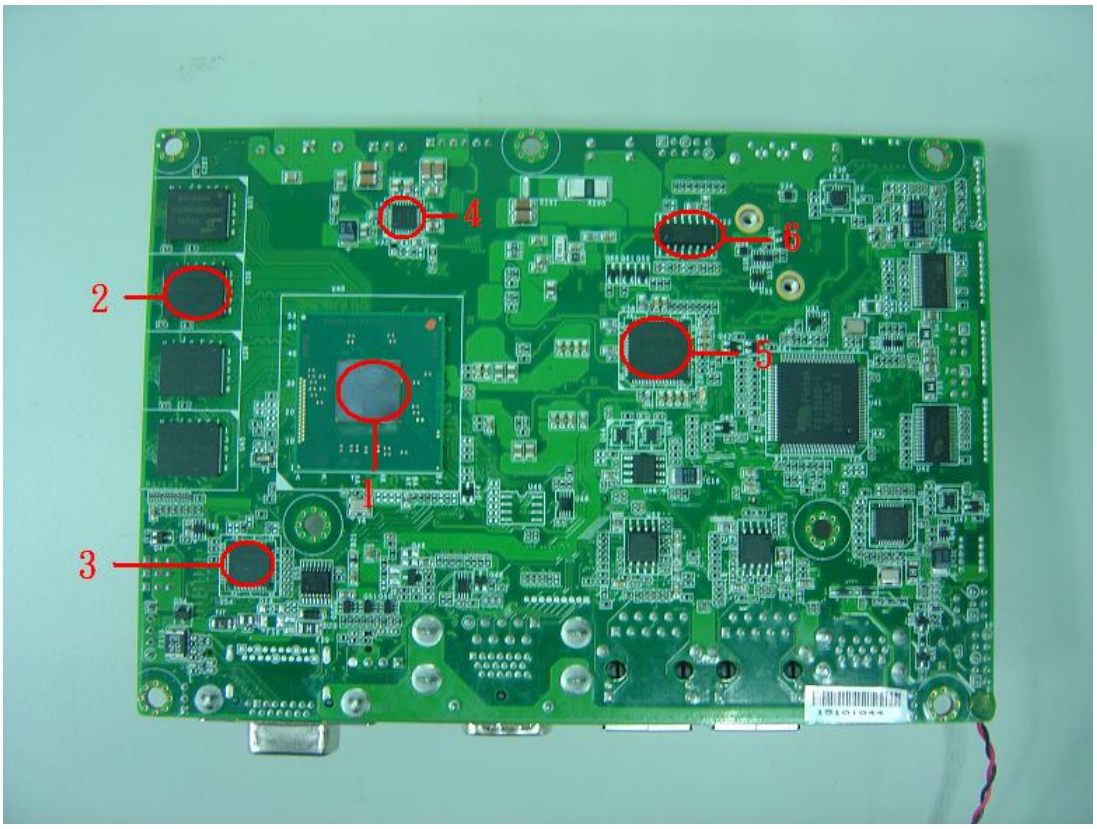
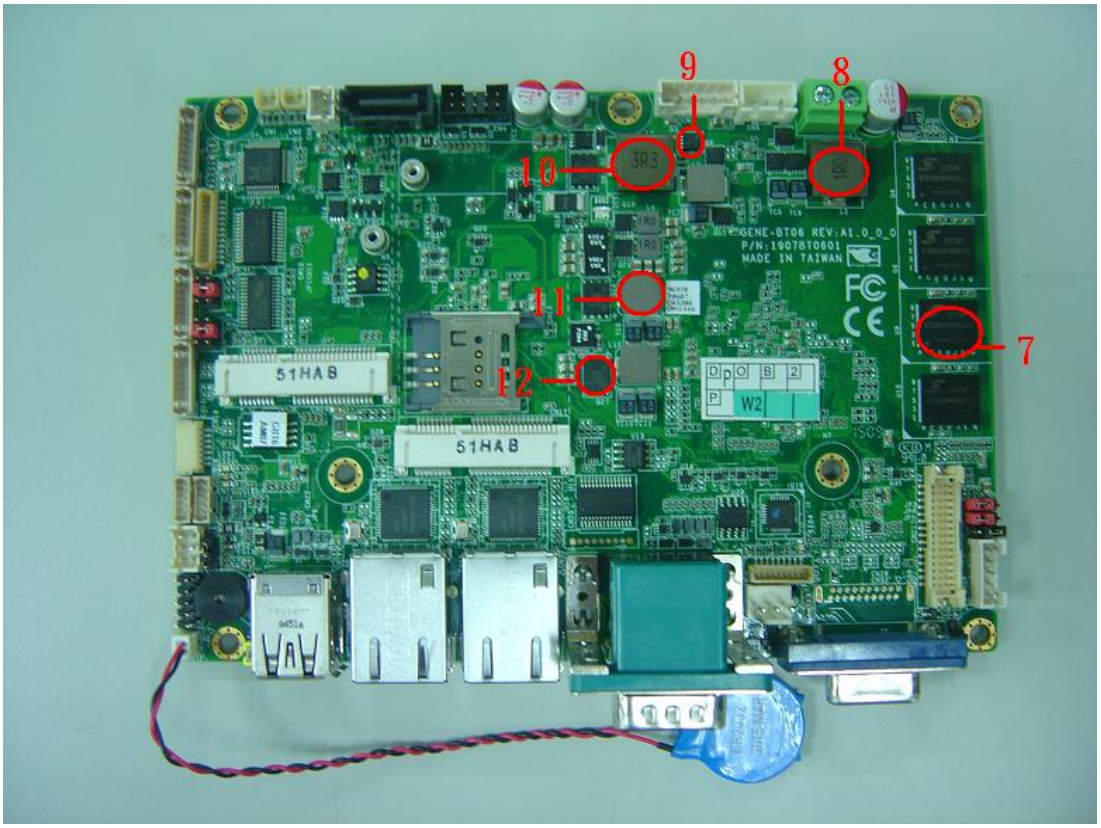
Terminal Recorder:

Measuring Thermal Couple Position：





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Using YOKOGAWA / DARWIN DA100-100-13-1D test

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				24.6℃	60℃	
1	U40	(TF)INTEL Bay Trail-I.E3845 1.91GHz FCBGA1170 FH8065301487717 SR1X6	110	53.1	88.5	
2	U36	(TF)IC.4GB BIT.DDR3L-1600 SDRAM 1.35V 512Mbitx 8 1.25ns FBGA 78P SMD ProMOS V73CBG04808RBJJ11I	95	56.0	91.4	NOTE3
3	U54	(TF)IC.Display Port to LVDS Converter.QFN 56 Pin.SMD.NXP.PTN3460BS	85	46.0	81.4	NOTE3
4	U32	(TF)IC.SMD.VQFN 24P.DUAL SYNCHRONOUS STEP-DOWN CON.TI.TPS51123RGER	100	57.5	92.9	
5	U38	(TF)IC.PMIC.Intel Valleyview UQFN 88P SMD ROHM.BD9596BMWV	110	59.4	94.8	
6	U33	(TF)IC.Low Voltage Synchronous Boost.PWM Control IC.SOIC 16P.SMD.MICREL.MIC2185YM	100	56.8	92.2	
7	U9	(TF)IC.4GB BIT.DDR3L-1600 SDRAM.1.35V.512 Mbit x 8.1.25ns.FBGA 78P.SMD.ProMOS.V73CBG04808RBJJ11I	95	54.3	89.7	NOTE3
8	L2	(TF)COIL.1uH.20%.SMD.11.5x10.3x4.0mm.DCR=2.2mΩ. Idc=21Amp.Zenithtek.ZPWM-1040M-1R0M	150	67.0	102.4	
9	Q3	(TF)PWR.SMD.MLP 3.3x3.3.P-channel MOSFET.FAIRCHILD.FDMC4435BZ	125	58.8	94.2	
10	L1	(TF)COIL.3.3uH.20%.SMD.11.5x10.5x4.0mm.DCR=10.8m ohm.Idc=10Amp.ZenithTek.ZPWM-1040MB-3R3M	150	65.8	101.2	
11	L8	(TF)COIL.0.33uH.DCR=3mohm.Idc=19Amp 20% SMD 7.3*6.8*3mm HDTPower.MPC-7066CZ-R33-M	150	57.4	92.8	
12	Q27	(TF)PWR.DUALSMD.N-MOSFET.Vgs1/2=(+/-)20/12V.Vds1/2=30V.Id1=13A Id2=25A Rds(on)=10.8/3.8mohm	125	57.2	92.6	

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.

4. Defect NO. E141006QED10

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