AQ7-BT

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** Comment: There are 4 temperature points marginal passed, the function is normal, hope to get improvement for the next generation.

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	4
Defect Unsolved	0	0	0	4

Issue date	Approval	Test Engineer
2015 / 04 / 20	KJ Wang	Juno Cheng

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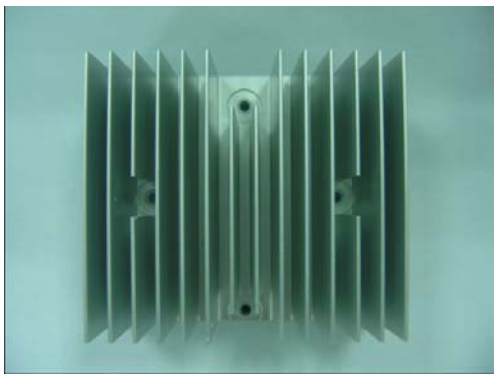
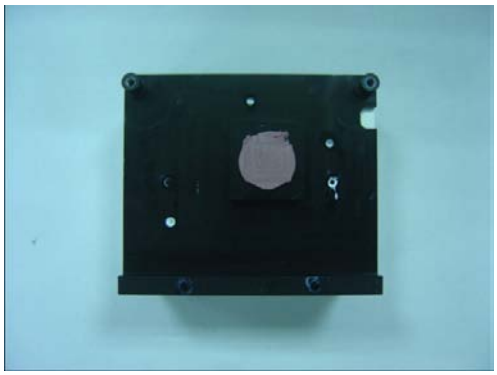
Sample Configuration & Quantity Under Test

- **Model name : AQ7-BT Rev. A0.2**
- **Mother Board : ECB-970 A1.0**
- **BIOS : Q7BTAM06(03/18/2015)**
- **CPU : Intel Bay-Trial I/E3845, 1.91GHz**
- **Memory : DDR3L-800MHz. 2GB (PROMS. V73CBG04168RAJJ11I)**
- **2.5” SATA HDD : Toshiba / MQ01ABD032 / 320GB**
- **Test Software : Windows 8/ Run PassMark Burn In Test 7.1 Pro**
- **ATX Power Supply: CWT DSA400P-C**
- **Heat Sink :**

Heat sink + Heat-Spreader





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Thermal Image Analysis

1. Test Date: 04-20-2015

2. Test Product: AQ7-BT Rev. 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: 2014/12/19

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25℃ with Heat Sink

6. Take Picture Time:

After power on 2 hours

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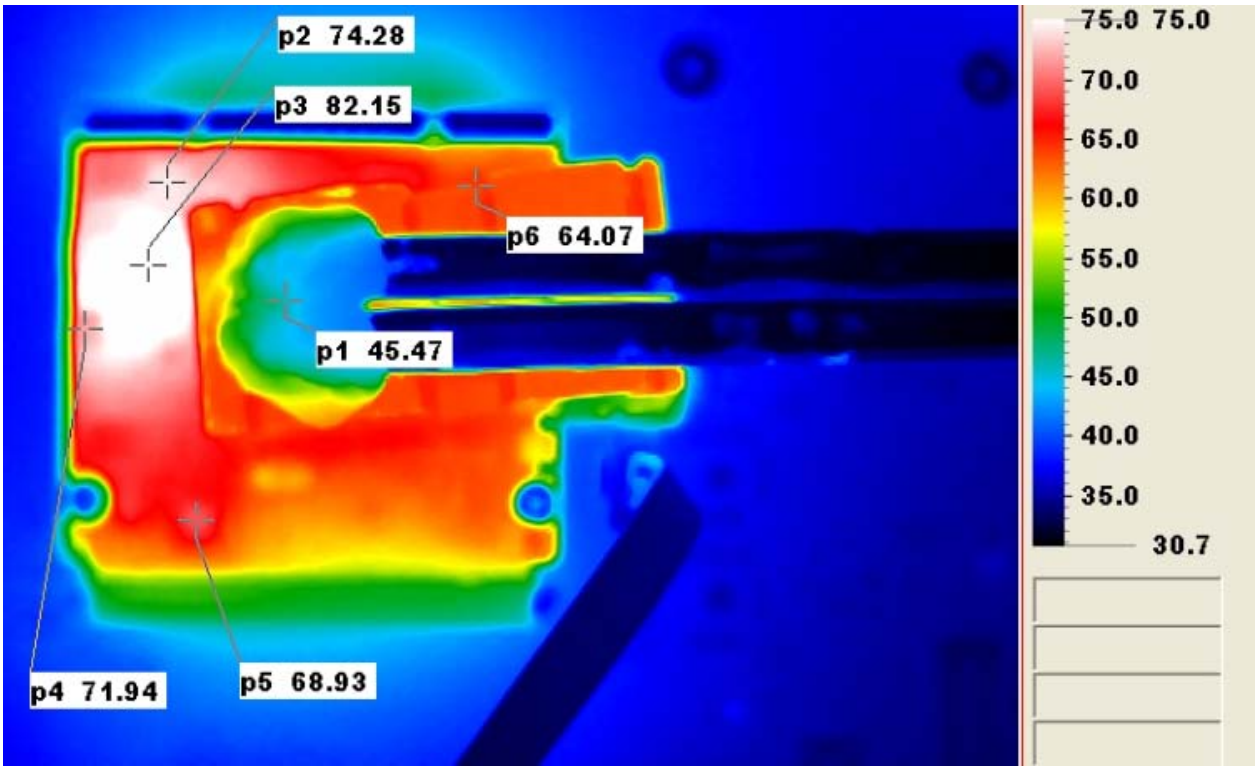
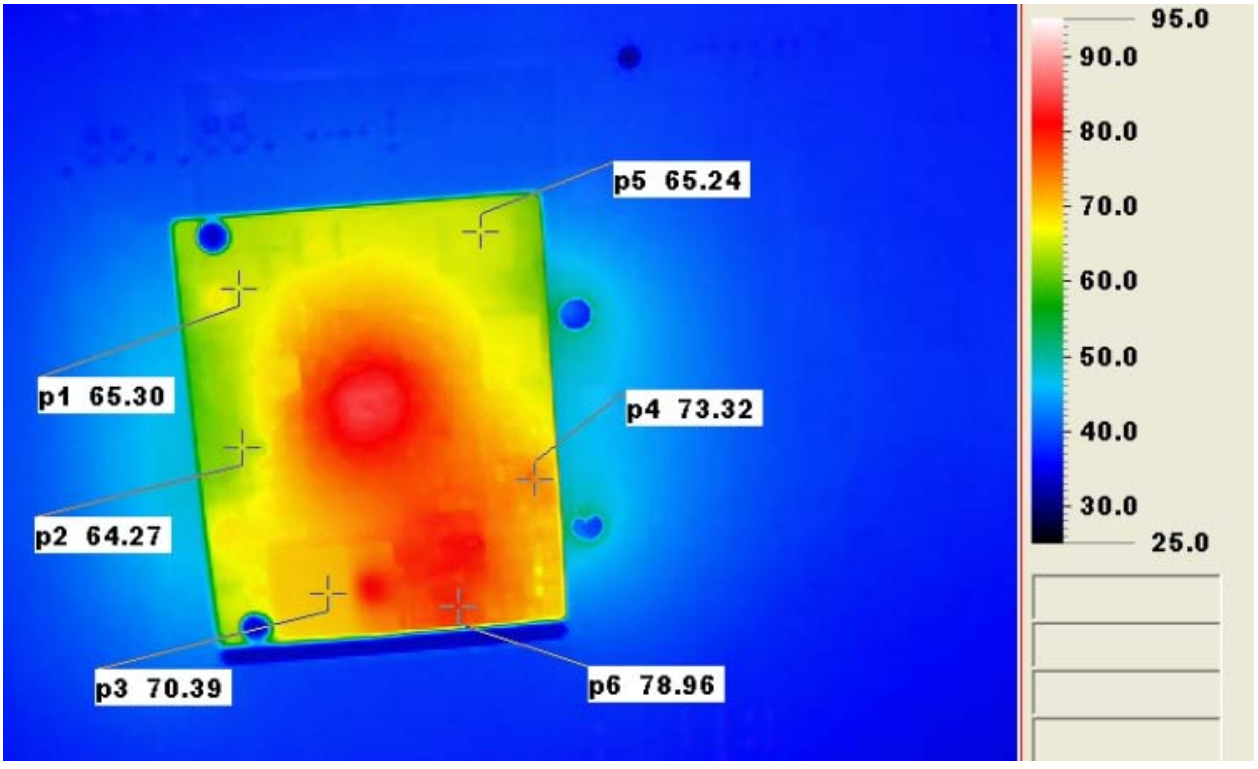
Temperature Profile Test:

Component Side:



Back Side:



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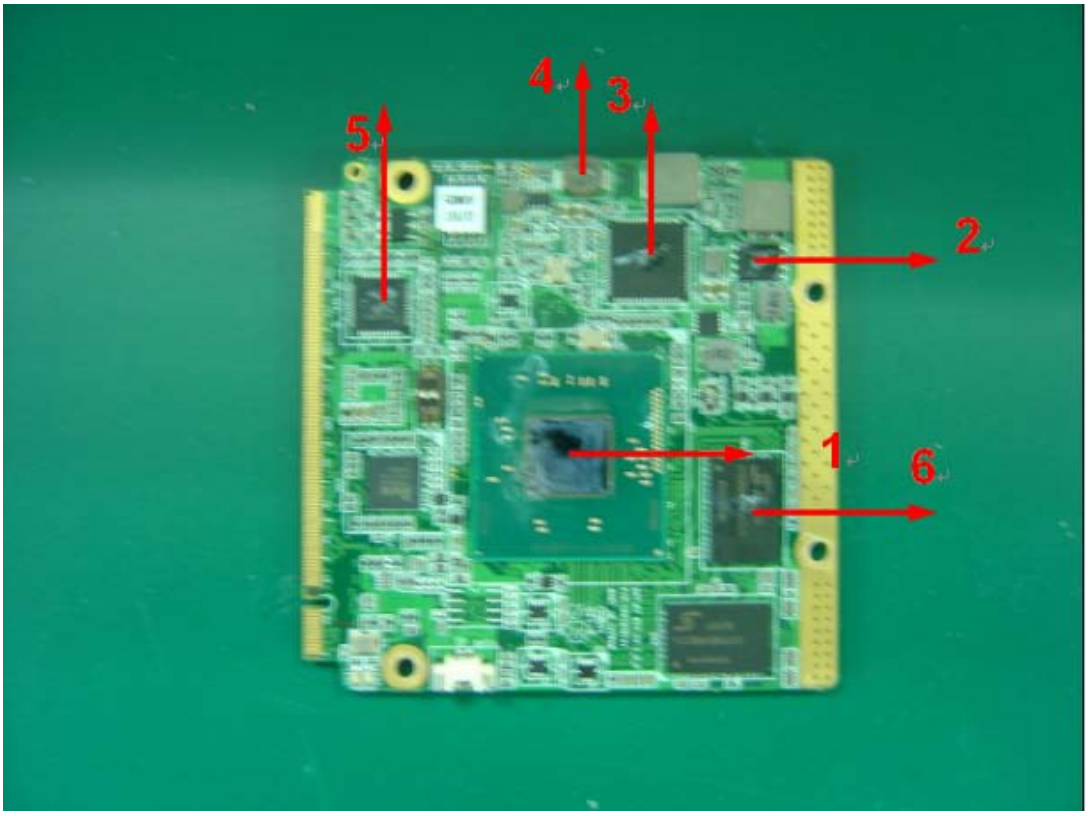
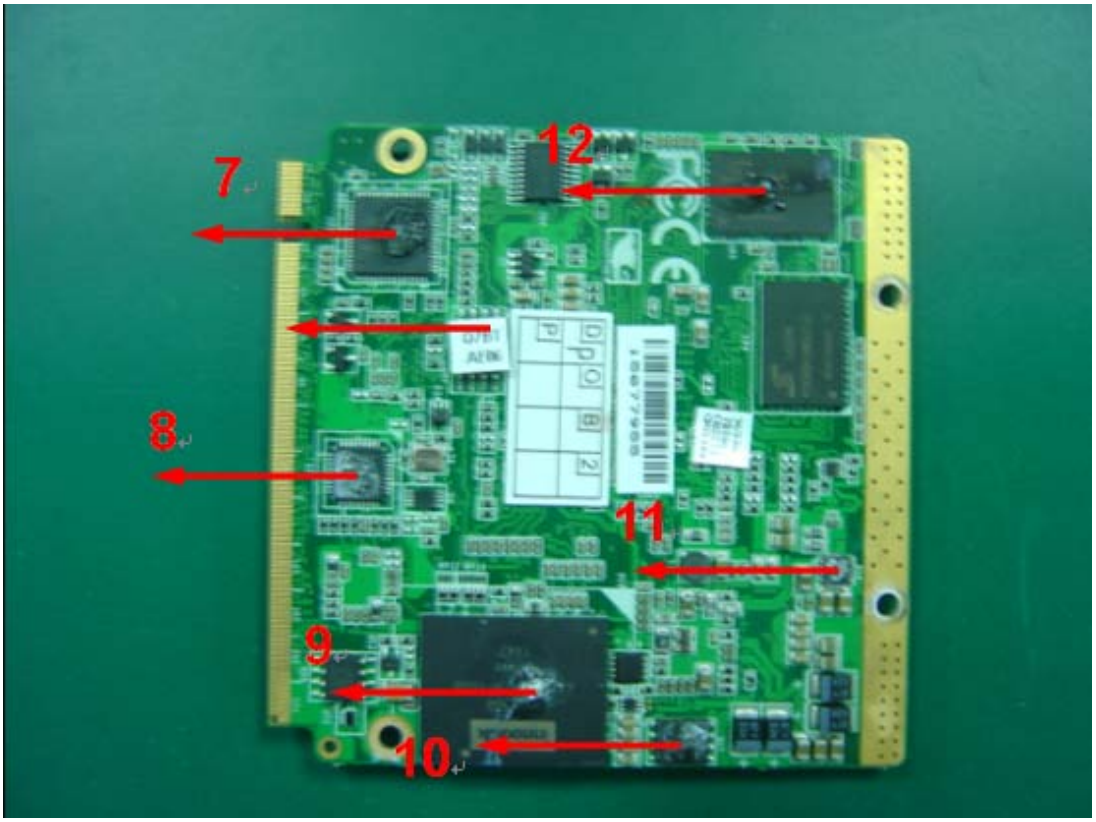
Terminal Recorder:

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
				25℃	60℃	
1	U1	(TF)INTEL Bay Trail-I.E3845.1.91GHz.FCBGA1170	110	59.2	94.2	
2	Q15	(TF)PWR.DUALSMD.N-MOSFET..FAIRCHILD.FDMS3664S	125	64.8	99.8	
3	U23	(TF)IC.PMIC.Intel Valleyview.BD9596BMWV	125	77.3	112.3	
4	L1	(TF)COIL.3.3uH. NEC/TOKIN.MPLCG0530L3R3	120	68.7	103.7	
5	U19	(TF)IC.Display Port to LVDS Converter. SMD.NXP.PTN3460BS	125	63.7	98.7	
6	U63	(TF)IC.DDR3L-SDRAM .PROMOS.V73CBG04168RAJJ11I	95	60.3	95.3	**Margin**
7	U22	(TF)IC.PCI-E GigaBit Ethernet Chipset. Intel.WGI211AT	109	58.9	93.9	
8	U39	(TF)IC.SMD.QFN controller.SMSC.USB2514BI-AEZG	100	58.9	93.9	**Margin**
9	U12	(TF)IC.SATA Innodisk.DENSD- 16GD06SWAQX	100	66.1	101.1	**Margin**
10	Q17	(TF)PWR.DUALSMD. FAIRCHILD.FDMS3664S	125	72.2	107.2	
11	U65	(TF)IC.DDR3L-SDRAM. PROMOS.V73CBG04168RAJJ11I	95	62.2	97.2	**Margin**
12	Q14	(TF)PWR.PMPAK.FAIRCHILD.FDMC7200S.Id2=8.5A.Vds1/2=30V	125	59.1	94.1	

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. :** C140905QED03

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