AQ7-BT-A20

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** Comment: There are 3 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	3
Defect Unsolved	0	0	0	3

Issue date	QE Manager	Test Engineer
2016 / 04 / 07	KJ Wang	Juno Cheng

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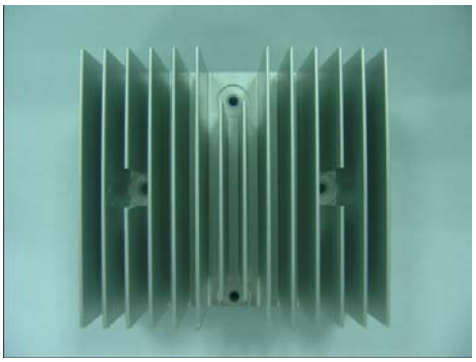
Sample Configuration & Quantity Under Test

- **Model name : AQ7-BT-A20 Rev. A2.0**
- **Mother Board : AQ7-BT A2.0**
- **BIOS : R1.2 Q7BTAM12(03/03/2016)**
- **CPU : Intel Bay-Trial I/E3845, 1.91GHz**
- **Memory : DDR3L-1600. 4GB (Samsung. K4B8G1646Q-MYKO)**
- **2.5” SATA HDD : Toshiba / MQ01ABD032 / 320GB**
- **Test Software : Windows 8.1/ Run PassMark Burn In Test 8.1 Pro(1003)**
- **ATX Power Supply: DSA400P-C**
- **Heat Sink :**

Heat sink (M16BT00030) + **Heat-Spreader** (M16BT00020)



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Thermal Image Analysis

1. Test Date: 04-07-2016

2. Test Product: AQ7-BT Rev. A2.0

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: 2015/09/10

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: 2015/12/01

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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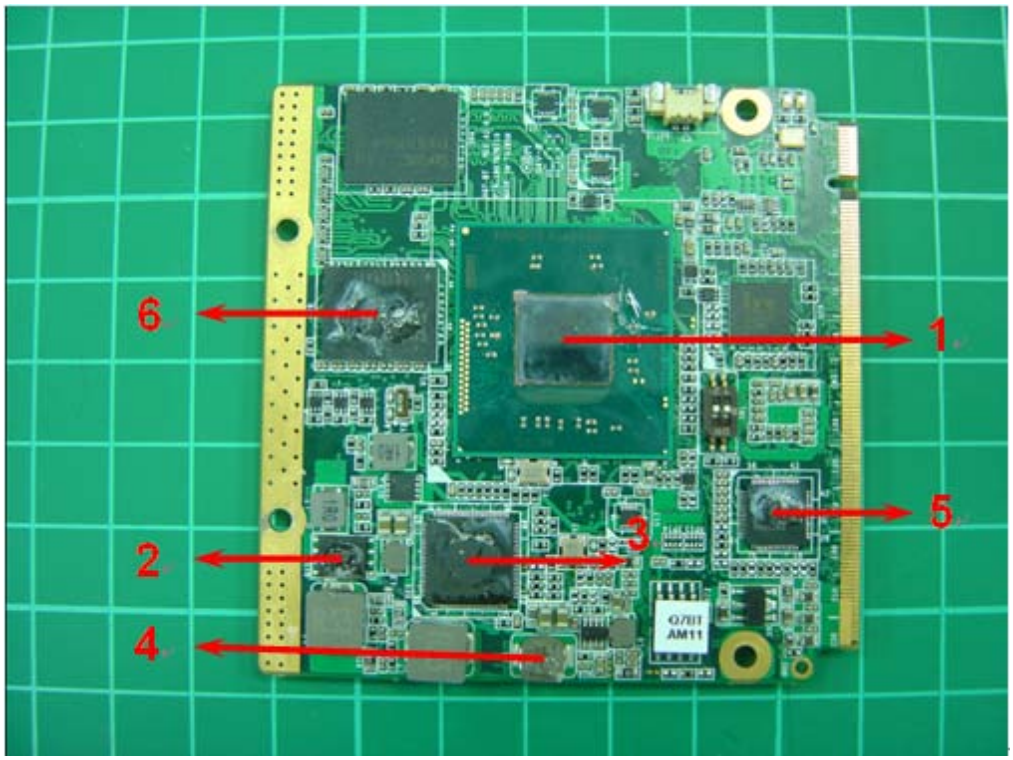
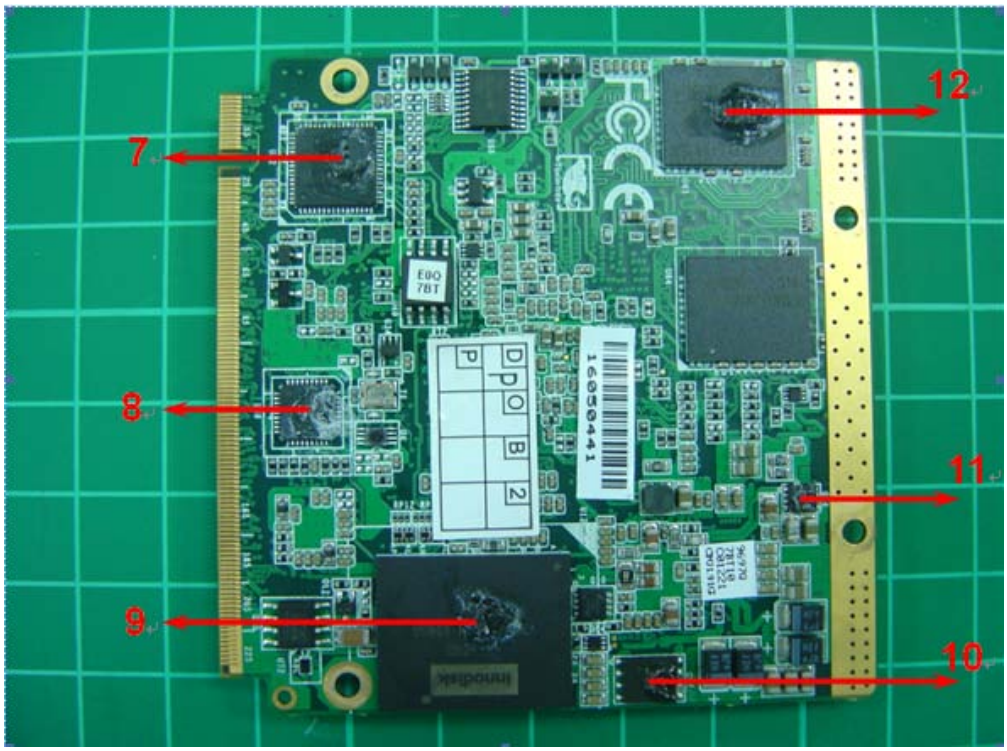
Terminal Recorder:

Measuring Thermal Couple Position：





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

Point	Position	Describe	Tc (*1) (℃)	TAT(*2) 25.0℃	TPT(*3) 60℃	Note
1	U1	(TF)INTEL Bay Trail-I.E3845.1.91GHz.FCBGA1170	110	60.8	95.8	
2	Q15	(TF)PWR.DUALSMD.N-MOSFET..FAIRCHILD.FDMS3664S	125	66.4	101.4	
3	U23	(TF)IC.PMIC.Intel Valleyview.BD9596BMWV	125	79.3	114.3	
4	L1	(TF)COIL.3.3uH. NEC/TOKIN.MPLCG0530L3R3	120	68.8	103.8	
5	U19	(TF)IC.Display Port to LVDS Converter. SMD.NXP.PTN3460BS	125	63.4	98.4	
6	U63	(TF)IC. DDR3L-1600. 4GB (Samsung. K4B8G1646Q-MYKO)	95	62.5	97.5	**Margin**
7	U22	(TF)IC.PCI-E GigaBit Ethernet Chipset. Intel.WGI211AT	109	56.2	91.2	
8	U39	(TF)IC.SMD.QFN controller.SMSC.USB2514BI-AEZG	100	55.8	90.8	
9	U12	(TF)IC.SATA Innodisk.DENSD- 16GD06SWAQX	100	65.5	100.5	**Margin**
10	Q17	(TF)PWR.DUALSMD. FAIRCHILD.FDMS3664S	125	74.4	109.4	
11	U65	(TF) IC. DDR3L-1600. 4GB (Samsung. K4B8G1646Q-MYKO)	95	64.0	99.0	**Margin**
12	Q14	(TF)PWR.PMPAK.FAIRCHILD.FDMC7200S.Id2=8.5A.Vds1/2=30V	125	57.1	92.1	

Note(*):

1. "Tc" indicates the component's case maximum temperature value specified in its datasheet.

2. "TAT" indicates the actual measured temperature under 25℃ working environmental.

3. "TPT" indicates the predicted temperature under product specification.

4. 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.

5. RTC battery avoid to put on heat position. Please do not exceed battery temperature specification.

6. Defect NO. : BUL1512QEE01

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