AIOT-BT01

With Fan

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment:** There are two temperature point marginal passed.

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	2
Defect Unsolved	0	0	0	2

Issue date	QE Manager	Test Engineer
2017 / 03 / 24	**KJ Wang**	**Jerry Chen**

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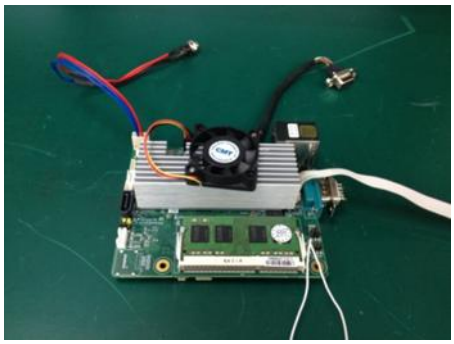
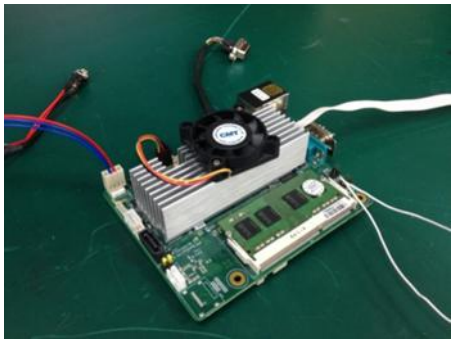
Sample Configuration & Quantity Under Test

- **Model name : AIOT-BT01**
- **M/B Name : AIOT-BT01 / Rev. A0.3**
- **CPU : Intel Celeron J1900 1.99 GHz**
- **BIOS : AIOT-BT01 R1.4 (ABT1AM14) (02/17/2017)**
- **Chipset: Intel Bay Trail-D**
- **Memory：Transcend / 4GB DDR3L 1600 SO * 1 pcs / SEC K4B4G0846Q**
- **On Board EMMC: Kingston / EMMC32G-M525 / 32G**
- **Test Software : Windows 8.1 / Run PassMark Burn In Test 8.1 Pro**
- **Adapter: FSP / FSP060-DIBAN2 / 12V 5A**
- **CPU Cooler:**

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Thermal Image Analysis

1. Test Date: 2017-03-23

2. Test Product: AIOT-BT01

3. Test Site: AAEON QE Dept.

4. Temperature Measurement:

4.1. 20 Channel Thermal Recorder:

4.1.1 OMRON Inc,

4.2.2 Model: ZR-RX45

Date of Calibration: 12/20/2016
Due date of Calibration: 12/19/2017
Serial Number: H30481978

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: 11/29/2016
Due date of Calibration: 11/28/2017
Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25.0℃ with Cooler (Fan full speed)

6. Take Picture Time:

After power on 2 hours

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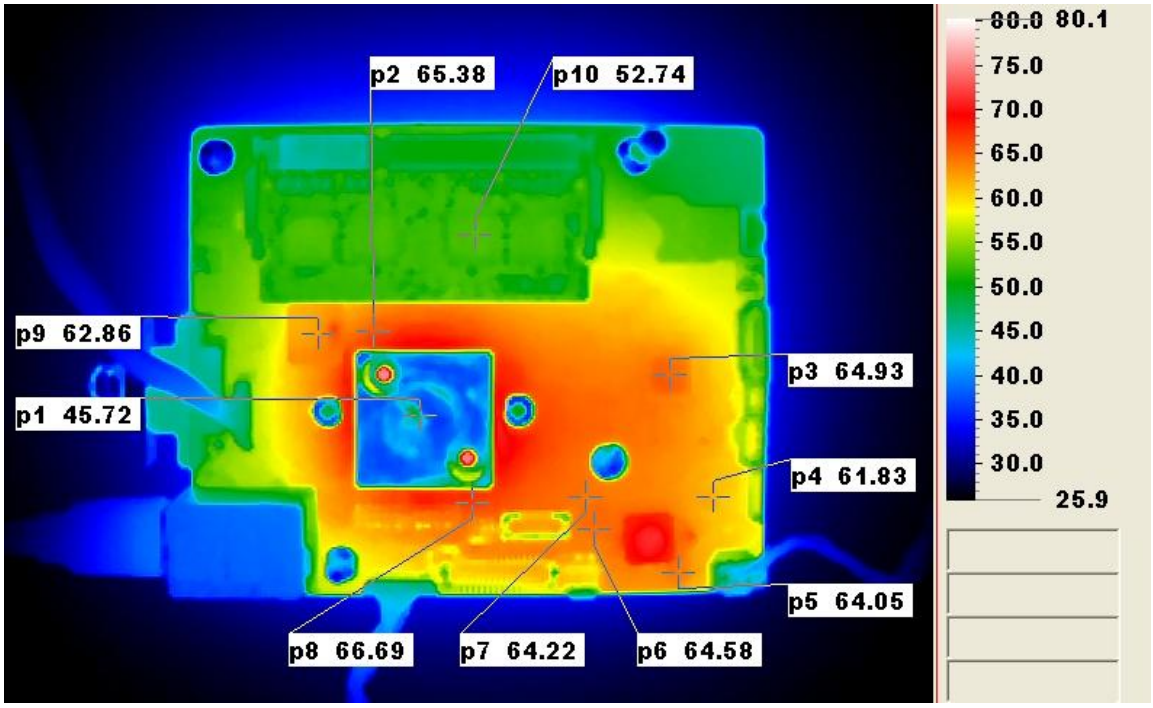
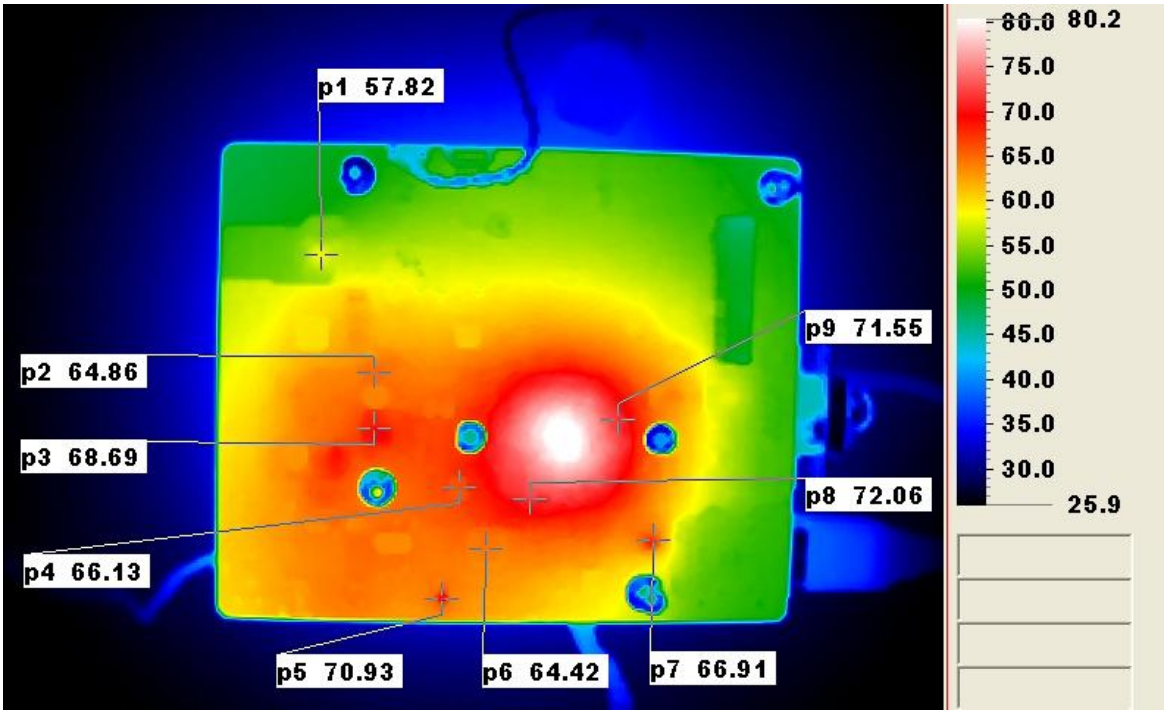
Temperature Profile Test:

Front Side:



Back Side:



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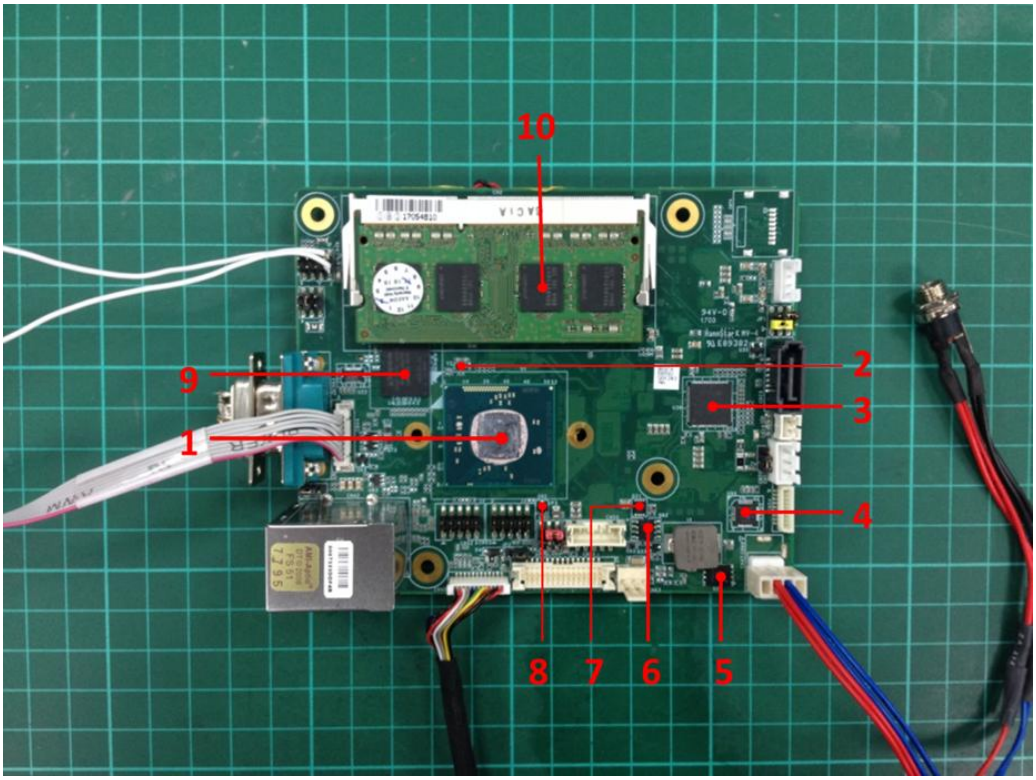
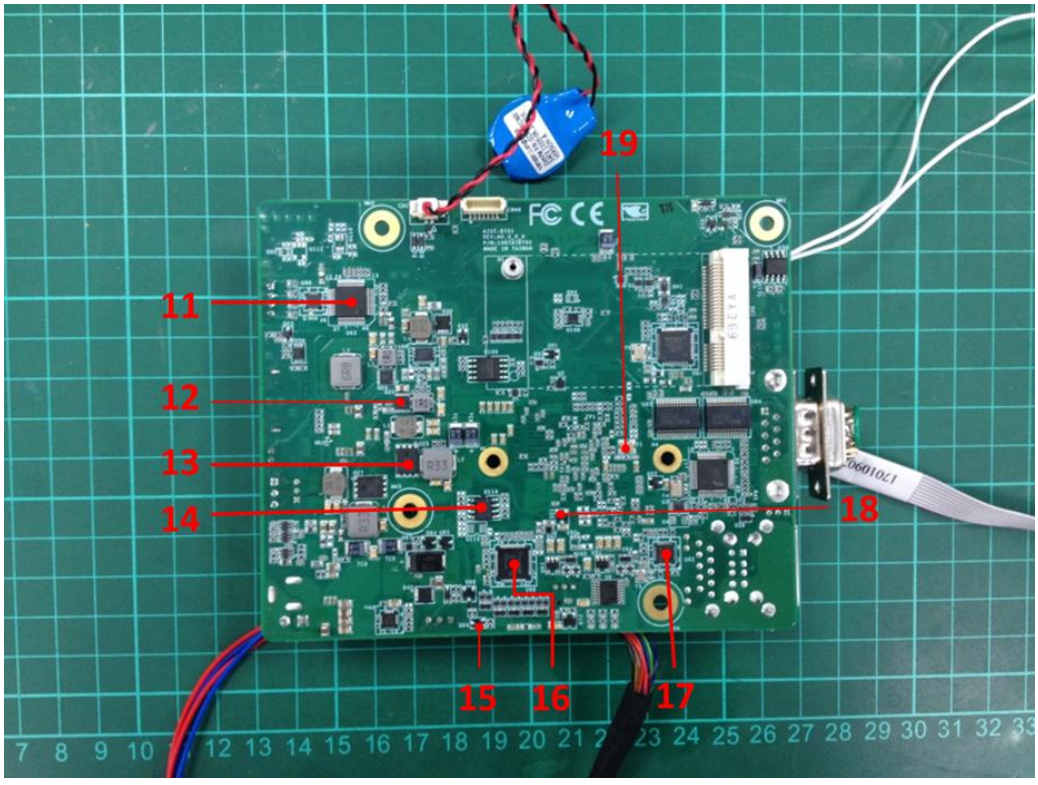
Terminal Recorder:

Measuring Thermal Couple Position：

Front Side:



Bck Side:



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Using OMRON Inc / ZR-RX45 test

Point	Position	Describe	Tc (*1) (℃)	TAT(*2)	TPT(*3)	Note
				25℃	60℃	
1	U1	CPU - Intel Celeron J1900 1.99 GHz	105	41.8	76.8	
2	Y2	EPSON.FC135	85	34.3	69.3	
3	U38	ROHM.BD9596BMWV	95	38.1	73.1	
4	U96	PenMount.PenMount 6000	85	35.4	70.4	
5	Q29	FAIRCHILD.FDMS7620S	125	35.5	70.5	
6	Q82	P-Channel MOSFET.APEC.AP6679GM-HF	125	34.6	69.6	
7	Q31	FAIRCHILD.FDMC4435BZ	125	33.8	68.8	
8	Q92	FAIRCHILD.MMBT3904_NL	125	35.4	70.4	
9	U81	On board EMMC - Kingston / EMMC32G-M525 / 32GB	85	32.3	67.3	
10	CN2	Transcend / DDR3L 1600 SO / 4GB / Memory chipset (SEC K4B4G0846Q)	95	36.5	71.5	
11	U43	REALTEK.ALC892-CG	100.5	43.4	78.4	
12	Q26	FAIRCHILD.FDMC7200S	125	40.5	75.5	
13	Q25	FAIRCHILD.FDMS3664S	125	40.5	75.5	
14	U114	IC.SERIAL EEPROM 1K.2.5V.SOIC 8P.SMD.Microchip.24LC01B-I/SN	100	35.9	70.9	
15	Q89	ON.2N7002WT1G	125	33.6	68.6	
16	U89	NXP.PTN3460BS	70	35	70	Note 6
17	U82	REALTEK.RTL8111G-CG	70	36.7	71.7	Note 6
18	Q21	PNP.SMD SOT-23.3P.ON.MMBT3906LT1G	125	35.2	70.2	
19	Y1	ARGO.AGX-25.000M-20-S3225-E-Z-TR	85	36.7	71.7	
20	Air	Air Temperature	N/A	25	60	

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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. : D160605LABD04

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