PER-V09V

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** Comment: There are 6 temperature points marginal passed, the function is normal, hope to get improvement for the next generation.

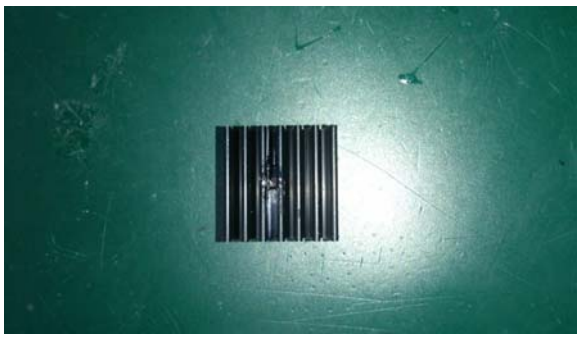
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	6
Defect Unsolved	0	0	0	6

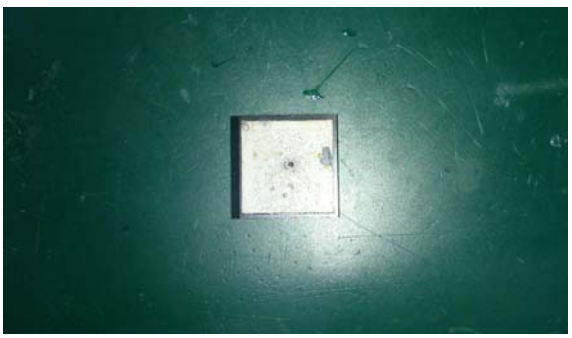
Issue date	Approval	Test Engineer
2014 / 09 / 22	Tom Lin	Juno Cheng

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1053

Sample Configuration & Quantity Under Test

- **Model name : PER-V09V Ver. A1.0**
- **M/B Board : FWS-2160 Ver. A0.2**
- **CPU : AMD G-T16R Prccerror 615MH**
- **Memory : Transcend DDR3 1333U DIMM 4GB SEC K4B2G08460**
- **2.5” SATA HDD :TOSHIBA MK3276GSX / 320GB**
- **BIOS : FWS-2160 R1.2 (K216AM12)(11/26/2013)**
- **Test Software : Windows 7 / Run PassMark Burn In Test 7.1 Pro**
- **Power : EA1050A-120**
- **Heat Sink :**





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Thermal Image Analysis

1. Test Date: 2014-09-22

2. Test Product: PER-V09V

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: 2013/09/11

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: 2013/12/30

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25.0℃ with Heat Sink

6. Take Picture Time:

After power on 2 hours

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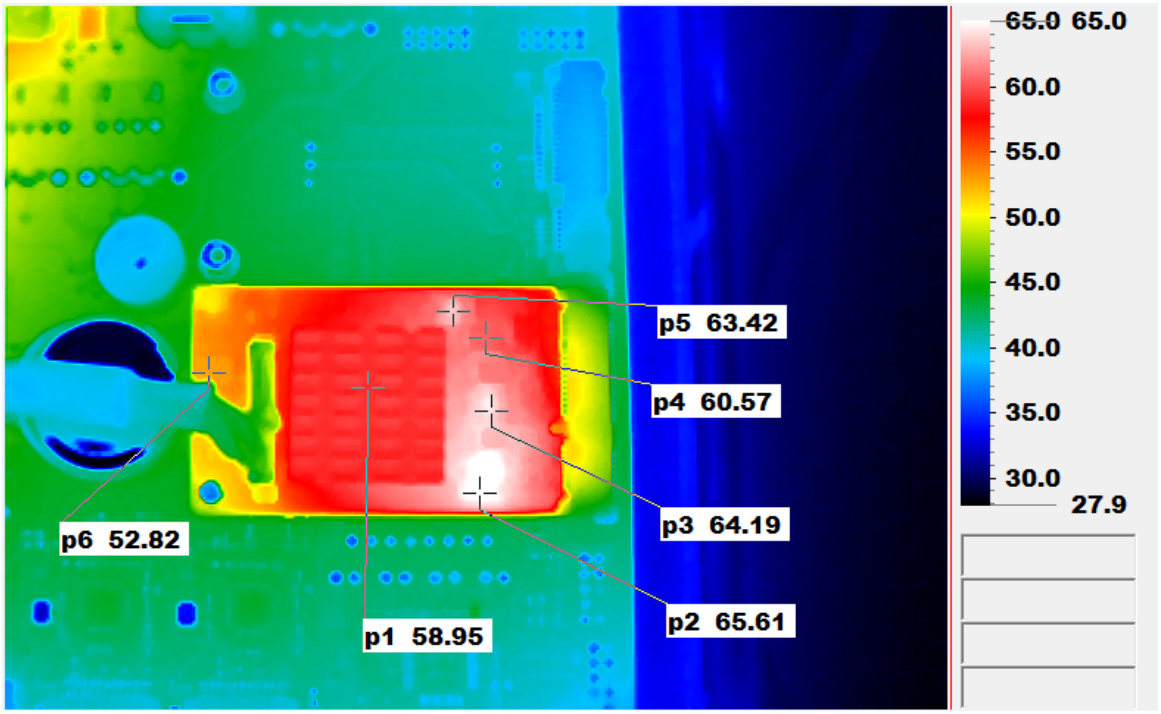
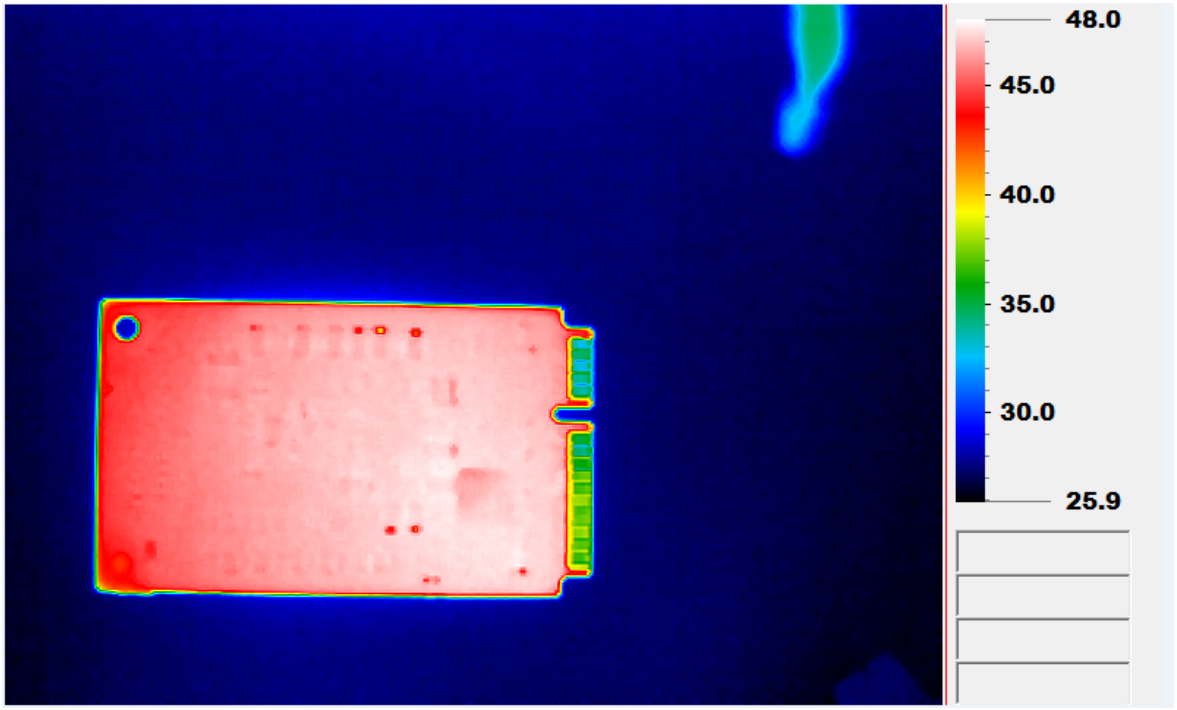
Temperature Profile Test:

Component Side:



Back Side:



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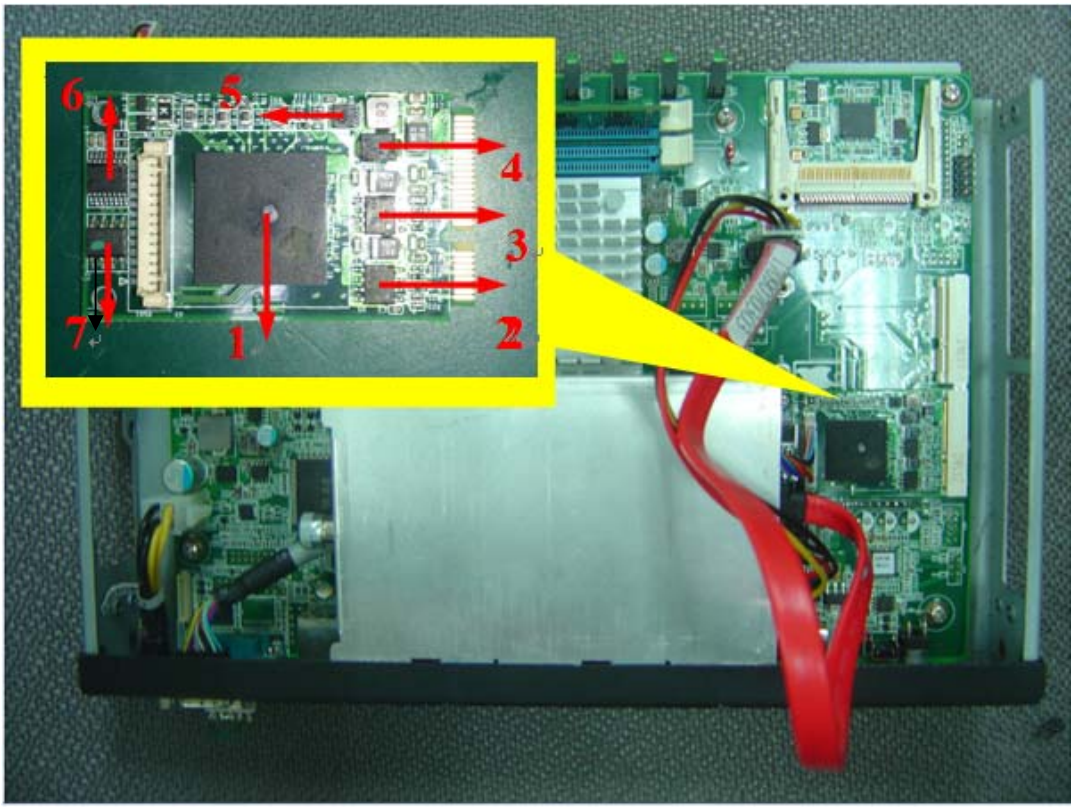
Terminal Recorder:

Measuring Thermal Couple Position：



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

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25.0℃	60℃	
1	U3	(TF)IC.PCI-Express 265P.SMD.SiliconMotion.SM750GX160000-AC	90	54.2	89.2	Note 3
2	D3	(TF)D Schottky.40V.3A.SMD.WILLAS.SK34B	100	56.1	91.1	Note 3
3	U6	(TF)IC.3A.Ultra Low Dropout LDO.SOP-8.SMD.YOBON.YB1283PSP8	100	57.7	92.7	Note 3
4	U5	(TF)IC.3A.Ultra Low Dropout LDO.SOP-8.SMD.YOBON.YB1283PSP8	100	60.4	95.4	Note 3
5	U4	(TF)IC.1MHz High.Efficiency Boost Regulator.MIC2253-06YML	100	58.0	93.0	Note 3
6	U1	(TF)IC.VGA ESD ProtectionSSOP16.SMD.Amazing.AZC209-07P	100	50.3	85.3	
7	U2	(TF)IC.SMD SOIC. EEPROM.ATMEL.AT25F512B-SSH-T	85	52.8	87.8	Note 3

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. :** I140507QED01 、I140507QEE08

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