PER-T263

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: Temperature points at 2 components were estimated to be in marginal temperature points in comparion with component datasheets.**

Test Result Summary

	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	2
Defect Unsolved	0	0	0	2

Issue date	Approval	Test Engineer
2014 / 02 / 26	Tom Lin	Jerry Chen

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Sample Configuration & Quantity Under Test

- **Model name : PER-T263 A1.0**
- **CPU : Intel Atom D2550 / 1.86GHz**
- **Memory : DSL 4GB / DDR3 1066 / ELPIDA / J2108BDBG-DJ-F**
- **BIOS : AEC-6613 R1.2(6613AM12)(02/06/2013)**
- **Test Software : Windows 7 / Run EtroCenter with Camera*4**
- **Adapter: FSP084-DMAA1 / 12V 7A**
- **Board Photo:**

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Thermal Image Analysis

1. Test Date: 02-21~24-2014

2. Test Product: PER-T263

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: 2013/10/08

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: 2013/01/08

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25.0℃

6. Take Picture Time:

After power on 2 hours

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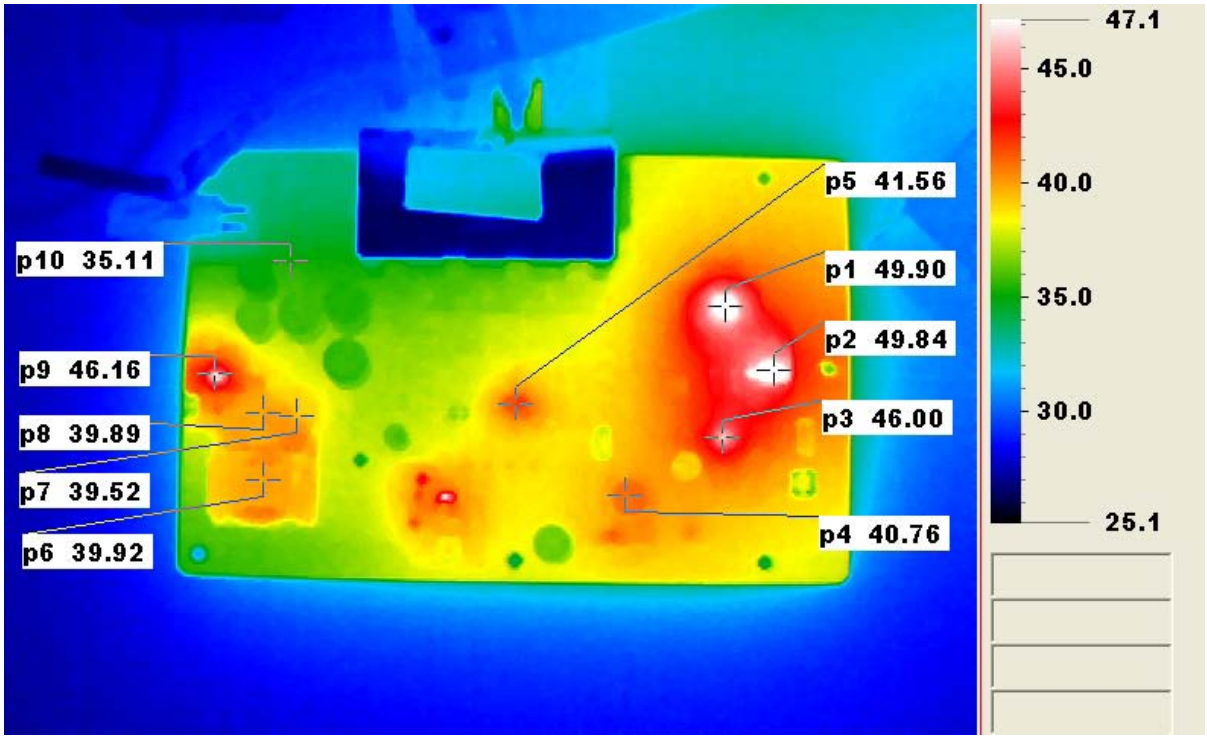
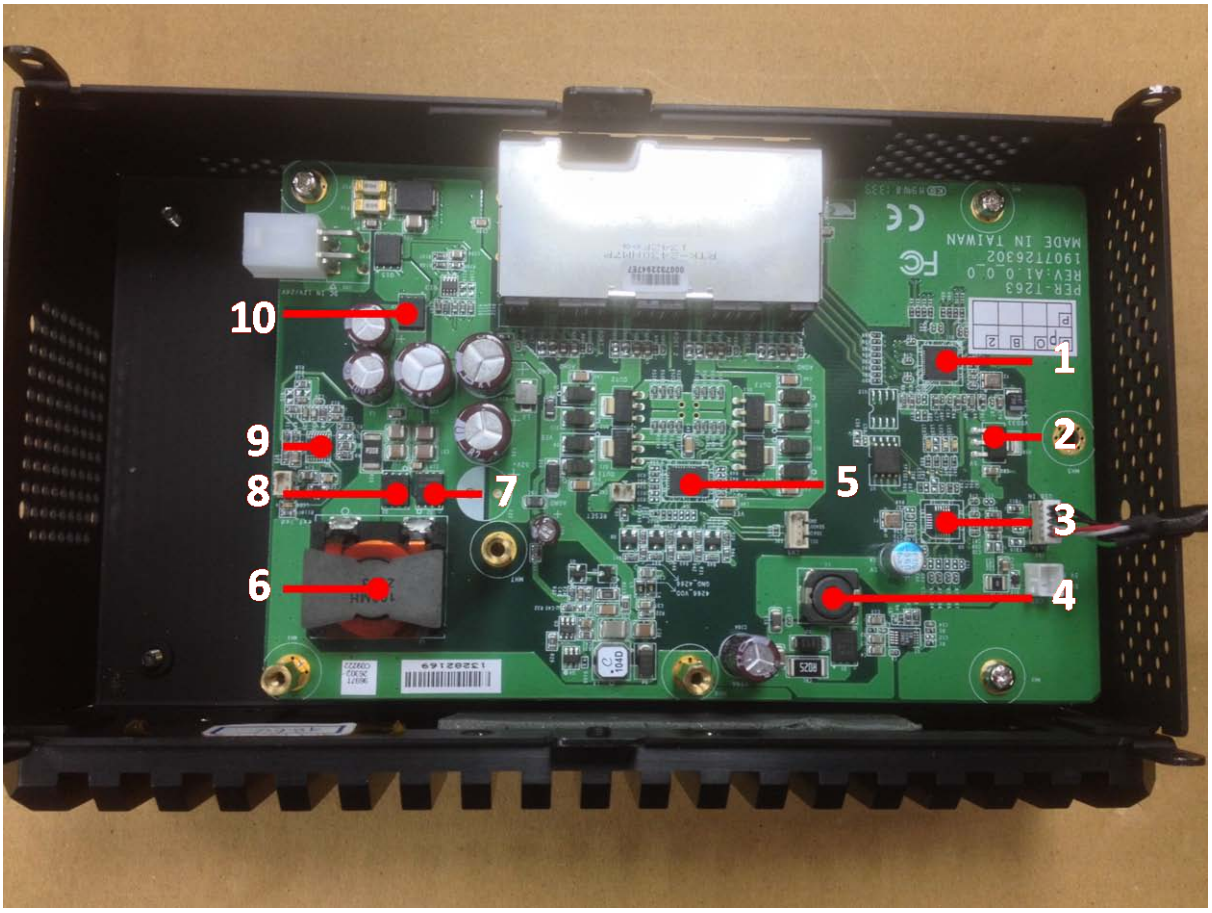
Temperature Profile Test:

Component Side:





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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	U11	(TF)5-PORT ETHERNET.SWITCH CONTROLLER.REALTEK.RTL8305NB-CG	85	46.4	81.4	Note4
2	U10	(TF)REG.SMD.SOT-223.1A Dorpout Regulator.AMS.AMS1117-3.3	100	43.8	78.8	
3	U9	(TF)IC.INTEGRATED ETHERNET CONTROLLER.QFN24.REALTEK.RTL8152B-CG	85	40.4	75.4	Note4
4	*L1*	(TF)INDUCTOR.Gotrend.GSSR2-104P-220N	100	36	71	
5	*U4*	(TF)Quad Power over Ethernet Controller.QFN 38P.Linear.LTC4266CIUHF#PBF	100	39.1	74.1	
6	L2	(TF)Inductor.10uH.DCR 5.8/4.85mΩ.Sumida.CDPQ2010NP-100M-160	125	40.2	75.2	
7	*Q2*	(TF)PWR.MOSFET.12.3mΩ.SuperSO8(PG-TDSON-8).Infineon.BSC123N08NS3 G	125	40.8	75.8	
8	Q3	(TF)PWR.MOSFET.12.3mΩ.SuperSO8(PG-TDSON-8).Infineon.BSC123N08NS3 G	125	43.5	78.5	
9	U2	(TF)IC.Low IQ.Controller.MSOP 16P.Linear.LTC3786IMSE#PBF	100	37.2	72.2	
10	Q16	(TF)PWR.MOSFET.N-Channel.11mΩ.SO-8.Vishay.Si7148DP-T1-GE3	125	25	69.7	

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. Defact No: P131226QEE02

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