PFM-LNP

Rev.A2.0

Thermal Image Analysis Report

Summary	☑ **Pass** ☐ **Fail** ☐ **Pass with Deviation** **Comment:**_____

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

Issue date	Approval	Test Engineer
2014 / 03 / 21	Tom Lin	Juno cheng

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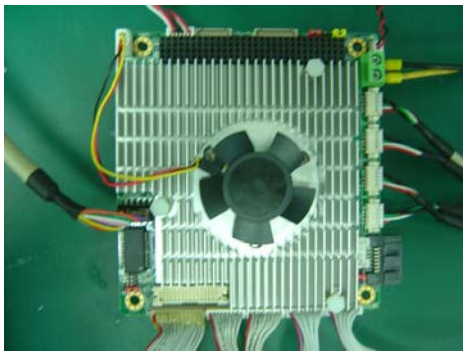
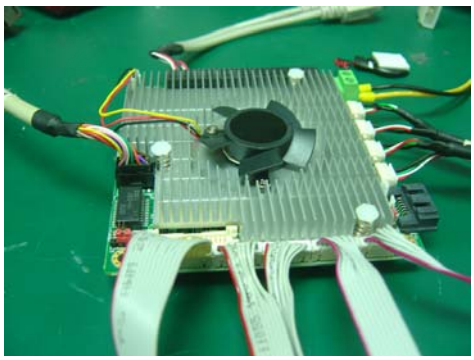
Sample Configuration & Quantity Under Test

- **Model name : PFM-LNP A2.0**
- **CPU Board : PFM-LNP Rev. A2.0**
- **CPU :** Intel Atom N450/ 1.67GHz
- **Memory : Onboard/samung K4T1G164QF-BCE7 / 1 GB DDR2-667**
- **HDD : Toshiba 2.5” 160GB MK6476GSX (SATA)**
- **BIOS : PLN_1 2.00 x 64 (07/16/2010)**
- **Test Software : Windows XP / Run PassMark Burn In Test 7.1 Pro**
- **Power : G-ALANTIC AD1280MB**
- **Heat Sink + Fan:**





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Thermal Image Analysis

1. Test Date: 2014-03-21

2. Test Product : PFM-LNP A2.0

3. Test Site: QE Dept.

4. Temperature Measurement:

1. YOKOGAWA / DARWIN DA100-100-13-1D

2. IR Scanner: Infrared Camera

NIPPON AVIONICS CO., LTD.

Model: TVS-100

Date of Calibration: 2013/12/30

Serial Number: 0179L2746

5. Test Condition:

Component Side-1 (Test by DA-100): 25.0℃ With heat sink

6. Take Picture Time:

After power on 2 hours

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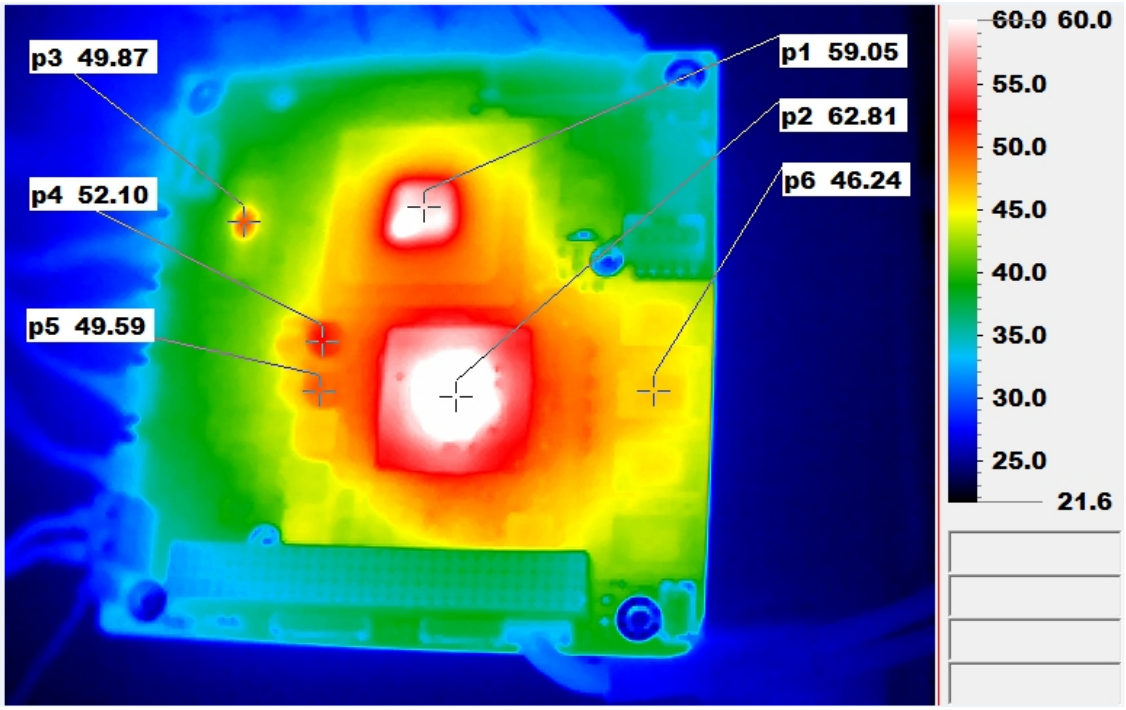
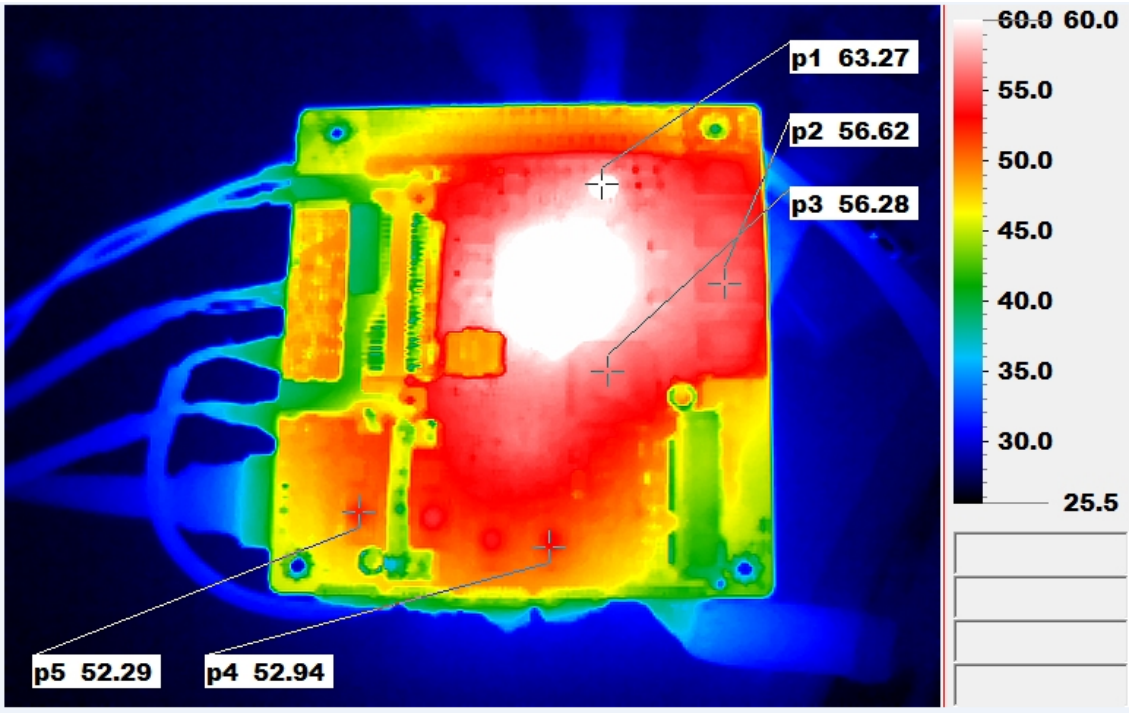
Temperature Profile Test:

Top



Back



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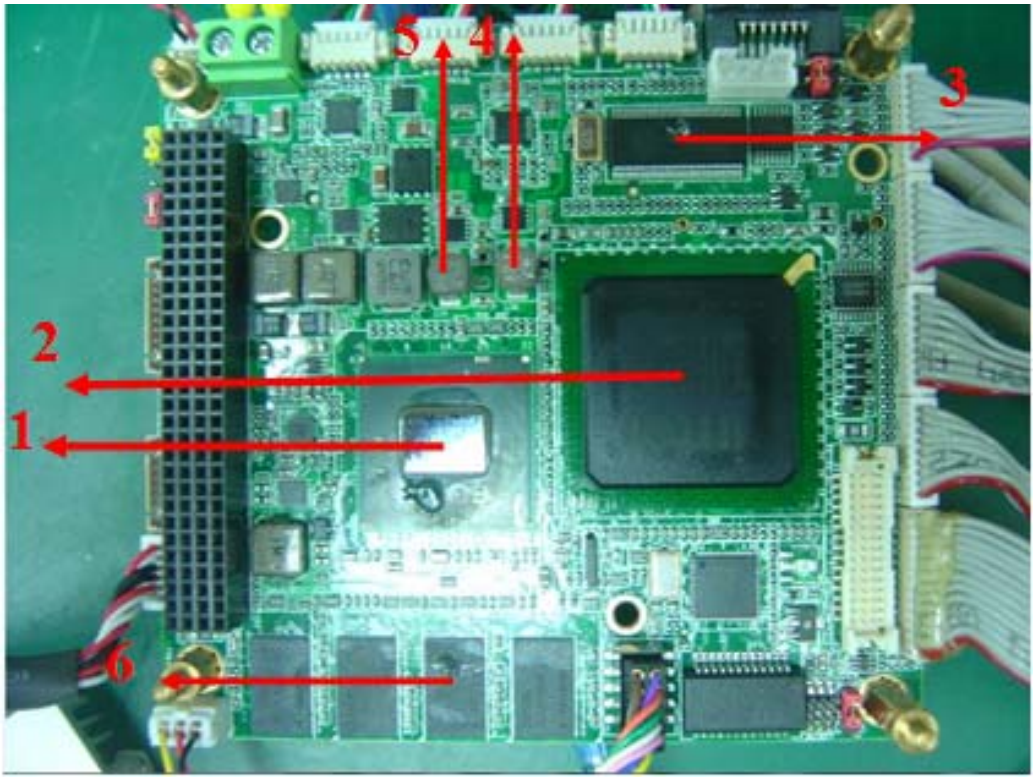

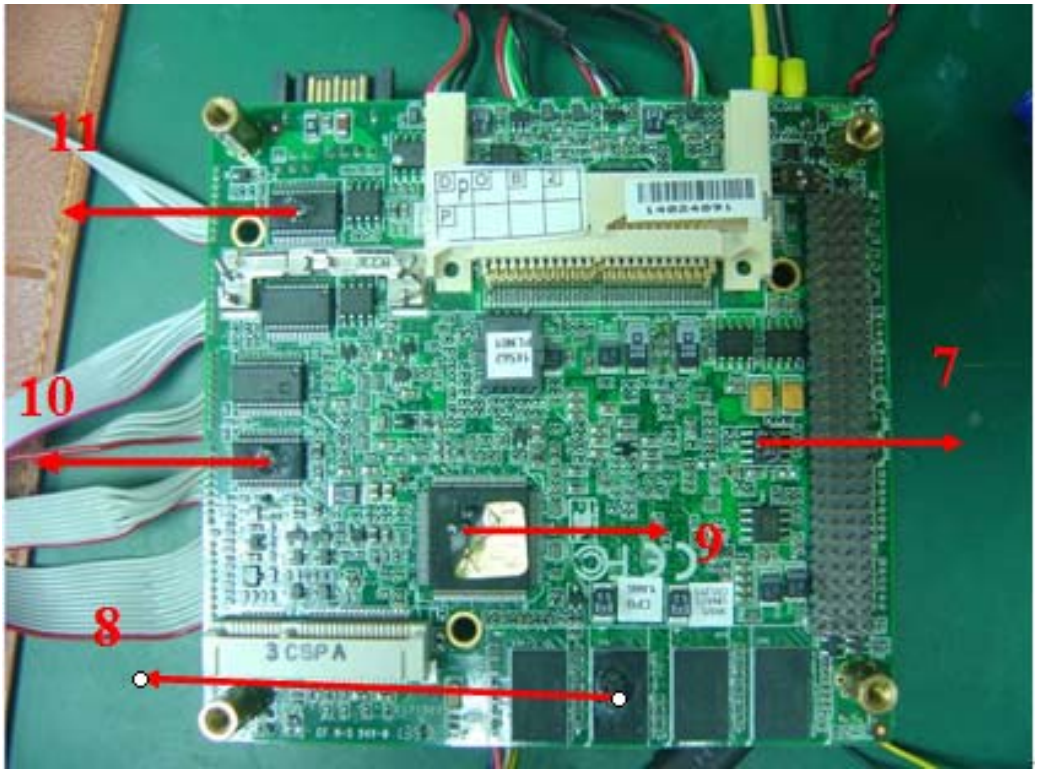

Using YOKOGAWA / DARWIN DA100-100-13-1D test

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Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25℃	60℃	
1	U12	(TF)Intel CPU. AU80610004653AA SLBMG	100	43.8	78.8	
2	U6	(TF)IC.SMD.Chipset ICH8M.INTEL.DW82801HBM SLJ4Y	105	37.9	72.9	
3	U7	(TF)IC.SMD. 9LPRS501PGLF	115	36.0	71.0	
4	L34	(TF)COIL. NEC/TOKIN.MPLCG0530L3R3	120	39.8	74.8	
5	L33	(TF)COIL. NEC/TOKIN.MPLCG0530L2R2	120	38.6	73.6	
6	U11	Phase SAMSUNG.K4T1G164QF-BCE7	95	37.8	72.8	
7	U46	(TF)IC.SMD. Linear Regulator.GMT.G9731F11U	100	40.1	75.1	
8	U31	Phase.SAMSUNG.K4T1G164QF-BCE7	95	40.2	75.2	
9	U24	(TF)IC.SMD.VTQF-128Pin.Super I/O.SMSC.SCH3114-NU	85	40.1	75.1	
10	U18	(TF)IC.SMD.SSOP RS232 Driver ESD 15KV.AD.ADM213EARSZ	100	40.8	75.8	
11	U21	(TF)IC.SMD.SSOP RS232 Driver ESD 15KV.AD.ADM213EARSZ	100	39.6	74.6	

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. : BUL1328LABE01

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