NanoCOM-TC

(With ECB-917T,PER-V07B)

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: Six temperature point need improving**

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

Issue date	Approval	Test Engineer
2011 / 11 / 18	Jansin Lee	Clement Chien

Sample Configuration & Quantity Under Test

- **Model name :** NanoCOM-TC
- **CPU Board :** NanoCOM-TC
- **Carrier Board :** ECB-917T A0.2
- **VGA Board :** PER-V07B A0.1
- **CPU :** Intel Atom Tunnel Creek / 1.60GHz
- **Memory :** DDR2 667/800 1GB (SEC 119 BCF7 K4T1G084QF)
- **HDD :** TOSHIBA 3.5“ SATA HDD MK1676GSX
- **BIOS :** NCTCAM06 01.00
- **Test Software :** Windows 7 / Run PassMark Burn In Test 6.0 Pro
- **Power :** AT Power
- **Heat Sink:**

Thermal Image Analysis

1. Test Date: 2011-11-17

2. Test Product: NanoCOM-TC

3. Test Site: AAEON Internal Lab.

4. Temperature Measurement:

4.1. 40 Channel Thermal Recorder:

4.1.1 YOKOGAWA Inc,

4.2.2 Model: DA100-13-1D

Date of Calibration: 2011/10/12

Serial Number: 12A323190

4.2. IR Scanner: Infrared Camera

4.2.1 NIPPON AVIONICS CO., LTD.

4.2.2 Model: TVS-100

Date of Calibration: 2011/07/11

Serial Number: 0179L2746

5. Test Condition:

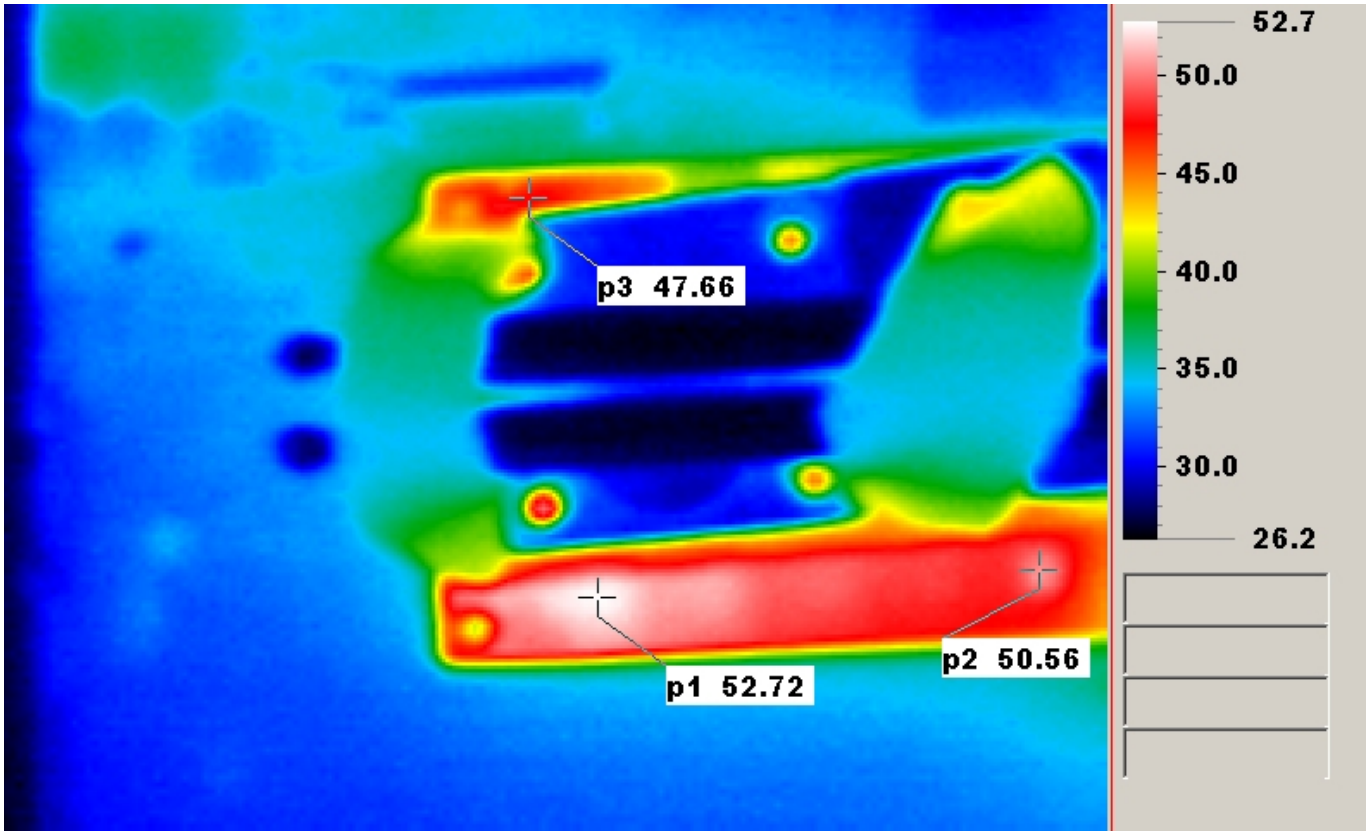
Component Side-1 (Test by DA-100): 25.0℃ With Heat Sink

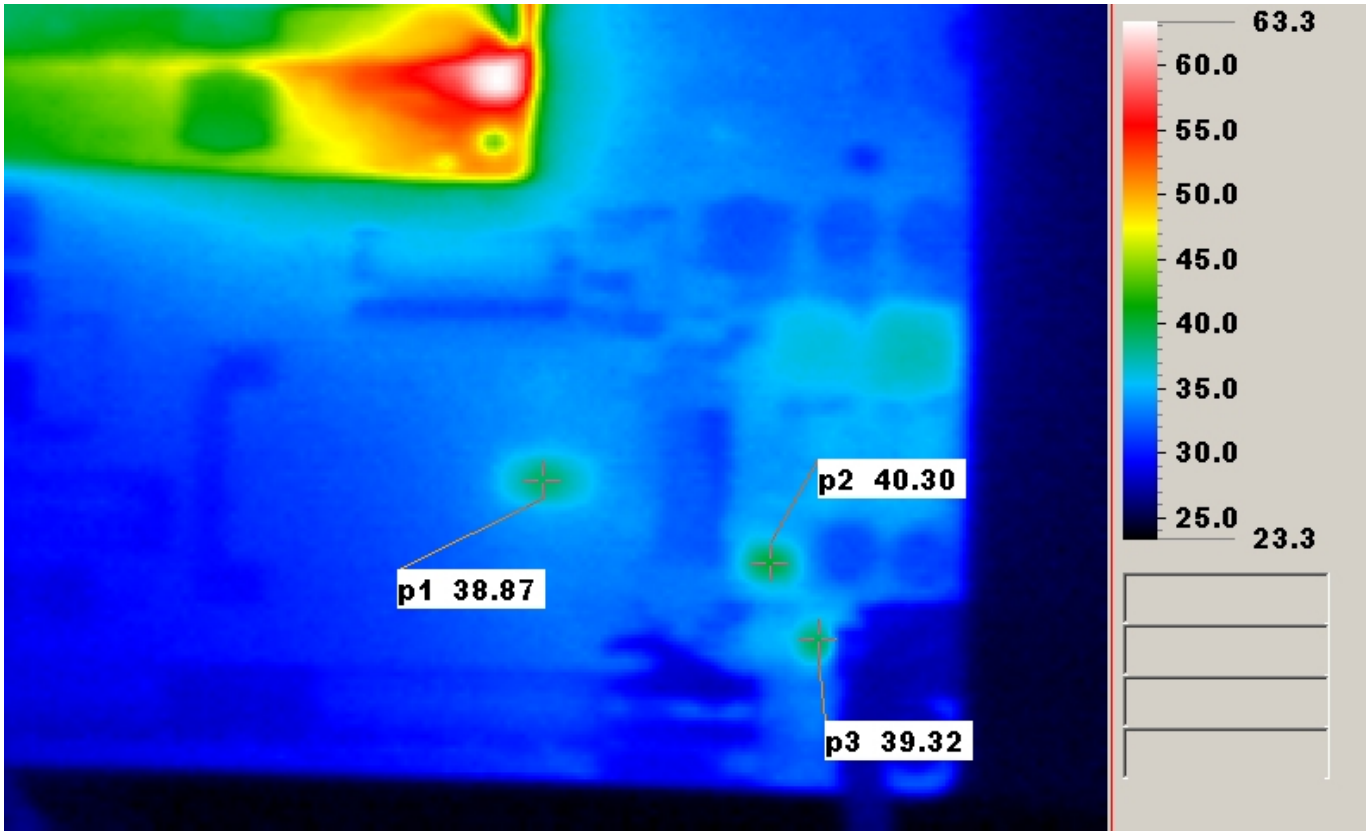
6. Take Picture Time:

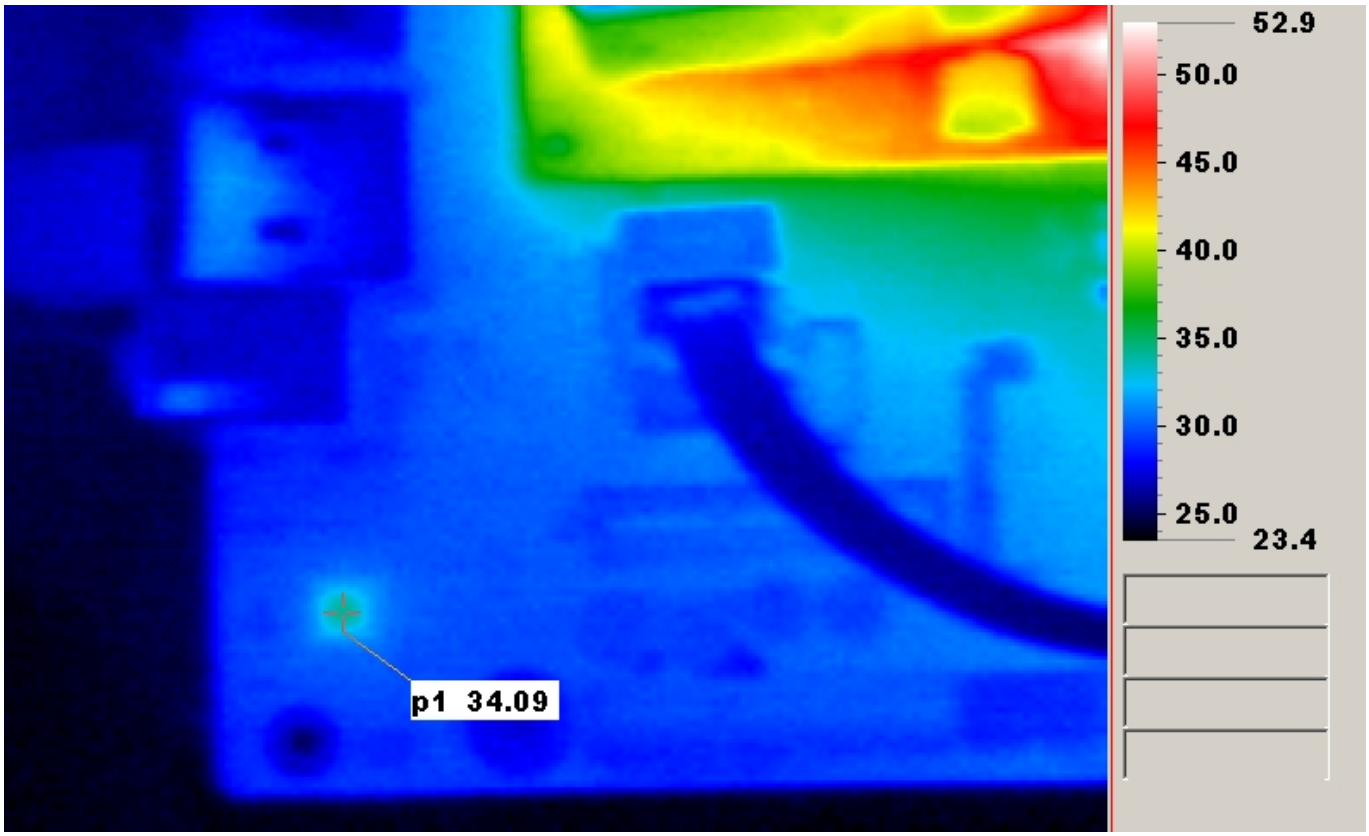
After power on 2 hours

Temperature Profile Test:

Component Side:



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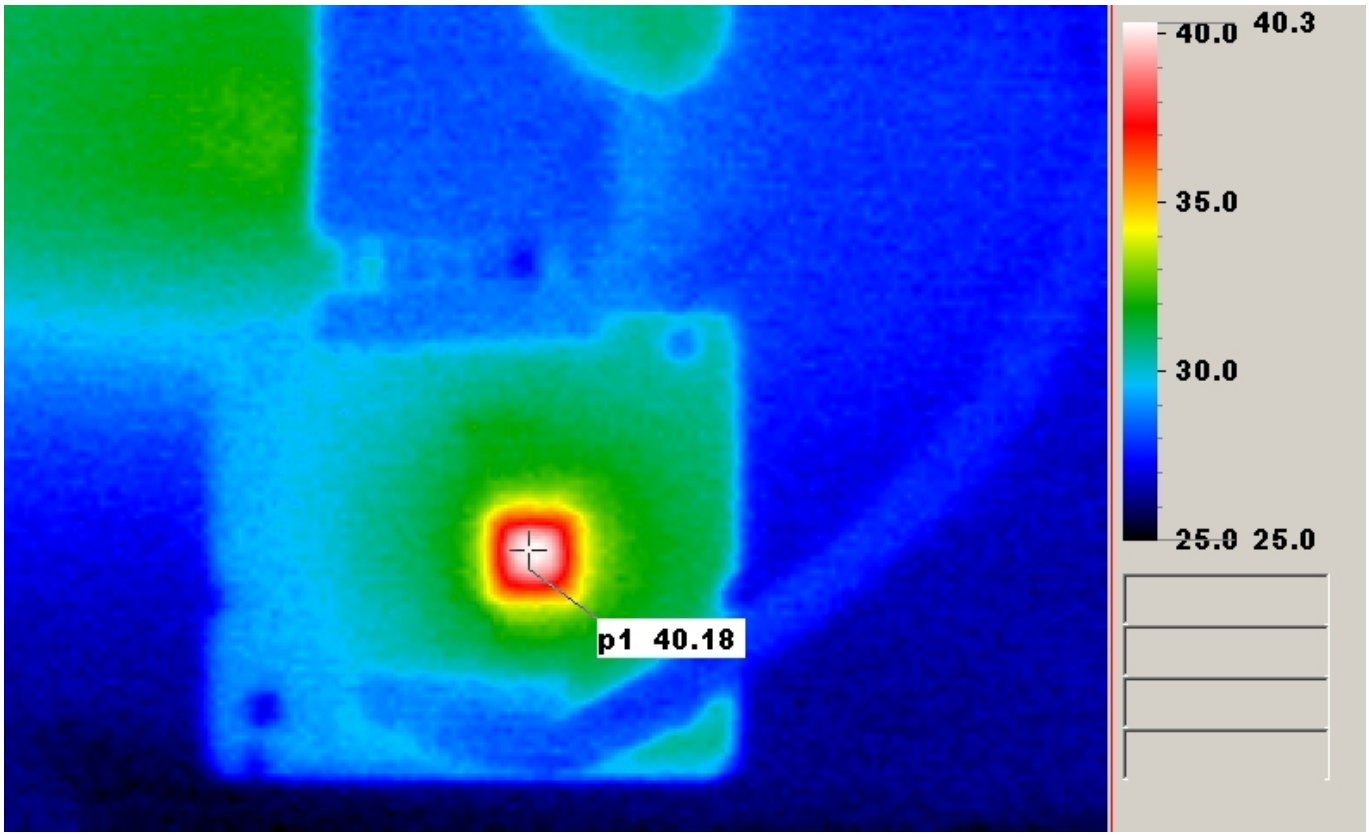
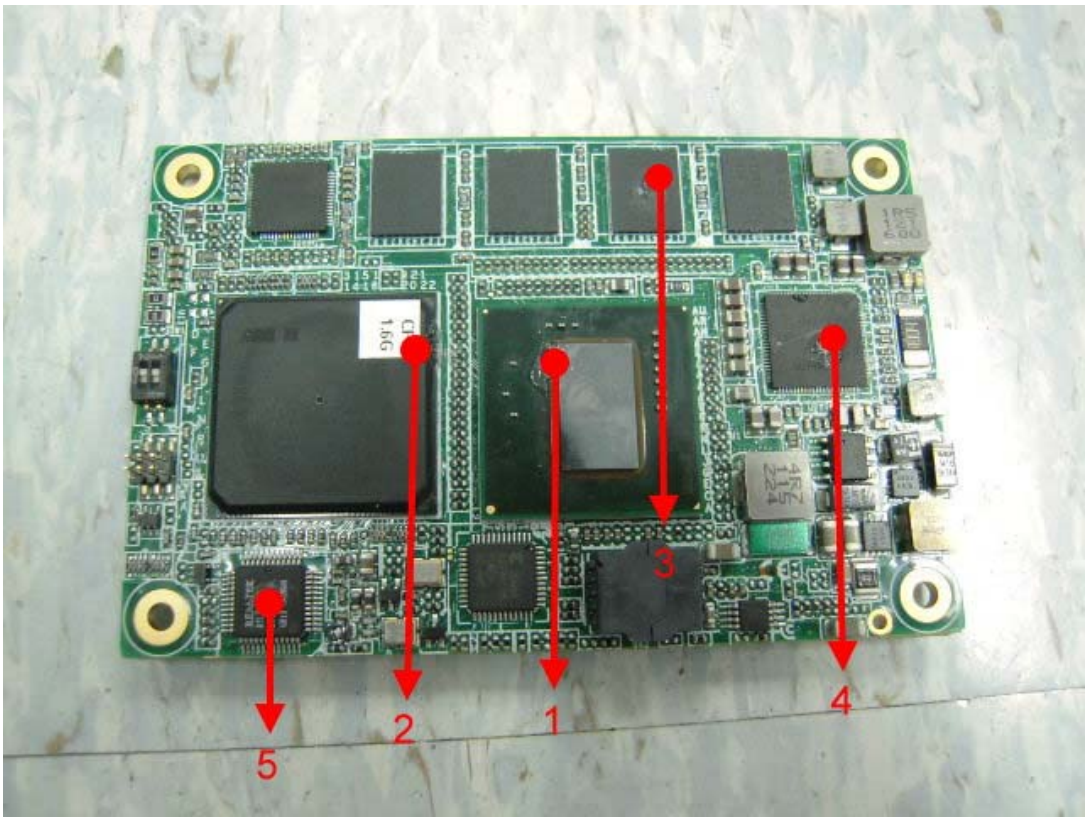
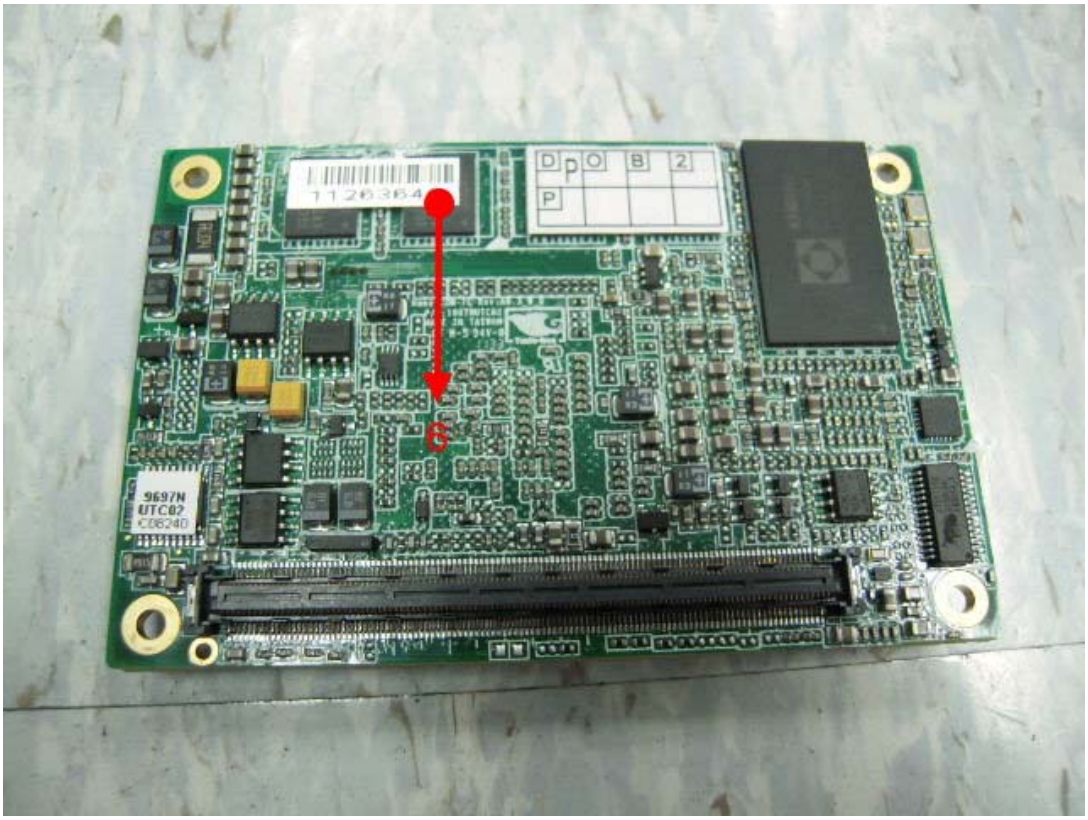
50.0
45.0
40.0
35.0
30.0
25.0
23.4
p1 34.09

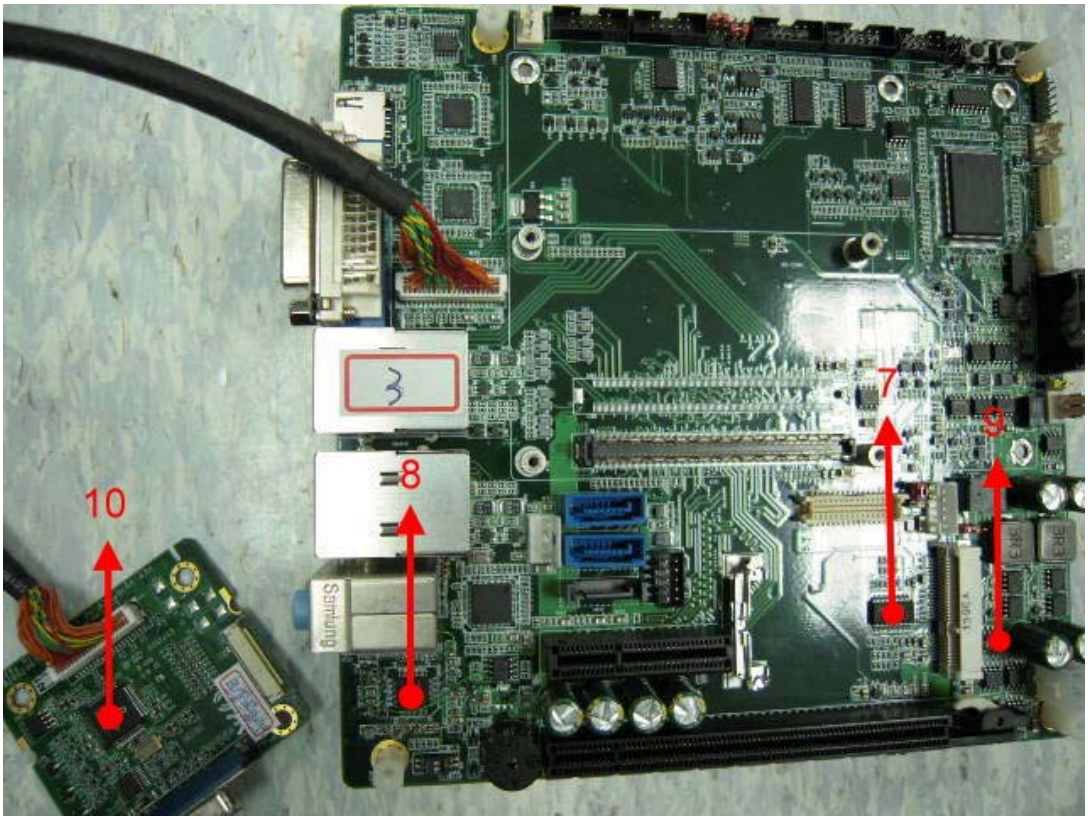

40.0
40.3
35.0
30.0
25.0
25.0
p1 40.18

Terminal Recorder:

Measuring Thermal Couple Position：






3
10
8
7
9
Samsung

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

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25℃	60℃	
NanoCOM-TC A0.3						
1	U1	(TF)Intel CPU.ATOM.E680T.1.6GHz 512K	110	58.8	93.8	
2	U13	(TF)Intel.EG20T.CS82TPCF.SLJ42	100	59.3	94.3	
3	U4	(TF)DDRII-SDRAM.800MHz.WINBOND.W971GG8JB25I	95	57.6	92.6	
4	U27	(TF)UQFN088.ROHM.BD9591MWV	100	58.1	93.1	
5	U22	(TF) PCI-Express.Gigabit Enthernet Chip.REALTEK.RTL8211CL-GR	100	54.3	89.3	
6	U11	(TF)DDRII-SDRAM.800MHz.WINBOND.W971GG8JB25I	95	55.3	90.3	
ECB-917T A0.2						
7	U15	(TF)Clock Buffer.ICS.ICS9DB104FLFT	115	45.1	80.1	
8	U3	(TF)Switching PWM Controller.Richtek.RT9214PS	85	44.2	79.2	
9	U49	(TF)Audio Codec.REALTEK.ALC892-GR	85	41.9	76.9	
PER-V07B A0.1						
10	U2	(TF)IC.SMD.LQFP 64P.CRT Transmitter.CHRONTEL.CH7317B-TF	100	45.0	80.0	

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.