XTX-CV

A0.2

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment: Temperature at 7 components were estimated to be in marginal temperature points in comparion with component datasheets.**

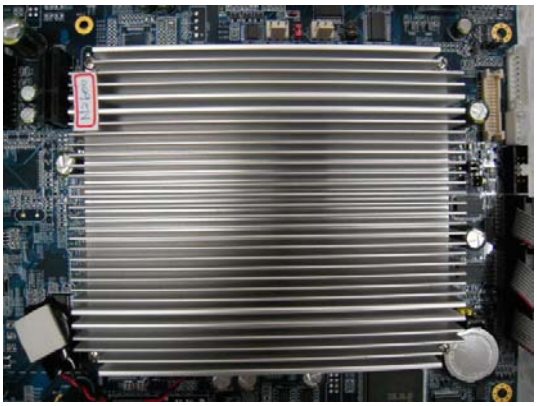
Test Result Summary

	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	7
Defect Unsolved	0	0	0	7

Issue date	Approval	Test Engineer
2012 / 05 / 18	Vincent Chen	Clement Chien

Sample Configuration & Quantity Under Test

- **Model name :** XTX-CV
- **CPU :** Intel Atom N2600 / 2.13GHz
- **Chipset :** Intel NM10
- **Memory :** DSL DDR3 1066 4GB CL7
- **SATA HDD :** HITACHI Z5K320 250GB
- **BIOS :** XTX-CV R0.5
- **Test Software :** Windows 7 / Run PassMark Burn In Test 7.0 Pro
- **Power :** ATX Power
- **Heat Sink:**



Thermal Image Analysis

1. Test Date: 2012-05-15

2. Test Product: XTX-CV

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:

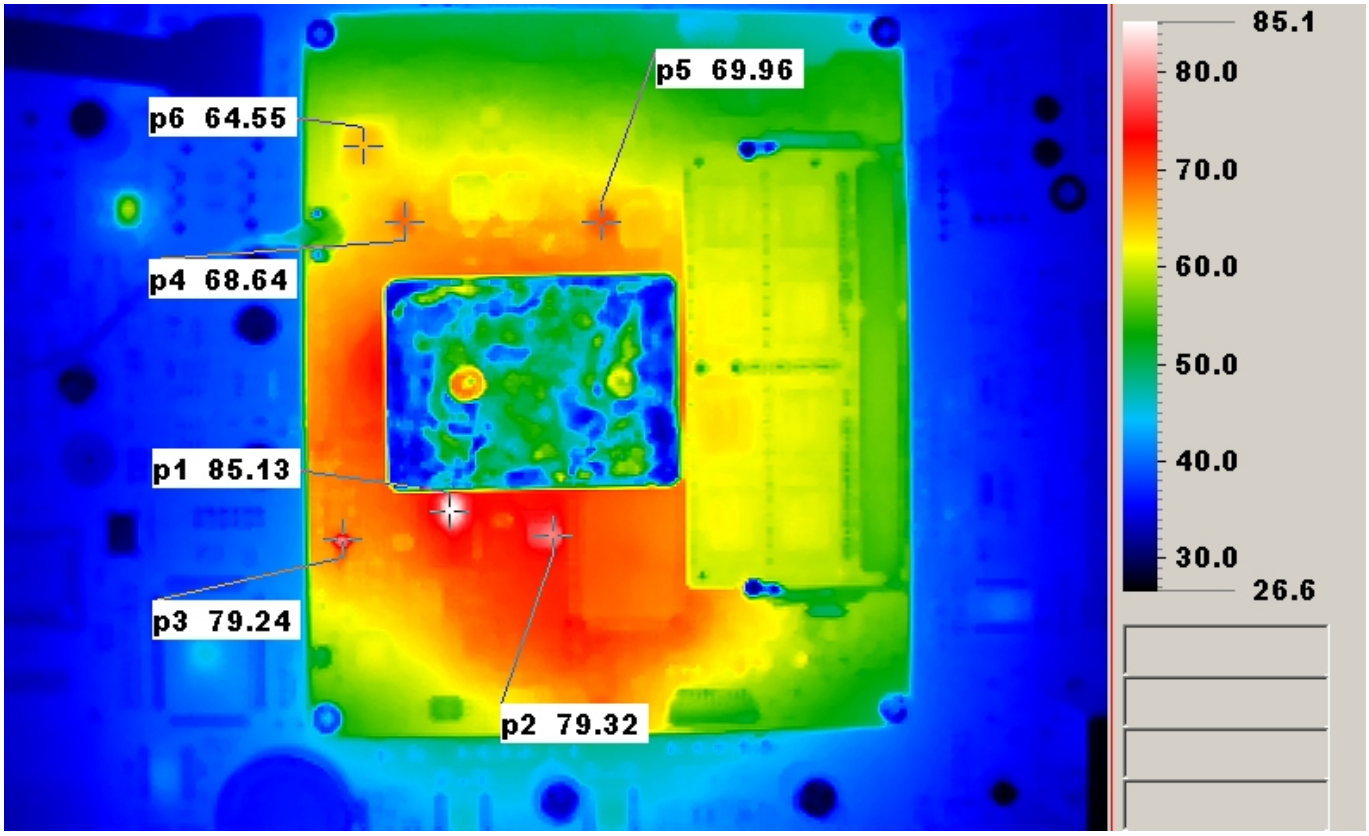
Component Side-1 (Test by DA-100): 25.0℃ With Heat sink

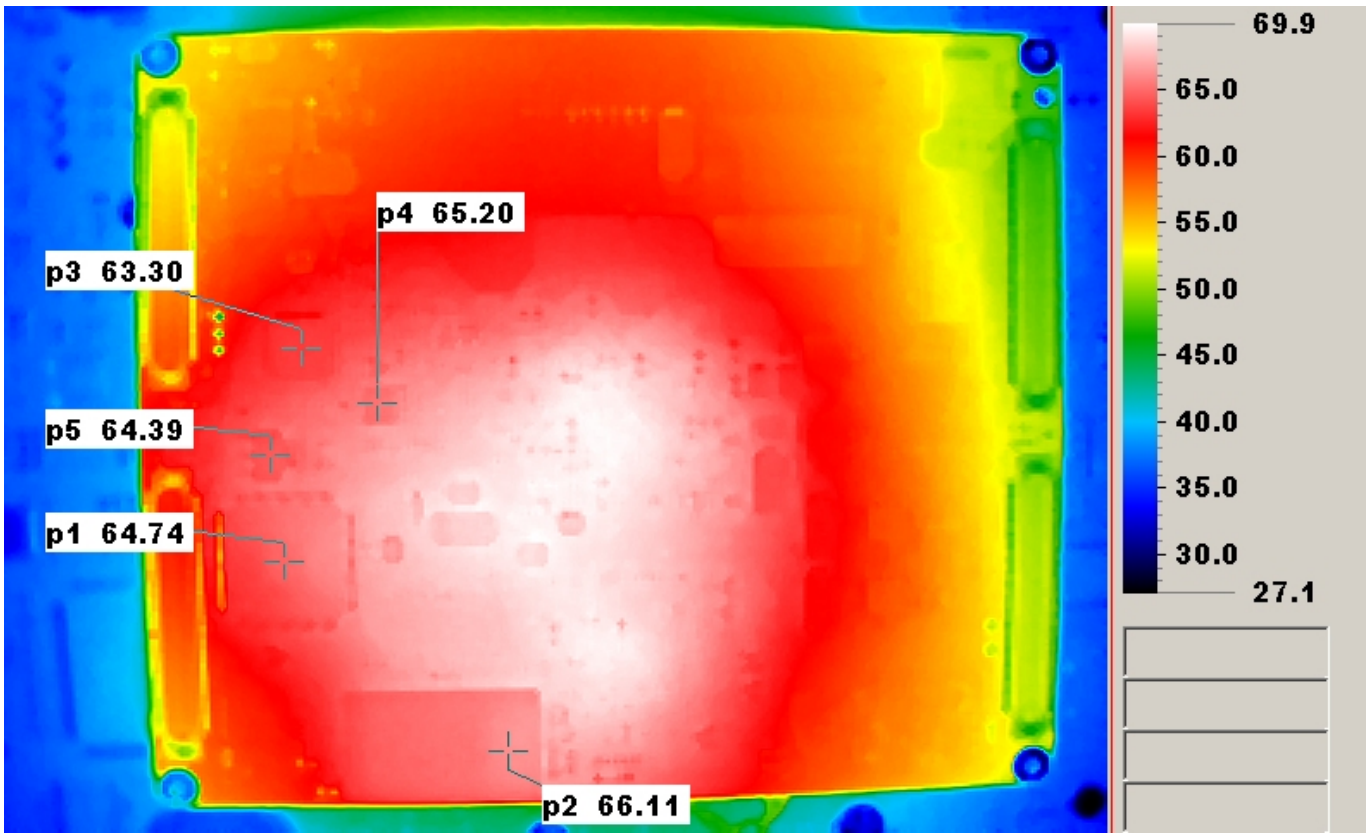
6. Take Picture Time:

After power on 2 hours

Temperature Profile Test:

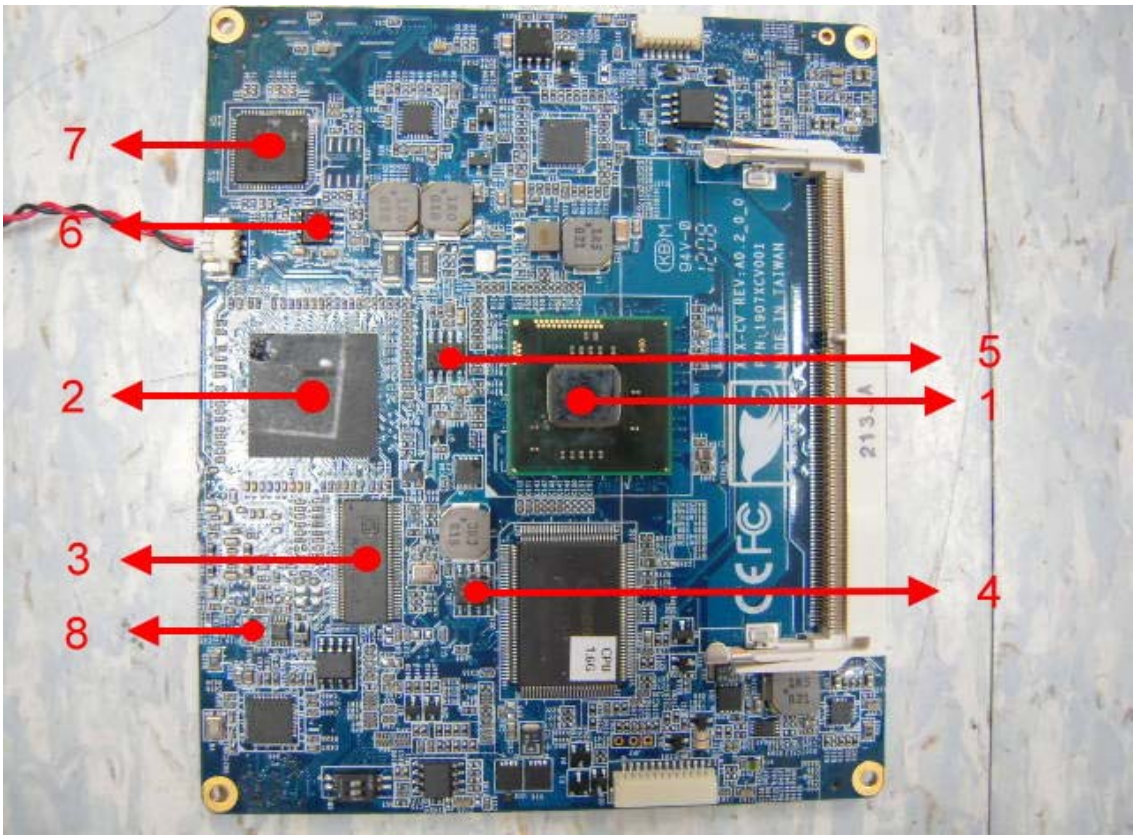
Component Side:

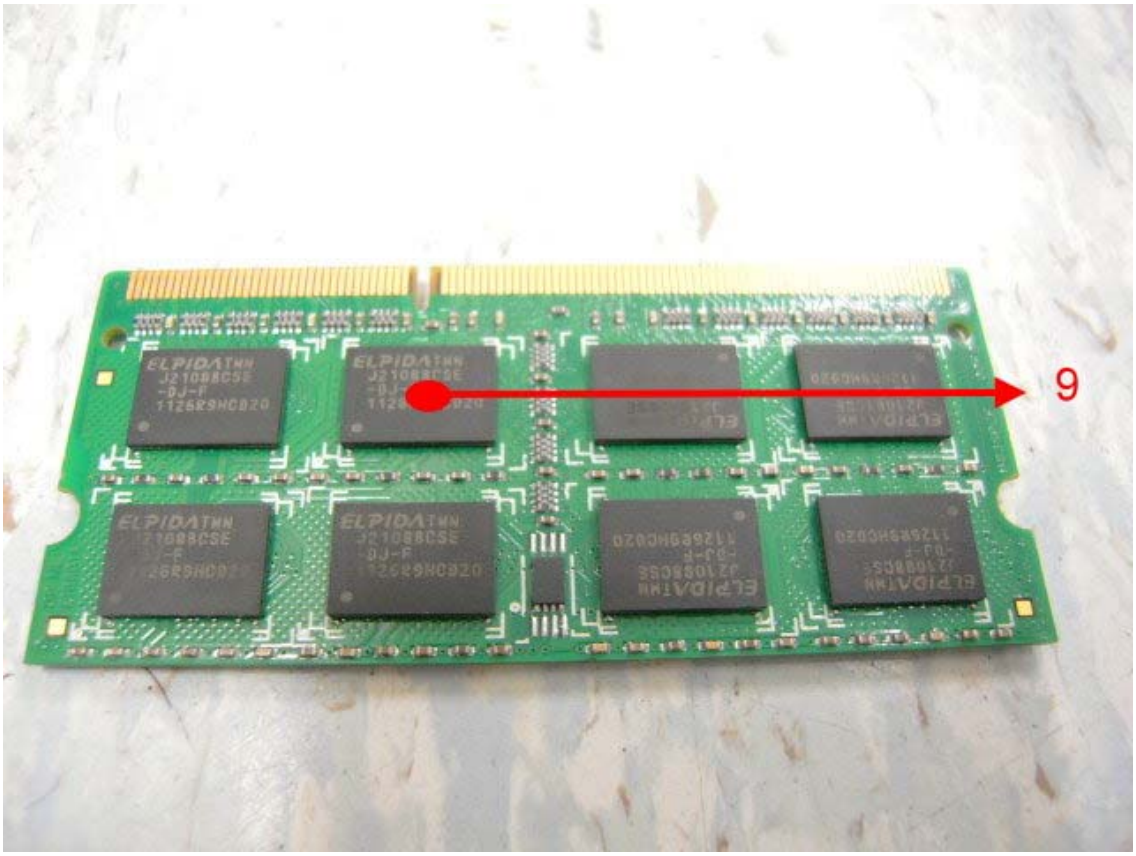




Terminal Recorder:

Measuring Thermal Couple Position：





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

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				25℃	60℃	
1	U22	(TF)INTEL.Cedarview CPU.1.6Ghz.N2600	100	57.3	92.3	
2	U4	(TF)NM10 Express Chipset.INTEL.CG82NM10.SLGXX	115	54.9	89.9	
3	U3	(TF)CLOCK GENERATOR.IDT.9LPRS501PGLF	115	74.3	109.3	
4	U9	(TF)Synchronous PWM.Switching Converter.ON.NCP3125ADR2G	100	62.5	97.5	
5	U12	(TF)Low dropout Linear Regulator.ANPEC.APL5912-KAC-TRL	105	73.8	108.8	
6	U6	(TF)Low dropout Linear Regulator.ANPEC.APL5912-KAC-TRL	105	64.1	99.1	
7	U10	(TF)4-port.PCI Express Switch.IDT.89HPES4T4ZBNQG	116	60.8	95.8	
8	U8	(TF)Microprocessor Reset Circuit.MICREL.MIC8115TUY	100	59.1	94.1	
09	Memory	DSL DDR3-1066 4G (ELPIDA J2108BCSE-DJ-F)	95	60.4	95.4	

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.