AQ7-IMX6

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 / 05	Tom Lin	Ben Sun

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
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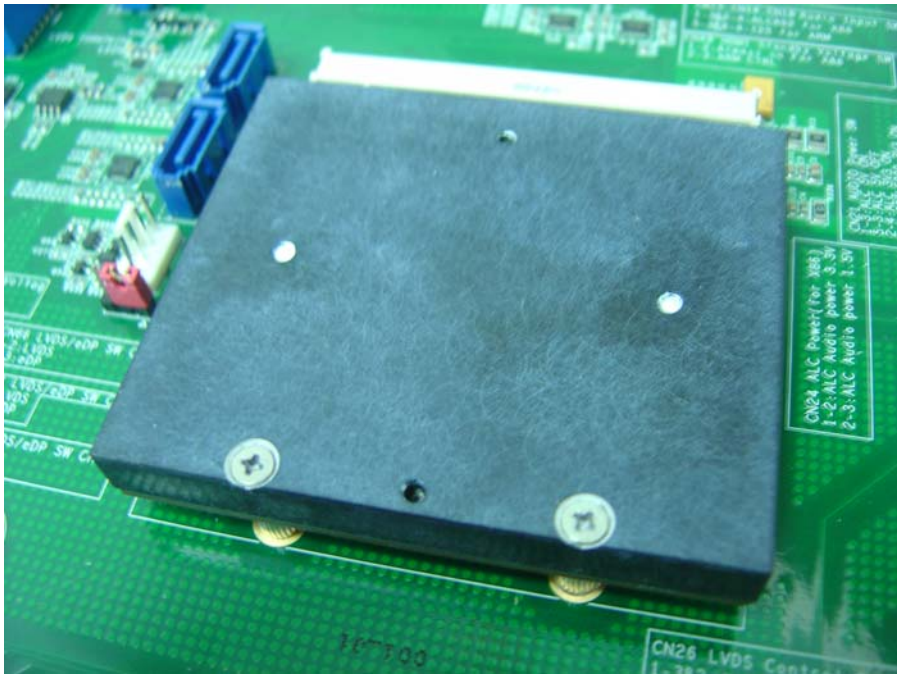
Sample Configuration & Quantity Under Test

- **Model name : AQ7-IMX6 A0.2 + ECB-970 A0.2**
- **CPU Board : AQ7-IMX6**
- **CPU : Onboard FreescaleR i.MX6 Quad ARM Cortex A9 1.0GHz**
- **Memory : Onboard DDR3 533MHz**
- **Test Software : Android 4.0.4 / Run Stability Test v2.7**
- **Power : ATX Power (DSA400P-C)**
- **Heat Sink :**



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Thermal Image Analysis

1. Test Date: 2014-03-04

2. Test Product: AQ7-IMX6 A0.2 with ECB-970

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: 2013/10/01

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: 24.8℃ with Heat Sink

6. Take Picture Time:

After power on 2 hours

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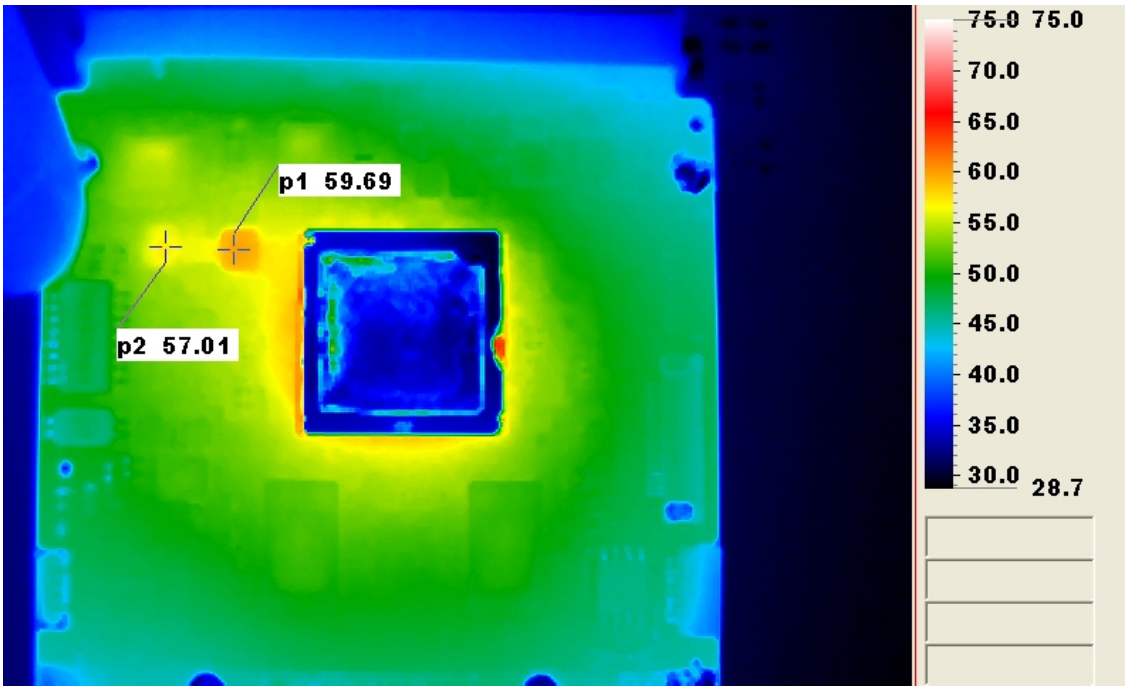
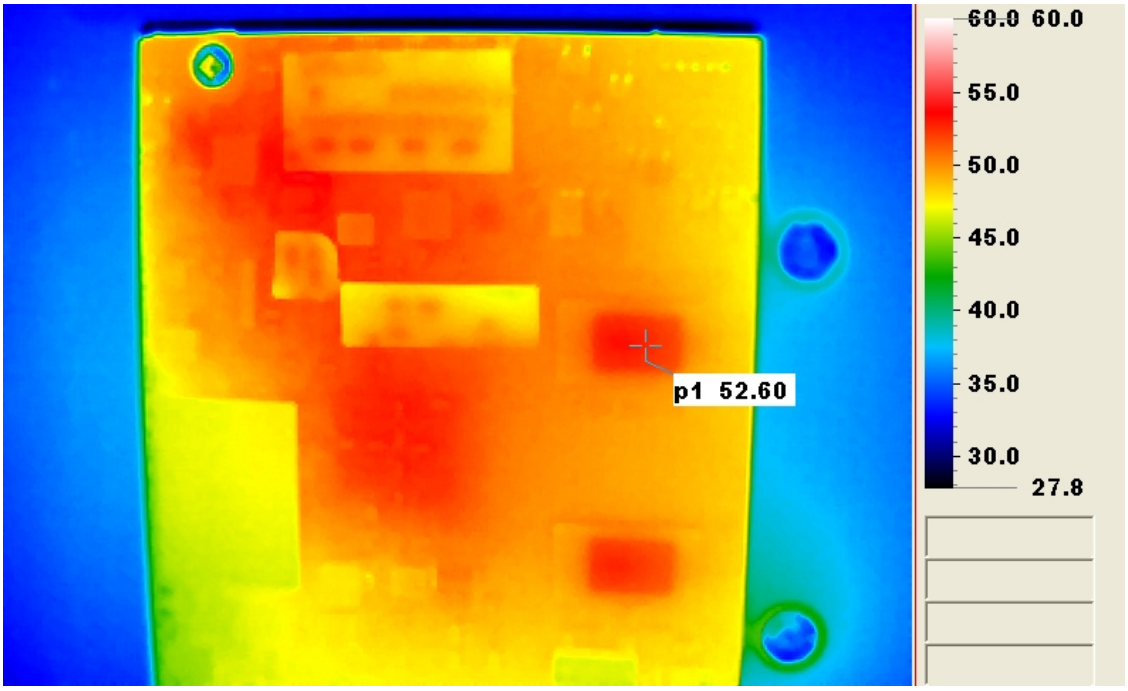
Temperature Profile Test:

Component Side:





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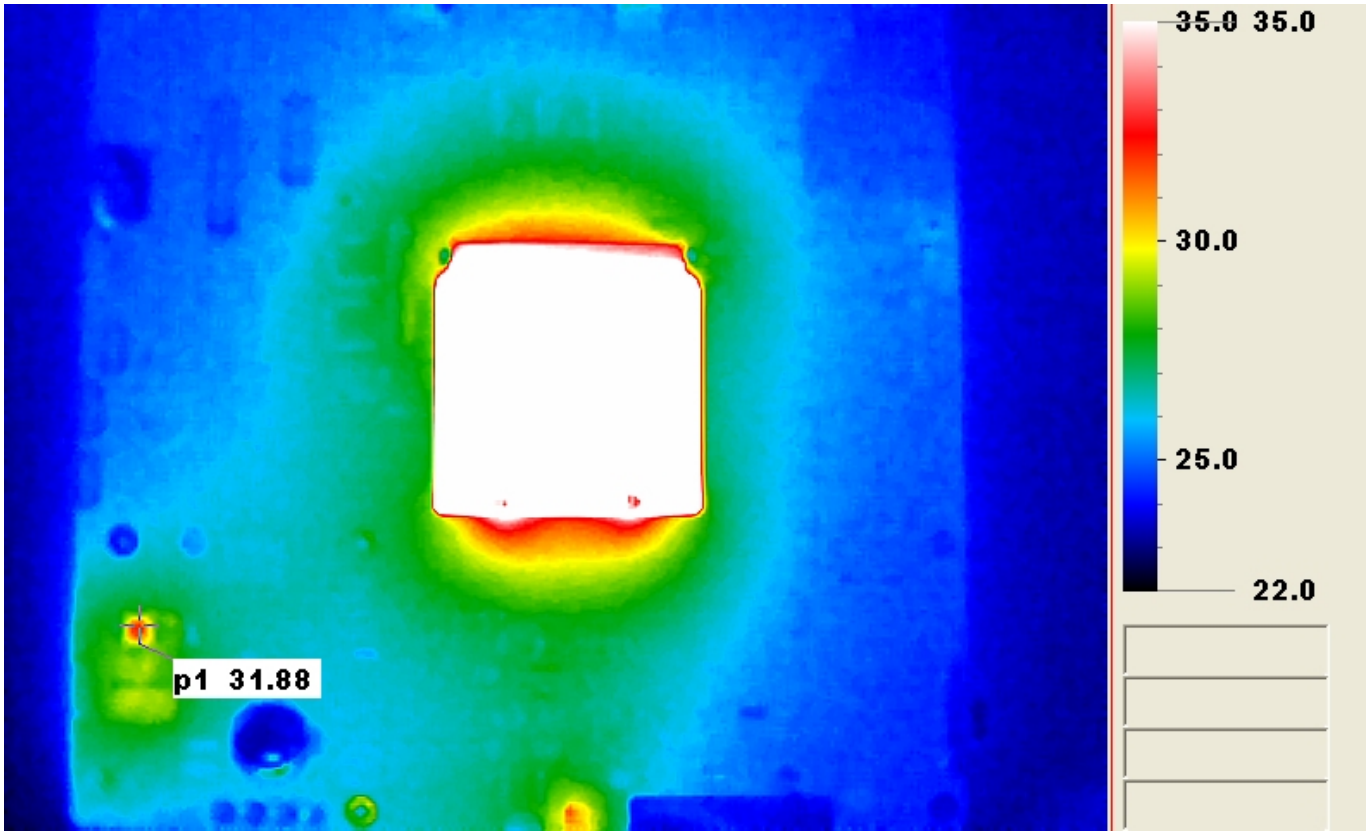
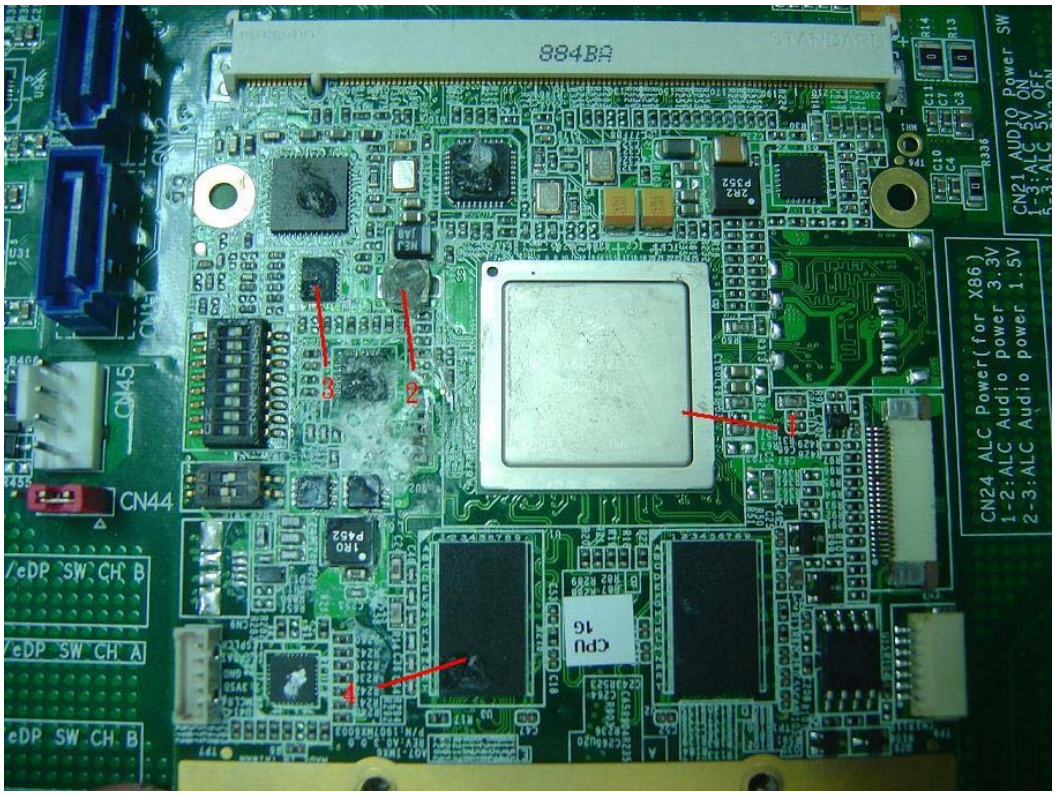


Terminal Recorder:

Measuring Thermal Couple Position：



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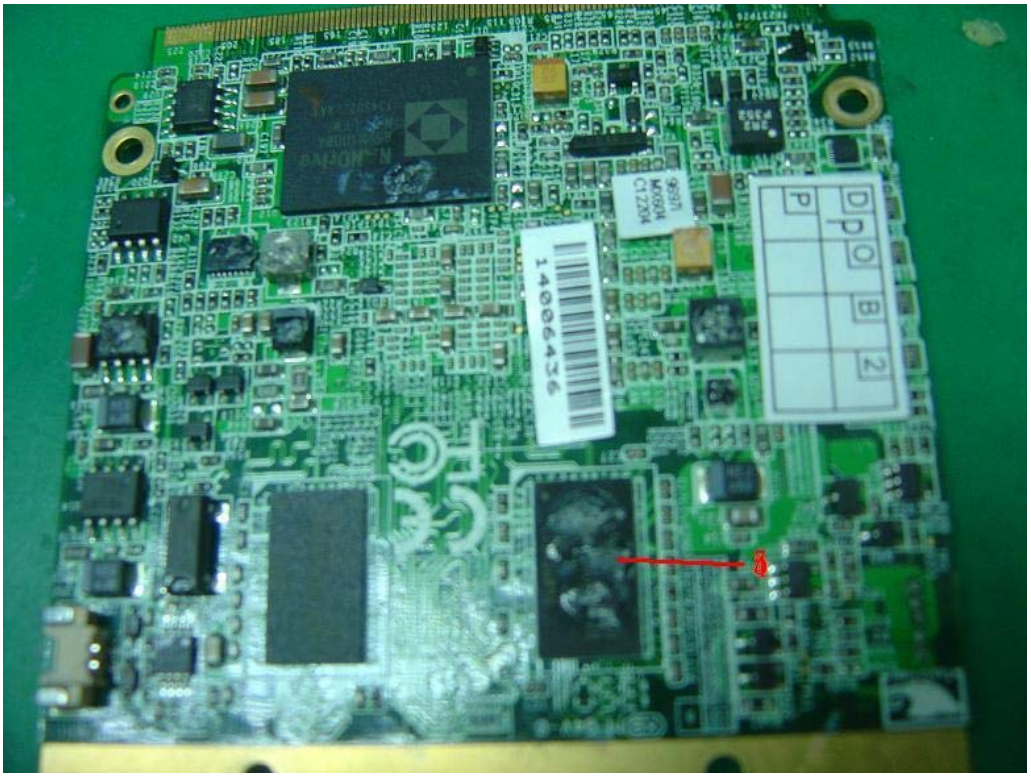

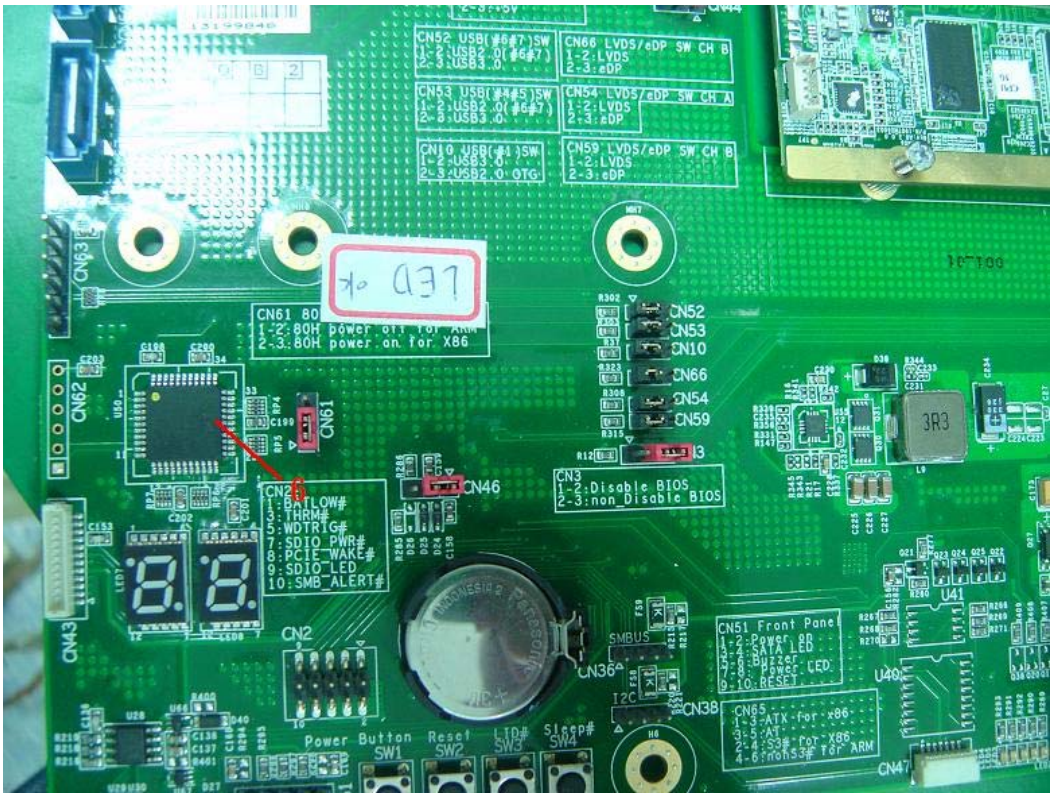

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Using YOKOGAWA / DARWIN DA100-100-13-1D test

Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				24.3℃	60℃	
1	U1	(TF)Freescale CPU.i.MX6 Quad.1GHz.FCPBGA.MCIMX6Q6AVT10AC	105	50.9	86.6	
2	L3	(TF)COIL.2.2uH.±20%.SMD.4.5*4*2.0mm.DCR=40mΩ.Irms=4Amp TRIO.EM-22AM01V01	105	57.0	92.7	
3	U19	(TF)IC.SMD.14P.5A/24V/500KHz.Step-Down Co.MPS NB634EL-LF-Z	125	54.0	89.7	
4	U3	(TF)IC.DDRIII-SDRAM.128M X 16(bit).1600MHz.1.5V.FBGA 96P.SMD.SAMSUNG.K4B2G1646Q-BCK0	95	48.1	83.8	
5	U5	(TF)IC.DDRIII-SDRAM.128M X 16(bit).1600MHz.1.5V.FBGA 96P.SMD.SAMSUNG.K4B2G1646Q-BCK0	95	49.4	85.1	
6	U50	(TF)IC.SMD.CPLD VQFP 44P.CS:A3B6.Xilinx.XC9536XL-10VQ44C	125	33.4	69.1	

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.

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