MF-001

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment:** _There are 6 temperature points marginal passed, the functions are stable._

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

Issue date	QE Manager	Test Engineer
2017 / 04 / 10	KJ Wang	Juno Cheng

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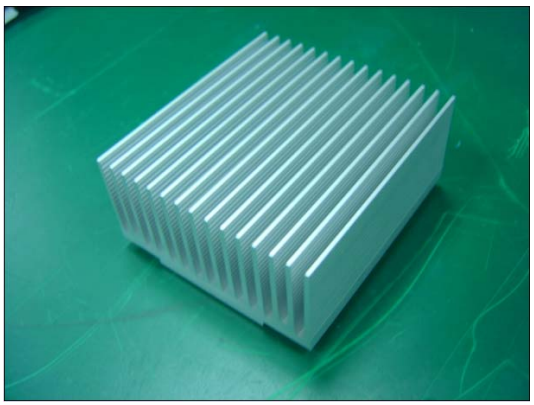
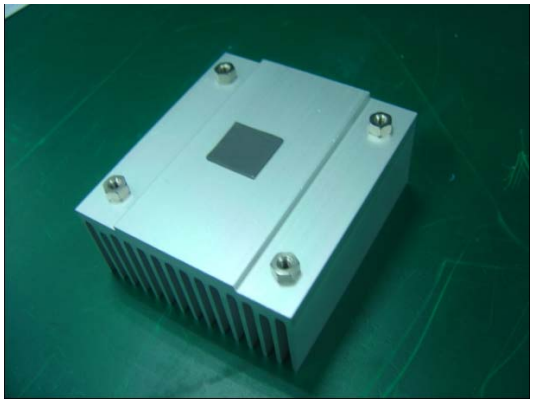
Sample Configuration & Quantity Under Test

- **Model name : MF-001 A0.1**
- **CPU : IntelCherry Trail-T3 X5-Z8350.1.92GHz**
- **Onboard Memory : 2GB / DDR3L-1600 / NANYA NT5CC256M16DP-DI**
- **Onboard eMMC Flash:16GB EMMC / Kingston 16G-M525-A51**
- **BIOS : R0.2 (MFC1AM02) (03/14/2017)**
- **Test Software : Windows 10 / Run PassMark Burn In Test 8.1 Pro**
- **Power : MEAN WELL GST60A05-P1J / Output: 5V; 6A (MAX 30W)**
- **Heat Sink :**





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Thermal Image Analysis

1. Test Date: 2017-04-06

2. Test Product: MF-001

3. Test Site: AAEON QE Dept.

4. Temperature Measurement:

4.1. 10 Channel Thermal Recorder:

4.1.1 OMRON

4.1.2 Model: ZR-RX25

Date of Calibration: 2016/11/30

Serial Number: TH-149

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: 2016/11/29

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 26.0℃ with Heat Sink

6. Take Picture Time:

After power on 2 hours

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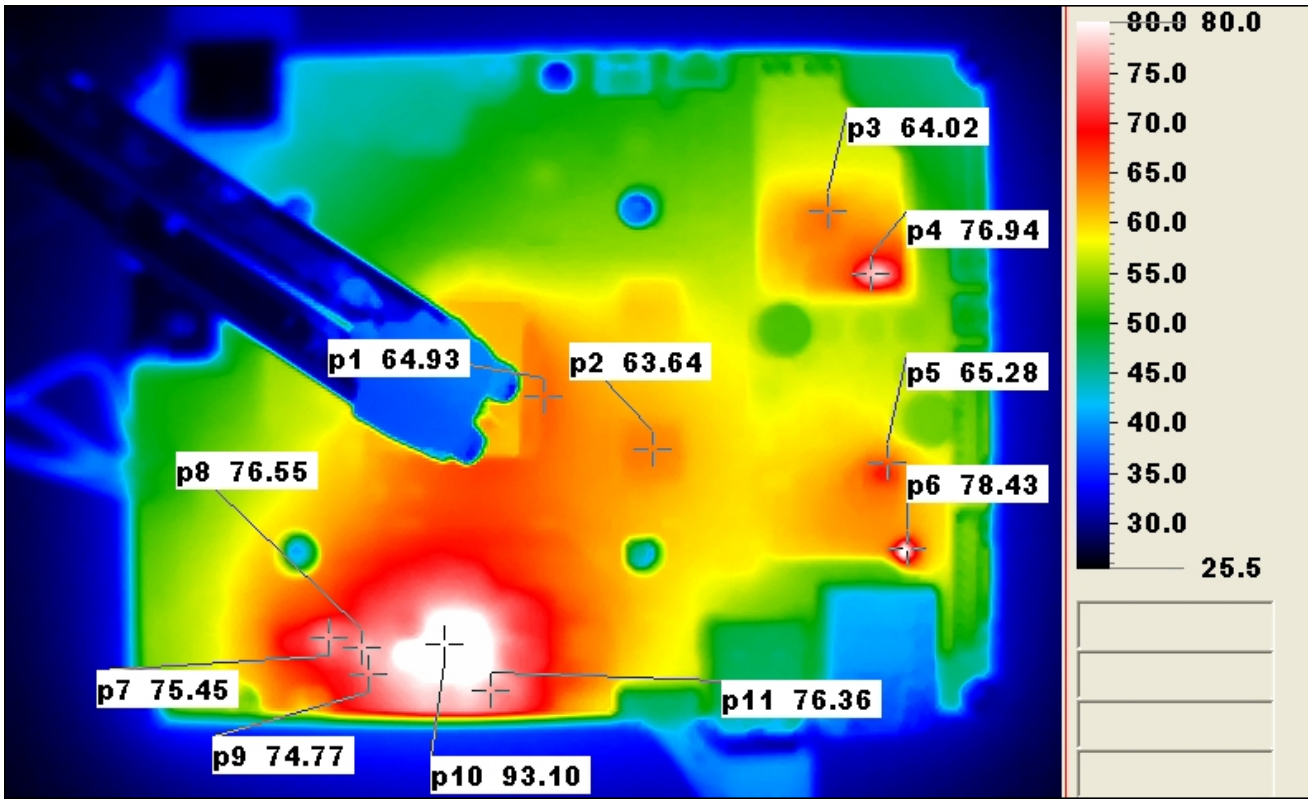
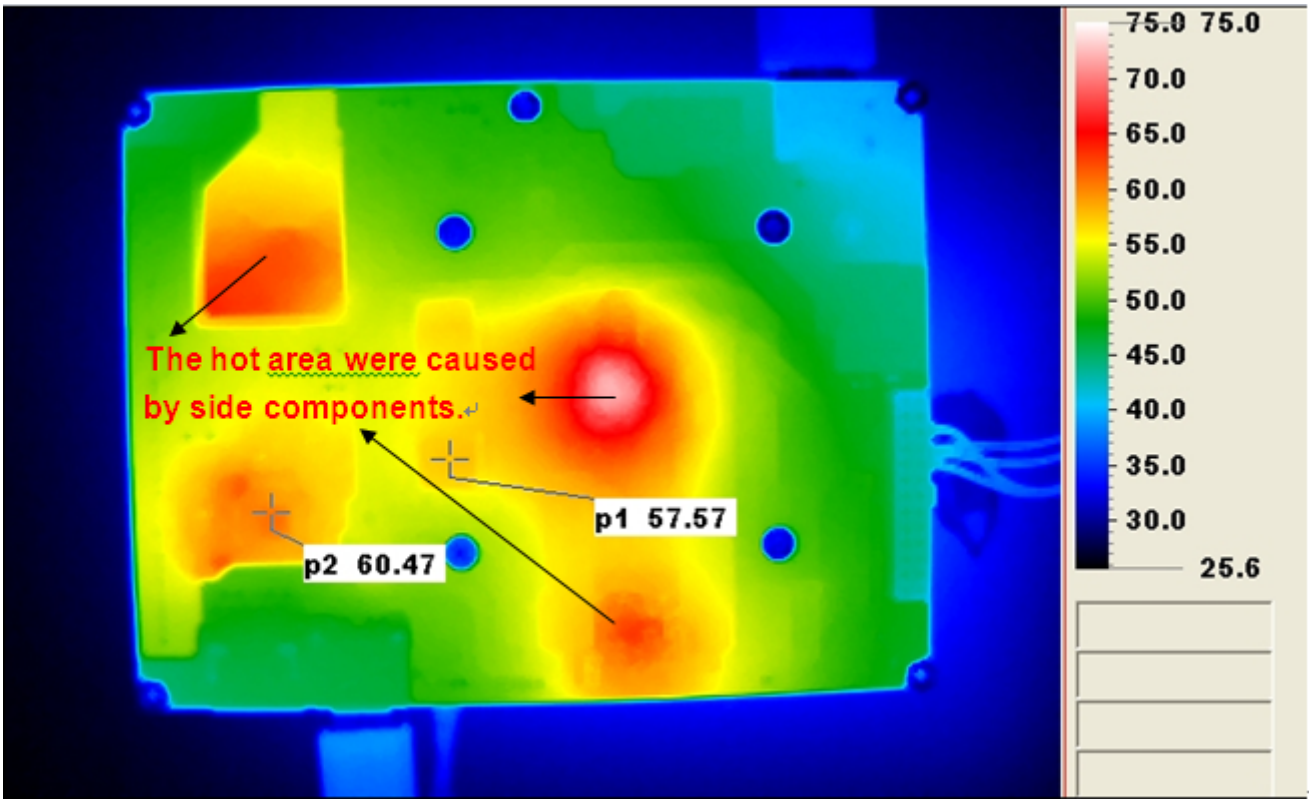
Temperature Profile Test:

Component Side:





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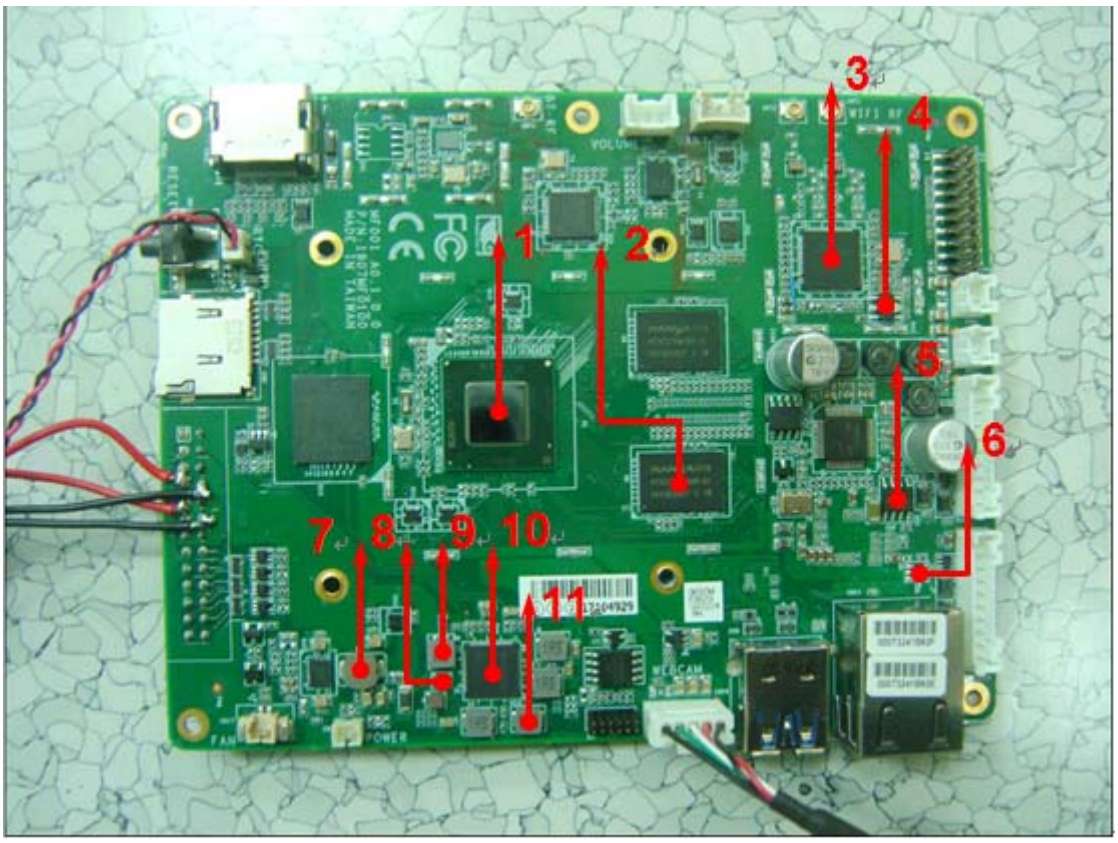
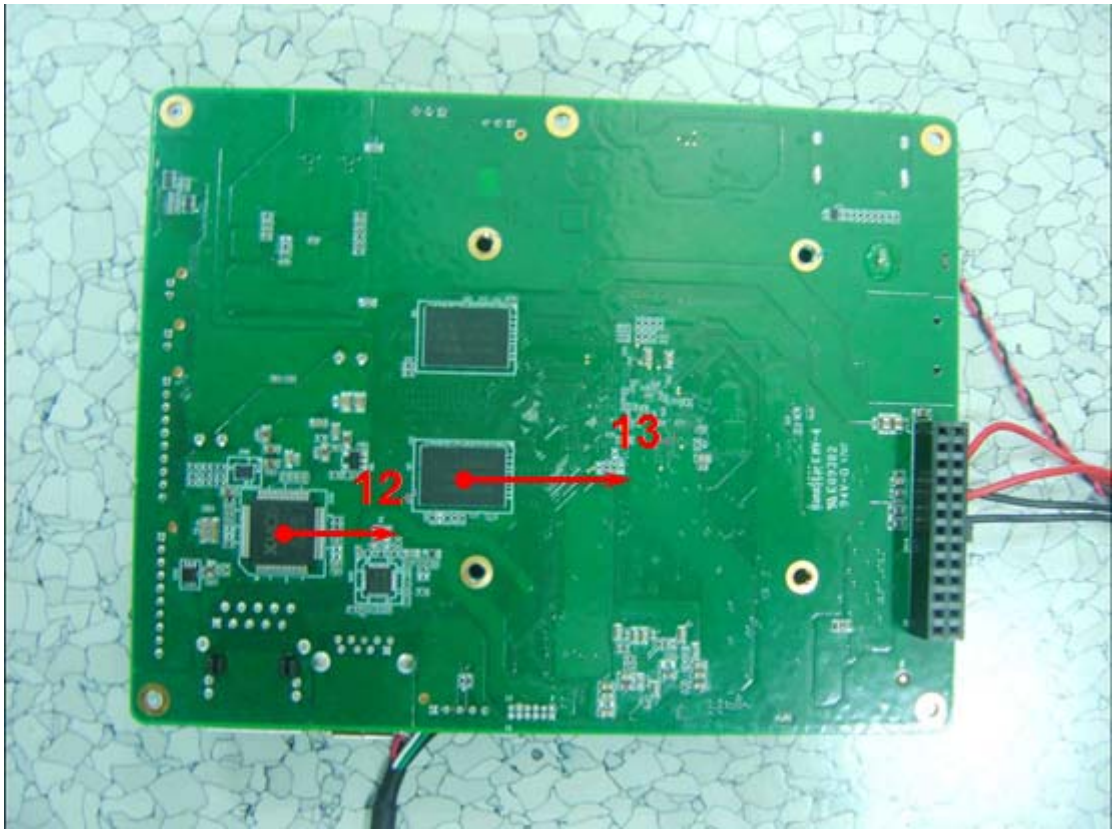
Terminal Recorder:

Measuring Thermal Couple Position：





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Using OMRON / ZR-RX25 test

Point	Position	Describe	Tc (*1) (℃)	TAT(*2) 26.0℃	TPT(*3) 60℃	Note
1	U1	INTEL CPU Trail-T3.x5-Z8350.1.92GHz	90	57.7	92.7	Note 4
2	U8	DDR3L-1600.SDRAM.NANYA.NT5CC256M16DP-DI	95	61.9	96.9	Note 4
3	U48	IC.WiFi.2.4/5GHz.QFN76.SMD.Ralink.RT5572N	100	64.1	99.1	Note 4
4	U49	IC.LDO.1A.SOT89-5.SMD.YOBON.YT9110HGF-ADJ	125	78.6	113.6	
5	U39	IC.LDO Linear Regulator SMD.RICHTEK.RT9025-25PSP	125	68.4	103.4	
6	U64	IC.LDO.0.3V.300mA.SOT-23-5 5P.SMD.ANPEC.APL5325BI-TRG	125	84.5	119.5	Note 4
7	L1	COIL.NEC/TOKIN.MPLCG0530L1R5	120	72.1	107.1	
8	L3	COIL.ZenithTek.ZADP-252012MES-R47M	125	80.4	115.4	
9	L6	COIL. Zenithtek.ZPWM-4020M-1R5M	125	69.8	104.8	
10	U44	IC.PMIC for Intel Cherry Trail.CR Platform SND9039A2CTRSKR	125	80.8	115.8	
11	L2	COIL. Zenithtek.ZPWM-4020M-1R0M	125	69.7	106.8	
12	U30	IC.XMOS.XUF208-128-TQ64-C10	100	65.0	100.0	Note 4
13	U7	IC.4G.DDR3L-1600.SDRAM. NANYA.NT5CC256M16DP-DI	95	64.5	99.5	Note 4

Note(*):
1. "Tc" indicates the component's case maximum temperature value specified in its datasheet.
2. "TAT" indicates the actual measured temperature under product specification.
3. "TPT" indicates the predicted temperature under 25℃ working environmental.
4. 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.

5. **RTC battery avoid to put on heat position.** Please do not exceed battery temperature specification.
4. Defect NO. : D170101LABD01

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