PICO-KBU4

(Previous project name: PICO-KBU1)

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** ☑ **Pass with Deviation** **Comment:** There are 3 temperature points marginal passed, the functions are stable.

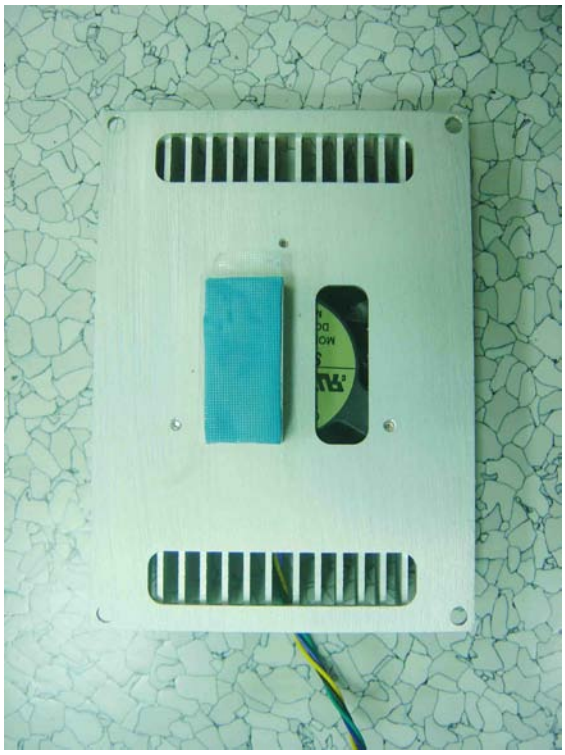
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	3
Defect Unsolved	0	0	0	3

Issue date	QE Manager	Test Engineer
2017 / 12 / 26	KJ Wang	Rex Chang

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1053

Sample Configuration & Quantity Under Test

- **Model name : PICO-KBU4 A0.2**
- **CPU : Intel Core i7-7600U / 2.8GHz**
- **Memory : Transcend 8GB * 1 / DDR4 2133 / SEC K4A4G08 5WE BCPB**
- **HDD : Westem Digital WD2500BPVT / 250 GB**
- **BIOS : PICO-KBU4 R0.5 (ZKBUAM05) (12/14/2017)**
- **Test Software : Windows 10 / Run PassMark Burn In Test 8.1 Pro**
- **AT Power : Zippy HG2-6400P**
- **CPU Cooler :**



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Thermal Image Analysis

1. Test Date: 2017-12-26

2. Test Product: PICO-KBU4 A0.2

3. Test Site: AAEON QE Dept.

4. Temperature Measurement:

4.1. 40 Channel Thermal Recorder:

4.1.1 YOKOGAWA Inc,

4.1.2 Model: DA100-13-1D

Date of Calibration: 09/07/18

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: 11/22/18

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 25.0℃ with Heat Sink + Fan (Full Speed)

6. Take Picture Time:

After power on 2 hours

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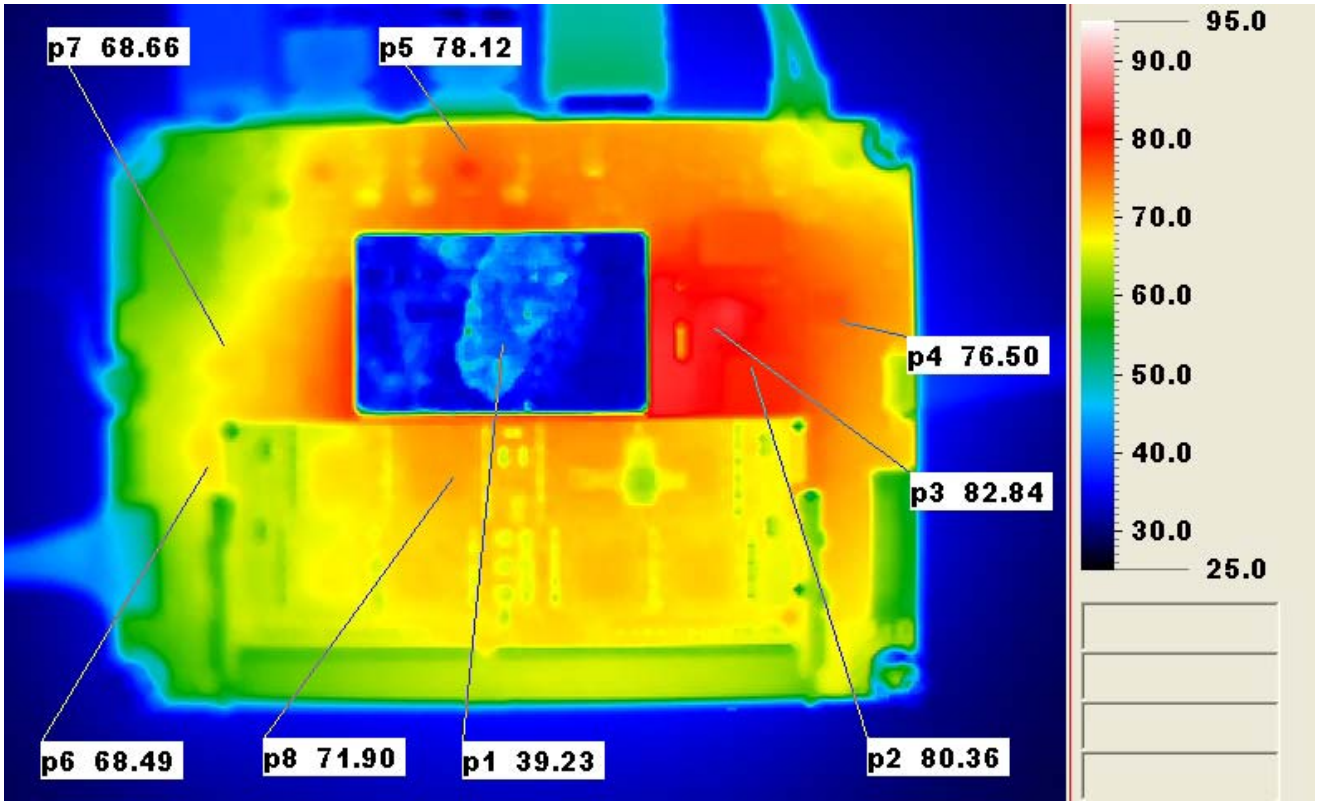
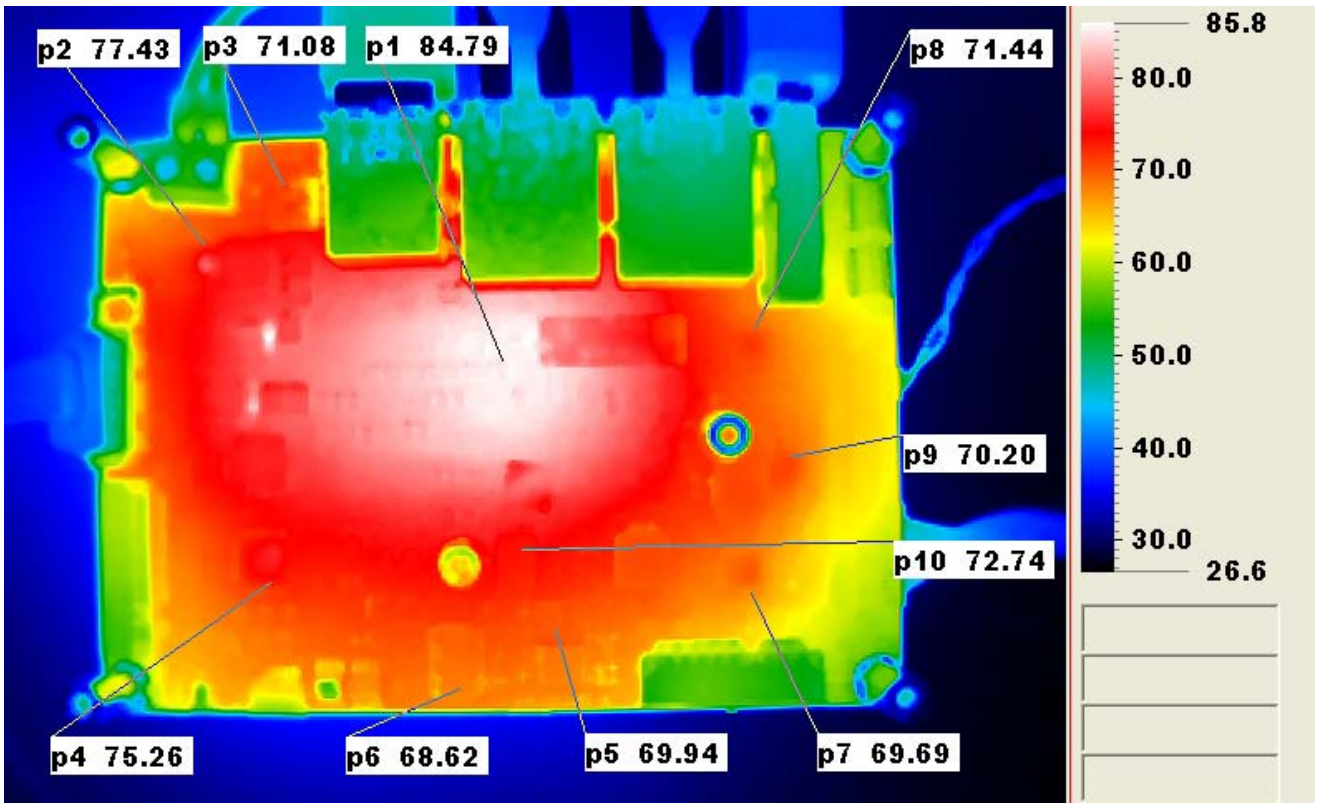
Temperature Profile Test:

Component Side:





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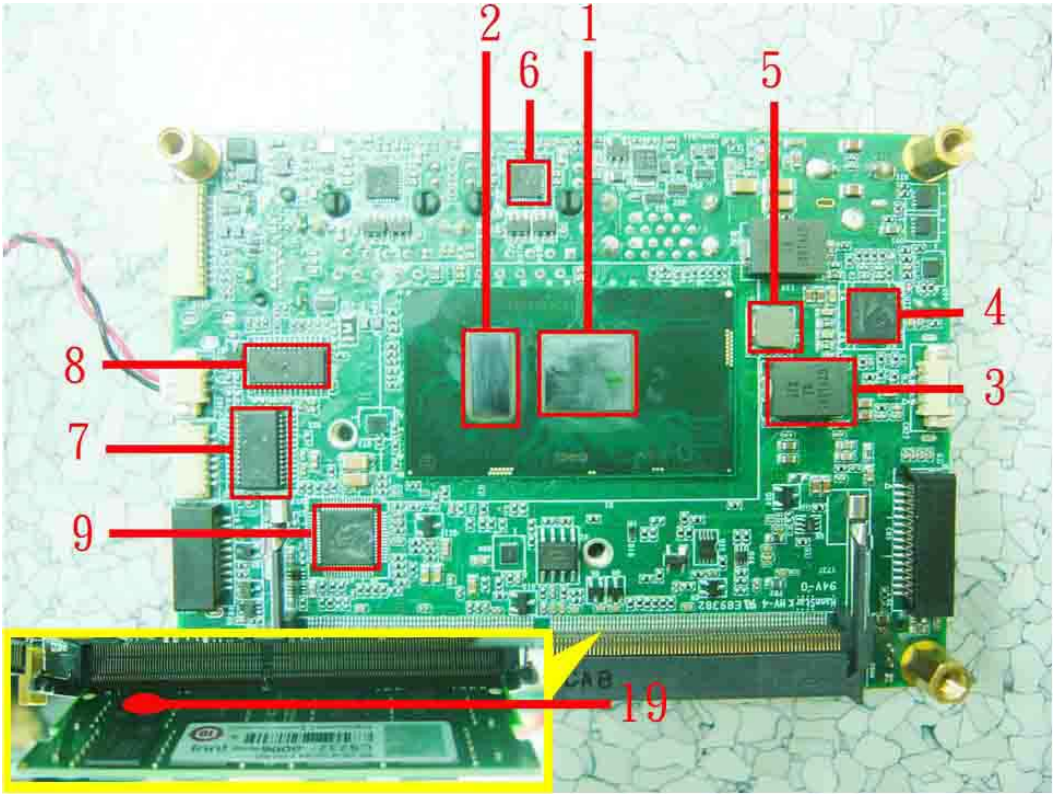
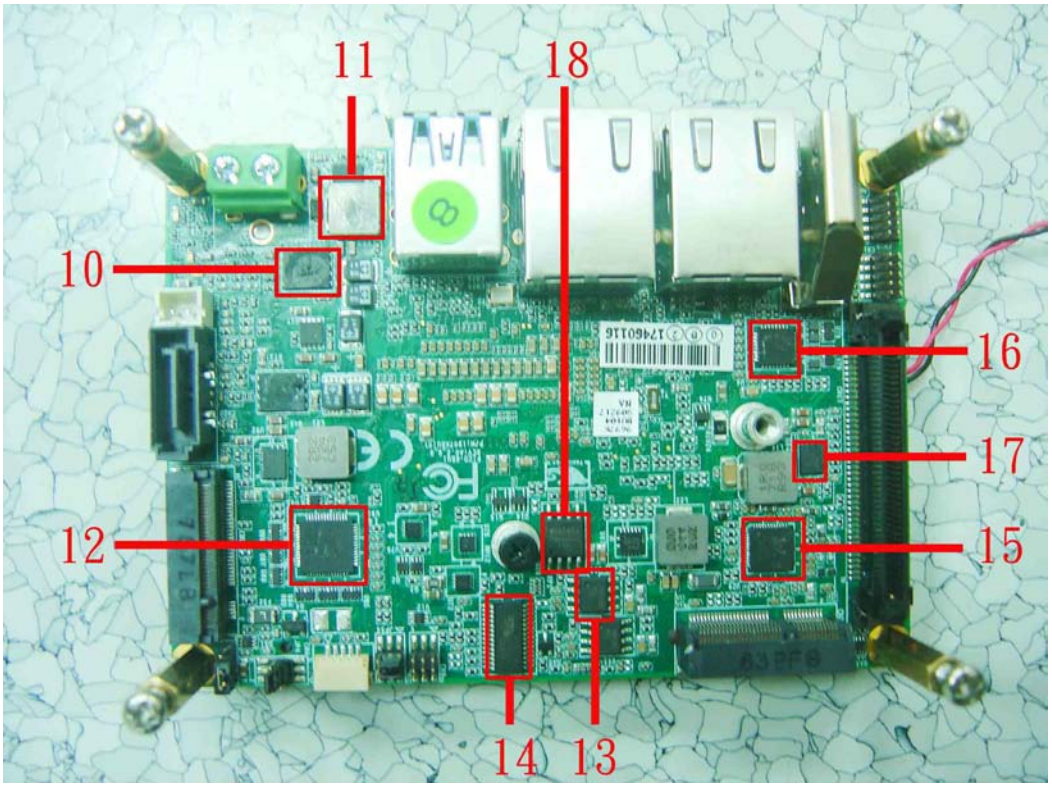
Terminal Recorder:

Measuring Thermal Couple Position：





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Using YOKOGAWA / DA100-13-1D test

Point	Position	Describe	Tc (*1) (℃)	TAT(*2) 25℃	TPT(*3) 60℃	Note
1	U1	(TF)INTEL CPU.Kabylake-U.2.8GHz.i7-7600U - 1	100	41.2	76.2	
2	U1	(TF)INTEL CPU.Kabylake-U.2.8GHz.i7-7600U - 2	100	40.2	75.2	
3	L18	(TF)INDUCTOR.GOTREND.GTV1005PR1-R15K	125	46.3	81.3	
4	U77	(TF)IC.3-Rail Controller.NCP81246MNTXG	100	48.1	83.1	
5	L20	(TF)COIL. NEC/TOKIN.MPLCG0530LR33	120	48.5	83.5	
6	U10	(TF)IC. REALTEK.RTL8111G-CG	100	46.3	81.3	
7	U26	(TF)IC. TI.TRS213IDBR	125	40.7	75.7	
8	U27	(TF)IC. Fintek.F81438G	73.1	41.0	76.0	Note4
9	U13	(TF)IC. Super I/O.Fintek.F81801U-I	108.26	41.7	76.7	
10	Q46	(TF)Dual N-Channel.Farichild.FDPC5018SG	150	49.0	84.0	
11	L13	(TF)COIL. CYNTEC.PCMB063T-1R5MS	125	44.7	79.7	
12	U91	(TF)IC. NXP.PTN3460IBS/F2MP	98.6	42.1	77.1	
13	U66	(TF)IC. YOBON.YB1282PSP8	150	40.1	75.1	
14	U50	(TF)IC. WatchDog.Fintek.F75111RG	70.04	39.2	74.2	Note4
15	U29	(TF)IC. REALTEK.ALC269Q-VC2-GR	100.5	43.2	78.2	
16	U4	(TF)IC.HDMI/DVI Level Shifter. NXP.PTN3366BSMP	105	42.1	77.1	
17	U64	(TF)IC. MPS.MP8762GLE-Z	125	42.2	77.2	
18	U28	(TF)IC.Flash Memory. Winbond.W25Q128FVSIG	85	40.4	75.4	Note4
19	-	Memory - Chipset	95	38.9	73.5	

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.

Defect No: E171102LABE01

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