

PICO-APL1

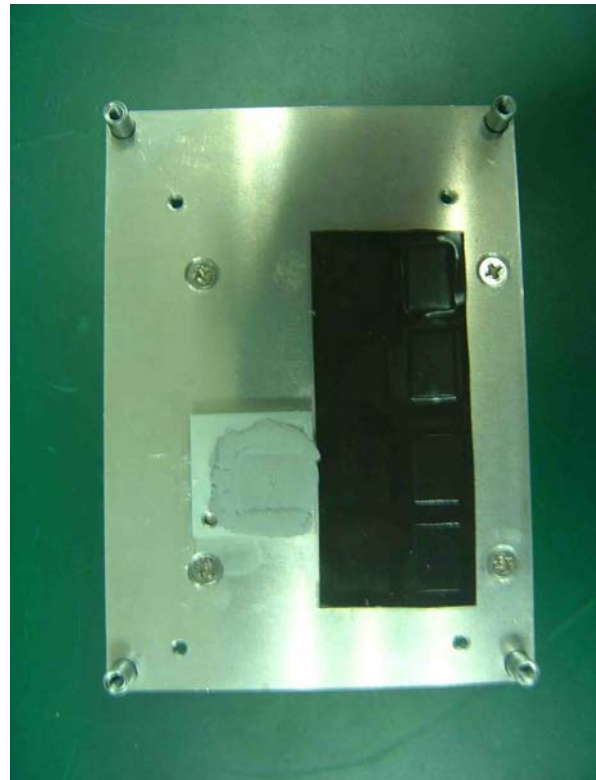
Thermal Image Analysis Report

Summary	<input type="checkbox"/> Pass			
	<input type="checkbox"/> Fail			
	<input checked="" type="checkbox"/> Pass with Deviation			
	Comment: <u>There are 4 temperature points marginal passed, the functions are stable.</u>			
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	4
Defect Unsolved	0	0	0	4

Issue date	QE Manager	Test Engineer
2017 / 05 / 19	KJ Wang	Rex Chang

Sample Configuration & Quantity Under Test

- **Model name : PICO-APL1 A0.2**
- **CPU : Intel N4200 / 1.1GHz**
- **Memory : Transcend 8GB * 1 / DDR3L 1066 / SEC K4B4G0846D**
- **HDD : Western Digital WD5000AAKX / 500 GB**
- **BIOS : PICO-APL1 R1.0 (ZAP1AM10) (04/13/2017)**
- **Test Software : Windows 10 / Run PassMark Burn In Test 8.1 Pro**
- **Power : HG2-6400P**
- **CPU Cooler :**



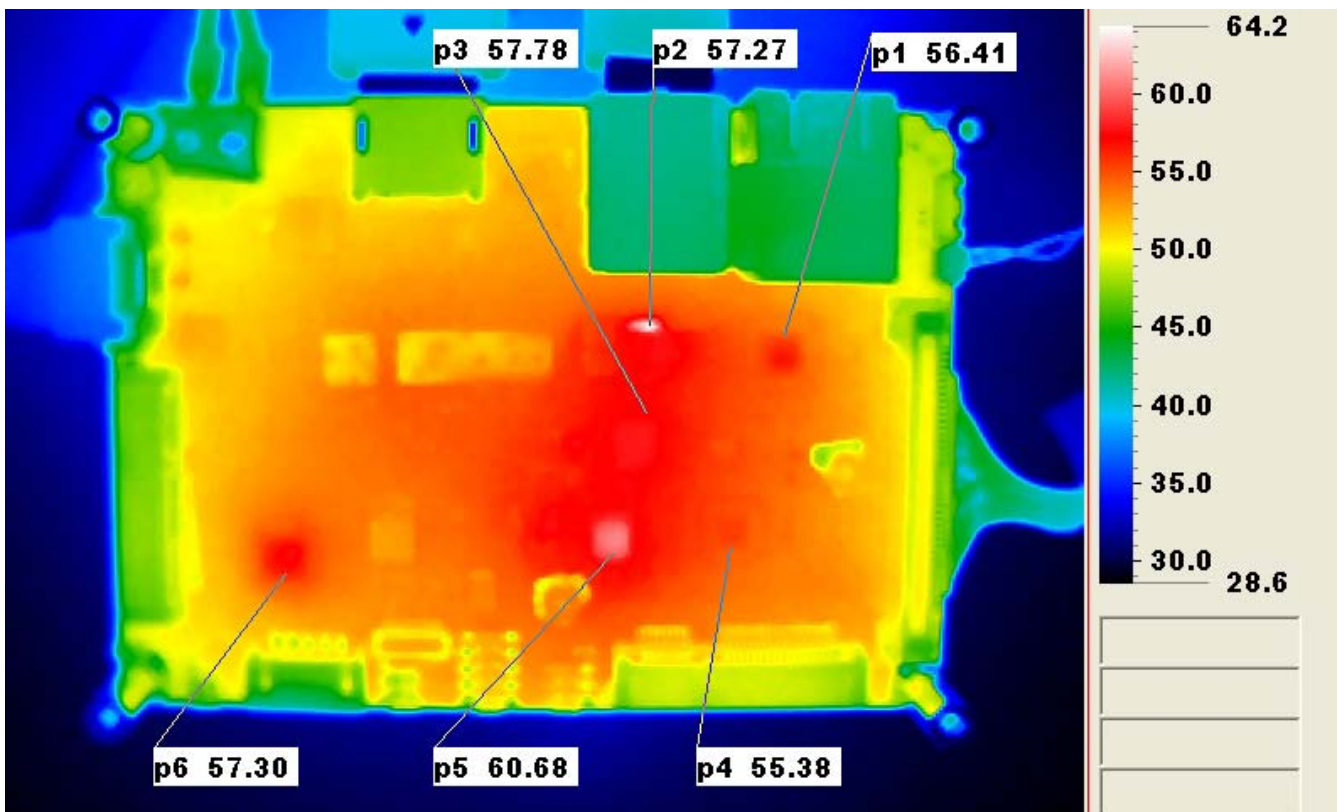
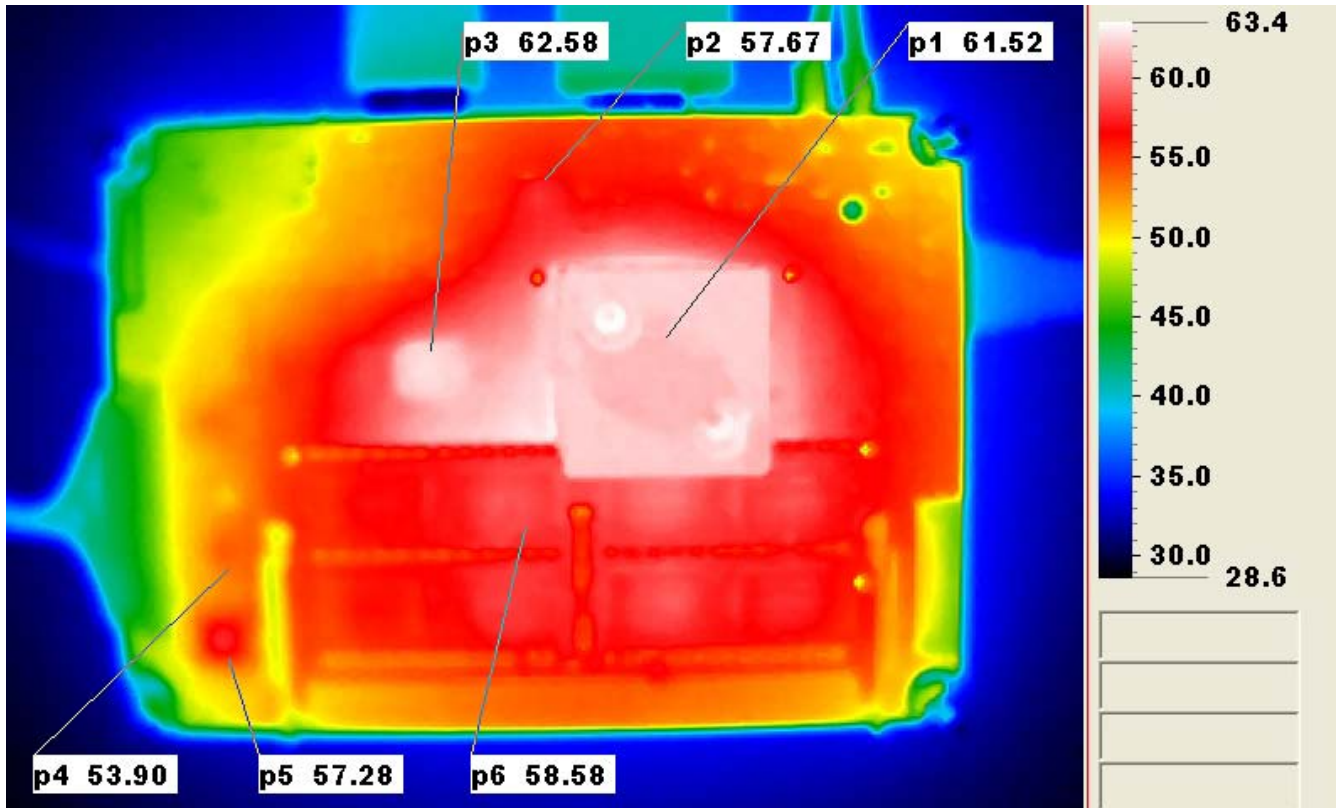
Thermal Image Analysis

1. Test Date: 2017-05-19
2. Test Product: PICO-APL1
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: 09/10/16
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: 2016/11/29
Serial Number: 1051444
5. Test Condition:

Test by DA-100: 25.0°C with Heat Sink
6. Take Picture Time:

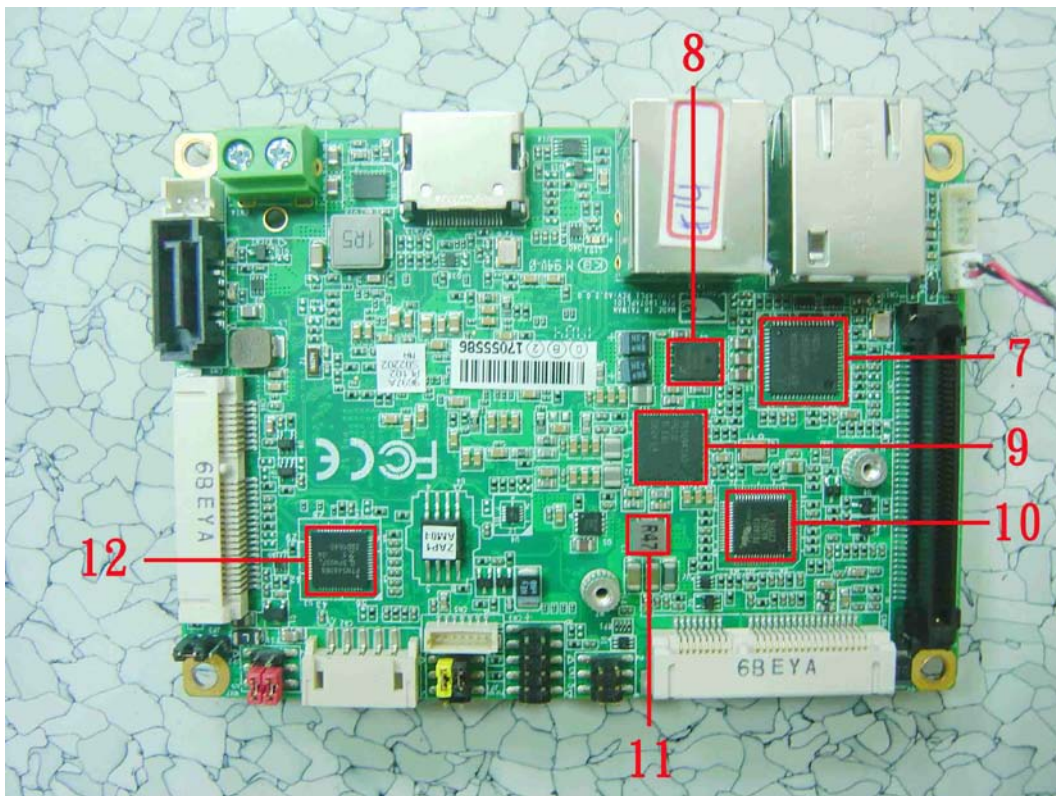
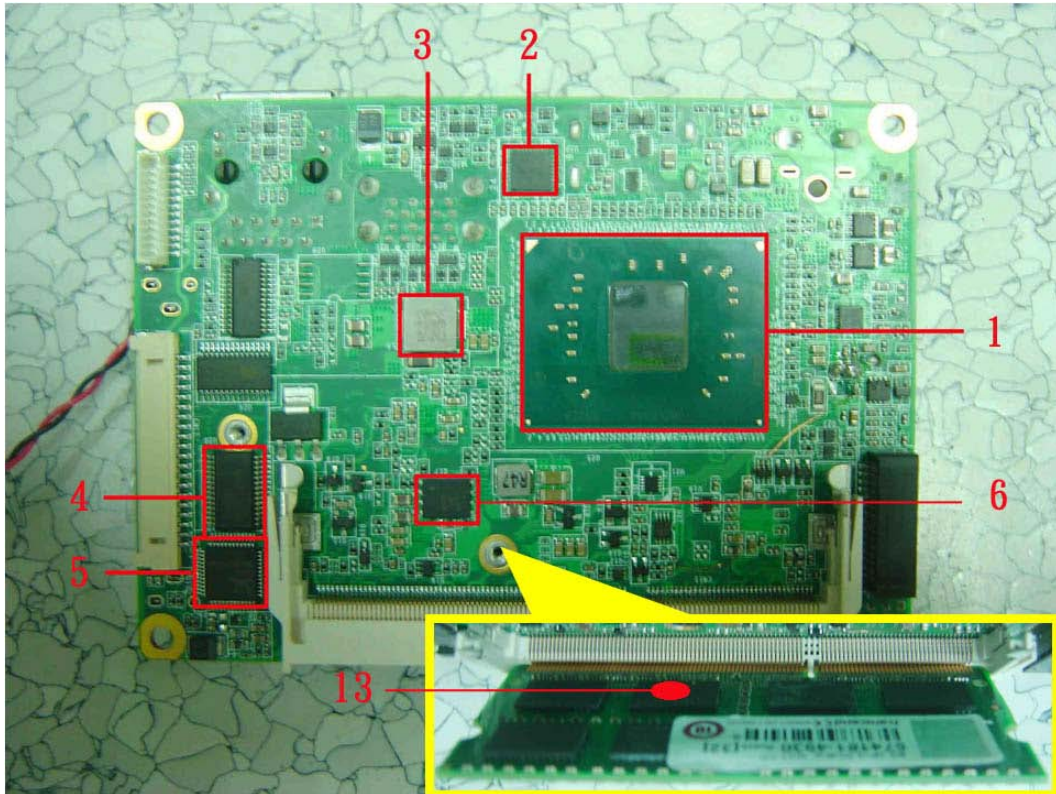
After power on 2 hours

Temperature Profile Test:
Component Side:



Terminal Recorder:

Measuring Thermal Couple Position :



Using YOKOGAWA / DA100-13-1D test

Point	Position	Describe	Tc (*1) (°C)	TAT(*2)	TPT(*3)	Note
				25°C	60°C	
1	U25	Intel Apllo Lake CPU / N4200	105	53.1	88.1	
2	U32	NXP.PTN3366BSMP	105	52.2	87.2	
3	L8	CYNTEC.PCMB063T-R22MS	125	57.9	92.9	
4	U20	TI.TRS213IDBR	125	54.4	89.4	
5	U15	REALTEK. ALC892-CG	100.5	57.5	92.5	Note4
6	Q17	FAIRCHILD.FDMS7620S	125	57.7	92.7	
7	U10	Intel.WGI210IT	105	53.7	88.7	
8	Q8	FAIRCHILD.FDMS3660S	125	56.0	91.0	
9	U8	TI.TPS650942A0RSKR	100	55.7	90.7	Note4
10	U5	Fintek.F81801U-I	108.26	51.8	86.8	
11	L1	GOTREND.GSTD4020PE-R47	125	56.0	91.0	
12	U3	NXP.PTN3460IBS	98	54.2	89.2	Note4
13	DIMM	Transcend 8GB / DDR3L	95	54.2	89.2	Note4
14	-	Room Temperature	N/A	25.0	60.0	

Note(*):

- "Tc" indicates the component's case maximum temperature value specified in its datasheet.
 - "TAT" indicates the actual measured temperature under product specification.
 - "TPT" indicates the predicted temperature under 25°C working environmental.
 - Judgment Criteria:**
 - **Fail** : $T_m > T_c + 5^\circ\text{C}$; The measured value is over specification plus margin.
 - **Margin** : $T_c + 5^\circ\text{C} > T_m > T_c - 10^\circ\text{C}$; 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** : $T_m < T_c - 10^\circ\text{C}$; The measured value is with safety margin.
 - RTC battery avoid to put on heat position. Please do not exceed battery temperature specification.
4. Defect NO. : [E161107LABD01](#)