COM-BT

Ver.A3.0

Thermal Image Analysis Report

Summary	☐ **Pass** ☐ **Fail** Note: There is/are ___ defect(s) not list in the report, please check it in the DTS Website. ☑ **Pass with Deviation** **Comment: 1. COM Port defected a Receive Over run Error, ITE Vender Reply: It can be a limitation for ITE8528 Serial Ports. Because it doesn't have extend buffer.** **2. There are 11 components in the absence of Tc and Tj specification, So we are unable to determine.**

Test Result Summary

	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	11
Defect Unsolved	0	0	0	11

Issue date	QE Manager	Test Engineer
2018 / 06 / 22	KJ Wang	Rex Chang

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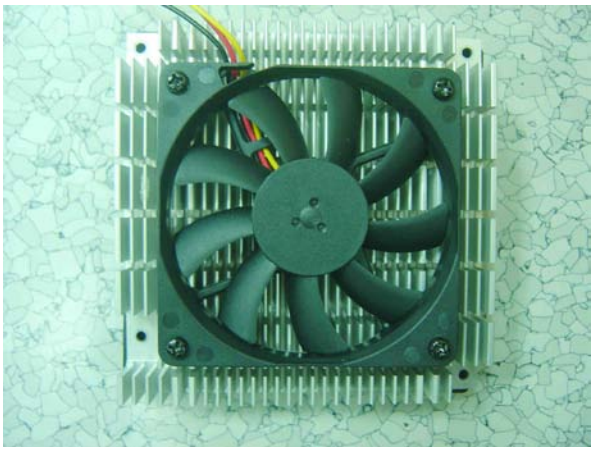
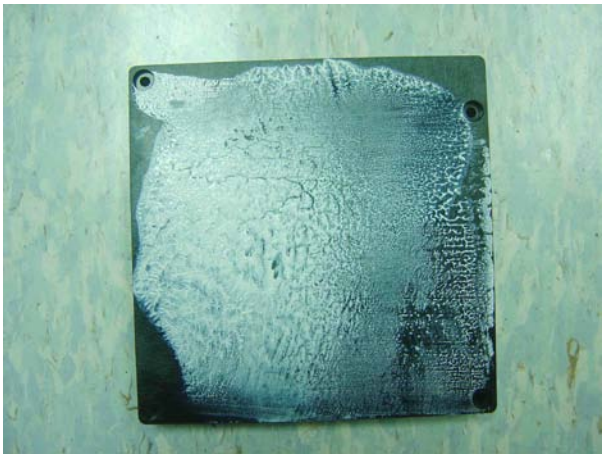
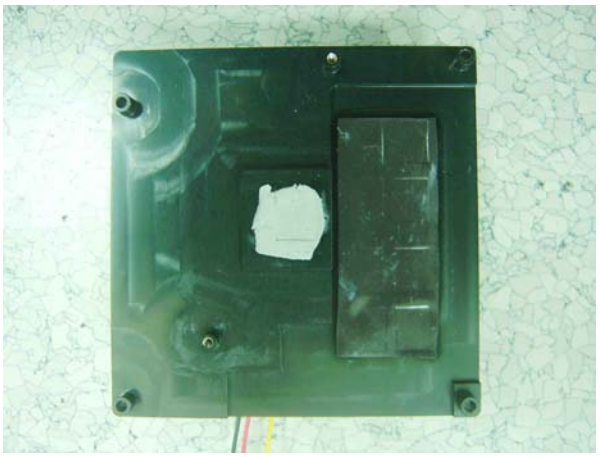
Sample Configuration & Quantity Under Test

- **Model name : COM-BT A3.0 with ECB-920A A1.0**
- **CPU : Intel E3845 / 1.91GHz**
- **Memory : Innodisk 8G / DDR3 1333 / SK hynix H5TC4G83AFR PBA**
- **SSD : Innodisk 3MG2-P / 64GB**
- **BIOS : COM-BT R1.2 (CMBTAM12) (04/09/2015)**
- **Test Software : Windows 10 / Run PassMark Burn In Test 8.1 Pro (1003)**
- **ATX Power : CWT DSA400P-C**
- **CPU Cooler :**







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Thermal Image Analysis

1. Test Date: 2018-06-21

2. Test Product: COM-BT A3.0

3. Test Site: AAEON QE Dept.

4. Temperature Measurement:

4.1. 20 Channel Thermal Meter:

4.1.1 OMRON Inc,

4.1.2 Model: ZR-RX45

Date of Calibration: 12/19/17

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: 11/23/2017

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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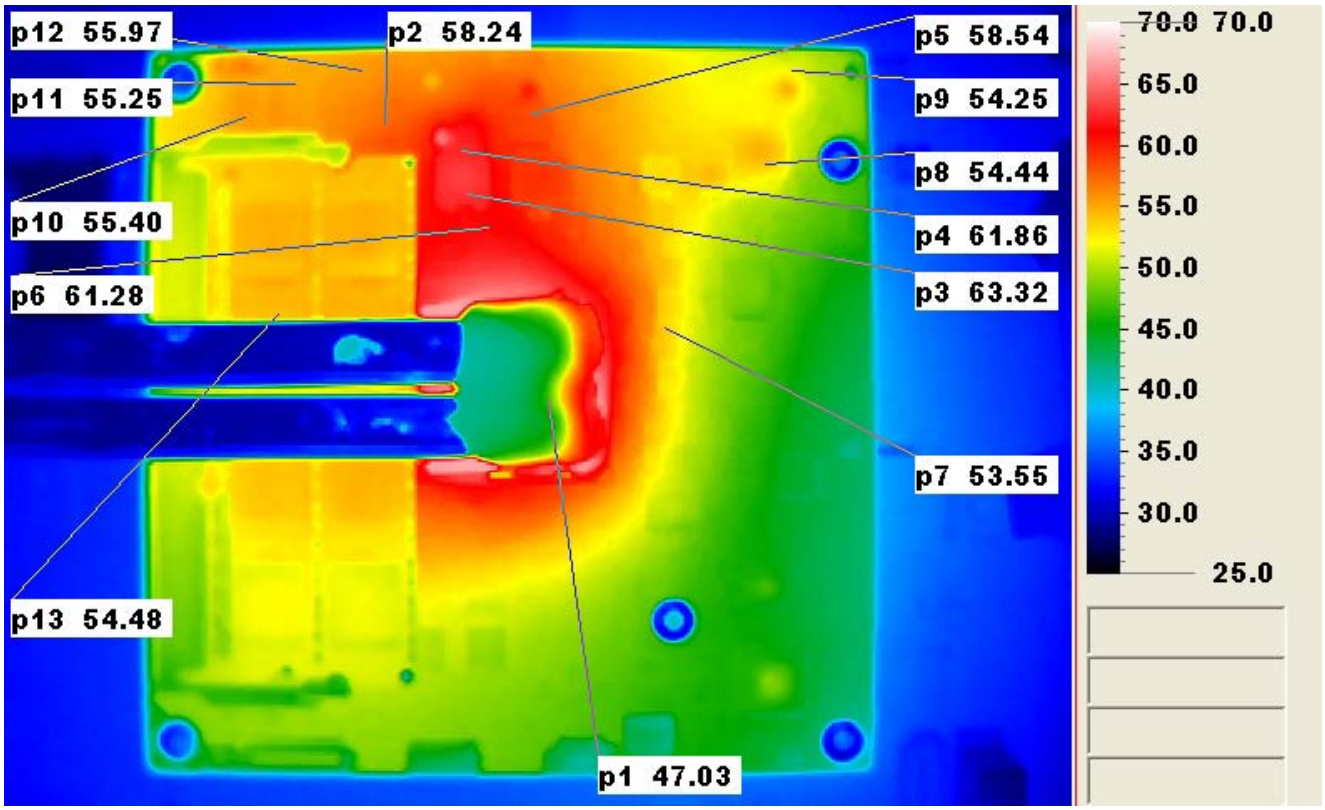
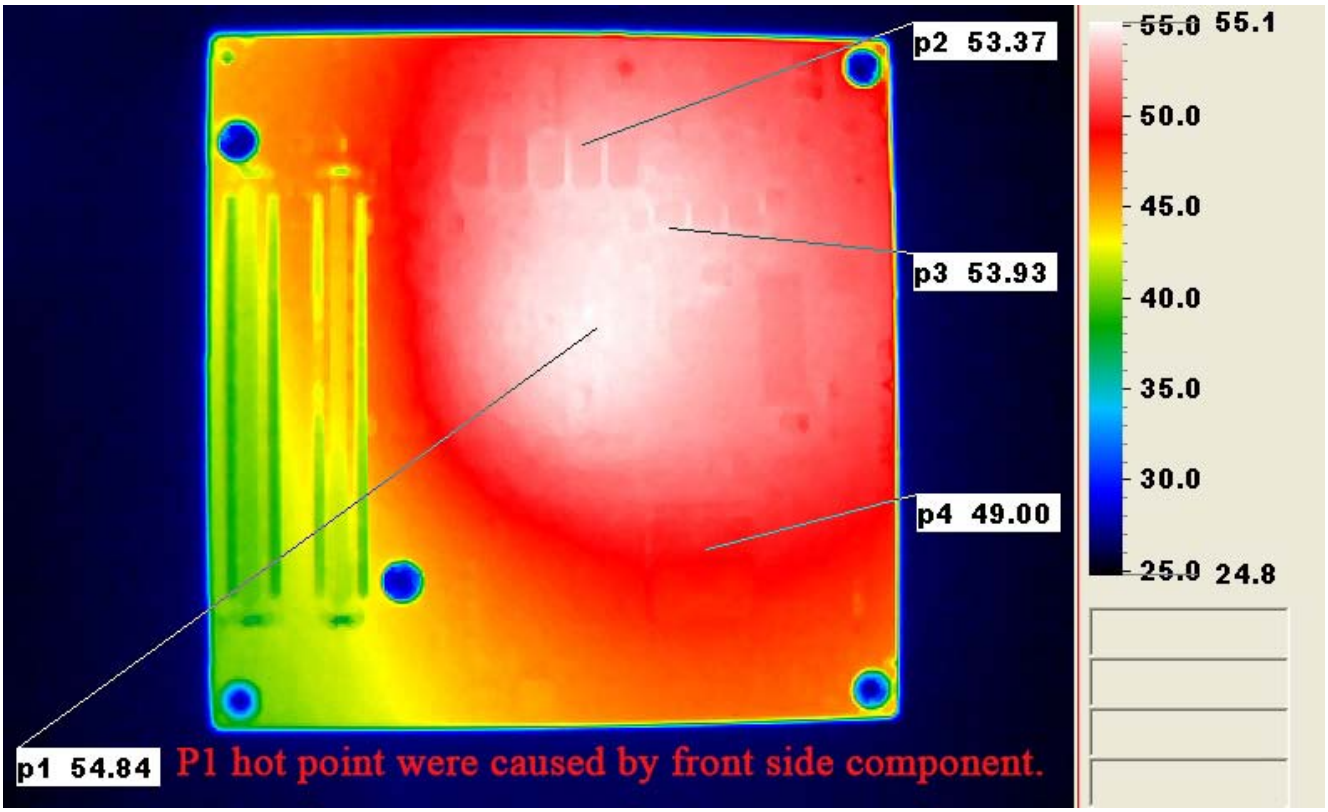
Temperature Profile Test:

Component Side:



Back Side:



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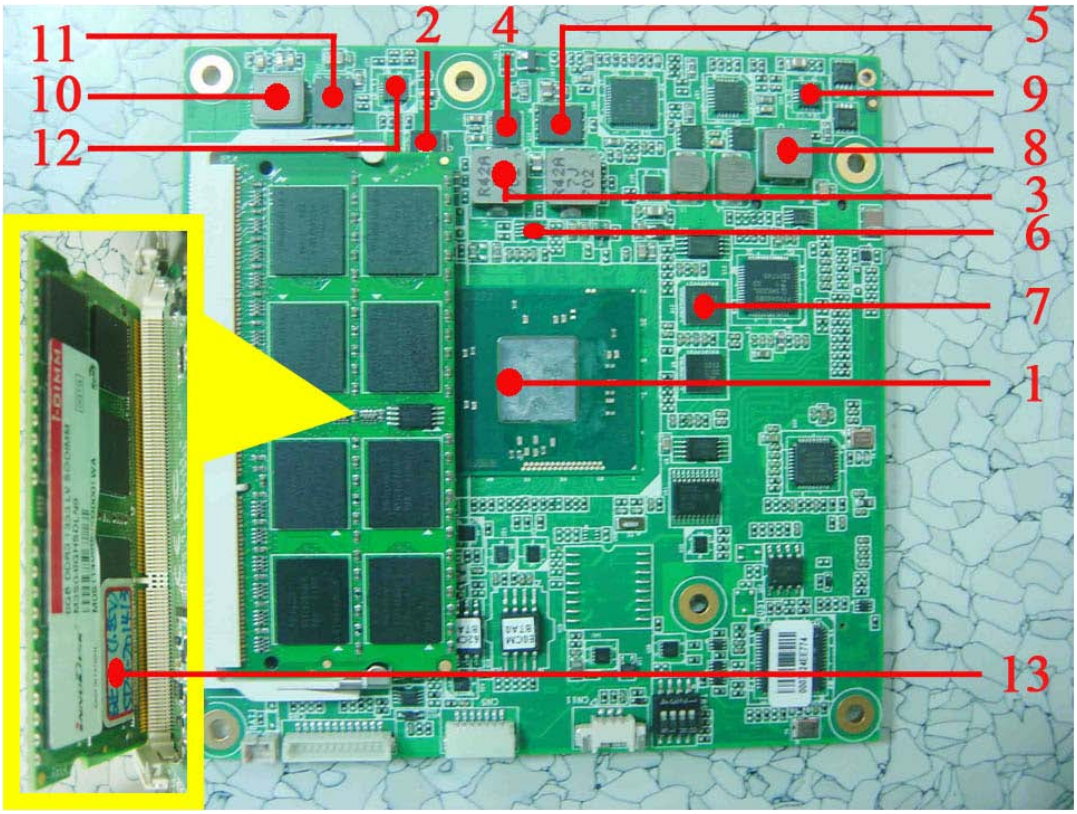
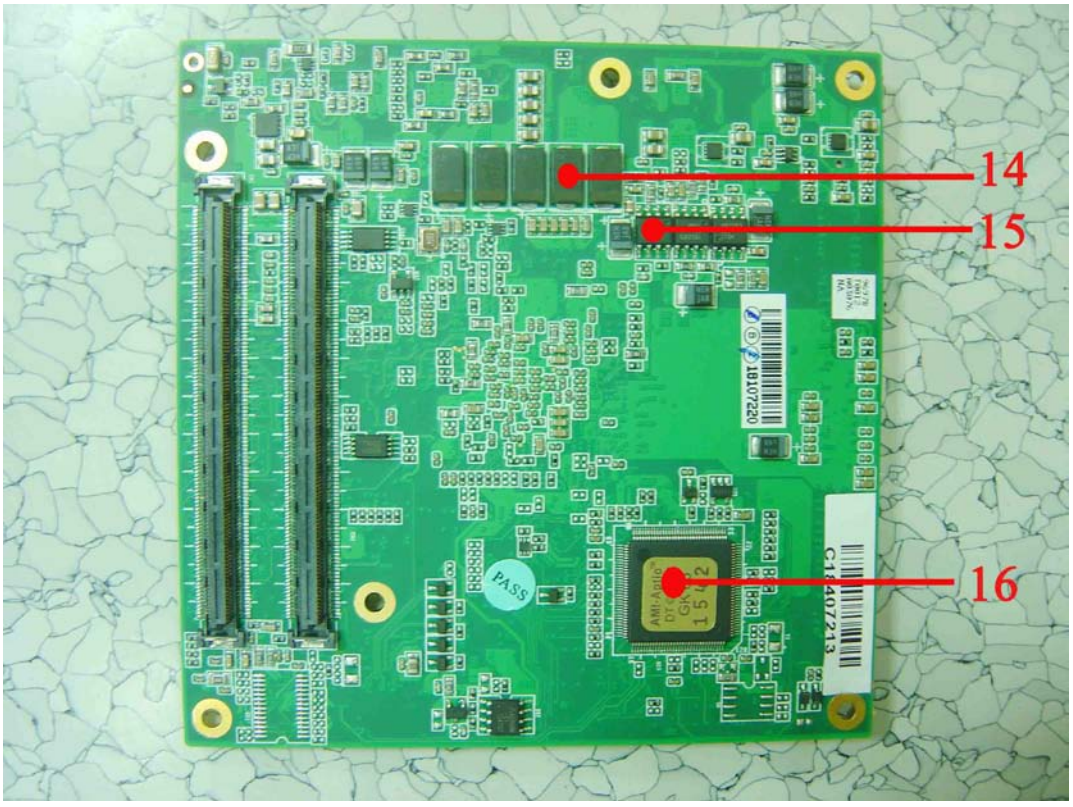
Terminal Recorder:

Measuring Thermal Couple Position：





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Using OMRON / ZR-RX45 test

Point	Position	Describe	Tc (*1) (℃)	TAT(*2) 25℃	TPT(*3) 60℃	Note
1	U3	CPU / Intel Atom E3845 / 1.91GHz	110	36.6	70.5	
2	L2	(TF)COIL.1.5uH. ECS.MPI4040R4-1R5-R	N/A	39.8	73.7	
3	L7	(TF)COIL.0.42uH. Panasonic.ETQP4LR42AFM	N/A	42.6	76.5	
4	U59	(TF)IC.Synchronous Buck NexFETTM. TI.CSD97374Q4M	N/A	42.3	76.2	
5	Q36	(TF)PWR. N-MOSFET.ON SEMI.NTMFD4901NFT1G	125	41.8	75.7	
6	U5	(TF)IC.VSSOP 8P.SMD.TI.PCA9306DCUR	N/A	39.3	73.2	
7	U12	(TF)IC.2:1Mux/Demux DP 1.2 Switch. NXP.CBTL06GP212EE	N/A	37.5	71.4	
8	L3	(TF)COIL.3.3uH. CYNTEC.PCMB063T-3R3MS	N/A	44.5	78.4	
9	U56	(TF)IC.Wide Input Voltage. TI.TPS53219ARGTR	N/A	43.4	77.3	
10	L1	(TF)COIL.1.5uH. CYNTEC.PCMB063T-1R5MS	N/A	37.9	71.8	
11	Q32	(TF)Dual N-Channel.Vds=30V. Excelliance.EMB09K03HP	125	37.7	71.6	
12	U54	(TF)IC. DDR MEMORY POWER SOLUTION. TI.TPS51216RUK	100	38.2	72.1	
13	-	Memory chipset	95	33.5	67.4	
14	TC13	(TF)SP CAP.330uF. Panasonic.EEFSX0E331EY	N/A	39.1	73.0	
15	U51	(TF)IC.3A.Ultra Low Dropout LDO. YOBON.YB1283PSP8	N/A	37.5	71.4	
16	U25	(TF)IC.Embedded Controller. ITE.IT8528E/FX	N/A	33.4	67.3	
17	-	Room Temperature	N/A	26.1	60.0	

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: BUL1810LABD01

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