uCOM-BT-A20

Thermal Image Analysis Report

Summary	☑ **Pass** ☐ **Fail** ☐ **Pass with Deviation** **Comment:**, _____

Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	2
Defect Unsolved	0	0	0	0

Issue date	QE Manager	Test Engineer
2016 / 02 / 01	KJ Wang	Ben Sun

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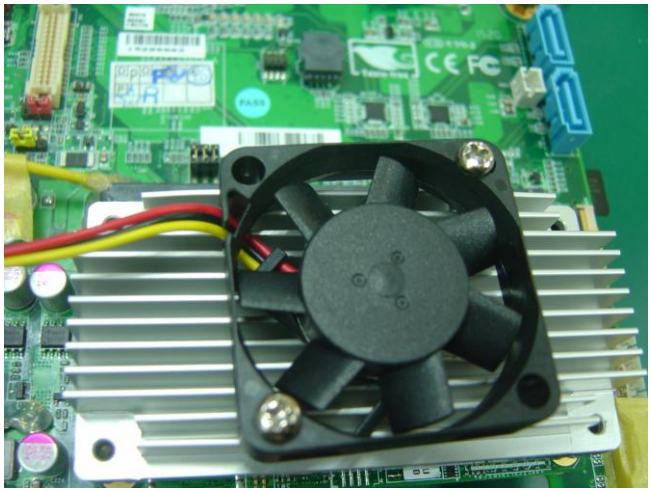
Sample Configuration & Quantity Under Test

- **Model name : uCOM-BT-20**
- **CPU : Intel Atom E3845 1.91GHz**
- **Chipset : Intel® Atom SOC**
- **Memory : Onboard DDR3L Memory 4GB**
- **3.5” HDD : TOSHIBA 320GB**
- **Test Software : Windows 8 / Run Run BurnIn test 8.1**
- **Power : AT Power**
- **Heat Sink :**



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Thermal Image Analysis

1. Test Date: 2016-01-30

2. Test Product: uCOM-BT-A20

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: 2015/09/07

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: 2015/12/25

Serial Number: 1051444

5. Test Condition:

Test by DA-100: 23.0℃ with CPU Cooler

6. Take Picture Time:

After power on 2 hours

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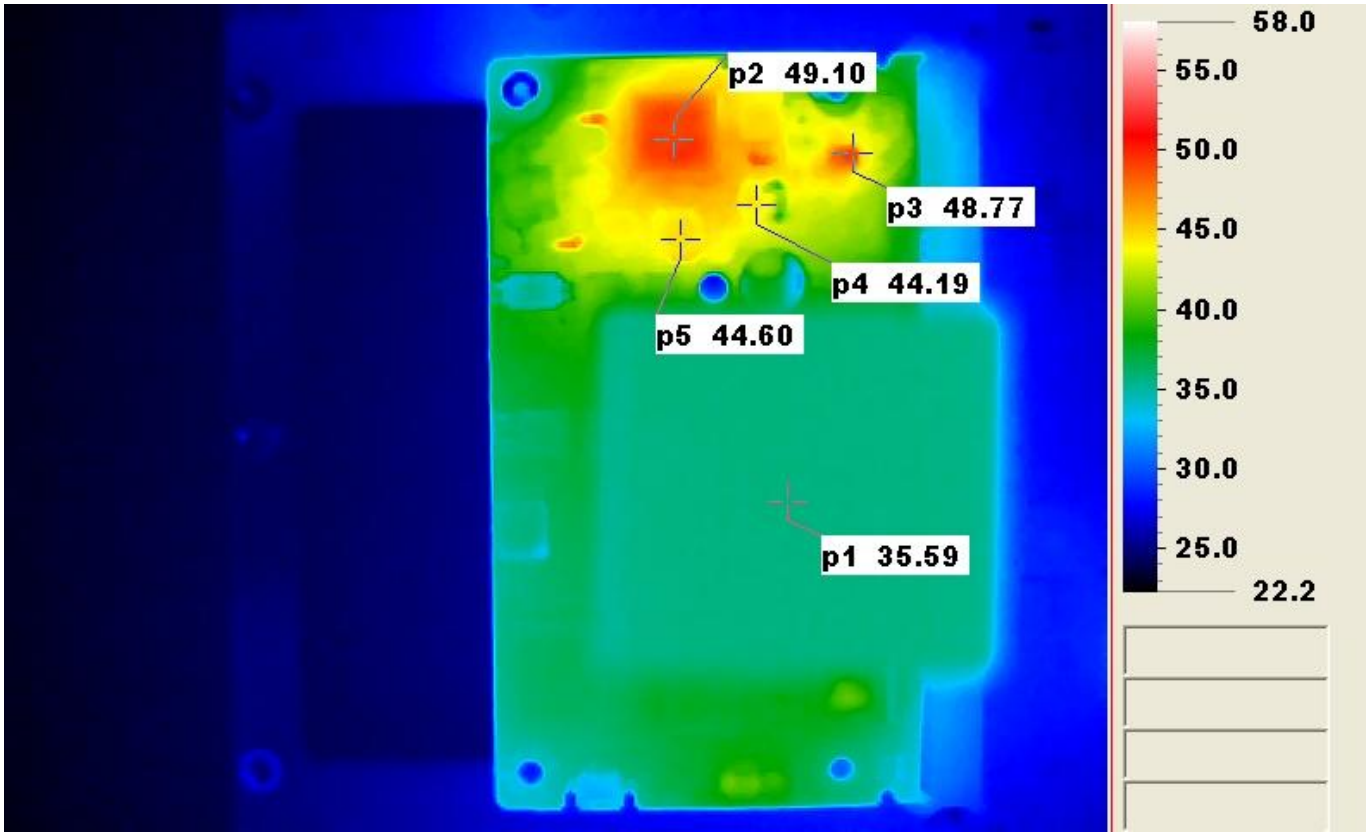
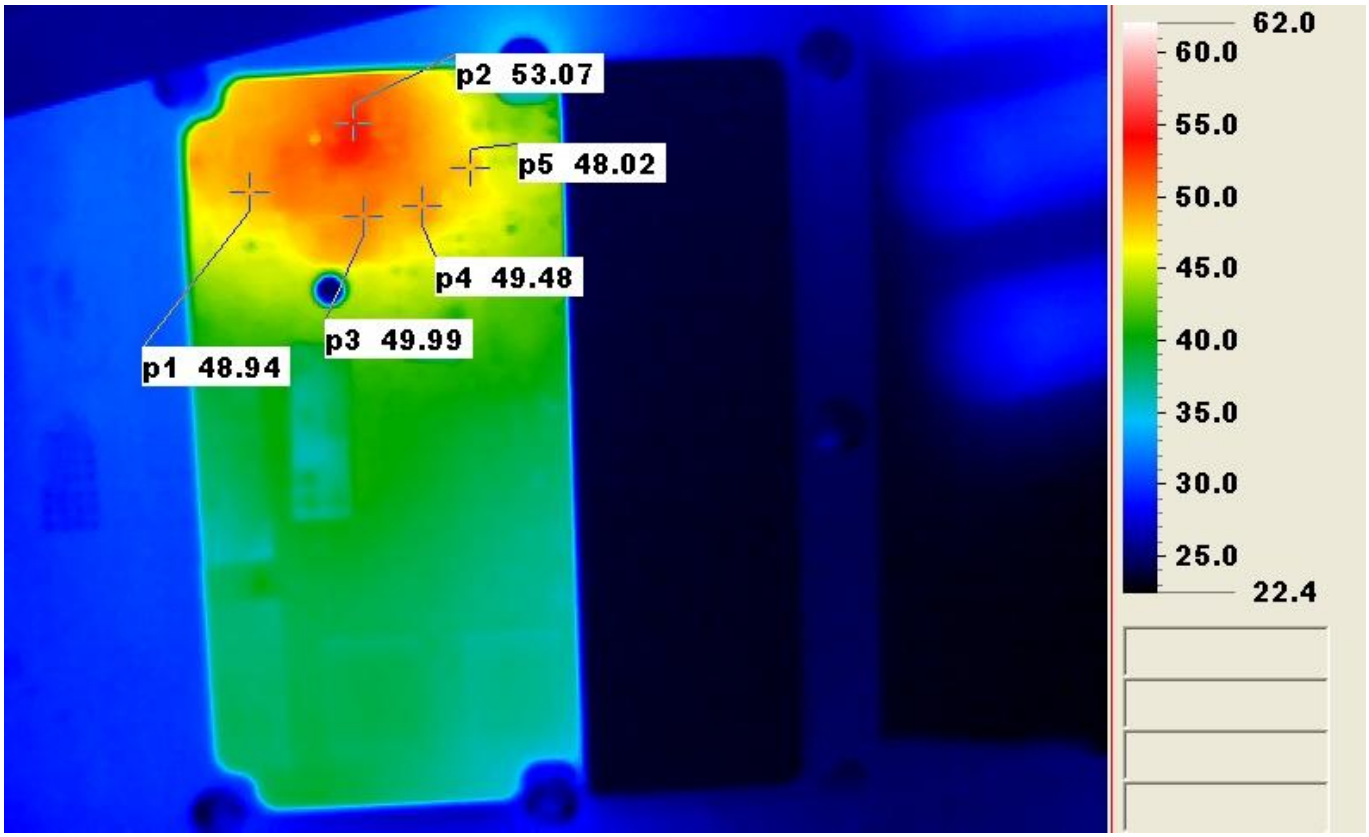
Temperature Profile Test:

Component Side:





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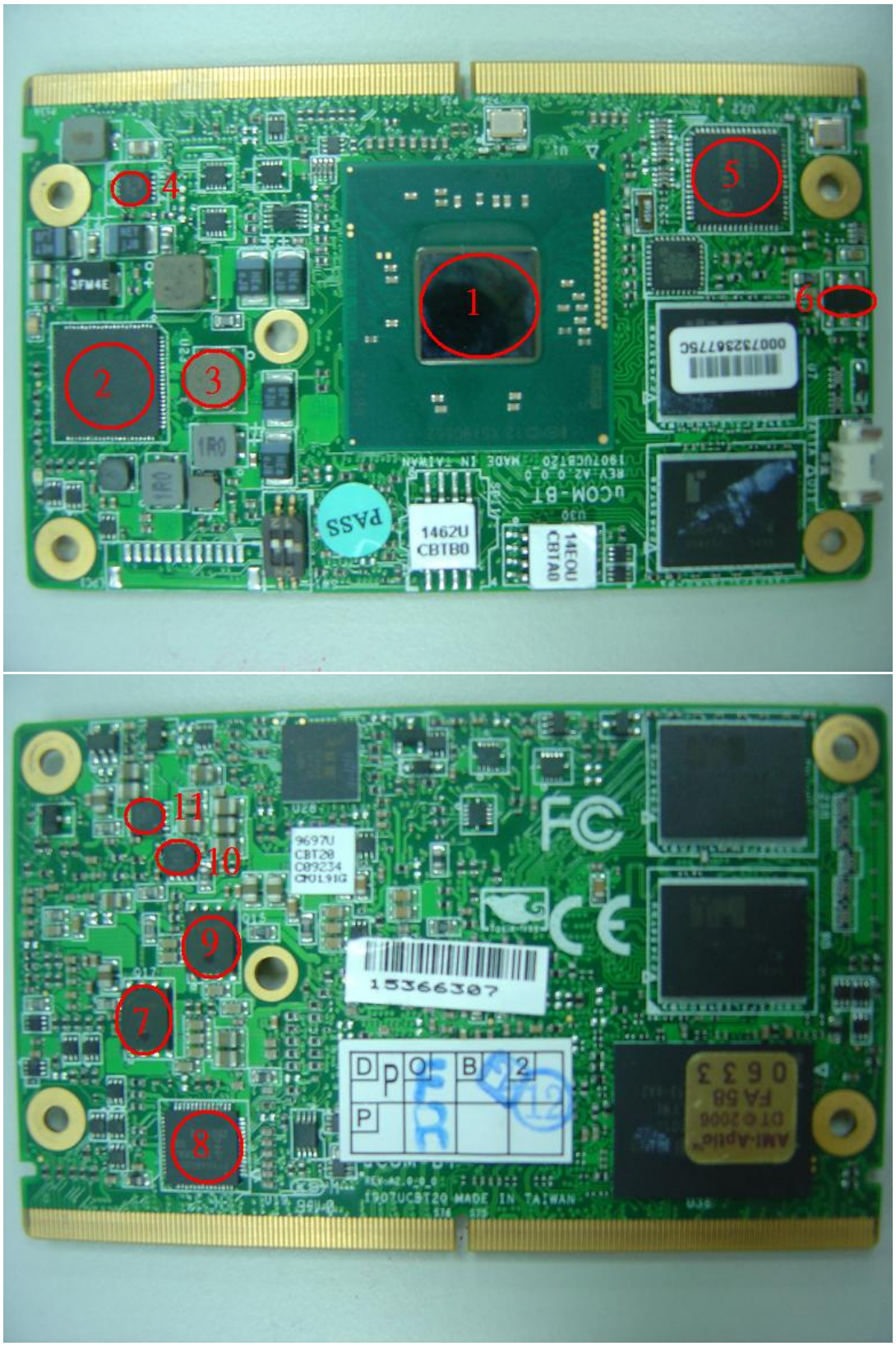
Terminal Recorder:

Measuring Thermal Couple Position：



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

Point	Position	Describe	Tc (*1) (℃)	TAT(*2)	TPT(*3)	Note
				23.0℃	60℃	
1	U1	(TF)INTEL Bay Trail-I.E3845.1.91GHz.FCBGA1170.FH8065301487717 SR1X6	110	35.1	72.1	
2	U23	(TF)IC.PMIC.for Intel Valleyview.UQFN.88P.SMD.ROHM.BD9596MWV	125	56.9	93.9	
3	L4	(TF)COIL.0.33uH.DCR=7.3mohm.IDC=10.3A.20%.5.5x5x3mm.SMD.NEC /TOKIN.MPLCG0530LR33	135	52.1	89.1	
4	U37	(TF)IC.Efficiency Synchronous.Boost Converter.VSON.11P.SMD.TI.TPS61230DRCR	90	46.7	**83.7**	NOTE4
5	U22	(TF)IC.PCI-E GigaBit Ethernet Chipset.QFN 64P.SMD.Intel.WGI210IT	100	55.5	92.5	
6	U33	(TF)IC.LDO.1A.SOT89-5.SMD.YOBON.YT9110HGF-ADJ	110	43.2	80.2	
7	Q17	(TF)PWR.DUALSMD.N-MOSFET.Vgs1/2=(+/-)20/12V.Vds1/2=30V.Id1=13 A.Id2=25A.Rds(on)=10.8/3.8mohm.PQFN8.FAIRCHILD.FDMS3664S	125	52.1	89.1	
8	U19	(TF)IC.Display Port to LVDS Converter.QFN 56 Pin.SMD.NXP.PTN3460BS	85	50.3	**87.3**	NOTE4
9	Q15	(TF)PWR.DUALSMD.N-MOSFET.Vgs1/2=(+/-)20/12V.Vds1/2=30V.Id1=13 A.Id2=25A.Rds(on)=10.8/3.8mohm.PQFN8.FAIRCHILD.FDMS3664S	125	57.6	94.6	
10	Q14	(TF)PWR.PMPAK3X3 DUAL N-MOSFET.Vgs1/2=(+/-)20V.Id1=6A.SMD.FAIRCHILD.FDMC7200S.Id2= 8.5A.Vds1/2=30V	125	55.2	92.2	
11	Q16	(TF)PWR.PMPAK3X3 DUAL N-MOSFET.Vgs1/2=(+/-)20V.Id1=6A.SMD.FAIRCHILD.FDMC7200S.Id2= 8.5A.Vds1/2=30V	125	53.4	90.4	

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.

6. Defect NO. :

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