Report NO: 10E080001_I

XTX-U15B

Thermal Image Analysis Report

Summary	☐ Pass ☐ Fail ☑ Pass with Deviation Comment: Please refer to U27

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

Issue date	Approval	Test Engineer
2010/06/18	Jansin Lee	Nisam Jone

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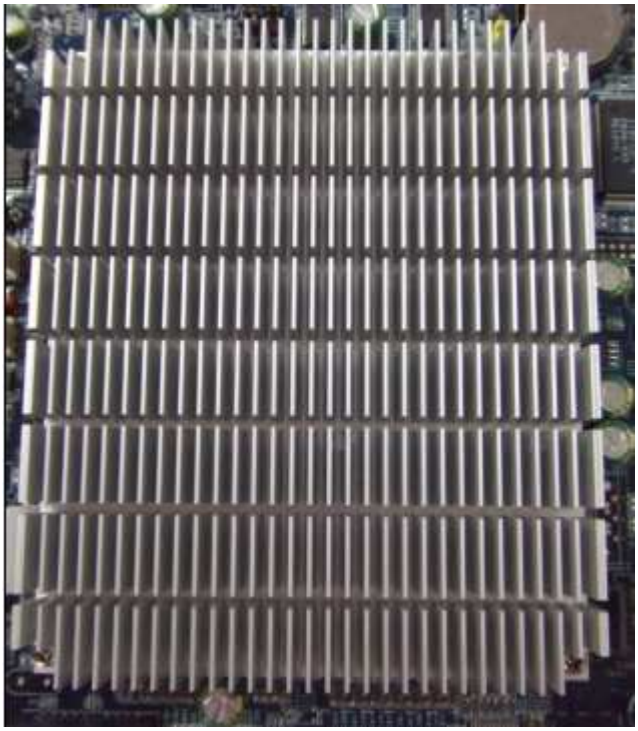
Sample Configuration & Quantity Under Test

- **CPU Board: XTX-U15B Rev A0.4**
- **Carrier Board: ECB-910M Rev A1.0**
- **CPU: Intel® Atom™ CPU Z530 @ 1.60GHz (133x12)**
- **Memory: Transcend DDR2-533 512MB (hynix HY5PS12821A FP-C3)**
- **HDD: Seagate ST380815AS 80GB 3.5” SATA HDD**
- **BIOS : XTX-U15B BIOS Rev 0.62 (05/28/2010)**
- **Test Software: Windows XP sp3 / Run Prime95 v25.9**
- **ATX Power Supply: COOLERMASTER RS-350-PCAR-13**
- **Cooler:**



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Thermal Image Analysis

1. Test Date: 06/18/2010

2. Test Product: XTX-U15B Rev A0.4

3. Test Site: AAEON QA Internal Lab.

4. Temperature Measurement:

1. YOKOGAWA MR1000(TH-046)

2. IR Scanner: Infrared Camera

NIPPON AVIONICS CO., LTD.

Model: TVS-100

Date of Calibration: 09/17/09

Serial Number: 0179L2746

5. Test Condition:

Component Side-1 (Test by TVS-100 & TH-046): 23.6℃ With cooer

Component Side-2 (Test by TH-046): 24.6℃ With cooler

6. Test Software:

Windows XP sp3 / Run Prime 95 v25.9

7. Take Picture Time:

After power on 2 hours

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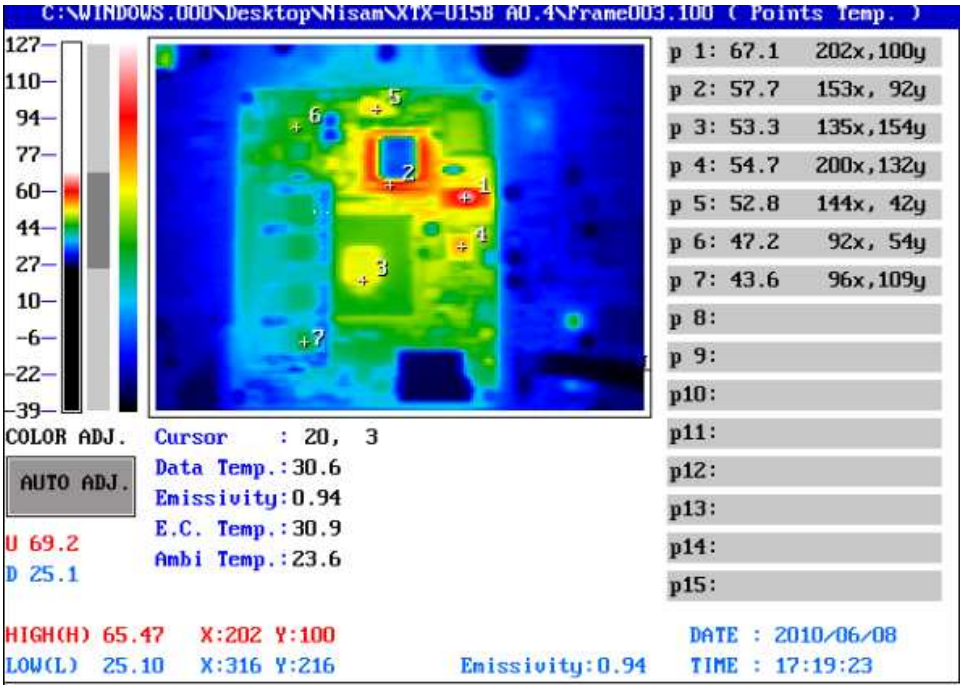
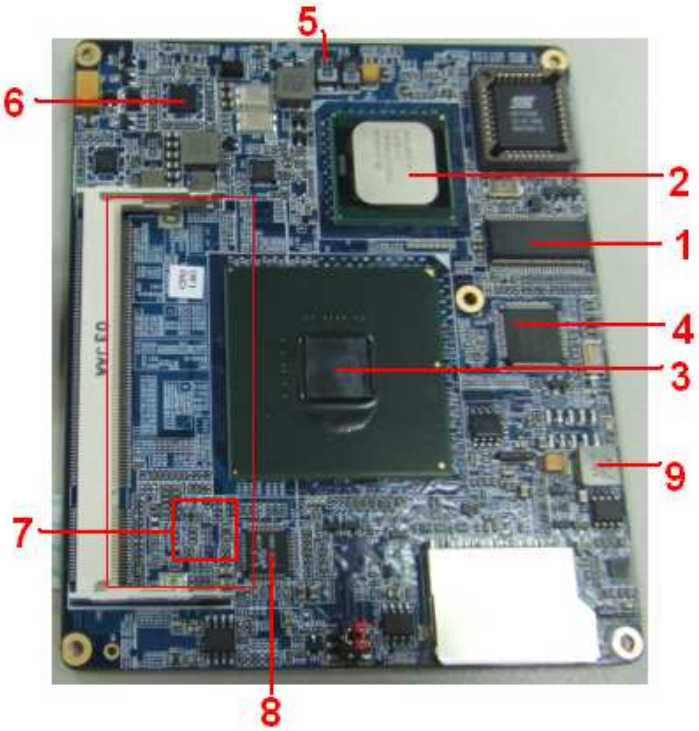
Temperature Profile Test:

Component Side-1: (YOKOGAWA MR1000 with Point 1~9)





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Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				23.6℃	60℃	
1	U5	(TF)IC.SMD.SSOP56.Clock Generator.ICS.ICS9E4101yFILFT;EE-A100288;14S4410101;TWN	115	57.6	94	
2	U1	(TF)INTEL CPU.Silverthorne XL.1.6GHz/533.CH80566EE025DW.;EE-A091272;14S4160040;TWN	110	52.4	88.8	
3	U3	(TF) IC.SMD.Chipset SCH.Poulsbo XL.INTEL.LE82US15EC;EE-A100254;14S4053303;TWN	115	55.6	92	
4	U6	(TF) IC.SMD.TQFP 64P.SATA to IDE/ATA Chip.SUNPLUS.SPIF223A-HF022;EE-A091744;14S9022300;TWN	100	52.3	88.7	
5	C344	(TF)POSCAP.[68,100,150,220,330,470,680,1000]uF.[2.5,4.0,6.3,10.0]V.20%.[9,12,15,18,25,35]mohm.SMD.SANYO.TPE series;EE-A060324;11896*****;TWN	105	44.8	81.2	
6	U32	(TF)IC.SMD.MLP5x5-32P.IMVP6 Single Phase PWM.SEMTECH.SC454MLTRT;EE-A090042;14S2045400;TWN	100	44.5	80.9	
7	RAM	Transcend DDR2-533 512MB (hynix HY5PS12821A FP-C3)	N/A	48.5	84.9	
8	U27	(TF)IC.SMD.LQFP 48P.7.1+2 Channel High Definition.Audio Codec.REALTEK.ALC888-GR;EE-A071056;14S3088800;TWN	100	52.9	94.3	
9	L14	(TF)COIL.1uH.+/-20%.SMD.7.3*6.8*3.0mm.DCR=9mohm.Irms=11Amp.GOTREND.GSTC063P-1R0MN;EE-A061520;1211000180;TWN	100	23.4	59.8	

Note(*):

1. "Tc" indicates the component's case maximum temperature value specified in its datasheet.

2. "Tm" indicates the measured Tc value under working environmental temperature within product specification.

3. 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.

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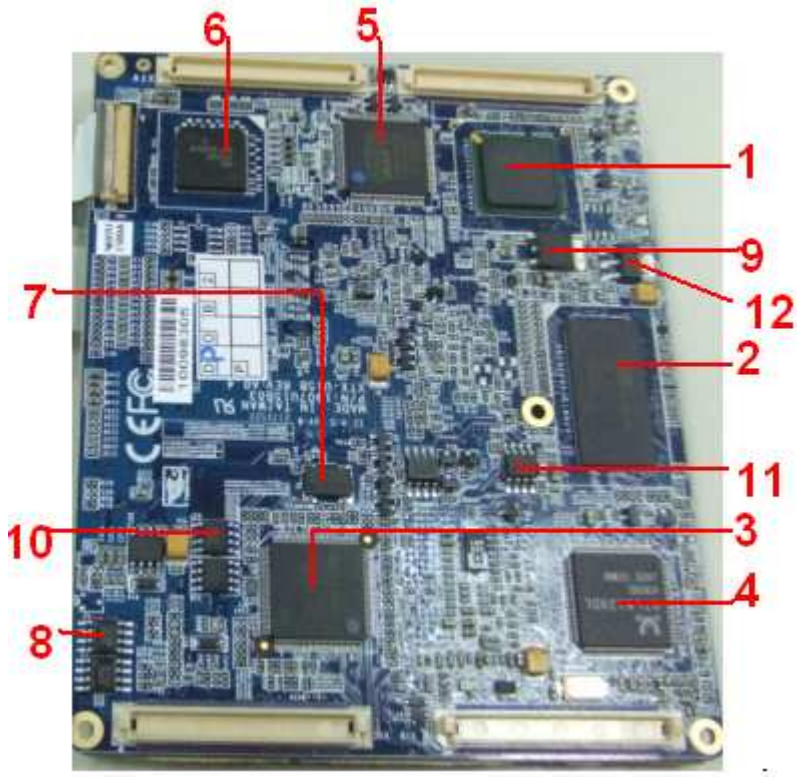
Component Side-2: (YOKOGAWA MR1000 with Point 1~12)



Point	Position	Describe	Tc (*1) (℃)	Tm (*2) Measured Under		Note
				24.6℃	60℃	
1	U22	(TF)IC.SMD.PBGA.196P.5-port PCI Express Switch.PLX.PEX8505-AA25BIG;EE-A091942;14S9850500;TWN	115	54.3	89.7	
2	U10	(TF)IC.SMD.LBGA 91P.PATA SSD 4G.SST.SST85LD1004T-60-RI-LCTE;EE-A100168;14S4100400;TWN	115	52.3	87.7	
3	U7	(TF)IC.SMD.VTQF-128Pin.Super I/O.SMSC.SCH3114-NU;EE-A080482;14S4311401;TWN	115	48.7	84.1	
4	U20	(TF)IC.SMD.100P PCI Ethernet Chip.RELTEK.RTL8139D Series;EE-A021236;14S48139**;TWN	100	24.9	60.3	
5	U13	(TF)IC.SMD.TQPF 100P.CPLD.Altera.EPM240T100C5N;EE-A090239;14S9024000;TWN	110	20	55.4	
6	U15	(TF)IC.SMD.PBGA.169P.PCI Express-to-PCI Bridge.TI.XIO2001IZGU;EE-A100709;14S9200100;TWN	105	48.7	84.1	
7	Y4	(TF)OSC.32.768KHz.SMD.7.1*4.6mm.4P.3.3V 5+/-27PPM.ARGO.Epson SG3030JF;EE-A080533;1233332722;TWN	115	50.9	86.3	
8	U36	(TF)PWR.SMD.SO-8P.P-Channel MOSFET.APEC.AP6679GM-HF;EE-A071268;1315667910;TWN	125	18.7	54.1	
9	U34	(TF)REG.SMD.TO-252 5A Linear Regulator.Diodes.AP1084DG-13;EE-A011431;1314108412;TWN	100	52.6	88	

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10	U37	(TF)Dual N-Channel.SMD SO-8.2.5V MOSFET.APEC.AP9926GM;EE-A030055;1315992601;TWN	125	49.8	85.2	
11	U21	(TF)IC.SMD.SOIC 8P.2.5V 1K bits.Microchip.93LC46B/SN;EE-A990454;14S6334610;TWN	155	24.3	59.7	
12	U26	AMS/積甲/(TF)REG.SMD.1A Dropout Regulator.AMS.AMS1117 Series;EE-A990164;131411171*;TWN	100	23.6	59	

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