EMB-BT1

Thermal Test Report

Report NO: 13IP080017

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: <u>There are four temperature point marginal passed, the function is normal, hope to get improvement for the next generation.</u>**

Issue date	Approval	Issued by
2013-11-21	**Tom Lin**	**Ben Sun**

Test item list

1. Test item list ---------- *2*
2. Configuration of EUT ---------- *3*
4. Temperature rise test ---------- *4*

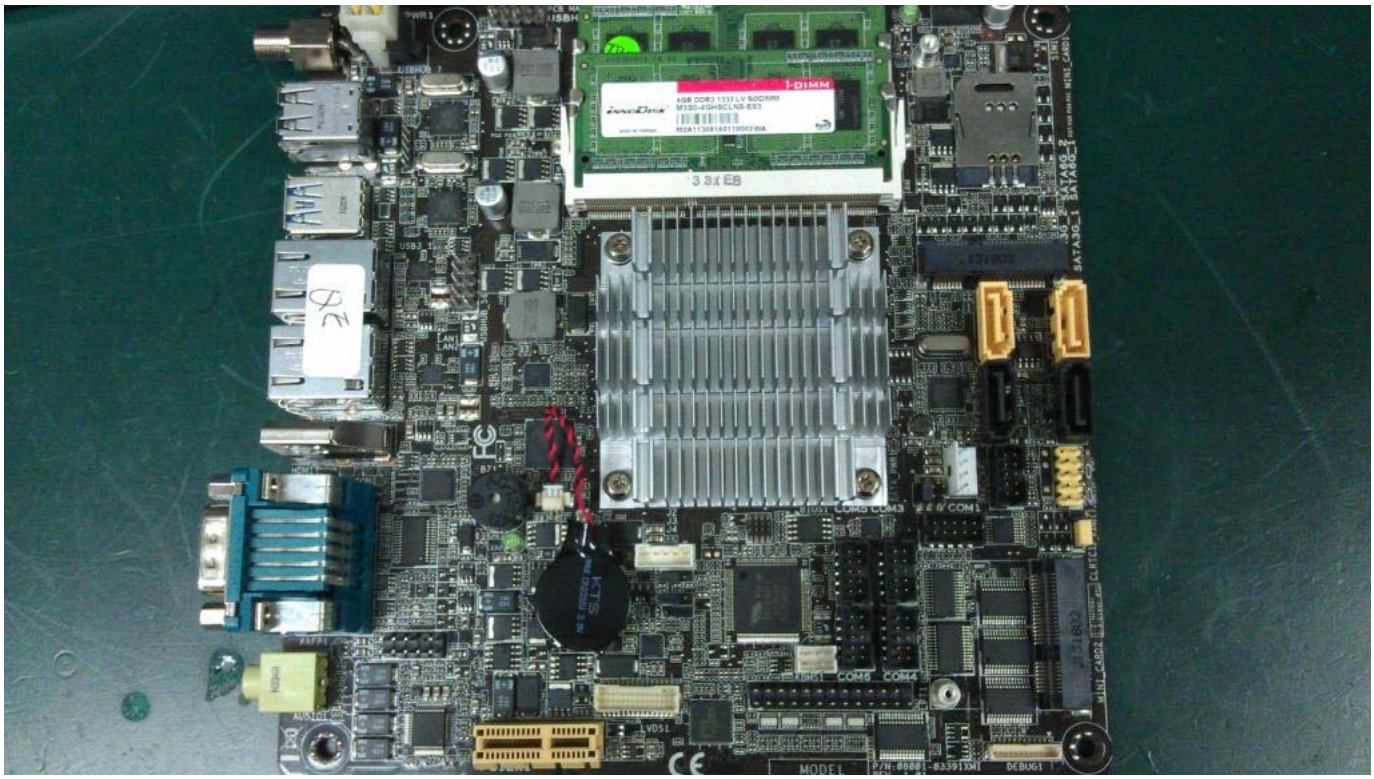
Testing Result

Num	Test item list	Result	Remark
12	Temperature rise test	Pass	

Configuration of EUT

Num	Item	Spec
1.	System:	EMB-BT1
	1. Main board	EMB-BT1
	2. BIOS	EBT1A0x00xc x86 (10/22/2013)
	3. CPU Type	Intel Atom CPU E38451.91GHz
	4. Memory	Innodisk DDR3L 1333 4GB Hynix H5TC4G83AFR M3S0-4GHSCLN9-E93*2
	5. 2.5'' SATA HDD	N/A
	6. 3.5'' SATA HDD	HITACHI HDS721050CLA362 500GB 3.5"
	7. Test Software	Windows 8 / Run BurnIn test 7.0 Pro
2.	Power Supply	N/A

CPU Cooler



Temperature rise test

Test Date: 11-20-2013

Test Product: EMB-BT1

Test Site: AAEON QE Dept.

Test Standard: Refer to EN 61131-2(94), UL508 (94)

Temperature Measurement:

20 Channel Thermal Meter

Model: OMRON ZR-RX45

Date of Calibration: 2012/12/11

Serial Number: H01080236

Test Condition:

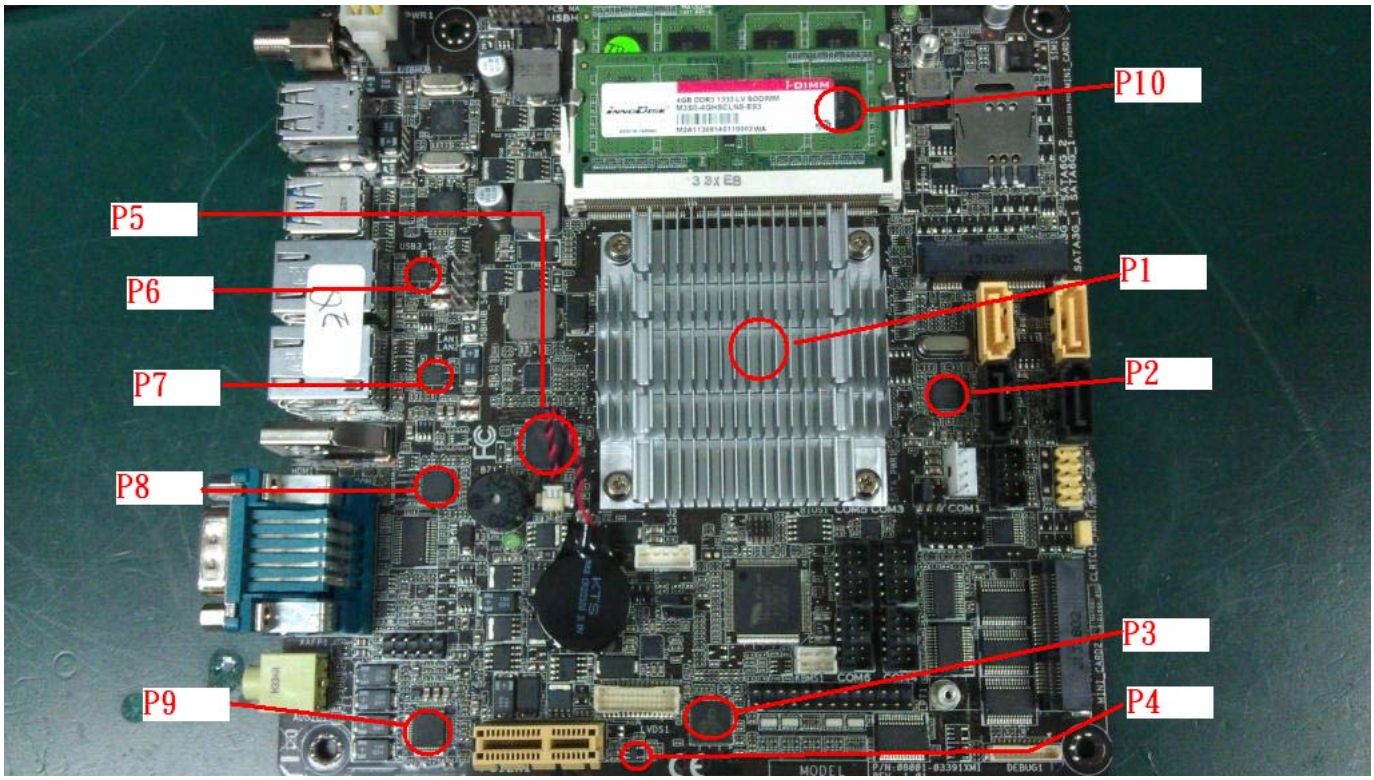
Ambient temperature: 25℃

Continuous running till thermal stability (within less than 1℃)

Test Software:

Windows 8 / Run PassMark Burn In Test 7.0 Pro

Terminal Recorder:



Temperature rise test

Thermal profile data:

EMB-BT1

Point \ Temp. Stage(℃)	Spec	25	60	Note
01. CPU FH8065301487715 932052	110	51.2	86.2	
02. C.S ASM1061 QFN48L	120	49.6	84.6	
03. C.S CH7511B-BF QFN68	85	51.9	86.9	
04. LDO REG. UP0107BMA5-00	150	49.6	84.6	
05. C.S PEX8605-AA50NI G QFN136	100	60.1	95.1	
06. C.S RTL8111G-CG QFN-32	100	61.7	96.7	
07. C.S RTL8111G-CG QFN-32	100	60.1	95.1	
08. C.S ASM1442(D) QFN-48	100	47.7	82.7	
09. C.S ALC887-VD2-CG LQFP-48	85	48.5	83.5	
10. DDR3 SO-DIMM LV TS512MSK64W6H	85	42.3	77.3	

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; The measured value is over specification.
- **Margin Pass** : Tc > Tm > Tc-5℃; The measured value is within specification with margin.
  It is strongly recommended to add thermal dissipation design for better reliability.
- **Pass** : Tm < Tc-5℃; The measured value is with safety margin.

4. Defect NO.BUL1314QED01

Sample Configuration & Quantity Under Test:

Quantity: 1 (EMB-BT1)

Test Result:

No issues were found during the temperature rise operation test.