UP-GWS01

Environment Test Report

Report NO: 16D020005

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: _____**

Issue date	QE Manager	Test Engineer
2016-08-26	**KJ Wang**	**Rex Chang/Juno**

Test item list

Testing Result

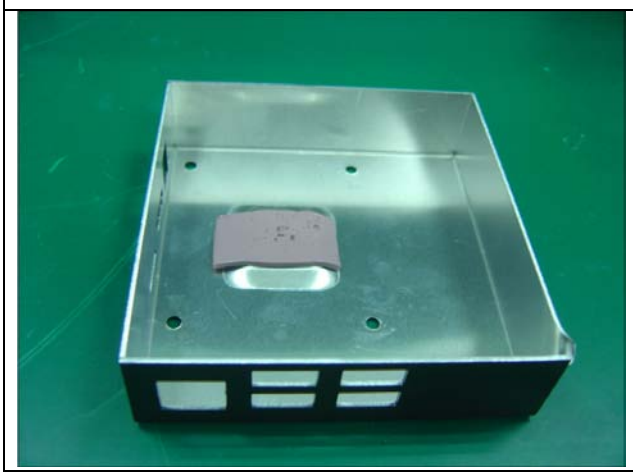
Num	Test item list	Result	Remark
1	Temperature rise test	Pass	
2	Temperature cycle operation test	Pass	
3	Cold start and hot start test	Pass	

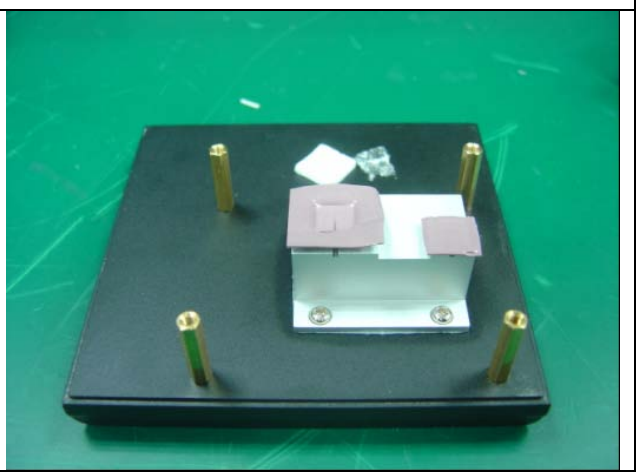
Configuration of EUT

Num	Item	Spec
1.	**Fanless System**	UP-GWS01
	1. Main Board	UP-X5-Z8300-02 A0.3
	2. BIOS Ver.	UPC1BM0S
	3. CPU Type	Intel CPU.SOC.Cherry Trail-T3.x5-Z8350
	4. Chipset	Intel.SOC.Cherry Trail-T3.x5-Z8350
	5. Onboard Memory	SK Hynix.H5TC8G63CMR-PBA, DDR3L-SDRAM, 4GB
	6. Onboard eMMC	eMMC. Kingston.EMMC64G-M525-A51. 64GB
	7. Test Software	Windows 10 / Run PassMark Burn In Test 8.1 Pro
2.	**Adapter:**	FSP FSP015-DPAN2 / 5V, 3.0A (15W Max)

Photos

Heat Sink





Temperature rise test

Test Date: 08- 25-2016

Test Product: UP-GWS01

Test Site: AAEON QE Dept.

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

Temperature Measurement:

40 Channel Thermal Recorder: (YOKOGAWA Inc,)
Model: DA100-13-1D
Date of Calibration: 09/10/15
Serial Number: 12A323190

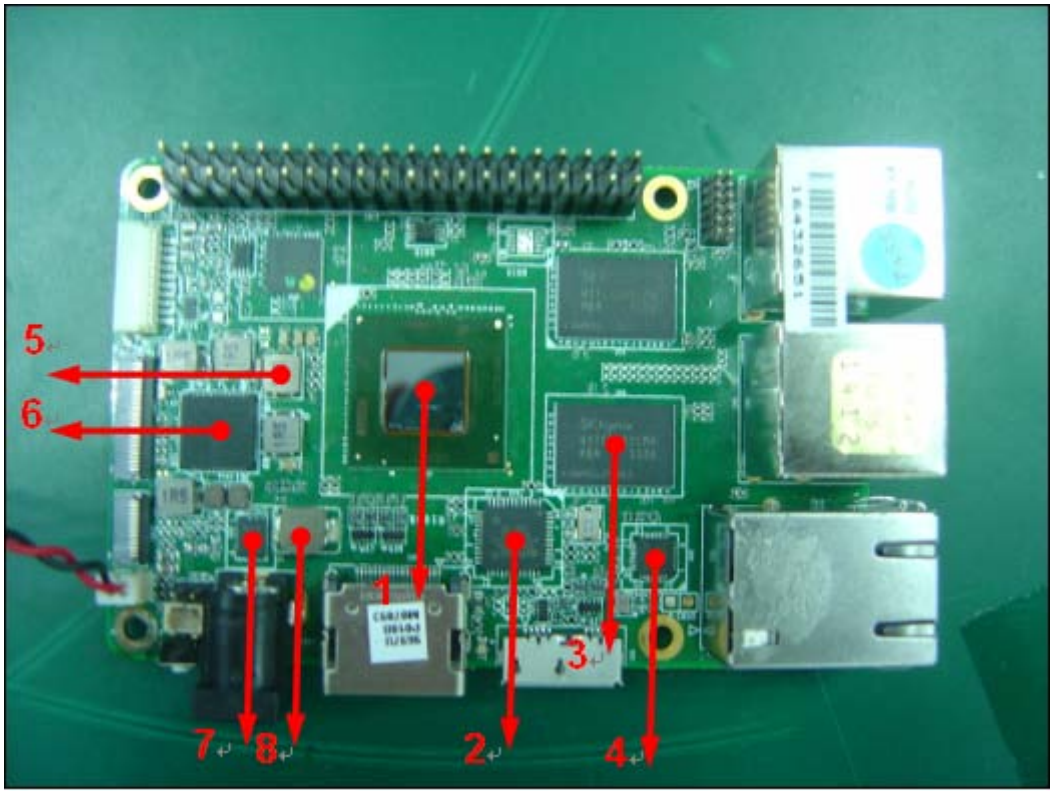
Test Condition:

Ambient temperature: 40℃
Continuous running till thermal stability (within less than 1℃)

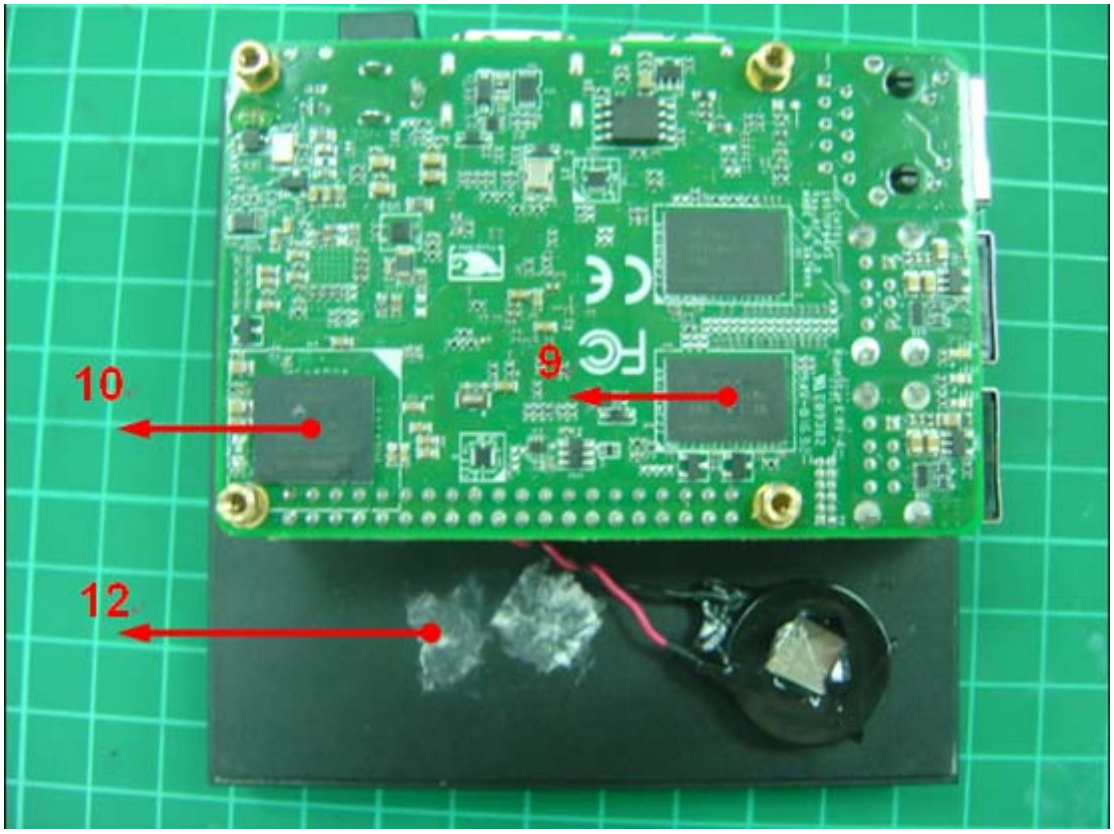
Test Software:

Windows 10 / Run PassMark Burn In Test 8.1 Pro

Terminal Recorder:



Temperature rise test



Temperature rise test

Thermal profile data:

UP-GWS01

Point / Temp. Stage(℃)	Spec Tc(*1)	TAT(*2) 40	TPT(*3) 25	Note
01. (TF)INTEL CPU.SOC.Cherry Trail-T3.x5-Z8350.1.92GHz.	90	74.3	59.3	
02. (TF)IC.HSIC controller.QFN SMD.SMSC.USB4604-1080HN-TR	100	77.9	62.9	
03. (TF)IC.4G.DDR3L-1600.SDRAM.l.SMD.NANYA.NT5CC256M16DP-DI	95	79.2	64.2	
04. (TF)IC.PCI-express.Gigabit Ethernet Chip. REALTEK.RTL8111G-CG	100	81.1	66.1	
05. (TF)COIL. SMD.GOTREND.GSTD4020PM-1R0M	125	80.6	65.6	
06. (TF)IC.PMIC for Intel Cherry Trail.CR Platform.TI.SND9039A2CTRSKR	100	77.5	62.5	
07. (TF)IC.Synchronous tep down.SMD.MPS.MP8762GLE-Z	100	83.2	68.2	
08. (TF)COIL.NEC/TOKIN.MPLCG0530L1R5	120	86.2	71.2	
09. (TF)IC.4G.DDR3L-1600.SDRAM.SMD.NANYA.NT5CC256M16DP-DI	95	77.9	62.9	
10. (TF)IC.eMMC Flash.SMD.Kingston.EMMC32G-M525-A51	100	82.3	67.3	
11. Battery : maxell CR2032H BP-CR2032-M90-001	85	71.2	56.2	
12. Control Box Inside Air Temperature -	NA	72.3	57.3	
13. Control Box External Surface Temperature	NA	71.9	56.9	

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; The measured value is over specification.
- **Margin Pas** : 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. : BUL1608LABD01

Sample Configuration & Quantity Under Test:

Quantity: 1 (UP-GWS01)

Test Result:

No issues were found during the temperature rise operation test.

Temperature cycle test

Test Date: 08-22 ~ 24-2016

Test Product: UP-GWS01

Test Site: AAEON QE Dept.

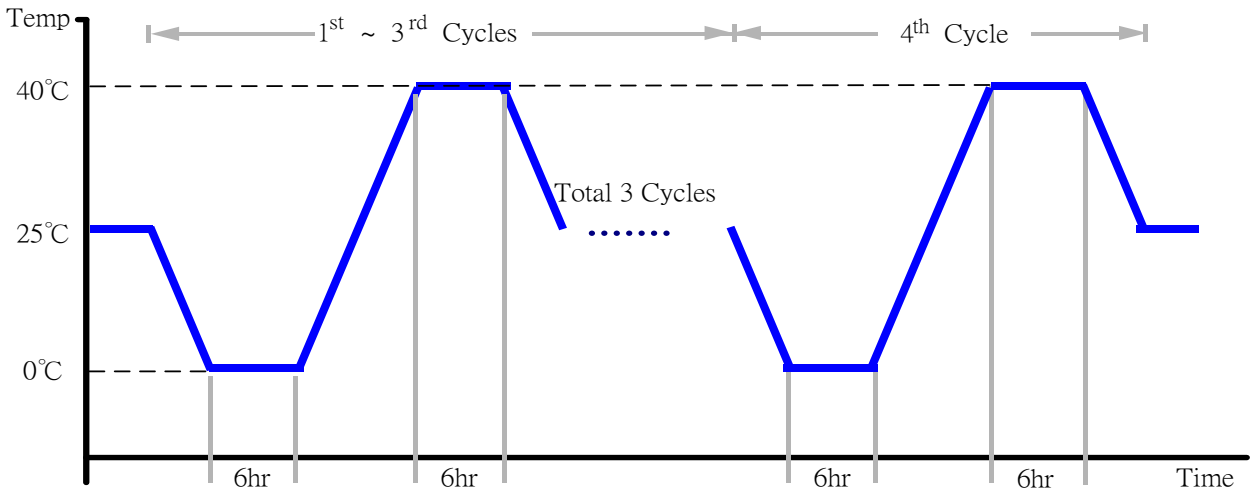
Test Standard: Refer to IEC68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150+LN2
Date of Calibration: 04/25/16
Serial Number: 6488KT

Test Condition:

1. Test Low Temperature: 0℃
2. Test High Temperature: 40℃
3. Test dwell time: 6Hrs
4. Temperature slope: 2℃/min
5. Test cycle: 4 cycles
6. Test Software: Windows 10 / Run PassMark Burn In Test 8.1 Pro
7. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (UP-GWS01)

Test Result:

No issues were found during the temperature operation cycle test.

Cold start and hot start test

Test Date: 08-19 ~ 20-2016

Test Product: UP-GWS01

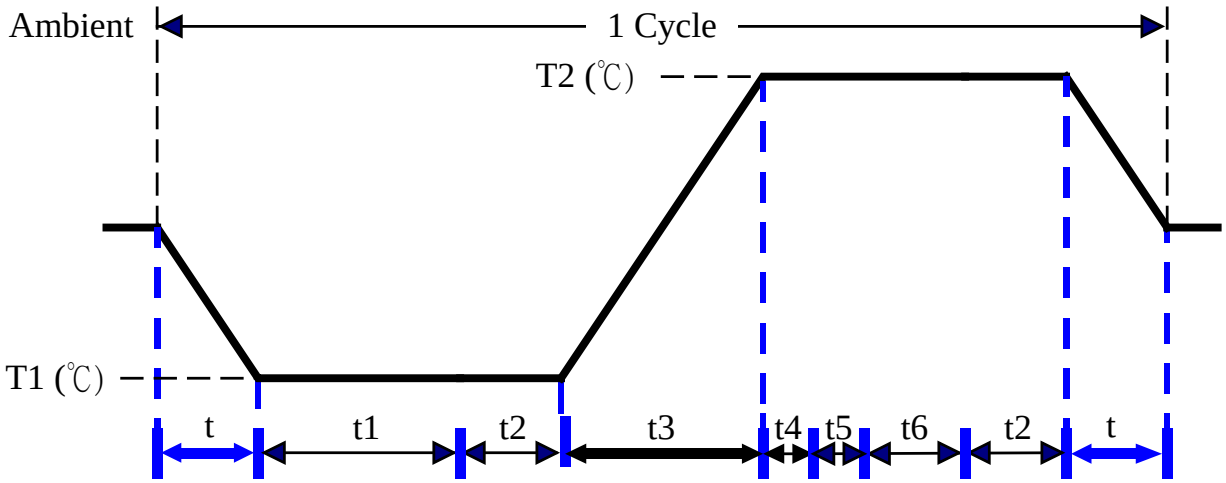
Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-14 Testing procedures
Test N: Change of temperature Test

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150+LN2
Date of Calibration: 04/25/16
Serial Number: 6488KT

Test Condition:



Parameters	Description
T1	0℃
T2	40℃
t1	4 hrs
t2, t6	2 hrs
t4, t5	1hrs
t, t3	2℃/min
n (Cycle)	1

t = temprature slope
t , t1, t6: Power Off
t2: Power on/off test 10 times (on 2 min / off 5min)
t3, t4: Run PassMark Burn In Test
t5: Win 10 Software restart test 2 times
Test Software: Windows 10

Test Result:

a. No issues were found during the cold start test.

b. No issues were found during the hot start test.