

UPC-PLUS

Temperature/Humidity Test Report

Report NO: 19D020002

Summary	<p><input checked="" type="checkbox"/> Pass</p> <p><input type="checkbox"/> Fail Note : There is/are ____ defect(s) not list in the report, please check it in the DTS Website.</p> <p><input type="checkbox"/> Pass with Deviation Comment: _____</p>
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Issue date

2019-01-10

QE Manager

KJ Wang

Test Engineer

Ben Sun

Test item list

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Testing Result

Num	Test item list	Result	Remark
1	Temp./humidity power on/off test	Pass	
2	Temperature variation operation test	Pass	
3	Cold start and hot start test	Pass	

Configuration of EUT

Test Product: UPC-PLUS A0.4

Sample Configuration & Quantity Under Test:

1. CPU: Intel® APL E3940 2M Cache, up to 1.80 GHz
2. BIOS Ver.: UPCPSM0A3
3. Chipset: Intel® APL E3940
4. Memory: LPDDR4 Micron MT53B256M32D1NP-062WT:C
5. Storage: eMMC 64GB Sandisk SDINBDA4-64G-V
6. Test Software: Ubuntu 16.04 / Run PassMark Burn In Test 3.2
7. Adapter: PS1065-120IB500 12V/5A
8. CPU Heatsink:



Temp./humidity power on/off test

Test Date: 01-04~ 06-2019

Test Site: AAEON QE Dept.

Test Standard: Refer to IEC 68-2-30 Testing procedures
 Test Db: Damp Heat Test
 Refer to IEC 68-2-1 Testing procedures
 Test Ad: Cold Test

Test Equipment:

Programmable Temperature & Humidity Chamber: (K.SON. INS. TECH. CORP.)
 Model: THS-D7TS-100+LN2
 Date of Calibration: 04/20/18
 Due date of Calibration: 04/19/19
 Serial Number: A0445

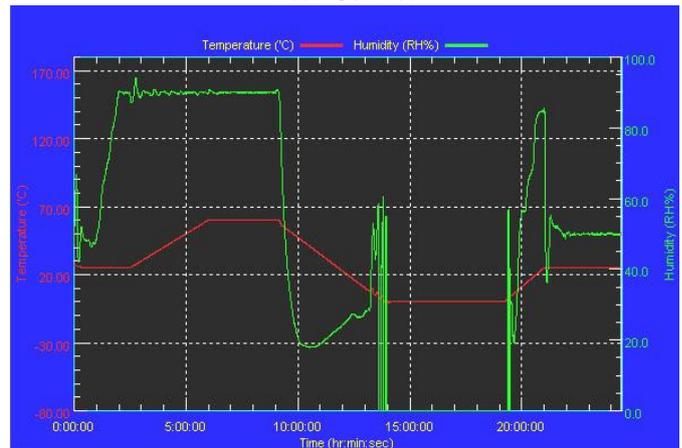
Temperature & Humidity Power On/Off Test:

1. Test High Temp./Humidity: 60°C @90%RH
2. Test Low Temperature: 0°C
3. Test Time: 24Hours / Cycle
4. Test Cycle: 1 Cycle
5. Test Software: Ubuntu 16.04 / Run reboot Program

Testing Specification:

Step	Temperature (°C)	Humidity (%RH)	Duration (HH:MM)
1	25	50	00:30
2	25	50	00:30
3	25	90	01:00
4	25	90	00:30
5	60	90	03:30
6	60	90	03:00
7	0	0	04:50
8	0	0	05:23
9	25	50	01:47
10	25	50	03:00

Test Curve:



Test Result:

	Actual	Successful	Failure rate	Test Result
Power On/Off	1102/times	1102/times	0 %	Pass

Note: 1. Failure rate need to under 0%.
 2. Power on/off fixture setting: on - 120 sec / off - 30 sec

Temperature variation operation test

Test Date: 01-07 ~ 08-2019

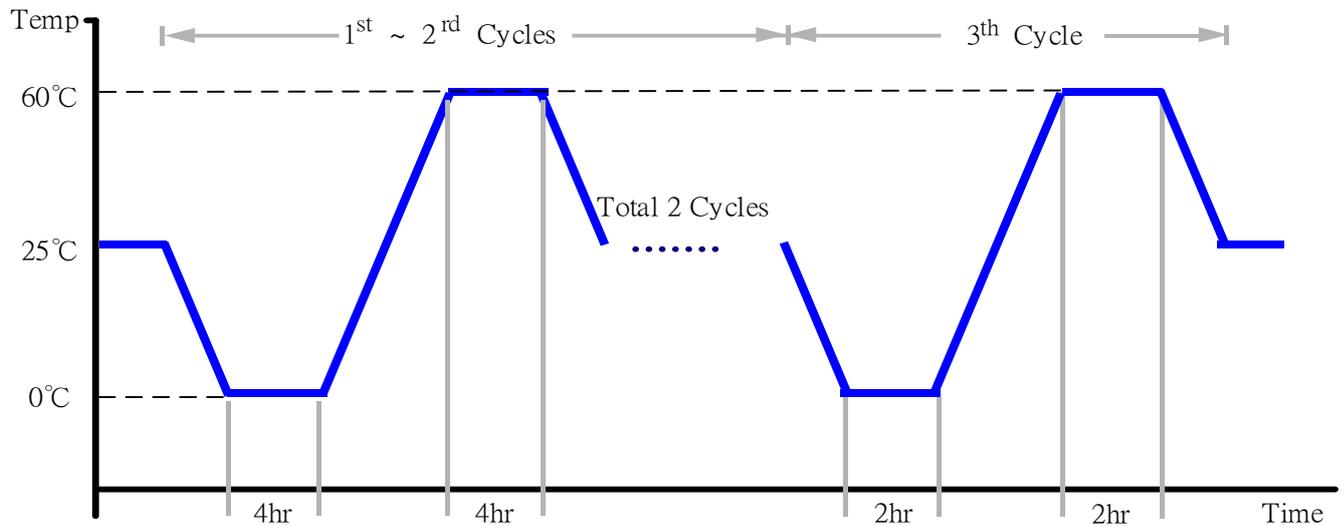
Test Site: AAEON QE Dept.

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-D7TS-100+LN2
Date of Calibration: 04/20/18
Due date of Calibration: 04/19/19
Serial Number: A0445

Temperature & Humidity Cycle Test:

1. Test Low Temperature: 0°C (1~3 cycles)
2. Test High Temperature: 60°C (1~3 cycles)
3. Test dwell time: 4Hrs (1~2 cycles)
2Hrs (3rd cycle)
4. Temperature slope: 2°C/min
5. Test cycle: 3 cycles
6. Test Environment Curve:



Test Result:

No issues were found during the temperature variation operation test.

Cold start and hot start test

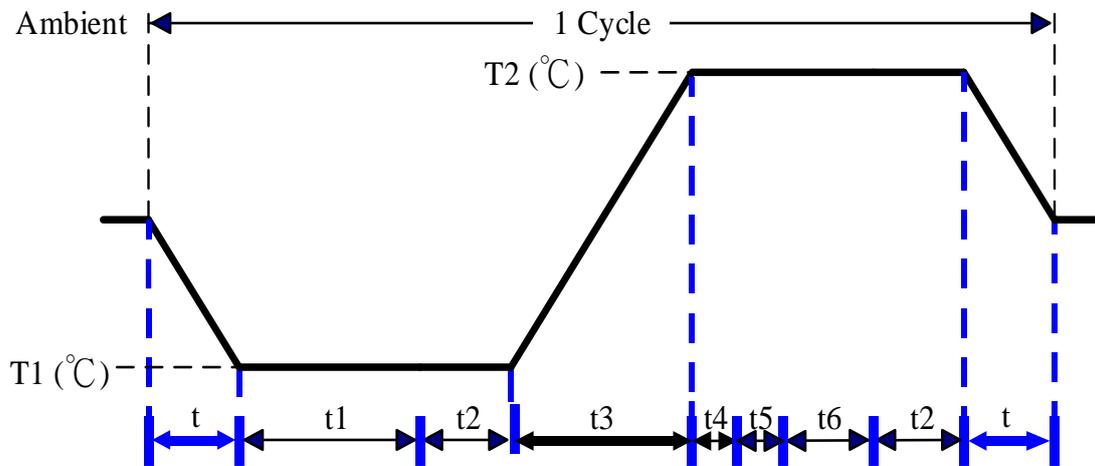
Test Date: 01-09 ~ 10-2019

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-D7TS-100+LN2
 Date of Calibration: 04/20/18
 Due date of Calibration: 04/19/19
 Serial Number: A0445

Test Condition:



Parameters	Description
T1	0°C
T2	60°C
t1	1 hrs
t2	2 hrs
t4, t5	30 min
t, t3	2°C/min
n (Cycle)	1

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