

# UPC-PLUS

## Temperature/Humidity Test Report

Report NO: 19D020002

Summary	<p><input checked="" type="checkbox"/> <b>Pass</b></p> <p><input type="checkbox"/> <b>Fail</b> Note : There is/are ____ defect(s) not list in the report, please check it in the DTS Website.</p> <p><input type="checkbox"/> <b>Pass with Deviation</b> Comment: _____</p>
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<u>Issue date</u>	<u>QE Manager</u>	<u>Test Engineer</u>
2019-01-10	KJ Wang	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

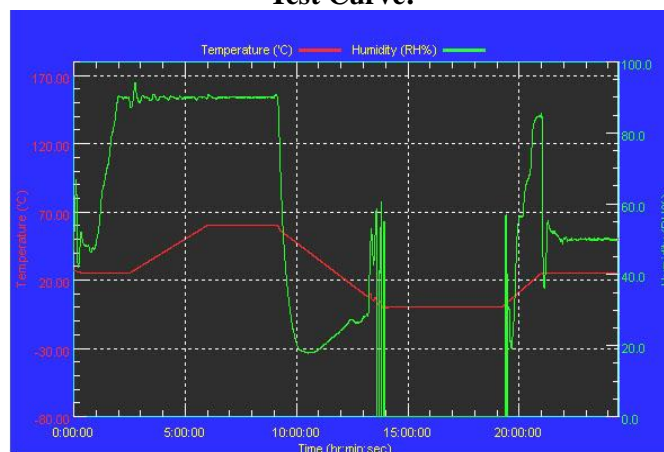
**Temperature & Humidity Power On/Off Test:**

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
<b>Note:</b> 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

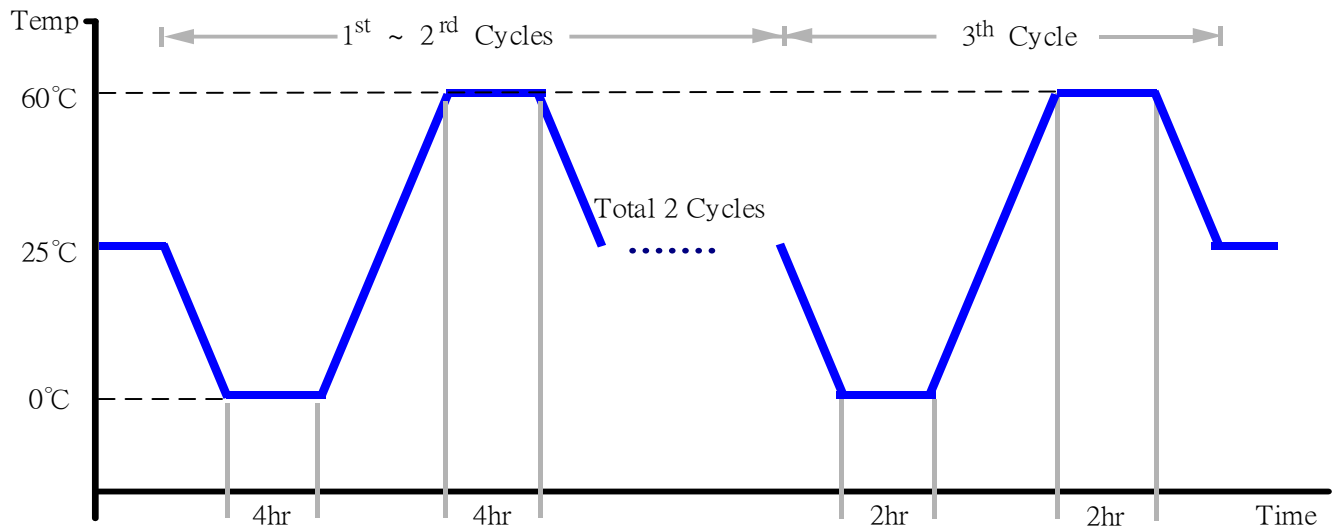
**Test Site:** AAEON QE Dept.

**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 (3<sup>rd</sup> 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

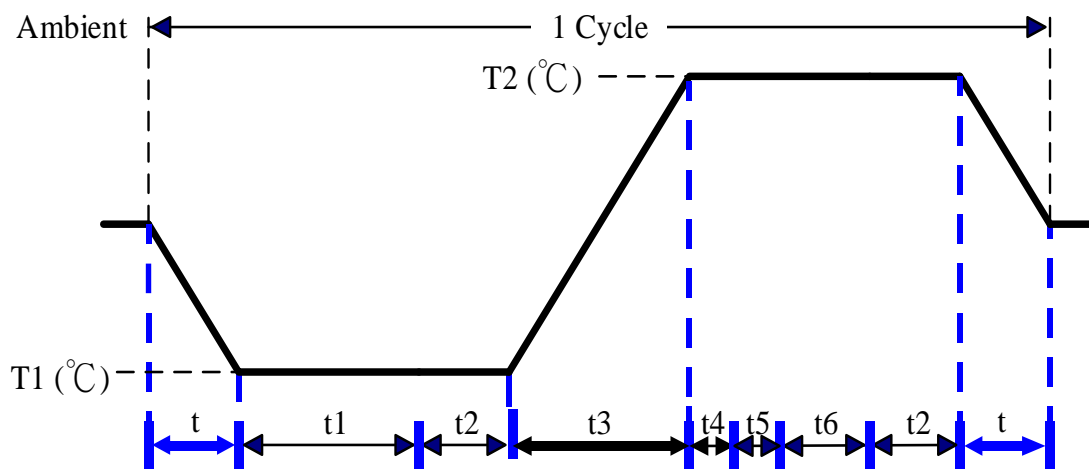
**Test Date:** 01-09 ~ 10-2019

**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:

- No issues were found during the cold start test.
- No issues were found during the hot start test.