

RTC-700A

With 3G Module

Environment Test Report

Report NO: 12R020001

Summary	<p><input checked="" type="checkbox"/> Pass</p> <p><input type="checkbox"/> Fail</p> <p>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</p> <p>Comment: _____</p>
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Issue date

2012-10-24

Approval

Tom Lin

Test Engineer

Rex Chang

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Testing Result

Num	Test item list	Result	Remark
1	Room temperature test	Pass	
2	Temperature rise test	Pass	
3	High temperature storage test	Pass	
4	High temperature operation test	Pass	
5	Low temperature storage test	Pass	
6	Low temperature operation test	Pass	
7	Humidity test	Pass	
8	Temperature shock operation test	Pass	
9	Temperature shock non-operation test	Pass	
10	Cold start and hot start test	Pass	

Configuration of EUT

Test Product: RTC-700A		
Sample Configuration & Quantity Under Test:		
Num	Item	Spec
RTC-700A(with 3G Module)		
1.	TABLET PC	RTC-700A
	1. CPU	NVIDIA® Tegra™ 2 1.0GHz Dual-core CPU
	2. Memory	DDR2 1GB SDRAM
	3. LCD Monitor	7" WXGA (1280 x 800) TFT LCD with Projected Capacitive Touch screen panel
	4. Audio Codec	Wolfson.WM8903L
	5.GPS	BROADCOM BCM4751IFBG
	6.WiFi	AzureWave.AW-NH615
	7.3G Module	HuaWei.EM820W
	8.eMMC	Hynix.H26M52002CKR
	9.Android ver.	3.2.1
	10.Build number	HTK75.RTC-0.6.0.0-20120307
2.	Battery	Lithium-Polymer high capacity battery (27.3WHr), 6 Hours Battery Life.
3.	AC Adapter	L.T.E. LTE24E-S2-2 AC Adapter

Room Temperature test

Test Date: 10-18-2012

Test Product: RTC-700A (with 3G Module) + AC Adapter

Test Site: AAEON QE Dept.

Temperature Measurement:

40 Channel Thermal Recorder: (YOKOGAWA Inc.)

Model: DA100-13-1D

Date of Calibration: 10/08/12

Serial Number: 12A323190

Test Condition:

Ambient temperature: 25dC

Continuous running till thermal stabile (within less than 1°C)

Test Software:

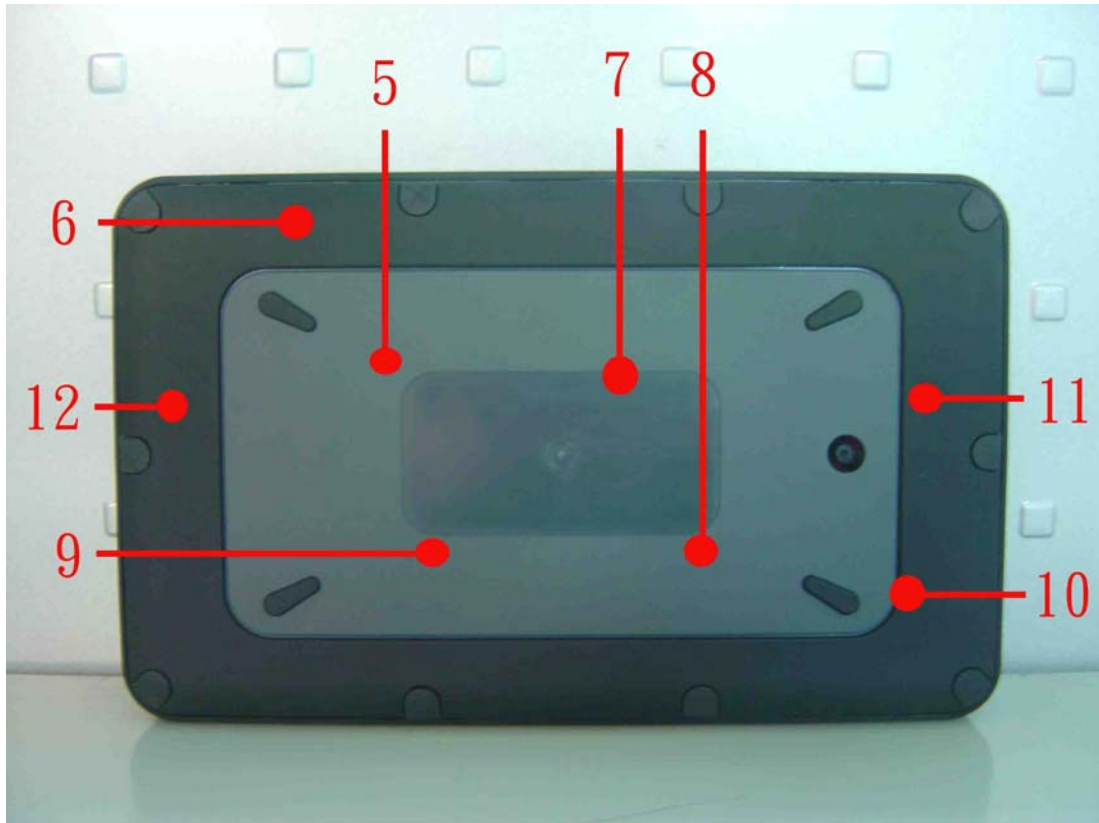
Android 3.2.1 / Run HD (1280*720p) video file under MX video player.

Terminal Recorder:

Measuring Thermal Couple Position :



Room Temperature test



Thermal profile data:

RTC-700A

Point	Temp. Stage(°C)	Spec	25
1. Point 1		ΔT ≤ 20 $^{\circ}\text{C}$	33.1
2. Point 2			32.6
3. Point 3			34.1
4. Point 4			33.6
5. Point 5 - Bottom of CPU			35.9
6. Point 6 - Bottom of PMIC			34.1
7. Point 7			34.4
8. Point 8 - Bottom of Battery			31.7
9. Point 9 - Bottom of Battery			32.0
10. Point 10 - Bottom of 3G Module			31.6
11. Point 11			31.2
12. Point 12			31.1
Room Temperature			24.9
Any Tm value showed in red words which meaning the value over the Tc degree Cof this device specification.			

Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-700A + AC Adapter)

Test Result:

No issue was found during the room temperature operation test.

Temperature rise test

Test Date: 10-22-2012

Test Product: RTC-700A (with 3G Module) + AC Adapter

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: 10/08/12

Serial Number: 12A323190

Test Condition:

Ambient temperature: 40°C

Continuous running till thermal stable(within less than 1°C)

Test Software:

Android 3.2.1 / Run HD (1280*720p) video file under MX video player.

Thermal profile data:

RTC-700A

Point	Temp. Stage(°C)	Spec	40	25
01. (TF)1.0GHz.ARM Cortex-A9 RISC Processor.NVIDIA.Tegra 250.		85	72.2	57.1
02. (TF)PMIC.TI.TPS658621CZGUR		85	68.6	53.5
03. (TF)LPDDR2-S4B.667MHz.1.8V.ELPIDA.EDB8132B2PB-6D-F		85	68.4	53.3
04. (TF)Magnetic sensor.SMD.LGA12.AICHI STEEL.AMI304		100	60.5	45.4
05. (TF)GPS Module.BROADCOM.BCM4751IFBG		105	54.4	39.3
06. (TF)WiFi & Buletooth Module.AzureWave.AW-NH615		100	52.3	37.2
07. (TF)3G Mini Card. HSPA21Mbps.HuaWei.EM820W		70	51.3	36.2
08. (TF)Stereo Audio CODEC.Wolfson.WM8903LGEFK		100	52.1	37.0
09. (TF)PWR.N-MOSFET. NXP.PH7030AL		85	63.9	48.8
10. (TF)COIL.GOTREND.GSTC063P-2R2MN		150	63.6	48.5
11. Chamber Air Temperature		N/A	40.1	25.0

Any Tm value showed in red words which meaning the value over the Tc degree C of this device specification.

Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-700A + AC Adapter)

Test Result:

No issue was found during the temperature rise operation test.

High temperature storage test

Test Date: 09-21~28-2012

Test Product: RTC-700A (with 3G Module) + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Refer to MIL-STD 810G Method 501.5 High Temperature
Procedure I - Storage

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)

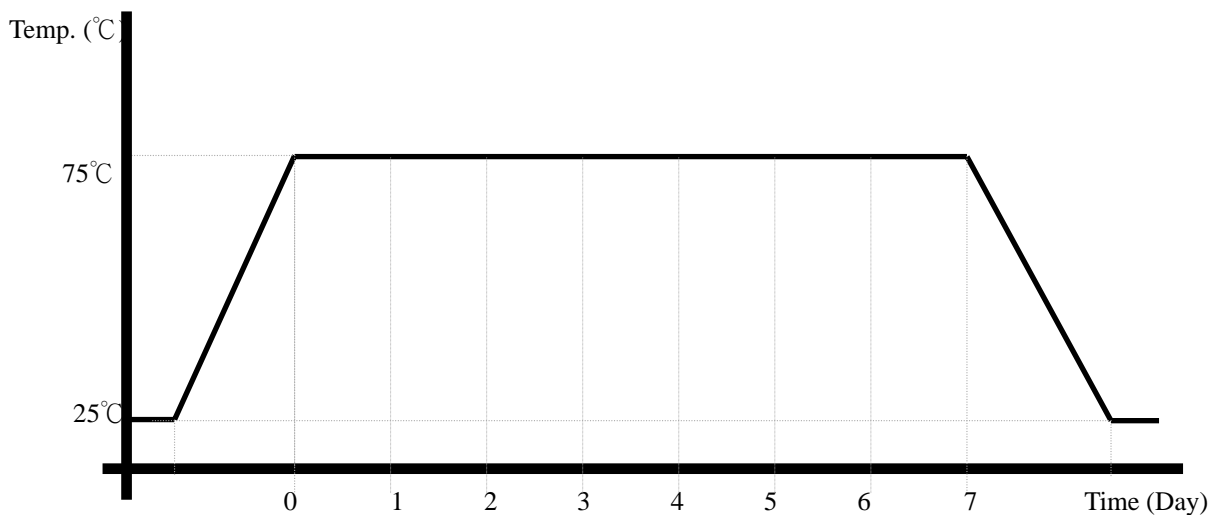
Model: THS-B6T-150+LN2

Date of Calibration: 06/12/12

Serial Number: 9095KT

Testing Item:

1. Test Temperature: 75°C
2. Test Time: 7days
3. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-700A + AC Adapter)

Test Result:

No issue was found after the high temperature storage test.

High temperature operation test

Test Date: 09-28-2012 ~ 10-03-2012

Test Product: RTC-700A (with 3G Module) + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Refer to MIL-STD 810G Method 501.5 High Temperature
Procedure II - Operation

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)

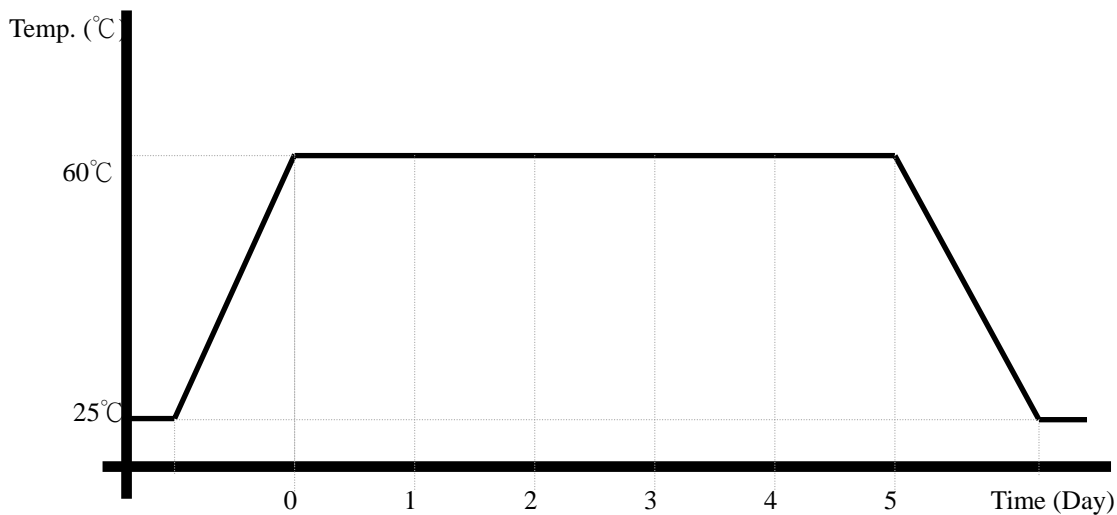
Model: THS-B6T-150+LN2

Date of Calibration: 06/12/12

Serial Number: 9095KT

Testing Item:

4. Test Temperature: 60°C
5. Test Time: 5days
6. Test Software: Android 3.2.1 / Run HD (1280*720p) video file under MX video player.
7. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-700A + AC Adapter)

Test Result:

No issue was found during the high temperature operation test.

Low temperature storage test

Test Date: 10-09~11-2012

Test Product: RTC-700A (with 3G Module) + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Refer to MIL-STD 810G Method 502.5 Low Temperature
Procedure I - Storage

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)

Model: THS-B6T-150+LN2

Date of Calibration: 06/12/12

Serial Number: 9095KT

Testing Item:

1. Test Temperature: -55°C
2. Test Times: 24Hrs
3. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-700A + AC Adapter)

Test Result:

No issue was found after the low temperature storage test.

Low temperature operation test

Test Date: 10-11~12-2012

Test Product: RTC-700A (with 3G Module) + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Refer to MIL-STD 810G Method 502.5 Low Temperature
Procedure II - Operation

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)

Model: THS-B6T-150+LN2

Date of Calibration: 06/12/12

Serial Number: 9095KT

Testing Item:

1. Test Temperature: -23°C
2. Test Times: 24Hrs
3. Test Software: Android 3.2.1 / Run HD (1280*720p) video file under MX video player.
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-700A + AC Adapter)

Test Result:

No issue was found during the low temperature operation test.

Humidity test

Test Date: 10-04~09-2012

Test Product: RTC-700A (with 3G Module) + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Refer to MIL-STD 810G Method 507.5 Testing
Procedures II – Aggravated Cycle (FIGURE 507.5-7)

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)

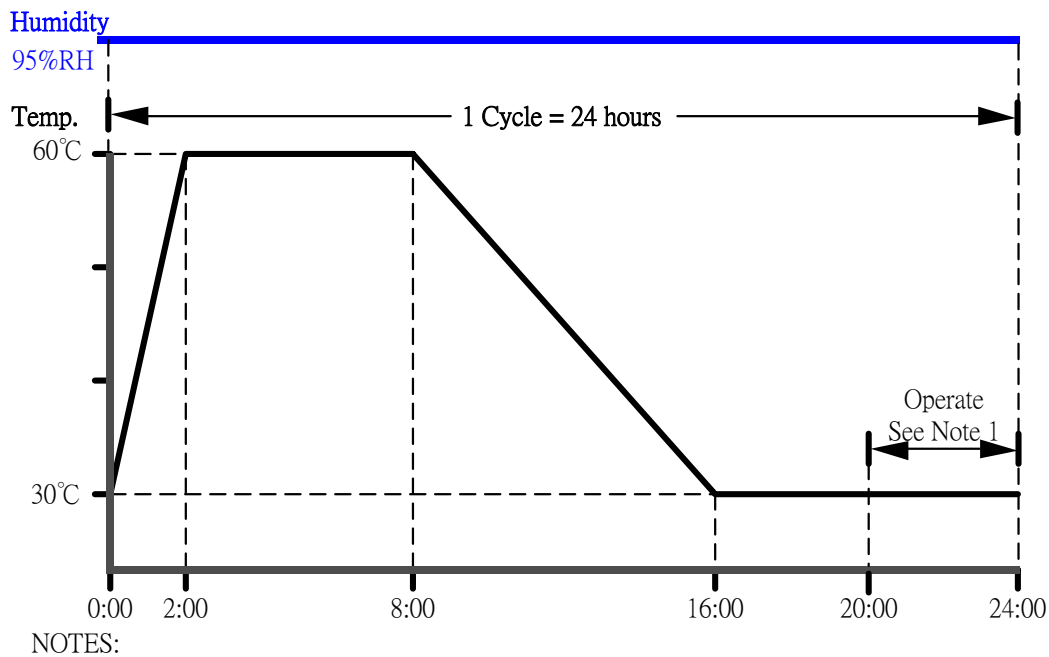
Model: THS-B6T-150+LN2

Date of Calibration: 06/12/12

Serial Number: 9095KT

Test Condition:

1. Test Humidity: 95%RH
2. Test Temperature: 60°C / 30°C
3. Test Times: 24Hrs / Cycle
4. Test Cycle: 5 Cycles
5. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-700A + AC Adapter)

Test Result:

No issue was found after the humidity storage test.

Temperature shock operation test

Test Date: 10-15~16-2012

Test Product: RTC-700A (with 3G Module) + AC Adapter

Test Site: AAEON QE Dept.

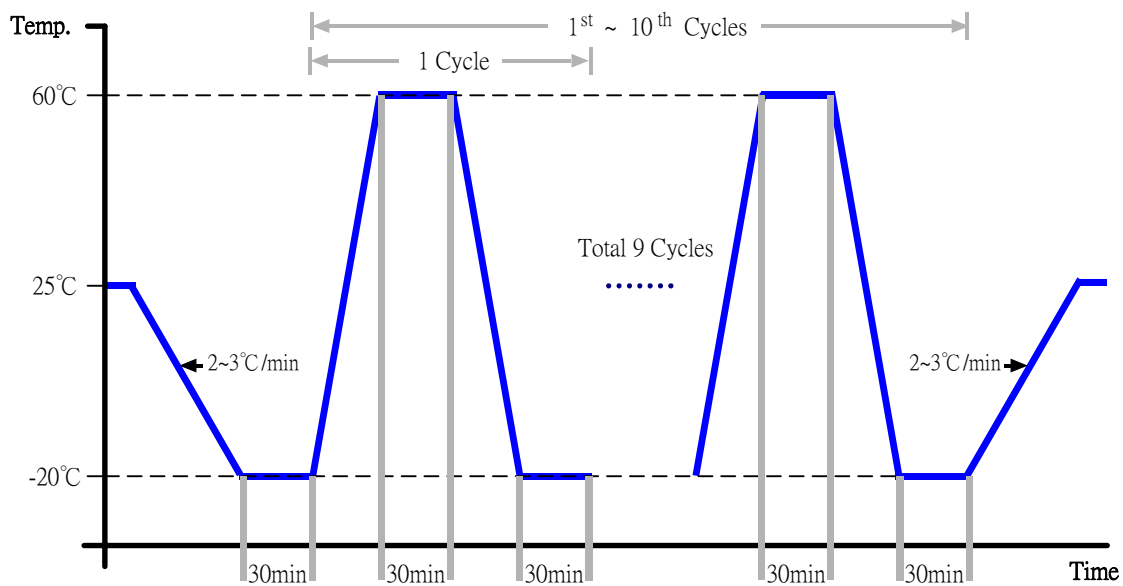
Test Standard: Refer to MIL-STD 810G Method 503.5 Temperature Shock
Procedure I - Shock from constant extreme temperatures

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150+LN2
Date of Calibration: 06/12/12
Serial Number: 9095KT

Test Condition:

1. Test Low Temperature: -20°C
2. Test High Temperature: 60°C
3. Test dwell time: 30min
4. Temperature slope: 5 min
5. Test cycle: 10 cycles
6. Test Software: Android 3.2.1 / Run HD (1280*720p) video file under MX video player.
7. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-700A + AC Adapter)

Test Result:

No issue was found during the variation temperature operation test.

Temperature shock non-operation test

Test Date: 10-12~15-2012

Test Product: RTC-700A (with 3G Module) + AC Adapter

Test Site: AAEON QE Dept.

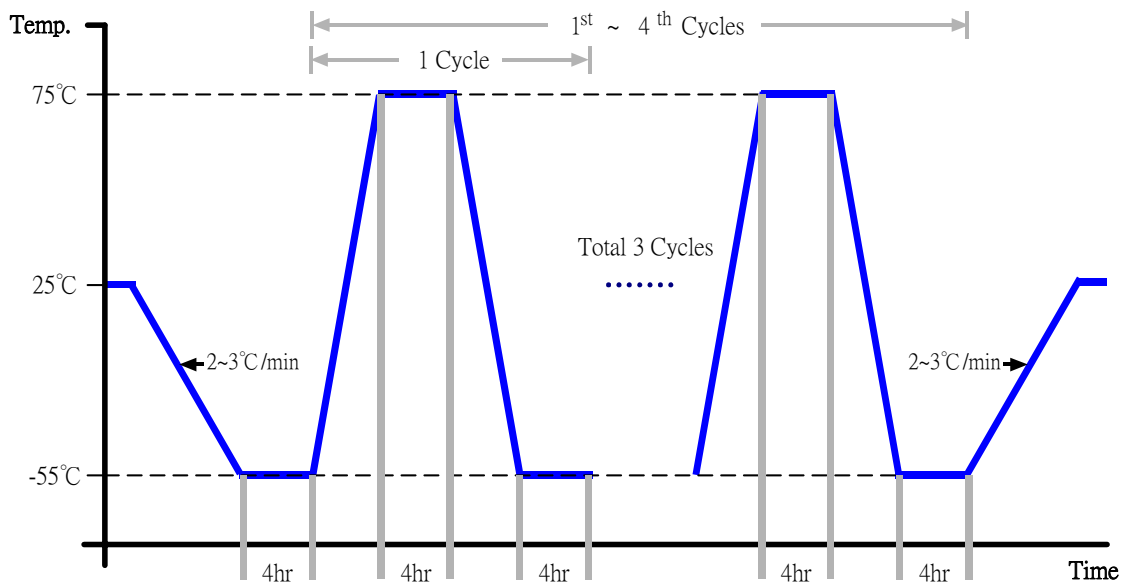
Test Standard: Refer to MIL-STD 810G Method 503.5 Temperature Shock
Procedure I - Shock from constant extreme temperatures

Test Equipment:

Programmable Temperature & Humidity Chamber (K.SON. INS. TECH. CORP.)
Model: THS-B6T-150+LN2
Date of Calibration: 06/12/12
Serial Number: 9095KT

Test Condition:

1. Test Low Temperature: -55°C
2. Test High Temperature: 75°C
3. Test dwell time: 4Hrs
4. Temperature slope: 10 min
5. Test cycle: 4 cycles
6. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-700A + AC Adapter)

Test Result:

No issue was found after the variation temperature non-operation test.

Cold start and hot start test

Test Date: 10-16~17-2012

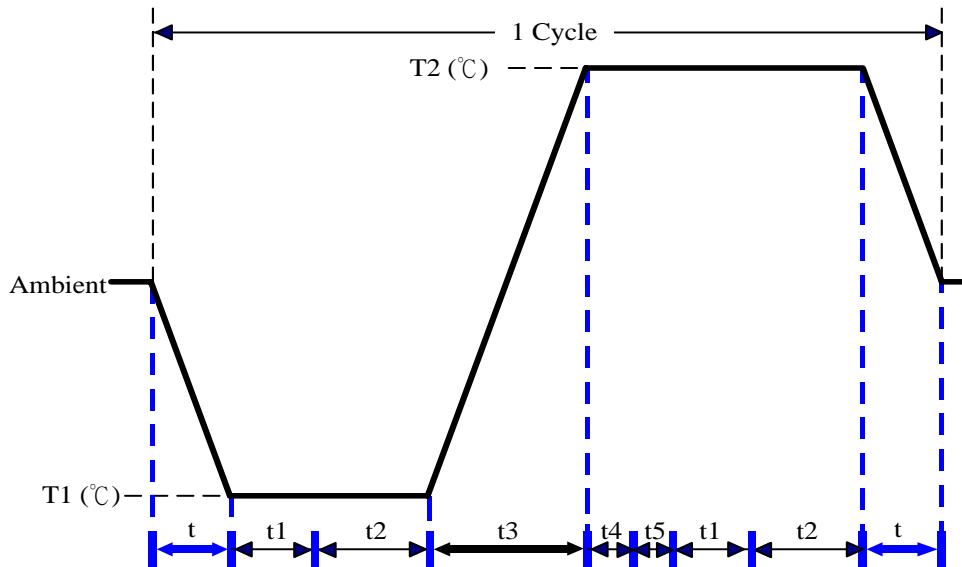
Test Product: RTC-700A (with 3G Module) + AC Adapter

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: 06/12/12
Serial Number: 9095KT

Test Condition:



Parameters	Description
T1	-5°C
T2	45°C
t1	1 hrs
t2	2 hrs
t4, t5	30 min
t, t3	2°C/min
n (Cycle)	1

t, t3 = temperature slope
t, t1: Power Off
t2: Power on/off test 5 times (on 2 min / off 5min)
t3, t4: Run one HD video file under MX video player.
t5: Android O.S. power on/off test 2 times
Test Android 3.2.1

Test Result:

- a. No issue was found during the cold start test.
- b. No issue was found during the hot start test.