

RTC-900R

Environment Test Report

Report NO: 13R020002

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>
---------	---

Issue date

2013-08-16

Approval

Tom Lin

Test Engineer

Rex Chang

Test Item List

1.	<i>Test Item List</i> -----	2
2.	<i>Test Configuration</i> -----	3
3.	<i>Room Temperature Test</i> -----	4
4.	<i>Temperature Rise Test</i> -----	5
5.	<i>High Temperature Storage Test</i> -----	7
6.	<i>High Temperature Operation Test</i> -----	8
7.	<i>Low Temperature Storage Test</i> -----	9
8.	<i>Low Temperature Operation Test</i> -----	10
9.	<i>Humidity Test</i> -----	11
10.	<i>Temperature Shock Operation Test</i> -----	12
11.	<i>Temperature Shock Non-operation Test</i> -----	13
12.	<i>Cold Start And Hot Start Test</i> -----	14

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-900R		
Sample Configuration & Quantity Under Test:		
Num	Item	Spec
RTC-900R(with 3G Module)		
1.	TABLET PC	RTC-900R
	1. CPU	NVIDIA® Tegra™ 2 1.0GHz Dual-core CPU
	2. Memory	DDR2 1GB SDRAM
	3. LCD Monitor	10.1" 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	AnyDATA DTL718-W
	8.eMMC	Hynix.H26M52002CKR
	9.Android ver.	4.0.3
	10.Build number	IML74K.RTC900R-0.1.0.0-21030425
2.	Battery	Lithium-Polymer high capacity battery (54WHr), 12 Hours Battery Life.
3.	AC Adapter	L.T.E. LTE24E-S2-2 AC Adapter

Room Temperature test

Test Date: 08-14-2013

Test Product: RTC-900R + 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 stability (within less than 1°C)

Test Software:

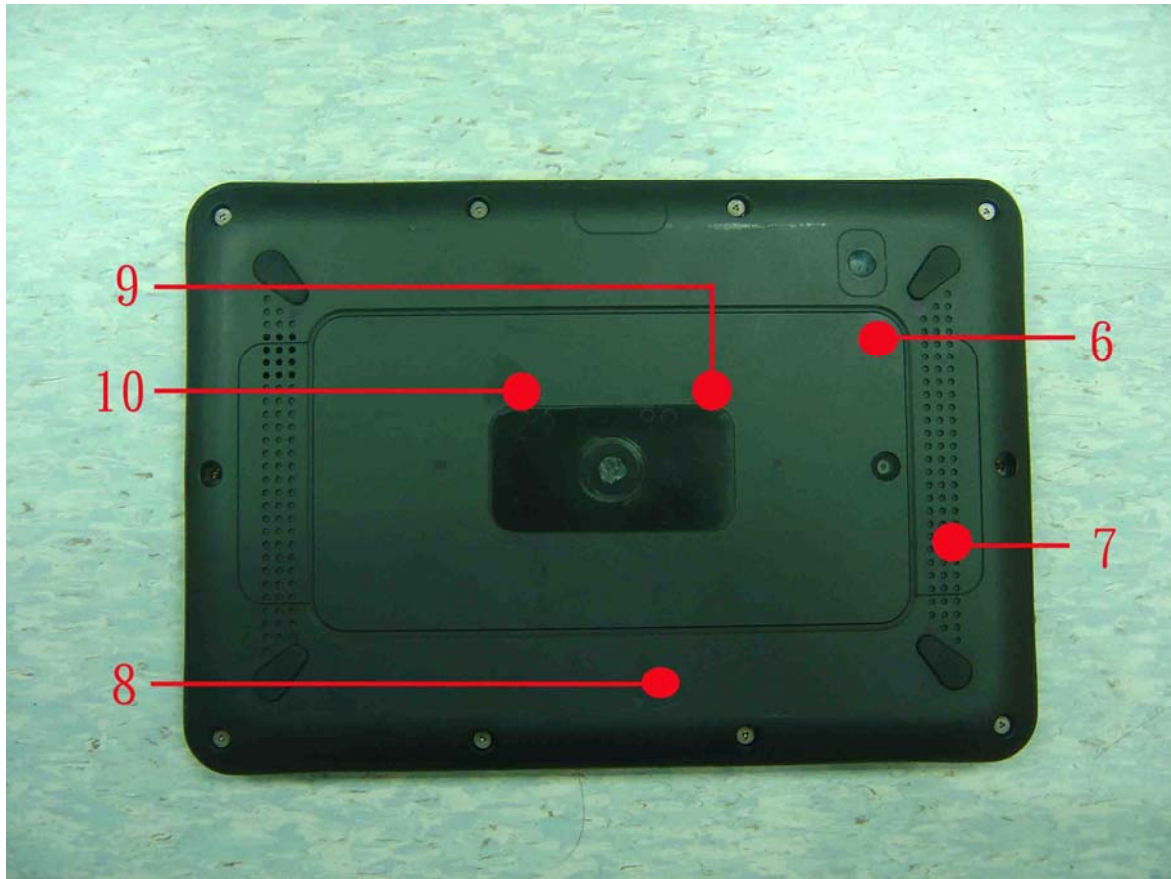
Android 4.0 / Run Stability Test v2.7

Terminal Recorder:

Measuring Thermal Couple Position :



Room Temperature test



Thermal profile data:

RTC-900R

Point	Temp. Stage(°C)	Spec	25
1. Point 1			29.1
2. Point 2			31.7
3. Point 3			30.6
4. Point 4			35.1
5. Point 5 -		ΔT	31.7
6. Point 6		≤ 20	29.5
7. Point 7 - Bottom of 3G Module		°C	30.9
8. Point 8 - Bottom of CPU			34.8
9. Point 9 - Bottom of Battery			30.9
10. Point 10 - Bottom of Battery			31.5
Room Temperature			25.0
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-900R)

Test Result:

No issues were found during the room temperature operation test.

Temperature rise test

Test Date: 08-15-2013

Test Product: RTC-900R + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Reference 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 stability (within less than 1°C)

Test Software:

Android 4.0 / Run Stability Test v2.7

Thermal profile data:

RTC-900R

Point	Temp. Stage(°C)	Spec	40	25
01. (TF)1.0GHz.ARM Cortex-A9 RISC Processor.NVIDIA.Tegra 250.		85	84.5	69.4
02. (TF)PMIC.TI.TPS658621CZGUR		85	78.3	63.2
03. (TF)LPDDR2-S4B.667MHz.1.8V.ELPIDA.EDB8132B2PB-6D-F		85	73.3	58.2
04. (TF)16GB. eMMC Flash Memory.Hynix.H26M52002CKR		85	71.4	56.3
05. (TF)MLP3x3. Load Switches.FAIRCHILD.FPF2700MPX		100	61.6	46.5
06. (TF)COIL.6.8uH.VISHAY.IHLM2525CZER6R8M01		125	60.7	45.6
07. (TF)MLCC.10uF.16V.10%.X5R.0805.SMD		125	61.1	46.0
08. (TF)3G Module		75	58.1	43.0
09. 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-900R)

Test Result:

No issues were found during the temperature rise operation test.

High temperature storage test

Test Date: 08-05 ~ 13-2013

Test Product: RTC-900R + AC Adapter

Test Site: AAEON QE Dept.

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

Test Equipment:

Programmable Temperature & Humidity Chamber

K.SON. INS. TECH. CORP.

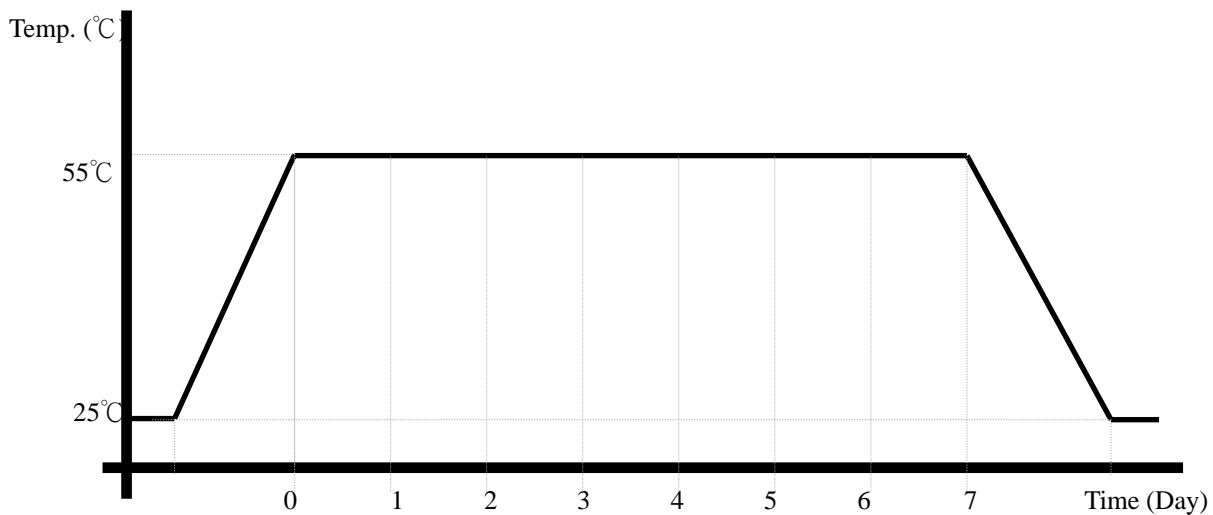
Model: THS-D7S-100+1 N2

Date of Calibration: 10/10/12

Serial Number: 3898

Testing Item:

1. Test Temperature: 55°C
2. Test Time: 7days
3. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-900R)

Test Result:

No issues were found after the high temperature storage test.

High temperature operation test

Test Date: 07-20 ~ 25-2013

Test Product: RTC-900R + AC Adapter

Test Site: AAEON QE Dept.

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

Test Equipment:

Programmable Temperature & Humidity Chamber

K.SON. INS. TECH. CORP.

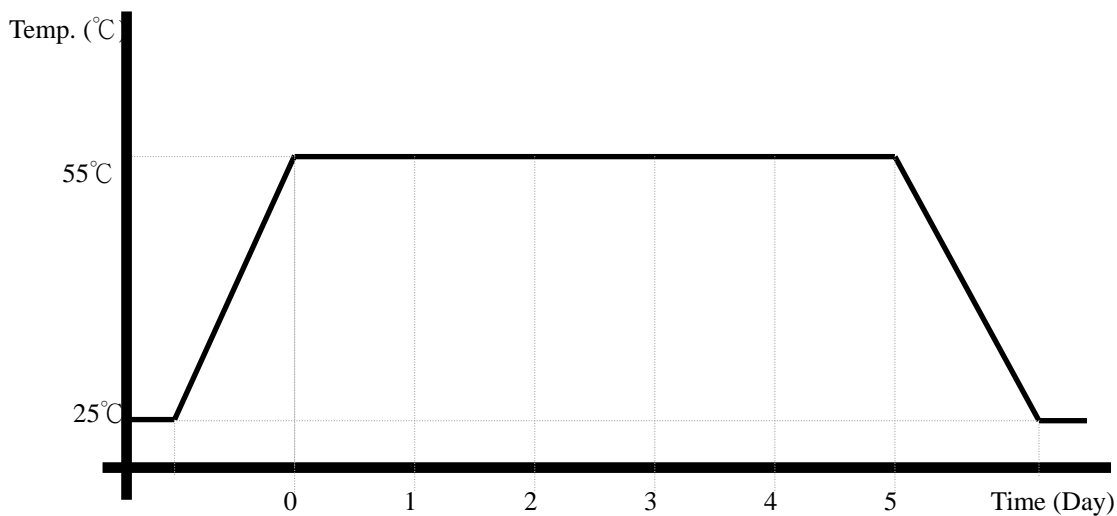
Model: THS-D7S-100+1 N2

Date of Calibration: 10/10/12

Serial Number: 3898

Testing Item:

4. Test Temperature: 55°C
5. Test Time: 5days
6. Test Software: Android 4.0 / Run Stability Test v2.7
7. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-900R)

Test Result:

No issues were found during the high temperature operation test.

Low temperature storage test

Test Date: 08-02~05-2013

Test Product: RTC-900R + AC Adapter

Test Site: AAEON QE Dept.

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

Test Equipment:

Programmable Temperature & Humidity Chamber

K.SON. INS. TECH. CORP.

Model: THS-D7S-100+1 N2

Date of Calibration: 10/10/12

Serial Number: 3898

Testing Item:

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



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-900R)

Test Result:

No issues were found after the low temperature storage test.

Low temperature operation test

Test Date: 08-01~02-2013

Test Product: RTC-900R + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Reference MIL-STD 810G Method 502.5 High Temperature
Procedure II - Operation

Test Equipment:

Programmable Temperature & Humidity Chamber

K.SON. INS. TECH. CORP.

Model: THS-D7S-100+1 N2

Date of Calibration: 10/10/12

Serial Number: 3898

Testing Item:

1. Test Temperature: -23°C
2. Test Times: 24Hrs
3. Test Software: Android 4.0 / Run Stability Test v2.7
4. Test Environment Curve:



Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-900R)

Test Result:

No issues were found during the low temperature operation test.

Humidity test

Test Date: 07-26~31-2013

Test Product: RTC-900R + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Reference 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.

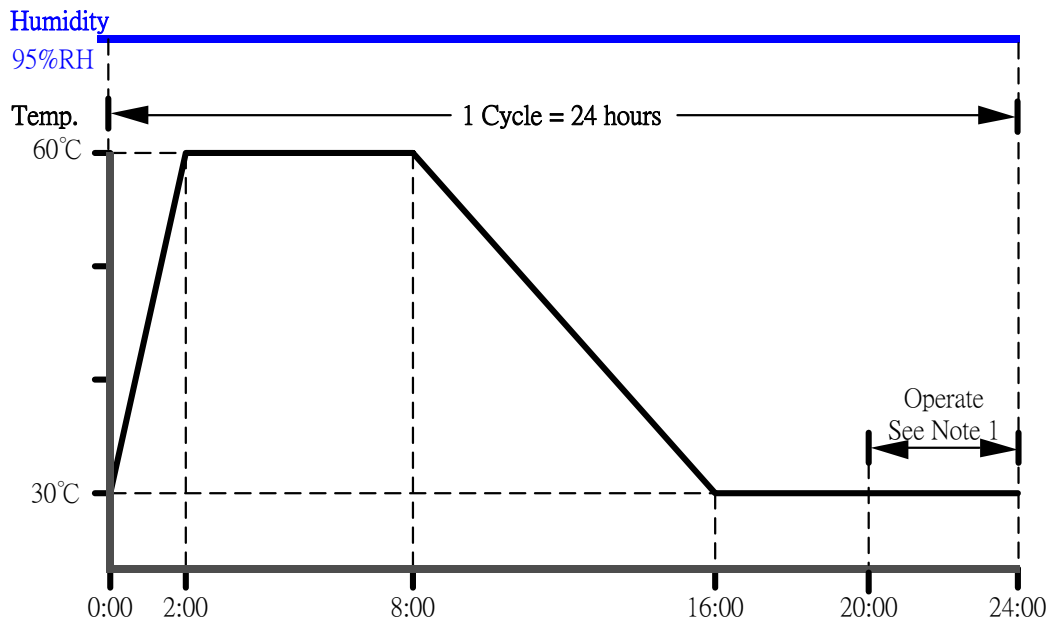
Model: THS-D7S-100+1 N2

Date of Calibration: 10/10/12

Serial Number: 3898

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:



NOTES:

1. Perform operational checks near the end of the fifth cycles.

Sample Configuration & Quantity Under Test:

Quantity: 1 (RTC-900R)

Test Result:

No issues were found after the humidity storage test.

Temperature shock non-operation test

Test Date: 07-16~18-2013

Test Product: RTC-900R + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Reference 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.

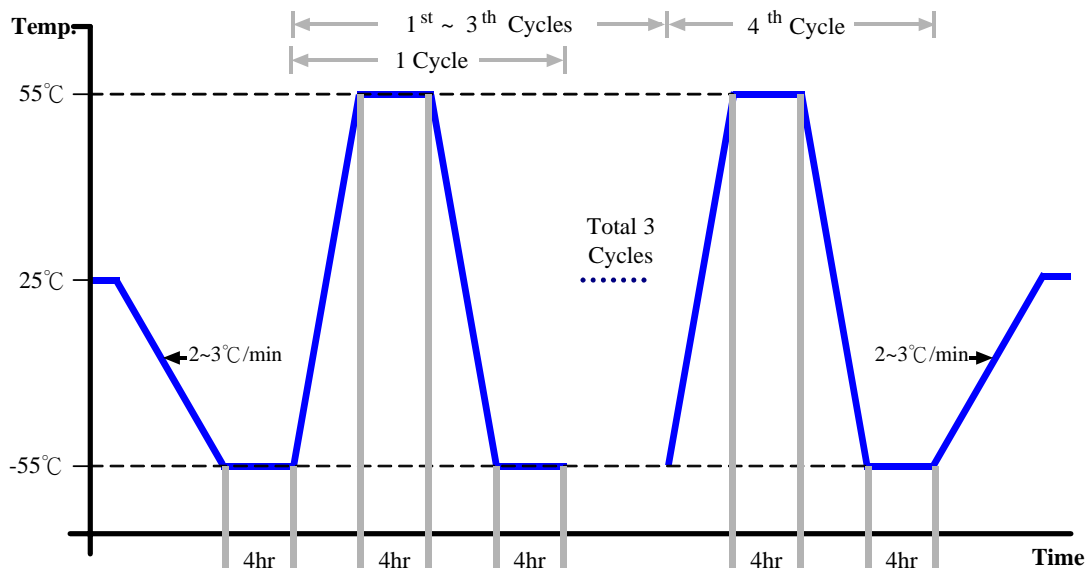
Model: THS-D7S-100+1 N2

Date of Calibration: 10/10/12

Serial Number: 3898

Test Condition:

1. Test Low Temperature: -55°C
2. Test High Temperature: 55°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-900R)

Test Result:

No issues were found after the variation temperature non-operation test.

Cold start and hot start test

Test Date: 08-13~14-2013

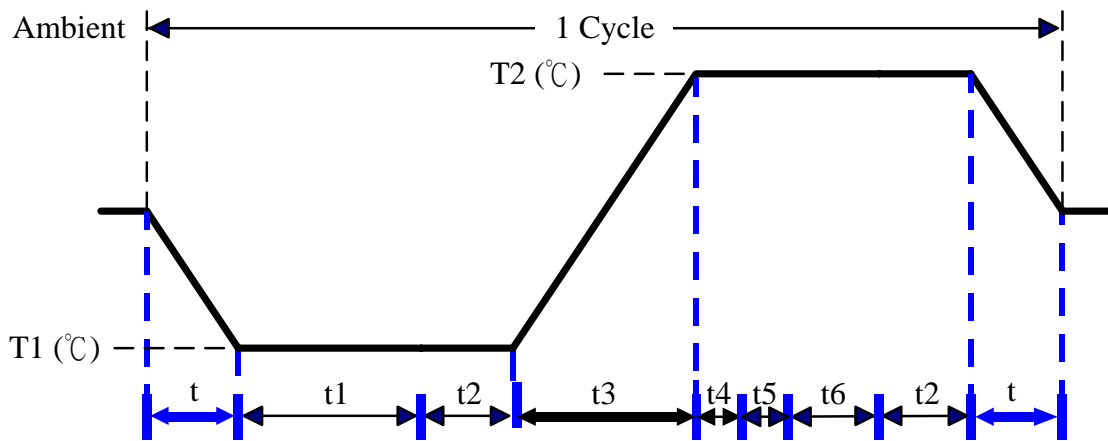
Test Product: RTC-900R + AC Adapter

Test Site: AAEON QE Dept.

Test Standard: Reference 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: 04/28/11
Serial Number: 6488KT

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 Stability Test v2.7
t5: Android O.S. power on/off test 2 times
Test O.S.: Android 3.2.1

Test Result:

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