

Reliability Test Report for T99X171.00

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Revision Change History

Revision	Description of Change	Date
1.0	Initial Release	04/24/2019

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Purpose

1. Provide a formal functional demonstration of the product design reliability.
2. Identify any design discrepancies.
3. Reliability assurance of trial samples which are designed and fabricated in accordance with the customer's product specifications.
4. Conduct robustness testing on early production samples in accordance to customer's product environmental testing specification.

Scope

This document describes the performance requirements, validation criteria, and the validation tests which focus on T77X171.00 product.

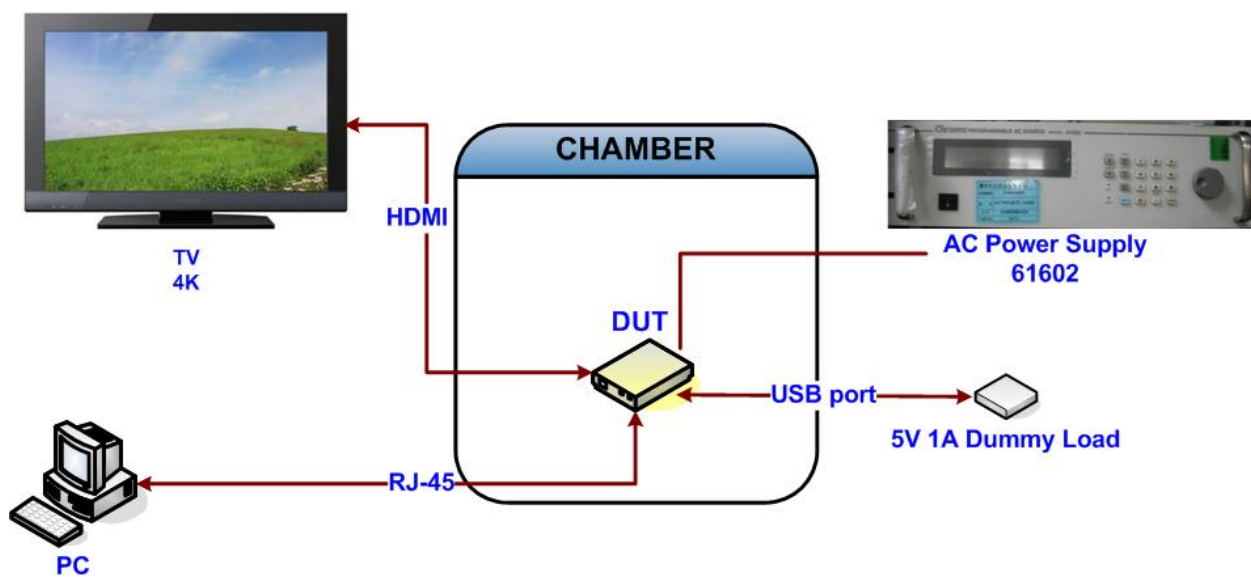
The H/W version is V005 and S/W version is 4.9.113 #1 Mon Feb 26 16:03:31 CST 2019

Build BFX_AT100-eng 9 PI 20190226 release-keys

The summary of DVT test items

No.	Item	Test Condition	Q'ty	Period	Pass Criteria	Test result
1	Operational Temperature Range	Power on 1. 25℃ for 1 hr 2. 25℃ to -5℃ for 2 hrs 3. -5℃ for 13 hrs 4. -5℃ to 25℃ for 2 hrs 5. 25℃/65% for 1 hr 6. 25℃/65% to 50℃/65% for 2 hrs 7. 50℃/90% for 13 hrs 8. 50℃/90% to 25℃ for 2 hrs Repeat 1~8 for 2 cycles 9. 25℃/60% for 48 hrs Total for 120 hrs	1	3 days	1. No functional failures both during and after the test 2. No performance degradation during the functional test 3. No visual damage to the products after inspection, such as peeling, discoloration, etc.	PASS
2	Power on /off Test with Temperature	1.Power on: 50 sec; off 10 sec. (follow product characteristic) 2..Vin: follow customer's spec or MRS, 2,500 cycle, total 5,000 3. Test Temp at -5/50 ℃	1	5 days		PASS

Test setup and function test:



Connection:

No.	Interface	Connection	Operation
1	AC power	The AC adapter is connected to the AC source.	Powered on
2	PC	Connect to DUT	Continue to run Iperf to PC Iperf server.
3	USB	Connect to dummy load	USB connect to dummy load (5V/1A) and make sure USB work

1. Temperature and humidity cycles test

Purpose:

To verify the product can be stored normally when suffering the high/low temperature & humidity environment.

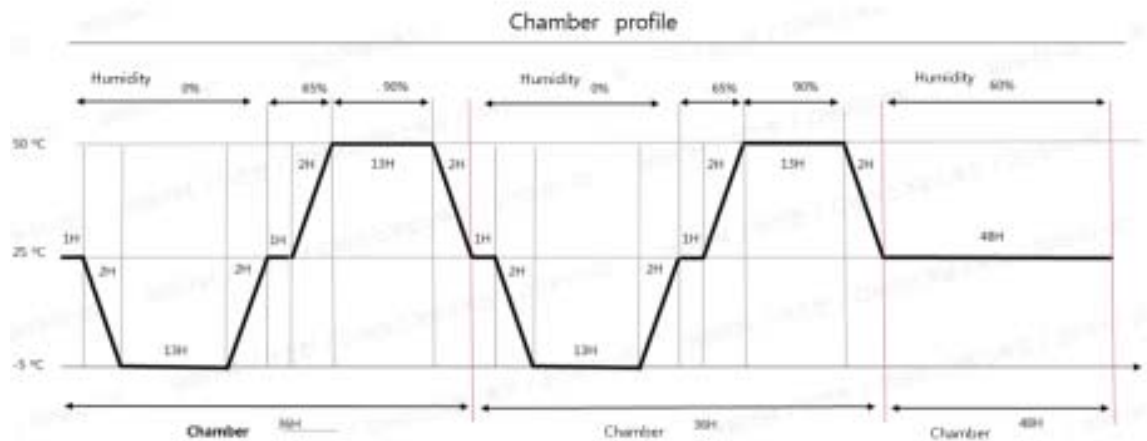
Quantity: 1 unit

Test Objective: The product should be suffered in 50°C/90% R.H. for 13 hrs & -5°C for 13 hrs, total for 2 cycles.

Test Profile:

Is Power Off

Is Power On



Test Procedure:

1. Set AC source to 220V then power on the DUT.
2. Sample in chamber start at room temperature.
3. Keep the temperature 25°C for 1 hr.
4. Ramp to -5°C for 2 hrs.
5. Keep the temperature -5°C for 13 hrs.
6. Ramp to 25°C/65% R.H. for 2 hrs.
7. Keep the temperature 25°C/65% R.H. for 1 hr.
8. Ramp to 50°C/65% R.H. for 2 hrs.
9. Keep the temperature 50°C/65% R.H. for 13 hrs.
10. Ramp to 25°C for 2 hrs.
11. Repeat 3-10 step for 2 cycles

12. Keep the temperature 25°C/60% R.H. for 2 hrs.

Pass Criteria:

1. No functional failures both during and after the test
2. No performance degradation during the functional test
3. No visual damage to the products after inspection, such as peeling, discoloration, etc.

Test Result: **PASS**

Function items	Check the function	Test result
LAN Port	Iperf test	PASS
HDMI	Play video	PASS
Visual inspection	Peeling, cracks, or discoloration	PASS

2. Power On/Off Test with Temperature

Purpose:

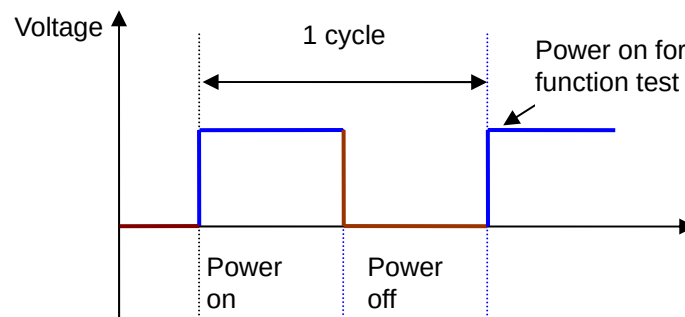
The purpose of this specification is to define the power on/off test. This test is to assure the product will meet customer's specification.

Quantity: 1 unit

Test Objective:

1. Base on test setup and function test to check DUT function then put the DUT into chamber
2. Power on: 50 sec.
3. Power off: 10 sec.
4. Temperature: 0°C and 40°C.
5. Voltage: 220 V, frequency: 50 Hz.
6. Cycle: 2,500 cycles test condition.
7. Total 5,000 cycles.

Test Profile:



Test Procedure:

1. Base on test setup and function test to check DUT function then put the DUT into chamber
2. Temperature: 0°C and 40°C
3. Control the power on/off frequency, temperature and input voltage as below.
Power on/off frequency: Power on: 50 seconds / Power off: 10 seconds
4. Cycle: 2,500 cycles per test condition, Total 5,000 cycles
5. Voltage: 220V, Frequency: 50 Hz.

Pass Criteria:

1. No functional failures both during and after the test
2. No performance degradation during the functional test
3. No visual damage to the products after inspection, such as peeling, discoloration, etc.

Test Result: PASS

Function items	Check the function	Test result
LAN Port	Iperf test	PASS
HDMI	Play video	PASS
Visual inspection	Peeling, cracks, or discoloration	PASS