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Reliability Test Report for BFX-AT100 (TIANMAI Thermal Pad)

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Revision Change History

Revision	Description of Change	Date
1.0	Initial Release	06/14/2019
2.0	Thermal Pad 2nd Source	01/06/2021
3.0	Thermal Pad 2nd Source	11/04/2022

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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 BFX-AT100 MP stage product.

The DUT H/W version is 06C and S/W revision is 523r06_SD_fac-20220126.

Second source:

1. Remove Top & Bottom Shielding Cover.
2. Change Thermal Pad to TIANMAI, K= 1.5W.

The summary of test items:

No.	Item	Test Condition	Q'ty	Period	Pass Criteria	Refer Standard	Test result
1	High/Low Temperature & Humidity Cycle Test	The process of - 5°C for 12 hrs than to +50°C / 90% R.H. for 12 hrs is defined as cycle. Total 5 cycles.	2	5 days	1. No functional failures both before and after the test 2. No performance degradation after the functional test 3. No visual damage to the products after inspection, such as peeling, discoloration, etc.	IEC 60068-2-30	PASS
2	High Temperature & Humidity Test	Power on, Operation Ta = 50°C, Humi. = 90%R.H. for 72 hours	2	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.	MIL-STD-202F Method 103B	PASS

Panel Drawing:

Front



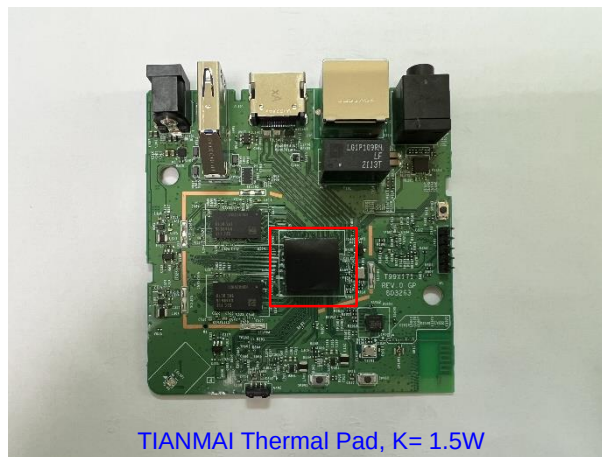
Rear



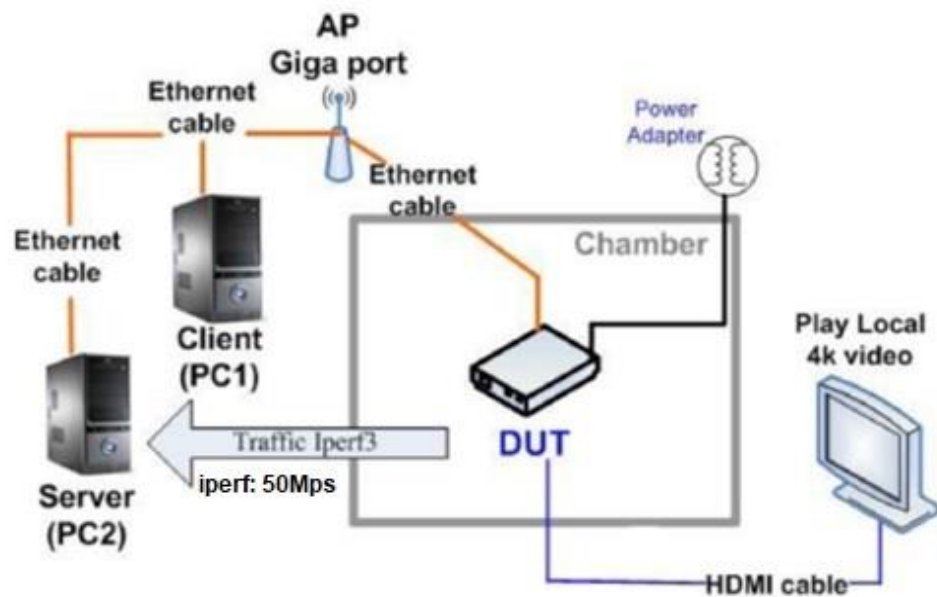
Adapter



RCU



Test setup and function test:



Connection:

Interface	Connection	Operation
AC power	The AC adapter is connected to the AC source	Powered on
DUT	DUT HDMI connected to Monitor	Play the local video
LAN	DUT, LAN connect to AP run iperf packet between PC	Continue to run iperf packet between PC, throughput 50 Mbps

1. High/Low Temperature & Humidity Cycle Test

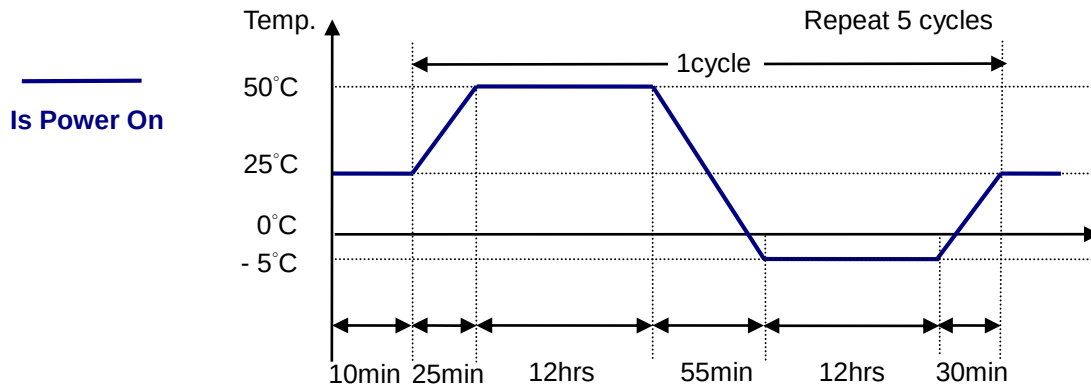
Purpose:

To demonstrate that products can operate in the high/low temperature and high humidity environment.

Quantity: 2 units (S/N: 2149688001202199000176, 2149688001202199000173)

Test Objective: Operating in high/low Temperature and high Humidity.

Test Profile:



Test Procedure:

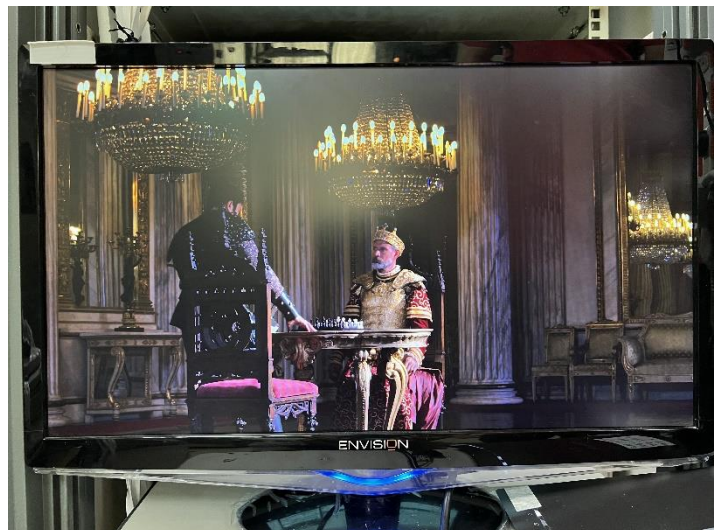
1. Power on, then activated in full function and operation.
2. Start test at 25°C for 10 min.
3. Ramp up the temperature to 50°C for 12 hours.
4. Ramp down the temperature to - 5°C for 12 hours.
5. Repeat item 3 ~ 4 for 5 cycles.

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.

Basis for Profile: IEC 60068-2-30

Test Result: **PASS**



系統管理員: C:\Windows\System32\cmd.exe - iperf3 -s					系統管理員: C:\Windows\System32\cmd.exe - adb shell				
[5]	604.01-605.01	sec	5.88 MBytes	49.2 Mbits/sec	[4]	604.00-605.00	sec	6.00 MBytes	50.3 Mbits/sec
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2. High Temperature and Humidity Test

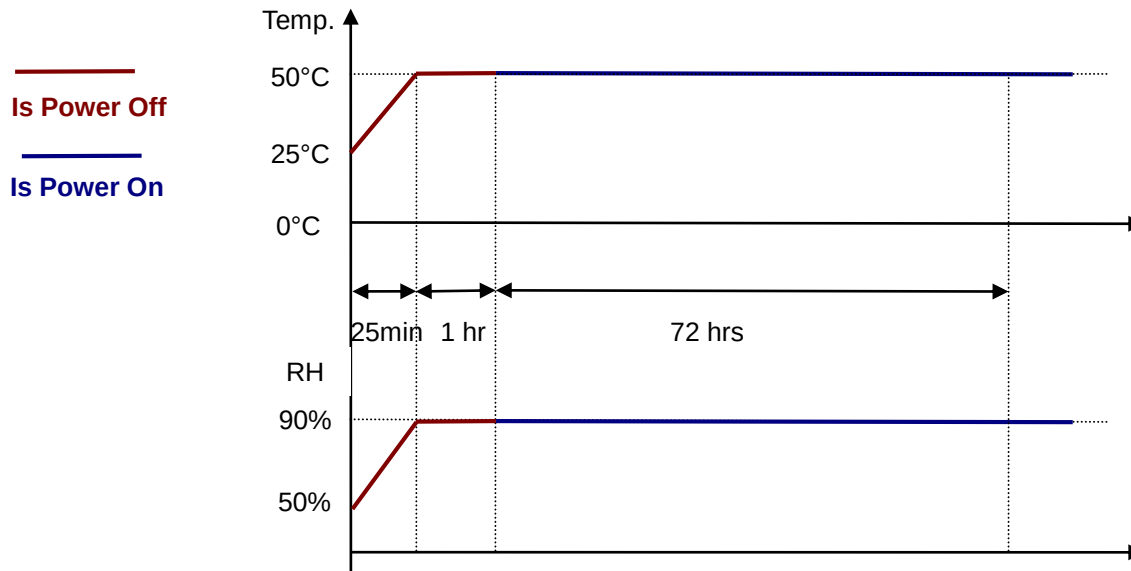
Purpose:

To demonstrate that products can withstand the high limit temperature and the high limit humidity of an operating environment.

Quantity: 2 units (S/N: 2149688001202199000176, 2149688001202199000173)

Test Objective: Operating Temperature and Humidity: Temp. 50°C and RH 90%, Duration: 72 hours.

Test Profile:



Test Procedure:

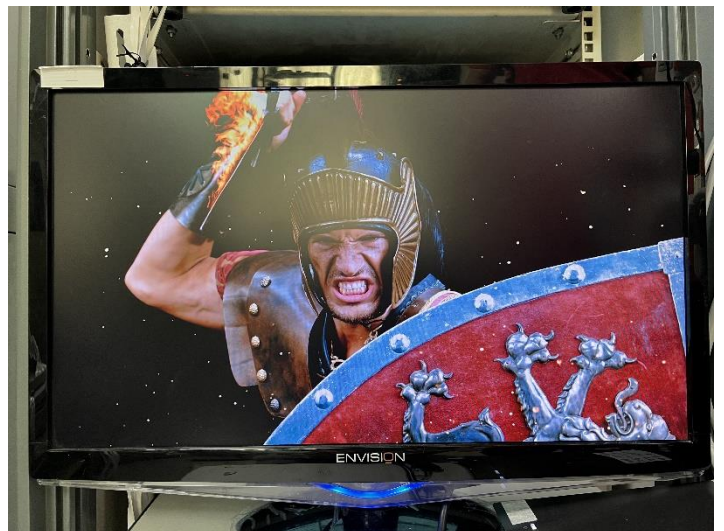
1. Power off.
2. Start test at 25°C and RH 50%.
3. Ramp the temperature to 50°C and RH 90% in 25 minutes, then hold for 1 hour.
4. Power on the test units.
5. Hold 50°C, RH 90% for 72 hours.

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.

Basis for Profile: MIL-STD-202F Method 103B

Test Result: **PASS**



系統管理員: C:\Windows\System32\cmd.exe - iperf3 -s					系統管理員: C:\Windows\System32\cmd.exe - adb shell				
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