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Reliability Test Report for

BFX-AT100

(DIODES & 3PEAK 2nd Source)

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Revision Change History

Revision	Description of Change	Date
1.0	Initial Release	08/19/2021

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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 product.

The DUT H/W version is 04L1 and S/W revision is v15.523.6.

Second source:

For U301, U302, U304, U305 (Diodes_ AP61302Z6-7),
U303, U306 (3PEAK_TPL740F18-5TR) &
U307 (3PEAK_TPL740F25-5TR).

The summary of test items:

No.	Item	Test Condition	Q'ty	Period	Pass Criteria	Test result
1	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.	PASS
2	Power On/Off Test with Temperature	1. Power on: 50 sec; off: 10 sec. 2. Temperature: - 5°C and 50°C 3. Cycle: 2,500 cycles per test condition 4.Total 5,000 cycles	2	6 days	1. No functional failures both during and after the test 2. No ping failures both during the test and after the test. 3. No performance degradation during the functional test 4. No visual damage to the products after inspection, such as peeling, discoloration, etc.	PASS

Panel Drawing:

Front



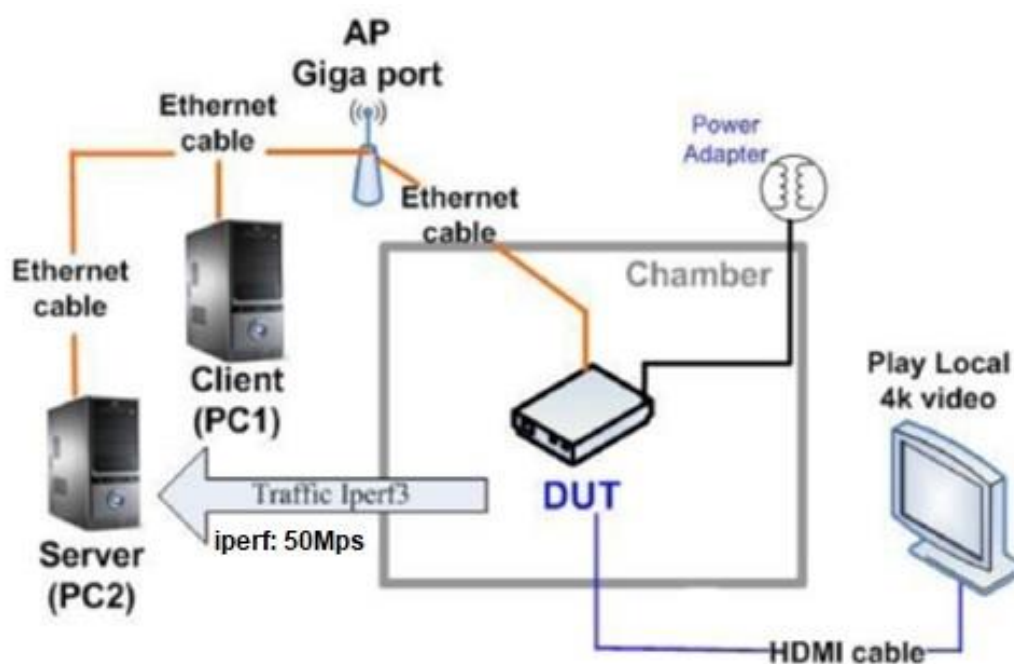
Rear



Adapter



Test setup and function test:



1. High Temperature and Humidity Test

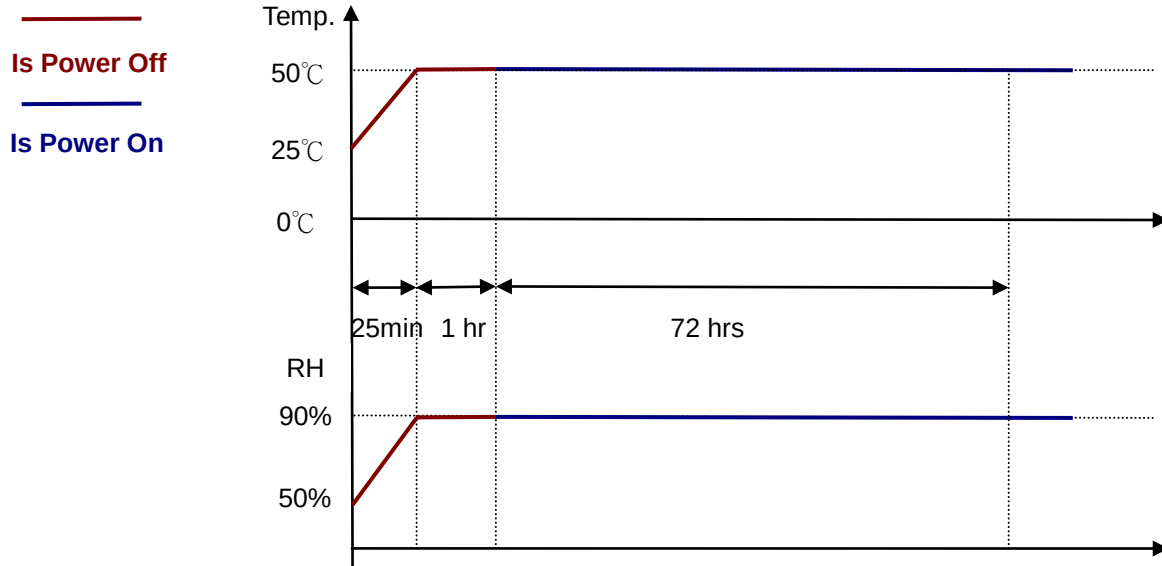
Purpose:

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

Quantity: 2 units.

Test Objective: Operating Temperature and Humidity: Temp. + 50°C and RH 90%, Duration: 3 days.

Test Profile:



Test Procedure:

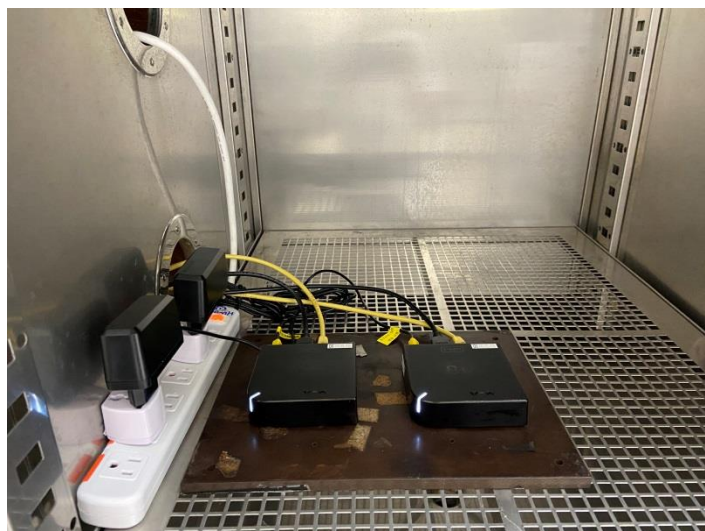
1. Power off.
2. Start test at 25°C and RH 50%.
3. Ramp the temperature to 50°C and RH 90% in 25 minutes, then hold for 1 hour.
4. Power on the test units.
5. Hold 50°C, RH 90% for 72 hours.

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**



2. Power on/off Test with Temperature

Purpose:

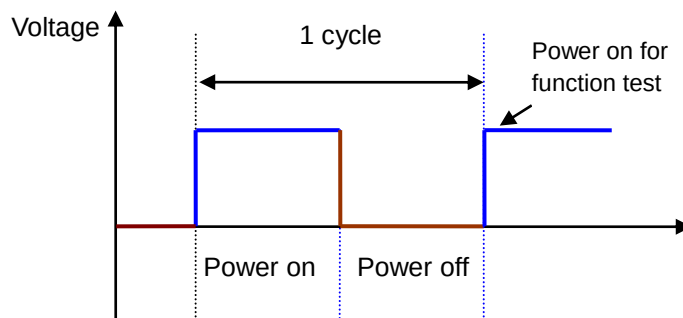
The purpose of this specification is to define the power on / off test. This test is to assure the product will meet customer's specification.

Quantity: 2 units.

Test Objective:

1. Power on: 50 sec. (follow product characteristic).
2. Power off: 10 sec. (follow product characteristic).
3. Temperature: - 5°C and 50°C.
4. Cycle: 2,500 cycles per test condition.
5. 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: - 5°C and 50°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

Pass Criteria:

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

Test Result: **PASS**

