

Reliability Demonstration Test Report for BFX-UA300 (K18X001T00)

Prepared by Jackson Huang
Test Engineer, HWQA Engineering Dept.

Checked by Kenji Chen
Supervisor, HWQA Engineering Dept.

Approved by Jy Deng
Manager, HWQA Engineering Dept.

Revision Change History		
Revision	Description of Change	Date
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1. Purpose

This document describes the RDT test report.

2. Scope

The RDT plan details the test items, test coverage, and test equipment. The purpose of RDT (Reliability Demonstration Test) is to do MTBF demonstration stress test.

BFX-UA300 (K18X001T00) H/W revision is V125 and S/W revision is 19.524.23.

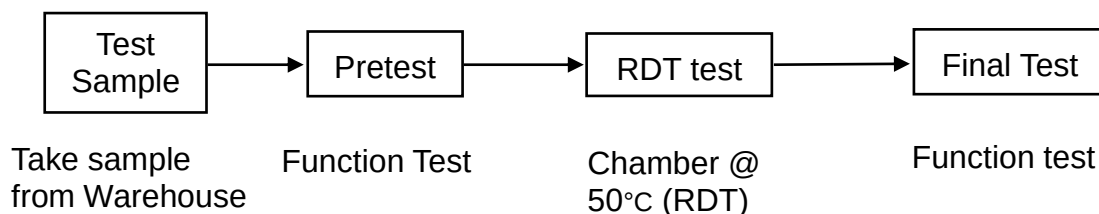
PSU: LA-A271KS, Input: 200-240V, 50/60Hz, 1.5A; Output: DC 24V/4A

3. RDT Process Flow

The RDT process includes Pretest, RDT and final test.

3.1 Test Flow

The test flow is as below:



Note:

Function Test -Follow 4.1 Test Performance Criteria

3.2 RDT test

The RDT (Reliability Demonstration Test) test is necessary to quantify the expected service life of a product. It specifies how the test is to be performed. Demonstrated MTBF (Mean Time Between Failure), the MTBF target is 43,800 hours.

If it is based on the Foxconn standard MTBF calculation formula. Demonstrated MTBF (Mean Time Between Failure) will be based on the methods defined in MIL-STD-781D. The MTBF target is 43,800 hours. Based on 90 % confidence level, it will take **26 days with 20 pieces** of samples under 50 deg C. The formula below shows how the MTBF is defined.

$$\frac{(\text{Testing hours}) * (\text{Acceleration Factor}) * (\text{Number of U.U.T})}{(\text{Confidence Level Factor})}$$

Acceleration factor (A.F) = 8.246797274

Ta = Acceleration Temperature = 50 Deg.C

Tb = Ambient Temperature = 25 Deg.C

$$e^{\frac{0.7}{8.6173324 \times 10^{-5}} * \left[\frac{1}{273+T_b} - \frac{1}{273+T_a} \right]} = 8.246797274$$

Confidence Level Factor = 2.30259 (based on Confidence Level 90% and 0 Defect)

It needs 26 days to test with 0 defect to achieve the goal of 44,697.6011 hours MTBF.

4. Test Process

4.1 Test Performance 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.

4.2 Test Equipment and Test Capacity

Description	Unit
Desktop PC	3 Set
4K TV	1 Set
Adaptor	20 Units
EUT	20 Units
Ethernet hub (48 Port)	1 Set
Walking Chamber	1

5. Panel Drawing:

Front



Rear



Adapter

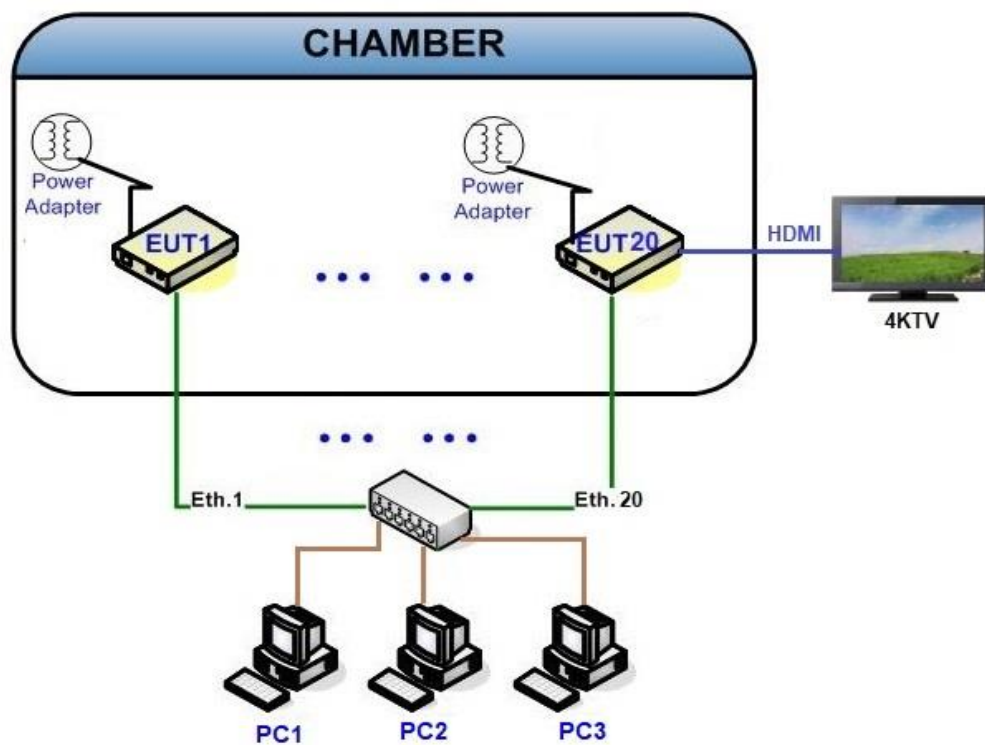
LA-A271KS
Input: 200-240V
50/60Hz, 1.5A
Output: DC 24V/4A



I/O Port



Test Block Diagram



HDMI connects to 4K TV for playing local 4K video.
Ethernet hub is for iperf 100Mbps.

6. Test Result

Test status will be monitored and recorded at 10:00

The table below will be used for daily RDT report.

Switch/PC	No.	Mac. No.	Test Throughput (Upstream)	Function	Test result
PC1	1	2149695001202099000312	97Mbits/sec	Pass	Pass
	2	2149695001202099000305	98Mbits/sec	Pass	Pass
	3	2149695001202099000207	98Mbits/sec	Pass	Pass
	4	2149695001202099000304	97Mbits/sec	Pass	Pass
	5	2149695001202099000278	97Mbits/sec	Pass	Pass
	6	2149695001202099000323	98Mbits/sec	Pass	Pass
	7	2149695001202099000315	98Mbits/sec	Pass	Pass
	8	2149695001202099000319	98Mbits/sec	Pass	Pass
PC2	9	2149695001202099000318	97Mbits/sec	Pass	Pass
	10	2149695001202099000314	97Mbits/sec	Pass	Pass
	11	2149695001202099000330	98Mbits/sec	Pass	Pass
	12	2149695001202099000324	97Mbits/sec	Pass	Pass
	13	2149695001202099000310	97Mbits/sec	Pass	Pass
	14	2149695001202099000313	96Mbits/sec	Pass	Pass
	15	2149695001202099000275	97Mbits/sec	Pass	Pass
	16	2149695001202099000369	98Mbits/sec	Pass	Pass
PC3	17	2149695001202099000287	98Mbits/sec	Pass	Pass
	18	2149695001202099000288	97Mbits/sec	Pass	Pass
	19	2149695001202099000309	98Mbits/sec	Pass	Pass
	20	2149695001202099000284	97Mbits/sec	Pass	Pass

