



# FTBx-8870 Report

| K-20 Layer-2 Test Result |

PASS

|                |                          |
|----------------|--------------------------|
| Report Header: | K-20 Layer-2 Test Result |
| Report Title:  | K-20 Layer-2 Test Result |
| Report Date:   | 7/18/2023 2:39:24 PM     |
| Type:          | EtherSAM (Y.1564)        |

## Job Information

|                  |                             |
|------------------|-----------------------------|
| Job ID:          | RTASK2585420                |
| Circuit ID:      | Ziply:86/L4XN/741588//NWFC/ |
| Contractor Name: | University of Washington    |
| Customer Name:   | brewster-k12                |
| Operator Name:   | kithc                       |
| Comment:         |                             |

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## SUMMARY

### Results Summary

| Test Status                       |                       |
|-----------------------------------|-----------------------|
| Service Configuration Test Status | Completed, Pass       |
| Service Performance Test Status   | Completed, Pass       |
| Pass/Fail Verdict                 | PASS                  |
| Start Time                        | 7/18/2023 02:10:02 PM |
| Duration                          | 00d:00:10:48          |
| Test Recovery                     | 0                     |

### EtherSAM

| Services Summary |              |                            |                          |
|------------------|--------------|----------------------------|--------------------------|
|                  | Service Name | Service Configuration Test | Service Performance Test |
| 1                | Service 1    | PASS                       | PASS                     |

| Service Configuration Summary |              |                 |                 |                  |                         |                 |
|-------------------------------|--------------|-----------------|-----------------|------------------|-------------------------|-----------------|
|                               | Service Name | Frame Loss Rate | Max Jitter (ms) | Max Latency (ms) | Max Throughput (Mbit/s) | Service Verdict |
| 1                             | Service 1    | 0.0E-00         | 0.03663         | 5.42549          | 4899.97                 | PASS            |

| Service Performance Summary |              |                 |                 |                  |                         |                 |
|-----------------------------|--------------|-----------------|-----------------|------------------|-------------------------|-----------------|
|                             | Service Name | Frame Loss Rate | Max Jitter (ms) | Max Latency (ms) | Avg Throughput (Mbit/s) | Service Verdict |
| 1                           | Service 1    | 0.0E-00         | 0.04325         | 5.43392          | 4899.99                 | PASS            |

|                          |                      |
|--------------------------|----------------------|
| <b>VLAN Preservation</b> | No Mismatch Detected |
|--------------------------|----------------------|

| RX Power Level       |       |      |
|----------------------|-------|------|
|                      | Min   | Max  |
| Power Range (dBm)    | -15.0 | 0.5  |
| RX Power Level (dBm) | -3.1  | -3.0 |

| RX Frequency           |                     |                     |
|------------------------|---------------------|---------------------|
|                        | Max Negative Offset | Max Positive Offset |
| Frequency Offset (ppm) | -0.1                | 0.0                 |

## Alarms/Errors

| Alarms/Errors List              |      |
|---------------------------------|------|
| Active/Historical Alarms/Errors | None |

| Interface |         |
|-----------|---------|
| Alarms    | Seconds |
| LOS       | 0       |
| Frequency | 0       |

| Ethernet             |         |
|----------------------|---------|
| Alarms               | Seconds |
| Link Down            | 0       |
| Local Fault Detected | 0       |
| Local Fault Received | 0       |
| Remote Fault         | 0       |

| Errors    | Seconds  | Count | Rate    |
|-----------|----------|-------|---------|
| Block     | 0        | 0     | 0.00E00 |
| FCS       | 0        | 0     | 0.00E00 |
| Jabber    | 0        | 0     | 0.00E00 |
| Oversize  | Disabled |       |         |
| Runt      | 0        | 0     | 0.00E00 |
| Undersize | 0        | 0     | 0.00E00 |
| Total     |          | 0     |         |

| Clock Sync |         |
|------------|---------|
| Alarm      | Seconds |
| LOC        | 0       |

| IP/UDP/TCP   |         |       |         |
|--------------|---------|-------|---------|
| Errors       | Seconds | Count | Rate    |
| IP Checksum  | 0       | 0     | 0.00E00 |
| UDP Checksum | 0       | 0     | 0.00E00 |
| TCP Checksum | 0       | 0     | 0.00E00 |
| Total        |         | 0     |         |

## Setup Summary

|                  |                   |
|------------------|-------------------|
| Application Type | EtherSAM (Y.1564) |
|------------------|-------------------|

|          |             |
|----------|-------------|
| Topology | Single Port |
|----------|-------------|

| Interface      | Port 1   |
|----------------|----------|
| Interface/Rate | 10GE LAN |
| Connector      | SFP+     |

|              |      |
|--------------|------|
| Flow Control | None |
|--------------|------|

## EtherSAM

|                   |         |
|-------------------|---------|
| Pass/Fail Verdict | Enabled |
|-------------------|---------|

| Sub-Tests                  |          |                          |              |
|----------------------------|----------|--------------------------|--------------|
| Service Configuration Test |          | Service Performance Test |              |
| Ramp Test                  | Enabled  | Status                   | Enabled      |
| Burst selection            | Disabled | Duration                 | 00d:00:10:00 |
| Duration                   | 00:00:20 |                          |              |

| Ramp          |       |
|---------------|-------|
| Step Time (s) | 5     |
| Step Values   |       |
| 1             | 50 %  |
| 2             | 75 %  |
| 3             | 90 %  |
| 4             | 100 % |

## Services

|                                  |         |
|----------------------------------|---------|
| Total Committed TX Rate (Mbit/s) | 4900.00 |
|----------------------------------|---------|

| Services Summary |              |         |                    |              |                 |                  |                 |             |
|------------------|--------------|---------|--------------------|--------------|-----------------|------------------|-----------------|-------------|
|                  | Service Name | Profile | Frame Size (Bytes) | CIR (Mbit/s) | Max Jitter (ms) | Max Latency (ms) | Frame Loss Rate | CBS (Bytes) |
| 1                | Service 1    | Data    | Random             | 4900.00      | 2.00000         | 28.00000         | 1.0E-04         | --          |

## TEST RESULTS

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## Ethernet Traffic

| Frame Type  | TX Count  | RX Count  |
|-------------|-----------|-----------|
| Multicast   | 0         | 23        |
| Broadcast   | 2         | 0         |
| Unicast     | 465046868 | 465046866 |
| Non-Unicast | 2         | 23        |
| Total       | 465046870 | 465046889 |

| Frame Size (Bytes) | RX Count  | %    |
|--------------------|-----------|------|
| < 64               | 0         | 0.0  |
| 64                 | 319984    | 0.0  |
| 65 - 127           | 20144660  | 4.3  |
| 128 - 255          | 40915267  | 8.7  |
| 256 - 511          | 81814102  | 17.5 |
| 512 - 1023         | 163648957 | 35.1 |
| 1024 - 1518        | 158203919 | 34.0 |
| > 1518             | 0         | 0.0  |
| Total              | 465046889 |      |

## Detailed EtherSAM Results

### Service Configuration Test

#### Service 1 : Service 1

| Committed Steps |                 |                 |                  |         |                         |
|-----------------|-----------------|-----------------|------------------|---------|-------------------------|
| Committed Step  | Frame Loss Rate | Max Jitter (ms) | Max Latency (ms) | Verdict | Avg Throughput (Mbit/s) |
| 1-50%CIR        | 0.0E-00         | 0.03663         | 5.41677          | PASS    | 2449.98                 |
| 2-75%CIR        | 0.0E-00         | 0.03032         | 5.42069          | PASS    | 3675.00                 |
| 3-90%CIR        | 0.0E-00         | 0.02952         | 5.42367          | PASS    | 4409.99                 |
| CIR             | 0.0E-00         | 0.02897         | 5.42549          | PASS    | 4899.97                 |

### Service Performance Test

#### Service 1 : Service 1

|                     | Average | Minimum   | Maximum | Estimate |
|---------------------|---------|-----------|---------|----------|
| Throughput (Mbit/s) | 4899.99 | 4899.86   | 4900.12 | N/A      |
| Jitter (ms)         | 0.00121 | < 0.00001 | 0.04325 | 0.00081  |
| Latency (ms)        | 5.39517 | 5.37477   | 5.43392 | N/A      |
|                     | Seconds | Count     | Rate    |          |
| Frame Loss          | 0       | 0         | 0.0E00  |          |
| Out-of-Sequence     | 0       | 0         | 0.0E00  |          |

## TEST SETUP

| Clock Synchronization |          |
|-----------------------|----------|
| Clock Mode            | Internal |

## Detailed Services Configuration

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|                                  |         |
|----------------------------------|---------|
| Layer Mode                       | Mixed   |
| IP Version                       | IPv4    |
| Global Pass/Fail Verdict         | Enabled |
| Total Committed TX Rate (Mbit/s) | 4900.00 |

## Service 1

| Service Profile |           |
|-----------------|-----------|
| Service Name    | Service 1 |
| Profile         | Data      |
| Frame Size Type | Random    |

| SLA Parameters       |          |
|----------------------|----------|
| Information Rate     |          |
| CIR (Mbit/s)         | 4900.00  |
| Performance Criteria |          |
| Max Jitter (ms)      | 2.00000  |
| Max Latency (ms)     | 28.00000 |
| Frame Loss Rate      | 1.0E-04  |

## Test Parameters

| Framing         |             |
|-----------------|-------------|
| Frame Format    | Ethernet II |
| Network Layer   | IPv4        |
| Transport Layer | UDP         |
| VLAN            | None        |
| MPLS            | Disabled    |

## Addressing

|             | MAC               | IP Address                 | UDP Port |
|-------------|-------------------|----------------------------|----------|
| Source      | 00:03:01:F8:22:D8 | 10.112.0.1 / 255.255.255.0 | 49184    |
| Destination | 00:03:01:F8:29:82 | 10.112.0.100               | 7        |

|                     |          |
|---------------------|----------|
| EtherType           | 0x0800   |
| Automatic IP (DHCP) | Disabled |
| TTL                 | 128      |
| TOS                 | 0x00     |
| Default Gateway     | Disabled |

## FUNCTIONS

### Ping & Trace Route

| Network                |                       |
|------------------------|-----------------------|
| Source MAC Address     | 00:03:01:F8:22:D8     |
| Source IP Address      | 10.112.0.1 (Stream 1) |
| Destination IP Address | 0.0.0.0               |

| Ping                  |      |
|-----------------------|------|
| Timeout (ms)          | 4000 |
| Delay (ms)            | 1000 |
| Data Size (Bytes)     | 32   |
| TTL                   | 128  |
| Type Of Service (TOS) | 0x00 |

| Ping Results |         |               |
|--------------|---------|---------------|
| No.          | Status  | Reply Details |
| 1            | Timeout |               |
| 2            | Timeout |               |
| 3            | Timeout |               |

| Ping Statistics              |       |
|------------------------------|-------|
| Packets Transmitted          | 3     |
| Packets Received             | 0     |
| Percentage Lost (%)          | 100.0 |
| Minimum Round Trip Time (ms) | --    |
| Maximum Round Trip Time (ms) | --    |
| Average Round Trip Time (ms) | --    |

| Trace Route   |      |
|---------------|------|
| Timeout (ms)  | 4000 |
| Max Hop Count | 128  |

## SYSTEM INFORMATION

|                                   |                           |
|-----------------------------------|---------------------------|
| <b>Product Name</b>               | Power Blazer Series       |
| <b>Version</b>                    | Power Blazer Series 1.108 |
| <b>Module ID</b>                  | FTBx-8870                 |
| <b>Slot ID</b>                    | 1                         |
| <b>Software Product Version</b>   | 1.108.0.44                |
|                                   | Power Blazer Series 1.108 |
| <b>Assembly Hardware Revision</b> | B                         |
| <b>Serial Number</b>              | 1343184                   |
| <b>Calibration Date</b>           | 4/20/2020 8:28:00 PM      |

## Pluggable Module

|                             |                                  |
|-----------------------------|----------------------------------|
| <b>Module ID</b>            | SFP+                             |
| <b>Vendor Name</b>          | WFS                              |
| <b>Part Number</b>          | WFSP-1396-10-J                   |
| <b>Serial Number</b>        | 3172922861                       |
| <b>Hardware Revision</b>    | 1.0                              |
| <b>Connector Type</b>       | LC                               |
| <b>Speed</b>                | 10G                              |
| <b>Type/Compliance Code</b> | LR, 10.0 km (SMF)                |
| <b>Wavelength</b>           | 1310 nm                          |
| <b>Mode</b>                 | Single-Mode Fiber                |
| <b>Power Class</b>          | Power Class 1 Module (<= 1W max) |
| <b>Temperature (Max)</b>    | 34.5 °C                          |

## Software Options

|                 |                                                      |          |
|-----------------|------------------------------------------------------|----------|
| 100electrical   | Ethernet 100Base-TX (Electrical) Interface           | Enabled  |
| 100optical      | Ethernet 100Base-FX (Optical) Interface              | Disabled |
| 10electrical    | Ethernet 10Base-T (Electrical) Interface             | Enabled  |
| 10G_LAN         | Ethernet 10G LAN optical interface                   | Enabled  |
| 10G_WAN         | Ethernet 10G WAN optical interface                   | Enabled  |
| 155M            | 155 Mbit/s                                           | Disabled |
| 1588PTP         | 1588 Precision Time Protocol                         | Disabled |
| 2488M           | 2.488 Gbit/s                                         | Disabled |
| 52M             | 52 Mbit/s                                            | Enabled  |
| 622M            | 622 Mbit/s                                           | Disabled |
| 9953M           | 9.953 Gbit/s                                         | Disabled |
| Cable_Test      | Cable Test                                           | Disabled |
| CPRI            | CPRI 2.4576 Gbit/s and 3.072 Gbit/s                  | Disabled |
| CPRI-1.2G       | CPRI 1.2288 Gbit/s                                   | Disabled |
| CPRI-10.1G      | CPRI 10.1376 Gbit/s                                  | Disabled |
| CPRI-4.9G       | CPRI 4.9152 Gbit/s                                   | Disabled |
| CPRI-6.1G       | CPRI 6.144 Gbit/s                                    | Disabled |
| CPRI-9.8G       | CPRI 9.8304 Gbit/s                                   | Disabled |
| DS1-FDL         | DS1/1.5M Facility Data Link                          | Disabled |
| DSn             | Digital Signal (DS1, DS3)                            | Disabled |
| eCPRI-10G       | eCPRI over 10G Ethernet                              | Disabled |
| EoE             | Ethernet over Ethernet Encapsulation (10GE and less) | Disabled |
| EoOTN           | Ethernet over Optical Transport Network              | Disabled |
| ETH-OAM         | Carrier Ethernet OAM Test Application                | Disabled |
| FC-10X          | Fibre Channel 10X                                    | Disabled |
| FC-1X           | Fibre Channel 1X                                     | Disabled |
| FC-2X           | Fibre Channel 2X                                     | Disabled |
| FC-4X           | Fibre Channel 4X                                     | Disabled |
| FC-8X           | Fibre Channel 8X                                     | Disabled |
| GCC-BERT        | OTN Overhead BERT and Synchronization Validation     | Disabled |
| GigE_Electrical | Ethernet 1000Base-T (Electrical) Interface           | Enabled  |
| GigE_Optical    | Ethernet 1000Base-X (Optical) Interface              | Enabled  |
| iOptics         | Intelligent Pluggable Optic Test Application         | Disabled |
| iSAM            | Intelligent Service Activation Methodology           | Disabled |
| L2-Transparency | L2CP Handling Test in EtherSAM                       | Disabled |
| LINK-OAM        | Link OAM                                             | Disabled |
| MPLS            | MPLS Encapsulation (10GE and less)                   | Disabled |
| NI-CSU          | NI/CSU Emulation                                     | Disabled |
| OBSAI           | OBSAI 3.072 Gbit/s                                   | Disabled |
| OBSAI-1.5G      | OBSAI 1.536 Gbit/s                                   | Disabled |
| OBSAI-6.1G      | OBSAI 6.144 Gbit/s                                   | Disabled |
| ODU0            | OTN ODU0                                             | Disabled |
| ODUflex         | OTN ODUflex                                          | Disabled |
| ODUMUX          | ODU Multiplexing Payload Type 20 and 21              | Disabled |
| OTN-INTR-THRU   | OTN Intrusive Through Mode                           | Disabled |
| OTU1            | Optical Transport Unit-1 (2.7 Gbit/s)                | Disabled |

|            |                                                             |          |
|------------|-------------------------------------------------------------|----------|
| OTU2       | Optical Transport Unit-2 (10.7 Gbit/s)                      | Disabled |
| OTU2-1e-2e | Optical Transport Unit-2 Overclocked (11.049/11.096 Gbit/s) | Disabled |
| OTU2-1f-2f | Optical Transport Unit-2 Overclocked (11.270/11.317 Gbit/s) | Disabled |
| PBBTE      | Provider Backbone Bridge Encapsulation (10GE and less)      | Disabled |
| PDH        | Plesiochronous Digital Hierarchy (E1, E3, E4)               | Disabled |
| RFC6349    | RFC 6349 Test Application (25GE and less)                   | Disabled |
| SDH        | Synchronous Digital Hierarchy                               | Enabled  |
| SONET      | Synchronous Optical Network                                 | Enabled  |
| SyncE      | Synchronous Ethernet                                        | Disabled |
| TCM        | Tandem Connection Monitoring HO/LO                          | Disabled |
| TCP-THPUT  | Tcp Throughput Test Application                             | Disabled |
| TST-OAM    | Test Over Service OAM                                       | Disabled |

## LOGGER

| ID | Start Time        | Event                              | Duration                                                                             | Details    |
|----|-------------------|------------------------------------|--------------------------------------------------------------------------------------|------------|
| 1  | 07/18 02:10:02 PM | Test Started                       |                                                                                      | 2023-07-18 |
| 2  | 07/18 02:10:06 PM | Service Configuration test started |                                                                                      | 2023-07-18 |
| 3  | 07/18 02:10:40 PM | Service Performance test started   |                                                                                      | 2023-07-18 |
| 4  | 07/18 02:20:50 PM | Test Stopped                       |  | PASS       |