



# FTBx-8870 Report

PASS

Report Header: EXFO Inc.  
Report Title:  
Report Date: 9/14/2021 4:31:52 PM  
Type: EtherSAM (Y.1564)

## Job Information

Job ID: RTASK1859549  
Circuit ID: Zayo: ETYX/294413/ZYO  
Contractor Name:  
Customer Name: highline-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                        | 9/14/2021 04:19:05 PM |
| Duration                          | 00d:00:10:52          |
| Test Recovery                     | 0                     |

### EtherSAM

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

| Service Configuration Summary |              |           |                 |                 |                  |                         |                 |
|-------------------------------|--------------|-----------|-----------------|-----------------|------------------|-------------------------|-----------------|
|                               | Service Name | Direction | Frame Loss Rate | Max Jitter (ms) | Max Latency (ms) | Max Throughput (Mbit/s) | Service Verdict |
| 1                             | Service 1    | L->R      | 0.0E-00         | 0.01654         |                  | 2999.99                 | PASS            |
|                               |              | R->L      | 0.0E-00         | 0.01561         | 0.44692          | 3000.00                 | PASS            |

| Service Performance Summary |              |           |                 |                 |                  |                         |                 |
|-----------------------------|--------------|-----------|-----------------|-----------------|------------------|-------------------------|-----------------|
|                             | Service Name | Direction | Frame Loss Rate | Max Jitter (ms) | Max Latency (ms) | Avg Throughput (Mbit/s) | Service Verdict |
| 1                           | Service 1    | L->R      | 0.0E-00         | 0.01803         |                  | 2999.99                 | PASS            |
|                             |              | R->L      | 0.0E-00         | 0.01046         | 0.46828          | 3000.00                 | PASS            |

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

| RX Power Level       |       |      |
|----------------------|-------|------|
|                      | Min   | Max  |
| Power Range (dBm)    | -19.0 | -1.0 |
| RX Power Level (dBm) | -2.1  | -2.1 |

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

## Alarms/Errors

| Alarms/Errors List              |       |
|---------------------------------|-------|
| Active/Historical Alarms/Errors | OOSeq |

| 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) |
|------------------|-------------------|

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

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

## EtherSAM

|                      |            |
|----------------------|------------|
| DTS Enabled          |            |
| Remote ID            | MAX-860G84 |
| Nat Router Detection | No NAT     |
| Local WAN IP         | N/A        |
| 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) | L->R | 3000.00 |
|                                  | R->L | 3000.00 |

| Services Summary |              |         |                    |           |              |                 |                  |                 |             |
|------------------|--------------|---------|--------------------|-----------|--------------|-----------------|------------------|-----------------|-------------|
|                  | Service Name | Profile | Frame Size (Bytes) | Direction | CIR (Mbit/s) | Max Jitter (ms) | Max Latency (ms) | Frame Loss Rate | CBS (Bytes) |
| 1                | Service 1    | Data    | Random             | L->R      | 3000.00      | 2.00000         |                  | 1.0E-04         | --          |
|                  |              |         |                    | R->L      | 3000.00      | 2.00000         | 28.00000         | 1.0E-04         |             |

## TEST RESULTS

### Ethernet Traffic

| Frame Type  | TX Count  | RX Count  |
|-------------|-----------|-----------|
| Multicast   | 0         | 23        |
| Broadcast   | 2         | 2         |
| Unicast     | 284051163 | 284053958 |
| Non-Unicast | 2         | 25        |
| Total       | 284051165 | 284053983 |

| Frame Size (Bytes) | RX Count  | %    |
|--------------------|-----------|------|
| < 64               | 0         | 0.0  |
| 64                 | 360       | 0.0  |
| 65 - 127           | 11755652  | 4.1  |
| 128 - 255          | 25042499  | 8.8  |
| 256 - 511          | 50115780  | 17.6 |
| 512 - 1023         | 100234332 | 35.2 |
| 1024 - 1518        | 96905360  | 34.1 |
| > 1518             | 0         | 0.0  |
| Total              | 284053983 |      |

### Detailed EtherSAM Results

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**Service Configuration Test****Service 1 : Service 1**

| Committed Steps |           |                 |                 |                  |         |                         |
|-----------------|-----------|-----------------|-----------------|------------------|---------|-------------------------|
| Committed Step  | Direction | Frame Loss Rate | Max Jitter (ms) | Max Latency (ms) | Verdict | Avg Throughput (Mbit/s) |
| 1-50%CIR        | L->R      | 0.0E-00         | 0.01316         | 0.44459          | PASS    | 1500.00                 |
|                 | R->L      | 0.0E-00         | 0.01561         |                  | PASS    | 1500.00                 |
| 2-75%CIR        | L->R      | 0.0E-00         | 0.00978         | 0.43818          | PASS    | 2249.98                 |
|                 | R->L      | 0.0E-00         | 0.01120         |                  | PASS    | 2250.00                 |
| 3-90%CIR        | L->R      | 0.0E-00         | 0.01507         | 0.44692          | PASS    | 2699.99                 |
|                 | R->L      | 0.0E-00         | 0.01021         |                  | PASS    | 2700.00                 |
| CIR             | L->R      | 0.0E-00         | 0.01654         | 0.44356          | PASS    | 2999.99                 |
|                 | R->L      | 0.0E-00         | 0.00946         |                  | PASS    | 3000.00                 |

## Service Performance Test

### Service 1 : Service 1

|                     | Direction | Average | Minimum   | Maximum | Estimate |
|---------------------|-----------|---------|-----------|---------|----------|
| Throughput (Mbit/s) | L->R      | 2999.99 | 2999.98   | 3000.01 | N/A      |
|                     | R->L      | 3000.00 | 2999.97   | 3000.02 | N/A      |
| Jitter (ms)         | L->R      | 0.00148 | < 0.00001 | 0.01803 | 0.00171  |
|                     | R->L      | 0.00184 | < 0.00001 | 0.01046 | 0.00185  |
|                     | R->L      | 0.42595 | 0.41701   | 0.46828 | N/A      |
|                     |           | Seconds | Count     | Rate    |          |
| Frame Loss          | L->R      | 0       | 0         | 0.0E00  |          |
|                     | R->L      | 0       | 0         | 0.0E00  |          |
| Out-of-Sequence     | L->R      | 0       | 0         | 0.0E00  |          |
|                     | R->L      | 587     | 2964      | 1.0E-05 |          |

## TEST SETUP

**Clock Synchronization**

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

**Detailed Services Configuration**

|                                  |         |         |
|----------------------------------|---------|---------|
| IP Version                       | IPv4    |         |
| Layer Mode                       | Mixed   |         |
| Global Pass/Fail Verdict         | Enabled |         |
|                                  | L->R    | R->L    |
| Total Committed TX Rate (Mbit/s) | 3000.00 | 3000.00 |

**Service 1**

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

| SLA Parameters       |          |          |
|----------------------|----------|----------|
|                      | L->R     | R->L     |
| Information Rate     |          |          |
| CIR (Mbit/s)         | 3000.00  | 3000.00  |
| Burst Size           |          |          |
| Performance Criteria |          |          |
| Max Jitter (ms)      | 2.00000  | 2.00000  |
| Max Latency (ms)     | 28.00000 | 28.00000 |
| Frame Loss Rate      | 1.0E-04  |          |

| Test Parameters |      |      |
|-----------------|------|------|
|                 | L->R | R->L |

| Framing         |             |      |
|-----------------|-------------|------|
| Frame Format    | Ethernet II |      |
| Network Layer   | IPv4        |      |
| Transport Layer | UDP         |      |
|                 | L->R        | R->L |
| VLAN            | None        | None |

#### Addressing

|      |             | MAC               | IP Address                   | UDP Port |
|------|-------------|-------------------|------------------------------|----------|
| L->R | Source      | 00:03:01:F8:22:DD | 10.112.0.1 / 255.255.255.0   | 49184    |
|      | Destination | 00:03:01:F8:29:85 | 10.112.0.100                 | 7        |
| R->L | Source      | 00:03:01:F8:29:85 | 10.112.0.100 / 255.255.255.0 | 7        |
|      | Destination | 00:03:01:F8:22:DD | 10.112.0.1                   | 49184    |

|                     | L->R     | R->L     |
|---------------------|----------|----------|
| EtherType           | 0x0800   | 0x0800   |
| Automatic IP (DHCP) | Disabled | No       |
| TTL                 | 128      | 128      |
| TOS                 | 0x00     | 0        |
| Default Gateway     | Disabled | Disabled |

## FUNCTIONS

### Ping & Trace Route

| Network                |                       |
|------------------------|-----------------------|
| Source MAC Address     | 00:03:01:F8:22:DD     |
| 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 Statistics              |    |
|------------------------------|----|
| Packets Transmitted          | -- |
| Packets Received             | -- |
| Percentage Lost (%)          | -- |
| Minimum Round Trip Time (ms) | -- |
| Maximum Round Trip Time (ms) | -- |
| Average Round Trip Time (ms) | -- |

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

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## SYSTEM INFORMATION

|                                   |                          |
|-----------------------------------|--------------------------|
| <b>Product Name</b>               | Power Blazer Series      |
| <b>Version</b>                    | Power Blazer Series 1.75 |
| <b>Module ID</b>                  | FTBx-8870                |
| <b>Slot ID</b>                    | 1                        |
| <b>Software Product Version</b>   | 1.75.0.85                |
|                                   | Power Blazer Series 1.75 |
| <b>Assembly Hardware Revision</b> | B                        |
| <b>Serial Number</b>              | 1343183                  |
| <b>Calibration Date</b>           | 4/20/2020 9:30:00 PM     |

## Pluggable Module

|                             |                                  |
|-----------------------------|----------------------------------|
| <b>Module ID</b>            | SFP+                             |
| <b>Vendor Name</b>          | WFS                              |
| <b>Part Number</b>          | 10GB-SFP-LR-JN                   |
| <b>Serial Number</b>        | WFJNXPL917                       |
| <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>    | 26.7 °C                          |

## Software Options

|                 |                                                             |          |
|-----------------|-------------------------------------------------------------|----------|
| DS1-FDL         | DS1/1.5M Facility Data Link                                 | Disabled |
| CPRI-10.1G      | CPRI 10.1376 Gbit/s                                         | Disabled |
| SDH             | Synchronous Digital Hierarchy                               | Enabled  |
| SONET           | Synchronous Optical Network                                 | Enabled  |
| 622M            | 622 Mbit/s                                                  | Disabled |
| eCPRI-10G       | eCPRI over 10G Ethernet                                     | Disabled |
| DSn             | Digital Signal (DS1, DS3)                                   | Disabled |
| PDH             | Plesiochronous Digital Hierarchy (E1, E3, E4)               | Disabled |
| 155M            | 155 Mbit/s                                                  | Disabled |
| 2488M           | 2.488 Gbit/s                                                | Disabled |
| 10G_LAN         | Ethernet 10G LAN optical interface                          | Enabled  |
| 10G_WAN         | Ethernet 10G WAN optical interface                          | Enabled  |
| L2-Transparency | L2CP Handling Test in EtherSAM                              | Disabled |
| TCM             | Tandem Connection Monitoring HO/LO                          | Disabled |
| G82752          | ITU-T G.8275.2 Profile                                      | Disabled |
| TunableOptics   | Tunable Wavelength Support for SFP+                         | Disabled |
| 9953M           | 9.953 Gbit/s                                                | Disabled |
| OTU1            | Optical Transport Unit-1 (2.7 Gbit/s)                       | Disabled |
| OTU2            | Optical Transport Unit-2 (10.7 Gbit/s)                      | Disabled |
| 100optical      | Ethernet 100Base-FX (Optical) Interface                     | Disabled |
| GigE_Optical    | Ethernet 1000Base-X (Optical) Interface                     | Enabled  |
| GigE_Electrical | Ethernet 1000Base-T (Electrical) Interface                  | Enabled  |
| FC-1X           | Fibre Channel 1X                                            | Disabled |
| FC-2X           | Fibre Channel 2X                                            | Disabled |
| TCP-THPUT       | Tcp Throughput Test Application                             | Disabled |
| 100electrical   | Ethernet 100Base-TX (Electrical) Interface                  | Enabled  |
| 10electrical    | Ethernet 10Base-T (Electrical) Interface                    | Enabled  |
| ODUMUX          | ODU Multiplexing Payload Type 20 and 21                     | Disabled |
| FC-10X          | Fibre Channel 10X                                           | Disabled |
| OTU2-1e-2e      | Optical Transport Unit-2 Overclocked (11.049/11.096 Gbit/s) | Disabled |
| FC-4X           | Fibre Channel 4X                                            | Disabled |
| ADV-FILTERS     | Advanced Filtering                                          | Disabled |
| MPLS            | MPLS Encapsulation (10GE and less)                          | Disabled |
| IPV6            | Internet Protocol Version 6 (IPv6) (10GE and less)          | Disabled |
| OTN-INTR-THRU   | OTN Intrusive Through Mode                                  | Disabled |
| EoOTN           | Ethernet over Optical Transport Network                     | Disabled |
| ETH-THRU        | Through Mode Test Application                               | Disabled |
| OTU2-1f-2f      | Optical Transport Unit-2 Overclocked (11.270/11.317 Gbit/s) | Disabled |
| Cable_Test      | Cable Test                                                  | Disabled |
| ODU0            | OTN ODU0                                                    | Disabled |
| ETH-CAPTURE     | Ethernet Frame Capture for Advanced Troubleshooting         | Disabled |
| ODUflex         | OTN ODUflex                                                 | Disabled |
| TRAFFIC-SCAN    | Traffic Scan                                                | Disabled |
| 52M             | 52 Mbit/s                                                   | Enabled  |

|                  |                                                        |          |
|------------------|--------------------------------------------------------|----------|
| NI-CSU           | NI/CSU Emulation                                       | Disabled |
| FC-8X            | Fibre Channel 8X                                       | Disabled |
| CPRI             | CPRI 2.4576 Gbit/s and 3.072 Gbit/s                    | Disabled |
| OBSAI            | OBSAI 3.072 Gbit/s                                     | Disabled |
| 1588PTP          | 1588 Precision Time Protocol                           | Disabled |
| SyncE            | Synchronous Ethernet                                   | Disabled |
| ETH-OAM          | Carrier Ethernet OAM Test Application                  | Disabled |
| CPRI-1.2G        | CPRI 1.2288 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 |
| DUAL-PORT        | Dual Port Test                                         | Disabled |
| RFC6349          | RFC 6349 Test Application (10GE and less)              | Disabled |
| iSAM             | Intelligent Service Activation Methodology             | Disabled |
| PoE              | Power Over Ethernet                                    | Disabled |
| LINK-OAM         | Link OAM                                               | Disabled |
| DP-CPRI          | Dual Port CPRI                                         | Disabled |
| TST-OAM          | Test Over Service OAM                                  | Disabled |
| G82751           | ITU-T G.8275.1 Profile                                 | Disabled |
| iOptics          | Intelligent Pluggable Optic Test Application           | Disabled |
| EoE              | Ethernet over Ethernet Encapsulation (10GE and less)   | Disabled |
| PBBTE            | Provider Backbone Bridge Encapsulation (10GE and less) | Disabled |
| RFC6349-EXFOWorx | Enables EXFO Worx Interop Operation Mode               | Disabled |
| GCC-BERT         | OTN Overhead BERT and Synchronization Validation       | Disabled |
| OBSAI-1.5G       | OBSAI 1.536 Gbit/s                                     | Disabled |
| OBSAI-6.1G       | OBSAI 6.144 Gbit/s                                     | Disabled |
| DTS-NAT          | NAT Traversal for DTS applications                     | Disabled |

## LOGGER

| ID | Start Time        | Event                    | Duration | Details                                                                                    |
|----|-------------------|--------------------------|----------|--------------------------------------------------------------------------------------------|
| 1  | 09/14 04:19:05 PM | Test Started             |          | 2021-09-14                                                                                 |
| 2  | 09/14 04:19:10 PM | Service Configuration te |          | 2021-09-14                                                                                 |
| 3  | 09/14 04:19:47 PM | Service Performance tes  |          | 2021-09-14                                                                                 |
| 4  | 09/14 04:19:50 PM | OOSeq                    | 00:04:22 | 1386/1386 S(1)                                                                             |
| 5  | 09/14 04:24:13 PM | OOSeq                    | 00:02:21 | 753/2139 S(1)                                                                              |
| 6  | 09/14 04:26:35 PM | OOSeq                    | 00:00:55 | 245/2384 S(1)                                                                              |
| 7  | 09/14 04:27:31 PM | OOSeq                    | 00:00:12 | 48/2432 S(1)                                                                               |
| 8  | 09/14 04:27:44 PM | OOSeq                    | 00:00:21 | 89/2521 S(1)                                                                               |
| 9  | 09/14 04:28:06 PM | OOSeq                    | 00:00:10 | 32/2553 S(1)                                                                               |
| 10 | 09/14 04:28:17 PM | OOSeq                    | 00:01:06 | 319/2872 S(1)                                                                              |
| 11 | 09/14 04:29:24 PM | OOSeq                    | 00:00:02 | 15/2887 S(1)                                                                               |
| 12 | 09/14 04:29:27 PM | OOSeq                    | 00:00:12 | 34/2921 S(1)                                                                               |
| 13 | 09/14 04:29:40 PM | OOSeq                    | 00:00:02 | 15/2936 S(1)                                                                               |
| 14 | 09/14 04:29:43 PM | OOSeq                    | 00:00:04 | 28/2964 S(1)                                                                               |
| 15 | 09/14 04:29:57 PM | Test Stopped             |          |  PASS |