



# FTBx-8870 Report

| manson-k12 |

PASS

|                |                     |
|----------------|---------------------|
| Report Header: | EXFO Inc.           |
| Report Title:  | manson-k12          |
| Report Date:   | 2/9/2021 2:11:58 PM |
| Type:          | EtherSAM (Y.1564)   |

## Job Information

|                  |                                |
|------------------|--------------------------------|
| Job ID:          | RTASK1735778                   |
| Circuit ID:      | Wholesail:86/L4XN/717454//NWFC |
| Contractor Name: |                                |
| Customer Name:   | snoisle-lib                    |
| Operator Name:   | danieldh                       |
| 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                        | 2/9/2021 01:57:16 PM |
| Duration                          | 00d:00:10:51         |
| 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         | 0.07788         |                  | 1974.99                 | PASS            |
|                               |              | R->L      | 0.0E-00         | 0.04169         | 2.04260          | 1975.00                 | 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         | 0.04663         |                  | 1974.99                 | PASS            |
|                             |              | R->L      | 0.0E-00         | 0.04203         | 5.71939          | 1974.99                 | PASS            |

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

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

| RX Frequency           |                     |                     |
|------------------------|---------------------|---------------------|
|                        | Max Negative Offset | Max Positive Offset |
| Frequency Offset (ppm) | -0.4                | 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) |
|------------------|-------------------|

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

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

## EtherSAM

|                      |            |
|----------------------|------------|
| DTS Enabled          |            |
| Remote ID            | MAX-860GCD |
| 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 | 1975.00 |
|                                  | R->L | 1975.00 |

| 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      | 1975.00      | 2.00000         |                  | 1.0E-04         | --          |
|                  |              |         |                    | R->L      | 1975.00      | 2.00000         | 28.00000         | 1.0E-04         |             |

## TEST RESULTS

### Ethernet Traffic

| Frame Type  | TX Count  | RX Count  |
|-------------|-----------|-----------|
| Multicast   | 0         | 24        |
| Broadcast   | 2         | 2         |
| Unicast     | 186972539 | 186983922 |
| Non-Unicast | 2         | 26        |
| Total       | 186972541 | 186983948 |

| Frame Size (Bytes) | RX Count  | %    |
|--------------------|-----------|------|
| < 64               | 0         | 0.0  |
| 64                 | 289       | 0.0  |
| 65 - 127           | 7720918   | 4.1  |
| 128 - 255          | 16499628  | 8.8  |
| 256 - 511          | 32987166  | 17.6 |
| 512 - 1023         | 65985707  | 35.2 |
| 1024 - 1518        | 63790240  | 34.1 |
| > 1518             | 0         | 0.0  |
| Total              | 186983948 |      |

### 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         | 0.04344         | 1.94107          | PASS    | 987.49                  |
|                 | R->L      | 0.0E-00         | 0.04083         |                  | PASS    | 987.49                  |
| 2-75%CIR        | L->R      | 0.0E-00         | 0.07788         | 2.00959          | PASS    | 1481.24                 |
|                 | R->L      | 0.0E-00         | 0.04169         |                  | PASS    | 1481.24                 |
| 3-90%CIR        | L->R      | 0.0E-00         | 0.03088         | 1.97992          | PASS    | 1777.49                 |
|                 | R->L      | 0.0E-00         | 0.03193         |                  | PASS    | 1777.49                 |
| CIR             | L->R      | 0.0E-00         | 0.03053         | 2.04260          | PASS    | 1974.99                 |
|                 | R->L      | 0.0E-00         | 0.02727         |                  | PASS    | 1975.00                 |



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## Service Performance Test

### Service 1 : Service 1

|                     | Direction | Average | Minimum   | Maximum | Estimate |
|---------------------|-----------|---------|-----------|---------|----------|
| Throughput (Mbit/s) | L->R      | 1974.99 | 1974.16   | 1975.67 | N/A      |
|                     | R->L      | 1974.99 | 1969.17   | 1980.68 | N/A      |
| Jitter (ms)         | L->R      | 0.00273 | < 0.00001 | 0.04663 | 0.00253  |
|                     | R->L      | 0.00322 | < 0.00001 | 0.04203 | 0.00368  |
|                     | R->L      | 1.47817 | 1.43861   | 5.71939 | 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      | 0       | 0         | 0.0E00  |          |

## 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) | 1975.00 | 1975.00 |

**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)         | 1975.00  | 1975.00  |
| 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:D8 | 10.112.0.1 / 255.255.255.0   | 49184    |
|      | Destination | 00:03:01:F8:29:CE | 10.112.0.100                 | 7        |
| R->L | Source      | 00:03:01:F8:29:CE | 10.112.0.100 / 255.255.255.0 | 7        |
|      | Destination | 00:03:01:F8:22:D8 | 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:D8     |
| Source IP Address      | 10.112.0.1 (Stream 1) |
| Destination IP Address | 10.112.0.100          |

| Ping                  |      |
|-----------------------|------|
| Timeout (ms)          | 500  |
| Delay (ms)            | 500  |
| Data Size (Bytes)     | 32   |
| TTL                   | 128  |
| Type Of Service (TOS) | 0x00 |

| Ping Results |              |                                               |
|--------------|--------------|-----------------------------------------------|
| No.          | Status       | Reply Details                                 |
| 1            | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 2            | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 3            | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 4            | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 5            | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 6            | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 7            | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 8            | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 9            | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 10           | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 11           | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 12           | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 13           | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 14           | Successful   | IP=10.112.0.100, Bytes=32, Time=1 ms, TTL=127 |
| 15           | User aborted |                                               |

| Ping Statistics              |     |
|------------------------------|-----|
| Packets Transmitted          | 14  |
| Packets Received             | 14  |
| Percentage Lost (%)          | 0.0 |
| Minimum Round Trip Time (ms) | 1   |
| Maximum Round Trip Time (ms) | 1   |
| Average Round Trip Time (ms) | 1   |

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

## SYSTEM INFORMATION

|                                   |                          |
|-----------------------------------|--------------------------|
| <b>Product Name</b>               | Power Blazer Series      |
| <b>Version</b>                    | Power Blazer Series 1.75 |
| <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>              | 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>    | 31.9 °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  | 02/09 01:57:16 PM | Test Started             |          | 2021-02-09                                                                                        |
| 2  | 02/09 01:57:21 PM | Service Configuration te |          | 2021-02-09                                                                                        |
| 3  | 02/09 01:57:56 PM | Service Performance tes  |          | 2021-02-09                                                                                        |
| 4  | 02/09 02:08:07 PM | Test Stopped             |          |  <b>PASS</b> |