



FTBx-88260 Report

| K-20 Layer-2 Test Results |

FAIL

Report Header:	K-20 Layer-2 Test Results
Report Title:	K-20 Layer-2 Test Results
Report Date:	5/12/2025 4:05:27 PM
Type:	RFC 2544

Job Information

Job ID:	RTASK4158337
Circuit ID:	Lumen: 04/KXGS/816785//PN
Contractor Name:	K-20
Customer Name:	kent-k12
Operator Name:	kithc
Comment:	kent-k12 RFC 2544

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SUMMARY

Results Summary

Test Status	
Throughput	Completed 00d:00:07:14
Back-to-Back	Completed 00d:00:18:00
Frame Loss	Completed 00d:00:10:35
Latency	Completed 00d:00:01:16
Pass/Fail Verdict	FAIL
Start Time	5/12/2025 03:27:52 PM
Test Recovery	0

RFC 2544

Pass/Fail Verdict	
Throughput	FAIL
Back-to-Back	FAIL
Frame Loss	FAIL
Latency	PASS

Throughput				
	(Mbit/s)			(Frame/s)
	Layer			
	All	Ethernet	IP	
64	13749.9	10476.1	7529.7	20461307.5741
128	13749.9	11891.8	10219.5	11613174.5692
256	14999.9	13913.0	12934.7	6793476.9652
512	15624.9	15037.5	14508.9	3671286.7191
1024	14374.9	14099.6	13851.7	1721144.5746
1280	14999.9	14769.2	14561.5	1442307.4173
1518	14999.9	14804.9	14629.3	1219115.5023

Back-to-Back				
	(Mbit/s)			(f/burst)
	Layer			
	All	Ethernet	IP	
64	3.9	3.0	2.1	5920
128	6.0	5.2	4.5	5121
256	6.3	5.8	5.4	2863
512	7.1	6.8	6.6	1683
1024	8.3	8.1	8.0	999
1280	9.3	9.2	9.0	900
1518	8.7	8.6	8.5	711

	Frame Loss (%, 100.0000% Step)	Latency (ms, Cut Through) Mode
64	84.094	1.30741
128	82.285	1.30882
256	82.503	1.30875
512	81.686	1.30616
1024	81.719	1.30784
1280	82.096	1.30375
1518	81.795	1.33397

RX Power Level		
	Min	Max
Power Range (dBm)	-12.60	4.50
Optical Lane	RX Power Level (dBm)	
	Min	Max
0	0.88	0.96
1	0.67	0.76
2	-0.24	-0.15
3	0.00	0.08

RX Frequency		
CAUI-4 Lane	Frequency Offset (ppm)	
	Max Negative Offset	Max Positive Offset
0	0.0	0.2
1	0.0	0.2
2	0.0	0.2
3	0.0	0.2

Alarms/Errors

Alarms/Errors List	
Active/Historical Alarms/Errors	None

Interface				
Optical Lane	LOS	CAUI-4 Lane	LOC Lane	Frequency
	Seconds		Seconds	Seconds
0	0	0	0	0
1	0	1	0	0
2	0	2	0	0
3	0	3	0	0

Clock Sync	
Alarm	Seconds
LOC	0

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

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

PCS Lanes	
Alarms	Seconds
LOA	0
Invalid Mapping	0

PCS Lanes			
PCS Lane	LOBL	LOAML	Excessive Skew
Alarms	Seconds	Seconds	Seconds
0	0	0	0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	0	0
Skew Alarm Threshold (bits)		928	

PCS Lanes						
PCS Lane Errors	Block			Inv. Marker		
	Seconds	Count	Rate	Seconds	Count	Rate
0	0	0	0.00E00	0	0	0.00E00
1	0	0	0.00E00	0	0	0.00E00
2	0	0	0.00E00	0	0	0.00E00
3	0	0	0.00E00	0	0	0.00E00
4	0	0	0.00E00	0	0	0.00E00
5	0	0	0.00E00	0	0	0.00E00
6	0	0	0.00E00	0	0	0.00E00
7	0	0	0.00E00	0	0	0.00E00
8	0	0	0.00E00	0	0	0.00E00
9	0	0	0.00E00	0	0	0.00E00
10	0	0	0.00E00	0	0	0.00E00
11	0	0	0.00E00	0	0	0.00E00
12	0	0	0.00E00	0	0	0.00E00
13	0	0	0.00E00	0	0	0.00E00
14	0	0	0.00E00	0	0	0.00E00
15	0	0	0.00E00	0	0	0.00E00
16	0	0	0.00E00	0	0	0.00E00
17	0	0	0.00E00	0	0	0.00E00
18	0	0	0.00E00	0	0	0.00E00
19	0	0	0.00E00	0	0	0.00E00

PCS Lanes			
PCS Lane	BIP-8		
	Seconds	Count	Rate
0	0	0	0.00E00
1	0	0	0.00E00
2	0	0	0.00E00
3	0	0	0.00E00
4	0	0	0.00E00
5	0	0	0.00E00
6	0	0	0.00E00
7	0	0	0.00E00
8	0	0	0.00E00
9	0	0	0.00E00
10	0	0	0.00E00
11	0	0	0.00E00
12	0	0	0.00E00
13	0	0	0.00E00
14	0	0	0.00E00
15	0	0	0.00E00
16	0	0	0.00E00
17	0	0	0.00E00
18	0	0	0.00E00
19	0	0	0.00E00

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

Setup Summary

Application Type	RFC 2544
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Topology	Single Port
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Interface	Port B1
Interface/Rate	100GE (4 Lanes) [103.125 Gbit/s]
PHY Type	LR4/ER4
Connector	QSFP28

Flow Control	None
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Framing: MAC/IP/UDP

IP Version	IPv4
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	MAC	IP Address	UDP Port
Source	00:03:01:F8:88:FC	10.112.0.1 / 255.255.255.0	49184
Destination	00:03:01:F8:7D:F1	10.112.0.100	7

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

RFC 2544

Frame Size Distribution (Bytes)				
64	128	256	512	1024
1280	1518			

Enabled Subtests			
Throughput	Max. Rate (Mbit/s)	Threshold (Mbit/s)	Accuracy (Mbit/s)
	100000.0	100000.0	1000
Back-to-Back	Burst Time (MM:SS)	Threshold (%)	Accuracy (Frames)
	00:01	100.0	1
Frame Loss	Max. Rate (Mbit/s)	Threshold (%)	Granularity (%)
	100000.0	0.1	10
Latency	Max. Rate (Mbit/s)		Threshold (ms)
	100000.0		125.00000

TEST RESULTS

Ethernet Traffic

Frame Type	TX Count	RX Count
Multicast	0	80
Broadcast	331	0
Unicast	3603878361	1149078737
Non-Unicast	331	80
Total	3603878692	1149078817

Frame Size (Bytes)	RX Count	%
< 64	0	0.0
64	496957651	43.2
65 - 127	0	0.0
128 - 255	293341966	25.5
256 - 511	164220040	14.2
512 - 1023	86409380	7.5
1024 - 1518	108149780	9.4
> 1518	0	0.0
Total	1149078817	

Flow Control Monitoring

Frame Count	
Pause Frames	0
Abort Frames	0
Frames RX	0
Frames TX	0

Pause Time (Quanta)	
Total Pause Time	
Last Pause Time	
Minimum Pause Time	
Maximum Pause Time	

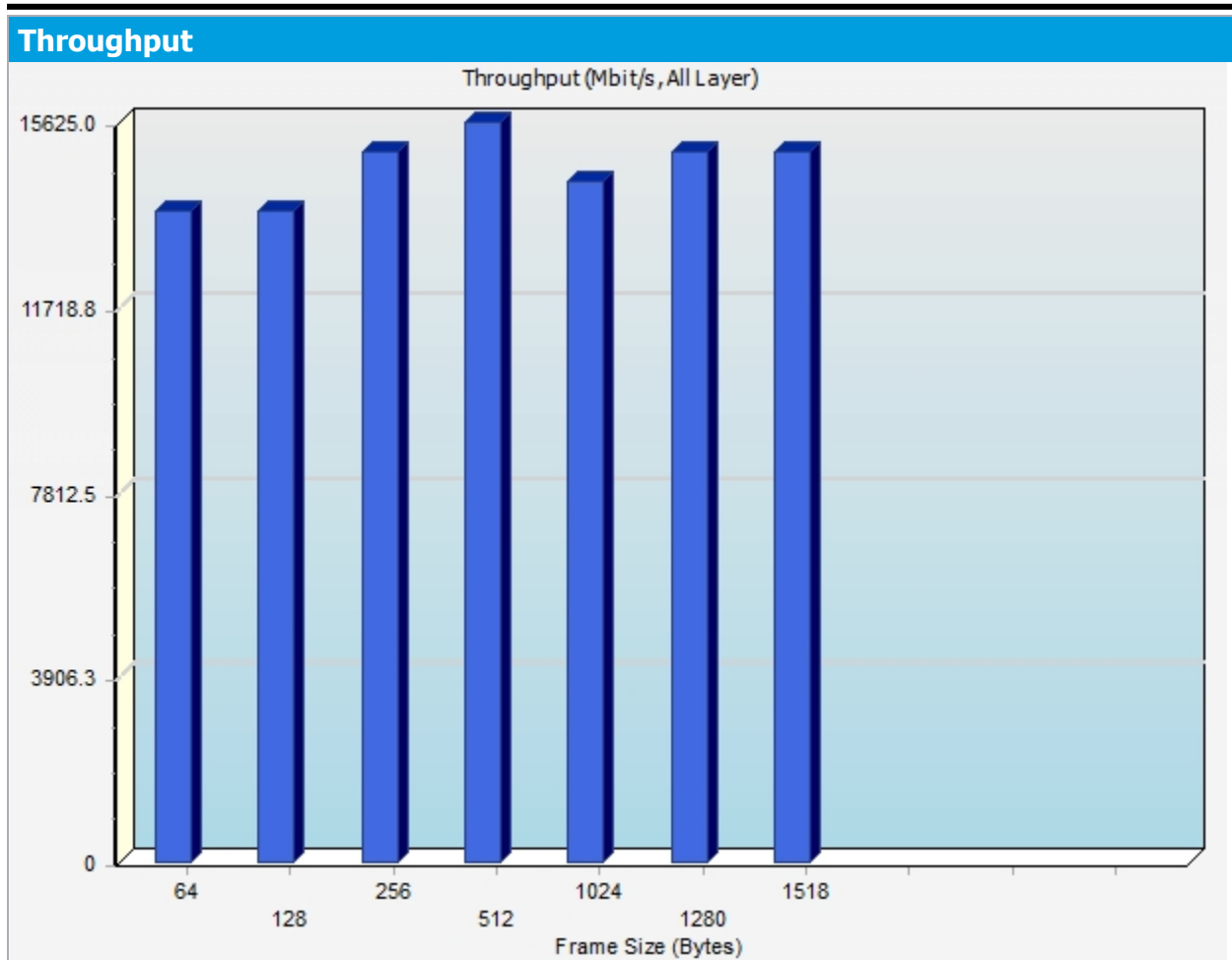
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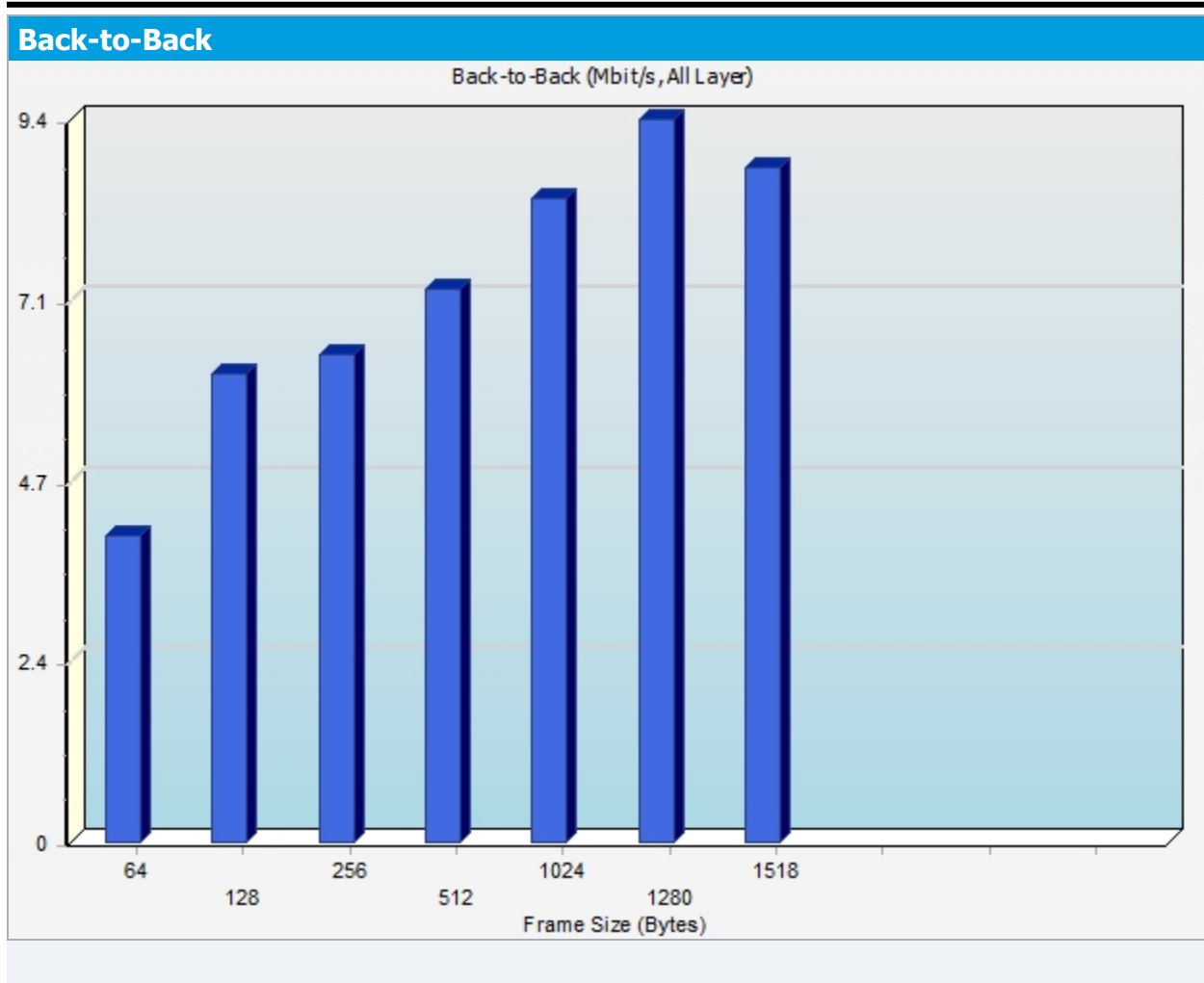
Pass/Fail Verdict	
Throughput	FAIL
Back-to-Back	FAIL
Frame Loss	FAIL
Latency	PASS

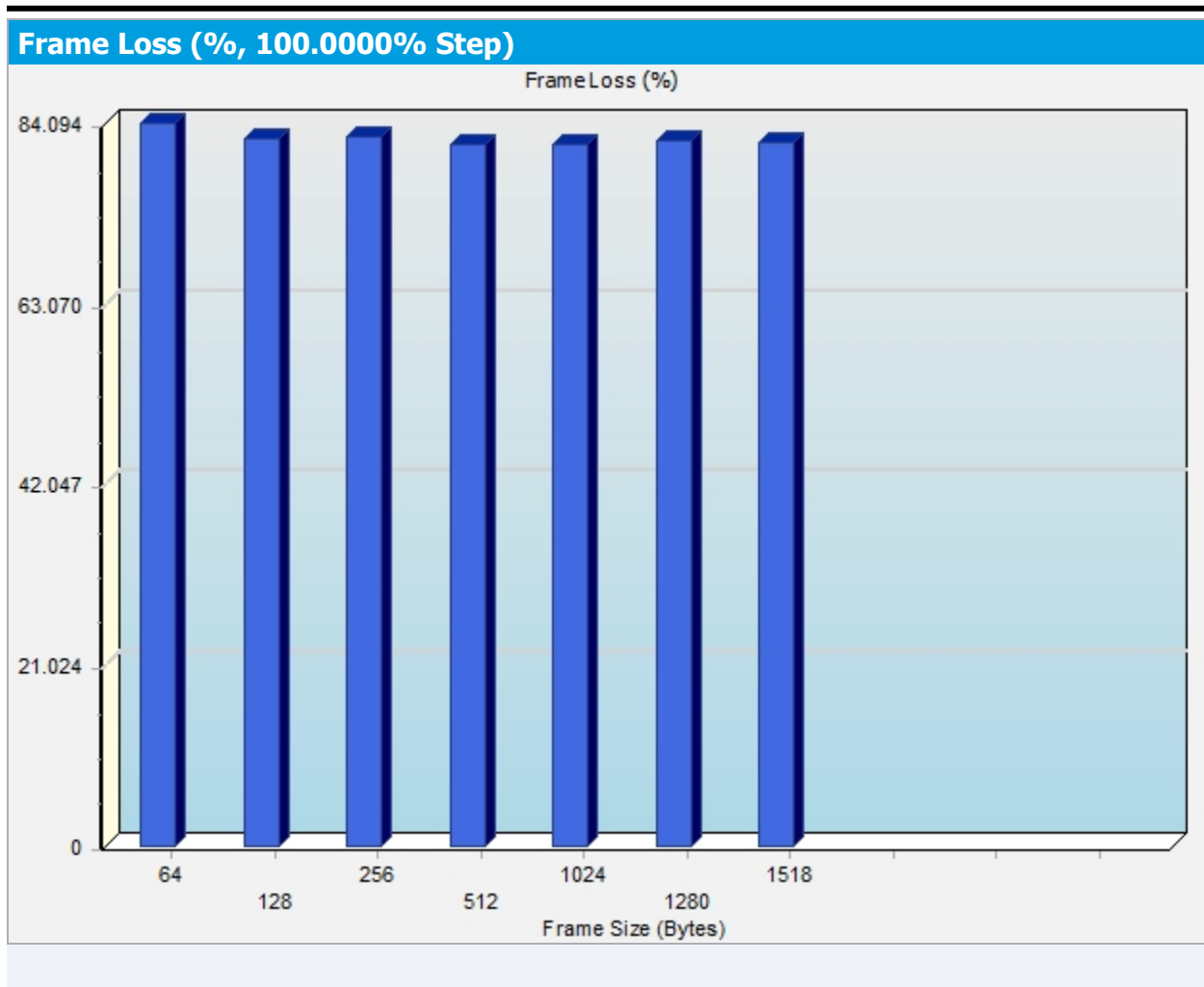
		Throughput			
		(Mbit/s)			(Frame/s)
		Layer			
		All	Ethernet	IP	
64	Min.	13749.9	10476.1	7529.7	20461307.5741
	Max.	13749.9	10476.1	7529.7	20461307.5741
	Avg.	13749.9	10476.1	7529.7	20461307.5741
128	Min.	13749.9	11891.8	10219.5	11613174.5692
	Max.	13749.9	11891.8	10219.5	11613174.5692
	Avg.	13749.9	11891.8	10219.5	11613174.5692
256	Min.	14999.9	13913.0	12934.7	6793476.9652
	Max.	14999.9	13913.0	12934.7	6793476.9652
	Avg.	14999.9	13913.0	12934.7	6793476.9652
512	Min.	15624.9	15037.5	14508.9	3671286.7191
	Max.	15624.9	15037.5	14508.9	3671286.7191
	Avg.	15624.9	15037.5	14508.9	3671286.7191
1024	Min.	14374.9	14099.6	13851.7	1721144.5746
	Max.	14374.9	14099.6	13851.7	1721144.5746
	Avg.	14374.9	14099.6	13851.7	1721144.5746
1280	Min.	14999.9	14769.2	14561.5	1442307.4173
	Max.	14999.9	14769.2	14561.5	1442307.4173
	Avg.	14999.9	14769.2	14561.5	1442307.4173
1518	Min.	14999.9	14804.9	14629.3	1219115.5023
	Max.	14999.9	14804.9	14629.3	1219115.5023
	Avg.	14999.9	14804.9	14629.3	1219115.5023

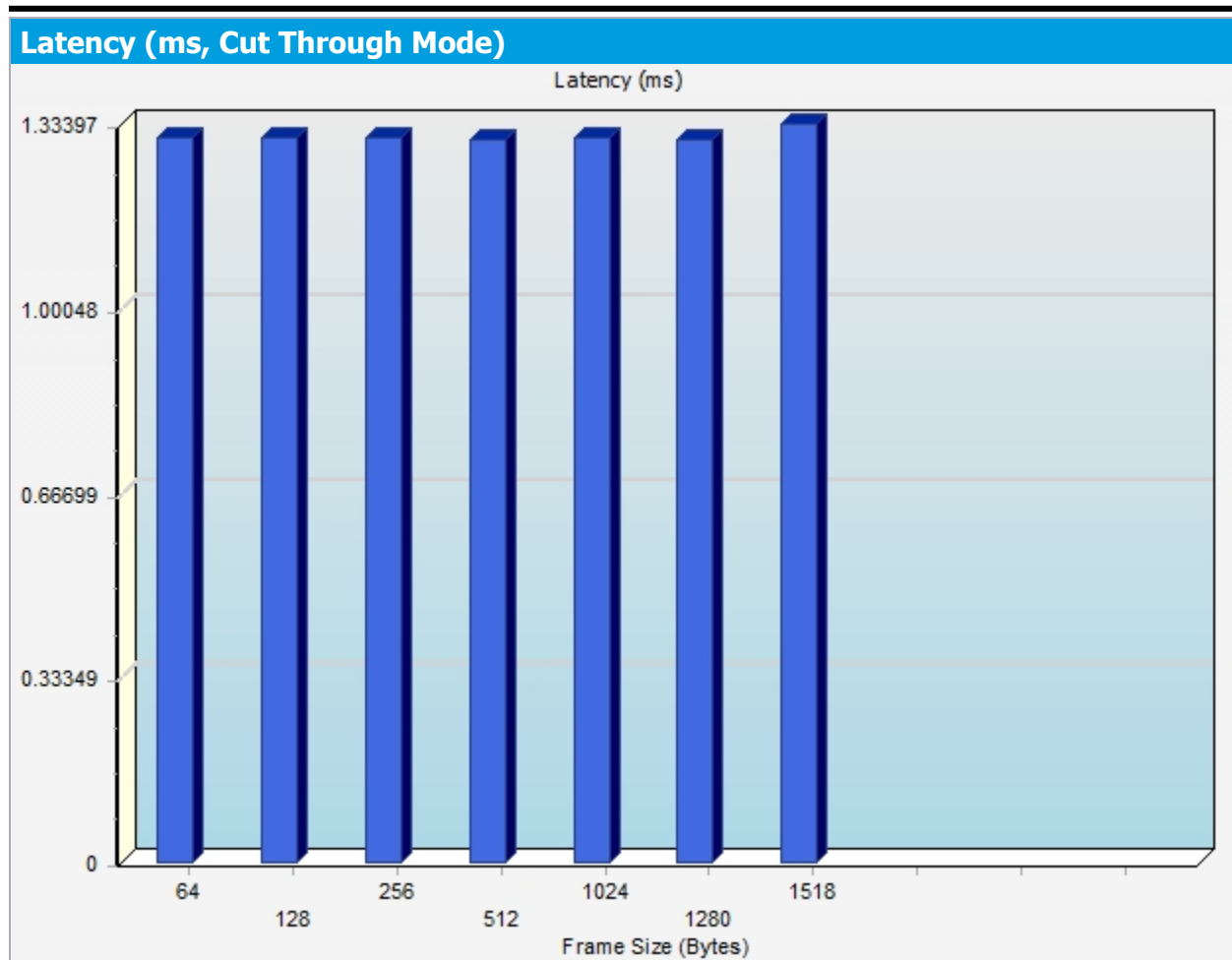
		Back-to-Back			
		(Mbit/s)			(f/burst)
		Layer			
		All	Ethernet	IP	
64	Min.	3.9	3.0	2.1	5920
	Max.	3.9	3.0	2.1	5920
	Avg.	3.9	3.0	2.1	5920
128	Min.	6.0	5.2	4.5	5121
	Max.	6.0	5.2	4.5	5121
	Avg.	6.0	5.2	4.5	5121
256	Min.	6.3	5.8	5.4	2863
	Max.	6.3	5.8	5.4	2863
	Avg.	6.3	5.8	5.4	2863
512	Min.	7.1	6.8	6.6	1683
	Max.	7.1	6.8	6.6	1683
	Avg.	7.1	6.8	6.6	1683
1024	Min.	8.3	8.1	8.0	999
	Max.	8.3	8.1	8.0	999
	Avg.	8.3	8.1	8.0	999
1280	Min.	9.3	9.2	9.0	900
	Max.	9.3	9.2	9.0	900
	Avg.	9.3	9.2	9.0	900
1518	Min.	8.7	8.6	8.5	711
	Max.	8.7	8.6	8.5	711
	Avg.	8.7	8.6	8.5	711

		Frame Loss (%, 100.0000% Step)	Latency (ms, Cut Through) Mode
64	Min.	84.094	1.30741
	Max.	84.094	1.30741
	Avg.	84.094	1.30741
128	Min.	82.285	1.30882
	Max.	82.285	1.30882
	Avg.	82.285	1.30882
256	Min.	82.503	1.30875
	Max.	82.503	1.30875
	Avg.	82.503	1.30875
512	Min.	81.686	1.30616
	Max.	81.686	1.30616
	Avg.	81.686	1.30616
1024	Min.	81.719	1.30784
	Max.	81.719	1.30784
	Avg.	81.719	1.30784
1280	Min.	82.096	1.30375
	Max.	82.096	1.30375
	Avg.	82.096	1.30375
1518	Min.	81.795	1.33397
	Max.	81.795	1.33397
	Avg.	81.795	1.33397









TEST SETUP

Clock Synchronization	
Clock Mode	Internal

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Frame Size Distribution (Bytes)				
64	128	256	512	1024
1280	1518			

Enabled Subtests						
Throughput	Max. Rate (Mbit/s)	Trial Duration (MM:SS)	Trials	Accuracy (Mbit/s)	Acceptable Errors	Validations
	100000.0	00:01	1	1000	0	1
Back-to-Back		Burst Time (MM:SS)	Trials	Accuracy (Frames)	Acceptable Errors	Bursts
		00:01	1	1	0	1
Frame Loss	Max. Rate (Mbit/s)	Trial Duration (MM:SS)	Trials	Granularity (%)		
	100000.0	00:01	1	10		
Latency	Max. Rate (Mbit/s)	Trial Duration (MM:SS)	Trials			
	13749.9 - 15624.9 (Frame Size Dependent)	00:01	1			

FUNCTIONS

40/100G Advanced

Lanes Mapping & Skew

TX		CAUI-4 Lane	RX	
PCS Lane	Skew (bits)		Skew (bits)	PCS Lane
0	0	0	12	2
1	0		12	3
2	0		12	4
3	0		11	0
4	0	1	11	1
5	0		2	7
6	0		2	8
7	0		2	9
8	0	2	1	5
9	0		1	6
10	0		1	13
11	0		1	14
12	0	3	0	10
13	0		0	11
14	0		0	12
15	0		5	18
16	0	3	5	19
17	0		4	15
18	0		4	16
19	0		4	17

PCS Lanes			
PCS Lane	LOBL	LOAML	Excessive Skew
Alarms	Seconds	Seconds	Seconds
0	0	0	0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	0	0
Skew Alarm Threshold (bits)		928	

PCS Lanes						
PCS Lane	Block			Inv. Marker		
Errors	Seconds	Count	Rate	Seconds	Count	Rate
0	0	0	0.00E00	0	0	0.00E00
1	0	0	0.00E00	0	0	0.00E00
2	0	0	0.00E00	0	0	0.00E00
3	0	0	0.00E00	0	0	0.00E00
4	0	0	0.00E00	0	0	0.00E00
5	0	0	0.00E00	0	0	0.00E00
6	0	0	0.00E00	0	0	0.00E00
7	0	0	0.00E00	0	0	0.00E00
8	0	0	0.00E00	0	0	0.00E00
9	0	0	0.00E00	0	0	0.00E00
10	0	0	0.00E00	0	0	0.00E00
11	0	0	0.00E00	0	0	0.00E00
12	0	0	0.00E00	0	0	0.00E00
13	0	0	0.00E00	0	0	0.00E00
14	0	0	0.00E00	0	0	0.00E00
15	0	0	0.00E00	0	0	0.00E00
16	0	0	0.00E00	0	0	0.00E00
17	0	0	0.00E00	0	0	0.00E00
18	0	0	0.00E00	0	0	0.00E00
19	0	0	0.00E00	0	0	0.00E00

PCS Lanes			
PCS Lane Errors	BIP-8		
	Seconds	Count	Rate
0	0	0	0.00E00
1	0	0	0.00E00
2	0	0	0.00E00
3	0	0	0.00E00
4	0	0	0.00E00
5	0	0	0.00E00
6	0	0	0.00E00
7	0	0	0.00E00
8	0	0	0.00E00
9	0	0	0.00E00
10	0	0	0.00E00
11	0	0	0.00E00
12	0	0	0.00E00
13	0	0	0.00E00
14	0	0	0.00E00
15	0	0	0.00E00
16	0	0	0.00E00
17	0	0	0.00E00
18	0	0	0.00E00
19	0	0	0.00E00

Ping & Trace Route

Network	
Source MAC Address	00:03:01:F8:88:FC
Source IP Address	10.112.0.1 (Stream 1)
Destination IP Address	10.112.0.100

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

SYSTEM INFORMATION

Product Name	Power Blazer Series
Version	Power Blazer Series 1.130
Module ID	FTBx-88260
Slot ID	2
Software Product Version	1.130.0.89
	Power Blazer Series 1.130
Assembly Hardware Revision	D
Serial Number	1886703
Calibration Date	2/25/2025 1:12:00 PM

Transceiver System

Transceiver System Insertion Counter	1
ID	TA-QSFP28
Serial Number	1890335
Revision	C
Battery	Good
Optical Module Insertion Counter	1

Pluggable Module

Module ID	QSFP28 or later
Vendor Name	ADDON
Part Number	JNP-QSFP100G-LR4
Serial Number	ADDEED144840
Hardware Revision	J3
Revision Compliance	8
Connector Type	LC
Speed	25G, 103.125 Gbit/s
Type/Compliance Code	LR, 100GE-LR4-10km, 10.0 km
Mode	SMF
Power Class	Power Class 4 (<= 3.5W)
Temperature (Max)	36.7 °C
CLEI Code	

Software Options

100electrical	Ethernet 100Base-TX (Electrical) Interface	Enabled
100GE	Ethernet 100G	Enabled
100optical	Ethernet 100Base-FX (Optical) Interface	Enabled
10electrical	Ethernet 10Base-T (Electrical) Interface	Enabled
10G_LAN	Ethernet 10G LAN (Optical) and 10GBASE-T (Electrical) interfaces	Enabled
10G_WAN	Ethernet 10G WAN optical interface	Enabled
155M	155 Mbit/s	Disabled
1588PTP	1588 Precision Time Protocol	Disabled
1588PTPGM	1588 Precision Time Protocol Grandmaster Emulation	Disabled
2.5-5GE	Ethernet 2.5GBASE-T and 5GBASE-T (Electrical) interfaces	Disabled
2488M	2.488 Gbit/s	Disabled
25GE	Ethernet 25G	Disabled
40GE	Ethernet 40G	Disabled

50GE	Ethernet 50G	Disabled
52M	52 Mbit/s	Enabled
622M	622 Mbit/s	Disabled
9953M	9.953 Gbit/s	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-24.3G	CPRI 24.33024 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
DCO-100ZR	100ZR	Disabled
DSn	Digital Signal (DS1, DS3)	Disabled
eCPRI-100G	eCPRI over 100G Ethernet	Disabled
eCPRI-10G	eCPRI over 10G Ethernet	Disabled
eCPRI-25G	eCPRI over 25G Ethernet	Disabled
EoE	Ethernet over Ethernet Encapsulation (10GE and less)	Disabled
EoE_40-100GE	Ethernet over Ethernet Encapsulation (40/100GE)	Disabled
EoOTN	Ethernet over Optical Transport Network	Disabled
ETH-OAM	Carrier Ethernet OAM Test Application	Disabled
FC-10X	Fibre Channel 10X	Disabled
FC-16X	Fibre Channel 16X	Disabled
FC-1X	Fibre Channel 1X	Disabled
FC-2X	Fibre Channel 2X	Disabled
FC-32X	Fibre Channel 32X	Disabled
FC-4X	Fibre Channel 4X	Disabled
FC-8X	Fibre Channel 8X	Disabled
FlexE-100G	100G FlexE Group	Disabled
FlexE-200G	200G FlexE Group	Disabled
FlexE-50G	50G FlexE Group	Disabled
FlexE-50G-PHY	FlexE 50G Interface Type	Disabled
FlexE-HiRateClient	FlexE Clients at 150G and above	Disabled
FlexE-LoRateClient	FlexE Clients at 100G and below	Disabled
FlexE-MIX	FlexE Clients at mixed rates	Disabled
G.mtnPathOAM	G.mtn Path OAM	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	Enabled
iSAM	Intelligent Service Activation Methodology	Disabled
L2-Transparency	L2CP Handling Test in EtherSAM	Disabled
LINK-OAM	Link OAM	Disabled
LLDP	LLDP Neighbor Discovery	Disabled
MPLS	MPLS Encapsulation (10GE and less)	Disabled
MPLS_40-100GE	MPLS Encapsulation (40/100GE)	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
OTU3	Optical Transport Unit-3 (43.018 Gbit/s)	Disabled
OTU3-e1-e2	Optical Transport Unit-3 Overclocked (44.571/44.583 Gbit/s)	Disabled
OTU4	Optical Transport Unit-4 (111.81 Gbit/s)	Disabled
Packet-TE	Packet Time Error	Disabled
PBBTE	Provider Backbone Bridge Encapsulation (10GE and less)	Disabled
PBBTE_40-100GE	Provider Backbone Bridge Encapsulation (40/100GE)	Disabled
PDH	Plesiochronous Digital Hierarchy (E1, E3, E4)	Disabled
RFC6349	RFC 6349 Test Application (25GE and less)	Disabled
RFC6349_40-100GE	RFC 6349 Test Application (40/100GE)	Disabled
SDH	Synchronous Digital Hierarchy	Enabled
SONET	Synchronous Optical Network	Enabled
SyncE	Synchronous Ethernet	Disabled
TCM	Tandem Connection Monitoring HO/LO	Disabled
TST-OAM	Test Over Service OAM	Disabled
WANDER	Time Error/Wander Test Application	Disabled

LOGGER

ID	Start Time	Event	Duration	Details
1	05/12 03:27:52 PM	Test Started		2025-05-12
2	05/12 04:05:04 PM	Test Stopped		 FAIL