



FTBx-88260 Report

| K-20 Layer-2 Test

PASS

Report Header: K-20 Layer-2 Test
Report Title: K-20 Layer-2 Test
Report Date: 7/7/2025 9:49:34 AM
Type: EtherSAM (Y.1564)

Job Information

Job ID: RTASK4158337
Circuit ID: Lumen: 04/KXGS/816785//PN
Contractor Name:
Customer Name: kent-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	7/7/2025 09:32:35 AM
Duration	00d:00:10:49
Test Recovery	0

EtherSAM

Services Summary			
	Service Name	Service Configuration Test	Service Performance Test
1	20 Gbps	PASS	--

Service Configuration Summary							
	Service Name	Direction	Frame Loss Rate	Max Jitter (ms)	Max Latency (ms)	Max Throughput (Gbit/s)	Service Verdict
1	20 Gbps	L->R	0.0E-00	0.01714		18.9996	PASS
		R->L	0.0E-00	0.03973	1.37572	18.9995	PASS

Service Performance Summary							
	Service Name	Direction	Frame Loss Rate	Max Jitter (ms)	Max Latency (ms)	Avg Throughput (Gbit/s)	Service Verdict
1	20 Gbps	L->R	0.0E-00	0.01429		19.0000	--
		R->L	0.0E-00	0.01718	1.38032	18.9999	PASS

VLAN Preservation	No Mismatch Detected
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RX Power Level		
	Min	Max
Power Range (dBm)	-12.60	4.50
Optical Lane	RX Power Level (dBm)	
	Min	Max
0	0.87	0.95
1	0.67	0.75
2	-0.32	-0.23
3	-0.02	0.07

RX Frequency		
CAUI-4 Lane	Frequency Offset (ppm)	
	Max Negative Offset	Max Positive Offset
0	0.0	0.3
1	0.0	0.3
2	0.0	0.3
3	0.0	0.3

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

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

Clock Sync	
Alarm	Seconds
LOC	0

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

Setup Summary

Application Type	EtherSAM (Y.1564)
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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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EtherSAM

DTS Enabled	
Remote ID	MAX-890F1
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 (Gbit/s)	L->R	19.0000
	R->L	19.0000

Services Summary

	Service Name	Profile	Frame Size (Bytes)	Direction	CIR (Gbit/s)	Max Jitter (ms)	Max Latency (ms)	Frame Loss Rate	CBS (Bytes)
1	20 Gbps	Data	EMIX	L->R	19.0000	2.00000		1.0E-04	--
				R->L	19.0000	2.00000	28.00000	1.0E-04	

TEST RESULTS

Ethernet Traffic

Frame Type	TX Count	RX Count
Multicast	0	23
Broadcast	2	2
Unicast	2181400250	2181713765
Non-Unicast	2	25
Total	2181400252	2181713790

Frame Size (Bytes)	RX Count	%
< 64	0	0.0
64	314	0.0
65 - 127	436342081	19.9
128 - 255	436342193	19.9
256 - 511	208	0.0
512 - 1023	436344957	20.0
1024 - 1518	872684037	39.9
> 1518	0	0.0
Total	2181713790	

Detailed EtherSAM Results

Service Configuration Test

Service 5 : 20 Gbps

Committed Steps						
Committed Step	Direction	Frame Loss Rate	Max Jitter (ms)	Max Latency (ms)	Verdict	Avg Throughput (Gbit/s)
1-50%CIR	L->R	0.0E-00	0.01714	1.33917	PASS	9.5000
	R->L	0.0E-00	0.02021		PASS	9.4999
2-75%CIR	L->R	0.0E-00	0.01214	1.32195	PASS	14.2499
	R->L	0.0E-00	0.01556		PASS	14.2499
3-90%CIR	L->R	0.0E-00	0.01033	1.31063	PASS	17.1000
	R->L	0.0E-00	0.01528		PASS	17.1000
CIR	L->R	0.0E-00	0.01049	1.37572	PASS	18.9996
	R->L	0.0E-00	0.03973		PASS	18.9995

Service Performance Test

Service 5 : 20 Gbps

	Direction	Average	Minimum	Maximum	Estimate
Throughput (Gbit/s)	L->R	19.0000	18.9997	19.0002	N/A
	R->L	18.9999	18.9997	19.0001	N/A
Jitter (ms)	L->R	0.00024	< 0.00001	0.01429	0.00026
	R->L	0.00039	< 0.00001	0.01718	0.00029
Latency (ms)	Round-trip	1.28653	1.25185	1.38032	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
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Detailed Services Configuration

IP Version	IPv4	
Layer Mode	Mixed	
Global Pass/Fail Verdict	Enabled	
	L->R	R->L
Total Committed TX Rate (Gbit/s)	19.0000	19.0000

Service 5

Service Profile	
Service Name	20 Gbps
Profile	Data
Frame Size Type	EMIX
Frame Size (Bytes)	70, 128, 512, 1024, 1518

SLA Parameters		
	L->R	R->L
Information Rate		
CIR (Gbit/s)	19.0000	19.0000
Performance Criteria		
Max Jitter (ms)	2.00000	2.00000
Max Latency (ms)	28.00000	28.00000
Frame Loss Rate	1.0E-04	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:F8:88:FC	10.112.0.1 / 255.255.0.0	49184
	Destination	00:03:01:F8:7D:F1	10.112.0.100	7
R->L	Source	00:03:01:F8:7D:F1	10.112.0.100 / 255.255.255.0	7
	Destination	00:03:01:F8:88:FC	10.112.0.1	49184

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

FUNCTIONS

40/100G Advanced

Lanes Mapping & Skew

TX		CAUI-4 Lane	RX	
PCS Lane	Skew (bits)		Skew (bits)	PCS Lane
0	0	0	44	3
1	0		44	4
2	0		43	0
3	0		43	1
4	0	1	43	2
5	0		1	7
6	0		1	8
7	0		1	9
8	0	2	0	5
9	0		0	6
10	0		28	11
11	0		28	12
12	0	3	28	13
13	0		28	14
14	0		27	10
15	0		22	17
16	0		22	18
17	0		22	19
18	0		21	15
19	0		21	16

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	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	Successful	IP=10.112.0.100, Bytes=32, Time=3 ms, TTL=127

Ping Statistics	
Packets Transmitted	1
Packets Received	1
Percentage Lost (%)	0.0
Minimum Round Trip Time (ms)	3
Maximum Round Trip Time (ms)	3
Average Round Trip Time (ms)	3

Trace Route	
Timeout (ms)	4000
Max Hop Count	128

SYSTEM INFORMATION

Product Name	Power Blazer Series
Version	Power Blazer Series 1.133
Module ID	FTBx-88260
Slot ID	2
Software Product Version	1.133.0.98
	Power Blazer Series 1.133
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)	35.8 °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	07/07 09:32:35 AM	Test Started		2025-07-07
2	07/07 09:32:41 AM	Service Configuration test started		2025-07-07
3	07/07 09:33:13 AM	Service Performance test started		2025-07-07
4	07/07 09:43:24 AM	Test Stopped		 PASS