



Packet Blazer 10GigE

Job Information

Job ID	1
Contractor	University of Washington
Customer	peirce-puallup-ctc
Report Date	2019-02-14 19:08:35
Operator Name	daniel dh
Circuit ID	wave:11/GNNI/023513

File Name: C:\inetpub\wwwroot\k20_performance_reports\peirce-puyallup-ctc\2019-02-14_peirce-puyallup-ctc-rfc2544.pdf

Comment:

Table of Contents

1. Setup	3
2. Summary	4
3. Optical [P1]/Port	7
4. Optical [P1]/Ethernet Framed Layer 2/Traffic Stream/Stream Generation	10
5. RFC 2544	11
6. Optical [P1]/Ethernet Framed Layer 2/Traffic Analyzer	23
7. Optical [P1]/Ethernet Framed Layer 2/Expert Mode	26
8. Clock Synchronization	33
9. Software Options	35
10. Ping [P1]/Ping	36

1. Setup

1.1. IPversion Status

Port	IP Version
Port1	IPv4

1.2. Transceiver Mode

Item	Value
Transceiver Mode	10GigE LAN

2. Summary

2.1. Alarm

2.1.1. Alarms

2.1.1.1. Global

Alarm	H
Global	No Fault
Log Full	No Fault

2.1.1.2. Physical

Alarm	H
LOS	No Fault
Frequency	No Fault
LOC	No Fault

Signal Analysis	Value
Pwr (dBm)	-2.2

Frequency Analysis	Value
Freq (bps)	10312513344.0
Offset (ppm)	1

2.1.1.3. WIS

No information is available

2.1.1.4. Ethernet

Alarm	H
Error	No Fault
Link	No Fault
Fault	No Fault

2.1.1.5. Higher Layer Protocol

Alarm	H
Error	No Fault

2.1.1.6. Pattern

No information is available

2.1.1.7. Other

Alarm	H
SDT	No Fault

2.1.2. Logger**2.1.2.1. Logger Events**

ID	Date/Time	Data Path	Event	Duration	Count	Rate
1	2019-02-14 18:46:23	Test 1	Test Started			
2	2019-02-14 19:08:19	Test 1	Test Stopped			

2.2. Test**2.2.1. Test Status**

Item	Value
Start Time:	2019-02-14 18:46:23
Port 1 Link	Up
Expert Mode Verdict	--
RFC 2544	Completed

2.2.2. Test Configuration

Item	Value
Application Type	RFC 2544
Test Name	RFC2544
Test Description	

2.2.3. Test Preferences

Item	Value
Couple Start/Enable TX	Disabled

2.2.4. Clock Configuration

Item	Value
Clock Mode	Internal

2.2.5. Alarm Analysis

Alarm	H	Seconds
LOC	No Fault	0

2.2.6. Timer Configuration

Item	Value
Start Time Status	Disabled
Start Time	2019-02-14 18:42:36
Stop Time Status	Disabled
Stop Time	2019-02-14 18:42:36
Duration Status	Disabled
Duration	15 minutes
On/Off State	Disabled

3. Optical [P1]/Port

3.1. TX

3.1.1. Signal Analysis

Item	Value
Output Presence	Active

3.1.2. Alarm Generation

No information is available

3.1.3. Frequency

Item	Value
Frequency Offset (ppm)	0
On/Off	Disabled
Actual Frequency (bps)	10312499904
Nominal Frequency (bps)	10312500000

3.2. RX

3.2.1. Signal Analysis

Item	Value
Range (dBm)	-14.4 to 0.5
Power (dBm)	-2.2

3.2.2. Alarm Analysis

Alarm	H	Seconds
LOS	No Fault	0
Frequency	No Fault	0

3.2.3. Frequency Analysis

Item	Value
Frequency (bps)	10312513344
Frequency Offset (bps)	13344
Max. Negative Offset (bps)	0
Max. Positive Offset (bps)	13408

3.3. Interface

3.3.1. Configuration

Item	Value
Flow Control	None

3.3.2. Status

Item	Value
Link	Up

3.4. Network

3.4.1. MAC Configuration

Item	Value
MAC Address	00:03:01:08:9D:91

3.4.1.1. VLAN

Item	Value
Enable VLAN	Disabled

3.4.2. IP Configuration

Item	Value
IP Address	10.10.114.173
Subnet Mask	255.255.000.000
Enable DHCP	Disabled
Enable Default Gateway	Disabled
Default Gateway	N/A

3.4.3. Frame Format

Item	Value
Format	Ethernet II
OUI	N/A

4. Optical [P1]/Ethernet Framed Layer 2/Traffic Stream/Stream Generation

5. RFC 2544

5.1. Global

5.1.1. Configuration

Item	Value
Frame Size Distribution	User Defined
Quantity	7
Frame Size 1	64
Frame Size 2	128
Frame Size 3	256
Frame Size 4	512
Frame Size 5	1024
Frame Size 6	1280
Frame Size 7	1500

5.1.2. Test Procedure

Test	Status	State
Throughput	Enabled	Completed
Back-to-Back	Enabled	Completed
Frame Loss	Enabled	Completed
Latency	Enabled	Completed

5.2. Throughput

5.2.1. Configuration

Item	Value
Test Time (MM:SS)	00:01
Accuracy (%)	1
Nb. of Acceptable Errors	0
Nb. of Trials to Average	1
Nb. of Validations	1
Maximum Rate TX-to-RX (%)	9.5
Minimum Test Time (Seconds)	--

5.2.2. Results

Item	Value
Test State	Completed
Status Message	None

5.2.2.1. Frame Count

	TX-to-RX
TX	78125
RX	78125

5.2.2.2. Throughput Results**5.2.2.2.1. Current**

Frame Size	TX-to-RX-Layer 1-2-3 (bps)	TX-to-RX-Layer 2-3 (bps)	TX-to-RX-Layer 3 (bps)
64	950226244	723981900	520361991
128	949935815	821566110	706033376
256	950086059	881239243	819277108
512	950000000	914285714	882142857
1024	950040950	931840932	915460915
1280	950014616	935399006	922244958
1500	950000000	937500000	926250000

5.2.2.2.2. Minimum

Frame Size	TX-to-RX-Layer 1-2-3 (bps)	TX-to-RX-Layer 2-3 (bps)	TX-to-RX-Layer 3 (bps)
64	950226244	723981900	520361991
128	949935815	821566110	706033376
256	950086059	881239243	819277108
512	950000000	914285714	882142857
1024	950040950	931840932	915460915
1280	950014616	935399006	922244958
1500	950000000	937500000	926250000

5.2.2.2.3. Maximum

Frame Size	TX-to-RX-Layer 1-2-3 (bps)	TX-to-RX-Layer 2-3 (bps)	TX-to-RX-Layer 3 (bps)
64	950226244	723981900	520361991
128	949935815	821566110	706033376
256	950086059	881239243	819277108
512	950000000	914285714	882142857
1024	950040950	931840932	915460915
1280	950014616	935399006	922244958
1500	950000000	937500000	926250000

5.2.2.2.4. Average

Frame Size	TX-to-RX-Layer 1-2-3 (bps)	TX-to-RX-Layer 2-3 (bps)	TX-to-RX-Layer 3 (bps)
64	950226244	723981900	520361991
128	949935815	821566110	706033376
256	950086059	881239243	819277108
512	950000000	914285714	882142857
1024	950040950	931840932	915460915
1280	950014616	935399006	922244958
1500	950000000	937500000	926250000

5.3. Back-to-Back**5.3.1. Configuration**

Item	Value
Max. Time Worth of Frames (MM:SS)	00:01
Accuracy (Frames)	1
Nb. of Acceptable Errors	0
Nb. of Trials to Average	1
Nb. of Bursts	1
Minimum Test Time (Seconds)	--

5.3.2. Results

Item	Value
Test State	Completed
Status Message	None

5.3.2.1. Frame Count

	TX-to-RX
TX	776
RX	775

5.3.2.2. Back-to-Back Results**5.3.2.2.1. Current**

Frame Size	TX-to-RX-Layer 1-2-3 (fps)	TX-to-RX-Layer 2-3 (fps)	TX-to-RX-Layer 3 (fps)
64	14731.999387148828	14731.999387148828	14731.999387148828
128	8247.9999472128	8247.9999472128	8247.9999472128
256	4343.9995273728518	4343.9995273728518	4343.9995273728518
512	2221.9991112003554	2221.9991112003554	2221.9991112003554
1024	1133.9990601415791	1133.9990601415791	1133.9990601415791
1280	908.99949096028513	908.99949096028513	908.99949096028513
1500	774.999454400384	774.999454400384	774.999454400384

5.3.2.2.2. Minimum

Frame Size	TX-to-RX-Layer 1-2-3 (fps)	TX-to-RX-Layer 2-3 (fps)	TX-to-RX-Layer 3 (fps)
64	14731.999387148828	14731.999387148828	14731.999387148828
128	8247.9999472128	8247.9999472128	8247.9999472128
256	4343.9995273728518	4343.9995273728518	4343.9995273728518
512	2221.9991112003554	2221.9991112003554	2221.9991112003554
1024	1133.9990601415791	1133.9990601415791	1133.9990601415791
1280	908.99949096028513	908.99949096028513	908.99949096028513
1500	774.999454400384	774.999454400384	774.999454400384

5.3.2.2.3. Maximum

Frame Size	TX-to-RX-Layer 1-2-3 (fps)	TX-to-RX-Layer 2-3 (fps)	TX-to-RX-Layer 3 (fps)
64	14731.999387148828	14731.999387148828	14731.999387148828
128	8247.9999472128	8247.9999472128	8247.9999472128
256	4343.9995273728518	4343.9995273728518	4343.9995273728518
512	2221.9991112003554	2221.9991112003554	2221.9991112003554
1024	1133.9990601415791	1133.9990601415791	1133.9990601415791
1280	908.99949096028513	908.99949096028513	908.99949096028513
1500	774.999454400384	774.999454400384	774.999454400384

5.3.2.2.4. Average

Frame Size	TX-to-RX-Layer 1-2-3 (fps)	TX-to-RX-Layer 2-3 (fps)	TX-to-RX-Layer 3 (fps)
64	14731.999387148828	14731.999387148828	14731.999387148828
128	8247.9999472128	8247.9999472128	8247.9999472128
256	4343.9995273728518	4343.9995273728518	4343.9995273728518
512	2221.9991112003554	2221.9991112003554	2221.9991112003554
1024	1133.9990601415791	1133.9990601415791	1133.9990601415791
1280	908.99949096028513	908.99949096028513	908.99949096028513
1500	774.999454400384	774.999454400384	774.999454400384

5.4. Frame Loss**5.4.1. Configuration**

Item	Value
Test Time (MM:SS)	00:01
Test Granularity (%)	2
Nb. of Trials to Average	1
Maximum Rate TX-to-RX (%)	9.5
Minimum Test Time (Seconds)	--

5.4.2. Results

Item	Value
Test State	Completed
Status Message	None

5.4.2.1. Frame Count

	TX-to-RX
TX	61677
RX	61677

5.4.2.2. Frame Loss Results**5.4.2.2.1. Current**

Frame Size	TX-to-RX - Step 9.5% (% Loss)
64	0.0
128	0.0
256	0.0
512	0.0
1024	0.0
1280	0.0
1500	0.0

5.4.2.2.2. Minimum

Frame Size	TX-to-RX - Step 9.5% (% Loss)
64	0.0
128	0.0
256	0.0
512	0.0
1024	0.0
1280	0.0
1500	0.0

5.4.2.2.3. Maximum

Frame Size	TX-to-RX - Step 9.5% (% Loss)
64	0.0
128	0.0
256	0.0
512	0.0
1024	0.0
1280	0.0
1500	0.0

5.4.2.2.4. Average

Frame Size	TX-to-RX - Step 9.5% (% Loss)
64	0.0
128	0.0
256	0.0
512	0.0
1024	0.0
1280	0.0
1500	0.0

5.5. Latency

5.5.1. Configuration

Item	TX-to-RX
Test Time (MM:SS)	00:01
Nb. of Trials to Average	1
Maximum Rate - Frame Size 64	N/A
Maximum Rate - Frame Size 128	N/A
Maximum Rate - Frame Size 256	N/A
Maximum Rate - Frame Size 512	N/A
Maximum Rate - Frame Size 1024	N/A
Maximum Rate - Frame Size 1280	N/A
Maximum Rate - Frame Size 1500	N/A
Unit	%
Minimum Test Time (Seconds)	--
Copy From Throughput Test	Enabled
Margin (%)	0

5.5.2. Results

Item	Value
Test State	Completed
Status Message	None

5.5.2.1. Frame Count

	TX-to-RX
TX	78125
RX	78125

5.5.2.2. Latency Results

5.5.2.2.1. Current

Frame Size	TX-to-RX Rate (%)	TX-to-RX - Cut Through (ms)
64	9.5023	8.3504110000000011
128	9.4994	8.346451
256	9.5009	8.3457300000000014
512	9.5	8.352212
1024	9.5004	8.368314
1280	9.5001	8.376441
1500	9.5	8.3838479999999986

5.5.2.2.2. Minimum

Frame Size	TX-to-RX Rate (%)	TX-to-RX - Cut Through (ms)
64	9.5023	8.3504110000000011
128	9.4994	8.346451
256	9.5009	8.3457300000000014
512	9.5	8.352212
1024	9.5004	8.368314
1280	9.5001	8.376441
1500	9.5	8.3838479999999986

5.5.2.2.3. Maximum

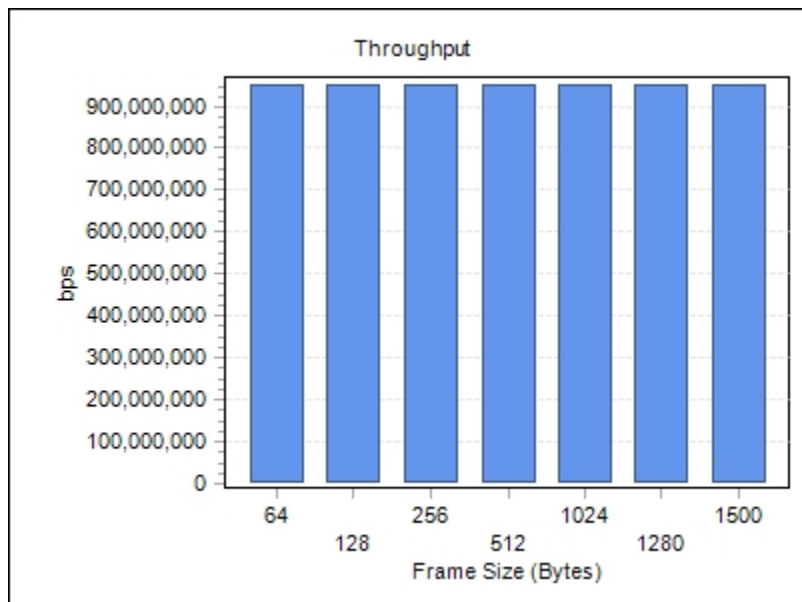
Frame Size	TX-to-RX Rate (%)	TX-to-RX - Cut Through (ms)
64	9.5023	8.3504110000000011
128	9.4994	8.346451
256	9.5009	8.3457300000000014
512	9.5	8.352212
1024	9.5004	8.368314
1280	9.5001	8.376441
1500	9.5	8.3838479999999986

5.5.2.2.4. Average

Frame Size	TX-to-RX Rate (%)	TX-to-RX - Cut Through (ms)
64	9.5023	8.3504110000000011
128	9.4994	8.346451
256	9.5009	8.3457300000000014
512	9.5	8.352212
1024	9.5004	8.368314
1280	9.5001	8.376441
1500	9.5	8.3838479999999986

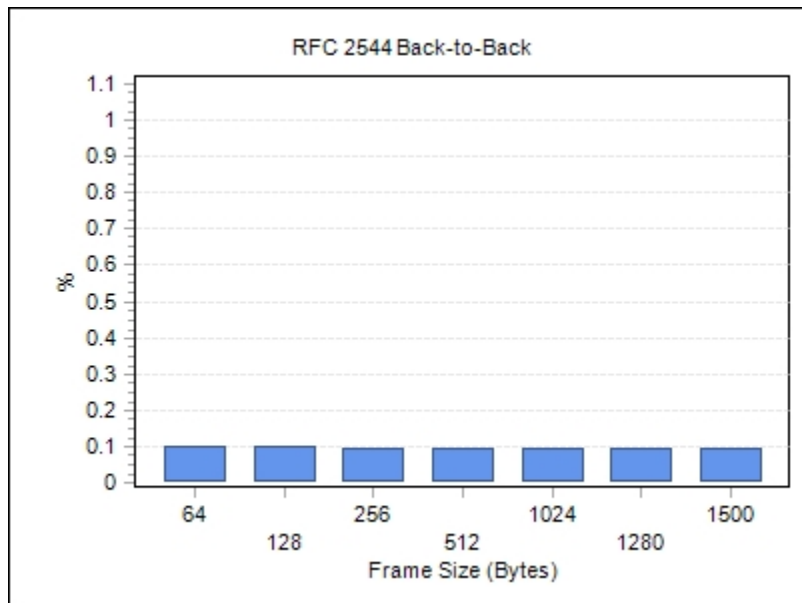
5.6. Graph**5.6.1. Throughput**

Displayed Results	Current
Direction	TX-to-RX
Unit	bps
Layer	Layer 1-2-3

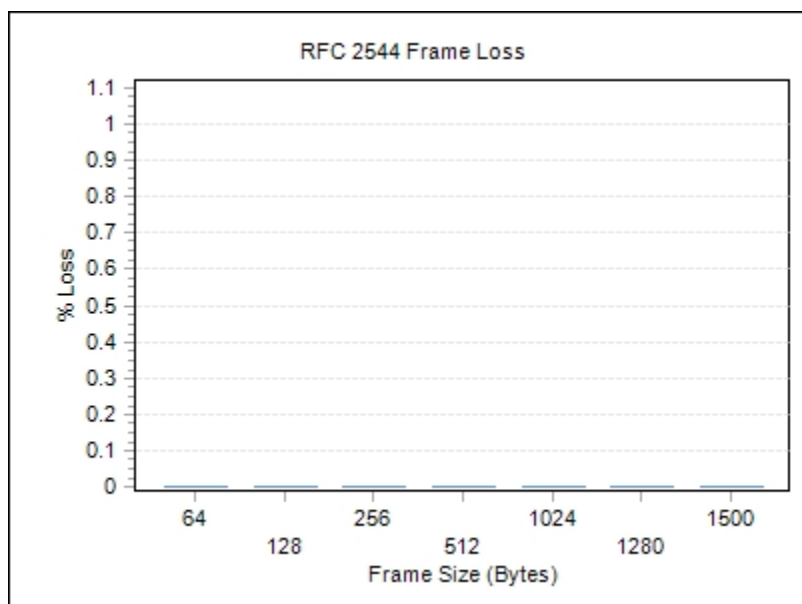


5.6.2. RFC 2544 Back-to-Back

Displayed Results	Current
Direction	TX-to-RX
Unit	%
Layer	Layer 1-2-3

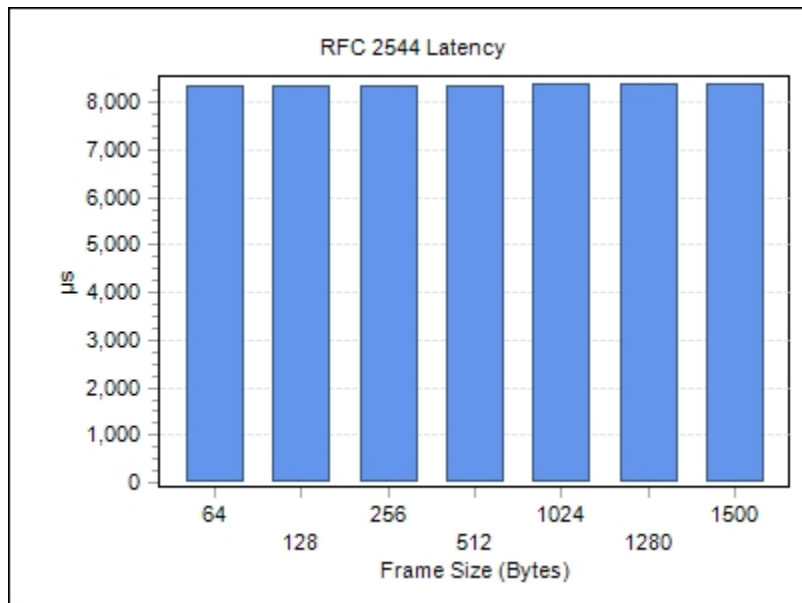
**5.6.3. RFC 2544 Frame Loss**

Displayed Results	Current
Direction	TX-to-RX
Unit	% Loss
Displayed Step	9.5%



5.6.4. RFC 2544 Latency

Displayed Results	Current
Direction	TX-to-RX
Unit	µs
Mode	Cut Through



6. Optical [P1]/Ethernet Framed Layer 2/Traffic Analyzer

6.1. Eth. RX

6.1.1. Configuration

Item	Value
Oversize Monitoring	Disabled

6.1.2. Alarm Analysis

Alarm	H	Seconds
Link Down	No Fault	0
Local Fault	No Fault	0
Remote Fault	No Fault	0

6.1.3. Error Analysis

Error	H	Seconds	Count	Rate
Block	No Fault	0	0	0.00E00
FCS	No Fault	0	0	0.00E00
Jabber/Giant	No Fault	0	0	0.00E00
Oversize	N/A	N/A	N/A	N/A
Runt	No Fault	0	0	0.00E00
Undersize	No Fault	0	0	0.00E00
Total Error Count			0	

6.2. Eth. Stats

6.2.1. Total Frame Counts

	RX Count	TX Count
Total Count	23597228	81889955

6.2.2. Valid Frame Counts

Frames	TX Count	RX Count
Multicast	0	47
Broadcast	196	0
Unicast	81889759	23597181
N-Unicast	196	47
Total	81889955	23597228

6.2.3. Frame Size

Frame Size	Count	Total (%)
< 64	0	0.000
64	10694892	45.323
65 - 127	0	0.000
128 - 255	6013878	25.486
256 - 511	3184857	13.497
512 - 1023	1636534	6.935
1024 - 1518	2067067	8.760
> 1518	0	0.000

6.2.4. Throughput

Item	Value
Bandwidth (Mbps)	0.0
Utilization (%)	0.0
Frame Rate (fps)	0

6.3. Higher Layers**6.3.1. Higher Layer Protocol**

Error	H	Seconds	Count	Rate
IP Header Checksum	No Fault	0	0	0.00E00
UDP Checksum	No Fault	0	0	0.00E00
TCP Checksum	N/A	N/A	N/A	N/A

6.4. Flow Control

6.4.1. Statistics

Item	Value
Pause Time (Quanta)	0
Last Pause Time (Quanta)	0
Max. Pause Time (Quanta)	0
Min. Pause Time (Quanta)	0
Pause Frames	0
Abort Frames	0
Frames TX	0
Frames RX	0

7. Optical [P1]/Ethernet Framed Layer 2/Expert Mode

7.1. RFC

7.1.1. General Properties

Item	Value
Expert Mode Status	Disabled

7.1.2. Expert Mode Status

	Verdict
Throughput	--
Back-to-Back	--
Frame Loss	--
Latency	--

7.1.3. Throughput

Item	Value
Enable Criteria	Disabled

7.1.3.1. Current

Frame Size	TX-to-RX - Layer 1-2-3 (bps)	TX-to-RX Status
64	0.0	N/A
128	0.0	N/A
256	0.0	N/A
512	0.0	N/A
1024	0.0	N/A
1280	0.0	N/A
1500	0.0	N/A

7.1.3.2. Minimum

Frame Size	TX-to-RX - Layer 1-2-3 (bps)	TX-to-RX Status
64	0.0	N/A
128	0.0	N/A
256	0.0	N/A
512	0.0	N/A
1024	0.0	N/A
1280	0.0	N/A
1500	0.0	N/A

7.1.3.3. Maximum

Frame Size	TX-to-RX - Layer 1-2-3 (bps)	TX-to-RX Status
64	0.0	N/A
128	0.0	N/A
256	0.0	N/A
512	0.0	N/A
1024	0.0	N/A
1280	0.0	N/A
1500	0.0	N/A

7.1.3.4. Average

Frame Size	TX-to-RX - Layer 1-2-3 (bps)	TX-to-RX Status
64	0.0	N/A
128	0.0	N/A
256	0.0	N/A
512	0.0	N/A
1024	0.0	N/A
1280	0.0	N/A
1500	0.0	N/A

7.1.4. Back-to-Back

Item	Value
Enable Criteria	Disabled

7.1.4.1. Current

Frame Size	TX-to-RX - Layer 1-2-3 (Frames/Burst)	TX-to-RX Status
64	100	N/A
128	100	N/A
256	100	N/A
512	100	N/A
1024	100	N/A
1280	100	N/A
1500	100	N/A

7.1.4.2. Minimum

Frame Size	TX-to-RX - Layer 1-2-3 (Frames/Burst)	TX-to-RX Status
64	100	N/A
128	100	N/A
256	100	N/A
512	100	N/A
1024	100	N/A
1280	100	N/A
1500	100	N/A

7.1.4.3. Maximum

Frame Size	TX-to-RX - Layer 1-2-3 (Frames/Burst)	TX-to-RX Status
64	100	N/A
128	100	N/A
256	100	N/A
512	100	N/A
1024	100	N/A
1280	100	N/A
1500	100	N/A

7.1.4.4. Average

Frame Size	TX-to-RX - Layer 1-2-3 (Frames/Burst)	TX-to-RX Status
64	100	N/A
128	100	N/A
256	100	N/A
512	100	N/A
1024	100	N/A
1280	100	N/A
1500	100	N/A

7.1.5. Frame Loss

Item	Value
Enable Criteria	Disabled

7.1.5.1. Current

Frame Size	TX-to-RX - Step 9.5% (% Loss)	TX-to-RX Status
64	0	N/A
128	0	N/A
256	0	N/A
512	0	N/A
1024	0	N/A
1280	0	N/A
1500	0	N/A

7.1.5.2. Minimum

Frame Size	TX-to-RX - Step 9.5% (% Loss)	TX-to-RX Status
64	0	N/A
128	0	N/A
256	0	N/A
512	0	N/A
1024	0	N/A
1280	0	N/A
1500	0	N/A

7.1.5.3. Maximum

Frame Size	TX-to-RX - Step 9.5% (% Loss)	TX-to-RX Status
64	0	N/A
128	0	N/A
256	0	N/A
512	0	N/A
1024	0	N/A
1280	0	N/A
1500	0	N/A

7.1.5.4. Average

Frame Size	TX-to-RX - Step 9.5% (% Loss)	TX-to-RX Status
64	0	N/A
128	0	N/A
256	0	N/A
512	0	N/A
1024	0	N/A
1280	0	N/A
1500	0	N/A

7.1.6. Latency

Item	Value
Enable Criteria	Disabled

7.1.6.1. Current

Frame Size	TX-to-RX - Store and Forward (ms)	TX-to-RX Status
64	125	N/A
128	125	N/A
256	125	N/A
512	125	N/A
1024	125	N/A
1280	125	N/A
1500	125	N/A

7.1.6.2. Minimum

Frame Size	TX-to-RX - Store and Forward (ms)	TX-to-RX Status
64	125	N/A
128	125	N/A
256	125	N/A
512	125	N/A
1024	125	N/A
1280	125	N/A
1500	125	N/A

7.1.6.3. Maximum

Frame Size	TX-to-RX - Store and Forward (ms)	TX-to-RX Status
64	125	N/A
128	125	N/A
256	125	N/A
512	125	N/A
1024	125	N/A
1280	125	N/A
1500	125	N/A

7.1.6.4. Average

Frame Size	TX-to-RX - Store and Forward (ms)	TX-to-RX Status
64	125	N/A
128	125	N/A
256	125	N/A
512	125	N/A
1024	125	N/A
1280	125	N/A
1500	125	N/A

8. Clock Synchronization

8.1. RX

8.1.1. Configuration

Item	Value
Interface Type	None
Termination Mode	N/A
Line Coding	N/A
Framing	N/A

8.1.2. Alarm Analysis

Alarm	State
LOS	N/A
AIS	N/A
LOF	N/A
Frequency	N/A

8.1.3. Frequency Analysis

Item	Value
Frequency (bps)	--
Frequency Offset (ppm)	--

8.2. Backplane

8.2.1. Configuration

Item	Value
Clock Mode	Internal
Enable	Disabled

8.2.2. Alarm Analysis

Alarm	State
LOC	No Fault

8.3. Clock Out

8.3.1. Configuration

Item	Value
Clock Out Divider	16

9. Software Options

9.1. Available Options

Category	Name	Description	Status
Feature	SK-ADV-FILTERS	Advanced Traffic Filtering	Disabled
Feature	SK-DATA-CAPTURE	Ethernet Frame Capture for Advanced Troubleshooting	Disabled
Feature	SK-ETHERSAM	Ethernet Service Activation Methodology Application Type	Enabled
Feature	SK-IPV6	Internet Protocol Version 6 (IPv6)	Disabled
Feature	SK-MPLS	Multi Protocol Label Switching	Disabled
Feature	SK-PBB-TE	Provider Backbone Bridge with Traffic Engineering	Disabled
Feature	SK-TRAFFIC-SCAN	Traffic Scan Troubleshooting Feature	Disabled
Network	SK-LAN	Local Area Network	Enabled
Network	SK-WAN	Wide Area Network	Enabled

10. Ping [P1]/Ping

10.1. Configuration

10.1.1. Ping

10.1.1.1. Setup

Item	Value
IP Address	10.10.114.172
Run	Disabled

10.1.1.1.1. Configuration

Item	Value
Timeout (ms)	4000
Delay (ms)	1000
Data Size (Bytes)	32
Time To Live (TTL)	128
Attempts	4
Continuous	Disabled
Type Of Service (TOS)	00

10.1.1.2. Results

No information is available

10.1.1.2.1. Statistics

No information is available

10.1.2. TraceRoute

10.1.2.1. Setup

Item	Value
IP Address	10.10.114.172
Run	Disabled

10.1.2.1.1. Configuration

Item	Value
Timeout (ms)	4000
Max. Hop Count	128

10.1.2.2. Results

No information is available

10.1.2.2.1. Statistics

No information is available