RFC2544 SUMMARY TEST REPORT
DXS-1210-10TS

Tested by Chris Perkins
Xentech Solutions

Tue, 06 Feb, 2018 @ 19:44:24

MODEL SERIAL HW VERSION FW VERSION NOTES	DXS-1210-10TS S34G1FA000171 A1 V1.00.021 Boot PROM 1.00.004
Testing	Throughput Latency Frame Loss Back-to-Back Recovery Reset

AXTRINET CONFIGURATION	
APG208 FIRMWARE API FPGA HARDWARE	APG000010 V2.0.2-1 (01 Sep 2017) 161016 V6.010D (05 Aug 2017) VB.00.00 (0)
APG TCL API APG TS API RFC2544	V1.2.TEMP (17 Aug 2017) V0.4.X (15 Jan 2018) V0.4.X
TEST PORTS	
Port 1.1	PROLABS SFP-10G-T-NC [10G COPPER SFP] SERIAL: 16170007 Connected to DUT Port 7
Port 1.3	PROLABS SFP-10G-T-NC [10G COPPER SFP] SERIAL: 16170044 Connected to DUT Port 8

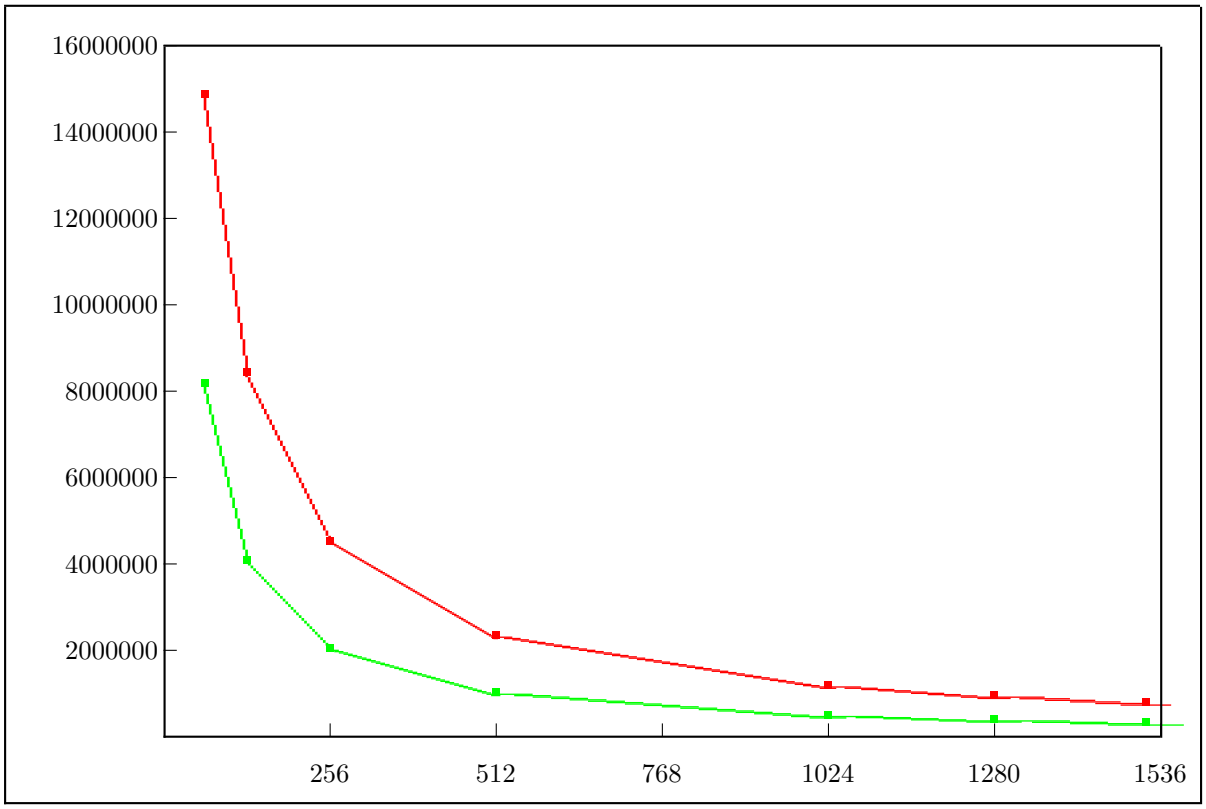
TEST CONFIGURATION

APGPORTS	1 1 1 3
FRAME_SIZE	64 128 256 512 1024 1280 1514 bytes
NUM_ADDR	32
DURATION	5 seconds
TIMEOUT	60
LATENCY_MODE	1
LATENCY_10G_INT	58 x 8ns
LATENCY_40G_INT	62 x 8ns
LATENCY_10GBT_SFP_TX	40 x 8ns
LATENCY_10GBT_SFP_RX	145 x 8ns
NUM_VLAN_HDR	0
NUM_MPLS_HDR	0
PAYLOAD_TYPE	Random
ENABLE	63
DIRECTION	UNI
TEST_RUNS	3
CLEAN_RUNS	2
LATENCY_DURATION	5 seconds
LATENCY_SAMPLES	1
ILOAD_MAX	100%
ILOAD_MIN	1%
ILOAD_MAXSTEP	10%
ILOAD_MINSTEP	1%
MAX_BURSTSIZE	1000000 packets
OVERLOAD_DURATION	5
POWERDOWN_SCRIPT	/home/chrisp/axtrinet/powerdowndlink
POWERUP_SCRIPT	/home/chrisp/axtrinet/powerupdlink
RESET_DELAY	0

1 THROUGHPUT (RFC2544.1)

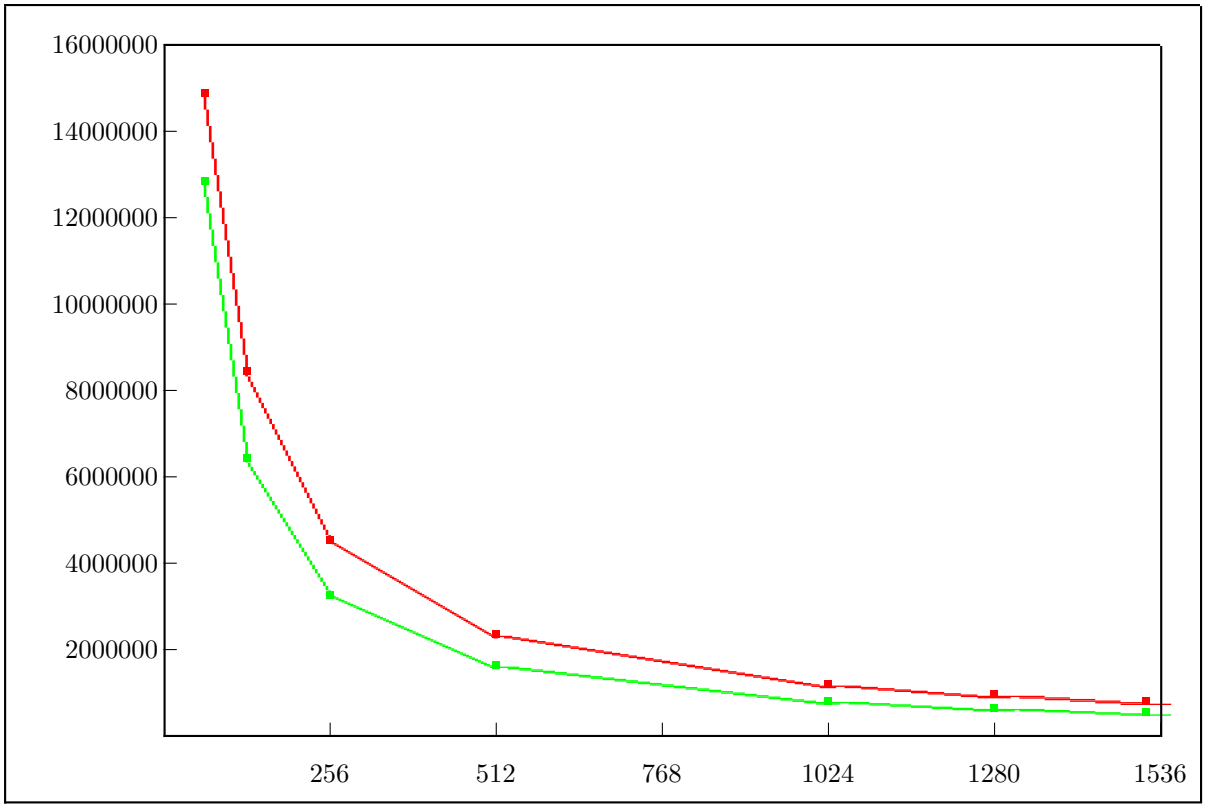
1.1 DUT Port 7 to Port 8

LENGTH (byte)	MAXRATE (pkt/sec)	RXRATE (pkt/sec)	RXRATE (Gbit/sec)	RECEIVE PACKETS	TXRATE (%)
64	14,880,952	8,181,897	5.498	41,563,531	56.25%
128	8,445,945	4,090,847	4.843	20,827,299	48.76%
256	4,528,985	2,045,479	4.516	10,405,620	45.34%
512	2,349,624	1,028,571	4.377	5,234,342	43.85%
1024	1,197,318	512,831	4.283	2,601,051	42.88%
1280	961,538	410,967	4.274	2,072,488	42.72%
1514	814,863	347,491	4.264	1,760,298	42.62%



1.2 DUT Port 8 to Port 7

LENGTH (byte)	MAXRATE (pkt/sec)	RXRATE (pkt/sec)	RXRATE (Gbit/sec)	RECEIVE PACKETS	TXRATE (%)
64	14,880,952	12,857,422	8.640	65,071,686	89.25%
128	8,445,945	6,428,807	7.611	32,563,026	76.28%
256	4,528,985	3,272,746	7.226	16,607,487	72.91%
512	2,349,624	1,636,404	6.964	8,284,701	69.82%
1024	1,197,318	818,172	6.833	4,147,788	68.43%
1280	961,538	656,933	6.832	3,329,611	68.41%
1514	814,863	555,559	6.817	2,816,411	68.25%

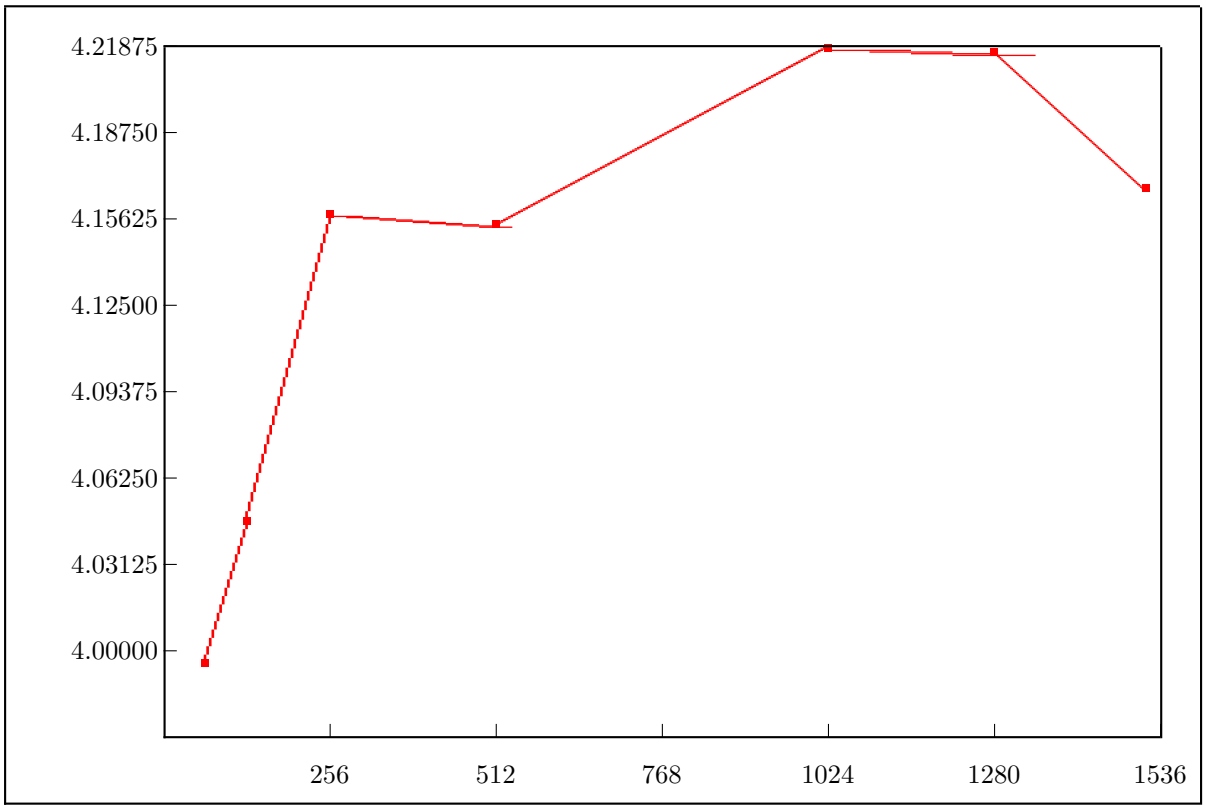

16000000
14000000
12000000
10000000
8000000
6000000
4000000
2000000
256
512
768
1024
1280
1536

2 LATENCY (RFC2544.2)

2.1 DUT Port 7 to Port 8

Latency measurements for STORE AND FORWARE devices (last bit in, first bit out)

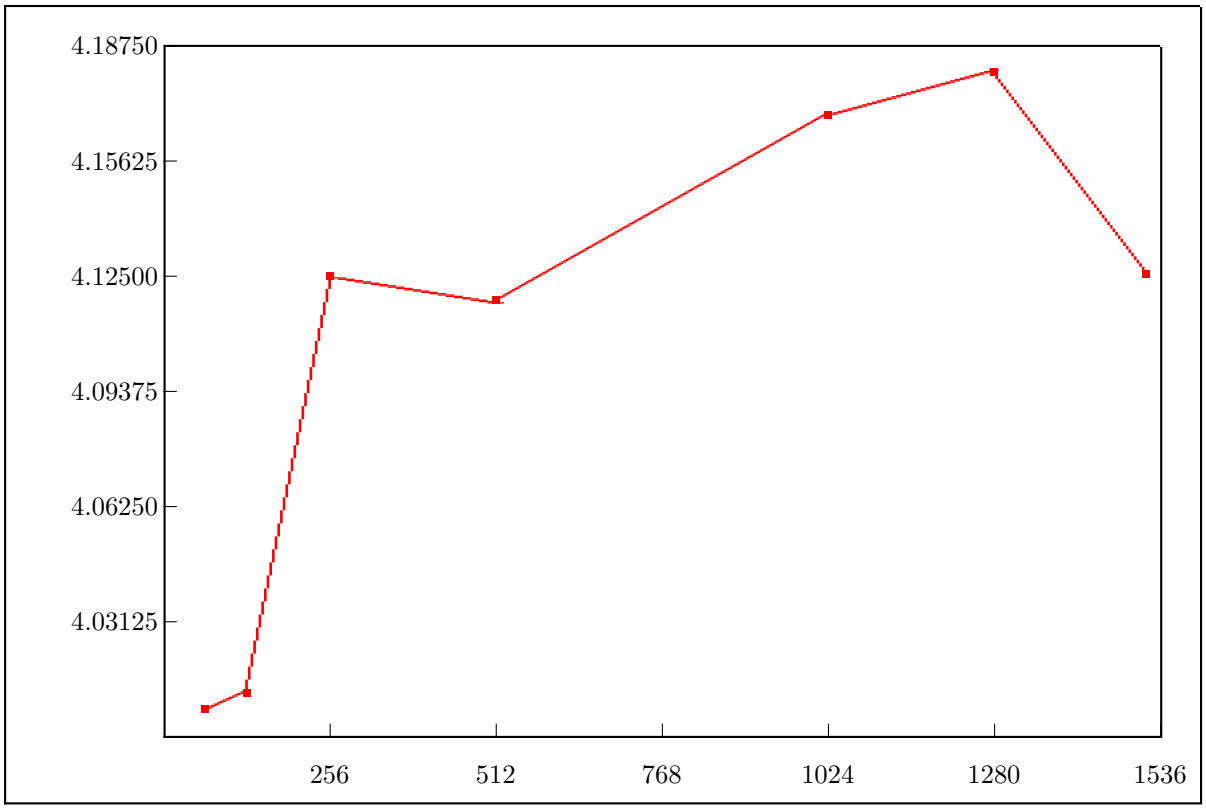
LENGTH (byte)	LATENCY SAMPLES	LATENCY MIN (us)	LATENCY MEAN (us)	LATENCY MAX (us)
64	226	3.917us	3.996us	4.077us
128	119	4.010us	4.047us	4.090us
256	60	4.123us	4.158us	4.203us
512	30	4.110us	4.154us	4.190us
1024	14	4.197us	4.218us	4.245us
1280	11	4.184us	4.217us	4.248us
1514	9	4.125us	4.167us	4.189us



2.2 DUT Port 8 to Port 7

Latency measurements for STORE AND FORWARE devices (last bit in, first bit out)

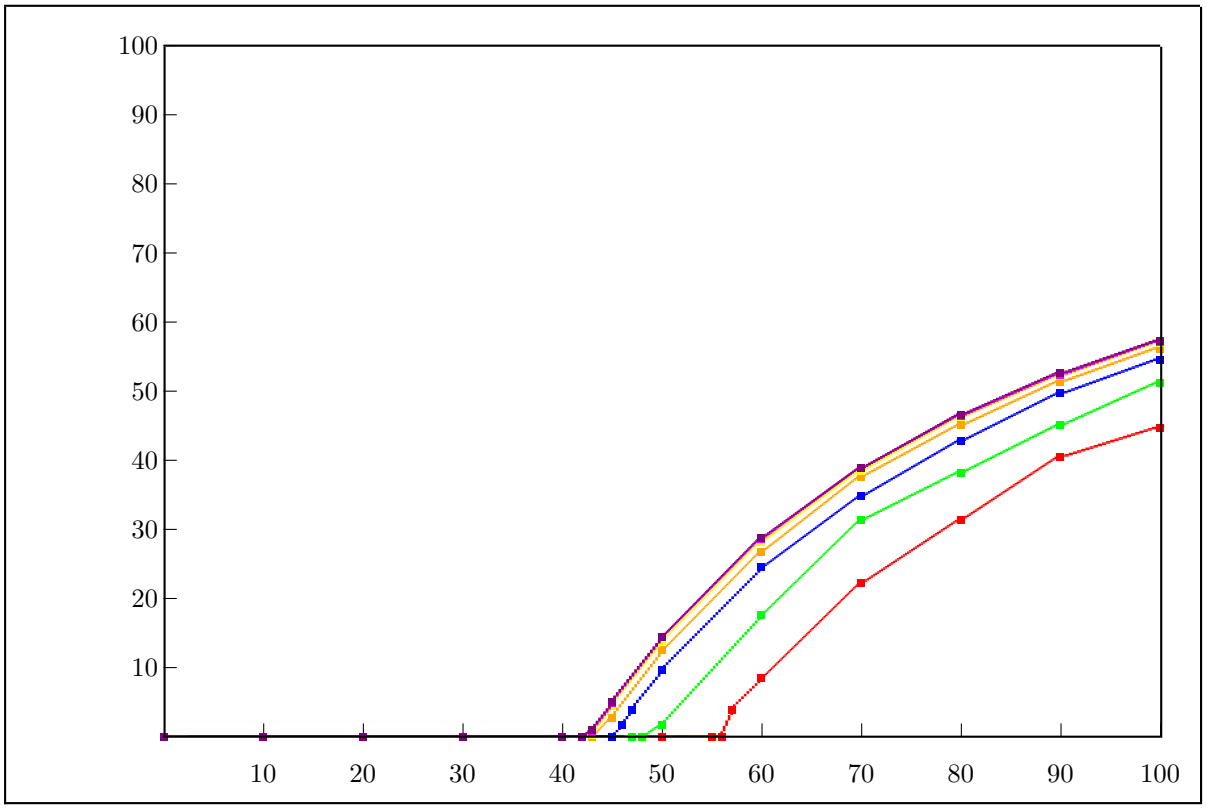
LENGTH (byte)	LATENCY SAMPLES	LATENCY MIN (us)	LATENCY MEAN (us)	LATENCY MAX (us)
64	226	3.981us	4.008us	4.045us
128	119	3.970us	4.012us	4.066us
256	60	4.075us	4.125us	4.163us
512	30	4.070us	4.119us	4.166us
1024	14	4.133us	4.169us	4.205us
1280	11	4.144us	4.180us	4.200us
1514	9	4.093us	4.126us	4.149us



3 FRAME LOSS (RFC2544.3)

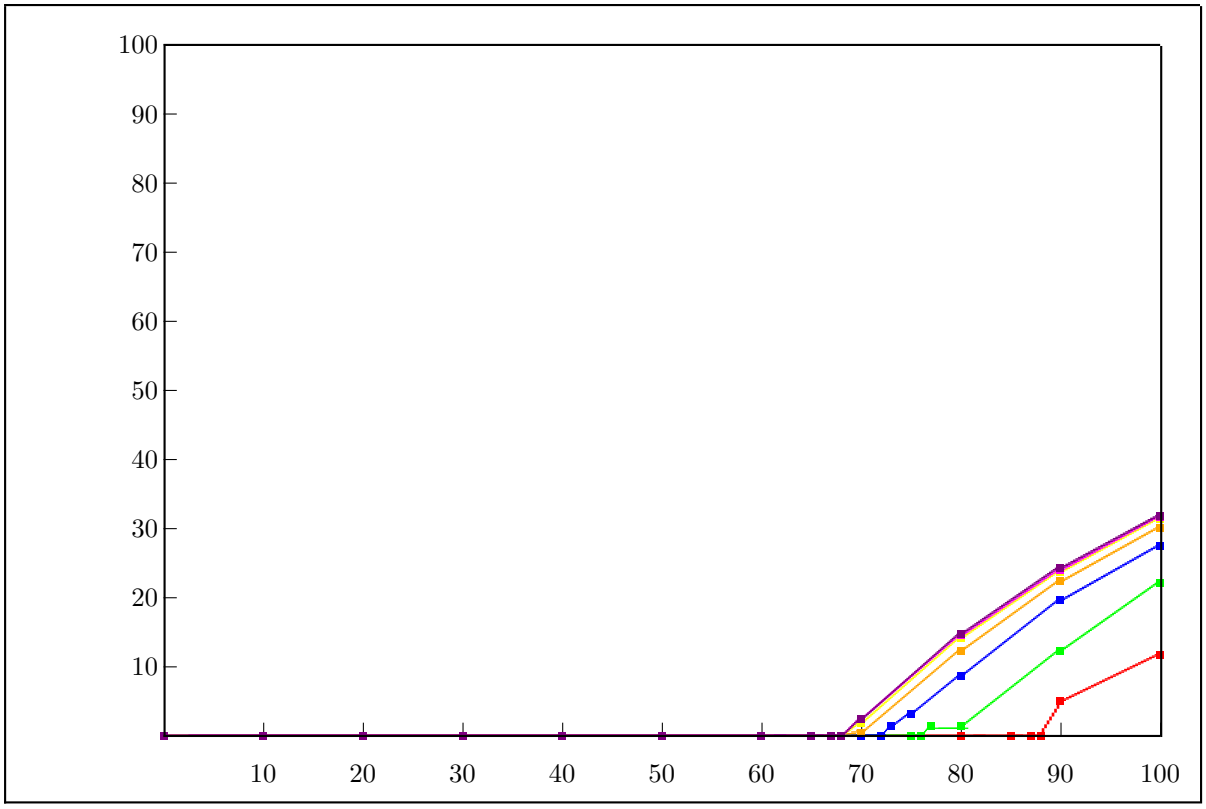
3.1 DUT Port 7 to Port 8

LENGTH (byte)	TRANSMIT RATE										
	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
64	44.66%	40.53%	31.38%	22.23%	8.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
128	51.24%	45.09%	38.23%	31.37%	17.64%	1.63%	0.00%	0.00%	0.00%	0.00%	0.00%
256	54.53%	49.67%	42.81%	34.80%	24.50%	9.63%	0.00%	0.00%	0.00%	0.00%	0.00%
512	56.18%	51.38%	45.09%	37.65%	26.78%	12.49%	0.00%	0.00%	0.00%	0.00%	0.00%
1024	57.00%	52.24%	46.23%	38.51%	28.22%	13.92%	0.00%	0.00%	0.00%	0.00%	0.00%
1280	57.16%	52.41%	46.46%	38.91%	28.61%	14.43%	0.00%	0.00%	0.00%	0.00%	0.00%
1514	57.26%	52.61%	46.61%	38.87%	28.81%	14.50%	0.00%	0.00%	0.00%	0.00%	0.00%



3.2 DUT Port 8 to Port 7

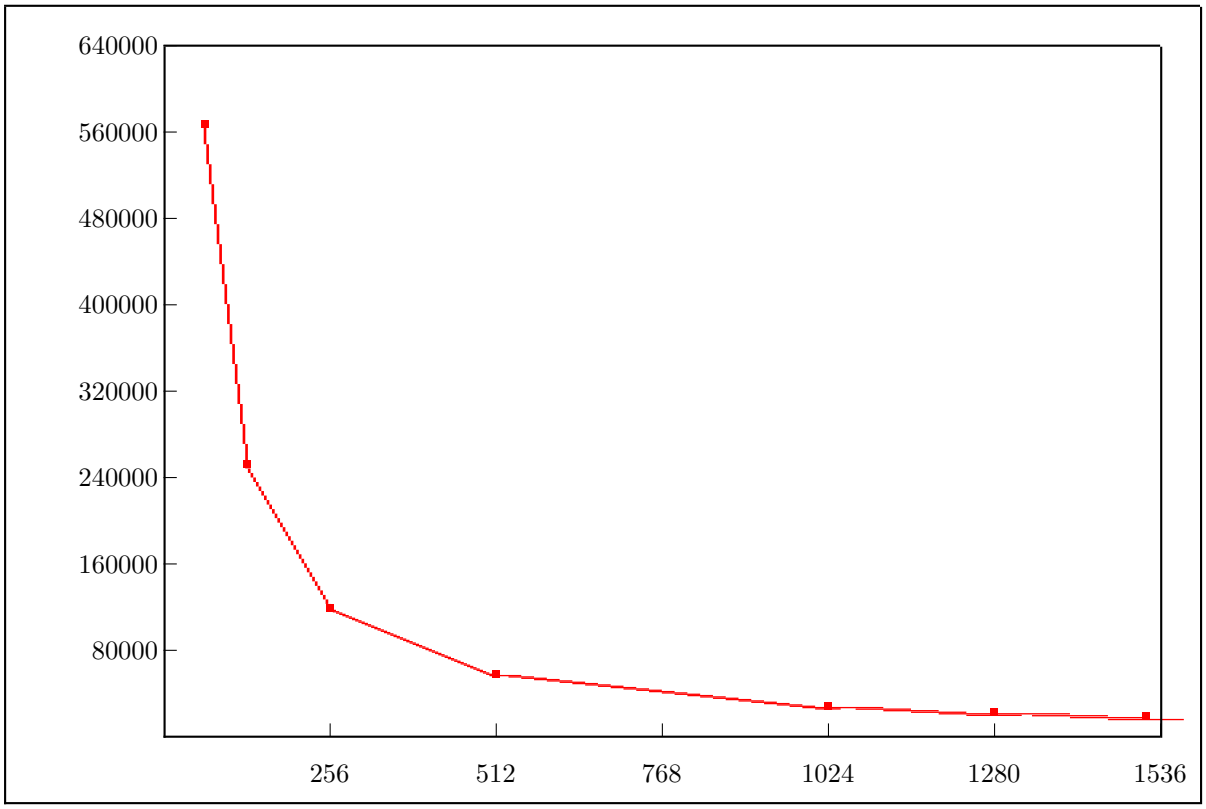
LENGTH (byte)	TRANSMIT RATE										
	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
64	11.66%	5.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
128	22.17%	12.36%	1.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
256	27.43%	19.66%	8.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
512	30.05%	22.40%	12.35%	0.48%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
1024	31.37%	23.76%	14.18%	1.85%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
1280	31.63%	24.04%	14.54%	2.49%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
1514	31.79%	24.35%	14.78%	2.43%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%


100
90
80
70
60
50
40
30
20
10
10
20
30
40
50
60
70
80
90
100

4 BACK-TO-BACK (RFC2544.4)

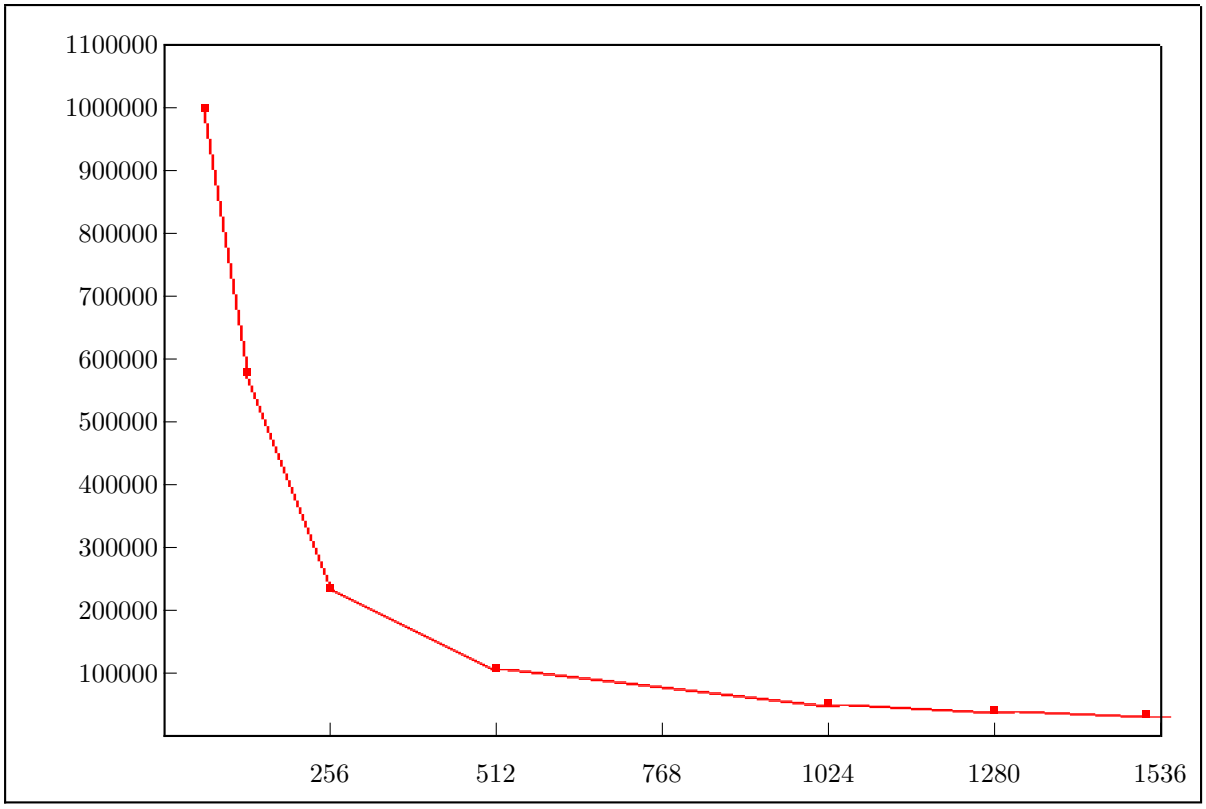
4.1 DUT Port 7 to Port 8

LENGTH (byte)	TXRATE (%)	BURST SIZE
64	100.00%	567,201
128	100.00%	252,625
256	100.00%	118,770
512	100.00%	58,432
1024	100.00%	28,799
1280	100.00%	23,056
1514	100.00%	19,500



4.2 DUT Port 8 to Port 7

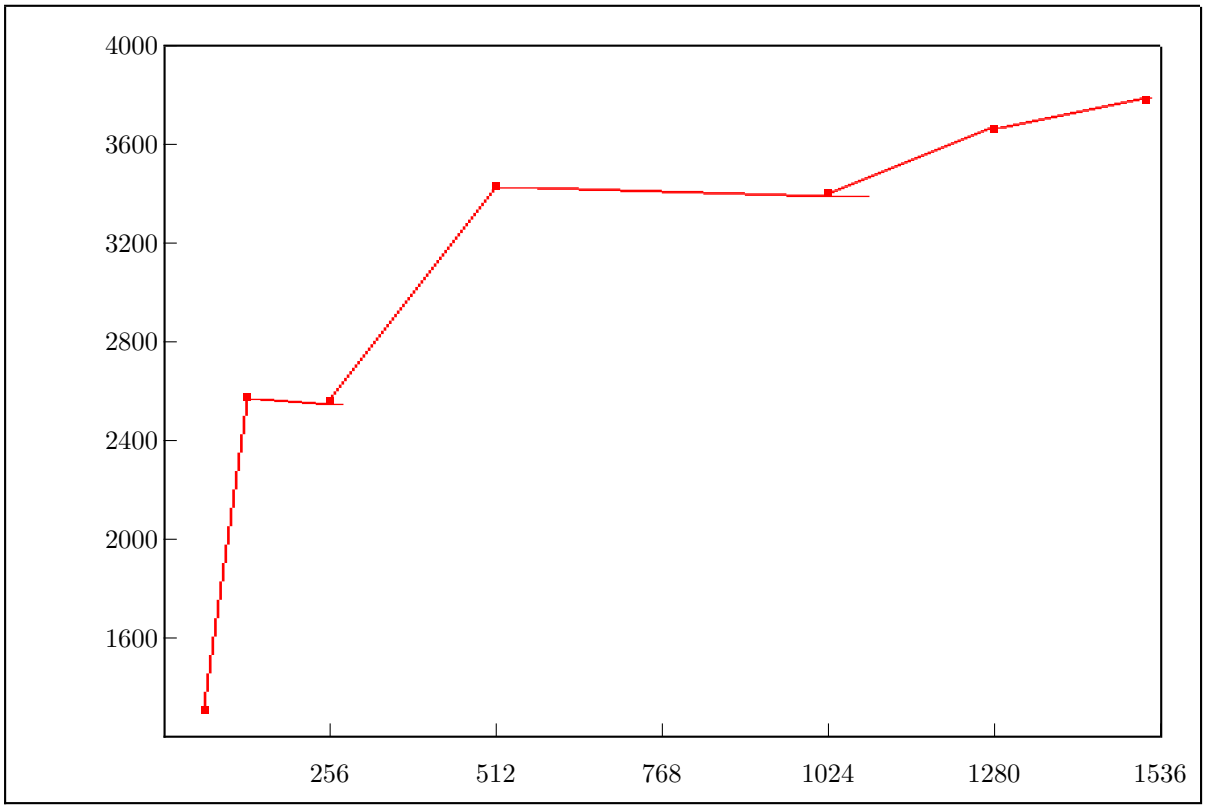
LENGTH (byte)	TXRATE (%)	BURST SIZE
64	100.00%	1,000,000
128	100.00%	579,305
256	100.00%	234,914
512	100.00%	108,746
1024	100.00%	52,121
1280	100.00%	41,509
1514	100.00%	34,990


1100000
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
256
512
768
1024
1280
1536

5 RECOVERY (RFC2544.5)

5.1 DUT Port 7 to Port 8

LENGTH (byte)	RECOVERY MIN (us)	RECOVERY MEAN (us)	RECOVERY MAX (us)
64	1305.30us	1307.46us	1309.77us
128	2570.69us	2574.72us	2579.00us
256	2552.10us	2558.49us	2564.81us
512	3422.53us	3431.60us	3437.85us
1024	3396.51us	3402.16us	3408.31us
1280	3655.95us	3663.45us	3677.23us
1514	3749.69us	3779.71us	3811.96us



5.2 DUT Port 8 to Port 7

Ports are overloaded at 64 bytes ... test run not possible
Ports are overloaded at 128 bytes ... test run not possible
Ports are overloaded at 256 bytes ... test run not possible
Ports are overloaded at 512 bytes ... test run not possible
Ports are overloaded at 1024 bytes ... test run not possible
Ports are overloaded at 1280 bytes ... test run not possible
Ports are overloaded at 1514 bytes ... test run not possible

6 RESET (RFC2544.6)

AVERAGE RESET TIME	AVERAGE LINK TIME	AVERAGE RXPKT TIME
5,761ms	60,654ms	63,973ms