

PacketCheck™ vs. PacketExpert™

Main Features:	PacketCheck™	PacketExpert™
Product Type	Software based (Windows)	Hardware based (connected to PC via USB, Windows)
Hardware ports	N/A (uses the PC NIC card)	4 ports per board – 2 electrical and 2 electrical/optical ports
BERT testing	Y	Y
RFC 2544 testing	N	Y
VLAN	Y (up to 3 stacked VLANS)	Y (up to 3 stacked VLANS)
MPLS	Y (up to 3 stacked VLANS)	Y (up to 3 stacked MPLS)
Hardware Capability:		
Wire speed Traffic Generation	Y (with a powerful NIC and CPU)	Y - all four ports
Link Speed	As NIC	10/100/1000Mbps
Auto Negotiation	As NIC	Y
Forced Speed	As NIC	Y (forced speeds of 1000 Mbps, 100 Mbps, 10 Mbps)
Protocols:		
Layers supported	Layer1, Ethernet, VLAN, MPLS, IP and UDP	Layer1, Ethernet, VLAN, MPLS, IP and UDP
Stacked VLAN (Q-in-Q)	Y	Y
ARP	Y	Y
Ping	N (future support planned)	Y
Frame Capability:		
Frame Size variation	Fixed, Increasing, Decreasing, Random supported	Fixed only
Jumbo Frames	As NIC	Y (up to 2048 bytes frame size)
Traffic Profile:		
Multi-stream traffic	Y	N (future support planned)
Traffic Generation Mode	Burst Mode (Bursts of traffic at line speed, with idle periods between) and Interframe Gap Mode (IFG, traffic is sent at a regular user defined interval)	Interframe Gap mode (IFG, the hardware picks and maintains a regular interval as appropriate for configured bandwidth)
Variable Bandwidth	Supported in Interframe Gap mode	Constant bandwidth only
Bandwidth Configuration	Rate (% , Mbps, Kbps etc.) and Inter Frame Gap (msec). Per stream bandwidth configuration supported	Rate (% , Mbps, Kbps etc.) only

BERT Testing:		
PRBS Patterns	QRSS, 2 ⁶ -1, 2 ⁹ -1, 2 ¹¹ -1, 2 ¹⁵ -1, 2 ²⁰ -1, 2 ²³ -1	2 ⁹ -1, 2 ¹¹ -1, 2 ¹⁵ -1, 2 ²⁰ -1, 2 ²³ -1, 2 ²⁹ -1, 2 ³⁰ -1
Bit Error Rate measurement	Y	Y
Sync Status indication, Sync Loss Count, Sync Loss Seconds	Y	Y
Bit Error Insertion	N	Y (Manual and automatic)
Byte Impairment Generation	Y (Delete, Insert, AND , OR and XOR)	N (Future Support Planned)
BERT Graph	N (Future Support Planned)	Y (Bit Errors displayed as graph against time)
Packet Metrics:		
Lost Frames	Y	N
Out Of Sequence Packet	Y	Y
RTD	Y	Y (through RFC 2544 Latency test)
Other Features:		
Capture received Traffic to file	Y	N (Future Support Planned)
Loop Back	Y	Y
IPv6	N (Future Support Planned)	Y
Report Generation	Y (PDF and CSV format)	Y (PDF and CSV format)
Canned file Transmission	Y (HDL File transmission)	N (Future Support Planned)
Detailed Statistics for Tx and Rx	N (Future support planned)	Y (Classifies Tx and Rx packets into various categories like Frame Length, Protocol, Checksum Errors (FCS Errors, IP Checksum errors, UDP checksum Errors etc.)
Command Line Interface	Y	N (Future Support Planned - WCS Client Server based)
IP Link Simulation:		
WAN (Wide Area Network) link between two local networks	N	Y
Validation and troubleshooting of networks and real-world conditions	N	Y
Bandwidths from 10 Kbps up to 1000 Mbps	N	Y
Bandwidth, Latency, Packet-Loss, Error Insertion, FCS Error Insertion, Background Traffic, Packet Reordering, Duplication, and Queue Depth link emulation conditions	N	Y

Bridge Mode of operation	N	Y
Various link Statistics (Dropped Frames, No. of Errored Packets, Dropped Packets, Duplicate Packets, Reordered Packets, and Average Throughput of the link, for varying durations)	N	Y
Supported in CLI	N	Y
Record Playback:		
*.PCAP, *.hdl, *.DAT file format support	only *.hdl file playback	*.PCAP, *.hdl, *.DAT files playback-from-file and record-to-file
Capture to a file can be limited	N	Y
Transmit packets from a file can be limited	N	Y
Overall capture & transmit rate is limited to the USB 2.0 transfer rate	N	Y
Receive and Transmit packets upto hard drive capacity (limited by disk write speed)	N	Y
Supported in CLI	N	Y
Other Features Planned for Future Support:		
	Carrier Ethernet testing	Carrier Ethernet testing
	IP Metrics like Frame Loss, Delay and Jitter	IP Metrics like Frame Loss, Delay, Jitter, One Way Delay
	Various graphing capabilities	WCS (Client Server based scripting support)
	Various Traffic profiles - Ramp, Step, random distribution etc.	Various Traffic profiles - Ramp, Step, random distribution etc.
	High Level Application traffic generation - Triple Play etc.	Remote Control (Inband remote management)
	HTTP, FTP, DNS etc server response testing	Frame Analysis mode
		BiDirectional Monitoring/Through Mode