

Platform Interface Module

GigE Triple Play PIM

PIM 41S/D-GigE



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Specification Sheet

General

Operation Modes

BERT, IP QoS, RFC2544, Monitor, Service Tool and NIC for Triple Play Analysis Suite-IPTV, VoIP, Data

Physical Interfaces

Single or Dual 10/100/1000Base-T Electrical UTP (RJ-45) and 1000Base-X Optical (SFP) port

Standard Supported

IEEE 802.3 2005 Compliance

LED Indicators

Module: On or Off
IF/LB: SFP (Optical), UTP (Copper) or loop back
Link: Signal or Loss (SFP), Link Up or Down (UTP)
Speed: 1G (SFP), 10M, 100M or 1000M (UTP)
Sync: Pattern Sync/Loss (BER) or Error
Laser: Laser On or Off

Port Operation

Single Port A (Term./LB, Monitor)
Single Port B (Term./LB, Monitor)
Dual Port A and Port B (Term./LB, Mon, PassThrough)
Port in Electrical or Optical

Traffic Generation

Physical

Configurable Speed, Duplex, Flow Control (Auto/Manual), and Remote Loop back L1/L2/L3

IP Version

IP V4 or IP V6

Frame Formats

EtherType II (DIX v.2)
IEEE 802.3-LLC1 and IEEE 802.3-SNAP
Layer 1, MAC, MAC+IP, MAC+IP+UDP

Streams

Up to 256 multi-streams per port in Uniform Traffic Profile
- Source/Destination MAC/IP and VLAN addresses with traffic load averaged
Up to 4 multi-streams per port in Individual Traffic Profile
- Addresses, Prioritization/IP header, Frame size, Payload, Traffic load

Addresses

Source/Destination MAC/IP and VLAN ID (Single/Stack Q-In-Q), ARP/DHCP supported

Prioritization

VLAN ID (802.1Q)/Priority (801.p), and IP TOS/Cisco DiffServ DSCP

IP Header

Prioritization, TTL, UDP/TCP/HOPOPT

Traffic Load

Up to full wire speed in Line Utilization %, Line Rate in Kbps, Frame Rate in FPS and Frame Gap

Frame Size

64~2040 Bytes, including Under/Oversize and Jumbo

Duration

Infinite, the Number of Frames, and Timed

Payload

PRBS, CJPAT, CRPAT, All-0s, All-1s, ALT1/0

Shaping

Constant, Ramp and Burst

Error Insertion

BE (BERT), CRC, IP Checksum and Alignment

QoS Test

Operation

IP QoS test in asymmetric or symmetrical testing
Remote Loop back with MAC/IP S/D addresses swapped automatically

QoS Index Inserted

Anacise QoS Test Payload with sequence no. and timing inserted for the validation of Triple Play service

Timing Resolution

40 ns for all timing parameter measurements

Payload

2¹⁵-1, 2²⁰-1, 2²³-1, and 2³¹-1, with pattern inverted option

QoS Measurements

Network Delay in ms (Current, Min, Max, and Avg)
Inter-Arrival Time (Current, Min, Max, and Avg)
Jitter Distribution Analysis Diagram
Packet Loss (Count, Ratio)
Out of Sequence (Count, Ratio)
QoS result is classified per the standard of ITU-T Y.1541
Network Performance Objectives for IP-Based Service

Traffic Statistics

Same as the traffic statistics-Physical and Frame layer in Monitor mode

Multi-BERTs

Operation

Single BERT with Uniform multi-streams in P-t-P, P-t-LB
Multi-BERTs with Individual multi-streams in P-t-P, P-t-LB and P-t-LB
BER Testing in Asymmetrical or Symmetrical testing
Loop back with MAC/IP source/destination addresses swapped automatically

Patterns

2¹⁵-1, 2²⁰-1, 2²³-1, and 2³¹-1, with pattern inverted option
Long Continuous Random Test Pattern (CRPAT)
Long Continuous Jitter Test Pattern (CJPAT)
All-0s, All-1s, ALT1/0

BER Results

Individual Stream-based :
BER count/BER %, Frame sync loss count/time,
Pattern Sync Loss time, BER frames received,
Utilization% and FPS
Port-based :
CRC error count/rate, IP checksum error count/rate,
Packet loss, Sequence error, Alignment, Line-rate

Traffic Statistics

Same as the traffic statistics-Physical and Frame layer in Monitor mode

RFC 2544

Full comply with IETF RFC 2544 Benchmarking Methodology for Network Interconnect Devices
Throughput, Latency, Frame Loss and Burst (Back to back)
Selectable benchmark performance Index in packet loss or BERT with up to 2 independent tests simultaneously
Performing Throughput/Frame Loss/Latency tests simultaneously with skip test feature in error free
Results presented in Tabular or Graphics

Traffic Statistics

Same as the traffic statistics-Physical and Frame layer in Monitor mode

Service Tool

Port Location in blinking, Detecting copper cable faults in Open, Short and Distant to fault

Monitor

Applications

Independent 2 ports monitor or PassThrough between 2 ports (**PIM-41D-GigE**)

Traffic Statistics-Physical Layer

Remote physical layer configuration detection in advised/capable of Speed, Duplex, Pause, Clock and MDI/MDIX
Current port connected in State, Speed, Link, Duplex, LOS, Optical Power (Depends on the SFP)

Traffic Statistics-Frame layer

- Tx/Rx Throughput

Line Rate in Mbps (Current, Min, Max, and Avg)
Utilization in % (Current, Min, Max, and Avg)
Frame Rate in KFPS (Current, Min, Max, and Avg)
Data Rate in Mbps, Frame size distribution analysis
Frame Type Statistics in Unicast, Multicasts, Broadcasts and total frames

- Rx Error Frames

Runts, Oversize, CRC, Alignment, IP Checksum and Pause

- Tx Error Frames

Runts, Oversize, Collision and Multi-collisions

Ordering Information

PIM-41S-GigE GigE Triple Play PIM (Single Port Version)

Single 10/100/1000Base-T Electrical UTP (RJ-45) and 1000Base-X Optical (SFP) port

PIM-41D-GigE GigE Triple Play PIM (Dual Port Version)

Dual 10/100/1000Base-T Electrical UTP (RJ-45) and 1000Base-X Optical (SFP) port

Hardware Options

PIM-41X-HSFPS	SFP SX 850 nm, Multimode
PIM-41X-HSFPL	SFP LX 1310 nm, Single Mode
PIM-41X-HSFPZ	SFP ZX 1550 nm, Single Mode

Standard Accessories

256MB MMC Card
LAN Cat 6 (PIM-ACC-CAB-LAN)
CSA platform/ PIM - User Guide (Preloaded on MMC)

Bandwidth Billboard

- Stream Traffic Statistics

Stream discoveries in Host Table per the selectable category of MAC, IP, VLAN
Full wire speed traffic statistics with up to 10 streams analysis abilities simultaneously
Up to 10 Top Talkers analysis with Traffic Rate in Mbps, Utilization %, Frame Per Second (FPS) and Frames

Power Saving

Hibernation

High efficiency of approx. 16 hours practicable time and quick start

NIC

Interface

10/100/1000Base-T Electrical UTP (RJ-45)
1000Base-X Optical (SFP) port

Operation Mode

- Termination

Works with the "Termination/Active Simulation" of CSA Triple Play Analysis Suite, Which Includes :

PIM-41X-STPA-IPTV-STB	<i>IPTV STB Simulation</i>
PIM-41X-STPA-VOIP-SIP	<i>VOIP SIP Phone Simulation</i>
PIM-41X-STPA-IPTV-STREAM	<i>IPTV Stream Player</i>
PIM-41X-STPA-DATA	<i>Ethernet IP Analysis</i>
PIM-41X-STPA-DATA-IST/ILT	<i>Internet Service and IP Layer Tests</i>

- PassThrough (PIM-41D-GigE)

Works with the "PassThrough/Passive Monitor" of CSA Triple Play Analysis Suite pre the Hardware Filters selected, Which Includes :

PIM-41D-STPA-DATA	<i>Ethernet IP Analysis</i>
PIM-41D-STPA-IPTV	<i>IPTV Expert Analysis</i>
PIM-41D-STPA-VOIP	<i>VOIP Expert Analysis</i>

Software Options

PIM-41X-SQOS	Adds IP QoS Testing Ability
PIM-41X-S2544	Adds RFC 2544 Testing Ability
PIM-41X-SVCT	Adds Service Tool Testing Ability
PIM-41D-SBILLBOARD	Adds Bandwidth Billboard Feature Ability
PIM-41X-SMPLS	Adds MPLS Testing Ability
PIM-41X-SIPV6	Adds IPv6 Testing Ability
PIM-41D-STPA-DATA	Ethernet IP Analysis
PIM-41X-STPA-DATA-IST/ILT	Internet Service and IP Layer Tests
PIM-41D-STPA-IPTV	IPTV Expert Analysis
PIM-41X-STPA-IPTV-STB	IPTV STB Simulation
PIM-41X-STPA-IPTC-STREAM	IPTV Stream Player
PIM-41D-STPA-VOIP	VOIP Expert Analysis
PIM-41X-STPA-VOIP-SIP	VOIP SIP Phone Simulation



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