

Platform Interface Module

xDSL Triple Play PIM

PIM-21X-xDSL



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Specification Sheet

General

Operation Modes

Modem Termination (MT), Modem Passthrough (MPT), Ethernet Termination (ET), Ethernet Passthrough (EPT)
PLM™ *Physical Loop Meter*

xTU-R Modem Chip Set

Infineon VINAX

xDSL Standards

ITU G.992.5 (ADSL2 Plus, Annex M, INP<=2)
ITU G.992.3 (ADSL2/G.DMT.bis, Annex L, Annex M, INP<=2)
ITU G.992.2 (G.Lite)
ITU G.992.1 (ADSL1/G.DMT)
ANSI T1.413 Issue 2
Annex A and Annex B
ITU G.993.1 (VDSL1)
ITU G.993.2 (VDSL2)
Bandplans : 8, 12, 17, 30MHz
Profiles : 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a
Plan 997, Plan 998

Physical Interfaces

One RJ-11 WAN access port on PIM for MT/MPT Modes
One RJ-45 LAN access port on PIM for ET Mode
One RJ-45 LAN access port on CSA for EP Mode
One bantam jack for PLM

LED Indicators

VDSL : Link, ACT, Alarm & IP
Ethernet : Link, ACT, Speed
Loop : PLM (ACT, V/Ω)
Module : On or Off

Control Information Window (CIW)

Control : Start/stop and reset the test
Timing : Indication of test start and elapsed time, remaining time
States : Operation flow and connection progress status
Alarm/Event : Instant alarm/event reporting on any occurrence under test
LOG : All logging data including test result with save capability in MMC card

Modem Termination Mode

MT Mode allows xDSL TP PIM to simulate xTU-R modem to establish link connection with xTU-C in Bridge mode and display all of link-up information related. Furthermore, all of Triple Play Analysis Suit (TPAS) provided by CSA platform can be applied for Termination test on 2 wires copper loop.

xDSL Control

- Modem Control

Modem open/close or retrain with trellis coding controlled Programmable thresholds of link rate, SNRM in upstream/downstream and link up time

- Scheduling Test

Programmable start/stop of time scheduled to test
Real time alarm/event logs with time/date stamped
Up to 100 interval results can be saved to MMC card for storage and printing



Link Quality

- Link Up/Downstream Results

Link Rate and Estimative Maximum R (dBm), Line attenuation (dB) and Estimati margin (dB) and Capacity (%)

- Global Statistics

Forward Error Correction (FEC)
Last cycle or accumulated in upstream/downstream

DMT PSD Analysis

Bit per tone, SNR per tone presented in tabular and graphics
Zoom in/out and Bin/KHz conversion features

ATM Layer Test

- ATM Client Access

VPI/VCI provisioned in manual or auto-scanning

- ATM Net Test/Statistics

F5 E2E/Segment OAM Loopback test
The number of OAM cell transmitted/received with loss and success/fail indication

IP Net Client Access

RFC 1483/2684 LLC/VC Bridged/Routed encapsulation
RFC 2516 PPPoE, RFC 2364 PPPoA
RFC 1334 PAP/RFC 1994 CHAP PPP session authentication
RFC 1332 IPCP addressing
RFC 1577/2225 CLIPoA
MAC Encapsulated Routing (MER) mode supported
Static & RFC 1541 DHCP addressing supported
IP information provided with addressing, mask, gateway & DNS
NAT : All routed modes allows to enable or disable NAT according to user requirement
IGMP Host : Monitor multicast group membership on local LANs through the sending and receiving of IGMP packets
Programmable automatic IP Net Client test after DSL connection established
Up to 8 Multi-PVCs with ATM service category configurable (VBR, CBR, rt-VBR, nrt-VBR)

LAN Traffic Statistics

Total Byte, Packet and Error Received
Utilization (%) and Unicasts/Broadcasts
CRC, Runt, Oversize, Jabber, Alignment and Collision
Last cycle or accumulated in upstream/downstream

ATM Traffic Statistics

AAL 5 frames, user cells, OAM loopback cells
Statistics accumulated for Upstream and Downstream

Modem PassThrough Mode [SW Option, PIM-21X-SETM]

MPT Mode allows xDSL TP PIM to substitute a real xTU-R to establish a bridge connection with xTU-C and display all of link-up information related. Furthermore, all of Triple Play Analysis Suit (TPAS) provided by CSA platform can be applied for Pass-Through test on the path of 2 wires copper loop and Ethernet interface

xDSL Control

- Modem Control

Same as Modem Termination Mode

- Scheduling Test

Same as Modem Termination Mode

Link Quality

Same as Modem Termination Mode

DMT PSD Analysis

Same as Modem Termination Mode

LAN Traffic Statistics

Same as Modem Termination Mode

ATM Traffic Statistics

AAL 5 frames, user cells, OAM loopback cells
Statistics accumulated for Upstream and Downstream

Ethernet Termination Mode

ET Mode allows xDSL TP PIM to simulate a PC client connected to xTU-R modem and display all of Ethernet link information related. Furthermore, all of Triple Play Analysis Suit (TPAS) provided by CSA platform can be applied for Termination test on 10/100M FE interface

LAN Traffic Statistics

Same as Modem Termination Mode

Ethernet PassThrough Mode [SW Option, PIM-21X-SEPM]

EPT Mode allows CSA with xDSL TP PIM to be inserted on the Ethernet link of xTU-R and PC client to monitor the bi-direction traffic. Furthermore, all of Triple Play Analysis Suit (TPAS) provided by CSA platform can be applied for Pass-Through test on the path of Ethernet interface

LAN Traffic Statistics

Same as Modem Termination Mode

Power Saving

Hibernation

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

Suspend

Approx. 8 hours practicable time with all tests running

PLM™ Physical Loop Meter

[SW Option, PIM-21X-SPLM]

	Unit	Range	Resolution	Accuracy	Leads
DCV	Volts	0~250	0.1	1%+/-1V	T-R,T-G,R-G
ACV	Vrms	0~250	0.1	1%+/-1V	T-R,T-G,R-G
DC Current	mA	0~200	1	1%+/-1mA	
Capacitance	μ f	0~4	0.001	1%+/-1mA	T-R,T-G,R-G
Resistance	Ohms	0~4000	1	2%+/-1digit	T-R,T-G,R-G
High Insulation (Leakage) Res.	M Ohms	1~1000	0.1	2%+/-1digit	T-R,T-G,R-G
Kick Test	Measuring the Voltage and Resistance on T-R,T-G,R-G continuously				
RFL	Locate a Resistance Fault on a single conductor				
Open/Short Meter	Measuring the Open(capacitance)/Short(Resistance) location calculated in distance based/w wire gauge, cable type, temperature				

Ordering Information

xDSL Triple Play PIM and Options

PIM-21X-xDSL xDSL Triple Play PIM (Platform Interface Module)

Standard Accessories

256MB MMC card, xDSL WAN (PIM-ACC-CAB-WAN) Cable, LAN Cat 6 (PIM-ACC-CAB-LAN) Cable and CSA platform/PIM user's guide (Preloaded on MMC)

PIM Software Options

PIM-21X-SETM Ethernet Termination Mode
PIM-21X-SEPM Ethernet Passthrough Mode
PIM-21X-SPLM Physical Loop Meter

PIM Firmware Option

PIM-21X-FVDLS1 Supports ITU G.993.1 (VDSL1) Plan 997/Plan 998
PIM-21X-FXDLSA Annex A (North America)
PIM-21X-FXDLSB Annex B (Europe)

Triple Play Analysis Suite Software Options

PIM-21X-STPA-DATA Ethernet IP Analysis
PIM-21X-STPA-DATA-IST/ILT Internet Service and IP Layer Tests
PIM-21X-STPA-IPTV IPTV Expert Analysis (PIM-21X-SEPM Required)
PIM-21X-STPA-IPTV-STB IPTV STB Simulation
PIM-21X-STPA-IPTV-STREAM IPTV Stream Player
PIM-21X-STPA-VoIP VoIP Expert Analysis (PIM-21X-SEPM Required)
PIM-21X-STPA-VoIP-SIP VoIP SIP Phone Simulation



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