



SINGLE-PORT VDSL2 ANNEX A MINI-PHYSICAL INTERFACE MODULE (MINI-PIM)

Product Overview

The Juniper Networks single-port VDSL2 Mini-Physical Interface Module (Mini-PIM) for the Juniper Networks SRX200 line provides VDSL2/ADSL2+/ADSL2 WAN connectivity ideal for remote branch deployments requiring high-speed WAN access for asymmetrical transmission rates up to 100 Mbps.

Product Description

The VDSL2 Annex A Mini-PIM is for use with the SRX200 line consisting of the Juniper Networks® SRX210 Services Gateway, SRX220 Services Gateway, and SRX240 Services Gateway products. The VDSL2 Mini-PIM supports Annex A over plain old telephone service (POTS), which includes one physical very high bit-rate digital subscriber line (VDSL) port. The VDSL2 Annex A (over POTS) Mini-PIM supports ADSL, ADSL2, or ADSL2+ fallback standards to provide the flexibility to support multiple DSL options.

The VDSL2 mini-PIM has interoperability with the following DSLAM vendor products. For the complete and latest list, please refer to Juniper Networks technical publications.

VDSL2 DSLAM	CHIPSET
ZyXEL IES-5005 IP DSLAM (Annex A and Annex B)	Broadcom
Alcatel 7302 DSLAM	Ikanos

Features and Benefits

- One RJ-11 VDSL2 interface
- ADSL/ADSL2/ADSL2+ backward compatibility with Annex A, Annex M support
- PTM or EFM (802.3ah) support
- Operation, Administration, and Maintenance (OAM) support for ADSL/ADSL/ADSL2+ mode
- Multilink Point-to-Point Protocol (MLPPP)—supported only when the VDSL2 Mini-PIM is operating in ADSL2 mode
- Support for maximum of 10 permanent virtual connections (PVCs)—only in ADSL/ADSL2/ADSL2+ mode
- Dying Gasp support (ADSL and VDSL2 mode)
- ATM quality of service (QoS)—ATM Adaptation Layer 5 (AAL5) with constant bit rate (CBR); variable bit rate, nonreal time (VBR-NRT); and unspecified bit rate (UBR) traffic types

Table 1: VDSL Features and Benefits

FEATURE	FEATURE DESCRIPTION	BENEFIT
VDSL2 support	Up to 50 Mbps Upstream and up to 100 Mbps Downstream	Provides high-speed DSL WAN connectivity
ADSL/ADSL2/ADSL2+ fallback support	Same module can be used in ADSL, ADSL2, and ADSL2+ environments	Provides investment protection when upgrading WAN connectivity
Automatic configuration	Automatically configures the DSL line after negotiating with the DSL access multiplexer (DSLAM)	Minimizes configuration and support overhead
Dying Gasp support	Notifies the DSLAM, in the event of power loss, that the SRX Series is about to go offline	Notifies the network whenever unplanned power outages occur

Specifications

ADSL-Supported Operating Modes

- ANNEX A
 - Auto
 - ANSI-DMT (ANSI T1.413)
 - ITU-DMT (G.992.1)
 - ITU-DMT-BIS (G.992.3)
 - ADSL2+ (G.992.5)
- ANNEX M
 - ITU-DMT-BIS (G.992.3)
 - ADSL2+ (G.992.5)

VDSL2 Profiles

- 8a, 8b, 8c, 8d: 50 Mbps
- 12a, 12b: 68 Mbps
- 17a: 100 Mbps
- Auto: Auto mode (default)

Supported MTU

- 1496 bytes

Dimensions (W x H X D) and Weight

- 3.75 x 0.8 x 5.9 in (9.5 x 2.0 x 14.5 cm)
- 0.25 lb

Environmental

- Operating temperature: 0° to 45° C
- Storage temperature: -40° to 70° C
- Relative humidity: 5% to 90% noncondensing

Diagnostics

- OAM F4 far loopback test
- OAM F4 near loopback test
- OAM F5 far loopback test
- OAM F5 near loopback test

LEDs

Mini-PIM LEDs indicate port status with the following LED states:

- SYNC—Green steady indicates that the DSL interface is trained; green blinking indicates training is in progress.
- TX/RX—Green blinking indicates that traffic is passing through; off indicates that no traffic is passing through.

Management Capabilities

- Telnet/Console/Web/Juniper Networks Network and Security Manager: Remote and local configuration, monitoring, and troubleshooting

Standards and Compliance

Safety

- CAN/CSA-C22.2 No. 60950-1-03/UL 60950-1 Third Edition, Safety of Information Technology Equipment
- EN 60950-1:2001+A11, Safety of Information Technology Equipment
- IEC 60950-1:2001 First Edition, Safety of Information Technology Equipment

EMC (Emissions)

- AS/NZS CISPR22 Class A
- EN-61000-3-2 Harmonic current emissions
- EN-61000-3-3 Voltage fluctuations
- FCC Part 15 Class A (USA)
- EN 55022 Class A (Europe)

Immunity

- EN 55024
- EN-61000-4-2 ESD
- EN-61000-4-3 Radiated Immunity
- EN-61000-4-4 EFT
- EN-61000-4-5 Surge
- EN-61000-4-6 RF Conducted Immunity
- EN-61000-4-11 Voltage Dips and Sags

European Telecommunications Standardization Institute (ETSI)

- ETSI EN-300 386-2: Telecommunication Network Equipment Electromagnetic Compatibility Requirements

Telecom

- FCC Part 68/TIA-968
- IC CS-03

Standards

- ANSI T1.413 II compliant (vendor version 1)
- G994.1 (G.HS) Version 05/03 + Amendment 1 (02/04)
 - Annex A (POTS overlay)
 - Appendix 1 (ATM Interface – Utopia)
- G992.1 (G.DMT; ADSL)
 - Annex A (POTS Overlay)
 - Appendix 1 (ATM Interface-Utopia)
- G992.3 (G.DMTbis; ADSL2) + Amendment 1, 2
 - Annex A (POTS overlay)
 - Appendix 1 (ATM Interface – Utopia)
- G992.5 (ADSL2+) + Corrigendum 1 + Amendment 2
 - Annex A (POTS overlay)
 - Appendix 1 (ATM Interface – Utopia)

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Ordering Information

PART NUMBER	DESCRIPTION
SRX-MP-1VDSL2-A	1-port VDSL2 mini-P1M supporting Annex A, with fallback to ADSL2/ADSL2+

Juniper Networks Junos® Operating System Release

ADSL2/2+ Annex A and Annex B functionality is supported on the Juniper Networks SRX200 line in Junos OS 10.1 and later releases.

About Juniper Networks

Juniper Networks, Inc. is the leader in high-performance networking. Juniper offers a high-performance network infrastructure that creates a responsive and trusted environment for accelerating the deployment of services and applications over a single network. This fuels high-performance businesses. Additional information can be found at www.juniper.net.

Corporate and Sales Headquarters

Juniper Networks, Inc.
1194 North Mathilda Avenue
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or 408.745.2000
Fax: 408.745.2100
www.juniper.net

APAC Headquarters

Juniper Networks (Hong Kong)
26/F, Cityplaza One
1111 King's Road
Taikoo Shing, Hong Kong
Phone: 852.2332.3636
Fax: 852.2574.7803

EMEA Headquarters

Juniper Networks Ireland
Airside Business Park
Swords, County Dublin, Ireland
Phone: 35.31.8903.600
EMEA Sales: 00800.4586.4737
Fax: 35.31.8903.601

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