Refurbished CISCO A9K-MPA-20X1GE Datasheet

CISCO > ROUTERS

Cisco ASR 9000 Series Aggregation Services Routers

Features and Benefits of Cisco ASR 9000 Series Modular Line Cards	
Interface Support	
Pluggable 1-Gigabit Small Form-Factor Pluggable (SFP), 10-Gigabit SFP (XFP), and 40-Gigabit Quad SFP (QSFP) interfaces	Provide the capability to mix and match interface types across a single line card; for a complete list of supported interfaces, please see Cisco ASR 9000 Transceiver Modules: Line Card Support data sheet
Evolutionary Monitoring	
Carrier-class OA&M	NetFlow, IEEE 802.1ag, IEEE 802.3ah, ITU Y.1731, IP service-level agreement (IP SLA), virtual circuit connectivity verification (VCCV), ping, and traceroute
T-Class Synchronization	
Synchronous Ethernet	Derives and provides synchronization from and to Ethernet interfaces, Cisco ASR 9000 Series RSPs, and network synchronization interfaces
IEEE 1588-2008	Cisco ASR 9000 Series support of the IEEE 1588-2008 protocol provides the capability to distribute precision time

Product Specifications	
Description	
Description	Specification
Chassis compatibility	Compatible with the Cisco ASR 9922, 9010, 9006 and 9001 systems
Port density	Up to 2 modular port adapters are supported per line card..
Ethernet	IEEE 802.3 compliant 10 Gigabit Ethernet PHY monitoring IEEE 802.x flow control Full-duplex operation Per-port byte and packet counters for policy drops; oversubscription drops; cyclic redundancy check (CRC) error drops; packet sizes; and unicast, multicast, and broadcast packets
Card density	Maximum number of line cards per system: Cisco ASR 9922 = 20, Cisco ASR 9010 = 8, and Cisco ASR 9006 = 4
Options	Each line card is available as either a Service Edge Optimized (enhanced QoS) or Packet Transport Optimized (basic QoS) line card.
Reliability and availability	Line card online insertion and removal (OIR) support without system impact
Network Equipment Building Standards (NEBS)	Cisco ASR 9000 Series Routers are designed to meet: SR-3580: NEBS Criteria Levels (Level 3) GR-1089-CORE: NEBS EMC and Safety GR-63-CORE: NEBS Physical Protection
Operating temperature (nominal)	41 to 104ºF (5 to 40ºC)
Operating temperature (short-term)[1]	23 to 131ºF (−5 to 55ºC)
Operating humidity (nominal) relative humidity	10 to 85%
Storage temperature	40 to 158ºF (−40 to 70ºC)
Storage relative humidity	5 to 95%

	Note: Not to exceed 0.024 kg of water per kg of dry air
Operating altitude	60 to 4000m (up to 2000m conforms to IEC, EN, UL, and CSA 60950 requirements)
ETSI standards	Cisco ASR 9000 Series Routers are designed to meet: EN300 386: Telecommunications Network Equipment (EMC) ETSI 300 019 Storage Class 1.1 ETSI 300 019 Transportation Class 2.3 ETSI 300 019 Stationary Use Class 3.1 EN55022: Information Technology Equipment (Emissions) EN55024: Information Technology Equipment (Immunity) EN50082-1/EN-61000-6-1: Generic Immunity Standard
EMC standards	Cisco ASR 9000 Series Routers are designed to meet: FCC Class A ICES 003 Class A AS/NZS 3548 Class A CISPR 22 (EN55022) Class A VCCI Class A BSMI Class A IEC/EN 61000-3-2: Power Line Harmonics IEC/EN 61000-3-3: Voltage Fluctuations and Flicker
Immunity	Cisco ASR 9000 Series Routers are designed to meet: IEC/EN-61000-4-2: Electrostatic Discharge Immunity (8kV Contact, 15kV Air) IEC/EN-61000-4-3: Radiated Immunity (10V/m) IEC/EN-61000-4-4: Electrical Fast Transient Immunity (2kV Power, 1kV Signal) IEC/EN-61000-4-5: Surge AC Port (4kV CM, 2kV DM) IEC/EN-61000-4-5: Signal Ports (1kV) IEC/EN-61000-4-5: Surge DC Port (1kV) IEC/EN-61000-4-6: Immunity to Conducted Disturbances (10Vrms) IEC/EN-61000-4-8: Power Frequency Magnetic Field Immunity (30A/m) IEC/EN-61000-4-11: Voltage DIPS, Short Interruptions, and Voltage Variations
Safety	Cisco ASR 9000 Series Routers are designed to meet: UL/CSA/IEC/EN 60950-1 IEC/EN 60825 Laser Safety ACA TS001 AS/NZS 60950 FDA: Code of Federal Regulations Laser Safety

System Software Requirements

Hardware Part Number

Hardware Part Number	Software Release Support
A9K-Mod80 –TR/SE	Cisco IOS XR 4.2.0
A9K-Mod160 –TR/SE	Cisco IOS XR 4.2.1

Feature Licenses for Cisco ASR 9000 Series Modular Line Cards

License Part Number

License Part Number	Feature Description
A9K-IVRF-LIC	Infrastructure VRF license to enable up to 8 VRF instances per Modular line card
A9K-MOD80-AIP-SE	Advanced IP license to enable full-scale VRF instances per Service Edge Optimized Mod80 line card
A9K-MOD80-AIP-TR	Advanced IP license to enable full-scale VRF instances per Packet Transport Optimized Mod80 line card
A9K-MOD80-OPT-LIC	Advanced Optical license to enable G.709 and FEC per Mod80 line card
A9K-MOD80-VID-LIC	Advanced Video license to enable inline video monitoring per Mod80 line card
A9K-MOD160-AIP-SE	Advanced IP license to enable full-scale VRF instances per Service Edge Optimized Mod160 line card
A9K-MOD160-AIP-SE	Advanced IP license to enable full-scale VRF instances per Packet Transport Optimized Mod160 line card
A9K-MOD160-OPT-LIC	Advanced Optical license to enable G.709 and FEC per Mod160 line card
A9K-MOD160-VID-LIC	Advanced Video license to enable inline video monitoring per Mod160 line card

System-Level Feature Licenses Supported by Cisco Modular Line Cards

License Part Number

License Part Number	Feature Description
A9K-LI-LIC	Lawful Intercept license to enable lawful intercept of packet streams for surveillance
A9K-MOBILE-LIC	Advanced Mobile license to enable Synchronous Ethernet and IEEE 1588-2008 protocols to distribute precision timing and frequency
A9K-BNG-LIC-8K	Broadband Network Gateway license to enable high scale Ethernet BNG with session/subscriber awareness
A9K-SYS-VID-LIC	Advanced Video license to enable inline video monitoring for all linecards in the system

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