Multi-Rate Ethernet MIC

Figure 41: Multi-Rate MACsec MIC with QSFP+
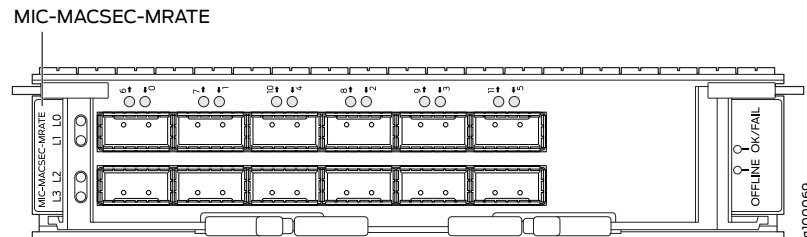
MIC-MACSEC-MRATE

Software release	• JNP-MIC1: Junos OS release 17.3R1 and later • JNP-MIC1-MACSEC: Junos OS release 17.3R2 and later • MIC-MACSEC-MRATE: Junos OS release 17.4R1 and later

For information about which MPCs support this MIC, see "MIC/MPC Compatibility" on page 26. For information about which MICs are supported on MX Series routers, see "MICs Supported by MX Series Routers" on page 18.

Description	• Weight: 3 lb (1.36 kg)
	• Model numbers:
	Without MACsec support: JNP-MIC1
	With MACsec support: JNP-MIC1-MACSEC
	With MACsec support: MIC-MACSEC-MRATE
	• Power requirement:
	  • JNP-MIC1:
	  85 W at 55º C
	  80 W at 25º C
	  • JNP-MIC1-MACSEC:
	  130 W at 55º C
	  125 W at 25º C
	  • MIC-MACSEC-MRATE:
	  110 W at 45º C
	  105 W at 25º C
	• Name in the CLI:
	JNP-MIC1: **MIC1**
	JNP-MIC1-MACSEC: **MIC1-MACSEC**
	MIC-MACSEC-MRATE: **MACSEC-12xQSFPP-XGE-XLGE-CGE**

Hardware features	• JNP-MIC1 and JNP-MIC1-MACSEC:
	• Twelve 100-Gigabit Ethernet ports that support quad small form-factor pluggable (QSFP28) transceivers
	• The ports are numbered **0** through **11**.
	• Each port can be configured as a 100-Gigabit Ethernet port, 40-Gigabit Ethernet port, or as four 10-Gigabit Ethernet ports (by using a breakout cable).
	Table 26 on page 208 lists the configurable Gigabit Ethernet port speeds for each port.
	• MIC-MACSEC-MRATE:
	• Twelve Gigabit Ethernet QSFP+ ports, each of which can be configured as a 40-Gigabit Ethernet port or as four 10-Gigabit Ethernet ports (by using a breakout cable).
	• The ports are numbered **0** through **11**.
	• Eight out of the twelve ports can be configured as 100-Gigabit Ethernet ports. Port numbers **0** through **3**, and **6** through **9** are the eight 100-Gigabit Ethernet ports.
	• When used in MP8CE:
	• Four ports out of the total twelve ports support 100-Gigabit Ethernet speed
	• Maximum aggregate port capacity across ports **0** through **5** should not exceed 240 Gbps
	• Maximum aggregate port capacity across ports **6** through **11** should not exceed 240 Gbps
	• When used in MPC9E:
	• Eight ports out of the total twelve ports support 100-Gigabit Ethernet speed
	• Maximum aggregate port capacity across ports **0** through **5** should not exceed 400 Gbps
	• Maximum aggregate port capacity across ports **6** through **11** should not exceed 400 Gbp
	Table 27 on page 208 lists the configurable Gigabit Ethernet port speeds for each port.
Software features	• Supports rate selectability at the port level.
	• By default, the ports are configured as 10-Gigabit Ethernet ports.
	• Supports remote port identification.
	• MICs with model numbers JNP-MIC1-MACSEC and MIC-MACSEC-MRATE support Media Access Control Security (MACsec)
Cables and connectors	TIP: You can use the Hardware Compatibility Tool to find information about the pluggable transceivers supported on your Juniper Networks device.
	The list of supported transceivers for the MX Series is located at https://pathfinder.juniper.net/hct/category/#catKey=100001&modelType;=All&pf;=MX+Series.
LEDs	• **OK/FAIL** LED, one bicolor:
	• OFF—MIC is offline or MIC has fault.
	• Red—MIC is in power failure state.
	• Green—MIC is online.
	• Link LED, one green per port:
	• Steady green—Link is up.
	• Off—Link is down or disabled.
	• Like port status LED, each individual lane LED support four states as: OFF, AMBER, GREEN, RED. See *MPC and MIC Lane LED Scheme Overview* for more details.

Table 26: Multi Rate Ethernet MIC Port Speed Capabilities for JNP-MIC1 and JNP-MIC1-MACSEC

Port #	4x10-Gigabit Ethernet	40-Gigabit Ethernet	100-Gigabit Ethernet
0	yes	yes	yes
1	yes	yes	yes
2	yes	yes	yes
3	yes	yes	yes
4	yes	yes	yes
5	yes	yes	yes
6	yes	yes	yes
7	yes	yes	yes
8	yes	yes	yes
9	yes	yes	yes
10	yes	yes	yes
11	yes	yes	yes

Table 27: Multi Rate Ethernet MIC Port Speed Capabilities for MIC-MACSEC-MRATE

Port #	4x10-Gigabit Ethernet	40-Gigabit Ethernet	100-Gigabit Ethernet
0	yes	yes	yes

Table 27: Multi Rate Ethernet MIC Port Speed Capabilities for MIC-MACSEC-MRATE (continued)

Port #	4x10-Gigabit Ethernet	40-Gigabit Ethernet	100-Gigabit Ethernet
1	yes	yes	yes
2	yes	yes	yes
3	yes	yes	yes
4	yes	yes	no
5	yes	yes	no
6	yes	yes	yes
7	yes	yes	yes
8	yes	yes	yes
9	yes	yes	yes
10	yes	yes	no
11	yes	yes	no

Related Documentation

- *MPC and MIC Lane LED Scheme Overview*
- *Configuring Rate Selectability on MX10003 MPC to Enable Different Port Speeds*
- *MX10003 MPC Rate-Selectability Overview*
- *Understanding Rate Selectability*