

Nokia 9500 Microwave Packet Radio

Microwave packet transport for shorthaul | Release 7.0 (ETSI)

The Nokia 9500 Microwave Packet Radio (MPR) family includes a range of Microwave Packet Transport (MPT) units for shorthaul applications. These MPT units operate in the standard frequency bands as well as the 80 GHz band (E-band) and are designed to provide high-capacity reliable backhaul for wireless 3G and 4G macro cells and segments applications. The MPT-HC-HQAM and MPT-GM are integrated in the Nokia 5620 Service Aware Manager for common management with the rest of the 9500 MPR portfolio, enabling consistent operations across end-to-end packet microwave networks. Combined with the 9500 MPR Microwave Service Switch (MSS), the MPT sets the standard for delivering fast, efficient wireless transmission links with flexible networking and simple operations.

	MPT-HC-HQAM	MPT-GM
Application	<ul style="list-style-type: none"> Macro cell backhaul (access and hub) Split-mount or standalone configuration 	<ul style="list-style-type: none"> Macro cell backhaul (access and hub) Split-mount or standalone configuration
Physical	<ul style="list-style-type: none"> 235 mm x 235 mm x 130 mm (9.2 in. x 9.2 in. x 5.1 in.) with external diplexer 235 mm x 235 mm x 150 mm (9.2 in. x 9.2 in. x 5.9 in.) with internal diplexer 	<ul style="list-style-type: none"> 290 mm x 270 mm x 99 mm (11.4 in. x 10.6 in. x 3.9 in.)
Interfaces	<ul style="list-style-type: none"> Two GE ports (RJ45 PfoE and SFP optical plug-in) 	<ul style="list-style-type: none"> Two GE ports (RJ45 PfoE or SFP optical plug-ins)
Radio	<ul style="list-style-type: none"> 5.8 to 38 GHz (FDD) 470 Mb/s standard Support for packet compression Channels: 3.5 MHz to 56 MHz 	<ul style="list-style-type: none"> 80 GHz (FDD) 120 Mb/s to 2000 Mb/s Channels: 250 MHz, 500 MHz
Modulation	<ul style="list-style-type: none"> 4 QAM to 2048 QAM 	<ul style="list-style-type: none"> BPSK, 4 QAM, 16 QAM, 64 QAM
Weight	<ul style="list-style-type: none"> 7.8 kg (1.2 lb) with external diplexer 6 kg (13.2 lb) with internal diplexer 	<ul style="list-style-type: none"> 6.0 kg (13.2 lb)
Power	<ul style="list-style-type: none"> PfoE -48 V +/-20%, +24 V +/-20% optional 36 W nominal (full-outdoor and split-mount modes) 	<ul style="list-style-type: none"> PfoE -48 V +/-20% 50 W nominal (full-outdoor and split-mount modes)



MPT-HC-HQAM



MPT-GM

Technical specifications

MPT-HC-HQAM

Indoor/outdoor connections

- Maximum cable length
 - 100 m (328 ft) with Cat5e cable
 - 450 m (1476 ft) with optical connectivity

Radio

- 1+0/1+1 HSB/SD/FD
- N+0 LAG L1 with or without SD
- Integrated XPIC (greener and more reliable)
- Maximum Tx power: Up to 32 dBm
- Support for adaptive coding and modulation (ACM)
- Duplex technology: FDD
- Encryption: AES-256
- Timing transport: IEEE 1588v2-PTP, SyncE
- ITU-T G.8264 support

Networking

- Ethernet interface: One electrical 100/1000Base-T, one optical SFP plug-in
- Advanced QoS: Support for IEEE 802.1p, Diffserv, TTL and strict priority
- Dynamic scheduling according to air interface changes
- VLAN: IEEE 802.1P, IEEE 802.1Q, Q-in-Q support
- ERPS: ITU-T G.8032
- Ethernet OAM (IEEE 802.1ag, ITU-T Y.1731, IEEE 802.3ah)

Environmental

- Operating temperature: -33°C to +55°C (-27°F to 131°F)

Standards compliance

Regulatory

- EN 302 217

Safety

- EN 60950-1, EN 60825-1, 60825-2

EMC

- EN 301 489-1, EN 301 489-4
- Metro Ethernet Forum
- MEF 2.0, MEF 8, MEF 9, MEF 14, MEF 22

MPT-GM

Indoor/outdoor connections

- Maximum cable length
 - 100 m (328 ft) with Cat5e cable
 - 450 m (1476 ft) with optical connectivity

Radio

- 1+0
- 2+0 or 2x(1+0)
- High gain 4 QAM variant
- Maximum Tx power: 18 dBm (QPSK)
- Support for adaptive coding and modulation (ACM)
- Duplex technology: FDD
- Timing transport: IEEE 1588v2-PTP, SyncE
- ITU-T G.8264 support

Networking

- Ethernet interface: Two electrical 100/1000BaseTs or two optical SFP plug-ins
- Advanced QoS: Support for IEEE 802.1p and Diffserv
- Flexible scheduler: Strict priority and weighted round robin

- Dynamic scheduling according to air interface changes
- VLAN: IEEE 802.1p, IEEE 802.1Q, Q-in-Q support
- ERPS: ITU-T G.8032
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Services

- Architecture and design
- Network planning
- Equipment and site engineering
- Installation services
- Integration services
- Performance analysis, network assessment, DCN, synchronization and QoS assessment
- Migration to packet microwave management
- Maintenance
 - 24x7 technical support
 - Return for repair or advanced exchange



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