

SAQR7800

High-capacity E-Band microwave radio for carrier-grade performance up to 10 Gbps

The SAQR7800 is an advanced, carrier-grade E-Band point-to-point radio engineered for ultra-high-capacity wireless backhaul. Designed to deliver up to 10 Gbps of full-duplex throughput, it combines compact integration with robust environmental protection, making it ideal for 5G networks, secure enterprise connectivity, and government infrastructure.

Operating in the 71–86 GHz spectrum, the SAQR7800 features Adaptive Code Modulation and Bandwidth (ACMB), 1024QAM modulation support, and AES-256 encryption compliant with FIPS197 standards. Its fully outdoor architecture reduces installation complexity and supports rapid deployment in both licensed and license-exempt environments.

Built for performance, resilience, and long-term operation in harsh conditions, the SAQR7800 is Lamatel's flagship solution for high-performance microwave communication.

Key Features

- **Up to 10 Gbps full-duplex capacity**
Delivers carrier-grade throughput suitable for 5G backhaul, high-bandwidth enterprise links, and data center interconnect.
- **71–86 GHz E-Band operation**
Utilizes lightly licensed or license-exempt spectrum in the E-Band, enabling rapid deployment and reduced regulatory hurdles.
- **Adaptive Code Modulation & Bandwidth (ACMB)**
Dynamically adjusts modulation, coding rate, and channel bandwidth in real time to optimize performance and maintain link stability under changing conditions.
- **AES-256 FIPS197-compliant encryption**
Incorporates government-grade traffic encryption to safeguard sensitive data and ensure compliance with modern cybersecurity standards.
- **Built-in 10Gb Ethernet switch**
Features an integrated 10G Layer 2 Ethernet switch with advanced VLAN, QoS, and synchronization support (SyncE, IEEE 1588v2).



Key Highlights

- Fully outdoor unit (FODU) with direct mount
- Multiple bandwidth options from 62.5 MHz to 2000 MHz
- 1024QAM modulation support
- Industry-grade surge and environmental protection
- Comprehensive SNMP, HTTPS, SSH management
- Optional ATEX Zone 2/22 Compliance
Available for deployments in explosive or hazardous industrial environments such as Oil & Gas, where compliance with ATEX directives is required.



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Specifications

General Specifications	
Concept / Form Factor	FODU with direct-mount antenna
Frequency Band	71 - 76 GHz paired with 81 - 86 GHz
Duplex Shift	10 GHz
Frequency Stability	± 10 ppm
Capacity	Up to 10 Gbps at 2000 MHz 128QAM
Max Modulation	1024QAM
Configurations	1+0
ATPC	Yes
ACMB	Adaptive Code Modulation and Bandwidth (ACMB), Hitless
Channel Bandwidth	62.5, 125, 250, 500, 1000, and 2000 MHz
FEC	LDPC FEC by default. R&S available for backwards compatibility
Electrical Specifications	
Parameter	Value
Power Consumption	Up to 55 W
Voltage Range	36–57 V DC
Surge Protection	DC power port conforms to IEC EN 61000-4-5 Class 3, up to 2KV surge
Mechanical & Environmental Specifications	
Stationary Use	Conforms to ETSI EN 300 019 Class 4.1, IP67, NEMA 6
Temperature Range	-33 +55 °C / -28 +130 °F
Size	280 x 400 x 70 mm / 11.02" x 15.8" x 2.8"
Weight	7.1 kg / 15.7 lbs
Mount	Mount on antenna
Antenna	External antenna, direct-mount (slip-fit)

Applications

• 5G & LTE Backhaul

High-capacity wireless backhaul for mobile networks, supporting ultra-low latency and massive throughput demands.

• Government & Defense Communications

Secure and resilient data transmission for mission-critical national infrastructure and field operations.

• Enterprise & Data Center Interconnect

Reliable point-to-point connectivity requiring high bandwidth and low latency.

• Oil, Gas & Industrial Sites

Robust connectivity in remote or hazardous environments, including support for ATEX-compliant deployments.

