

San Marino Smart City Long-Distance Optical Transceiver 10G



Overview

Learn what an SFP 10GB LR transceiver is, its key specs, use cases, and how to choose the right 10G LR module for your network.

Key Takeaways

The San Marino LS-SM5510-A0C is a 10G SFP+ long-distance optical transceiver capable of transmitting up to 100 km over single-mode fiber, ideal for smart city and telecom applications.

Key Specifications

- Data Rate: 10 Gbps (SFP+ standard)
- Transmission Distance: Up to 100 km over OS2 single-mode fiber (SMF)
- Wavelength: 1550 nm, suitable for long-haul communication
- Connector Type: LC duplex
- Power Consumption: Low, optimized for energy-efficient deployments
- Monitoring: Supports Digital Diagnostic Monitoring (DDM) via SFF-8472 interface
- Compliance: Fully SFP+ MSA compliant, compatible with Huawei SFP-10G-ZR100 and similar devices

Functionality and Use Cases

The transceiver integrates both a transmitter and receiver in a single module, converting electrical signals to optical signals for transmission and back for reception. This enables high-speed, low-latency communication over long distances, which is critical for smart city networks, 5G backhaul, and data center interconnects. Typical applications include:

- Smart city infrastructure: Connecting IoT devices, traffic management systems, and surveillance networks
 - Telecom and metro networks: Long-haul 10G Ethernet links and backbone connectivity
 - Data centers: High-speed interconnects between switches and storage systems
- Advantages**
- Long-distance capability: Supports up to 100 km without signal degradation
 - High reliability: EML laser and APD receiver ensure stable performance over extended distances
 - Flexibility: Hot-pluggable SFP+ form factor allows easy upgrades and modular deployment
 - Energy efficiency: Low power consumption reduces operational costs in large-scale deployments

Integration in Smart Cities

In smart city networks, these transceivers are essential for bridging core networks with distributed access points, including 5G base stations and fiber-to-the-premises (FTTP) deployments. They provide the bandwidth and low latency required for real-time applications such as video surveillance, traffic monitoring, and IoT sensor data aggregation. Overall, the San Marino LS-SM5510-A0C 10G SFP+ transceiver is a robust solution for long-distance, high-speed optical networking, making it highly suitable for modern smart city and telecom infrastructures.

Article Content

SFP-10G-LR-I-SKY | Cisco® | Transceivers | Skylane | Skylane Optics

This Cisco® SFP-10G-LR-I compatible SFP+ transceiver provides 10GBase-LR throughput up to 10km over single-mode fiber (SMF)

SFP 10GB LR Transceiver Guide: Specs, Distance & Buying Tips

Learn what an SFP 10GB LR transceiver is, its key specs, use cases, and how to choose the right 10G LR module for your network.

SFP-10GB-ZR 100KM Long-Range 10G Transceiver Module

The STC-10G-ZR+ is a high-power 10G SFP+ transceiver supporting long-haul 10 Gigabit Ethernet links up to 100 kilometers over

10g lr sfp Transceiver | 10km Single-Mode Fiber Module

With a transmission range of up to 10 kilometers, this transceiver is ideal for connecting remote network devices in large-scale

SFP-10GB-ZR 100KM Long-Range 10G Transceiver Module

SFP-10GB-ZR 100KM transceiver for high-performance 10G connectivity over extended distances up to 100KM, ideal for telecom

San Marino Optical Receiver 1G Customization

BlazingFast Photonics delivers high-speed optical transceivers, silicon photonics, co-packaged optics, OSFP 1.6T modules, laser

San Marino Single-Mode Optical Transceiver Market (2025-2031)

6Wresearch actively monitors the San Marino Single-Mode Optical Transceiver Market and publishes its comprehensive annual

SFP+ 1/10G MR 1310nm SM 10km 6.2dB LC

SO-SFP-1G-10G-LR is a versatile 1310nm SFP+ transceiver for SingleMode (SM) fiber with a rate select between GbE and 10GbE

All About the SFP-10G-ZR: Understanding the 1550nm 80km Optical ...

The SFP-10G-ZR optical module offers 10G data rate, 1550nm wavelength, and 80km reach, perfect for long-haul telecom and

SFP 10G LR: High-Speed Long-Reach Fiber Transceivers

Among the available 10G optical solutions, SFP 10G LR transceivers stand out as one of the most widely deployed and trusted

SFP+ 10G-LR/MR 1310nm SM 10km 6.2dB LC

The SO-SFP-10GE-LR is a versatile 1310nm transceiver supporting a wide range of traffic formats. The optical performance is in

SFP+10G 1310nm 10Km LC Optical Module Guide

The SFP+10G 1310nm 10Km LC optical module is a powerful and versatile solution for high-speed, long-distance data transmission.

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