EKINOPS RM 10001-D-WB-ETR

Dual 100G White Box Transponder with Extended Temperature Range Operation

DATA SHEET 03|2020

KEY FEATURES & BENEFITS

- Supports two independent transponders in a single device
- Provides small form factor 1RU shelf
- Uses economical QSFP28 client ports
- Tunable over 80-channel C-band
- Operates over extended temperature range
- Front-to-back airflow
- Usable for outdoor deployment
- Delivers long haul capability, up to 6000Km

APPLICATIONS

- 5G fronthaul and midhaul Cell Site Router (CSR) connectivity to mobile core
- Point-to-point or ring 100G ETR transport capacity
- Rural broadband backhaul

OVERVIEW

The EKINOPS RM 10001-D-WB-ETR is a 1RU White Box shelf containing two independent 100G transponders capable of operating in extended temperature environments from -40 °C to +65 °C. It is ideal for providing reliable, high bandwidth "Xhaul" transport for 5G networks. Designed for outdoor deployment, its front-to-back airflow means it can be used for fronthaul applications connecting cell sites to distributed units (DUs), midhaul applications connecting DUs to central units (CUs), and backhaul applications connecting CUs to the mobile core.

While the radio portion of the 5G network gets all the attention, the transport infrastructure is critical to the successful deployment and operation of 5G. These networks require 5X to 10X the amount of capacity of existing 4G LTE networks and the rapid global deployment of 5G is putting tremendous pressure on the transport infrastructure. Next-gen 5G Cell Site Routers (CSRs) are available on the market outfitted with multiple 25GbE interfaces, but hardened DWDM-capable QSFP28 pluggable optics providing high-speed uplinks are not, leaving a large gap in the network's transport capability. The RM 10001-D-WB-ETR fills this functional gap by providing a temperature-hardened 100G coherent line interface to deliver the bandwidth that 5G networks require as well as a 100GbE QSFP28 client interface for simple and efficient interconnection with the CSR. It can be deployed at either macro- or small-cell sites for a simple to deploy, easy to manage solution at any 5G antenna or aggregation location.

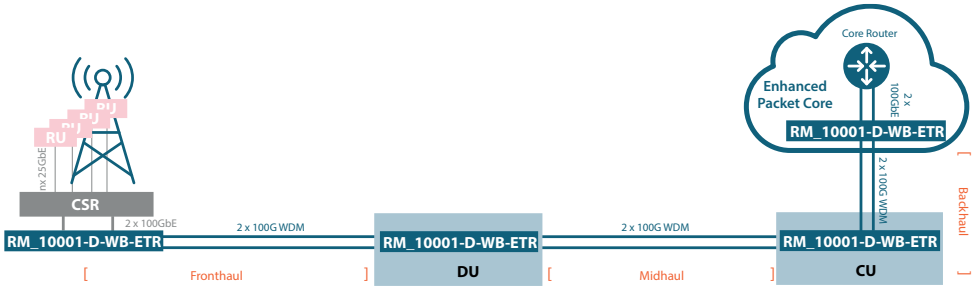

Figure 1: Ekinops RM 10001-D-WB-ETR in 5G Xhaul application

Because of its cost, capacity and reach, the RM 10001-D-WB-ETR can also be used for applications such as rural broadband where remotely located facilities serve less populated regions. In these applications, the smaller customer base makes cost efficiency an important factor and the long haul reach of the RM 10001-D-WB-ETR eliminates the need for intermediate amplifier and regen sites, reducing both the equipment CAPEX as well as the OPEX associated with the operation and maintenance of all the intermediate huts along the route.

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MANAGEMENT

The RM 10001-D-WB-ETR can be managed through SNMP or via the Ekinops standard element level management interfaces, which includes a CLI (Command Line Interface) and an Ekinops GUI (Graphical User Interface). The CLI is accessible via SSH and Telnet remotely or via a local serial port on the Management board. Complete performance monitoring and management is provided, including laser shut off and local and remote loopback which is useful for maintenance and fault isolation. Digital Diagnostics Management (DDM) is supported for the QSFP28 interface. This includes link status, transmit (TX) and receive (RX) signal power monitoring, and operational temperature, as well as manufacturer and transceiver model. A 10 Mbps in-band Data Communications Channel (DCC) is embedded in the line side for remote management.

The EKINOPS RM 10001-D-WB-ETR is also supported by CelestisNMS, the Ekinops advanced Network Management System.

TECHNICAL SPECIFICATIONS

• CLIENT INTERFACES

Protocols	100GbE
Optical interface	QSFP28
Number of Ports	2

• LINE INTERFACES

Protocol	100G Coherent
Optical interfaces	Included on the shelf
Number of Ports	2

• SPECIFICATIONS

Max. distance	6000 km
OSNR	12.5 dB
Transmit Power	-1 dBm
Receive Power (min.)	-15 dBm

• MANAGEMENT

MIB	SNMP V2c Private MIB
Remote Management	10 Mb Ethernet DCC

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TECHNICAL SPECIFICATIONS

• PHYSICAL SPECIFICATIONS

Shelf size	1RU
Operating Temp	-40°C to +65°C /-40°F to +149°F
Storage Temp	-40°C to +85°C /-40°F to +185°F

• INDICATORS

Status	HW ready, SW ready
Alarm	Port down *(Client and Line)*

• PERFORMANCE

Optical Spacing	50GHz, also compatible with 100GHz
Power (max.)	200W *(includes client optics)*

• REFERENCE STANDARDS

ITU-T G707 12/2003 edition; ITU-T G709; IEEE 802.3-2002; IEEE 803.3ae-2002; IEEE 802.3ba

ORDERING INFORMATION

RACK MOUNTABLE UNIT (RM)

PRODUCT CODE	DESCRIPTION
RM_10001-D-WB-ETR	White Box dual 100G transponder; 2 client ports (100GbE); 2 line ports with DCC, QSFP28 clients and 100G LH line interface (QSFP28 not included, tunable line interface included). Front-to-back airflow. Compatible Extended Temperature Range.
400EEM	Ekinops Craft Interface Software

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