

Optical module on the bbu side



AI Overview

The optical module on the BBU side converts electrical signals into optical signals for high-speed transmission to the RRU, supporting CPRI/eCPRI interfaces with specific rates, wavelengths, and duplex modes. Function and Role The BBU optical module serves as the transmitter and receiver interface between the Baseband Unit (BBU) and the Remote Radio Unit (RRU). It converts electrical baseband signals from the BBU into optical signals for transmission over fiber and converts incoming optical signals from the RRU back into electrical signals for processing. This enables high-speed, long-distance communication while maintaining signal integrity. The BBU is typically located indoors in a climate-controlled environment, while the RRU is mounted outdoors, making the optical module critical for reliable data transport.

Types and Specifications Optical modules on the BBU side vary depending on network generation and interface requirements:

- 4G Networks:** Typically use 1.25G to 10G SFP/SFP+ modules with 850nm wavelength, supporting multimode fiber transmission distances of 300–550 meters.
- 5G Networks:** Use 25G SFP28 modules for eCPRI/CPRI interfaces, with multimode fiber distances up to 100 meters (OM4) or longer for single-mode modules.
- Duplex Modes:** Modules can be duplex (two-fiber bidirectional) or BIDI (single-fiber bidirectional). The BBU and RRU must use compatible modules with matched transmit/receive wavelengths (e.g., 1270TX/1330RX on BBU and 1330TX/1270RX on RRU).
- Industrial Requirements:** While the BBU operates in a controlled indoor environment, modules may still need to meet IEC safety standards and support stable operation under varying power conditions.

Installation and Mapping Optical modules must be installed in pairs on both ends of the fiber. The rate of the optical module must match the CPRI/eCPRI port rate to avoid performance issues such as alarms, bit errors, or link interruptions. Only certified modules from the equipment vendor (e.g., Huawei) should be used to ensure compatibility and co...

Article Content

High-frequency signal transmitting optical module and method of ...

In the high-frequency signal transmitting optical module, after fixing, to a rear surface of a stem of the metal can package, fixing portions of the linear outer leads by laser welding, the end portions of the

HISILICON Optical Modules in the field of communication base stations

The optical module converts electrical signals into optical signals at the transmitter side, transmits them to the remote wireless unit through optical fiber, and then converts the received

BBU Quick Installation Guide (V100R005C10_04) (PDF)-EN

1 According to the network planning, the boards in the BBU are inserted in the proper slots and secured. 2 The subrack which is used to install the BBU is steady installed.

BBU Quick Installation Guide (V100R005C10_04) (PDF)-EN

BBU Quick Installation Guide V100R005C10 04 Installing a BBU a Installing a BBU Subrack NOTE • Wear ESD wrist strap or ESD gloves to prevent electrostatic damage to the

The relationship between optical chips and 800g modules

800G optical module = optical chips + electronic chips + optical packaging + high-speed signal processing system As technology continues to evolve, optical chips will play an increasingly

RRU5935E Hardware Description

Table 1-4 Optical module mapping Optical Module Type Mapping Between the BBU and RRU SFP duplex (two-fiber bidirectional, duplex for short) optical module

CPRI Cable Guide: How to Choose the Right Fronthaul

A CPRI cable is a fiber optic cable assembly used to carry fronthaul signals between baseband equipment (BBU) and remote radio equipment (RRU/RRH) in mobile

The Ultimate Guide to SFP Modules (2026): Types,

Confused by SFP vs SFP+? Read the definitive 2026 guide on SFP modules. We explain Single Mode vs Multimode, DDM diagnostics, and how to choose the

HISILICON Optical Modules in the field of communication base stations

In 5G networks, interfaces between bbu and rru, such as cpri (Common Public Radio Interface) or ecpri (Enhanced Common Public Radio Interface), are often used with optical modules.

Do you know how optical modules are used in base stations?-ETU

The transmission carriers connecting BBU and RRU devices are optical modules and optical fibers. In 2/3/4G networks, 10Gbps optical modules are generally enough for CPRI interfaces.

BBU Quick Installation Guide V100R005C10 04

1. Connect the M4 OT terminal at one end of the BBU PGND cable to the OT terminal on the BBU. 2. Connect the M6 OT terminal at the other end to an external ground bar or ground screw. Some

Why Optical Modules For CPRI Applications Need To

Based on the above analysis, optical modules working in RRUs must support an industrial temperature range of -40°C to 85°C to ensure stable

Baseband Unit | Glossary | EXFO

A baseband unit (BBU) is a unit that processes baseband in telecomm systems. A typical wireless telecom station consists of the baseband processing unit and the RF processing unit (remote radio

RRU & BBU Fiber Cable Installation Guide | PDF

RRU-BBU Optical Fiber Cable Distribution Guide (GCUW) - Free download as PDF File (.pdf), Text File (.txt) or view presentation slides online. This document

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RRU Installation and Cable Guidelines

Connect one end of the optical cable to the CPRI0, CPRI1, or CPRI2 port on the GTMU panel of the BBU and the other end to the CPRI_W port on the RRU.

LiteWing Drone Positioning Module

Introduction The LiteWing Drone Positioning Module is a plug-and-play optical flow and ToF-based stabilization add-on designed for indoor and

Open Rack V3 BBU Module SPEC 1

The BBU is intended for use in a BBU shelf that is part of the rack for supplying DC power to system loads during AC power outages. 6 BBUs with 5+1 redundancy are included in the BBU shelf.

How to replace the Serial Port Module on a Dell Pro Precision 7 T1 ...

This 3D experience gives you the step by step process of replacing the Serial Port Module and a Dell Pro Precision 7T1 PW7T1260. The procedure will also include removing the Cable Cover, Dust Filter,

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Which Optical Modules Are Commonly Used In 4G Base Stations?

In this blog, ETU-LINK will talk about 4G base stations and common types of optical modules. The base station can be divided into two modules: the RRU for transmitting signals and the BBU for processing

System Scheme of Base Station Passive Wavelength

Conclusion After the passive WDM scheme is adopted, the CPRI signal of the three sectors is converged from the BBU device side through the

BBU Subrack Installation Guide | PDF | Optical Fiber

1) The document provides instructions for installing a BBU subrack, boards and modules, GPS SPD, cables, GPS antenna system, and checking installation.

Understanding BBU, RRU, and AAU in telecom networks

Below is a breakdown of the BBU (Baseband Unit), RRU (Remote Radio Unit), and AAU (Active Antenna Unit)—their roles, placement, connectivity, and relevance

HCLOS EXAM Flashcards | Quizlet

Study with Quizlet and memorize flashcards containing terms like What does HCLOS stand for?, What is the range of B1 and B3 ?, What are all the components of the line side? and more.

NVIDIA Mellanox MFS1S50-H010E AOC Active Optical Cable in Practice

Discover the details of NVIDIA Mellanox MFS1S50-H010E AOC Active Optical Cable in Practice at Hong Kong Starsurge Group Co., Limited, a leading supplier in China for Optical

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