

# **The optical module speeds of RRU and BBU must be consistent**





## Overview

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When using the system, the optical modules of standard wavelengths (commonly used 1550nm or 1310nm) of BBU/DU or RRU/AAU (commonly known as gray light module or white light module) need to be replaced with color optical modules of the same rate. The system can handle incredibly low latency times below 100 microseconds and offers pretty impressive bandwidth capabilities reaching around 24. For example, a macro station has 3 RRUs in a certain band of S111 stations and 6 transceiver ports from BBU to RRU, a 6-way OTM (optical terminal multiplexer) on each side of BBU and RRU can combine the transceiver signals between BBU and RRU into a single fiber, as shown in Figure 1. The Remote Radio Head (RRH) architecture consists of a baseband unit (BBU) and a remote radio unit (RRU). Both the BBU and RRU are connected using fiber optic cables to transport digital data and control information. High-speed link between baseband unit (BBU) and radio unit (RRU)-CPRI interface One of the competitive pressures faced by wireless operators is how to reduce the rising cost of base stations; to provide users with greater bandwidth and better quality of service. Location and Installation: RRUs are typically installed near the antenna, often on the tower.



## The optical module speeds of RRU and BBU must be consistent

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### What Is CPRI (Common Public Radio Interface)?

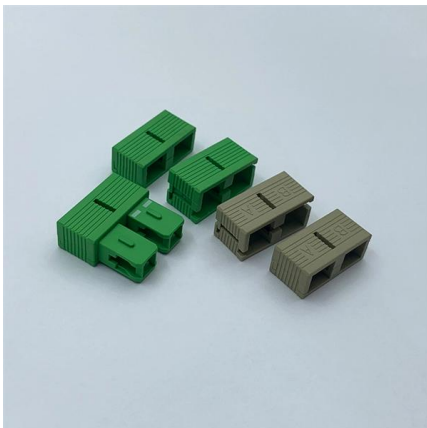
A synchronization module ensures precise timing, which is critical for maintaining high-speed data transmission. This architecture supports various

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### Ensure RRU-BBU Compatibility in 5G Networks

Struggling with RRU-BBU integration in multi-vendor 5G networks? Discover how O-RAN, eCPRI, and functional splits ensure compatibility and reduce deployment delays.

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### Do you know how optical modules are used in base

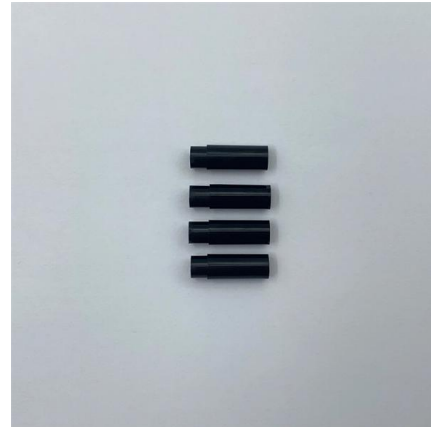
The transmission carriers connecting BBU and RRU devices are optical modules and optical fibers. In 2/3/4G networks, 10Gbps optical modules are generally enough

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### Cellular Network Infrastructure: From Antenna to BBU

Here's the sequence of how signals travel from an antenna to the Baseband Unit (BBU), including key information about each step and associated

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### What is RRU and BBU

RRU and BBU are crucial components in base station construction, enabling a distributed architecture that improves efficiency.

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### Which Optical Modules Are Commonly Used In 4G Base

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

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### HISILICON Optical Modules in the field of communication base stations

In 4G network, the optical modules used to connect bbu and rru are mainly Gigabit to 10 Gigabit optical modules; in 5G network, the interfaces between bbu and rru are such as cpri

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## How BTS Process, Transmit and Receive Radio

RRU communicate with BBU via physical communication link (optical fiber) and communicate with the UE via radio interface.

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## Why do I need to inspect and/or clean the fiber in an optical BBU/RRH

Let's take a closer look at an SFP module currently available for use in the CPRI link between the BBU and RRH. We need to review some of the specifications of the SFP module(s) so that we can better

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## RRU PCB Manufacturing: Core Solution for 5G Networks

The PCBs within fiber optic interfaces must support high-speed transceivers and maintain low crosstalk to ensure reliable data transmission. 4. Power Systems

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## Radio Access Network Architecture , Springer Nature Link

It explains the division of the basestation protocol stack into layers, including NAS, RRC, SDAP, PDCP, and RLC, highlighting their roles in supporting mobility, session management, and

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## 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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## Ensure RRU-BBU Compatibility in 5G Networks

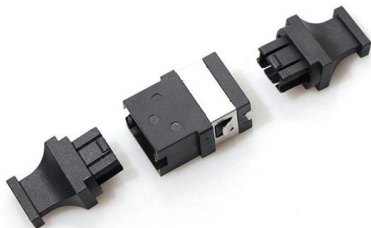
Struggling with RRU-BBU integration in multi-vendor 5G networks? Discover how O-RAN, eCPRI, and functional splits ensure compatibility and reduce deployment delays. Learn best

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## WHAT IS RRU AND BBU?

3G networks use a large number of distributed base station architectures, and optical fiber is required to connect RRU (radio remote module)

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## What Powers Base Station Connectivity? Are CPRI Modules the

Protocol and Timing Requirements: CPRI operates under a strict timing regime. It requires ultra-low, consistent latency to maintain synchronization between the BBU and multiple

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## Understanding AAU, RRU, and BBU in telecom networks

Difference Between AAU, RRU, and BBU AAU, RRU, and BBU are key components in a telecom network, particularly in modern wireless communication systems like

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## Understanding the CPRI Specification and Its Successor, eCPRI

Now the BBU and RRU can be separated by up to 20 km of high-performance, high-throughput fiber-optic cabling. The Common Public Radio Interface (CPRI) is the specification that defines the

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## RRU thiab BBU

RRU and BBU are crucial components in base station construction, enabling a distributed architecture that improves efficiency.

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## ITU-T Rec. K.97 (02/2014) Lightning protection of distributed base

3.2.1 base band unit (BBU): The base band module of a radio base station (RBS) which can be installed separated from the remote radio unit (RRU). NOTE - Optical fibre is commonly used to connect the

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## Understanding RRU in Telecommunications

BBU or Base Band Unit is the "heart" of communication and processes signals between analog and digital formats. It works with RRUs to form BTS and

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## 5G Fiber-rich Networks

5G performance specifications of high-speed data throughput, very low latency and high reliability can only be met with extensive fiber optic cable connectivity between all network elements

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## High-speed link between baseband unit (BBU) and radio unit (RRU)

The communication protocol between the baseband unit (BBU) and the remote radio unit (RRU) through optical fiber connection is the public radio interface (CPRI).

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## RRU Installation and Hardware Guide

The document provides instructions for installing RRU, DBS, BTS and TMA equipment and their associated cables. It describes the appearance and

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## 5G Synchronisation Solutions

5G Architectures Synchronisation requirements for 5G networks and synchronisation architectures are both evolving. One architectural difference between traditional and new generation base stations, is

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## 5G Remote Radio Head (RRH) Explained:

The Remote Radio Head (RRH) architecture consists of a baseband unit (BBU) and a remote radio unit (RRU). Both the BBU and RRU are connected using fiber

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## 5G BBU & RRU Installation and Operation Guide

5G BBU & RRU Installation and Operation Guide - Free download as PDF File (.pdf), Text File (.txt) or read online for free.

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## Cellular Network Infrastructure: From Antenna to BBU

Connectivity to BBU: The RRU connects to the BBU through a bi-directional fiber optic link, usually using the Common Public Radio Interface

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## Passive WDM in 4G/5G forward transmission

When using the system, the optical modules of standard wavelengths (commonly used 1550nm or 1310nm) of BBU/DU or RRU/AAU (commonly known



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<https://www.frindel.es>