



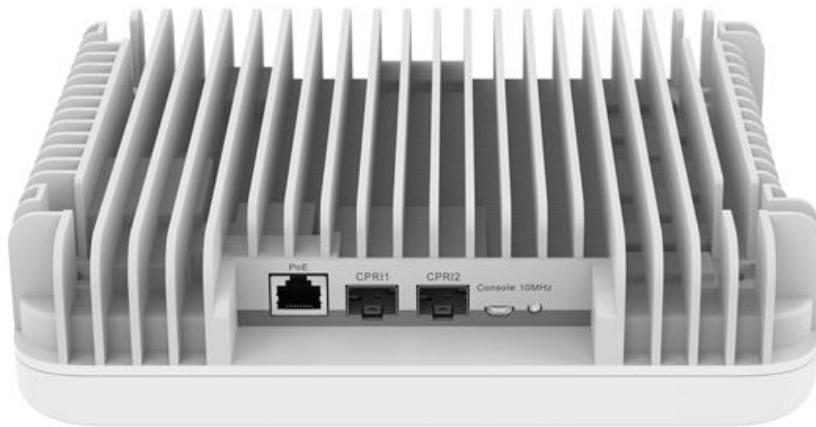
**JIETONG DIGITAL**

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# Jietong Small cell Solution pRRU

## | Product Appearance



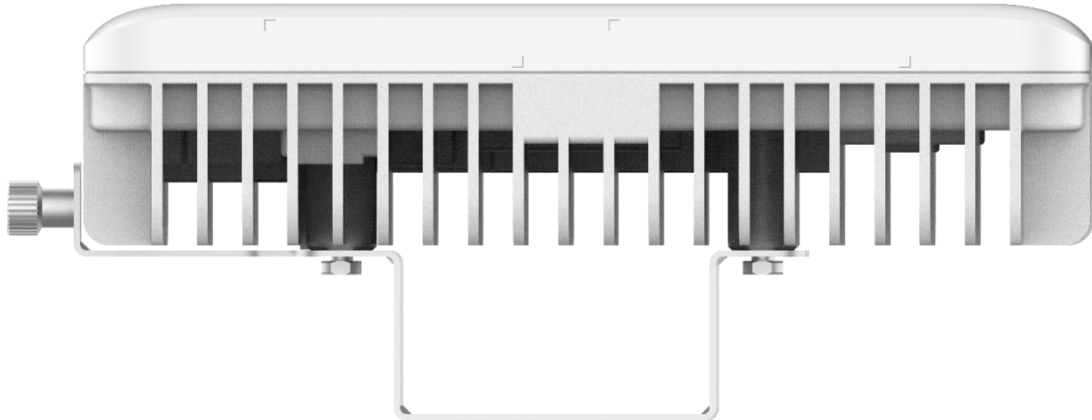
JTD5650-R0424(N77)



JTD5650-R0227(N77)



JTD5650-R022IL(N77)



JTD3650-R0422L(N77)-B3/ JTD3650-R0211(N77)-B3/ JTD3650-R0211L(N77)-B3

## Product Overview

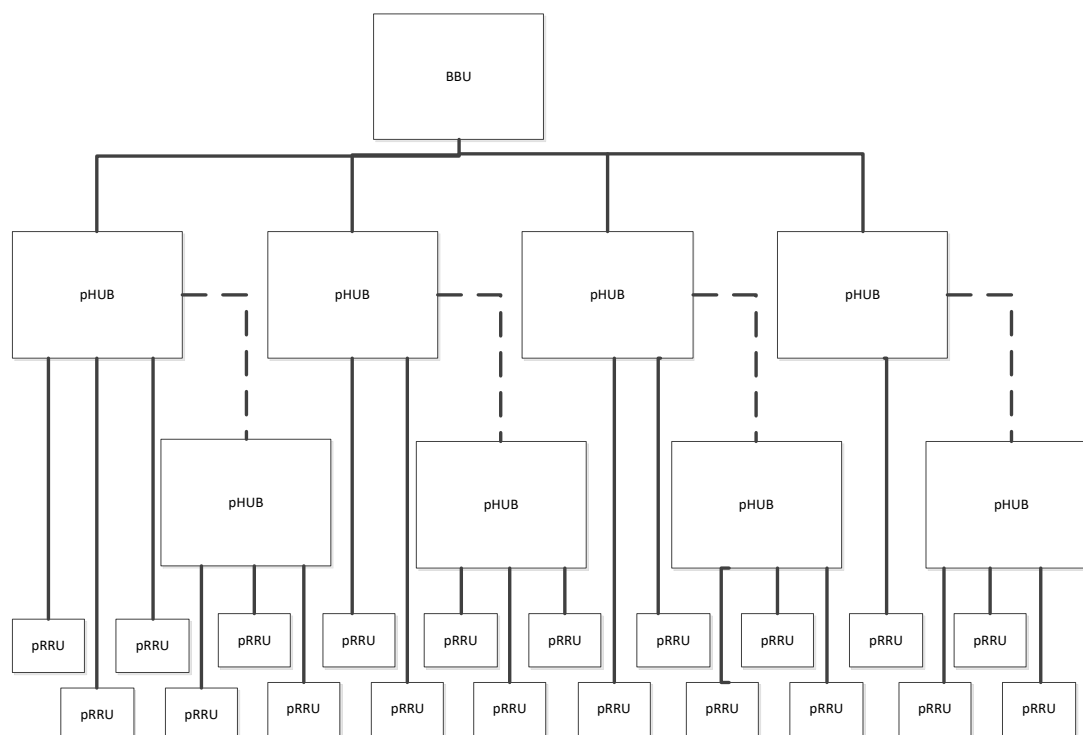
Jietong 5G small cell, also known as an extended Pico small cell, is a micro power indoor coverage solution that uses Photoelectric hybrid cable to transmit and distribute wireless digital baseband signals based on digital technologies. Used in indoor scenarios, it is one of the mainstream solutions for enhancing indoor coverage in the 5G era.

Jietong small cell consists of main unit (BBU), extended unit (pHUB), and remote unit (pRRU).

The Pico Remote Radio Unit (pRRU) processes RF signals and provides the following functions:

- Modulate baseband signals to the transmitting frequency band and send them through the antenna.
- Convert the analog RF signals received by the antenna to digital signals and send them to the BBU.
- Transmit Common Public Radio Interface (CPRI) data through the optical fiber.
- Support the switchover between the internal and external antennas, or concurrent use of the internal and external antennas .
- Support Power over Ethernet (PoE).

The following figure shows the network topology of a 5G small cell.



## | Product Features

The pRRU of Jietong small cell support wall-mounted or ceiling-mounted.

The pRRUs of Jietong small cell include, JTD5650-R0424(N77), JTD5650-R0227(N77), JTD5650-R0221L(N77), JTD3650-R0422L(N77)-B3, JTD3650-R0211(N77)-B3 and JTD3650-R0211L(N77)-B3. It can use power through a photoelectric hybrid cable. You can flexibly select a pRRU model based on your on-site power supply environment. 5G small cells are mainly used in large office buildings, large hotels, airports, high-speed railway stations, bus stations, docks, shopping centers, shopping malls, large supermarkets, metros, high-speed trains, and highway tunnels. In some buildings with large indoor areas in floors and many internal partitions, an outdoor coverage solution may incur high costs and easily cause intra-frequency interference. However, small cells can ensure deep signal coverage there.

# Technical Specifications

## pRRU Hardware Specifications

Hardware	JTD5650-R0424(N77)	JTD5650-R0227(N77)	JTD5650-R0221L(N77)
Operating Bands	3300-3600 MHz	3300-3600 MHz	3300-3600 MHz
Signal Bandwidth	≤ 100 MHz	≤ 100 MHz;	≤ 100 MHz;
RF Channel	4T4R (also have 4 external antenna ports)	2T2R (also have 2 external antenna ports)	2T2R (also have 4 external antenna ports)
Output Power of Single Port	24 dBm ± 2 dB	27 dBm ± 2 dB	21 dBm ± 2 dB
Overall Power Consumption	Typical power consumption: 25 W (30% load) 30 W (maximum value)	Typical power consumption: 15 W (30% load) 19 W (maximum value)	Typical power consumption: 15 W (30% load) 19 W (maximum value)
Modulation Mode	QPSK, 16QAM, 64QAM, 256QAM		
Antenna	Switchover between the internal and external antennas	Switchover between the internal and external antennas	Concurrent use of one internal antenna and two or four external antennas
Dimensions	218 mm x 234 mm x 39 mm (The height is the edge height of the pRRU, excluding the mounting bracket and SMA connectors.)	229 mm x 192 mm x 41.3 mm (The height is the edge height of the pRRU, excluding the mounting bracket and SMA connectors.)	229 mm x 192 mm x 41.3 mm (The height is the edge height of the pRRU, excluding the mounting bracket and SMA connectors.)
Weight	< 2.0 kg (excluding the mounting bracket and accessories)	1.1kg (excluding the mounting bracket and accessories)	1.1kg (excluding the mounting bracket and accessories)
Indicator	Operating status indicator and power indicator		
Power Supply Mode	Photoelectric hybrid cable		
Heat Dissipation Mode	Natural cooling		
Installation Mode	Ceiling/wall-mounted		
Operating Environment	Operating temperature: -5°C to +55°C; Operating humidity: 5 % to 95 % (RH, non-condensing)		
	Storage temperature: -40°C to +70°C; Storage humidity: 5% to 95% (RH, non-condensing)		
	Atmospheric pressure: 70–106 kPa		
	IP rating: IP31		
EMC and Safety	Electromagnetic compatibility (EMC): The pRRU complies with the 3GPP TS 38.113 (2017-12 R15).		
	Grounding: The combined grounding method is adopted, and the device works properly when the ground resistance is less than 10 ohms.		
	Safety: The pRRU complies with GB 4943-2008 Safety of Information Technology Equipment.		



## pRRU Hardware Specifications

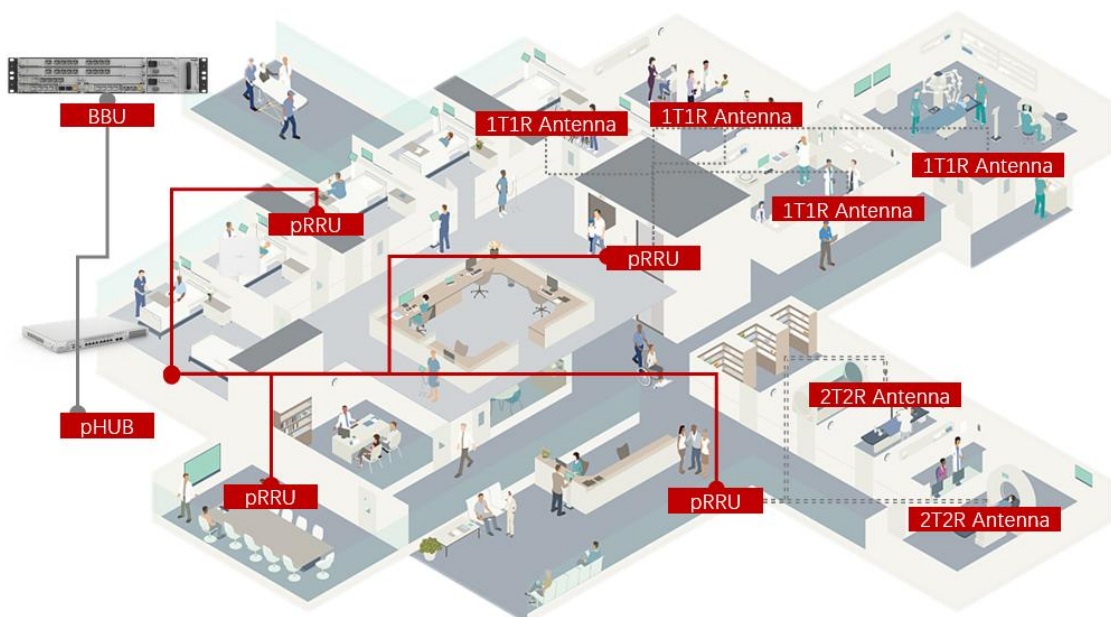
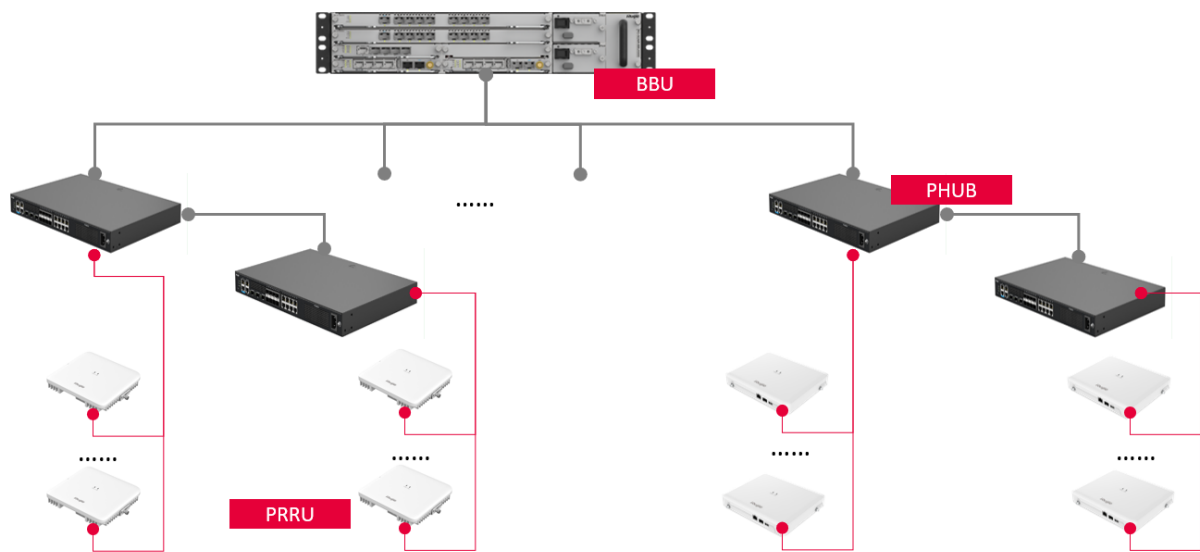
Hardware	JTD3650-R0422L(N77)-B3	JTD3650-R0211(N77)-B3	JTD3650-R0211L(N77)-B3
Operating Bands	NR:3300-3600 MHz; LTE:1735-1785MHz(UL) 1830-1880MHz(DL) ;		
Signal Bandwidth	NR:≤100MHz; LTE:≤20MHz;		
RF Channel	4T4R (also have 4 external antenna ports)	2T2R (also have 2 external antenna ports)	2T2R (also have 4 external antenna ports)
Output Power of Single Port	NR:24 dBm ± 2 dB; LTE: 21 dBm ± 2 dB;	NR:27 dBm ± 2 dB; LTE: 24 dBm ± 2 dB;	NR:21 dBm ± 2 dB; LTE: 17 dBm ± 2 dB;
Overall Power Consumption	Typical power consumption: 32 W (30% load) ,39 W (maximum value)	Typical power consumption: 31 W (30% load) ,38W (maximum value)	Typical power consumption: 31 W (30% load) ,38W (maximum value)
Modulation Mode	QPSK, 16QAM, 64QAM, 256QAM(NR)		
Antenna	Switchover between the internal and external antennas	Switchover between the internal and external antennas	Concurrent use of one internal antenna and two external antennas
Dimensions	218 mm x 234 mm x 48 mm (The height is the edge height of the pRRU, excluding the mounting bracket and SMA connectors.)		
Weight	< 2.1 kg (excluding the mounting bracket and accessories)		
Indicator	Operating status indicator and power indicator		
Power Supply Mode	Photoelectric hybrid cable		
Heat Dissipation Mode	Natural cooling		
Installation Mode	Ceiling/wall-mounted		
Operating Environment	Operating temperature: -5°C to +55°C; Operating humidity: 5 % to 95 %(RH,non-condensing)		
	Storage temperature: -40°C to +70°C; Storage humidity: 5% to 95% (RH,non-condensing)		
	Atmospheric pressure: 70–106 kPa		
	IP rating: IP31		
EMC and Safety	Electromagnetic compatibility (EMC): These pRRU complies with the 3GPP TS 38.113 (2017-12 R15).		
	Grounding: The combined grounding method is adopted, and the device works properly when the ground resistance is less than 10 ohms.		
	Safety: The pRRU complies with GB 4943-2008 Safety of Information Technology Equipment.		

# Typical applications

## Jietong Small cell networking introduction

Jietong Small cell pRRU supports two networking modes: star and chain. In star networking, one BBU supports a maximum of 8 pHUB and 64 pRRU. In chain networking, pHUB can be cascaded in two levels. Therefore, the device supports a maximum of 16 pHUB and 128 pRRU.

The following figure shows the common networking diagram:



## | Ordering Information

Jietong Small cell is the product series applicable to the technical specifications of China Telecom and China Unicom. Different product types can be selected according to the actual capacity demand, environment and mode of each scene to meet the actual on-site demand of different scenes. For specific products and instructions, see the following table.

Model	Product Description	Remarks
JTD5650-R0424(N77)	JTD5650-R0424(N77) is the pRRU of Jietong small cell. It has four channels and supports the N77 (NR) frequency band. Maximum transmitting power per antenna is 250 mW.	Required
JTD5650-R0227(N77)	JTD5650-R0227(N77) is the pRRU of Jietong small cell. It has two channels and supports the N77 (NR) frequency band. Maximum transmitting power per antenna is 500 mW.	Required
JTD5650-R0221L(N77)	JTD5650-R0221L(N77) is the pRRU of Jietong small cell. It has two channels and supports the N77 (NR) frequency band. It can be connected with two external 2-channel antennas or four external I-channel antennas, and work with the internal antenna simultaneously. At this time, maximum transmitting power per antenna is 125 mW.	Required
JTD3650-R0422L(N77)-B3	JTD3650-R0422L(N77)-B3 is the pRRU of Jietong small cell. It has four channels supporting the N77 (NR) frequency band and two channels supporting the B3 (LTE) frequency band. Maximum transmitting power per NR antenna is 250 mW, and that of each LTE antenna is 125 mW.	Required
JTD3650-R0211(N77)-B3	JTD3650-R0211(N77)-B3 is the pRRU of Jietong small cell. It has two channels supporting the N77 (NR) and B3 (LTE) frequency band. Maximum transmitting power per NR antenna is 500 mW, and that of each LTE antenna is 250 mW.	Required
JTD3650-R0211L(N77)-B3	JTD3650-R0211L(N77)-B3 is the pRRU of Jietong small cell. It has two channels supporting the N77 (NR) and B3 (LTE) frequency band. It can be connected with two external 2-channel antennas or four external I-channel antennas, and work with the internal antenna simultaneously. At this time, maximum transmitting power per NR antenna is 125 mW, and that of each LTE antenna is 50 mW.	Required



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