

SolarInnovate Energy Solutions

Small base station optical communication



Overview

How does a small cell base station communicate with a core network?

The small cell base station communicates with the core network over a high-speed backhaul connection. Core network: The core network manages the overall operation of the small cell network, including authentication, authorization, and routing of user traffic.

What are the functions of a small cell base station?

It includes various functions such as the User Plane Function (UPF), Control Plane Function (CPF), and Session Management Function (SMF). Transport network: The transport network provides the high-speed connectivity between the small cell base station and the core network.

What is a medium-range base station?

Medium-range base stations, which are adapted from microcell scenarios for Outdoor deployment. Small cells support various frequency bands defined by 3GPP [TS38.104], including FR1 and FR2 bands, which may be licensed, shared, or unlicensed, depending on deployment.

How can Aerial Base stations be optimally positioned?

Zhang et al. developed an iterative algorithm to position an aerial base station optimally. This algorithm also handled resource allocation, with the goal of maximizing the throughput for the access link. The optimization process was subject to meeting the Quality of Service (QoS) requirements for individual users within a hotspot region.

What is a small cell network management & orchestration component?

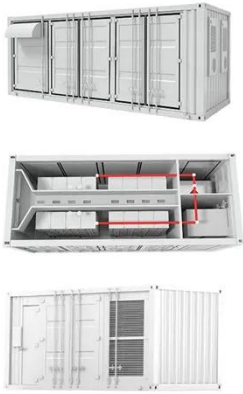
Management and orchestration: The management and orchestration component is responsible for the provisioning, configuration, and monitoring of the small cell network. It includes various management functions such as fault management, performance management, security management, and

network automation.

Can free space optical (FSO) backhaul in NTNS?

With its high data transmission capability comparable to fiber optics and its ability to operate in the interference-free optical spectrum, free space optical (FSO) communication is ideally suited to backhauling requirements in NTNs. In this paper, we present a comprehensive tutorial on airborne FSO backhauling.

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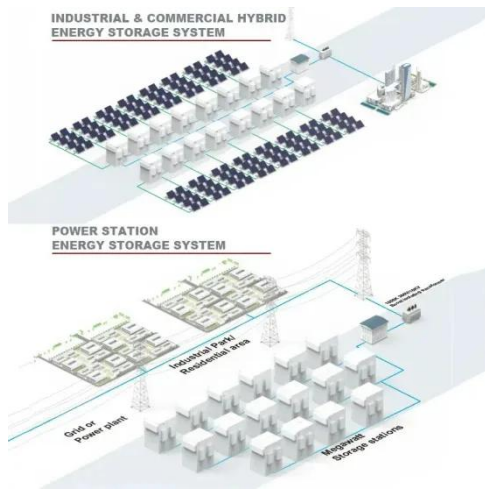
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