SolarInnovate Energy Solutions

Three-dimensional communication bidding 5g micro base station

Overview

What is 5G & how does it affect a communication system?

The construction of the 5G network in the communication system can potentially change future life and is one of the most cutting-edge engineering fields today. The 5G base station is the core equipment of the 5G network, and the performance of the base station directly affects the deployment of the 5G network.

Should 5G base stations be tripled?

To cover the same area as traditional cellular networks (2G, 3G, and 4G), the number of 5G base stations (BSs) could be tripled (Wang et al., 2014). Furthermore, Ge, Tu, Mao, Wang, and Han, (2016) suggested that to achieve seamless coverage services, the density of 5G BSs would reach 40-50 BSs/km 2.

How can a 5G cellular network be developed?

The developed model can facilitate the rollout of 5G technology. Due to the high propagation loss and blockage-sensitive characteristics of millimeter waves (mmWaves), constructing fifth-generation (5G) cellular networks involves deploying ultra-dense base stations (BSs) to achieve satisfactory communication service coverage.

What is the location optimization approach for 5G BS?

The location optimization approach for 5G BSs aims to cover the service demand area with the minimum number of BSs or to maximize the service coverage area of a given number of BSs. To solve this typical coverage problem, an MCLP model was employed for the location optimization of 5G BSs.

How a macrocell in 5G network can be improved?

And macrocell in 5G networks may encounter sudden traffic due to dense

users caused by sports or celebration activities. To resolve such temporal hotspot, additional network access point has become a new solution for it, and unmanned aerial vehicle equipped with base stations is taken as an effective solution for coverage and capacity improvement.

What is the effective service coverage radius of a 5G BS?

In addition, we assumed that the effective service coverage radius of each 5G BS was 200 meters (Palizban et al., 2017). The service coverage and the optimal BS deployment solutions that we obtained are shown in Fig. 5, Fig. 6, respectively.

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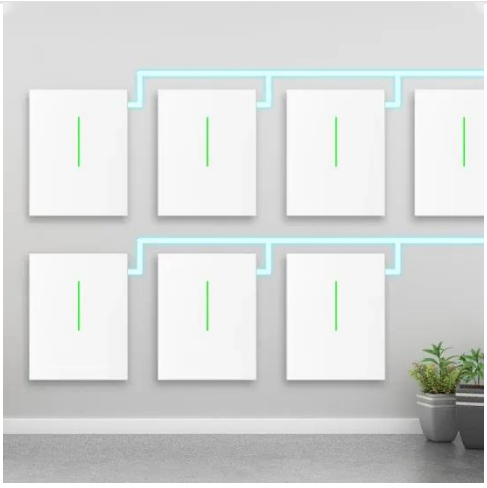

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