EQACC SOLAR

Outdoor base station to indoor enhancement

Overview

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 (BS.

Can a 5G base station extend indoor coverage?

Apart from this, indoor coverage enhancement would require a complete protocol overhead of a 5G base station (gNB). Relays extend the outdoor and indoor network coverage of a serving macro cell without requiring additional wired backhaul, and they act as an intermediate node between the base station and a UE.

Should small cells be powered by low-power indoor base stations?

In contrast, deploying small cells powered by low-power indoor base stations can essentially increase network capacity, quality of service (QoS), and general performance by provisioning high data rates to end users. However, indoor small cells require wired backhaul to the core network.

How is a wireless base station connected to a 5GC?

The wireless base station is interconnected with the 5GC through the 3GPP-defined N2 interface. The base station and LMF exchange positioning messages via the AMF, including positioning requests/responses and measurement requests/responses. The positioning messages related to the N2 interface are defined in 3GPP TS 38.455.

What is the difference between a Sudac and a base station?

SUDAC nodes talk with the UEs at high frequencies in the mm-wave range (FR2) whereas base stations (gNB) send spatial streams to the relay nodes using mobile signals in the conventional sub-6 GHz range (FR1).

Outdoor base station to indoor enhancement

RIS-assisted indoor enhancement of outdoor macro station ...

RIS-assisted indoor enhancement of outdoor macro station coverage (3) Indoor coverage enhancement Similar to outdoor coverage, there are some weak coverage areas blocked by ...

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Modeling RIS Empowered Outdoor-to-Indoor ...

C. Outdoor-to-Indoor Communication in MmWave Band number of drawbacks such as signal processing complexity, noise enhancement, power consumption and self ...

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Deployment Strategy of Intelligent Omni-Surface-Assisted Outdoor ...

In this paper, we study IOS-assisted outdoor-to-indoor mmWave communications where IOSs are installed in an exterior wall of a building to refract mmWave signals from an ...

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Base-Station and RIS Deployment Optimization for Indoor ...

Base-Station and RIS Deployment Optimization for Indoor Coverage Enhancement. In 2023 IEEE Conference on Antenna Measurements and Applications, CAMA 2023 (pp. 246 ...

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Indoor White Paper

In 4G era, outdoor small cells play an important role in supplementary coverage. 5G outdoor small cells include distributed micro base stations and integrated micro base stations, ...

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5G Open API-based Positioning Industry White Paper

By combining the benefits offered by 5G networks (such as multiple antennas, dense base station deployment, and high bandwidth) with indoor positioning applications, 5G ...

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Upgrade 5G base station power in outdoor, indoor, and shared cabinets

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Optimizing the ultra-dense 5G base stations in urban outdoor ...

Due to the high propagation loss and blockage-sensitive characteristics of millimeter waves (mmWaves), constructing fifth-generation (5G) cellular networks involves deploying ...

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Enhancing 5G indoor mobile coverage with SUDAS

For indoor scenarios, a mm-wave backhaul link between indoor and outdoor base stations would suffer from extreme penetration losses. Apart from this, indoor coverage ...

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Base-Station and RIS Deployment Optimization for Indoor ...

Reconfigurable intelligent surfaces (RISs) are promising to improve energy efficiency and coverage for 6G [1]. In this paper, we aim to optimize the deployment of BSs ...

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