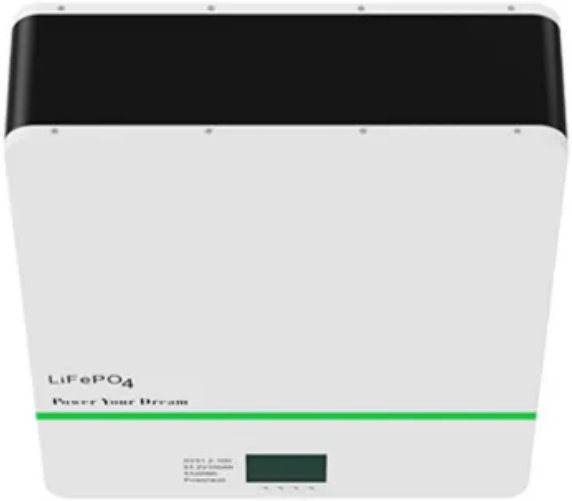
EQACC SOLAR

Internet of Things point-to-base station communication experiment



Overview

Can a single base station improve 3D IIoT realism?

While three-dimensional (3D) environments offer extra challenges to enhanced accuracy and realism, research in this area remains limited. To bridge this gap, we propose a novel localization technique assisted by a single base station (BS) in 3D IIoT scenarios.

Why are base stations important in cellular communication?

Base stations are important in the cellular communication as it facilitate seamless communication between mobile devices and the network communication. The demand for efficient data transmission are increased as we are advancing towards new technologies such as 5G and other data intensive applications.

Can a single base station be used in 3D IIoT?

To bridge this gap, we propose a novel localization technique assisted by a single base station (BS) in 3D IIoT scenarios. Our approach employs the MUltiple SIgnal Classification (MUSIC) algorithm to jointly estimate the angle of arrival (AoA) in azimuth and elevation, as well as the time of arrival (ToA).

Why are base stations an inevitability?

These types of objects are an inevitability since they serve the purpose of providing signal transfer for data and voice between mobile mobiles. The idea of base stations is anchored in their function to provide coverage, capacity, and connectivity, hence allowing for extending the working capabilities of mobile phones and other radio gear.

Internet of Things point-to-base station communication experiment

World first successful demonstration experiment of communication ...

In Janu, KDDI Research, Inc., (Head office: Fujimino, Saitama; President and CEO: Hajime Nakamura;hereinafter referred to as "KDDI Research") successfully concluded a ...

Uplink MIMO Communications With RIS-Integrated Base Station...

Reconfigurable intelligent surface (RIS) has gained significant momentum as a cost-effective and energy-efficient technology to enable the next generation of mobile ...

Joint Azimuth, Elevation and Delay Estimation for Single Base Station

Integrated sensing and communication (ISAC) in the Industrial Internet of Things (IIoT) presents unique challenges in terms of localization techniques. While three-dimensional ...

Joint Azimuth, Elevation and Delay

Estimation for Single ...

Integrated sensing and communication (ISAC) in the Industrial Internet of Things (IIoT) presents unique challenges in terms of localization techniques. While three-dimensional ...

Modeling and analyzing cascading failures for Internet of Things

o A load-oriented layout scheme for base stations is proposed to improve the network survivability of the IoTs against cascading failures. o Through extensive experiments, ...

Wireless Communication Base Station Location Selection ...

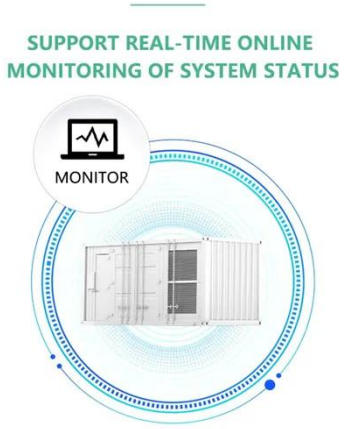
1. Introduction Recently, with the rapid development of wireless communication technology, the enhancement of wireless network performance is concerned with meeting the ...

Base Stations

The present-day tele-space is incomplete without the base stations as these constitute an important part of the modern-day scheme of wireless communications. They are ...

An Energy-Saving Transmit Method Between Internet of Things ...

An Energy-Saving Transmit Method Between Internet of Things Device and Base Station Under Fading Channel Published: 25 February 2021 Volume 119, pages 1231-1249, ...



Base Stations

The present-day tele-space is incomplete without the base stations as these constitute an important part of the modern-day scheme ...

An Optimal Base Stations Positioning for the Internet of Things ...

Internet of Things (IoT) consists of an enormous number of devices and networks. The IoT's principal parameters

are energy consumption, network lifetime, processing capacity, ...

An Energy-Saving Transmit Method Between Internet of ...

To reduce power consumption for handover failure caused by the long DRX cycle and base station reselection, the user terminal would check whether the next sleep mode ...

World first successful demonstration experiment of ...

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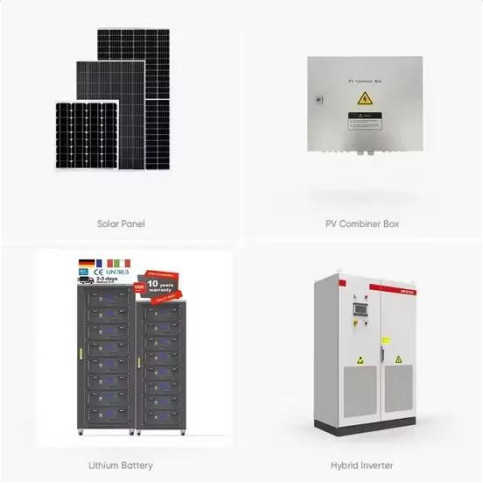

An Energy Efficient Narrowband Internet of Things Radio ...

Abstract NB-IOT was designed as an add-on to the LTE standard to enable wide area cellular connectivity to low-cost devices to facilitate the rapid growth of

the Internet of Things. NB-IOT ...

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