

Mobile LTE base station communication principle





Overview

How does LTE mobile work?

LTE Mobile communicates with just one base station and one cell at a time and there are following two main functions supported by eNB: The eNB sends and receives radio transmissions to all the mobiles using the analogue and digital signal processing functions of the LTE air interface.

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.

How does mobile communication work?

To understand how mobile communication works, let's explore its main building blocks: a. Mobile Station (MS) Your mobile phone or smartphone. Contains a transceiver (transmitter + receiver), antenna, and a SIM card for user identity. b. Base Transceiver Station (BTS) Also called a cell tower. Handles radio communication with the mobile phone.

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.



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Standardizing a new paradigm in base station architecture

Sep 23, 2019 · Traditional 4G LTE base stations contain one, two or possibly even four transmitters and usually operate on core band frequencies of up to 2.5 GHz, sometimes even ...

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International Journal of Soft Computing and Engineering ...

Oct 26, 2021 · Base Station is the basic unit between the mobile switching center and the users. In the last two decades there is an immense growth in the world of mobile communications. ...

What is a 5G Base Station?

Jun 21, 2024 · A 5G base station is a critical component in a mobile network that connects devices, such as smartphones and IoT (Internet of Things) ...

How Mobile Communication Works: A ...

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LTE Network Architecture

LTE Mobile communicates with just one base station and one cell at a time and there are following two main functions supported by eNB: The eNB sends and receives radio ...

Base Transceiver Station

Introduction to Base Transceiver Station (BTS) in Computer Science Context A base transceiver station (BTS) is a critical network component that serves as the primary hardware interface ...

LTE Network Architecture

The User EquipmentThe E-UTRANThe Evolved Packet CORE2G/3G Versus LteThe architecture of evolved UMTS Terrestrial Radio Access Network (E-UTRAN) has been illustrated below. The E-UTRAN handles the radio communications between the mobile and the evolved packet core and just has one component, the evolved base stations, called eNodeB or eNB. Each eNB is a base station that controls the mobiles in one or more cells. Th See more on tutorialspoint SolveForce Cloud Computing & TelecommunicationsLTE Base Stations: The Backbone of Mobile ConnectivityMay 17, 2024 · Conclusion LTE base stations are the backbone of modern mobile communication, enabling efficient and reliable data transfer over LTE networks. By understanding how LTE ...

Understanding Base Transceiver Stations: The Backbone of Mobile

Jan 1, 2025 · Simply put, a base transceiver station (BTS) is a vital component of mobile networks, serving as the communication hub that connects your mobile phone to the wider ...

Base Stations

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Energy-Efficient Base Stations , part of Green Communications

Aug 29, 2022 · With the explosion of mobile Internet applications and the subsequent exponential increase of wireless data traffic, the energy consumption of cellular networks has rapidly ...

LTE Network Architecture

The E-UTRAN handles the radio communications between the mobile and the evolved packet core and just has one component, the evolved base stations, called eNodeB or eNB. Each ...

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Introduction LTE (Long Term Evolution) technology is the main direction of the evolution of the third generation of mobile communications. As an advanced technology, the LTE system has ...

Principle and Feature of Mobile Phone Signaling Data

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