

SolarInnovate Energy Solutions

5g mobile communications can be deployed in the form of micro base stations



Overview

What are the deployment options for 5G?

Two deployment options are defined for 5G: the "Non-Stand Alone" (NSA) architecture, where the 5G Radio Access Network (AN) and its New Radio (NR) interface is used in conjunction with the existing LTE and EPC infrastructure Core Network (respectively 4G Radio and 4G Core), thus making the NR technology available without network replacement.

Is distribution network architecture a good solution for 5G ultra-dense cellular networks?

As we discussed in the above sections, the emergence of ultra-dense cellular network is motivated by massive MIMO antenna and millimeter wave communication technologies. Moreover, the distribution network architecture is a reasonable solution for 5G ultra-dense cellular networks.

What is a 5G system?

Schematically, the 5G system uses the same elements as the previous generations: a User Equipment (UE), itself composed of a Mobile Station and a USIM, the Radio Access Network (NG-RAN) and the Core Network (5GC), as shown in the figure below. Figure 1: overview of the 5GS.

What is a 5G network architecture?

and automatic deployment. Operators transform networks using a network architecture based on data center (DC) in which all functions and service applications are running on the cloud DC, referred to as a cloud-Native architecture. In the 5G era, a single network infrastructure can meet diversified service requirements.

What is a 5G core network?

The 5G core network, which supports the advanced functionality of 5G networks, is one of the basic components of the 5G System, known by the

acronym 5GS. The other components are 5G access network (5G-AN) and User Equipment (UE).

Does small cell BS density affect 5G ultra-dense cellular networks?

In this paper, the distributed network architecture with single and multiply gateways are presented for 5G ultra-dense cellular networks. Considering the millimeter wave communication technology, the impact of small cell BS density on the backhaul network capacity and the backhaul energy efficiency of ultra-dense cellular networks is investigated.

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