

ContainerPower Energy Solutions

Will the electricity bill for 5G base stations be cheaper



Overview

Can 3GPP reduce base station energy consumption in 5G NR BS?

Aiming at minimizing the base station (BS) energy consumption under low and medium load scenarios, the 3GPP recently completed a Release 18 study on energy saving techniques for 5G NR BSs . A broad range of techniques was evaluated in terms of the obtained network energy saving (NES) gain and their impact to the user-perceived throughput (UPT).

Why is 5G so expensive?

Such energy consumption cannot be tolerated because it will cause corresponding environmental and economic problems. The construction of a new generation of wireless cellular networks is also costly, that often exceed billions of pounds. The technical complexity of 5G makes its implementation cost even higher.

Can a 5G network reduce energy consumption?

Notably, China, Korea, and the US are vigorously engaged in this field, specifically related to the 5G network. This review paper identifies the possible potential solutions for reducing the energy consumption of the networks and discusses the challenges so that more accurate and valid measures could be designed for future research.

How to choose a 5G energy-optimised network?

Certain factors need to be taken into consideration while dealing with the efficiency of energy. Some of the prominent factors are such as traffic model, SE, topological distribution, SINR, QoS and latency. To properly examine an energy-optimised network, it is very crucial to select the most suitable EE metric for 5G networks.

What is the role of 5G in the UK?

The simulation results show that 700 MHz and 26 GHz will play an important

role in 5G deployment in the UK, which allow base stations to meet short-term and long-term data traffic demands respectively.

Does 5G configuration affect base station capacity?

In this study, we mainly focused on the commercial 5G non-standalone networks, 2 and the configurations (transmit and receive antennas, spectrum frequency and bandwidth) defined in this part has a decisive impact on base station capacity (see Eq.1).

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