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Kyiv accelerates the reduction of electricity costs for 5G base stations





Overview

The explosive growth of mobile data traffic has resulted in a significant increase in the energy consumption of 5G base stations (BSs). However, the existing energy conservation technologies, such as traditi.

How does mobile data traffic affect the energy consumption of 5G base stations?

The explosive growth of mobile data traffic has resulted in a significant increase in the energy consumption of 5G base stations (BSs).

What is a minimal 5G BS energy consumption optimization model?

Therefore, the problem can be formulated as a minimal 5G BS energy consumption optimization model, i.e., the energy consumption reduced by reasonably switching off the idle or lightly loaded BSs and reasonably associate UEs with BSs (i.e., the BS switching state and BS-UE association state scheme).

How to evaluate a 5G energy-optimised network?

To properly examine an energy-optimised network, it is very crucial to select the most suitable EE metric for 5G networks. EE is the ratio of transmitted bits for every joule of energy expended. Therefore, while measuring it, different perspectives need to be considered such as from the network or user's point of view.

What is 5G base station?

1. Introduction 5G base station (BS), as an important electrical load, has been growing rapidly in the number and density to cope with the exponential growth of mobile data traffic . It is predicted that by 2025, there will be about 13.1 million BSs in the world, and the BS energy consumption will reach 200 billion kWh .



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In today's 5G era, the energy efficiency (EE) of cellular base stations is crucial for sustainable communication. Recognizing this, Mobile Network Operators are actively prioritizing EE for

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[Day-ahead collaborative regulation method for 5G base stations ...](#)

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[Energy Systems for 5G and 6G Base Stations , Huijue Group ...](#)

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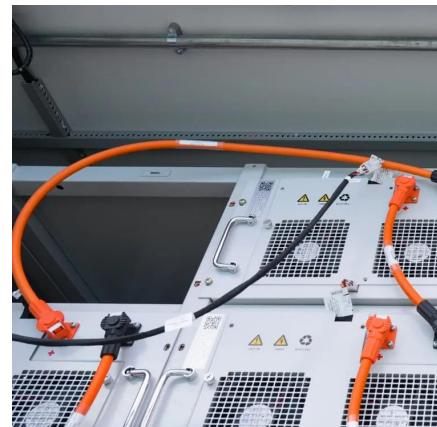


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ITU-T L Supplement 43

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