

Energy consumption of communication base stations

Base stations represent the main contributor to the energy consumption of a mobile cellular network. Since traffic load in mobile networks significantly varies during a working or weekend day, it is important to quantify ...

This paper proposes a power control algorithm based on energy efficiency, which combines cell breathing technology and base station sleep technology to reduce base station energy consumption on the premise of ...

This study examines the energy requirements of a multi-tenant BTS, focusing on power consumption patterns, key energy-intensive components, and optimization strategies.

Therefore, an energy consumption optimization strategy of 5G BSs considering variable threshold sleep mechanism (ECOS-BS) is proposed in this paper.

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 both network maintenance and ...

In recent years, the design of new methods for decreasing the RAN power consumption has attracted interest from both the research community and standardization bodies, and many energy savings solutions have ...

The first step when modeling the energy consumption of wireless communication systems is to derive models of the power consumption for the main system components, which are then combined with ...

Abstract: Energy consumed in telecommunication base stations is a significant part of the cellular network energy footprint. Efficient energy use, renewable energy sources, and infrastructure improvement ...

Energy consumption growth of the fifth-generation (5G) mobile network infrastructure can be significant due to the increased traffic demand for a massive number of end-users with increasing traffic ...



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