

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).

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 .

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 5G BS power consumption?

The 5G BS power consumption mainly comes from the active antenna unit(AAU) and the base band unit (BBU),which respectively constitute BS dynamic and static power consumption. The AAU power consumption changes positively with the fluctuation of communication traffic,while the BBU power consumption remains basically unchanged ,,

A 5G base station consumes "four times more electricity" than its 4G counterpart, said Ding Haiyu, head of wireless and terminals at the China Mobile Research Institute, during ...

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In low base station service load scenarios, such as idle hours at night and non-capacity cell scenarios, it can be considered to turn off the transmission power of some RF ...

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The high-energy consumption and high construction density of 5G base stations have greatly increased the demand for backup energy storage batteries.To maximize overall ...

The Definition of Electronic Ballast Recently, in response to the statement that "the electricity bills of 5G base stations cannot be sustained, and they are shut down at night just to save power," ...

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

Night sleep can be understood as a flexible adjustment to reduce power consumption and save power. Tower told News that the current average power consumption of a single tenant of a ...

An energy consumption optimization strategy of 5G base stations (BSs) considering variable threshold sleep mechanism (ECOS-BS) is proposed, which includes the initial ...

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