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# Does 5g micro base station equipment consume electricity

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).

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 .

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 , , .

At present, 5G mobile traffic base stations in energy consumption accounted for 60% ~ 80%, compared with 4G energy consumption increased three times. In the future, high ...

Compared to its predecessor, 4G, the energy demand from 5G base stations has massively grown owing to new technical requirements needed to support higher data rates ...

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The 5G network is a dynamic system that consumes energy continually and responds to spikes in network activity. Over 70% of this energy is consumed by RAN ...

The power consumption of the 5G base station mainly comes from the AU module processing and conversion and high power-consuming high radio frequency signals, the extremely high-algorithm and high ...

The number of 5G base stations (BSs) has soared in recent years due to the exponential growth in demand for high data rate mobile communication traffic from various ...

However, there is still a need to understand the power consumption behavior of state-of-the-art base station architectures, such as multi-carrier active antenna units (AAUs), ...

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