

# **Reasons for high power consumption of 5g base stations**





## Overview

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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).

Does 5G increase energy consumption?

However, this technological leap comes with a substantial increase in energy consumption. Compared to its predecessor, the fourth-generation (4G) network, the energy consumption of the 5G network is approximately three times higher .

How can we improve the energy efficiency of 5G networks?

To improve the energy efficiency of 5G networks, it is imperative to develop sophisticated models that accurately reflect the influence of base station (BS) attributes and operational conditions on energy usage.

Why is low 5G energy consumption important?

With new devices and use cases increasing the capacity of the networks, the demand to ensure low 5G energy consumption is critical to minimizing operator expenses and ensuring they can still meet energy reduction goals. How can NR bring an answer?

Figure 1: Global mobile data traffic outlook [Ericsson Mobility Report, June 2019].



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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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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 ...

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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 ...

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## What is the reason for the high energy consumption of 5G base ...

Why is the energy consumption of 5G base stations so high? Let me explain it to you. The energy consumption of 5G base stations is mainly concentrated in four parts: base ...

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