



MODERNIZATION SOLAR

How much electricity does a 5G base station consume in one hour





Overview

Today we see that a major part of energy consumption in mobile networks comes from the radio base station sites and that the consumption is stable. We can also see that even in densely deployed networks, as i.

How much power does a 5G base station consume?

That's almost a threefold increase compared to 4G (5). One 5G base station is estimated to consume about as much power as 73 households (6), and 3x as much as the previous generation of base stations (5), (7).

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 .

Does 5G New Radio save energy?

Emerging use cases and devices demand higher capacity from today's mobile networks, leading to increasingly dense network deployments. In this post, we explore the energy saving features of 5G New Radio and how this enables operators to build denser networks, meet performance demands and maintain low 5G energy consumption.

How much electricity does 5G use?

To achieve gigabit speeds, the plan with 5G is to have it operate at very high frequencies of 24-26 Gigahertz. For this reason, 5G requires millions of new so-called "small cells," for example, transmitters in lampposts. Billions of new wireless devices will soon be available worldwide. All of the above consumes electricity.



How much electricity does a 5G base station consume in one hour



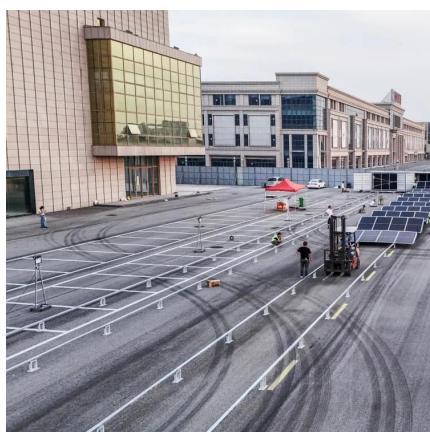
[A technical look at 5G energy consumption and performance](#)

Sep 17, 2019 · How can 5G increase performance and ensure low energy consumption? Find out in our latest Research blog post.



[How much power does 5G consume?](#)

One 5G base station is estimated to consume about as much power as 73 households (6), and 3x as much as the previous generation of base stations (5), (7). When base stations, data centers ...



[What is the Power Consumption of a 5G Base Station?](#)

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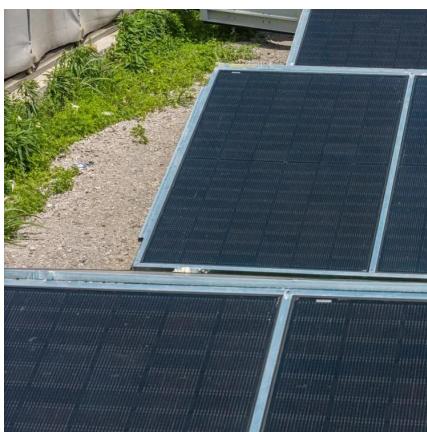
[5G network deployment and the associated energy consumption ...](#)

Jul 1, 2022 · In particular, this research took the UK as an example to investigate the spatiotemporal dynamic characteristics of 5G evolution, and further analysed the energy ...



[Modelling the 5G Energy Consumption Using Real-world ...](#)

Sep 15, 2025 · Accurate energy consumption modeling is essential for developing energy-efficient strategies, enabling operators to optimize resource utilization while maintaining network ...



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Aug 26, 2023 · The Silent Energy Crisis in Mobile Networks Have you ever wondered how much energy our hyper-connected world is consuming? 5G base stations, the backbone of next-gen ...



Power consumption based on 5G communication

Oct 17, 2021 · 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 rise of 5G technology brings faster speeds and lower latency, but it also raises questions about its energy consumption. As 5G networks are rolled out across the globe, it is important ...



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