

5g base station power consumption is too high to shut down





Overview

Is 5G base station power consumption accurate?

esan@huawei.com Abstract—The energy consumption of the fifth generation (5G) of mobile networks is one of the major concerns of the telecom industry. However, there is not currently an accurate and tractable approach to evaluate 5G base stations (BSs) power consumption. In this article, we pr.

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 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 .

Should power consumption models be used in 5G networks?

This restricts the potential use of the power models, as their validity and accuracy remain unclear. Future work includes the further development of the power consumption models to form a unified evaluation framework that enables the quantification and optimization of energy consumption and energy efficiency of 5G networks.



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As the number of 5G base stations continues to increase, the cost pressure on major operators is also increasing, and electricity expenses will rise sharply. Energy saving ...



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Why is 5G Power Consumption Higher? 1. Increased Data Processing and Complexity These 5G base stations consume about three times the power of the 4G stations. ...

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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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This paper conducts a literature survey of relevant power consumption models for 5G cellular network base stations and provides a comparison of the models. It highlights ...

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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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