



WALMER ENERGY

Huawei 5g base station signal power consumption





Overview

How much power does 5G use?

The power consumption per unit of traffic (Watt/bit) is greatly decreased, but the power consumption of 5G increases greatly compared to that of 4G. Noticeably, in the 5G era, the maximum power consumption of a 64T64R AAU is 1000-1400 W, and that of a BBU is about 2000 W. Multiple bands in one site will be the typical configuration in the 5G era.

How will a 5G network increase power consumption?

In the 5G network, low-frequency and high-frequency bands will be deployed together. To meet the service requirements of increasing network capacity, a large number of end sites will be deployed. The number of network sites will increase greatly, and the power consumption of the entire network will increase exponentially.

How much power will 5G use in 2023?

Multiple bands in one site will be the typical configuration in the 5G era. The proportion of sites with more than five bands will increase from 3% in 2016 to 45% in 2023. As a result, the maximum power consumption of a site will be higher than 10 kW, in a site where there is more than 10 bands, the power consumption will exceed 20 kW.

Is energy consumption a concern for 5G networks?

Abstract—The fifth generation of the Radio Access Network (RAN) has brought new services, technologies, and paradigms with the corresponding societal benefits. However, the energy consumption of 5G networks is today a concern.



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