

## SolarTech Power Solutions

# Do 5G micro base stations need batteries



## Overview

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What is the difference between a 5G base station and a small cell?

Small cells have a lower power output than older base stations. This means they have lower EME emissions. 5G base stations can also go into 'sleep mode' when they are not in use. This means their power output and EME emissions will be lower than 4G base stations.

How much power does a 5G base station use?

Each nation has a different 5G strategy. For 5G, China uses 3.5GHz as the frequency. Then, a 5G base station resembles a 4G system, but it's on a much larger scale. For sub-6GHz in 5G, let's say you have a macro base station. The power levels at the antenna range from 40 watts, 80 watts or 100 watts.

Why do cellular base stations have backup batteries?

Abstract: Cellular base stations (BSs) are equipped with backup batteries to obtain the uninterruptible power supply (UPS) and maintain the power supply reliability. While maintaining the reliability, the backup batteries of 5G BSs have some spare capacity over time due to the traffic-sensitive characteristic of 5G BS electricity load.

How many 5G base stations are there in the world?

In addition, a total of 819,000 5G base stations have been built by these three telecom giants, accounting for 70% of the world's total. As China has played a leading role in 5G technology, its 5G development has extraordinary significance for other countries.

Do 5G BS batteries have a spare capacity?

While maintaining the reliability, the backup batteries of 5G BSs have some spare capacity over time due to the traffic-sensitive characteristic of 5G BS electricity load. Therefore, the spare capacity is dispatchable and can be used as flexibility resources for power systems.

Can backup batteries reduce 5G BS electricity bills?

Case studies show that the proposed methodology can effectively evaluate the dispatchable capacity and that dispatching the backup batteries can reduce 5G BS electricity bills while satisfying the reliability requirement. References is not available for this document. Need Help?

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