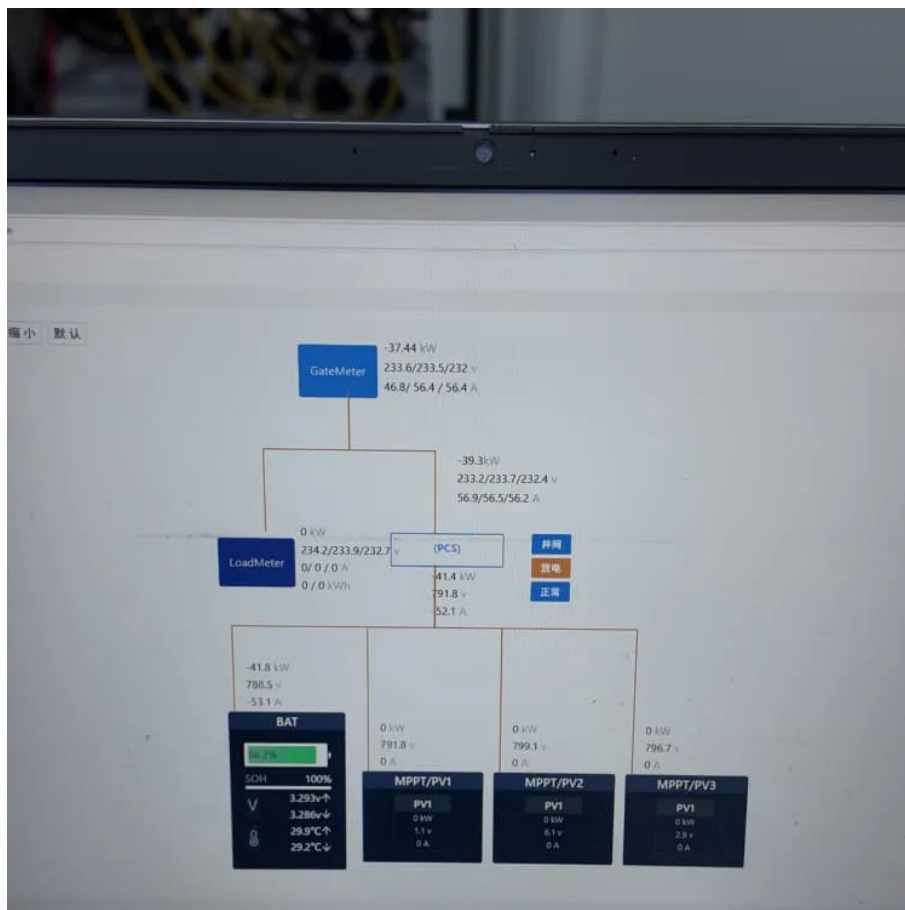


# 5g base station power supply design





## Overview

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What is a small cell in 5G?

Small cells are a new part of the 5G platform that increase network capacity and speed, while also having a lower deployment cost than macrocells. The compact size of a small cell requires that all components – especially power converters – provide high efficiency, better thermals and eventually the best power density possible.

How does a 5G base station reduce OPEX?

This technique reduces opex by putting a base station into a “sleep mode,” with only the essentials remaining powered on. Pulse power leverages 5G base stations’ ability to analyze traffic loads. In 4G, radios are always on, even when traffic levels don’t warrant it, such as transmitting reference signals to detect users in the middle of the night.

How will mmWave based 5G affect PA & PSU designs?

Site-selection considerations also are driving changes to the PA and PSU designs. The higher the frequency, the shorter the signals travel, which means mmWave-based 5G will require a much higher density of small cells compared to 4G. Many 5G sites will also need to be close to street level, where people are.

Should a 5G power amplifier be combined with a power amplifier?

For 5G, infrastructure OEMs are considering combining the radio, power amplifier and associated signal processing circuits with the passive antenna array in active antenna units (AAU). While AAUs improve performance and simplify installation, they also require the power supply to share a heatsink with the power amplifier for cooling.



## 5g base station power supply design

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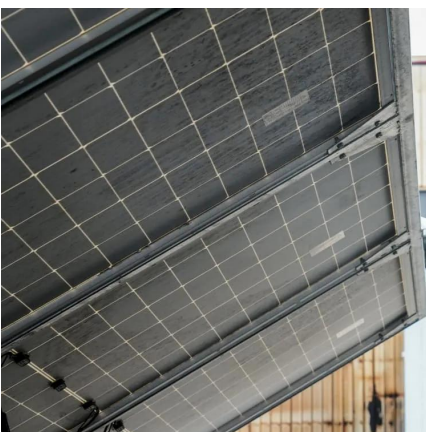
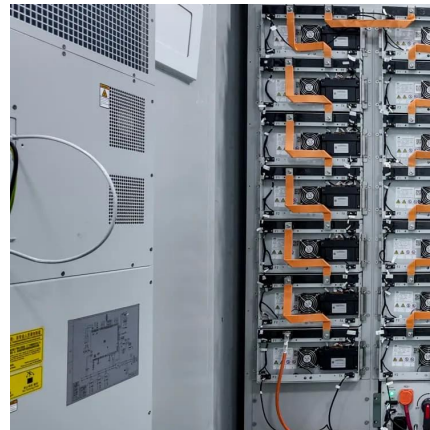


### [The power supply design considerations for 5G base stations](#)

For 5G, infrastructure OEMs are considering combining the radio, power amplifier and associated signal processing circuits with the passive antenna array in active antenna ...

### [Selecting the Right Supplies for Powering 5G Base Stations](#)

It includes everything needed to power 5G base station components, including software design and simulation tools like LTpowerCAD and LTspice. These tools simplify the task of selecting ...



### [The Road to Robust 5G: A Deep Dive into Base Station Power Supply](#)

In a world swept by 5G networks, we enjoy high-speed, low-latency mobile internet experiences. Behind this transformation are countless quietly operating base stations. One of the core ...

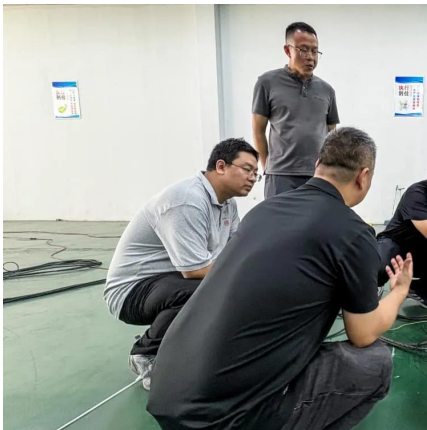
### [How to design a Telecom PSU for 5G applications?](#)

For instance, 5G base stations require more power to support the increased data traffic and the operation of advanced radio frequency (RF) components. Additionally, the need ...



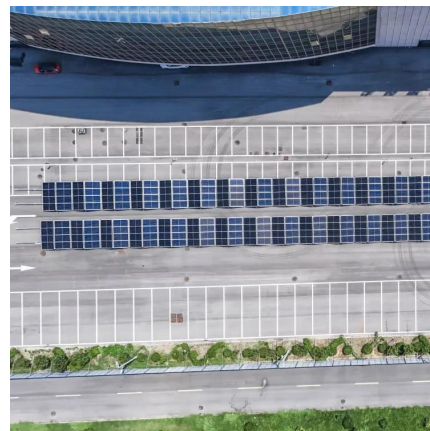
### 5G macro base station power supply design strategy and ...

For macro base stations, Cheng Wentao of Infineon gave some suggestions on the optimization of primary and secondary power supplies. "In terms of primary power supply, we ...



### Small Cells, Big Impact: Designing Power Solutions for 5G ...

Small cells are smaller and cheaper than a cell tower and can be installed in a variety of areas, bringing more base stations closer to users. A large number of base stations ...



### The power supply design considerations for ...

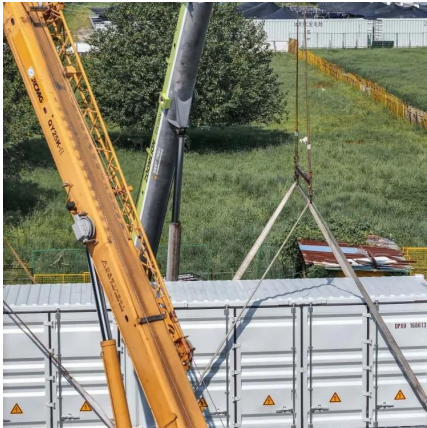
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## Selecting the Right Supplies for Powering 5G Base ...

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## **The Future of Power Supply Design for Next Generation Networks (5G ...**

The deployment of next-generation networks (5G and beyond) is driving unprecedented demands on base station (BS) power efficiency. Traditional BS designs rely ...

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