
Switching between base station power supplies

Why do base stations waste so much energy?

When there is little or no communication activity, base stations typically consume more than 80% of their peak power consumption, leading to significant energy waste. This energy waste not only increases operational costs, but also burdens the environment, which is contrary to global sustainability goals.

What is a 3G base station converter?

In a 3G Base Station application, two converters are used to provide the +27V distribution bus voltage during normal conditions and power outages.

What are the standardized energy-saving metrics for a base station?

(1) Energy-saving reward: after choosing a shallower sleep strategy for a base station, the system may save more energy if a deeper sleep mode can be chosen, and in this paper, the standardized energy-saving metrics are defined as (18) $R_{ie} = E_{SM=0} / E_{SM=i}$ $E_{SM=0} / E_{SM=3}$

What is a preferred power supply architecture for DSL applications?

A preferred power supply architecture for DSL applications is illustrated in Fig. 2. A push-pull converter is used to convert the 48V input voltage to +/-12V and to provide electrical isolation. Synchronous buck converters powered off of the +12V rail generate various low-voltage outputs.

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The power factor corrected (PFC) AC/DC produces the supply voltage for the 3G Base station's RF Power amplifier (typ. +27V) and the bus voltage for point-of-load converters.

To address the issue of how to maximize renewable power utilization, a dual power supply strategy for green base station is proposed in this article. The strategy consists of Grid ...

Mobile base station number, unattended, therefore require communication power supply easy maintenance, simple operation, with remote monitoring and strong fault diagnosis ...

This article focuses on the three parts of switching power supply: "types and usage scenarios, configuration principles and ...

5G communication requires more micro base station at the RAN side, so, the switching power supply of rectifier, -48V power supply, HVDC, DCDC converter, DCDC power module, power ...

To reduce the extra power consumption due to frequent sleep mode switching of base stations, a sleep mode switching decision algorithm is proposed. The algorithm reduces ...

This article focuses on the three parts of switching power supply: "types and usage scenarios, configuration principles and algorithms, and daily management and maintenance".

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 ...

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