



# 5g base station shuts down in the middle of the night due to power consumption





## Overview

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Can network energy saving technologies mitigate 5G energy consumption?

This technical report explores how network energy saving technologies that have emerged since the 4G era, such as carrier shutdown, channel shutdown, symbol shutdown etc., can be leveraged to mitigate 5G energy consumption.

Does 5G increase energy consumption?

5G is the most advanced cellular technology in commercial deployment of our era. While 5G offers much faster speed, massive connections and much lower latency, and would enable a much bigger variety of new applications for both people's lives and vertical industries, it does increase the energy consumption of the cellular networks.

Is a 5G energy saving solution enough?

It also analyses how enhanced technologies like deep sleep, symbol aggregation shutdown etc., have been developing in the 5G era. This report aims to detail these fundamentals. However, it is far away from being enough, a revolutionized energy saving solution should be taken into consideration.

What is the ITU-T Technical Report on 5G base station?

This document contains Version 1.0 of the ITU-T Technical Report on "Smart Energy Saving of 5G Base Station: Based on AI and other emerging technologies to forecast and optimize the management of 5G wireless network energy consumption" approved at the ITU-T Study Group 5 meeting held online, 20th May, 2021. 3.1.



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### 5G base stations consume so much power that operators are ...

Information provided by Tower shows that the current average power consumption of a single tenant of a 5G outdoor base station is about 3.8KW, which is more than three times that of a ...

### [What to do if the 5g base station is shut down at night](#)

Feb 1, 2022 · The high-energy consumption and high construction density of 5G base stations have greatly increased the demand for backup energy storage batteries.



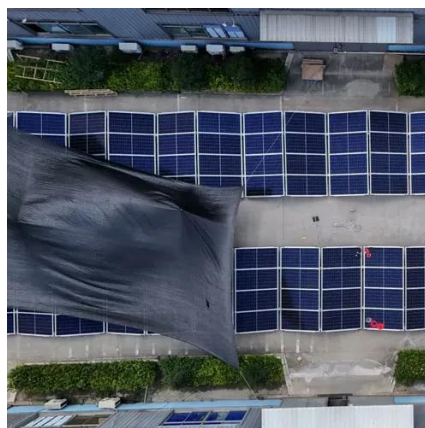
### Base station power control strategy in ultra-dense networks via ...

To enhance system efficiency and establish green wireless communication systems, this paper investigates base station sleeping and power allocation strategy based on ...



### [What are the power delivery challenges with 5G to ...](#)

The two primary power delivery challenges with 5G new radio (NR) are improving operational efficiency and maximizing sleep time.



### Power Delivery Challenges with 5G NR

It's been estimated that base station resources are generally unused 75 - 90% of the time, even on high-load networks. The base station power consumption constituents are ...



### **Final draft of deliverable D.WG3-02-Smart Energy Saving of ...**

By directing users from their less power-efficient spectrum band(s) to other band(s) that are more power-efficient, more radio resources can be shut down to lower network energy consumption.



### What are the power delivery challenges with 5G to maximize

The two primary power delivery challenges with 5G new radio (NR) are improving operational efficiency and maximizing sleep time.



### **The chairman of China Unicom officially announced that it was ...**





Recently, the three major operators have issued notices announcing that they will shut down 5G base stations in the early morning. This move has attracted widespread ...

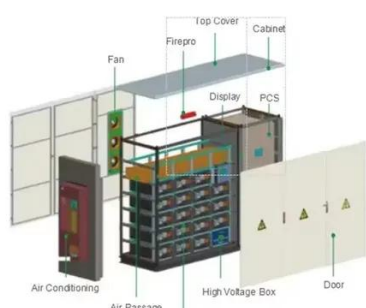


### **Why does 5g base station consume so much power and how to ...**

5G base stations use high power consumption and high RF signals, which require more signal processing for digital and electromechanical units, and also put greater pressure ...

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### Power Delivery Challenges with 5G NR

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**The three major operators couldn't bear it, and the chairman of ...**



Recently, China Unicom's decision-makers announced a new operational strategy: shutting down some 5G base stations in the middle of the night to manage operating costs ...



### **Are the three major operators shutting down 5G base stations to ...**

Wang Xiaochu, chairman of China Unicom, recently stated that 5G base stations are smart base stations that will automatically shut down or reduce capacity at night when ...



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