

## ContainerPower Energy Solutions

# 5g base station automatically shuts down



## 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.

What is 5G NR & how does it work?

The 5G new radio (NR) standard allows more components to switch off or go to sleep when the base station is in idle mode and requires far fewer transmissions of always-on signalling transmissions. Equipment deep sleep, a basic function that is introduced in the initial stage of the 5G deployment, can be applied to maximize energy saving efficiency.

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.

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.

Can 5G New Radio save power?

Thus, to study power-saving schemes in 5G New Radio ( NR ), some researchers use network simulators like ns-3, which save time and money by allowing them to validate their solutions without needing a physical prototype.

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