

## A-Core Container

# Communication 5G base stations are rare



## Overview

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What is 5G & how does it affect a communication system?

The construction of the 5G network in the communication system can potentially change future life and is one of the most cutting-edge engineering fields today. The 5G base station is the core equipment of the 5G network, and the performance of the base station directly affects the deployment of the 5G network.

Can a 5G base station promote green development of mobile communication facilities?

However, a significant reduction of ca. 42.8% can be achieved by optimizing the power structure and base station layout strategy and reducing equipment power consumption. Overall, this study provides a clear approach to assess the environmental impact of the 5G base station and will promote the green development of mobile communication facilities.

What is a 5G NR base station?

It facilitates communication between user equipment (UE), such as smartphones and IoT devices, and the core network. Unlike LTE base stations (eNodeBs), 5G NR base stations are designed to handle the enhanced requirements of 5G, such as high throughput, network slicing, and support for multiple frequency bands.

Will 5G telecommunication change modern lives?

The emergence of fifth-generation (5G) telecommunication would change modern lives, however, 5G network requires a large number of base stations, which may lead to greater carbon emissions. Since 2020, over 700,000 5G base stations are in operation in China.

Are 5G base stations based on a 4G base station?

At present, most 5G base stations are upgraded or constructed based on 4G

base stations in China and ca. 97% of the towers are constructed based on existing site resources (Meng, 2020). The installation of AAU adopts poles or towers according to a certain proportion.

Why is 5G more energy efficient than 4G?

Due to the high radio frequency and limited network coverage of 5G base stations, the number of the 5G base stations are 1.4~2 times than that of the 4G base stations, and thus the energy consumption is also 2~3 times higher (Israr et al., 2021).

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