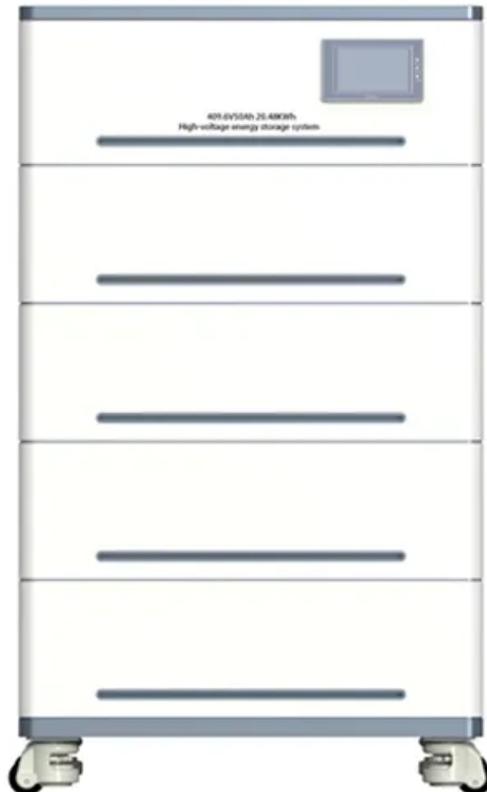


Base station energy efficiency



Overview

Modern base station equipment is designed with energy-saving technologies such as high-efficiency power amplifiers, low-loss cables, and intelligent control systems. Upgrading legacy equipment can reduce energy consumption by 20–40%. In today's 5G era, the energy efficiency (EE) of cellular base stations is crucial for sustainable communication. Recognizing this, Mobile Network Operators are actively prioritizing EE for both network maintenance and environmental stewardship in future cellular networks. The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written. While base station infrastructure is essential for delivering seamless connectivity, it also accounts for a significant portion of the energy consumption in modern telecommunications networks.

Base station energy efficiency



Energy-Efficient Base Stations

This chapter aims at providing a survey on the Base Stations functions and architectures, their energy consumption at component level, their possible improvements and the major problems

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