

Base station energy management system opened





Overview

Are base transceiver stations scalable and controllable DC microgrids?

Author to whom correspondence should be addressed. This paper describes a practical approach to the transformation of Base Transceiver Stations (BTSS) into scalable and controllable DC Microgrids in which an energy management system (EMS) is developed to maximize the economic benefit.

What is a Base Transceiver Station (BTS)?

1. Introduction In the last two decades, there has been a growing demand for Base Transceiver Stations (BTSS) due to the development of mobile communication networks with smaller cells and BTSS closer to the users. From the network operator (NO) point of view, BTSS are the main source of energy consumption.

What is Energy Management System (EMS)?

For this purpose, an Energy Management System (EMS) is developed. EMS manages the energy flow in the MG-based BTS based on different scenarios as described in Section 4. The BTS is modeled on the IEC 61850 standard, which improves interoperability and scalability, supporting, in the future, the integration of new BTSS.

What is the experimental setup for Mg-based BTS?

Experimental Setup For the experimental setup, an MG-based BTS has been developed with a rated load power of 3 kW, using the same RF equipment and power amplifiers as those installed in 3-kW BTSS. The sizing of the PV system must consider the space available at the BTS site.



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