
Power restrictions and 5G base stations

What equipment is used in a 5G base station?

AAU is the most energy-consuming equipment in 5G base stations, accounting for up to 90% of their total energy consumption. Auxiliary equipment includes power supply equipment, monitoring and lighting equipment. The power supply equipment manages the distribution and conversion of electrical energy among equipment within the 5G base station.

What is a 5G base station energy storage device?

During main power failures, the energy storage device provides emergency power for the communication equipment. A set of 5G base station main communication equipment is generally composed of a baseband BBU unit and multiple RF AAU units. Equation 1 serves as the base station load model:

What is a 5G base station energy consumption prediction model?

According to the energy consumption characteristics of the base station, a 5G base station energy consumption prediction model based on the LSTM network is constructed to provide data support for the subsequent BSES aggregation and collaborative scheduling.

What is the load of a 5G base station?

The load of a 5G base station primarily consists of communication equipment and auxiliary components. The communication equipment mainly includes Active Antenna Unit (AAU) and Base Band Unit (BBU). AAU is a combination of radio frequency unit and antenna array of 5G base station.

Optimizing energy consumption and aggregating energy storage capacity can alleviate 5G base station (BS) operation cost, ensure power supply reliability, and provide ...

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Under the condition that the electricity market is gradually building mature, gaining revenue through auxiliary service payment will be able to effectively reduce the base station ...

The number of 5G base stations has reached 5.94 million, and the number of 5G users is over 1.87 billion. To deal with the high energy consumption, telecom operators are ...

To further explore the energy-saving potential of 5 G base stations, this paper proposes an energy-saving operation model for 5 G base stations that incorporates ...

The rapid development of 5G technology leads to increasing energy consumption in base stations (BSs). For the vision of green and sustainable communications, we propose a ...

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