

Kongres Container

Electricity supply to base station communication equipment at night



Overview

What is base station Power?

Base station power refers to the output power level of base stations, which is defined by specific maximum limits (24 dBm for Local Area base stations and 20 dBm for Home base stations) and includes tolerances for deviation from declared power levels, as well as specifications for total power control dynamic range. How useful is this definition?

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How much power does a base station have?

Maximum base station power is limited to 38 dBm output power for Medium-Range base stations, 24 dBm output power for Local Area base stations, and to 20 dBm for Home base stations. This power is defined per antenna and carrier, except for home base stations, where the power over all antennas (up to four) is counted.

How can the electronic industry reduce power requirements for base stations?

As a result, the electronic industry is exploring new methods to reduce the power requirements for the electronic equipment used in the base stations. The first approach is to make the base stations more tolerant to heat which will then require less power for air conditioning.

How does a base station work?

Depending on the size of base station and its traffic, the base station may also have another sources of power such as a diesel generator, wind turbine or biofuels. The base station is a transceiver and acts as an interface between a mobile station and network using microwave radio communication.

How much power does a cellular base station use?

A cellular base station can use anywhere from 1 to 5 kW power per hour

depending upon the number of transceivers attached to the base station, the age of cell towers, and energy needed for air conditioning. Cellular base stations use power without any interruption and also needs maintenance.

How to reduce energy consumption in LTE Macrocell base stations?

The study in Jahid et al. (2019) considered an off-grid mobile network in which the PV array and diesel generator are the power supply sources for the LTE macrocell base stations. Energy sharing method through physical power lines and energy management strategy is adopted to enhance the EE and minimize fuel consumption.

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