What are the smart energy base stations

What is the energy-saving technology of base stations?

This technical report focuses on energy-saving technology of base stations. Some energy saving technologies since 4G era will be explained in details, while artificial intelligence and big data technology will be introduced in response to the requirement of an intelligent and self-adaptive energy saving solution.

How can a base station save energy?

There are two main methods of base station energy saving,including hardware and software.

How AI based energy saving can help BS Energy Saving?

In response to the requirement of an intelligent and self-adaptive energy saving solution,AI and big data technology are also introduced to BS energy saving for improving the efficiency and reducing the manpower required. 7.2. AI based energy saving for 5G base stations   Nowadays the 5G network deployment is on the fast track around the world.

What are the basic energy saving functions with multiple levels?

The basic energy saving functions with multiple levels are designed for different coverage scenarios,time of day and traffic loads. The recommended strategy for the fundamentals is as following: Symbol shutdown: symbol shutdown can be scheduled in millisecond level thus it can be applied to most scenario even during medium traffic load.

How AI & big data can help save energy?

In response to the requirement of an intelligent and self-adaptive energy saving solution,artificial intelligence (AI) and big data technology are introduced to form a more precise energy saving strategybased on specific site traffic and other site-related conditions,thus improving the efficiency and reducing the manpower required.

Energy consumption in the base stations (BSs) recently has aroused significant concerns especially when renewable power has been widely applied. In this paper, we jointly integrate ...

BSs are one of the most power consuming elements of a 5G network. It is important to model their energy consumption for analyzing overall energy efficiency of a network. Additionally, the ...

In this paper we study the problem of energy management in cellular base stations powered by smart grids and renewable energy. The utility company, through the smart grid, offers hourly ...

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