

Communication base station wind power cooling base plate

Are data centres and telecommunication base stations energy-saving?

Data centres (DCs) and telecommunication base stations (TBSs) are energy intensive with ~40% of the energy consumption for cooling. Here, we provide a comprehensive review on recent research on energy-saving technologies for cooling DCs and TBSs, covering free-cooling, liquid-cooling, two-phase cooling and thermal energy storage based cooling.

What is a cold plate cooling server?

The cold plate fits closely to the CPU chip and transferring heat quickly through a cooling circuit. Their results showed that the temperature difference between the electronic components and the coolant was only 15 °C, which gave a PUE of 1.15 (Zimmermann et al., 2012). Sugon developed a cold plate liquid cooling server for the DC cooling.

What are the different phase change cooling technologies in data centres?

Yuan et al. reviewed the technical principles, advantages, and limitations of four major phase change cooling technologies in data centres, namely, stand-alone heat pipe cooling, integrated heat pipe cooling, two-phase immersion cooling and phase change cold energy storage.

What is a TBS cooling system?

TBSs are communication equipment centres that send, receive and exchange signals in an information transmission network. They have a higher internal heat density than most of general computer rooms and therefore generally need a cooling system with a higher cooling intensity.

How does a DC & TBS cooling system work?

Cooling methods and performance The cooling of DCs and TBSs is mainly achieved using computer room air conditioning (CRAC) units, which consists of a vapour compression refrigeration system for cooling and a cold/hot aisle layout (Fig. 3) (Nada et al., 2016).

What is two-phase cooling technology & TES-based cooling technology?

It has been considered as one of the most promising energy-saving cooling technologies with more and more applied in large scale DCs. Two-phase cooling technology and TES-based cooling technology are relatively new.

Here, we provide a comprehensive review on recent research on energy-saving technologies for cooling DCs and TBSs, covering free-cooling, liquid-cooling, two-phase ...

The present invention relates to a kind of energy-saving communication base stations with cooling function, including pedestal, computer room, exhaust pipe, inlet duct, water tank, water pump, ...

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BackgroundUnattended base stations require an intelligent cooling system because of the strain they are exposed to. The sensitive telecom equipment is ...

A technology for communication base stations and ventilation equipment, applied in the field of 5G communication base stations, can solve problems such as rusting of parts, inability to ...

The invention discloses an intelligent 5G communication base station with an automatic cooling function, which comprises a shell, wherein the shell is arranged on the ground, ventilation ...

Another requirement for a cooling system in base stations and cell towers is humidity control. Dry air will make static to burn the communication equipment, thus humidity control is as important ...

The wind-solar-diesel hybrid power supply system of the communication base station is composed of a wind turbine, a solar cell module, an integrated controller for hybrid energy ...

The cooling requirements of communication base stations (CBSs) align with the effects of radiative cooling coatings. However, these effects have not been comprehensively ...

The studied case is a radio base station (RBS) of high power density. Operating in outdoor scenarios, RBS requires unattended duty, maintenance-free, and long life-time. Compared ...

A mobile communication base station and cooling system technology, which is applied in the field of high-efficiency cooling system for outdoor mobile communication base station equipment, ...

When there is a power outage, it will affect the work of the communication base station, affect people's normal communication, and reduce the practicability of the communication base station.

5G base station liquid cold plate cooling technology5G network has become a key development direction in the field of communication due to its three recognized advantages of ...

Unattended base stations require an intelligent cooling system because of the strain they are exposed to. The sensitive telecom equipment is operating 24/7 with continuous load that ...

In general, the research of automatic cooling device of communication base station is getting wide attention at home and abroad. At home, the emphasis is on improving the efficiency and ...

The utility model discloses a cooling device that 5G communication base station used, including first shell, locating hole and last fan, settle at the middle part of first shell has the main shaft, ...



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The application of Liquid Cold Plate helps to improve the stability and reliability of communication base station equipment. In high temperature environments, the performance of base station ...

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