Electricity consumption calculation of communication base stations

Overview

This paper conducts a literature survey of relevant power consumption models for 5G cellular network base stations and provides a comparison of the models. However, there is still a need to understand the power consumption behavior of state-of-the-art base station architectures, such as multi-carrier active antenna units (AAUs), as well as the impact of different network parameters. Since traffic load in mobile networks significantly varies during a working or weekend day, it is important to quantify the influence of these variations on the base station power consumption. The number and complexity of parameters is limited,and simple usage with load profiles or traffic modelsis possible to estimate total energy.

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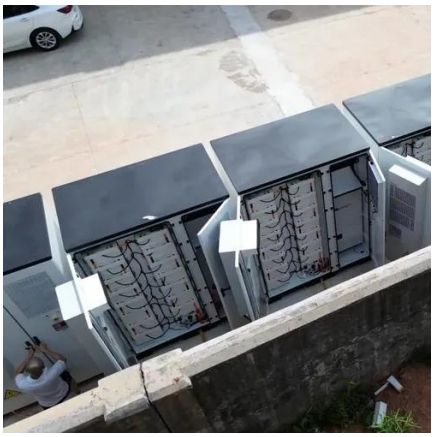
[Power consumption analysis of access network in 5G mobile ...]

The network power efficiency with the consideration of propagation environment and network constraints is investigated to identify the energy-efficient architecture for the 5G mobile ...

[Communication base station power consumption calculation formula]

This paper investigates changes in the power consumption of base stations according to their respective traffic and develops a model for the power consumption as per traffic generated



[Electricity consumption calculation of communication base stations]

Since traffic load in mobile networks significantly varies during a working or weekend day, it is important to quantify the influence of these variations on the base station power consumption.

[Power Consumption Assessment of Telecommunication Base Stations]

We introduce five base station energy models for the state-of-the-art EnergyPlus simulator, and we present the development of an OpenStudio Measure for the parameterization of ...

[Electricity consumption of communication network base stations]

This paper investigates changes in the power consumption of base stations according to their respective traffic and develops a model for the power consumption as per traffic generated

[Measurements and Modelling of Base Station Power Consumption ...]

Base stations represent the main contributor to the energy consumption of a mobile cellular network. Since traffic load in mobile networks significantly varies during a working or weekend day, it is ...

[Power Consumption Modeling of 5G Multi-Carrier Base Stations: ...]

We demonstrate that this model achieves good estimation performance, and it is able to capture the benefits of energy saving when dealing with the complexity of multi-carrier base stations architectures.

[Comparison of Power Consumption Models for 5G Cellular Network ...]

Power consumption models for base stations are briefly discussed as part of the development of a model for life cycle assessment. An overview of relevant base station power ...

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