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Title: Electricity big data analysis of base station electricity consumption

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In this section, we present our proposed availability model for the base station, which considers critical components that have a significant impact on the base station's availability and power consumption.

Base station agent: This agent will be installed in base stations in the form of applications running on dedicated hardware. It will be able to send the network data to the big data subsystem and to apply ...

The first step when modeling the energy consumption of wireless communication systems is to derive models of the power consumption for the main system components, which are then ...

The aim was to analyse real-world energy consumption behaviours across urban macro base stations (eNBs), including both temporal usage patterns and internal component-level power distribution.

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To address this, we propose a novel deep learning model for 5G base station energy consumption estimation based on a real-world dataset. Unlike existing methods, our approach integrates the Base ...

Thus, the objective is to develop a machine learning model to estimate the energy consumption of 5G base stations, taking into account different engineering configurations, traffic conditions, and energy ...

This study introduces a predictive modeling approach for base station energy consumption by combining Seasonal and Trend decomposition using Loess (STL) and Long Short-Term Memory (LSTM)...

An energy consumption optimization strategy of 5G base stations (BSs) considering variable threshold sleep mechanism (ECOS-BS) is proposed, which includes the initial matching ...

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