

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 ...

We found that, in 2015, ICT networks consumed 1.15% of the total electricity grid supply globally and contributed to 0.53% of the global carbon emissions related to energy.

Here we develop a large-scale data-driven framework to quantitatively assess the carbon emissions of 5G mobile networks in China, where over 60% of the global 5G base stations are implemented.

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 ...

Therefore, this paper investigates changes in the instantaneous power consumption of GSM (Global System for Mobile Communications) and UMTS (Universal Mobile Telecommunications System) ...

In this thesis linear regression is compared with the gradient boosted trees method and a neural network to see how well they are able to predict energy consumption from field data of 5G radio base stations.

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 ...

This paper proposes a power control algorithm based on energy efficiency, which combines cell breathing technology and base station sleep technology to reduce base station energy consumption ...

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This thesis examines analytic power consumption models for the base station, radio access network, user equipment, and system level relevant for 5th generation (5G) cellular networks.

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