Power consumption measurement and detection of 5G base stations in Naypyidaw

Should power consumption models be used in 5G networks?
This restricts the potential use of the power models, as their validity and accuracy remain unclear. Future work includes the further development of the power consumption models to form a unified evaluation framework that enables the quantification and optimization of energy consumption and energy efficiency of 5G networks.

Is 5G base station power consumption accurate?
esan@huawei.comAbstract--The energy consumption of the fifth generation (5G) of mobile networks is one of the major co cerns of the telecom industry. However,there is not currently an accurateand tractable approach to evaluate 5G base stations (BSs) power consumption. In this article,we pr

Can machine learning predict energy consumption for 5g/4g radio base stations?
To further develop energy modelling methodology and attempt to answer the questions presented in the previous section, different machine learning algorithm's ability to predict energy consumption is investigated for 5G/4G radio base stations.

Does a balanced dataset improve energy prediction of 5G base stations?
For energy prediction of 5G base stations,this thesis finds that using a more balanced dataset,in terms of the number of samples for each product,has a positive impactfor the ANN and the Gradient Boosted Trees model while the linear regression performs worse.

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), ...

This work has explored the power consumption of an outdoor commercial 5G NR base station using an inexpensive and custom-built power measurement setup.

Accurate energy consumption modeling is essential for developing energy-efficient strategies, enabling operators to optimize resource uti-lization while maintaining network ...

In this paper, we propose and validate a measurement-based approach to analyze the power consumption of a virtualized 5G core network (5GC) deployment.

This paper conducts a literature survey of relevant power consumption models for 5G cellular network base stations and provides a comparison of the models. It highlights ...

Accurate power consumption forecasting plays a pivotal role in energy management, influencing both utility operations and customer experience. With increasing ...

Abstract--The energy consumption of the fifth generation (5G) of mobile networks is one of the major concerns of the telecom industry. However, there is not currently an ...

This paper proposes a simple and inexpensive test setup that can be used to evaluate, compare and study the power consumption of different testbed configurations. The ...

At present, 5G mobile traffic base stations in energy consumption accounted for 60% ~ 80%, compared with 4G energy consumption increased three times. In the future, high ...

Mathematical optimization of energy consumption requires a model of the prob-lem at hand. In this thesis linear regression is compared with the gradient boosted trees method and a neural ...

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