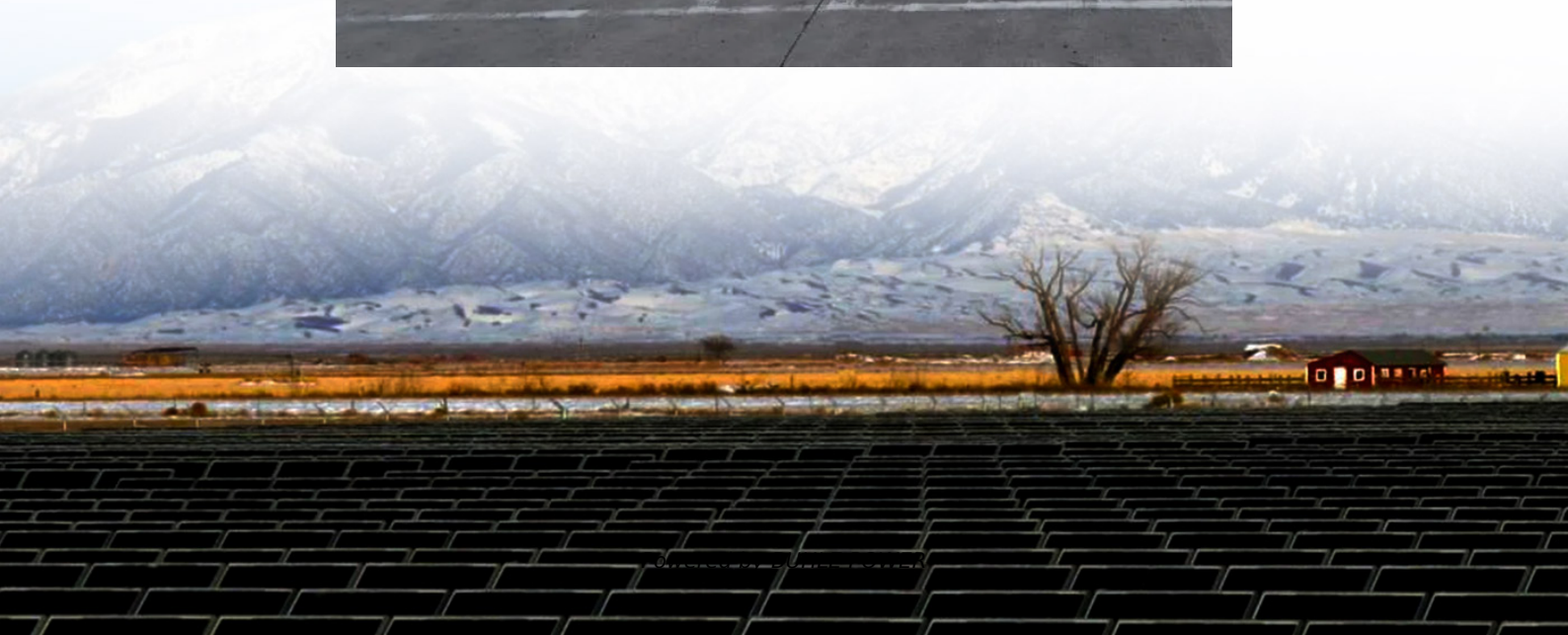


# **Microcell base station power consumption**





## Overview

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How to reduce the power consumption of cellular base stations?

In order to reduce the power consumption of cellular base stations (BSs), the following BS architectures have been developed: micro cell BSs, and remote radio head (RRH)-based BSs. In this paper, we propose a novel BS power consumption model for comparing the power consumption and energy efficiency of above three different BS architectures.

Can power models be used for macro and micro base stations?

In this paper we developed such power models for macro and micro base stations relying on data sheets of several GSM and UMTS base stations with focus on component level, e.g., power amplifier and cooling equipment. In a first application of the model a traditional macro cell deployment and a heterogeneous deployment are compared.

How does a small cell base station affect a smartphone's battery life?

When a mobile device is close to a small-cell base station, the power needed to transmit the signal is much lower compared to the power needed to transmit a signal from a cell tower far away, thus extending smartphone battery life.

Why are small cells better than a cell tower?

Small cells are smaller and cheaper than a cell tower and can be installed in a variety of areas, bringing more base stations closer to users. A large number of base stations increases the number of people a network can support, while reduced distance to users decreases latency, enabling even faster connectivity.



## Microcell base station power consumption

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