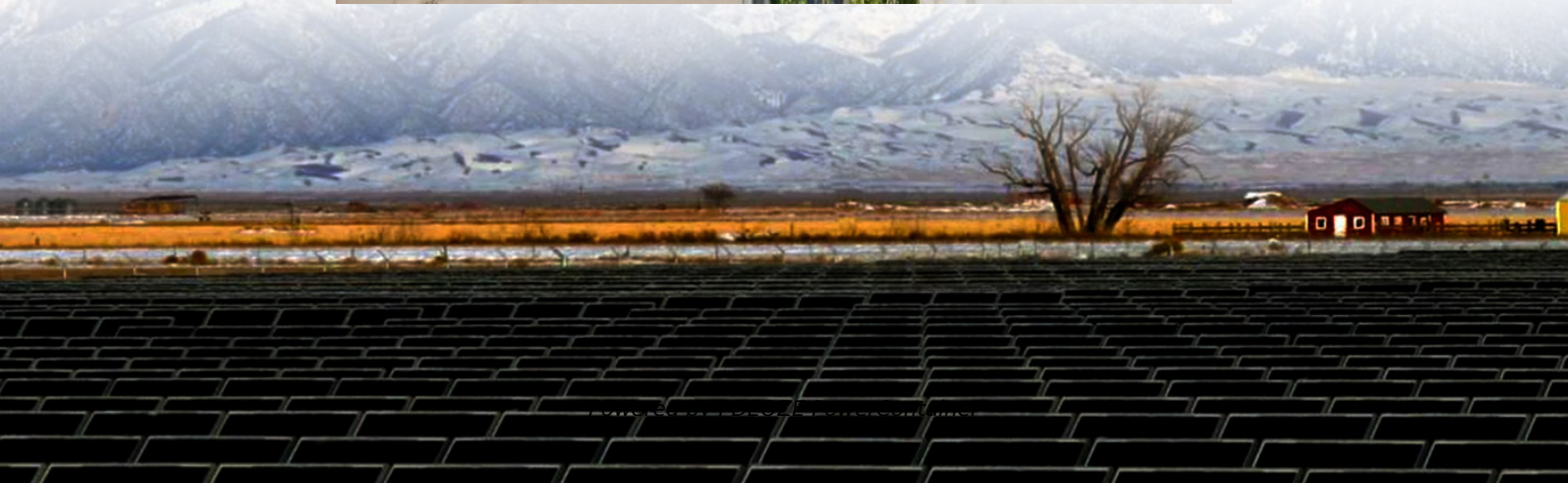


PDEOZE PowerContainer

How much communication energy does Vaduz base station use



Overview

What parameters are used to evaluate cellular base station Power model?

Parameters used for the evaluations with this cellular base station power model. The 5G NR standard has been designed based on the knowledge of the typical traffic activity in radio networks as well as the need to support sleep states in radio network equipment.

How does densification affect radio network energy performance?

Ph.D., Expert Radio Network Energy Performance, Ericsson Research
Historically, densification of networks has implied higher energy expenditure which can add up to a significant part of operator expenses. This, in turn, can place restraints on the number of base stations in the networks.

Does putting a base station into a sleep state save energy?

By putting the base station into a sleep state when there is no traffic to serve i.e. switching off hardware components, it will consume less energy. The more components that are switched off, the more energy we will save (shown on the y-axis in Figure 3).

How long does a base station sleep in idle mode?

As a result, there are only very short durations (less than 1 ms) for the base station to sleep until the next required signal transmission occurs and only a small number of components with very fast reactivation times can thus be switched off when the base station is in idle mode, and this limits the possible energy savings of LTE.

What is the sleep mode of a base station?

There are different stages of the sleep mode of base stations. These are mentioned below: On: the small cell operates fully and consumes the maximal power. Standby: the small cell sleeps in "light" mode and can easily wake up on UE's request., This can be done by shutting down the TCXO heater and RF.

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