



WALMER ENERGY

# **Maximum number of users per base station in 4G communication**





## Overview

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Can genetic algorithms optimize base station placement in cellular networks?

This work proposed and applied a field measurement-based genetic algorithms approach to optimize base station placement in cellular networks. The proposed method explores the combined impact of strong cellular networks influencing parameters, such as capacity, coverage, and transmit power in the base station placement process.

How to plan a 4G LTE network?

Therefore, the planning and optimization algorithms should be highly efficient, advanced, and robust. An important component of 4G LTE network planning is the proper placement of evolved node base stations (eNodeBs) and the configuration of their antenna elements.

How cellular networks affect base station placement?

The proposed method explores the combined impact of strong cellular networks influencing parameters, such as capacity, coverage, and transmit power in the base station placement process. A genetic algorithm-based approach is selected as an optimization technique, because it can produce a robust and good set of optimal solution spaces.

How has 4G LTE changed mobile subscriptions?

The emergence of 4G LTE broadband cellular networks has dramatically changed mobile subscriptions [ 22, 23, 24 ]. The continuous increase in mobile subscriptions drives mobile operators to deploy LTE networks using smaller cells (micro and femtocells) [ 25, 26 ].



## Maximum number of users per base station in 4G communication

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Optimal location of base stations for cellular mobile network

Jun 1, 2025 · In this paper, we address the classical problem of locating base stations for a mobile cellular network to serve mobile users in a given geographical area considering the users'

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Accurate Base Station Placement in 4G LTE ...

Feb 11, 2023 · This section presents the design of the base station placement model, maximization of service coverage areas, maximization ...

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4G , ShareTechnote

Aug 6, 2022 · Based on this definition, you may say Active User can be a kind of subset of Connected user meaning that the number of Active User ...

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Distribution of the Number of Users per Base Station in ...

Oct 8, 2025 · Abstract--We consider the number of users associating with each base station in a cellular network. Extending and unifying the characterizations for certain settings available in ...

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(PDF) Accurate Base Station Placement in 4G LTE Networks ...

Feb 11, 2023 · The authors looked at the placement of various user distributions in the target area after selecting the parameters used for input and the number of base stations in the LTE ...

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Accurate Base Station Placement in 4G LTE Networks ...

Mar 25, 2024 · An important component of 4G LTE network planning is the proper placement of evolved node base stations (eNodeBs) and the configuration of their antenna elements. This ...

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Accurate Base Station Placement in 4G LTE Networks Using ...

Feb 11, 2023 · This section presents the design of the base station placement model, maximization of service coverage areas, maximization of the covered user capacity, ...

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(PDF) Accurate Base Station Placement in 4G ...

Feb 11, 2023 · The authors looked at the placement of various user distributions in the target area after selecting the parameters used for ...

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4G , ShareTechnote

Aug 6, 2022 · Based on this definition, you may say Active User can be a kind of subset of Connected user meaning that the number of Active User in a specific moment (at a specific ...

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LTE 4G simultaneous connected devices for one cell site

Nov 11, 2025 · Thank you Edit: I am aware that in dense area, network operators "simply"

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reduce cell radius and deploy more base station, but the number of cells in an area is usually chosen ...

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#### Standard of 4G LTE

Oct 17, 2016 · Implementation scheme of eICIC Technology CRE(Cell Range Extension):Using RSRP configuration, CRE can expand the area coverage of Picocell, increase the number of ...

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#### Optimization of Base Station Placement in 4G LTE ...

Dec 23, 2022 · This paper uses a field measurement-based genetic algorithms approach to optimize base station placement in cellular networks. The proposed method explores the ...

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#### Distribution of the Number of Users per Base Station in ...

Oct 30, 2018 · We consider the number of users associating with each base station in a cellular network. Extending and unifying the characterizations for certain settings available in the ...

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