

## ContainerPower Energy Solutions

# Base Station Site Network Status Analysis



## Overview

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Are base stations a node or link in a network?

At the level of communication networks, base stations and optical cable lines are typically regarded as nodes and links in the network. The functionality of the network is assessed by connectivity analysis and traffic loss analysis [12, 15].

Can a Bayesian network be used to assess communication base stations?

This study applies a Bayesian network method to the functionality assessment of communication base stations. The method integrates Fault tree analysis and Bayesian network, and its performance is validated through the observed seismic damage data of the Ludian earthquake.

What is a base station?

2.1.1. Composition of Typical Base Stations Base stations are a form of public mobile transmitters that facilitate information exchange between mobile phone terminals and switching centers. They are typically categorized into indoor and outdoor types, with indoor base stations being the predominant communication infrastructure, as shown in Fig. 1.

How are base stations selected for functional analysis and failure cause diagnosis?

Typical base stations are selected for functional analysis and failure cause diagnosis. The seismic fragility curves of these base stations are employed to assess the damage states of base station components.

Can a Bayesian network method evaluate post-earthquake functionality of communication base stations?

This paper proposes a Bayesian network method to evaluate the post-earthquake functionality of communication base stations. The method considers the dependence between the equipment and its hosting building

structure, and the impact of power outages.

What is an indoor base station?

An indoor base station comprises a communication room accommodating various communication equipment and a communication tower responsible for transmitting and receiving information. The communication room is equipped with wireless communication devices, transmission equipment, power supply equipment, air conditioning, and cable routing racks.

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