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SolarInnovate Energy Solutions

Base station height and communication distance

Overview

How high should a transmitting antenna be?

A height of 120 feet or even higher will provide even more advantages for long-distance communications. To a distant receiving station, a transmitting antenna at 120 feet will provide the effect of approximately 8 to 10 times more transmitting power than the same antenna at 35 feet.

How high should a beam antenna be?

A beam type of antenna at a height of 70 feet or more will provide greatly superior performance over the same antenna at 35 feet, all other factors being equal. A height of 120 feet or even higher will provide even more advantages for long-distance communications.

Should BS antenna height be lower than UE antenna height?

Network operators may invest large amounts of money in deploying more network infrastructure to only obtain an even less network capacity. Our study results reveal that one way to address this issue is to lower the BS antenna height to the UE antenna height.

What happens if BS antenna is larger than zero?

If the absolute height difference between base station (BS) antenna and user equipment (UE) antenna is larger than zero, then the network performance in terms of both the coverage probability and the area spectral efficiency (ASE) will continuously decrease toward zero as the BS density increases in ultra-dense networks (UDNs).

How tall should a radio antenna be?

However, in order to get the emergency messages through, amateurs must have effective antennas. Most such relatively local emergency situations require towers of moderate height, less than about 100 feet tall typically. Extensive Federal Regulations cover the subject of interference to home

electronic devices.

What is the distance between a transmitter and a receiver?

The simple triangle goes from the Transmitter T up to the virtual height and then back down to the Receiver R. Typically the F layer exists at a height of 150 miles above the Earth at mid-latitudes. The distance between T and R may range from a few miles to 2500 miles under normal propagation conditions.

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