



Wind power design standards for ground-to-air communication base stations

Do base station antennas increase wind load?

Base station antennas not only add load to the towers due to their mass, but also in the form of additional dynamic loading caused by the wind. Depending on the aerodynamic efficiency of the antenna, the increased wind load can be significant. Its effects figure prominently in the design of every Andrew base station antenna.

Which wind direction should be considered in a base station antenna?

In aerospace and automotive industries, only unidirectional wind in the frontal direction is of concern. In the world of base station antennas, wind direction is unpredictable. Therefore, we must consider 360 degrees of wind load. Wind force on an object is complex, with drag force being the key component.

Are Andrew's base station antennas aerodynamic?

Andrew's re-designed base station antennas are crafted to be exceptionally aerodynamic, minimizing the overall wind load imposed on a cellular tower or similar structures. Wind load is the force generated by wind on the exterior surfaces of an object.

Are cellular tower antennas able to withstand wind loads?

As tower space becomes increasingly scarce and some infrastructure pushes its limits, the demand for antennas that can better withstand wind loads is more crucial than ever. Andrew's re-designed base station antennas are crafted to be exceptionally aerodynamic, minimizing the overall wind load imposed on a cellular tower or similar structures.

What is direct air to ground communication?

Direct Air to Ground Communication envisages a set of Base Stations suitably placed at the ground and directly communicating with airborne object, which may be an aircraft or any other aerial vehicle. These base stations transmit the radio waves to the airborne object that crosses the range of the base stations.

What is the P-BASTA standard for antenna wind tunnel test?

applications P-BASTA Standard and Antenna Wind Tunnel Test Before 2018, the P-BASTA V9.6 standard allows antenna manufacturers to use the preceding three methods to calculate and claim antenna wind load. However, different antenna manufacturers may adopt different methods, and the obtained



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