

Transparent antenna design for WiMAX application

Abstract

A transparent monopole antenna operating at 2.30GHz is presented in this paper. The radiating element and ground plane are both designed using AgHT-4, while the substrate is made of glass. The simulated and measured impedance bandwidths (BW) are 41.89% (2.00-3.06 GHz) and 90.91% (1.5-4.00 GHz), respectively. These results were obtained by using a suitable arc-shape slot on the ground plane; and the BWs cover the IEEE 802.16e standard for WiMAX application in the 2.30GHz band. The gain of proposed antenna is 3.16 dBi, and there is close agreement between measurement and simulation results, in terms of return loss and radiation patterns.

Keyword

Antenna design; IEEE 802.16e standards; Measurement and simulation; WiMAX application