

The Effects of a Human Hand on a Wireless Mouse Antenna
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Abstract

In this paper, Finite Difference Time Domain (FDTD) method is used to analyze the effect of a human hand on a wireless mouse antenna. The need for this analysis is based on the fact that human tissues are dielectric in nature and they can, therefore, be treated as electromagnetic absorbers. In the first part, hand effect on reflection coefficient, input resistance, bandwidth and radiation efficiency are studied. In the second part, the variation of radiation efficiency with the position of the hand from the antenna feed point is estimated. The

Method of Moments is used to validate the results.

Keywords: Wireless mouse, Antenna dipole, Electromagnetic Field, FDTD, Efficiency.

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