Title: Performance of microstrip antennas in the presence of EBG in an indoor localization system

Author(s): Silva, Filipe[1]; Pinho, Pedro[1]

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Abstract: Indoor localization systems in nowadays is a huge area of interest not only at academic but also at industry and commercial level. The correct location in these systems is strongly influenced by antennas performance which can provide several gains, bandwidths, polarizations and radiation patterns, due to large variety of antennas types and formats. This paper presents the design, manufacture and measurement of a compact microstrip antenna, for a 2.4 GHZ frequency band, enhanced with the use of Electromagnetic Band-Gap (EBG) structures, which improve the electromagnetic behavior of the conventional antennas. The microstrip antenna with an EBG structure integrated allows an improvement of the location system performance in about 25% to 30% relatively to a conventional microstrip antenna.

Author Keywords: Location Systems; Antennas; EBG Structures

Reprint Address: Silva, F (reprint author), Inst Super Engn Lisboa, Lisbon, Portugal.

Addresses:
1. Inst Super Engn Lisboa, Lisbon, Portugal

E-mail Address: 27168@alunos.isel.ipl.pt; ppinho@deetc.isel.pt

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