

Design and Analysis of Proximity Fed Single Band Microstrip Patch Antenna with Parasitic Lines

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Abstract : The design proposed in this paper mainly focuses on implementation of a single feed compact rectangular microstrip patch antenna (MSA) for single band application. The antenna presented here also works in dual band but its best performance has been obtained when optimised to work in single band mode. In this paper, a new feeding structure is applied in the patch antenna design to overcome undesirable features of the earlier multilayer feeding structures while maintaining their interesting features. To make the proposed antenna more efficient the optimization of the antenna design parameters have been done using HFSS's optimetric. For the proposed antenna one resonant frequency has been obtained at 6.03GHz, with Bandwidth of 167MHz and return loss of -33.82db. The characteristics of the designed structure are investigated by using FEM based electromagnetic solver.

Keywords : bandwidth, return loss, parasitic lines, microstrip antenna

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