

Switching a Dual Band PIFA to Operate at Four Bands

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Abstract

The antenna presented in this paper is based on a small dual band PIFA with maximum dimensions 36 mm times 12 mm times 6 mm. This size is typical of a PIFA designed for a contemporary mobile phone. While versatile, at lower frequencies it is often difficult to completely cover the GSM850 and EGSM 900 bands simultaneously using a small antenna. In this paper, a PIFA is reported with switches to select between two sets of low and high resonance pairs. The antenna has been designed with the intention to operate in either of the GSM850/GSM1900 and GSM900/GSM1800 band pairs, while being manufactured with standard planar photolithography processes.