Abstract

This paper presents the design of square spiral inductor on FR4 substrate for different number of turns. Various simulations based on the incipient models were done by varying geometric parameters. Here, we vary the number of turns from 5 to 9 and find out their effect on Inductance (L), Quality factor (Q) and Self resonant frequency (SRF). The development of inductors for RF telemetry applications is studied. For, this square spiral inductors were also fabricated on FR4 substrate by designing the Layout of the inductor using Tanner L-edit tool. Simultaneous change of different parameters with number of turns is presented that allow circuit designer to optimize the integrated inductor in RF telemetry with minimum cost, risk and time. The dependency of inductor performances as inductance, quality factor and self-resonant
frequency on geometric dimensions and process technology parameters are described.

References


Index Terms

Computer Science

Wireless
Keywords
Spiral Inductor Optimization  Q Factor  Self-resonant Frequency  Inductive Link  Telemetry.