Abstract

A new co-design approach is used to synthesize and design the new printed Bandpass Filtering Antenna. For the purpose of miniaturization and enhancing the overall performance of the circuit, a multi-function module is designed. It performs filtering and radiating simultaneously with the help of co-design approach. The parallel half wavelength coupled microstrip lines and inverted-L antenna is used for synthesizing the bandpass filtering antenna. The inverted-L antenna acts as a last resonator and provides load impedance of the bandpass filter. The equivalent circuit components of inverted-L antenna are acquired by comparing with the simulation results and then used for synthesis of Filtering Antenna. A complete design...
methodology is then described after the synthesis process. Here, third-order Chebyshev bandpass filter with center frequency 2.45 GHz and 0.1 equal-ripple response is designed as an example. The designed structure is compact and provides good design accuracy.

References


Index Terms

- Computer Science
- Wireless Communications

Keywords

- Filtering Antenna
- Filter Synthesis
- Co-design Approach
- Inverted-L Antenna.