

Design and analysis of novel compact inductor resonator filter

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Compact spiral inductor resonator filters using inductor type resonators are proposed. The design is based on the self-resonant frequency of the spiral inductors and electromagnetic coupling between the resonators. The filter is built and measurement results show good agreement with the simulation data. The filter design is flexible. The resonance frequency and bandwidth of the inductor resonator filter can be directly optimized from the physical arrangement of resonators. The compactness of the newly developed bandpass filter makes the design and integration of bandpass filters attractive for further development and applications in SOC and/or SIP.

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