High Q Factor Integrated Magnetic Inductors

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Status:
Seeking R&D and/or licensing partner

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Advantages of High Q Factor Integrated Magnetic Inductors

- Minimized the effect of magnetic loss of the magnetic materials on the inductors electrical characteristics
- Improved dynamic properties of exchange-coupled magnetic materials
- Increase of over 20% in the L and Q factors
- Improved permeability and $fFMR$ at the frequency of interest
- Uses glass substrate
  - Cheaper material

High Q Factor Integrated Magnetic Inductors

- Integrated magnetic inductor for radio frequency devices
- Inductor coils, magnetic films, a substrate, and exchange-coupled magnetic material
  - In the form of a composite or film
- Exchange-coupled two-phase hard and soft magnetic composites
  - High magnetization of soft phase
  - Large coercivity of the hard phase
- Control of the volume fraction of the hard/soft phase

Figure 1. The structure of the prior-air-core and invented magnetic inductors

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