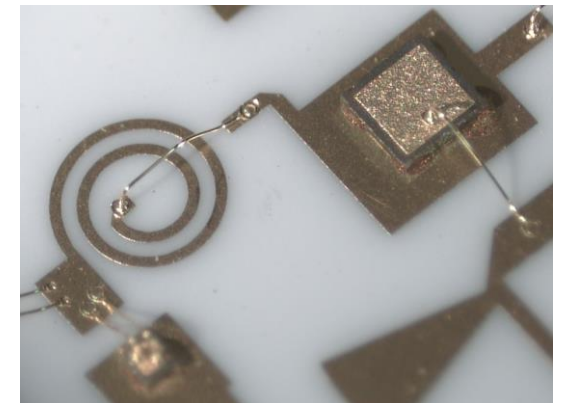
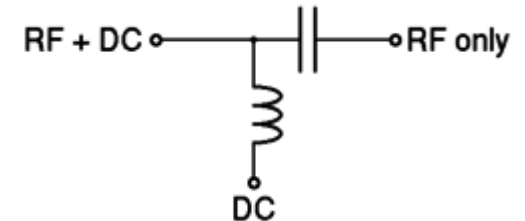


Miniaturized Bias Tees for PIC packaging

To operate modern photonic integrated circuits (PIC) many electrical and RF interfaces are required. Major challenges stem from the high density and external circuitry requirements of such circuits. Both electro-optical modulators and photodetectors may require bias voltages to operate which need to be injected at the RF chip interfaces. A bias tee is a common component for setting the DC bias point for such devices. Although simple in concept, the design and implementation of a high performance, broadband bias tee is very challenging. Circuit technology limitations and component non-idealities need to be considered for stable broadband operation.

In this thesis, basic RF components for integration on single layer, high dielectric constant substrates should be investigated. Modelling in electromagnetic simulation tools and performance verification of simulation predictions is expected. The goal is to build a library of components to be used for building broadband bias tees as part of PIC packaging. If selected as a master thesis, the implementation and measurement of a demonstration bias tee is also expected.



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