



Electro-Photonics LLC

# Overview

## Extensive Design Experience in:

- RF/Microwave circuits
- Passive components
- 3D EM, mechanical, and thermal analysis

## Build-to-Print:

- Thin film filters
- Transmission Lines on Alumina and Quartz
- Thin film circuits on various ceramic materials (Alumina, BeO, AlN, CVD Diamond, and others)



## SMT Passive Components:

- 90° Hybrid Couplers
- Directional Couplers
- Power Dividers

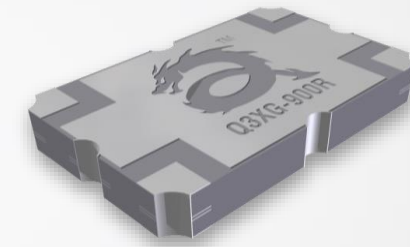
## Testing and Fixturing:

- Custom RF fixtures up to 40GHz
- Evaluation boards for passive and active components
- RF Cable Assemblies

## Passive Components:

- Spiral Inductors
- Single Layer Capacitors
- Mounting Tabs (Shorts)

# SMT Passive Components



- Hybrid Couplers:

- Our couplers provide tight coupling, low insertion loss, and good phase tracking while being able to withstand high power. We design custom couplers from 30 MHz to 18.0 GHz and power levels up to 500 W.

- Directional Couplers:

- Our directional couplers have low insertion loss, high power capability, high directivity, flat coupling in a small package.

- Power Dividers:

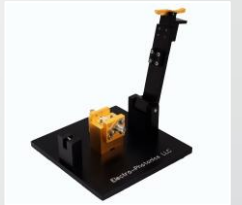
- Custom designed SMT RF & Microwave power dividers/combiners covering the frequency range from 0.4 GHz to 18 GHz.

# Testing and Fixturing

## ■ Custom Test Fixtures:

RF & Microwave test fixture for exceptionally accurate and repeatable measurements.

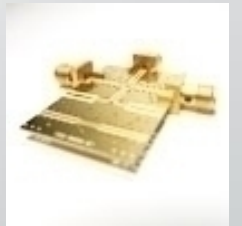
We create RF & Microwave test fixtures solutions for even the most technically challenging applications.



## ■ Evaluation Boards:

RF & Microwave evaluation boards for testing various passive and active components.

We use our extensive RF & Microwave design experience, combined with carefully selected materials, to create RF & Microwave eval boards with excellent high frequency performance.



## ■ Cable Assemblies:

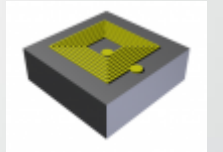
Flexible cable assemblies for a wide range of RF & Microwave applications. We provide high performance, high frequency, low loss, and phase stable cable solution.



# Passive Components

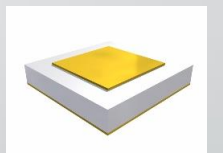
## ■ Spiral Inductors:

These inductors are built on quartz in order to provide low loss and high Q in a tiny 0303 package. These inductors exhibit excellent electrical performance up to 10GHz and provide inductance ranging from 0.7nH to 22.5nH.



## ■ Single Layer Capacitors and Mounting Tabs:

Single layer capacitors are available with a dielectric material with dielectric constant (DK) from 3.8 to 25,000. The standard metallization is gold over nickel. Mounting tabs are made of metalized alumina in various sizes.



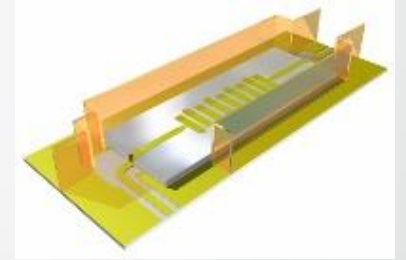
# Build-to-Print Services

- Filters:

Thin film filters on: Alumina ( $\text{Al}_2\text{O}_3$ ), Beryllium Oxide ( $\text{BeO}$ ), and Aluminum Nitride ( $\text{AlN}$ ).

- Transmission Lines:

50 Ohm t-lines on Alumina or Quartz



# CONTACT

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