



- More Efficient
- Improved Performance
- Smaller Form Factors

Make your RF Passives work together. Combine multiple passives into a single integrated solution. Florida RF Labs and EMC Technology can integrate any of our passive components into customized engineering solutions using a variety of materials and form factors. Multiple functions such as power division and fault detection can be combined and optimize to deliver RF performance you can not achieve using multiple discrete components. Let us design for you today.

# BENEFITS OF INTEGRATED SOLUTIONS

## Better Performance

Passives that are made and integrated together work better than discrete passives from multiple vendors using multiple processes. Performance parameters can be matched using specific printed or etched line spaces, line lengths, and tuning elements.

1. Terminations can be printed with inductive tuning that can offset inherent capacitance caused by metallization layers.
2. Components can be combined with optimized tuning lines so that 50 ohms can be maintained.

## Smaller Form Factor

When passives are integrated, specific areas like grounding can be combined to save space. Passives can be integrated such that the overall form factor is much smaller than a discrete device.

## Multiple Functionality

Multiple solutions and components that before were segregated to different areas of the board space can be combined with integrated solutions.

3. Power sensing and fault detection..
4. Isolators and attenuators.

*Integrated Solutions are custom designs made to match the requirement of the customer needs and are one example of a Beyond the Book application.*

## Ceramic, Softboard, LTCC

Integrated solutions can utilize many different form factors and materials. Custom specifications may require different materials and processes. In some cases, even different materials and processes can be combined for optimum performance (i.e. Thin Film and Thick Film construction.)

5. With LTCC multiple components can be integrated creating an entire RF chain.

## Custom Layouts

Integrated solutions are custom and can be laid out into form factors of any shape or style to match the layout of your other multiple components. These layouts can be terminated with coax, surface mount, or tab/pin leads.

## Product Depth

EMC Technology and Florida RF Labs have the broadest collection of innovative passive solutions in the market. All the passive products and capabilities from both brands are available to be included into integrated custom solution.

## Quick Proto Types

Dedicated quick turn proto-types are available for integrated solutions made to meet your critical program or design cycle needs. With an efficient vertically integrated factory and deep engineering resources located in the United States, proto-types can often be turned from concept to samples in 4 weeks or less.

## Multiple Components

With the depth of products and capabilities, almost any passive component is available for integration. Power dividers, couplers, terminations, resistors, power sensors, attenuators, temperature compensation or capacitors are just a few examples of components that can be integrated.

6. Couplers can be combined with attenuators and the Smart Load to create a fault detector circuit which gives true RMS power readings.
7. Thermopad can be combined with an equalizer to give simultaneous temperature and frequency compensation in a single integrated passive component.

