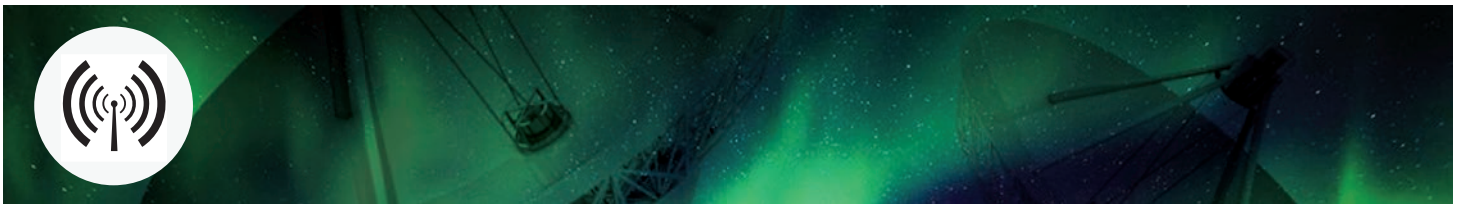
AURORACIRCUITS
North American Technology Solutions Provider for Printed Circuits



Radio Frequency & Microwave

Aurora Circuits has been an industry leader in PCB innovation and fabrication for over 70 years. This extends to our ability to manufacture and engineer radio frequency (RF) and microwave PCBs. In the PCB industry, RF circuit boards are generally considered to be any high frequency PCB that operates above 1MHz. Within the radio frequency class, anything above 1GHz is a Microwave PCB.

In comparison to traditional printed circuit boards, both RF and Microwave signal boards are extremely noise sensitive and require tighter impedance tolerances. Aurora Circuits' optimal solutions for these difficulties is to utilize ground plans and use a generous bend radius on impedance-controlled traces.

Radio Frequency (RF) boards have an abundance of different applications including, but not limited to;

- Wireless Technologies
- Smart Phones
- Sensors
- Robotics
- Security

At Aurora Circuits, our engineers have extensive knowledge of the vast amounts of materials related to RF and microwave technology, which ensure all customer orders are designed for manufacturability, durability, and reliability.

Common RF and Microwave materials:

- Plastics
- Epoxy
- Glass
- Ceramics
- Rigid & Flex Forms

Other Aurora Circuits solutions for RF & Microwave Technologies include:

- Back Drilling
- Controlled Depth Drilling
- Metal Layer Backing and PTHs
- Etching
- Soft Gold and ENEPIG Plating
- Blind and Laser Via's
- Edge Plating

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Ensuring Proper Design & Avoiding Challenges

RF and microwave technologies are extremely sensitive to noise disturbances. For this reason, it is critical to understand the importance of considering the difficulty of design in the early stages of engineering.

Engineering Key Notes;

- Return signals take the path of least inductance. Therefore, ground planes underneath your signal will make it easier to guarantee this path.
- Note the importance of impedance matching. As RF and microwave frequencies move higher, the tolerance becomes increasingly smaller.
- Return loss needs to be minimized as best as possible. A return path can always be established; however, preventative engineering design can ensure that it is guided to prevent bleeding gof the return through all layers of the PCB.

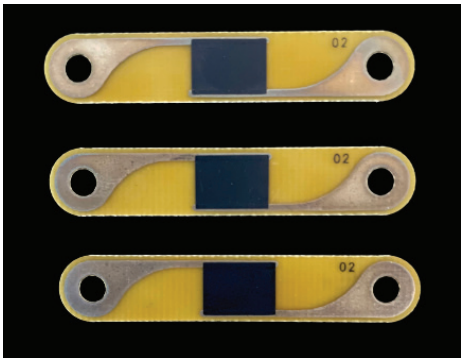
Important things to consider when selecting your high-frequency PCB Laminates;

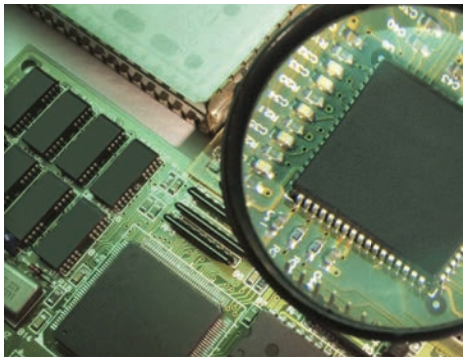
- Thermal conductivity & coefficient of thermal expansion (CTE)
- Dielectric constant and its thermal coefficient
- Thickness
- Smoother copper/material surface profile

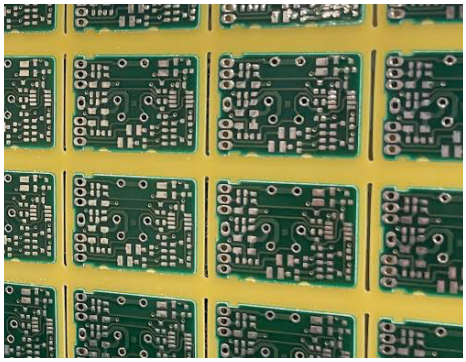
About Aurora Circuits

Over 70 years' experience in Printed Circuit Fabrication providing Advanced Thermal Management and Interconnect Technology Solutions for Printed Circuit Designs and Specialty Products.

As one of the trailblazers and longest established, domestic manufacturers in the printed circuit board industry, (formerly known as Kalmus & Associates), Aurora Circuits is known as an industry leader in innovation, customer service and engineering. Let us partner with you to maximize profitability and production sustainability.







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