

Addressing the Design Challenges of RF / Millimeter Wave Semiconductor Packaging

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Abstract

Ametek Electronic Components & Packaging (ECP) is the world leading producer of end to end electronic packaging solutions for harsh environments and reliability sensitive applications. Our primary markets employ a large level of RF through millimeter wave communication – in defense, aerospace, and optical communication. Ametek ECP has expanded the RF design engineering department to meet the growing market need for high performance integrated RF interconnects. The expanded portfolio will include press-fit connectors (SMP, SMPM, SMPS, etc.) designed for operating frequencies above 50GHz, as well as custom high speed, High Temperature Co-fired Ceramic (HTCC) interconnects, such as the patented S-Bend technology.

Expanded high performance measurement and 3D modelling and electromagnetic simulation capability addresses current and future I/O needs in both coaxial and ceramic arenas. Millimeter wave technology adds in unique challenges of physical design dimensions on the order of quarter wavelengths requiring sophisticated engineering, simulation, and testing capability, particularly in challenging environmental and high reliability applications.