

SEMICON West 2018

Press release

Innovative compact multi-channel RF filters combines inductor and capacitor in a single device.

At [West Coast Magnetics](#), we are improving RF filter design, making them more compact and simultaneously able to handle more power.

Precision plasma processing often requires an RF filter to eliminate spurious noise in the system. In the past, this type of filter utilized multi-component designs which were large, subject to parasitic effects and with properties that varied with temperature. These legacy designs do not filter well at the desired frequencies when installed due to interactions with the rest of the assembly. WCM has developed a new patent pending technology which utilizes a single compact device to provide exceptionally high impedance at any chosen RF frequency. This new technology can accommodate multiple channels in a single device, handle high current, and the impedance properties are highly stable with temperature. It is continuously tunable to any RF frequency and has been implemented in filters at 13.56 MHz, 27.12 MHz, and 40.68 MHz, with intentions to expand the range into lower and higher frequencies. It is much more space efficient; one prototype fit 12 channels into the space in which only 4 fit previously. These new [RF filter](#) designs would be an excellent choice for your high-power filtering needs.