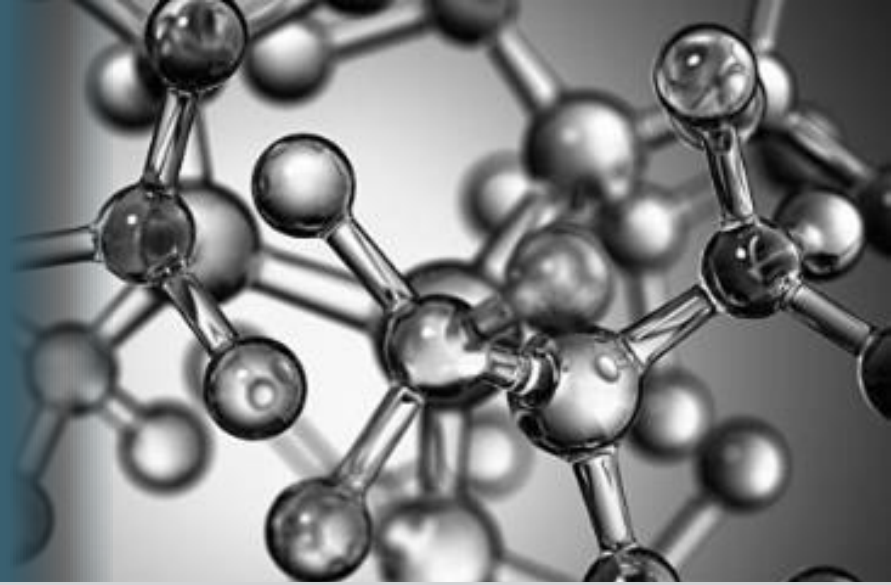
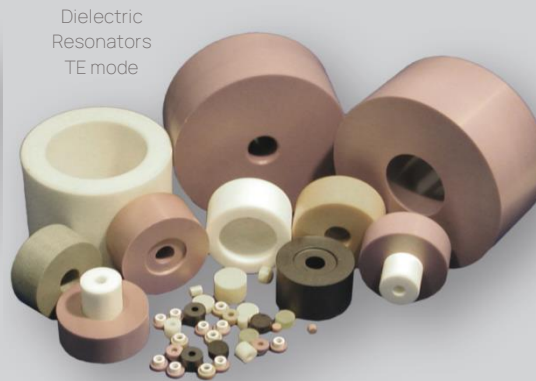


Materials



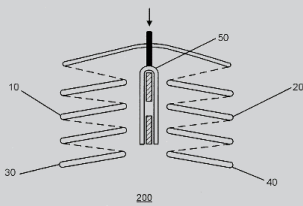
ULTRA-HIGH Q CERAMICS

Since 1995, MCV has formulated and fabricated ceramics in-house. This provides the level of control and precision needed to produce ultra-high Q ceramic materials with dielectric constants up to 190 and $Qf > 300,000 @10 \text{ GHz}$. Material science expertise forms the basis for our high-performance ceramic filter, resonator, antenna, and substrate products.

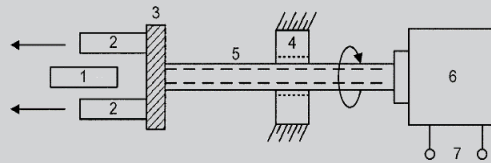


DESIGN & BUILD-TO-PRINT

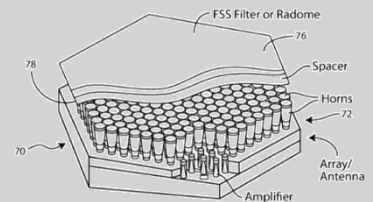
Our design expertise spans the range of RF, microwave, and mmWave applications with a focus on ceramic monoblock, ceramic waveguide, stripline, and dielectric resonator loaded cavity filters. We start with your specifications, use 3D EM simulation tools and manufacturing design rules, and fully test the finished product.



Tunable Resonator
US20170104466



Tunable Capacitor
US20150262756



Fractal Frequency Select Surface
US20190386364

PROCESSING, MANUFACTURING, ASSEMBLY & TEST

Our vertically integrated capabilities start with customization and production of ceramic materials, all the way through to finished product. This includes:

- Forming of ceramics
- Thin Film metallization
- Thick Film metallization
- Machining
- Lapping & Polishing
- Dicing



CNC router for machining cavity filters, switched filter banks, and integrated assemblies



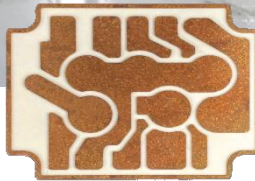
Test & Assembly stations



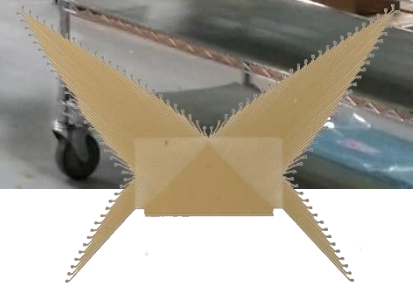
SMT and Reflow lines with 40,000 parts/hour capacity



Thin film deposition for dielectric antenna



Thick film copper on alumina substrate



Thick film gold on alumina substrate



Materials | Customization | Vertically Integrated

MCV Microwave has been a leader in ceramic filters and resonators since 2000. Headquartered in Laurel, Delaware and AS9100D certified, MCV Microwave supplies many Fortune 500 companies in commercial wireless and high reliability aerospace and defense markets. Its proprietary high Q dielectric ceramic materials deliver the highest performance for TE mode dielectric resonators in the industry. MCV Microwave leads in providing one of the smallest footprint and low-profile filters suitable for space flight applications.

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