



**Indiana
Microelectronics, LLC**

West Lafayette, IN
www.IndianaMicro.com

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**SINCE ITS FOUNDING IN
2009**

15 SBIR Awards

6 Employees

N/A Socioeconomic Category

1 Patent from SBIR/STTR

Reconfigurable Microwave Filters (RMFs)

Co-site interference and adversarial jamming encountered by modern communication systems deny warfighters access to critical information.

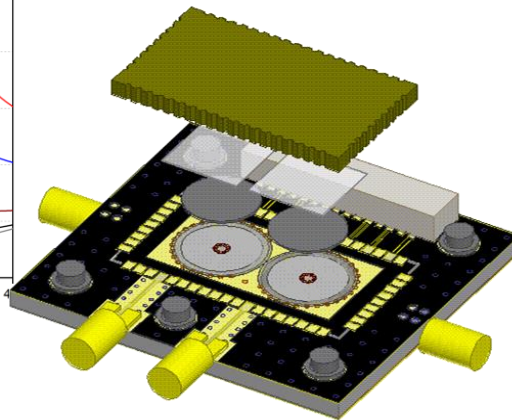
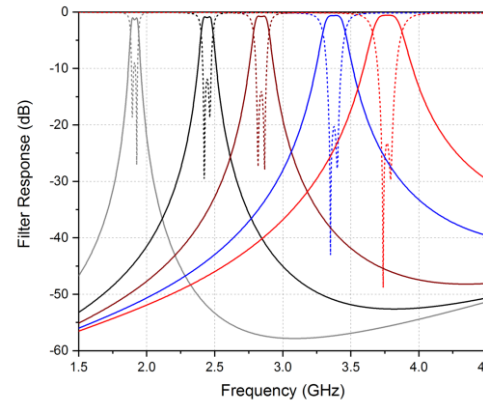
Indiana Microelectronics has developed dynamically tunable microwave filters (Reconfigurable Microwave Filters or RMFs) that adapt in real time to congested and contested spectral environments. RMFs filter out interfering signals and pass signals of interest. The closed loop frequency control hardware and algorithms integrated into the filters provide enhanced tuning control and improved Signal-to-Noise Ratio (SNR), Bit Error Rate (BER), and dynamic range. RMFs offer size, weight, power and cost improvements over traditional Yttrium Iron Garnet (YIG) filters. Indiana Micro's RMFs are becoming increasingly important for wideband digitizing systems to operate effectively.

IMPACT

Real-time, fast tuning microwave filters allow mitigation of co-site interference and hostile jamming. Reduction in size and power consumption increases system reliability, up-time and adaptability providing greater interoperability of DoD systems and next generation electronic warfare, radar and cognitive radios.

BEYOND PHASE II

Indiana Microelectronics acquired Phase III funding totaling \$2M towards refining the tunable filter technology from the National Spectrum Consortium (2 projects) and two major defense prime contractors. Indiana Microelectronics continues to enhance this technology through SBIR/STTR awards from DoD services for air, land and sea applications.



Solicitation:

Closed Loop Frequency Control for Tunable High Quality Factor Filters

DARPA SBIR Sponsor

SB12A-005 Topic Number

Operability, Reliability Primary Innovation

Cost Savings Secondary Innovation