GE Research

Technology Brief

RF Packaging

High Reproducability

Multilayer Thin Glass Buildup

Direct Metal Interconnect

Integrated RF MEMS & Passives

Thru Glass Vias

GE Research has over 40 years of experience providing discriminating RF and mmWave electronic integration and packaging technologies for high performance and harsh environment systems. These systems range from 10 Gbps electro-optic modules to wideband 2-20GHz beamformers and V Band power combiners for space applications. Utilizing proven RF/mmWave design for manufacturing methodologies, combined with novel materials sets and fabrication capabilities, GE Research can work with you to design, fabricate, and test RF and mmW modules up to 70Ghz. We offer both organic (PI, LCP, thin core/prepregs) and inorganic (fused silica and glass) thin sheet build up technologies along with hybrids. We offer integrated resistors and capacitors as well as discrete component integration via embedded chip, flipchip, thermo-compression, and BGA attach. Additionally, we have established GE RF MEMS technology which can be incorporated into thin fused silica stackups for added module functionality, adaptability, and reconfigurability.

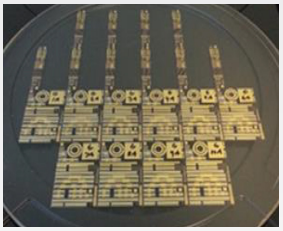
GE Research Packaging Capabilities

- Organic and inorganic substrates
- Lamination and wafer bonding
- High signal integrity, fine line and space
- TGV processing
- Integrated passives & RF MEMS
- Panel and wafer level processing
- Multi layer stacks with nm to 100 µm metal
- MCM module assembly
- RF module and wafer test to 70 GHz
- Accelerated reliability and life tests
- 28,000 sq. ft. class 100 cleanroom
- ISO 9001:2015 certified, ITAR compliant

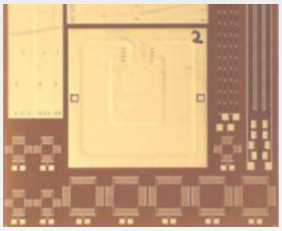
GE Research Offerings

- Custom package assemblies
- Design and electromagnetic modeling
- System design and packaging integration
- Supply chain options for any volume need
- Up to 70Ghz module and wafer testing

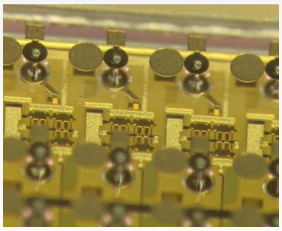
Multilayer Glass RF Circuits



Multilayer Embedded Die RF Modules



All Fused Silica stack up with integrated RF MEMS, passives, TGVs and BGA attach



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