

# **Hi-Rel RF Solutions**

**Product Line Overview** 



Micross is a leading manufacturer of RF and Microwave surface mount semiconductor components and hybrids, for space, aerospace & defense applications, with over 20 years of space heritage and zero flight failures!



#### HI-REL RF AND MICROWAVE CUSTOM & COTS MICROELECTRONICS

#### Custom & COTS Single and Multi-Function Devices

Accelerate time-to-market utilizing our extensive library of standard SMT RF components and hybrids built on qualified, proven functional blocks and devices following the guidelines of: EEE-INST-002; MIL-PRF-38534; MIL-PRF-38535; All equivalent intl. docs, or an SCD

#### SWaP Optimized RF/µW through 40+ GHz

Synthesized multi-layer semiconductor package designs reduce size, weight and power dissipation - critical for space and aerospace applications, from DC to Ka band

#### Minimize Risk & Costs

By managing the device qualification process at the module level, the additional risks and costs associate with procuring & qualifying multiple components are eliminated. Documentation already in place.

Switches: GaAs, PIN, SPST through SP8T available with driver

Amplifiers: LNAs, Driver Amplifiers, & Power Amplifiers in GaAs or GaN

Attenuators: WAs or DSAs with or without driver

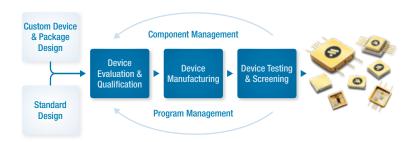
Frequency Conversion: Vector Modulators, Frequency Multipliers

#### **Multi-Chip Modules**

**Building Block Integration** Optimize SWaP Performance & Reliability Part Management Reduction

#### **Custom Solutions**

Your Die/Our Package Custom Package Design through 50GHz Electrical & Mechanical Characterization



#### **Control Products**

High Power PIN Switch GaAs FET Switches Digital Step Attenuators

#### **Amplifier Products**

GaN and GaAs Technology Low Noise Amplifiers **Power Amplifiers** 

At the Forefront of New Frontiers... 20+ Years of Flawless Performance in Space











GPS III

MSP BLOCK III

KH-5 ARGON

WGS

# End-to-End Hi-Rel RF & Microwave Microelectronics

### Product Design

- · Circuit Analysis
- · Thermal Analysis
- · Risk Mitigation Study
- · Component De-rating

#### Package Design

- · Schematic Capture
- · Package Modeling
- · Multi-Layer Leaded/Leadless

#### Device Manufacturing

- Microelectronic Assembly
- · Device Screening

#### Device Testing

- · Small Signal Testing
- · Large Signal Testing
- · Data Recording
- · Fixture De-embedding

#### Device Qualification

- · Life Testing
- · Destructive Physical Test
- · Residual Gas Analysis
- · Radiation Testing

## Program Management

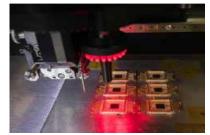
- · Counterfeit Mitigation
- · EOL/Obsolescence
- · Customer Design Review
- · Project Management



Design Specialist in GaN/GaAs Custom Solutions



Manufacture 10,000 ft<sup>2</sup>, AS9100 & ISO9001 Certified Facility



Device Qualification 100% Tested to MIL-PRF Class S

#### SINGLE CHIP MICROCIRCUITS

#### MIL-PRF-38535 Class B and S

· WLAT

Includes:

- · 100% Screening (MIL-STD-883)
- · QCI Groups A, B, C, D

Configuration Control

· DC and RF Test Data

Temperature Performance

· Lot Traceability

Serialization

· Final Test Report

- · Radiation and ESD Testing
- · Frequency Rance: DC-50GHz

# MIL-PRF-38535 Class H and K · Design Review

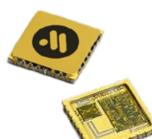
- · Element Evaluation
- · 100% Screening (MIL-STD-883)

**HYBRID MULTI-CHIP MODULES** 

- · QCI Groups A, B, C, D
- · Radiation & ESD Testing (if rqd)
- · DC-40GHz

#### Includes:

- · Configuration Control
- · Lot Traceability
- · Serialization
- · RF Test Data
- · Temperature Performance
- · Final Test Report



GaAs/GaN MMIC

- · Control Products
- · Amplifier Products
- Driver Products



RF Switches SPST/SPDT/ SP4T/SP8T



RF Switches with Integrated Driver



Digital Step Attenuator



GaAs/GaN MMIC

· Control Products

· Amplifier Products

LNA's/Drivers



GaN PA with Matching



MMIC Based GaN PA



Vector Modulators



#### **Need Information?**

Quote Request: micross.com/quotes
General Requests: micross.com/info

Technical Support: micross.com/tech-support