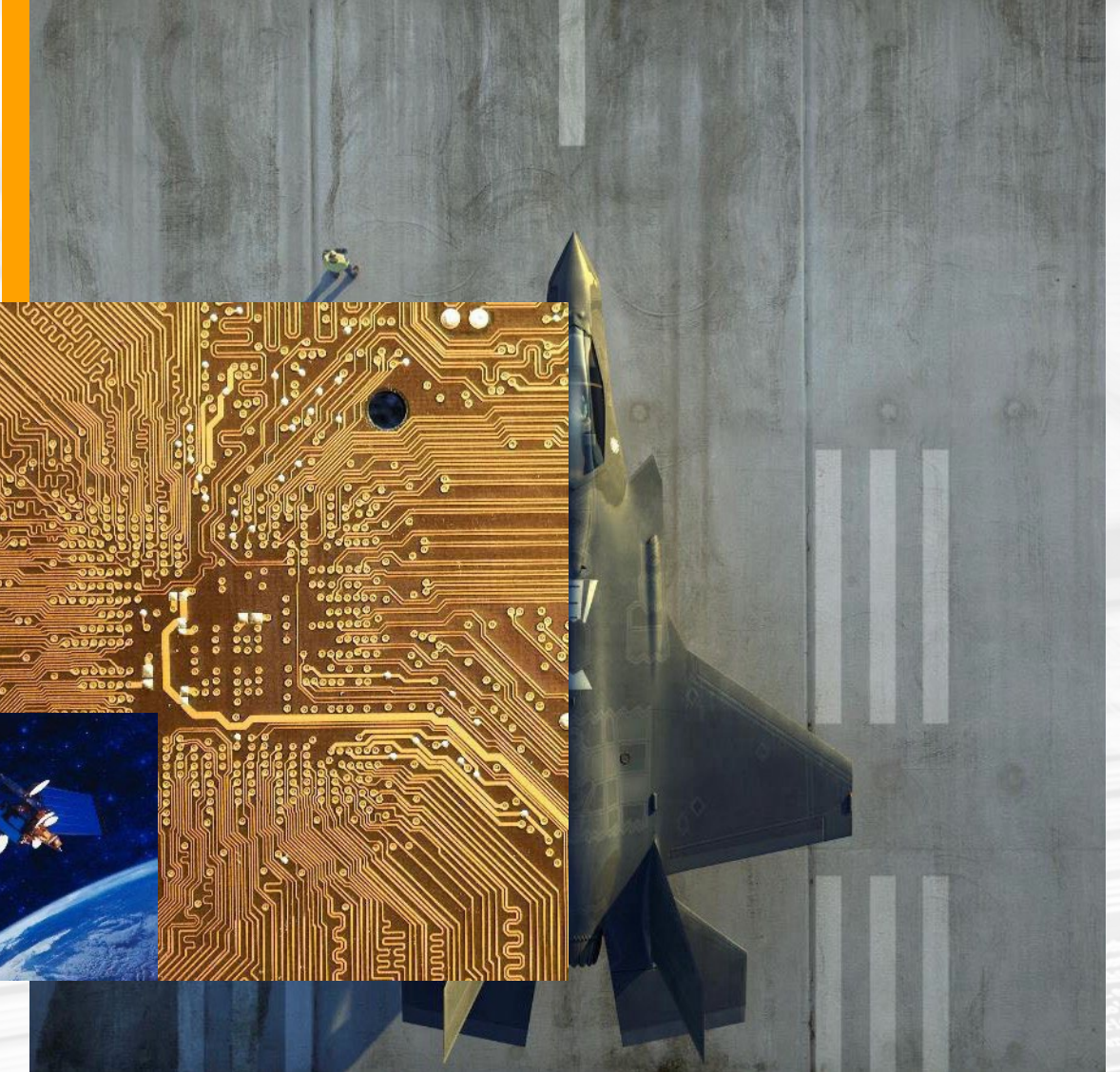
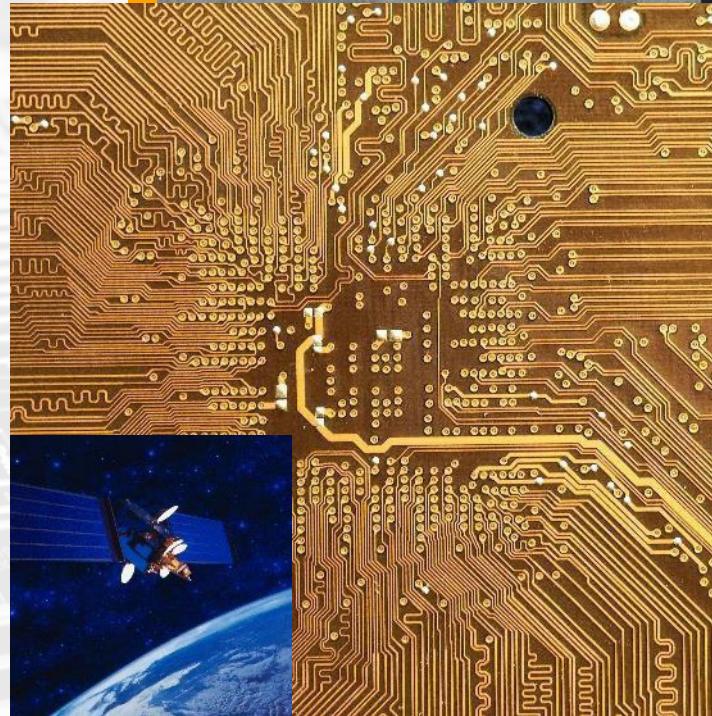


# Defining & Delivering the Future of Mission-Critical Electronics

May 9<sup>th</sup>, 2025



# Corporate Overview

Defining & Delivering the Future  
of Mission-Critical Electronics

- > Global leader within aerospace, defense and commercial markets
- > 15,000+ products across 16 Business Units
- > 1,500+ customers worldwide
- > ~ 900 employees in 20+ locations
- > 60+ years of history serving mission-critical electronics
- > Strong patent and IP position



# Three Verticals of Mission-Critical Electronics

## RF/MW Products

(Components to Integrated Assemblies)



Quantic Corry    Quantic M-Wave

Quantic MWD    Quantic TRM

Quantic PMI    Quantic Wenzel

Quantic X-Microwave

## Sensing Products

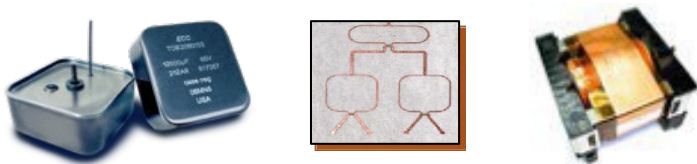
(Encoders, Scanners & Accelerometers)



Quantic BEI

## Power Products

(Capacitors, Resistors & Magnetics)



Quantic Evans

Quantic ECI    Quantic Eulex

Quantic Paktron    Quantic UTC

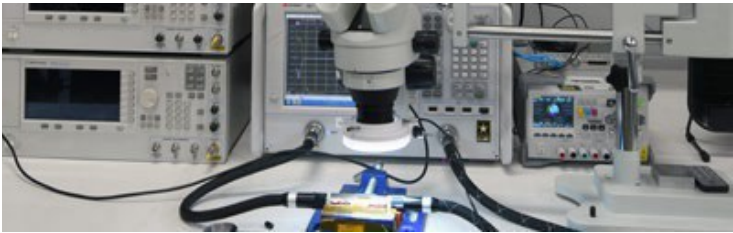
Quantic Ohmega    Quantic Ticer

## Aerospace & Defense (A&D)



Proven mission critical designs that meet the demanding requirements of secure communication, radar, electronic warfare, and satellite systems providing reliable and efficient performance in mission-critical environments.

## Test & Measurement (T&M)



Designs include high-end RF Safety, Monitoring solutions & Antenna Measurements for multiple industries including telecommunications, aerospace, & defense (A&D), & diversified industrial with global product distribution.

## Space / SATCOM Industrial & Commercial



Solutions include up- and down-converters for military satellite control network, & other amplifier and power control solutions for military and civilian satellite-based communication applications.



# Focused on Components & Modules in the Value Chain

## Primes/Tier 1

Mission Integrated Systems

## Tier 2

Integrated Subsystems

## Tier 3

Modules

## Tier 4

Components



Our Focus

# Design and Manufacturing Locations



## RF & Microwave

- 1 Quantic Corry – Corry, Pennsylvania
- 2 Quantic Corry – Warrendale, Pennsylvania
- 3 Quantic Croven – Whitby, Ontario
- 4 Quantic M-Wave – Simi Valley, California
- 5 Quantic MWD – Irvine, California
- 6 Quantic PMI – Frederick, Maryland
- 7 Quantic PMI – El Dorado Hills, California
- 8 Quantic TRM – Bedford, New Hampshire
- 9 Quantic Wenzel – Austin, Texas
- 10 Quantic X-Microwave – Austin, Texas

## Capacitors

- 11 Quantic Eulex – Monterey Park, California
- 12 Quantic Evans – East Providence, Rhode Island
- 13 Quantic Evans – Sanford, Maine
- 14 Quantic Paktron – Lynchburg, Virginia
- 15 Quantic TPC – Phoenix, Arizona
- 16 Quantic UTC – Monterey Park, California

## Resistors

- 17 Quantic Ohmega – Culver City, California
- 18 Quantic Ticer – Chandler, Arizona
- 19 Quantic Ticer – Windsor, Connecticut

## Magnetic & Sensing

- 20 Quantic ECI – Westfield, Massachusetts
- 21 Quantic ECI – Tatabanya, Hungary
- 22 Quantic BEI – Maumelle, Arkansas
- 23 Quantic Thistle – Midlothian, Scotland



## Business Unit Leadership Team



**Jon Crowley**  
VP & GM, XPMI



**Alan Sikarskie**  
VP & GM, Quantic BEI &  
Quantic Thistle



**Colin McClennan**  
VP & GM, Quantic Capacitors



**Ken Boswell**  
VP & GM  
Quantic M-Wave



**Sebastian Palacio**  
VP & GM, Quantic PMI



**Daniel Teuthorn**  
VP & GM  
Quantic X-Microwave



**Joe Svoboda**  
VP & GM, Quantic  
Wenzel, Quantic MWD &  
Quantic Croven



**Lisa Wilhelm**  
VP & GM  
Quantic Ohmega Ticer

## Corporate Support Team



**Kevin Perhamus**  
President & CEO



**Kristin Gawlik**  
Chief Financial Officer



**Elizabeth Seigerman**  
VP, Talent and Culture



**Cory King**  
VP Of Human Resources  
IT/Legal/Compliance



**James Lynn**  
VP, M&A and Strategy



**Brendan Fullam**  
VP of Sales



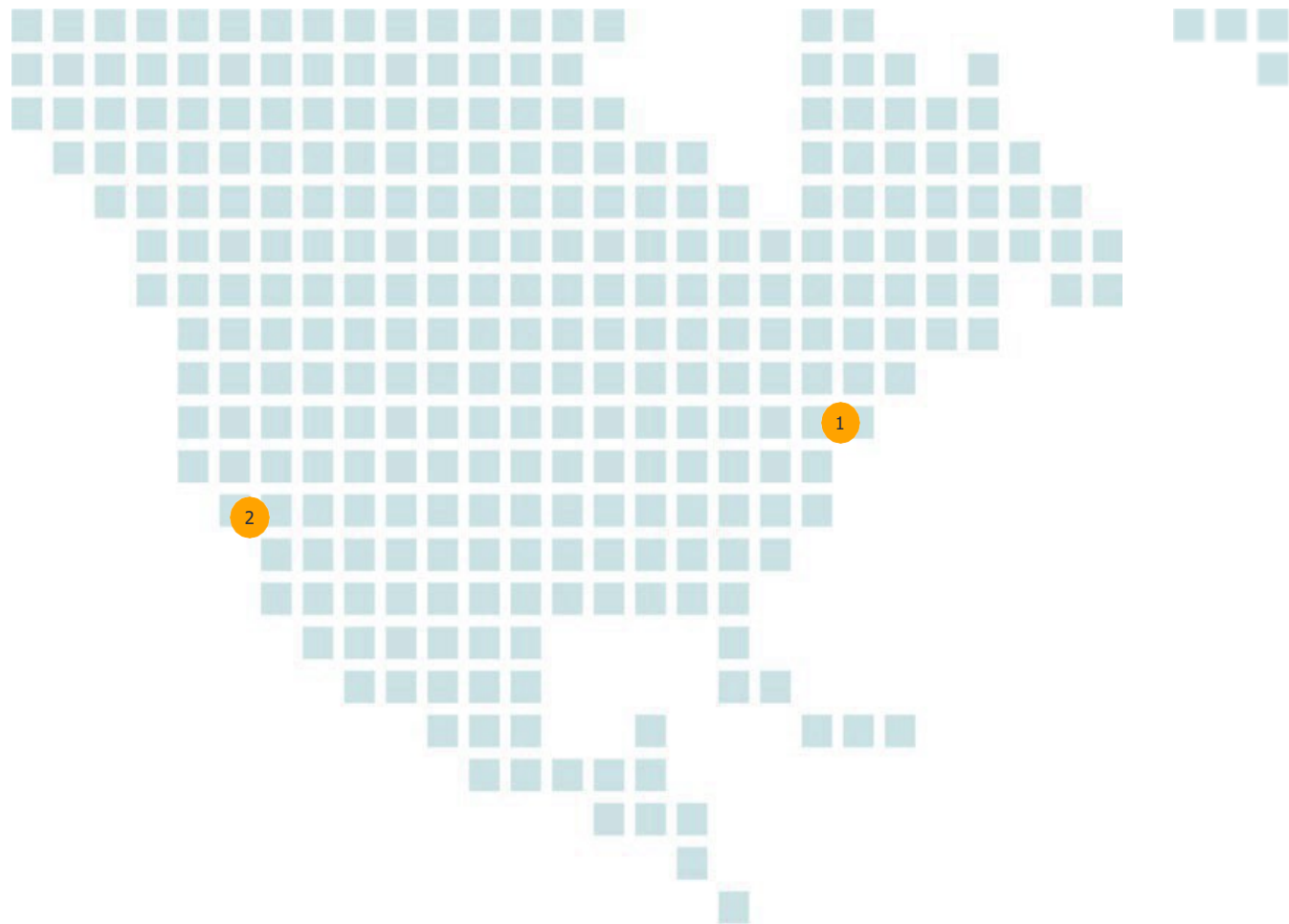
**Ozzie Billimoria**  
VP, Marketing & Sales Ops

# Quantic PMI Overview

Defining & Delivering the Future  
of Mission-Critical Electronics

- > Global leader within military, space and commercial markets
- > Design & manufacture of Quality RF & Microwave Components & Integrated Module Assemblies
- > Offers 4500+ Hi-Rel commercial off-the-shelf (COTS) models with test results, S-parameters, 3D models and detailed specs available.
- > Every product is built to rigorous MIL-STD specs
- > ITAR & ISO-9001 Certifications
- > Industry-leading sales and applications support, leading to lower costs and faster lead times than competitive options.





RF & Microwave

- 1 Quantic PMI – Frederick, Maryland  
East Coast Operation  
7309-A Grove Road  
Frederick, MD 21704 USA
- 2 Quantic PMI – EL Dorado Hills, California  
West Coast Operation  
4921 Robert Mathews PKWY, Suite 1  
EL Dorado Hills, CA 95762 USA

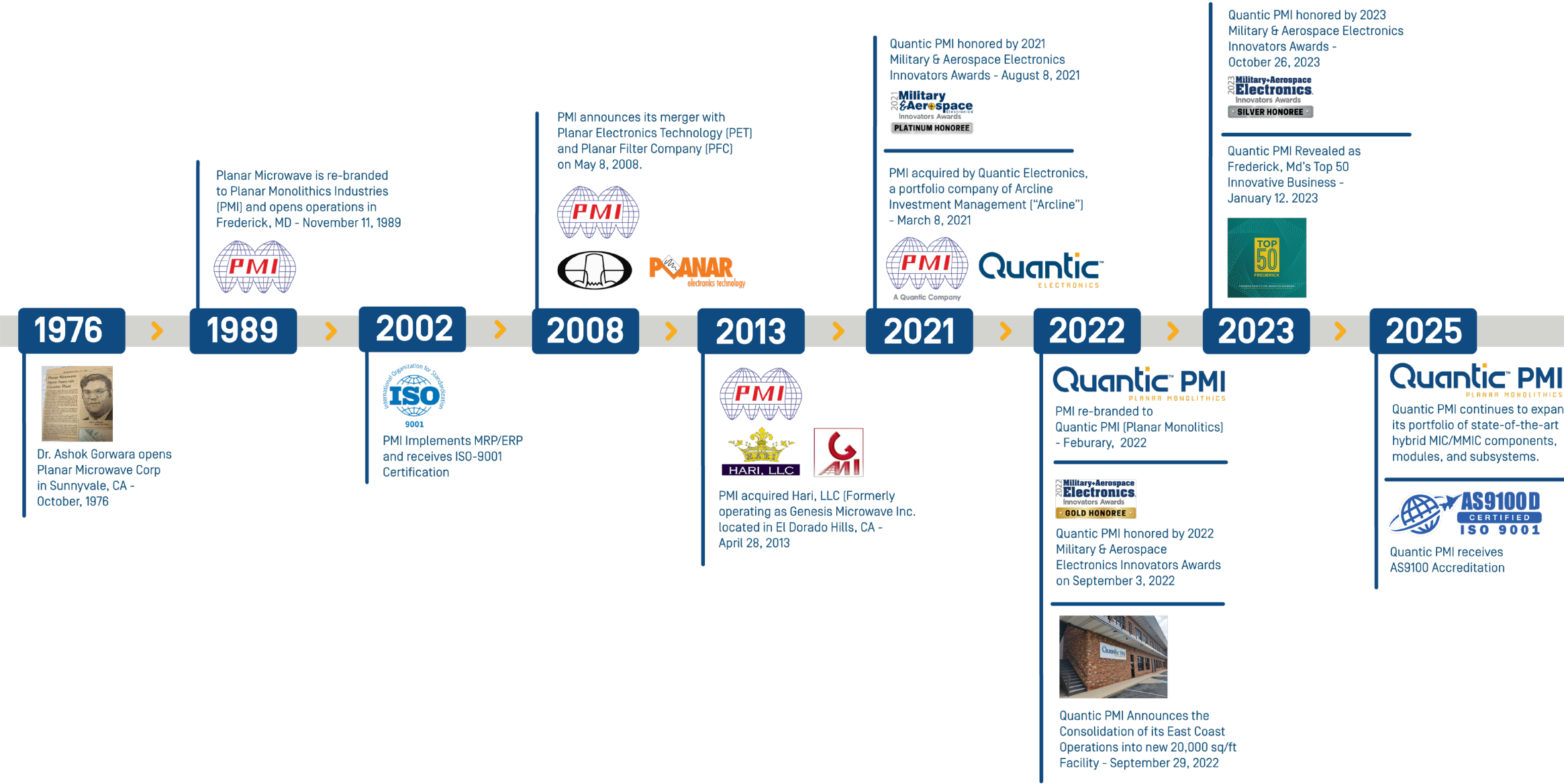
Tel: 301.662.5019  
Fax: 301.662.1731

TEL: 916.542.1401  
FAX: 916.265.2597

[sales@quanticpmi.com](mailto:sales@quanticpmi.com)

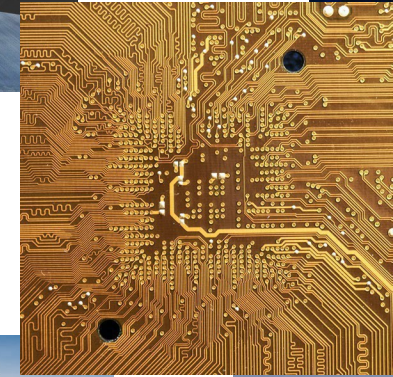
[www.quanticpmi.com](http://www.quanticpmi.com)

# Milestones & Accreditations

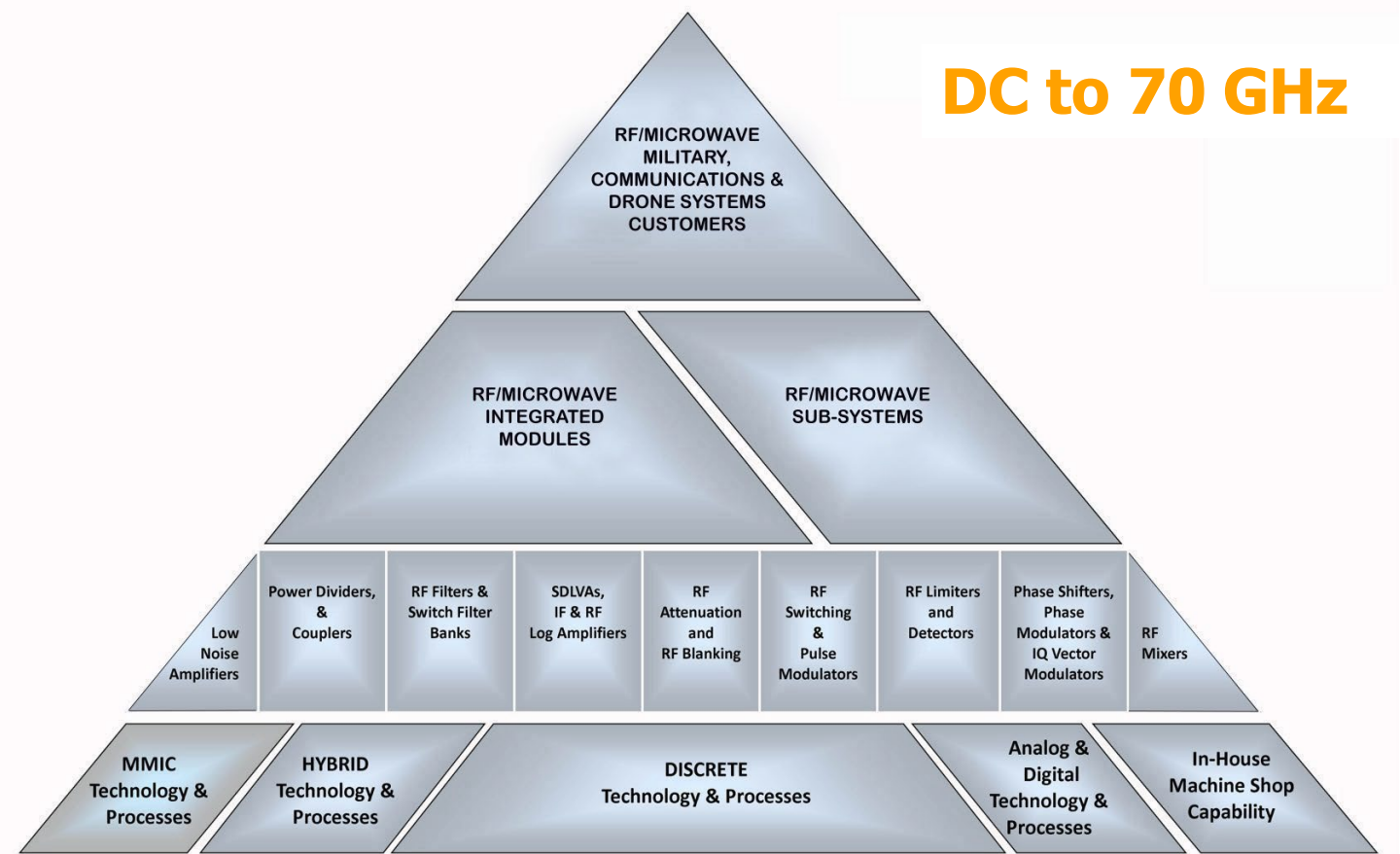




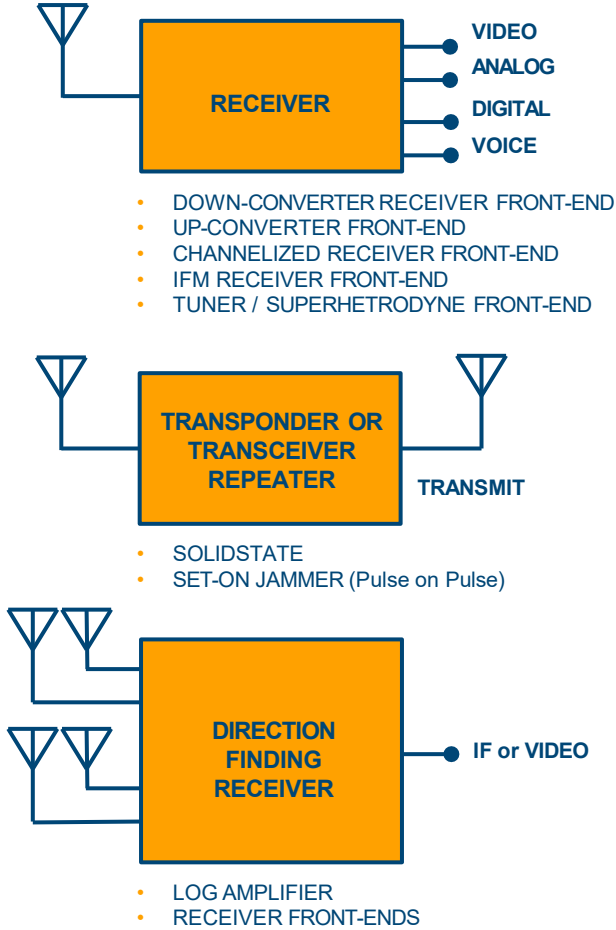
# Design & Applications



As a manufacturer Quantic PMI utilizes our own designs for all components, integrated modules and subsystems







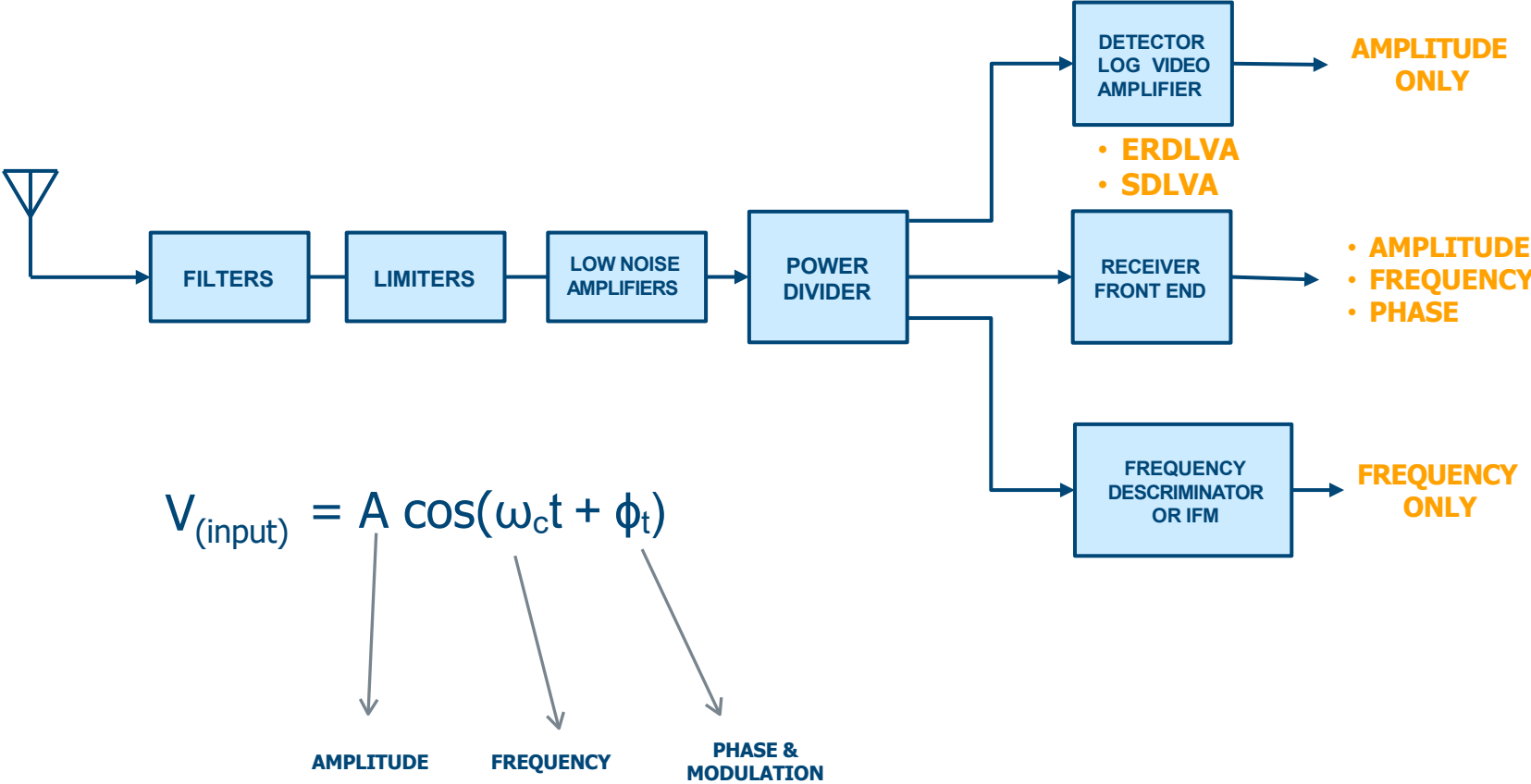
Quantic PMI (Planar Monolithics) has been in business for over 30 years as a world-class designer and manufacturer of electronic components and subsystems for mission critical applications such as **Receiver Front-Ends, Synthesizers, and Transceivers**. A large variety of **RF components and integrated modules** have been developed to compliment this target market. Our technical goal is to produce the finest products available that resolve this mathematical statement:

$$V_{(input)} = A \cos(\omega_c t + \phi_t)$$

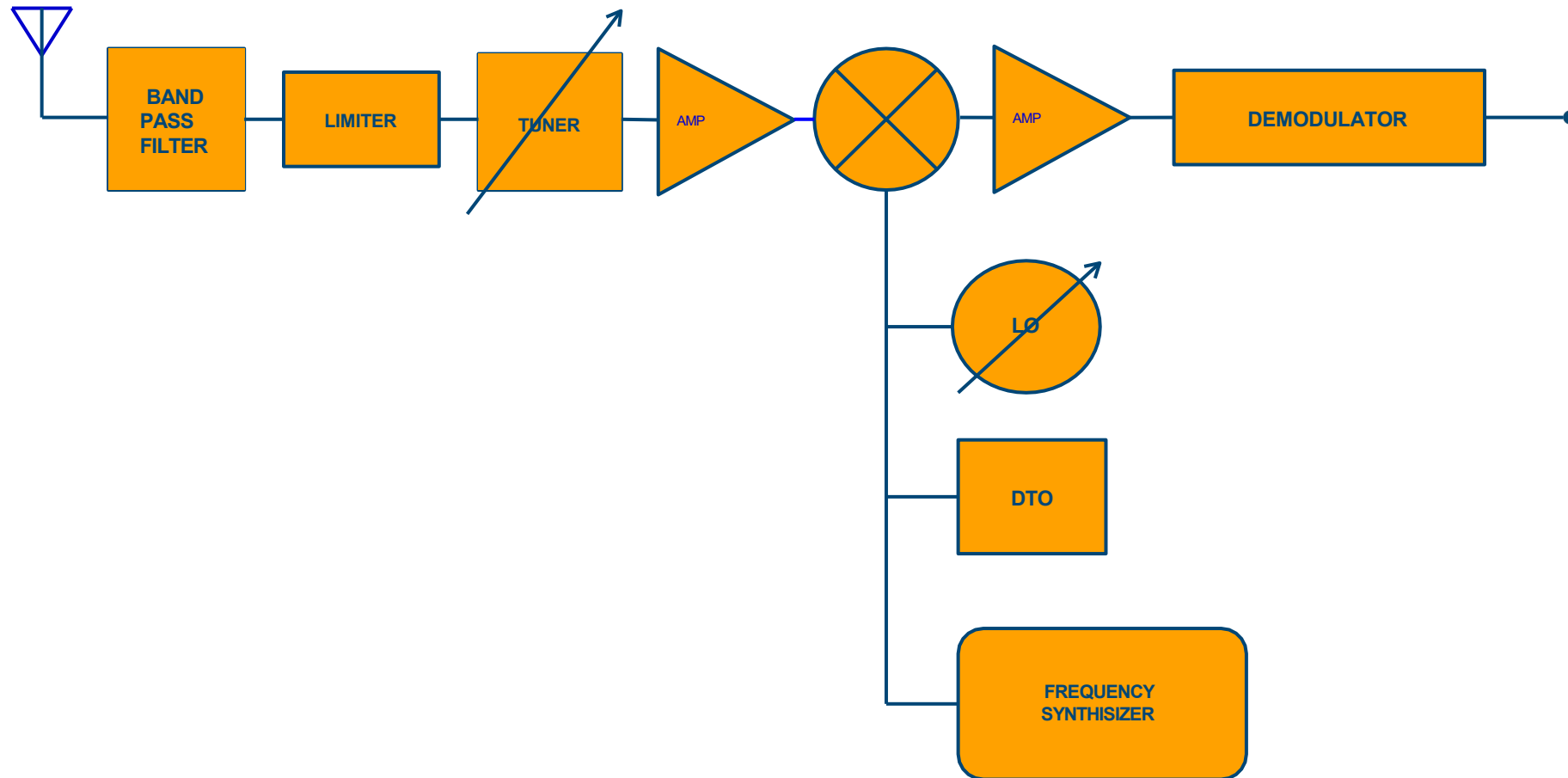
↓                      ↓                      ↓

AMPLITUDE              FREQUENCY              PHASE & MODULATION

## TYPICAL EW, ECM, ESM RECEIVER FRONT-END

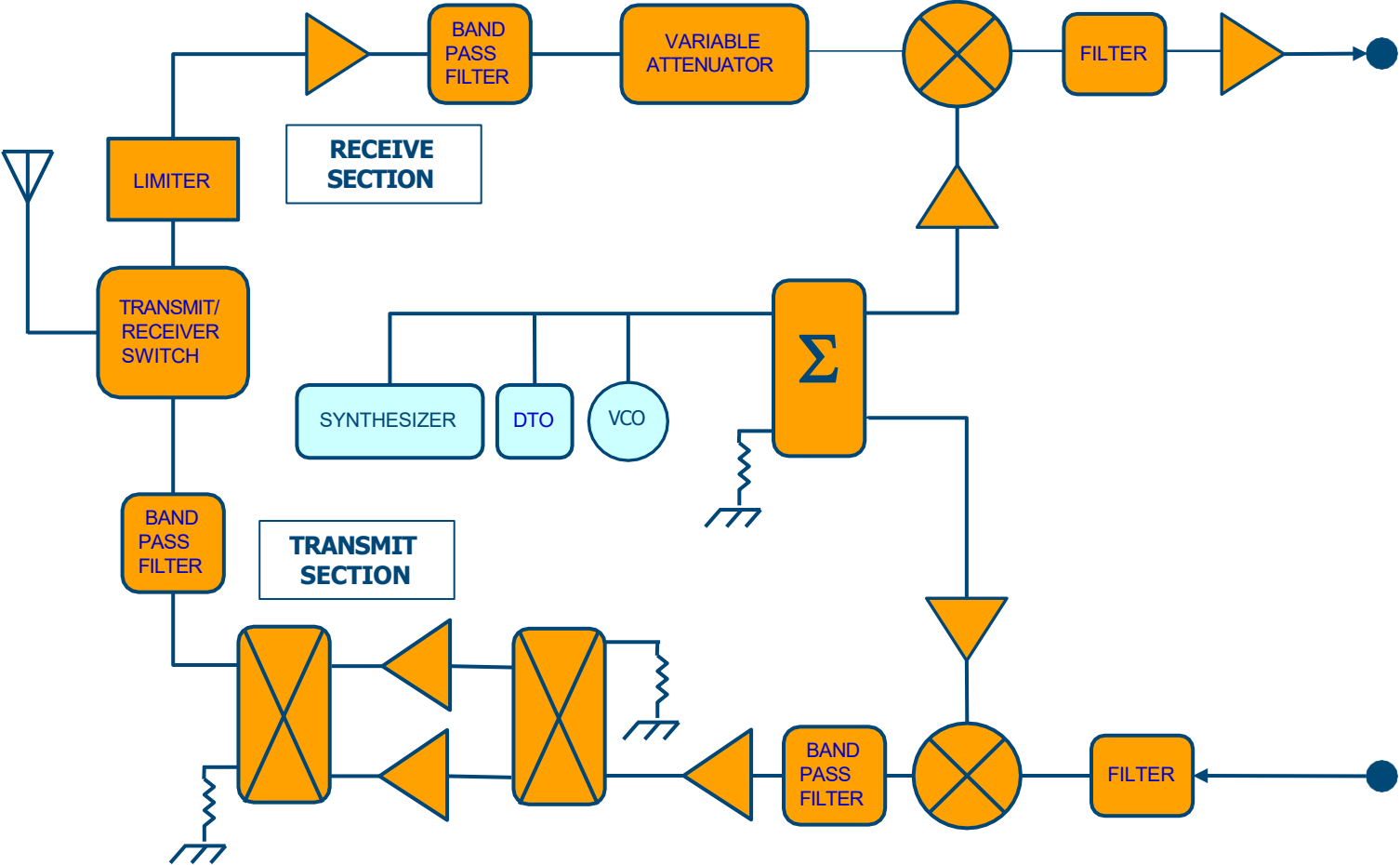


## TYPICAL EW, ECM, ESM RECEIVER FRONT-END

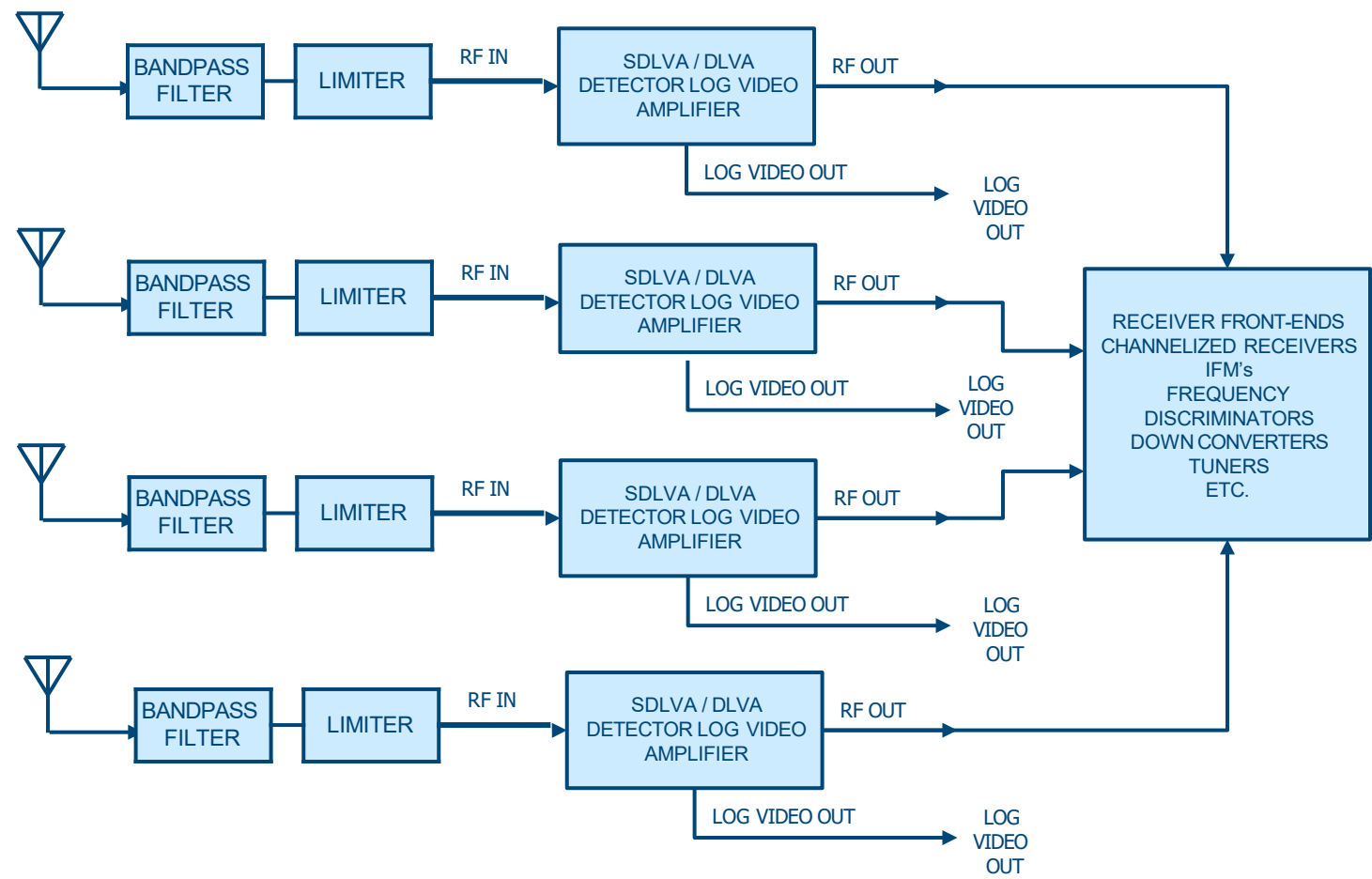




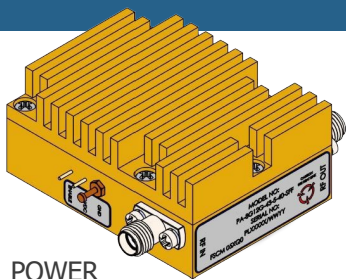
## TYPICAL TRANSCEIVER / TRANSPONDER BLOCK DIAGRAM



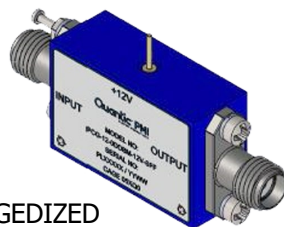
## TYPICAL RADAR WARNING RECEIVER FRONT-END OR DIRECTION FINDING RECEIVER FRONT-END SUB-SYSTEM



*Quantic PMI can transform any MMIC or QFN into a DC – 70 GHz Hi-Rel Packaged Component*

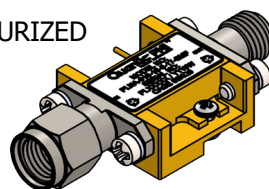


POWER



RUGGEDIZED

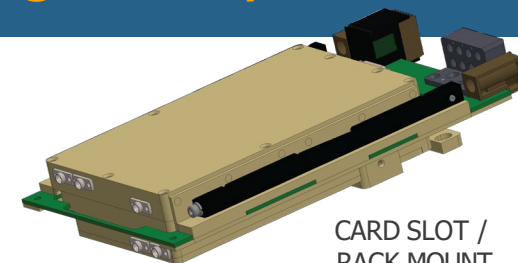
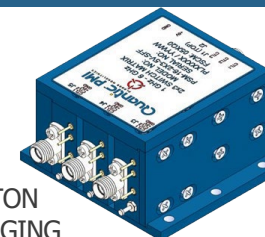
MINIATURIZED



SURFACE MOUNT



CUSTOM  
PACKAGING



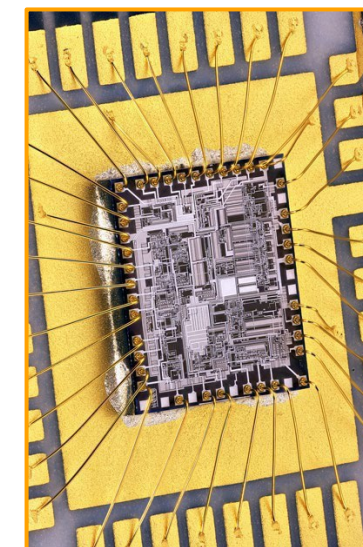
CARD SLOT /  
RACK MOUNT

## MIL-AERO – Hi-Rel Design & Packaging

- 20k sq/ft State of the art facility with 10k class cleanroom
- ISO9001/AS9100 certified
- ITAR Registered and Facility Clearance
- Kick off Meeting / CDR / PDR
- Complete Document Package
- Mean time between failure analysis (MTBF report)
- MIL-STD-810 Environmental Stress Screening (ESS)
- Qualification Testing (QTP / QTR)
- 100% MIL-STD-883 Inspection (Precap / ATP / SI)
- First Article Inspection IAW AS9102
- Recurring production – Continuous Acquisition & Life-cycle support (CALS)

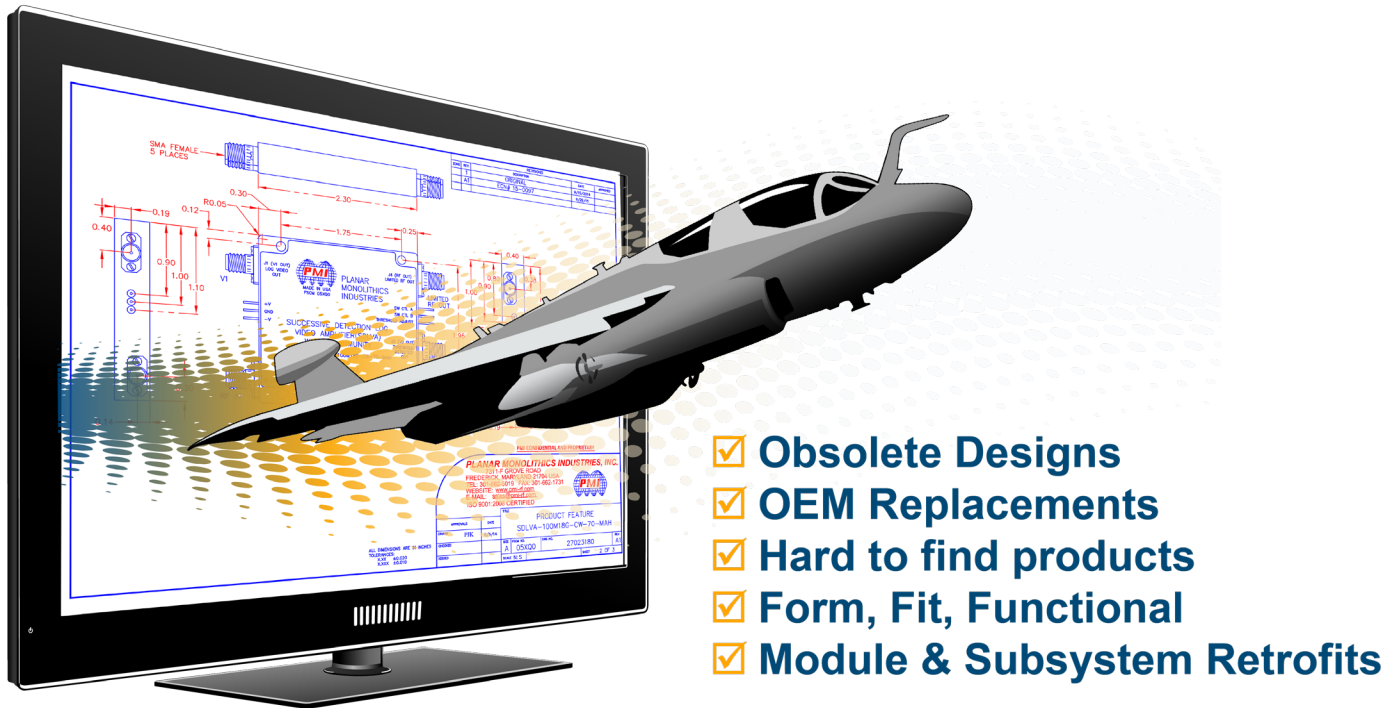
## Custom & COTS Solutions include

- Assembly including wire, ribbon, ball bonding 100% pull tested
- Hermetic, screw or epoxy sealing
- Form, Fit, Function Products & Services
- Over voltage and reverse protection
- Supply voltage conditioning (Regulation & noise filtering)
- Built in sequencing protection
- Control signals Digital or Analog
  - TTL, RS232, PECL, LVTTTL, BCD, Differential Pair, USB
  - Simple DC analog voltage
- Broadband DC Blocking networks
- EMI / ESD Shielding & Protection





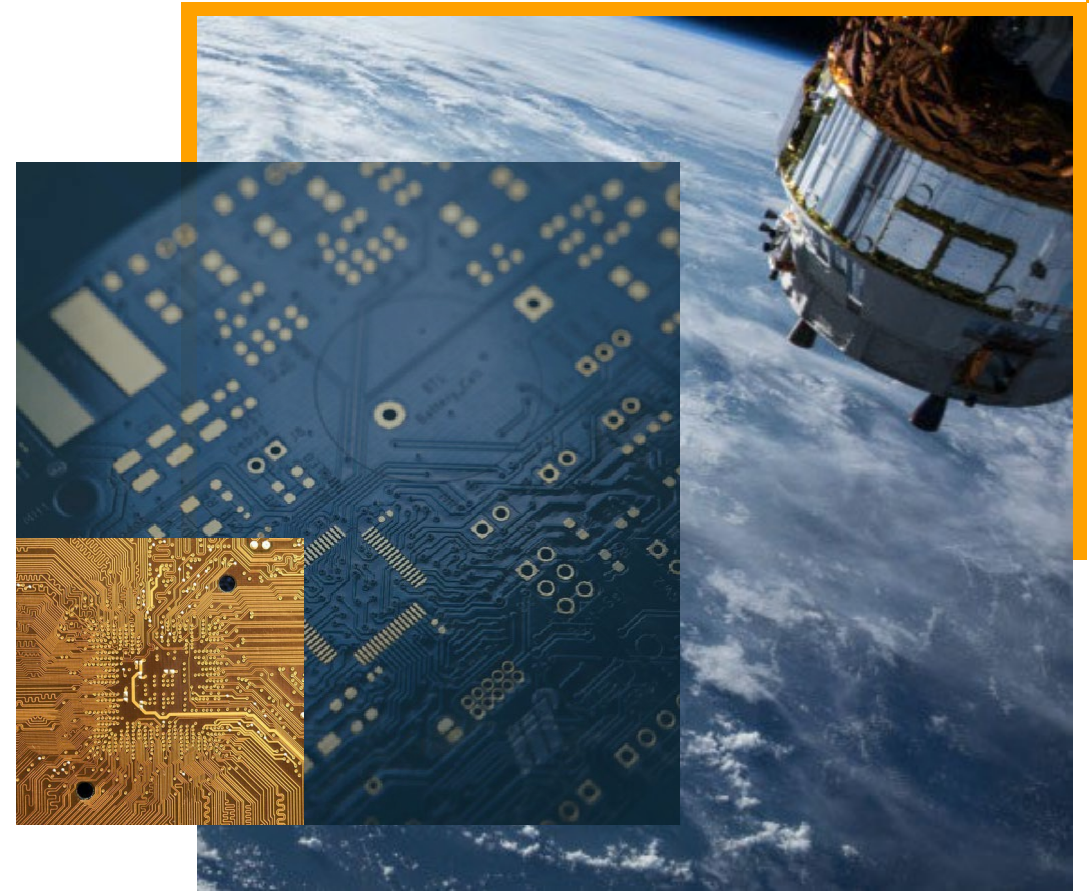
## *Quantic PMI is a Leader in EOL & Obsolete Aftermarket Manufacturing*



- > Using Source Control Drawings (SCD), Quantic PMI offers a complete solution to meet or exceed the electrical, mechanical and environmental specifications.
- > Specializing in aftermarket technology manufacturing and support for discontinued RF components, electronic circuits, digital circuits and Integrated circuits.
- > Quantic PMI has the technical expertise to manufacture, supply and support these requirements.
- > Quantic PMI is dedicated to assuring our customer base that older discontinued products will continue to be available.

# RF & Microwave Products

DC to 70 GHz



## Active Components



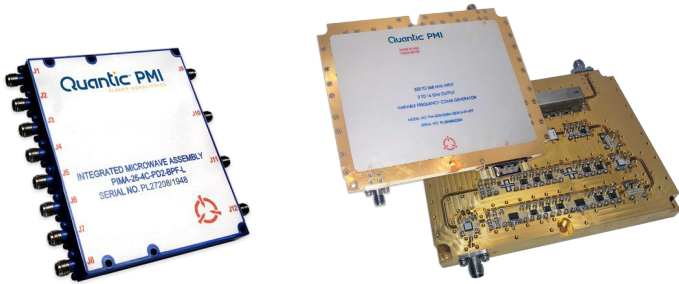
Industry leading Logarithmic Amplifiers, Converters, Limiters, Low-Noise Amplifiers (LNAs), Phase Shifters, Solid State Switches, Digital Attenuators, Frequency Sources, Switched Filter Banks, IQ Modulators, and other complex RF solutions.

## Passive Components



Portfolio includes Limiters, Filters, Couplers, Dividers, Combiners, Hybrids, Monopulse Comparators, equalizers and many more.

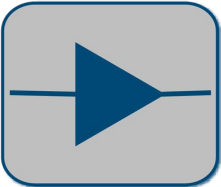
## Integrated Microwave Assemblies (IMAs)



Solutions include RF modules, highly regarded line of frequency downconverters, and other solutions that support challenging national security, aerospace and defense mission-critical applications such as electronic warfare (EW) and signals intelligence (SIGINT).



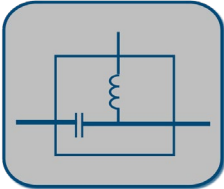
Solid State Amplifiers



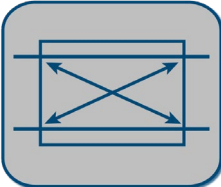
Attenuators – Digital & Analog / Fixed



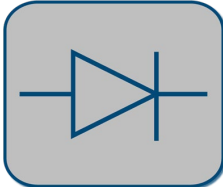
Bias Tees



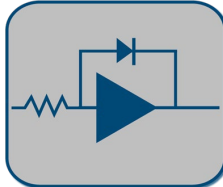
Couplers (90°, 180°, Directional & Pick-off Tees)



Detectors



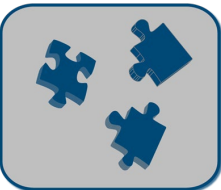
Detector Logarithmic Video Amplifiers



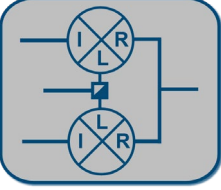
Filters & Switch Filter Banks



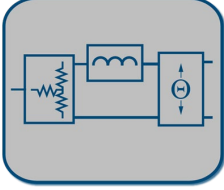
Form, Fit, Functional Products & Services



Frequency Converters



Frequency Discriminators & IFM



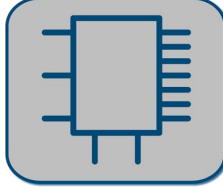
Frequency Sources



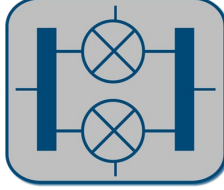
Gain & Loss Equalizers



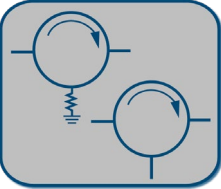
Integrated Microwave Assemblies (IMAs)



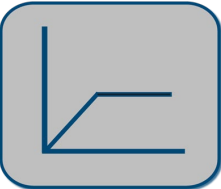
IQ Vector Modulators



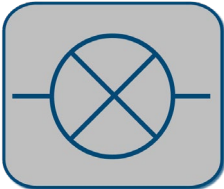
Isolators & Circulators



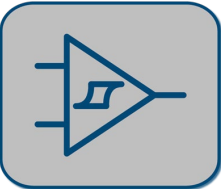
Limiters



Mixers



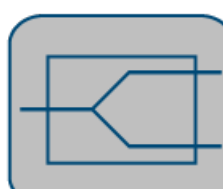
Monopulse Comparators



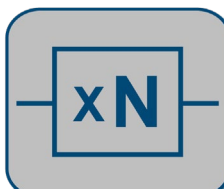
Phase Shifters & Bi-Phase Modulators



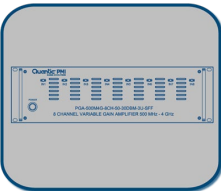
Power Dividers / Combiners



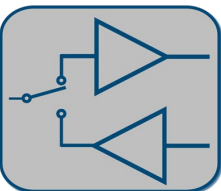
Prescalers & Multipliers



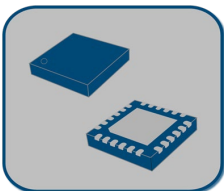
Rack & Chassis Mount Products



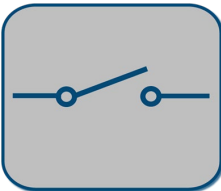
Receiver Front Ends & Transceivers



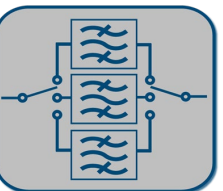
SMT & QFN Products



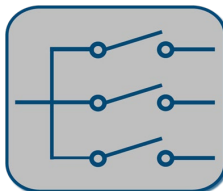
Solid-State Switches



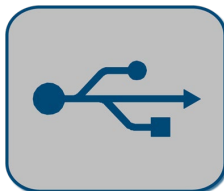
Switch Filter Banks



Switch Matrices



USB Products

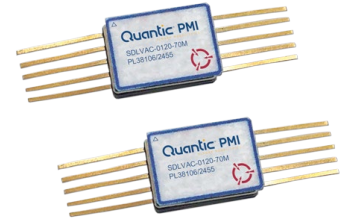


# Detector Logarithmic Video Amplifiers

- > DLVAs, ERDLVAs, SDLVAs Designs
- > Exceptional Temperature Stability, Log Linearity & Frequency Response
- > TSS > -68 dBm & Fast Log Video Response Time
- > CW Immunity, Temperature Compensation & Matched Sets
- > Hermetic Sealing, Military or Aerospace Screening available
- > Connectorized or surface mount
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



0.7 to 1.3 GHz  
IF Logarithmic Amplifier  
(SDLVA)



0.1 to 2 GHz  
Miniature SDLVA



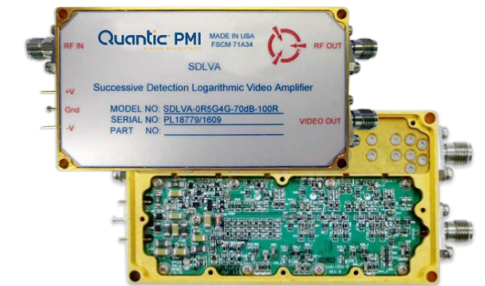
2 to 18 GHz,  
65 dB CW Immune ERDLVA



Detector Log Video Amplifier



18 to 40 GHz DLVA



0.5 to 4 GHz SDLVA

# Switches & Switch Matrices

- > Broadband Performance to 70 GHz
- > Solid State
- > Ultra-High Isolation
- > Low Insertion Loss
- > Ultra-High Speed
- > Low Power Consumption
- > SP1T - SP64T (Reflective or Absorptive)
- > Connectorized or Surface Mount
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**0.1 to 20 GHz  
SP4T Absorptive Switch**



**0.1 to 52 GHz  
SP16T Absorptive Switch**



**0.5 to 18 GHz  
SP6T Reflective Switch**



**7 to 18 GHz  
SP20T Absorptive Switch**



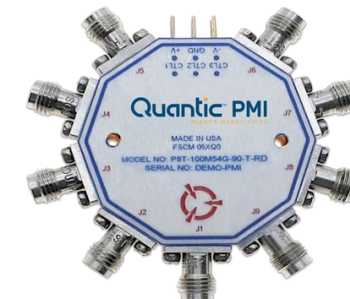
**0.1 to 44 GHz  
SP2T Absorptive Switch**



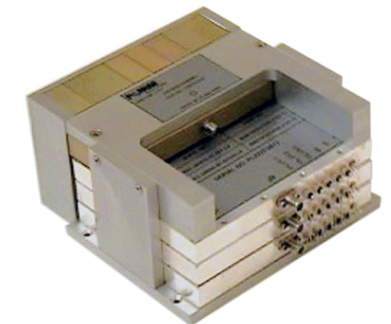
**0.1 to 56 GHz  
SP2T Absorptive Switch**



**2 to 18 GHz  
SP2T Absorptive Switch**



**100 MHz to 54 GHz  
SP8T Absorptive Switch**



**20 MHz to 3 GHz, SP8T  
Switch Matrix Assembly**



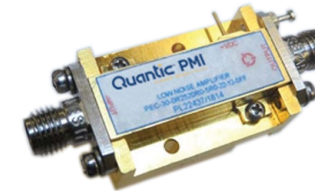
# Solid State Amplifiers

- > Low Noise Amplifiers (Broadband, Narrow Band & Multioctave)
- > Variable Gain, High IP SIGINT & Limiting Amplifiers
- > Coaxial, Power, Test & Lab Use Amplifiers
- > Gain & Phase Matching
- > Hermetic Sealing, Military or Aerospace Screening available
- > Connectorized or surface mount
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



2023 **Military-Aerospace  
Electronics**  
Innovators Awards  
SILVER HONOREE

**2 to 18 GHz High-Power  
Amplifier**



**0.25 to 20 GHz  
Low Noise Amplifier**



**High Linearity,  
Low Noise Amplifier**



**Ultra-Low Noise Amplifier  
Dual use component**



**0.5 to 18 GHz  
Dual Gain Amplifier**



**1 to 18 GHz  
Portable Amplifier**

- > Broadband Performance to 62 GHz
- > High Peak Power Handling
- > Fast Recovery & Low RF Leakage
- > Low Insertion Loss
- > Small Size & Standardized Packaging
- > Hermetic Sealing, Military Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**10 MHz to 6 GHz  
2.5 W CW Limiter**



**20 MHz to 18 GHz,  
100 W CW RF  
Limiter**



**1 to 18 GHz, 3 W CW Limiter**



**26.5 to 40 GHz  
20W Peak Limiter**



**10 MHz to 62 GHz  
1.5 W CW Limiter**



**32 to 36 GHz  
20 W Peak Limiter**



**18 to 40 GHz  
2 W Limiter**

# Filters & Switch Filter Banks

- > Low-Pass, High-Pass, Band-Pass, Notch or Bandstop, Duplexers & Multiplexers
- > Filter Types: Lumped-Element, Cavity, Compline, Printed, Hairpin, Suspended Substrate, Edge-coupled, Stripline
- > Hermetic Sealing, Military or Aerospace Screening available
- > Connectorized or surface mount
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



Band Pass Filter



Low Pass Filter with  
2400 MHz Cutoff  
Frequency



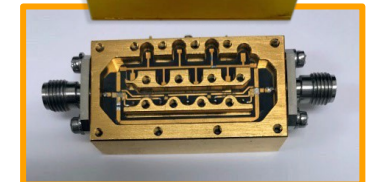
Double Sided, 100 MHz to 18.0 GHz  
6 Channel Switch Filter Bank



1 to 20 GHz  
6-Channel Switch Filter Bank



DC to 26 GHz  
5-Channel Switch Filter Bank



Miniature, 2 Channel Switch Filter Bank

# Attenuators – Fixed, Digital or Analog Control

- > Ultra-Broadband Performance to 50 GHz
- > High Attenuation Accuracy
- > Low Insertion Loss
- > Excellent Frequency Flatness
- > Analog or Digital Control Available
- > High Speed & Very Small Packaging
- > Hermetic Sealing, Military or Aerospace Screening available
- > Connectorized or surface mount
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**13 to 14 GHz  
8-Bit Programmable Attenuator**



**1 to 18 GHz  
7-Bit Programmable Attenuator**



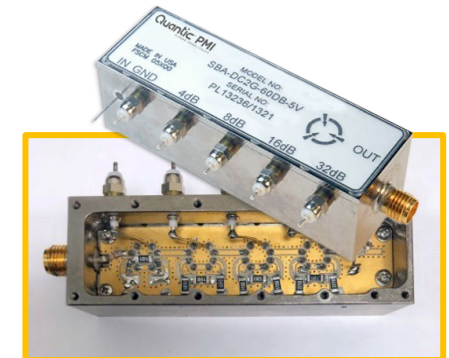
**0.1 to 0.3 GHz  
Voltage Controlled Attenuator**



**1 to 4 GHz,  
Voltage Variable Attenuator**



**3.1 to 3.5 GHz  
Bi-Directional Variable  
Attenuator**



**DC to 2 GHz, Electro-mechanical  
STEP Attenuator**



# Phase Shifters

- > 0 to 360°
- > Broadband to 40 GHz
- > Ideal for Industrial & Military Applications
- > Analog or Digital Controlled
- > Fast Speed & Response
- > Low Insertion Loss
- > High Phase Accuracy
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



85 MHz to 4 GHz  
Digitally Controlled Analog  
Phase Shifter



0.2 to 10 GHz  
8-Bit Digital Phase Shifter



2.0 to 18 GHz  
12-Bit Vector Phase Shifter



32 to 37 GHz  
8-Bit Digitally Controlled  
Phase Shifter



6.0 to 18.0 GHz  
10-Bit Digitally Controlled  
Phase Shifter



2 to 18 GHz  
8-Bit Phase Shifter



2 to 8 GHz, 8 Bit, 360°  
Digital Phase Shifter

# Bi-Phase Modulators

- > 90°, 360° Models
- > Low Insertion Loss
- > Flat Response
- > Digital Control
- > High Phase Accuracy
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



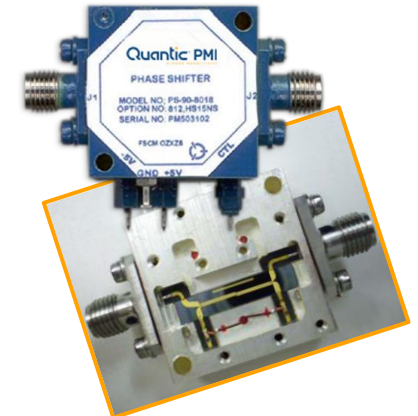
**18 to 40 GHz  
Bi-Phase Modulator**



**2 to 18 GHz  
Bi-Phase Modulator**



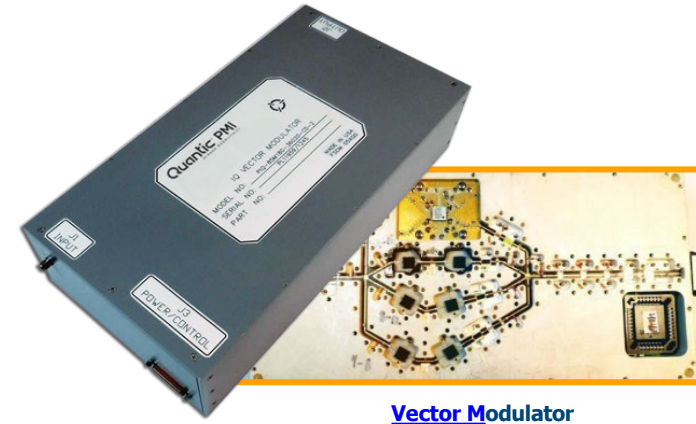
**2 to 6 GHz  
Bi-Phase Modulator/Shifter**



**1.1 to 1.12 GHz,  
180° Bi-Phase  
Modulator/Phase Shifter**

# I/Q Vector Modulators

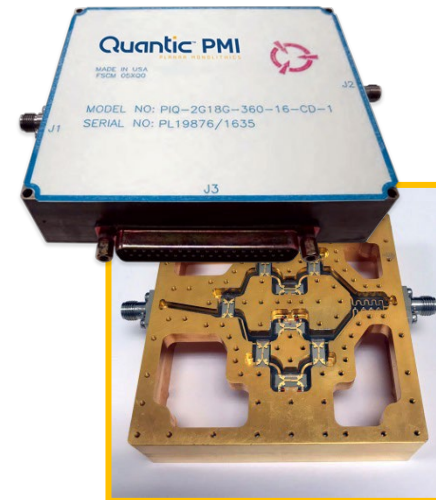
- > Ultra-Broadband Performance to 40 GHz
- > High Speed Modulation
- > Analog & Digital I/Q Inputs
- > Low Spurious Response
- > Low Insertion Loss
- > High Absolute Phase Accuracy
- > Low Current Consumption
- > Hermetic Sealing, Military Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**Vector Modulator**



**0.5 to 2 GHz,  
I/Q Vector Modulator**



**6 to 18 GHz,  
I/Q Vector Modulator**



**85 MHz to 18 GHz, I/Q Vector Modulator**

# Monopulse Comparators

- > Frequency coverage up to 36 GHz
- > Rugged Coaxial Design
- > Low VSWR
- > High Power Handling with Minimum Insertion Loss
- > High Isolation between Channel Ports for Optimum Phase & Amplitude Balance
- > Hermetic Sealing, Military Screening or Aerospace Screening Available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



5 to 6 GHz  
Monopulse Comparator



3 to 3.7 GHz  
Monopulse Comparator



9.3 to 9.9 GHz  
4-Way Phase Divider



12 to 13 GHz  
Monopulse Comparator

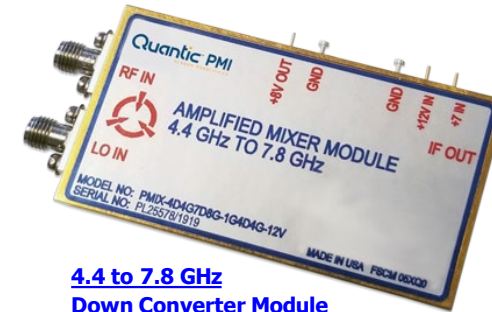


20.2 to 21.2 GHz  
Monopulse Circuit



# Frequency Converters – BUC / BDC

- > Up / Down Converter Designs
- > Ideal for Industrial & Military Applications
  - Radar Warning, ECM, ESM & ELINT
  - EW / SIGINT
  - Radar Test Equipment
  - Microwave Radio
  - Instrumentation Modules
- > Designed to withstand stringent military ground or airborne environments
- > Frequency Coverage up to 40 GHz
- > Form, Fit & Function Products & Services



4.4 to 7.8 GHz  
Down Converter Module



7.8 to 11.2 GHz  
Down Converter Module



11.2 to 14.6 GHz  
Down Converter Module



14.6 to 18 GHz  
Down Converter Module

# Frequency Sources

- > Designed for Industrial & Military Applications
  - Radar Warning, ECM, ESM & ELINT
  - EW / SIGINT
  - Radar Test Equipment
  - Microwave Radio
  - Instrumentation Modules
- > Synthesizers, DTOs, PLOs, PLDROs, , DROs, VCOs, OCXOs, Cos types available
- > All models can withstand stringent military ground or airborne environments
- > Frequency Coverage up to 40 GHz
- > High Level of Frequency Accuracy
- > Linearized Frequency Tuning
- > Low Frequency Drift, Phase Noise & Harmonic Content
- > Internal Digital Calibration
- > Temperature Compensation
- > Form, Fit & Function Products & Services



8.8 to 9.46 GHz  
Temperature Stabilized Output  
Medium Power X-Band Gunn-Effect  
Oscillator



2.0 to 18.0 GHz,  
Digitally Tuned Oscillator (DTO)



Digitally Tuned  
Oscillators (DTOs)



6 to 18 GHz, Synthesizer



Custom Frequency Doubler Module



10 MHz Reference  
Source



10.0 GHz, Integrated Phase  
Shifter Dielectric Resonator  
Oscillator (DRO) Module



840 MHz Phase-Locked Oscillator

# Gain & Loss Equalizers

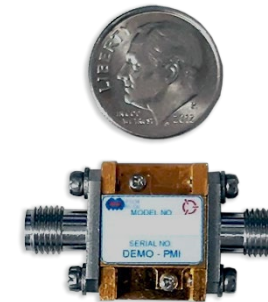
- > Ideal for Equalizing Cable Loss or Gain Flatness
- > Narrow-bandwidths or broadband up to 40 GHz
- > Low Insertion Loss & VSWR
- > Various frequency equalization values
- > Multiple and Custom slope characteristics
- > Surface Mount or Connectorized
- > Hermetic Sealing, Military or Aerospace Screening Available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**26.5 to 40 GHz, 1.5 dB  
Passive Amplitude Equalizer**



**17.6 to 21.6 GHz, 12 dB  
Passive Amplitude Equalizer**



**DC to 40 GHz  
Passive Equalizer**



**DC to 20 GHz  
Passive Equalizer**

# Detectors - Diode, Directional, Threshold

- > Broadband Frequency coverage to 40 GHz
- > Low VSWR & Insertion Loss
- > Excellent Frequency Flatness
- > Small Package Size
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**10 MHz to 18 GHz  
Low Noise Tunnel  
Diode Detector**



**0.5 to 18 GHz, High Speed,  
High Sensitivity Diode Detector**



**18 to 40 GHz, Low Noise,  
Tunnel Diode Detector**



**4 to 26.5 GHz,  
Zero Bias Schottky Detector**



**6 to 18 GHz  
Biased Schottky Diode  
Detector**



**2 to 18 GHz, High Speed,  
High Sensitivity Diode Detector**

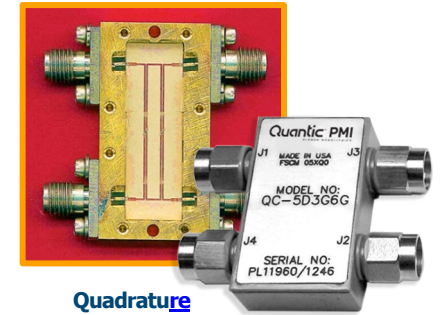


# Couplers – 90°, 180°, Directional & Bi-directional

- > Broadband Response
- > High Isolation
- > Excellent Phase & Amplitude Balance
- > Small Package Size
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



DC to 18.0 GHz  
Directional Coupler



Quadrature  
Couplers



5 to 10 GHz  
Hybrid Coupler



8.0 to 11.0 GHz  
Directional Coupler



0.02 to 6 GHz  
90° Hybrid Coupler



90° Hybrid Coupler

# Power Dividers/ Combiners (Passive & Active)

- > Designs for Commercial, Military & Aerospace Applications
- > Low Loss & High Isolation
- > Excellent Amplitude & Phase Balance
- > 2-Way to 16-Way Configurations
- > Broadband Frequency coverage to 50 GHz
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



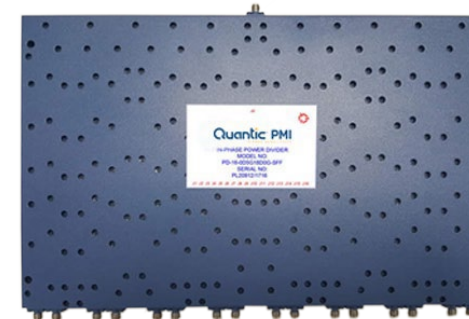
18 to 40 GHz  
2-Way Power Divider



2 to 20 GHz  
8-Way Power Divider



20 MHz to 6 GHz, Amplified  
4-Way Power Divider



0.5 to 18 GHz  
16-Way Power Divider



2 to 26 GHz  
4-Way Power Divider



0.5 to 18 GHz  
16-Way Power Divider



4.4 to 18 GHz, SMPM  
4-Way Power Divider



100 MHz, Amplified  
8-Way Power Divider

# Rack and Chassis Mount Products

- > Designs for Commercial, Military & Aerospace Applications
- > Supplied in Ruggedized, 1U to 6U chassis
- > A mixed set of functions:
  - Amplification
  - Attenuation (Digital Solid-State)
  - Switching (Ultra High Speed)
  - Power Detection / Fault Detection
  - Phase Shifting / Phase Modulation
  - Pulse Modulation / Noise Generation
  - RF Filtering / RF Limiting
  - Power Splitting
  - RF Signal Distribution
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**Ethernet Microcontroller Test Box**



**Multiagent Radio Frequency Path Simulator**



**10 MHz to 6 GHz, High Gain Amplifier  
Integrated Microwave Assembly**



**RF Signal Distribution Systems**



**0.1 to 18 GHz High Gain Amplifier  
Integrated Microwave Assembly**



**10-Way Switch Filter Bank**



**0.5 to 18 GHz  
16-Way Power Divider**

# Frequency Discriminators & IFM

- > Designed for Industrial & Military Applications
  - Radar Warning (RW)
  - Electronic Countermeasures (ECM)
  - Electronic Support Measures (ESM)
  - Electronic Intelligence (ELINT) Applications
- > Digital or Analog Outputs
- > Narrow & Broadband Frequency Coverage up to 18 GHz
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**30 MHz, Frequency Discriminator**



**2 to 18 GHz Digital Frequency Discriminator**



**1 GHz, Frequency Discriminator**



**1 to 18 GHz, Frequency Discriminator**

**Delay Line in a Frequency Discriminator**



**3.1 to 3.5 GHz Frequency Discriminator**



# USB Products

- > Broadband Performance to 40 GHz
- > Low Noise Amplifiers, Variable Attenuators & Switch Designs available
- > Low Insertion Loss
- > All Models use Standard USB 2.0 port
- > SMA or 2.92mm Female Connectors
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**50 MHz to 18 GHz, 12 dB Gain  
USB Powered LNA**



**50 MHz to 40 GHz, 12 dB Gain  
USB Powered LNA**



**100 MHz to 18 GHz, 30 dB  
USB Attenuator**



**100 MHz to 40 GHz, 30 dB  
USB Attenuator**



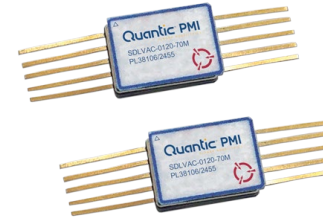
**500 MHz to 18 GHz  
USB Powered SP2T  
Switch**



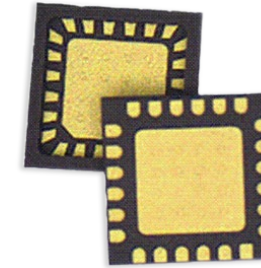
**500 MHz to 40 GHz  
USB Powered SP2T  
Switch**

# SMT & QFN Products

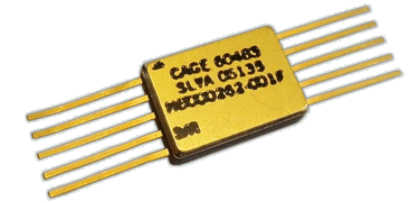
- > Quantic PMI offers Surface mount (SMT) & QFN packaging for many types of devices....SDLVA's, Log Amplifiers, Phase Shifters, Attenuators, Switches, as well as Low Noise Amplifiers.
- > Multifunction options available in a single QFN package such as Limiters / LNA or LNA / Detectors.
- > Custom devices that meet your specific control function can be designed & integrated into specified packaging with the required testing.



0.1 to 2 GHz  
Miniature SDLVA



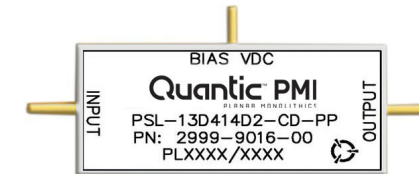
14.4 to 15.4 GHz  
RF Limiter & Low Noise Amplifier



0.6 to 1.35 GHz  
Miniature SDLVA



10 MHz to 62 GHz  
High Power Limiter



13.4 to 14.2 GHz  
High Power Switch Limiter



DC to 20.0 GHz  
Equalizer



18.0 to 40 GHz  
High Power Limiter



0.7 to 1.3 GHz  
Miniature SDLVA



14.4 to 15.4 GHz  
High Power SPST Switch

# Integrated MIC/MMIC Modules & Assemblies (IMAs)

- > Broadband to 50 GHz
- > Built to your specifications with functions:
  - Amplification
  - Attenuation
  - Filtering
  - Frequency Discrimination
  - Switching
  - Phase Shifting
  - Power Detection
  - Modulation/Demodulation
  - Coupling
  - Limiting
  - Digital/Analog Control
- > Hermetic Sealing, Military Screening available
- > Form, Fit & Function Products & Services
- > Build to Print or Built to your SCD



0.5 to 18.0 GHz, Custom Phase ( $\pm 10^\circ$ ) & Amplitude ( $\pm 1.5$  dB) Matched Integrated Modules/ Assemblies



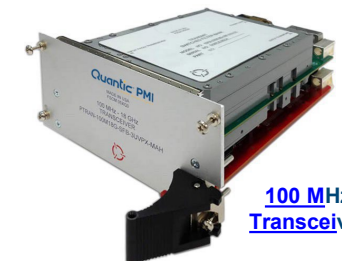
2.6 to 5.2 GHz 8 Channel Selectable LO Frequency Source



10.0 GHz, Integrated Phase Shifter and Dielectric Resonator Oscillator (DRO) Module (Inside)



7.7 to 8.2 GHz Laser Control Module

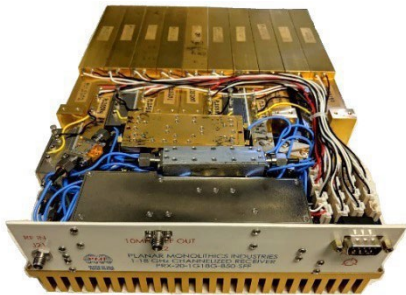


100 MHz to 18 GHz Transceiver (Phase II)

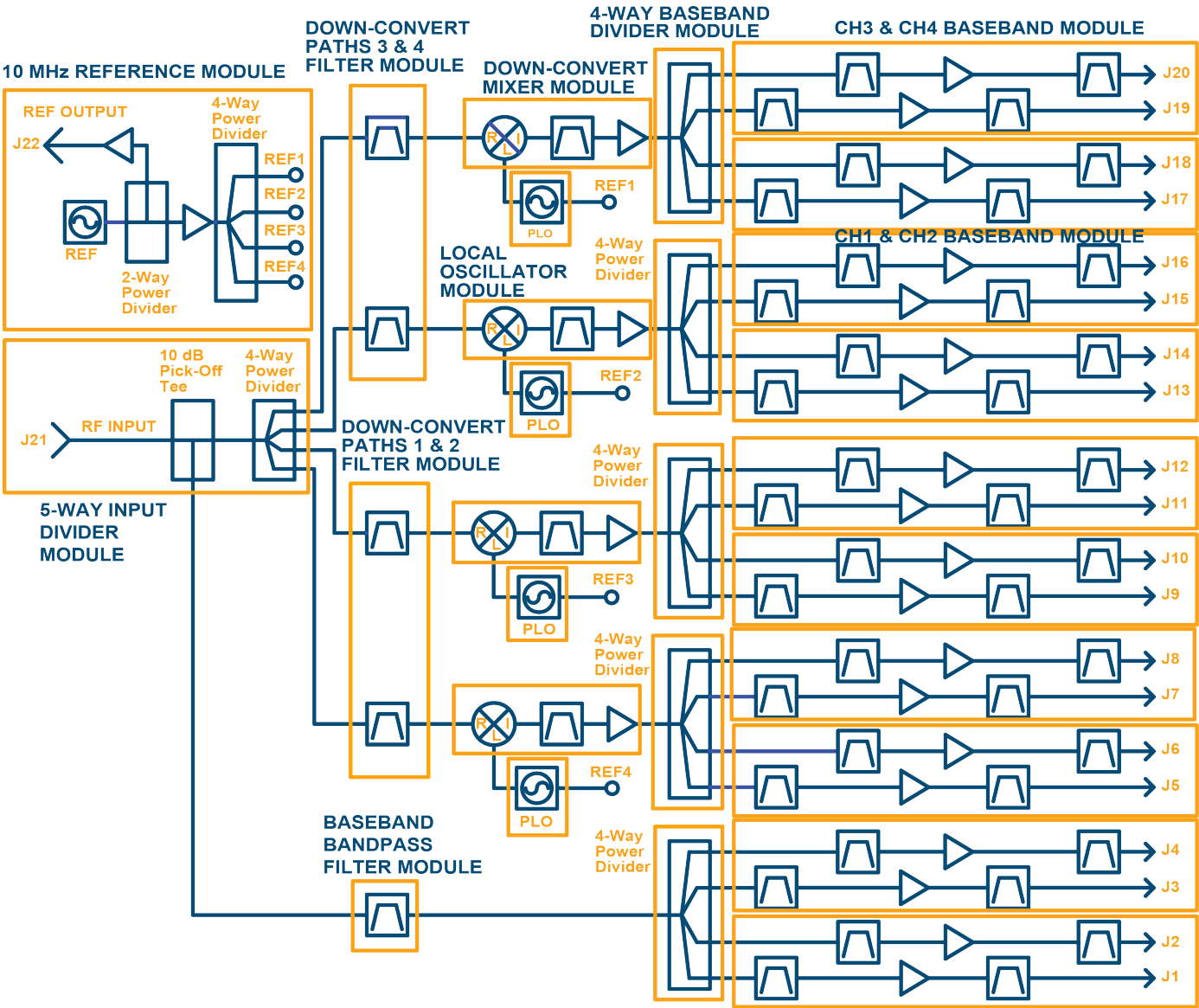
# Integrated MIC/MMIC Modules & Assemblies (IMAs)



2021 **Military & Aerospace** Electronics  
Innovators Awards  
**PLATINUM HONOREE**



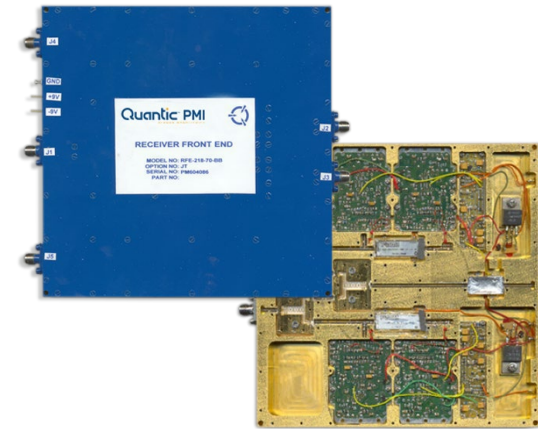
1 to 18 GHz  
Channelized Receiver





# Receiver Front End & Transceiver Products

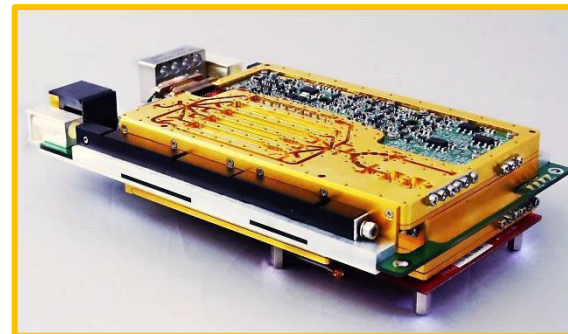
- > Designs for Commercial, Military & Aerospace Applications
- > Broadband Frequency coverage to 50 GHz
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Hermetic Sealing, Military or Aerospace Screening available
- > Form, Fit & Function Products & Services
- > Custom Designs to Your Specifications



**2 to 18 GHz  
Direction Finding Receiver Front End**



**100 MHz to 18 GHz  
Transceiver (Phase II)**



**100 MHz to 18 GHz Transceiver (Phase III)**



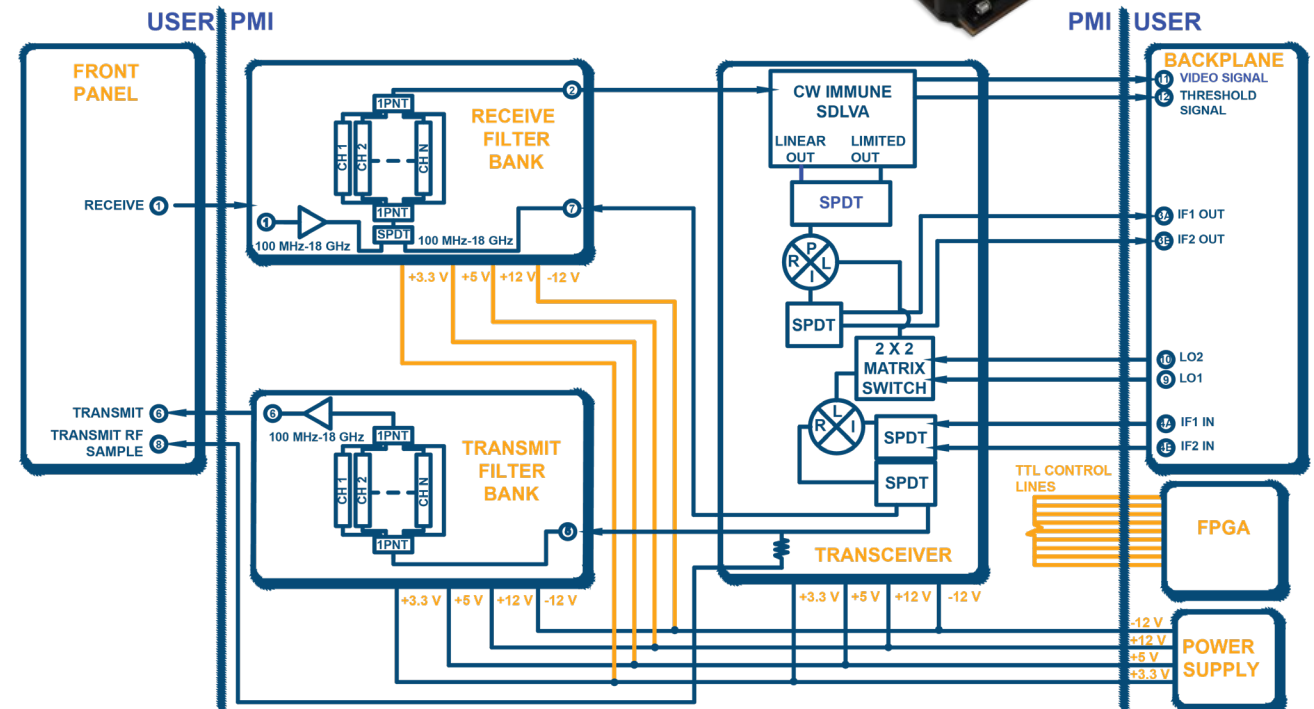
**100 MHz to 18 GHz Transceiver Unit**

# Receiver Front End & Transceiver Products

## 100 MHz to 18 GHz Transceiver

- > Integrated Up and Down Converters
- > IF up to 4 GHz
- > Time Gated SDLVA for Pulse Blanking
- > -80 to -10 dBm Input Dynamic Range
- > Customizable Switch Filter Banks
- > 0 to +10 dBm Transmit Power
- > 100 ns Switching Speed
- > Fits into a 3U open VPX form factor utilizing the high-speed VITA 67 RF connector
- > CW Immunity

2022 **Military+Aerospace  
Electronics**  
Innovators Awards  
**GOLD HONOREE**



# Products for Complete Design Solutions

## Bias Tees

Standard three-port network for high current applications

- Designed to your application specific requirements covering frequency ranges to 70 GHz
- Features include high power handling, low insertion loss & excellent return loss
- Hermetic Sealing, Military or Aerospace Screening available



## Isolators & Circulators

Coaxial or Surface Mount Configurations

- Customized designs for mobile communications, military, radar & satellite communications applications
- Features include broadband frequency coverage, excellent isolation, low insertion loss & rugged construction
- Hermetic Sealing, Military or Aerospace Screening available



## Passive & Active Mixers

Designed for form, fit, function applications

- Active, Double Balanced, Image Reject, I/Q designs available in connectorized or surface mount
- Designs to fit communication systems, satellite, radio transceivers, test & measurement applications
- Hermetic Sealing, Military or Aerospace Screening available



## Prescalers & Multipliers

Custom Designed to Your Specifications

- Designs for satellite communications, point-to-point & point-to-multipoint radios, military & space applications
- Broadband frequency coverage, specify divide by ratio, & low SSB phase noise
- Hermetic Sealing, Military or Aerospace Screening available



# In-Stock / COTS Products – Same Day Shipping



> Select Quantic PMI products are available from stock that can be shipped from Quantic PMI directly or one of its authorized distributors:



<https://www.quanticpmi.com/stock-items>

A screenshot of the Quantic PMI website. The top navigation bar includes links for Home, About Us, Product Categories, Literature, Stock Items, Events, and Contact Us. The main content area displays the product page for LM-150M5G-200CW-2KWPK-AGAL, an Ultra-High Power Limiter. A 'Buy Now' button is highlighted. Below the product details, a table lists various products available from stock. The table has columns for Part Number, Availability, Size, Frequency Max, Frequency Min, and Status. Two products are highlighted with callouts: LM-218-14-200W-SMF and LM-6G18G-15-10W-SFF. The bottom of the page features a footer with contact information, a sign-up button, and social media links.

Part Number	Availability	Size	Frequency Max	Frequency Min	Status
FD-6018-18-812	Buy Now	2.00" x 1.82" x 0.50"	12 GHz	8 GHz	Active
LM-218-14-200W-SMF *	Buy Now	1 W CW	2.0 dB max. @ Pin < 10 dBm	18.0 GHz	2.0 GHz
LM-6G18G-15-10W-SFF *	Buy Now	1 W CW	2.0 dB Maximum	18 GHz	2 GHz
LM-10M37G-150BM-10W-AGAL	Buy Now	50 Watts Peak Max (0.02 to 12 GHz) 40 Watts Peak Max (18 GHz) (1 µs Pk, 1% Duty Cycle)	1.8:1 Max	37.0 GHz	0.01 GHz
LM-10M120-20-10W-SFF	Buy Now	40 dBm CW Max Peak Power 100 W Pulse 1 µs 1% Duty Cycle	2:1 Max	2.0 dB Max	12.0 GHz
LM-6018-18-1W-SH5-1-F *	Buy Now	1 Watt CW, 100 Watts Peak, 1 µs Pulse, 0.1% Duty Cycle, Derated to 20% at 125 °C	2.0:1 Max	2.0 dB Max, 1.5 dB Typ	18 GHz

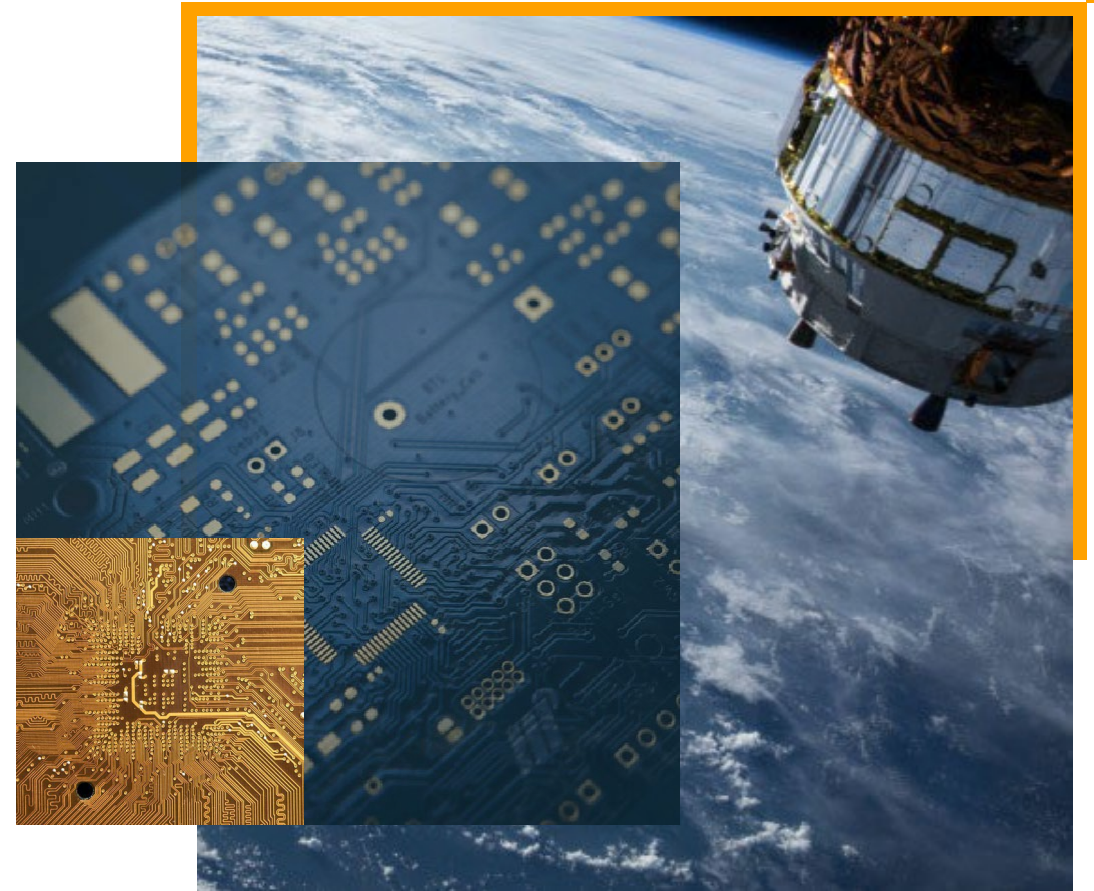


# Our Partners



# Facilities

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## **7309-A GROVE ROAD, FREDERICK, MD:**

- > 20,000 sq. ft. Facility
- > 7,500 sq. ft. Class 10,000 ppm Clean Room for Assembly, Test, ESS & Inventory
- > 4,000 sq. ft. Engineering Space
- > 2,800 sq. ft. Office space and Conference rooms
- > 2,500 sq. ft. Machine Shop, Paint Booth, and Random Vibration/Shock Testing
- > 2,200 sq. ft. Communal areas (2 breakrooms, restrooms, and lobby)
- > 1,000 sq. ft. Accounting, Human Resources and Sales & Marketing
- > Components & Sub-Assembly Manufacturing
- > Hybrid Assembly
- > Engineering & Test Departments
- > QA/QC, Sales, Marketing & Executive Offices
- > 3 Conference Rooms (Production, Engineering and S&M)

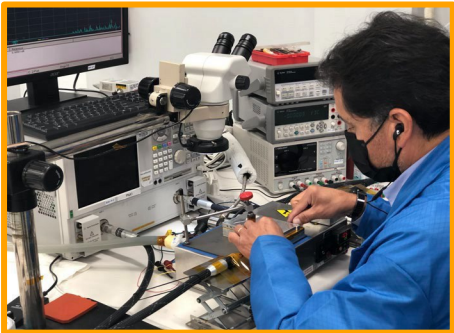
## **4921 Robert J. Mathews Pkwy, El Dorado Hills, CA:**

- > 5,100 sq. ft. Facility
- > Components Manufacturing
- > Hybrid Assembly
- > Test and Engineering Departments
- > Production and Quality Departments
- > EOL and Obsolete Aftermarket Manufacturing





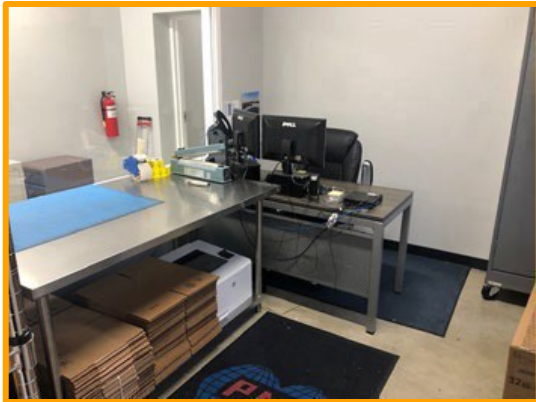














## Production & Test

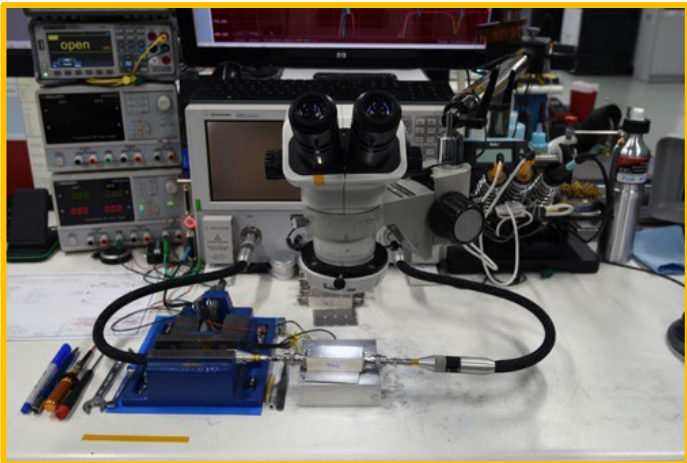
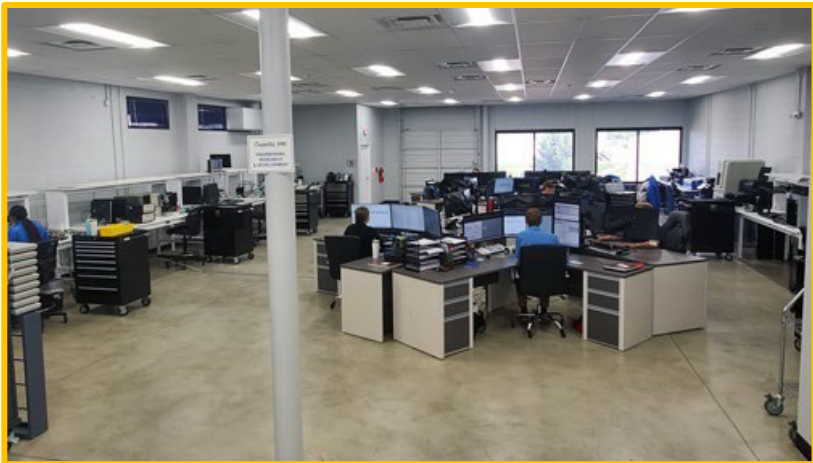
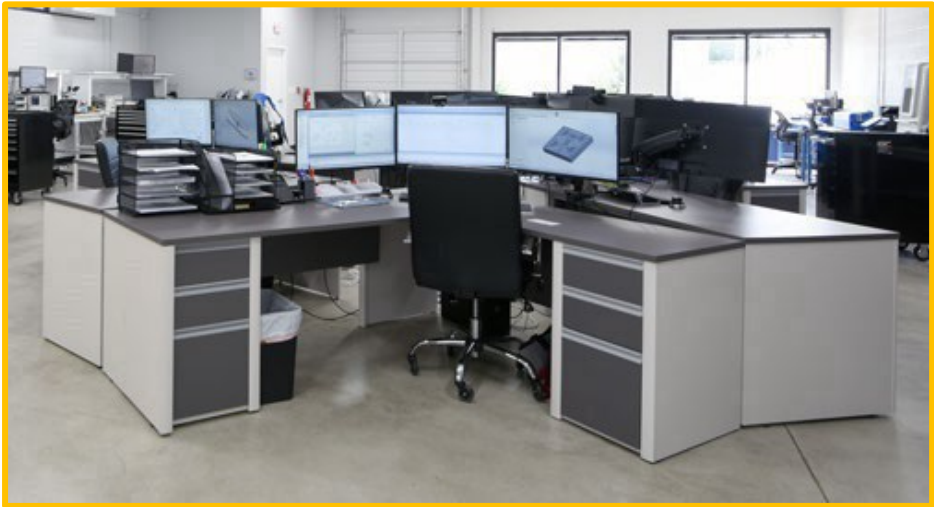
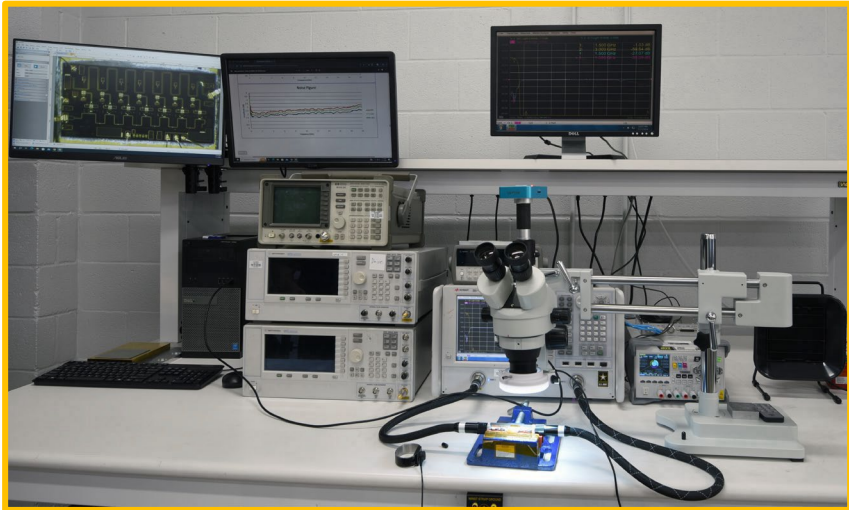




## Cycle Chamber & High Power SSPAs



## Engineering







Hermetic Laser Welder



Thermal Shock



Thermal Shock



Random Vibration



UV Curing Light Printer



CO<sub>2</sub> Laser



Hot/Cold Plate





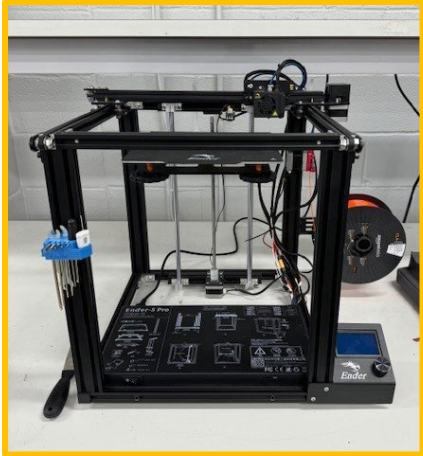
Cycling Chamber



Plasma Cleaner



20 W Fiber Laser Engraver



Ender-5 Pro 3D Printer



Metallurgic Microscope



Hermetic Package Testing



Cleanroom Ovens



X1-Carbon 3D Printer

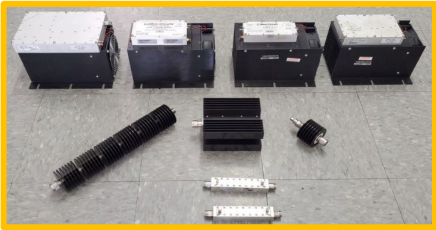


RF Probe Station up to 67 GHz

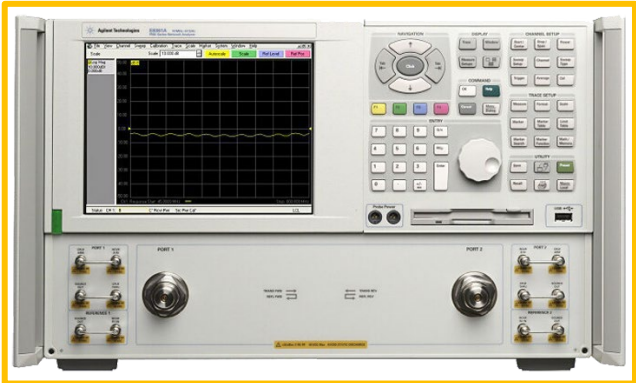




Shock Testing



High Power Testing





# East Coast Operations

## Precision Machine Shop



HAAS DT1 CNC Milling Machine





## Precision Machine Shop



Mazak Nexus 430A-II CNC Milling Machine



## Network Analyzers:

- > (1) HP 30 kHz-6 GHz Network Analyzer
- > (1) Keysight 9 kHz - 20 GHz PNA
- > (4) Agilent 10 MHz - 20 GHz PNA
- > (7) Agilent 10 MHz - 40 GHz PNA
- > (1) Agilent 10 MHz - 43.5 GHz PNA
- > (8) Agilent 10 MHz - 50 GHz PNA
- > (1) Agilent 10 MHz - 67 GHz PNA
- > (5) Agilent 10 MHz - 40 GHz E-CAL
- > (1) Agilent 10 MHz - 50 GHz E-CAL
- > (1) Agilent 10 MHz - 67 GHz E-CAL

## Noise Figure Meter:

- > (2) Agilent N8975A (10 MHz to 26.5 GHz) & Downconverter (40 GHz)
- > (1) HP 8970B
- > (4) Keysight Noise Sources

## Oscilloscopes:

- > (1) Tektronix TDS210
- > (1) Tektronix TDS2024C
- > (1) Agilent DS06034A
- > (1) Keysight DSOS204A
- > (6) Agilent DSOX3034A
- > (2) LeCroy WaveJet 314A
- > (1) Agilent MSOX3034A
- > (1) Keysight MXK608A

- > (1) Siglent D5D6000
- > (1) Keysight EXR258A

## Power Amplifiers:

- > (1) Varian TWTA 7 – 18 GHz, 20 W
- > (1) CPI TWT Amplifier (2-8 & 8-18 GHz) 300 W CW
- > (1) MC (3 - 3.5 GHz) 100 W
- > (1) MC (800 – 1000 MHz) 100 W
- > (1) MC (20 - 512 MHz) 25 - 50 W
- > (1) MC (20-500 MHz) 100 W
- > (1) Spanawave GT-1051B Power Amplifier, 10 MHz to 50 GHz, 0.5 W to 40 GHz, 0.4 V to 50 GHz
- > (2) Ophir (20 - 1000 MHz & 700 - 6000 MHz) 120W High Power Amplifier
- > (1) Mini-Circuits 2.4 - 2.5GHz, 1kW Generator

## Power Meter:

- > (5) Gigatronics 8541B/C, 8542C
- > (4) Agilent E4418B
- > (1) Agilent N1913A
- > (3) Spanawave 8652A

## Pulse/Signal Generators:

- > (1) Anritsu MG3692B Signal Generator
- > (1) HP 8015A Pulse Generator
- > (1) HP 8013B Pulse Generator
- > (1) HP 8012B Pulse Generator

- > (1) HP 8350B Sweep Oscillator
- > (1) HP Arbitrary Waveform Generator 33120A
- > (1) HP 8664A Signal Generator
- > (2) Wavetek Model 801 Pulse Generator
- > (2) HP 8673D Signal Generator
- > (2) Agilent 33522A Arbitrary Waveform Generator
- > (4) Keysight E8257A PSG Analog Signal Generator
- > (6) Keysight E8257D PSG Analog Signal Generator
- > (1) Siglent SDG1062X & Siglent SDG1032X Waveform Generators
- > (2) Berkely Nucleonics Pulse Generator
- > (2) Agilent 8257C PSG Analog Signal Generator
- > (2) Agilent N5183A Signal Generator (100 kHz - 6 GHz)
- > (2) Agilent N5181A Signal Generator (100 kHz – 6 GHz)

## Spectrum Analyzer:

- > (1) HP 8593E Spectrum Analyzer (9kHz to 22 GHz)
- > (2) HP E4448A PSA Spectrum Analyzer (3 Hz - 50 GHz)
- > (2) Keysight N9030A Spectrum Analyzer (3 Hz - 50 GHz)
- > (2) Keysight 8563E Spectrum Analyzer (9 kHz - 26.5 GHz)



## Manufacturing Equipment:

- > (1) Everbeing C-6 Analytical Probe Station, up to 67 GHz
- > (1) ESPEC TSE-12A Thermal Shock Chamber
- > (1) TSE-11-A ESPEC Thermal Shock Chamber
- > (1) ESPEC BTZ-175 Thermal Cycle Chamber
- > (1) LAB SD10 Shock Tower
- > (1) JEN410 IR Reflow Oven
- > (3) Thermo Electron Oven
- > (2) Anatech Plasma Cleaner
- > (2) Metallurgical Microscope MT1000
- > (1) Westbond 7KE Ribbon Bonder
- > (1) Westbond 7KE Ball Bonder
- > (1) Westbond 7473E Die Bonder
- > (4) Westbond 747677E-79 Convertible Wire Bonder
- > (1) Westbond 7476E-79 Wedge Wire Bonder
- > (1) Westbond 747630E-79 Wedge Wire Bonder
- > (1) Westbond 7400A Wedge Wire Bonder
- > (2) Westbond Bond Pull Center
- > (1) Dage Bond Puller / Die Shear
- > (3) HAAS DT1 CNC Milling Machine
- > (1) Mazak Nexus 430A-II CNC Milling Machine
- > (1) Mazak VC-EZ16 CNC Milling Machine
- > (1) Hardinge Turret Lathe
- > (1) Di-Acro Power Shear

- > (12) ESS Thermal Hot/Cold Plates
- > (1) Ling Dynamic V650 Random Vibration Setup
- > (1) Varian Helium Leak Tester
- > (1) HANS-G20 20 W Fiber Laser
- > (1) Hermetic Package Tester
- > (1) UV Curing Light Printer
- > (1) Hermetic Laser Welder
- > (1) KH-3020 CO2 Laser
- > (1) Remco Machined Parts Cleaner
- > (1) Bambu Lab X1-Carbon 3D Printer
- > (1) Ender-5 Pro 3D Printer
- > (6) Quincy Lab Oven

## Software:

- > Keysight - Genesys S/Filter Synthesis and Simulation
- > Ansys – HFSS, High Frequency Structural Simulator
- > Exact MAX – MRP/ERP Software
- > AutoCAD
- > Altium Designer
- > Microwave Office
- > SolidWorks
- > Gibbs Cam
- > Draftsight
- > Agilent Vee Pro Test Software

## Standards:

- > ISO9001
- > MIL-STD-454
- > MIL-STD-202
- > MIL-STD-883
- > MIL-E-5400
- > MIL-I-45208
- > IPC-A-610 Workmanship Standard
- > IPC-J-STD-001 Soldering Standard
- > MIL-STD-45662 Calibration Standard
- > AS9100















## Network & Spectrum Analyzers:

- > (1) Agilent N5230C PNA Network Analyzer 10 MHz - 20 GHz (Mixer Option)
- > (8) HP 8757D Scalar Analyzers
- > (1) HP 8720D Network Analyzer (50 MHz – 20 GHz)
- > (1) HP 8565E Spectrum Analyzer (50 GHz)
- > (1) HP 8592L Spectrum Analyzer
- > (2) Keysight E8364B PNA Network Analyzer (10 MHz - 50 GHz)
- > (1) Agilent N4693 E-CAL (10 MHz - 50 GHz)
- > (1) R&S FSR40N Spectrum Analyzer

## Noise Figure Meters:

- > (1) Keysight N4002A Noise Source
- > (1) HP 8975A Noise Meter

## Power Meters:

- > (3) HP EPM-442 Power Meter
- > (1) HP E4412A Power Meter
- > (1) HP 437B Power Meter
- > (1) HP 437A Power Meter

## Pulse/Signal Generators:

- > (1) HP 83731B Signal Generator
- > (4) HP 83620A Signal Generator
- > (1) HP 8013B Pulse Generator

- > (6) HP 83620A Sweep Generators
- > (1) HP 83650 Signal Generator
- > (1) Agilent E8257 Signal Generator
- > (1) Agilent 83732 Signal Generator
- > (1) HP 83623 Sweeper
- > (1) Agilent 83640 Sweep Generator
- > (1) HP 83620 Sweeper

## Oscilloscopes:

- > (1) Keysight MSO-X-3054A 500 MHz BW
- > (1) Tektronix 2246 100 MHz BW
- > (1) Rigol DS1202Z-E
- > (2) Agilent DSOX3034A

## Manufacturing Equipment:

- > (1) ESDEC TSE-12A Thermal Shock Chamber
- > (1) Blue M Stable Therm Oven
- > (1) Branson 821D Ultrasonic Cleaner
- > (2) UNITEK Gap Welders
- > (1) Anatech Plasma Cleaner/Etcher
- > (3) Westbond 7400A Wedge Bonders
- > (1) Westbond 8850 Bond Pull Center
- > (3) Westbond 1200A Die Attach Stations
- > (1) Westbond 8850 Ball Bonder
- > (1) Westbond 7600B Ribbon Bonder
- > (7) ESS Chroma Hot and Cold Plates
- > (1) Cycle Chamber

## Software:

- > Keysight - Genesys S/Filter Synthesis and Simulation
- > Ansys – HFSS, High Frequency Structural Simulator
- > Exact MAX – MRP/ERP Software
- > AutoCAD 2005
- > AutoCAD 2013
- > Gibbs Cam

## Standards:

- > ISO9001
- > MIL-STD-454
- > MIL-STD-202
- > MIL-STD-883
- > MIL-E-5400
- > MIL-I-45208
- > IPC-A-610 Workmanship Standard
- > IPC-J-STD-001 Soldering Standard
- > MIL-STD-45662 Calibration Standard
- > AS9100

- > Equipment Calibration - ISO 17025 Standard with traceability to NIST
- > Trained and Experienced ITAR/Export Administrator
- > Export Compliance Manual
- > AES (Automated Export System) certified export staff
- > Long Term Relationships with both DDTC and SNAP-R Personnel
- > NIST SP 800-171 and DFARS 252.204-7012 Compliant
- > U.S. Government Registration Numbers:
  - Cage Code: 05XQ0 (East Coast)
  - Cage Code: 71A34 (West Coast)
  - DUNS Number: 829998517
  - SAM (CCR) Registration: 1998E211401
  - Federal Tax ID (TIN): 52-1756966
  - DDTC Registrant Code: M16913
- > Able to support DoD contracts





5216 Chairmans Ct., Suite 103  
Frederick, Maryland 21703  
(301) 696-9740 Office  
(301) 829-3729 Fax  
www.IQRCORP.COM

International Quality Registrars (IQR) Corporation  
here with certifies that

**Planar Monolithics Industries, Inc.**  
Headquarters: 7309-A Grove Road, Frederick, MD 21704 USA

Additional Site Location(s): ☐ No, ☒ Yes, See Appendix A for additional information

has demonstrated a Quality Management System (QMS) which  
conforms with the requirements of the standard:

**ISO 9001:2015**  
Quality Management System - Requirements

The organization's QMS has been evaluated  
according to the International Quality Registrars (IQR)  
Corporation QMS certification scheme for the following scope:

**"Design, Development and Manufacture of Microwave Frequency Components,  
Sub-Systems and Systems, and Contract Manufacturing Services"**

This QMS certification is subject to periodic audits by  
International Quality Registrars (IQR) Corporation

This QMS certificate remains the property of International Quality Registrars Corporation and shall be returned immediately upon request, and is subject to being suspended or withdrawn where the organization fails to comply with the terms and conditions of the signed Registration Assessment Proposal and Agreement. An electronic or printed certificate can be authenticated on-line in accordance with IQR's procedure documented at [www.IQRCORP.COM](http://www.IQRCORP.COM)

Registration No.: 18-120804.IQ  
Client ID: PM109  
Cert. Expiration Date: 09/15/2027  
Cert. Issued Date: 09/15/2024

Last Cert. Revision Date: 09/15/2024  
Initial Cert. Issue Date: 02/24/09  
Sheet No.: 1 of 2

  
IQR QMS Certification Signature



FORM IQR-2510 Rev. C



United States Department of State  
Bureau of Political-Military Affairs  
Directorate of Defense Trade Controls  
Washington, D.C. 20522-0112

SEBASTIAN PALACIO  
Vice-President  
Planar Monolithics Industries Inc.  
7309-A Grove Road  
Frederick, MD 21704

2024-07-16

For a copy of our ITAR Registration, please  
contact our Sales Department at  
[sales@quanticpmi.com](mailto:sales@quanticpmi.com)

Any person who engages in the United States in the business of manufacturing or exporting or temporarily importing defense articles or furnishing defense services is required to register and keep that registration current with this office pursuant to the Arms Export Control Act (AECA) and the International Traffic in Arms Regulations (ITAR). A registration is current if the registration is unexpired and has accurate and up-to-date information.

Registration is a precondition to submitting an application for an export license or other approval from the Directorate of Defense Trade Controls (DDTC) or to use ITAR exemptions but does not confer any export rights or privileges. In addition, if you also plan to engage in brokering activities pursuant to ITAR Part 129, you must register as a broker with DDTC.

As the senior officer empowered to sign the registration statement, you should ensure that your organization maintains records regarding: 1) The senior officer listed on the registration who will oversee the compliance program and be responsible for designating the direct employees who will serve as "empowered officials" for their organization; and 2) The qualified, direct employees who will serve as "empowered officials," listed by name, position, business unit, phone and fax numbers and email addresses. Please note that third parties (i.e., individuals who are not direct employees, such as consultants, subcontractors, or outside counsel, for example) cannot serve as "empowered officials."

Also, ITAR Section 122.5 requires you to maintain records concerning your registration and the manufacture, acquisition, and disposition of defense articles; the provision of defense services; and information on political contributions, fees, or commissions furnished or obtained, as required by ITAR Part 130. Records maintained shall be available at all times for inspection and copying by DTCC or Customs officials. To ensure such records are maintained in accordance with ITAR Section 122.5, the organization should provide appropriate training on AECA and ITAR requirements to all employees who will be performing recordkeeping functions and ensure they comply with the ITAR. Ramifications for the failure to comply may include shipment delay and/or shipment seizure by Customs and Border Protection, loss of export privileges, and/or criminal or civil penalties.

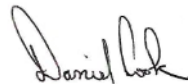
Further, if your organization has foreign-person employees, including officers and senior managers, your organization must first obtain a license or other approval before providing such foreign-person employees with access to any ITAR-controlled technical data. It is also prohibited to provide defense services or export defense articles to subsidiaries/affiliates located in proscribed countries under ITAR Section 126.1 (for example, the People's Republic of China, North Korea, Syria, etc.). You should caution your organization's employees not to discuss the substance of ITAR-controlled information with foreign-person employees without first obtaining a license or other approval from DDTC.

You may refer to the DDTC website for a Compliance Guide at <http://www.pmddtc.state.gov/> and then click on ITAR Compliance tab, next click on How to Comply tab. The DDTC website also includes a copy of the ITAR, explanations of export licensing procedures, how to submit a license application, country sanctions, individuals / companies debarred by the Department of State, and other export matters. The website also includes procedures for requesting a commodity jurisdiction determination (ITAR Section 120.4) should you have doubt as to whether an article, services, or data is covered by the ITAR Part 121 (the U.S. Munitions List).

You may submit your organization's registration renewal up to 60 days before the registration expiration date. At latest, your registration must be received at least 30 days prior to the expiration date to avoid a lapse in registration. You should also ensure your organization's Registration is current before applying for export licenses or other approvals. Also, if appropriate, DTCC requests you to keep your registration information current by submitting amendment requests via DECCS Registration system.

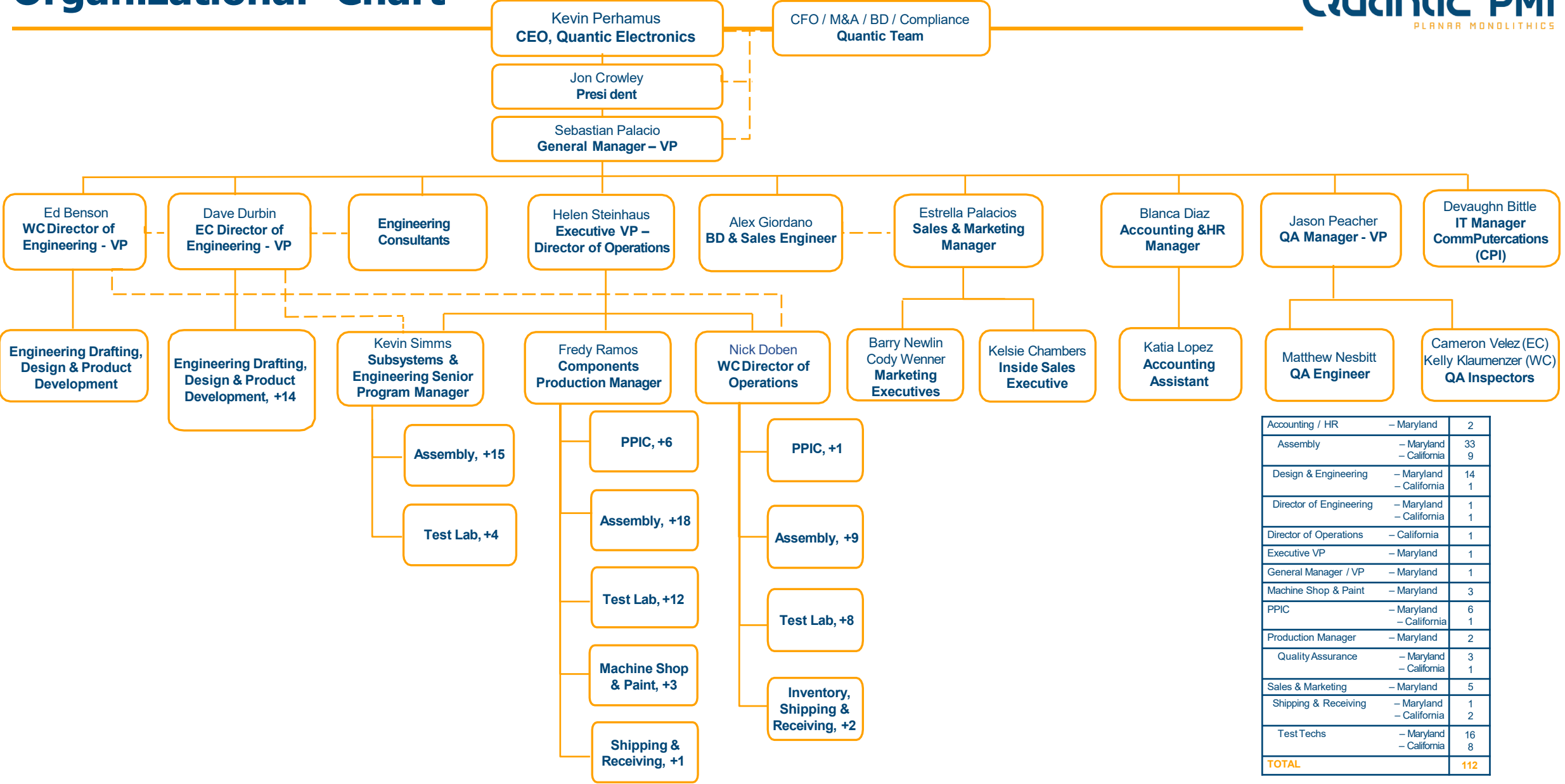
For general registration related questions, please contact the DDTC Response Team at 202-663-1282 or by email at [DDTCCustomerService@state.gov](mailto:DDTCCustomerService@state.gov). For questions related to this matter, please contact Teletha Thomas at 202-632-2153.

Sincerely,



Daniel Cook  
Chief, Registration, Compliance, & Analysis  
Office of Defense Trade Controls Compliance

# Organizational Chart



Accounting / HR	– Maryland	2
Assembly	– Maryland	33
	– California	9
Design & Engineering	– Maryland	14
	– California	1
Director of Engineering	– Maryland	1
	– California	1
Director of Operations	– California	1
Executive VP	– Maryland	1
General Manager / VP	– Maryland	1
Machine Shop & Paint	– Maryland	3
PPIC	– Maryland	6
	– California	1
Production Manager	– Maryland	2
Quality Assurance	– Maryland	3
	– California	1
Sales & Marketing	– Maryland	5
Shipping & Receiving	– Maryland	1
	– California	2
Test Techs	– Maryland	16
	– California	8
TOTAL		112

# Thank You!

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