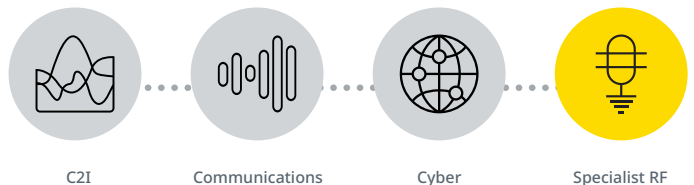


Pure performance meets high reliability



RF Microwave Assemblies





Reliable, high-performing solutions



Ultra is the trusted partner of choice for high-integrity, application-specific RF/digital systems for the world's toughest missions. The Specialist Radio Frequency team has over 50 years of experience delivering the most technologically advanced RF/microwave and millimeter wave solutions.

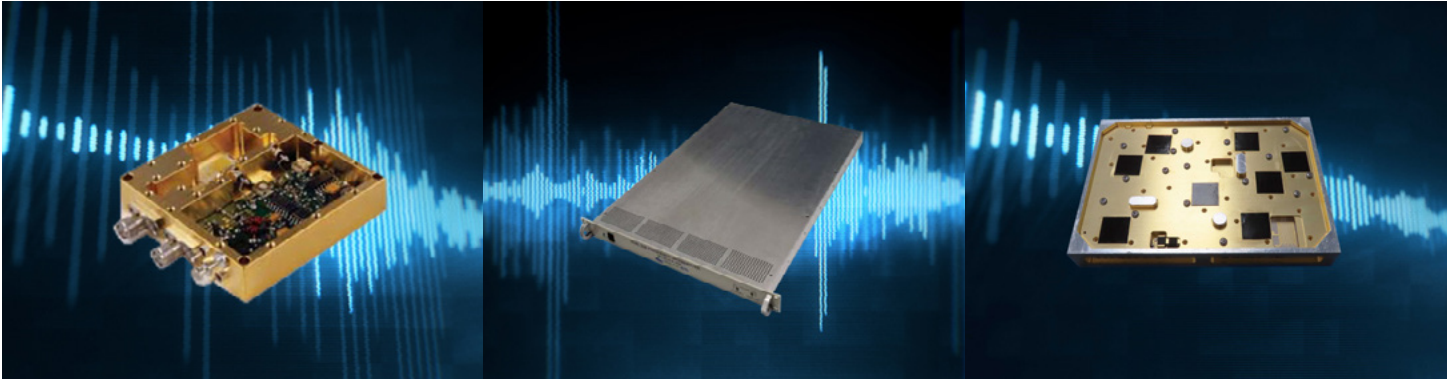
Our RF Microwave Assemblies solutions portfolio encompasses single-and multi-function microwave products, integrated microwave assemblies and line replacement units (LRUs).

Examples of advanced capabilities and products offered include:

- **FAST-SWITCHING PRODUCTS**
 <200ns switching speed, settling to 0.1 radian accuracy
- **WIDEBAND BLOCK FREQUENCY CONVERTERS**
- **PHASE COHERENT DIRECT DIGITAL SYNTHESIZERS**
- **CHANNELIZERS**
 Low noise amplification, custom frequency band selection, integrated limiter, solid state switches to 40GHz
- **TIME DELAY UNITS**
 Temperature stable delay lines with self-heaters
- **FILTER DESIGNS**
 Overlay, suspended substrate, silver cavity resonant filters
- **EQUALIZERS**
 Able to cancel ripple caused by cable lengths in large systems
- **HIGH-POWER DESIGNS**
 Custom limiters and integration in front ends, coaxial limiters for use up to 6GHz and waveguide solid state products



Ultra's RF microwave solutions



SINGLE-FREQUENCY GENERATION SOLUTIONS

Custom and standard microwave product line meets critical performance needs for a wide variety of applications. Highly rugged hermetic packaging is offered to meet the environmental demands of applications on aircraft, missiles and ships. Example products include switches, filters, receiver protectors, switched filter banks, oscillators, synthesizers, converters and time delay units.

OFF-THE-SHELF ITAR-FREE SOLUTIONS

- Series DS – 10MHz to 40GHz broadband synthesizer with small step size, fast switching, excellent phase noise performance and coherent operation option.
- Series IA – Rack mount, configurable, 500MHz to 18GHz up/down converters with 1GHz instantaneous bandwidth, fast switching, internal reference and low phase noise. Customizable frequency plans, including extension to 40GHz.
- Series PCRO and Series PDRO – Single frequency .5GHz to 45GHz oscillators with low spurious, low noise and high stability. filters, receiver protectors, switched filter banks, oscillators, synthesizers, converters and time delay units.

INTEGRATION/CUSTOMIZATION SERVICES

Most RF products developed by Ultra are custom designs to meet difficult customer specifications. Standard products can be tailored to customer needs including integrated multi-function modules, custom form factors, hermetic packaging and custom control designs to address unique system requirements. Long-term support of fielded products is offered, ensuring that qualified assemblies are supported throughout the platform lifecycle.

INTEGRATED MICROWAVE ASSEMBLIES AND LRUs

Primarily focused on electronic warfare, electronic countermeasures and radar applications, Ultra specializes in the manufacture of complex and highly integrated microwave assemblies (IMAs), critical to the detection and engagement range performance of these sensors in contested battlefield environments.

Products include synthesized converters/tuners, multi-channel radar receivers, waveform generators, switchable local phase locked oscillator assemblies, radar exciters, channelizers, radar warning receivers (RWRs) and antenna interface modules. Packaging ranges from traditional hermetic block construction to advanced 6U and 3U line replaceable assemblies.

NEW SOLUTIONS

Several new 6U VME products that determine ES/EA detection and engagement performance for next generation EW systems have been developed. These include High Band Upconverter, High Band Downconverter, Variable Bandwidth Delay, Switch Matrix, Radio Frequency Local Oscillator, Antenna Interface, and Dual RF Up/Down Converter modules. Tailored versions of these modules, meeting custom packaging, control and performance customer requirements, will address the needs of even the most advanced system designs. Contact Ultra to discuss your requirements.

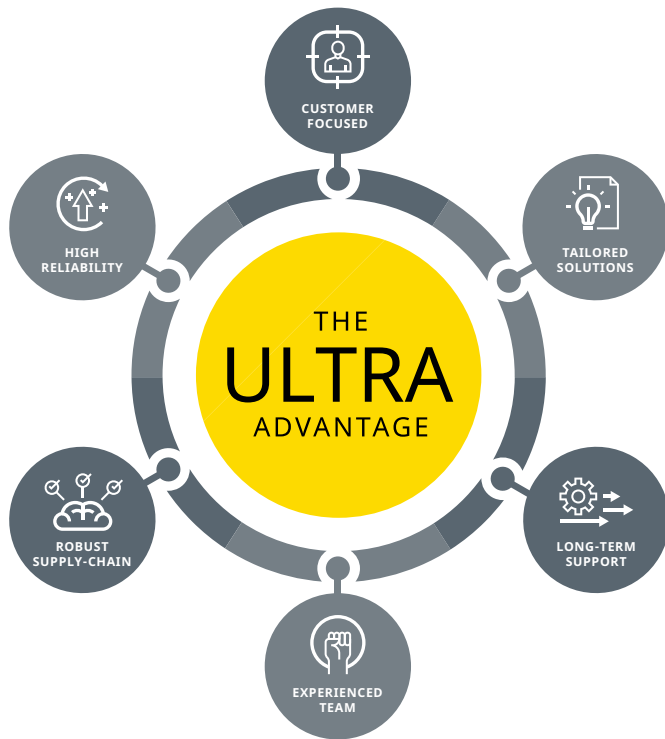


U.S. manufactured, globally distributed

Ultra’s custom and standard microwave product lines are designed and built at our stateside facilities. Our Woburn and Whippany locations employ highly trained and experienced production teams who work around the clock to ensure Ultra’s RF solutions meet required performance, certification and reliability standards. Highly rugged hermetic packaging is offered to meet the environmental demands of applications on aircraft, missiles and ships.



Why Ultra’s RF microwave solutions are preferred



SUPPLY CHAIN EXCELLENCE

In a time of manufacturing shortfalls and equipment shortages, Ultra works closely with suppliers to meet demanding lead times.

EXPERIENCED TEAM

Having worked in the defense industry for over five decades, Ultra’s teams have the knowledge needed to successfully support long-term engagements and address a variety of goals.

CUSTOMIZATION

Ultra offers a variety of solutions that are highly customizable to meet specific customer requirements.