



Mission-Ready RF Amplification for UAV Counter-UAS Systems

Lightweight! Wideband! Battle-ready!

Featuring the AMP10008 Ultra-Lightweight Module

Ultra-Lightweight RF Amplifier Modules for Counter-UAS and Drone Platforms

The Mission Environment

Commercial and military drones present a rapidly evolving threat across defense, security, and critical infrastructure environments. Counter-UAS systems rely on **detect, identify, and defeat** architectures, with RF-based electronic attack playing a central role in disrupting command links, navigation signals, and telemetry channels.

For airborne and drone-mounted Counter-UAS platforms, the RF payload must deliver **reliable wideband performance under extreme SWaP constraints**—often where traditional high-power amplifiers are simply too large or heavy.

The Challenge: RF Performance When Every Gram Counts

System integrators developing UAV-borne and drone-mounted RF payloads face a distinct set of challenges:

- Severe **weight and size limitations**
- Limited onboard DC power
- Requirement for **wideband frequency agility**
- Reliable operation under vibration, altitude, humidity, and thermal stress



These constraints demand RF amplifier modules that are **designed for flight**, not ground amplifiers forced into airborne roles where mass, thermal inertia, and power transients degrade mission effectiveness.

The Exodus Solution: A Scalable RF Module Portfolio for Airborne C-UAS

Exodus Advanced Communications supports defense contractors with a **family of RF amplifier modules** optimized for UAV, drone, mobile, and fixed Counter-UAS platforms. At the center of this portfolio is the **AMP10008**, an ultra-lightweight solid-state RF amplifier module that demonstrates what is possible when SWaP is treated as a primary design driver rather than a compromise.



AMP10008: Proven Ultra-Lightweight Performance in Flight

Originally developed for airborne and UAV applications, the **AMP10008** delivers high-confidence RF performance in a remarkably compact package:

- **Ultra-lightweight form factor:** ~225 grams, enabling seamless integration into drone payloads without sacrificing endurance.
- **Wideband agility:** 0.7–6.0 GHz, 15W coverage supports communications, telemetry, ISR, and electronic attack channels.
- **Mission-ready reliability:** Built-in protection for input power, load VSWR, and fast enable/disable switching (<10 μ s).
- **Rugged environmental design:** Qualified for humidity, altitude up to 40000 ft., shock, and vibration typical of airborne platforms.
- **Linear GaN architecture:** Class AB design provides clean amplification across modern modulation schemes with ~42 dB gain.

The AMP10008 has become a **reference design point** for ultra-lightweight RF payloads where performance, reliability, and flight endurance must coexist.

Beyond AMP10008: A Family Approach to Counter-UAS RF Design

While AMP10008 represents the ultra-lightweight end of the spectrum, Exodus provides a **broader range of RF amplifier modules** that allow system designers to scale capability without redesigning architectures.

Across the Exodus portfolio, integrators can select modules offering:

- Low-to-high power output levels
- Coverage across common drone command, control, and navigation bands
- GaN-based designs with integrated monitoring and protection
- Compact mechanical formats suitable for UAV, vehicle-mounted, and fixed installations

This **family-based approach** enables reuse of RF architectures across multiple platforms—from lightweight airborne drones to ground-based or vehicle-mounted Counter-UAS systems—while maintaining common design philosophies, interfaces and protection behavior.



Why Defense Integrators Choose Exodus

- **True OEM RF manufacturer** with in-house design and production.
- Demonstrated expertise in **SWaP-constrained airborne RF modules**.
- Proven support for military communications, ISR, and electronic warfare & radar programs.
- Flexible customization of frequency bands, power levels, and mechanical interfaces.
- Rapid transition from prototype to production hardware.

As Counter-UAS environments accelerate toward rapid frequency evolution, peer and near-peer threats, and increasingly modular airborne payload competition, Exodus designs RF building blocks intended to remain viable across multiple program generations.

Result: Mission-Ready Counter-UAS RF Payloads

By combining the **ultra-lightweight success of AMP10008** with a scalable family of RF amplifier modules, Exodus enables defense contractors to deploy Counter-UAS solutions that:

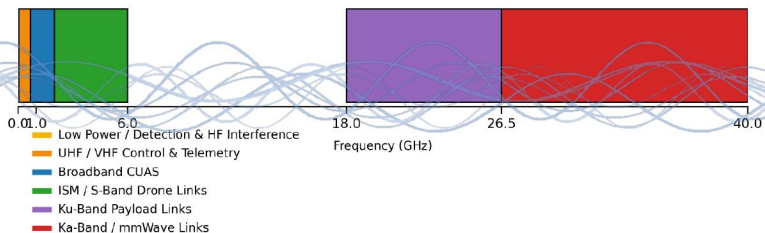
- Reduce payload weight and power consumption.
- Improve UAV endurance and mission flexibility.
- Simplify integration across multiple system variants.
- Adapt quickly as threat environments and frequency requirements evolve.

APPLICATIONS INCLUDE

- Long-range UAV communications and telemetry
- Electronic countermeasure payloads
- Airborne test platforms requiring wideband RF coverage
- ISR drones requiring reliable, lightweight RF amplification

Representative counter-UAS applications and coverage across the RF spectrum.

CUAS Frequency Coverage Overview





Scalable RF Amplifier Modules for Counter-UAS Platforms

From ultra-lightweight UAV payloads to high-power ground systems—engineered for modular, mission-ready RF architectures.

AMP10008 — Ultra-Lightweight UAV Backbone

0.7–6.0 GHz, 15W | Mid Power | ~225 g

- Broadband RF amplifier for drone-mounted Counter-UAS and electronic attack payloads
- Covers primary drone control, telemetry, and ISM bands
- Optimized for SWaP-constrained UAV integration and endurance
- Fast enable/disable switching for adaptive threat response

Portfolio Advantage

- Full-spectrum portfolio from sub-GHz through mmWave
- Airborne-to-ground scalability without redesigning
- Visual module selection by platform and mission band
- Competitive differentiation around SWaP

AIRBORNE & UAV PAYLOADS

AMP10012

0.5–2.5 GHz, 25W

Compact broadband C2 and telemetry disruption for small UAV payloads.

AMP10037

0.5–3.0 GHz, 50W

Mid-power multi-band control-link interdiction for flexible airborne payloads.

AMP10029

2.0–6.0 GHz, 50W

Targeted disruption of 2.4 and 5.8 GHz ISM-band drone communications.

MOBILE SYSTEMS

AMP10130

10–1000 MHz, 25W

Wideband sensing, surveillance, and low-power interference.

AMP10033

20–1000 MHz, 100W

Extended-range disruption of sub-GHz drone command and control links.

AMP10007

0.5–2.5 GHz, 50W

High-power amplification for long-range control-link denial.

HIGH-POWER SYSTEMS

AMP10109

0.7–6.0 GHz, 50W

Broadband high-power coverage including GNSS-inclusive disruption.

AMP10043

2.0–6.0 GHz, 50W

High-throughput ISM and proprietary datalink defeat.

AMP10014 / 10117

20–520/180–1000 MHz, 100W/220W

Long-range denial of low-frequency control and telemetry links.

HIGH-FREQUENCY / MMWAVE

AMP30028

18–26.5 GHz, 5W

Targeted interference of high-frequency payload links.

AMP30029

26.5–40 GHz, 10W

Advanced disruption of mmWave and SATCOM-style links.

AMP30043

18–40 GHz, 5W

Wideband high-frequency amplification for next-generation payload interdiction.

Engineered for SWaP-constrained airborne platforms—unlike traditional high-power amplifiers designed for ground systems.

- Flight-optimized designs for UAV and airborne integration
- Modular scalability across airborne, mobile and fixed systems/platforms
- Frequency agility to address rapidly evolving threats

One Architecture. Multiple Platforms. Full Spectrum Coverage.

Exodus Counter-UAS Amplifier Portfolio