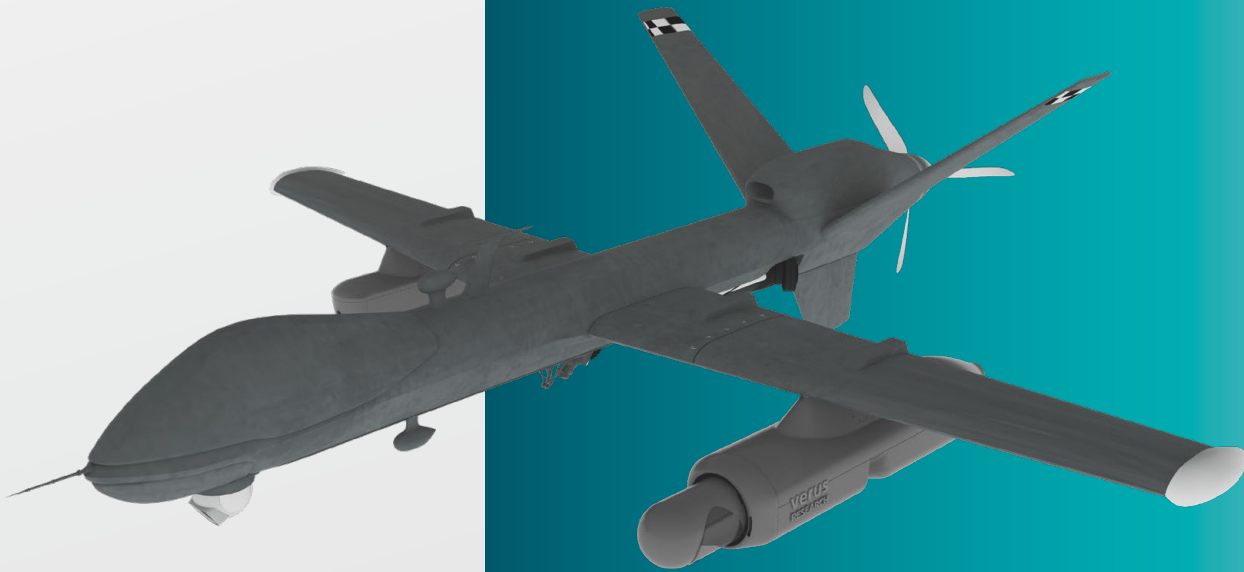


# RRAE

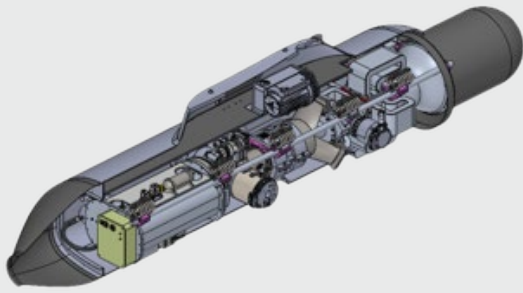
Recoverable, Reusable  
Air Engagement

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AN AIRBORNE HPM CAPABILITY FOR SUSTAINED TEST & EVALUATION.



CREATING SOLUTIONS THAT MATTER



# RRAE | Recoverable, Reusable Air Engagement

AN AIRBORNE HPM CAPABILITY FOR SUSTAINED TEST & EVALUATION.

## KEY FEATURES

- RRAE HPM Payload Pod and Power Pod
  - Compact airborne pulsed power
  - GW-class HPM source
  - Directional antenna with RF window design integrated into the pod
- RRAE Platform (in-progress)
  - Survivable in HPM engagements
  - Customized air-to-ground engagements
  - Multi-payload capable

## SYSTEM USE CASES

RRAE provides a sustained HPM airborne T&E capability for the repeated execution of air-to-ground, or air-to-air engagements that might otherwise be single use. As such, it can significantly improve the statistical assessment of various HPM payloads, and allow operators to evaluate a variety of engagement scenarios to improve tactics, techniques, and procedures (TTPs). Once complete, the RRAE hardened platform will carry a variety of HPM payloads to accelerate development of operational airborne HPM systems (blue-on-red), or ensure U.S. systems can survive emerging adversarial HPM attacks (red-on-blue).

## CONTACT INFORMATION

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To meet emerging Directed Energy (DE) Test and Evaluation (T&E) needs, Verus Research is assessing the viability of integrating high power microwave (HPM) systems onto recoverable airborne platforms to assess air-to-ground HPM engagements in a repeatable way. To accomplish this, Verus Research has identified a suitable flight platform (the MQ-9 Reaper) and HPM source (the AFRL A6-6 Relativistic Magnetron) to meet these T&E needs. The Verus Research team has developed an integrated concept for the HPM system, and fabrication of the prototype airborne HPM T&E system capable of flight operations at a test range. Ongoing activities include completion of the airborne HPM payload and susceptibility & hardening assessment for the MQ-9.

## KEY PERFORMANCE SPECIFICATIONS

SPECIFICATIONS	VALUE
Power Density on Target	up to 50 W/cm <sup>2</sup>
Area Illuminated on Target	150 – 300 m <sup>2</sup>
HPM Payload Pod Weight	≤1500 lbs.
Secondary Pod Weight	≤650 lbs.
System Input Power	≤4 kW
Shot Repetition Rate	10 – 50 Hz
Operating Center Frequency	L-Band
Pulse Duration	≥100 nsec
Shots per Burst	≥10
Burst Recovery Time	≤5 min

