



AirHi

Airborne HPM Instrumentation

RF INSTRUMENTATION OPTIMIZED FOR AIRBORNE APPLICATIONS.



CREATING SOLUTIONS THAT MATTER

AirHi | Airborne HPM Instrumentation

RF INSTRUMENTATION OPTIMIZED FOR AIRBORNE APPLICATIONS.

KEY FEATURES

- Envelope Detection Architecture (Narrow Band Measurement)
- Three Frequency Specific Measurement Channels
- One Frequency Independent Channel
- Automatic Conversion to Power Density
- 1.25 GS/s Sample Rate
- Dual Polarization Sensor
- UAS Mountable
- Independent Power system
- 2 GB Onboard Memory
- 2 GS/s ADC Buffer Memory

SYSTEM USE CASES

AirHi provides an airborne HPM measurement capability, capable of "operating-through" the HPM engagement and telemetering data down to a ground station in real time. Presently, AirHi is designed for larger airborne HPM targets. The system can be tailored to a smaller and lighter form factor to meet other use cases such as small unmanned aerial vehicles.

AirHi can be used for test and evaluation applications to verify system performance, or as an operational training tool for deployed HPM base defense capabilities.

CONTACT INFORMATION

J. Mark DelGrande, Ph.D.
j.mark.delgrande@verusresearch.net

Airborne High-Power Microwave Instrumentation (AirHi) is an HPM measurement system optimized for use on Unmanned Aerial Systems (UAS). AirHi utilizes envelope detection to measure the HPM signal incident upon the UAS and can operate with HPM signals from 1 to 20 GHz and is hardened to survive an electric field strength (field intensity) of up to 200 kV/m. AirHi can operate for over an hour in the active state. Positioning data including average velocity, GPS data and orientation (pitch, roll, and yaw) is recorded in addition to the HPM data. The system telemeters data to a base station and stores data locally for post-flight retrieval and data analysis. Data outputs include mean and peak power density, polarization, frequency, total HPM pulse count and positioning.

KEY PERFORMANCE SPECIFICATIONS

SPECIFICATIONS	VALUE
HPM Frequency Range	1 – 20 GHz
Weight	≤ 20 lb.
HPM E-Field Measurement Range	5 – 200 W/cm ²
Acquisition Box Shielded to:	> 200 kV/m
Minimum Envelope Risettime	2.5 ns
Pulse Repetition Rate	1 Hz – 2 kHz
Supported UAS Groups	UAS Groups 1 & 2
Maximum Pulse Duration	2.5 ms

