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RESEARCH

HF-HDS

High Frequency
HPM Diagnostic Suite

HIGH FREQUENCY RF MEASUREMENT TAILORED FOR REMOTE APPLICATIONS.

CREATING SOLUTIONS THAT MATTER

HF-HDS | High Frequency HPM Diagnostic Suite

HIGH FREQUENCY RF MEASUREMENT TAILORED FOR REMOTE APPLICATIONS.

The High-Frequency High-Power Microwave Diagnostic Suite (HF-HDS) system provides a capability for test and evaluation (T&E) of directed energy (DE) weapon systems to monitor electromagnetic environments and measure the power of a HPM pulse at frequencies from 1 GHz to 20 GHz at various test locations. HF-HDS is an ultra-wideband ad-hoc network of HPM sensor nodes that has the capability to record field strength at each node location. HF-HDS provides a ground HPM measurement capability, capable of "operating through" the HPM engagement and telemetering data to a base station. Measurements support analysis of beam intensity, sidelobe intensity, and stray radiation incident upon targets.

KEY FEATURES

- Multiple frequency band measurement
- GUI to control and monitor nodes
- Nodes support single-person carry

Data Capture Includes

- Peak power density per frequency band
- Rise time
- Pulse duration
- HPM pulse count

SYSTEM USE CASES

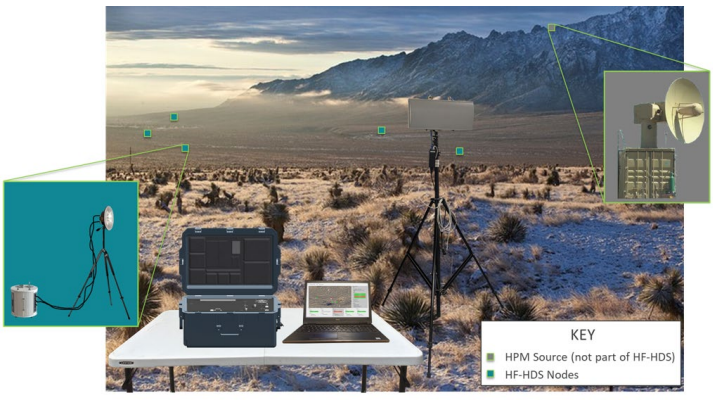
HF-HDS enables high-frequency HPM field measurements in outdoor test range environments. Sensor nodes can rapidly be setup at places of interest. Each node supports up to four measurement input channels. Multiple nodes can readily be used together to form a sensor network along with a common control (base) station. The sensor nodes can transmit data to the base station wirelessly or via fiber optic cable. The sensor nodes operate via batteries for up to 1 workday.

Measurements support analysis of beam intensity, side-lobe intensity, and stray radiation incident upon targets across a large geographic area.

KEY PERFORMANCE SPECIFICATIONS

SPECIFICATIONS	VALUE
HPM High Frequency Range (Envelope Capture)	1 – 20 GHz
HPM Power Density Range	5 – 200 W/cm^2
Number of Data Acquisition Channels per Node*	3 + 1
Minimum Pulse Duration	20 nsec
Sample Rate per Channel	1 Gsamp/sec
Maximum Survivable E-field Strength	30 kV/m
Sensor Bandwidth	Narrowband only
Data Retrieval/Processing	RF Link or f-o to Base Staion
Minimum Pulse Rise Time	5 nsec
Environmental	Suitable for outdoor use

* Three channels record power within a pre-determined frequency range.



CONTACT INFORMATION

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Acknowledgment: This material is based upon work supported by the U.S. Army Program Executive Office, Simulation, Training and Instrumentation (PEO STRI), Test Resource Management Center (TRMC) Test and Evaluation/Science & Technology (T&E/S&T) Program. These projects are funded by the T&E/S&T Program through the U.S. Army Program Executive Office for Simulation, Training and Instrumentation (PEOSTRI) Instrumentation Management Office (IMO).