verus®
RESEARCH

HERMES

High-Entropy, Reflective, Multi-role Enclosure for System-testing

MULTI-ROLE ENCLOSURE CAPABILITY FOR RAPID ELECTRONIC-TARGET HPM SUSCEPTIBILITY ASSESSMENT; EMI/EMC; ANTENNA, RF SENSOR & COMMUNICATIONS SYSTEMS CHARACTERIZATION; AND RF-SCENE GENERATION

CREATING SOLUTIONS THAT MATTER

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Located at our ElectroMagnetics Laboratory (EMLab), the Verus Research High-Entropy, Reflective, Multi-role Enclosure for System-testing (HERMES) provides a unique multi-role capability with reconfigurable internal paneling and antenna fixtures supporting a variety of low to moderate power (mWatts to kWatts) RF testing for multiple application use-cases. In combination with an expansive suite of Verus Research's proprietary algorithms in statistical electromagnetics, space-time-adaptive-processing (STAP) and RF scene generation, HERMES can be utilized to perform rapid assessments of electronic target RF/HPM susceptibility, EMI/EMC, and sensor development activities for radar, SIGnal INTelligence and Electronic INTelligence (SIGINT/ELINT) prototyping and characterization.

KEY FEATURES

- HERMES can be configured to emulate a continuum of RF environments, from free-space radiation to Rician Multipath Environments to Dispersive Rayleigh Multipath Environments
- Reconfigurable and detachable paddle-wheel stirrers can be configured to alter channel reverberation statistics to support multiple RF-scene generation requirements
- Chamber is outfitted to support single antenna, phased arrays and Multi-input
- Fully automated data-collection and digital signal processing suite
- Interior 120 VAC outlets to power electronic system

SYSTEM USE CASES

HERMES is ideally suited to support rapid Electronic-Target HPM Susceptibility Assessment; EMI/EMC; Antenna, RF Sensor & Communications systems Characterization; and RF-Scene Generation for next generation radar and SIGINT/ELINT systems.

HERMES mitigates the challenges and costs associated with spectrum clearance for open air testing of next generation sensor technologies.

KEY PERFORMANCE SPECIFICATIONS

SPECIFICATIONS	VALUE
Operating Range	0.3-8 GHz
Size of HERMES	20 ft L x 10 ft Diameter
Max. Size of Electronic Target	5 ft x 5 ft x 5 ft
RF Channel Environments Emulated	Free-Space, Rayleigh, Rician, Chi-Squared (with tunable degrees of freedom)
Antenna Architectures Supported	Singular, Phased-Arrays, MIMO
Interaction Volume	18 ft L x 8 ft Dia

CONTACT INFORMATION

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