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United States Army

Redstone Technical Test Center (RTTC)





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What We Do

Radio Frequency (RF) Sensors and Subsystems

Services include the life-cycle testing and evaluation of microwave and millimeter wave (MMW) radar systems, subsystems, and components under ambient and environmental extremes. These evaluations provide radar system decision-makers critical information to be used in system milestone decisions. These services are strongly augmented with radar-related modeling and simulation tools.



Overview

Primary Services & Capabilities

Test Management Services

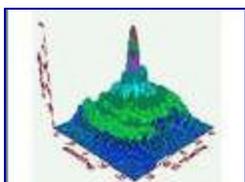
Supplemental Services

Search antenna undergoing near-field scan

Primary Services and Capabilities

- Laboratory
 - Radar systems test
 - Antennas - Planar near-field (1-20 GHz) - Compact range (26.5-110 GHz)
 - Transmitters/receivers
 - Wave guides, cables, couplers, filters, etc.
 - Vector network analyzers
 - Phase noise measurements
 - Noise figure measurements
 - Spectrum analyzers
 - X-Patch signature prediction

- Infrared Millimeter Wave Analysis (IRMA) scene simulation
- High frequency structure simulation
- Hardware-in-the-Loop (HWIL) Testing
- Field
 - Far-field radar testing (radar system and antenna testing)
 - Radar cross-section measurements
 - RF emitter analysis
 - RF safety analysis



3D view of typical antenna pattern representation



Characterization testing of RF subassembly

Supplementary Services

- Modeling and simulation
- Work closely with Electro-Optical (EO) and lab T&E personnel
- Provide aircraft, pilots, test engineers, and ground support personnel

Specialized Facilities and Equipment

- Simulation/Test Acceptance Facility (STAF) for HWIL testing
- Near-field antenna chamber
- Compact antenna test range
- Mobile MMW target generator
- Radar system instrumentation fabrication

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