AIED
Aircraft Integration Capabilities
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Technical Requirements
- Contract Requirements
- A/C Integration Requirements

A/C Identification
- Aircraft 3D Model Preparation
- Antenna Tests
- EMI/EMC Tests and Isolation
- Platform Data
  - Temperature
  - Vibration
  - Shock
  - Electrical
- Installation Location Determination
- Preliminary Integration Analysis

A/C Integration Design
- Structural/Electrical Design
- Structural Analysis
- Aerodynamic Analysis
- Flight Stability and Performance
- Thermal Analysis
- Electrical Load Analysis
- Weight/Balance Analysis
- EMI/EMC and Interoperability Analysis
- Safe Separation Analysis
- Coverage (FOV) Analysis
- Antenna Simulations
- Human Engineering
- Test Activities:
  - Material Coupon Tests
  - Wind Tunnel Tests
  - Environmental Simulation Tests
  - Modal, fatigue and acceleration Tests
  - Crash Tests
  - Lightning Tests

Integration Process
- Integration/Installation
- Documentation (Group-A and Modification Work Orders)

Ground and Flight Tests
- Harness Tests
- Modal Tests
- Ground Vibration Tests
- Electrical Load Tests
- Functional Checkout Tests (Ground and Flight)
- Aircraft EMI/EMC Tests
- Safety of Flight Tests
- In Flight Tests (vibration, shock, handling qualities, performance, stability, structural integrity, thermal, safe separation)

A/C Technical Documentation Update
- A/C TM’s Supplement
- Pilot Checklist
- A/C Flight Manual Update

Airworthiness Certification and Acceptance
- Certification Plan
- Integration design and analysis documents
- Ground and Flight Test Reports
- Certification Compliance Documentation