PERFORMANCE TEST REPORT

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Classification: UNCLASSIFIED // FOR OFFICIAL USE ONLY
Test Date: 26 October 2025
Test Location: Edwards AFB / Yuma Proving Ground
Test Conductor: DT&E;

SYSTEM UNDER TEST

System: Aurora-P
Manufacturer: Arcturus Dynamics International
Serial Number: ARCTURUS-PT-0004
Configuration: Block 1 Production Standard

TEST OBJECTIVES

1. Validate operational range under mission-representative conditions
2. Verify payload capacity and center-of-gravity limitations
3. Assess endurance at various altitudes and payload configurations
4. Evaluate data link performance and reliability
5. Confirm environmental operating envelope

TEST RESULTS SUMMARY

RANGE TESTING

Flight Profile: Standard ISR mission profile with 4 waypoint navigation
Conditions: Standard day, winds 14 knots
Fuel Load: 97% maximum capacity
Result: 1429 km achieved
Specification: 1500 km required (threshold)
Status: MARGINAL

PAYLOAD TESTING

Configuration: Full ISR suite with EO/IR/SAR sensors
Measured Capacity: 302 kg
Specification: 300 kg required (threshold)
Status: PASS
Center of Gravity: Tested at 28% MAC (within 22-35% limits)

ENDURANCE TESTING

Altitude: 40973 ft MSL
Payload: 71% of maximum tested capacity
Measured Endurance: 21 hours
Specification: 24 hours required
Status: FAIL

DETAILED TEST ANALYSIS

SERVICE CEILING VERIFICATION

Maximum Altitude Achieved: 48,505 ft MSL
Engine Performance at Ceiling: 94% rated power
Rate of Climb at Ceiling: 86 ft/min
Status: VERIFIED

DATA LINK ASSESSMENT

System Type: Hybrid SATCOM/LOS
Range Tested: 193 km line-of-sight
Throughput: 63 Mbps sustained
Latency: 175 ms average
Packet Loss: 0.73%
Status: MEETS REQUIREMENTS

ANOMALIES AND DEFICIENCIES

• Data link intermittent dropouts during high-G maneuvers (documented as known issue)

CONCLUSIONS

The Aurora-P demonstrated mixed performance across tested parameters. Measured range of 1429 km and payload capacity of 302 kg partially meet OVERWATCH program requirements. Unique cold-weather capabilities provide essential operational flexibility for Arctic and high-latitude missions.

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