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PERFORMANCE TEST REPORT

Document ID: PTR-FALCON-002

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Test Date: 11 June 2025

Test Location: Edwards AFB / Yuma Proving Ground

Test Conductor: IOT&E;

SYSTEM UNDER TEST

System: Raptor-MQ

Manufacturer: Falcon Defense Systems Inc.

Serial Number: FALCON-PT-0002

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 3 waypoint navigation

Conditions: Standard day, winds 6 knots

Fuel Load: 91% maximum capacity

Result: 1759 km achieved

Specification: 1500 km required (threshold)

Status: PASS

PAYLOAD TESTING

Configuration: Full ISR suite with EO/IR/SAR sensors

Measured Capacity: 336 kg

Specification: 300 kg required (threshold)

Status: PASS

Center of Gravity: Tested at 27% MAC (within 22-35% limits)

ENDURANCE TESTING

Altitude: 42740 ft MSL

Payload: 89% of maximum tested capacity

Measured Endurance: 23 hours

Specification: 24 hours required

Status: FAIL

DETAILED TEST ANALYSIS

SERVICE CEILING VERIFICATION

Maximum Altitude Achieved: 47,052 ft MSL

Engine Performance at Ceiling: 85% rated power

Rate of Climb at Ceiling: 167 ft/min

Status: VERIFIED

DATA LINK ASSESSMENT

System Type: SATCOM Ku-band

Range Tested: 159 km line-of-sight

Throughput: 47 Mbps sustained

Latency: 158 ms average

Packet Loss: 1.35%

Status: MEETS REQUIREMENTS

ANOMALIES AND DEFICIENCIES

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

CONCLUSIONS

The Raptor-MQ demonstrated satisfactory performance across tested parameters. Measured range of 1759 km and payload capacity of 336 kg meet or exceed OVERWATCH program requirements. Proven reliability and extensive operational heritage make this a low-risk selection for the OVERWATCH program.

Test Director: LTC J. Morrison

QA Representative: D. Williams

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