ACCEPTANCE TEST PROCEDURE

Document ID: ATP-FALCON-002
System: Raptor-MQ
Contractor: Falcon Defense Systems Inc.
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1.0 INTRODUCTION

This acceptance test procedure describes the Raptor-MQ unmanned aerial system developed by Falcon Defense Systems Inc.. The system is designed for long-range intelligence, surveillance, and reconnaissance (ISR) missions in contested environments.

2.0 PERFORMANCE CHARACTERISTICS

2.1 Range and Endurance

The Raptor-MQ achieves a maximum operational range of **1758 km** with standard fuel load. This meets the OVERWATCH program threshold requirement. Mission endurance at optimal cruise altitude is 33 hours with 75% payload loading.

2.2 Payload Capacity

Maximum payload capacity is **353 kg**, sufficient for a comprehensive ISR sensor suite. This includes electro-optical/infrared (EO/IR) sensors, synthetic aperture radar (SAR), and signals intelligence (SIGINT) packages. Center of gravity limits accommodate payload distribution from 22% to 34% mean aerodynamic chord.

2.3 Altitude Performance

Service ceiling is 44,850 ft MSL, providing standoff capability in contested airspace. Optimal cruise altitude for ISR missions is 35,159 ft, balancing sensor performance with fuel efficiency.

3.0 SYSTEM DESCRIPTION

3.1 Airframe

The airframe features a high-aspect-ratio wing optimized for high-altitude performance. Wingspan is 21.6 meters with a length of 8.1 meters.

3.2 Propulsion

Power is provided by a heavy-fuel piston engine with 150 horsepower output. Fuel capacity is 487 liters.

3.3 Avionics and Control

Flight control is provided by a redundant dual autopilot system with SATCOM data link. Navigation uses GPS with INS backup for GPS-denied operations.

4.0 REQUIREMENTS COMPLIANCE

Requirement	Threshold	Objective	Raptor-MQ	Status
Range	1500 km	2000 km	1758 km	MEETS
Payload	300 kg	400 kg	353 kg	MEETS
Ceiling	45,000 ft	50,000 ft	44,850 ft	BELOW

5.0 SUMMARY

The Raptor-MQ represents a proven, low-risk solution with extensive operational heritage. Performance specifications of 1758 km range and 353 kg payload capacity demonstrate strong alignment with OVERWATCH program needs.