VIGILUX

Phoenix Overwatch — Capability Brief

Developmental information. Specifications subject to change.

Executive Summary

Phoenix Overwatch is a low-SWaP thermal relay payload concept for small UAS platforms. It prioritizes integration discipline, repeatable demo readiness, and production credibility through controlled interfaces, measured performance targets, and acceptance testing.

Intended Use

- Thermal/EO viewing and relay for small UAS and constrained platforms
- Operator-centered ground workflow for viewing + recording
- Rapid integration path with standardized mounting + harness approach

Core Capabilities

- Analog CVBS baseline video path for broad compatibility (FPV receivers/monitors/goggles/DVR)
- Optional digital IP video path as the program matures (H.264/H.265 over RTSP/WebRTC where appropriate)
- Operator-controlled workflows (viewing, recording, bookmarking as follow-on)
- Production credibility focus: controlled BOM, traveler, per-unit acceptance checklist, traceability

AI-Enhanced Capabilities (Preview)

Optional operator-assisted analytics under development. Release is gated by validation and measured performance targets.

- Supervised tracking support and stabilization assistance
- Reacquisition assistance for temporary target loss
- Operator-assisted overlays (gated by test results and accuracy thresholds)

Validation Plan (Measured)

- Range testing with repeatable route + environmental logging
- Dropout rate and reacquisition time measurement
- Latency and bitrate characterization (per video path)
- Power stability testing (brownout, transient, reverse polarity protection)
- Per-unit acceptance checklist (functional, video, power stability, thermal check, link check)

Security Posture (Phased)

- v1: Baseline hardening with transport-layer encryption options for IP paths (when used).
- v2 Secure/Enterprise: Integration with validated/customer radios and documented key workflows (generate/load/rotate/zeroize) aligned to customer requirements.
