

Ready to Integrate Advanced EW Capabilities

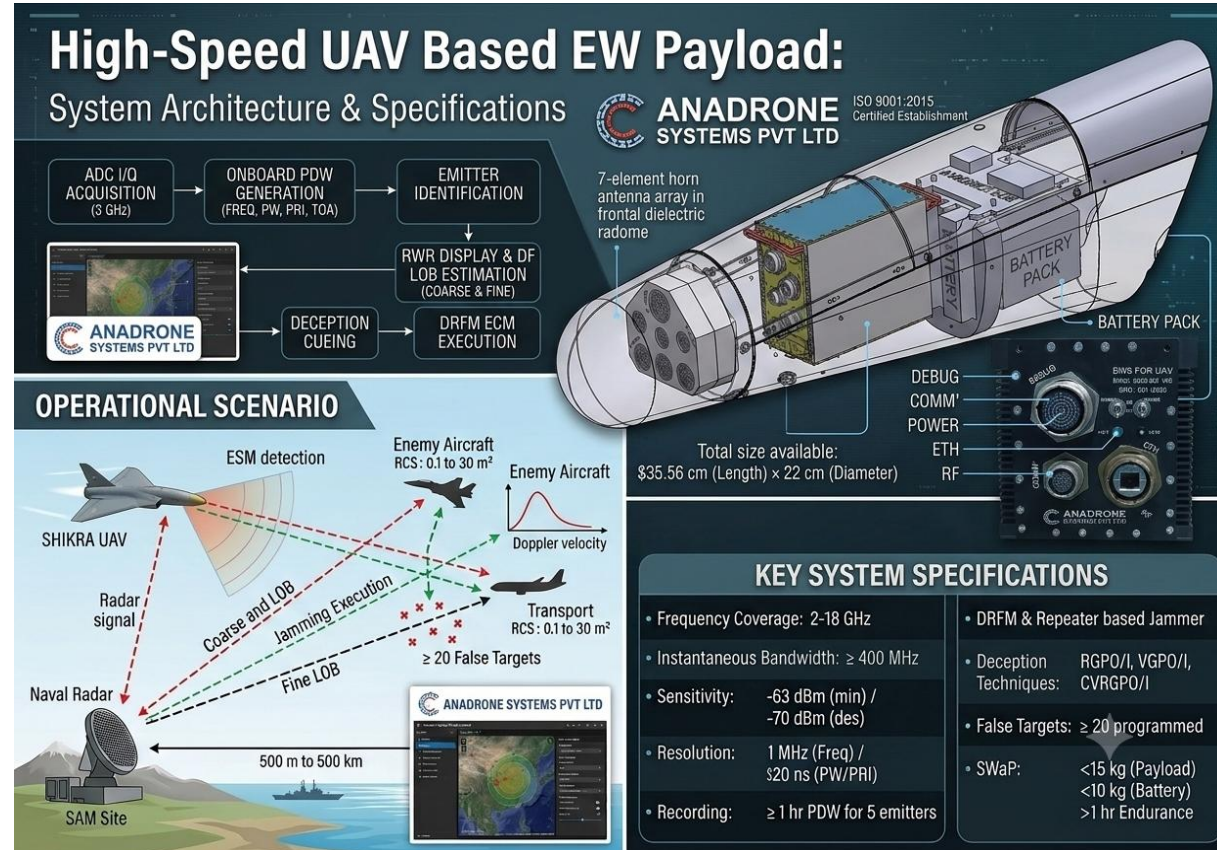
Technical Specifications

RF Performance

- Frequency: 2–18 GHz
- Sensitivity: -63 to -70 dBm
- Inst. BW: ≥ 400 MHz
- Pulse Width: 0.1 – 500 μ sec
- PRI Range: 1 μ sec– 80 msec
- Freq Resolution: 1 MHz
- Temporal: 20 ns

Platform Specifications

- Azimuth: $\pm 13.5^\circ$
- Elevation: $+10^\circ$ to -30°
- Payload: < 10 kg
- Battery: < 10 kg
- Altitude: $25,000$ ft AMSL
- Endurance: 1 hour



Core Capabilities

ESM / Detection

Electronic Surveillance with precision frequency and temporal analysis

ECM / Jamming

DRFM and repeater-based deception (RGPO/I, VGPO/I, CVRGPO/I)

Direction Finding

Coarse and fine DoA estimation (1 MHz resolution, 20 ns temporal)

False Targets

20+ programmable targets (0.1–30 m² RCS, 500 m–500+ km range)

Signal Analysis

PDW extraction, pulse width/PRI measurement, 1-hour recording

Real-time Processing

Sub-millisecond latency with adaptive jamming control

Advanced Deception Jamming Modes

RGPO

Injected coherent replicas at extended range gates to defeat range-tracking loops

VGPO

Coherent Doppler injection separates tracking gate from true velocity

CVRGPO Combined Velocity-Range

Simultaneous range and Doppler gate manipulation for multi-parameter radars

DRFM

Digital RF Memory

Records and replays accurate pulse replicas with delay and frequency control

Ground Control Software Suite

PFMG Mission Planning

Pre-flight message generation with emitter database and jamming technique selection

Live Monitor Real-time Control

Telemetry display, emitter tracking, jamming control with map visualization

PMDA Post-Mission Analysis

Advanced playback, 2D GIS visualization, jamming performance metrics

Data Mgmt Storage & Archive

10 TB encrypted storage with PDW recording and secure archival

Anadrone Systems Pvt Ltd

X-Band Multi-Frequency Tracking Radar

Real-Time 3D Precision Tracking System

About Anadrone Systems

Specialized radar engineering company developing advanced phased-array and signal-processing systems for defence and aerospace applications.

Core Competencies:

- X-band surveillance & tracking systems
- Electronic warfare (ESM/ECM)
- AESA phased array design
- Real-time signal processing
- Defence sector integration
- Turnkey system delivery

Key Technical Capabilities

3D TSPI Accuracy

Range <1 m | Velocity <1 m/s | Pointing <0.25 mrad

Multi-Object Tracking

Up to 3 simultaneous targets at 400 Hz update rate

Waveform Agility

MF-CW, FM-CW, CW modes with automatic/manual switching

Advanced Capabilities

Adaptive Beam Spoiling

16° × 16° wide acquisition → 2° × 2° precision monopulse

Integrated Thermal Imaging

3–5 μm cooled MWIR | 640×512 detector | Dual FOV (11° / 2.2°)

Real-Time Multi-Object Processing

Up to 3 dynamic targets tracked simultaneously with 400 Hz calculation rate, delivering trajectory and ballistic prediction for high-speed aerial objects.



OUTDOOR ANTENNA UNIT (ON TRAILER)^[cite: 1]

X-band 64x64 microstrip patch array antenna
(39 ± 1 dBi gain, Horizontal Polarization)

Continuous 360° Azimuth Antenna Pedestal Unit (APU) with integrated hydraulic leveling sensor (< 0.001°)

Variable Beam Spoiling

2° × 2°

16° × 16° Maximum

Minimum

2° Minimum

16°

3-5µm MWIR Camera

• 1280 × 1024

• NETD < 25 mk

• Dual FOV 11°/2.2°

Daylight Camera

SYSTEM ARCHITECTURE & DATA FLOW^[cite: 1]

APU & SENSOR PAYLOAD

RF / Fiber

REAL TIME PROCESSOR (RTP)

1 Gbps Optical

OPERATION & MAINTENANCE ISO SHELTER



HIGH-PRECISION TSPI TRACKING

Range: < 1 m^[cite: 1] |
Velocity: < 1 m/s^[cite: 1] |
Angle: < 0.25 mrad^[cite: 1]



MULTI-TARGET ENGAGEMENT

3 Objects Simultaneously^[cite: 1],
Up to 400 Hz Rate^[cite: 1]



ADAPTIVE BEAM SPOILING



MULTI-MODE WAVEFORMS

KEY PERFORMANCE & TEST RESULTS^[cite: 1]

Range Accuracy: < 1 m^[cite: 1]

Angle Accuracy: < 0.25 mrad^[cite: 1]

Velocity Accuracy: < 1 m/s^[cite: 1]

Bandwidth: ±1 MHz^[cite: 1]

Dynamic Range: > 100 dB^[cite: 1]

Number of Targets: 3^[cite: 1]

Real Time Calculation Rate: > 100 Hz^[cite: 1]