UVS.Dynamics

DATASHEET

UVS Link Pro

PRELIMINARY · TARGET SPECIFICATIONS

Long-range SDR-based X-band radio link for reconnaissance UAVs operating in active EW environments.

KEY FEATURES

- Software-defined radio: modulation, FHSS and spectrum analysis are updated by firmware, with no hardware changes
- FPGA-level frequency hopping: fast, deterministic switching to counter adaptive jammers
- Real-time spectrum analysis: the link routes around detected interference without operator input
- MIMO 2×2 with beamforming: higher throughput and better jamming resistance
- Adaptive OFDM with LDPC coding, up to 256-QAM
- Video, telemetry and control on one encrypted link

SPECIFICATIONS

Band	X-band
Architecture	SDR: FPGA SoC + RF transceiver
Antenna configuration	MIMO 2×2, beamforming
Bandwidth	up to 40 MHz
Modulation	Adaptive OFDM, up to 256-QAM
Forward error correction	LDPC
TX power	5 W amplifier (2 W GaN prototype on the bench)
EW resilience	FPGA frequency hopping; real-time spectrum analysis with interference avoidance
Encryption	Traffic encryption on the FPGA
Traffic	Video + telemetry + control; full duplex (planned)
Ground antenna	Directional patch array, 4 or 8 elements; optional pan/tilt tracking
Updates	Signal-processing logic updated by firmware
Range	Set after flight tests
Status	In development; target specifications

COMPOSITION

Onboard SDR module (FPGA SoC, RF transceiver) · in-house X-band UP/DOWN converter · 5 W power amplifier · two onboard antennas (MIMO 2×2) · ground station with a 4- or 8-element directional patch array · optional pan/tilt platform tracking.

INTERFACES

Onboard input: video, telemetry and control on one link. Air-to-ground: X-band, MIMO 2×2. Signal-processing logic is updated by firmware. Physical connectors and power are agreed during integration.

AVAILABILITY In development. Tell us about your UAV and the task, and we will discuss integrating UVS Link Pro and joint testing.