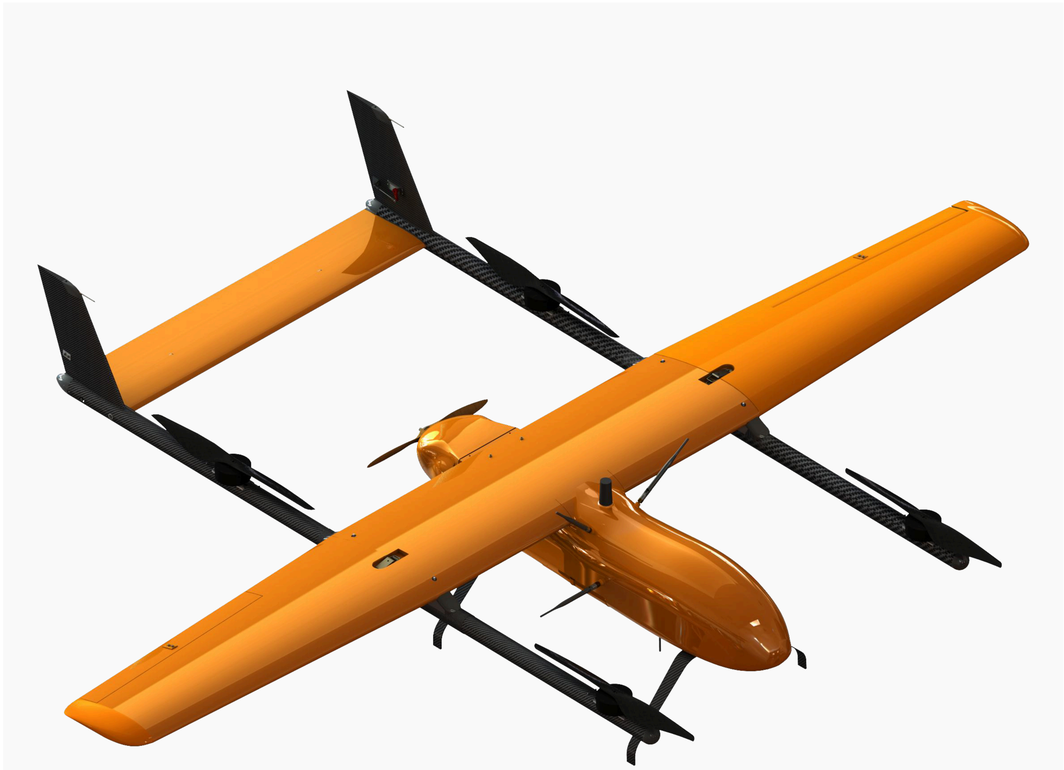
INNOVTOL-3S

InnoVTOL-3s



FEATURES

- Fully autonomous mission flight (no operator required)
- Automatic take-off and landing within designated area
- Interference-protected electronics based on UAVCAN
- Intelligent safety modes

TECHNICAL SPECIFICATIONS

General

Dimensions 2290 mm (length) / 3050 mm (wingspan) / 690 mm (height)
Wing area 101 dm^2
Maximum take-off weight 28 kg
Communication frequency range 900 MHz and 2.4 GHz (or 5.0–5.8 GHz)
Communication range up to 20 km (video) / up to 40 km (telemetry)
Payload capacity up to 5 kg
Flight altitude up to 2500 m above sea level
Endurance (with payload) up to 4 h (with 1 kg) / up to 3 h (with 4 kg)
Cruise speed 80 km/h
Maximum speed 115 km/h
Stall speed 55 km/h
Flight range 300 km
Night flights **possible**
Flights over water **possible**
Operating temperature range -20°C to +40°C

Other Limitations

Wind speed 8 m/s (take-off) / 18 m/s (horizontal flight)
Minimum take-off/landing area at least 10×10 m, slope ≤7% in any direction
Surface type any, including unprepared soil or loose ground (provided propellers remain free of dirt)

Airframe and Power Unit

Airframe material composite (carbon fiber)
Engine type hybrid (internal combustion + electric)
Service life before overhaul 500 flight hours (airframe) / 100 flight hours (ICE)

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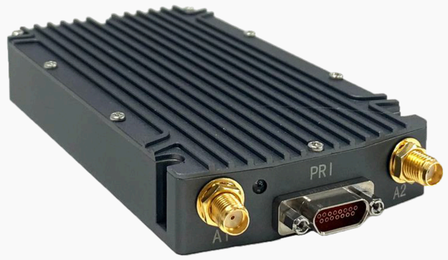
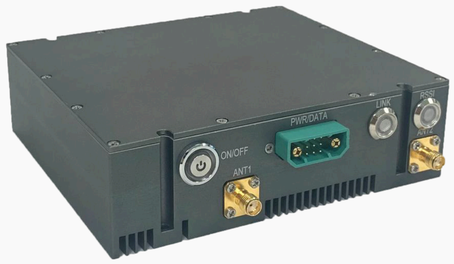
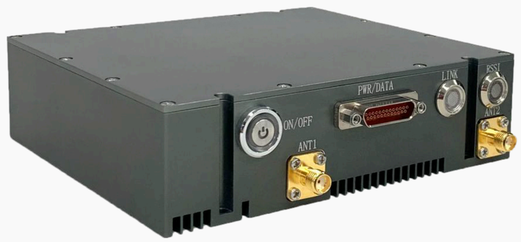
Broadband Communication System up to 100 km







INNOVTOL-3S

Broadband Communication System up to 100 km

KEY PARAMETERS	
Technology	COFDM MN-MIMO based on SDR + FPGA Spatial multiplexing, TX/RX beamforming
Network Configuration	Mesh/MANET
Modulation Types	BPSK/QPSK/16QAM/64QAM/256QAM
Error Correction Code	LDPC 1/2; 2/3; 3/4; 5/6
Frequency Range	Selectable from 350 MHz to 6 GHz **Available options:** 350-450, 450-550, 570-700, 800-950, 1000-1200, 1300-1500, 1600-1800, 1800-2000, 2000-2200, 2200-2500, 4400-5000, 5000-6000 MHz **Dual-band operation possible with extended working range**
Output Power	1 - 20 W (variants: 1, 2, 4, 8, 20 watts)
HD Video Transmission Range (omnidirectional antennas 5-7 dBi)	• 80-120 km (20 W) • 50-70 km (8 W) • 30-40 km (4 W)
HD Video Transmission Range (directional antennas 5-7 dBi)	• 120-180 km (20 W) • 75-105 km (8 W) • 45-60 km (4 W)
Signal Bandwidth	2.5 / 5 / 10 / 20 / 40 MHz (optional)

Receiver Sensitivity	-103dBm at 5 MHz bandwidth
Data Transmission Latency	10 ms
Network Startup Speed	less than 30 sec
Information Rate	• Up to 180 Mbps (40 MHz) • 100 Mbps (20 MHz) • 48 Mbps (10 MHz)
Operating Modes	Adaptive FEC mode with 1000 hops/sec automatic interference avoidance, automatic optimal physical frequency selection mode, manual physical frequency selection mode
Encryption	AES-256
Interfaces	Ethernet, TTL/RS232/RS, SerialToEthernet, HDMI/SDI/AV Low-latency video converter (optional)
LAN / Serial	Transparent IP architecture with multicast/unicast support, serial port polling via TCP/UDP with high priority and low latency
Additional Options	Wi-Fi, GPS/Glonass, 4G modem, fiber optic, Push-to-Talk voice transmission, DMR radio integration, terminal distance determination function, API for customer software integration
Camera Pixel Size	1 sec
Minimum Photography Interval	4.4 µm

Complication options

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Lidar scanning module based on CHCNAV

Lidar scanning module based on CHCNAV

Multispectral scanning module

Cargo delivery

Thermal imaging monitoring module based on SIYI ZR31 camera

30x optical camera module based on SIYI ZR30 4K 8MP

24MP module for aerial survey based on Sony EV-10

61MP module for aerial survey based on Sony a7rM4

5-in-1 Oblique camera module

Additional options

- Long-range HD link
- 2 Controllers
- Transport trailer
- LTE
- Custom paint
- Extended warranty
- GNSS for operation in EW (Electronic Warfare) conditions
- PLAZ 3D Link
- Control transmission system
- Intelligent landing system