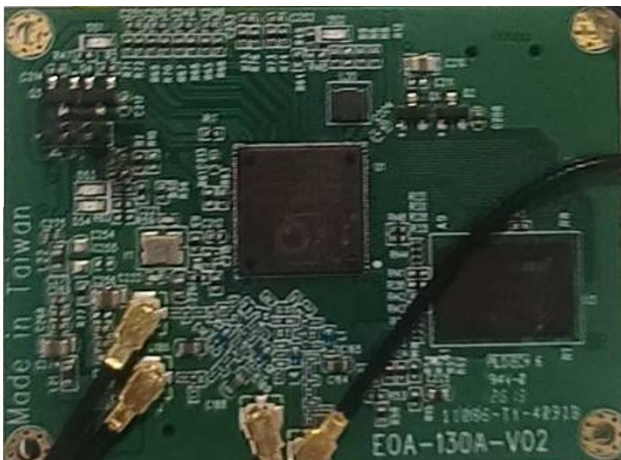




EOA-130 COFDM

FPV Data and Video Link

Tiny Ethernet-over-Air Adaptor



The EOA-130 Ethernet-over-Air adapter leverages advanced COFDM transmitter and receiver technology to deliver seamless wireless Ethernet extension. Its robust COFDM foundation ensures reliable, long-range broadband connectivity, making it ideal for UAV/USV FPV video, data, and command-and-control (C2) links, as well as for providing internet access to rural areas.

The EOA-130 excels at reaching terrain and locations inaccessible to traditional microwave systems, extending the reach of corporate networks and field operations. It supports point-to-point (P2P), point-to-multipoint (P2MP), and mesh networking modes.

Beyond its transparent wireless Ethernet link, the adapter also provides a transparent UART/SBus link, simplifying system integration and migration. Custom frequency bands—including non-ISM options—can be configured to avoid jammer interference and ensure uninterrupted operation.

The EOA-130's anti-jamming design keeps links reliable in contested RF environments. A wide tunable frequency range evades crowded or jammed spectrum, while dynamic channel switching—manual on-the-fly or automatic by signal-quality monitoring—relocates the channel without dropping the link. Optional separate uplink/downlink frequencies add further resilience against directional jamming.

System Features

- COFDM technology
- Configurable transmission parameters, including:
 - Frequency, bandwidth, code rate, and guard interval
- Channel bandwidth: 2.5 MHz / 5 MHz / 10 MHz / 20 MHz / 40 MHz

- Anti-Jamming Mechanism
 - Wide tunable frequency range
 - Dynamic channel switching
 - ◆ Manual, on-the-fly
 - ◆ Automatic, signal-quality driven
 - Separate up/down link frequencies (optional)
- Long range transmission
- Transparent mode support for both Ethernet and UART/SBus links
- Peak **throughput (data rate): up to 50+ Mbps**
- Ease of installation
- Topology: P2P/P2MP/Mesh
- AES-128/AES-256 encryption supported
- Optimized latency and efficiency for video streaming

Order Information:

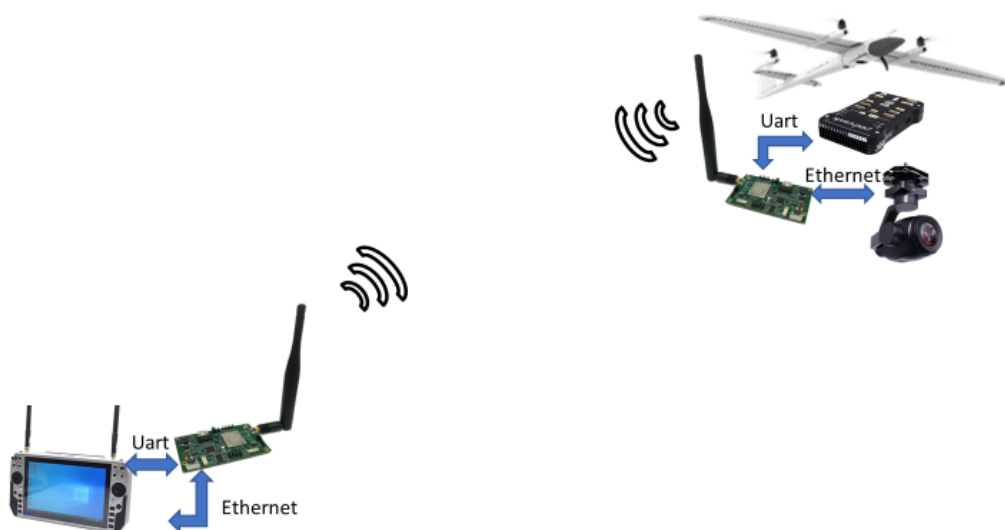
Model	Features
EOA-130-2200A	Ethernet Over Air Adaptor Optimized operation band: 2230 – 2500 MHz Built-in 1 W PA (30 dBm)
EOA-130-2200B	Ethernet Over Air Adaptor Optimized operation band: 2230 – 2500 MHz Built-in 1 W PA (30 dBm) x 2 (2T2R)
EOA-130-Customization*	Ethernet Over Air Adaptor Optimized operation band: 100 MHz–6 GHz (customizable) Power Amplifier: 1 – 30 W

*Custom design models.

**Hides Tech. can provide custom designs for any other frequency band upon request.

Configuration Examples

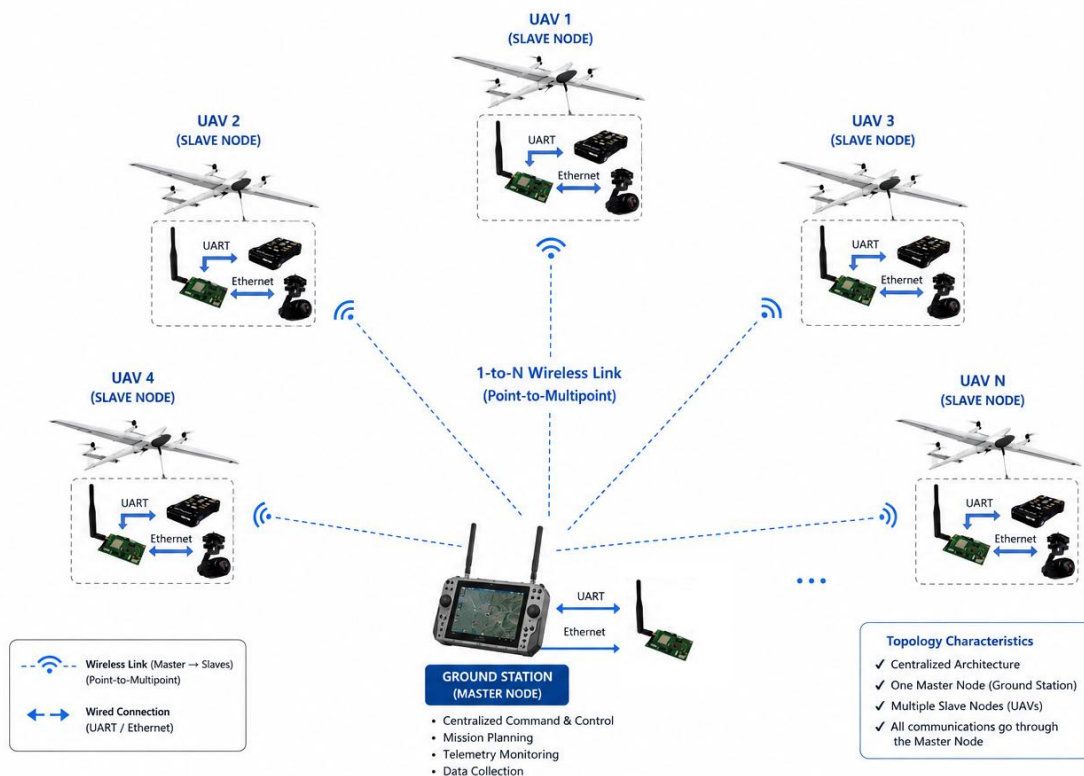
P2P Transparent Ethernet and Uart Link



Swarm Network Support

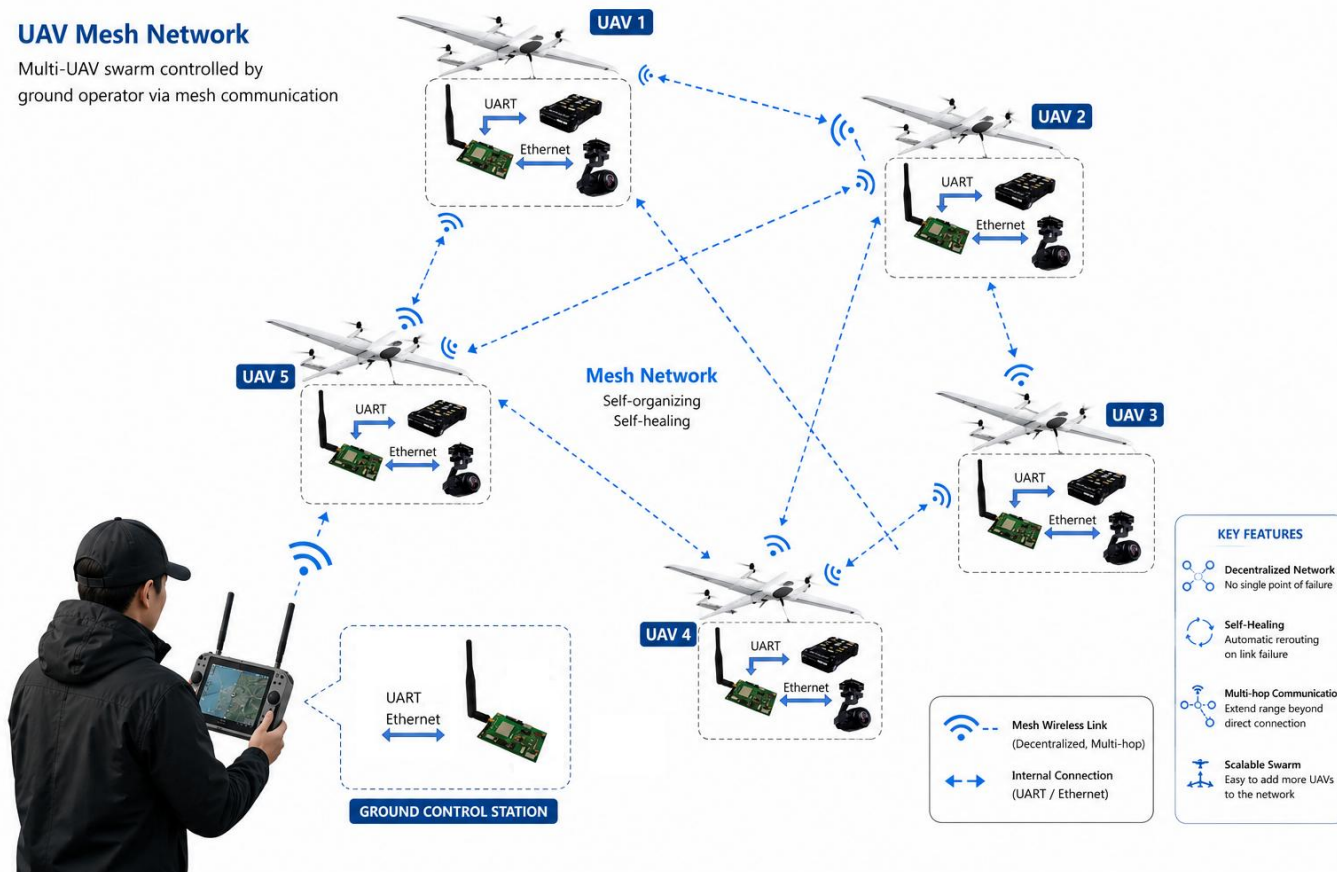
1-to-N Network Topology (Star Topology)

Centralized Control: Ground Station (Master) → Multiple UAVs (Slave Nodes)

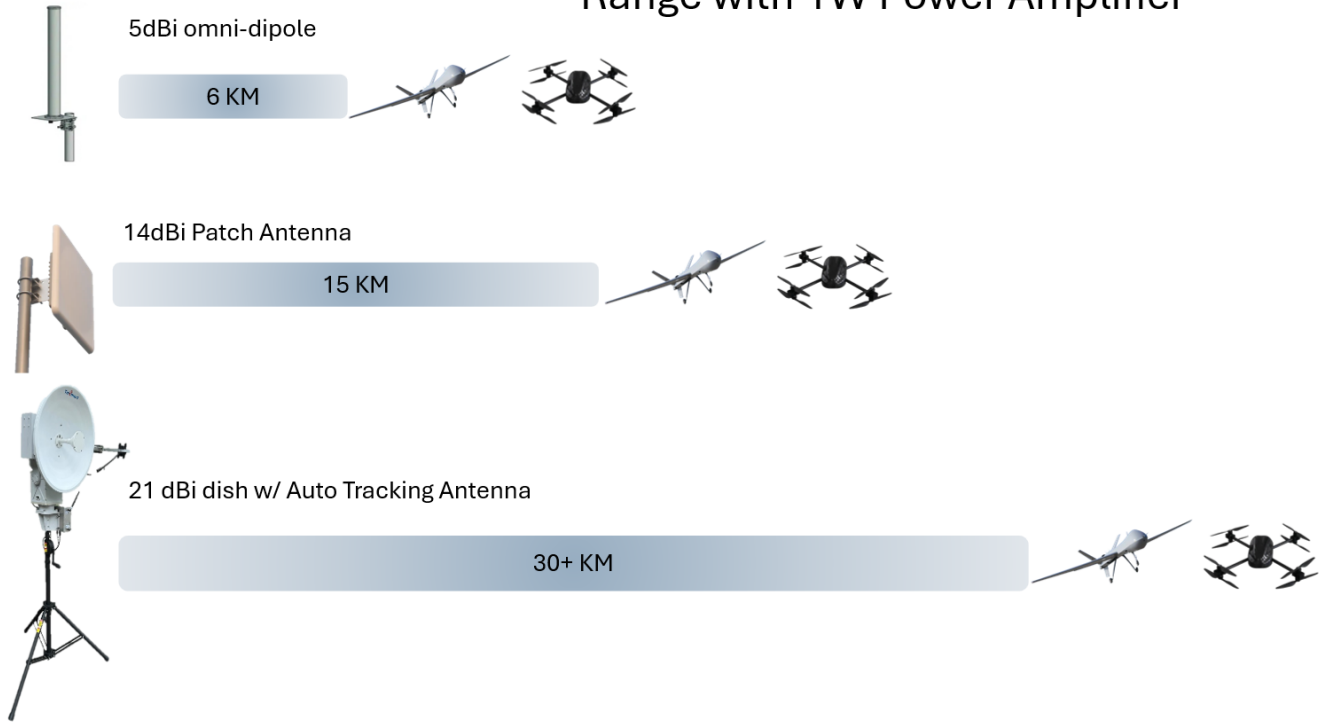


UAV Mesh Network

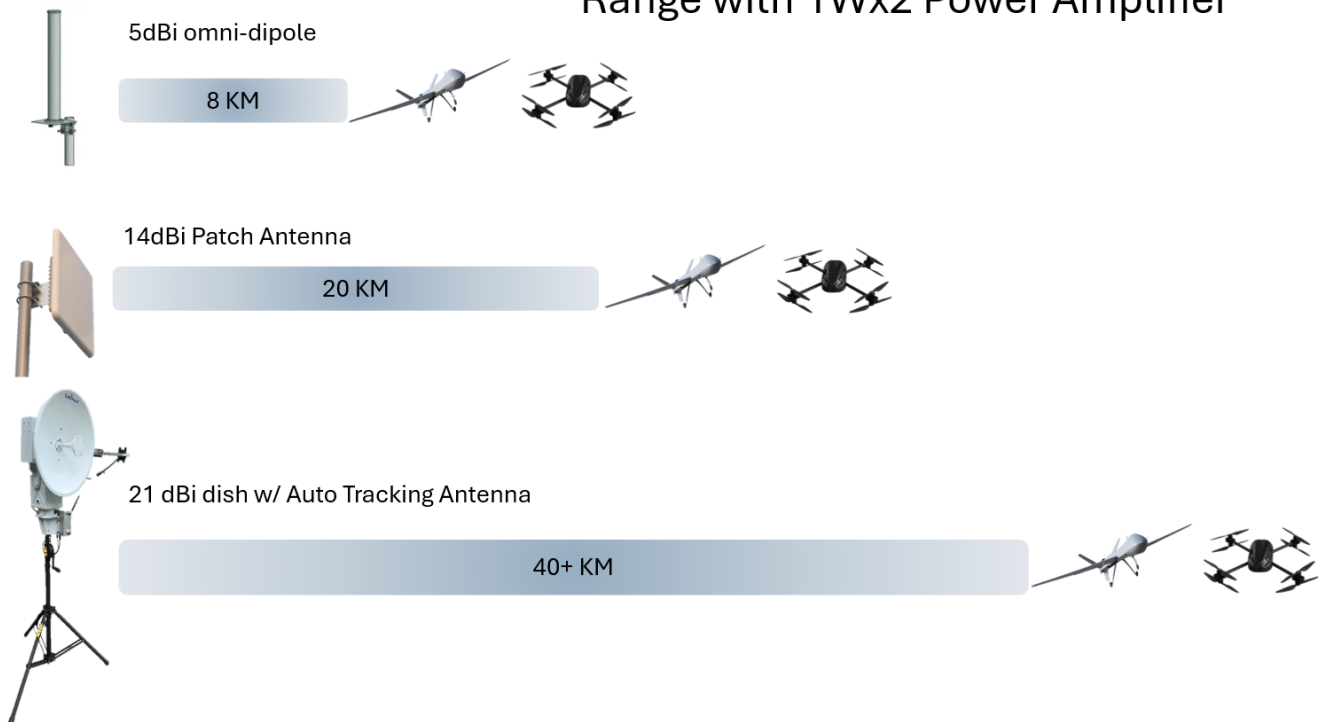
Multi-UAV swarm controlled by ground operator via mesh communication



Range with 1W Power Amplifier



Range with 1Wx2 Power Amplifier



EOA-130 Specifications

Table 1. Parameters

Parameters		
RF Frequency (Optimized band) (Tuning step: 1 kHz)	EOA-130-2200	2230 – 2500 MHz
	EOA-130-(Custom Design)	100 MHz–6 GHz

Bandwidth	2.5/5/10/20/40 MHz
Modulation	COFDM
Constellation	BPSK/QPSK/16QAM/64QAM
Code Rate (CR)	1/2,2/3,3/4,5/6
Output power	A: 30 dBm (1 W)* B: 30 dBm (1 W) x 2

*Higher-power PA available on request for custom designs.

System Specifications

Data & Power

Data Rate	Up to 50+ Mbps
Connectors	RF: IPEX & SMA 50 Ohm Ethernet: RJ-45 UART pin header
Installation and management	Plug-and-play installation Local LED management display
Power Consumption @ 12 VDC	Transmitting — 2T2R(1Wx2) 5 MHz BW, MCS2: 0.9 A 10 MHz BW, MCS2: 0.78 A Transmitting — 1T2R(1W) 5 MHz BW, MCS2: 0.5 A 10 MHz BW, MCS2: 0.47 A Receiving mode 0.14 A
Power Adaptor	DC 9~35V

General

Display and indicators	
Compliance	IEEE 802.3at, RoHS.
Operating conditions	-10 °C to 70 °C Humidity max. 95% RH (non-condensing)
Storage conditions	-40 °C to 74 °C (-40 °F to 165 °F)
Dimensions	57 mm × 42 mm × 2 pcs
Weight	70 g — bare board with cables 115 g — bare board with cables and two 2 dBi antennas

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