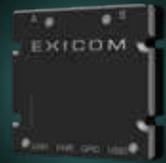


Condor Ultra-Lite Series "Elevating UAS Communication Performance"



2x100/200mW



2x1W RF Power



2x2W RF Power



2x5W RF Power****

INTRODUCTION

Exicom's Condor Ultra-Lite Series Optimized for ultra-light Size, Weight, and Power (SWaP) solutions, facilitating seamless integration on Unmanned Aerial Systems (UAS) for enhanced operational efficacy.

The Condor Ultra-Lite is a high-performance, software-configured wireless communication system, offering adaptable RF output power from 100mW to 5W. Its agile architecture enables seamless operation in Mesh, Point-to-Point (P2P), and Point-to-Multi-Point (P2MP) modes, rendering it an ideal single-radio solution for diverse mission profiles.

Designed to withstand harsh environments, the Condor Ultra-Lite has been proven and tested with major flight controllers, demonstrating exceptional RF performance in challenging Electronic Warfare (EW) environments.

Proudly designed and manufactured in India, the Condor Ultra-Lite is tailored for long-range Unmanned Aerial Vehicle (UAV) applications. It incorporates advanced Communication Electronic Counter Countermeasures (ECCM) techniques for enhanced jamming resilience. As a stealth radio, it can be configured to minimize its RF signature (Low Probability of Detection/Interception - LPD/LPI), delivering high-bandwidth data transmission in ultra-narrowband frequencies.

FEATURES AND BENEFITS

- **Ultra-Lightweight Design:** Optimized for Size, Weight, and Power (SWaP) solutions.
- **High-Performance Communication:** Offers adaptable RF output power from 100mW to 5W.
- **Agile Architecture:** Enables seamless operation in Mesh, Point-to-Point (P2P), and Point-to-Multi-Point (P2MP) modes.
- **Advanced ECCM Techniques:** Incorporates Communication Electronic Counter Countermeasures (ECCM) for enhanced jamming resilience.
- **Stealth Capability:** Can be configured to minimize RF signature (Low Probability of Detection/Interception - LPD/LPI).
- **High-Bandwidth Data Transmission:** Delivers high-bandwidth data transmission in ultra-narrowband frequencies.
- **Proven Reliability:** Designed and tested to withstand harsh environments and challenging Electronic Warfare (EW) scenarios.
- **Flexible Interface Options:** Features USB and Ethernet interfaces for versatile connectivity.
- **Advanced Sensor Capabilities:** Includes sensors to dynamically switch between RF techniques, ensuring optimal performance.
- **Multiple RF Techniques:** Supports MIMO, Robust MIMO, Beamforming, and Diversity techniques for enhanced communication.
- **Secure Data Transfer:** Employs AES 256-bit encryption for secure data transmission**

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Condor Ultra-Lite Series "Elevating UAS Communication Performance"

TECHNICAL SPECIFICATION

PARAMETERS	CONDOR ULTRA-LITE 100/200mW	CONDOR ULTRA-LITE 1W	CONDOR ULTRA-LITE 2W	CONDOR ULTRA-LITE 5W
Type	State-of-Art HIGH CAPACITY IP Mesh MANET			
Bandwidth [Data Rate]	87Mbps			
RADIO				
Band	L-Band : 1.20GHz to 1.50GHz* S-Band : 2.10GHz to 2.50GHz* C Band: 4.4GHz to 5GHz*			
Mode	IP Mesh MANET			
MECHANICAL				
Dimensions****	L 11mm	L 110mm	L 149mm	L 171mm
	W 54mm	W 64mm	W 105mm	W 122mm
	H 50mm	H 16mm	H 22mm	H 23.3mm
Weight***	55g	170g	466g	550g
POWER				
DC Input	8VDC to 18VDC Reverse Polarity Protected			
Typical Power Consumption	5W#	9W#	18W#	45W#
IP MESH				
Operational Mode	Single Mesh, MIMO Mesh, Diversity, Beamforming, Mesh Ultra X & M			
Modulation	COFDM [Coded Orthogonal Frequency Division Multiplexing]			
Constellation	BPSK,QPSK,16QAM,64QAM Auto Adaptive Modulation			
Error Correction	LDPC [Low Density Parity-Check]			
Bandwidth Allocation	Automatic			
Channel Bandwidth	1.25, 1.5,1.75, 2.5, 3.0, 5.0, 6.0, 7.0, 8.0, 10, 12, 14, 16, 20MHz			
Transmit Output	2 x RF Out Interface [MMCX/SMA]**			
Transmit Power	100mW to 5W			
Transmit Power Control	0.25dBm			
Channel Spacing	125kHz			
Receiver Sensitivity	-98dBm at 1.25MHz			
Encryption Over Radio	AES 128 / 256 Bit FIPS 140-2 Approved**			
GPS	External			
VIDEO [Streaming]				
Streaming	TCP, UDP, RTSP, Multicast, RTP, RTP-Z			
NETWORKING				
VLAN Tag	Supports Tag 1-4090			
Static Routes	The radio supports static routes, tag, Subnet mask, gateway & metric			
Interface	USB (Host), USB (peripherals) & RS232			
Ethernet	10/100 Base-T			

Continued..

Condor Ultra-Lite Series "Elevating UAS Communication Performance"

TECHNICAL SPECIFICATION

PARAMETERS	CONDOR ULTRA-LITE 100/200mW	CONDOR ULTRA-LITE 1W	CONDOR ULTRA-LITE 2W	CONDOR ULTRA-LITE 5W
ADDITIONAL FEATURES				
P2MP Mode	P2MP mode configures the network to act as a point to multipoint system. The downlink is the central receiver node and the uplink is a mobile node.			
Split frequency	Split UPLINK and DOWNLINK Frequency			
DIAGNOSTIC TOOLS				
Spectrum	Built-in spectrum			
Graphical Information	GUI displays a graphical image of all Nodes in the Mesh and the links between them.			
	Link between the nodes are shown in colour lines [bi-directional lines]			
	If any particular node is congested it gives a graphical alarm.			
GPS information	The GUI of individual radio displays the GPS coordinates of its location.			
MAPs	The radio GUI interface allows to select and upload the maps.			
	The system supports jpg, .png, .gif, .bmp			
ENVIRONMENTAL				
Humidity	Less than 85% non-condensing			
MANAGEMENT				
USB	For data transfer and to connect USB camera			
Ethernet	PC application control and file download, Web GUI control and file download			
Software License Code**	IP Mesh Static Node, Interference Avoidance Scheme, AES Encryption			

* Optional

** License Optional

*** Subject to change as per form factor and environmental certification.

**** Some change in dimensions can happen as a part of the development process.

***** Dimension modifications and customizations are available upon request.

Typical IP MESH application, without any external USB powered devices.

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CONDOR ULTRA-LITE SERIES "ELEVATING UAS COMMUNICATION PERFORMANCE"

Rev 2.0

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Note: Exicom is constantly seeking to improve quality and performance. Therefore Specifications, Configurations and Processes are subject to change without notice.