

MCU-30 GEN2

Cybersecure Mesh solution for drones Robotics and Unmanned systems

When Small Form Factor Matters!

The Mobilicom MCU-30 unit is a Cybersecure combined Software Defined Radio with Mobile MESH, IP communications unit that delivers ad-hoc direct wireless mobile communication without the need for any infrastructure. This low power consumption, extra lightweight, battery operated unit delivers the highest form-to-performance ratio and is especially designed for installations inside drones and robotics, where every gram matters.

With a 360° multi-facet, multi-tiers ICE cybersecurity solution integrated within the unit, it offers a superior MESH security with three facets comprised of Immunity, Cybersecurity and Encryption. The 360° multi-faceted and multi-tiers suite protects the platform, safeguards communication channels, and encrypts the transmitted data.

Key Features:

- Cybersecure Bi-directional, configurable software defined radio (SDR) Data Link
- Robust N-LOS operation
- Broadcast, Multicast and Unicast transmission modes
- Control & Telemetry
- Broadband link capable of delivering real-time full HD video
- Relay operation (Repeater) and Mesh Operation
- Compact and lightweight solution available as an ADT – Aerial Unit (Lite) and GDT – Ground Unit (Ruggedized)

Powered by Mobilicom's Software Defined Radio (SDR), the unit is adaptable to any change, modification or configuration of wireless link parameters to best fit the ever changing environment conditions.



Ruggedized (GDT)

Lite (ADT)

Maximizing the Performance-to-Gram ratio for
Drones & Robotics.

MCU30 Lite was designed to meet Aerial Data Terminal (ADT) requirements while the MCU-30 ruggedized version was designed to meet Ground Data Terminal (GDT) requirements.

Highlights

- **ICE (Immunity, Cybersecurity, Encryption) suite**
- **Mobile MESH**
- Fully synchronized system (GPS or w/o GPS)
- Wide Frequency Range - 75 MHz to 5.9 GHz
- Low power consumption
- Highest form-to-performance ratio
- **MIMO Advanced Antenna Processing**
- Real-Time GPS
- NDAA compliant



Radio and Modem MCU-30	
Range	Up to 15km (omni); 20-30km (directional) Longer ranges available.
Frequency	700-950 MHz 902-928MHz (ISM) 2300-2700MHz 2.4GHz ISM Multi Band Radio (MBR) Available Other frequencies available ranging from 75Mhz-6 GHz
Networks topology	P2P, P2MP, MP2MP, Relay & Mesh
Modes of Operation	Broadcast, Multicast, Unicast
Output Power	Up to 1W per Antenna (2W total)
Sensitivity	Max -101dBm
Radio Access Method	OFDM - TDMA
Duplexing	TDD
Diversity Support	MIMO 2X2; Tx & Rx Diversity
Channel BW	2.5- 8.4MHz Other BW are available upon request
Frequency Resolution	0.25MHz
Latency	15ms
Throughput	0.95Mbps-8Mbps Up to 20Mbps upon request
Synchronization	GPS & 1PPS W/O GPS Synchronization (optional)
Encryption	AES 128 as standard AES 256 upon request

Environmental		
Temperature Range	Operating	Storage
Ruggedized	-20 to 50°C	-50 to 85°C
Humidity	5 to 95% non-condensing	
Casing	EMI/RFI, Ruggedized version is available for GDT unit	

Dimensions	[HxWxD] mm	[HxWxD] inch
Lite	74x80x27 mm	2.3x3.1x1
Ruggedized	120x90x60 mm	4.7x3.5x2.3

Weight	Grams	Ounce
Lite	168 gr. - w/o fan	5.9 oz. - w/o fan
Ruggedized	550 gr.	19 oz.

ICE Cybersecurity suite	
Cyber level	<ul style="list-style-type: none"> Primary (Standard) Professional (Required License) Premium (Required License)
Multi Facet / Multi-Tier	<ul style="list-style-type: none"> Prevention of cyber-attacks against CPU's Operating System Integrity and embedded software protection Interference Avoidance System (IAS) - Real-time interference detection, cognitive radio sensing, and avoidance Prevent man in the middle attack Anti-Spoofing / Hijacking attacks - real-time sensing, detection, alarm, and autonomous response (Optional) Prevent Eavesdropping Real time protection against RF Links Jamming, enables adjacent networks operation Transmission Security (TranSec) - interception resistance Unique key link identification Multi-layer data protection, on transmitted data Alarm & protect against GNSS Jamming Safeguard against cloud servers' attacks

Interfaces	
Data	Ethernet 10/100Mbps
Ethernet	Full Ethernet Protocol Transparency (IP, TCP, UDP, RTP, HTTP VLAN, VPN)
Optional Interfaces	RS232 (optional RS485 / 422), 1pps input/output, GPIO
Antennas	SMA(x2) female

Configuration and Management	
Unit Monitoring	Web based Application
Program Interface	API

Power	
DC Voltage	7.5-24V DC
Power Consumption	10W Average Up to 12W



**CYBERSECURE
DATA LINK**



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