

MCU 30 - Ruggedized

When Small Form Factor Matters!

The Mobilicom multifunctional MCU-30 unit is a 4G combined with Mobile MESH, IP communications unit that delivers ad-hoc direct wireless mobile communication including HD Video, data and VoIP without the need for any infrastructure. This low power consumption, lightweight, battery operated unit delivers the highest form-to-performance ratio and is ideal for hand carry missions, robotics and vehicles on-the-move whether aerial, ground and sea.

The MCU-30 ruggedized unit is a multifunctional unit that adapts and supports multiple network topologies on-the-move: Mobile Point-to-Point, Mobile Point-to-Multi-Point, Mobile Multi-point-to-Multi-Point, Mobile MESH, Extended MESH and Collaborative MESH. As a multifunctional unit, the MCU-30 operates as a transceiver, relay and gateway to other units in the network and will "self-manage" and "self-heal" on-the-move. Each unit transceives all data, thus eliminating the need for base stations, repeaters and transmitters and consequently can become a backup unit for all other units in the network, creating a robust and redundant communications network with no single-point-of-failure.

The multifunctional MCU-30 unit offers a wide frequency range from 75 MHz to 5.9 GHz. Designed as a high capacity small form factor unit, the multifunctional MCU-30 unit is extended ruggedized MCU-30 unit is 12 x 9 x 6 cm (4.7 x 3.5 x 2.3") and weighs 550 gr. (19.5 Oz.).

Powered by Mobilicom's Software Defined Radio (SDR) the MCU-30 multifunctional unit is adaptable to any change, modification or configuration of wireless link parameters to best fit the ever changing environment conditions.

With a triple layer security solution integrated within the unit the multifunctional ruggedized MCU-30 offers a superior 4G MESH security layer comprising of AES 128 security standard. The second layer consists of an allocated available space within the CPU for any security software of your choice. A third layer resides within Mobilicom's proprietary technology fully developed with in-house knowledge and insight uncovered or recognized by external party. With changing message structures, Mobilicom ensures even greater immunity to 3rd party hacking.



The multifunctional MCU-30 unit is uniquely designed to operate in ultra-high mobility speed environment of up to 800Km/h the only 4G MESH technology to truly operate in ultra-high mobility speed.

Mobilicom's MCU units are managed via a software management solution that provides encompassing management and control tools over distributed onsite MCU units in a simple, intuitive and efficient manner. Mobilicom's software management tool consolidates all relevant data into a single powerful software platform that enables real-time monitoring of communications networks and deployment.



No
Infrastructure



No Single Point of
Failure



Triple Layer
Security



Flexible &
Scalable



Ultra-High
Mobility Speed

| Radio and Modem MCU-30 Ruggedized | |
|--|--|
| Frequency | 700-950 MHz 902-928 MHz (ISM) 2.4 GHz (ISM) 2.3-2.7 GHz 4.9-5.9 GHz <ul style="list-style-type: none"> ■ Multi Band Radio (MBR) Available ■ Contact for other frequencies ranging from 75MHz-6Ghz |
| Antenna | Various options: Omni 0-8dBi Hemisphere, Sectorial |
| Antennas Connectors | 2XSMA female |
| Output Power (Average per channel) | 2X23dBm or 2X18dBm for 5GHz |
| Tx Power Control | 50dB |
| Rx Dynamic Range | 70dB |
| Sensitivity | Max -101dBm |
| Radio Access Method | OFDM - TDMA |
| Duplexing | TDD |
| Configuration | MIMO 2X2 |
| Channel BW | 4.2MHz/8.4MHz 2.5MHz-10MHz upon request |
| Frequency Resolution | 0.25MHz |
| Diversity Support | Rx Diversity or Tx & Rx Diversity |
| FFT Supported | 512 32 - 2048 upon request |
| FEC method | CTC |
| Modulations | QPSK / 16QAM upon request |
| Throughput | Up to : 8Mbps / 20Mbps upon request |
| Synchronization* | For P2P - Not Required For MP2MP: GPS/External 1 pps |
| Encryption* | AES-128 |

*Upgrade Options

Highlights

- 4G Mobile MESH
- Small dimensions and light weight
- Low power consumption
- Highest form-to-performance ratio
- Software Defined Radio (SDR)
- Wide Frequency Range - 75 MHz to 5.9 GHz
- MIMO Advanced Antenna Processing
- Real-Time GPS
- Triple Layer Security
- Interface avoidance

| Environmental | | |
|----------------------|-------------------------|-------------|
| Temperature Range | Operating | Storage |
| Ruggedized | -20 to 50°C | -50 to 85°C |
| Humidity | 5 to 95% non-condensing | |
| Sealing | Outdoor, rain proof | |

| Interfaces | |
|-------------------------------------|---|
| Data | Ethernet 10/100Mbps |
| Full Ethernet Protocol Transparency | IP, TCP, UDP, RTP, HTTP Broadcast, Multicast, Unicast Ethernet, VLAN, VPN |
| Optional Interfaces* | RS232 / 485 / 422, GPIO, 1pps |

| Dimensions | [HxWxD] cm | [HxWxD] inch |
|-------------------|-------------------|---------------------|
| | 12x9x6 cm | 4.7x3.5x2.3" |

| Weight | Grams | Ounce |
|---------------|--------------|--------------|
| | 550 gr. | 19 oz. |

| Power | |
|-------------------|-------------------------|
| DC Voltage | 7-14.5V DC |
| Power Consumption | Up to 12W 8W Average |

| Configuration and Management | |
|-------------------------------------|--------|
| Unit Monitoring Application | MC-EMA |
| Network Management Application | MC-NMA |

Making Impossible Mission Critical Communications Possible:

As a global mission-critical-communications solution provider, Mobilicom develops and delivers Bound-Free Mobile Private Network® technology and solutions for wireless mobile networks, without the need for any infrastructure. By leveraging 4G technology combined with Mobile MESH network topology, Mobilicom assures optimal secured wireless communications. With versatile network topologies and large product portfolio, Mobilicom caters to every deployment and project scope from small to large scale with the highest flexibility, reliability and mobility in the market.

Products are available to security users in licensed frequency bands. Encryption licenses are subject to export control. These products are approved for use by licensed users only.

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