

## MCU 200 - Ruggedized

**Empower your mobile communications network with More Power; Greater Distance; Higher Performance.**

Mobilicom's Communication Unit (MCU) MCU - 200 is a 4G combined with Mobile MESH, IP communication unit that delivers ad-hoc direct wireless mobile communications including HD Video, data and VoIP without the need for any infrastructure. With a ruggedized casing the MCU-200 unit is rain proof and is designed to withstand the harshest environments and conditions. The MCU-200 unit is ideal for large scale mobile network communications including vehicles such as: mobile command post, security vehicles, first responders, trains transportation sector and towers.

The MCU-200 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-200 operates as a transceiver, relay and gateway to other units in the system 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 communication network with no single-point-of-failure.

Operating at wide voltage spectrum, 10V-48V from vehicles, ships and air-craft generated power; the multifunctional MCU-200 is susceptible to extreme power fluctuations and delivers reliable and consistent high network performance whether in air, land or sea. The multifunctional MCU-200 ruggedized unit offers a wide frequency range from 75 MHz to 5.9 GHz.

Powered by Mobilicom's Software Defined Radio (SDR) the multifunctional MCU-200 ruggedized unit is fully adaptable to modification or configuration of wireless link parameters to best fit the ever changing environment conditions. The MCU-200 consists of a powerful modem and amplifier suite. By leveraging 4G with Mobile MESH technology and MIMO antennas, each antenna operates as an independent unit fully transceiving video and data. With transmit Cyclic Delayed Diversity (CDD) Maximal Ratio Combining (MRC) receive diversity, Mobilicom provides highest communication quality, larger distance range and effective means of communications in multipath and N-LOS environments.

With a triple layer security solution integrated within the unit the multifunctional ruggedized MCU-200 offers a superior 4G MESH security



layer comprising of AES-128 bit encryption standards. 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 3<sup>rd</sup> party hacking.

The multifunctional ruggedized MCU-200 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.

Designed as a high capacity high endurance product, the multifunctional MCU-200 ruggedized unit is 31.5 X 21 X 7.5cm (12.4 X 8.3 X 3") and weighs 2.8 Kg. (6.2Lb).

Additionally a well-documented in band Application Programmable Interface (API) is available for control of customer Command and Control systems.



No Infrastructure



No Single Point of Failure



Triple Layer Security



Flexible & Scalable



Ultra-High Mobility Speed

<b>Radio and Modem MCU-200 Ruggedized</b>	
Frequency	700-850 MHz 800-950 MHz 902-928 MHz (ISM) 2.4 GHz (ISM) 2.3-2.7 GHz <ul style="list-style-type: none"> <li>■ Multi Band Radio (MBR) Available</li> <li>■ Contact for other frequencies</li> </ul> 75Mhz-6Ghz
Antenna	Various options: Omni 0-8dBi Hemisphere, Sectorial
Antennas Connectors	2 x N-Type female
Output Power (Average) (per channel)	2X32dBm 2X27dBm
Tx Power Control	50dB (@32dBm)
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 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*	Not Required for P2P For MP2MP: GPS/External
Encryption*	AES-128

\*Upgrade Options

**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.

### Highlights

- 4G with Mobile MESH
- Modem and Amplifier in a single box solution
- Highest form-to-performance ratio
- Real-time GPS
- Software Defined Radio (SDR)
- Triple Layer Security
- Wide Frequency Range 75 MHz to 5.9 GHz.
- Operating at full voltage spectrum : 10V-48V for vehicles, heavy vehicles and air crafts with susceptible to power fluctuation
- MIMO Advanced Antenna Processing
- Rain proof and extreme temperature range

<b>Environmental</b>		
Temperature Range	Operating	Storage
Extended Ruggedized	-20 to 60°C	-50 to 85°C
Humidity	5 to 95% non-condensing	
Sealing	Outdoor, dust, rain proof	

<b>Interfaces</b>	
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

<b>Dimensions</b>	<b>[HxWxD] cm</b>	<b>[HxWxD] inch</b>
	31.5x21x7.5 cm	12.4x8.3x3"

<b>Weight</b>	<b>Grams</b>	<b>Ounce</b>
	2.8 Kg	6.2 Lbs

<b>Power</b>	
DC Voltage	10-48 VC
Power Consumption	Up to 50W 20W Average

<b>Configuration and Management</b>	
Unit Monitoring Application	MC-EMA
Network Management App.	MC-NMA

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.

Information herein is subject to changes without notice and may not be considered as contractual.

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