

MCU 200 - Extended Ruggedized

***Empower your mobile communication 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. The MCU-200 unit is ideal for large scale mobile network communications: offshore platforms, oil & gas platforms, rigs, sea vessels, and helicopters, heavy vehicles including: mining vehicles, field vehicles and remote large scale deployments. With external and internal extra ruggedized casing and fully tested for sever shock, vibrations, high impact, jolt absorption and water proof, the MCU-200 unit is fully designed to withstand the harshest environments and conditions.

The MCU-200 extra 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 full 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 MCU-200 extended ruggedized unit offers a wide frequency range from 75 MHz to 5.9 GHz.

Powered by Mobilicom's Software Defined Radio (SDR) the MCU-200 extended ruggedized unit is adaptable to any change, 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, each antenna is 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 extra ruggedized MCU-200 offers a superior 4G MESH security layer comprising of: AES-128 and AES 256 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 greater immunity to 3rd party hacking.

The extra ruggedized MCU-200 unit is uniquely designed to operate in ultra-high mobility speed environment of up to 800Km/h, the only technology to truly operate in ultra-high mobility speed.

Designed as a high capacity high endurance product, the MCU-200 extended 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

Radio and Modem MCU-200 Extended Ruggedized

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"> ■ Multi Band Radio (MBR) Available ■ Contact for other frequencies 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-128/256

*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

Environmental

Temperature Range	Operating	Storage
Extended Ruggedized	-20 to 60°C	-50 to 85°C
Humidity	5 to 95% non-condensing	
Sealing	Designed for IP67	

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
31.5x21x7.5 cm	12.4x8.3x3"

Weight

Grams	Ounce
2.8 Kg	6.2 Lbs

Power

DC Voltage	10-48 VC
Power Consumption	Up to 50W 20W Average

Configuration and Management

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.

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