MOBILICOM
Instant Communications Anywhere

MCU-300 Product Family

Instant Ad-Hoc Micro Rugged Wireless IP Radio

Mobilicom's MCU-300 is a miniature version of the MCU 4G mobile wireless IP products with a weight of less than 350gr. It is designed to be embedded within very small platforms, security and surveillance cameras and sensors, control and monitoring devices, mini UAV/UGV, robotic applications and personnel carried applications. As in the larger MCU versions, it provides instant, broadband ad-hoc communications on a secure wireless network. It has very low power consumption and it is operated by battery. The MCU-300 is especially useful for non-line-of-sight (N-LOS) applications and when personnel require light weight communications unit.

MCU-300

Product Description

The MCU-300 is based on a Software Defined Radio (SDR) design which is scalable, presenting a flexible and configurable solution which can easily be embedded into existing applications. It supports broadband wireless communication up to 4Mbps and has advanced antenna MIMO/SIMO technology for extended range and performance. MCU-300 Communicates with MCU 100/200 units to create a self-forming, self-managed and self-healing, instant wireless network.

Product Advantages

- Miniature size, low power consumption and light weight with extra small form factor for embedded applications
- Based on 4G LTE mobile technology
- Instant broadband communications requiring no infrastructure
- Continuous transmissions while moving at speed of up to 800km/h
- Direct user-to-user communication with ad-hoc feature for self-forming, self-managed and self-healing communications
- Supports optional features such as GPS, WiFi, interference elimination, voice and video codec and network
- Powered by Battery
- Supports end-to-end, Internet Protocol (IP)
- Outdoor unit with Rugged casing designed for harsh environment conditions and flight ready (including shock, vibration, humidity, dust and wide temperature range)

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MCU-300 Specifications

Radio and Modem	
Frequency	2.3-2.7GHz, or 3.3-3.7GHz 4.9-5.9 GHz*, or 700 MHz*
Antenna	Various options: Omni 0-8dBi Hemisphere or others
Antennas Connectors	2 x SMA, 50 ohm,
Output Power	1W for SIMO configuration or 2 x 1W* for MIMO configuration per channel 2 x 20W per channel with external MC-HPA unit
Transmission Power Control	50dB
Radio Access Method	OFDM - TDMA
Duplexing	TDD
Configuration	SISO 1x1 SIMO 1x2 MISO 2x1* MIMO 2X2*
Channel BW	0.5MHz –5MHz
Throughput	0.5-4Mbps configurable BW
Frequency Resolution	0.25MHz
Diversity Support	Rx Diversity Tx diversity* Tx+Rx Diversity*
FFT Supported	32 - 2048
FEC method	CC / CTC
Modulations	QPSK / 16QAM
Synchronization	GPS* ; Internal
Encryption	AES 128 ; 192* ; 256*

*Optional

Network Interfaces	
Data	Ethernet 10/100Mbps
Data (Optional)	USB2.0 * , or Serial *

Mechanical		
Dimensions [HxWxD]		55mm x55mm x35mm
Weight	MCC-30	<350gr
	MCC-40	<500gr

Power Interface	
MCU-300	Battery operated by 6-7.2 VDC

Configuration and Management	
Network Management App.	MC-NMA*
Unit Monitoring App.	MC-EMA

Advanced Features*
P2MP (user) / MP2MP MESH Network topology
Relay capabilities
Interference avoidance
Full TDD asymmetrical duplexing (1:1 and up to 1:9 for the uplink)
Fully adaptive and configurable SDR solution
GPS enabled unit positioning / location
WiFi enabled unit
H.264 / HD Video Codec (including voice codec), providing extremely low end-to-end latency < 120ms

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