MiniMesh Pro

MiniMesh Pro is the ultimate broadband connectivity solution for mesh and mobility networks. It combines LTE capabilities with WiMesh technology to enable data, voice, and video applications.

Combined with our LuceorOs operating system , it enables the global deployment of our HyMesh technology-based network intelligence with its automatic failover and dynamic selection of the best available path for the ultimate combination of end-to-end performance, resiliency, security, mobility, and minimum operating cost.

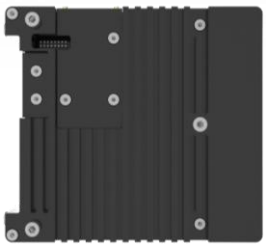
MiniMesh Pro comes in lightweight, miniature and portable package that makes it especially suitable (but not limited to) for robots, vehicles, drones and tactical vests.

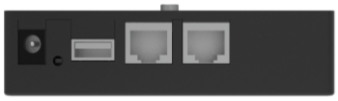
2 x WIMESH | **LTE/4G** | **ROUTER**

KEY FEATURES

- 1 x 2x2 MIMO 5GHz 802.11a/b/g/n/ac radio transceivers
- 1 x LTE-A Cat-7 with up to 300Mbps downlink and 150Mbps uplink
- 1x 2x2 MIMO 2.4GHz 802.11n transceiver
- Wide range of external 2x2 MIMO antennas
- GNSS interface (Galileo, Glonass, GPS, BeiDou)
- LuceorOS manages network traffic by dynamically and intelligently selecting the best connection
- Automatic and optimum switching between WiMesh and 4G to ensure reliable connectivity
- MeshTool Suite software and web interface operate in tandem to configure, troubleshoot, and monitor the network architecture
- Plug-and-Play installation

SYSTEM ELEMENTS





HARDWARE SPECIFICATIONS

CPU	Quad-core CPU ARM Cortex A7 up to 717MHz, 128 MB Nand Flash, 32MB Nor Flash and DDR3L 256 MB		
WLAN	**Interface**	802.11a/b/g/n 2x2 MIMO 2.4GHz	802.11a/b/g/n/ac 2x2 MIMO 5GHz
	Frequency[1]	2412 – 2482 MHz	5180 – 5825 MHz
	Modulation	DSSS, CCK, OFDM	OFDM (256-QAM, 64-QAM, 16-QAM, QPSK, BPSK)
	Max. Physical Layer Data Rate	300 Mbps	867 Mbps
	Max. RF TX Power[2,3]	29 dBm	28 dBm
	RX Sensitivity[4]	-96 dBm (@ 6 Mbps) to -70 dBm (@ MCS7,MCS15, HT40)	-96 dBm (@ 6 Mbps) to -62dBm (@ MCS9, MCS19,MCS29, HT80)

Cellular	**Interface**	LTE-A Cat-7 2x2 MIMO	
	Frequency Bands[1]	4G LTE	B1, B3, B7, B8, B20, B28, B32, B38,B40, B41, B42, B43
		3G/ HSPA+	B1, B5, B8
	Data Rate	Peak Downlink	300Mbps
		Peak Uplink	150Mbps
	Max. RF TX Power[2,3]	23dBm	
	RX Sensitivity[5]	-100 dBm (Full RB on downlink; BW: 10 MHz)	
Navigation	Multi-constellation GNSS (GPS, Galileo, GLONASS, Beidou)		
Antennas	4 x MMCX for WLAN 2 x UFL for cellular 1 x SMA for GPS		
External Ports	2 x RJ-45, 10/100/1000 Mbps Ethernet, auto MDI/MDIX, support passive POE 1 x DC Jack 1 x USB3.0 2 x SIM Card slots 1 x SD Card Slot 2 x 8 GPIOs header		
LED Indicators	1 x Power indicator 2 x Status indicator		
Button	1 x reboot or restore button		
Power Supply	48 VDC Passive POE		
Power Consumption[6]	Max. 14W		
Dimensions	126 x 113 x 28 mm 4.96 x 4.45 x 1.10 in.		
Weight	0.2 Kg 0.44 lb.		
Temperature	-40°C to 80°C -40°F to 176° F		
IP code	IP30		
Materials	Aluminum		

[1]Channel, Frequency Channel, frequency and bandwidth options will vary based upon regional and local regulations
[2]TX power is governed by local regulations and varies by frequency
[3]TX power Tolerance is ±2 dB
[4]RX sensitivity Tolerance is ±2 dB
[5]Cellular RX sensitivity depends on the LTE bands
[6]Power consumption depends on transceiver configuration

SOFTWARE SPECIFICATIONS

Networking	Compliance with 802.11s Mesh networking
	Compliance with IEEE 802.1q
	Proactive link-state routing protocol for Mesh networking
	SSID-based VLAN assignment
	Service set identifier (SSID) hiding
	Automatic and manual rate adjustment
	Automatic channel scanning and interference avoidance
	Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx)

	Tunnel data forwarding and direct data forwarding
	STA isolation in the same VLAN
	Access control lists (ACLs)
	Link Layer Discovery Protocol (LLDP)
	Network Address Translation (NAT)
	Virtual Router Redundancy Protocol (VRRP)
	Supports IPv6/ IPv4, UDP, TCP, ICMP, Telnet, SNMP, HTTP and FTP protocols
	Static IP, dynamic IP or zero-configuration deployment
Management	Web local management through HTTP or HTTPS
	Real-time configuration monitoring and fast fault location using the NMS
	SNMPv2c and v3
	System status alarm
	Network Time Protocol (NTP)
	Control and Provisioning of Wireless devices
	Remote software update
Security	Open system authentication
	WPA/WPA2/WPA-WPA2-PSK/WPA3 authentication and encryption
	Wireless intrusion detection system (WIDS) and wireless intrusion prevention system (WIPS)
	WPA/WPA2/WPA-WPA2-802.1x authentication and encryption
	IP Source Guard
	VPN with public key security (SSL/TLS mode) using client & server certificates.
	WPA, WPA2, and WPA-WPA2 support TKIP and CCMP encryption algorithms, where CCMP uses 256-bit advanced encryption standard (AES) encryption algorithm and has high security
QoS Features	Priority mapping and packet scheduling based on a Wi-Fi Multimedia (WMM) profile to implement priority-based data processing and forwarding
	WMM parameter management for each radio
	WMM power saving
	Priority mapping for upstream packets and flow-based mapping for downstream packets
	Queue mapping and scheduling
	User-based bandwidth limiting
	Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and radio environment)

STANDARDS AND CERTIFICATIONS

FCC/CE	
Environmental	IP30

ORDERING INFORMATION

IWC-2000ACN-D	MiniMesh Pro with one 5GHz, 2x2 MIMO, 802.11ac, one 2.4GHz, 2x2 MIMO, 802.11n and one LTE-A Cat-7, 2x2 MIMO transceivers

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