

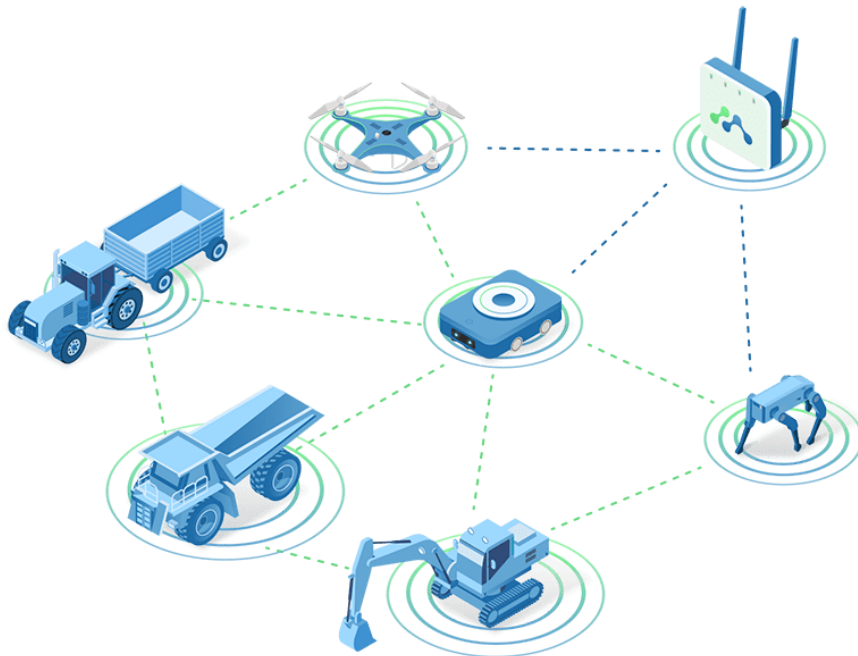
M-Cube Wireless Access Point powered by



Product Overview

The M-Cube Wireless Access Point combines robust hardware with Meshmerize's advanced mesh networking software, delivering reliable, low-latency communication tailored for dynamic industrial environments. This integration ensures seamless connectivity for machines, robots, vehicles, and personnel, even amidst constant environmental changes.

To further streamline network operations, the M-Cube integrates seamlessly with Hive, Meshmerize's comprehensive web-based network management tool. Hive offers unparalleled control and monitoring capabilities, ensuring optimal network performance and ease of management.



Key Features

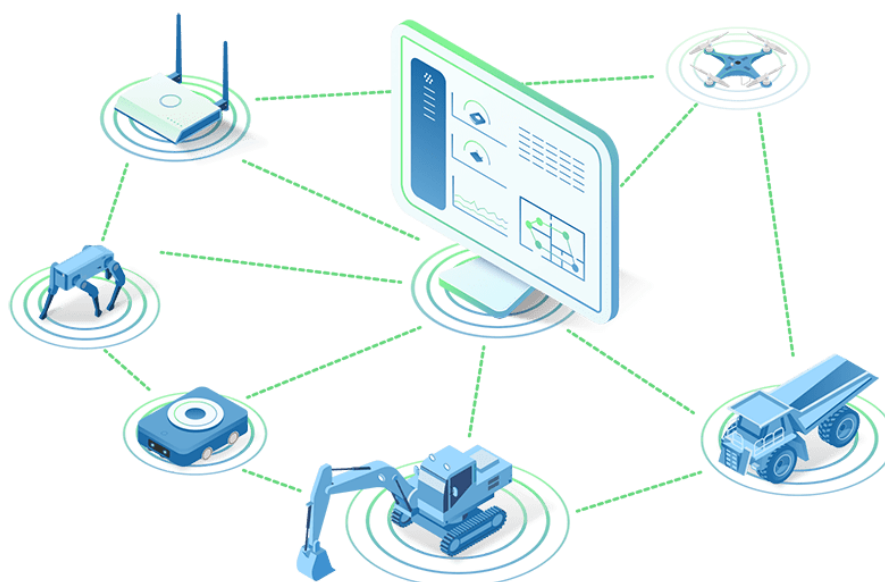
- Powered by Meshmerize industrial mesh networking
- Self-healing, self-optimizing wireless backhaul
- High-performance Qualcomm IPQ4019 SoC
- Dual-band Wi-Fi 2.4 GHz + 5 GHz
- Industrial operating temperature rating
- Supports BLE scanning module (optional)
- External high-gain antennas for extended coverage
- Supports PoE for simplified deployment
- Designed for underground and harsh environments
- Supports M-Cube platform telemetry and IoT integration

Meshmerize Integration:

- Circumventing Dark Zones: Overcomes radio shadows by relaying messages through all nodes.
- Seamless Roaming: Enables device-to-device handover before signal loss.
- Truly Wireless Network Expansion: Allows wireless extension of networks by powering on a Meshmerize AP.
- High Scalability: Supports hundreds of devices per network.
- Prioritized Traffic: Ensures critical control signals are delivered on time.
- Optimized Broadcasting: Reliable, efficient messaging for safety and alerts.

Hive Network Management Integration

- Comprehensive Visualization: Map-based view of all devices, static and mobile.
- Bulk Device Management: Apply configuration templates and mass firmware updates.
- Proactive Troubleshooting: Detect rogue hotspots and misconfigurations.
- Hassle-free Node Provisioning: Add, remove or relocate nodes quickly.
- Alerts and Notifications: Real-time state change alerts.
- API Integrations: REST API access for external integrations.



Applications

- Dual 802.11n/ac MU-MIMO Access Point: Delivers high-capacity wireless connectivity suitable for various industrial applications.
- Point-to-MultiPoint High-Capacity Wireless Bridge: Facilitates robust communication links between multiple nodes.
- Transportation Access Point: Ensures uninterrupted communication for mobile systems.

Specifications

- Chipset: Qualcomm Atheros IPQ4019 Quad-Core ARM Cortex-A7 at 710MHz processor
- Reference Design: Qualcomm Atheros DK04
- System Memory: 256MB (Up to 1GB)
- NAND Flash: 128MB
- NOR Flash: 16MB
- Wireless:

- 2x2 on-board 2.4GHz radio, up to 400Mbps physical data rate.
- 2x2 on-board 5GHz radio, up to 867Mbps physical data rate.
- MiniPCle – 2.4GHz, 2x2 MIMO OFDM Technology, up to 400Mbps physical data rate.
- MiniPCle – 5GHz, 2x2 MIMO OFDM Technology, up to 866.7Mbps physical data rate.
- Connectors: 4 x U.FL
- Frequency Range: 2.412–2.472GHz, 5.150–5.825GHz
- Modulation Techniques:
 - Onboard: 802.11b: DSSS | 802.11a/g: OFDM | 802.11ac/n: OFDM with 256-QAM
 - MiniPCle: OFDM: BPSK, QPSK, DBPSK, DQPSK, 16-QAM, 64-QAM, 256-QAM
- MiniPCle Slots: 1x with USB 3.0, 1x with PCIe 2.0
- Interfaces: 2 x 1Gbps Ethernet Ports, 3 x 100Mbps Ethernet Ports
- 1 x PoE In, 3 x PoE Out
- Reset Button: 1 x F/W Reset Button
- LED Indicators: 6 x LEDs
- Power: PoE: 802.3af/at (48–56V), AC Input: 100V – 240VAC

