# LUCEOR

# MESH360

Mesh360 is our top high-end HyMesh industrial router with the capacity to act as the core infrastructure of a HyMesh Mobile Backhaul network.

Thanks to its quad radio transceivers, LTE cellular interface, integrated antennas, beamforming capabilities and compact package, Mesh360 offers outstanding performances for mobile applications with high throughput, ultra-low latency, less interference, more capacity, broader coverage, and rapid deployment.

Infused with our LuceorOS operating system, it can relay data through the best available path while on the move and switch optimally between WiMesh and 4G to ensure uninterrupted connectivity at a minimum operating cost.

## 5 x WIMESH          LTE/4G          OUTDOOR ROUTER

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## KEY FEATURES

4 x 2x2 MIMO 5GHz 802.11a/b/g/n/ac radio transceivers

LTE-A Cat-7 with up to 300Mbps downlink and 150Mbps uplink per radio

1x 2x2 MIMO 2.4GHz 802.11n transceiver

4 x 5GHz built-in dual-slant polarization directional antennas

LTE built-in omnidirectional antenna

Wi-Fi 2.4GHz built-in omnidirectional antenna

1x 10/100/1000Mbps Ethernet, support Passive POE

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

Outdoor rated: IP67, -40°C to +80°C temperature range

Suitable for video surveillance, emergency services, public safety, industries, ports, monitoring systems, and other fixed and highly mobile networks

## 3D VIEWS



## HARDWARE SPECIFICATIONS

| | Interface | 802.11a/b/g/n 2x2 MIMO 2.4GHz | 4 x 802.11a/b/g/n/ac 2x2 MIMO 5GHz |
|---|---|---|---|
| **WLAN** | 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) |

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| Integrated Antennas for WLAN | Frequency | 2.4 – 2.5GHz | 4 x 5.1 - 5.85GHz |
|---|---|---|---|
| | Gain | 6 dBi | 14 dBi |
| | Polarization | Vertical | Slant X |
| | Beamwidth | 360°/25° +/- 5° | 16°/90 |
| | VSWR | <1.70, Max. <2.00 | <2.00 |
| | Impedance | 50 Ω | |

| 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) | |
| | Integrated Antenna | Gain | 4 dBi |
| | | Polarization | Vertical |
| | | Beamwidth | 360°/25° ±5° |
| | | VSWR | <1.50, Max. <2.50 |
| | | Impedance | 50 Ω |

| Navigation | Multi-constellation GNSS (GPS, Galileo, GLONASS, Beidou) |
|---|---|
| | Integrated Antenna |
| External Ports | 1 x RJ-45, 10/100/1000 Mbps Ethernet, auto MDI/MDIX, support passive POE<br>2 x SIM Adapter |
| LED Indicators | 1 x Power indicator<br>2 x Status indicator |
| Button | 1 x reboot or restore button |
| Power Supply | 24 VDC Passive POE |
| Power Consumption[6] | Max. 25W |
| Dimensions | 240 x 160 x 160 mm<br>9.45 x 6.3 x 6.3 inch |
| Weight | 1.5 Kg<br>3.31 lb. |
| Temperature | -40°C to 80°C<br>-40°F to 176° F |
| IP code | IP67 |
| Materials | ABS, PTFE |

[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) |
| | VLAN trunk on uplink Ethernet ports |
| | Management channel of the AP uplink port in tagged and untagged mode |
| | DHCP client, obtaining IP addresses through DHCP |
| | 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 authentication and encryption |
| | Wireless intrusion detection system (WIDS) and wireless intrusion prevention system (WIPS) |
| | WPA/WPA2/WPA-WPA2-802.1x authentication and encryption with MAC address authentication, and Portal authentication |
| | 802.1x authentication, MAC address authentication, and Portal authentication |
| | DHCP snooping |
| | IP Source Guard |
| | VPN / L2TP with AES encryption |
| | WPA, WPA2, and WPA-WPA2 support TKIP and CCMP encryption algorithms, where CCMP uses 128-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 | |

## STANDARDS AND CERTIFICATIONS

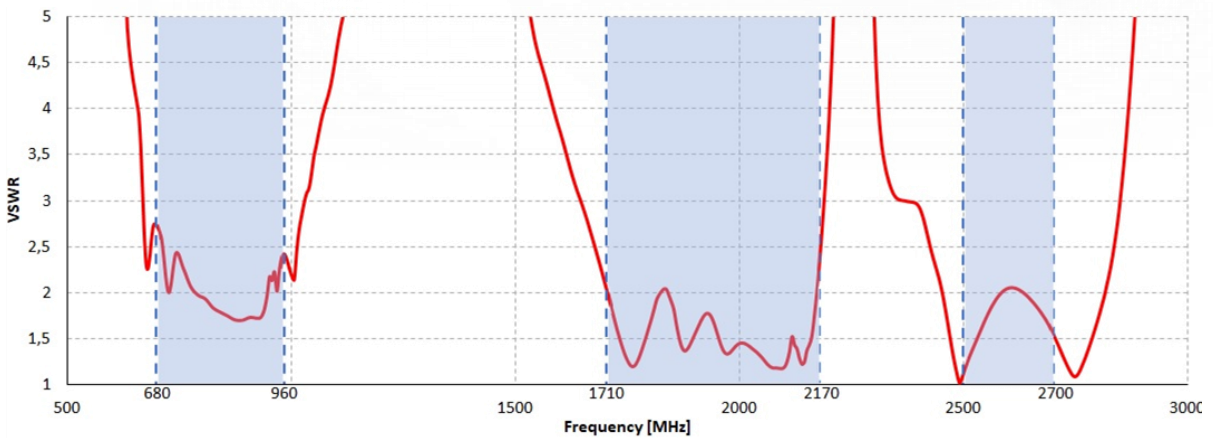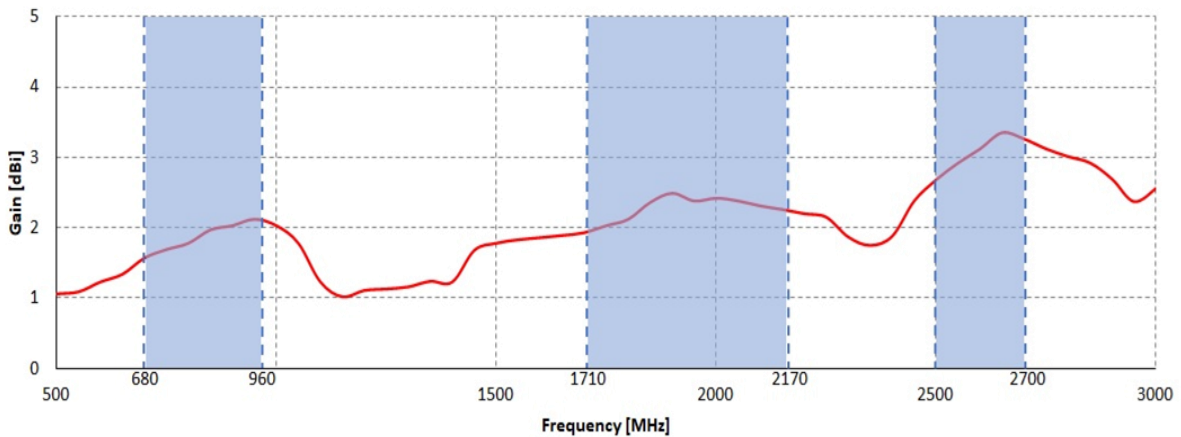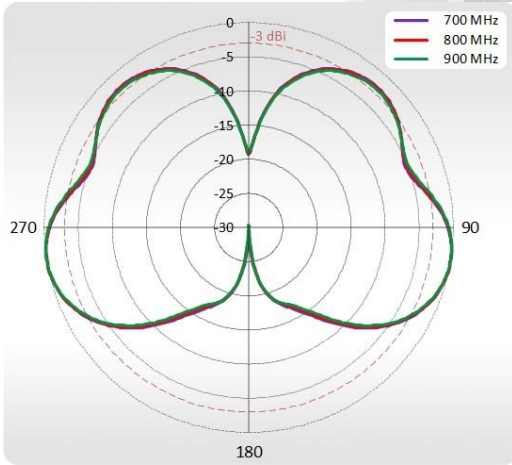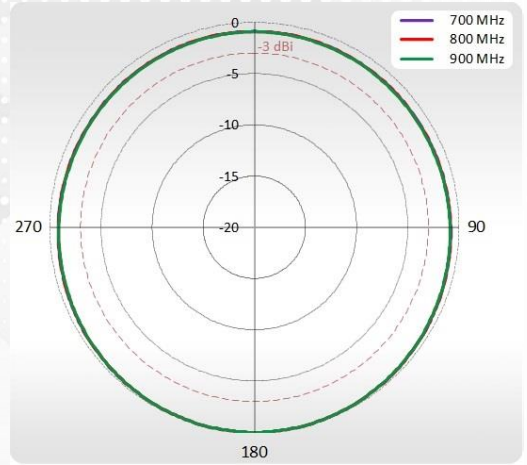| | |
|---|---|
| FCC | Part 15.C<br>Part 15.E<br>Part 15.247<br>Part 15.407<br>Part 1.1310 & 2.1091<br>Part 15.203<br>Part15.207<br>Part 15.205<br>Part 15.209 |
| Environmental | IEC 60529 (IP67)<br>RoHs compliance |

## LTE ANTENNA VSWR
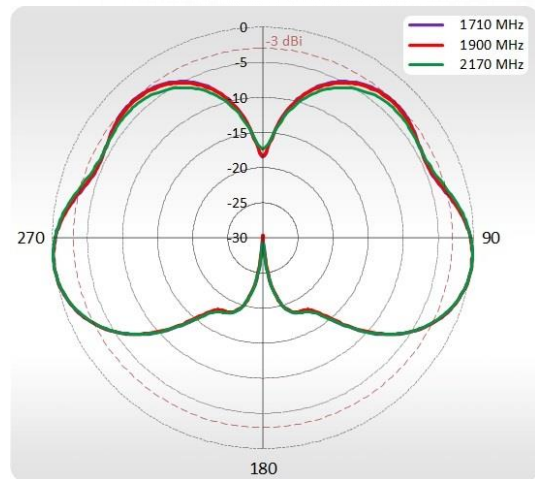


## LTE ANTENNA GAIN
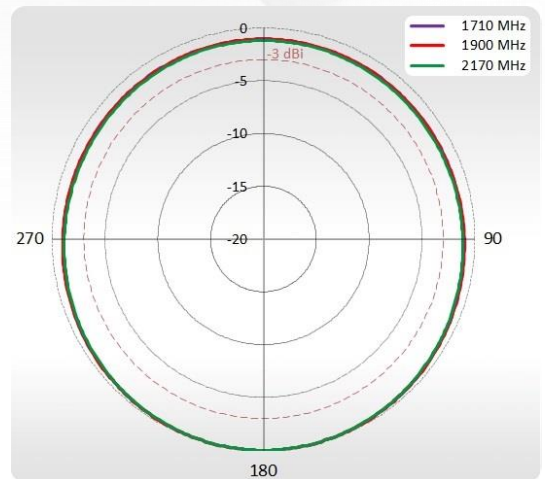
# LTE INTEGRATED ANTENNA PATTERNS

## 700-900 MHz Elevation



## 700-900 MHz Azimuth



## 1710-2170 MHz Elevation



## 1710-2170 MHz Azimuth



## 2500-2700 MHz Elevation
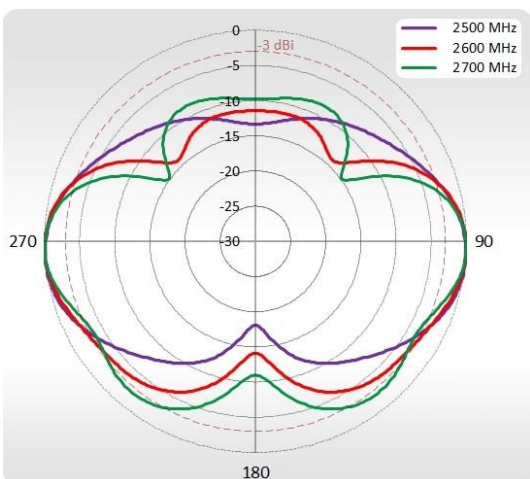


## 2500-2700 MHz Azimuth
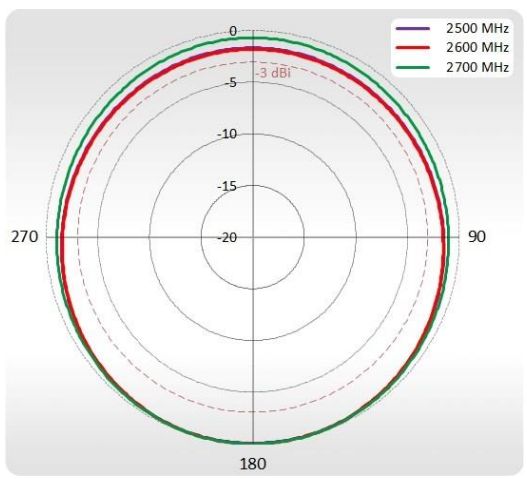
## Wi-Fi ANTENNA VSWR
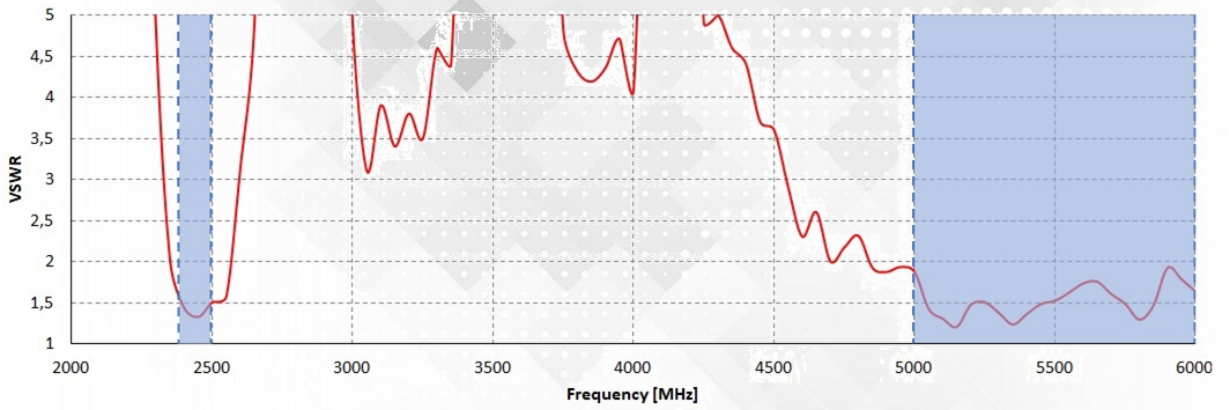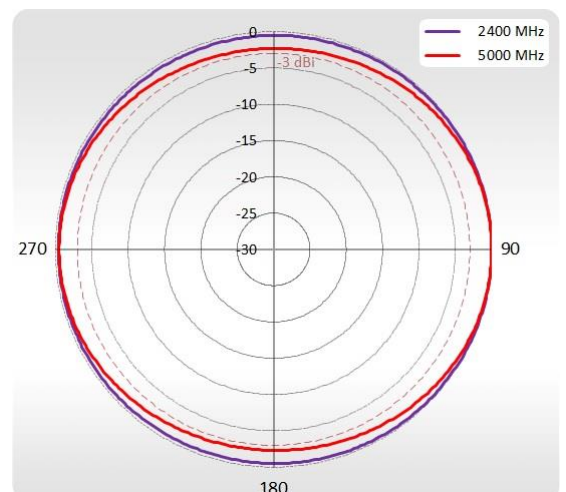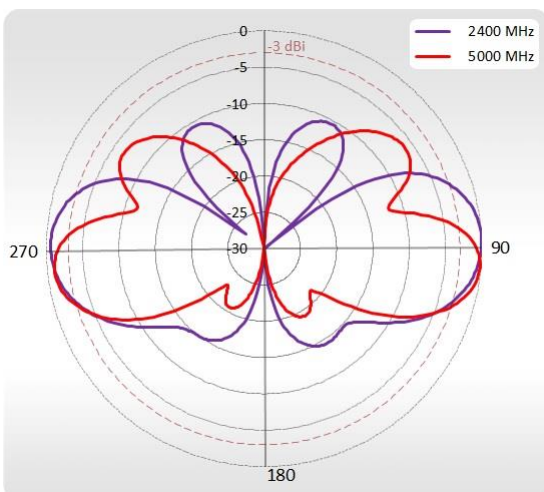


## Wi-Fi ANTENNA GAIN
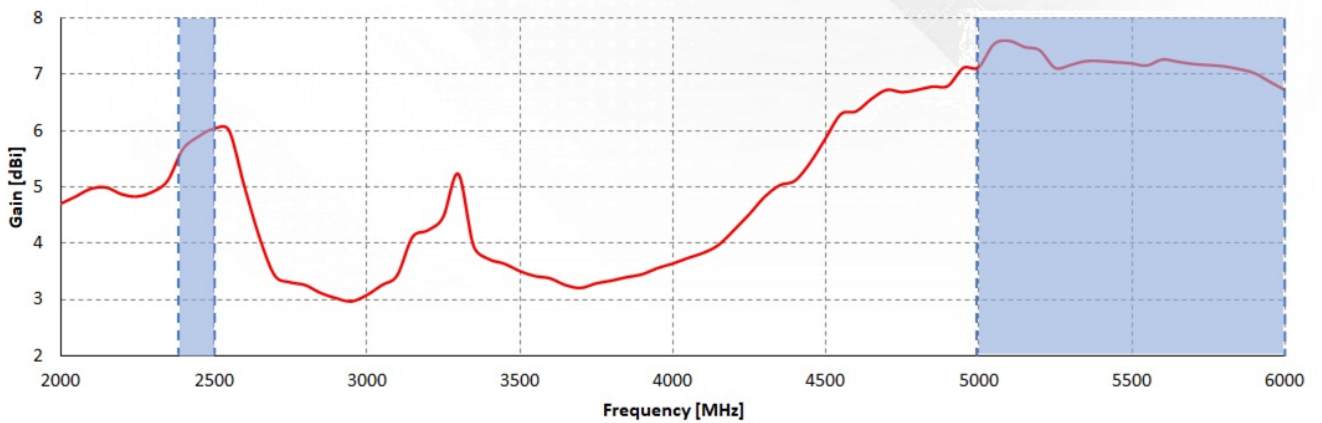


## Wi-Fi INTEGRATED ANTENNA PATTERNS

Elevation         Azimuth

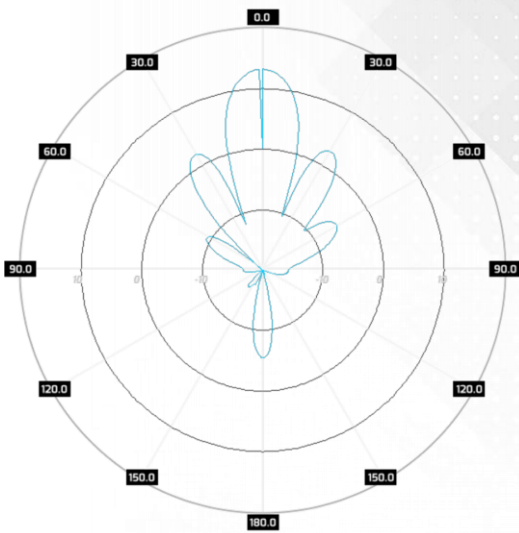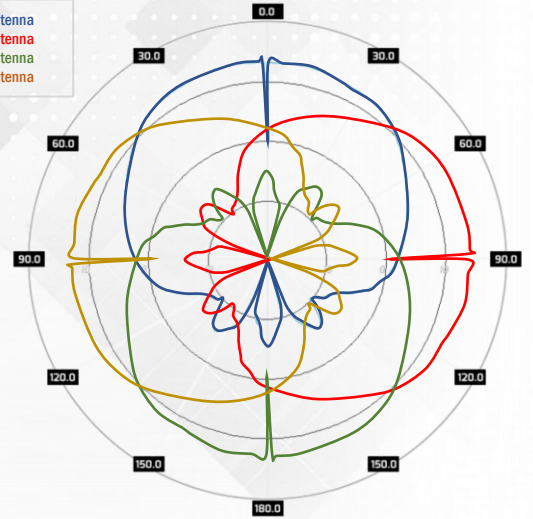# WIMESH INTEGRATED ANTENNA PATTERNS

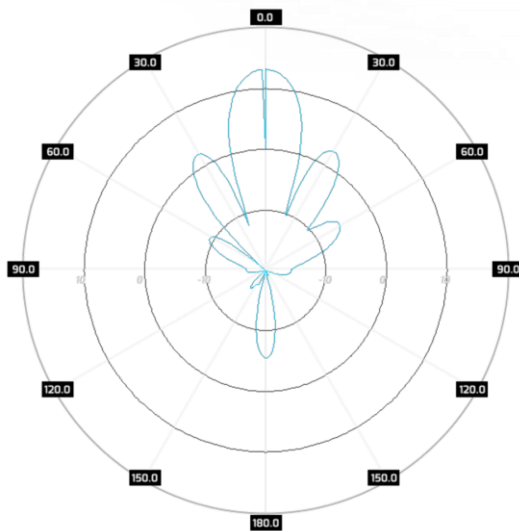Port 1 Elevation                                                                 Port 1 Azimuth
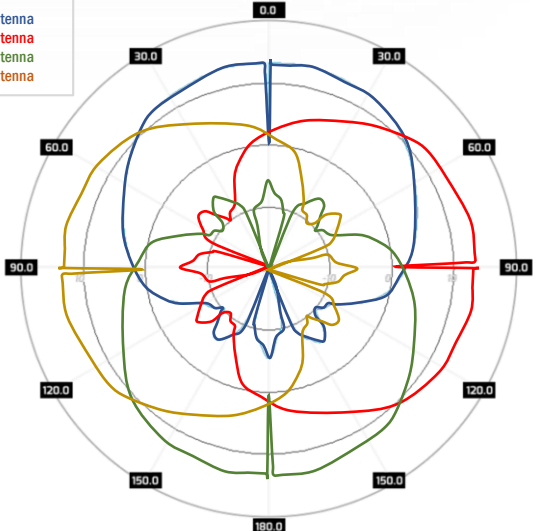


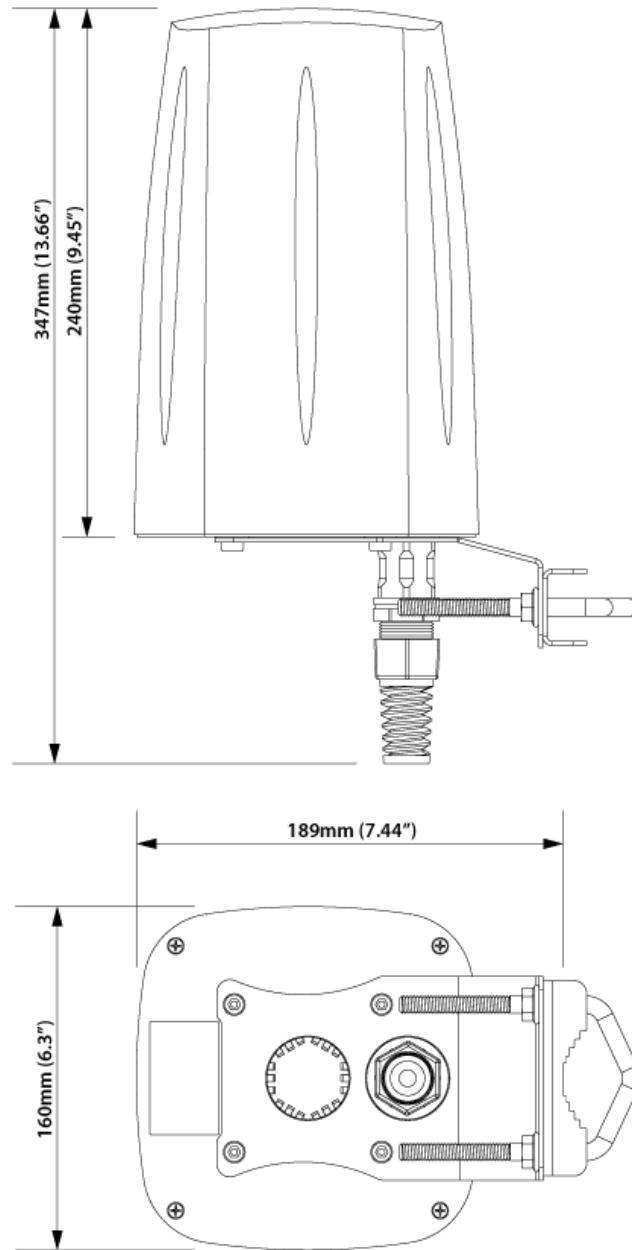Port 2 Elevation                                                                 Port 2 Azimuth

# LUCEOR

## DIMENSIONS



347mm (13.66")
240mm (9.45")
189mm (7.44")
160mm (6.3")

## ORDERING INFORMATION

| OWR-2000ACN-SA-4G | Mesh360 with one 2.4GHz, 2x2 MIMO,802.11an, four 5GHz, 2x2 MIMO, 802.11ac and one LTE-A Cat-7, 2x2 MIMO transceivers |
| --- | --- |

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