# NanoStation®M
# NanoStation®locoM

Indoor/Outdoor airMAX® CPE

Models: NSM2, NSM3, NSM365, NSM5, locoM2, locoM5, locoM9

Cost-Effective, High-Performance

Compact and Versatile Design

Powerful Integrated Antenna

## UBIQUITI
### N E T W O R K S

# Overview

### Leading-Edge Industrial Design

Ubiquiti Networks sets the bar for the world's first low-cost and efficient broadband Customer Premises Equipment (CPE) with the original NanoStation®. The NanoStationM and NanoStationlocoM take the same concept to the future with sleek and elegant form factors, along with integrated airMAX® (MIMO TDMA protocol) technology.
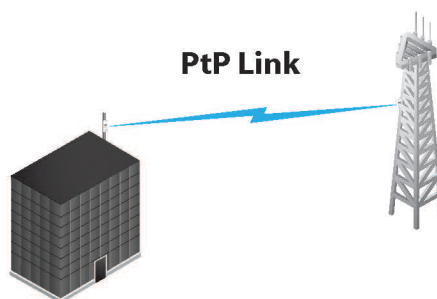
The low cost, high performance, and small form factor of NanoStationM and NanoStationlocoM make them extremely versatile and economical to deploy.

## PtMP Client Links
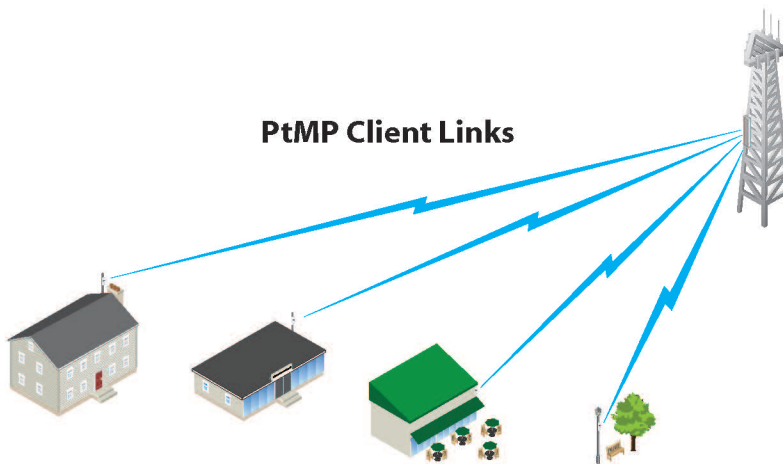
*NanoStationM used as powerful clients in an airMAX PtMP (Point-to-Multi-Point) network setup.*

## PtP Link

*Use two NanoStationM devices to create a PtP link.*

### Utilize airMAX Technology

Unlike standard Wi-Fi protocol, Ubiquiti's Time Division Multiple Access (TDMA) airMAX protocol allows each client to send and receive data using pre-designated time slots scheduled by an intelligent AP controller.

This "time slot" method eliminates hidden node collisions and maximizes airtime efficiency. It provides many magnitudes of performance improvements in latency, throughput, and scalability compared to all other outdoor systems in its class.

**Intelligent QoS** Priority is given to voice/video for seamless streaming.

**Scalability** High capacity and scalability.

**Long Distance** Capable of high-speed, carrier-class links.

**Latency** Multiple features dramatically reduce noise.

### Dual Ethernet Connectivity[1]

The NanoStationM provides a secondary Ethernet port with software-enabled PoE output for seamless IP video integration.

### Intelligent PoE[2]

The remote hardware reset circuitry of the NanoStationM allows the device to be remotely reset from the power supply location.

*Remote Reset*
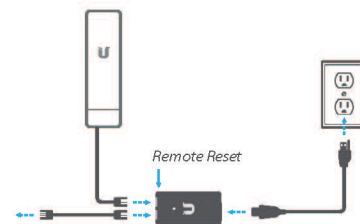
The NanoStationM may also be powered by the Ubiquiti Networks® EdgeSwitch™. In addition, any NanoStationM can easily become 48V, 802.3af compliant through use of the Ubiquiti® Instant 802.3af Adapter (sold separately).

[1] *Only NanoStationM models*
[2] *Remote reset is an option that is sold separately as the POE-24. The NanoStationM includes a 24V PoE adapter without remote reset.*

# Software

## airOS®

airOS® is an intuitive, versatile, highly developed Ubiquiti firmware technology. It is exceptionally intuitive and was designed to require no training to operate. Behind the user interface is a powerful firmware architecture, which enables high-performance, outdoor multi-point networking.

• Protocol Support
• Ubiquiti Channelization
• Spectral Width Adjustment
• ACK Auto-Timing
• AAP Technology
• Multi-Language Support
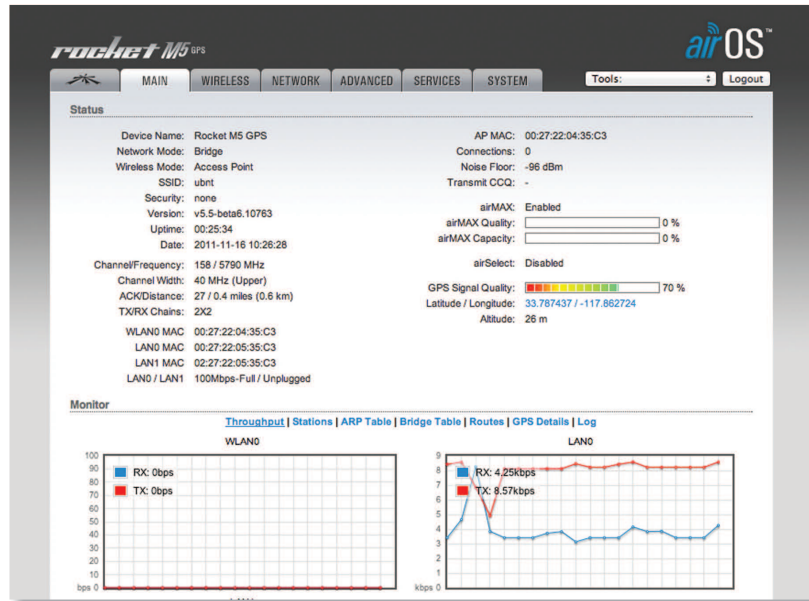


## airView®

Integrated on all Ubiquiti M products, airView® provides advanced spectrum analyzer functionality: waterfall, waveform, and real-time spectral views allow operators to identify noise signatures and plan their networks to minimize noise interference.

• **Waterfall**  Aggregate energy over time for each frequency.
• **Waveform**  Aggregate energy collected.
• **Real-time**  Energy is shown in real time as a function of frequency.
• **Recording**  Automize AirView to record and report results.



## airControl®

airControl® is a powerful and intuitive, web-based server network management application, which allows operators to centrally manage entire networks of Ubiquiti devices.
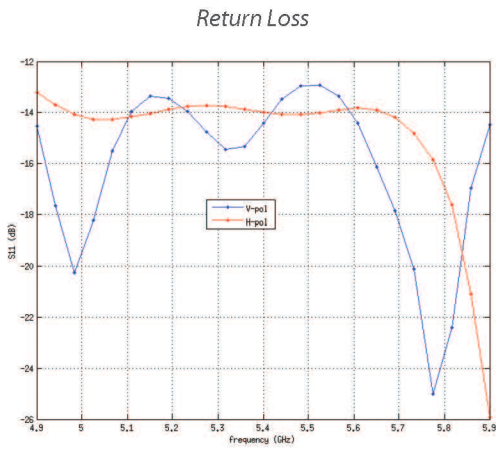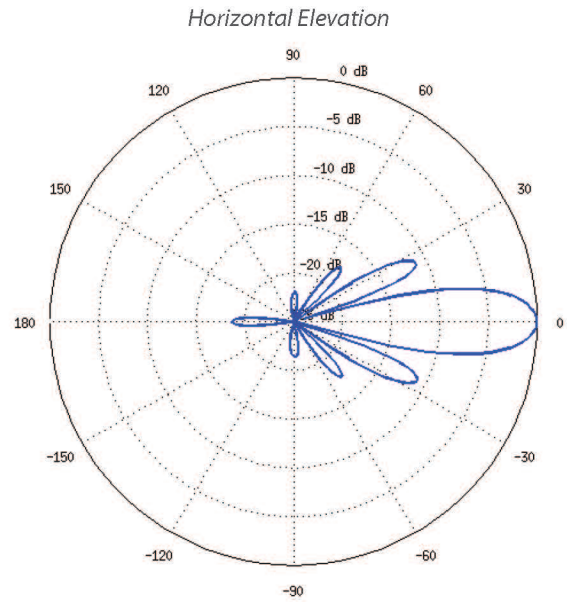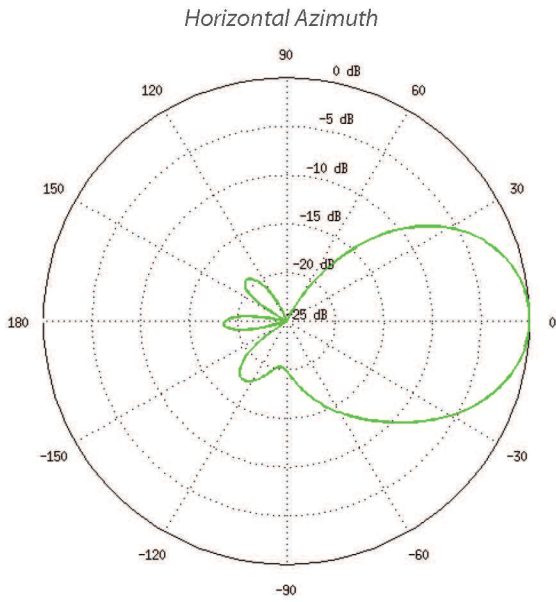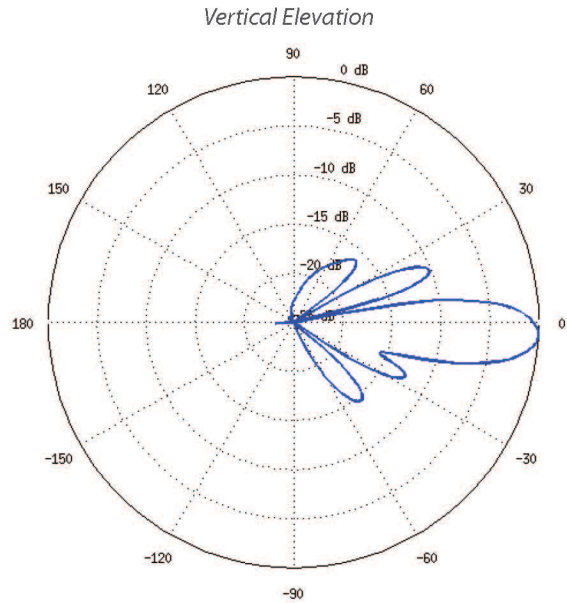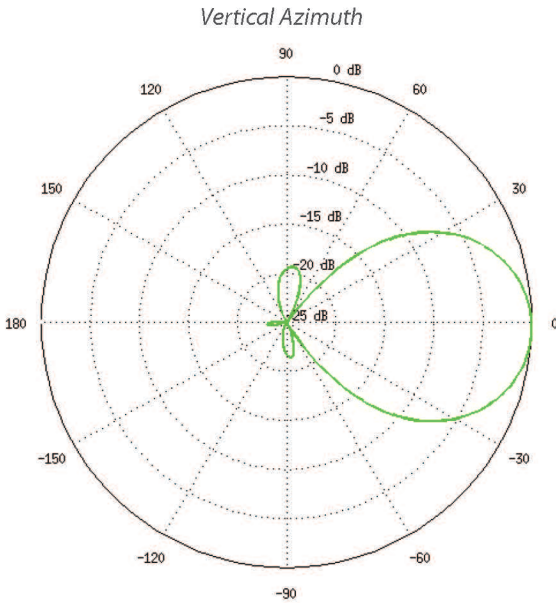
• Network Map
• Monitor Device Status
• Mass Firmware Upgrade
• Web UI Access
• Manage Groups of Devices
• Task Scheduling
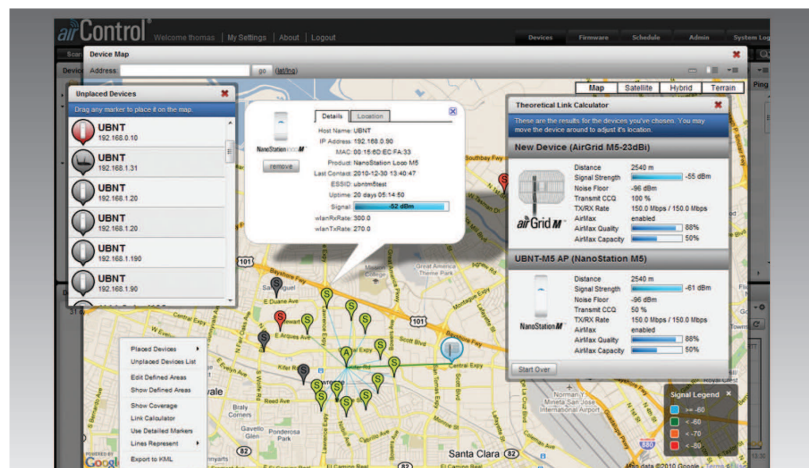
# Specifications

| NSM5 | |
|---|---|
| Dimensions | 294 x 31 x 80 mm (11.57 x 1.22 x 3.15") |
| Weight | 400 g (14.11 oz) |
| Power Supply (PoE) | 24V, 0.5A |
| Max. Power Consumption | 8W |
| Power Method | Passive PoE (Pairs 4, 5+; 7, 8 Return) |

| Operating Frequency | Worldwide | USA | USA DFS |
|---|---|---|---|
| | 5170-5875 MHz | 5725-5850 MHz | 5250-5850 MHz |

| | |
|---|---|
| Gain | 14.6-16.1 dBi |
| Networking Interface | (2) 10/100 Ethernet Ports |
| Processor Specs | Atheros MIPS 74Kc, 560 MHz |
| Memory | 64 MB DDR2, 8 MB Flash |
| Frequency | 5 GHz |
| Cross-pol Isolation | 22 dB Minimum |
| Max. VSWR | 1.6:1 |
| Beamwidth | 43° (H-pol) / 41° (V-pol) / 15° (Elevation) |
| Polarization | Dual Linear |
| Enclosure | Outdoor UV Stabilized Plastic |
| Mounting | Pole-Mount (Kit Included) |
| Operating Temperature | -30 to 75° C (-22 to 167° F) |
| Operating Humidity | 5 to 95% Noncondensing |
| Wireless Approvals | FCC Part 15.247, IC RS210, CE |
| RoHS Compliance | Yes |
| Shock & Vibration | ETSI300-019-1.4 |

| Output Power: 27 dBm | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 GHz TX Power Specifications | | | | 5 GHz RX Power Specifications | | | |
| Modulation | Data Rate/MCS | Avg. TX | Tolerance | Modulation | Data Rate/MCS | Sensitivity | Tolerance |
| 11a | 6-24 Mbps | 27 dBm | ± 2 dB | 11a | 6-24 Mbps | -94 dBm | ± 2 dB |
| | 36 Mbps | 25 dBm | ± 2 dB | | 36 Mbps | -80 dBm | ± 2 dB |
| | 48 Mbps | 23 dBm | ± 2 dB | | 48 Mbps | -77 dBm | ± 2 dB |
| | 54 Mbps | 22 dBm | ± 2 dB | | 54 Mbps | -75 dBm | ± 2 dB |
| 11n/airMAX | MCS0 | 27 dBm | ± 2 dB | 11n/airMAX | MCS0 | -96 dBm | ± 2 dB |
| | MCS1 | 27 dBm | ± 2 dB | | MCS1 | -95 dBm | ± 2 dB |
| | MCS2 | 27 dBm | ± 2 dB | | MCS2 | -92 dBm | ± 2 dB |
| | MCS3 | 27 dBm | ± 2 dB | | MCS3 | -90 dBm | ± 2 dB |
| | MCS4 | 26 dBm | ± 2 dB | | MCS4 | -86 dBm | ± 2 dB |
| | MCS5 | 24 dBm | ± 2 dB | | MCS5 | -83 dBm | ± 2 dB |
| | MCS6 | 22 dBm | ± 2 dB | | MCS6 | -77 dBm | ± 2 dB |
| | MCS7 | 21 dBm | ± 2 dB | | MCS7 | -74 dBm | ± 2 dB |
| | MCS8 | 27 dBm | ± 2 dB | | MCS8 | -95 dBm | ± 2 dB |
| | MCS9 | 27 dBm | ± 2 dB | | MCS9 | -93 dBm | ± 2 dB |
| | MCS10 | 27 dBm | ± 2 dB | | MCS10 | -90 dBm | ± 2 dB |
| | MCS11 | 27 dBm | ± 2 dB | | MCS11 | -87 dBm | ± 2 dB |
| | MCS12 | 26 dBm | ± 2 dB | | MCS12 | -84 dBm | ± 2 dB |
| | MCS13 | 24 dBm | ± 2 dB | | MCS13 | -79 dBm | ± 2 dB |
| | MCS14 | 22 dBm | ± 2 dB | | MCS14 | -78 dBm | ± 2 dB |
| | MCS15 | 21 dBm | ± 2 dB | | MCS15 | -75 dBm | ± 2 dB |

## Vertical Azimuth



## Vertical Elevation



## Horizontal Azimuth



## Horizontal Elevation



## Return Loss

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