High-Performance airMAX® Bridge
Models: NBE-M5-19, NBE-M5-16

Uniform Beamwidth Maximizes Noise Immunity
Innovative Mechanical Design
High-Speed Processor for Superior Performance
Overview

Starting with the first-generation NanoBridge®, Ubiquiti Networks® pioneered the all-in-one design for an airMAX® product functioning as a CPE (Customer Premises Equipment). Now Ubiquiti Networks launches the latest generation of CPE, the NanoBeam®.

Improved Noise Immunity

The NanoBeam directs RF energy in a tighter beamwidth. With the focus in one direction, the NanoBeam blocks or spatially filters out noise, so noise immunity is improved. This feature is especially important in an area crowded with other RF signals of the same or similar frequency.

Integrated Design

The Ubiquiti Research and Development team combined the radio and antenna to create a more efficient and compact CPE. The NanoBeam gets maximum gain out of the smallest footprint.

Providing increased performance from its faster processor and innovative mechanical design at a low cost, the NanoBeam is extremely versatile and cost-effective to deploy.

airMAX Technology Included

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 significant 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.
Software

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**  Automate 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
Hardware Overview

Innovative Mechanical Design
- **All-in-one design** The NanoBeam provides both the radio and antenna in the smallest possible footprint.
- **Quick and easy installation** No fasteners are required for pole-mounting, and a single wall fastener (not included) is required for wall-mounting.
- **Convenient alignment** The NanoBeam pivots on its ball joint for easy aiming.

Compact Form Factor
- **Efficient footprint** The radio and antenna are combined into a single body that takes up minimal space.
- **Versatile mounting** The NanoBeam can be mounted in almost any position needed for line of sight.
- **Aesthetics** The NanoBeam is small enough to blend discreetly into the background at a customer’s location.
Models

NanoBeam™ M5

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency</th>
<th>Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>NBE-M5-19</td>
<td>5 GHz</td>
<td>19 dBi</td>
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NanoBeam™ M5

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<th>Frequency</th>
<th>Gain</th>
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</thead>
<tbody>
<tr>
<td>NBE-M5-16</td>
<td>5 GHz</td>
<td>16 dBi</td>
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</table>

NanoBeam™ Wall Mount Kit

<table>
<thead>
<tr>
<th>Model</th>
<th>NBE-M5-19</th>
<th>NBE-M5-16</th>
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</thead>
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<tr>
<td>NBE-WMK</td>
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<td>✔</td>
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</table>

A wall mount kit is available as an optional accessory to enhance stability for wall-mounting.

Installation Using the NanoBeamM Wall Mount Kit
## Specifications

<table>
<thead>
<tr>
<th>System and Regulatory/Compliance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td><strong>NBE-M5-19</strong></td>
</tr>
<tr>
<td><strong>Processor Specs</strong></td>
<td>Atheros MIPS 74Kc, 560 MHz</td>
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<td><strong>Memory</strong></td>
<td>64 MB DDR2, 8 MB Flash</td>
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<tr>
<td><strong>Networking Interface</strong></td>
<td>(1) 10/100 Ethernet Port</td>
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<td><strong>Wireless Approvals</strong></td>
<td>FCC, IC, CE</td>
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<table>
<thead>
<tr>
<th>Physical/Electrical/Environmental</th>
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</thead>
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<tr>
<td><strong>Model</strong></td>
<td><strong>NBE-M5-19</strong></td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>189 x 189 x 125 mm (7.44 x 7.44 x 4.92 in)</td>
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<tr>
<td><strong>Weight</strong></td>
<td>0.530 kg (1.17 lb)</td>
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<td><strong>Power Supply</strong></td>
<td>24V, 0.5A PoE</td>
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<td><strong>Power Method</strong></td>
<td>Passive PoE (Pairs 4, 5+; 7, 8 Return)</td>
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<td><strong>Max. Power Consumption</strong></td>
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<tr>
<td><strong>Gain</strong></td>
<td>19 dBi</td>
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<td><strong>Wind Loading</strong></td>
<td>45.4 N @ 200 km/h (10.2 lbf @ 125 mph)</td>
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<td><strong>Wind Survivability</strong></td>
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<td><strong>LEDs</strong></td>
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<td><strong>Signal Strength LEDs</strong></td>
<td>Software-Adjustable to Correspond to Custom RSSI Levels</td>
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<td><strong>Channel Sizes</strong></td>
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<td><strong>Polarization</strong></td>
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<td><strong>Enclosure</strong></td>
<td>Outdoor UV Stabilized Plastic</td>
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<td><strong>Mounting</strong></td>
<td>Pole-Mount (Kit Included), Wall-Mount</td>
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<tr>
<td><strong>ESD/EMP Protection</strong></td>
<td>Air: ± 24 kV, Contact: ± 24 kV</td>
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<tr>
<td><strong>Operating Temperature</strong></td>
<td>-40 to 70° C (-40 to 158° F)</td>
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<tr>
<td><strong>Operating Humidity</strong></td>
<td>5 to 95% Noncondensing</td>
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<td><strong>Salt Fog Test</strong></td>
<td>IEC 68-2-11 (ASTM B117), Equivalent: MIL-STD-810 G Method 509.5</td>
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<td><strong>Vibration Test</strong></td>
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<td><strong>Temperature Shock Test</strong></td>
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<td><strong>UV Test</strong></td>
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<td><strong>Wind-Driven Rain Test</strong></td>
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<tr>
<th>Operating Frequency</th>
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<td><strong>Model</strong></td>
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<td><strong>Operating Frequency</strong></td>
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### Specifications

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<th>Data Rate</th>
<th>Avg. TX</th>
<th>Tolerance</th>
<th>Modulation</th>
<th>Data Rate</th>
<th>Sensitivity</th>
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#### NBE-M5-19 Antenna Information

<table>
<thead>
<tr>
<th>Gain</th>
<th>19 dBi</th>
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<tbody>
<tr>
<td>Max. VSWR</td>
<td>1.5:1</td>
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</tbody>
</table>

#### Return Loss

![Return Loss Graph](image)

#### Vertical Azimuth

![Vertical Azimuth Graph](image)

#### Vertical Elevation

![Vertical Elevation Graph](image)

#### Horizontal Azimuth

![Horizontal Azimuth Graph](image)

#### Horizontal Elevation

![Horizontal Elevation Graph](image)
### Specifications

#### NBE-M5-16 Output Power: 26 dBm

<table>
<thead>
<tr>
<th>Modulation</th>
<th>Data Rate</th>
<th>Avg. TX</th>
<th>Tolerance</th>
<th>Modulation</th>
<th>Data Rate</th>
<th>Sensitivity Min.</th>
<th>Tolerance</th>
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#### NBE-M5-16 Antenna Information

- **Gain**: 16 dBi
- **Max. VSWR**: 1.5:1

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