DATASHEET

NanoBridge® M

High-Performance airMAX® Bridge

Models: NBM9, NB-2G18, NBM3, NBM365

High Performance, Long Range

Completely Integrated CPE in Antenna Feed

Easy Assembly and Installation

UBIQUITI® NETWORKS

Overview

With the NanoBridge®, Ubiquiti Networks pioneered the all-in-one design for an airMAX® product functioning as a CPE (Customer Premises Equipment).

The NanoBridge combines Ubiquiti's InnerFeed® and airMAX technologies to create a simple, yet powerful wireless unit capable of up to 100+ Mbps real outdoor throughput and up to 30+ km range.

InnerFeed Technology

Ubiquiti's revolutionary InnerFeed technology integrates the radio into the feedhorn of an antenna, so there is no need for a cable*. This improves performance because it eliminates cable losses.

Providing high performance and robust all-in-one mechanical design at a low cost, the NanoBridge is extremely versatile and cost-effective to deploy.

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 significant performance improvements in latency, throughput, and scalability compared to all other outdoor systems in its class.

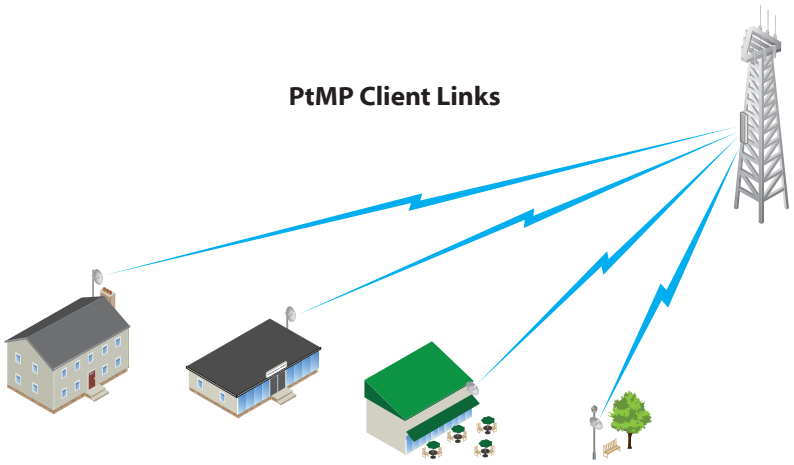
Intelligent QoS Priority is given to voice/video for seamless streaming.

Scalability High capacity and scalability.

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

Application Examples

PtMP Client Links

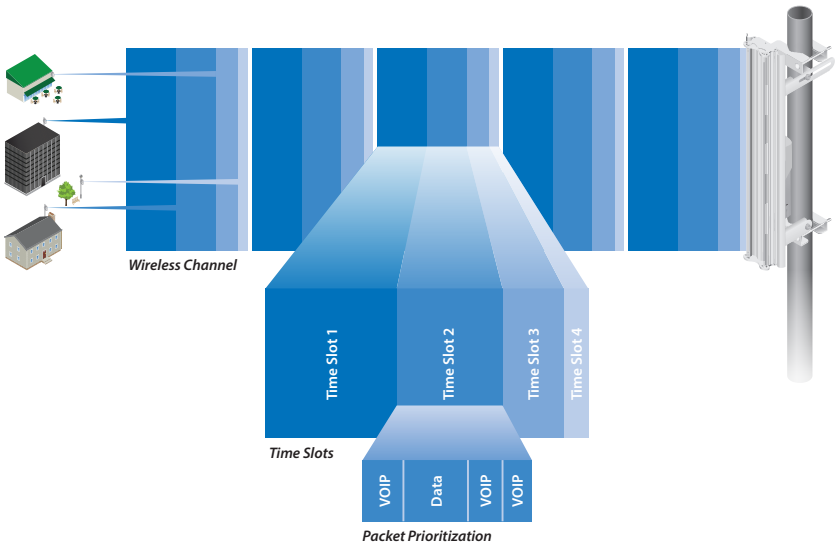


The NanoBridge used as a CPE device for each client in an airMAX PtMP network.

PtP Link

Use a NanoBridge on each side of a PtP link.

airMAX TDMA Technology



Up to 100 airMAX stations can be connected to an airMAX Sector; four airMAX stations are shown to illustrate the general concept.

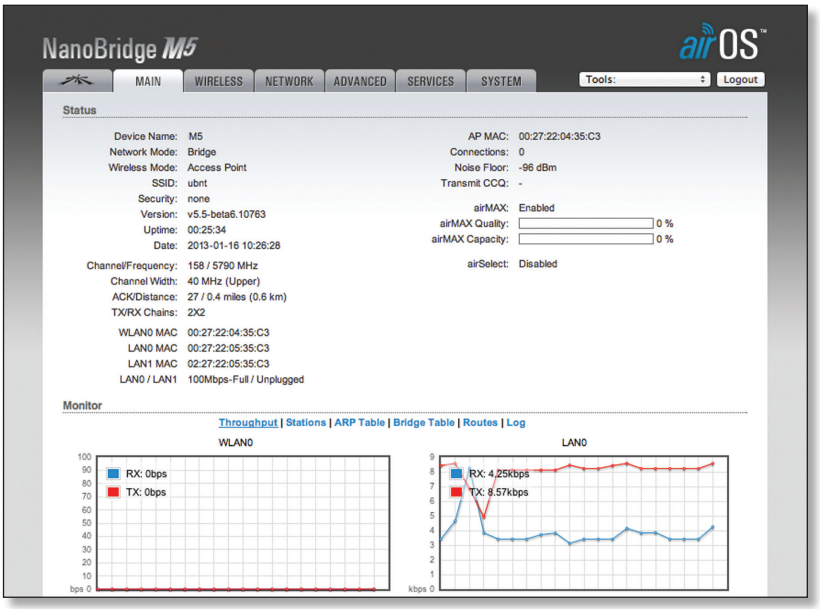
* *NanoBridgeM2 model only.*

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.

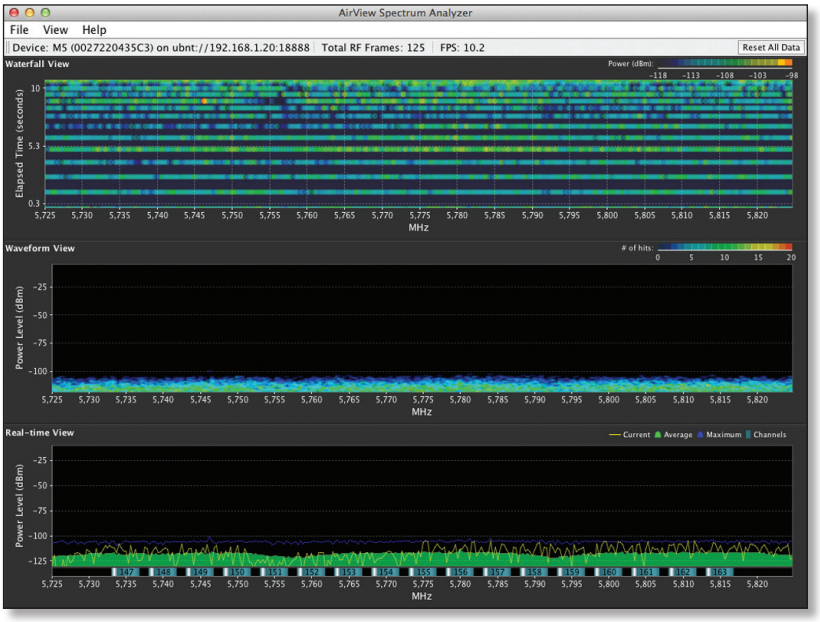
- Protocol Support
- Ubiquiti Channelization
- Spectral Width Adjustment
- ACK Auto-Timing
- AAP Technology
- Multi-Language Support



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.

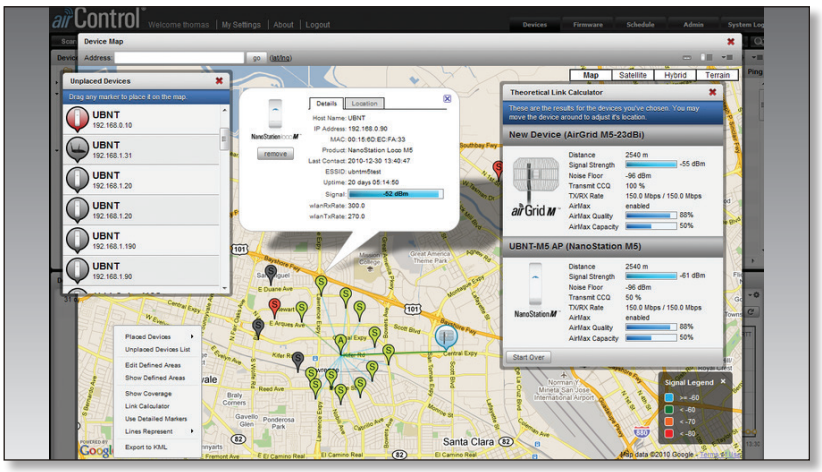
- **Waterfall** Aggregate energy over time for each frequency.
- **Waveform** Aggregate energy collected.
- **Real-time** Energy is shown in real time as a function of frequency.
- **Recording** Automate airView to record and report results.



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



Models

NanoBridge® M9

Model	Frequency	Gain
NBM9	900 MHz	10.6 - 11.3 dBi

NanoBridge® M2

Model	Frequency	Gain
NB-2G18	2.4 GHz	18 dBi

NanoBridge® M3
NanoBridge® M365

Model	Frequency	Gain
NBM3	3.3 - 3.7 GHz	21.5 - 22.5 dBi
NBM365	3.65 - 3.675 GHz	21.5 - 22.5 dBi

Hardware Overview

- **Offset dish design** The NBM9, NBM3, and NBM365 models feature an offset design that places the antenna feed out of the signal path. This design minimizes feed blockage which provides better sidelobe control and reduces self-interference.

NBM9 Antenna Feed

NBM3/365 Antenna Feed

- **Integrated radio design** The NB-2G18 features Ubiquiti's InnerFeed® technology which integrates the radio into the feedhorn of the antenna. With only a single cable connection required, cable losses are minimized, resulting in improved performance.

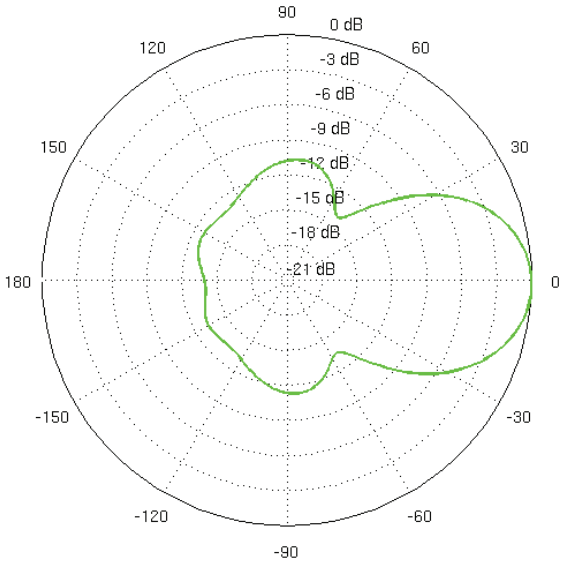
Single Cable Connection with InnerFeed Technology

Specifications

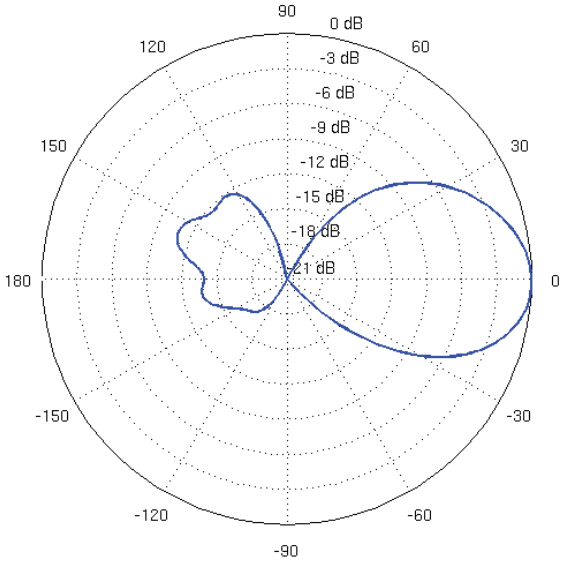
NBM9	
Dimensions	543 x 440 x 725 mm (21.38 x 17.32 x 28.54")
Weight (Dish and Mount Included)	5.098 kg (11.239 lb)
Power Supply	24V, 1A PoE
Power Method	Passive PoE (Pairs 4, 5+; 7, 8 Return)
Max. Power Consumption	6.5 W
Operating Frequency	902 - 928 MHz
Gain	10.6 - 11.3 dBi
Networking Interface	(1) 10/100 Ethernet Port
Processor Specs	Atheros MIPS 24KC, 400 MHz
Memory	64 MB SDRAM, 8 MB Flash
LEDs	(1) Power, (1) LAN, (4) WLAN
Signal Strength LEDs	Software-Adjustable to Correspond to Custom RSSI Levels
Max. VSWR	1.6:1
Enclosure	Outdoor UV Stabilized Plastic
Mounting	Pole-Mount Kit Included
Wind Loading	467 N @ 200 km/h (105 lbf @ 125 mph)
Wind Survivability	200 km/h (125 mph)
Operating Temperature	-30 to 75° C (-20 to 167° F)
Operating Humidity	5 to 95% Non-Condensing
Wireless Approvals	FCC, IC
RoHS Compliance	Yes
Shock and Vibration	ETSI300-019-1.4

NBM9 – Output Power: 28 dBm							
TX Power Specifications				**RX Power Specifications**			
Modulation	Data Rate	Avg. TX	Tolerance	Modulation	Data Rate	Sensitivity	Tolerance
11n/airMAX	MCS0	28 dBm	± 2 dB	11n/airMAX	MCS0	-96 dBm	± 2 dB
	MCS1	28 dBm	± 2 dB		MCS1	-95 dBm	± 2 dB
	MCS2	28 dBm	± 2 dB		MCS2	-92 dBm	± 2 dB
	MCS3	28 dBm	± 2 dB		MCS3	-90 dBm	± 2 dB
	MCS4	28 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	28 dBm	± 2 dB		MCS8	-95 dBm	± 2 dB
	MCS9	28 dBm	± 2 dB		MCS9	-93 dBm	± 2 dB
	MCS10	28 dBm	± 2 dB		MCS10	-90 dBm	± 2 dB
	MCS11	28 dBm	± 2 dB		MCS11	-87 dBm	± 2 dB
	MCS12	28 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

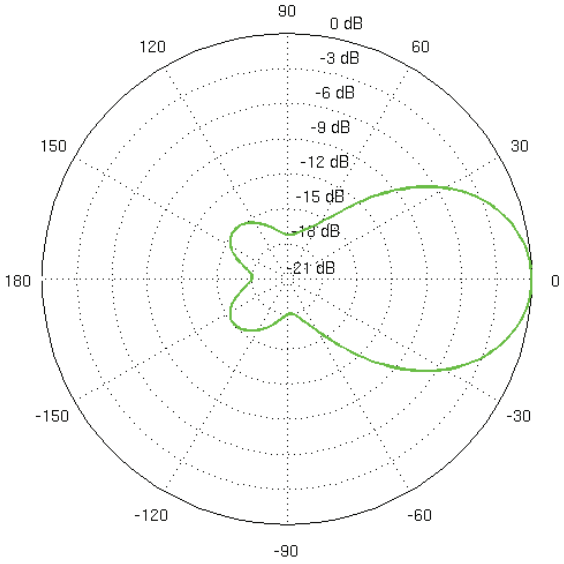
Vertical Azimuth



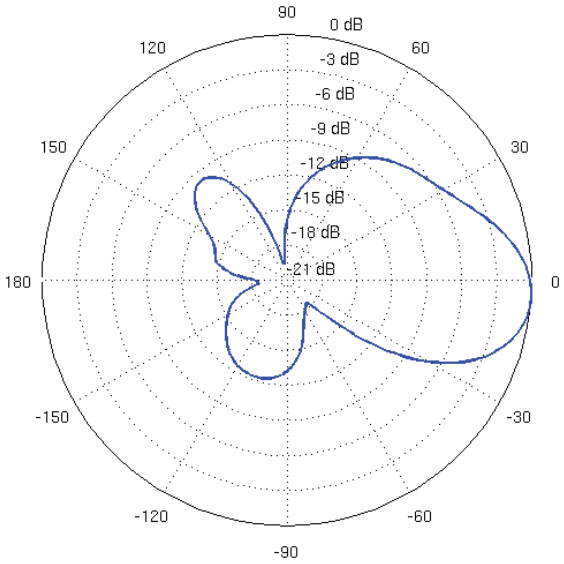
Vertical Elevation



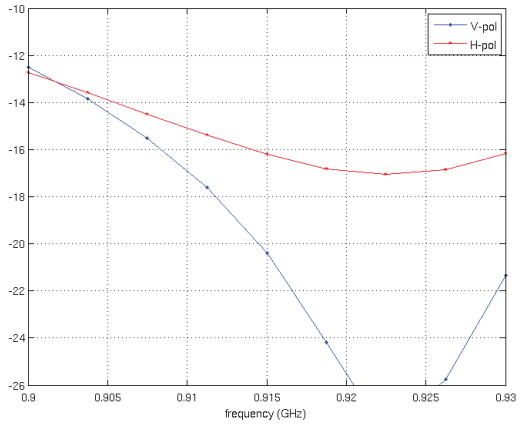
Horizontal Azimuth



Horizontal Elevation



Return Loss

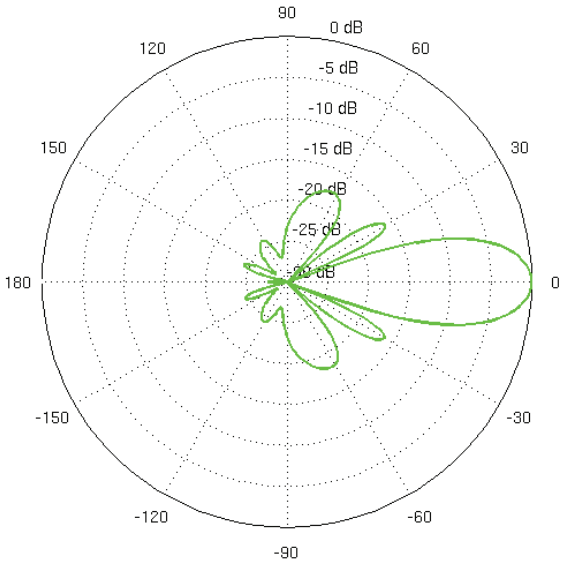


Specifications

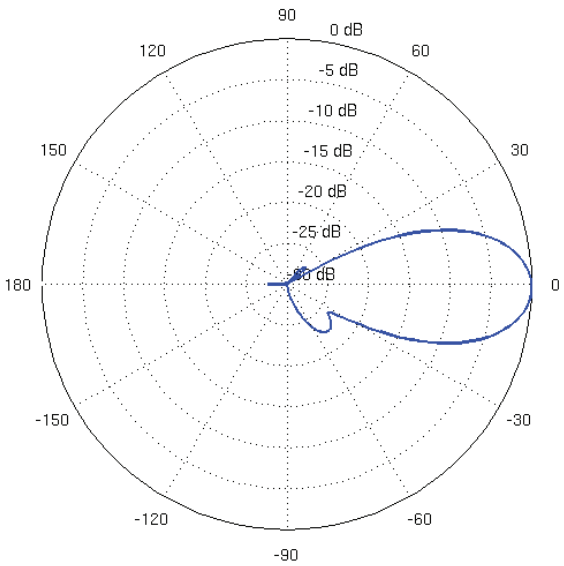
NB-2G18	
Dimensions	400 mm (15.75") diameter
Weight (Dish and Mount Included)	2.346 kg (5.172 lb)
Power Supply	24V, 0.5A PoE
Power Method	Passive PoE (Pairs 4, 5+; 7, 8 Return)
Max. Power Consumption	5.5 W
Operating Frequency	2402 - 2462 MHz
Gain	18 dBi
Networking Interface	(1) 10/100 Ethernet Port
Processor Specs	Atheros MIPS 24KC, 400 MHz
Memory	32 MB SDRAM, 8 MB Flash
LEDs	(1) Power, (1) LAN, (4) WLAN
Signal Strength LEDs	Software-Adjustable to Correspond to Custom RSSI Levels
Max. VSWR	1.6:1
Enclosure	Outdoor UV Stabilized Plastic
Mounting	Pole-Mount Kit Included
Wind Loading	343 N @ 200 km/h (77 lbf @ 125 mph)
Wind Survivability	200 km/h (125 mph)
Operating Temperature	-30 to 75° C (-20 to 167° F)
Operating Humidity	5 to 95% Non-Condensing
Wireless Approvals	FCC, IC, CE
RoHS Compliance	Yes
Shock and Vibration	ETSI300-019-1.4

NB-2G18 – Output Power: 23 dBm							
TX Power Specifications				**RX Power Specifications**			
Modulation	Data Rate	Avg. TX	Tolerance	Modulation	Data Rate	Sensitivity	Tolerance
11n/airMAX	MCS0	23 dBm	± 2 dB	11n/airMAX	MCS0	-94 dBm	± 2 dB
	MCS1	23 dBm	± 2 dB		MCS1	-93 dBm	± 2 dB
	MCS2	23 dBm	± 2 dB		MCS2	-90 dBm	± 2 dB
	MCS3	23 dBm	± 2 dB		MCS3	-89 dBm	± 2 dB
	MCS4	22 dBm	± 2 dB		MCS4	-86 dBm	± 2 dB
	MCS5	20 dBm	± 2 dB		MCS5	-83 dBm	± 2 dB
	MCS6	19 dBm	± 2 dB		MCS6	-77 dBm	± 2 dB
	MCS7	18 dBm	± 2 dB		MCS7	-74 dBm	± 2 dB
	MCS8	23 dBm	± 2 dB		MCS8	-93 dBm	± 2 dB
	MCS9	23 dBm	± 2 dB		MCS9	-91 dBm	± 2 dB
	MCS10	23 dBm	± 2 dB		MCS10	-89 dBm	± 2 dB
	MCS11	23 dBm	± 2 dB		MCS11	-87 dBm	± 2 dB
	MCS12	22 dBm	± 2 dB		MCS12	-84 dBm	± 2 dB
	MCS13	20 dBm	± 2 dB		MCS13	-79 dBm	± 2 dB
	MCS14	19 dBm	± 2 dB		MCS14	-78 dBm	± 2 dB
	MCS15	18 dBm	± 2 dB		MCS15	-75 dBm	± 2 dB

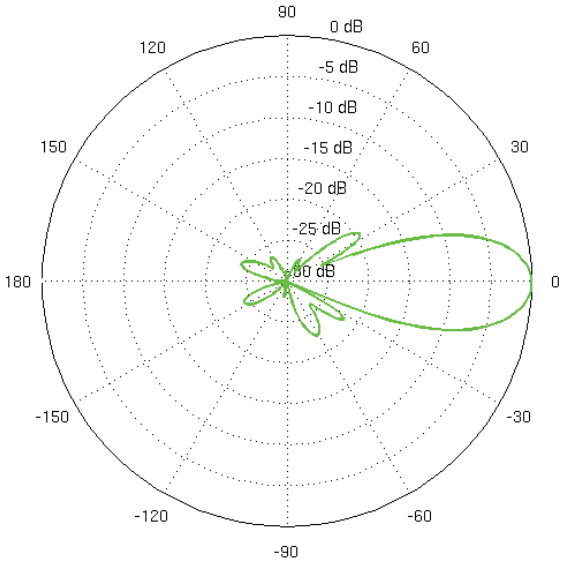
Vertical Azimuth



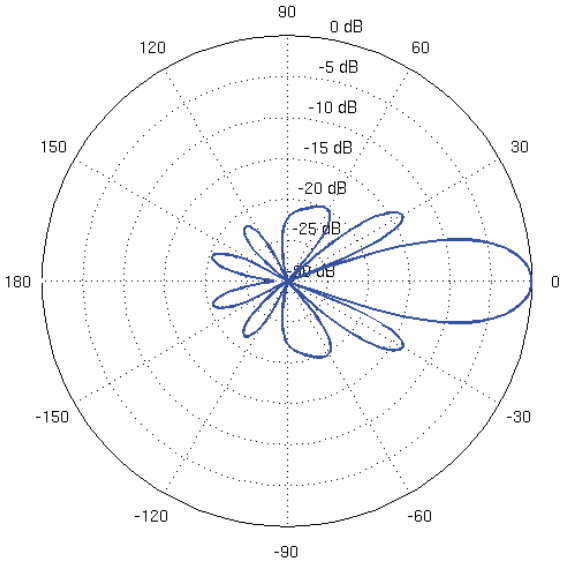
Vertical Elevation



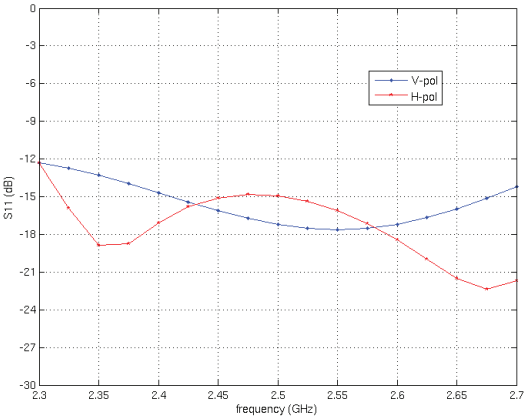
Horizontal Azimuth



Horizontal Elevation



Return Loss

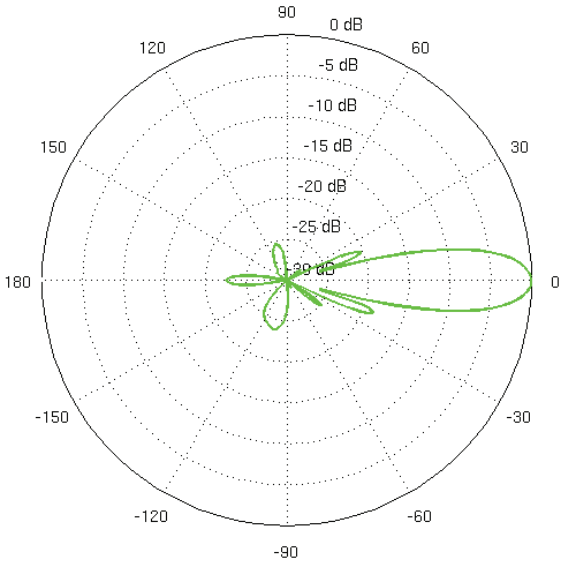


Specifications

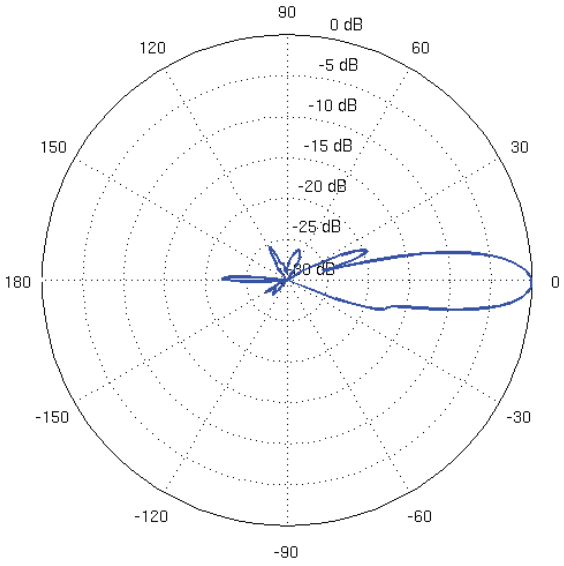
NBM3/NBM365		
Dimensions	492 x 440 x 705 mm (19.37 x 17.32 x 27.76")	
Weight (Dish and Mount Included)	NBM3: 4.656 kg (10.265 lb) NBM365: 4.660 kb (10.274 lb)	
Power Supply	24V, 0.5A PoE	
Power Method	Passive PoE (Pairs 4, 5+; 7, 8 Return)	
Max. Power Consumption	8 W	
Operating Frequency	NBM3: 3370 - 3730 MHz NBM365: 3650 - 3675 MHz	
Gain	21.5 - 22.5 dBi	
Networking Interface	(2) 10/100 Ethernet Ports	
Processor Specs	Atheros MIPS 24KC, 400 MHz	
Memory	32 MB SDRAM, 8 MB Flash	
LEDs	(1) Power, (2) LAN, (4) WLAN	
Signal Strength LEDs	Software-Adjustable to Correspond to Custom RSSI Levels	
Max. VSWR	1.5:1	
Enclosure	Outdoor UV Stabilized Plastic	
Mounting	Pole-Mount Kit Included	
Wind Loading	467 N @ 200 km/h (105 lbf @ 125 mph)	
Wind Survivability	200 km/h (125 mph)	
Operating Temperature	-30 to 75° C (-20 to 167° F)	
Operating Humidity	5 to 95% Non-Condensing	
Wireless Approvals	NBM3	NBM365
	–	FCC
RoHS Compliance	Yes	
Shock and Vibration	ETSI300-019-1.4	

NBM3/NBM365 – Output Power: 25 dBm							
TX Power Specifications				**RX Power Specifications**			
Modulation	Data Rate	Avg. TX	Tolerance	Modulation	Data Rate	Sensitivity	Tolerance
11n/airMAX	MCS0	25 dBm	± 2 dB	11n/airMAX	MCS0	-94 dBm	± 2 dB
	MCS1	25 dBm	± 2 dB		MCS1	-93 dBm	± 2 dB
	MCS2	25 dBm	± 2 dB		MCS2	-90 dBm	± 2 dB
	MCS3	25 dBm	± 2 dB		MCS3	-89 dBm	± 2 dB
	MCS4	24 dBm	± 2 dB		MCS4	-86 dBm	± 2 dB
	MCS5	23 dBm	± 2 dB		MCS5	-83 dBm	± 2 dB
	MCS6	22 dBm	± 2 dB		MCS6	-77 dBm	± 2 dB
	MCS7	20 dBm	± 2 dB		MCS7	-74 dBm	± 2 dB
	MCS8	25 dBm	± 2 dB		MCS8	-93 dBm	± 2 dB
	MCS9	25 dBm	± 2 dB		MCS9	-91 dBm	± 2 dB
	MCS10	25 dBm	± 2 dB		MCS10	-89 dBm	± 2 dB
	MCS11	25 dBm	± 2 dB		MCS11	-87 dBm	± 2 dB
	MCS12	24 dBm	± 2 dB		MCS12	-84 dBm	± 2 dB
	MCS13	23 dBm	± 2 dB		MCS13	-79 dBm	± 2 dB
	MCS14	22 dBm	± 2 dB		MCS14	-78 dBm	± 2 dB
	MCS15	20 dBm	± 2 dB		MCS15	-75 dBm	± 2 dB

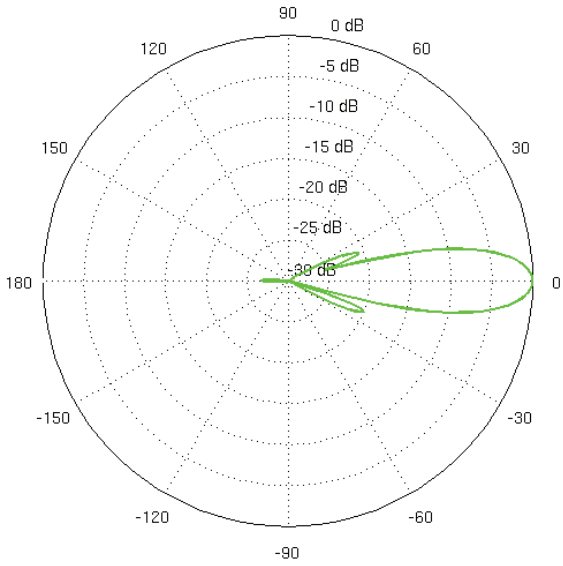
Vertical Azimuth



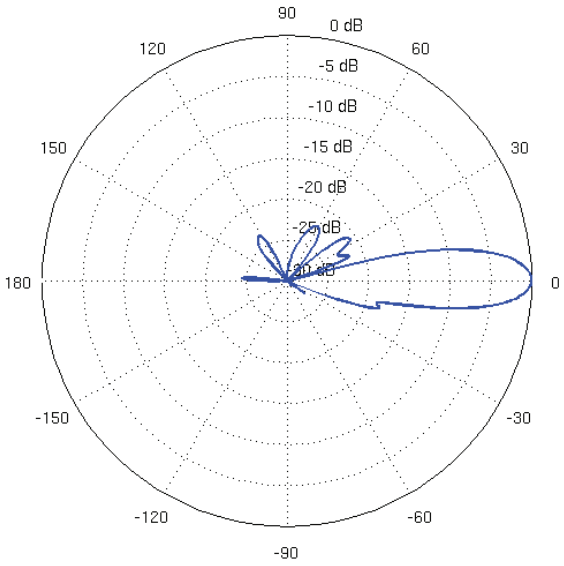
Vertical Elevation



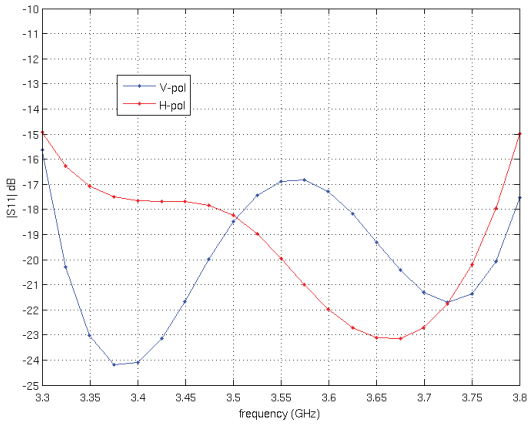
Horizontal Azimuth



Horizontal Elevation



Return Loss



TOUGHCable™

OUTDOOR CARRIER CLASS SHIELDED

Protect your networks from the most brutal environments with Ubiquiti Networks' industrial-grade, shielded Ethernet cable, TOUGHCable.

Increase Performance
Dramatically improve your Ethernet link states, speeds, and overall performance with Ubiquiti TOUGHCables.

Extreme Weatherproof
Designed for outdoor use, TOUGHCables have been built to perform even in the harshest weather and environments.

ESD Damage Protection
Protect your networks from devastating electrostatic discharge (ESD) attacks.

Extended Cable Support
TOUGHCables have been developed to increase power handling performance for extended cable run lengths.

TOUGHCable Connectors

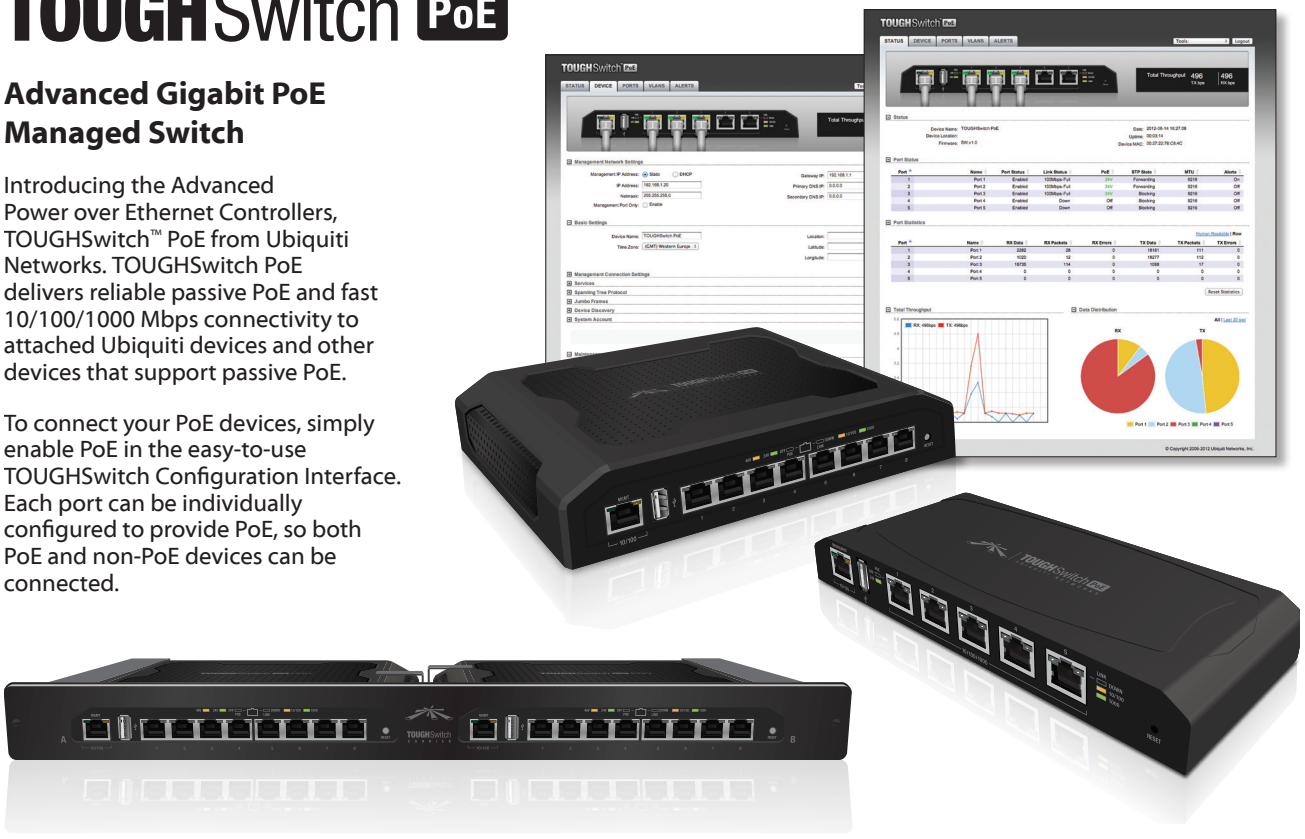
Specifically designed for use with Ubiquiti TOUGHCables, TOUGHCable Connectors protect against ESD attacks and Ethernet hardware damage, while allowing rapid field deployment without soldering. The standard TOUGHCable Connectors are available in 100-pc. bags, while the TC-GND versions include ground wires and are available in 20-pc. bags.

TOUGHSwitch™ PoE

Advanced Gigabit PoE Managed Switch

Introducing the Advanced Power over Ethernet Controllers, TOUGHSwitch™ PoE from Ubiquiti Networks. TOUGHSwitch PoE delivers reliable passive PoE and fast 10/100/1000 Mbps connectivity to attached Ubiquiti devices and other devices that support passive PoE.

To connect your PoE devices, simply enable PoE in the easy-to-use TOUGHSwitch Configuration Interface. Each port can be individually configured to provide PoE, so both PoE and non-PoE devices can be connected.



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