FAMCO
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NanoStation M
NanoStation loco M

Compact, Hi-Power, 2x2 MIMO AirMax TDMA Station

Models: NSM2, NSM3, NSM365, NSM5, LOCOM2, LOCOM5, LOCOM9

- Cost Effective, Hi-Performance
- Compact and Versatile Design
- Powerful integrated Antenna

UBIQUITI NETWORKS

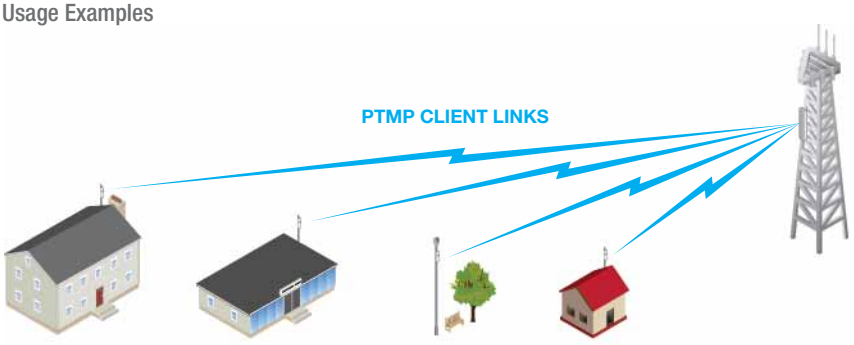
Overview

Leading Edge Industrial Design

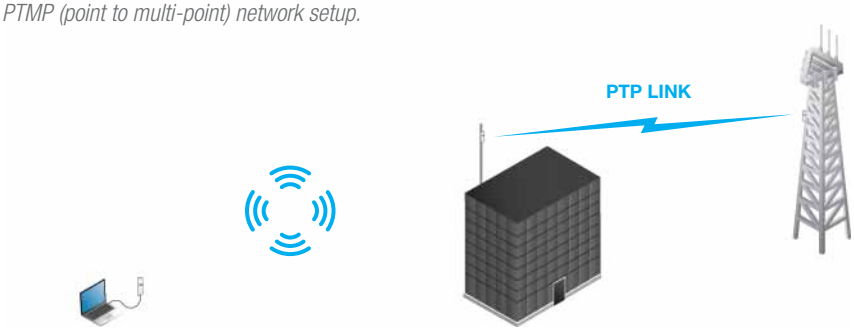
The original NanoStation set the bar for the world's first low-cost and efficiently designed outdoor broadband CPE. The new NanoStation M and NanoStation Loco M take the same concept to the future with new redesigned sleek and elegant form-factors along with integrated AirMax (MIMO TDMA Protocol) Technology.

The low cost, hi-performance, and small form factor of NanoStation M and NanoStation Loco M make them extremely versatile and ideal in several different applications (see diagrams on right for some usage examples).

Usage Examples



NanoStation M as powerful clients in an AirMax PTMP (point to multi-point) network setup.



NanoStation M as a powerful wireless client.

Use two NanoStation M to create a PTP link.

Integrated AirMax Technology

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

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

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

Scalability High capacity and scalability.

Long Distance Capable of high speed 50km+ links

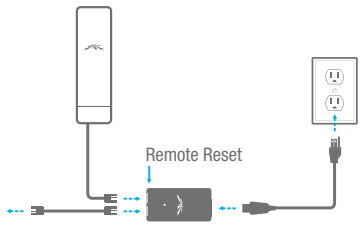
Latency Multiple features dramatically reduce noise.

Dual Ethernet Connectivity *

The New NanoStation M provides a secondary ethernet port with software enabled POE output for seamless IP Video integration.

Intelligent POE **

Remote hardware reset circuitry of NanoStation M allows for device to be reset remotely from power supply location. In addition, any NanoStation can easily become 802.3af 48V compliant through use of Ubiquiti's Instant 802.3af adapter (sold separately).



* Only NanoStation M models.
** Remote reset is an additional option. Nanostation M comes standard as 24V without remote reset.

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Models

[top] **NSM2** (2.4GHz, 10.4-11.2dBi), **NSM3** (3.4-3.7GHz, 12.2-13.7dBi), **NSM365** (3.65GHz, 12.2-13.7dBi), **NSM5** (5GHz, 14.6-16.1dBi)
[bottom left] **LOCOM9** (900MHz, 8dBi) [bottom right] **LOCOM2** (2.4GHz, 8.5dBi), **LOCOM5** (5GHz, 13dBi)

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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 hi-performance outdoor multipoint networking.

Protocol Support

Ubiquiti Channelization

Spectral Width Adjust

ACK Auto-Timing

AAP Technology

Multi-Language Support

www.ubnt.com/airos

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 real-time as a function of frequency.

Recording Automize AirView to record and report results.

www.ubnt.com/airview

airControl

AirControl is a powerful and intuitive web based server network management application which allows operators to centrally manage entire networks of Ubiqutii devices.

Network Map

Monitor Device Status

Mass Firmware Upgrade

Web UI Access

Manage Groups of Devices

Task Scheduling

www.ubnt.com/aircontrol

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Specifications

System Information		
Processor Specs	Atheros MIPS 24KC, 400MHz	
	LOCOM9	LOCOM, NSM
Memory Information	64MB SDRAM, 8MB Flash	32MB SDRAM, 8MB Flash
	LOCOM	NSM
Networking Interface	1 X 10/100 BASE-TX (Cat. 5, RJ-45) Ethernet	2 X 10/100 BASE-TX (Cat. 5, RJ-45) Ethernet

Regulatory / Compliance Information				
	LOCOM9	M2, M5**	NSM3	NSM365
Wireless Approvals	FCC Part 15.247, IC RS210	FCC Part 15.247, IC RS210, CE	-	FCC Part 90Z
RoHS Compliance	YES			

Physical / Electrical / Environmental / Antenna			
Enclosure Characteristics	Outdoor UV Stabilized Plastic		
Mounting Kit	Pole Mounting Kit included		
Power Method	Passive Power over Ethernet (pairs 4, 5+; 7, 8 return)		
Operating Temperature	-30C to 75C		
Operating Humidity	5 to 95% Condensing		
Shock and Vibration	ETSI300-019-1.4		
	LOCOM9	LOCOM	NSM
Dimensions	164 x 72 x 199 mm	163 x 31 x 80 mm	294 x 31 x 80 mm
Weight	0.9 kg	0.18 kg	0.4 kg 0.5 kg (M3/M365)
Power Supply (included)	24V, 1A POE	24V, 0.5A POE	24V, 0.5A POE 24V, 1A POE (M3/M365)
Max Power Consumption	6.5 Watts	5.5 Watts	8 Watts
Antenna Gain	8 dBi	8 dBi (M2) 13 dBi (M5)	11 dBi (M2) 13.7 dBi (M3/M365) 16 dBi (M5)
Polarization	Dual Linear		
RF Connector	External RP-SMA	-	-

Operating Frequency Summary (MHz)				
LOCOM9	M2**	NSM3	NSM365	M5**
902-928	2412-2462	3400-3700	3650-3675	5470-5825*

* Only 5745 - 5825 MHz is supported in the USA
** Applies to both NanoStation M and NanoStation Loco M models

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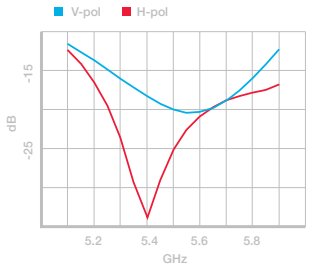
Specifications (cont.) - LOCOM5

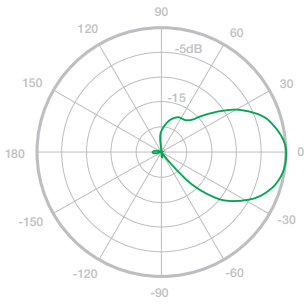
NanoStation Loco M5 - Operating Frequency 5470-5825 MHz*							
OUTPUT POWER: 23 dBm							
5 GHz TX POWER SPECIFICATIONS					5 GHz RX POWER SPECIFICATIONS		
	DataRate	Avg. TX	Tolerance			DataRate	Avg. TX	Tolerance
11a	6-24 Mbps	23 dBm	+/- 2 dB		11a	6-24 Mbps	-83 dBm	+/- 2 dB
	36 Mbps	21 dBm	+/- 2 dB			36 Mbps	-80 dBm	+/- 2 dB
	48 Mbps	19 dBm	+/- 2 dB			48 Mbps	-77 dBm	+/- 2 dB
	54 Mbps	18 dBm	+/- 2 dB			54 Mbps	-75 dBm	+/- 2 dB
11n / AirMax	MCS0	23 dBm	+/- 2 dB		11n / AirMax	MCS0	-96 dBm	+/- 2 dB
	MCS1	23 dBm	+/- 2 dB			MCS1	-95 dBm	+/- 2 dB
	MCS2	23 dBm	+/- 2 dB			MCS2	-92 dBm	+/- 2 dB
	MCS3	23 dBm	+/- 2 dB			MCS3	-90 dBm	+/- 2 dB
	MCS4	22 dBm	+/- 2 dB			MCS4	-86 dBm	+/- 2 dB
	MCS5	20 dBm	+/- 2 dB			MCS5	-83 dBm	+/- 2 dB
	MCS6	18 dBm	+/- 2 dB			MCS6	-77 dBm	+/- 2 dB
	MCS7	17 dBm	+/- 2 dB			MCS7	-74 dBm	+/- 2 dB
	MCS8	23 dBm	+/- 2 dB			MCS8	-95 dBm	+/- 2 dB
	MCS9	23 dBm	+/- 2 dB			MCS9	-93 dBm	+/- 2 dB
	MCS10	23 dBm	+/- 2 dB			MCS10	-90 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	18 dBm	+/- 2 dB			MCS14	-78 dBm	+/- 2 dB
	MCS15	17 dBm	+/- 2 dB			MCS15	-75 dBm	+/- 2 dB

NanoStation Loco M5 - Antenna Information	
Gain	13 dBi
Cross-pol Isolation	20 dB minimum
Max VSWR	1.4:1
Beamwidth	45 deg. (H-pol) / 45 deg (V-pol) / 45 deg (Elevation)

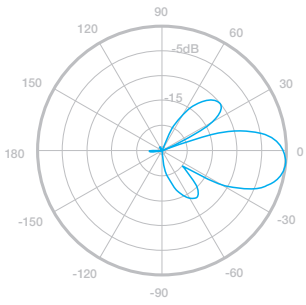
Return Loss



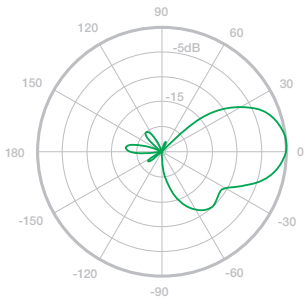
Vertical Azimuth



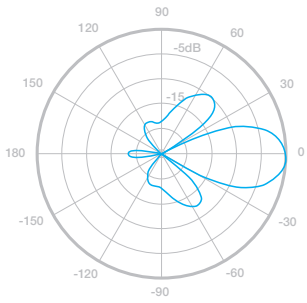
Vertical Elevation



Horizontal Azimuth



Horizontal Elevation



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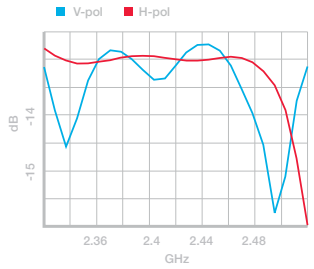
* Only 5745 - 5825 MHz is supported in the USA

Specifications (cont.) - NSM5

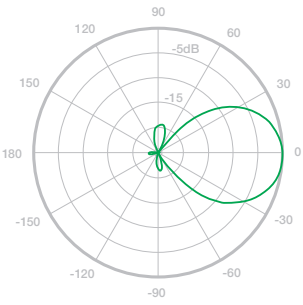
NanoStation M5 - Operating Frequency 5470-5825 MHz							
OUTPUT POWER: 27 dBm							
5 GHz TX POWER SPECIFICATIONS					5 GHz RX POWER SPECIFICATIONS		
	DataRate	Avg. TX	Tolerance			DataRate	Avg. TX	Tolerance
11a	6-24 Mbps	27 dBm	+/- 2 dB		11a	6-24 Mbps	-94 dBm min	+/- 2 dB
	36 Mbps	25 dBm	+/- 2 dB			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

NanoStation M5 - Antenna Information	
Gain	14.6 - 16.1 dBi
Cross-pol Isolation	22 dB minimum
Max VSWR	1.6:1
Beamwidth	43 deg. (H-pol) / 41 deg (V-pol) / 15 deg (Elevation)

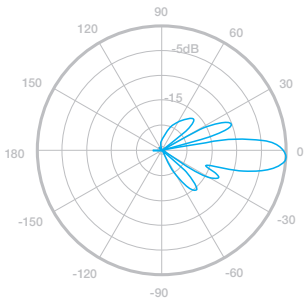
Return Loss



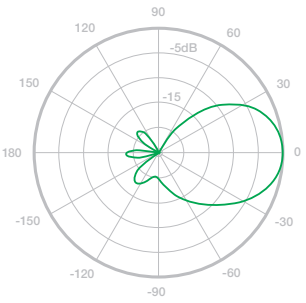
Vertical Azimuth



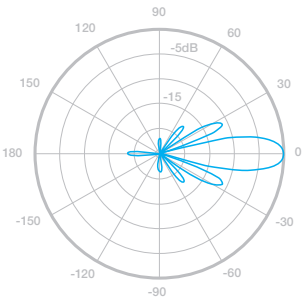
Vertical Elevation



Horizontal Azimuth



Horizontal Elevation



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* Only 5745 - 5825 MHz is supported in the USA

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TOUGHCable

OUTDOOR CARRIER CLASS SHIELDED

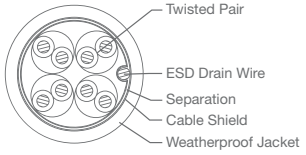
Protect your networks from the most brutal environments with Ubiquiti's industrial-grade shielded ethernet cable, TOUGHCable.

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

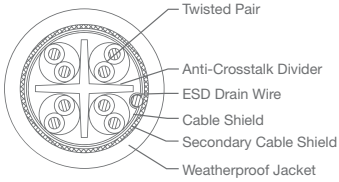
Extreme Weatherproof TOUGHCables have been built to perform even in the harshest weather and environments.

Eliminate ESD Attacks Protect your networks from devastating ESD Attacks, TOUGHCables eliminate ESD attacks and ethernet hardware damage.

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



LEVEL 1
SHIELDING PROTECTION



LEVEL 2
SHIELDING PROTECTION

Bulletproof your networks

TOUGHCable is currently available in two versions: Level 1 Shielding Protection and Level 2 Shielding Protection.

Level 1 is a Category 5e (Up to 1Gbps Ethernet Support) Outdoor Carrier Class Shielded Cable.

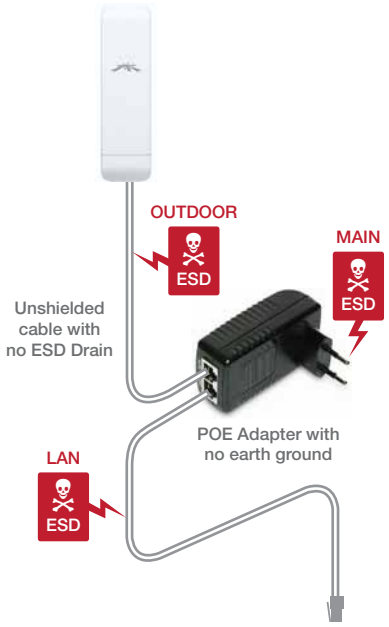
Level 2 is a Category 5e Enhanced Gigabit Performance (1Gbps Ethernet Support) Outdoor Carrier Class Shielded Cable.

Additional Information:

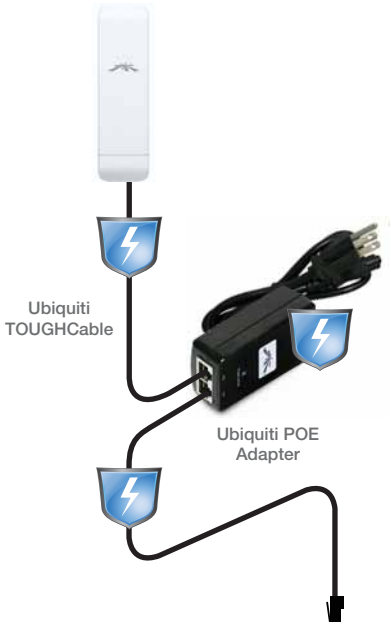
- 24 AWG copper conductor pairs
- ESD Drain Wire: 26 AWG integrated ESD Drain wire to prevent ESD attacks & damage.
- PVC outdoor rated jacket
- 0.35um foil shield
- Multi-Layered Shielding
- 1000ft (304.8m) length
- Use with TOUGHCable Connectors (sold separately) for optimal performance

Learn more:
www.ubnt.com/toughcable

ESD Attacks are overwhelmingly the leading cause for device failures. The diagram below illustrates the areas vulnerable to ESD Attacks in a defenseless network.



By using a grounded Ubiquiti POE adapter (included) along with Ubiquiti TOUGHCable (sold separately), you can effectively eliminate ESD Attacks.



NanoStation M | NanoStation loco M | Datasheet

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲