

airGrid M

Next-Gen Broadband Wireless CPE Technology

Utilizing InnerFeed technology, the new AirGrid M Series represents the latest evolution of outdoor broadband wireless devices.

Hi-Performance, Long Range

Completely Integrated CPE in the
Feed of the Antenna

Easy Assembly and Installation



Overview

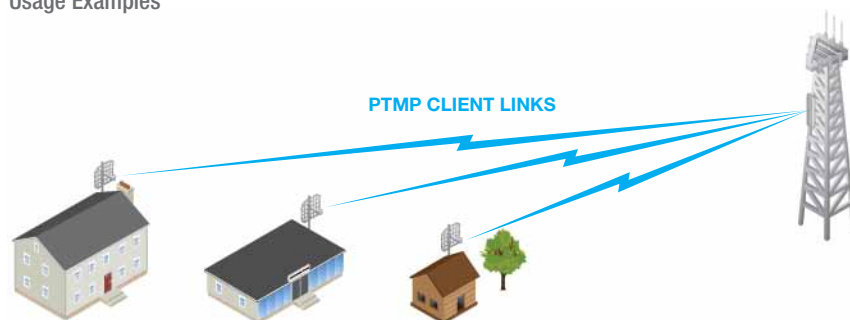
InnerFeed Antenna Technology

Ubiquiti's revolutionary InnerFeed technology integrates the entire radio system into the feedhorn of an antenna. AirGrid M HP combines Ubiquiti's InnerFeed and AirMax (TDMA Protocol) technologies to create a simple, yet extremely powerful and robust wireless unit capable of 100+Mbps real outdoor throughput and up to 30km+ range.

Complete antenna and radio system integration provides revolutionary cost/performance solutions to the Worldwide Broadband Industry.

The low cost, hi-performance, robust "all-in-one" design, and light weight of AirGrid M HP make it extremely versatile and ideal in several different applications (see diagrams on right for some usage examples).

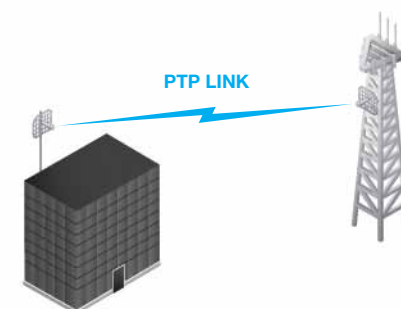
Usage Examples



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



AirGrid M as a powerful wireless client.



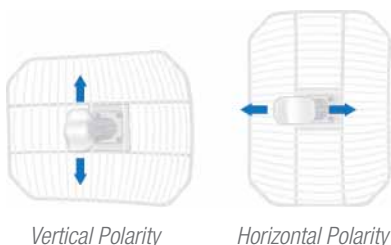
Using two AirGrid M to create a powerful, long range, PTP (point to point) link.

Robust and Simple Design

AirGrid M HP was designed to be extremely robust to use. It can be easily oriented to use either vertical or horizontal polarization.

To adjust polarization, just rotate the antenna in the desired polarization position and rotate the opening on the rear portion of the feed to face the ground (for optimal weatherproofing).

AirGrid M HP is available for 2.4GHz and 5GHz in both 11x14" and 17x24" grid dimensions. A "snap-on" feed extension is included when using 17x24".



Mechanical design provides complete weatherproof performance. Activity and signal strength LED's provided for installers.

Enhanced RF and Ethernet ESD/Surge protection enables prolonged operation in harshest environments.



Software

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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

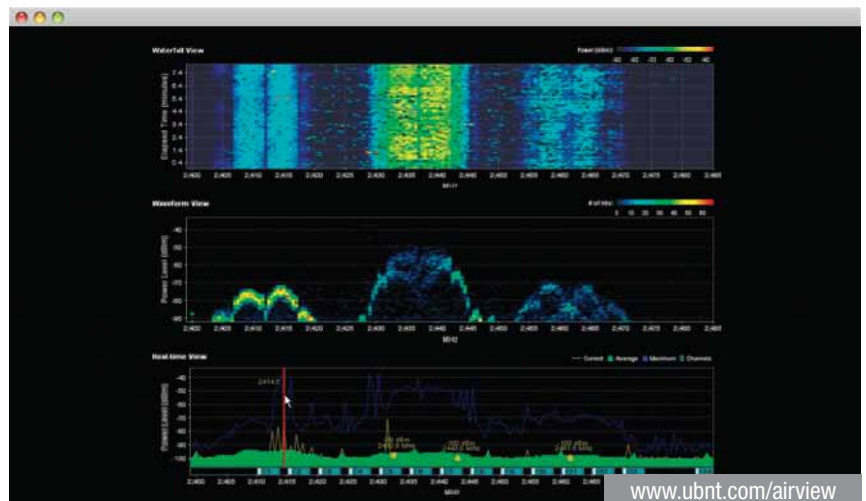
Integrated on all Ubiquiti M products, AirView provides Advanced Spectrum Analyzer Functionality: Waterfall, waveform, and real-time spectral views allow operators to identify noise signatures and plan their networks to minimize noise interference.

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 Ubiquiti devices.

Network Map

Monitor Device Status

Mass Firmware Upgrade

Web UI Access

Manage Groups of Devices

Task Scheduling



www.ubnt.com/aircontrol

Specifications

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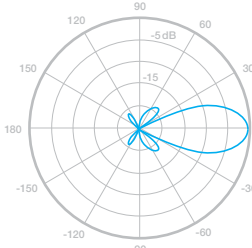
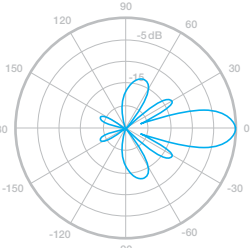
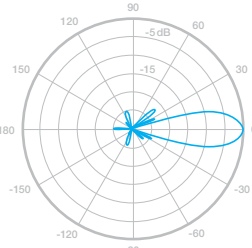
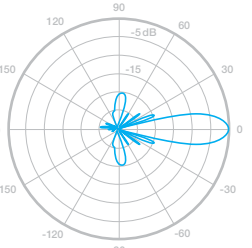
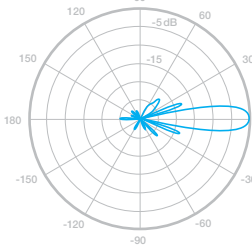
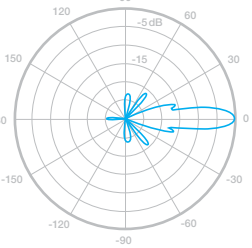
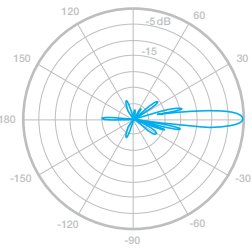
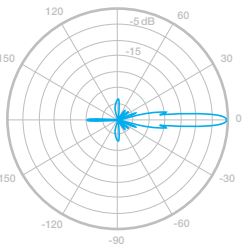
System Information

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

Regulatory / Compliance Information

Wireless Approvals	FCC Part 15.247, IC RS210, CE
RoHS Compliance	YES

Physical / Electrical / Environmental				
Enclosure Characteristics	Outdoor UV Stabilized Plastic			
Mounting Kit	Pole Mounting Kit included			
Power Supply	24V/0.5A POE Adapter (included)			
Max Power Consumption	3.0 Watts			
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			
	FEED	MOUNT	11x14" REFLECTOR	17x24" REFLECTOR
Weight	0.2kg	0.65kg	0.8kg	1.9kg

Antenna Information			
AIRGRID M2 HP - 11x14" - 16dBi		AIRGRID M2 HP - 17x24" - 20dBi	
			
ELEVATION	AZIMUTH	ELEVATION	AZIMUTH
AIRGRID M5 HP - 11x14" - 23dBi		AIRGRID M5 HP - 17x24" - 27dBi	
			
ELEVATION	AZIMUTH	ELEVATION	AZIMUTH

Specifications (cont.)

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AirGrid M2 HP - Operating Frequency 2412-2462 MHz								
OUTPUT POWER: 28 dBm								
2.4 GHz TX POWER SPECIFICATIONS					2.4 GHz RX POWER SPECIFICATIONS			
11g	DataRate	Avg. TX	Tolerance		11g	DataRate	Avg. TX	Tolerance
	1-24 Mbps	28 dBm	+/- 2 dB			1-24 Mbps	-97 dBm min	+/- 2 dB
	36 Mbps	26 dBm	+/- 2 dB			36 Mbps	-80 dBm	+/- 2 dB
	48 Mbps	25 dBm	+/- 2 dB			48 Mbps	-77 dBm	+/- 2 dB
	54 Mbps	24 dBm	+/- 2 dB			54 Mbps	-75 dBm	+/- 2 dB
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	27 dBm	+/- 2 dB			MCS4	-86 dBm	+/- 2 dB
	MCS5	25 dBm	+/- 2 dB			MCS5	-83 dBm	+/- 2 dB
	MCS6	23 dBm	+/- 2 dB			MCS6	-77 dBm	+/- 2 dB
	MCS7	22 dBm	+/- 2 dB	MCS7		-74 dBm	+/- 2 dB	

AirGrid M5 HP - Operating Frequency 5470-5825 MHz*								
OUTPUT POWER: 25 dBm								
5 GHz TX POWER SPECIFICATIONS					5 GHz RX POWER SPECIFICATIONS			
11a	DataRate	Avg. TX	Tolerance		11a	DataRate	Avg. TX	Tolerance
	1-24 Mbps	25 dBm	+/- 2 dB			1-24 Mbps	-97 dBm	+/- 2 dB
	36 Mbps	24 dBm	+/- 2 dB			36 Mbps	-90 dBm	+/- 2 dB
	48 Mbps	22 dBm	+/- 2 dB			48 Mbps	-86 dBm	+/- 2 dB
	54 Mbps	21 dBm	+/- 2 dB			54 Mbps	-84 dBm	+/- 2 dB
11n / AirMax	MCS0	25 dBm	+/- 2 dB		11n / AirMax	MCS0	-97 dBm	+/- 2 dB
	MCS1	25 dBm	+/- 2 dB			MCS1	-96 dBm	+/- 2 dB
	MCS2	25 dBm	+/- 2 dB			MCS2	-93 dBm	+/- 2 dB
	MCS3	24 dBm	+/- 2 dB			MCS3	-91 dBm	+/- 2 dB
	MCS4	23 dBm	+/- 2 dB			MCS4	-87 dBm	+/- 2 dB
	MCS5	22 dBm	+/- 2 dB			MCS5	-84 dBm	+/- 2 dB
	MCS6	21 dBm	+/- 2 dB			MCS6	-78 dBm	+/- 2 dB
	MCS7	19 dBm	+/- 2 dB	MCS7		-75 dBm	+/- 2 dB	

*Only 5745 - 5825 MHz is supported in the USA
Specifications are subject to change without notice.

Misc

TOUGH Cable

OUTDOOR CARRIER CLASS SHIELDED

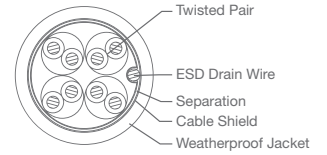
Protect your networks from the most brutal environments with Ubiquiti's industrial-grade shielded ethernet cable, TOUGH Cable.

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

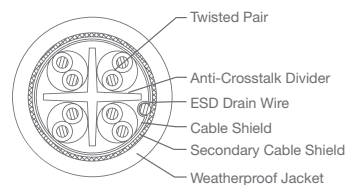
Extreme Weatherproof TOUGH Cables have been built to perform even in the harshest weather and environments.

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

Extended Cable Support TOUGH Cables 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

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

Level 1 is a Category 5e (100Mbps Ethernet Support) Outdoor Carrier Class Shielded Cable.

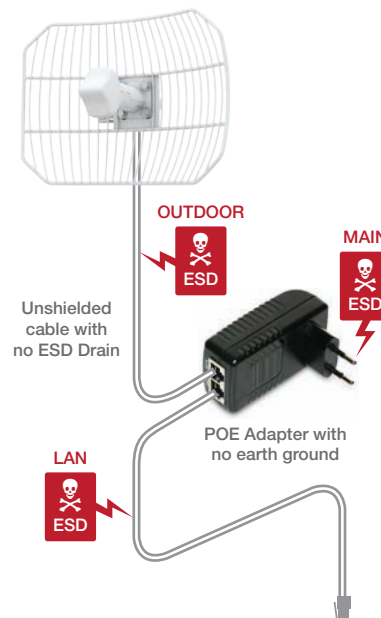
Level 2 is a Category 6 (1Gbps Ethernet Support) Outdoor Carrier Class Shielded Cable that is also capable of providing enhanced Category 5e performance.

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

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 TOUGH Cable (sold separately), you can effectively eliminate ESD Attacks.

