



# **rocket™ M** TITANIUM

Powerful 2x2 MIMO airMAX™ BaseStation

Models: RM2-Ti, RM5-Ti

Rugged Weatherproof Die-Cast Aluminum Enclosure

High Throughput Gigabit Ethernet Port

Incredible 50+ km Range and 150+ Mbps Speed



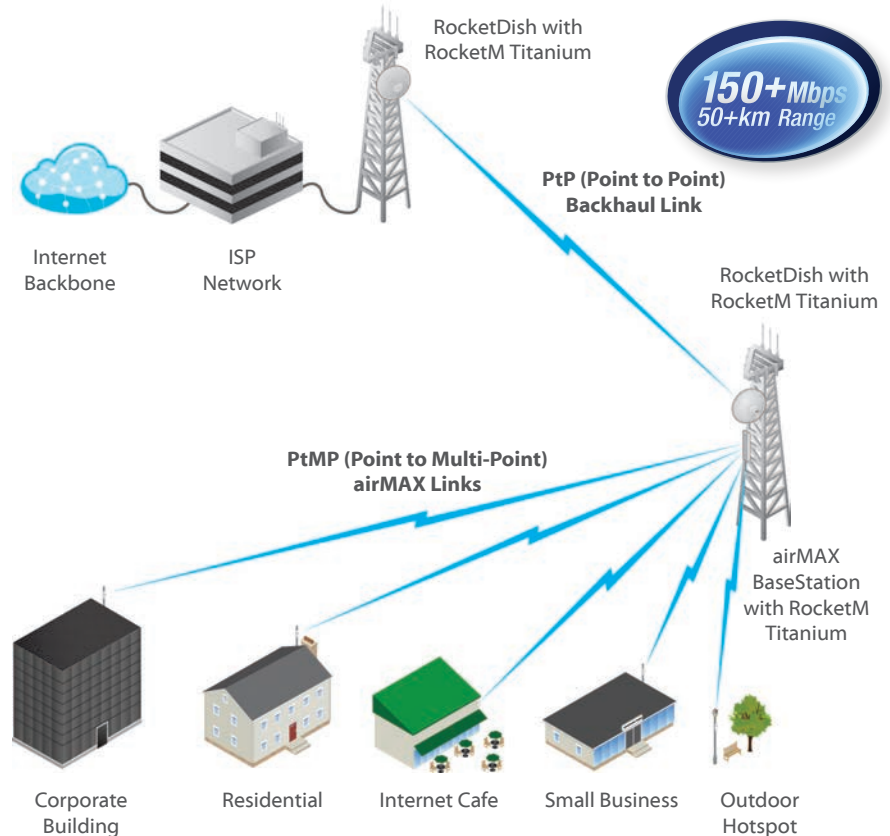
# Overview

## Powerful airMAX™ BaseStation Platform

Building upon our market-leading Rocket™ series, the Rocket™ M Titanium features enhanced radio performance and superior durability. Thoughtfully engineered with Gigabit Ethernet, RocketM Titanium models achieve massive throughput increase along with unleashed speed. Its Carrier-Class capabilities link distances up to 50+ km and provide breakthrough speed of up to 150+ Mbps real TCPI/IP throughput.

The RocketM Titanium enclosure was specifically designed to improve performance in harsh RF environments and in extreme weather conditions. Enclosed in aircraft-grade aluminum, the RocketM Titanium is a rugged, high-power, linear 2x2 MIMO radio.

Rocket devices may be deployed in PtP bridging or PtMP airMAX BaseStation applications. They can be paired with your choice of airMAX BaseStation™ Sector or RocketDish™ antennas. This versatility gives network architects unparalleled flexibility and convenience.



## airMAX Technology

Unlike standard WiFi 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 significantly improves performance in throughput, reduces latency, and increases scalability compared to all other outdoor systems in its class.

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

**Scalability** High capacity and scalability.

**Long Distance** Capable of high-speed links up to 50+ km.

**Latency** Multiple features dramatically reduce noise.

## GPS Synchronization\*

RocketM5 Titanium units have integrated Ubiquiti airSync™ technology. airSync enhances the hardware and software of the Rocket to utilize GPS signals for precision timing.

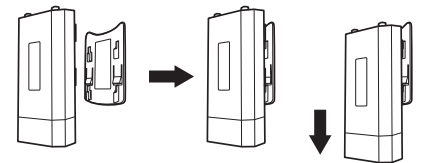
**GPS Signal Reporting** airOS™ was upgraded to take full advantage of the new GPS hardware in Rocket GPS units. Easily manage and monitor GPS satellite signals.

**No Co-Location Interference** Synchronized transmission among Rocket GPS powered BaseStations effectively eliminates co-location interference.

**External GPS Antenna** The RocketM5 Titanium includes a weatherproof external GPS antenna.

## Easy Installation

The RocketM Titanium and airMAX BaseStation/RocketDish antennas have been designed to seamlessly work together.

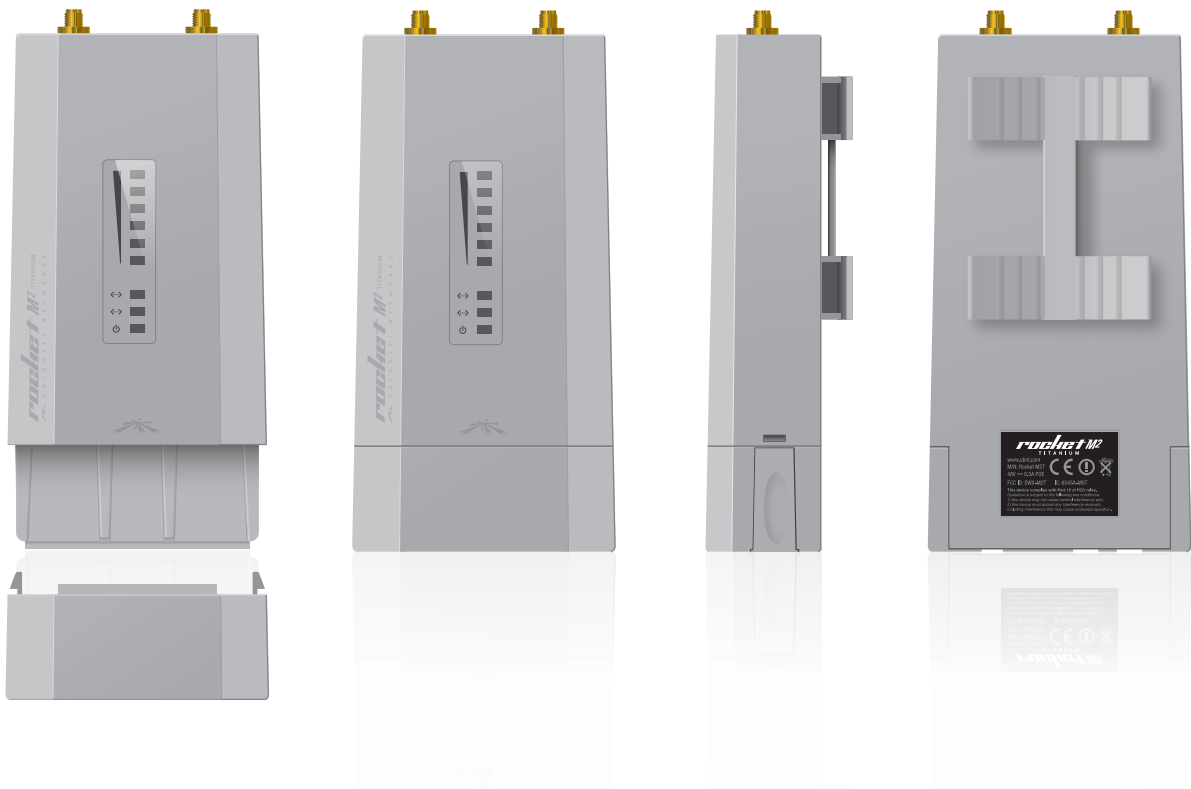


Installing the RocketM Titanium on an airMAX BaseStation or RocketDish antenna requires no special tools. You simply snap it securely into place with the universal Rocket mount built into the antennas.

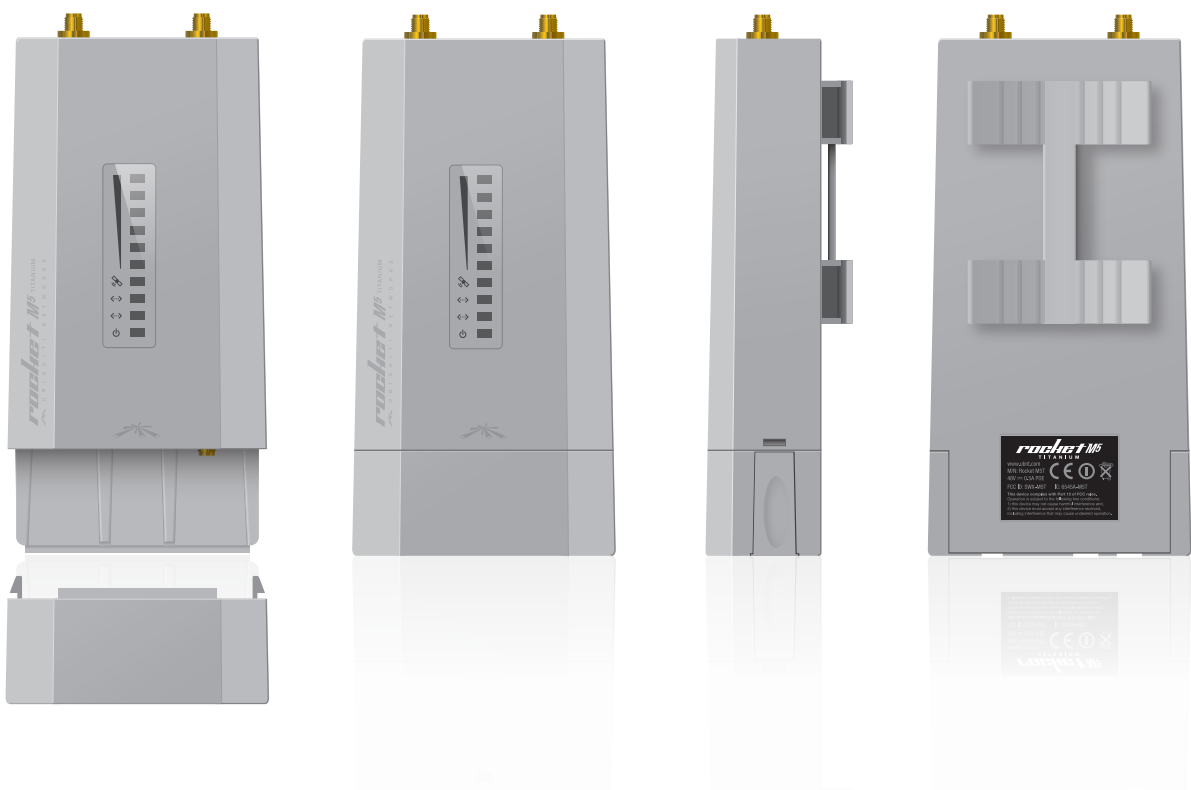
\* GPS features only available on RocketM5 Titanium

# Models

## RocketM2 Titanium



## RocketM5 Titanium



# Software

## airOS™

airOS is a 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 that enables high-performance, outdoor multipoint networking.

- Protocol Support
- Channel Shifting
- Spectral Width Adjustment
- ACK Auto-Timing
- AAP Technology
- Multiple VLAN Support
- DHCP Relay
- 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.

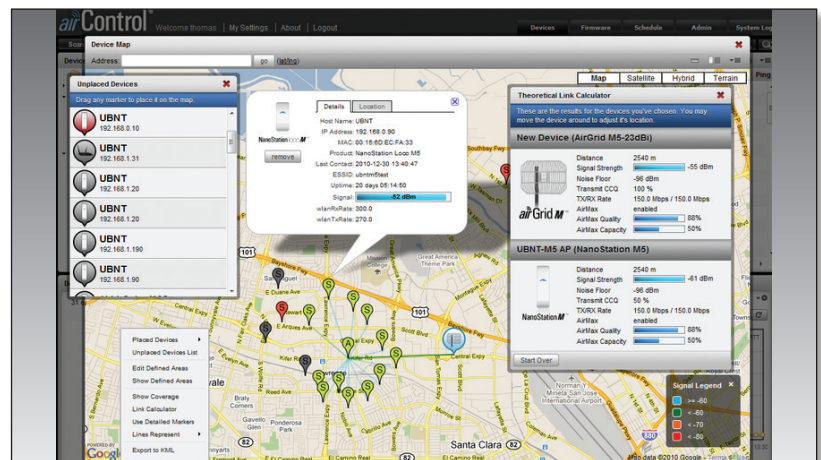
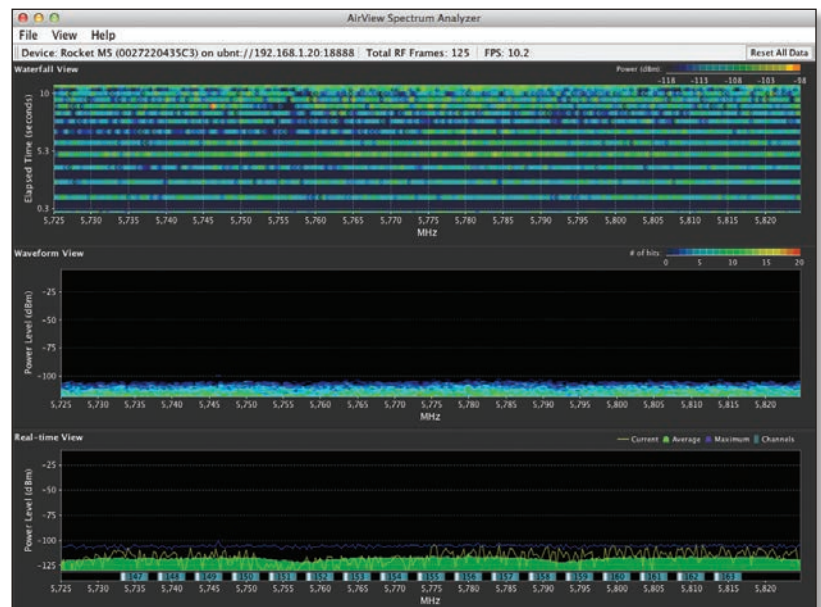
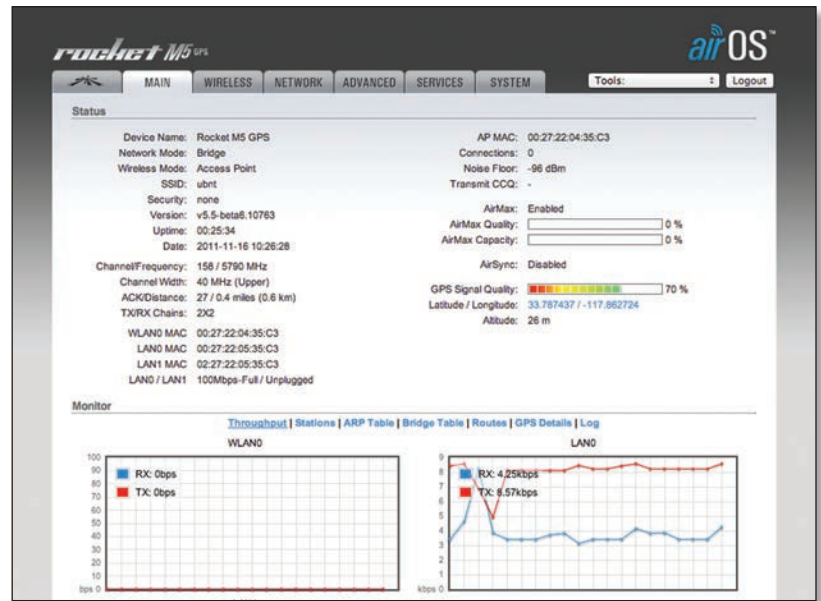
**Real-time** Energy is shown in real-time as a function of frequency.

**Recording** Automate airView to record and report results.

## airControl™

airControl is a powerful and intuitive Web-based server network management application that 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

System Information	
Processor Specs	Atheros MIPS 24KC, 400 MHz
Memory Information	64 MB SDRAM, 8 MB Flash
Networking Interface	(1) 10/100/1000 Ethernet Port (1) 10/100 Ethernet Port
RF Connections	
RM2-Ti	2 RP-SMA (Waterproof)
RM5-Ti	2 RP-SMA (Waterproof), 1 SMA (GPS)

Regulatory / Compliance Information	
Wireless Approvals	FCC Part 15.247, IC RS210, CE
RoHS Compliance	Yes

Physical / Electrical / Environmental	
Dimensions	160 x 80 x 44 mm
Weight	350 g
Enclosure Characteristics	Die Cast Aluminum
Max. Power Consumption	
RM2-Ti	6.5 Watts
RM5-Ti	8.0 Watts
Power Supply	48V, 0.5A PoE Adapter (Included)
Power Method	Passive Power over Ethernet (pairs 4, 5+; 7, 8 return)
ESD/EMP Protection	30KV Contact / Air for Ethernet
Operating Temperature	-30 to 75° C
Operating Humidity	5 to 95% Condensing
Shock and Vibration	ETSI300-019-1.4

Software Information	
Modes	Station, Station WDS, Access Point, Access Point WDS, AP Repeater
Services	SNMP, DHCP, NAT
Utilities	Site Survey with Preferred SSID, Antenna Alignment Tool, Discovery Utility
Security	WEP/WPA/WPA2
QoS	802.11e / WMM Support
Statistical Reporting	Ethernet Activity, Uptime, Packet Success/Errors

LED Indicators	
System LEDs	Power, WAN, LAN, GPS (RM5-Ti only)
Antenna Align / Signal Strength LEDs	Software Adjustable to Correspond to Custom RSSI Levels



# Specifications

RocketM5 Titanium							
Operating Frequency				5170 - 5825 MHz*			
TX Power Specifications				RX Power Specifications			
	Data Rate	Avg. TX	Tolerance		Data Rate	Sensitivity	Tolerance
<b>11a</b>	6 - 24 Mbps	27 dBm	+/- 2 dB	<b>11a</b>	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
<b>11n / airMAX</b>	MCS0	27 dBm	+/- 2 dB	<b>11n / airMAX</b>	MCS0	-91 dBm	+/- 2 dB
	MCS1	27 dBm	+/- 2 dB		MCS1	-89 dBm	+/- 2 dB
	MCS2	27 dBm	+/- 2 dB		MCS2	-87 dBm	+/- 2 dB
	MCS3	27 dBm	+/- 2 dB		MCS3	-83 dBm	+/- 2 dB
	MCS4	26 dBm	+/- 2 dB		MCS4	-79 dBm	+/- 2 dB
	MCS5	24 dBm	+/- 2 dB		MCS5	-73 dBm	+/- 2 dB
	MCS6	22 dBm	+/- 2 dB		MCS6	-70 dBm	+/- 2 dB
	MCS7	21 dBm	+/- 2 dB		MCS7	-68 dBm	+/- 2 dB
	MCS8	27 dBm	+/- 2 dB		MCS8	-88 dBm	+/- 2 dB
	MCS9	27 dBm	+/- 2 dB		MCS9	-84 dBm	+/- 2 dB
	MCS10	27 dBm	+/- 2 dB		MCS10	-81 dBm	+/- 2 dB
	MCS11	27 dBm	+/- 2 dB		MCS11	-83 dBm	+/- 2 dB
	MCS12	26 dBm	+/- 2 dB		MCS12	-79 dBm	+/- 2 dB
	MCS13	24 dBm	+/- 2 dB		MCS13	-70 dBm	+/- 2 dB
	MCS14	22 dBm	+/- 2 dB		MCS14	-67 dBm	+/- 2 dB
	MCS15	21 dBm	+/- 2 dB		MCS15	-65 dBm	+/- 2 dB
Adjustable Channel Size Support				5 MHz, 10 MHz, 20 MHz, 40 MHz (Turbo)			
Range Performance				50+ km (Outdoor - Antenna Dependent)			

\* Only 5725 - 5850 MHz supported in the USA

# 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.

### ESD Damage Protection

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

### Extended Cable Support

TOUGH Cables have been developed to increase power handling performance for extended cable run lengths.

### 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 outdoor carrier-class shielded cable with an integrated electrostatic drain wire.

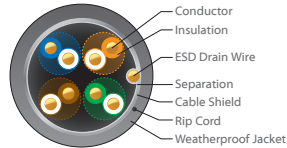
**Level 2** is a Category 5e outdoor carrier-class shielded cable that features an Anti-Crosstalk Divider and additional shielding. It is rated to provide optimal performance on Gigabit Ethernet networks.

### Additional Information:

- 24 AWG copper conductor pairs
- 26 AWG integrated ESD drain wire to prevent ESD attacks & damage
- PE outdoor-rated weatherproof jacket
- Multi-layered shielding
- Available in 1000 ft (304.8 m) length

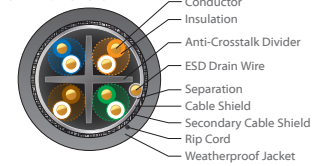
### LEVEL 1

SHIELDING PROTECTION



### LEVEL 2

SHIELDING PROTECTION

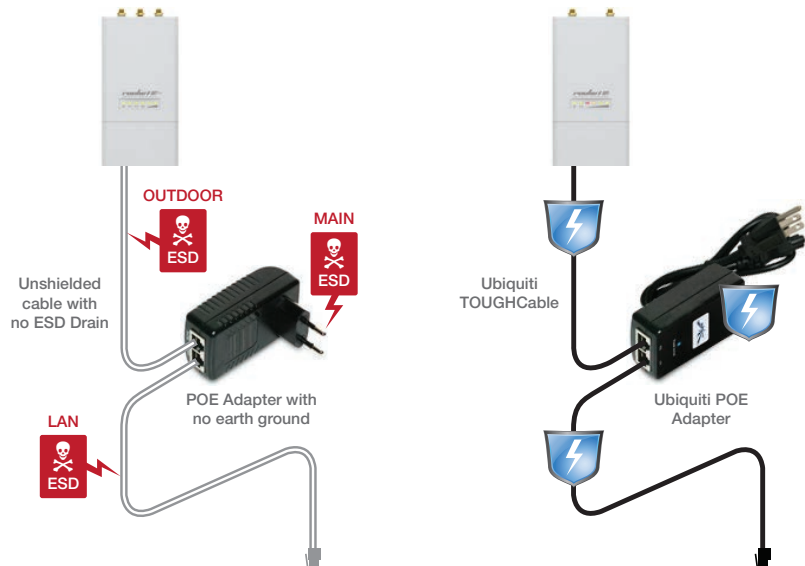


### TOUGH Cable Connectors

Specifically designed for use with Ubiquiti TOUGH Cables and available in 100 pc. bags, TOUGH Cable Connectors protect against ESD attacks and Ethernet hardware damage while allowing rapid field deployment without soldering.

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 Power over Ethernet (PoE) adapter along with Ubiquiti TOUGH Cable and TOUGH Cable Connectors, you can effectively protect against ESD attacks.





TERMS OF USE: The Ubiquiti radio device must be professionally installed. Shielded Ethernet cable and earth grounding must be used as conditions of product warranty. It is the installer's responsibility to follow local country regulations including operation within legal frequency channels, output power, and Dynamic Frequency Selection (DFS) requirements.

For further information, please visit [www.ubnt.com](http://www.ubnt.com).

All specifications in this document are subject to change without notice.

© 2012 Ubiquiti Networks, Inc. All rights reserved.

PH012012

 [www.ubnt.com](http://www.ubnt.com)