Datasheet

rocket™ M TITANIUM


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## 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

UBIQUITI NETWORKS

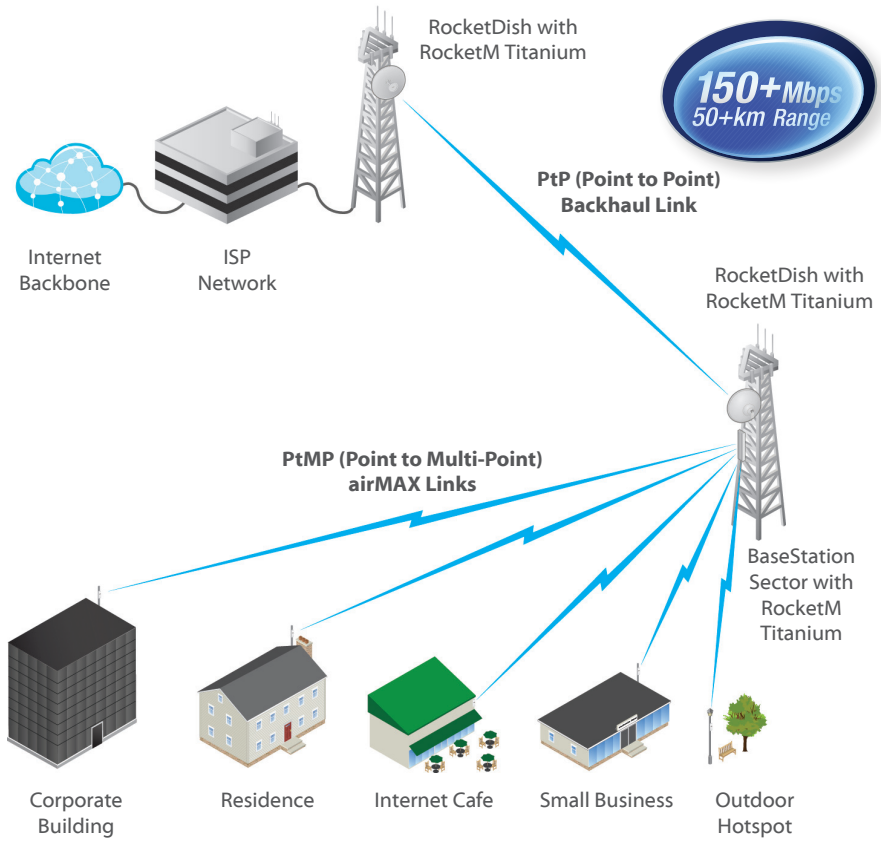
# rocket™ M TITANIUM

## Powerful airMAX™ BaseStation Platform

Building upon our market-leading Rocket™ series, the RocketM Titanium features enhanced radio perfomance and superior durability. Its carrier-class capabilities link distances up to 50+ km and provide breakthrough speeds of up to 150+ Mbps. The RocketM Titanium takes advantage of its Gigabit Ethernet connection to deliver high throughput for reliable data transfers.

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

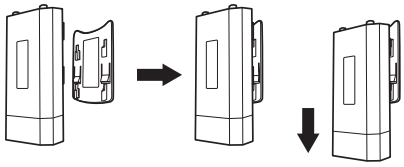
**GPS Signal Reporting**
airOS™ was upgraded to take full advantage of the new GPS hardware in the RocketM5 Titanium. Easily manage and monitor GPS satellite signals.

**No Co-Location Interference**
Synchronized transmission among RocketM5 Titanium 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 antennas have been designed to seamlessly work together.

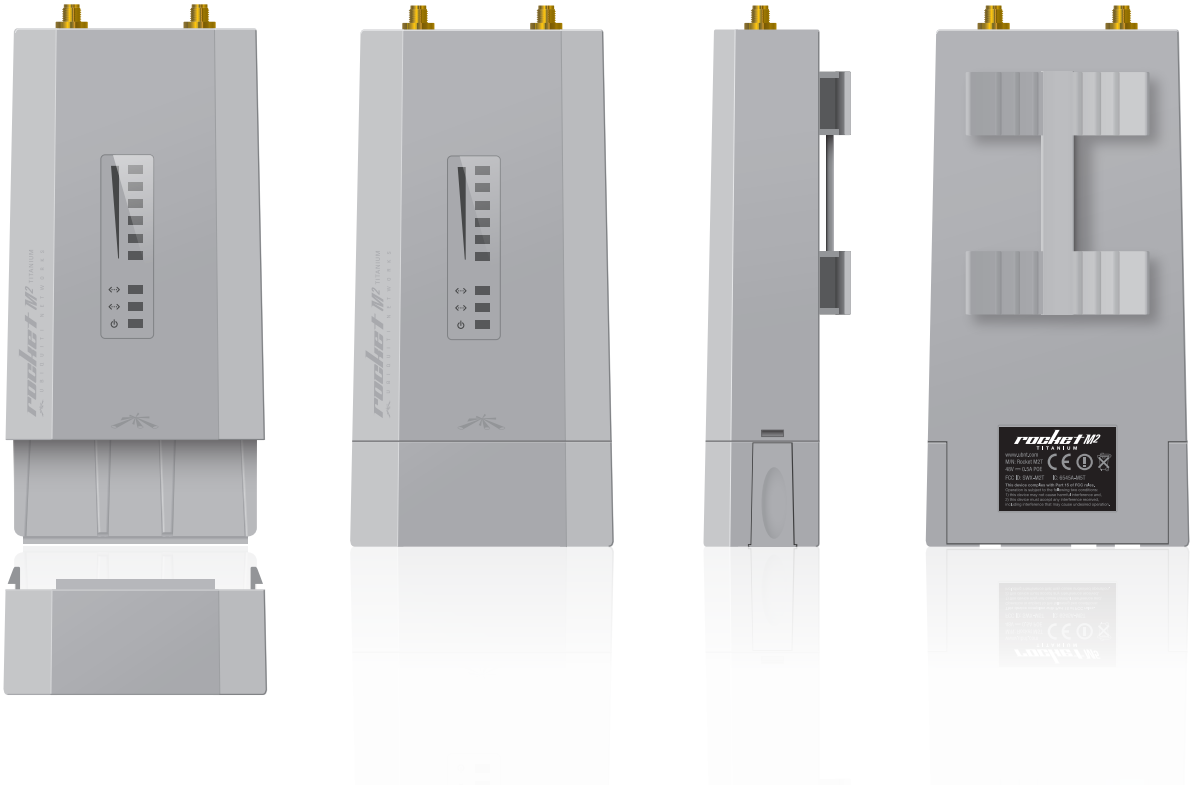


Installing the RocketM Titanium on an airMAX BaseStation Sector or RocketDish antenna requires no special tools. You simply snap it securely into place with the universal Rocket mount built into the antenna.

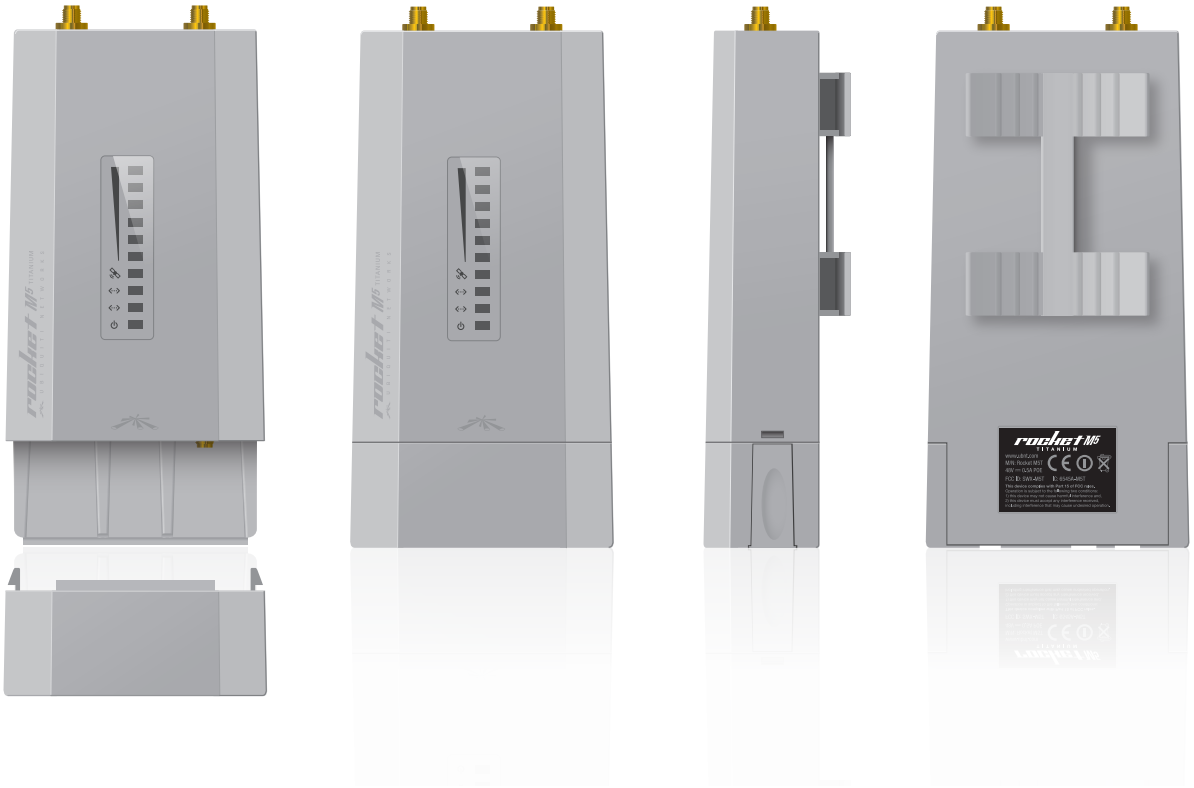
* GPS features only available on RocketM5 Titanium

# Models

## RocketM2 Titanium



## RocketM5 Titanium

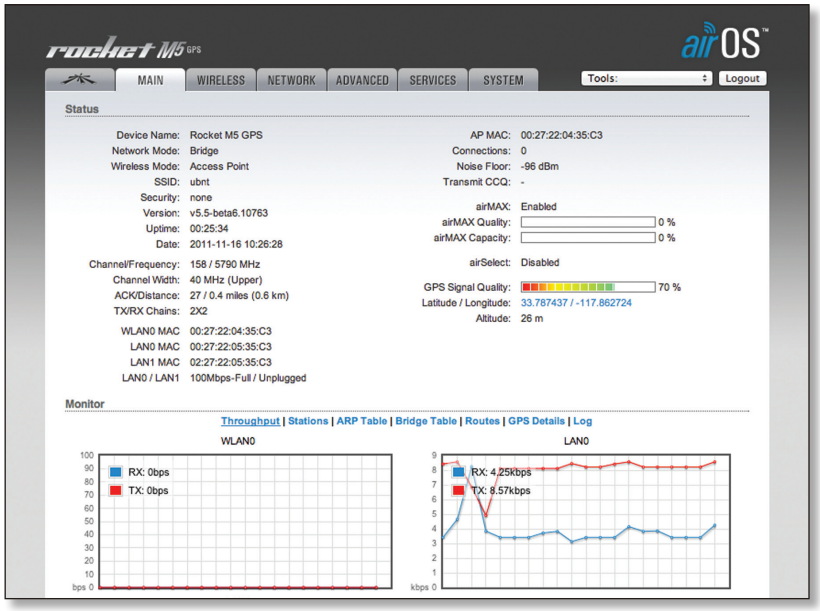


# Software

## 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™

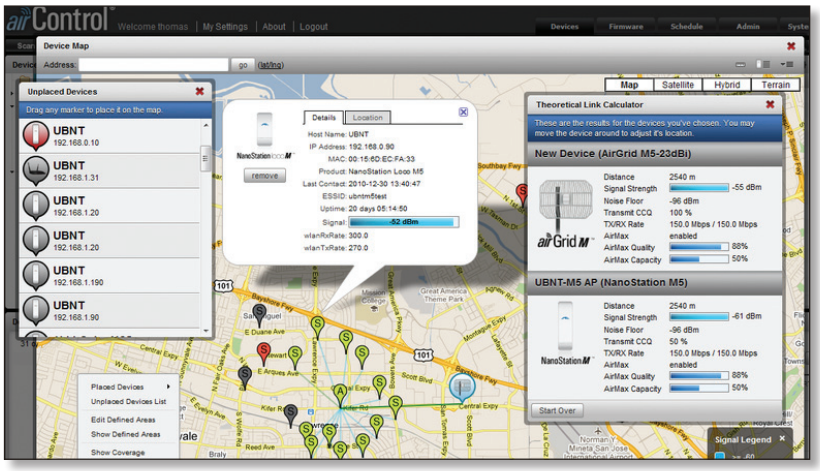
Integrated on all Ubiquiti M products, airView provides advanced spectrum analyzer functionality: waterfall, waveform, and real-time spectral views allow operators to identify noise signatures and plan their networks to minimize noise interference.

- **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 | | |
|---|---|---|
| Model | **RM2-Ti** | **RM5-Ti** |
| Processor Specs | Atheros MIPS 74KC, 550 MHz | Atheros MIPS 74KC, 550 MHz |
| Memory Information | 128 MB SDRAM, 8 MB Flash | 128 MB SDRAM, 8 MB Flash |
| RF Connections | 2 RP-SMA (Waterproof) | 2 RP-SMA (Waterproof)<br>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 | |
| Networking Interface | (1) 10/100/1000 Ethernet Port<br>(1) 10/100 Ethernet Port | |
| Max. Power Consumption | 6.5 Watts (RM2-Ti), 8.0 Watts (RM5-Ti) | |
| Power Supply | 48V, 0.5A PoE Adapter (Included) | |
| Power Method | 802.3af Compliant | |
| 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, Access Point, 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 Signal Strength Levels | |

# Specifications

| RocketM2 Titanium | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating Frequency | | | 2412 - 2462 MHz | | | | |
| Range Performance | | | 50+ km (Outdoor - Antenna Dependent) | | | | |
| Output Power | | | 28 dBm | | | | |
| **TX Power Specifications** | | | | **RX Power Specifications** | | | |
| Modulation | Data Rate | Avg. TX | Tolerance | Modulation | Data Rate | Sensitivity | Tolerance |
| **11g** | 1 - 24 Mbps | 28 dBm | ± 2 dB | **11g** | 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 |
| | 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 | 27 dBm | ± 2 dB | | MCS12 | -84 dBm | ± 2 dB |
| | MCS13 | 25 dBm | ± 2 dB | | MCS13 | -79 dBm | ± 2 dB |
| | MCS14 | 23 dBm | ± 2 dB | | MCS14 | -78 dBm | ± 2 dB |
| | MCS15 | 22 dBm | ± 2 dB | | MCS15 | -75 dBm | ± 2 dB |

# Specifications

| RocketM5 Titanium | | | | | | | |
|---|---|---|---|---|---|---|---|
| Operating Frequency | | | 5170 - 5825 MHz* | | | | |
| Range Performance | | | 50+ km (Outdoor - Antenna Dependent) | | | | |
| Output Power | | | 27 dBm | | | | |
| **TX Power Specifications** | | | | **RX Power Specifications** | | | |
| Modulation | Data Rate | Avg. TX | Tolerance | Modulation | Data Rate | Sensitivity | 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 |

* Only 5725 - 5850 MHz supported in the USA

# 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.

**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 and available in 100-pc. bags, TOUGHCable Connectors protect against ESD attacks and Ethernet hardware damage while allowing rapid field deployment without soldering.

## Bulletproof your networks

TOUGHCable is currently available in two versions: PRO Shielding Protection and CARRIER Shielding Protection.

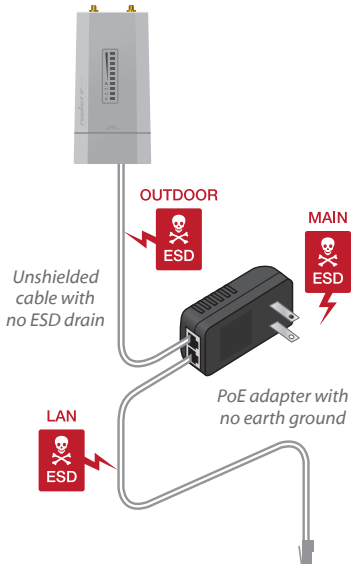
**TOUGHCable PRO** is a Category 5e, outdoor, carrier-class shielded cable with an integrated ESD drain wire.

**TOUGHCable CARRIER** is a Category 5e, outdoor, carrier-class shielded cable that features an integrated ESD drain wire, anti-crosstalk divider, and secondary shielding. It is rated to provide optimal performance on Gigabit Ethernet networks.

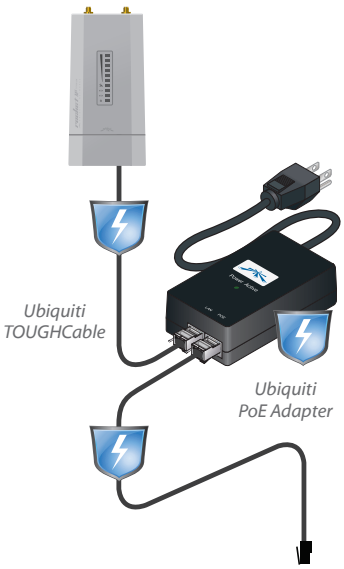
**Additional Information:**

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

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




By using a grounded Ubiquiti Power over Ethernet (PoE) Adapter along with Ubiquiti TOUGHCable and TOUGHCable 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.

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



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