DATASHEET

# RocketDish™ ac

## airMAX® Carrier Class 2x2 PtP Bridge Dish Antenna

Model: RD-5G31-AC

High Isolation and F/B Ratio

Ruggedized Mounting

Protective Radome Included

UBIQUITI® NETWORKS

# Overview

The RocketDish RD-5G31-AC is a Carrier Class 2x2 Bridge Dish Antenna that was designed to seamlessly integrate with RocketM radios (RocketM sold separately).

Pair the RocketM's radio with the RocketDish antenna's reach to create the endpoint of a high-performance, Point-to-Point (PtP) backhaul. On the right is one example of how the RocketDish can be deployed.

## Superior Performance

The Ubiquiti Research and Development team engineered the RocketDish RD-5G31-AC with high isolation and Front-to-Back (F/B) ratio.

The main benefit is improved Signal-to-Noise Ratio (S/N or SNR). The improved F/B ratio and lower sidelobes reduce the interference from other transmitters in the area – potentially on the same tower. The improved S/N ratio allows a higher-order modulation to be used, for example, 256QAM rather than 16QAM. This in turn increases the number of bits per second for a fixed bandwidth, which is also known as the data rate.

Because of its advanced engineering, the RocketDish RD-5G31-AC provides:

- Enhanced co-location
- Better performance
- Additional range

## 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 many magnitudes of 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.

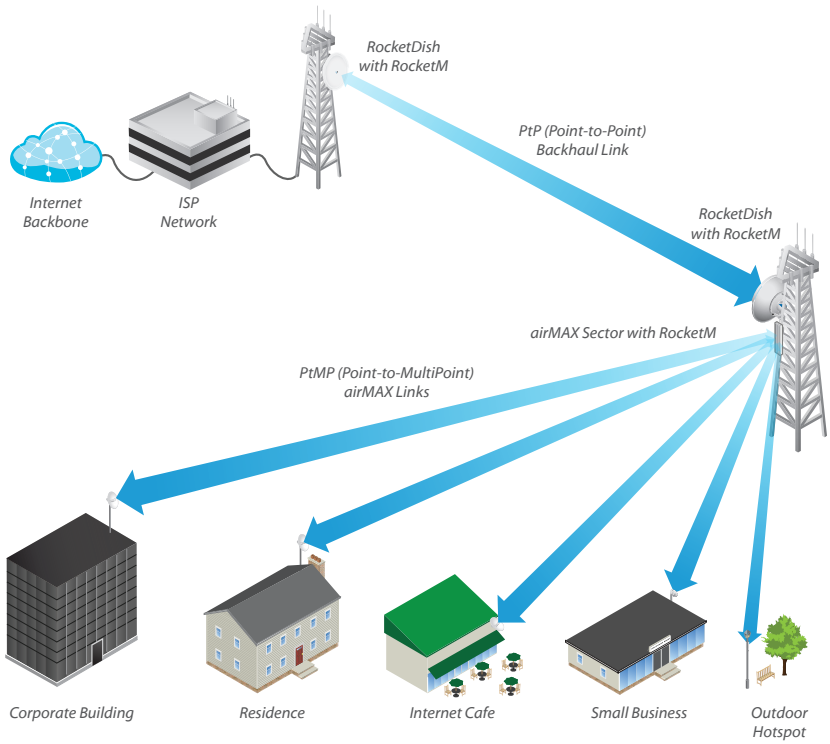
**Scalability** High capacity and scalability.

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

* *When RocketDish is paired with RocketM*

www.ubnt.com/airmax#airMaxAntennas

*PtMP (Point to Multi-Point) Link Example*




*The RocketDish antennas paired with RocketM devices create a powerful PtP backhaul link.*

*RocketDish antennas and RocketM radios have been designed to seamlessly work together. No special tools are required – simply snap the RocketM into place using the built-in, universal Rocket mount.*

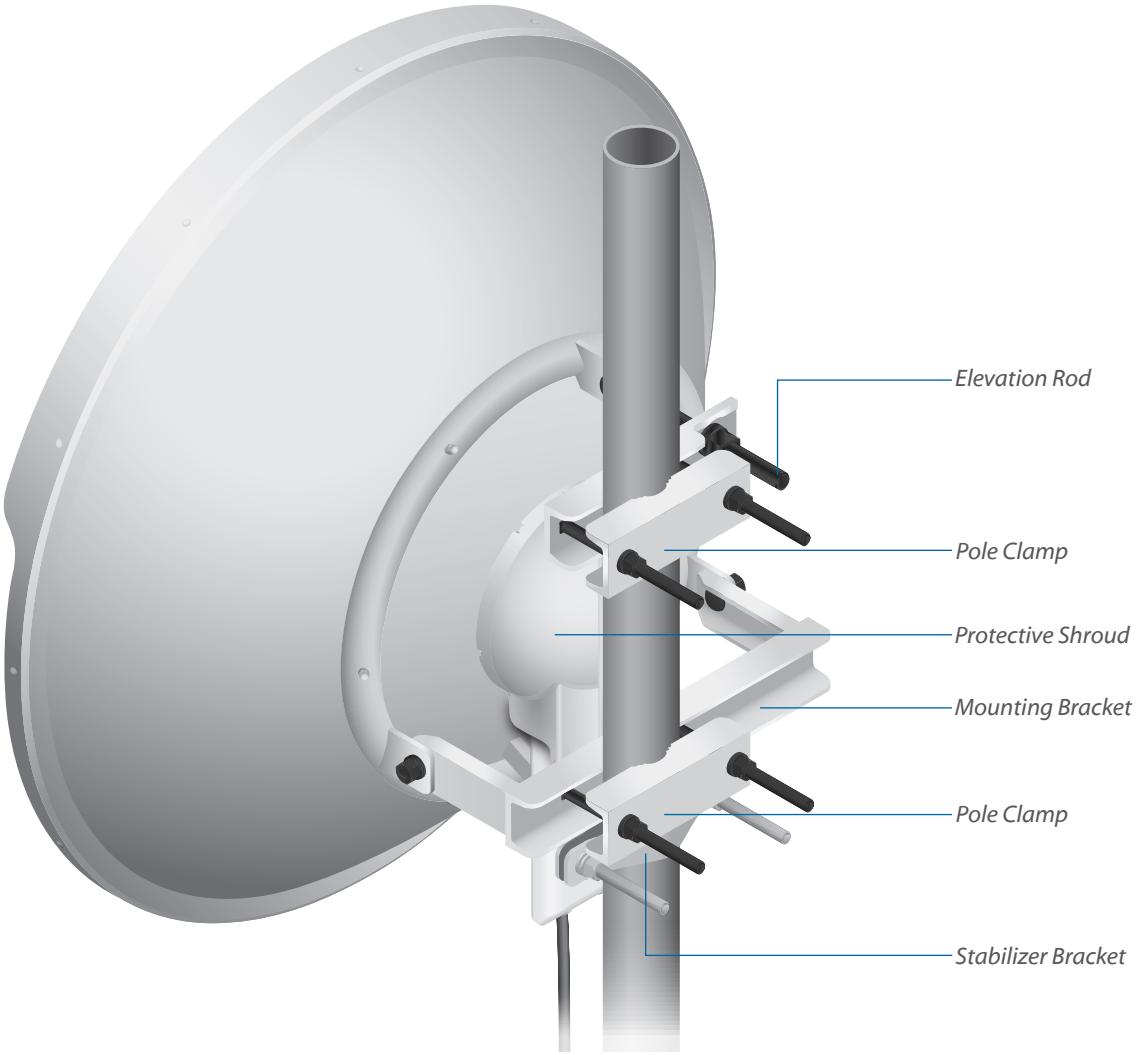
# Hardware Overview

## Innovative Mechanical Design

- **Ruggedized mounting** The mounting bracket is designed to securely mount and maintain the position of the dish during harsh outdoor conditions.
- **Reduced weight** The dish and mounting brackets are made of lightweight aluminum.
- **Convenient installation** The bubble level allows for easy alignment.

## Weatherproof Design

- **Radome and shroud** The included radome protects the inner components, while the metal shroud protects the cables and connectors from nature's harshest elements.
- **Dish, mounting brackets, and fasteners** For superior corrosion resistance, the dish and mounting brackets are powder-coated, and the fasteners are made of stainless steel.



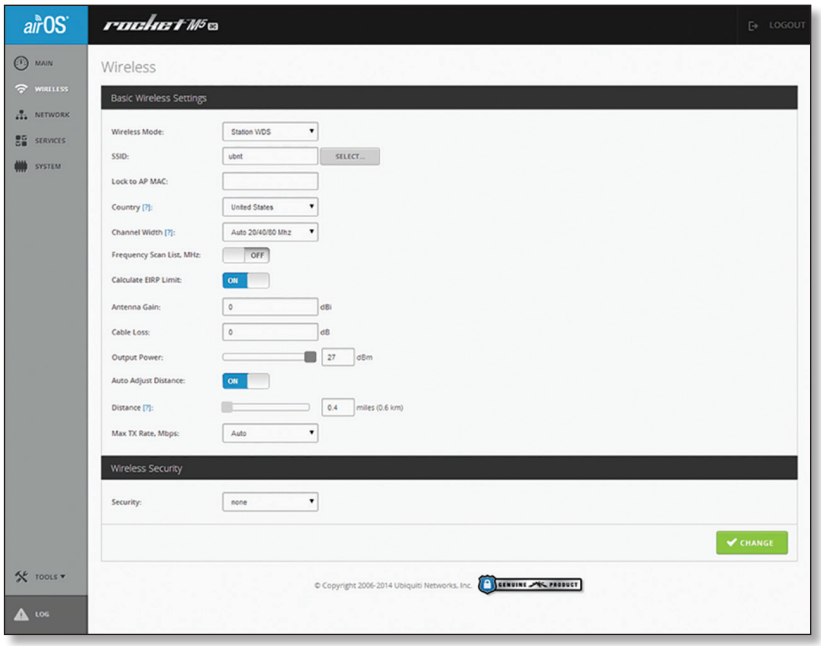

*Fully Assembled Back View*

# 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 multipoint networking.

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




## airView®

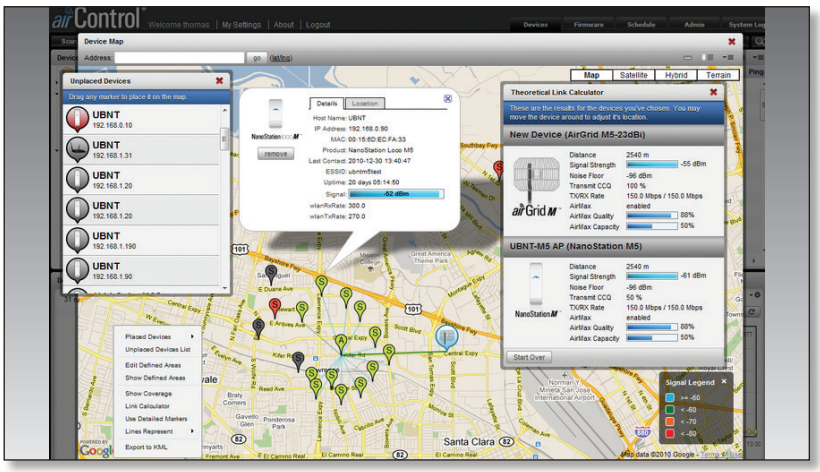
Integrated on all Ubiquiti M products, airView provides Advanced Spectrum Analyzer Functionality: Waterfall, waveform, and real-time spectral views allow operators to identify noise signatures and plan their networks to minimize noise interference.

- **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

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# Specifications

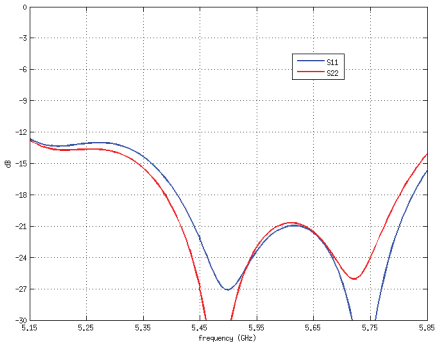
| RD-5G31-AC Antenna Characteristics | |
|---|---|
| Dimensions | 748 x 748 x 349 mm (29.45 x 29.45 x 13.74 in)* |
| Weight | 7.6 kg (16.76 lb)<br>(Mount Included)** |
| Frequency Range | 5.1 - 5.8 GHz |
| Gain | 31 dBi |
| Max. VSWR | 1.4:1 |
| Wind Survivability | 200 km/h (125 mph) |
| Wind Loading | 1,028 N @ 200 km/h (231 lbf @ 125 mph) |
| Polarization | Dual-Linear |
| Cross-pol Isolation | 35 dB Min. |
| ETSI Specification | EN 302 326 DN2 |
| Mounting | Universal Pole Mount, RocketM Bracket, and Weatherproof RF Jumpers Included |

** Dimensions exclude pole mount and RocketM (RocketM sold separately)*

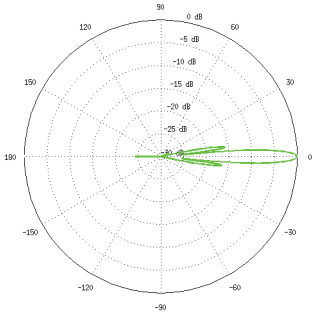
*** Weight includes pole mount and excludes RocketM (RocketM sold separately)*

## RD-5G31-AC Antenna Information

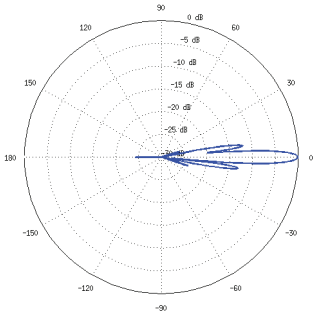
*Return Loss*



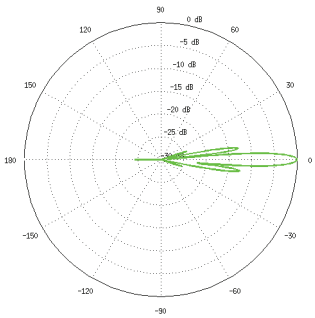

*Vertical Azimuth*



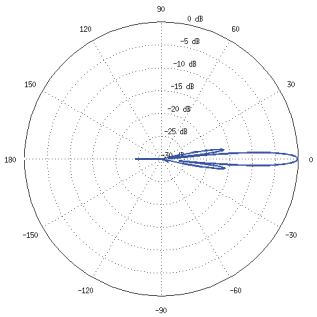
*Vertical Elevation*



*Horizontal Azimuth*



*Horizontal Elevation*



RocketDish™ ac | Datasheet

# 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.

## Bulletproof your networks

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

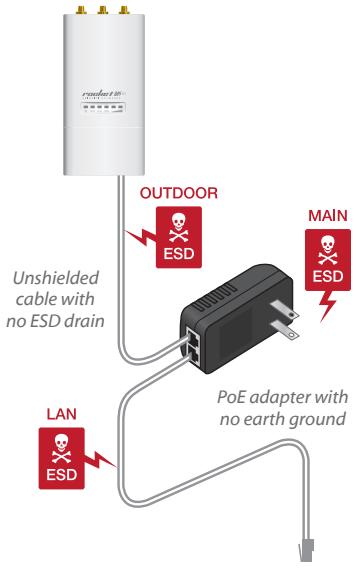
**TOUGHCable PRO** is a Category 5e, outdoor, carrier-class shielded cable with an integrated ESD drain wire.

**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.

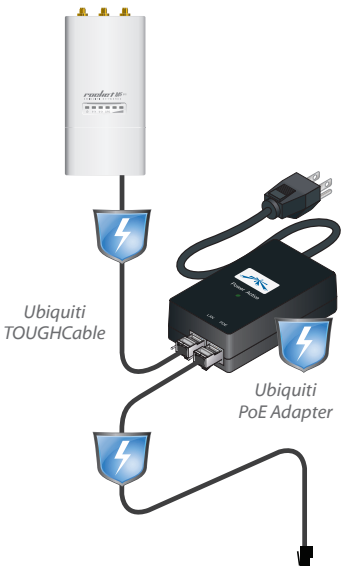
**Additional Information:**

- 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.




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