DATASHEET

rocket M

Powerful 2x2 MIMO airMAX® BaseStation

Models: M5, M3, M365, M2, M900

Advanced Software Technology to Maximize Performance

Plug and Play Integration with airMAX Antennas

Frequency and Channel Flexibility

Overview

Featuring mix-and-match industrial design, the Rocket® is a Ubiquiti Networks® airMAX® BaseStation that supports speeds of up to 150+ Mbps real TCP/IP throughput. It is ideal for deployment in Point-to-Point (PtP) bridging or Point-to-MultiPoint (PtMP) airMAX applications.

Flexibility

The Rocket is available in several frequency models: 900 MHz, 2.4 GHz, 3/3.65 GHz, and 5 GHz, to support your specific application. You have the freedom to locate, deploy, and operate the Rocket in these unlicensed bands (subject to local country regulations).

The Rocket allows for a high degree of flexibility in configuring channel bandwidths: 2, 3, 5, 8, 10, 20, 25, 30, and/or 40 MHz, depending on the specific product model and local country regulations.

Plug and Play Integration

Rocket radios and airMAX antennas have been designed to seamlessly work together. Every airMAX Sector, RocketDish™, Omni, or Yagi antenna has a built-in Rocket mount, so installation requires no special tools. Snap the Rocket securely into place and mount the antenna; then you have the optimal combination of Rocket radio and airMAX antenna for your PtP or PtMP application.

airMAX Technology Included

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.

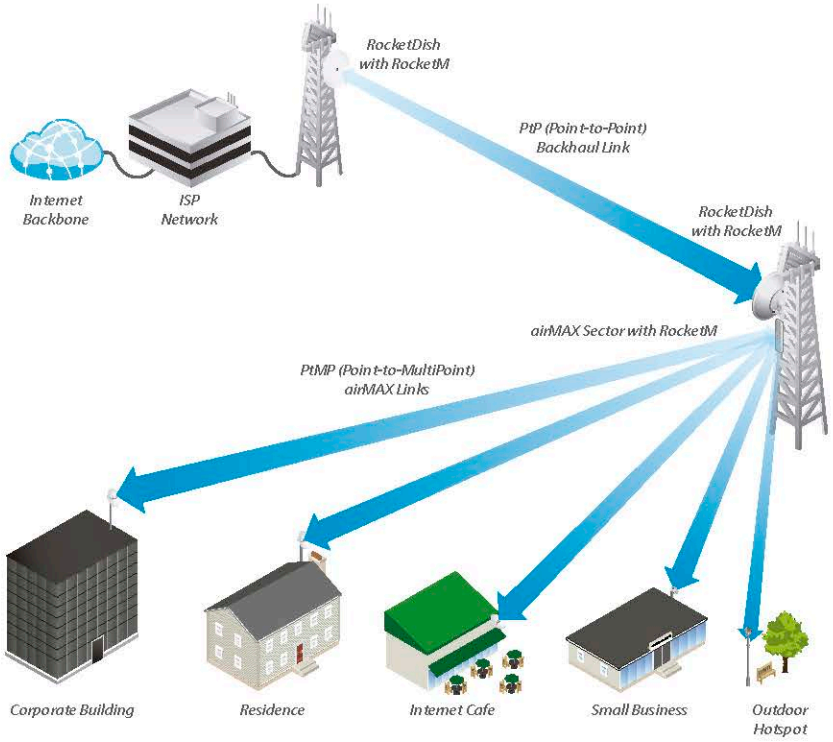
This time slot method eliminates hidden node collisions and maximizes airtime efficiency. It provides many magnitudes of performance improvements in latency, throughput, and scalability compared to all other outdoor systems in its class.

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

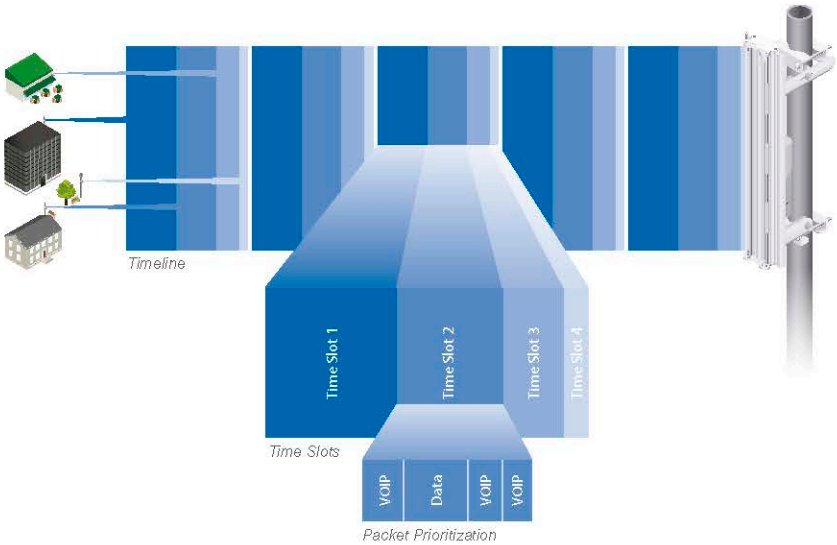
Scalability High capacity and scalability.

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

Application Example



airMAX TDMA Technology



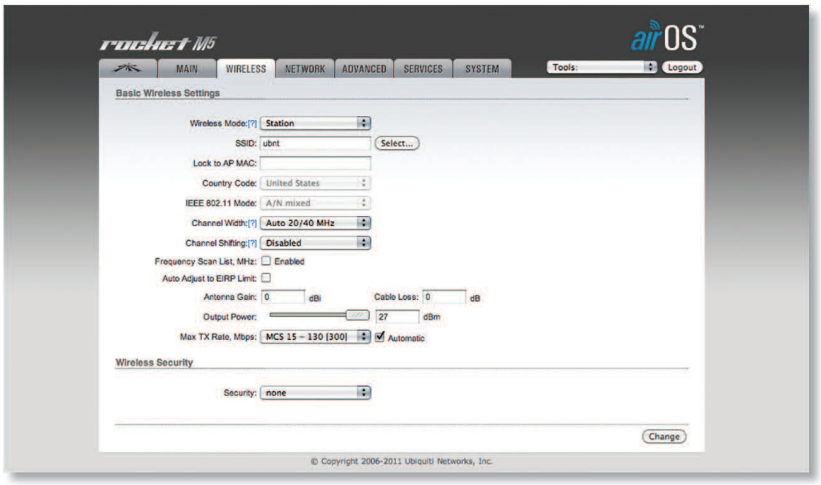
Up to 100 airMAX stations can be connected to an airMAX Sector; four airMAX stations are shown to illustrate the general concept.

Software

airOS®

Built upon an intuitive user interface foundation, airOS® 5 is an advanced operating system for Ubiquiti airMAX M Series products.

- airMAX Protocol Support
- Long-Range PtP Link Mode
- Transmit Power Control: Automatic/Manual
- Automatic Distance Selection (ACK Timing)
- Device Statistics
- Diagnostic Tools



airView®

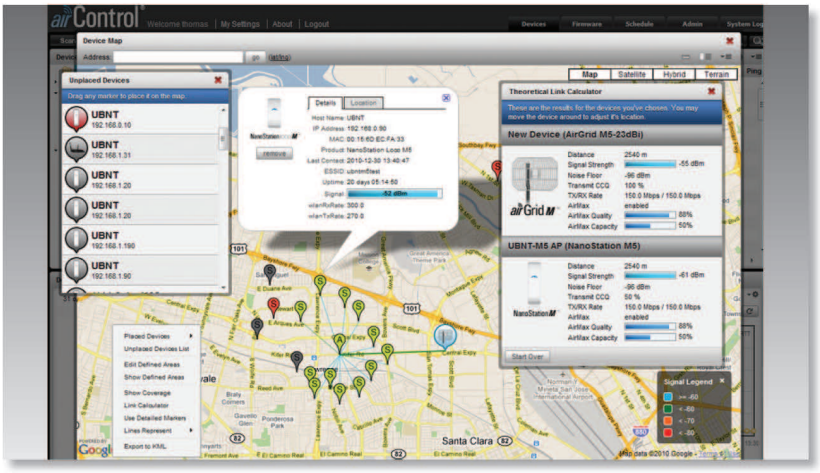
Integrated on all Ubiquiti M products, airView® provides advanced spectrum analyzer functionality: waterfall, waveform, and real-time spectral views allow operators to identify noise signatures and plan their networks to minimize noise interference.

- **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



Models

The Rocket enclosure is built to survive harsh environments and fits the Rocket mount built into every airMAX antenna. Pair the Rocket with the appropriate antenna for your PtP link or PtMP network.

rocket M5

The 5 GHz frequency band is free to use, worldwide, offers plentiful spectrum, and works well for long-distance links. However, 5 GHz signals have more difficulty passing through obstacles than lower-frequency signals.

rocket M3 / M365

The 3.65 GHz frequency band is noise-free in most areas; however, its use requires a license. There may be additional restrictions on its use depending on local country regulations.

rocket M2

The 2.4 GHz frequency band is free to use, worldwide; however, it is crowded due to interference from other wireless devices. Also, there are only three non-overlapping, 20 MHz channels available for use.

rocket M9

The 900 MHz frequency band has a higher tolerance for obstacles that may obstruct line of sight; however, noise levels are typically higher. Also, its use may require a license in some parts of the world.

Antenna Compatibility

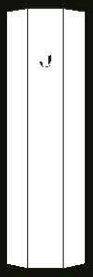
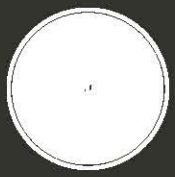
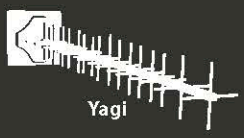
RocketM9

RocketM2

RocketM3
RocketM365

RocketM5

Frequency Band

	900 MHz	2.4 GHz	3/3.65 GHz	5 GHz
 Sector	AM-9M13	AM-V2G-Ti AM-2G15-120 AM-2G16-90	AM-3G18-120	AM-V5G-Ti AM-M-V5G-Ti AM-5G16-120 AM-5G17-90 AM-5G19-120 AM-5G20-90 AM-5AC21-60 AM-5AC22-45
 Rocket Dish		RD-2G24	RD-3G26	RD-5G31-AC RD-5G30-LW RD-5G30 RD-5G34
 Omni		AMO-2G10 AMO-2G13	AMO-3G12	AMO-5G10 AMO-5G13
 Yagi	AMY-9M16			

Specifications

rocket M2

	M2
Dimensions	160 x 80 x 30 mm (6.30 x 3.15 x 1.18")
Weight	500 g (1.1 lb)
Power Supply	24V, 1A PoE Adapter
Power Method	Passive PoE (Pairs 4, 5+; 7, 8 Return)
Max. Power Consumption	6.5W
Operating Frequency	2402 - 2462 MHz
Processor	MIPS 24Kc
Memory	128 MB SDRAM, 8 MB Flash
Networking Interface	(1) 10/100 Mbps
RF Connections	(2) RP-SMA (Waterproof)
LEDs	Power, Ethernet, (4) Signal Strength
Enclosure Characteristics	Outdoor UV Stabilized Plastic
ESD/EMP Protection	± 24KV Air / Contact
Operating Temperature	-30 to 75° C (-22 to 167° F)
Operating Humidity	5 to 95% Noncondensing
Shock and Vibration	ETSI300-019-1.4
Wireless Approvals	FCC, IC, CE
RoHS Compliance	Yes
Modes	Access Point, Station
Services	Web Server, SNMP, SSH Server, Telnet , Ping Watchdog, DHCP, NAT, Bridging, Routing
Utilities	Antenna Alignment Tool, Discovery Utility, Site Survey, Ping, Traceroute, Speed Test
Distance Adjustment	Dynamic Ack and Ackless Mode
Power Adjustment	Software Adjustable UI or CL
Security	WPA2 AES Only
QoS	Supports Packet Level Classification WMM and User Customer Level: High/Medium/Low
Statistical Reporting	Up Time, Packet Errors, Data Rates, Wireless Distance, Ethernet Link Rate
Other	Remote Reset Support, Software Enabled/Disabled, VLAN Support, 64QAM, 5/8/10/20/30/40 MHz Channel Width Support
Ubiquiti Specific Features	airMAX Mode, Traffic Shaping with Burst Support, Discovery Protocol, Frequency Band Offset, Ackless Mode

M2 Output Power: 28 dBm							
TX Power Specifications				**RX Power Specifications**			
Modulation	Data Rate	Avg. TX	Tolerance	Modulation	Data Rate	Sensitivity	Tolerance
802.11g	6 - 24 Mbps	28 dBm	± 2 dB	**802.11g**	6 - 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
802.11n/airMAX	MCS0	28 dBm	± 2 dB	**802.11n/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