



# wi4 WiMAX

## WAP 400 Series Access Point

People want fast and easy broadband coverage wherever they are. The WAP 400 Series Access Point makes this more available than ever before.

Motorola's WAP 400 Access Point delivers on the performance and cost advantages of WiMAX, standards-based wireless broadband. Featuring highly integrated and flexible design as well as enhanced RF capabilities, the WAP 400 is an ideal solution for fixed and mobile service applications.

### WAP 400 SERIES ACCESS POINTS

#### High Performing

The WAP 400, featuring diversity antenna techniques, is based on the IEEE 802.16e-2005 technology standard and includes spectrally efficient S-OFDMA interface, low latency performance, and IP based architecture. Enhanced system gain supported by diversity MIMO antenna capabilities allows strong indoor penetration as well as support for cellular-like mobility applications. Additionally, QoS capabilities, security features, and redundancy options make the WAP 400 platform a true carrier-class solution.

#### Fixed & Mobile Application

The WAP 400 access point provides Non-Line-of-Sight, fixed and mobile wireless broadband connections. Paired with a common IP core, the WAP 400 Access Point will support seamless inter-technology handovers.

#### Ease of Installation and Management

Motorola's design philosophy for the WiMAX product portfolio focuses on ease of installation, management and operation. The WAP 400 Series features small, "zero-footprint" base sites with an all-outdoors design and flexible mounting options for both the RF Modules and the Base Control Unit.

#### Reduced CAPEX

The WAP 400 Access Point system benefits from an integrated design that reduces real estate requirements and allows for simple connections between components. Flexible hardware and software programmable radios provide the benefit of no-touch software updates. Integrated RF antenna design eliminates the need for costly and heavy coaxial cables between antennas and baseband modules and avoids power losses associated with heavy RF cabling.

#### Reduced OPEX

The WAP 400 has been designed as IP end-to-end. The network architecture eliminates high-cost centralized boxes, simplifies management, and reduces core transport costs. Connectivity to standard IP equipment allows operators to realize significant cost advantages.

#### wi4 WiMAX™

Motorola's wi4 WiMAX portfolio of 802.16e products and services offers industry leading breadth and depth, allowing us to map the right architecture to meet an operator's specific deployment issues. Recognizing that a true end-to-end solution extends beyond the access network, Motorola's wi4 WiMAX solutions deliver an extensive portfolio of compelling devices and handsets, operations and management tools, integration and optimization services and, most important, the confidence to bring WiMAX to market.

## WHY MOTOROLA

Motorola is uniquely positioned to address the wireless broadband market through the MOTOwI4 vision. Motorola has aligned its business units and roadmaps to provide a comprehensive, end-to-end solution covering all aspects of the broadband wireless access deployment. With our deep and extensive patent portfolio over a decade of R&D investment, and our experience as a global supplier of broadband wireless access solutions, Motorola is primed to deliver its best in class the WAP 400 access point.

Motorola is committed to leading the industry with end-to-end WiMAX solutions addressing the full scope of the operator's deployment needs including access, core, devices, network management and services.

## WAP 400 Access Point System Specifications

Application	Fixed and Mobile (optional)
Base Site Architecture	Active RF heads with integrated antennas and high-speed digital connections to Base Control Unit over fiber
Frequency Bands	2.3 GHz (2.300 – 2.400 GHz); 2.5 GHz (2.495 – 2.690 GHz); 3.5 GHz (3.400 – 3.600 GHz)
Channel Bandwidth	2.3 GHz: 5 or 10 MHz; 2.5 GHz: 5 or 10 MHz; 3.5 GHz: 5 or 7 MHz
Air Interface	WiMAX certified IEEE 802.16e-2005 (S-OFDMA)
Duplex Mode	TDD
Frequency Reuse	Up to 4 sectors with multiple frequency reuse options
Physical Dimensions -	
Diversity RF Module	(HxWxD): 712 x 178 x 229 mm (28"x7"x9"); Weight: 16 kg (35 lbs)
Control Unit	(HxWxD): 788 x 508 x 483 mm (31"x20"x19"); Weight: 68 kg (150 lbs)
Operating Temperature	-40°C to 55°C Outdoor and Indoor
Modulation and Coding	QPSK (coding rates of 1/2 and 3/4); 16QAM (coding rates of 1/2 and 3/4); 64 QAM (coding rates of 1/2, 2/3, 3/4, and 5/6)
EIRP*	Up to 50.8 dBm
Power Inputs	-48 VDC, +27 VDC, 88-240 VAC
Power Consumption	1.3KW typical (4-sector base site with full redundancy configuration)
Traffic Prioritization Features	IEEE 802.1Q Layer 2 IEEE 802.1p, IPv4 Diffserv (DSCP)
QoS	Unsolicited Grant Service (UGS), Real-time Polling Service (rtPS), Extended Real-time Polling service (ertPS), Non-real-time Polling Service (nrtPS) and Best Effort (BE)
Security	EAP authentication; CCM-AES 128bit data encryption and authentication; PKMv2 key management protocol
Baseband Control Unit to RF Access Point Cabling Connection	Optical Fiber, DC Power
Wireline Interface	IEEE 802.3 (10/100/1000 Base T Ethernet)
Availability	Up to 99.995%
Regulatory Compliance	ETSI & FCC type approved & RoHS/WEEE compliant
Antenna Elements	2
Transmit / Receive Chains	2/2

\* Actual EIRP may vary as a function of government regulation and spectral mask requirements (country specific)



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