



Motorola WiMAX WAP 450 Series Access Point

Enhance network coverage and capacity using award winning, compact, high power and common broadband baseband controller unit

Motorola's WAP 450 Access Point further expands the commercially proven, WiMAX solutions portfolio. The WAP 450 features Motorola's flat IP architecture and optional peer-to-peer communication for fast handoffs and low latency. This allows operators to deploy a solution with a truly seamless, rich media experience for the end-user that is also optimized for mobility.

In addition, the WAP 450 introduces an award winning, compact, common broadband baseband controller unit which is designed to consume less energy while delivering high transmit power and dynamic broadband capabilities. The WAP 450 is a WiMAX Forum® Certified*, 802.16e standards based solution.

Enhanced Coverage and Capacity

Motorola's WAP 450 is built with MIMO A and MIMO B, multiple antenna technologies that provide superior capacity and coverage in rural, suburban and urban environments. With tower top integrated antenna design and high-power output of 10 watts per sector carrier at the antenna ports, the WAP 450 is comparable to a 20 watt, ground based solution that loses power due to coaxial cable loss. With this power, the WAP 450 provides enhanced capacity and coverage for thousands of subscribers – especially high downlink.

Lower CAPEX / OPEX

Building on the proven commercial success of the WAP 400 Series Access Point with its integrated, tower top design, Motorola has enhanced its access point portfolio with the introduction of the WAP 450. The WAP 450 reduces costs by using only a simple fiber connection between the RF antenna head and the base control unit. With light infrastructure and no heavy coaxial cables, the WAP 450 can be deployed by a single person and requires less ongoing maintenance. Fast deployment and reduced resource requirements result in faster return on investment compared to typical ground based base stations.

The WAP 450 incorporates high receive sensitivity which also allows operators to reduce overall CAPEX and OPEX by deploying fewer access points compared to similar solutions. At the same time, it provides higher bit rates to users throughout the coverage area. In addition, the WAP 450 is equipped with a compact base control unit, which is Motorola's common broadband platform for both WiMAX and LTE. This new base control unit occupies lower site space, consumes less power, and further reduces operator's capital and operating costs than prior unit. The testimony to this best-in-the-industry, most innovative base controller unit is:

*Motorola WAP 450 is WiMAX Forum Certified in 2.5GHz frequency

- The TMC 2008 Communications Solutions Product of the Year award.

Finally, with no-touch software upgrade capabilities, remote software enhancements can be accomplished with minimum operating costs.

Carrier Class Solution

Motorola's WAP 450 is a carrier class solution that has global regulatory compliance and high availability. As the WiMAX network expands, interference and noise increases. The WAP 450 comes with a fine tunable scheduler capability that mitigates interference and dynamically changes capacity between the cell edge and the core as the network expands. The fine tunable scheduler capabilities continue to give service providers a high performance not only during the initial coverage stage but also during the capacity and network expansion stages. The testimony to Motorola's innovative WAP 450 base station is awards from:

- **Networks Product Guide 2009 for Best in WiMAX Products and Services category**
- **Communications Solutions for Product of the Year 2008**

The WAP 450 is available for selectable channel bandwidths (5, 7 and 10MHz), and is available in multiple WiMAX profiles, including 2.3GHz, 2.5GHz

and 3.5GHz. In addition, the WAP 450 may be upgraded with additional hardware to the WAP 650 series that offers multi-carrier capabilities and 20W tower top power outputs with 4x4 antenna capabilities.

Why Motorola

Motorola is leading the industry with award winning, end-to-end WiMAX solutions that address the full scope of an operator's deployment needs. The Motorola WiMAX solutions portfolio includes access, core, devices, network management and services. Motorola's six sigma and M-gate quality processes, along with a track record of WiMAX commercial deployments worldwide, provides service providers with confidence that they are getting a high-quality, reliable solution. Motorola's comprehensive wireless broadband portfolio addresses the needs of the wireless broadband market with end-to-end solutions covering all aspects of the broadband wireless access deployment. Our deep and extensive product and services portfolio, decades of R&D investment, and experience as a global supplier of broadband wireless access solutions allows us to offer best in class WiMAX solutions.



WAP 450 SERIES SPECIFICATIONS

Air Interface	IEEE 802.16e
Maximum Transmit Power	10W per sector
Base Site Architecture	Central base control unit (BCU) with two remote radio transceiver units (RRU) per sector
Sectorization	Up to 4 sectors
RRU Architecture	2 transmit and 2 receive branches per sector
Operating Frequency	2.3GHz TDD (2.300-2.400 GHz) 2.5GHz TDD (2.495-2.590 GHz) 3.5GHz TDD (3.400-3.600 GHz)
Supported Channel Bandwidths	5, 7 or 10 MHz
Modulation and Coding	QPSK 1/2, 3/4; 16QAM 1/2, 3/4; 64QAM 1/2, 2/3, 3/4, 5/6
Antennas	Standard or high gain 2-port cross-pole antennas
Backhaul Interface	IEEE 802.3 (10/100/1000 BT Ethernet)
Synchronization	Built-in GPS; Optional HSO

	RRU	INDOOR BCU	OUTDOOR BCU
Operating Temperature	-40°C to 55°C	0°C to 55°C	-40°C to 55°C
Dimensions (H x W x D in mm)	590 x 193 x 140 per RRU	132 x 445 x 330	645 x 604 x 645
Volume	16L per RRU*	14L	250L
Weight	10.1Kg*	14Kg	60Kg
Power Input (nominal)	-48VDC	-48VDC	-48VDC or 110-220VAC
Power Consumption (typical)	105W Total	264W Total	701W Total

* Excluding filter and mounting assembly



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