



NewNet WiMAX WAP 650 Series Access Point

Serve More Subscribers, Boost User Experience, and Lower Total Cost Using Multiple Antenna Technology

NewNet WAP 650 addresses user demand for high downlink as well as high uplink speed, even at the cell edge – using far fewer cell sites than a 2X2 MIMO compliant base station. Because adding new cell sites adds to CAPEX, installation costs and OPEX, maximizing coverage performance is critical to profitability. Motorola's WAP 650 is designed to lower the total cost of ownership (TCO) for operators.

The NewNet WAP 650 Series offers up to 50% higher coverage, enabling operators to serve more subscribers with premium services. That increases ARPU, yet reduces TCO up to 30% compared to the cost of 2X2 MIMO base stations.

The NewNet WAP 650 Series Access Point is available in multiple channel bandwidths (5, 7, or 10MHz) and multiple frequency bands, including 2.3 GHz, 2.5 GHz and 3.5 GHz.

Serve More Subscribers with Exceptional User Experience

The WAP 650 features four Transmit (Tx) and four Receive (Rx) paths with 20 watts of power per sector carrier, in a zero foot print, cost-effective tower top form factor. These hardware capabilities, coupled with advanced

software features, enable operators to provide robust coverage, serving more subscribers with an exceptional user experience. Features that drive this capability include:

- **High receive sensitivity and system gain** – The WAP 650's 4-Receive paths along with advanced receiver processing software implemented on the fully programmable FLeX modem of base controller unit provide up to 50% higher coverage improvement over comparable 2-Receive base stations.
- **Extended 4X2 multiple input, multiple output (MIMO) support** – The high sector capacity of the base station allows an operator to serve more subscribers with high data rates. The WAP 650 offers 20% to 40% higher sector capacity and 3dB to 6dB coverage enhancement, compared to 2X2 MIMO compliant base stations.
- **NewNet's unique Radio Resource Management (RRM)** helps the operator differentiate services by enforcing end-to-end QoS. It enables operators to improve ARPU by offering premium services and a compelling end-user experience through the delivery of fast handoff with zero packet loss.

Lower Total Cost of Ownership

The NewNet WAP 650 Series access point delivers several features designed to reduce an operator's TCO including:

- Unique 4 sector flexible frequency reuse offers 20% lower TCO compared to 3 sector base stations
- Higher receive sensitivity and system gain delivers up to 30% lower TCO compared to 2X2 MIMO base stations
- NewNet's fair scheduling mechanism gives higher cell edge throughput, thus limiting additional site build outs and lowering TCO
- Rapid deployment, light weight, easy to install access point offers a quicker path to revenue

Protect Operator Investment

The NewNet WAP 650 access point protects the operator's investment and reduces subscriber churn due to uncertain performance by delivering industry leading capabilities, including:

- Low downtime from high availability platform, high product quality from a proven six sigma process, and high reliability from extensive field experience
- Easy upgrade path for WAP 450 (2X2 MIMO, 10 Watts Access Point)

- Interoperability with devices from the WiMAX ecosystem
- A smooth fixed-to-mobile path that mitigates future mobile broadband demands
- Remote management such as software upgrades that reduce OPEX by eliminating site visits
- NewNet's IEEE and WiMAX forum leadership that drives the knowledge base for managing future 802.16m upgrades
- WAP 650 is upgradable to WiMAX 2 (802.16m) or LTE

Why NewNet

NewNet is leading the industry with award winning, end-to-end WiMAX solutions that address the full scope of an operator's deployment needs. The NewNet WiMAX solutions portfolio includes access, core, devices, network management and services. NewNet's best-in-class quality assurance processes, along with a track record of WiMAX commercial deployments worldwide, offer service providers the confidence that they are getting a high-quality, reliable solution. NewNet'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 allow us to offer the best in class WiMAX solutions.

WAP 650 SERIES SPECIFICATIONS

Air Interface	IEEE 802.16e
Maximum Transmit Power	20W 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	4 transmit and 4 receive branches per sector
Operating Frequency	WAP23650: 2.3GHz TDD (2.300-2.400 GHz) in 5 or 10 MHz channels WAP25650: 2.5GHz TDD (2.495-2.690 GHz) in 5 or 10 MHz channels WAP35650: 3.5GHz TDD (3.400-3.600 GHz) in 5, 7 or 10 MHz channels
Antennas	Standard quad-port cross-pole antennas; Optional high-gain antennas
Backhaul Interface	IEEE 802.3 (10/100/1000 BT Ethernet)
Synchronization	Built-in GPS; Optional HSO



	RRU (2 PER SECTOR)	INDOOR BCU	OUTDOOR BCU
Operating Temperature	-40°C to 55°C	0°C to 50°C	-40°C to 55°C
Dimensions (HxWxD)	590 x 193 x 140 mm	132 x 445 x 330 mm	604 x 645 x 645 mm
Weight	14Kg	14Kg	60Kg
Power Input (nominal)	-48VDC	-48VDC	-48VDC; Optional 110-220VAC
Power Consumption (typical)	105W	358W	820W



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