MOTOROLA WIRELESS BROADBAND

Mesh Wide Area Network IAP 4300
Two Radio Meshed WiFi Network with 5.4GHz for Backhaul

Dynamic Frequency Selection (DFS)
The MWAN IAP 4300 supports the mandated DFS required for operation in European regions and Australia. DFS is a radar avoidance protocol that upon detection of an interfering radar signal, will automatically switch to an alternate channel to avoid interference with the military, medical, or weather devices. Transmit Power Control (TPC) reduces the radio-frequency (RF) output power to a level that minimizes the risk of interference.

Software Highlights
The MWAN 4300 solution offers a multitude of software features for enhancing your network experience. With Peer-to-Peer Communication Blocking ISPs (Internet Service Providers) now have an effective way to manage billing applications and client tracking scenarios. With the combination of MWAN IAP 4300's VLAN support and standard 802.11e QoS, ISPs can create differentiated services that will allow them to offer tiered packages. Finally, historical, comprehensive statistics are now available for future reference and review.

Mesh Wide Area Network
The Mesh Wide Area Network (MWAN) product series makes wireless cities a reality with robust and future-proof wireless broadband technologies. Whether providing wireless access to a campus, business, neighborhood or city, MWAN delivers real-time data to your residents, employees, and customers, enabling vital wireless broadband applications.

Single or Dual-Radio Operation
The IAP 4300 easily functions as a single or a two radio system. The two radio system utilizes the 5.4GHz radio to mesh backhaul, freeing up the 2.4GHz radio for dedicated client access. This notably increases throughput over single-radio systems. Moreover, the 5.4GHz radio can also be configured to provide client access supporting WiFi subscriber stations using the 802.11a standard.

Proven Mesh Routing
The MWAN 4300 products leverage MeshConnex™ routing technology, using real-time congestion management and link control to automatically select the best data route on a per-request basis. This dramatically reduces hop latency, to better deliver real-time voice and multimedia services. Today, MeshConnex powers large-scale Motorola mesh networks of more than 1,000 nodes.

Carrier-Class Security
The IAP 4300 supports complete end-to-end security. It provides WEP, WPA and WPA2 encryption on client access. Motorola's own Secure Mesh ensures the highest data security within the meshed WiFi network. Finally, users can create access lists that can block particular clients from accessing the network.

Compact Form Factor
The small profile, light weight form factor, and slim-line aesthetics increase mounting location flexibility and community acceptance.

Advanced Network Management
The 4300 series utilizes Motorola's One Point Wireless Manager to manage and visualize a multitude of capabilities for small to large networks and all of these capabilities are controllable from a single suite of software. By completing one profile, a large number of devices can be configured easily, reducing the time required to provision individual devices and complete on-going adjustments. Once the network is up and running, the Wireless Manager is a flexible and powerful tool that monitors the health of the network's components for quick detection and resolution of problems that can impact network performance and user satisfaction.

Flexible & Adaptable Gateways
Every MWAN 4300 unit is capable of being an Intelligent Access Point (IAP) or Mesh Wireless Router (MWR), reducing the cost of storing excess inventory and simplifying deployment. Additionally, IAPs immediately adapt to backhaul loss by becoming wireless routers, routing traffic to an alternate gateway in the network. This automatic, self-healing ability minimizes service interruptions and ensures continuous connectivity.

Quality of Service (QoS)
Delay-sensitive applications like video and voice services require different data priorities. MWAN 4300 products support IEEE 802.11e based traffic prioritization. It constantly monitors node congestion, and automatically tunes its QoS parameters to optimize route selections, to support latency sensitive applications.

Motorola, Your End-to-End Solution Provider
Motorola's wireless broadband portfolio offers an array of access and backhaul technologies for complete end-to-end wireless initiatives. Motorola's Fixed Point-to-Multipoint and Point-to-Point solutions provide reliable, high-capacity Internet backhaul links to Motorola's mesh networks. BroadbandPlanner and BroadbandScanner enable detailed network planning and optimization capabilities. Additionally, Motorola's ecosystem of applications offers a wide range of validated solutions to garner multiple benefits from your wireless network.

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Benefits
- Best-in-class radio performance
- Reliable coverage
- Best-in-class throughput
- Robust security

Motorola Wireless Broadband

Motorola's comprehensive portfolio of reliable and cost-effective wireless broadband solutions together with industry leading WLAN solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed Point-to-Point, Point-to-Multipoint, Mesh, Wi-Fi and WiMAX networks that support data, voice and video communications, enabling a broad range of fixed and mobile applications for public and private systems. With Motorola's innovative software solutions, customers can design, deploy and manage a broadband network, maximizing uptime and reliability while lowering installation costs.

4300-54 RADIO CHARACTERISTICS

IEEE 802.11b/g Radio (20MHz Channel)	2.400 to 2.483GHz
IEEE 802.11a Radio (20MHz Channel)	5.470 to 5.725GHz
RF Modulation	CCK (802.11b), OFDM (802.11a/g)
Transmit Power (Maximum)	31dBm EIRP (802.11b/g), 34 dBm EIRP (802.11a) • Settable in 1dB increments
Receive Sensitivity	**802.11b:** -92dBm @ 11 Mbps to -100dBm @ 1 Mbps
	802.11g: -78dBm @ 54 Mbps to -95dBm @ 6 Mbps
	802.11a: -77dBm @ 54 Mbps to -93dBm @ 6 Mbps
Antenna Type	N-Type • Two (2) omnidirectional: 8dBi for 2.4GHz and 10dbi for 5.4GHz

ROUTING

Technology	MeshConnex routing with Layer 1 situational-awareness
Protocol	Patented, Layer 2, hybrid proactive/reactive routing

NETWORK

Network Management Software	SNMPv1, SNMPv2c or
	secure SNMPv3 One Point Wireless Manager • Web Interface via HTTPS (SSL) • 802.11 and MWAN MIBs
Network Interface	Weatherized 10/100 Base-T Ethernet (RJ-45) port with surge suppression
Network Segmentation	16 VAPs (Multiple SSIDs with VLAN mapping)
Quality of Service (QoS)	802.11e, weighted fair queuing and IP precedence bits (ToS) supported via DSCP

SECURITY

Client Encryption Support	WEP, WPA (TKIP) and WPA2 (AES, 802.11i)
Intra-Mesh Encryption	Secure Mesh with AES
Authentication	802.1X (Infrastructure/Client) and MAC address hardware authentication
TCP/IP Filtering	Broadcast storm and port filtering

POWER

Power Input	90-264 VAC (with +/- 20% variation at 47-63Hz) or Optional 10.8-14VDC (2.5A Max)
Power Connector	Weatherized NEMA 5-15 power cord • 3.66m (12 ft)
Power Consumption	15W to 30W (with PoE device)
Power over Ethernet (PoE)	Support for Point-to-Multipoint PoE, or 802.3af Standard PoE device

PHYSICAL

Dimensions	23.1cm x 15.2cm x 8.9cm (9"x 6"x 3.5") • 3097cm^3 (189in^3)
Weight	2.04kg (4.5 lbs)
Packaging	Outdoor, all-weather enclosure (NEMA 4 / IP65)
Mounting	7.62cm (3") diameter post mounting

ENVIRONMENTAL & REGULATORY

Temperature Range	-30 to 60 °C (-22 to 140 °F)
Humidity	0 to 95%, non-condensing at 50 °C (122 °F)
Regulatory Certifications	FCC Part 15, CE, MET Mark / CSA / UL, RoHS / CMM / WEEE, Industry Canada
Dynamic Frequency Selection	ETSI Standard EN301 893 DFS v1.4.1

AVAILABLE OPTIONS & ACCESSORIES

Mounting	Lamp post mount bracket assembly
Antennas	4 or 6dBi omnidirectional for 2.4GHz
Power Plug Adapters	AC photo cell adapter and US, EU, and AU Power Plug Adapters
Power over Ethernet (PoE) Adapters	Point-to-Multipoint Connect or IEEE 802.3af PoE

MOTOROLA

ONE YEAR PARTS & LABOR WARRANTY

Motorola, Inc.   www.motorola.com/mesh