



MOTOMESH™ Solo Mesh Network Solution

High Performance in Harsh Environments

About Motorola Wireless Broadband

Motorola's industry leading portfolio of reliable and cost effective wireless broadband solutions provides and extends coverage both indoors and outdoors. The portfolio offers high-speed connectivity systems that support voice, video and data solutions enabling a broad range of applications for both fixed and mobile public and private networks. With Motorola's One Point Wireless Suite of innovative software solutions, customers can now design, deploy and manage their broadband networks at lower installation costs that maximize up-time and reliability.

All RF environments are not created equal. Industrialized locations like busy ports, airports, railroad yards, construction sites and mining operations can present the ultimate test of wireless communications performance and reliability. MOTOMESH Solo networks are proven the world over to deliver exceptional data, voice and video communications under some of the harshest, most challenging RF environments on earth. MOTOMESH Solo productivity benefits include:

- **Client Router Architecture.** A MOTOMESH Solo network enables each client device to act as a router/repeater and dynamically extends the network to reach into dead spots and RF canyons in the network.
- **Dynamic Frequency Assignment.** MOTOMESH Solo networks offer four simultaneous 20 MHz channels and dynamic routing to detect and actively avoid interference.
- **Resynchronization.** MOTOMESH Solo networks survive difficult RF conditions using advanced forward error correction and by sending resynchronization packets every 250 microseconds.
- **Multipath Capabilities.** MOTOMESH MEA (Mobility Enabled Access) devices incorporate advanced rake receivers to gather energy from different reception paths and synchronize them together into a coherent signal.
- **High Power.** MOTOMESH Solo MEA cards transmit at 300 milliwatts into the antenna.
- **Secure High Speed Handoffs.** MOTOMESH Solo networks provide reliable broadband connectivity and fast handoffs to support routing changes between vehicles.
- **Multicast/Broadcast Support.** With the removal of the IP proxy a single code base is used across the MOTOMESH Solo and Duo product lines resulting in product enhancements that benefit a number of different solutions. In addition, the various MOTOMESH solutions are now interoperable and can reside on the same network.
- **Automatic Re-Routing.** MOTOMESH Solo compensates for the loss of the wired backhaul by automatically re-routing traffic to help ensure no dead spots occur and data reaches its desired destination.
- **Enterprise Grade Management Tools.** Motorola's integrated One Point Wireless Suite provides automated network planning, deployment, monitoring and management of a MOTOMESH network from a single suite of software centrally located on a computer console.
- **Virtual LANs (VLANs).** Provides up to 16 VLANs per access point enabling multiple Virtual Private Networks (VPNs).

The MOTOMESH Solo Purpose-Built Equipment Portfolio

Motorola's MOTOMESH Solo mesh network solution is powered by a purpose-built equipment portfolio that offers an exceptional combination of cost-effectiveness, ruggedness and reliability in challenging RF environments. The product line includes:

➤ **IAP6300 Intelligent Access Point** serves as a transition point from the wireless network to the wired world or provides the functions of an enhanced wireless router by providing wireless network access to one or more IP devices via built-in Ethernet.

➤ **MWR6300 Mesh Wireless Router** provides extended network mobility and coverage in the 2.4 GHz frequency band.

➤ **WSM6300 Wireless Serial Modem** consists of a small compact router with a serial interface for machine-to-machine operations such as remote sensor, controller or signal connectivity.

➤ **VMM6300 Vehicle Mounted Modem** supports 6 Mbps burst data rates at speeds in excess of 200 mph.

➤ **WMC6300 Wireless Modem Card** enables high bandwidth data and video, position location and voice services from most devices with a PCMCIA card slot.

MOTOMESH SOLO NETWORK SPECIFICATIONS

Radio Characteristics	Output Power	Up to 25 dBm @ the transmitter
	RF Modulation	QDMA
	Operating Frequency	2.4 - 2.4835 (2nd ISM Band)
	Maximum Burst Data Rate	6 Mbps
	Spectrum	40 - 80 MHz (customer selectable)
	Channels	1 20 MHz Control Channel and 3 20 MHz Data Channels
Network	Network Management Software	One Point Wireless Manager
	Network Interface	10/100 Mbps Ethernet RJ45 Connector
	IP Network Address	DHCP or Statically Provisioned
Security	Authentication	RADIUS 802.1x, EAP -TLS (Intra-Mesh)
Power	Power Requirements	90 to 264 VAC
	Power Consumption	5 to 14 VDC
		IAP/MWR: 8W Maximum at 120 VAC MWR: 5W Maximum at 120 VAC WMC: 3.3W Transmit/1.5W Receive
Physical	Dimensions	IAP/EWR: 6.25" x 6.25" x 4" (15.9 cm x 15.9 cm x 10.2 cm)
		MWR: 3" x 4.25" x 5.75" (7.6 cm x 11.5 cm x 14.6 cm)
		WSM: 4.5" x 3.5" x 1.25" (11.4 cm x 8.9 cm x 3.2 cm)
		VMM/PWR: 8" x 5.5" x 2" (20.3 cm x 13.9 cm x 5.1 cm)
		WMC: 3.4" x 2.1" x 0.2" (8.6 cm x 5.4 cm x 0.5 cm)
	Weight	IAP/EWR: 4.4 lbs (1.99 kg)
		MWR: 2.6 lbs (1.18 kg)
		WSM: 14 oz (0.4 kg)
	Packaging	VMM/PWR: 2 lbs (0.9 kg)
		WMC: 1.1 oz (0.3 kg)
IAP/EWR/MWR/WSM: NEMA 4 Environmental Enclosure for Indoor or Outdoor Deployment VMM/PWR: IP33 Industrial Mountable Enclosure WMC: Standard PCMCIA form factor		
Environmental	Temperature Range	-35° to +60° C
	Humidity	IAP/EWR/MWR/WSM/VMM/PWR: 0 to 100% Non-Condensing
		WMC: 0 to 90% Non-Condensing
	Wind Load	Withstands Category 5 hurricane wind speeds of 156 mph
		Wind survivability: > 156 mph Wind loading (156 mph): < 45 lbs
	Certifications	FCC, MET Labs, CE, CMM, RoHS, EPP
Vibration	VMM/PWR Only:	
	MIL: 810F, Method 514.5 Procedure 1, Category 24 TIA: TIA/EIA-603, Paragraph 3.3.4	



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