



# WS5100

High performance wireless switch  
for mid to large enterprises



## FEATURES

### Centralized architecture

A single point of entry that can be centrally managed, easily secured, and lowers the overall cost of deployment and management

### Adaptive AP — Extending the Enterprise

Enables centralized management of mesh access points at remote sites as well as site survivability of those remote locations

### L2 and L3 roaming

Supports inter-subnet roaming without additional client support; seamless roaming of mobile clients within a simplified wireless network design

### Security

Comprehensive, layered security capabilities including WPA2-CCMP (with 802.11i fast roaming options), integrated RADIUS Server, IPSec VPN Gateway, Secure Guest Access Provisioning and advanced wireless intrusion detection; exceptional level of data and network protection without sacrificing fast roaming

## Moving at the speed of business

The WS5100 Wireless Switch from Motorola provides enhanced support for enterprise mobility and multimedia applications, as well as increased security and manageability. Based on Motorola's Wi-NG (Wireless Next Generation) architecture, the WS5100 enables seamless campus-wide roaming, more robust failover capabilities, enhanced security, improved mobile client battery life, and increased voice capacity. Robust security features include integrated intrusion detection, an IPSec VPN gateway, and secure guest access provisioning. Automatic configuration and firmware updates, built-in process monitors, troubleshooting tools and a simple user interface make network deployment and management easy.

## Robust enterprise mobility

Business needs should dictate network coverage, not the other way around. That's why the Motorola WS5100 allows you to deploy "thin" access points in Layer 3 network designs, and enables campus-wide roaming of mobile clients across Layer 3 boundaries — without requiring additional client software or hardware. Used in concert with Motorola handheld devices, the WS5100 further enhances the fast roaming capabilities and extends client battery life. WMM (Wi-Fi Multimedia) with "power save" extensions also provides additional voice capacity. Supporting mobile workers has never been so easy. With the adaptive AP support, Enterprise Mobility is taken a step further, providing capabilities to extend the enterprise to remote/branch locations with the advantages of centralized manageability.

## End-to-end layered security

The WS5100's comprehensive security includes integrated features such as intrusion detection, an IPSec VPN gateway, AAA/RADIUS server (for WPA/WPA2 termination on the box) and "hotspot" provisioning capabilities for secure guest access. The stateful packet inspection firewall offers protection against denial of service attacks while optimizing network traffic. With support for the wireless security standards of today and the ability to easily upgrade to tomorrow's standards, the WS5100 delivers true value.

## Simplified, centralized management

The WS5100 provides unified management of network hardware, software configuration, and network policies, and has built-in process monitors and troubleshooting tools. Motorola's Mobility Services Platform (sold separately) provides both device level management capabilities and centralized management of the WS5100 infrastructure in distributed locations. With active/active failover and clustering capabilities, as well as mobile unit load balancing, the WS5100 maximizes network uptime while minimizing network latency. Each WS5100 supports up to 48 access ports and 32 WLANs.

For more information, visit us on the web at [www.motorola.com/ws5100](http://www.motorola.com/ws5100) or access our global contact directory at: [www.motorola.com/enterprise/contactus](http://www.motorola.com/enterprise/contactus)

## SPECIFICATION SHEET

WS5100

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### Clustering and load balancing

Ensures loads are balanced between access ports to ensure quality application performance; supports multiple levels of redundancy in case of failure

### Mobility enablers

Virtual AP, Pre-emptive roaming, transmit power control, power save protocol, self-healing (triggered on loss or disruption of RF coverage). "Virtual AP" provides better control of broadcast traffic and enables multiple mobile and wireless applications with quality of service when network is congested; Pre-emptive roaming ensures Motorola mobile devices roam before signal quality degrades; PSP optimizes battery life; self-healing provides continuous network coverage in the event of disruption

### Quality of Service (QoS)

Enhanced voice and video capabilities; prioritizes network traffic to minimize latency and provide optimal responsiveness to all users; Wi-Fi Multimedia Extensions (WMM-Power Save with Admission Control) for enhanced multimedia application support; improved battery life and capacity

# WS5100 Specifications

## Packet Forwarding

802.1D-1999 Ethernet bridging; 802.11-802.3 bridging; 802.1Q VLAN tagging & trunking; proxy ARP; IP packet steering-redirection

## Wireless Networking

Wireless LAN:	Supports 32 WLANs; multi-ESS/BSSID traffic segmentation; VLAN to ESSID mapping; auto assignment of VLANs (on RADIUS authentication); power save protocol polling; pre-emptive roaming; congestion control with Bandwidth Management; VLAN Pooling
Access ports:	Supports 1-48 "thin" access ports; automatic access port adoption with ACLs; access port load balancing; direct sequence access point-to-access port conversion
Adaptive AP:	Supports 1-48 adoption of the Independent Motorola AP51X1 Access Point in Adaptive Mode for remote site and branch office solutions
Layer 2 or Layer 3 deployment of access ports	
Layer 3 mobility (inter-subnet roaming)	
Supported access ports and access points:	Access ports – AP100 (802.11b) (L2 deployment only); AP300 (802.11a/b/g ready) (L2 or L3 deployments) with Static IP support Access points – AP51X1 – Adaptive AP mode; AP4131 (L2 deployments only)

## Network Security

Radio frequency automatic channel select (ACS); transmit power control management; (TPC); country code-based RF configuration; 802.11b, 802.11g, 802.11a	
Authentication:	Access Control Lists (ACLs); pre-shared keys (PSK); 802.1x/EAP-transport layer security (TLS), tunneled transport layer security (TTLS), protected EAP (PEAP); Kerberos Integrated AAA/RADIUS server with native support for EAP-TTLS and EAP-PEAP (includes a built in user name/password database; supports LDAP)
Transport encryption:	WEP 40/128 (RC4), KeyGuard, WPA-TKIP, WPA2-CCMP (AES), WPA2-TKIP
IPSec VPN gateway	
Stateful Inspection Firewall	
Access Control Lists (ACLs): L2/3/4 ACLs	
Wireless IDS:	Multi-mode rogue AP detection, client blacklisting, excessive authentication /association; excessive probes; excessive disassociation/deauthentication; excessive decryption errors; excessive authentication failures; excessive 802.11 replay; excessive crypto IV failures (TKIP/CCMP replay)
Anomaly Analysis:	Source Media Access Control (MAC) = Dest MAC; Illegal frame sizes; Source MAC is multicast; TKIP countermeasures; all zero addresses
Wireless IPS via RF Management Suite	
Secure guest access (HotSpot provisioning):	Local Web-based authentication; URL redirection for user login; customizable login/welcome pages; support for external authentication/billing systems
RADIUS support (standard and Motorola vendor specific attributes):	<ul style="list-style-type: none"><li>• User-based VLANs (standard)</li><li>• MAC-based authentication (standard)</li><li>• User-based QoS (Motorola VSA)</li><li>• Location-based authentication (Motorola VSA)</li><li>• Allowed ESSIDs (Symbol VSA)</li></ul>
NAC support with third party systems from Microsoft and Sygate	

## Optimized Wireless QoS

RF priority:	802.11 traffic prioritization and precedence
Wi-Fi multimedia extensions:	WMM-power save with admission control
Classification & marking:	Layer 1-4 packet classification; 802.1p VLAN priority; DiffServ/TOS

## System Resiliency & Redundancy

Active: Standby, Active:Active and 1:Many redundancy with access port and MU load balancing; self healing (on detection of RF interference or loss of RF coverage)  
Dual firmware bank supports Image Failover capability

## Management

Command line interface (serial, telnet, SSH); secure Web-based GUI (SSL); SNMP v1/v2/v3; SNMP traps-40+ user configurable options; Syslog; TFTP Client; secure network time protocol (SNTP); text-based switch configuration files; DHCP (client/server/relay), switch auto-configuration and firmware updates with DHCP options; multiple user roles (for switch access); Syslog, MIBs (MIB-II, Etherstats, wireless switch specific monitoring and configuration)

## Physical Characteristics

Form factor:	Standard 1RU
Dimensions:	1.73 in. H x 16.89 in. W x 15.93 in. D 43.9 mm H x 429 mm W x 404.6 mm D
Weight:	13.75 lbs./6.25 kg
Physical interfaces:	RS232 serial console port; 10/100/1000 Ethernet ports
MTBF:	>75,000 Hours

## Power Requirements

AC input voltage:	100-240 VAC
Max AC input current:	6A@115 VAC, 3A@230 VAC
Max power consumption:	100-240 VAC, 50/60 Hz, 3A, 240 VAC, 50/60 Hz, 1.5A
Input frequency:	47 Hz to 63 Hz

## User Environment

Operating temperature:	50°F to 95°F/10°C to 35°C
Storage temperature:	40°F to 149°F/-40°C to 65°C
Operating humidity:	5%-85% (w/o condensation)
Storage humidity:	5%-95% (w/o condensation)
Operating altitude:	50 ft. to 10,000 ft./16 m to 3,048 m
Storage altitude:	50 ft. to 35,000 ft./16 m to 10,600 m

## Regulatory

Safety certifications:	FCC (Art.15, part B), Industry Canada, CE, VCCI, C-Tick, BSMI
EMI compliance:	UL 1950, cUL (Canada), VDE GS, DENAN (Japan), CB Cert

## Part Numbers

WS-5100-06-WWR	6 Port WS5100 Wireless Switch
WS-5100-12-WWR	12 Port WS5100 Wireless Switch
WS-5100-18-WWR	18 Port WS5100 Wireless Switch
WS-5100-24-WWR	24 Port WS5100 Wireless Switch
WS-5100-30-WWR	30 Port WS5100 Wireless Switch
WS-5100-36-WWR	36 Port WS5100 Wireless Switch
WS-5100-42-WWR	42 Port WS5100 Wireless Switch
WS-5100-48-WWR	48 Port WS5100 Wireless Switch
WS-5100-RS-WWR	Redundant WS5100 Wireless Switch
WS-5100-UC-WWR	6 Port Upgrade



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