AP-7131

The industry's first 802.11n access point with tri-radio design

FEATURES

802.11n support with 3X3 MIMO
Delivers maximum wireless network throughput to support virtually any enterprise application, including voice and video

Tri-radio, dual-band design
Works with any standards-based IEEE WLAN

Multi Mode Rogue AP detection: On-board IDS, Mobile unit assist mode, dedicated Wireless IPS sensor radio
Around the clock network protection through instant identification and reporting of unauthorized users

The re-defined access point: a true wired network replacement

The 802.11a/b/g/n AP-7131 Access Point delivers the throughput, coverage and resiliency required to enable a wireless enterprise. The tri-radio expandable design provides simultaneous support for three major networking functions: high-speed wireless voice and data services for client access, self-healing mesh networking and non-data applications including Wireless IPS sensor functionality for around the clock protection of the wireless and wired network. The fully DFS compliant 802.11n Draft 2.0 AP-7131 offers speeds of up to 600 Mbps per Access Point — six times the bandwidth of an 802.11a/g access point. The Adaptive AP architecture allows the device to offer two modes of operation, without changing the firmware — either as a stand-alone access point or as a wireless switch adopted access point for centralized management. The ability to self-configure in an 802.3af environment further simplifies deployment. The elegant industrial design with an optional snap-on antenna façade enables enterprise wide deployment — from the warehouse to the front lobby.

Standalone Access Point: wired and wireless 'Enterprise in a box' for the SME

As a standalone access point, the AP-7131 provides small and medium-sized businesses with a consolidated wired and wireless networking infrastructure, all in a single device. The integrated router, gateway, firewall, DHCP and AAA Radius servers, VPN, hot-spot gateway, Power-over-Ethernet (PoE) simplify and reduce the costs associated with networking by eliminating the need to purchase and manage multiple pieces of equipment.

Centrally managed Access Point: Adaptive AP Mode

The AP-7131 is also designed to meet the needs of large, distributed enterprises by converging the functionality of a thick access point and thin access

Adaptive AP mode
Can be controlled with a wireless switch to enable central management from the NOC, and in the event of loss of connectivity, resumes functionality as a standalone access point

Integrated router, DHCP server, Stateful Packet Inspection Firewall, AAA server, NAT, and Hotspot Gateway
Eliminates need to purchase and manage additional equipment; simplifies provisioning of network services and public access

Mesh networking
Allows wireless extension of existing wired or wireless networks in remote or outdoor locations

802.11i, WPA2 and WPA; IPSec encryption
End-to-end enterprise class wired and wireless security

Wi-Fi Multimedia (WMM™) Quality of Service (QoS) and voice prioritization
Superior performance for demanding mission critical applications, including voice and video

WAN and LAN Ethernet ports
Single device solution for both wired and wireless networking

Java™ web-based graphical user interface; SNMPv3; command line interface (CLI)
Flexible management options; easy-to-use "anytime, anywhere" management

Integrated VPN
Cost-effective secure site-to-site communications

Power-over- Ethernet (PoE) support
Eliminates need and expense to power access point; supports 802.3af, 802.3at (draft)

DFS compliance
Increased throughput through greater channel availability in the 5 GHz bands

port into a single device. This mode enables the deployment of a fully featured intelligent access point that can be centrally configured and managed via a Motorola wireless switch in either corporate headquarters or a network operations center (NOC). In the event the connection between the AP-7131 and the wireless switch is lost, a Remote Site Survivability (RSS) feature ensures the delivery of uninterrupted wireless services at the local or remote site. All traffic between the adaptive access points and the wireless switch is secured though an IPSec tunnel. And compatibility with Motorola's RF Management Suite allows you to centrally plan, deploy, monitor, and secure large AP-7131 deployments.

Mesh: cost-effective networking for challenging locations

Mesh functionality enables the cost-effective wireless extension of the enterprise network to areas where Ethernet or fiber cabling is cost-prohibitive or otherwise impractical. Mesh functionality includes multi-node, multi-link networks as well as simple point-to-point bridging to connect two wired networks. Self-healing ensures continuity of service in the event of a wired or wireless network failure. The self-forming highly resilient, VLAN and WMM QoS-aware mesh technology enables enterprises to wirelessly extend reliable high-performance voice and data services to workers in remote and outdoor locations.

Enterprise-class manageability and end-to-end security

AP-7131's stateful firewall supports key standards-based security protocols ensuring enterprise-level protection for the wired and wireless network infrastructure, as well as for data in transmission over the wireless LAN. Only authorized users are granted access to your network, protecting your network perimeter and your resources. The powerful feature set enables security to be administered by either local, non-technical staff or remote IT professionals at your headquarters or NOC. The AP-7131 can also function as a Wireless Intrusion Protection System (IPS) sensor, enabling automatic 24x7 monitoring of your wireless network.

End-to-end solution: from 802.11n network design to everyday support

Motorola provides full life-cycle support for your 802.11n mobility deployment, from network design to day-to-day support. Motorola's RF Management suite provides a comprehensive planning tool that enables the easy creation of a well-designed 802.11n wireless LAN, eliminating the high cost associated with an iterative trial-and-error approach and multiple site surveys. Motorola Professional Services offer expertise to assist with assessment through implementation of your mobility solution. Once your Motorola mobility solution is deployed, our responsive Customer Services keep your solution up and running, with maximum uptime — reducing your total cost of ownership.

A rapid return on investment (ROI)

You can count on this multi-function multi-purpose device to deliver a rapid return on investment. The AP-7131 can be deployed as a standalone or centrally managed device to provide wireless voice and data services, mesh backhaul and Wireless IPS sensor functionality, all in one device. This built-in flexibility simplifies the mobility architecture. There is less equipment to purchase and manage, reducing capital and operational expenditures.

For more information on how your enterprise can benefit from the AP-7131, please visit us on the web at www.motorola.com/ap7131 or access our global contact directory at www.motorola.com/enterprise/contactus

AP-7131 Specifications

802.11n Draft 2.0 Capabilities
3X3 MIMO with 2 Spatial Streams
20 MHz and 40 MHz Channels
300 Mbps Data Rates per Radio
Packet Aggregation (AMSDU, AMPDU)
Reduced Interframe Spacing
802.11 DFS

Physical Characteristics	
Dimensions:	5.50 in. L x 8.00 in. W x 1.10 in. H 13.97 cm L x 20.32 cm W x 2.79 cm H
Weight	2.22 lbs/9.98 kg
Housing:	Metal, plenum-rated housing (UL2043)
Available Mounting	No additional hardware required to mount
Configurations:	Above drop ceiling, under ceiling or on wall
LEDs:	6 top mounted LEDs, 1 bottom mounted LED, with multiple modes indicating 802.11a/g/n activity, power, Ethernet adoption and errors
Uplink:	2 ports (GE1, GE2) Auto-sensing 10/100/1000 Base-T Ethernet
Console Port:	RJ45 Console Port

User Environment	
Operating Temperature:	-4°F to 122°F/-20°C to 50°C
Storage Temperature:	-40°F to 158°F/-40°C to 70°C
Operating Humidity:	5 to 95% RH non-condensing
Operating Altitude:	8000 ft./2438 m @ 82°F/28°C
Storage Altitude:	15000 ft./4572 m @ 53°F/12°C
Electrostatic Discharge:	15kV air, 8kV contact

Power Specifications	
Operating Voltage:	38-54V DC
Operating Current:	Not to exceed 600mA @ 48VDC
Integrated PoE Support	802.3af, 802.3at (draft)

Radio Specifications	
Wireless Medium:	Direct Sequence Spread Spectrum (DSSS), Orthogonal Frequency Division Multiplexing (OFDM), and Spatial multiplexing (MIMO)
Network Standards:	802.11a, 802.11b, 802.11g, 802.3, 802.11n Draft 2.0
Data Rates Supported:	802.11g: 1,2,5.5,11,6,9,12,18,24,36,48, and 54Mbps 802.11a: 6,9,12,18,24,36,48, and 54Mbps 802.11n: MCS 0-15 up to 300Mbps
Operating Channels:	All channels from 4920 MHz to 5825 MHz except channel 52 thru 64 Chan 1-13 (2412-2472 MHz) Chan 14 (2484 MHz) Japan only Actual operating frequencies depend on regulatory
Maximum Available Transmit Power:	20dBm
Transmit Power Adjustment:	1dB increments
Antenna Configuration:	3x3 MIMO (transmit and receive on all three antennas)
Operating Bands:	**FCC** 2.412 to 2.462 GHz 5.150 to 5.250 (UNII -1) 5.725 to 5.825 (UNII -3) 5.725 to 5.850 (ISM) **EU** 2.412 to 2.472 GHz 5.150 to 5.250 GHz 5.150 to 5.350 GHz 5.470 to 5.725 GHz (Country Specific) **Japan** 2.412 to 2.484GHz 4.900 to 5.000 GHz 5.150 to 5.250 GHz

Regulatory	
Standards Compliance:	Wi-Fi: 802.11a/b/g/n WPA2, WMM, WMM-UAPSD (Planned Q2 2008)
Product Safety Certifications:	UL / cUL 60950-1, IEC / EN60950-1, UL2043, RoHS
Radio Approvals:	FCC (USA), Industry Canada, CE (Europe), TELEC (Japan)

Part Numbers
AP-7131-60020-WR AP-7131 Single Radio 802.11n Access Point
AP-7131-66040-WR AP-7131 Dual Radio 802.11n Access Point
AP-PSBIAS-1P3-AFR High Power Single Port PoE Injector

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Receiver Sensitivity

Operating Band	Operating Modes	Data Rate	Typical Receive Sensitivity per Antenna in 3x3 Configuration (dBm)
2.4 GHz	802.11b	1 Mb/s	-89.5
		2 Mb/s	-87.5
		5.5 Mb/s	-86.5
		11 Mb/s	-85.5
2.4 GHz	802.11g	6 Mb/s	-88.5
		9 Mb/s	-88.5
		12 Mb/s	-88.5
		18 Mb/s	-85.5
		24 Mb/s	-84.5
		36 Mb/s	-79.5
		48 Mb/s	-75.5
		54 Mb/s	-74.5
2.4 GHz	802.11n Draft 2.0 (HT20)	MCS0	-88.5
		MCS1	-86.5
		MCS2	-83.5
		MCS3	-81.5
		MCS4	-77.5
		MCS5	-74.5
		MCS6	-73.5
		MCS7	-71.5
		MCS8	-87.5
		MCS9	-85.5
		MCS10	-80.5
		MCS11	-79.5
		MCS12	-75.5
		MCS13	-72.5
		MCS14	-70.5
		MCS15	-66.5
2.4 GHz	802.11a	6 Mb/s	-81.5
		9 Mb/s	-81.5
		12 Mb/s	-81.5
		18 Mb/s	-79.5
		24 Mb/s	-77.5
		36 Mb/s	-73.5
		48 Mb/s	-71.5
		54 Mb/s	-69.5

Receiver Sensitivity (cont.)

Operating Band	Operating Modes	Data Rate	Typical Receive Sensitivity per Antenna in 3x3 Configuration (dBm)
5 GHz	802.11n Draft 2.0 (HT20)	MCS0	-84.1
		MCS1	-82.4
		MCS2	-80.0
		MCS3	-77.2
		MCS4	-74.3
		MCS5	-70.2
		MCS6	-68.7
		MCS7	-67.2
		MCS8	-83.2
		MCS9	-80.2
		MCS10	-77.8
		MCS11	-75.3
		MCS12	-72.2
		MCS13	-68.1
		MCS14	-66.7
		MCS15	-64.5
5 GHz	802.11n Draft 2.0 (HT40)	MCS0	-81.3
		MCS1	-80.3
		MCS2	-77.6
		MCS3	-75.1
		MCS4	-71.8
		MCS5	-67.7
		MCS6	-66.3
		MCS7	-64.3
		MCS8	-80.5
		MCS9	-77.9
		MCS10	-75.1
		MCS11	-72.6
		MCS12	-69.1
		MCS13	-65.5
		MCS14	-63.8
		MCS15	-63.5

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