



# 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

Supports 802.11a/b/g/n access, MESH, Wireless IPS Sensor

### Triple methodology rogue AP detection: on-channel, mobile unit, dedicated radio dual-band scanning

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 designed to cost-effectively meet the needs of large, distributed enterprises by converging the functionality of a thick access point and thin

**Adaptive AP: extending the enterprise**

Enables centralized management of mesh access points at remote sites including automatic firmware upgrades; provides site survivability for remote locations with 802.11a/b/g/n networks for unparalleled resiliency

**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**

Intelligent power management enables self-configuration based on available power

**DFS compliance**

Increased throughput through greater channel availability in the 5 GHz bands

access 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). All traffic between the adaptive access points and the wireless switch is secured through an IPsec tunnel. And in the event of a WAN, distribution or core network failure, this fully independent configuration offers a Remote Site Survivability (RSS) feature that enables the delivery of secure uninterrupted wireless service in the remote location, offering unparalleled network resiliency.

In addition, a lower cost dependent mode access point configuration is also available. While this model always requires a central switch for normal operation, it also offers Remote Site Survivability, providing up to 72 hours of uninterrupted service in the remote location during network outages.

**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 gap-free 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 is designed to function as a Wireless Intrusion Protection System (IPS) sensor, enabling automatic 24x7 monitoring of your wireless network. And Motorola's RF Management Suite provides unified management, enabling simplified, cost-effective planning, deployment and monitoring of large AP-7131 deployments.

**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](http://www.motorola.com/ap7131) or access our global contact directory at [www.motorola.com/enterprisemobility/contactus](http://www.motorola.com/enterprisemobility/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

MIMO Power Save (Static and Dynamic)

## 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

Antenna connectors: RP-SMA

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: 36-57VDC

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: 802.11b/g: 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  
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:	<b>FCC</b>	<b>EU</b>
	2.412 to 2.462 GHz	2.412 to 2.472 GHz
	5.150 to 5.250 (UNII -1)	5.150 to 5.250 GHz
	5.725 to 5.825 (UNII -3)	5.150 to 5.350 GHz
	5.725 to 5.850 (ISM)	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

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, Plastic Façade, with QIG
AP-7131-60028-WR	AP-7131 Single Radio 802.11n Access Point, 6 element Façade antenna Module, with QIG
AP-7131-66040-WR	AP-7131 Dual Radio 802.11n Access Point, Plastic Façade, with QIG
AP-7131-66048-WR	APN Dual Radio 802.11n Access Point, 6 element Façade antenna Module, with QIG
AP-7131-60020-D-WR	APN Single Radio 802.11n Access Point Dependent Mode
AP-7131-66040-D-WR	APN Dual Radio 802.11n Access Point Dependent Mode
50-14000-247R	AP-7131 Power Supply
AP-PSBIAS-1P3-AFR	Single Port PoE Injector - High Power
ML-2452-PTA3M3-036	3 Port MIMO Antenna
ML-2452-PTA2M3X3-1	Façade with 6 element antenna Module

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**SPECIFICATION SHEET**

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Receiver Sensitivity					Receiver Sensitivity (cont.)								
Operating Band	Operating Modes	Data Rate	Typical Receive Sensitivity per Antenna in 3x3 Configuration (dBm)		Operating Band	Operating Modes	Data Rate	Typical Receive Sensitivity per Antenna in 3x3 Configuration (dBm)					
2.4 GHz	802.11b	1 Mb/s	-91.4		5 GHz	802.11a	6 Mb/s	-89.0					
		2 Mb/s	-90.2				9 Mb/s	-89.1					
		5.5 Mb/s	-88.9				12 Mb/s	-88.9					
		11 Mb/s	-86.7				18 Mb/s	-87.7					
			24 Mb/s	-84.7									
				36 Mb/s			-81.7						
2.4 GHz	802.11g	6 Mb/s	-89.6			5 GHz	802.11n Draft 2.0 (HT20)	MCS0	-88.9				
		9 Mb/s	-89.5					MCS1	-87.3				
		12 Mb/s	-89.3					MCS2	-85.1				
		18 Mb/s	-87.5					MCS3	-82.2				
		24 Mb/s	-85.1					MCS4	-78.7				
		36 Mb/s	-81.3					MCS5	-74.6				
2.4 GHz	802.11n Draft 2.0 (HT20)	MCS6	-73.9					MCS6	-73.1		MCS7	-71.6	
		MCS7	-71.9					MCS7	-71.6		MCS8	-88.0	
		MCS8	-88.5					MCS8	-88.0		MCS9	-85.5	
		MCS9	-85.8		MCS9			-85.5		MCS10	-82.9		
		MCS10	-82.0		MCS10			-82.9		MCS11	-80.5		
		MCS11	-80.0		MCS11			-80.5		MCS12	-76.7		
		MCS12	-76.4		MCS12			-76.7		MCS13	-72.5		
		MCS13	-73.0		MCS13			-72.5		MCS14	-70.9		
		MCS14	-70.9		MCS14			-70.9		MCS15	-68.9		
		MCS15	-68.6		MCS15	-68.9							
2.4 GHz	802.11n Draft 2.0 (HT40)	MCS0	-82.7		5 GHz	802.11n Draft 2.0 (HT40)	MCS0	-85.2					
		MCS1	-80.3				MCS1	-83.9					
		MCS2	-76.5				MCS2	-81.2					
		MCS3	-75.9				MCS3	-78.5					
		MCS4	-70.4				MCS4	-75.2					
		MCS5	-68.9				MCS5	-71.4					
		MCS6	-65.1				MCS6	-69.5					
		MCS7	-63.3				MCS7	-67.7					
		MCS8	-82.3				MCS8	-84.6					
		MCS9	-79.9				MCS9	-82.2					
		MCS10	-76.3				MCS10	-79.0					
		MCS11	-75.8				MCS11	-76.6					
		MCS12	-69.6				MCS12	-73.1					
		MCS13	-68.4				MCS13	-68.9					
		MCS14	-65.3				MCS14	-67.2					
MCS15	-61.5		MCS15	-65.2									



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