

Alcatel-Lucent OmniAccess 203r Series Remote Access Points

802.11ac access point for home and small branch offices

The multifunctional OmniAccess 203R Remote AP delivers secure and fast 802.11ac wireless and wired network access to corporate resources for branch and home offices.

Unique in the industry, the compact OmniAccess 203R remote AP is software configurable to operate in either 1x1 dual radio mode, or 2x2 single radio mode. It supports up to 867 Mb/s in the 5 GHz band or up to 400 Mb/s in the 2.4 GHz band when operating in single radio 2x2 mode. In dual radio 1x1 mode, the maximum data rates for the 203R AP are 433 Mb/s in the 5 GHz band and 200 Mb/s in the 2.4 GHz band.



The 203R AP offers a variety of enterprise-class features, including role-based network access, policy-based forwarding, and Adaptive Radio Management (ARM), which gives remote workers the same high-quality Wi-Fi experience they get at corporate headquarters. When additional capacity is desired, this low-cost 203R AP can be quickly added to an existing OmniAccess WLAN to improve network performance.

Managed by the OmniAccess Mobility Controller, the 203R AP supports centralized configuration, data encryption, policy enforcement and network services. It extends corporate resources to remote locations by establishing site-to-site VPN tunnels to the data center.

With an integrated BLE Beacon, the 203R AP simplifies the remote management of a large scale network of battery-powered BLE Beacons and provides advanced location and indoor way finding, and proximity-based push notification capabilities.

Unique benefits

Deploy with or without controller

- The 203R can be deployed in either controller-based (AOS-W) or controllerless (InstantOS) deployment mode.

New 802.11ac flexible radio architecture

- The 203R AP is software configurable to operate in either 1x1 dual radio mode, or 2x2 single radio mode.
- Supports up to 867 Mb/s in the 5 GHz band (with 2SS/VHT80 clients) or up to 400 Mb/s in the 2.4 GHz band (with 2SS/VHT40 clients). In 1x1 dual radio mode, these max speeds are up to 433 Mb/s (5 GHz) and 200 Mb/s (2.4 GHz).

Built-in Bluetooth Low-Energy (BLE) radio

- Delivers location-based services for BLE-enabled mobile devices.
- Enables management of your deployment of battery-powered BLE Beacons.

Advanced Cellular Coexistence (ACC)

- Minimizes the impact from out-of-band interference from sources such as 3G/4G cellular networks.

RF Management

- Adaptive Radio Management (ARM) technology automatically assigns channel and power settings, provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high-performance WLANs
- The 203R can be configured to provide part-time or dedicated air monitoring for wireless intrusion protection, VPN tunnels to extend remote locations to corporate resources, and wireless mesh connections where Ethernet drops are not available.

Security

- Integrated wireless intrusion protection offers threat protection and mitigation, and eliminates the need for separate RF sensors and security appliances.
- IP reputation and security services identify, classify, and block malicious files, URLs and IPs, providing comprehensive protection against advanced online threats.
- Integrated Trusted Platform Module (TPM) for secure storage of credentials, certificates and keys.

Intelligent app visibility and control

- AppRF technology leverages deep packet inspection to classify and block, prioritize or limit bandwidth for over 2,500 enterprise apps or groups of apps.

Quality of service for unified communication apps

- Supports priority handling and policy enforcement for unified communication apps, including Microsoft Skype for Business with encrypted videoconferencing, voice, chat and desktop sharing.

Choose your deployment and operating modes

OmniAccess APs offer a choice of deployment and operating modes to meet your unique management and deployment requirements:

- The 203R AP is the unified AP that supports both controller-based and controllerless deployment modes, providing maximum flexibility
- Controller-based mode - When deployed in conjunction with an OmniAccess Mobility Controller, OmniAccess APs offer centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.
- Controllerless (Instant) mode - The controller function is virtualized in a cluster of APs in Instant mode. As the network grows and/or requirements change, Instant deployments can easily migrate to controller-based mode.
- Remote AP (R AP) mode for branch deployments
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Secure enterprise mesh

Datasheet

203R Series Remote Access Points specifications

- Unified flexible radio 802.11ac remote AP with internal antennas.
- Supports wall-box and desk mount deployments.

Wi-Fi radio specifications

- AP type: Indoor, flexible radio:
 - 5 GHz 802.11ac 2x2 MIMO OR 2.4 GHz 802.11n 2x2 MIMO¹, or
 - 5 GHz 802.11ac 1x1 and 2.4 GHz 802.11n 1x1
- Software-configurable radio supports 5 GHz (Radio 0 and/or 2.4 GHz (Radio 1))
- 5 GHz: Two spatial stream Single User (SU) MIMO for up to 867 Mb/s wireless data rate to individual 2x2 VHT80 client devices
- 2.4 GHz: Two spatial stream Single User (SU) MIMO for up to 400 Mb/s wireless data rate to individual 2x2 VHT40 client devices (300 Mb/s for HT40 802.11n client devices)
- Support for up to 256 associated client devices per radio, and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
 - 2.400 to 2.4835 GHz
 - 5.150 to 5.250 GHz
 - 5.250 to 5.350 GHz
 - 5.470 to 5.725 GHz
 - 5.725 to 5.850 GHz
- Available channels: Dependent on configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
 - 802.11b: Direct-sequence spread-spectrum (DSSS)
 - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
 - 802.11b: BPSK, QPSK, CCK
 - 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dBm

- Maximum (conducted) transmit power (limited by local regulatory requirements):
 - 2.4 GHz band: +18 dBm per chain, +21 dBm aggregate (2x2 mode)
 - 5 GHz band: +18 dBm per chain, +21 dBm aggregate 2x2 mode)

Note: conducted transmit power levels exclude antenna gain. For total (EIRP) transmit power, add antenna gain

- Advanced Cellular Coexistence (ACC) minimizes interference from cellular networks
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance
- Short guard interval for 20 MHz, 40 MHz and 80 MHz channels
- Space-time block coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Transmit beam-forming (TxBF) for increased signal reliability and range
- Supported data rates (Mb/s):
 - 802.11b: 1, 2, 5.5, 11
 - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
 - 802.11n (2.4 GHz): 6.5 to 300 (MCS0 to MCS15)
 - 802.11n (5 GHz): 6.5 to 450 (MCS0 to MCS23)
 - 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2 for VHT20/40/80)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

Wi-Fi antennas

- Two integrated dual-band omnidirectional antennas for 2x2 MIMO with maximum individual antenna gain of 0.9 dBi in 2.4 GHz and 2.9 dBi in 5 GHz. Built-in antennas are optimized for vertical orientation of the AP.

- Combining the patterns of each of the antennas of the MIMO radios, the peak gain of the effective per-antenna pattern is -1dBi in 2.4 GHz and 0.9dBi in 5 GHz.

Other interfaces

- Uplink: 10/100/1000BASE-T Ethernet (RJ-45, back)
 - Auto-sensing link speed and MDI/MDX
 - 802.3az Energy Efficient Ethernet (EEE)
- Local: Two 10/100/1000BASE-T Ethernet (RJ-45, back)
 - Auto-sensing link speed and MDI/MDX
 - 802.3az Energy Efficient Ethernet (EEE)
 - One port (E2): PoE-PSE (output): 48 Vdc (nominal) 802.3af PoE (OAW-AP203RP models)
- Bluetooth Low Energy (BLE) radio
 - Up to 4dBm transmit power (class 2) and -93 dBm receive sensitivity
 - Integrated antenna with moderately directional pattern and peak gain of 1dBi
- USB 2.0 host interface (Type A connector, top)
 - 3G/4G cellular modems
 - Device battery charging port
 - Capable of supplying up to 1A/5 watts of power to an attached device
- AC power interface, 2 prong IEC 60320-1 C8 receptacle (back)
- Visual indicators (LEDs, front):
 - Power/system status
 - Radio status
 - Local network port status (2x)
- Includes PoE-PSE status (OAW-AP203RP models)
- Reset/LED control button (“paperclip access”, bottom)
 - Factory reset (when activated during device power up)
 - LED control: toggle off/normal
- Serial console interface (custom, uUSB physical jack, bottom)

¹ 256-QAM modulation (802.11ac) supported by the 2.4 GHz radio as well

Encrypted throughput

- Maximum IPsec encrypted wired throughput: 20 Mb/s

Power sources and consumption

- The AP supports direct AC power: 90V – 265V, 47Hz – 63 Hz.

Note that the unit does not include an AC power cord (IEC C7 plug). A compatible region-specific cord should be selected and added when ordering the AP.

- Maximum (worst-case) power consumption: 8.2W.
 - Excludes power consumed by external USB and/or PoE-PD device (and internal losses); this could add up to 5.7W for a 5W/1A USB device and up to 17.2W for a max load (15.4W) 802.3af PoE-PD device
- Maximum (worst-case) power consumption in idle mode: 5.0W.

Mounting

- The AP supports desk mount without additional accessories. A cover ships with the AP to hide connectors, cables and product labels.
- The cover can be used to support wall mounted deployments as well.

Mechanical

- Dimensions/weight (unit, with cable cover):
 - 155mm (W) x 50mm (D) x 95mm (H)
 - 320g (OAW-AP203R), 340g (OAW-AP203RP)
- Dimensions/weight (shipping):
 - 224mm (W) x 159mm (D) x 78mm (H)
 - 510g (OAW-AP203R), 590g (OAW-AP203RP)

Environmental

- Operating:
 - Temperature: 0° C to +40° C (+32° F to +104° F)
 - Humidity: 5% to 93% non-condensing
- Storage and transportation:
 - Temperature: -40° C to +70° C (-40° F to +158° F)

Regulatory

- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489

- EN 301 893
- UL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2

For more country-specific regulatory information and approvals, please see your ALE representative.

Reliability

- MTBF at +25C operating temperature:
 - OAW-AP203R: 539,000 hours (62 years)
 - OAW-AP203RP: 493,000 hours (56 years)

Regulatory model number

- OAW-AP203R-xx (all variants): APINR203
- OAW-AP203RP-xx (all variants): APINP203

Certifications

- CB Scheme Safety, cTUVus
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac

Warranty

- Limited lifetime warranty

Minimum software versions

- AOS-W: 6.5.2.0/8.2.0.0
- InstantOS: 6.5.2.0/8.2.0.0

RF performance table

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 GHz		
802.11b		
1 Mb/s	18.0	-95.0
11 Mb/s	18.0	-87.0
802.11g		
6 Mb/s	18.0	-92.0
54 Mb/s	16.0	-75.0
802.11n HT20		
MCS0/8	18.0	-91.0
MCS7/15	14.0	-73.0
802.11n HT40		
MCS0/8	18.0	-89.0
MCS7/15	14.0	-70.0

Datasheet

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
5 GHz		
802.11a		
6 Mb/s	17.0	-91.0
54 Mb/s	16.0	-74.0
802.11n HT20		
MCS0/8	17.0	-91.0
MCS7/15	14.0	-72.0
802.11n HT40		
MCS0/8	16.0	-89.0
MCS7/15	14.0	-70.0
802.11ac VHT20		
MCS0	16.0	-91.0
MCS8	13.0	-67.0
802.11ac VHT40		
MCS0	16.0	-89.0
MCS9	12.0	-63.0
802.11ac VHT80		
MCS0	16.0	-85.0
MCS9	12.0	-60.0

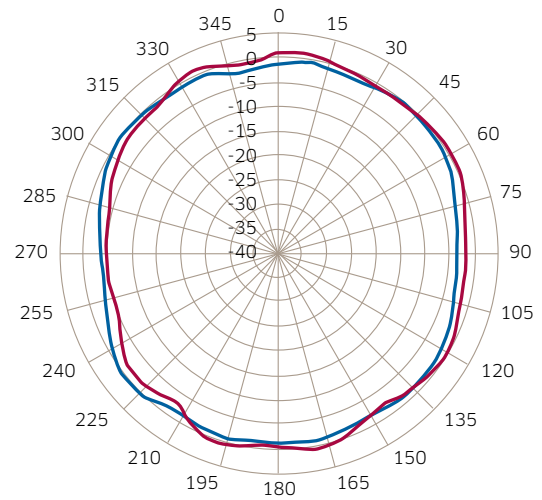
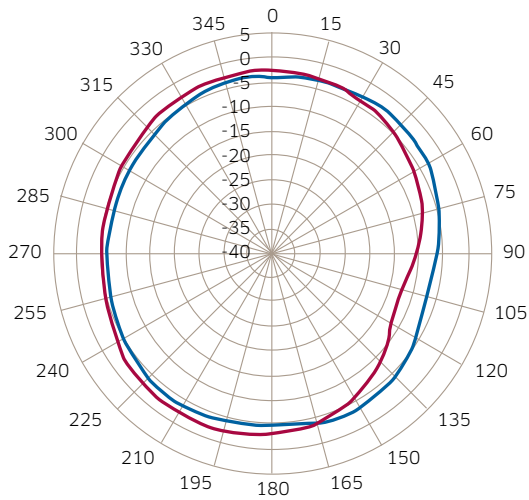
Maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.

Ordering information

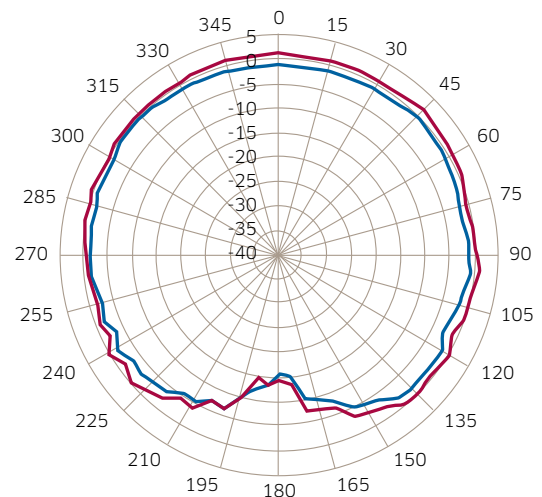
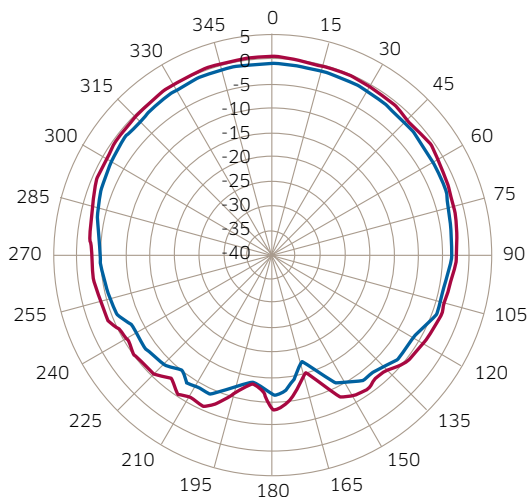
Part Number	Description
OmniAccess 203R Series Remote Access Points	
OAW-AP203R-IS	OmniAccess AP203R (IS) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas. Restricted regulatory domain: Israel
OAW-AP203R-JP	OmniAccess AP203R (JP) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas. Restricted regulatory domain: Japan
OAW-AP203R-RW	OmniAccess AP203R (RW) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas. Restricted regulatory domain: Rest of World
OAW-AP203R-US	OmniAccess AP203R (US) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas. Restricted regulatory domain: United States
OAW-AP203R-EG	OmniAccess AP203R (EG) Flex-radio 802.11ac 2x2 Unified Remote AP with Internal Antennas. Restricted regulatory domain: Egypt
OAW-AP203RP-IS	OmniAccess AP203RP (IL) Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas. Restricted regulatory domain: Israel
OAW-AP203RP-JP	OmniAccess AP203RP (JP) Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas. Restricted regulatory domain: Japan
OAW-AP203RP-RW	OmniAccess AP203RP (RW) Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas. Restricted regulatory domain: Rest of World
OAW-AP203RP-US	OmniAccess AP203RP (US) Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas. Restricted regulatory domain: United States
OAW-AP203RP-EG	OmniAccess AP203RP (EG) Flex-radio 802.11ac 2x2 PoE Unified Remote AP with Internal Antennas. Restricted regulatory domain: Egypt
Other accessories	
AP-CBL-SERU	OmniAccess Micro-USB TTL3.3V to USB2.0 AP Console Adapter Cable

Figure 1. Antenna pattern plots

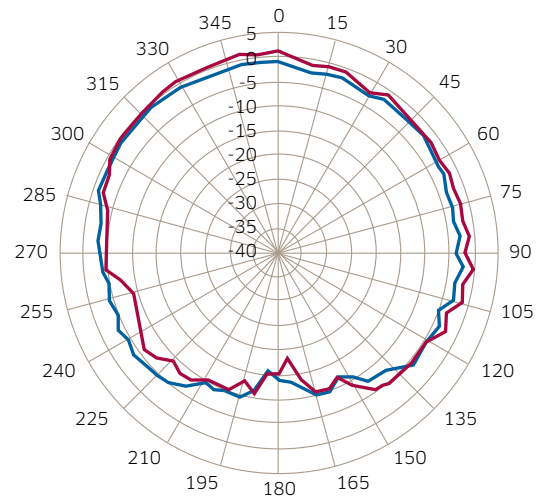
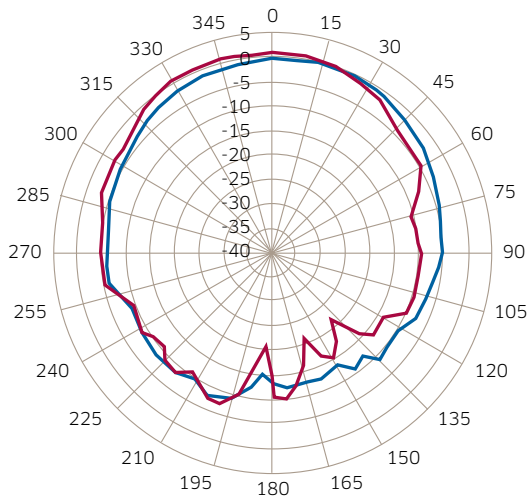
Horizontal or azimuth plane (looking at the top of the AP, front facing up)



Elevation plane 0 (looking at the side of the AP, front facing to the right)



Elevation plane 90 (looking at the front of the AP)



— 2.45 GHz Wi-Fi 2x2 Elevation 90
 — 2.45 GHz Wi-Fi 1x1 Elevation 90

— 5.5 GHz Wi-Fi 2x2 Elevation 90
 — 5.5 GHz Wi-Fi 1x1 Elevation 90