

Alcatel-Lucent OmniAccess Stellar AP1521

WLAN Access Points - Indoor Wi-Fi 7

The Alcatel-Lucent OmniAccess[®] Stellar AP1521 Wi-Fi 7 Access Point (AP), provides high-efficiency, high-performance 802.11be aggregate data rates up to 12.2 Gbps across the 6GHz, 5GHz and 2.4GHz band. Wi-Fi 7 technology supports a higher density of clients, delivers more capacity for bandwidth-hungry and latency-sensitive applications, and provides a dependable secure network for Internet of Things (IoT) devices while increasing their battery powered lifespan. The OmniAccess Stellar WLAN portfolio brings unparalleled experience in connectivity, coverage and performance for the modern, IoT-connected enterprise.



The Wi-Fi 7 premium OmniAccess Stellar AP1521 is designed to accommodate the very dense and high-capacity needs of next-generation mobility and IoT-enabled networks. The access point is powered with five built-in radios, three radios 2.4GHz/5GHz/6GHz serving high-density Wi-Fi clients, one full band radio dedicated to scanning for improved network security and Wi-Fi quality and an integrated Bluetooth/Zigbee radio enabling the growing needs of enterprise IoT connectivity for powering location and building automation services. The OmniAccess Stellar AP1521 series supports a maximum aggregate data rate of 12.2 Gbps (688 Mbps in 2.4GHz, 5.76 Gbps in 5GHz, 5.76 Gbps in 6GHz). The access point provides one 10GE Power over Ethernet (PoE) uplink and one GE uplink/downlink.

The OmniAccess Stellar AP1521 supports 802.11be features, which include Multi-Link Operation (MLO), Orthogonal Frequency Division Multiplexing (OFDMA), Downlink Multi-User Multiple Input, Multiple Output (DL MU-MIMO), Uplink Multi-User Multiple Input, Multiple Output (UL MU-MIMO), 4096 Quadrature Amplitude Modulation mode (4096-QAM) and more, making tomorrow's diverse digital workspaces highly reliable and efficient.

The OmniAccess Stellar AP1521 features enhanced WLAN technology with RF Radio Dynamic Adjustment, a distributed control Wi-Fi architecture, secure network admission control with Unified Access and built-in application intelligence and analytics, making it ideal for enterprises of all sizes that demand a simple, secure and scalable wireless solution.

802.11be high-efficiency features

IEEE 802.11be allows enterprises to deliver high-performance wireless LAN services with increased throughput, enabling more clients in dense environments and bringing power efficiency to IoT devices, while it remains fully backward compatible with existing 802.11 a/b/g/n/ac/ax deployments. The 802.11be standard is a dramatic step forward in wireless LAN technology for all organizations. Some of the key 802.11be features enabled on OmniAccess Stellar AP1521 include:

- MLO: A Wi-Fi technology that enables devices connected to a Wi-Fi AP to simultaneously send and/or receive data across different frequency bands and channels. MLO is one of the many core features added in Wi-Fi 7 that help enhance the user experience. The deployment flexibility rendered by MLO is key to addressing SLAs of next-generation user applications.
- **OFDMA:** Enables more clients to simultaneously operate in the same channel, thereby improving efficiency, latency and throughput. OFDMA can concurrently address multiple clients in both directions DL and UL), including OFDMA Resource Units (RUs). OFDMA is very effective in environments where there are many devices with short frames demanding lower latency.
- **Multiple non-contiguous RU allocations per client:** Allows for increased RF spectrum utilization efficiency and reduced interference impact on bandwidth
- **MU-MIMO:** Allows more data to be transferred at once and enables an access point to handle a larger number of concurrent clients
- 4096-QAM: Boosts peak data-rates by as much as 25 percent
- Transmit beamforming: Improves signal power, resulting in significantly higher rates at a given range

Deliver enterprise-grade security and scale with simplicity

The OmniAccess Stellar AP1521 enables a visionary **distributed Wi-Fi architecture with centralized management and policy control**. This enforces security at every step starting at the network edge and allows unparalleled scale in network capacity. This architecture is vital for enabling the next generation of digital enterprise that demands business agility, seamless mobility and secure IoT-enabled infrastructure empowering business transformation through continuous innovation.

The OmniAccess Stellar AP1521 provides enhanced security with **WPA3**, a new security standard for enterprise and public networks, improving Wi-Fi security by using advanced security algorithms and stronger ciphers in enterprises including the 192-bit security suite. Public spaces which provide open non-protected access can now deliver encryption and privacy using OmniAccess Stellar, which supports a new security standard Wi-Fi Enhanced Open based on Opportunistic Wireless Encryption (OWE).

The APs can be deployed in three different modes, all through a single version of software simplifying IT operations.

For mid- to large-scale enterprises, the **Alcatel-Lucent OmniVista® Network Management System** provides secure plug-and-play APs for large scale deployment, with user friendly workflows for wireless services and unified access for end-to-end security. It comes with integrated unified policy authentication manager (UPAM) which helps define authentication strategy and policy enforcement for employees, guest management and BYOD devices. The OmniAccess Stellar AP1521 has built-in DPI technology providing real-time application monitoring and enforcement capabilities. The network administrator can obtain a comprehensive view of applications running in the network and apply adequate controls to optimize the performance of the network for business-critical applications. OmniVista provides advanced options for RF management, wireless Intrusion Detection System/ wireless Intrusion Prevention System (wIDS/wIPS) and heatmaps for WLAN site planning. To further simplify IT, the APs can be managed as one or more access point groups (a logical grouping of one or more APs).

Cloud-enabled with OmniVista Cirrus Network Management as a Service

The OmniAccess Stellar AP1521 can be managed by the **OmniVista Cirrus cloud platform. OmniVista Cirrus powers a secure, resilient and scalable cloud-based network management platform**. It offers hassle-free network deployment and easy service rollout with advanced analytics for smarter decision making. OmniVista Cirrus also provides IT-friendly unified access with secure authentication and policy enforcement for users and devices.

On-premises deployment with OmniVista 2500 Network Management System (NMS)

The OmniAccess Stellar AP1521 can be managed on-premises from the OmniVista 2500 NMS.

For small to medium-sized enterprises, **Wi-Fi Express provides secure web-managed (HTTPS) cluster deployment**.

The OmniAccess Stellar AP1521, by default, can operate in a cluster architecture to provide simplified plug-andplay deployment. The AP cluster is an autonomous system that consists of a group of OmniAccess Stellar APs managed by one AP that is elected as the primary virtual manager. One AP cluster supports up to 255 APs.

The AP cluster architecture ensures simplified and quick deployment. Once the first AP is configured using the configuration wizard, the remaining APs in the network will come up automatically with an updated configuration. This ensures the whole network is up and functional within a few minutes.

The OmniAccess Stellar AP1521 also supports secure zero-touch provisioning with the OXO Connect R2 which provides a mechanism by which all APs in a cluster will obtain bootstrap data securely from an on-premises OXO Connect.

W-Fi Express mode supports role-based management access to the AP cluster which includes Admin, Viewer and GuestOperator access. GuestOperator access simplifies guest account management and can be used by any non-IT person such as a front desk worker or receptionist. The OmniAccess Stellar AP1521 also supports a built-in, customizable captive portal, which enables customers to offer secure and seamless guest access experience.

Quality of service for unified communication apps

The OmniAccess Stellar AP1521 supports **fine-tuned**, **quality of service** (**QoS**) **parameters** to differentiate and provide appropriate QoS for each application such as voice, video and desktop sharing. Application-aware RF scanning avoids interruption of real-time applications.

RF management

Radio Dynamic Adjustment (RDA) technology automatically assigns channels and power settings, provides Dynamic Frequency Selection/Transmit Power Control (DFS/TPC), and ensures that APs stay clear of all radio frequency interference (RFI) sources to deliver reliable, high-performance WLAN. The OmniAccess Stellar AP1521 can be configured to provide part-time or dedicated scanning for spectrum analysis and wireless intrusion protection.

Product specifications

| Feature | Description |
|-------------------------------------|--|
| Feature Radio specification | AP type: India of GHz High 22/2, 5 GHz 44:44, and 2.4 GHz 2x/22 - 6 GHz: 2x/2.2 up to 5,75Gbps wireless data rate to individual 25S EHT320 802.11be client devices. - 5 GHz: 2x/2.2 up to 658Mbps wireless data rate to individual 25S EHT406 802.11be client devices. - 2.4 GHz: 2x/2.2 up to 658Mbps wireless data rate to individual 25S EHT40 802.11be client devices. - 2.4 GHz: 2x/2.2 up to 658Mbps wireless data rate to individual 25S EHT40 802.11be client devices. - 2.4 GHz: 2x/2.2 up to 658Mbps wireless data rate to individual 25S EHT40 802.11be client devices. - 2.4 GHz: 2x/2.2 up to 658Mbps wireless data rate to individual 25S EHT40 802.11be client devices. - 5.4 GPS to 5.350 GHz - 5.202 to 6.425 GHz - 6.425 to 6.425 GHz - 6.425 to 6.425 GHz - 6.425 to 6.425 GHz - 6.875 to 7.125 GHz - 6.875 to 7.125 GHz - 6.875 to 7.125 GHz - 72GBm on 2.4GHz - 202Bm on 5GHz - 27GBm on 5GHz - 27GBm on 6GHz - 802.111/c packet aggregation: Aggregated MAC protocol data unit (A-MPDU), Aggregated MAC service data unit (A-MSDU) - Supported data rates (Mbps): - 802.111/c packet aggregation: Aggregated MAC protocol data unit (A-MPDU), Aggregated MAC service data unit (A-MSDU) - 802.111/c GHz): 6.5 to 7000 (MCS0 to MCS1), HT20 to HT40) - 802.111/c GHz): 6.5 to 7733 (MCS0 to MCS1), HT20 to HT40) - 802.111/c GHz): 6.5 to 7733 (MCS0 to MCS1), HT20 to HT40) - 802.111/c GHz): 6.5 to 7733 (MCS0 to MCS1), HT52 to 12, HT20 to VHT80) - 802.111/c GHz): 6.5 to 7733 (MCS0 to MCS1), HT52 to 12, HT20 to VHT80) - 802.111/c GHz): 6.5 to 7733 (MCS0 to MCS1), HT52 to 12, HT20 to VHT80) - 802.111/c GHz): 6.5 to 7763 (MCS0 to MCS1), |
| Interfaces | 1x multi-Gigabit 10/5/2.5/1GE autosensing (RJ-45) port, Eth0, Power over Ethernet (PoE) 802.3bt compliant 1x1GE RJ45 port, Eth1 1x USB 2.0 Type C (5V, 1A) 1x USB Type C console Reset button: Factory reset |

| Feature | Description | | | |
|--------------------------------------|--|---|---|---|
| Visual Indicators (Tri-color LED) | For system and radio status Red flashing: System abnormal, link down Red light: System startup Red and blue rotate flashing: System running, OS upgrading Blue light: System running, dual bands working Green flashing: System running, no SSID created Green light: System running, single band working Red, blue and green rotate flashing System running, use for location of an AP | | | |
| Security | Integrated Trusted Platform Module (TPM 2.0) for secure storage of credentials and keys 802.11i, WPA2, WPA3, Enterprise with CNSA option, Personal (SAE) 802.1X WEP, Advanced Encryption Standard (AES), Temporal Key Integrity Protocol (TKIP) Firewall: ACL, wIPS/wIDS and DPI application policy enforcement with OmniVista Portal page authentication | | | |
| Antenna | Integrated omni-dir 6.4dBi in 6 GHz | ectional antennas with I | maximum antenna gain o | of 4.6dBi in 2.4 GHz, 5.8dBi in 5 GHz and |
| Receive sensitivity | 1 Mbps 11 Mbps 6 Mbps 54 Mbps HT20(MCS0/8) HT20(MCS7/15) HT40(MCS7/15) VH720(MCS0) VH720(MCS0) VH740(MCS0) VH740(MCS0) VH740(MCS9) HE20(MCS0) HE20(MCS11) HE40(MCS0) HE40(MCS11) HE40(MCS0) HE40(MCS11) HE160(MCS11) EH720(MCS0) EH720(MCS13) EH740(MCS0) EH740(MCS0) EH780(MCS13) EH780(MCS13) EH780(MCS0) EH7320(MCS13) EH7320(MCS0) EH7320(MCS0) EH7320(MCS0) EH7320(MCS13) EH7320(MCS13) EH7320(MCS0) EH7320(MCS13) EH7320(MCS13) EH7320(MCS13) EH7320(MCS13) EH7320(MCS13) EH7320(MCS13) EH7320(MCS13) EH7320(MCS0) EH7320(MCS13) EH740(MCS13) | 2.4 GHz -97 -88 -91 -75 -92 -75 -89 -72 -92 -70 -89 -66 -92 -63 -89 -60 | 5 GHz -94 -76 -94 -75 -92 -73 -94 -72 -92 -68 -89 -64 -94 -65 -91 -62 -89 -61 -87 -57 -94 -59 -91 -57 -89 -56 -87 -54 | -93 -93 -64 -89 -61 -87 -59 -86 -56 -92 -57 -89 -56 -88 -55 -88 -55 -88 -55 -86 -53 -83 -52 |

| Feature | Description | | | |
|--|---|---|---|--|
| Feature Maximum transmit power (per chain) | Description 1 Mbps 11 Mbps 6 Mbps 54 Mbps HT20(MCS0/8) HT20(MCS0/8) HT20(MCS0/8) HT40(MCS0/8) HT40(MCS0) VHT20(MCS0) VHT20(MCS0) VHT20(MCS0) VHT20(MCS0) VHT20(MCS0) VHT40(MCS0) VHT40(MCS0) VHT80(MCS0) HE20(MCS11) HE20(MCS0) HE40(MCS0) HE40(MCS11) HE60(MCS11) HE160(MCS0) HE160(MCS11) EH120(MCS0) EH120(MCS0) EH140(MCS0) EH140(M | 2.4 GHz 18 dBm 18 dBm 18 dBm 17 dBm 18 dBm 16 dBm 18 dBm 16 dBm 18 dBm 15 dBm 13 dBm 13 dBm 13 dBm 13 dBm 13 dBm | 5 GHz 18 dBm 17 dBm 18 dBm 17 dBm 18 dBm 17 dBm 18 dBm 17 dBm 18 dBm 15 dBm 18 dBm 14 dBm 13 dbm 12 dbm 13 dbm 13 dbm 13 dbm 13 dbm | 6GHz 18 dBm 14 dBm 14 dBm 14 dBm 14 dBm 14 dBm 14 dBm 18 dBm 14 dBm 18 dBm 14 dBm 18 dBm 12 dbm 18 dbm 12 dbm 18 dbm 13 dbm 14 dbm |
| Power | Supports direct DC p When both power sc Direct DC source: 40~57V; PoE: IEEE 802.3bt comp Maximum (worst cas ~ 40.2W (single input) | oliant source e) power consumption: ıt IEEE 802.3bt PoE); unres | ernet (PoE) wer takes priority over PoE | |
| Mounting | Ceiling/wall mountin | g (Mount kit needs to be o | rdered separately) | |
| Environmental | - Humidity: 5% to 9 | | C to +70°C (-40°F to +158°F) | |
| Dimensions/Weight | ¬ 210mm (W) x 210i ¬ 1020g/2.25lb • Single AP including p | packing box and accessori mm (D) x 43mm (H) - 8.27" packing box and accessorie mm (D) x 68mm (H) - 9.21" | (W) x 8.27″ (D) x 1.69″ (H) es: | |
| Reliability | • MTBF: 650,124hours | ; (74.22years) at +25°C ope | rating temperature | |
| - | | | - | |

| Feature | Description |
|----------------------------|--|
| Capacity | Up to 16 SSID/Radio. Support up to 1280 associated client devices |
| Software features | Up to 4K APs when managed by OV2500. No limit on number of AP groups Up to 255 APs per web managed (HTTP/ HTTPS) cluster Auto channel selection Auto transmit power control Bandwith control per SSID L2 roaming L3 roaming with OmniVista 2500 Captive portal (Internal/External) Guest self-registration optional SMS notification) with OmniVista 2500 Internal user database RADIUS client Guest social-login with OmniVista 2500 RADIUS proxy authentication with OmniVista 2500 Band steering Client smart load balance Client stelf-registration with OmniVista 2500 White/Block list Zero-touch provisioning (ZTP) NTP Client MCE MCESS PL2P/2NP Wireless Bridge Rogue AP location and containment Dedicated Scanning AP System log report System log report SSIN42 SNMPv2 Wireless attack detection with OmniVista 2500 Floor plan and heat map with OmniVista 2500 Stanley Healthcare/Aeroscout RTLS support |
| IEEE standard | IEEE 802.11a/b/g/n/ac/ax/be IEEE 802.11e WMM, U-APSD IEEE 802.11h, 802.11i, 802.11e QoS IEEE 802.1Q (VLAN Tagging) 802.11w Protected Management Frames 802.11k Radio Resource Management 802.11v BSS Transition Management 802.11r Fast roaming |
| Regulatory & certification | CB Scheme Safety, cTUVus Wi-Fi CERTIFIED Wi-Fi 7, Passpoint R3 FCC CE Marked Bluetooth SIG RoHS, REACH, WEEE UL2043 Plenum rating 2014/35/EU Low Voltage Directive 2014/30/EU EMC Directive 2011/65/EU RoHS Directive 2011/65/EU RoHS Directive 2014/53/EU Radio Equipment Directive EN 55032 EN 55035 EN 60601-1-1 & EN 6060112- IEC/EN 60950 and 62368 EN 300 328 EN 301 489-1 EN 301 489-17 EN 62311 EN 303 687 |

Ordering information

| Access Points | Description |
|--------------------------------|---|
| OAW-AP1521-RW | OmniAccess Stellar Indoor AP1521. Tri radio 2.4GHz 2x2+5GHz 4x4+6GHz 2x2 Wi-Fi7, integrated omni antenna. 2.4GHz/5GHz/6GHz tri-band dedicated scanning, BLE/Zigbee radio. 1x 10GE, 1xGE, Console, USB, 48V DC. AP mount to be ordered separately. Regulatory domain not for use in US, Japan. |
| OAW-AP1521-US | OmniAccess Stellar Indoor AP1521. Tri radio 2.4GHz 2x2+5GHz 4x4+6GHz 2x2 Wi-Fi7, integrated omni antenna. 2.4GHz/5GHz/6GHz tri-band dedicated scanning, BLE/Zigbee radio. 1x 10GE, 1xGE, Console, USB, 48V DC. AP mount to be ordered separately. Restricted regulatory domain: US |
| Accessories | Description |
| AP-MNT-IN-BE (single pack) | Indoor mounting kit enhanced, Type B1 (9/16) and Type B2 (15/16) for T shaped ceiling rail mounting. Applicable for OmniAccess Stellar Indoor AP1101, AP12xx, AP13xx, AP14xx and AP15xx series. |
| AP-MNT-IN-WE (single pack)* | Indoor mounting kit, Type WE wall, ceiling and electrical box mounting. |
| AP-MNT-IN-CE (single pack) | Indoor mounting kit enhanced, Type C1 (Open Silhouette) and C2 (Flanged Interlude), for other shaped ceiling rail mounting. Applicable for OmniAccess Stellar Indoor AP1101, AP12xx, AP13xx, AP14xx and AP15xx series. |
| POE60U-1BT-X-R | 1-Port IEEE 802.3bt PoE Midspan. Port speed 10G PoE power 60W. No power cord included. Please order PWR-CORD-XX for country specific power cord. |
| ADP-50GRBD | 48V/30W AC-to-DC Power Adapter with Type A DC plug 2.1*5.5*9.5mm circular, straight. Please order PWR-CORD- XX for country specific power cord. |
| *Coming soon | |

Warranty

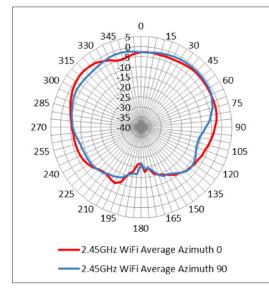
OmniAccess Stellar Access Points come with Hardware Limited Lifetime Warranty (HLLW).

Services and support

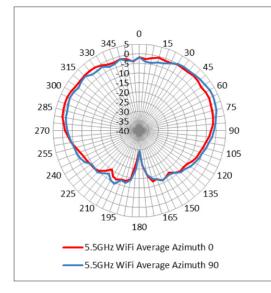
OmniAccess Stellar Access Points include one (1) year of complementary support software for partners. For more information about our Professional services, Support services and Managed services, please go to:

http://enterprise.alcatel-lucent.com/?services=EnterpriseServices&page=directory

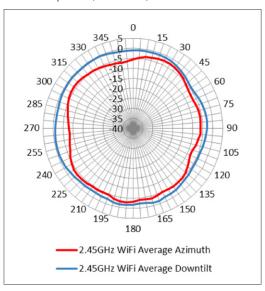
Azimuth plane (top view) - 2.4GHz



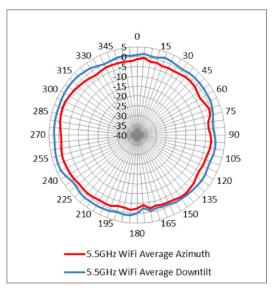
Azimuth plane (top view) - 5GHz

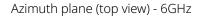


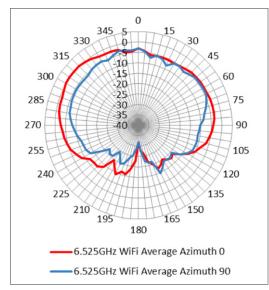
Elevation plane (side view) - 2.4GHz



Elevation plane (side view) - 5GHz

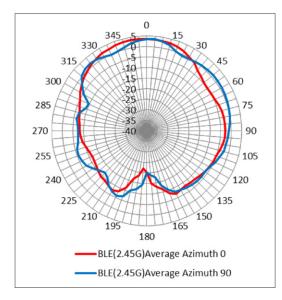




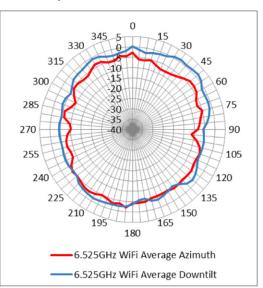


BLE radio antenna pattern

Azimuth plane (top view) - BLE



Elevation plane (side view) - 6GHz



Elevation plane (side view) - BLE

