Alcatel·Lucent
Enterprise

Alcatel-Lucent OmniAccess Stellar AP1411

WLAN Access Points - Indoor Wi-Fi 6E

The Alcatel-Lucent OmniAccess® Stellar AP1411 premium Wi-Fi 6E access point provides high-efficiency, high-performance 802.11ax aggregate data rates up to 3.6Gbps across the 5/6GHz, and 2.4 GHz band. Wi-Fi 6E technology supports higher client density, delivers more capacity for bandwidth-hungry and latency-sensitive applications and provides a dependable secure network for Internet of Things (IoT) devices while improving their battery powered lifespan. The OmniAccess Stellar WLAN portfolio brings unparalleled experience for connectivity, coverage and performance for the modern IoT connected enterprise.

The Wi-Fi 6E premium OmniAccess Stellar AP1411 is designed to accommodate the dense and high capacity needs of next generation mobility and IoT-enabled networks. The access point is powered with dual configurable built-in radios serving Wi-Fi clients, and an integrated Bluetooth/Zigbee radio enabling the growing needs of enterprise IoT connectivity powering location and building automation services. The OmniAccess Stellar AP1411 series supports a maximum aggregate data rate of 3.6Gbps (Mode1: 574Mbps in 2.4GHz + 1.2Gbps in 5GHz, Mode2: 574Mbps in 2.4GHz + 2.4Gbps in 6GHz, Mode3: 1.2Gbps in 5GHz + 2.4Gbps in 6GHz). The access point provides 1x 2.5GE and 1x 1GE uplinks, and the 2.5GE port provides Power over Ethernet (POE) input.

The OmniAccess Stellar AP1411 supports 802.11ax features, which include OFDMA, DL MU-MIMO, UL MU-MIMO, 1024-QAM modulation and more, making diverse digital workspaces highly reliable and efficient.

The OmniAccess Stellar AP1411 features enhanced WLAN technology with RF Radio Dynamic Adjustment, a distributed control Wi-Fi architecture, secure network admission control with Unified Access, built-in application intelligence and analytics, this makes it ideal for enterprises of all sizes that demand a simple, secure and scalable wireless solution.

802.11 ax High efficiency features

IEEE 802.11ax 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 remaining fully backward compatible with existing 802.11 a/b/g/n/ac deployments. The 802.11ax standard is a dramatic step forward in wireless LAN technology for all organisations. Key 802.11ax features enabled on the OmniAccess Stellar AP1411 include:

- Orthogonal frequency division multiple access (OFDMA) enabling more clients to simultaneously operate in the same channel and thereby improving efficiency, latency and throughput. OFDMA can concurrently address multiple clients in both directions downlink (DL) and uplink (UL), including OFDMA Resource Units (RUs). OFDMA is very effective in environments where there are many devices with short frames demanding lower latency.
- Multi-user multiple input, multiple output (MU-MIMO) allowing more data to be transferred at once and enabling an access point to handle a larger number of concurrent clients
- 1024 quadrature amplitude modulation mode (1024-QAM) boosting peak data-rates by as much as 25 percent
- BSS Coloring improves spatial reuse in dense environments by providing a mechanism for colour coding different overlapping BSS's, allowing more simultaneous transmissions
- Extended Range (ER) provides increased coverage in scenarios where receiving side encounters high path loss and channel delay spread, especially in outdoor environments
- Target Wake Time (TWT) makes Wi-Fi 6 devices more power efficient. This capability lets client devices sleep much longer, and wake up to less contention, extending the battery life of smart phones, IoT sensors and other devices
- 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 AP1411 enables a visionary distributed Wi-Fi architecture with centralised 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 AP1411 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 provide encryption and privacy using OmniAccess Stellar, which supports the new security standard, Wi-Fi Enhanced Open, based on Opportunistic Wireless Encryption (OWE).

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

For medium- to large-size enterprises, **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 the authentication strategy and policy enforcement for employees, guest management and BYOD devices. The OmniAccess Stellar AP1411 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 optimise the performance of the network for business-critical applications. OmniVista provides advanced options for RF management, wIDS/wIPS for intrusion detection and prevention 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 access points).

Cloud-enabled with OmniVista Cirrus Network Management as a Service

The OmniAccess Stellar AP1411 can be managed by the Alcatel-Lucent 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 offers 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 AP1411 can be managed on premises from the Alcatel-Lucent OmniVista 2500 Network Management System (NMS).

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

The OmniAccess Stellar AP1411 by default, can operate in a cluster architecture to provide simplified plug-and-play deployment. The AP cluster is an autonomous system that consists of a group of OmniAccess Stellar APs which is 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 AP1411 also supports secure zero-touch provisioning with Alcatel-Lucent 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.

The 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 AP1411 also supports a built-in customisable captive portal which enables customers to offer a secure and seamless guest access experience.

Quality of service for unified communications apps

The OmniAccess Stellar AP1411 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 DFS/TPC and ensures that APs stay clear of all radio frequency interference (RFI) sources to deliver reliable, high-performance WLAN. The OmniAccess Stellar AP1411 can be configured to provide part-time or dedicated scanning for spectrum analysis and wireless intrusion protection.

Product specifications

Feature	Description
Radio Specification	AP type: Indoor Wi-Fi 6E(802.11ax) • Dual Radio, Tri Band: 2.4GHz 2x2+5GHz 2x2 or 2.4GHz 2x2+6GHz 2x2 or 5GHz 2x2+6GHz 2x2 • 6 GHz: 2x2:2 up to 2.4Gbps wireless data rate to individual 2SS HE160 802.11ax client devices. • 5 GHz: 2x2:2 up to 1.2Gbps wireless data rate to individual 2SS HE80 802.11ax client devices. 2.4 GHz: 2x2:2 up to 574Mbps wireless data rate to individual 2SS HE40 802.11ax client devices. 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 • 5.925 to 6.425 GHz • 6.425 to 6.525 GHz • 6.525 to 6.875 GHz • 6.875 to 7.125 GHz Available channels: Dependent on configured regulatory domain Brazil: Maximum transmit power: 24dBm on 2.4GHz, 24dBm on 5GHz Maximum transmit power (limited by local regulatory requirements): • 25dBm on 2.4GHz (18dBm per chain) • 25dBm on 5GHz (18dBm per chain) • 25dBm on 6GHz (18dBm per chain) DFA (Dynamic Frequency Adjustment) optimises available channels and provides proper transmission power Short guard interval for 20-MHz, 40-MHz, 80-MHz and 160-MHz channels Transmit beamforming (TxBF) for increased signal reliability and range 802.11n/ac packet aggregation: Aggregated Mac Protocol Data Unit (A-MPDU), Aggregated Mac Service Data Unit (A-MSDU) Supported data rates (Mbps): • 802.11b: 1, 2, 5.5, 11 • 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 • 802.11n(2.4GHz): 6.5 to 300 (MCS0 to MCS15, HT20 to HT40) • 802.11n(5GHz): 6.5 to 300 (MCS0 to MCS15, HT20 to HT40) • 802.11ac(2.4GHz 256-QAM): 6.5 to 400 (MCS0 to MCS9, NSS=1 to 2, VHT20 to VHT40) • 802.11ac: 6.5 to 866.7 (MCS0 to MCS9, NSS = 1 to 2, VHT20 to VHT80) • 802.11ax(2.4GHz): 3.6 to 574 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE40) • 802.11ax(5GHz): 3.6 to 1201 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE80) • 802.11ax(6GHz): 3.6 to 2402 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE160) Supported modulation types: • 802.11b: BPSK, QPSK, CCK • 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM • 802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM • 802.11n high-throughput (HT) support: HT 20/40 • 802.11ac very high throughput (VHT) support: VHT 20/40/80 • 802.11ax high efficiency (HE) support: HE 20/40/80/160 • Advanced Cellular Coexistence (ACC) Minimises interference from 3G/4G cellular networks, distributed antenna systems and commercial small cell/ femtocell equipment Bluetooth 5 / Zigbee: up to 6dBm transmit power (class 1) and -93dBm receive sensitivity Integrated omnidirectional antenna with peak gain of 4.1dBi
Interfaces	1x multi-gigabit 2.5/1GE autosensing (RJ-45) + 1x 1GE RJ-45 uplink ports Eth0-Eth1. Eth0 2.5GE uplink port Power over Ethernet (PoE) 802.3at compliant. 1x USB 3.0 Type A (5V, 500mA) Console Reset button: Factory reset
Visual Indicators (Tri-colour 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

Feature	Description			
Security	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-directional antennas with maximum antenna gain of 4.1dBi in 2.4GHz and 4.5dBi in 5GHz and 4.7dBi in 6GHz			
Receive sensitivity		2.4 GHz	5 GHz	6GHz
	1 Mbps	-97		
	11 Mbps	-88		
	6 Mbps	-91	-90	
	54 Mbps	-75	-73	
	HT20(MCS0/8)	-92	-90	
	HT20(MCS7/15)	-75	-72	
	HT40(MCS0/8)	-89	-88	
	HT40(MCS7/15)	-72	-70	
	VHT20(MCS0)	-92	-90	
	VHT20(MCS8)	-70	-69	
	VHT40(MCS0)	-89	-88	
	VHT40(MCS9)	-66	-64	
	VHT80(MCS0)		-85	
	VHT80(MCS9)		-62	
	HE20(MCS0)	-92	-90	-91
	HE20(MCS11)	-63	-61	-63
	HE40(MCS0)	-89	-88	-87
	HE40(MCS11)	-60	-59	-61
	HE80(MCS0)		-85	-85
	HE80(MCS11)		-56	-59
	HE160(MCS0)			-78
	HE160(MCS11)			-52
Maximum transmit power (per chain)		2.4 GHz	5 GHz	6GHz
	1 Mbps	18 dBm		
	11 Mbps	18 dBm		
	6 Mbps	18 dBm	18 dBm	
	54 Mbps	17 dBm	16 dBm	
	HT20(MCS0/8)	18 dBm	17 dBm	
	HT20(MCS7/15)	16 dBm	14 dBm	
	HT40(MCS0/8)	18 dBm	17 dBm	
	HT40(MCS7/15)	16 dBm	14 dBm	
	VHT20(MCS0)	18 dBm	17 dBm	
	VHT20(MCS8)	16 dBm	14 dBm	
	VHT40(MCS0)	18 dBm	17 dBm	
	VHT40(MCS9)	15 dBm	14 dBm	
	VHT80(MCS0)		17 dBm	
	VHT80(MCS9)		14 dBm	
	HE20(MCS0)	18 dBm	17 dBm	17 dBm
	HE20(MCS11)	13 dBm	13 dBm	13 dBm
	HE40(MCS0)	18 dBm	17 dBm	17 dBm
	HE40(MCS11)	13 dBm	13 dBm	13 dBm
	HE80(MCS0)		17 dBm	17 dBm
	HE80(MCS11)		13 dBm	13 dBm
	HE160(MCS0)			17 dBm
	HE160(MCS11)			13 dBm
Note: Maximum transmit power is limited by local regulatory settings.				
Power	Supports direct DC power and Power over Ethernet (PoE) When both power sources are available, DC power takes priority over PoE Direct DC source: • 48 V DC nominal, +/- 5% Power over Ethernet (PoE): • IEEE 802.3at compliant source Maximum (worst case) power consumption: • 25W (single input IEEE 802.3at POE);			

Feature	Description
Mounting	Ceiling/wall mounting (Mount kit needs to be ordered separately)
Environmental	Operating: • Temperature: 0°C to 45°C (-32°F to +113°F) • Humidity: 5% to 95% non-condensing Storage and transportation: Temperature: -40°C to +70°C (-40°F to +158°F)
Dimensions/Weight	Single AP excluding packing box and accessories: • 210mm (W) x 210mm (D) x 40mm (H) - 8.27" (W) x 8.27" (D) x 1.57" (H) • 1012g/2.23lb Single AP including packing box and accessories: • 238mm (W) x 237mm (D) x 69mm (H) - 9.37" (W) x 9.33" (D) x 2.72" (H) • 1256g/2.78lb
Reliability	MTBF: 8,51,434h (97.19 years) at +25ºC operating temperature
Capacity	Up to 16 SSID/Radio (limited to 4 for 6GHz radio), 32 SSID per AP. Support for up to 1024 associated client devices per AP
Software feature	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 Bandwidth 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 LDAP/AD proxy authentication with OmniVista 2500 Wireless QoS Band steering Client smart load balance Client sticky avoidance User behaviour tracking White/Block list Zero-touch provisioning (ZTP) NTP Client ACL DHCP/DNS/NAT Wireless MESH P2P/P2MP Wireless Bridge Rogue AP location and containment Dedicated Scanning AP System log report SSHv2 SNMPv2, SNMPv3 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 IEEE 802.11e WMM, U-APSD IEEE 802.11h, 802.11i, 802.11e QoS IEEE 802.1Q (VLAN Tagging) 802.11k Radio Resource Management 802.11v BSS Transition Management 802.11r Fast roaming 802.11w Protected Management Frames

Features	Description
Regulatory and certification	CB Scheme Safety, cTUVus Wi-Fi CERTIFIED Wi-Fi 6E, Passpoint R3 FCC CE Marked EN 60601-1-1 and EN 60601-1-2 Bluetooth SIG RoHS, REACH, WEEE EMI and susceptibility (Class B) UL2043 Plenum Rating 2014/35/EU Low Voltage Directive 2014/30/EU EMC Directive 2011/65/EU RoHS Directive 2014/53/EU Radio Equipment Directive EN 55032 IEC/EN 60950 and 62368 EN 300 328 EN 301 893 EN 301 489-1 EN 301 489-17 EN 303 687

Ordering information

Access Points	Description
OAW-AP1411-RW	OmniAccess Stellar Indoor AP1411. Dual radio, Tri band 2.4/5/6GHz 2x2 Wi-Fi6E, integrated omni antenna. BLE/Zigbee radio. 1x 2.5GE (PoE) + 1x 1GE up, Console, USB, 48V DC. AP mount to be ordered separately. Regulatory domain not for use in US, Japan.
OAW-AP1411-US	OmniAccess Stellar Indoor AP1411. Dual radio, Tri band 2.4/5/6GHz 2x2 Wi-Fi6E, integrated omni antenna. BLE/Zigbee radio. 1x 2.5GE (PoE) + 1x 1GE up, 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 and AP14xx series.
OAW-AP-MNT-W (single pack) OAW-AP-MNT-W-10 (10 pack)	Mounting kit, Type A wall mount with screws. Applicable for OmniAccess Stellar Indoor 1101, 12xx, AP13xx and AP14xx series
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 and AP14xx series.
PD-9001-25GR/AC	1-Port IEEE 802.3at PoE Midspan. Port speed 2.5GbE and 10/100/1000 Mbps and PoE power 30W. 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.

Warranty

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

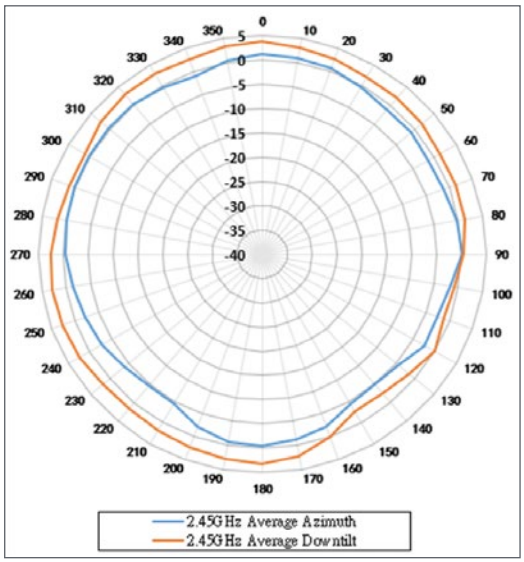
Services and support

OmniAccess Stellar Access Points include one-year complementary Support Software for partners. For more information about our Professional services, Support services and Managed services, please go to:

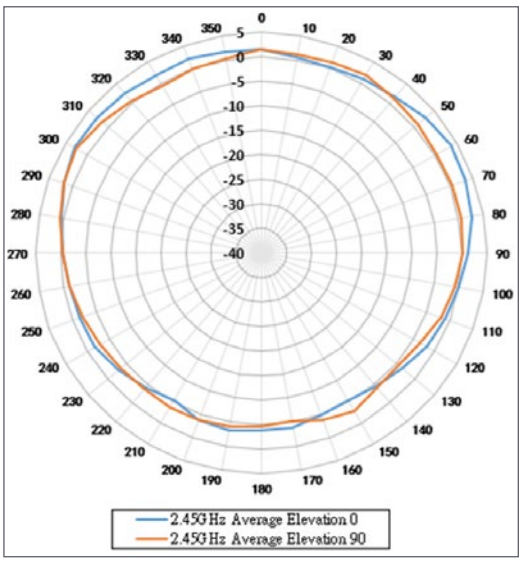
http://enterprise.alcatel-lucent.com/?services=EnterpriseServices&page=directory

Figures. OmniAccess AP1411 antenna pattern plots

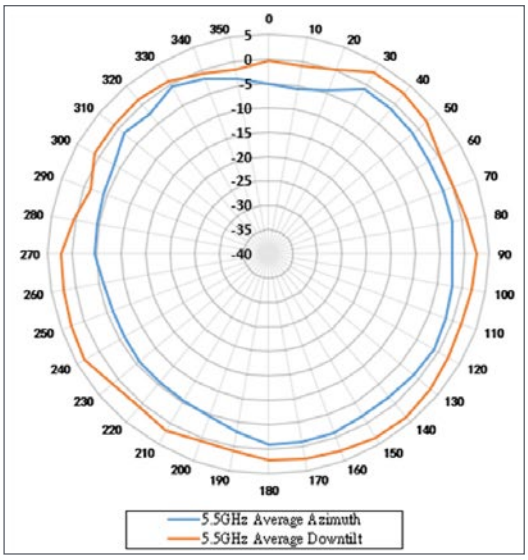
Azimuth plane (top view) - 2.4GHz



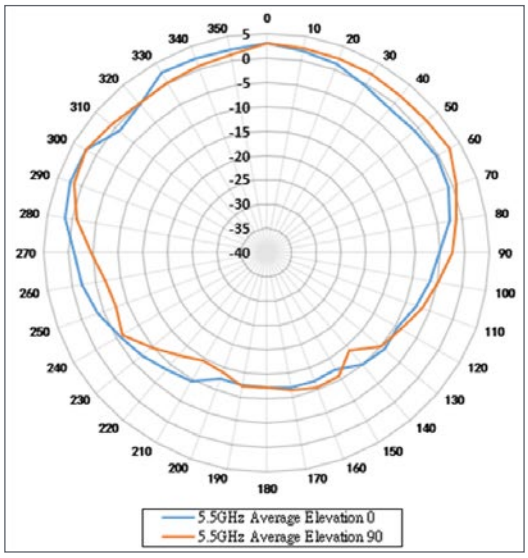
Elevation plane (side view) - 2.4GHz



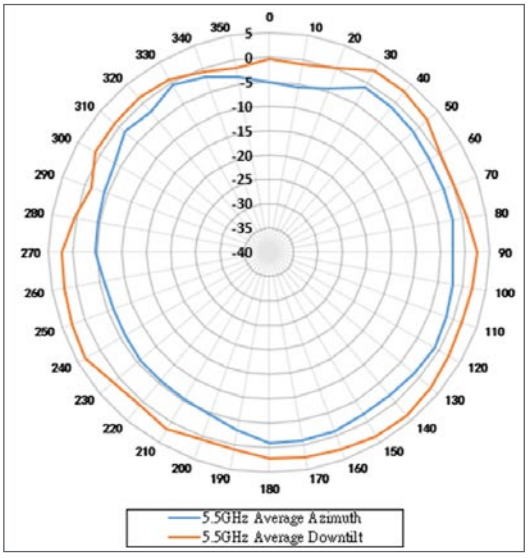
Azimuth plane (top view) - 5GHz



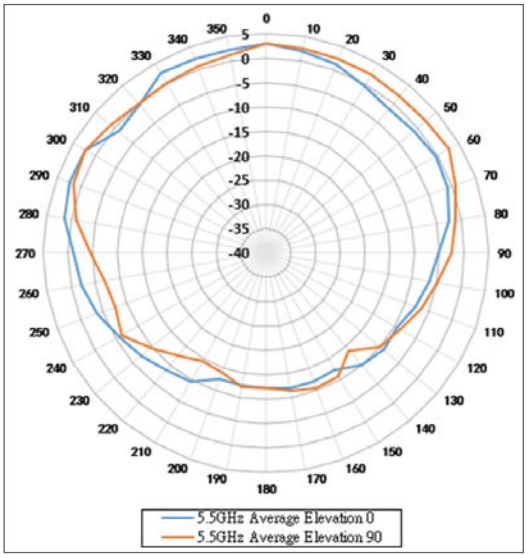
Elevation plane (side view) - 5GHz



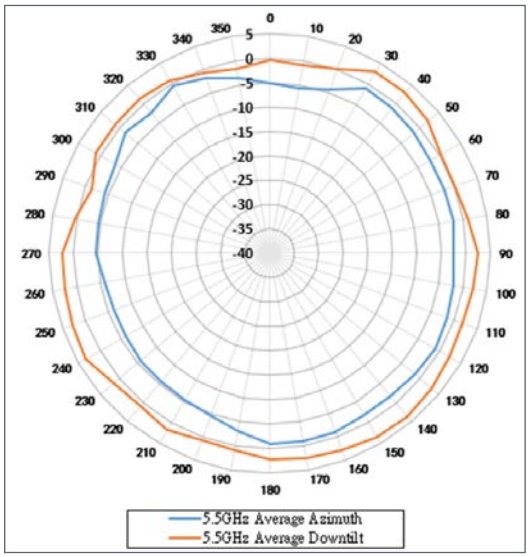
Azimuth plane (top view) - 6GHz



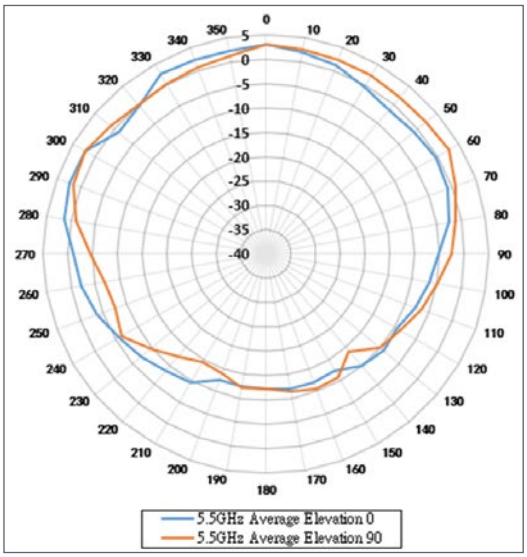
Elevation plane (side view) - 6GHz



Azimuth plane (top view) - BLE



Elevation plane (side view) - BLE



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