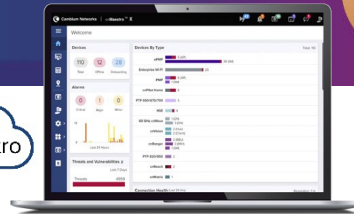


X7-56X Wi-Fi 7 Indoor Access Point for UHD

60° Directive Antenna Access Point with 802.11be Tri-Band 2+4+4, SDR Radio and IoT Support

X7-56X Quick Look

- Tri-radio/tri-band Wi-Fi 7 with 60° directive antenna
- 6 GHz (4x4), 5 GHz (4x4), 2.4 GHz (2x2)
- 17.9 Gbps aggregate data rate
- 5 GbE uplink port
- LPI (low-power indoor) mode
- IoT radio to support numerous protocols
- Managed by cnMaestro™
- Limited lifetime warranty



Ultra-High Density Made Easy for Any Market

Cambium Networks' X7-56X Wi-Fi 7 Directive Indoor Access Point (AP) with its software-definable third radio is designed to deliver ultra-high density and cutting-edge performance with flexibility for current and future demands. Easily deliver the performance needed in demanding scenarios where directive antennas are required with an easy-to-install solution and Wi-Fi technology. With an embedded IoT radio, the X7-56X supports BLE, Zigbee®, Matter™, or Thread® and accommodates for any IoT requirement.¹

Flexible Installation

X7-56X Wi-Fi 7 AP offers easy installation with its included multi-functional system to mount the access point over multiple types of telecom and electrical junction boxes, on a suspended drop ceiling, or to any flat surface. The optional articulated bracket allows operators to aim to the high-density area and adjust the angle without an additional tool.

Cloud and On-Premises Management

X7-56X, as all other Cambium APs, operates using Cambium's cnMaestro Network Management, accessible on both cloud and on-premises² platforms. Aligned with Cambium's ONE Network, cnMaestro facilitates management of all devices through a user-friendly interface, streamlining control from backhaul to edge devices. This enables immediate management of the network, reducing training and troubleshooting time.

cnMaestro X Assurance³

Gain real-time insights into network health and troubleshoot client issues efficiently using AI-based analytics to move from reactive to proactive SLA management and deliver a high-performance wireless network.

¹ Some IoT protocols will be made available in future software versions.

² cnMaestro On-Premises support will be available in a future release.

³ cnMaestro X Assurance is available with cnMaestro Cloud.

X7-56X Wi-Fi 7 Indoor Access Point

Access Point Specifications

Radios	2.4 GHz 2x2:2 with 802.11 b/g/n/ax/be 5 GHz 4x4:4 with 802.11 a/n/ac/ax/be Software-definable 5 GHz or 6 GHz 4x4:4 with 802.11 a/n/ac/ax/be					
IoT Radio	Built-in BLE 5.1 or 802.15.4 IoT radio Max transmit power 20 dBm with the integrated 3 dBi omnidirectional antenna gain Zigbee, Matter, and Thread support*					
Supported Data Rates	802.11be: 7.3 Mbps to 11,530 Mbps 802.11ax: 7.3 Mbps to 4,804 Mbps 802.11ac: 6.5 Mbps to 3,466 Mbps 802.11n: 6.5 Mbps to 600 Mbps 802.11a/g and a: 6 Mbps to 54 Mbps 802.11b: 1 Mbps to 11 Mbps					
Max PHY Rate	2.4 GHz: 574 Mbps; 5 GHz: 5,764 Mbps; 6 GHz: 11,530 Mbps					
Antenna & Peak Gain	60° x 60° directive internal antennas: 2.4 GHz: 8 dBi; 5 GHz: 9 dBi; 6 GHz: 9 dBi; IoT 2.4GHz: 6 dBi					
Maximum Radio Tx Power (combined Tx power across all Tx chains)	2.4 GHz: 27 dBm, max EIRP: 35 dBm 5 GHz: 27 dBm, max EIRP: 36 dBm 6 GHz: 27 dBm, max EIRP: 36 dBm					
MIMO Support	2x2 (2.4 GHz, 5 GHz, and 6 GHz) SU-MIMO 2x2 (2.4 GHz) MU-MIMO both in UL and DL direction 4x4 (5 GHz and 6 GHz) MU-MIMO both in UL and DL direction					
USB Interface	One USB 2.0 type A port, max 5W power supply					
Ethernet Interface	One 10/100 Mbps/ 1 / 2.5 / 5 Gbps PoE port					
Power	Max power consumption 33W (802.3bt) Limited functionality according PoE delivered (see table) Typical power consumption with BLE / 802.15.4 radio enabled: 19W LLDP power negotiation support		802.3bt (Class 6)	802.3at (Class 4)	802.3af (Class 3)	No Class detected
		Radio 1 (2.4 GHz)	on	on	off	off
		Radio 2 (5 GHz)	on	on	off	off
		Radio 3 (SDR)	on	off	off	off
		USB	on	off	off	off
		IoT	on	on	off	on
		Ethernet	on	on	on	on
Dimensions	240 mm x 240 mm x 50 mm / (9.45 in x 9.45 in x 1.97 in)					
Weight	Weight: 1,600 g (3.52 lb)					
Mount Options	Included: Drop-ceiling T-bar, ceiling tile, 4" square electrical box, 4" round box, NA single gang box, EU single gang box, wall, or ceiling mount Optional: Articulated mounting bracket to aim AP at ±60 degrees; bracket can be fixed on any flat surface or pole					
Physical Security	Kensington lock slot					
LEDs	Multicolor status LED Blue: Running, managed by cnMaestro Green: Standalone operation Amber: Booting					
Ambient Operation Temperature	0°C to 50°C (32°F to 122°F)					
Storage Temperature	-20°C to 70°C (-4°F to 158°F)					
Operating Humidity	95% RH non-condensing					
Reliability	MTBF 1,538,469 hours at +25°C operating temperature and 419,184 at 50°C operating temperature					

*Will be supported in future releases

X7-56X Wi-Fi 7 Indoor Access Point

Access Point Specifications, continued

Device Management and Diagnostics	cnMaestro Cloud / On-Premises (V6.0 and above)	
Local Access	Web access with HTTPS/HTTP protocol CLI access with SSH/telnet protocols, serial console port	
Certifications (Compliance)	FCC, IC, CE, ANZ IEC/UL 62368-1 – Electrical safety EN 60601-1-2 – Medical EN 301 489 / EN 61000 – EMC UL 2043 – Plenum	EN 300 328, FCC Part 15C, RSS-247 – 2.4 GHz RF EN 301 893, EN 302 502, FCC Part 15E, RSS-247 – 5 GHz RF EN 303 687, FCC Part 15E, RSS-248 – 6 GHz RF EN 62311 – Human safety/RF exposure WEEE, REACH, and RoHS – Environmental

Network Specifications

Security & Authentication	Open, WPA-TKIP, WPA2-AES either enterprise and PSK; support for ePSK in local, cloud, or RADIUS WPA3 with PSK (WPA3-SAE), ePSK: local or enterprise*, Enterprise-CNSA, Enhanced Open (OWE) OSEN and PMF (802.11 W) MAC authentication with local database or external database using RADIUS protocol 802.1X with EAP-TTLS, EAP-TLS / MSCHAPv2, PEAPv0 / PEAPv1 / EAP-PEAP / EAP-SIM/AKA/FAST MAC auth fallback to guest portal Hotspot WEB authentication	
Fast Roaming Support	PMK, OKC, and 802.11r for fast Layer-2 roaming Seamless L2 roaming for wireless and guest clients across APs in the same L2 network cnMaestro-assisted roaming for guest clients	
Wi-Fi Quality of Service	WMM (packet marking either with 802.1p or IP DSCP), WMM-PS, U-APSD Multicast-to-unicast conversion	
MESH Support	Auto-discovery and self-healing wireless MESH support on 2.4 GHz, 5 GHz, and 6 GHz band MESH and Client SSIDs can co-exist on the same radio interface	
SSID	16 SSIDs per radio; 48 SSIDs per AP SSID scheduling	
Client Capacity	1,280 clients per AP; 256 on 2.4 GHz, 512 on 5 GHz and 6 GHz Max client connections can be limited per SSID/radio/device	
Band Steering	Yes	
Sticky Client Management	Option to disconnect the client on minimum SNR threshold	
Data Limit	Client bitrate/time/throughput limit per SSID	
Dynamic RF Channel and Power Management	Auto-channel selection Auto-RF dynamic channel switch based on channel use and Wi-Fi/non-Wi-Fi interferences Auto-RF dynamic power adjustment with transmit power of neighboring APs	
WIDS and WIPS	Wireless packets flood (excessive association, authentication, de-authentication, disassociation, and EAP) detection rogue AP, honeypot AP detection and termination	
Wireless Users Policy Management	Standard RADIUS, accounting, WISPr, and Cambium VSA attributes support CoA messages (disconnect, VLAN ID, session, etc.) support User groups with RADIUS-assigned filter rules	
Wireless Devices Policy Management	Device grouping based on device fingerprinting with L2, L3, L4, and L7 access control rules	

* Requires cnMaestro X subscription

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Network Specifications, continued

RADIUS and Accounting Support	Per SSID-based RADIUS authentication and accounting server Accounting interval with start, stop, and interim messages with standard/Cambium VSA accounting attributes Up to 3 RADIUS authentication and accounting server with failover and load-balancing option Dynamic authorization and disconnect using CoA messages	
VLAN Assignment	Per SSID based 802.1q VLAN tagging Dynamic VLAN assignment from external RADIUS server, max 4096 Local VLAN pool RADIUS assigned VLAN pool ePSK assigned VLAN ID, local, cloud, or RADIUS assigned	
ACL and Application Control Rules	Per SSID or device level, L2, L3 (IPv4 and IPv6), L4, and L7 access control rules with packet-marking option Application recognition, packet marking, rate limiting, and option to drop and deny application/application category Per SSID DNS ACL option Define custom application based on IP address and monitor/control custom application traffic	
Connection Logging	Per SSID basis option to log TCP, UDP and IP connection, and DNS query NAT logging to external syslog servers	
IP Support	IPv4 and IPv6	
Tunneling Protocols	WWAN, PPPoE, L2TPv2, L2GRE, & VXLAN*	
SNMP and Syslog Support	SNMP v2 and v3 get operational mode Syslog messages to external syslog server	
DHCP Client and Server	Option to enable DHCP client on L3 VLAN interface On-board DHCP server with multiple DHCP pool options	
Analytics and Location Service	Option to integrate Wi-Fi and BLE radios scan results with an external location analytics server through HTTP/HTTPs post	
Client Connection and Life Cycle Analytics (available with cnMaestro X Cloud)	Exhaustive client lifecycle analytics with root cause analysis Connection success and failure analytics	Disconnection analytics Client dashboard with roaming history
EasyPass (Guest Access Service) (Features marked with an X are available with cnMaestro X)	cnMaestro-hosted captive portal service Multiple authentication methods supported to onboard guest user: <ul style="list-style-type: none"> • BYOD and IoT onboarding X • Microsoft® Azure® AD & Google® Workspace® login X • Voucher-based, RADIUS-based, and paid access X • Self-registration via SMS/email X • Sponsored access X • Click-through access with terms acceptance • Social login (Google, Facebook®) • WiFi4EU (EU specific) 	IP whitelist or walled garden list support Guest access onboarding using payment gateway vendors: X <ul style="list-style-type: none"> • PayPal® • IPpay • Quickpay Integration with the third-party captive portal vendors Session limits, data quotas, bandwidth control Custom splash pages with multi-language support Policy enforcement via RADIUS, WISPr, and cnMaestro-hosted policies
Services	L2–L7 application visibility and control, Wi-Fi calling control, WIDS/WIPS, NTP, syslog, SNMP traps, DNS proxy, auto-off/on WAN failure, OpenRoaming®	
API	RESTful management** and statistics API; presence location push APIs	

*Will be supported in future releases

**Requires cnMaestro X subscription

X7-56X Wi-Fi 7 Indoor Access Point

Standards

Wi-Fi Protocols	<p>802.11 b: BPSK, QPSK, CCK</p> <p>802.11 a/g/n: BPSK, QPSK, 16-QAM, 64-QAM</p> <p>802.11 ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM</p> <p>802.11 ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, and 1024-QAM</p> <p>802.11be: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM, 4096-QAM</p> <p>20/40/80/160/320 MHz, DSSS, OFDM, OFDMA, MIMO, UL/DL MU-MIMO</p> <p>Multi-link operation (MLO), multi-resource units</p> <p>Target wait time (TWT), BSS coloring, long OFDM symbol, transmit beamforming (TxBF)</p> <p>802.11n/ac packet aggregation: A-MPDU, A-MSDU</p> <p>Maximum ratio combining (MRC), cyclic delay/shift diversity (CDD/CSD), space-time block coding (STBC), low-density parity check (LDPC)</p> <p>Passpoint™ 3.0</p> <p>IEEE 802.11 a/b/g/n/ac/ax/be – d/e/h/i/k/r/u/v/w</p>
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Regulatory Information

Frequency Bands	<p>2.412 GHz to 2.484 GHz ISM</p> <p>5.150 GHz to 5.250 GHz U-NII-1</p> <p>5.250 GHz to 5.350 GHz U-NII-2A</p> <p>5.470 GHz to 5.725 GHz U-NII-2C</p> <p>5.725 GHz to 5.855 GHz U-NII-3</p> <p>5.855 GHz to 5.895 GHz U-NII-4</p>	<p>5.925 GHz to 6.425 GHz U-NII-5</p> <p>6.425 GHz to 6.525 GHz U-NII-6</p> <p>6.525 GHz to 6.875 GHz U-NII-7</p> <p>6.875 GHz to 7.125 GHz U-NII-8</p>
Channels List	<p>2.4 GHz channels: 1 to 13</p> <p>5 GHz channels: 36 to 64; 100 to 144; 149 to 177</p> <p>6 GHz channels: 1 to 233</p>	

EIRP limitations apply to the listed countries.

ROW Individual country limits may apply. Please contact your regional sales manager for country-specific regulations.

X7-56X Wi-Fi 7 Indoor Access Point

Management



cnMaestro uses a distributed intelligence architecture with cloud-first management and edge-intelligent APs that self-optimize for the RF environment. cnMaestro delivers a single pane-of-glass management for Cambium broadband fixed wireless, cnMatrix™ Ethernet Switches, enterprise-grade Wi-Fi APs, NSE (Network Service Edge), and residential service provider routers.

cnMaestro can be deployed via cloud or on-premises via a virtual machine.

To serve a growing market for advanced management and services functionality, Cambium offers cnMaestro in two management tiers: cnMaestro X and cnMaestro Essentials.

cnMaestro X

Paid subscription that includes:

- Advanced device management capabilities
- Deep packet inspection (DPI) application visibility and control for 2,400+ apps
- RESTful management and statistics API
- Presence location push APIs
- Graphic reports
- Webhooks
- MarketApps
- Cambium Care Pro for 24x7 technical support
- Accelerated access to L2 engineers and regular software updates

Assists

- Assesses the network's configuration, identifies weak security settings, and proposes a fix to ensure the network configuration is up to the top security industry standards

cnMaestro Essentials

License-free cloud management that delivers a disruptive total cost of ownership (TCO) for organizations of all sizes. Includes EasyPass for OneClick or voucher-based connection as well as WiFi4EU access.

X Assurance

- Helps to quickly identify network-wide connectivity issues by isolating every element of the client's lifecycle, either radio- or network-related
- Gives an overview quality index of the network and highlights each element's contribution to easily identify the worst offender
- Provides insight of probable causes and proposes fixes for the administrator to apply
- Provides individual client connectivity visibility throughout the entire lifecycle of its connection to easily identify each connection's result and highlight the failure reason, should there be any

EasyPass Portal with Additional Options

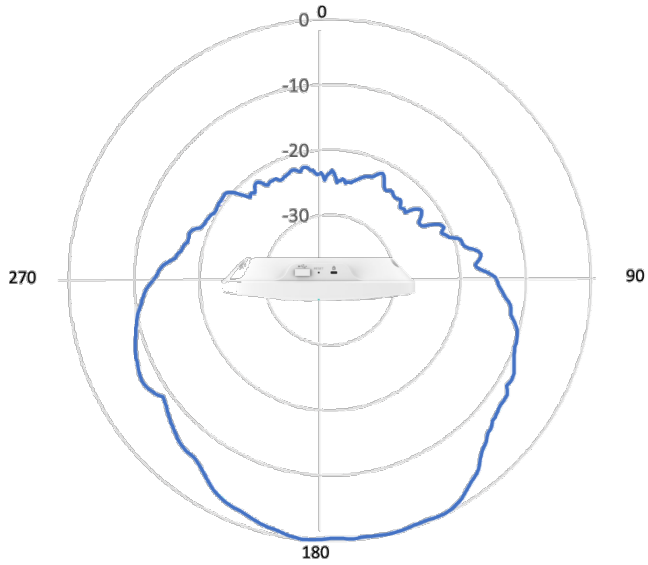
- Self-registration: Form-based access
- Sponsored guest: Guest ambassador-based access
- Paid access: Monetize the Wi-Fi access
- Microsoft Azure: Corporate user login
- Google Login: Web login using Google accounts

**Find out more about
cnMaestro**

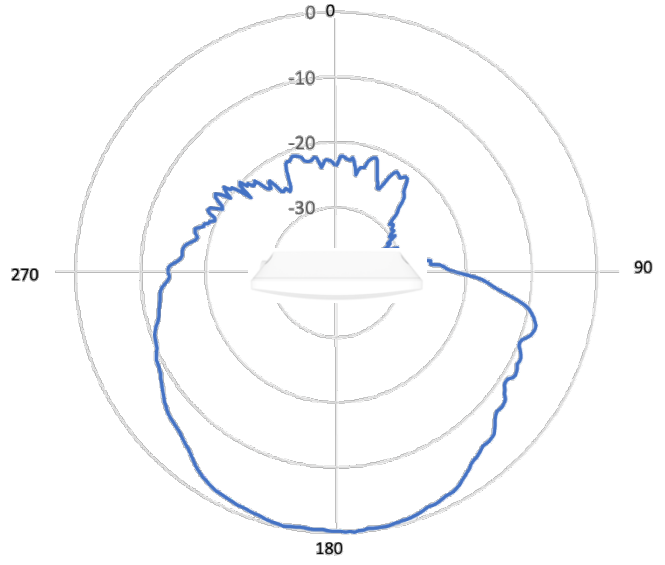
X7-56X Wi-Fi 7 Indoor Access Point

Antenna Patterns

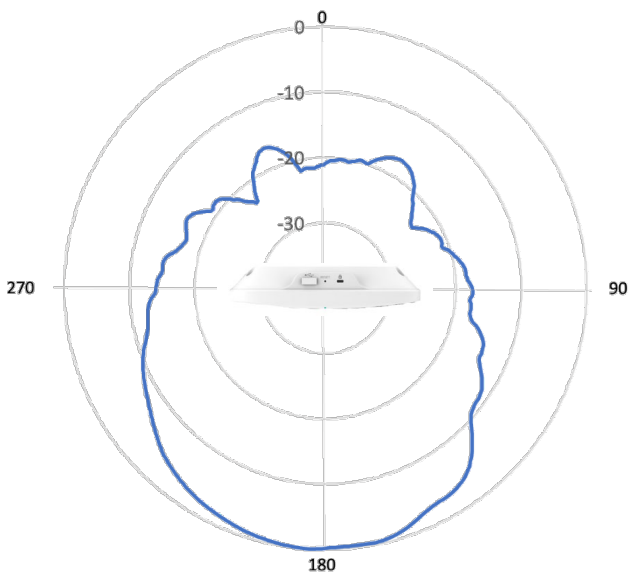
5 GHz Antenna Normalized Azimuth Gain [dB]



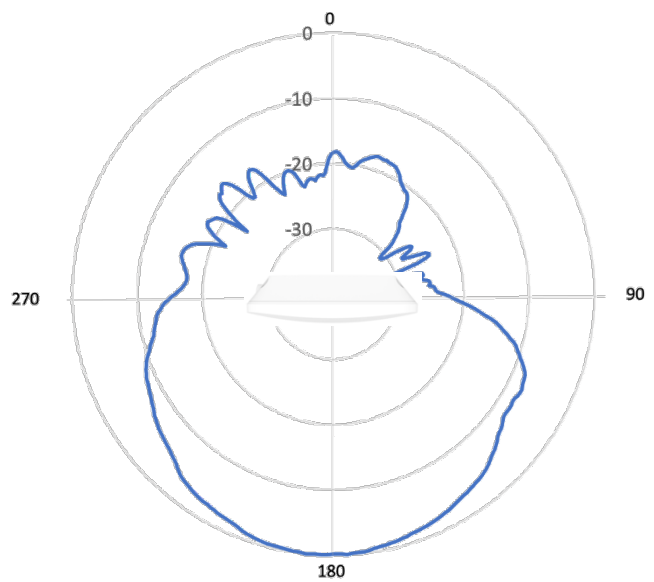
5 GHz Antenna Normalized Elevation Gain [dB]



2.4 GHz Antenna Normalized Azimuth Gain [dB]



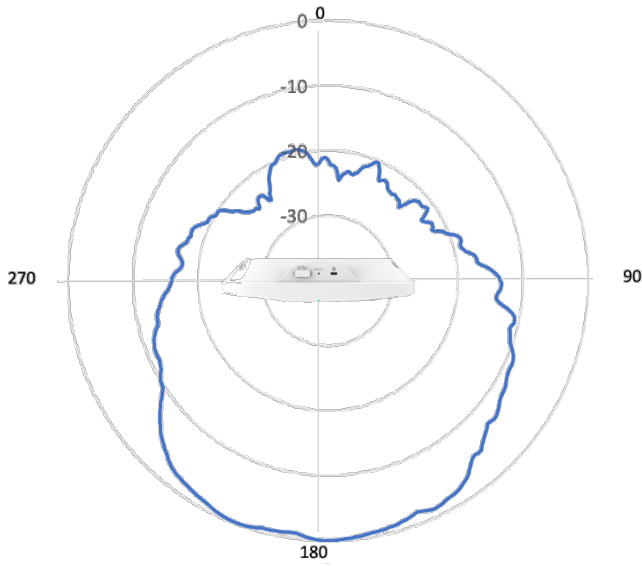
2.4 GHz Antenna Normalized Elevation Gain [dB]



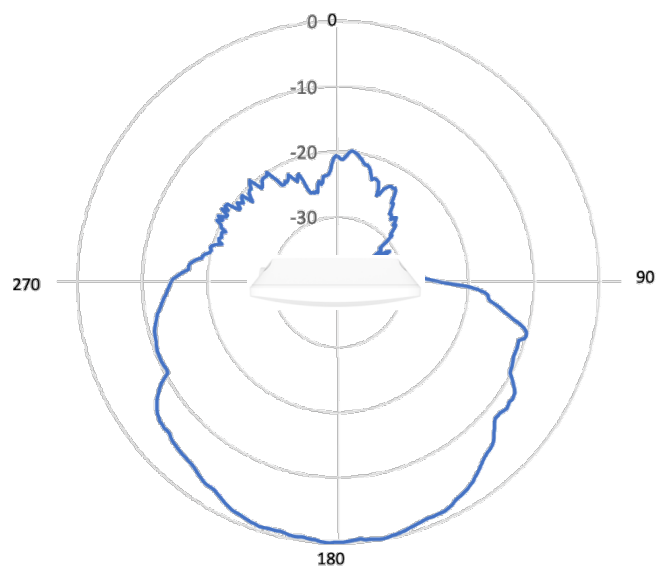
X7-56X Wi-Fi 7 Indoor Access Point

Antenna Patterns, continued

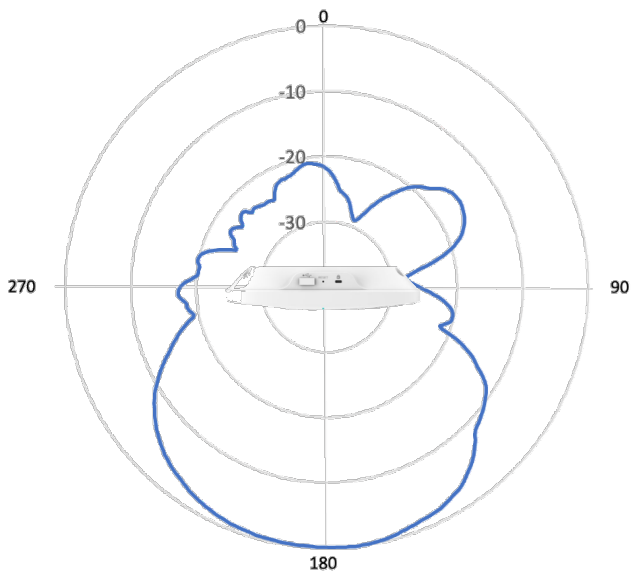
6 GHz Antenna Normalized Azimuth Gain [dB]



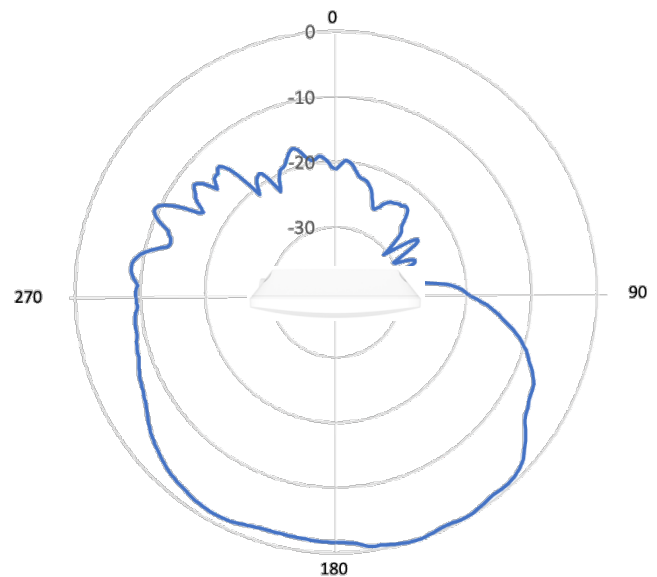
6 GHz Antenna Normalized Elevation Gain [dB]



IoT Antenna Normalized Azimuth Gain [dB]



IoT Antenna Normalized Elevation Gain [dB]



X7-56X Wi-Fi 7 Indoor Access Point



X7-56X Wi-Fi 7 Indoor Access Point

Ordering Information

Regulatory Model	X7-56X
X7-56X-0A00-CA	X7-56X Indoor Tri-band Wi-Fi 7 AP 2+4+4 with SDR, 60 deg ant, 5GbE. IoT radio. CA
X7-56X-0A00-EU	X7-56X Indoor Tri-band Wi-Fi 7 AP 2+4+4 with SDR, 60 deg ant, 5GbE. IoT radio. EU
X7-56X-0A00-RW	X7-56X Indoor Tri-band Wi-Fi 7 AP 2+4+4 with SDR, 60 deg ant, 5GbE. IoT radio, 6 GHz oper. disabled. ROW
X7-56X-0A00-US	X7-56X Indoor Tri-band Wi-Fi 7 AP 2+4+4 with SDR, 60 deg ant, 5GbE. IoT radio. US
X7-56X-0A06-RW	X7-56X Indoor Tri-band Wi-Fi 7 AP 2+4+4 with SDR, 60 deg ant, 5GbE. IoT radio, 6 GHz oper. enabled. ROW
N000000L142A	PoE, 60W, 56V, 5GbE DC Injector, Indoor, Energy Level 6 Supply, accepts C5 connector
C000000L141A	PoE, 60W, 56V, 10GbE DC Injector, Indoor, Energy Level 6 Supply
AX-X7-1BRKT-WW	Mounting Bracket for X7 series enterprise access point. Compatible with X7 series, XE3-4, XV3-8
AX-X7-DBRKT-WW	Adjustable Angle Mounting Bracket for X7 series enterprise access point. Compatible with X7 series.

cnMaestro X Subscriptions

MSX-SUB-X7-56X-1	cnMaestro X 1-Year subscription for one X7-56X AP. Creates one device Tier3 slot. Includes Cambium Care Pro support. Order CCADV-UPG-X7-56X-1 for NBD advanced replacement hardware support.
MSX-SUB-X7-56X-3	cnMaestro X 3-Year subscription for one X7-56X AP. Creates one device Tier3 slot. Includes Cambium Care Pro support. Order CCADV-UPG-X7-56X-3 for NBD advanced replacement hardware support.
MSX-SUB-X7-56X-5	cnMaestro X 5-Year subscription for one X7-56X AP. Creates one device Tier3 slot. Includes Cambium Care Pro support. Order CCADV-UPG-X7-56X-5 for NBD advanced replacement hardware support.

Cambium Care Support

CCPRO-SUP-X7-56X-1	Cambium Care Pro, 1-year support for one X7-56X. 24x7 TAC support, SW updates
CCPRO-SUP-X7-56X-3	Cambium Care Pro, 3-year support for one X7-56X. 24x7 TAC support, SW updates
CCPRO-SUP-X7-56X-5	Cambium Care Pro, 5-year support for one X7-56X. 24x7 TAC support, SW updates
CCADV-SUP-X7-56X-1	Cambium Care Advanced, 1-year support for one X7-56X Wireless AP. 24x7 TAC support, SW updates, and NBDS advance replacement for HW
CCADV-SUP-X7-56X-3	Cambium Care Advanced, 3-year support for one X7-56X Wireless AP. 24x7 TAC support, SW updates, and NBDS advance replacement for HW
CCADV-SUP-X7-56X-5	Cambium Care Advanced, 5-year support for one X7-56X Wireless AP. 24x7 TAC support, SW updates, and NBDS advance replacement for HW
CCADV-UPG-X7-56X-1	Cambium Care Advanced Add-on to cnMaestro X, 1-year support for one X7-56X. 24x7 TAC support, SW updates, and NBDS advance replacement for HW
CCADV-UPG-X7-56X-3	Cambium Care Advanced Add-on to cnMaestro X, 3-year support for one X7-56X. 24x7 TAC support, SW updates, and NBDS advance replacement for HW
CCADV-UPG-X7-56X-5	Cambium Care Advanced Add-on to cnMaestro X, 5-year support for one X7-56X. 24x7 TAC support, SW updates, and NBDS advance replacement for HW

Limited Lifetime Warranty

Cambium Networks X7-56X Wi-Fi 7 Access Point includes a limited lifetime hardware warranty for a period of 5 years after end of sale.

ABOUT CAMBIUM NETWORKS

Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences and device connectivity with compelling economics. Our ONE Network platform simplifies management of Cambium Networks' wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We make connectivity that just works.

cambiumnetworks.com

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