



LANCOM L-330agn dual Wireless

Dual-radio business-class 11n WLAN access point with up to 300 Mbps

The LANCOM L-330agn dual Wireless is a powerful 11n WLAN business-class access point. It simultaneously provides 11n clients with professional and reliable WLAN in the 2.4-GHz and 5-GHz band with optimized network load. An ideal combination for professional 300 Mbps WLAN in the Business field. Thanks to its integrated antennas and white housing it is additionally ideal for an inconspicuous application in modern environments.

- › Dual concurrent WLAN – parallel operation at 2.4 and 5 GHz with up to 300 Mbps with IEEE 802.11a/g/n
- › Dynamic WLAN optimization thanks to LANCOM Active Radio Control (ARC)
- › Powerful WLAN diagnostics with Spectral Scan
- › Professional security features such as IEEE 802.1X
- › Operation via LANCOM Management Cloud, WLAN controller or stand-alone
- › Easy and secure integration of external users with the Public Spot Option
- › Modern white housing with integrated antennas

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Dual concurrent Wi-Fi with up to 300 Mbps

The LANCOM L-330agn dual Wireless is a powerful 11n WLAN business-class access point. It provides 11n clients simultaneously in the 2.4-GHz frequency band and 5-GHz band with 300 Mbps WLAN and optimized load balancing thanks to Band Steering.

Active Radio Control for dynamic radio-field optimization

The LANCOM L-330agn dual Wireless supports the WLAN optimization concept LANCOM Active Radio Control. This intelligent combination of innovative features included with the LCOS operating system – such as Band Steering, Adaptive Noise Immunity, RF Optimization, and Client Steering – sustainably increases WLAN performance and supports administrators with professional tools for WLAN management.

Powerful WLAN diagnostics with Spectral Scan

The LANCOM L-330agn dual Wireless uses Spectral Scan to search the surrounding radio field for sources of interference. This professional tool for efficient WLAN troubleshooting is a combination of hardware and software features. It identifies and graphically represents sources of interference, so helping the administrator to initiate countermeasures.

LANCOM security for wireless networks

With numerous integrated security features, such as IEEE 802.1X, the LANCOM L-330agn dual Wireless provides optimal security for networks. As a result, employees and visitors all benefit from security policies in the network.

Zero-touch deployment

The LANCOM L-330agn dual Wireless can be versatily operated: Managed via the LANCOM Management Cloud it is integrated into a comprehensive, automated network orchestration, based on Software-defined Networking technology. It can also be operated via a LANCOM WLAN controller or be applied in stand-alone operation.

Secure integration of external users

In combination with the LANCOM Public Spot Option, the LANCOM L-330agn dual Wireless is ideal for operating hotspots. Users benefit from a hotspot that is secure and easy-to-use, while hotspot operators can be sure that their own network remains separate from the hotspot.

Modern housing with integrated antennas

Thanks to the white housing and the integrated antennas, the LANCOM L-330agn dual Wireless is ideal for the application in exclusive, modern environments, such as hotels, restaurants, and medical institutions.

Maximum future viability

LANCOM products are designed for a service life of several years and are equipped with hardware dimensioned for the future. Even reaching back to older product generations, updates to the LANCOM Operating System – LCOS – are available several times a year, free of charge and offering major features.

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LCOS 10.12

| WLAN product specifications | |
|---|---|
| Frequency band 2.4 GHz and 5 GHz | 2400-2483.5 MHz (ISM) and 5150-5825 MHz (depending on country-specific restrictions) |
| Integrated Antenna Gain (per antenna (2)) | up to 3 dBi in 2.4 GHz, up to 4.5 dBi in 5 GHz |
| Data rates IEEE 802.11n | 300 Mbps according to IEEE 802.11n with MCS15 (fallback to 6,5 Mbps with MCS0). Compatible to IEEE 802.11a/n, IEEE 802.11g/n, IEEE 802.11b/g/n or IEEE 802.11b/g compatibility mode or pure IEEE 802.11n, pure IEEE 802.11a, IEEE 802.11g or pure IEEE 802.11b mode and data rates selectable |
| Data rates IEEE 802.11a/ h | 54 Mbps (fallback to 48, 36, 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection), fully compatible with TPC (adjustable power output) and DFS (automatic channel selection, radar detection) and data rates selectable |
| Data rates IEEE 802.11b/g | 54 Mbps to IEEE 802.11g (fallback to 48, 36, 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection) compatible to IEEE 802.11b (11, 5.5, 2, 1 Mbps, Automatic Rate Selection), IEEE 802.11b/g compatibility mode or pure IEEE 802.11g or pure IEEE 802.11b and data rates selectable |
| Range IEEE 802.11a/b/g * | Up to 150 m (up to 30 m in buildings) |
| Output power at radio module, 5 GHz | IEEE 802.11a/h: +17 up to +18 dBm @ 6 up to 48 Mbps, +13 up to +15 dBm @ 54 Mbps, IEEE 802.11n: +17 up to +18 dBm @ (MCS0/8, 20 MHz), +11 up to +13 dBm @ (MCS7/15, 20 MHz), +16 up to +17 dBm @ (MCS0/8, 40 MHz), +9 up to +12 dBm @ (MCS7/15, 40 MHz) |
| Output power at radio module, 2.4 GHz | IEEE 802.11b: +22 dBm @ 1 and 2 Mbps, +22 dBm @ 5,5 and 11 Mbps, IEEE 802.11g: +22 dBm @ 6 up to 36 Mbps, +20 dBm @ 48 Mbps, +18 dBm @ 54 Mbps, IEEE 802.11n: +22 dBm @ (MCS0/8, 20 MHz), +16 dBm @ (MCS7/15, 20 MHz), +21 dBm @ (MCS0/8, 40 MHz), +15 dBm @ (MCS7/15, 40 MHz) |
| Minimum transmission power | Transmission power reduction in software in 1 dB steps to min. 0.5 dBm |
| Receiver sensitivity 5 GHz | IEEE 802.11a/h: -98 dBm @ 6 Mbps, -81 dBm @ 54 Mbps, IEEE 802.11n: -94 dBm @ (MCS0, 20 MHz), -76dBm @ (MCS 7, 20 MHz), -92 dBm @ (MCS0, 40 MHz), -72 dBm @ (MCS7, 40 MHz) |
| Receiver sensitivity 2.4 GHz | IEEE 802.11b: -97 dBm @ 1 MBit/s, -93 dBm @ 11 MBit/s, IEEE 802.11g: -95dBm @ 6 MBit/s, -81dBm @ 54 MBit/s IEEE 802.11n: -94 dBm @ 6,5MBit/s (MCS0, 20 MHz), -77 dBm @ 65 MBit/s (MCS7, 20 MHz), -91 dBm @ 15 MBit/s (MCS0, 40 MHz), -74 dBm @ 150 MBit/s (MCS7, 40 MHz) |
| Radio channels 5 GHz | Up to 26 non-overlapping channels (available channels and further obligations such as automatic DFS dynamic channel selection depending on national regulations) |
| Radio channels 2.4 GHz | Up to 13 channels, max. 3 non-overlapping (depending on country-specific restrictions) |
| Multi-SSID | Up to 32 independent WLAN networks |
| Concurrent WLAN clients | Up to 256 clients (recommended) |
| *) Note | The effective distances and transmission rates that can be achieved are depending of the onsite RF conditions |
| Supported WLAN standards | |
| IEEE standards | IEEE 802.11n, IEEE 802.11a, IEEE 802.11g, IEEE 802.11b, IEEE 802.11i, IEEE 802.1X, IEEE 802.11u, IEEE 802.11r (Fast Roaming), IEEE 802.11w (Protectet Management Frames), WME and U-APSD/WMM Power Save as defined in IEEE 802.11e, IEEE 802.11h, IEEE 802.11d |
| Standard IEEE 802.11n | |
| Supported features | 2x2 MIMO, 40 MHz channel, 20/40MHz coexistence mechanisms in the 2.4 GHz band, MAC aggregation, Block Acknowledgement, STBC (Space Time Block Coding), LDPC (Low Density Parity Check), MRC (Maximal Ratio Combining), Short Guard Interval |
| WLAN operating modes | |
| Modes | WLAN access point (standalone, WLC or LANCOM Management Cloud managed), WLAN bridge (P2P or P2MP) (standalone or AutoWDS*), (standalone, WLC or LANCOM Management Cloud managed), WLAN client mode, transparent WLAN client mode |
| *) Note | Only in installations with WLAN controller |
| Security | |
| Encryption options | IEEE 802.1X (WPA2-Enterprise), IEEE 802.11i (WPA2-Personal), Wi-Fi Certified™ WPA2™, WPA, WEP, IEEE 802.11w (Protected Management Frames), LEPS (LANCOM Enhanced Passphrase Security) |
| Encryption | AES:CCMP (Advanced Encryption Standard with Counter Mode and Cipher Block Chaining Message Authentication Code Protocol), TKIP (Temporal Key Integrity Protocol), RC4 (only used by WEP) |
| EAP types (authenticator) | EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-FAST |

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| Security | |
|-----------------------------------|---|
| RADIUS/EAP-server | User administration MAC-based, rate limiting, passphrases, VLAN user based, authentication of IEEE 802.1X clients via EAP-TLS, EAP-TTLS, EAP-MD5, EAP-GTC, PEAP, MSCHAP or MSCHAPv2 |
| Others | WLAN protocol filters, IP-redirection of any packet received over the WLAN interface, IEEE 802.1X supplicant, background scanning, client detection ("rogue WLAN client detection"), Wireless Intrusion Detection System (WIDS), RADIUS CoA (Change of Authorization) |
| LANCOM Active Radio Control | |
| Client Steering* | Steering of WLAN clients to the ideal access point |
| Band Steering | Steering of 5GHz clients to the corresponding high-performance frequency band |
| Managed RF Optimization* | Selection of optimal WLAN channels by the administrator |
| Adaptive Noise Immunity | Better WLAN throughput due to immunity against interferences |
| Spectral Scan | Monitoring your WLAN for sources of interference |
| Adaptive RF Optimization | Dynamic selection of the optimal WLAN channel |
| Airtime Fairness | Improved utilization of the WLAN bandwidth |
| Adaptive Transmission Power | Automatic adjustment of the transmission power for Wi - Fi backup scenarios |
| *) Note | Only in installations with WLAN controller |
| Roaming | |
| Roaming | IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching), Fast Client Roaming (only in operating mode client modus) |
| Layer 2 features | |
| VLAN | 4.096 IDs based on IEEE 802.1q, dynamic assignment, Q-in-Q tagging |
| Quality of Service | WME based on IEEE 802.11e, Wi-Fi Certified™ WMM® |
| Rate limiting | SSID based, WLAN client based |
| Multicast | IGMP-Snooping, Multicast-to-Unicast-conversion on WLAN interfaces |
| Protocols | Ethernet over GRE-Tunnel (EoGRE), ARP-Lookup, LLDP, DHCP option 82, IPv6-Router-Advertisement-Snooping, DHCPv6-Snooping, LDRA (Lightweight DHCPv6 Relay Agent), Spanning Tree, Rapid Spanning Tree, ARP, Proxy ARP, BOOTP, DHCP, LACP |
| Layer 3 features | |
| Firewall | Stateful inspection firewall including paket filtering, extended port forwarding, N:N IP address mapping, paket tagging, user-defined rules and notifications |
| Quality of Service | Traffic shaping, bandwidth reservation, DiffServ/TOS, packetsize control, layer-2-in-layer-3 tagging |
| Security | Intrusion Prevention, IP spoofing, access control lists, Denial of Service protection, detailed settings for handling reassembly, session-recovery, PING, stealth mode and AUTH port, URL blocker, password protection, programmable reset button |
| PPP authentication mechanisms | PAP, CHAP, MS-CHAP, and MS-CHAPv2 |
| High availability / redundancy | VRRP (Virtual Router Redundancy Protocol), analog/GSM modem backup |
| Router | IPv4-, IPv6-, NetBIOS/IP multiprotokoll router, IPv4/IPv6 dual stack |
| Router virtualization | ARF (Advanced Routing and Forwarding) up to separate processing of 16 contexts |
| IPv4 services | HTTP and HTTPS server for configuration by web interface, DNS client, DNS server, DNS relay, DNS proxy, dynamic DNS client, DHCP client, DHCP relay and DHCP server including autodetection, NetBIOS/IP proxy, NTP client, SNTP server, policy-based routing, Bonjour-Proxy, RADIUS |
| IPv6 services | HTTP and HTTPS server for configuration by web interface, DHCPv6 client, DHCPv6 server, DHCPv6 relay, DNS client, DNS server, dynamic DNS client, NTP client, SNTP server, Bonjour-Proxy, RADIUS |
| IPv6 compatible LCOS applications | WEBconfig, HTTP, HTTPS, SSH, Telnet, DNS, TFTP, firewall, RAS dial-in |
| Dynamic routing protocols | RIPv2 |
| IPv4 protocols | DNS, HTTP, HTTPS, ICMP, NTP/SNTP, NetBIOS, PPPoE (server), RADIUS, RADSEC (secure RADIUS), RTP, SNMPv1,v2c,v3, TFTP, TACACS+ |

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| Layer 3 features | |
|------------------------------------|---|
| IPv6 protocols | NDP, stateless address autoconfiguration (SLAAC), stateful address autoconfiguration (DHCPv6), router advertisements, ICMPv6, DHCPv6, DNS, HTTP, HTTPS, PPPoE, RADIUS, SMTP, NTP, Syslog, SNMPv1,v2c,v3 |
| WAN operating mode | VDSL, ADSL1, ADSL2 or ADSL2+ additional with external DSL modem at an ETH port |
| WAN protocols | PPPoE, Multi-PPPoE, ML-PPP, GRE, EoGRE, PPTP (PAC or PNS), L2TPv2 (LAC or LNS) and IPoE (using DHCP or no DHCP), RIP-1, RIP-2, VLAN, IPv6 over PPP (IPv6 and IPv4/IPv6 dual stack session), IP(v6)oE (autokonfiguration, DHCPv6 or static) |
| Tunneling protocols (IPv4/IPv6) | 6to4, 6in4, 6rd (static and over DHCP), Dual Stack Lite (IPv4-in-IPv6-Tunnel) |
| Interfaces | |
| Ethernet port | 1 x 10/100/1000BASE-T autosensing (RJ-45), PoE (Power over Ethernet) |
| Ethernet port | 1 x 10/100BASE-T autosensing (RJ-45), PoE (Power over Ethernet) |
| Serial interface | Serial configuration interface / COM port (8 pin Mini-DIN): 9,600 - 115,000 baud, suitable for optional connection of analog/GPRS modems. Supports internal COM port server and allows for transparent asynchronous transmission of serial data via TCP |
| Internal antennas per radio module | Radio module 1 and 2 use two internal antennas |
| Hardware | |
| Power supply | 12 V DC, external power adapter (230 V) with bayonet cap. PoE (Power over Ethernet), compliant with IEEE 802.3af |
| Environment | Temperature range 0° to +45°C; humidity up to 95%; non-condensing |
| Power consumption (max) | Approx. 7 watt with 12 V / 1,5 A power supply adapter (total power consumption of access point and power supply adapter), approx. 8.5 watt via PoE |
| Housing | Robust synthetic housing, rear connectors, ready for wall mounting, Kensington lock; 210 x 45 x 140 mm (W x H x D) |
| Management and monitoring | |
| Management | LANCOM Management Cloud, LANconfig, WEBconfig, WLAN controller, LANCOM Layer 2 management (emergency management) |
| Management functions | Alternative boot configuration, voluntary automatic updates for LCMS and LCOS, individual access and function rights up to 16 administrators, RADIUS and RADSEC user management, remote access (WAN or (W)LAN, access rights (read/write) adjustable separately), SSL, SSH, HTTPS, Telnet, TFTP, SNMP, HTTP, access rights via TACACS+, scripting, timed control of all parameters and actions through cron job |
| FirmSafe | Two stored firmware versions, incl. test mode for firmware updates |
| Monitoring | LANCOM Management Cloud, LANmonitor, WLANmonitor |
| Monitoring functions | Device SYSLOG, SNMPv1,v2c,v3 incl. SNMP-TRAPS, extensive LOG and TRACE options, PING and TRACEROUTE for checking connections, internal logging buffer for firewall events |
| Monitoring statistics | Extensive Ethernet, IP and DNS statistics; SYSLOG error counter, accounting information exportable via LANmonitor and SYSLOG |
| iPerf | iPerf is a tool for measurements of the bandwidth on IP networks (integrated client and server) |
| SLA-Monitor (ICMP) | Performance monitoring of connections |
| SD-WLAN | SD-WLAN – automatic WLAN configuration via the LANCOM Management Cloud |
| SD-LAN | SD-LAN – automatic LAN configuration via the LANCOM Management Cloud |
| Declarations of conformity* | |
| CE | EN 60950-1, EN 301 489-1, EN 301 489-17 |
| Wi-Fi Alliance Certification | Wi-Fi Certified |
| 5 GHz WLAN | EN 301 893 |
| 2.4 GHz WLAN | EN 300 328 |
| Medical | Medical conformity with EN 60601-1-2 |
| IPv6 | IPv6 Ready Gold |
| Country of Origin | Made in Germany |
| *) Note | You will find all declarations of conformity in the products section of our website at www.lancom-systems.eu |

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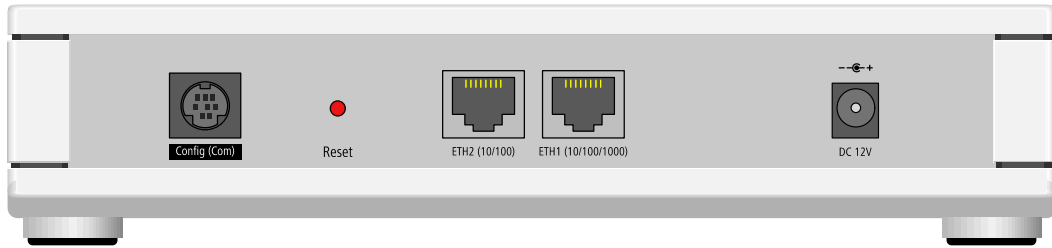
| Scope of delivery | |
|------------------------------------|---|
| Manual | Installation Guide (DE/EN/FR/ES/IT/PT/NL) |
| Cable | 1 Ethernet cable, 3 m |
| Power supply unit | External power adapter (230 V), NEST 12 V/1.5 A DC/S, coaxial power connector 2.1/5.5 mm bayonet, temperature range from -5 to +45° C, LANCOM item no. 111140 (EU) (not included in bulk delivery) |
| Support | |
| Warranty | 3 years support |
| Software updates | Regular free updates (LCOS operating system and LANtools) via Internet |
| Options | |
| LANCOM Warranty Basic Option S | Option to extend the manufacturer's warranty from 3 to 5 years, item no. 10710 |
| LANCOM Warranty Advanced Option S | Option to extend the manufacturer's warranty from 3 to 5 years and replacement of a defective device, item no. 10715 |
| LANCOM Public Spot | Hotspot option for LANCOM access points, LANCOM 17xx and LANCOM 19xx series for user authentication (up to 64), versatile access (via voucher, e-mail, SMS), including a comfortable setup wizard, secure separation of guest access and internal network, item no. 60642 |
| LANCOM Management Cloud | |
| LANCOM LMC-A-1Y LMC License | LANCOM LMC-A-1Y License (1 Year), enables the management of one category A device for one year via the LANCOM Management Cloud, item no. 50100 |
| LANCOM LMC-A-3Y LMC License | LANCOM LMC-A-3Y License (3 Years), enables the management of one category A device for three years via the LANCOM Management Cloud, item no. 50101 |
| LANCOM LMC-A-5Y LMC License | LANCOM LMC-A-5Y License (5 Years), enables the management of one category A device for five years via the LANCOM Management Cloud, item no. 50102 |
| Accessories | |
| LANCOM WLAN controllers | LANCOM WLC-4006+, item no. 62035 (EU), item no. 62036 (UK) and item no. 62037 (US), LANCOM WLC-4025+, item no. 61378, item no. 61379 and item no. 61384 (US), LANCOM WLC-4100, item no. 61369 (EU) and item no. 61377 (UK), LANCOM WLC Basic Option for Routers, item no. 61639 |
| LANCOM Wall Mount | For simple, theft-proof mounting of LANCOM devices with plastic housings, item no. 61349 |
| LANCOM Wall Mount (White) | For simple, theft-proof mounting of LANCOM devices with plastic housings, item no. 61345 |
| LANCOM Serial Adapter Kit | For the connection of V.24 modems with AT command set and serial interface for the connection to the LANCOM COM interface, incl. serial cable and connection plug, item no. 61500 |
| Power over Ethernet Injector | 1-port PoE injector with Gigabit support, integrated power supply, compatible with the standard IEEE 802.3af/at, item no. 61738 (EU) and 61739 (UK) |
| Item number(s) | |
| LANCOM L-330agn dual Wireless (EU) | 61740 |
| LANCOM L-330agn dual Wireless (UK) | 61741 |

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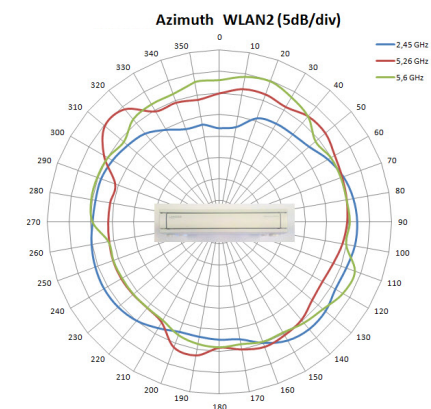
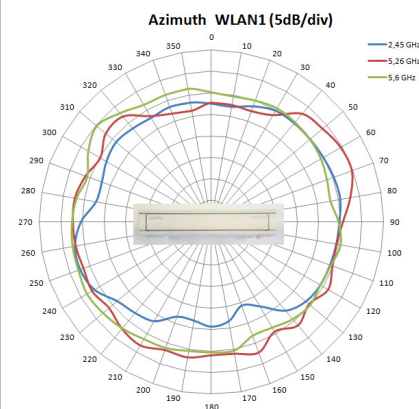
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LANCOM L-330agn dual Wireless 10-piece bulk

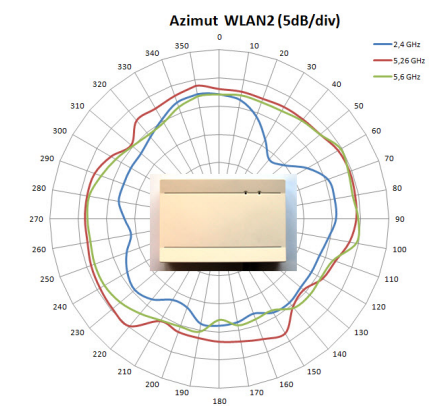
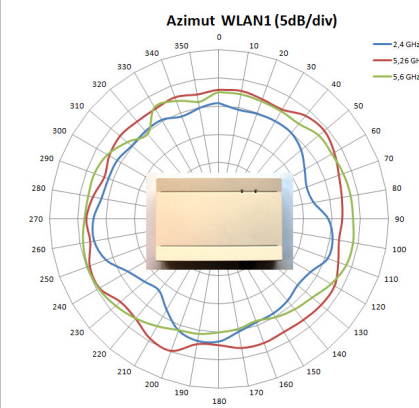


Antenna Gain

antenna pattern, front view

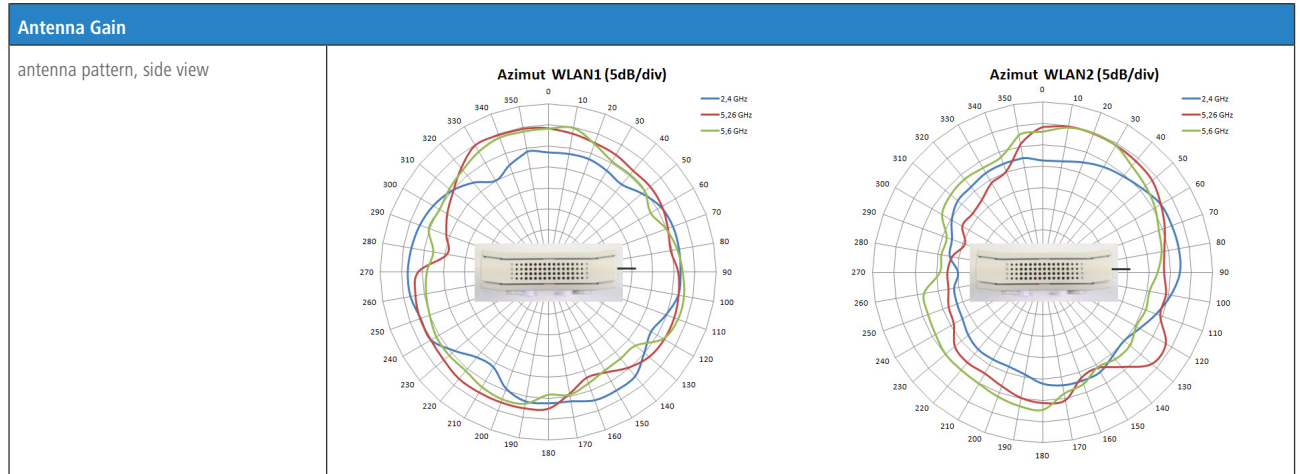


antenna pattern, top view



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