

# LANCOM LX-6200E

## Fast Wi-Fi 6 and digital signage



The LANCOM LX-6200E is the ideal combo solution for small and medium-sized deployment environments: With Wi-Fi 6, it delivers strong Wi-Fi performance to end users. The integrated wireless ePaper interface enables digital signage solutions. At the same time, the coexistence feature guarantees reliable operation of your Wireless ePaper displays even in the event of intensive Wi-Fi usage.

- Dual concurrent Wi-Fi – parallel operation at 2.4 GHz and 5 GHz with Wi-Fi 6 (IEEE 802.11ax)
- Integrated radio module for energy-saving communication with LANCOM ePaper displays or electronic price labels
- 2x2 multi-user MIMO for simultaneous beam-steering for multiple clients in down- and uplink mode
- OFDMA for efficient Wi-Fi channel usage
- USB 2.0 port for connecting wireless IoT systems
- Bluetooth Low Energy 5.1
- Automated operation via the LANCOM Management Cloud (LMC)
- WLAN controller support (including layer-3 tunneling)
- Support of the security standard WPA3
- Uncompromising and future-proof standards for warranty, support, and software lifecycle management



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# LANCOM LX-6200E

## **Dual concurrent Wi-Fi with an aggregated data rate of up to 1,775 Mbps**

The LANCOM LX-6200E offers the Wi-Fi 6 standard (IEEE 802.11ax) for fast wireless LAN for clients in the 2.4- and 5-GHz bands. Wi-Fi 6 technology achieves transmission rates of up to 1,200 Mbps at 5 GHz and simultaneously up to 575 Mbps at 2.4 GHz.

## **Control of LANCOM Wireless ePaper Displays**

LANCOM Wireless ePaper Displays provide advanced digital signage for a variety of applications. In addition to Wi-Fi 6, the LANCOM LX-6200E also supports LANCOM ePaper wireless technology with interference-free control of LANCOM Wireless ePaper displays for their maximum battery life.

## **OFDMA – carpooling in the radio field**

Orthogonal Frequency Division Multiple Access (OFDMA) divides the frequency range of a Wi-Fi channel into a number of frequency blocks per unit of time. This creates subcarriers, which can be as narrow as just 2 MHz. Small data packets, so typical of IoT devices, no longer block entire 20-, 40- or even 80-MHz channels all by themselves. On the other hand, the Wi-Fi 6 access point is able to bundle multiple subcarriers. This is bit like carpooling, which stops the traffic being blocked by cars with just one occupant: Instead, the streets are freed up with just a few cars carrying several occupants.

## **2x2 Multi-User MIMO for downlinks and uplinks**

Multi-user MIMO (MU-MIMO for short) simultaneously distributes all of the available spatial streams of the LANCOM LX-6200E between several different clients, rather than one after the other as was formerly the case. The available bandwidth is used efficiently and delays in the wireless network are substantially reduced. With Wi-Fi 6, MU-MIMO is not, as before, only usable in the downlink but now also in the uplink as well.

## **Professional IoT support via BLE and USB**

With the LANCOM LX-6200, you can easily dive into the world of the Internet-of-Things (IoT). Support for Bluetooth Low Energy (5.1) and USB 3.0 opens up many possibilities for you to communicate with modern WLAN sensors in devices or objects and use innovative applications such as asset tracking or digital signage with Wireless ePaper. In this way, you can easily operate solutions for digital room signage, electronic shelf labels, and other ePaper applications via the optionally available LANCOM Wireless ePaper USB.

## **Managed via LANCOM Management Cloud, WLAN controller, or stand-alone**

The LANCOM LX-6200E offers the greatest possible versatility in operation: Managed through the LANCOM Management Cloud, it integrates into a holistic, automated network orchestration system based on software-defined networking technology. It is also able to operate with central management by LANCOM WLAN controller or even in stand-alone mode.



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## **Wi-Fi security standard WPA3**

WPA3, the successor of WPA2, offers important upgrades and security features for small ("WPA3-Personal") and large networks ("WPA3-Enterprise").

## **Uncompromising additional services for maximum future security**

The LANCOM LX-6200E supports the fast WLAN standard IEEE 802.11ax (Wi-Fi 6), so that you are technically well equipped for future challenges. LANCOM Systems gives you a 3-year warranty on the LX-6200E, which can easily be extended to 5 years with the Warranty Basic Option S or the Warranty Advanced Option S. And you also benefit from the high LANCOM standards on the software side: several times a year you receive free major releases of the LCOS LX operating system with new, future-proof features. Even if a product is no longer available, we offer free major releases, critical security fixes (security updates) based on the last available software version, and free technical manufacturer support as part of the LANCOM software lifecycle management for at least another 2 years.



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# LANCOM LX-6200E

## Wi-Fi product specification

|                                  |                                                                                                                                                                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency band 2.4 GHz and 5 GHz | 2400-2483.5 MHz (ISM), 5150-5700 MHz (depending on country-specific restrictions)                                                                                                                                                 |
| Integrated Antenna Gain          | up to 3 dBi in 2.4 GHz, up to 4 dBi in 5 GHz                                                                                                                                                                                      |
| Data rates IEEE 802.11ax         | → up to 1200 MBit/s according to IEEE 802.11ax with MCS11/QAM-1024 at 5 GHz, 2x2 MIMO and 80 MHz channel width<br>→ up to 575 MBit/s according to IEEE 802.11ax with MCS11/QAM-1024 at 2.4 GHz, 2x2 MIMO and 40 MHz channel width |
| Data rates IEEE 802.11ac/n       | 867 Mbps according to IEEE 802.11ac with MCS9 (fallback to 6.5 Mbps with MCS0).                                                                                                                                                   |
| Data rates IEEE 802.11n          | 300 Mbps according to IEEE 802.11n with MCS15 (fallback to 6.5 Mbps with MCS0).                                                                                                                                                   |
| 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)                                         |
| 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)                                                                                                                                     |
| Radio channels 5 GHz             | Up to 16 non-overlapping channels (available channels and further obligations such as automatic DFS dynamic channel selection depending on national regulations), configurable maximum transmit power                             |
| Radio channels 2.4 GHz           | Up to 13 channels, max. 3 non-overlapping (depending on country-specific restrictions), configurable maximum transmit power                                                                                                       |
| Multi-SSID                       | Up to 32 (simultaneous use of up to 16 independent Wi-Fi networks at WLAN interface 1 and up to 16 independent Wi-Fi networks at WLAN interface 2); time-controlled activation and deactivation of Wi-Fi networks                 |
| Hotspot                          | Support for the Cloud-managed Hotspot in combination with the LANCOM Management Cloud                                                                                                                                             |

## Supported Wi-Fi standards

|                |                                                                                                                                                                  |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IEEE standards | IEEE 802.11ax, IEEE 802.11ac Wave 2, IEEE 802.11n, IEEE 802.11a, IEEE 802.11g, IEEE 802.11b, IEEE 802.11i, IEEE 802.1X, IEEE 802.11h, IEEE 802.11d, IEEE 802.11v |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Standard IEEE 802.11ax

|                    |                                                                                                       |
|--------------------|-------------------------------------------------------------------------------------------------------|
| Supported features | 2x2 DL-/UL-MU-MIMO, DL-/UL-OFDMA, triggered target-wake-time, BSS coloring, QAM-1024, 80 MHz channels |
|--------------------|-------------------------------------------------------------------------------------------------------|

### Standard IEEE 802.11ac

|                    |                                             |
|--------------------|---------------------------------------------|
| Supported features | 2x2 MIMO, 80 MHz channels, MU-MIMO, QAM-256 |
|--------------------|---------------------------------------------|

### Standard IEEE 802.11n

|                    |                                                                                                                                                                                                                                              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supported features | 2x2 MIMO, 40-MHz channels, 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 |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



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## Operating modes

|       |                                                            |
|-------|------------------------------------------------------------|
| Modes | Standalone, WLC-managed or LANCOM Management Cloud managed |
|-------|------------------------------------------------------------|

## Wi-Fi security

|                    |                                                                                                                                                           |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Encryption options | IEEE 802.1X (WPA3-Enterprise, WPA2-Enterprise), WPA3-Personal, IEEE 802.11i (WPA2-Personal), WEP, LEPS-U (Private PSK, only possible with WPA2), LEPS-MAC |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|

|                       |                               |
|-----------------------|-------------------------------|
| Encryption algorithms | AES-CCMP, AES-GCMP, TKIP, RC4 |
|-----------------------|-------------------------------|

|                           |                                                                           |
|---------------------------|---------------------------------------------------------------------------|
| EAP types (authenticator) | EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-FAST |
|---------------------------|---------------------------------------------------------------------------|

## Roaming

|         |                                                                                              |
|---------|----------------------------------------------------------------------------------------------|
| Roaming | IAPP (Inter Access Point Protocol), Fast Roaming (802.11r), OKC, Pre-Authentication, 802.11k |
|---------|----------------------------------------------------------------------------------------------|

## Wireless ePaper Displays

|                                             |                                                                                                                      |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Support for LANCOM Wireless ePaper Displays | The device is equipped with a radio module to control LANCOM Wireless ePaper Displays in the 2.4 GHz frequency band. |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------|

## LANCOM Active Radio Control

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Band Steering | Steering of 5GHz clients to the corresponding high-performance frequency band; support for 802.11v |
|---------------|----------------------------------------------------------------------------------------------------|

## Bluetooth Low Energy (BLE)

|                                                  |                                                                                                             |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Support of Bluetooth Low Energy technology (BLE) | The device can scan the environment for BLE devices and can forward the resulting scan data via a REST API. |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------|

## Layer 2 functions

|      |                                                                                                      |
|------|------------------------------------------------------------------------------------------------------|
| VLAN | 4096 VLAN IDs, static assignment to SSIDs, dynamic Assignment via LEPS-U/LEPS-MAC or 802.1X (RADIUS) |
|------|------------------------------------------------------------------------------------------------------|

|                    |                           |
|--------------------|---------------------------|
| Quality of Service | WME based on IEEE 802.11e |
|--------------------|---------------------------|

|                      |                      |
|----------------------|----------------------|
| Bandwidth limitation | per SSID, per Client |
|----------------------|----------------------|

|           |                                                                   |
|-----------|-------------------------------------------------------------------|
| Multicast | IGMP-Snooping, Multicast-to-Unicast-conversion on WLAN interfaces |
|-----------|-------------------------------------------------------------------|

|           |                               |
|-----------|-------------------------------|
| Protocols | LLDP, Proxy ARP, LACP, L2TPv3 |
|-----------|-------------------------------|

## Network

|           |                        |
|-----------|------------------------|
| Protocols | IPv4, IPv6, dual stack |
|-----------|------------------------|

## Interfaces

|                   |                           |
|-------------------|---------------------------|
| USB 2.0 host port | USB 2.0 host port (USB-A) |
|-------------------|---------------------------|



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## Interfaces

|                |                                                                                 |
|----------------|---------------------------------------------------------------------------------|
| Ethernet ports | 1 x 100/1000BASE-T autosensing (RJ-45), IEEE 802.3az, PoE (Power over Ethernet) |
|----------------|---------------------------------------------------------------------------------|

|                  |                                                           |
|------------------|-----------------------------------------------------------|
| Internal antenna | Two internal antennas per radio interface (four in total) |
|------------------|-----------------------------------------------------------|

## Hardware

|              |                                                                                                 |
|--------------|-------------------------------------------------------------------------------------------------|
| Power supply | 12 V DC, external power adapter (230 V), PoE (Power over Ethernet), compliant with IEEE 802.3at |
|--------------|-------------------------------------------------------------------------------------------------|

|                   |            |
|-------------------|------------|
| Power consumption | max. 17.3W |
|-------------------|------------|

|             |                                                            |
|-------------|------------------------------------------------------------|
| Environment | Temperature range 0–40 °C. Humidity 0–90 %; non-condensing |
|-------------|------------------------------------------------------------|

|         |                                                                                                                                         |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Housing | Robust synthetic housing with aluminum bottom, rear connectors, ready for wall mounting, Kensington lock; 205 x 42 x 205 mm (W x H x D) |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------|

## Management and monitoring

|            |                                                                                                         |
|------------|---------------------------------------------------------------------------------------------------------|
| Management | LANCOM Management Cloud, WLAN-Controller, WEBconfig, LANconfig, LL2M, external Syslog, Packet Capturing |
|------------|---------------------------------------------------------------------------------------------------------|

|            |                                                                       |
|------------|-----------------------------------------------------------------------|
| Monitoring | LANCOM Management Cloud, WLAN-Controller, WEBconfig, LANmonitor, SNMP |
|------------|-----------------------------------------------------------------------|

## Conformity\*

|             |    |
|-------------|----|
| Europe/EFTA | CE |
|-------------|----|

|                         |     |
|-------------------------|-----|
| Australia / New Zealand | RCM |
|-------------------------|-----|

|                   |                 |
|-------------------|-----------------|
| Country of Origin | Made in Germany |
|-------------------|-----------------|

|         |                                                                                                                                                                                       |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| *) Note | The full text of the specific Declaration of Conformity is available at the following Internet address:<br><a href="http://www.lancom-systems.com/doc">www.lancom-systems.com/doc</a> |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Scope of delivery

|               |                                                           |
|---------------|-----------------------------------------------------------|
| Documentation | Installation Guide (DE/EN); Mounting Instructions (DE/EN) |
|---------------|-----------------------------------------------------------|

|       |                     |
|-------|---------------------|
| Cable | Ethernet cable, 1 m |
|-------|---------------------|

|                   |                                                                                         |
|-------------------|-----------------------------------------------------------------------------------------|
| Power supply unit | External power adapter (100-240 V), 12 V/2A DC, EU plug (not included in bulk delivery) |
|-------------------|-----------------------------------------------------------------------------------------|

## Accessories

|                                      |                                                                                |
|--------------------------------------|--------------------------------------------------------------------------------|
| LANCOM WLAN PSU (EU, white, Bulk 10) | 10x white LANCOM WLAN PSU 230V to 12V/2A DC power adapter, item no. 61814 (EU) |
|--------------------------------------|--------------------------------------------------------------------------------|

|                       |                                                                                                                                                             |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LANCOM PoE++ Injector | 1-port PoE injector with up to 5 Gigabit support, integrated power supply, compatible with the standard IEEE 802.3af/at/bt (up to 65W), item no. 61779 (EU) |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                      |                                                                                                                      |
|----------------------|----------------------------------------------------------------------------------------------------------------------|
| LANCOM Wall Mount LN | Robust mounting plate for simple, theft-proof mounting of LANCOM AP series LN-xxxx, LX-64xx, LX-62xx, Item no. 61342 |
|----------------------|----------------------------------------------------------------------------------------------------------------------|



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## Accessories

|                                 |                                                                                                                                                                                                                                |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LANCOM Wireless ePaper Displays | 2.7" LANCOM Wireless ePaper Display, item no. 62213 (bulk 5), 4.4" LANCOM Wireless ePaper Display, item no. 62211 and item no. 62214 (bulk 5), 7.4" LANCOM Wireless ePaper Display, item no. 62212 and item no. 62215 (bulk 5) |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Support

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Warranty                       | 3 years<br>For details, please refer to the General Warranty Conditions at: <a href="http://www.lancom-systems.com/warranty-conditions">www.lancom-systems.com/warranty-conditions</a>                                                                                                                                                                                                                                                                           |
| Software updates               | Regular free updates as part of the LANCOM Lifecycle Managements ( <a href="http://www.lancom-systems.com/lifecycle">www.lancom-systems.com/lifecycle</a> )                                                                                                                                                                                                                                                                                                      |
| Manufacturer support           | Technical manufacturer support as part of a support contract (LANcommunity partner, LANcare Direct, or LANcare Premium Support)                                                                                                                                                                                                                                                                                                                                  |
| LANcare Basic S                | Security updates and manufacturer support until EOL status (min. 5 years, support contract required: LANcommunity partner, LANcare Direct, or LANcare Premium Support), 5 years replacement service with shipment of the device within 5 days after arrival of the faulty device (8/5/5Days), item no. 10720                                                                                                                                                     |
| LANcare Advanced S             | Security updates and manufacturer support until EOL status (min. 5 years, support contract required: LANcommunity partner, LANcare Direct, or LANcare Premium Support), 5 years NBD advance replacement with delivery of the device on the next business day (8/5/NBD), item no. 10730                                                                                                                                                                           |
| LANcare Direct Advanced 24/7 S | Direct, prioritized 10/5 manufacturer support incl. 24/7 emergency hotline and security updates for the device, NBD advance replacement with delivery of the device on the next business day (24/7/NBD), guaranteed first response times (SLA) of max. 30 minutes for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10776, 10777 or 10778) |
| LANcare Direct 24/7 S          | Direct, prioritized 10/5 manufacturer support incl. 24/7 emergency hotline and security updates for the device, guaranteed first response times (SLA) of max. 30 minutes for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10752, 10753 or 10754)                                                                                          |
| LANcare Direct Advanced 10/5 S | Direct, prioritized 10/5 manufacturer support and security updates for the device, NBD advance replacement with delivery of the device on the next business day (10/5/NBD), guaranteed first response times (SLA) of max. 2 hours for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10764, 10765 or 10766)                                 |
| LANcare Direct 10/5 S          | Direct, prioritized 10/5 manufacturer support and security updates for the device, guaranteed first response times (SLA) of max. 2 hours for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10740, 10741 or 10742)                                                                                                                          |

## Software

|                      |                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lifecycle Management | After discontinuation (End of Sale), the device is subject to the LANCOM Lifecycle Management. Details can be found at: <a href="http://www.lancom-systems.com/lifecycle">www.lancom-systems.com/lifecycle</a>                                                                                                                                           |
| Anti-backdoor policy | Products from LANCOM are free of hidden access paths (backdoors) and other undesirable features for introducing, extracting or manipulating data. The trust seal "IT Security made in Germany" (ITSMIG) and certification by the German Federal Office for Information Security (BSI) confirm the trustworthiness and the outstanding level of security. |



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# LANCOM LX-6200E

## LANCOM Management Cloud

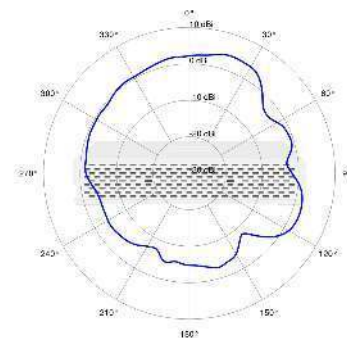
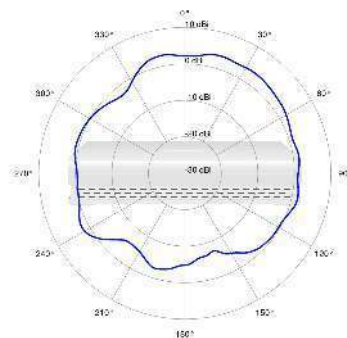
|                             |                                                                                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 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  |

## Item number(s)

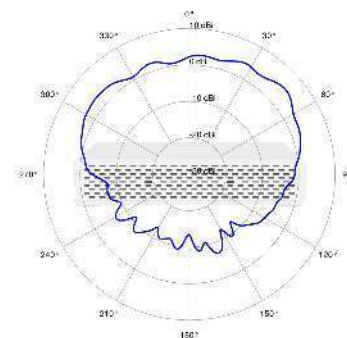
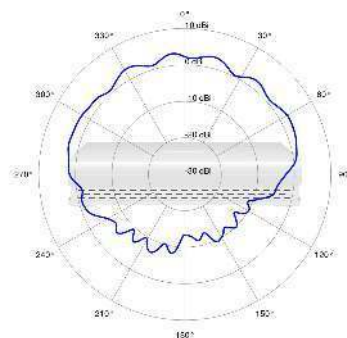
|                           |       |
|---------------------------|-------|
| LANCOM LX-6200E           | 61833 |
| LANCOM LX-6200E (Bulk 10) | 61835 |

## Antenna Gain Antenna Gain

antenna pattern, 2.4 GHz



antenna pattern, 5.2 GHz

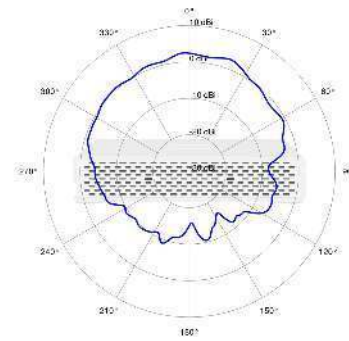
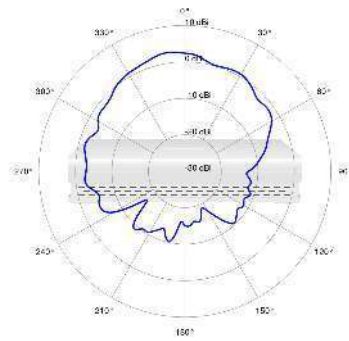


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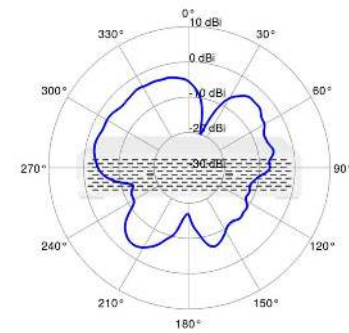
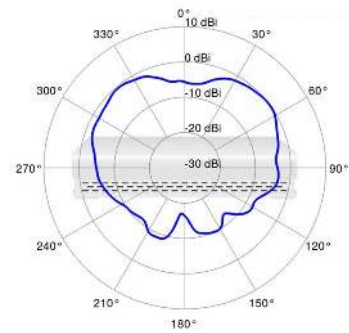
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## Antenna Gain Antenna Gain

antenna pattern, 5.6 GHz



antenna pattern, BLE



antenna pattern, ESL

