LANCOM LX-6402

Versatile Wi-Fi 6 with high-efficiency throughput for large numbers of devices

In high-density environments, wireless networks with many concurrent users—such as at schools, universities, sports stadiums, concert halls, open-plan offices, shopping centers, or environments with a high density of IoT devices—are guaranteed an excellent Wi-Fi experience when operating the LANCOM LX-6402. This Wi-Fi 6 access point offers low latency and high throughput for every client, even with large numbers of concurrent users. External Wi-Fi antenna connectors deliver maximum versatility. So put your trust in high-efficiency wireless—made by LANCOM, "Made in Germany".

> Dual concurrent Wi-Fi – parallel operation at 2.4 GHz and 5 GHz with Wi-Fi 6 (IEEE 802.11ax)
> 4x4 multi-user MIMO for simultaneous beam-steering for multiple clients (up- and downlink)
> OFDMA for efficient Wi-Fi channel usage
> Significantly longer battery life thanks to TWT
> Includes 4 flexibly adjustable omni-directional antennas, alternatively connection of optional sector antennas
> Automated operation via the LANCOM Management Cloud (LMC)
> Power supply optionally by Power over Ethernet (IEEE 802.3at) or power-supply unit (included)
> 1x 2.5-Gigabit Ethernet PoE port (IEEE 802.3at for up to 30 Watt), 1x Gigabit Ethernet port

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Dual concurrent Wi-Fi with up to 2400 Mbps

The LANCOM LX-6402 offers the Wi-Fi 6 standard (IEEE 802.11ax) for clients in the 2.4- and 5-GHz bands. Wi-Fi 6 technology features an 80-MHz channel width and a higher modulation density with QAM-1024 to achieve transmission rates of up to 2400 Mbps at 5 GHz and simultaneously up to 1200 Mbps at 2.4 GHz.

4x4 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-6402 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 operates not only for the downlink but for the uplink as well.

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.

160 MHz channel width

The access point can handle channel bandwidths of 20, 40 and 80 MHz (with 4 streams) and 160 MHz (with 2 streams). The channel width of 160 MHz enables a data throughput of up to 2400 Mbps on appropriate terminals with two antennas that support the reception of two streams at 160 MHz.

Longer battery life thanks to TWT

Previously, smartphones, tablets and notebooks had to be ready to receive all the time so as not to miss their data packets. This can quickly use up battery charge. Wi-Fi 6 delivers a new technology to counteract power consumption on the client side. Target Wake Time, TWT for short, reduces consumption by allowing the access point and the client to negotiate exactly when the receiver should wake up to hear the sender's call.

Band steering

Optimized load balancing in your Wi-Fi by actively redirecting clients to the less congested and higher performance 5-GHz frequency band.

Operates via the LANCOM Management Cloud

The LANCOM LX-6402 offers unsurpassed user-friendliness: Managed through the LANCOM Management Cloud, it integrates into a holistic, automated network orchestration system based on software-defined networking technology.

Operation via WLC is in preparation

The LANCOM LX-6402 access point is due to operate with WLAN controllers as of early 2020. The alternative for centralized management is the LANCOM Management Cloud.

LANCOM security for wireless networks

With numerous integrated security features such as IEEE 802.1X, this enterprise-class access point provides optimal security for networks. Administrators and employees alike benefit from professional security policies on the network.

Versatile power supply

Thanks to the power supply via power over Ethernet as per IEEE 802.3at, the LANCOM LX-6402 operates at any PoE-powered Ethernet port. Alternatively, the access point operates with a power supply unit supplied with various plug adapters (EU, UK, US, AU).

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LCOS LX 5.00

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)
Data rates IEEE 802.11ax	> up to 2400 MBit/s according to IEEE 802.11ax with MCS11/QAM-1024 at 5 GHz, 4x4 MIMO and 80 MHz channel width > up to 1200 MBit/s according to IEEE 802.11ax with MCS11/QAM-1024 at 2.4 GHz, 4x4 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)
Radio channels 2.4 GHz	Up to 13 channels, max. 3 non-overlapping (depending on country-specific restrictions)
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)
Concurrent Wi-Fi clients	Up to 511 clients

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

Standard IEEE 802.11ax	
Supported features	4x4 DL-/UL-MU-MIMO, DL-/UL-OFDMA, triggered target-wake-time, BSS coloring, QAM-1024, 80 MHz channels, 160 MHz channels

Standard IEEE 802.11ac	
Supported features	4x4 MIMO, 80 MHz channels, 160 MHz channels, MU-MIMO, QAM-256

Standard IEEE 802.11n	
Supported features	4x4 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

Operating modes	
Modes	Standalone or LANCOM Management Cloud managed; operation via WLAN controller in preparation

Wi-Fi security	
Encryption options	IEEE 802.1X (WPA2-Enterprise), IEEE 802.11i (WPA2-Personal), WEP, LEPS-U (Private PSK)
Encryption algorithms	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

Roaming	
Roaming	IAPP (Inter Access Point Protocol), Fast Roaming (802.11r)

LANCOM Active Radio Control	
Band Steering	Steering of 5GHz clients to the corresponding high-performance frequency band; support for 802.11v

Layer 2 functions	
VLAN	4096 VLAN IDs, static assignment to SSIDs
Quality of Service	WME based on IEEE 802.11e
Bandwidth limitation	Per SSID

Interfaces	
Ethernet ports	> 1x 10/100/1000/2.5GBASE-T Autosensing (RJ-45), IEEE 802.3az, PoE (Power over Ethernet) > 1x 10/100/1000BASE-T Autosensing (RJ-45), IEEE 802.3az
USB 3.0 host port	USB 3.0 host port (USB-A)

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Interfaces	
external antennas	All four external antennas are used by both radio modules via an internal diplexing cirtuit
Hardware	
Power supply	12 V DC, external power adapter (230 V), PoE (Power over Ethernet), compliant with IEEE 802.3at
Environment	Temperature range 0–40 °C. Humidity 0–90 %; non-condensing
Housing	Robust synthetic housing, 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, WEBconfig, LANconfig
Monitoring	LANCOM Management Cloud, WEBconfig
Declarations of Conformity*	
CE	EN 300 328, EN 301 893, EN 301 489-1, EN 301 489-17, EN 62368-1, EN 60601-1-2
FCC	FCC Part 15B, 15C, 15E
Country of Origin	Software designed in Germany, Assembled in Malaysia
Scope of delivery	
Documentation	Installation Guide (DE/EN); Mounting Instructions (DE/EN)
Cable	Ethernet cable, 3 m
Power supply unit	External power adapter (100-240 V), 12 V/2A DC, EU plug (not included in bulk delivery)
Accessories	
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 LX-6402 (EU)	61825
LANCOM LX-6402 (WW)	61826
LANCOM LX-6402 (US)	61827
LANCOM LX-6402 (WW, Bulk 10)	61828

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