

The logo for LCOS LX is centered on a background of light blue binary code (0s and 1s). The letters 'L', 'C', 'O', 'S', and 'X' are in a bold, black, sans-serif font. The letter 'O' is replaced by a solid purple circle. The letter 'X' is in a purple color, matching the circle. The letters 'C' and 'S' are also in black.

# LCOS LX

---

## LCOS LX 5.30

For cutting-edge wireless applications

With LCOS LX 5.30 you upgrade your access points based on LCOS LX with new features. For example, a new Bluetooth Low Energy interface (REST) enables the integration of the access point into systems for offering location-based services. With the support of the LANCOM Wireless ePaper USB extension module, you can also now upgrade your access points for the implementation of Wireless ePaper applications. The option of a cloud-managed hotspot, in which the LANCOM Management Cloud acts as a central hotspot portal, rounds off this LCOS LX version.

- BLE API for the realization of innovative location-based services
- LANCOM Wireless ePaper extension for your LX series access points
- Cloud-managed Hotspot

# LCOSLX LANCOM Operating System

## General function overview

Wireless LAN	Wi-Fi access point	Up to 511 Wi-Fi clients
	Frequency band	2400-2483.5 MHz and 5150-5700 MHz (country-specific restrictions may occur)
	Wi-Fi standards	IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, IEEE 802.11h, IEEE 802.11i, IEEE 802.11n, IEEE 802.11ac, IEEE 802.11ax
	Radio channels	Up to 13 channels at 2.4 GHz, up to 16 channels at 5 GHz (subband 1 and subband 2), automatic channel selection available for both frequency bands. DFS (Dynamic Frequency Selection) available at 5 GHz.
	Roaming	Switching between radio cells (seamless handover), support for IAPP (compatible to LCOS), Fast roaming as per IEEE 802.11r
	Band steering	optimized load balancing by steering Wi-Fi clients to the best available frequency band (IEEE 802.11v).
	VLAN	Static VLAN assignment as per 802.1p/q based on Wi-Fi SSIDs, dynamic VLAN for VLAN allocation per IEEE 802.1X or LEPS-MAC / LEPS-U
	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)
	Closed network	Broadcast suppression for SSID name
	Security	WPA3, 802.11i (WPA2), WPA1/TKIP, WEP, 802.1X (RADIUS authentication) including PMK caching, LEPS-MAC, LEPS-U
	QoS	WMM
	Adaptive Noise Immunity	Masking of noise sources in the radio environment
	Environment scan	Display of adjacent Wi-Fi networks and channel allocation (available via WEBconfig)
	Wi-Fi time control	Time-controlled SSID activation / deactivation
Management protocols	HTTP / HTTPS	exclusively for accessing WEBconfig
	TFTP	exclusively for searching devices in LANconfig
	SSH	
	SNMP	read-only access
Management	LANCOM Management Cloud	Complete management via the LANCOM Management Cloud incl. the ability for Zero-Touch installation
	WLAN controller	Management and monitoring via LANCOM WLAN controller (as per LCOS 10.40 on the WLAN controller)
	WEBconfig	Intuitive web interface for the entire management and monitoring of devices in stand-alone operation
	LANconfig	Complete configuration via LANconfig; configuration backup; firmware upload; configuration upload and -download
Diagnostics	Comprehensive trace options per command line interface, historical trace data retrievable from the internal system log buffer. Retrieval of the device-internal syslog via WEBconfig.	

# LCOS LX LANCOM Operating System

Features as of LCOS LX 5.30	
BLE API for the realization of innovative location-based services	Whether for indoor localization of patients in hospitals, evaluation of customer traffic in retail stores or asset tracking in the logistics sector: For all LANCOM access points with Bluetooth Low Energy Module (BLE), a new API interface (REST) is now available for the integration of location-based services. In cooperation with third-party providers, this enables the implementation of a wide range of location-based services (LBS) and innovative IoT applications.
LANCOM Wireless ePaper extension for your LX series access points	Now you can easily connect your existing LANCOM access points of the LX series to the Internet of Things (IoT), because with LCOS LX 5.30 your devices now support the extension module LANCOM Wireless ePaper USB. With this your access points can easily be upgraded with Wireless ePaper functionality. An ideal solution for the subsequent implementation of Wireless ePaper applications such as digital room signage or wireless price labeling.
Cloud-managed Hotspot	Create a simple Wi-Fi hotspot with a few clicks – directly from the LMC. No additional gateway or WLAN controller with LANCOM Public Spot Option is required. Intuitive menus provide you with the opportunity to customize your hotspot welcome screen with your logo and corporate colors and integrate important information such as imprint and usage guidelines for your hotspot users. Afterwards you can assign the new hotspot to the respective location and it will be available to your visitors.
Features as of LCOS LX 5.20	
WLAN controller functionality	Operate your WLAN now with maximum flexibility as you wish and as your network requires. For example, in very small installations the devices can be managed individually or stand-alone. Managed via the LANCOM Management Cloud, the access points are integrated into a holistic, automated network orchestration – ideal for WLAN infrastructures of any size. With the new LCOS LX 5.20, it is now also possible to operate access points of the LX and LW series via WLAN controller that handles the central configuration and control of the connected access points.
Full access control with LEPS-U and LEPS-MAC	Keep control of who is in your Wi-Fi. With LEPS-U (LANCOM Enhanced Passphrase Security - User) individual clients or entire groups each receive a unique Wi-Fi password for an SSID. In addition, with LCOS LX 5.20 you can now also use LEPS-MAC as a pure MAC filter or authenticate the clients beyond LEPS-U using their MAC address - ideal for secure corporate networks!
Dynamic VLAN	With Dynamic VLAN, only one SSID is now required for several user groups, such as guests or employees. The RADIUS server can issue the VLAN ID for the Wi-Fi client during an IEEE 802.1X login. This allows Wi-Fi devices to be assigned to the desired VLAN without having to provide a separate SSID for each VLAN. In addition, a VLAN can be specified for each Wi-Fi client via LEPS.
WLAN scheduling	Enables time-based activation and deactivation of SSIDs in the wireless LAN. Ideal for WLAN networks that should only be available at specific times, such as hotspots or Wi-Fi in educational institutions. You can individually determine the times and duration of Internet availability.
Features as of LCOS LX 5.10	
Wi-Fi 6 for LANCOM access points of the LX series	Wi-Fi is everywhere these days—the number of users is increasing just as rapidly as the potential applications. Wi-Fi 6 provides not only more speed, but above all a real increase in average throughput per Wi-Fi client. Thanks to a more efficient use of the available bandwidths and channels, Wi-Fi 6 brings more stability and reliability to intensively used wireless LANs.
Wi-Fi security standard WPA3	WPA3, the successor to WPA2, offers important enhancements and security features for small (“WPA3-Personal”) and large networks (“WPA3-Enterprise”). You benefit from significant improvements in authentication and encryption in your wireless LAN.
SNMPv3 with LANmonitor support	SNMPv3 (Simple Network Management Protocol Version 3) provides professional network monitoring. It offers convenient and yet high-security device monitoring thanks to encrypted data communication in LANmonitor.
Auto Updater – always up-to-date	The Auto Updater automatically keeps your installations up-to-date: LCOS LX-based devices can search for new software updates, and download and install them without any user interaction. You can choose whether to install only security updates, release updates, or all updates automatically. If automatic updates are not desired, the feature can still be used to check for new updates, which can then be installed with a single click.
Band steering – full bandwidth through intelligent client steering	Band steering offers optimized load balancing across the Wi-Fi by actively redirecting clients to the less congested and higher performance 5-GHz frequency band. Depending on the capabilities of the Wi-Fi client, the access point steers it to the best available frequency band—almost seamlessly thanks to the modern IEEE 802.11v technology.
Fast Wi-Fi roaming	Fast roaming as per the WLAN standard IEEE 802.11r allows clients to roam quickly between access points for an optimal wireless LAN user experience.
Features as of LCOS LX 4.00	
Future-proof Wi-Fi performance	More and more users, a high density of devices, and mobile applications constantly present wireless infrastructures with new challenges. Low bandwidth and long loading times are often the result. LCOS LX 4.0 enables high-performance Wi-Fi and is also prepared to support future wireless LAN standards. This way users enjoy wireless freedom combined with the speed of wired networks - for a unique Wi-Fi experience.
Secure access control to the wireless network (IEEE 802.1X)	With integrated security functions such as IEEE 802.1X, LANCOM devices based on the LCOS LX 4.0 ensure optimum security in networks. Thus both administrators and employees benefit from professional security policies in the network.
Multi-SSID	Thanks to Multi-SSID, LCOS LX 4.0-based WLAN access points can set up to 32 different wireless networks in parallel and securely separated from each other. Individual bandwidth limits can be defined for each SSID for download and upload.
Modern web interface	Devices based on LCOS LX 4.0 can be set up in just a few moments via the intuitive web interface of the new WEBconfig. It offers the best overview for comprehensive management and monitoring. A modern dashboard clearly displays the current Wi-Fi status and enables easy setup of individual WLAN networks (SSID) and the associated network keys. Or simply integrate new clients by using convenient QR codes.
Support of the LANCOM Management Cloud	The LANCOM Management Cloud is the world's first hyper-integrated management system that intelligently organizes, optimizes, and controls your entire network architecture. State-of-the-art „software-defined technology“ dramatically simplifies the deployment of an integrated network, eliminating the need for manual device configuration.

LANCOM, LANCOM Systems, LCOS, LANCommunity and Hyper-Integration are registered trademarks. All other names or descriptions used may be trademarks or registered trademarks of their owners. This document contains statements relating to future products and their attributes. LANCOM Systems reserves the right to change these without notice. No liability for technical errors and/or omissions. 12/20