- Tri-band access point
- Support for 802.11be
- 2.4 GHz radio interface with MU-MIMO 2×2
- 5 and 6 GHz radio interfaces with MU-MIMO 3×3
- Multi-Link Operation (MLO)
- PoE+ power supply (IEEE 802.3at)
- Seamless roaming



Solution for enterprise

WEP-500K is a tri-band Wi-Fi 7 access point for enterprise networks with a large number of connections. Operating in the 2.4, 5, and 6 GHz bands distributes clients across channels and reduces interference, helping maintain stable speeds even when dozens of devices access the network simultaneously. Compared to the previous-generation Wi-Fi 6 equipment, the WEP-500K access point significantly increases data rates and operates more reliably in densely connected environments. WEP-500K is suitable for offices, government agencies, hotels, conference rooms, labs, and classrooms.

Scalability

The network based on WEP-500K can be expanded to accommodate a growing number of users without overhauling the infrastructure. With channel widths up to 320 MHz, 4096-QAM modulation, and MU-MIMO (2×2 in the 2.4 GHz band, 3×3 in the 5 GHz and 6 GHz bands), it is capable of serving many clients simultaneously. Connecting access points to a hardware (WLC) or virtual (vWLC) controller unifies them into a managed network with centralized configuration and seamless roaming between access points.

Wireless connection

The support for IEEE 802.11be standard provides data rate of up to 688 Mbps in the 2.4 GHz band, 4324 Mbps in the 5 GHz band, and 8647 Mbps in the 6 GHz band with low latency. The Multi-Link Operation (MLO) technology combines multiple frequency bands into a single connection, increasing both total throughput and link reliability. The built-in omnidirectional antennas, along with OFDMA support, ensure uniform coverage and simultaneous service for clients in different directions.

Security

WEP-500K secures the wireless network with modern authentication and encryption methods, including WPA3 support. For corporate access, the centralized 802.1X authentication via a RADIUS server is implemeneted, while for guest access an external authorization portal can be used.

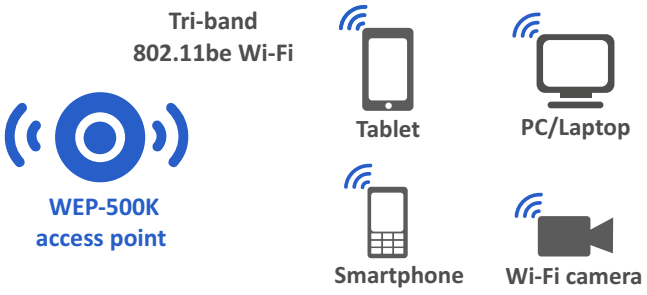
Performance

A high-performance hardware platform and optimized traffic processing algorithms allow WEP-500K to maintain data rate under peak load of up to 1024 simultaneous connections.

Power supply

The power is supplied via PoE technology over the same Ethernet cable as data, eliminating the need for a separate power line. This allows WEP-500K to be placed wherever optimal for coverage, regardless of the location of power outlets, reducing installation costs and time.

Application diagram



Interface configuration

Ethernet	Wi-Fi
1×2.5G	802.11a/b/g/n/ac/ax/be
1×1G	

Features and capabilities

Interfaces
– 1 port of 100/1000/2500BASE-T (RJ-45) with PoE
– 1 port of 10/100/1000BASE-T (RJ-45)
– Wi-Fi 2.4 GHz IEEE 802.11b/g/n/ax/be
– Wi-Fi 5 GHz IEEE 802.11a/n/ac/ax/be
– Wi-Fi 6 GHz IEEE 802.11ax/be

WLAN capabilities
– Support for IEEE 802.11a/b/g/n/ac/ax/be
– Support for IEEE 802.11r/k/v roaming
– Data aggregation, including A-MPDU and A-MSDU
– WMM-based packet priorities and planning
– Dynamic frequency selection (DFS)
– Support for hidden SSID
– Auto channel selection
– 48 virtual access points

Network features
– Automatic speed negotiation, duplex mode negotiation and MDI-MDI-X switch-over
– VLAN support
– C-VLAN support
– DHCP client
– GRE
– Local switching
– NTP
– Syslog
– LLDP

QoS functions
– Packet priorities and planning based on profiles
– Bandwidth limitation
– Support for 802.1p and DSCP prioritization

Configuration
– Remote management via Telnet, SSH
– CLI
– NETCONF
– Web interface

Security
– Centralized authorization via RADIUS server (802.1X WPA/WPA2/WPA3 Enterprise)
– WPA/WPA2/WPA3/OWE encryption
– Support for Captive Portal
– Support for WIDS[1]

Wireless interface specifications
– Frequency range: 2400–2483.5 MHz, 5150–5350 MHz, 5470–5850 MHz, 5935–7125 MHz
– BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM modulations
– Built-in omnidirectional antennas
– Support: MU-MIMO 2×2 for 2.4 GHz,
MU-MIMO 3×3 for 5 and 6 GHz
– Multi-Link Operation (MLO)
– OFDMA
– Bandwidth: 20, 40 MHz for 2.4 GHz
20, 40, 80, 160 MHz for 5 GHz
20, 40, 80, 160, 320 MHz for 6 GHz

Operating channels[2]
– 802.11b/g/n/ax/be: 1–13 (2401–2483 MHz)
– 802.11a/n/ac/ax/be: 36–64 (5170–5330 MHz)
100–144 (5490–5730 MHz)
149–165 (5735–5835 MHz)
– 802.11ax/be: 1–233 (5935–7125 MHz)

Data rate[3]
– 2.4 GHz, 802.11be: 688 Mbps
– 5 GHz, 802.11be: 4324 Mbps
– 6 GHz, 802.11be: 8647 Mbps

Maximum power of the transmitter[2]
– 2.4 GHz: 21 dBm
– 5 GHz: 21 dBm
– 6 GHz: 21 dBm

Built-in antenna gain
– 2.4 GHz: ~4 dBi
– 5 GHz: ~6 dBi
– 6 GHz: ~3 dBi

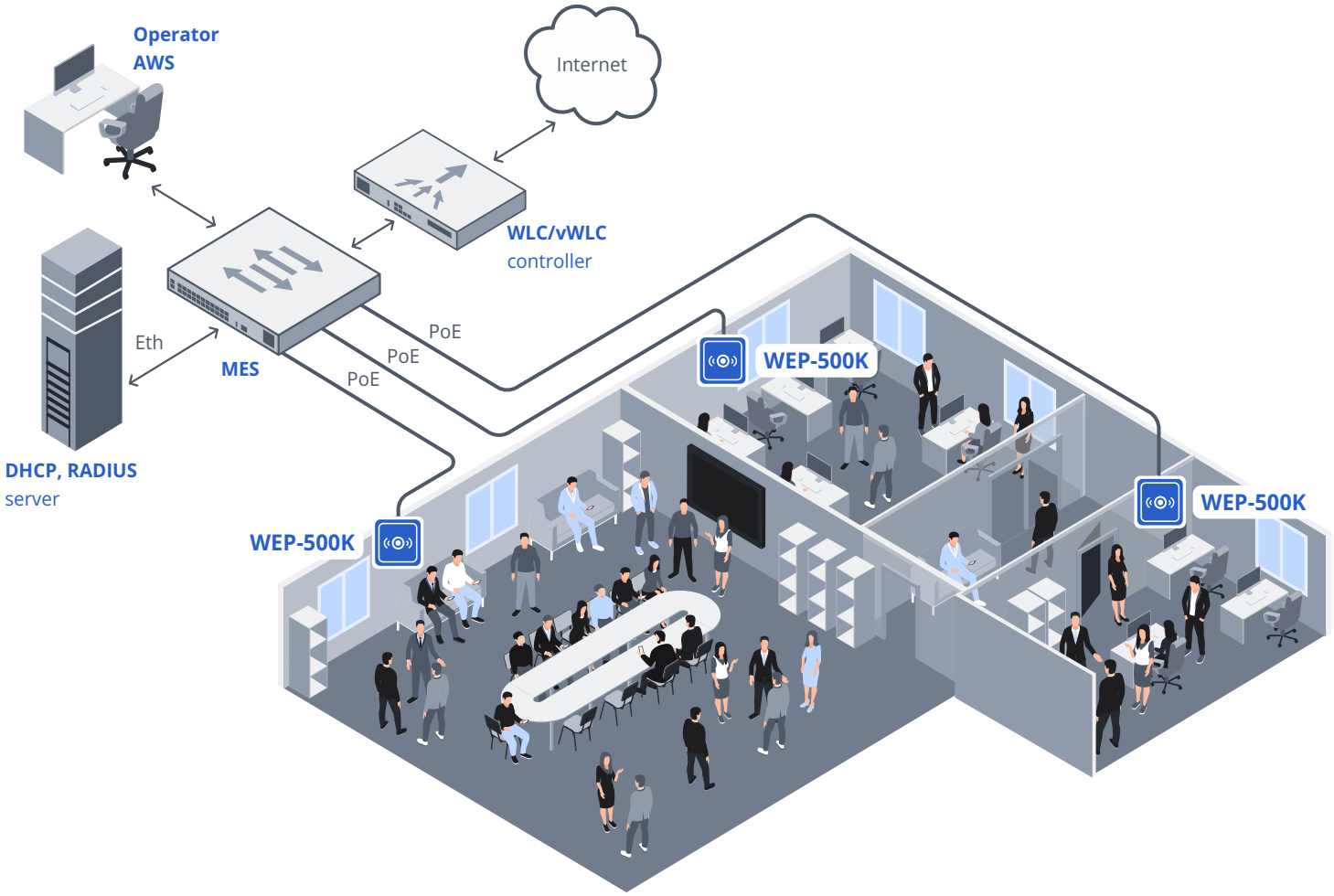
Receiver sensitivity
– 2.4 GHz: up to -95 dBm
– 5 GHz: up to -94 dBm
– 6 GHz: up to -95 dBm

Clients
– Maximum number of concurrent connections: 1024

Physical specifications
– Power consumption: no more than 24.5 W
– 256 MB SPI-NAND Flash
– 1 GB DDR4 RAM
– Power: PoE+ 48 V/56 V (IEEE 802.3at-2009)
– Operating temperature: from +5 to +40 °C
– Dimensions (diameter × height): 280 × 64.5 mm
– Weight: 1.8 kg
– Armstrong, threaded rod, ceiling/wall mount
– VESA size: 100 × 100

[1]Support for WIDS functionality is provided under license.
[2]The number of channels and the value of the maximum output power will vary according to the rules of radio frequency regulation in your country.
[3]The maximum wireless data rate is defined according to IEEE 802.11 standards. The real bandwidth can be different. Conditions of the network, environment, the amount of traffic, building materials and constructions and network service data can decrease the real bandwidth. The environment can influence the network coverage range.

Use case



Ordering information

Name	Description
WEP-500K	WEP-500K access point. Mounting kit.
Related products	
SSM-560-1000A-2.5G	Passive PoE Injector, SSM-560-1000A-2.5G, 2.5G, 56 V, 1 A.
Wi-Fi controllers	
WLC hardware controller	WLC-15, WLC-30, WLC-3200, WLC-3250, WLC-3350.
vWLC virtual controller	vWLC-AP option for connecting one access point to a vWLC controller. vWLC-AP-R option for connecting one access point to a redundant vWLC controller.

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About Eltex

Eltex Enterprise is a leading Russian developer and manufacturer of communication equipment with 30 years of history. Complete solutions and their seamless integrability into the Customer's infrastructure are the priority growth areas of the company.