Kenstel KAP520 is a two-radio, cloud-managed 4×4 MIMO 802.11ax/ac Wave 2 access point. Designed for general purpose, next-generation deployments in harsh outdoor locations and industrial indoor conditions, the KAP520 offers performance, enterprise-grade security, and intuitive management. The KAP520 delivers a maximum 5.4 Gbps aggregate frame rate with concurrent 2.4 GHz and 5 GHz radios. KAP520 delivers the high throughput, reliability, and flexibility required by the most demanding business applications like voice and high-definition streaming video, even in the harshest outdoor environments.

Dual-band 4×4 MIMO 802.11ax/ac Wave 2 access point with cloud management

Education

Experience Life in High Speed.

Hospitality

Enabling Seamless Connectivity for Every Guest Experience

Office

Keeping Your Office Connected and Efficient

KENSTEL

KAP520

PRODUCT HIGHLIGHTS

- Industrial design for use in harsh outdoor environments
- Aggregate data rate of 5.4 Gbps
- Self-configuring, Self-healing mesh
- Option for both inbuilt and external Antennas
- Remote management via HTTP, HTTPs, Secure SSH, Telnet, SSL, SNMP management v1/v2c/v3

- Configuration file backup and restore by TFTP or FTP, HTML
- Rich system information –AP status, station status, event logs
- IPv4 and IPv6 dual stack support
- IEEE 802.11a/b/g/n/ac/ax compliant
- 2.4GHz and 5GHz concurrent radios

TECHNICAL SPECIFICATION

Wi-Fi Standards
- IEEE 802.11b/g/n/ax on 2.4GHz
- IEEE802. 11a/n/ac/ax on 5GHz

Wireless Capabilities
- DL-OFDMA UL-OFDMA, TWT support, BSS Coloring
- 4 × 4 multiple input, multiple output (MIMO) with four spatial streams
- SU-MIMO, UL MU-MIMO and DL MU-MIMO support
- Maximal ratio combining (MRC) & beamforming

- 20 and 40 MHz channels (802.11n); 20, 40, and 80 MHz channels (802.11ac Wave 2); 20, 40 80 and 160 MHz channels (802.11ax)
- Up to 1024-QAM on both 2.4 GHz & 5 GHz bands

MIMO
- 2×2 SU-MIMO/MU-MIMO on 2.4 Ghz
- 4×4 SU-MIMO/MU-MIMO on 5Ghz

Antenna
- External Omni Directional Antenna)

Max aggregate frame rate (Mbps):
- 2.4 GHz: Max 600 │ 5 GHz: Max 4800

TECHNICAL SPECIFICATION

Supported Data Rates (Mbps):

- 802.11ax:
- 2.4 GHz: 9 to 574 (MCS0 to MCS11, NSS = 1 to 2)
- 5 GHz: 18 to 4800 (MCS0 to MSC11, NSS = 1 to 4)
- 802.11b: 1, 2, 5.5, 11
- 802.11a/g: 6, 9, 12, 18, 36, 48, 54
- 802.11n: 6.5 to 300 Mbps (MCS0 to MCS15)
- 802.11ac: 6.5 to 1733 Mbps (MCS0 to MCS9, NSS = 1 to 4), , 2166 with 1024-QAM

Supported Radio Technologies

- 802.11b: Direct-sequence spread-spec trum (DSSS)
- 802.11a/g/n/ac: Orthogonal frequency-di vision multiplexing (OFDM)
- 802.11ax: Orthogonal frequency-division mult-iple access (OFDMA) with up to 16 resource units (RU)

Supported Modulation

- 802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
- 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- 802.11b: BPSK, QPSK, CCK

Channelization

- 802.11ax supports high efficiency (HE) — HE 20/40/80/160 MHz
- 802.11ac supports very high throughput (VHT) —VHT 20/40/80 MHz
- 802.11n supports high throughput (HT) — HT 20/40 MHz
- 802.11n supports very high throughput under the 2.4GHz radio –VHT40 MHz (256-QAM)
- 802.11n/ac/ax packet aggregation: A-MPDU, A-SPDU

Maximum Transmit Power

- 2.4GHz 27dBm
- 5GHz 26dBm

Physical Interface

- 2 x GE Port (PoE)
- 1 x Reset Button

Power Source

- Power-over-Ethernet: 802.3at Input

Maximum Power Consumption

- 23W

SOFTWARE SPECIFICATION

IP
- IPv4, IPv6, dual stack

Max Concurrent User
- Upto 256

Max SSID
- Upto 16

Wireless authentication
- WEP, WPA, WPA2-PSK, WPA3 - Personal, WPA3 – Enterprise, WPA3 - Enhanced Open (OWE)
- EAP-TLS, EAP-TTLS, EAP-MSCHAPv2, EAP-SIM
- IEEE 802.1X based Authentications
- HOTSPOT 2.0

Roaming
- Fast roaming based on802.11r/k
- Seamless Roaming for Captive Portal user

RRM
- Automatic interference cancellation
- Smart Frequency selection
- Automatic Transmit power Optimization
- Coverage hole detection and mitigation

External Authentication
- Authentication via Radius
- Authentication via Active Directory (AD)

Captive Portal
- Click Through
- Simple Password
- Voucher
- Local User
- SMS OTP
- Custom Survey
- Social Media
- Advertisement

Operating Modes
- Bridge Mode
- Gateway Mode

Tunnels
- L2TP V2/V3
- GRE/EoGRE
- Openvpn
- IPSEC
- PPTP
- Wireguard/SSL

Routing
- Static routes
- RIP v1/v2
- OSPF
- BGP4
- Policy based Routing(PBR)

SOFTWARE SPECIFICATION

Security

- Port/Mac/IP/Proto based filtering
- ICMP/TCP/UDP/DHCP Flood attack defence
- ARP Spoofing Prevention
- Rogue AP detection
- Man in middle and Honeytrap Attack prevention
- Client Isolation
- L2/L3 ACL
- MFP

QoS

- WMM and 802.1e
- Port/Proto/DSCP/IP/Mac based Traffic Shaping

- Per SSID Bandwidth Limiting
- Airtime Fairness
- Band Steering

VLAN Tagging
- Supports 802.1q SSID-to-VLAN Tagging

SNMP
- v1, v2c, v3

MIB
- I/II, Private MIB

Management
- Local UI,SSH,TELNET,SNMP,TR069

CLOUD MANAGEMENT

Wireless Access Point

Our enterprise WLAN APs are specifically engineered to meet the demanding networking needs of businesses, government agencies, educational institutions, and more.

WLAN Controller

It serves as a centralized platform that enables administrators to configure, monitor, and maintain multiple access points (APs) within the network.
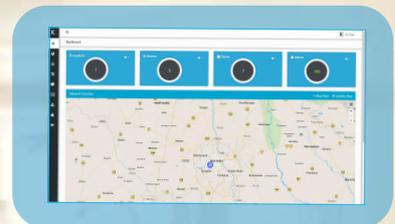
Cloud Manangement

A powerful and intuitive web-based interface that revolutionizes the way you manage and monitor your wireless network infrastructure.

KAP520 RF TABLE 2.4GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	27 dBm	-96 dBm
		2 Mb/s	27 dBm	-93 dBm
		5.5 Mb/s	27 dBm	-91 dBm
		11 Mb/s	27 dBm	-89 dBm
2.4 GHz	802.11g	6 Mb/s	27 dBm	-91 dBm
		9 Mb/s	27 dBm	-90 dBm
		12 Mb/s	27 dBm	-88 dBm
		18 Mb/s	26 dBm	-87 dBm
		24 Mb/s	26 dBm	-84 dBm
		36 Mb/s	26 dBm	-81 dBm
		48 Mb/s	25 dBm	-76 dBm
		54 Mb/s	25 dBm	-75 dBm

KAP520

KAP520 RF TABLE 2.4GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11n (HT20)	MCS0/8	27/27 dBm	-91/91 dBm
		MCS1/9	27/27 dBm	-88/88 dBm
		MCS2/10	26/26 dBm	-85/85 dBm
		MCS3/11	26/26 dBm	-82/82 dBm
		MCS4/12	25/25 dBm	-79/79 dBm
		MCS5/13	25/25 dBm	-75/75 dBm
		MCS6/14	25/25 dBm	-73/73 dBm
		MCS7/15	24/24 dBm	-70/70 dBm
2.4 GHz	802.11n (HT40)	MCS0/8	27/27 dBm	-89/89 dBm
		MCS1/9	27/27 dBm	-86/86 dBm
		MCS2/10	26/26 dBm	-83/83 dBm
		MCS3/11	26/26 dBm	-80/80 dBm
		MCS4/12	25/25 dBm	-77/77 dBm
		MCS5/13	25/25 dBm	-73/73 dBm
		MCS6/14	25/25 dBm	-72/72 dBm
		MCS7/15	24/24 dBm	-70/70 dBm

KAP520

KAP520 RF TABLE 5GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5GHz	802.11a	6 Mb/s	26 dBm	-90 dBm
		9 Mb/s	26 dBm	-87 dBm
		12 Mb/s	26 dBm	-86 dBm
		11 Mb/s	27 dBm	-89 dBm
		24 Mb/s	25 dBm	-84dBm
		36 Mb/s	25 dBm	-79dBm
		48 Mb/s	25 dBm	-74dBm
		54 Mb/s	26 dBm	-71dBm
5GHz	802.11n (HT20)	MCS0/8	26/26 dBm	-88/-88 dBm
		MCS1/9	26/26 dBm	-85/-85 dBm
		MCS2/10	25/25 dBm	-83/-83 dBm
		MCS3/11	25/25 dBm	-79/-79 dBm
		MCS4/12	24/24 dBm	-76/-76 dBm
		MCS5/13	24/24 dBm	-72/-72 dBm
		MCS6/14	23/23 dBm	-71/-71 dBm
		MCS7/15	23/23 dBm	-69/-69 dBm

KAP520

KAP520 RF TABLE 5GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11n (VHT20)	MCS0/0	26/26 dBm	-88/-88 dBm
		MCS1/1	26/26 dBm	-86/-86 dBm
		MCS2/2	25/25 dBm	-83/-83 dBm
		MCS3/3	25/25 dBm	-79/-79 dBm
		MCS4/4	24/24 dBm	-77/-77 dBm
		MCS5/5	24/24 dBm	-75/-75 dBm
		MCS6/6	23/23 dBm	-72/-72 dBm
		MCS7/7	23/23 dBm	-70/-70 dBm
		MCS8/8	22/22 dBm	-67/-67 dBm
5 GHz	802.11n (HT40)	MCS0/0	26/26 dBm	-85/-85 dBm
		MCS1/1	26/26 dBm	-84/-87 dBm
		MCS2/2	25/25 dBm	-84/-84 dBm
		MCS3/3	25/25 dBm	-79/-79 dBm
		MCS4/4	24/24 dBm	-77/-77 dBm
		MCS5/5	24/24 dBm	-72/-72 dBm
		MCS6/6	23/23 dBm	-70/-70 dBm
		MCS7/7	23/23 dBm	-68/-68 dBm

KAP520

KAP520 RF TABLE 5GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11n (VHT40)	MCS0/0	26/26 dBm	-85/-85 dBm
		MCS1/1	26/26 dBm	-82/-82 dBm
		MCS2/2	25/25 dBm	-79/-79 dBm
		MCS3/3	25/25 dBm	-77/-77 dBm
		MCS4/3	24/24 dBm	-74/-74 dBm
		MCS5/5	24/24 dBm	-70/-70 dBm
		MCS6/6	23/23 dBm	-68/-68 dBm
		MCS7/7	23/23 dBm	-67/-67 dBm
		MCS8/8	22/22 dBm	-64/-64 dBm
		MCS9/9	22/22 dBm	-63/-63 dBm
5 GHz	802.11n (VHT80)	MCS0/0	26/26 dBm	-83/-83 dBm
		MCS1/1	26/26 dBm	-81/-81 dBm
		MCS2/2	25/25 dBm	-79/-79 dBm
		MCS3/3	25/25 dBm	-76/-76 dBm
		MCS4/3	24/24 dBm	-73/-73 dBm
		MCS5/5	24/24 dBm	-70/-70 dBm
		MCS6/6	23/23 dBm	-67/-67 dBm

KAP520 RF TABLE 5GHz

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
		MCS7/7	23/23 dBm	-66/-66 dBm
		MCS8/8	22/22dBm	-62/-62 dBm
		MCS9/9	22/22 dBm	-60/-60 dBm

MECHANICAL SPECIFICATION

Temperature Range

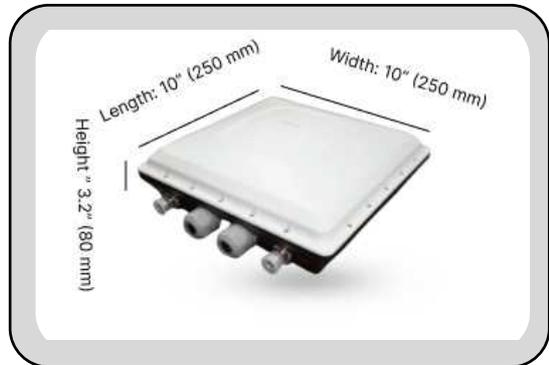Operating temperature 0°C to +50°C / +32°F to +122°F │ Storage Temperature-40° C to +70° C (-40° F to +158° F)

Waterproof & Dustproof

IP67-Rated Enclosure

Humidity (non-condensing)

Operating Humidity 5%~95% non-condensing Storage Humidity 5%~95% non-condensing Internal

Dimensions

Weight: 2.5Kg │ Width: 10" (250 mm) │Length: 10" (250 mm)│ Height " 3.2" (80 mm)

Experience connectivity redefined with KAP520 - your partner in solving the challenges of outdoor and industrial connectivity with unparalleled speed, reliability, and intelligence. Embrace the future of wireless communication with Kenstel!