Industrial Wireless Access Point

JetWave 4020

JetWave 4020 Industrial Dual Band Dual Radio 802.11ac Wireless AP

- Industry leading 802.11ac WIFI performance
- Dual Band Dual Radios, 2.4G 802.11n + 5.8G 802.11ac Wave 1, 3rd Radio by option
- Up to 1.16Gbps concurrent performance
- Internal Dual band 9/10dBi 4T4R MIMO Antenna for both Ceiling/Wall-mounting installation
- N-Type Connector for external antenna (4020E)
- Dual M12 Gigabit Ethernet Bridging or NAT Routing
- Controller-based AP management and 100ms Super Roaming, SNMPv1/v2c/v3, Trap, LLDP for NMS
- WPA/WPA2 Security & VPN/IPSec Connectivity
- IP67 Water-proof, -40~70℃ operating temperature, EN50121-4 EMC protection
- M12 24V/110VDC Power Input
- M12 USB for configuration restoring

802.11ac | 4T4R MIMO | EN50121-4 | GbE Routing | VPN/ IWLAN Controller | M12 Eth/USB | -40~70℃ | Waterproof | R&TTE

Overview

The JetWave 4020 series is an industrial grade Dual Band IP67 802.11ac Wireless Access Point. The product is equipped with the industry leading 5.8G 802.11ac Wave 1 and 2.4G 802.11n dual radios. With its 802.11ac high transmission speed and dual band concurrent design, the product can support Gigabit Wireless communication performance for your network.

The JetWave 4020 equips the internal Dual band 9dBi 4T4R MIMO Antenna, the outstanding antenna design supports both ceiling and Wall-mounting installation, you don't need to worry about how to select the external antenna any more.

The product supports Industrial WLAN communication features, there are AP/Client, WDS AP/Client operating modes, dual radio redundancy, link fault pass-through, SNMP and LLDP for NMS Management, WPA/WPA 2 Wireless Security and secured VPN/IPSec Connectivity.

The product can be changed to Controller-based AP management mode, can be integrated with our IWC 5630 IWLAN controller and supports 100ms Fast Roaming speed. The product supports M12 Ethernet, USB and 24V or 110V Power Input, IP67 waterproof, EN50121-4 EMC protection and -40~70℃ wide operating temperature.

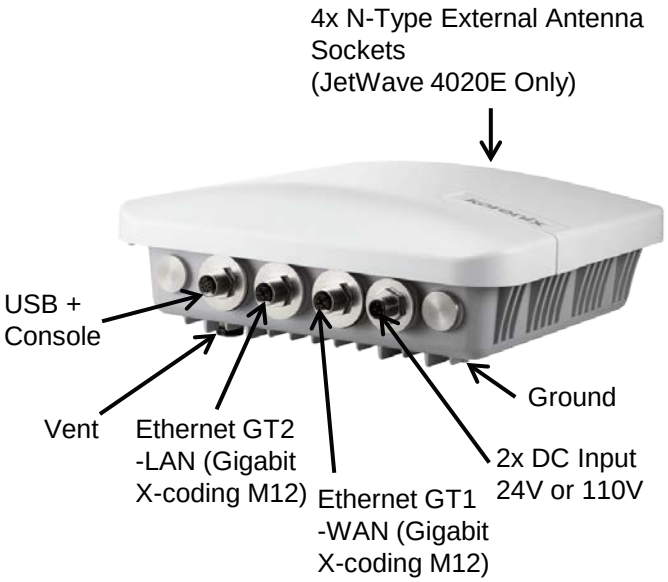
Model Name	1st RF	2nd RF	3rd RF	Ethernet	Antenna	USB	Operating Temp.	Power In
JetWave 4020	2.4G 802.11n	5G 802.11ac	-	M12 1xGT WAN, 1xGT LAN	2.4G 2T2R + 5G 2T2R	M12	-40~70℃	24V*
JetWave 4020E	2.4G 802.11n	5G 802.11ac	-	M12 1xGT WAN, 1xGT LAN	4x N-Type Female	M12	-40~70℃	24V*

*1 110V by Option, please contact our Sales.

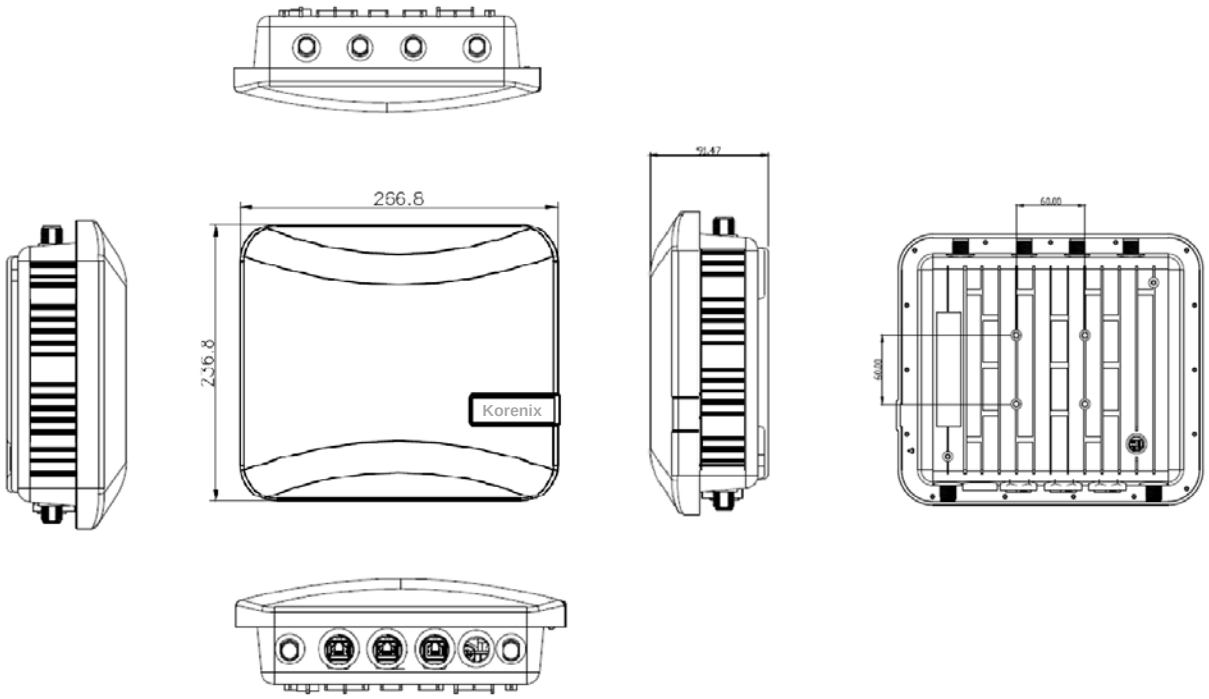
Appearance

JetWave 4020: Embedded Wall/Ceiling-mount Antenna Inside (2.4G 2T2R 9dBi + 5G 2T2R 10dBi)

JetWave 4020E: No Antenna.

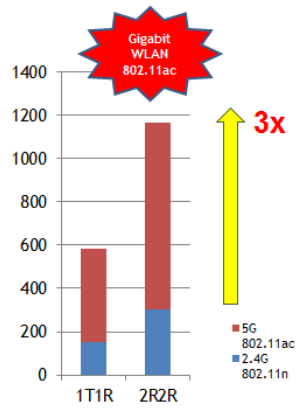


Dimension



Industry Leading 802.11ac

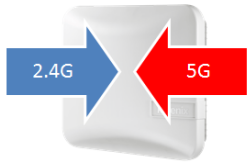
The product supports the industry-leading 802.11ac standard, which provides triple times HW speed than 802.11n. The 802.11ac 2T2R design reaches 866Mbps hardware data rate, prior to the 802.11n is just 300Mbps.



Dual Band Dual Radio Concurrent

The product supports dual independent radios, the first radio is 802.11n 2.4G frequency, which is used to the access from the client mobile devices. The second radio is 802.11ac 5G frequency, which is used to higher bandwidth applications. The two radios can work as dual band dual radio concurrent mode in one unit.

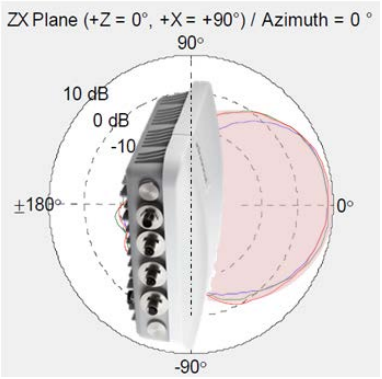
Dual Radio Concurrent



Dual Radio for Hopping

Wide Range Coverage embedded antenna

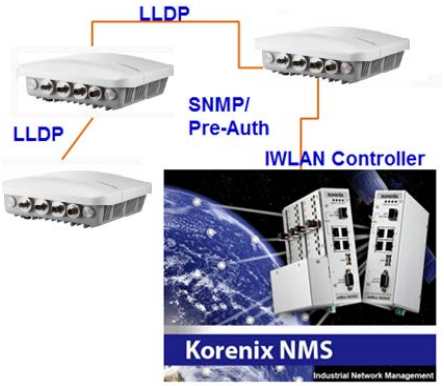
The product equips with two 2.4G 9dBi and two 5G 10dBi antenna pattern for two streams 2T2R MIMO transmission. The embedded antenna which provides 180° width, above 300m length sector coverage. With this embedded antenna, the product can be installed on the ceiling of high buildings or wall-mounting on wall. It provides flexible installation type and very useful for field applications.



Controller and SNMP based Super Roaming and Management

The product supports remote network management features to complete wire and wireless management.

- Controller based management by the IWLAN Controller. The product can be auto discovered, provision and supports server based Fast Roaming to reach 100ms handover time.
- NMS Management: The product supports SNMP v1/v2c/v3, function-based MIB table and SNMP Trap. It also supports Link Layer Discovery Protocol for auto topology.

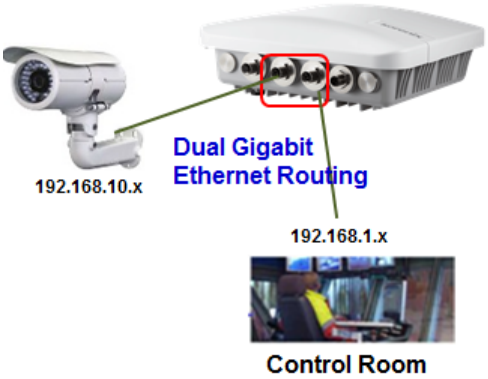


Rugged EN50121-4, M12 & IP67 Waterproof

The anti-vibration, anti-shock and waterproof housing and M12 connectors secure the link reliability for outdoor installation, factory automation or any of the moving vehicles. The EN50121-4 Trackside EMC protection, IP67 waterproof and -40~70℃ operating temperature allows you to install the product on harsh environment safely.

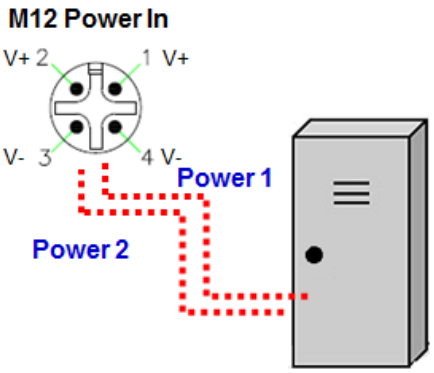
Dual Gigabit Ethernet Routing & Robust Security

There are two high speed Gigabit M12 Ethernet ports. With the two Ethernet port design, the product can support Routing mode to separate them to different IP subnet, and perform NAT Routing between the LAN, WLAN to WAN port. The product also implements secure IPSec VPN, Firewall, Port forwarding features for WAN interface.



24V Input

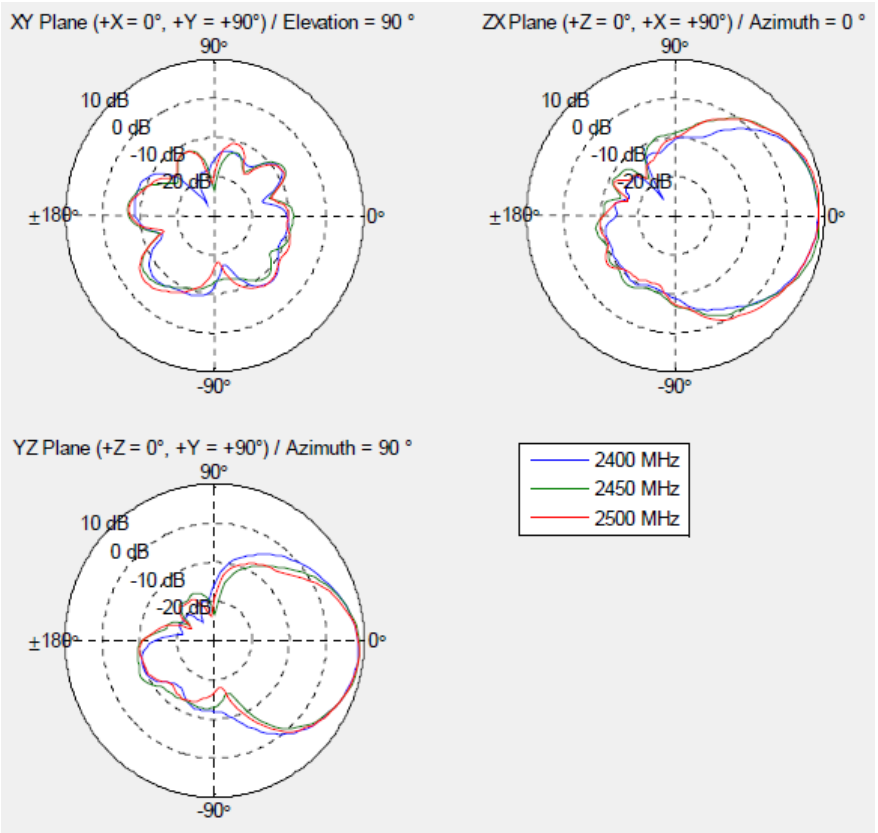
The product is equipped with one M12 24V power input socket. While installing the product within the factory, cabinet, vehicle…, etc. The 24V power is popular and M12 connectors helps secure the construction. The Gigabit port 1 (WAN) also supports passive PoE design, users can deliver power and data through the same cable.



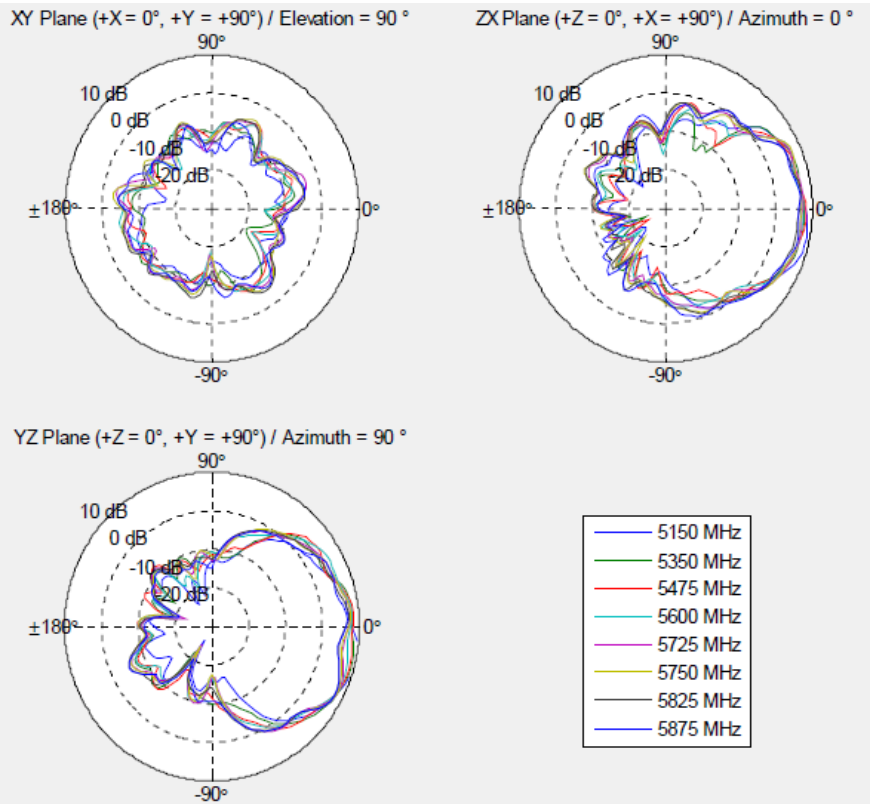
M12 USB

The product equips with additional A-code M12 connector to support USB and Diagnostic console. With the M12 USB disk, user can upgrade firmware, backup and restore the configuration file. This is a very convenient design for field maintenance.

Embedded 2.4G Antenna Radiation Pattern (JetWave 4020)

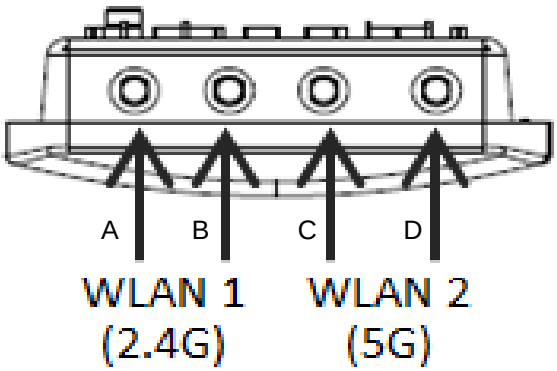


Embedded 5G Antenna Radiation Pattern (JetWave 4020)



External Antenna (JetWave 4020E)

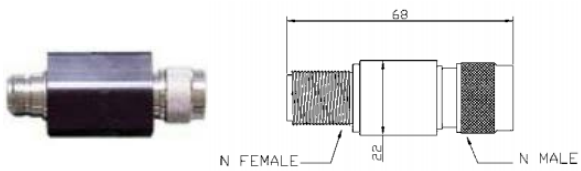
Placement



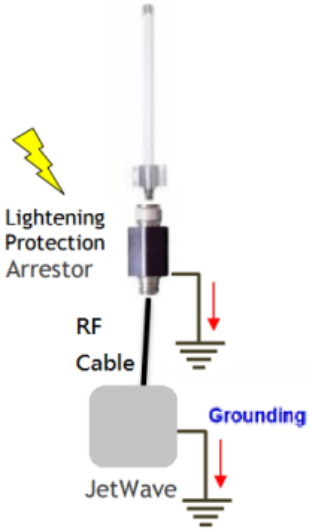
Type	N-Type Female
A	2.4G Radio 1-Master
B	2.4G Radio 1-Aux.
C	5G Radio 2-Master
D	5G Radio 2-Aux.

Lighting Protection Arrestor

- JWA-Arrestor-5803

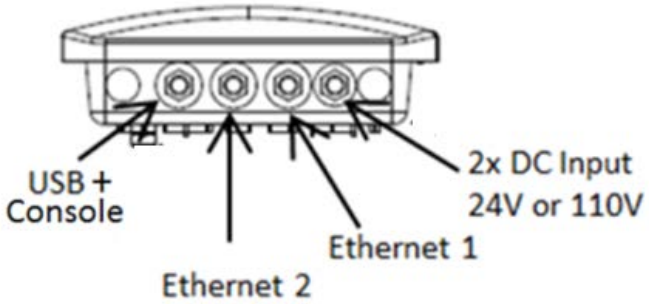


RF Cabling Example

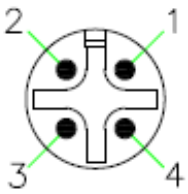


M12 Connector Pin Assignment

Connector Placement

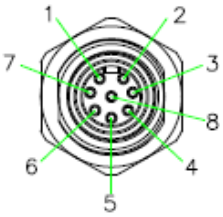


M12 A Code Power Input



No.	Power Input
1	V+
2	V+
3	V-
4	V-

M12 A Code USB + Console



No.	USB + Console
1	TX (Console)
2	RX (Console)
3	GND
4	GND
5	USB DP
6	USB DM
7	USB +5V
8	GND

M12 X Code Gigabit Ethernet

No.	GE Ethernet
1	0P
2	0N
3	1P
4	1N
5	3P
6	3N
7	2N
8	2P

Specification

Technology	
Standard	IEEE 802.3 for 10BaseT, IEEE 802.3u for 10/100Base-TX, IEEE 802.3ab for 1000BaseT IEEE 802.11n/g Wireless LAN IEEE 802.11ac Wave 1 Wireless LAN IEEE 802.11i Wireless Security **Highest Data Rate:** 2.4G IEEE 802.11n: 300Mbps @ 40MHz 5G IEEE 802.11ac: 866Mbps @ 80MHz
Interface	
Ethernet Port	1x 10/100/1000Base-T(X) WAN 1x 10/100/1000Base-T(X) LAN M12 X-code Connector
WIFI	IEEE802.11n 2.4G Band, 2T2R MIMO IEEE802.11ac 5G Band, 2T2R MIMO
USB + Console	USB + RS-232 Diagnostic Console, M12 A-code Connector
Power Input	2x 24VDC (±15%) Power Input, M12 A-code Connector *2x 110V(±15%) by option
WIFI	
Chipset	Qualcomm Atheros Processor and 802.11ac WIFI Chipset
Capability	5G IEEE 802.11ac Wave 1 + 2.4G IEEE 802.11n 5G: IEEE 802.11ac 2T2R MIMO, up to 866Mbps PHY Rate, 20-/40-/80-MHz Channels 2.4G: IEEE 802.11n 2T2R MIMO, up to 300Mbps PHY Rate, 20-/40-/80-MHz Channels Dual Radio Concurrent Design, up to 1.16Gbps PHY Rate
MIMO	5G: IEEE 801.11ac 2T2R MIMO 2.4G: IEEE 801.11n 2T2R MIMO
RF Modulation	802.11ac, 802.11g/n: OFDM (BPSK,QPSK,16-QAM,64QAM; 256QAM@11ac)
Operating Frequency	**5GHz Typical Band: (802.11ac WIFI)** CE: 5.170~5.250GHz, 5.500~5.700GHz, Support Dynamic Frequency Selection (DFS) FCC: 5.170~5.250GHz, 5.740~5.825GHz (Programmable for other 5G Band) **2.4GHz Band: (802.11n WIFI)** 2.412~2.472GHz (Programmable for different country regulations)
RF Output Power	**5.8GHz Band:** 27dB EIRP for ETSI 301 893 (Band 3) Certificated for use with up to 10dBi anntenna gain **2.4GHz Band:** 20dB EIRP for CE (ETSI 300 328) Certificated for use with up to 9dBi anntenna gain (Controllable for different country regulations, check user manual for detail)
RF Sensitivity (1st Radio, 2.4G Band)	802.11b: -86dBm@11M 1Rx 802.11g: -85dBm@6M 1Rx, -72dBm@54M 1Rx 802.11n HT20: -85dBm@6.5M 1Rx, -68dBm@65M 1Rx 802.11n HT40: -82dBm@13.5M 1Rx, -65dBm@135M 1Rx (Added 3dBm@2Rx in average, ±2 dBm tolerance)
RF Sensitivity (2nd Radio, 5G Band)	802.11a: -75dBm@54M 1Rx, -86dBm@6M 1Rx 802.11n/ac HT20: -67dBm@MCS8 1Rx, -90dBm@MCS0 1Rx 802.11n/ac HT40: -64dBm@MCS9 1Rx, -87dBm@MCS0 1Rx 802.11n/ac HT80: -60dBm@MCS9 1Rx, -84dBm@MCS0 1Rx (Added 3dBm@2Rx in average, ±2 dBm tolerance)
Attached Antenna	Embedded Wall/Ceiling-mount 180° 2.4G 2T2R + 5G 2T2R bands antenna with a reflector plate. Radio Pattern 1/2: 2400-2500MHz Frequency, 9dBi peak gain Radio Pattern 3/4: 5150-5350MHz: 10dBi peak gain, 5475-5874MHz: 8dBi peak gain VSWR: 2.5:1 Range from 150m ~300m depends on the location, check the manual for detail.
Transmission Rate	802.11a/g: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps 802.11b: 1,2,5.5,11Mbps 802.11n: 6.5 to 300Mbps (Multiple Rates, depends on MCS Index and Ground Interval) 802.11ac: 6.5 to 866Mbps (Multiple Rates, depends on MCS Index and Ground Interval)

Management	
Management	Web GUI, Telnet, SNMP, IP Setup, Management VLAN ID, Configuration Backup/Restore, Firmware Upgrade, Reload Default, Ping, SNTP, USB Storage
WLAN Setup	Operation Mode: Wireless AP/Client, WDS-AP/Client Wireless Setting: Radio on/off, SSID Configuration, Security Settings, Output Power, Data Rate, Frequency/ Channel selection, Traffic Shapping, Maximum Client Number, WMM QoS Link Test: Site Survey, Antenna Alignment Tool, Data Rate Test
Wire/Wireless Integration	Ethernet Port and WLAN Link Fault Pass-Through Spanning Tree Protocol, Link Layer Discovery Protocol
Router/Gateway	Operating Mode: Bridge or Router mode for the Ethernet/Wireless Interface NAT, Hardware-based NAT Routing, DHCP Server/Client
SNMP	Simple Network Management Protocol v1/v2c/v3, SNMP Trap Function-based MIB (Same as other Korenix Wireless AP)
Status & Log	System Information, ARP Table, DHCP Client List, System Event Log
Controller-based AP	Controller-based management by Korenix IWLAN Controller
Utility/NMS	Support Korenix View Utility, Korenix NMS
Security	
Secured Access	HTTPS, SSH, IEEE 802.1X, Radius Server
WLAN Security	Multiple SSID(up to 8x SSID), VLAN ID, SSID Broadcast
Security Encryption	WEP 64/128bits, WPA-PSK(TKIP), WPA2-PSK/EAP(TKIP, AES, IEEE 802.1x/Radius)
Firewall	Inbound/Outbound Firewall Setting, DMZ, Port forwarding
VPN	Open VPN, IPSec
Power Requirement	
Power	JetWave 4020/4020E: Dual DC 24V input or Passive 24V PoE on GT1, Accepted Input Range: ±15% JetWave 4020-HV: Dual DC 110V input, Accepted Input Range: ±15% (*Optional selection by project, check with Korenix Sales.)
Power Consumption	Standby Mode: 4.4W/24V, 5.5W/110V (Power on only) Full Load: Max. 9.6W/24V, 8.8W/110V Suggest to reserve 15% tolerance power in practical installation.
Mechanical	
Enclosure	IP67 Aluminum Body + Plastic (SABIC) Cover
External Antenna	JetWave 4020: N.A. (Protected by cap.) JetWave 4020E: 4x N-Type Sockets
Vent	Vent for heat dispersing
Mounting	Pole-mount, Wall-mount or Ceiling Mount *Equipped with Mounting kit in shipment
Dimension	236.8mm(H) x 266.8mm(D) x 91.5mm(W)
Weight	4Kg with package
Environmental	
Operating Temperature	-40 ~ 70℃
Operating Humidity	5% ~ 95% (operating)
Storage Temperature	-40 ~ 85 ℃
Approvals	
Certification	R&TTE: CE EN55022/55024 EN 50121-1/EN50121-4:2006 +AC;2008 EN 301 489-1 V1.9.2/-17 V2.2.1(WLAN) EN 301 893 V1.8.1 (5G 802.11ac WIFI and DFS) EN 300 328 V1.9.1(2.4G WIFI) EN 62311:2008 (2412~2472MHz, 5180-5240MHz, 5500-5700MHz) Safety EN60950-1 FCC Part 15 C/E (2.4G/5G) for FCC model
Warranty	3 years

Ordering Information	
JetWave 4020	JetWave 4020 Industrial Dual Band Dual Radio 802.11ac Wireless AP, Embedded Antenna, 24V input
JetWave 4020E	JetWave 4020E Industrial Dual Band Dual Radio 802.11ac Wireless AP, External N-Type Ant., 24V input
JetWave 4020-FCC	JetWave 4020 Industrial Dual Band Dual Radio 802.11ac Wireless AP, Embedded Antenna, 24V input, FCC
JetWave 4020E-FCC	JetWave 4020E Industrial Dual Band Dual Radio 802.11ac Wireless AP, External N-Type Ant., 24V input, FCC
JetWave 4020-HV	JetWave 4020 Industrial Dual Band Dual Radio 802.11ac Wireless AP, Embedded Antenna, 110V input *Optional selection by project, Check with Korenix Sales.
JetWave 4020E-HV	JetWave 4020E Industrial Dual Band Dual Radio 802.11ac Wireless AP, External N-Type Ant., 110V input *Optional selection by project, Check with Korenix Sales.
JetWave 4020-FCC-HV	JetWave 4020 Industrial Dual Band Dual Radio 802.11ac Wireless AP, Embedded Antenna, 110V input, FCC *Optional selection by project, Check with Korenix Sales.
JetWave 4020E-FCC-HV	JetWave 4020E Industrial Dual Band Dual Radio 802.11ac Wireless AP, External N-Type Ant., 110V input, FCC *Optional selection by project, Check with Korenix Sales.
Includes	Product Unit Quick Installation Guide Wall Mounting Kit, Wall Mount Plate Antenna: Embedded 2.4G+5G 9dbi Antennas inside the body (JetWave 4020) No Antenna, N-Type Female Antenna Socket (JetWave 4020E) *Please download user manual from Korenix Web Site

Optional Accessory:	
JetWave 25m RJ-45 to X-code M12 Cable	25m RJ-45 to X-code M12 Cable
JetWave AC to 24VDC PoE Injector	24V PoE Injector for JetWave 4020/4020E-24V
JWA-Arrestor-5803	0-6G Lighting Protection Arrestor for N-Type Antenna
Optional External Antenna	
JWDA-5.8G-23dBi-DP-2xNF	JetWave Directional Panel Antenna, Wi-Fi 5.8GHz, 23dBi, Dual Polarization, 2 x N-Type Female
JWDA-5.8G-15dBi-DP-2xNF	JetWave Directional Panel Antenna, Wi-Fi 5.8GHz, 15dBi, Dual Polarization, 2 x N-Type Female
JWA-5.8G-12dBi-NF	JetWave Omni Directional Antenna, Wi-Fi 5.8GHz, 12dBi, N-Type Female
JWA-2.4G-15dBi-NF	JetWave Omni Directional Antenna, Wi-Fi 2.4GHz, 15dBi, N-Type Female
JWA-2.4G-9dbi	JetWave Omni Directional Antenna, Wi-Fi 2.4GHz, 9dBi, N-Type Female
JWA-2.4G-5dBi-NF	JetWave Omni Directional Antenna, Wi-Fi 2.4GHz, 5dBi, N-Type Female