OUTDOOR ACCESS POINT
QN-O-230

Up to 1.2 Gbps
Data Rate

MU-MIMO

2x2,
AC Wave2

2.4 GHz 5 GHz

Dual-Band
Dual-Concurrent

1 Year
Warranty

PRODUCT OVERVIEW

QN-O-230 smart antenna and MIMO technology provide high data rates even in medium-density and high-interference environments. SFP backhaul port allows service providers to backhaul data over fiber without additional hardware devices to convert Fiber to Ethernet.

QN-O-230 is manageable through a centralized platform and supported by Quantum Networks DevOps and maintenance. QN-O-230 can also deploy as a standalone Access Point.

Each Access Point comes with a one-year limited liability manufacturer's warranty from the date of activation and theft prevention functionality to protect assets from misuse.

KEY FEATURES

Deliver high-performance outdoor Wi-Fi access
Deploy secure and reliable outdoor hotspots at Transportation hubs, Stadiums, Smart cities and Rural Wi-Fi setups.

Phenomenal Wi-Fi performance
It is engineered for phenomenal Wi-Fi performance even in medium-density environments for demanding voice and video applications. Provides improved coverage, increased capacity and seamless performance in medium-dense environments.

Cost-Efficient Connectivity
Reduces operational costs and the expense of additional hardware required for deployment by service providers/telcos. SFP port provides high-speed fiber backhaul without any additional hardware.

Theft prevention functionality
Access Point is locked for deployment in any other network until decommissioned from the existing network.

Industrial grade IP67 enclosure
IP67 rating can withstand challenging environments with extreme temperatures and dusty environments.

Easy to manage
Easily manage Wi-Fi infrastructure through the feature-rich Quantum Rudder management console.

Wi-Fi		
Wi-Fi Standards	5 GHz	IEEE 802.11a/n/ac
	2.4 GHz	IEEE 802.11b/g/n
Operating Mode	Access point, Router, Mesh mode	
Networking Mode	IPv4, IPv6, IPv4v6 (Dual stack), Gateway mode (NAT), Bridge mode	
Maximum Data Rates	5 GHz	802.11ac@ 80 MHz:866.7 Mbps
		802.11ac@ 40 MHz:400 Mbps
		802.11ac@ 20 MHz:173.3 Mbps
	2.4 GHz	802.11n@ 40 MHz: 300 Mbps
		802.11a/g@ 20 MHz: 54 Mbps
		802.11b@ 20 MHz: 11 Mbps
Maximum Receiver Sensitivity	5 GHz	-98 dBm
	2.4 GHz	-93 dBm
Supported Channels	5 GHz	36-64, 100-144, 149-165 (UNII-1, UNII-2, UNII-2e, UNII-3 compliant) (As per country regulations)
	2.4 GHz	1-13 (As per country regulations)
		Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
Channel Bands	5 GHz	5.15-5.25 GHz (U-NII-1), 5.25-5.35 GHz (U-NII-2A), 5.47-5.725 GHz (U-NII-2C), 5.725-5.85 GHz (U-NII-3) (As per country regulations)
	2.4 GHz	2.4-2.484GHz (ISM) (As per country regulations)
Modulation Schemes	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
Radio Chains and Spatial Streams	2x2:2	Streams in 5GHz- MU-MIMO
	2x2:2	Streams in 2.4GHz- MU-MIMO
Channel Size	802.11n	20/40 (HT) MHz
	802.11ac	20/40/80 (VHT) MHz
Wireless Security	WPA3-AES personal, enhanced open (OWE)	
	WPA3-Enterprise (802.1x/EAP-TLS, EAP-TTLS)	
	WPA3-WPA2 Mixed- AES personal, Open	
	WPA2-TKIP/AES personal, Open	
	WPA2-Enterprise (802.1x/EAP-PEAP, EAP-TLS, EAP-TTLS)	
	WPA personal, WPA Mixed-Enterprise (802.1x/EAP-PEAP)	
	WEP-64, WEP-128	
	802.11 w MFP (Management Frame Protection)	
	MAC based authentication, Captive portal-based authentication	
	802.11i, Quantum Secure	
	Hide SSID in beacons	
External DB Support	Radius, Active directory, LDAP, TACACS+	
Web Authentication	QN-Secure+, RADIUS, Active directory, LDAP	

User Authentication	Methods - Captive portal, QN-Secure+, 802.1x (Radius)
	Directory - QIM, Microsoft active directory, LDAP, G suite, Oauth
	Mode - Via Controller /Access points
Roaming	IEEE 802.11k (Assisted Roaming)
	IEEE 802.11v (BSS Transition Management)
	IEEE 802.11r (Fast BSS Transition (FT))
	Pairwise Master Key (PMK) caching
	Opportunistic key caching
	Seamless roaming for captive portal users
Channel / Tx Power Management	Auto / Manual channel selection
	Speedy channel for performance optimization
	Channel switch for performance optimization
	ATP-Automatic Transmit Power management
Client Management	Band steering
	Band balancing
	Airtime fairness
Guest Management	WISPr – Captive portal, HotSpot 2.0
Native Guest Portal	Customized Template
	Authentication Method
	Guest Profile Support
Diagnostics	Ping, Traceroute, Nslookup, Internet Speed, Host Discovery, Port Connectivity, PCAP capture (Wired and Wireless), ARP Scanner
Access Control List	Force DHCP
	URL filtering
	Full Client Isolation, Deny inter-user bridging, Deny intra-VLAN traffic
	Bandwidth Restriction per SSID/ User
	OS restriction
	L2 (MAC) filtering
	L3 (IP) / L4 (Port) filtering
	MAX clients per radio
	Internet freeze per SSID / User
	Session control
	Random MAC Detection
Meshing	Wireless (single hop / multihop)
	Wired
WDS	Point to Point
	Point to MultiPoint

Radio Management	DTIM interval
	OFDM Only (Disables 802.11b)
	BSS Rate and management rate
	UAPSD (Power save)
	Inactivity timeout
	Radio mode control
	RTS/CTS Threshold
Network Management	IEEE 802.11d/h (DFS) support
	LLDP discovery, SFlow
	Proxy ARP
	DHCP options 43, 60 and 82
	Port forwarding in router mode
Radius Integration	CoA (Change of Authorization)
	MAC Authentication
	Dynamic VLAN
Administration	WLAN scheduling
	Internet speed test
	Schedule reboot
HawkEye – Rogue/WIDS / WIPS / NIPS	
Rogue AP	Rogue SSID
	MAC Spoofing
	SSID Spoofing
	Honeypot / Evil twin attack
	Null Probe request attack
WIDS	RTS/CTS Abuse attack
	Auth attack
	Assoc attack
	Fata jack tool attack
	Man in the Middle attack
	DHCP snooping server detection
	AP flood attack
	Block ACK DoS attack
	Power saves frame attack
	Malformed frame-Auth/Assoc attack
WIDS/WIPS	Deauth attack
	Disassoc attack
	Omerta attack
	Password guessing attack
	Ad-Hoc connection
NIPS	Dos attack
	DDos attack
	Port scanning

Diagnostics	
Network Diagnostics	Ping, Traceroute, Nslookup, Internet speed, Host discovery, Port connectivity, ARP scanner
RF Diagnostics	PCAP capture, Spectrum Analysis, Spectrum Channel metric, Spectrum FFT Duty cycle, WiFi Analyzer, Airbender
Networking	
Ethernet / SFP WAN	WAN (DHCP/Static/PPPoE)
Tunneling	GRE, IPSec, Wire guard, OVPN
Multi-WAN	Yes, Auto-Failover
DHCP Server	4 Scope, DHCP lease, DHCP MAC reservation, DNS proxy
WAN Security	Ethernet port block management
PPP Interface	PPPoE
DNS	Static, Caching
NAT	Masquerade (SNAT), Port forwarding (DNAT)
VLAN Support	802.1Q (1 per BSSID or dynamic per user based on RADIUS), Port-based (Tagged, untagged)
IGMP	IGMP v2, IGMP Snooping
Supported Features	Safe Search, ALG Control
	UPnP, DMZ Host, Adblock
Quality of Service	
Auto QoS, 802.11e,	
Manual QoS (DSCP based, Voice, Video, BE and BK)	
WMM, 802.1p	
WiFi Calling	
DiffServ	

Performance & Capacity					
Peak PHY Rates		5 GHz	866.7 Mbps		
		2.4 GHz	300 Mbps		
Client Capacity		Up to 256 clients per access point			
SSID		Up to 16 per access point (8 per Radio)			
RF		**QN-O-230**	**QN-O-230-N**		
			QN-ANT-5-5DB	QN-ANT-5-8DB	QN-ANT-5-12DB
Maximum Aggregate Transmit Power (As per country regulations)	5 GHz	24 dBm	24 dBm	24 dBm	24 dBm
	2.4 GHz	26 dBm	26 dBm	25 dBm	25 dBm
Antenna Gain (Max)	5 GHz	5 dBi	5 dBi	8 dBi	12 dBi
	2.4 GHz	5 dBi	5 dBi	8 dBi	12 dBi
EIRP (As per country regulations)	5 GHz	29dBm	29 dBm	32 dBm	36 dBm
	2.4 GHz	31 dBm	31 dBm	33 dBm	37 dBm
Antenna Type		Internal Omni directional antenna	External antennas connectors		

Power	
Rating	802.3 af PoE / at PoE+ (Class 4) (Fully functional with all components)
Physical Interfaces	
Ethernet	WAN: 1 x 10/100/1000 Base-T Ethernet, Auto-MDIX, RJ-45 with 802.3at PoE
Fiber	WAN / LAN: 1 x 1000 Base-X (SX / LX) SFP port
Buttons	Restart/Reset
LED indicators	2.4 GHz, 5 GHz, Ethernet, System, Power
Management	
Device Management	Standalone, Local (web UI), SSH (CLI)
	Quantum Rudder Controller-based)
	Quantum Rudder (On-premises VM)
	Quantum Rudder appliances (RR-200, RR-300, RR-400)
	Through NMS using SNMP MIBs
	Local device web management
Device /System monitoring	SNMP v1, v2c, v3, Syslog
NTP Server Configuration	Supported
Traffic Monitoring	IPDR Logs (IPFix , Netflow v9)
	URL Logs (Syslog)
Controller DR (Disaster Recovery)	Supported
Device Security	
Certificate	Locally-significant certificates using PKI
Controller Communication	Encrypted
Application Integration	
PM WANI,	
NMS Integration - ZABBIX, PRTG Monitor, Open NMS	
Environmental	
Operating Temperature	-40°C (-40F) ~ + 70°C (+158F)
Humidity	5% ~ 100% non-condensing
Wind Resistance	160 kmph for sustained wind, 250 kmph for wind gusts
Standard	IP67
Physical	
Dimensions	23.9cm(L), 19.5cm(W), 8.3cm(H)
Weight	1575 g (3.47 lbs)
Mounting Kit	Pole mount

Certification and Compliances		
Certifications	**Parameter**	**Standards**
Regulatory (USA)	FCC	
Regulatory (IN)	BIS	IS-13252, IEC-60950
	MTCTE (ER)	MI/EMC (IEC / EN-61000* & CISPR 32), Safety (IS-13252 & IEC-60950), Radio, Technical (IPv4 & IPv6)
	IPv6 Ready	
	ETA (WPC)	NABL 2.4, NABL 5
Environmental Compliances	CE, RoHS, IP67	

ORDERING INFORMATION

Part Code	Description
QN-O-230	Quantum Networks qn-o-230 dual-band 802.11ac outdoor wireless access point, 2x2:2 streams, 1x1G Base-T Ethernet port and 1x1G Base-X SFP port, 802.3 af/at PoE support. Includes 1-year limited liability manufacturer's warranty for the access point. Does not include PoE injector or power adaptor. Does not include cloud controller license.
QN-O-230-N	Quantum Networks qn-o-230n connectorized dual-band 802.11ac outdoor wireless access point, 2x2:2 streams, 1x1G base-T Ethernet port and 1x1G Base-X SFP port, 802.3 af/at PoE support. Includes 1-year limited liability manufacturer's warranty for the access point. does not include PoE injector or power adaptor. does not include cloud controller license.
QN-O-230-IPA1	Alter interface panel to 2 x 1/100/1000 Base-T Ethernet, Auto-MDIX, RJ-45 ports.
Accessories Part Code	**Description**
QN-ANT-2-5DB	2.4Ghz External Outdoor Antennae with N-Connector, Gain: 5dBi
QN-ANT-2-8DB	2.4Ghz External Outdoor Antennae with N-Connector, Gain: 8dBi
QN-ANT-2-12DB	2.4Ghz External Outdoor Antennae with N-Connector, Gain: 12dBi
QN-ANT-5-5DB	5Ghz External Outdoor Antennae with N-Connector, Gain: 5dBi
QN-ANT-5-8DB	5Ghz External Outdoor Antennae with N-Connector, Gain: 8dBi
QN-ANT-5-12DB	5Ghz External Outdoor Antennae with N-Connector, Gain: 12dBi