

Canopus

Wi-Fi 6 Dual-band Outdoor Access point



Use Case:
Medium to large Enterprises

Highlights



Cloud Managed
Ray provides a multi-tier frame work to give users a controlled access through a single pane of glass. Role based admin rights available



Easy Set-up
Ray supports Zero Touch Initial Account Setup experience which easy and quick. Enterprise managed through a cloud which helps in monitoring & Visualization.



High- Speed & Sharp
Network is self-healing hence keeps wi-fi operating at its top. Comes with automatic data routing & software updates. Compatible with all devices including POS.



Lower TCO
Ray helps enterprise save money as well as upgrade and modernize the business making a significance gain in workforce efficiency



RAY ONE

Ray One is a Next Generation Solution for the challenges of today.

Ray One powers Unified Networking and Security across Networks, endpoints, and clouds in a purpose-built cloud-delivered infrastructure that scales.

It employs concepts of convergence to consolidate multiple point products including Cloud SWG, NG CASB, FWaaS, SD-WAN and ADEM, into a single integrated service provide comprehensive cybersecurity protection

for all users, devices, and applications and across all network edges. It reduces network and security complexity while increasing organizational agility and ensuring compliance, emphasizes interoperability as well as analytics, intelligence, centralized management, and automation, and integrates with a broad ecosystem of technologies and vendors.

Ray One powered Edge Gateways, Switches and Wireless (Wi-Fi) devices are available to deploy on any network edge.

Key Specifications

SPECIFICATIONS	Canopus
AP Type	Outdoor Hardened, Wi-Fi 6 dual radio, 5 GHz 2x2 MIMO and 2.4 GHz 2x2 MIMO
MIMO	2x2 SU-MIMO 2x2 MU-MIMO
Max Aggregate Frame Rate	Max aggregate frame rate: Up to 3 Gbps 2.4 GHz: 573 Mbps 5 GHz: 2402 Mbps
WAN/LAN	1 x 2.5G Ethernet (RJ45) PoE Port 1 x 1G Ethernet (RJ45) Port, 1 x 1G SFP Port
USE CASE	General Purpose Fits most Outdoor use case

Ray features

Ray ONE Cloud

Ray is entirely cloud-managed & has easy access from the device of your choice. You can now manage your network any time & anywhere. It gives you controlled access through a single pane of glass. Role-Based Admin Rights are a Unique Feature.

Wireless Range

Ensures internet coverage for different wireless devices such as smartphones, tablets, etc., connected to your network

Captive Portal

Ray has one of the most advanced Captive Portal systems with built-in Captive Portal. The Captive Portal itself can be configured with a step-by-step wizard to match the design aesthetics of the customer. The resulting captive portal is mobile friendly and responsive.

Security

Promotes the network security through WPA2/WPA3/OWE authentication for internet usage

Multi-Site Management

You can systematically manage and maintain different networks, sites, deployment, etc.

Increase Visibility & Efficiency

You can easily monitor and control all the connected and remove unauthorized users

Enterprise Grade Wi-Fi

Quickly expands the network connectivity, delivering open Wi-Fi access to numerous users while switching APs.

Smart Mesh

Create the mesh network in your location for network coverage extension in a few minutes.

PPPoE & Static IP

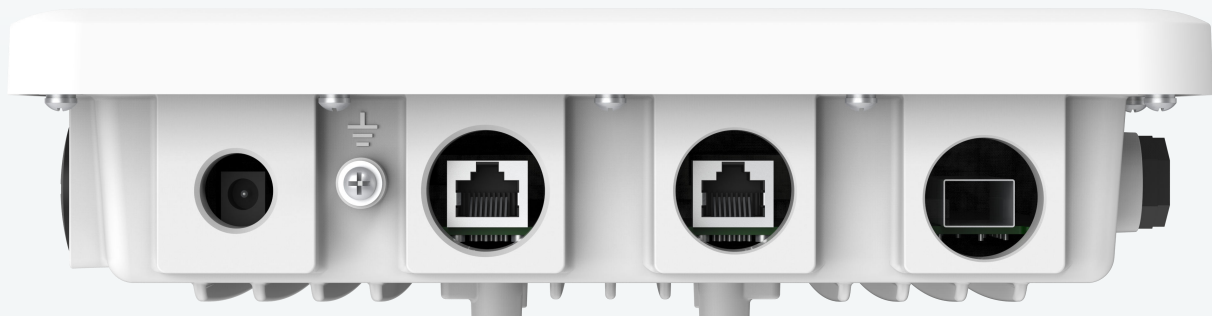
You can authenticate through the ISP's PPPoE server and quickly deliver static IP to all the APs present in your location.

Hierarchy/Cluster Management

Ray's Wireless Controller empowers efficient multi-site management. It enables hierarchical organization based on physical or logical locations, while offering role-based access control. Configuration changes at any level automatically apply to all sub-sites, ensuring consistent network settings. Its centralized dashboard provides a comprehensive view of all sites, and its flexible design allows for easy relocation of access points between sites with automatic setting updates.

Dashboard & Analytics

Ray's single-pane-of-glass Dashboard and insightful Analytics empower you with comprehensive network control and understanding. The Dashboard allows for remote operation, quota, time, and speed assignments, providing essential insights into individual usage, whether for enterprise employees or family members.



Dimensions & Interfaces

Canopus	
Wi-Fi Standards	802.11 ax/ac/b/g/n
WIRELESS	
AP Type	Outdoor Hardened, Wi-Fi 6 dual radio, 5 GHz 2x2 MIMO and 2.4 GHz 2x2 MIMO
MIMO	<ul style="list-style-type: none"> 2x2 SU-MIMO 2x2 MU-MIMO
802.11ax, 802.11ac Wave 2 and 802.11n Capabilities	<ul style="list-style-type: none"> DL-OFDMA, UL-OFDMA, TWT support, BSS Coloring 2 x 2 multiple input, multiple output (MIMO) with two 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 and 80 MHz channels (802.11ax) Up to 1024-QAM on both 2.4 GHz & 5 GHz bands Packet aggregation: A-MPDU, A-MSDU
Radio 2.4GHz	Four spatial stream Single User (SU) MIMO for up to 573 Mbps wireless data rate with individual 2SS HE40 802.11ax client devices MU-MIMO capable client devices simultaneously
Radio 5GHz	Four spatial stream Single User (SU) MIMO for up to 2,402 Mbps wireless data rate with individual 2SS HE160 802.11ax client devices, 802.11ax MU-MIMO capable client devices simultaneously
Max aggregate frame rate	<ul style="list-style-type: none"> Max aggregate frame rate: Up to 3 Gbps 2.4GHz: 573 Mbps 5GHz: 2402 Mbps
Supported Data Rates (Mbps)	<ul style="list-style-type: none"> 802.11b: 1, 2, 5.5, 11 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 802.11n: 6.5 to 600 (MCS0 to MCS31, HT20 to HT40), 800 with 256-QAM 802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4, VHT20 to VHT160), 2,166 with 1024-QAM 802.11ax (2.4GHz): 3.6 to 1,147 (MCS0 to MCS11, NSS = 1 to 4, HE20 to HE40) 802.11ax (5GHz): 3.6 to 2,402 (MCS0 to MCS11, NSS = 1 to 4, HE20 to HE160)
Supported frequency bands	<ul style="list-style-type: none"> Software enabled country-specific restrictions apply 2.412-2.484 GHz 5.150-5.250 GHz (UNII-1) 5.250-5.350 GHz (UNII-2) 5.470-5.600, 5.660-5.725 GHz (UNII-2e) 5.725 -5.825 GHz (UNII-3)
Supported Channels	<p>Available channels dependent on configured regulatory domain</p> <ul style="list-style-type: none"> 2.4GHz: 1-13 5GHz: 36-64, 100-144, 149-165 <p>Dynamic frequency selection (DFS) optimizes the use of available RF spectrum</p>
Supported Radio Technologies	<ul style="list-style-type: none"> 802.11b: Direct-sequence spread-spectrum (DSSS) 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM) 802.11ax: Orthogonal frequency-division multiple access (OFDMA) with up to 16 resource units (RU)

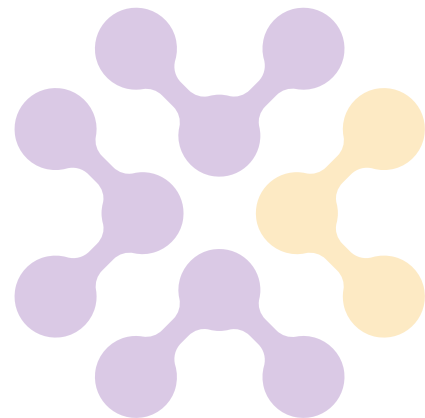
Supported Modulation Types	<ul style="list-style-type: none"> 802.11b: BPSK, QPSK, CCK 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM 802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QA
Radio Chains and Spatial Streams	<p>2x2:2 streams SU/MU MIMO 5GHz</p> <p>2x2:2 streams SU/MU MIMO 2.4GHz</p>
Channelization/PHY Types	<ul style="list-style-type: none"> 802.11n high-throughput (HT) support: HT20/40 802.11ac very high throughput (VHT) support: VHT20/40/80/160 802.11ax high efficiency (HE) support: HE20/40/80/160
Wireless Authentication	<ul style="list-style-type: none"> WEP, WPA, WPA2-PSK, WPA3 - Personal, WPA3 - Enterprise, WPA3 - Enhanced Open (OWE) Dynamic PSK EAP-TLS, EAP-TTLS, EAP-MSCHAPv2, EAP-SIM IEEE 802.1X based Authentications MAC Whitelisting OTP based Authentication
Advance Features	<ul style="list-style-type: none"> Advanced Cellular Coexistence (ACC) minimizes interference from cellular networks Maximum ratio combining (MRC) for improved receiver performance Cyclic delay/shift diversity (CDD/CSD) to enable the use of multiple transmit antennas Short guard interval for 20-MHz, 40-MHz, and 80-MHz Space-time block coding (STBC) for increased range and improved reception Low-density parity check (LDPC) for high-efficiency error correction and increased throughput Transmit beam-forming (TxBF) for increased signal reliability and range
Beamforming	Transmit Beamforming and Maximal Ratio Combining
Band Steering	Band steering for 5 GHz clients to connect over 5Ghz Radio to provide better load balancing among 2.4Ghz and 5Ghz Radios.
Beaconing	<ul style="list-style-type: none"> Transmit Only Transmit/Receive (Attached Devices) Transmit/Receive (Unattached Devices)
Roaming/Mobility	<ul style="list-style-type: none"> Support for IEEE 802.11r or Fast BSS Transition (FT) Centralized Layer 3 roaming Seamless Roaming for Captive Portal users
Bluetooth	<ul style="list-style-type: none"> BLE: up to 8dBm transmit power (class 1) and -99dBm receive sensitivity (125kbps)
RADIO RESOURCE MANAGEMENT	
RF Management	Dynamic RF management to detect and mitigate interference from Wi-Fi
Wi-Fi Channel Management	Automatic Channel Selection by Intelligent Radio Resource Management (iRRM)
Wi-Fi Radio Power Management	Optimum Power management by Intelligent Radio Resource Management (iRRM)
Wi-Fi QOS	Self-healing (on detection of RF interference or loss of RF coverage).
Antenna	
Antenna (Included in Box)	<p>2.4 GHz omni-directional 4 dBi with 7 dBi peak gain</p> <p>5 GHz omni-directional 4 dBi with 7 dBi peak gain</p>

RANGE/COVERAGE	
Range/Coverage	<ul style="list-style-type: none"> Up to 250 Meters in ideal testing environment. The range may vary as per the client environment, interference and obstruction.
WIRELESS SECURITY	
Wireless Security	Real-time WIDS with instant alerting Classify Types of Rogue AP <ul style="list-style-type: none"> Evil Twin Rogue AP
MESH	
SON based Mesh	<ul style="list-style-type: none"> Self-configuring Self-defending Self-healing Self-managing
WI-FI OFFLOAD	
Passpoint Wi-Fi (Release 2) (Hotspot 2.0) for Seamless cellular-to-Wi-Fi Access Network Discovery and Selection Function (ANDSF) Integration	
RADIO MANAGEMENT	
Antenna Optimization	Maximal Ratio Combining (MRC) -
Client Density Management	Client Load Balancing distribute clients to the least loaded 802.11 channel and AP
Airtime Fairness	Enhance general client performance
POWER	
Peak Transmit Power (Tx port/chain + Combining gain)	<ul style="list-style-type: none"> Limited by local regulatory requirements 2.4 GHz band: +26 dBm per chain, +26 dBm aggregate (2x2) 5 GHz band: +26 dBm per chain, +26 dBm aggregate (2x2) Note: conducted transmit power levels exclude antenna gain.
Transmit power	Configurable in increments of 0.5 dBm
Maximum EIRP (2.4 GHz band)	<ul style="list-style-type: none"> Limited by local regulatory requirements 2.4 GHz band: <ul style="list-style-type: none"> 565: 29.2 dBm EIRP 567: 33 dBm EIRP
Maximum EIRP (5 GHz band:)	<ul style="list-style-type: none"> Limited by local regulatory requirements 5 GHz band: <ul style="list-style-type: none"> 565: 31.4 dBm EIRP 567: 32.7 dBm EIRP
NMS INTEGRATION	
SNMP support	
PERFORMANCE	
Maximum number of associated client devices	Up to 120 active client devices per AP
Maximum number of BSSIDs	<ul style="list-style-type: none"> 16 BSSIDs per radio Up to 31 per AP
NETWORKING	
IP	IPv4, IPv6, dual stack
VLAN	<ul style="list-style-type: none"> 802.1Q (1 per BSSID or dynamic per user based on RADIUS) VLAN Pooling Port-based
802.1x	Authenticator & Supplicant

Tunnel	<ul style="list-style-type: none"> L2TP GRE/EoGRE Openvpn L2TP/IPSEC
Policy Management Tools	Application Recognition and Control <ul style="list-style-type: none"> Access Control Lists Device Fingerprinting
Quality of Service	<ul style="list-style-type: none"> WMM Access Categories with DSCP and 802.1p support QoS-based scheduling Directed Multicast
Modes	<ul style="list-style-type: none"> Gateway Mode Bridge & Firewall Bridge No Firewall
External Authentication	<ul style="list-style-type: none"> Authentication via RADIUS Authentication via LDAP Authentication via Single Sign-On (SSO) Authentication via Active Directory (AD)
Radius	Radius Option 82 Support
Tunnel	<ul style="list-style-type: none"> L2TP GRE/EoGRE Openvpn L2TP/IPSEC PPTP Wireguard/SSL
L3 Features	<ul style="list-style-type: none"> Routing Protocols Static routes Network Address Translation (NAT) Dynamic Host Configuration Protocol (DHCP) server, relay, and client
GUEST CAPTIVE PORTAL	
Guest Captive Portal Authentication Modes	Click To Login Voucher
FIRMWARE	
Flash Security Updates (No Reboot Required)	
Cloud Managed Firmware Updates	
PHYSICAL INTERFACES	
Ethernet (WAN)	1x 2.5G BASE-T Ethernet (RJ45) Power over Ethernet (802.3af/at) with Category 5/5e/6 cable PD. <ul style="list-style-type: none"> LLDP Auto-sensing link speed and MDI/MDX 802.3az Energy Efficient Ethernet (EEE)
Ethernet (LAN)	1 x 10/100/1000M (RJ45) PoE, 1 x 10/100/1000M SFP Port
Reset Button	Reset to the factory default settings

MOUNTING	
Mounts to walls and horizontal, vertical, and angled poles All standard mounting hardware included	
ENVIRONMENT	
Operating temperature	0°C to +50°C
Humidity	5%~95% non-condensing Internal
Storage Temperature	-40° C to +70° C
Storage Humidity	5%~95% non-condensing Internal
POWER	
Maximum power consumption:	16.5W
Maximum power consumption in idle mode:	6.1W
Power over Ethernet (PoE+):	802.3at compliant Power sources sold separately
SURGE PROTECTION	
Common Mode Surge Protection	6KV
Differential Mode Surge Protection	2KV
RELIABILITY	
Mean Time Between Failure (MTBF): 75,000 hrs at +25°C operating temperature	

CONTROLLER	
Public Cloud	Ray ONE hosted on Public Cloud
Private Cloud	Ray ONE hosted on Private Cloud/Datacenter
REGULATORY COMPLIANCE	
CE Marked For more country-specific regulatory information and approvals, please see your Ray representative.	
WARRANTY	
As per the purchased SKU	
BOX CONTENTS	
<ul style="list-style-type: none"> › Standard Mounting Kit › Ethernet Cable › Quick Start Guide 	



RF PERFORMANCE TABLE

Band, rate	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 GHz, 802.11b		
1 Mbps	22	-97
1 Mbps	22	-89
2.4 GHz, 802.11g		
6 Mbps	22	-93
54 Mbps	20	-76
2.4 GHz, 802.11n/ac HT20		
MCS0	22	-93
MCS8	19	-75
2.4 GHz, 802.11ax HE20		
MCS0	22	-93
MCS11	17	-62
5 GHz, 802.11a		
6 Mbps	22	-92
54 Mbps	20	-75
5 GHz, 802.11n/ac HT20/VHT20		
MCS0	22	-92
MCS8	19	-72
5 GHz, 802.11n/ac HT40/VHT40		
MCS0	22	-90
MCS9	19	-65
5 GHz, 802.11ac VHT80		
MCS0	22	-88
MCS9	19	-63
5 GHz, 802.11ax HE20		
MCS0	22	-94
MCS11	17	-62
5 GHz, 802.11ax HE40		
MCS0	22	-91
MCS11	17	-60
5 GHz, 802.11ax HE80		
MCS0	22	-87
MCS11	17	-57

Subscriptions

ESSENTIAL

Cloud Subscription	Support (8 x 5)	L3 Networking	Advance Wireless & RRM	WAN Suite
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Hardware Warranty :

Essential Hardware Warranty

Available for 1 Year; Return-to-Factory shipping

For more details on warranty visit: www.ray.life

Software Support :

Essential Software Support

Available for 1 Year

Support time 8*5

Ordering Mechanism

Ray Canopus Hardware

SKU	Product Name	Description
RWHCC0N279	Ray Canopus	Wi-Fi 6 (802.11ax) Outdoor Wireless Access Point › 3000 Mbps › 2x2 MIMO › 1 x 2.5G (WAN, PoE+), 1 x 1G (LAN) › 1 x 1G SFP

Ray Canopus Hardware Warranty

RWWESC4N285	Canopus Essential Hardware Warranty (12 Months)	Canopus Essential Hardware Warranty Return & Replace Hardware Warranty
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Ray Canopus Subscription

RWSSC4N280	Canopus Essential Subscription (12 Months)	Ray Canopus Essential Subscription Includes › Cloud Subscription › Support (8 x 5) › L3 Networking › RRM › WAN Suite
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Use Cases

▼ Corporate Offices



▼ Restaurants/Hotels



▲ Educational Institutions



▲ Hospitals

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