Vega

Wi-Fi 6 Dual-band Indoor Access point

Use Case:

Retail POS | CCTV
Surveillance | Transport & Logistics
BFSI Small Offices or Branches
Online Grocery Store

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	Vega
AP Type	Indoor, Dual radio, 5 GHz and 2.4 GHz 802.11ax 2x2 MIMO
MIMO	2x2 SU-MIMO 2x2 MU-MIMO
Max Aggregrate 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 1 x 1G Ethernet (RJ45)
USE CASE	General Purpose Fits most Indoor 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

Vega	
Wi-Fi Standards	802.11 ax/ac/b/g/n
WIRELESS	
AP Type	Indoor, Dual radio, 5 GHz and 2.4 GHz 802.11ax 2x2 MIMO
MIMO	› 2x2 SU-MIMO › 2x2 MU-MIMO
802.11ax, 802.11ac Wave 2 and 802.11n Capabilities	› 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	› Max aggregate frame rate: Up to 3 Gbps › 2.4GHz: 573 Mbps › 5GHz: 2402 Mbps
Supported Data Rates (Mbps)	› 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	› 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	Available channels dependent on configured regulatory domain › 2.4GHz: 1-13 › 5GHz: 36-64, 100-144, 149-165 Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
Supported Radio Technologies	› 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	› 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	2x2:2 streams SU/MU MIMO 5 GHz 2x2:2 streams SU/MU MIMO 2.4 GHz
Channelization/PHY Types	› 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	› WEP, WPA, WPA2-PSK, WPA3 - Personal, WPA3 - Enterprise, WPA3 - Enhanced Open (OWE) › Dynamic PSK › EAP-TLS, EAP-TTLS, EAP-MSCHAPv2, EAP-SIM › MAC Whitelisting › OTP based Authentication › IEEE 802.1X based Authentications › Captive Portal Based Authentications
Advance Features	› 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 5 Ghz Radio to provide better load balancing among 2.4 GHz and 5 GHz Radios.
Beaconing	› Transmit Only › Transmit/Receive (Attached Devices) › Transmit/Receive (Unattached Devices)
Roaming/Mobility	› Support for IEEE 802.11r or Fast BSS Transition (FT) › Centralized Layer 3 roaming › Seamless Roaming for Captive Portal users
Bluetooth	› 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	2.4 GHz omni-directional 4 dBi with 5 dBi peak gain 5 GHz omni-directional 4 dBi with 5 dBi peak gain
RANGE/COVERAGE	
Range/Coverage	› Up to 90 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 › Evil Twin › Rouge AP
MESH	
SON based Mesh	› 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)	› 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)	› Limited by local regulatory requirements › 2.4 GHz band: › 565: 29.2 dBm EIRP › 567: 33 dBm EIRP
Maximum EIRP (5 GHz band:)	› Limited by local regulatory requirements › 5 GHz band: › 565: 31.4 dBm EIRP › 567: 32.7 dBm EIRP
NMS INTEGRATION	
SNMP support	
PERFORMANCE	
Maximum number of associated client devices	› Up to 50 active client devices per radio
Maximum number of BSSIDs	› 16 BSSIDs per radio › Up to 31 per AP
NETWORKING	
IP	IPv4, IPv6, dual stack
VLAN	› 802.1Q (1 per BSSID or dynamic per user based on RADIUS) › VLAN Pooling › Port-based
802.1x	Authenticator & Supplicant
Tunnel	› L2TP › GRE/EoGRE › Openvpn › L2TP/IPSEC
Policy Management Tools	Application Recognition and Control › Access Control Lists › Device Fingerprinting › Rate Limiting › Flexible guest access with device isolation
Quality of Service	› WMM Access Categories with DSCP and 802.1p support › QoS-based scheduling › Directed Multicast
Modes	› Gateway Mode › Bridge Mode
External Authentication	› Authentication via Radius › Authentication via LDAP › Authentication via Single Sign-On (SSO) › Authentication via Active Directory (AD)
Radius	› Radius Option 82 Support
Tunnel	› L2TP › GRE/EoGRE › Openvpn › L2TP/IPSEC › PPTP › Wireguard/SSL
L3 Features	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	Support for Third Party Captive Portal
FIRMWARE	
Flash Security Updates (No Reboot Required) Cloud Managed Firmware Updates	
PHYSICAL INTERFACES	
Ethernet (WAN)	1x 2.5G Ethernet (RJ45) Power over Ethernet (802.3af/at) with Category 5/5e/6 cable PD. · LLDP Auto-sensing link speed and MDI/MDX 802.3az Energy Efficient Ethernet (EEE)

Ethernet (LAN)	1 x 1G Ethernet (RJ45) LLDP
Reset Button	Reset to the factory default settings
Indicators	One multi-color status LED
DC Power	1 x DC power connector

MOUNTING

Mounts to walls and ceilings in horizontal, vertical direction.
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 (-40° F to +158° F)
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

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

- 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

Hardware Warranty :

Essential Hardware Warranty
Available for 1, 3 & 5 Years; Return-to-Factory shipping

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

Software Support :

Essential Software Support
Available for 1, 3 & 5 Years
Support time 8*5

Ordering Mechanism

Ray Vega Hardware		
SKU	**Product Name**	**Description**
RWHCC0N277	Ray Vega	Wi-Fi 6 (802.11ax) Indoor/Ceiling Wireless Access Point › 3000 Mbps › 2x2 MIMO › 1 x 2.5G (WAN, PoE) › 1 x 1G (LAN)
Ray Vega Hardware Warranty		
RWWESC4N284	Vega Essential Hardware Warranty (12 Months)	Vega Essential Hardware Warranty Return & Replace Hardware Warranty
RWWESC6N284	Vega Essential Hardware Warranty (36 Months)	Vega Essential Hardware Warranty Return & Replace Hardware Warranty
RWWESC8N284	Vega Essential Hardware Warranty (60 Months)	Vega Essential Hardware Warranty Return & Replace Hardware Warranty
Ray Vega Subscription		
RWHSC4N278	Vega Essential Subscription (12 months)	Ray Vega Essential Subscription Includes › Cloud Subscription › Support (8 x 5) › L3 Networking › RRM › WAN Suite
RWHSC6N278	Vega Essential Subscription (36 months)	
RWHSC8N278	Vega Essential Subscription (60 months)	

Use Cases

Corporate Offices

Restaurants/Hotels

Educational Institutions

Hospitals

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RAY
Secure Networking