

# **RAY R6A-C**

# Cloud-managed 2x2:2 Wi-Fi 6 (802.11ax) access point

# **High Density for Indoor Use Case**

Restaurants

Office

Malls

Powered by Ray ONE

RAY

### HIGHLIGHTS

- Wi-Fi 6 driven High-Performance
- Pocket friendly, helps in lowering the TCO.
- 2-stream UL/DL MU-MIMO
- 802.11ax up to 1.8 Gbps dual aggregate frame rate
- Two Gigabit Ethernet port, 802.3af PoE compatible
- Dynamic Segmentation and policyenforcement firewalls









SPECIFICATIONS	R6A-C	R6B-C
АР Туре	Indoor, Ceiling/Wall Mounted High-Performance Access Point	Indoor, Ceiling/Wall Mounted Ultra High-Performance Access Point
МІМО	2x2 SU-MIMO 2x2 MU-MIMO	4x4 SU-MIMO 4x4 MU-MIMO
Max Aggregate frame rate	Max aggregate frame rate: 1.8 Gbps 2.4GHz: 591 Mbps 5GHz: 1238 Mbps	Max aggregate frame rate: 3.6 Gbps 2.4GHz: 1,182 Mbps 5GHz: 2,475 Mbps
LAN Ports	1 x 10/100/1000 BASE-T Ethernet (RJ45) PoE 1x 100/1000/2.5G BASE-T Ethernet (RJ45) LLDP	1 x 10/100/1000 BASE-T Ethernet (RJ45) PoE 1x10/100/1000 BASE-T Ethernet (RJ45)
Wi-fi 6	General Purpose Fits Most Indoor Use Cases	High-Density Outdoor Use Case Ultra-High Performance

Note: Antenna will be delivered with the Product.





## 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 purposebuilt 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.

What sets One Apart and distinguished is that it has a network wide visibility with a single pane of glass dashboard and control. Security comes in seamless with automatic firmware updates as well as automatic reporting. One has a unique feature of Selfprovisioning for rapid deployment. One being cloud based consists of Cloud based RF Planning. Built-In spectrum analysis as well as Dual- Concurrent radios with band steering come in as features that set apart RF Planning with ONE.

As you will see further all features described in detail for Ray One, we would still like to highlight a couple of features that makes it Secured. Ray One powered Edge Gateways, Switches and Wireless (Wi-Fi) devices are available to deploy on any network edge.



#### FEATURES

Adaption for changing business dynamics to address modern requirements funnel downs to Network Architecture. Today Ray is being managed and delivered through cloud which enhances features like scalability, speed and flexibility. Enterprises with Ray are able to leverage powerful automated, zero touch, delivering on demand and a proactive business approach. One Features help the enterprise to make intelligent decisions that adhere business goals and objectives.



#### **Secure SD-WAN**

Ray One powers extremely Secure & Advanced SD-WAN with top-tier features like Application Identification & Control, Application-aware traffic control, and Performance Optimization Helping you enable remote working through a secure Access Client & ZTNA. Automatically optimize routing and rerouting of traffic based on WAN Link performance (latency, jitter, loss) in real time with zero impact.

#### Advance Networking

Ray One powers the most advanced and Secure enterprise-grade networking technology available for NAT, routing, and bridging across all the Edges even empowering Hybrid workforce. It includes Advance routing, Dual Stack Support, static, OSPF, BGP, and RIP with full 802.1Q VLAN support, Multicast, QOS Enablement and Traffic Classification and control amongst others.





Ray One keeps the Enterprise secure even from Ransomware, Malware and even Zero Day threats through high-performance streaming deep packet inspection, next-gen IPS, web protection, DNS Filters, and app control. The powerful Enterprise policies help create Trust Zones in the Network. Ray One enables fast, coordinated detection and enforcement across the entire attack surface to counter the latest known and unknown threats in real time. The threat research is unified data sets feeding from networks, endpoints, and clouds, rich independent research, and comprehensive industry collaboration.





#### **FEATURES**

#### **Cloud Architecture**

Ray Always One Cloud is Microservices bring unparalleled agility, scale, resiliency. Ray makes it easy to add or remove new features by leveraging a microservices cloud architecture. New enhancements and bug fixes are delivered almost weekly without network disruption. Services scale up or down elastically when they're needed, eliminating the cost and complexityc of monolithic hardware.





#### **HSIA (Captive Portal)**

Ray One powers 9 kinds of Captive Portal and Guest onboarding flows with advance features like WYSIWYG, Advertisement Server, Survey engine, Payment Gateway along, Multi Language support etc. The Wi-Fi Monetization makes Ray revenue centre for the enterprise. Guest Analytics helps to make data driven business decisions that help growth and revenue.

#### WAN Suite

Ray One powered Link Bonding taps into the bandwidth of multiple WAN sources to provide a single bonded data-pipe that enables higher speed and resiliency whilst being economical, fast, and easily configurable to suit any networking environment.





## **Dimensions & Interfaces**

AP Name	
R6A-C	
WI-FI	
Wi-Fi Standards	802.11 ax/ac/b/g/n
АР Туре	Indoor, dual radio, 5GHz and 2.4GHz 802.11ax 2x2 MIMO
MIMO	→ 2x2 SU-MIMO → 2x2 MU-MIMO
802.11ax, 802.11ac Wave 2 and 802.11n Capabilities	<ul> <li>&gt; DL-OFDMA, UL-OFDMA, TWT support, BSS Coloring</li> <li>&gt; 2 x 2 multiple input, multiple output (MIMO) with two spatial streams</li> <li>&gt; SU-MIMO, UL MU-MIMO** and DL MU-MI- MO support</li> <li>&gt; Maximal ratio combining (MRC) &amp; beamforming</li> <li>&gt; 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)</li> <li>&gt; Up to 1024-QAM on both 2.4 GHz &amp; 5 GHz bands</li> <li>&gt; Packet aggregation: A-MPDU, A-MSDU</li> </ul>
Radio 2.4GHz	Two spatial stream Single User (SU) MIMO for up to 591 Mbps wireless data rate with individual 2SS HE40 (HE20) 802.11ax client devices or with two 1SS HE40 (HE20) 802.11ax MU-MIMO capable client devices simultaneously
Radio 5GHz	Two spatial stream Single User (SU) MIMO for up to 1.2Gbps wireless data rate with individual 2SS HE80 802.11ax client devices, or with two 1SS HE80 802.11ax MU-MIMO capable client devices simultaneously
BLE	2.4 GHz Bluetooth® Low Energy (BLE 5.1) radio with Beacon and BLE scanning support
Max aggregate frame rate	<ul> <li>Max aggregate frame rate: 1.8 Gbps</li> <li>2.4GHz: 591 Mbps</li> <li>5GHz: 1238 Mbps</li> </ul>
Supported Data Rates (Mbps)	<ul> <li>802.11b: 1, 2, 5.5, 11</li> <li>802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54</li> <li>802.11n: 6.5 to 300 (MCS0 to MCS15, HT20 to HT40), 400 with 256-QAM</li> <li>802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2, VHT20 to VHT80), 1,083 with 1024-QAM</li> <li>802.11ax (2.4GHz): 3.6 to 574 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE40)</li> </ul>

Supported frequency bandsSoftware enabled country-specific restric- tions apply2:412-2:48 GHz 5:150-5:250 GHz (UNII-2) 5:725-5.825 GHz (UNII-2) 5:725-5.825 GHz (UNII-2) 5:725-5.825 GHz (UNII-2) 5:725-5.825 GHz (UNII-2)Supported Channels- Available channels dependent on configured regulatory domain 5:GHz: 36-64, 100-144, 149-165 Dynamic frequency selection (DFS) optimizes the use of available RF spectrumSupported Radio Technologies- 802.11b: Direct-sequence spread-spec- trum (DSSS)Supported Radio Technologies- 802.11a: (Jry/nac: Orthogonal frequency-division multiple access (OFDMA) with up to 16 resource units (RU)Supported Modulation Types- 802.11a: BPSK, OPSK, 16-OAM, 64- OAM, 256-OAM - 802.11a: CHOSK, OPSK, 16-OAM, 64- <b< th=""><th></th><th></th></b<>		
Channelsconfigured regulatory domain 2.4.GHz: 1-13 ScHz: 36-64, 100-144, 149-165 Dynamic frequency selection (DFS) soptimizes the use of available RF spectrumSupported Radio Technologies802.11b: Direct-sequence spread-spec- trum (DSSS) 802.11ax: Orthogonal frequency-division multiple access (OFDMA) with up to 16 resource units (RU)Supported Modulation Types802.11a: Orthogonal frequency-division wision multiple access (OFDMA) with up to 16 resource units (RU)Supported Modulation Types802.11a: BPSK, QPSK, 16-QAM, 64- QAM, 266-QAM 802.11a: BPSK, QPSK, 16-QAM, 64- QAM, 266-QAM, 1024-QAMRadio Chains and Spatial Streams>2x2:2 streams SU/MU MIMO 5GHz 2x2:2 streams SU/MU MIMO 2.4GHzChannelization/ PHY Types> 802.11a high-throughput (HT) support: HT 20/40 802.11ac very high throughput (VHT) support: VHT 20/40/80 802.11ac very high throughput (VHT) support: VHT 20/40/80 shot1ac very high throughput (VHT) support: VHT 20/40/80 shot2 und niterveries end throughput (NHT) support:		tions 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)
Technologiestrum (DSSS)802.11a/g/n/ac: Orthogonal frequency-division multiple access (OFDMA)802.11a: Orthogonal frequency-division multiple access (OFDMA) with up to 16 resource units (RU)Supported Modulation Types802.11a: BPSK, QPSK, CCK 802.11a: BPSK, QPSK, 16-QAM, 64- QAM 802.11a: BPSK, QPSK, 16-QAM, 64- QAM, 256-QAM, 1024-QAMRadio Chains and Spatial Streams2x2:2 streams SU/MU MIMO 5GHz 2x2:2 streams SU/MU MIMO 5GHz 2x2:2 streams SU/MU MIMO 2.4GHzChannelization/ PHY Types802.11a: high-throughput (HT) support: HT 		configured regulatory domain > 2.4GHz: 1-13 > 5GHz: 36-64, 100-144, 149-165 > Dynamic frequency selection (DFS)
Modulation Types> 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-QAMRadio Chains and Spatial Streams> 2x2:2 streams SU/MU MIMO 5GHz > 2x2:2 streams SU/MU MIMO 2.4GHzChannelization/ PHY Types> 802.11n high-throughput (HT) support: HT 20/40 		<ul> <li>trum (DSSS)</li> <li>802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)</li> <li>802.11ax: Orthogonal frequency-division multiple access (OFDMA) with up to 16</li> </ul>
Spatial Streams> 2x2:2 streams SU/MU MIMO 2.4GHzChannelization/ PHY Types> 802.11n high-throughput (HT) support: HT 20/40 > 802.11ac very high throughput (VHT) support: VHT 20/40/80 > 802.11ax high efficiency (HE) support:Wireless Authentication> 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 AuthenticationsAdvance Features> Advanced Cellular Coexistence (ACC) mini- mizes interference from cellular networks > Maximum ratio combining (MRC) for im- proved 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 in- creased range and improved reception > Low-density parity check (LDPC) for high-efficiency error correction and in- creased throughput > Transmit beam-forming (TxBF) for in- creased signal reliability and range		<ul> <li>&gt; 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM</li> <li>&gt; 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM</li> <li>&gt; 802.11ax: BPSK, QPSK, 16-QAM, 64-</li> </ul>
PHY Types       20/40         > 802.11 ac very high throughput (VHT) support: VHT 20/40/80         > 802.11 ax high efficiency (HE) support:         Wireless         Authentication         > 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         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 in- creased signal reliability and range		
Authentication       WPA3 - Enterprise, WPA3 - Enhanced Open (OWE)         > Dynamic PSK         > EAP-TLS, EAP-TTLS, EAP-MSCHAPv2, EAP-SIM         > IEEE 802.1X based Authentications         Advance Features         > Advanced Cellular Coexistence (ACC) mini- mizes interference from cellular networks         > Maximum ratio combining (MRC) for im- proved 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 in- creased range and improved reception Low-density parity check (LDPC) for high-efficiency error correction and in- creased throughput         > Transmit beam-forming (TxBF) for in- creased signal reliability and range		20/40 > 802.11ac very high throughput (VHT) support: VHT 20/40/80
<ul> <li>mizes interference from cellular networks</li> <li>Maximum ratio combining (MRC) for improved receiver performance</li> <li>Cyclic delay/shift diversity (CDD/CSD) to enable the use of multiple transmit antennas</li> <li>Short guard interval for 20-MHz, 40-MHz, and 80-MHz</li> <li>Space-time block coding (STBC) for increased range and improved reception</li> <li>Low-density parity check (LDPC) for high-efficiency error correction and increased throughput</li> <li>Transmit beam-forming (TxBF) for increased signal reliability and range</li> </ul>		<ul> <li>WPA3 - Enterprise, WPA3 - Enhanced</li> <li>Open (OWE)</li> <li>Dynamic PSK</li> <li>EAP-TLS, EAP-TTLS, EAP-MSCHAPv2, EAP-SIM</li> </ul>
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Beamforming Transmit Beamforming and Maximal Ratio Combining	Beamforming	



Band Steering	Band steering for 5 GHz clients to connect over 5Ghz Radio to provide better load bal- ancing among 2.4Ghz and 5Ghz Radios.
Beaconing	<ul> <li>Transmit Only</li> <li>Transmit/Receive (Attached Devices)</li> <li>Transmit/Receive (Unattached Devices)</li> </ul>
Roaming/Mobility	<ul> <li>Support for IEEE 802.11r or Fast BSS Transition (FT)</li> <li>Centralized Layer 3 roaming</li> <li>Seamless Roaming for Captive Portal users</li> <li>Resolves sticky client issue for Wi-Fi 5, Wi-Fi-6</li> </ul>
MODE	
Standalone	<ul> <li>Public Cloud Managed</li> <li>Private Cloud Managed</li> </ul>
RADIO RESOURCE	MANAGEMENT
RF Management	Dynamic RF management to detect and mitigate interference from Wi-Fi there by giving optimum performance to the wireless users
Wi-Fi Channel Management	Automatic Channel Selection by Intelligent Radio Resource Management (iRRM)
Wi-Fi Radio Power Management	Optimum Power management by Intelli- gent Radio Resource Management (iRRM) to reduce interference and coverage hole detection
Wi-Fi QOS	Self-healing (on detection of RF interference or loss of RF coverage).
ANTENNA	
Antenna (Included in Box)	<ul> <li>2.4GHz omni-directional antennas with 4dBi peak gain</li> <li>5GHz omni-directional antennas with 4dBi peak gain</li> </ul>
WIRELESS SECURI	ТҮ
Wireless Security	<ul> <li>Real-time WIDS/WIPS with instant alerting</li> <li>Classify Types of Rogue AP</li> <li>WLAN-Spoofing</li> <li>Same-Network</li> <li>MAC-spoofing</li> </ul>
MESH	
SON based Mesh	<ul> <li>Self-configuring</li> <li>Self-defending</li> <li>Self-healing</li> <li>Self-managing</li> </ul>
WI-FI OFFLOAD	
cellular-to-Wi-Fi	Release 2) (Hotspot 2.0) for Seamless Discovery and Selection Function (ANDSF)

 Access Network Discovery and Selection Function (ANDSF) Integration

RADIO MANAGEMENT		
Antenna Optimization	Polarization Diversity with Maximal Ratio Combining (PDMRC)	
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> <li>Limited by local regulatory requirements</li> <li>2.4 GHz band: +20 dBm (18dBm per chain)</li> <li>5 GHz band: +19 dBm (18 dBm per chain)</li> <li>Note: conducted transmit power levels exclude antenna gain.</li> </ul>	
Transmit power	Configurable in increments of 0.5 dBm	
Maximum EIRP (2.4 GHz band)	<ul> <li>Limited by local regulatory requirements</li> <li>2.4 GHz band:</li> <li>565: 29.2 dBm EIRP</li> <li>567: 33 dBm EIRP</li> </ul>	
Maximum EIRP (5 GHz band:)	<ul> <li>Limited by local regulatory requirements</li> <li>5 GHz band:</li> <li>565: 31.4 dBm EIRP</li> <li>567: 32.7 dBm EIRP</li> </ul>	
NMS INTEGRATION		
SNMP support		
PERFORMANCE		
Maximum number of associated client devices	<ul> <li>&gt; Up to 256 associated client devices per radio</li> <li>&gt; Up to 512 clients per AP</li> </ul>	
Maximum number	<ul> <li>16 BSSIDs per radio</li> </ul>	

• 16 BSSIDs per radio
• Up to 31 per AP

of BSSIDs

,	Op to 31 per AP
NETWORKING	
IP	IPv4, IPv6, dual stack
VLAN	<ul> <li>&gt; 802.1Q (1 per BSSID or dynamic per user</li> <li>&gt; based on RADIUS)</li> <li>&gt; VLAN Pooling</li> <li>&gt; Port-based</li> </ul>
802.1x	Authenticator & Supplicant
Tunnel	<ul> <li>L2TP</li> <li>GRE/EoGRE</li> <li>Openvpn</li> <li>L2TP/IPSEC</li> </ul>
Policy Management Tools	<ul> <li>Application Recognition and Control</li> <li>Access Control Lists</li> <li>Device Fingerprinting</li> <li>Rate Limiting</li> <li>Integrated Layer 7 firewall with mobile device</li> <li>policy management</li> <li>Flexible guest access with device isolation</li> </ul>

Quality of Service	<ul> <li>&gt; WMM Access Categories with DSCP and 802.1p support</li> <li>&gt; QoS-based scheduling</li> <li>&gt; Directed Multicast</li> <li>&gt; L2/L3/L4 ACLs</li> </ul>
Modes	<ul> <li>Gateway Mode</li> <li>Bridge &amp; Firewall</li> <li>Bridge No Firewall</li> </ul>
External Authentication	<ul> <li>Authentication via Radius</li> <li>Authentication via LDAP</li> <li>Authentication via Single Sign-On (SSO)</li> <li>Authentication via Active Directory (AD)</li> </ul>
Radius	<ul> <li>Radius Option 82 Support</li> </ul>
Tunnel	<ul> <li>L2TP</li> <li>GRE/EoGRE</li> <li>Openvpn</li> <li>L2TP/IPSEC</li> <li>PPTP</li> <li>Wireguard/SSL</li> </ul>
L3 Features	Routing Protocols: • Static unicast routes • Equal cost multipath routing (ECMP) RIP v1/v2 • OSPF • BGP4+ VRRP • Generic routing encapsulation (GRE) • Standard 802.1d Spanning Tree Protocol • Network Address Translation (NAT) • Dynamic Host Configuration Protocol (DHCP) • server, relay, and client • Access control lists (ACLs) • IPv4 and IPv6 Multicast
SD-WAN	
Topology Support	Hub & Spoke Topology Mesh Topology
Multi-WAN Support	Link Failover Link Balancing Link Bonding/Aggregation
Application Aware	Application based Routing Application Priority

#### NETWORK SECURITY

Integrated Layer 7 firewall with mobile device policy management

- Flexible guest access with device isolation
- > VLAN tagging (802.1q) and tunneling with IPsec VPN
- Secure Boot, runtime defences/image signing/integrity verification, and hardware authenticity.
- PCI compliance reporting
- , IP filtering policies or ACL
- Device Profiling & VLAN mapping
- · L2 Isolation, ARP Blocking
- DDoS Detection
- Anti-Malware, Anti-Phishing and Anti-SPAM Engines.

ENTERPRISE POLICY	
Enterprise Policies (Applicable Per User/ Group/SSID)	<ul> <li>Time Policy to Control the Access Time</li> <li>Speed Policy to Control Upload/Download Bandwidth</li> <li>Device Policy to control Device Type</li> <li>Quota Policy to control Time or Volume Usage</li> <li>Concurrency Policy to control simultaneous user login</li> <li>Application Policy to control L7 Policy</li> <li>Web Categorization Policy to control browsing by Category</li> <li>DNS Filter Policy to filter DNS requests</li> </ul>

#### QUALITY OF SERVICE (QOS)

- Advanced Power Save (U-APSD)
- > WMM Access Categories with DSCP and 802.1p support
- Layer 7 application traffic identification, prioritization & shaping Per SSID/Group/User
- QoS configuration for applications based on categories.
- > 802.11e WMM Support

#### **GUEST CAPTIVE PORTAL**

Guest Captive Portal Authentication Modes	<ul> <li>Click To Login</li> <li>Voucher</li> <li>Username &amp; Password</li> <li>SMS OTP</li> <li>Email OTP</li> <li>Custom Survey</li> <li>Social Media</li> <li>Advertisement</li> <li>Payment Gateway</li> </ul>
Survey Engine	<ul> <li>Create Custom Survey with the below Questions</li> <li>Short Answer</li> <li>Long Answer</li> <li>Email ID</li> <li>Phone Number</li> <li>Star Rating</li> <li>Smiley Rating</li> <li>Dropdown</li> <li>Radio Button</li> <li>Multi Select</li> </ul>
Advertisement Engine	<ul> <li>Display Picture or Video Advertisements Per Venue</li> <li>Display Statistics, Clicks, Views, Revenue generated per Venue/Advertisement</li> </ul>
PMS Integration	Oracle Opera PMS and Fidelio Suite8 PMS (IFC Part Number 5009-313)

#### FIRMWARE

- Flash Security Updates (No Reboot Required)
- Cloud Managed Firmware Updates



PHYSICAL INTERFACES	
Ethernet (WAN)	<ul> <li>1x 10/100/1000 BASE-T Ethernet (RJ45)</li> <li>Power over Ethernet (802.3af/at) with Category 5/5e/6 cable PD.</li> <li>LLDP</li> <li>Auto-sensing link speed and MDI/MDX</li> <li>802.3az Energy Efficient Ethernet (EEE)</li> </ul>
Ethernet (LAN)	1 x 10/100/1000 BASE-T Ethernet (RJ45) LLDP
Reset Button	Reset to the factory default settings
Indicators	One multi-color status LED
DC Power	1x DC power connector
DIMENSIONS	
Physical Size	→ L=207 → B=208 → H=46.2
Weight	0.8 Kg

#### MOUNTING

- Mounts to walls and Ceilings
- All standard mounting hardware included

#### ENVIRONMENTAL

Operating temperature	0°C to +50°C / +32°F to +122°F
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 (worst-case) power consumption:	16.5W	
Maximum (worst case) power consumption in idle mode:	6.1W	
Maximum (worst case) power consumption in deep-sleep mode:	3.3W Power sources sold separately	
802.3at PoE+	16.5W	
Power over Ethernet (PoE+):	802.3at-compliant	

#### RELIABILITY

Mean Time Between Failure (MTBF): 1,315,612 hrs at +25°C operating temperature

CONTROLLER	
Public Cloud	Ray ONE hosted on Public Cloud
Private Cloud	Ray ONE hosted on Private Cloud/Data- center

#### 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



## **SPECIFICATIONS**

-93dBm

-63dBm

2.4GHZ RECEIVE SENSITIVITY (dBm)							
HT20 HT40		VHT20		VHT40			
MCS0	MCS7	MCS0	MCS7	MCS0	MCS11	MCS0	MCS11
-92	-72dBm	-90dBm	-71dBm	-93dBm	-63dBm	-91dBm	-60dBm

-87dBm

-56dBm

5GHZ RECEIVE SENSITIVITY (dBm) HT40 MCS0 MCS7 MCS0 MCS7 -93dBm -75dBm -91dBm -72dBm VHT40 **VHT80** MCS0 MCS11 MCS0 MCS11 MCS0 MCS9 -93dBm -74dBm -91dBm -72dBm -88dBm -62dBm HE40 MCS0 MCS11 MCS0 MCS11 MCS0 MCS11

-90dBm

2.4 GHZ RF Power				
MCS0	HT20	23±1dBm		
MCS7	HT20	22±1dBm		
MCS0	HT40	22±1dBm		
MCS7	HT40	21±1dBm		
MCS0	HE20	21±1dBm		
MCS11	HE20	20±1dBm		
MCS0	HE40	20±1dBm		
MCS11	HE40	19±1dBm		

-60dBm

5 GHZ RF Power		
MCS0	HT20	23±1dBm
MCS7	HT20	22±1dBm
MCS0	HT40	22±1dBm
MCS7	HT40	21±1dBm
MCS0	VHT20	22±1dBm
MCS9	VHT20	21±1dBm
MCS0	VHT40	22±1dBm
MCS9	VHT40	20±1dBm
MCS0	VHT80	20±1dBm
MCS9	VHT80	19±1dBm
MCS0	HE20	21±1dBm
MCS11	HE20	20±1dBm
MCS0	HE40	20±1dBm
MCS11	HE40	19±1dBm
MCS0	HE80	19±1dBm
MCS11	HE80	18±1dBm



## **SUBSCRIPTIONS**

ESSENTIAL	CONNECT	PROTECT	TOTAL	
Cloud Subscription	Cloud Subscription	Cloud Subscription	Cloud Subscription	
Essential Support	Essential Support	Essential Support	Essential Support	
L3 Networking	L3 Networking	L3 Networking	L3 Networking	
RRM	RRM	RRM	RRM	
WAN Suite	WAN Suite	WAN Suite	WAN Suite	
	SD-WAN	SD-WAN	SD-WAN	
	SASE	SASE	SASE	
		Network & Web Protection	Network & Web Protection	
		Captive Portal	Captive Portal	
			EYE	
			INSIGHTS	
			VIGIL	
12 Months (Renewal required)				
36 Months (Renewal required)				
60 Months (Essential Lifetime)				

## HARDWARE WARRANTY

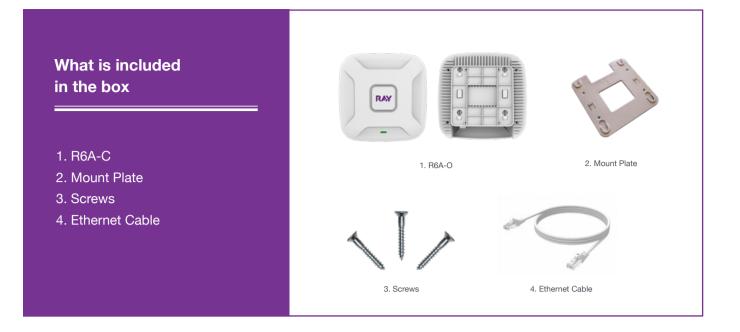
Essential Hardware Warranty	Premium Hardware Warranty
Available for 1,3 & 5 Years	Available for 1,3 & 5 Years
Return & Replace Warranty	Advance Replacement with NBD Shipping

## SOFTWARE SUPPORT

Essential Software Support	Premium Software Support
Available for 1,3 & 5 Years	Available for 1,3 & 5 Years
Support time 8*5	Support time 24*7
Email Support	Email Support
Web Support	Web Support
Chat Support	Chat Support

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





## **ORDERING MECHANISM**

R6A-C Hardware					
SKU	Product Name	Description			
RWHCC0N070	R6A-C Wi-Fi 6 Ceiling Wireless Access Point	<ul> <li>Wi-Fi 6 (802.11 AX) Indoor/Ceiling Wireless Access Point</li> <li>1800 Mbps</li> <li>2x2 MIMO</li> <li>1 x 1G (WAN, PoE)</li> <li>1 x 1G (LAN)</li> </ul>			

R6A-C Hardware Support		
RWWSC0N254	R6A-C Essential Hardware Warranty (12 Months)	R6A-C Essential Hardware Warranty (12 Months) Return & Replace Hardware Warranty
RWWSC6N254	R6A-C Essential Hardware Warranty (36 Months)	R6A-C Essential Hardware Warranty (36 Months) Return & Replace Hardware Warranty
RWWSC8N254	R6A-C Essential Hardware Warranty (60 Months)	R6A-C Essential Hardware Warranty (60 Months) Return & Replace Hardware Warranty
RWWSC4N255	R6A-C Premium Hardware Warranty (12 Months)	R6A-C Premium Hardware Warranty (12 Months) Advance Replacement with NBD Ship
RWWSC6N255	R6A-C Premium Hardware Warranty (36 Months)	R6A-C Premium Hardware Warranty (36 Months) Advance Replacement with NBD Ship
RWWSC8N255	R6A-C Premium Hardware Warranty (60 Months)	R6A-C Premium Hardware Warranty (60 Months) Advance Replacement with NBD Ship



<b>R6A-C Subscription Plans</b>			
RWHSC4N176	R6A-C Essential Subscription for 12 Months	<ul> <li>R6A-C Essential Subscription for 12</li> <li>Months Includes</li> </ul>	
RWHSC6N176	R6A-C Essential Subscription for 36 Months	<ul> <li>Cloud Subscription</li> <li>Essential Support</li> </ul>	
RWHSC8N176	R6A-C Essential Subscription for 60 Months	<ul> <li>L3 Networking</li> <li>RRM</li> </ul>	
RWASC4N236	R6A-C Connect Subscription 12 Months		
RWASC6N236	R6A-C Connect Subscription for 36 Months	<ul> <li>R6A-C Connect Subscription for 12</li> </ul>	
RWASC8N236	R6A-C Connect Subscription for 60 Months	<ul> <li>Months Includes</li> <li>Cloud Subscription</li> <li>Essential Support</li> </ul>	
RWHSC4N177	R6A-C Protect Subscription for 12 Months	<ul> <li>&gt; L3 Networking</li> <li>&gt; RRM</li> <li>&gt; WAN Suite</li> </ul>	
RWHSC6N177	R6A-C Protect Subscription for 36 Months	<ul> <li>SD-WAN</li> <li>SASE</li> </ul>	
RWHSC8N177	R6A-C Protect Subscription for 60 Months		
RWHSC4N197	R6A-C Total Subscription for 12 Months	<ul> <li>R6A-C Total Subscription for 12 Months</li> <li>Cloud Subscription</li> <li>Essential Support</li> </ul>	
RWHSC6N197	R6A-C Total Subscription for 36 Months	<ul> <li>L3 Networking</li> <li>RRM</li> <li>Network &amp; Web Protection</li> <li>Captive Portal</li> </ul>	
RWHSC8N197	R6A-C Total Subscription for 60 Months	<ul> <li>WAN Suite</li> <li>SD-WAN</li> <li>SASE</li> <li>EYE</li> <li>Insights</li> <li>Vigil</li> </ul>	



## **USE CASES**





## **CASE STUDIES**

### NPL Ltd.

Aljamea-tus-Saifiyah has numerous students enrolling every year and studying for their 11-year long course. The place is a boarding plus an educational institute for these students where the need of internet cannot go unnoticed. They need good Wi-Fi connectivity in such a big campus, with a wide expanse.

The Aljamea-tus-Saifiyah needed internet coverage for the campus that is spread over 12 acres, consisting of 18 buildings that is 900,000 ft square of carpet area. The campus includes indoor and outdoor spaces along with residential areas for men & women for over 1000 students.

They are using Ray R6A-C as their indoor access point and R6A-O as their outdoor access point along with the advanced features of Ray that aid in superior internet experience.

- Ray R6A O Outdoor Wi-Fi access point provides coverage all along the 'Radiant Axis', across covered walkways, corridors and bridges along with the gardens.
- Ray R6A C Indoor Wi-Fi access point provides coverage in all indoor places like the masjid, large ceremonial hall (Iwan), dining hall (Mawaid), kitchen, library, Mahad al-Zahra (Quranic institute), auditorium, classroom buildings, administrative and maintenance facilities, and the male & female residential areas.
- 3. The student's and teacher's first-time login are verified against the student database. The consequent login is done via the device's MAC address, without the hassle of remembering credentials to login.
- 4. Ray's Content Policy filter objectionable (inappropriate) content. E.g.: P2P, Porn, criminal sites, etc.
- Limited internet and different speed limits are to be given to different people, which differ from whether you are a student or a teacher in that campus.
   So, Ray's Speed and Quota policies are assigned accordingly.
- 6. Guests and visiting faculties join the network post the BYOD approved by the IT admin.

Ray's embedded security protects the network by filtering Malware, Ransomware and Spam.

# **Our Clients**

L&T Finance			ArcelorMittal	Aakash	PDSL Professional Digital Suttan Suttan	
Rustomjee	MARBLE ARCH SCHOOL (CM) Colliners, Andrea Weat	the network that thinks	mahindra <sup>Rise</sup>	QUALITY ASSAY	ORKIN	WA SO KO
WHITECROW RESEARCH	रेलटेल ह्वाराच्च	INDIRA GROUP OF INSTITUTES	HOME LOANS	() hyperlink		GUALITY
Ministry of Foreign Affairs, Kanya	ELECTR•NO <sup>°</sup>	IMAARA		GOZOOP	<b>(1)</b>	FREIGHT SYSTEMS Supply Chain Solutions
B SHANKAR MIRA TAN COLLEGE	UDGAM SCHOOL FOR CHILDREN	THE NAIROBI HOSPITAL		Shantiniketan International School	THE PALACE	
esds motory baseday.	<b>A</b> ir	FREIGHT SYSTEMS Supply Chain Solution:	Correcting your business is nor business	Elef.	mondia.	mh
Print OnDemand		ATTEP TO BUOCE Se	NPL Simply Hastics		THE NAIROBI WEST HOSPITAL	the
WA SO KO		रूवी है जिल्ही बँक		<b>?</b> SBI		FRIDAYS
	MALABAR	cbm	D perfect Patter in Progress	KRAHEJA CORP		COLVILL-BANKS
<b>T</b> udaan	D BYJU'S The Learning App		Quick Heal Security Simplified	<mark>اعـــادۃ</mark> Saudi Re	Ministry of Foreign Affairs, Kenya	MEDIBIOS



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