

## Ruckus Indoor WiFi 6 802.11ax Access Point for Ultra-Dense Environments (R750)



Product Name: Ruckus Indoor WiFi 6 802.11ax Access Point for Ultra-Dense Environments (R750)

Manufacturer: Ruckus Wireless

Model Number: R750

### Ruckus Indoor WiFi 6 802.11ax Access Point for Ultra-Dense Environments (R750)

The Ruckus R750 is based on the latest Wi-Fi 6 standard and bridges the performance gap from &lsquo;gigabit&rsquo; WiFi to &lsquo;multi-gigabit&rsquo; WiFi in support of the insatiable demand for better and faster WiFi. It is a high-end dual-band, dual-concurrent Wi-Fi 6 AP that supports 8 spatial streams (4x4:4 in 5GHz, 4x4:4 in 2.4GHz). The R750, with OFDMA and MU-MIMO capabilities, efficiently manages up to 1024 client connections with increased capacity, improved coverage and performance in ultra-high dense environments.

### Ruckus R750 Key Features

- 8 built-in spatial streams (4x4:4 in 5GHz, 4x4:4 in 2.4GHz), MU-MIMO and OFDMA technology
- Ultra-High-Density Technology Suite
- Built-in BLE and Zigbee
- USB port
- Built-in 2.5GbE port to connect to multigigabit switches
- Multiple management options
- Enhanced security with WPA3
- Support services beyond WiFi

The R750 has built-in IoT radios with onboard BLE and Zigbee capabilities. In addition, the R750 is a converged access point that allows customers to seamlessly integrate any new wireless technologies with a USB port. The R750 addresses the increasing client demands in transit hubs, auditoriums, conference centers, and other high traffic indoor spaces. It is the perfect choice for data-intensive streaming multimedia applications like 4K video transmissions, while supporting latency sensitive voice and data applications with stringent quality-of-service requirements. The R750 is also easy to manage through Ruckus physical and virtual cloud management options.

### Ruckus R750 - Technical Specifications

#### WiFi

- Wi-Fi Standards: IEEE 802/11a/b/g/n/ac/ax
- Supported Rates: - 802.11ax: 4 to 2400 Mbps - 802.11ac: 6.5 to 1732 Mbps - 802.11n: 6.5 to 600 Mbps - 802.11a/g: 6 to 54 Mbps - 802.11b: 1 to 11 Mbps
- Supported Channels: - 2.4GHz: 1-13 - 5GHz: 36-64, 100-144, 149-165
- MIMO: - 4x4 SU-MIMO - 4x4 MU-MIMO
- Spatial Streams: 4 for both SU-MIMO & MU-MIMO
- Radio Chains and Streams: 4x4:4
- Channelisation: 20, 40, 80, 160/80+80MHz
- Security: - WPA-PSK, WPA-TKIP, WPA2 AES, WPA3, 802.11i, Dynamic PSK, OWE - WIPS/WIDS
- Other Wi-Fi Features: - WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v - Hotspot - Hotspot 2.0 - Captive Portal - WISPr

#### RF

- Antenna Type: - BeamFlex+ adaptive antennas with polarisation diversity - Adaptive antenna that provides 4,000+ unique antenna patterns per band
- Antenna Gain (max): Up to 3dBi
- Peak Transmit Power (Tx port/chain + Combining gain): - 2.4GHz: 26dBm - 5GHz: 28 dBm
- Frequency Bands: - ISM (2.4-2.484GHz) - U-NII-1 (5.15-5.25GHz) - U-NII-2A (5.25-5.35GHz) -

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U-NII-2C (5.47-5.725GHz) - U-NII-3 (5.725-5.85GHz)

2.4GHZ Receive Sensitivity (dBm)

- HT20: - MCS0: -96 - MCS7: -78
- HT40: - MCS0: -93 - MCS7: -75
- VHT20: - MCS0: -96 - MCS7: -78
- VHT40: - MCS0: -93 - MCS7: -75
- HE 20: - MCS0: -96 - MCS7: -78 - MCS9: -73 - MCS11: -67
- HE40: - MCS0: -93 - MCS7: -75 - MCS9: -70 - MCS11: -64

5GHZ Receive Sensitivity (dBm)

- VHT20: - MCS0: -98 - MCS7: -80 - MCS8: -77
- VHT40: - MCS0: -95 - MCS7: -77 - MCS9: -72
- VHT80: - MCS0: -92 - MCS7: -74 - MCS9: -69
- HE20: - MCS0: -98 - MCS7: -80 - MCS9: -75 - MCS11: -70
- HE40: - MCS0: -95 - MCS7: -77 - MCS9: -72 - MCS11: -67
- HE80: - MCS0: -92 - MCS7: -74 - MCS9: -69 - MCS11: -64

2.4GHZ TX Power Target (Per Chain)

- Rate: MCS0 HT20 - Pout (dBm): 20
- Rate: MCS7 HT20 - Pout (dBm): 16
- Rate: MCS8 VHT20 - Pout (dBm): 15
- Rate: MCS9 VHT40 - Pout (dBm): 14
- Rate: MCS11 HE40 - Pout (dBm): 12

5GHZ TX Power Target (Per Chain)

- Rate: MCS0, VHT20 - Pout (dBm): 22
- Rate: MCS7, VHT40, VHT80 - Pout (dBm): 19
- Rate: MCS9, VHT40, VHT80 - Pout (dBm): 17
- Rate: MCS11, HE20, HE40, HE80 - Pout (dBm): 15

Performance and Capacity

- Peak PHY Rates: - 2.4GHz: 1148 Mbps - 5GHz: 2400 Mbps
- Client Capacity: Up to 1024 clients per AP
- SSID: Up to 31 per AP

Ruckus Radio Management

- Antenna Optimisation: - BeamFlex+ - Polarisation Diversity with Maximal Ratio Combining (PD-MRC)
- WiFi Channel Management: - ChannelFly - Background Scan Based
- Client Density Management: - Adaptive Band Balancing - Client Load Balancing - Airtime Fairness - Airtime-based WLAN Prioritisation
- SmartCast Quality of Service: - QoS-based scheduling - Directed Multicast - L2/L3/L4 ACLs
- Mobility: SmartRoam
- Diagnostic Tools: - Spectrum Analysis - SpeedFlex

Networking

## Ruckus Indoor WiFi 6 802.11ax Access Point for Ultra-Dense Environments (R750)

- Controller Platform Support: - SmartZone- ZoneDirector - Unleashed - Standalone
- Mesh: SmartMesh<sup>®</sup>; wireless meshing technology. Self-healing Mesh
- 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, Soft-GRE
- Policy Management Tools: - Application Recognition and Control - Access Control Lists - Device Fingerprinting - Rate Limiting
- IoT Capable: Yes

### Physical Interfaces

- Ethernet: - One 2.5Gbps Ethernet port and one 1Gbps Ethernet port- Power over Ethernet (802.3af/at/bt) with Category 5/5e/6 cable - LLDP
- USB: 1 USB 2.0 port, Type A

### Physical Characteristics

- Physical Size: - 23.5cm (L), 20.6cm (W), 6.2cm (H)- 9.3in (L) x 8.1in (W) x 2.4in (H)
- Weight: - 1.01 kg- 2.23 lbs
- Mounting: - Wall, acoustic ceiling, desk- Secure bracket (sold separately)
- Physical Security: - Hidden latching mechanism - Kensington Lock Hole - T-bar Torx - Bracket (902-0120-0000) Torx screw & padlock (sold separately)
- Operating Temperature: 0°C (32°F) - 50°C (122°F)
- Operating Humidity: Up to 95%, non-condensing

### Power

- 802.3af PoE: - Operating Characteristics: 2.4GHz radio: 2x4, 19dBm per chain, 5GHz radio: 2x4, 20dBm per chain, 2nd Ethernet port, onboard IoT & USB disabled - Max Power Consumption: PoE: 12.54W
- 802.3at PoE+: - Operating Characteristics: Full Functionality, 2.4GHz radio: 4x4, 20 dBm per chain, 5GHz radio: 4x4, 22 dBm per chain, 2nd Ethernet Port, onboard IoT & USB Enabled (3W)- Max Power Consumption: PoE+ : 22.34W, DC Power: 22.69W

### Certifications and Compliance

- WiFi Alliance: - WiFi CERTIFIED<sup>®</sup>; a, b, g, n, ac, ax- Passpoint<sup>®</sup>; Vantage
- Standards Compliance:- EN 60950-1 Safety - EN 60601-1-2 Medical - EN 61000-4-2/3/5 Immunity - EN 50121-1 Railway EMC - EN 50121-4 Railway Immunity - IEC 61373 Railway Shock & Vibration - UL 2043 Plenum - EN 62311 Human Safety/RF Exposure - WEEE & RoHS - ISTA 2A Transportation

### Software and Services

- Location Based Services: SPoT
- Network Analytics: SmartCell Insight (SCI)
- Security and Policy: Cloudpath

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**Please Enquire**

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