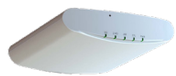
RUCKUS PRODUCT GUIDE – Indoor Access Points

COMMSCOPE®

	R750	R730	R720	R710	R610	R510
						
Feature/Description	**High-end 802.11ax 4x4 dual concurrent AP with MU-MIMO, BeamFlex+ and 2.5Gbps backhaul**	**High-end 802.11ax 8x8 dual concurrent AP with MU-MIMO, BeamFlex+ and 5Gbps backhaul**	**High-end 802.11ac Wave 2 dual-concurrent AP with MU-MIMO, BeamFlex+ and 2.5Gbps backhaul**	**High-end 802.11ac Wave 2 dual-concurrent AP with MU-MIMO and BeamFlex+**	**Mid-range 802.11ac Wave 2 dual-concurrent AP with MU-MIMO and BeamFlex+**	**Mid-range 802.11ac Wave 2 dual-concurrent AP with MU-MIMO and BeamFlex+**
Maximum PHY rate	2400 Mbps (5GHz) 1148 Mbps (2.4GHz)	4800 Mbps (5GHz) 1148 Mbps (2.4GHz)	1733 Mbps (5GHz) 600 Mbps (2.4GHz)	1733 Mbps (5GHz) 600 Mbps (2.4GHz)	1300 Mbps (5GHz) 450 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)
Wi-Fi technology	802.11ax (2.4GHz, 5GHz) Wi-Fi CERTIFIED 6™	802.11ax (2.4 GHz, 5GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)
Concurrent users	1024	1024	512	512	512	512
Radio chains:streams	4x4:4	8x8:8	4x4:4	4x4:4 SU-MIMO 4x4:3 MU-MIMO	3x3:3	2x2:2
Antenna patterns (per band)	4,000+	4,000+	4,000+	4,000+	512	64
Antenna gain	Up to 3dbi	Up to 2dBi	Up to 3dBi	Up to 3dBi	Up to 3dBi	Up to 3dBi
PD-MRC	✓	✓	✓	✓	✓	✓
Rx sensitivity (2.4/5GHz)	-102dBm	-103/-101dBm	-104dBm	-104dBm	-100dBm	-103dBm
ChannelFly	✓	✓	✓	✓	✓	✓
SmartMesh	✓	✓	✓	✓	✓	✓
USB (IoT Ready)	✓	✓	✓	✓	✓	✓
Ethernet ports	1x1GbE 1x2.5GbE	1x 1/2.5/5 Gbps 1x 10/100/1000 Mbps	1 x 1GbE and 1 x 2.5GbE	2 x 1GbE	2 x 1GbE	2 x 1GbE
Integrated BLE/ZigBee	✓	✓	—	—	—	—
WLAN Control and Management	ZoneDirector SmartZone Unleashed Cloud Wi-Fi	ZoneDirector SmartZone Cloud Wi-Fi	ZoneDirector SmartZone Unleashed Cloud Wi-Fi	ZoneDirector SmartZone Cloud Wi-Fi Unleashed	ZoneDirector SmartZone Cloud Wi-Fi Unleashed	ZoneDirector SmartZone Cloud Wi-Fi Unleashed

© 2019 CommScope, Inc. All rights reserved.

COMMSCOPE®

	R320	R310	H510	H320	C110	M510
						
Feature/Description	**Entry level 802.11ac Wave 2 dual-concurrent AP with BeamFlex**	**Entry level 802.11ac Wave 1 dual-concurrent AP with BeamFlex**	**802.11ac Wave 2 dual-concurrent wall switch with five GbE ports and BeamFlex+**	**802.11ac Wave 2 dual-concurrent wall switch with two 10/100MbE ports and BeamFlex+**	**802.11ac Wave2 dual-concurrent wall plate with built-in DOCSIS 3.0 cable modem**	**Mobile Indoor 802.11ac Wave 2 2x2:2 Wi-Fi AP with LTE Backhaul**
Maximum PHY rate	867 Mbps (5GHz) 300 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)	867 Mbps (5GHz) 150 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)
Wi-Fi technology	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)
Concurrent users	256	100	100	100	100	512
Radio chains:streams	2x2:2	2x2:2	2x2:2	5GHz: 2x2:2 MU MIMO 2.4GHz: 1x1:1 SU-MIMO	2X2:2	2x2:2
Antenna patterns (per band)	64	64	4	4	4	64
Antenna gain	Up to 3dBi	Up to 3dBi	Up to 1dBi	Up to 3dBi	Up to 3dBi	Up to 3dBi
PD-MRC	—	—	✓	✓	✓	✓
Rx sensitivity (2.4/5GHz)	-101dBm	-99dBm	-99/-96dBm	-99/-96dBm	-96/-95dBm	-101/-95dBm
ChannelFly	✓	✓	✓	✓	✓	✓
SmartMesh	—	—	✓	—	✓	✓ (in future release)
USB (IoT Ready)	—	—	✓	—	✓	✓
Ethernet ports	1 x 1GbE	1 x 1GbE	5 x 1GbE	2 x 10/100MbE 1 x 1GbE	2 x 10/100MbE	2 x 1GbE ports, RJ-45
Integrated BLE/ZigBee	—	—	—	—	—	—
WLAN Control and Management	ZoneDirector SmartZone Unleashed	ZoneDirector SmartZone Cloud Wi-Fi Unleashed	ZoneDirector SmartZone Cloud Wi-Fi Unleashed	ZoneDirector SmartZone Cloud Wi-Fi Unleashed	ZoneDirector SmartZone Unleashed	SmartZone Unleashed

 © 2019 CommScope, Inc. All rights reserved.

COMMSCOPE®

	T710 Series	T610 Series	T310 Series	T811-CM	E510	P300
						
Feature/Description	**High-end 802.11ac Wave 2 dual concurrent AP with BeamFlex+**	**Mid-range 802.11ac Wave 2 dual concurrent AP with BeamFlex+**	**Entry-level 802.11ac Wave 2 outdoor AP series with integrated BeamFlex+ omni and sector antennas**	**Outdoor 4x4:4 2.4/5GHz 802.11ac Wave 2 Wi-Fi access point with DOCSIS 3.1 backhaul**	**Embedded 802.11ac Outdoor Wave 2 Wi-Fi AP with External BeamFlex+ Antennas**	**Point-to-Point / Multi-point bridge**
Maximum PHY rate	1733 Mbps (5GHz) 600 Mbps (2.4GHz)	1733 Mbps (5GHz) 600 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)	1733 Mbps (5GHz) 600 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)	867 Mbps (5GHz)
Wi-Fi technology	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz)
Concurrent users	512	512	512	512	512	—
Radio chains:streams	4x4:4	4x4:4	2x2:2	4x4:4	2x2:2	2x2:2
Antenna patterns (per band)	4,000+	4,000+	64	4,000+	64	—
Antenna gain	Omni: Up to 3dBi Sector: Up to 8dBi	Omni: Up to 3dBi 120 Sector: Up to 8dBi	Omni: Up to 3dBi 120 Sector: Up to 9dBi 30 Sector: Up to 12dBi	Up to 3dBi	Up to 3dBi	—
PD-MRC	✓	✓	✓	✓	✓	✓
Rx sensitivity (2.4/5GHz)	-104/-104dBm	-104dBm	-101dBm	-98/-97	-101dBm	-96dBm
ChannelFly	✓	✓	✓	✓	✓	✓
SmartMesh	✓	✓	✓	✓	✓	—
Ethernet interface	2 x 1GbE	2 x 1GbE	1 x 1GbE	1 x 1GbE	1 x 1GbE	1 x 1GbES
USB (IoT Ready)	—	✓	Models d, s, & n	✓	✓	—
Fiber interface	✓	—	—	✓	—	—
GPS	✓	—	—	✓	—	—
WLAN Control and Management	ZoneDirector SmartZone Cloud Wi-Fi Unleashed	ZoneDirector SmartZone Cloud Wi-Fi Unleashed	ZoneDirector SmartZone Unleashed Cloud Wi-Fi	SmartZone	SmartZone ZoneDirector Standalone Unleashed	Unleashed Multi-Site Manager

 © 2019 CommScope, Inc. All rights reserved.

COMMSCOPE®

	Appliance Controller			Controller-Less	Cloud
					
Feature	ZoneDirector 1200	SmartZone 100	SmartZone 300	Unleashed	Ruckus Cloud
Number of APs supported	Up to 150	Up to 1,024 / 3,000 cluster	Up to 10,000 / 30,000 cluster	Up to 50	Virtually unlimited number of APs supported
Number of switches supported	—	Up to 200 / 600 per cluster	Up to 2,000 / 6,000 per cluster	—	—
Clients	Up to 4,000	Up to 25,000 / 60,000 cluster	Up to 100,000 / 450,000 per cluster	up to 1,024	Clients per AP: refer to AP data sheet
Ethernet ports	2 Ethernet ports, auto MDX, autosensing 1GbE	1GE Model: 4 GbE ports	6 x 1GbE ports 4 x 10GbE ports	Refer to selected AP data sheet	N/A
Authentication support	802.1X, Local database, Active Directory, RADIUS, LDAP	802.1X, MAC address	802.1x, Local database, Active Directory, RADIUS, LDAP	802/1x. local database, Active Directory, RADIUS, LDAPr	PSK, 802.1x, Active Directory, RADIUS, LDAP, SMS, social login, open
Guest networking/captive portal	✓	✓	✓	✓	✓
DHCP server	✓	External or Assigned	External or Assigned	✓	External or assigned
AP discovery and control	L2 / L3	L2 / L3	L2 / L3	L2	L2
SSID/WLAN support	256	2,048 / 2,048 cluster	6,144 per SZ-300	16	15/Venue
Management Interface	Web GUI, FlexMaster	Web GUI, CLI	Web GUI, CLI	Web GUI, CLI, Unleashed Multi-Site Manager	Web GUI
Remote Management	No	Yes	Yes	Yes	Yes
Management protocol(s)	SNMP v3	SNMP v3, RESTful JSON	SNMP v3, RESTful JSON	SNMP v3	N/A
VLAN support	Dynamic VLANs	Dynamic VLANs	Dynamic VLANs	Yes	Dynamic VLANs
Data Plane	Tunneling or local breakout	Tunneling or local breakout	Tunneling or local breakout	Local breakout	Local breakout
Power supply	DC or AC	DC or AC	DC or AC	PoE	APs powered using PoE or optional power supply
Fans	—	Redundant	Six redundant, field swappable fans in three sets	N/A	N/A
SKU/Part number	901-1205-XX00	1GE: P01-S104-XX00 10GE: P01-S124-XX00 AP Lic: L09-0001-SG00	901-S300-WW10/00	Refer to Unleashed data sheet for supported APs	Refer to Cloud Wi-Fi data sheet for supported APs

 © 2019 CommScope, Inc. All rights reserved.

COMMSCOPE®

Virtual Controller



	Virtual SmartZone-E	Virtual SmartZone-H
Number of APs supported	1,024 / 3K with cluster	10K / 30K with cluster
Number of switches supported	Up to 200 / 600 with cluster	Up to 2,000 / 6,000 with cluster
Clients	25K / 60K per cluster	100K / 300K per cluster
Ethernet ports	1 vNIC	1 or 3 vNIC
Authentication support	802.1x, Local database, Active Directory, RADIUS, LDAP	802.1x, Local database, Active Directory, RADIUS, LDAP
Guest networking/captive portal	✓	✓
DHCP server	External or vSZ-D assigned	External or vSZ-D assigned
AP discovery and control	L2 / L3	L2 / L3
SSID/WLAN support	2,048	6,144
Management Interface	Web GUI, SCI	Web GUI, SCI
Remote Management	Yes	Yes
Management protocol(s)	SNMP v3	SNMP v3
VLAN support	Dynamic VLANs	Dynamic VLANs
Deployment	Tunneling or local breakout	Tunneling or local breakout
Power supply	N/A	N/A
Fans	N/A	N/A
SKU/Part number	L09-VSCG-WW00	L09-VSCG-WW00

SmartZone



	SmartZone Data Plane
Secured data plane tunneling	Enables forwarding of user data traffic through secure tunnels on Ruckus APs when managed by Virtual SmartZone controllers.
Multiple hypervisor support	Supports the most widely deployed VMware and KVM hypervisors
NFV flexible architecture	Complete separation of Control+Management plane (vSZ) and data plane functions (SmartZone Data Plane) via separate VMs that support distributed and centralized deployments providing compelling architecture flexibility.
Works seamlessly with virtual SmartZone	vSZ acts as the controller for Ruckus APs as well as SmartZone Data Plane providing seamless configuration and management capabilities.
Up to 10 SmartZone Data Planes per vSZ and up to 40 SmartZone Data Planes per cluster	The vSZ controller runs in Active/Active (3+1) mode for extremely high availability. Each SmartZone Data Plane runs as an independent virtual machine instance that is managed by the vSZ controller.
vSZ Zone affinity for SmartZone Data Plane	This feature enables Ruckus APs in a particular zone establish tunnels with the SmartZone Data Plane in that particular zone. Provides flexibility for distributed and managed services deployments where the SmartZone Data Planes can be co-located on-premise with Ruckus APs (vSZ Zones) on medium/large high density sites that need tunneling. With up to 40 SmartZone Data Planes per cluster, the SZ 3.5 release can potentially support a large number of such distributed deployments.
DHCP server and NAT	This feature enables a high scale DHCP Server on the SmartZone Data Plane. The DHCP Server is a high-scale server specifically designed and architected for Wi-Fi deployments that provide near-real time IP address assignment combined with NAT this provides tremendous value to the operator since it avoids mac-address scaling limits and high costs on the network infrastructure (switches).
Legal Intercept	This feature is useful from a Legal Intercept requirements perspective and enables the ability to mirror packets in both uplink and downlink directions for Wi-Fi clients that have a CALEA warrant.
Support for northbound tunnels L2oGRE	This feature enables SmartZone Data Plane to forward WiFi client traffic to a specified 3rd party WAG (Wireless Access Gateway) over L2oGRE protocol standard.
IPv6 support	Supports IPv6 addressing for the SmartZone Data Plane interfaces as well as support forwarding of IPv6 client traffic
L3 Roaming (inter SmartZone Data Plane tunnels)	This feature enables L3 Roaming when traffic is tunneled to the SmartZone Data Plane. The feature relies on inter SmartZone Data Plane flexi-vpn tunnels that are dynamically created with minimal user intervention. L3 Roaming can be enabled based on VLANs or subnets.

© 2019 CommScope, Inc. All rights reserved.

COMMSCOPE®

	Access				Access / Aggregation		Aggregation / Core	
								
Feature	ICX 7150-Compact	ICX 7150	ICX 7150 Z-Series	ICX 7250	ICX 7450	ICX 7650	ICX 7750	ICX 7850
Switching Capacity (max)	120Gbps	180Gbps	304Gbps	256Gbps	336Gbps	1.128Tbps	2.56Tbps	6.4Tbps
1GbE RJ-45 ports	8 or 10 or 12 +2	24 +2 or 48 +2	48	24 or 48	24 or 48	48	48	
1GbE SFP ports	2	24 +4	8	8	48	48	48	48
1/2.5GbE RJ-45 ports (max)	8		16					
1/2.5/5/10GbE RJ-45 ports (max)	2					24		
10GbE SFP+ ports (max)	2	4	8	8	12	24 +4	96[1]	128[1]
10GbE RJ-45 ports (max)	2				12	24	48	
25GbE SFP28 ports								48
40GbE QSFP+ ports (max)					3	2	32	
100GbE QSFP28 ports (max)						2		32
PoE Power Budget (max)	240W	740W	1480W	1480W	1480W	1500W		
Switches per stack (max)	12	12	12	12	12	12	12	12
Aggregate stack bandwidth	240Gbps	480Gbps	480Gbps	480Gbps	960Gbps	2.4Tbps	5.76Tbps	9.6Tbps

[1] Requires QSFP+ splitter cables

 © 2019 CommScope, Inc. All rights reserved.

COMMSCOPE®

	Access				Access / Aggregation		Aggregation / Core	
								
Feature	ICX 7150-Compact	ICX 7150	ICX 7150 Z-Series	ICX 7250	ICX 7450	ICX 7650	ICX 7750	ICX 7850
PoE/PoE+	✓	✓	✓	✓	✓	✓		
Long-Distance Stacking	✓[1]	✓	✓	✓	✓	✓	✓	✓
sFlow	✓	✓	✓	✓	✓	✓	✓	✓
Layer 3 (STATIC, RIP, OSPF)	✓	✓	✓	✓	✓	✓	✓	✓
OpenFlow with Hybrid Port Mode	✓	✓	✓	✓	✓	✓	✓	✓[2]
Ruckus Campus Fabric	✓[1]	✓	✓	✓	✓	✓	✓	✓[2]
Redundant Power Option			✓	✓	✓	✓	✓	✓
PoH (90W PoE power per port)	✓		✓		✓	✓		
Hot Swap Internal power supplies and fans			✓		✓	✓	✓	✓
EEE (Energy Efficient Ethernet)		✓	✓	✓	✓	✓[2]		
VRF				✓	✓	✓	✓	✓
IPsec VPN (with service module)					✓			
MACsec					✓	✓		✓
BGP					✓	✓	✓	✓
Reversible airflow option					✓	✓	✓	✓
VxLAN							✓	✓[2]
Multi Chassis Trunking (MCT)						✓	✓	✓

[1] Stacking and Campus Fabric not supported on ICX7150-C08P.
[2] Available in a future software release.

 © 2019 CommScope, Inc. All rights reserved.

RUCKUS PRODUCT GUIDE – Monitoring and Software

COMMSCOPE®

Network Monitoring		
Network Director (Centralized Inventory Management software)		Network Director provides a robust single-pane-of-glass view of your entire converged Ruckus Wi-Fi and switch network. Network Director provides multi-cluster inventory control and management of all SmartZone network controllers for improved tracking and manageability.
Ruckus Unleashed Multi-Site Manager		Unleashed Multi-Site Manager provides a single-pane-of-glass view of Unleashed networks deployed across multiple locations. It simplifies deployment, monitoring and management of Unleashed access points and ICX switches.

Software		
Smart Positioning Technology SPoT (Location engine and analytics software)		The Ruckus real-time location engine and analytics software enables retailers, stadiums, and transportation hubs to enhance the way they interact with customers based on precise location. Deployed on top of Ruckus Smart Wi-Fi, the Ruckus SPoT does not require any additional hardware and has unlimited scalability in the cloud. Send real-time travel updates, targeted promotions, and even classroom notes through footfall traffic and proximity analytics to enrich customer relationships.
Cloudpath Enrollment System (Secure Network Access)		Ruckus Cloudpath Enrollment System is software/SaaS that delivers secure network access for any user, and any device, on any network. It streamlines network onboarding and authentication for BYOD, guest users and IT-owned devices—including IoT devices. The software increases security and reduces IT workload while providing a great end-user onboarding experience. Choose from cloud-based and virtualized on-premises deployment.
SmartCell Insight (SCI) (Reporting, dashboards and network analytics)		Ruckus SmartCell Insight is software that delivers powerful reporting, summary dashboards and predictive analytics for your Ruckus network. It gives you comprehensive network intelligence by collecting and aggregating data from applications, users, devices, access points, controllers and switches. Easily drill down from high-levels views to the most granular detail. The software helps you to manage the network more effectively and improve user experience.

commscope.com

Visit our website or contact your local CommScope representative for more information.

© 2019 CommScope, Inc. All rights reserved.

All trademarks identified by ® or ™ are registered trademarks or trademarks, respectively, of CommScope, Inc. This document is for planning purposes only and is not intended to modify or supplement any specifications or warranties relating to CommScope products or services. CommScope is committed to the highest standards of business integrity and environmental sustainability with a number of CommScope's facilities across the globe certified in accordance with international standards, including ISO 9001, TL 9000, and ISO 14001. Further information regarding CommScope's commitment can be found at www.commscope.com/About-Us/Corporate-Responsibility-and-Sustainability.

CO-113830-EN (Product Guide 12/19)