DELL EMC NETWORKING RUCKUS™
QUICK REFERENCE GUIDE

Indoor access points							
Overview	 Entry level 802.11ac dual-concurrent AP with BeamFlex	 Entry level 802.11ac Wave 2 dual-concurrent AP with 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+	 High-end 802.11ac Wave 2 dual-concurrent AP with MU-MIMO and BeamFlex+	 High-end 802.11ac Wave 2 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
Product	R310	R320	R510	R610	R710	R720	R730
Maximum PHY rate	867 Mbps (5GHz) 300 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)	1300 Mbps (5GHz) 600 Mbps (2.4GHz)	1733 Mbps (5GHz) 800 Mbps (2.4GHz)	1733 Mbps (5GHz) 800 Mbps (2.4GHz)	4800 Mbps (5GHz) 1148 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)	802.11ax (2.4 GHz, 5GHz)
Concurrent users	100	256	512	512	512	512	1024
Radio chains:streams	2x2:2	2x2:2	2x2:2	3x3:3	4x4:4 SU-MIMO 4x4:3 MU-MIMO	4x4:4 SU-MIMO & MU-MIMO	8x8:8 SU-MIMO & MU-MIMO
Antenna patterns (per band)	64	64	64	512	4,000+	4,000+	4,000+
Antenna gain	3dBi for both 2.4 and 5GHz	Up to 3dBi	3dBi for both 2.4 and 5GHz	3dBi for both 2.4 and 5GHz	3dBi for both 2.4 and 5GHz	3dBi for both 2.4 and 5GHz	Up to 2dBi
PD-MRC	—		✓	✓	✓	✓	✓
Rx sensitivity (2.4/5GHz)	-99dB,	-101dBm	-103dBm	-100dBm	-104dBm	-104dBm	-103/-101dBm
ChannelFly	✓	✓	✓	✓	✓	✓	✓
Smart meshing	—	—	✓	✓	✓	✓	✓
USB	—	—	✓	✓	✓	✓	✓
Ethernet ports	1 x 1GbE	1 x 1GbE	2 x 1GbE	2 x 1GbE	2 x 1GbE	1 x 1GbE and 1 x 2.5GbE	1x 1/2.5/5 Gbps 1x 10/100/1000 Mbps
IoT Ready	—	—	—	—	—	—	✓
WLAN Control and Management	ZoneDirector SmartZone	ZoneDirector SmartZone	ZoneDirector SmartZone	ZoneDirector SmartZone	ZoneDirector SmartZone	ZoneDirector SmartZone	ZoneDirector SmartZone

Outdoor access points and bridges						
Overview	 Enterprise class 802.11ac AP with integrated omni or external antennas (5GHz)	 Enterprise class 802.11ac AP with 120° or 30° directional integrated antennas	 Entry-level 802.11ac Wave 2 outdoor AP series with integrated BeamFlex+ Omni, Directed and Narrow beam antennas	 Mid-range 802.11ac Wave 2 dual concurrent AP with BeamFlex+	 High-end 802.11ac Wave 2 dual concurrent AP with BeamFlex+	 Point-to-Point / Multi-point bridge
Product	T300 Series	T301 Series	T310 Series	T610 Series	T710 Series	P300
Maximum PHY rate	867 Mbps (5GHz) 300 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)	867 Mbps (5GHz) 300 Mbps (2.4GHz)	1733 Mbps (5GHz) 800 Mbps (2.4GHz)	1733 Mbps (5GHz) 800 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	2x2:2	2x2:2	2x2:2	4x4:4	4x4:4	2x2:2
Antenna patterns (per band)	64	8	64	4,000+	4,000+	—
Antenna gain	3dBi for both 2.4 and 5GHz	Omni - 2.4GHz: 3dBi; 5GHz: 3dBi 120 Sector - 2.4GHz: 6dBi, 5GHz: 8dBi 30 Sector - 2.4GHz: 9dBi, 5GHz: 15dBi	Omni: Up to 3dBi 120 Sector: Up to 9dBi 30 Sector: Up to 12dBi	Omni - 2.4GHz: 3dBi; 5GHz: 3dBi 120 Sector: 2.4GHz: 6dBi, 5GHz: 8dBi	Omni - 3dBi for both 2.4 and 5GHz Sector - 6dBi for 2.4GHz and 8dBi for 5GHz	—
PD-MRC	✓	✓	✓	✓	✓	✓
Rx sensitivity (2.4/5GHz)	-100/-95dBm	-100/-94dBm	-101dBm	-104dBm	-104/-104dBm	-96dBm
ChannelFly	✓	✓	✓	✓	✓	✓
Smart meshing	✓	✓	✓	✓	✓	—
Ethernet interface	1 x 1GbE	1 x 1GbE	1 x 1GbE	2 x 1GbE	2 x 1GbE	1 x 1GbES
USB	—	—	(models d, s, n)	—	—	—
Fiber interface	—	—	—	—	✓	—
IoT Ready	—	—	✓	—	—	—
WLAN Control and Management	ZoneDirector SmartZone	ZoneDirector SmartZone	ZoneDirector SmartZone	ZoneDirector SmartZone	ZoneDirector SmartZone	ZoneDirector SmartZone

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Specialty indoor and outdoor access points

Overview	 802.11ac Wave 2 dual-concurrent wall switch with two 10/100MbE ports and BeamFlex+	 802.11ac Wave 2 dual-concurrent wall switch with five GbE ports and BeamFlex+	 Mobile Indoor 802.11ac Wave 2 2x2:2 Wi-Fi AP with LTE Backhaul	 Embedded 802.11ac Outdoor Wave 2 Wi-Fi AP with External BeamFlex+ Antennas
Product	**H320**	**H510**	**M510**	**E510**
Maximum PHY rate	867 Mbps (5GHz) 150 Mbps (2.4GHz)	867 Mbps (5GHz) 300 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 (2.4 GHz)	802.11ac (5GHz) 802.11n (2.4 GHz)	802.11ac (5GHz) 802.11n (2.4GHz)	802.11ac (5GHz) 802.11n (2.4GHz)
Concurrent users	100	100	512	512
Radio chains:streams	5GHz: 2x2:2 MU MIMO 2.4GHz: 1x1:1 SU-MIMO	2x2:2	2x2:2 SU-MIMO 2x2:2 MU-MIMO	2x2:2
Antenna patterns (per band)	4	4	64	64
Antenna gain	3dBi for both 2.4 and 5GHz	3dBi for both 2.4 and 5GHz	Up to 3dBi	Up to 3dBi
PD-MRC	✓	✓	✓	✓
Rx sensitivity (2.4/5GHz)	-99/-96dBm	-99/-96dBm	-101/-95dBm	-101dBm
ChannelFly	✓	✓	✓	✓
Smart meshing	—	✓	✓ (in future release)	✓
USB	—	✓	✓	✓
Ethernet ports	2 x 10/100MbE 1 x 1GbE	5 x 1GbE	2 x 1GbE ports, RJ-45	1 x 1GbE
IoT ready	—	✓	—	✓
WLAN Control and Management	ZoneDirector SmartZone	ZoneDirector SmartZone	SmartZone	ZoneDirector SmartZone

Appliance Controller				Virtual Controller	
					
Product	ZoneDirector 1200	SmartZone 100	SmartZone 300	Virtual SmartZone-E	Virtual SmartZone-H
Number of APs supported	Up to 150	Up to 1,024 / 3,000 cluster	Up to 10,000 / 30,000 cluster	1,024, 3K w/cluster	10K, 30K w/cluster
Clients	Up to 4,000	Up to 25,000 / 60,000 cluster	Up to 100,000 / 450,000 per cluster	25K / 60K per cluster	100K / 300K per cluster
Ethernet ports	2 Ethernet ports, auto MDX, autosensing 1GbE	1GE Model: 4 GbE ports	6 x 1GbE ports, 4 x 10GbE ports	1 vNIC	1 or 3 vNIC
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, LDAP	802.1x, Local database, Active Directory, RADIUS, LDAP
Guest networking/captive portal	✓	✓	✓	✓	✓
DHCP server	✓	External or Assigned	External or Assigned	External or vSZ-D assigned	External or vSZ-D assigned
AP discovery and control	L2 / L3	L2 / L3	L2 / L3	L2 / L3	L2 / L3
SSID/WLAN support	256	2,048 / 2,048 cluster	6,144 per SZ-300	2,048	6,000
Management Interface	Web GUI, FlexMaster	Web GUI, CLI	Web GUI, CLI	Web GUI, SCI	Web GUI, SCI
Remote Management	No	Yes	Yes	Yes	Yes
Management protocol(s)	SNMP v3	SNMP v3, RESTful JSON	SNMP v3, RESTful JSON	SNMP v3	SNMP v3
VLAN support	Dynamic VLANs	Dynamic VLANs	Dynamic VLANs	Dynamic VLANs	Dynamic VLANs
Data Plane	Tunneling or local breakout	Tunneling or local breakout	Tunneling or local breakout	Tunneling or local breakout	Tunneling or local breakout
Power supply	DC or AC	DC or AC	AC	N/A	N/A
Fans	—	Redundant	Six redundant fans in three sets	N/A	N/A

Virtual Data Plane

Feature		vSZ-D
Secured data plane tunneling		Enables forwarding of user data traffic through secure tunnels on 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 (vSZ-D) via separate VMs that support distributed and centralized deployments providing compelling architecture flexibility
Works seamlessly with virtual Smart Zone		vSZ acts as the controller VM for APs as well as vSZ-D (Virtual Data plane) instances providing seamless configuration and management capabilities.
Up to 10 vSZ-D per vSZ and Up to 40 vsZ-D per cluster		The vSZ controller runs in Active/Active (3+1) mode for extremely high availability. Each vSZ-D runs as an independent virtual machine instance that is managed by the vSZ controller.
vSZ Zone affinity for vSZ-DA		This feature enables APs in a particular zone establish tunnels with the vSZ-D in that particular zone. Provides flexibility for distributed and managed services deployments where the vSZ-Ds can be co-located on-premise with APs (vSZ Zones) on medium/large high density sites that need tunneling. With upto 40 vSZ-Ds 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 vSZ-D. 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 vSZ-D 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 vSZ-D interfaces as well as support forwarding of IPv6 client traffic
L3 Roaming (inter vSZ-D tunnels)		This feature enables L3 Roaming when traffic is tunneled to the vSZ-D. The feature relies on inter vSZ-D flexi-vpn tunnels that are dynamically created with minimal user intervention. L3 Roaming can be enabled based on VLANs or subnets.

Security, Policy and Analytics

Cloudpath (Security and Management software)		Cloudpath is a security and policy management platform that enables any IT organization to protect the network by easily and definitively securing users and their wired and wireless devices—while freeing those users and IT itself from the tyranny of passwords. Available cloud-managed or as a virtual instance and priced per user.
SmartCell Insight (SCI) Network reporting and predictive analytics software		SmartCell Insight (SCI) lets you keep on top of a wide range of Key Performance Indicators (KPIs) associated with tens or hundreds of terabytes of data traffic that cross your network every day. Designed with large-scale service provider and enterprise networks in mind, SCI enables IT to extract insight from the network. That insight leads to better informed business and operational decisions.

Learn More at DellEMC.com/Networking

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