RUCKUS® T350

Outdoor 802.11ax 2x2:2 Wi-Fi Access Point

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Benefits

SIMPLICITY
RUCKUS' Outdoor APs make Wi-Fi deployments extremely simple to deploy with one-touch technologies like SmartMesh™.

STUNNING WI-FI PERFORMANCE
Extends coverage with patented BeamFlex® + adaptive antenna technology while mitigating interference by utilizing up to 64 directional antenna patterns.

GREAT OUTDOOR WI-FI
Experience high performance outdoor Wi-Fi 6 with IP-67 weather proofing.

MULTIPLE MANAGEMENT OPTIONS
Manage the T350 Series with physical or virtual controller appliances.

SERVE MORE DEVICES
Connect more devices simultaneously with two MU-MIMO spatial streams and concurrent dual-band 2.4/5GHz radios while also enhancing non-11ax device performance.

AUTOMATE OPTIMAL THROUGHPUT
ChannelFly® dynamic channel technology uses machine learning to automatically find the least congested channels. You always get the highest throughput the band can support.

MORE THAN WI-FI
Support services beyond Wi-Fi with RUCKUS IoT Suite, Cloudpath security and onboarding software, SPoT Wi-Fi locationing engine, and SCI network analytics.

Modern Wi-Fi device users expect reliable connectivity—anywhere, anytime. But in crowded outdoor venues with thousands of users and constant RF noise, they are often frustrated by poor coverage, dropped connections, and reduced data rates. These aggravating Wi-Fi experiences can easily translate to negative perceptions of the venue and the service provider, resulting in loss of business. The quality of the network experience becomes the "litmus test" for acceptance or rejection.

As the market leader in outdoor Wi-Fi deployments, RUCKUS knows that one AP solution cannot meet every possible challenge of varied and complex outdoor requirements. This is why the RUCKUS T350 Wi-Fi 6 series is designed with more variety than any other outdoor AP in the market today. Available with either internal omni-directional antennas or internal high-gain directional antenna models, the T350 Series uses patented RUCKUS antenna optimization and interference mitigation technologies to improve throughput, connection reliability, and deliver industry-leading Wi-Fi 6 performance to every connected client. At the same time, the T350 Series is designed for fast, simple installation with an ultra-lightweight, low profile, IP-67 rated enclosure that can stand up to the most challenging outdoor environments.

At RUCKUS, we know that outdoor AP deployments are especially challenging for installation and maintenance, which is why RUCKUS outdoor APs use a variety of technologies, like SmartMesh that help simplify outdoor AP deployment.

The RUCKUS T350 Series is perfect for high-density outdoor public venues such as airports, convention centers, plazas, malls, smart cities, and other dense urban environments. By providing a superior Wi-Fi experience to every user in high-density outdoor locations, venue operators can improve guest satisfaction and loyalty, deliver new kinds of wireless application services, and increase revenues.

The RUCKUS T350 Series incorporates patented technologies found only in the RUCKUS Wi-Fi portfolio.

- Extended coverage with patented BeamFlex+ utilizing multi-directional antenna patterns.
- Improve throughput with ChannelFly, which dynamically finds less congested Wi-Fi channels to use.

Whether you're deploying ten or ten thousand APs, the T350 Series is easy to manage through RUCKUS' appliance and virtual management options.

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Access Point Antenna Pattern

RUCKUS' BeamFlex+ adaptive antennas allow the T350 AP to dynamically choose among a host of antenna patterns in real-time to establish the best possible connection with every device. This leads to:

• Better Wi-Fi coverage

• Reduced RF interference

Traditional omni-directional antennas, found in generic access points, oversaturate the environment by needlessly radiating RF signals in all directions. In contrast, the RUCKUS BeamFlex+ adaptive antenna directs the radio signals per-device on a packet by-packet basis to optimize Wi-Fi coverage and capacity in real-time to support high device density environments. BeamFlex+ operates without the need for device feedback and hence can benefit even devices using legacy standards.

Figure 1. Example of Beamflex+ pattern
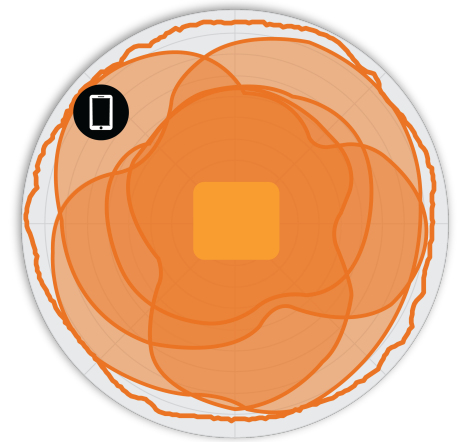
Client — Composite Pattern — BeamFlex+

Figure 2. T350c/d 2.4GHz Azimuth Antenna Patterns

Figure 3. T350c/d 5GHz Azimuth Antenna Patterns

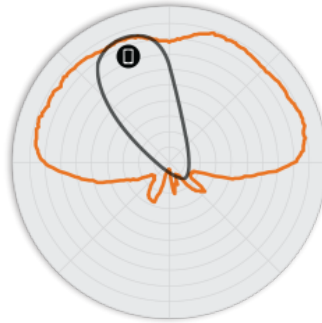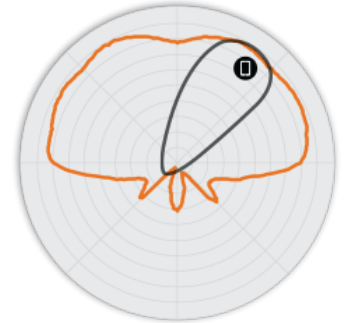Figure 4. T350c/d 2.4GHz Elevation Antenna Patterns

Figure 5. T350c/d 5GHz Elevation Antenna Patterns

Note: The outer trace represents the composite RF footprint of all possible BeamFlex+ antenna patterns, while the inner trace represents one BeamFlex+ antenna pattern within the composite outer trace.

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WI-FI	
Wi-Fi Standards	• IEEE 802.11a/b/g/n/ac/ax
Supported Rates	• 802.11ax: 4 to 1774 Mbps • 802.11ac: 6.5 to 867 Mbps • 802.11n: 6.5 to 300Mbps • 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	• 2x2 SU-MIMO • 2x2 MU-MIMO
Spatial Streams	• 2 streams SU/MU MIMO 5GHz • 2 streams SU/MU MIMO 2.4GHz
Radio Chains and Streams	• 2x2:2 (5GHz) • 2x2:2 (2.4GHz)
Channelization	• 20, 40, 80MHz
Security	• WPA-PSK, WPA-TKIP, WPA2-Personal, WPA2-Enterprise, WPA3-Personal, WPA3-Enterprise, AES, 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			
	T350c	T350d	T350se
Antenna Type	Internal omnidirectional	Internal omnidirectional	Internal 120 deg sectorized + N-type female external connectors
	BeamFlex+ adaptive antennas with polarization diversity		
Antenna Gain (max)	Up to 3dBi		TBD
Peak Transmit Power (Tx port/chain + 3dB Combining gain)	2.4GHz: 26 dBm 5GHz: 25 dBm		2.4GHz: TBD 5GHz: TBD
Frequency Bands	• ISM (2.4-2.484GHz) • U-NII-1 (5.15-5.25GHz) • U-NII-2A (5.25-5.35GHz) • U-NII-2C (5.47-5.725GHz) • U-NII-3 (5.725-5.85GHz)		

2.4GHZ RECEIVE SENSITIVITY

HT20		HT40		VHT20		VHT40	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-94	-75	-91	-72	-94	-75	-91	-72
HE20				HE40			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-94	-75	-71	-65	-91	-72	-68	-62

5GHZ RECEIVE SENSITIVITY

VHT20				VHT40				VHT80			
MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9
-95	-76	-72	-70	-92	-73	-69	-67	-89	-70	-66	-64
HE20				HE40				HE80			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-95	-76	-70	-65	-92	-73	-67	-62	-89	-70	-64	-59

2.4GHZ TX POWER TARGET

Rate	Pout (dBm)
MCS0 HT20	23
MCS7 HT20	18
MCS8 VHT20	17
MCS9 VHT40	16.5
MCS11 HE40	15

5GHZ TX POWER TARGET

Rate	Pout (dBm)
MCS0 VHT20	22
MCS7 VHT40, VHT80	20
MCS9 VHT40, VHT80	19
MCS11 HE20, HE40, HE80	15

PERFORMANCE AND CAPACITY

Peak PHY Rates	• 2.4GHz: 574 Mbps 5GHz: 1200 Mbps
Client Capacity	• Up to 512 clients per AP
SSID	• Up to 31 per AP

RUCKUS RADIO MANAGEMENT

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

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NETWORKING

Controller Platform Support	• SmartZone • ZoneDirector • Unleashed • Cloud • Standalone
Mesh	• SmartMesh™ wireless meshing technology. Self-healing Mesh
IP	• IPv4, IPv6
VLAN	• 802.1Q (1 per BSSID or dynamic per use 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	• T350d: Integrated BLE and Zigbee (1 radio, switchable)

PHYSICAL INTERFACES

	T350c	T350d	T350se
Ethernet	1 x 1GbE port, RJ-45 PoE In - 802.3at Class 4		
USB	—	1 USB 2.0 port, Type A	
DC Power	—	12V DC Terminal Block (7V - 20V)	

PHYSICAL CHARACTERISTICS

	T350c	T350d	T350se
Physical Size	• 162.3 mm (W) x 194.9 mm (L) x 80.9 mm (H) • 6.38 in (W) x 7.67 in (L) x 3.19 in (H)	• 162.3 mm (W) x 213.7 mm (L) x 80.9 mm (H) • 6.38 in (W) x 8.41 in (L) x 3.19 in (H)	• 209.1 mm (W) x 261.7 mm (L) x 102.5 mm (H) • 8.23 in (W) x 10.30 in (L) x 4.04 in (H)
Weight (w/ included bracket)	1.01kg (2.23lbs)	1.07kg (2.36lbs)	TBD
Ingress Protection	IP-67		
Mounting	• Pole Mount • Wall Mount • Flat Surface • Bracket included in the box		
Operating Temperature	-20°C -(4°F) to 65°C (149°F)	-40°C -(-40°F) to 65°C (149°F)	
Operating Humidity	Up to 95%, non-condensing		
Wind Survivability	Up to 266km/h (165 mph)		
Altitude	Up to 3,048m (10,000 ft), functional operation		

POWER[2]

		T350c	T350d	T350se
Power Mode	**System Configuration**	**Max Power Consumption (includes USB power)**		
802.3at (PoE) - Class 4	Full Functionality	13.24W	17.57W	TBD
802.3af (PoE) - Class 3	USB Disabled IoT Disabled	11.42W	12.94W	TBD
Idle (PoE)		7.68W	7.78W	TBD
DC - max power	Full Functionality	—	16.32W	TBD
DC - idle		—	6.78W	TBD

CERTIFICATIONS AND COMPLIANCE

Wi-Fi Alliance[3]	• Wi-Fi CERTIFIED™ a, b, g, n, ac • Wi-Fi CERTIFIED™ 6 • WPA3™ - Enterprise, Personal • Wi-Fi Enhanced Open™ • Wi-Fi Agile Multiband™ • Wi-Fi Optimized Connectivity™ • Wi-Fi Vantage™ • WMM® • Passpoint®
Standards Compliance[4]	• 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) • RUCKUS Analytics
Security and Policy	• Cloudpath

MODEL FEATURE DIFFERENCES

Model	Antenna	Low Temp	USB	DC Power
T350c	Internal omni	-20°C	N	N
T350d	Internal omni	-40°C	Y	Y
T350se	Internal sector (120°) + External antenna capable	-40°C	Y	Y

[2] Max power varies by country setting, band, and MCS rate.

[3] For complete list of WFA certifications, please see Wi-Fi Alliance website.

[4] For current certification status, please see price list.

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ORDERING INFORMATION	
T350 OUTDOOR APs	
901-T350-XX20	T350c, omni, outdoor access point, 802.11ax 2x2:2 internal BeamFlex+, dual band concurrent. One Ethernet port, PoE input. -20°C to 65°C Operating Temperature. Includes mounting bracket and one year warranty. Does not include PoE injector.
901-T350-XX40	T350d, omni, outdoor access point, 802.11ax 2x2:2 internal BeamFlex+, dual band concurrent. One Ethernet port, PoE input, DC input and USB port. -40°C to 65°C Operating Temperature. Includes mounting bracket and one year warranty. Does not include PoE injector.
901-T350-XX51	T350se, sector+external, outdoor access point, 802.11ax 2x2:2, internal 120 degree sector + external antenna capable, dual band concurrent access point. One Ethernet port, PoE input, DC input and USB port. -40°C to 65°C Operating Temperature. Includes adjustable mounting bracket and one year warranty. Does not include PoE injector. (Available Q4'21)

See RUCKUS price list for country-specific ordering information. PLEASE NOTE: When ordering outdoor APs, you must specify the destination region by indicating -US, -WW, or -Z2 instead of XX. For access points, -Z2 applies to the following countries: Algeria, Egypt, Israel, Morocco, Tunisia, and Vietnam.
Warranty: Sold with a limited one year warranty.
For details see: http://support.ruckuswireless.com/warranty

OPTIONAL ACCESSORIES	
902-0162-XXYY	• PoE injector (24W) (Sold in quantities of 1, 10 or 100)
902-0125-0000	• Secure articulating mounting bracket
902-0127-0000	• Extended cap to accommodate up to 6 cm long USB dongle
902-1121-0000	• Spare weatherizing cable gland with option of one hole or 2 hole connection
902-0183-000	• Spare cable gland for weatherizing the RJ-45 ports on outdoor APs.

PLEASE NOTE: When ordering PoE injectors or power supplies, you must specify the destination region by indicating -US, -EU, -AU, -BR, -CN, -IN, -JP, -KR, -SA, -UK, or -UN instead of -XX.

CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com

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