T305 SERIES

Outdoor 802.11ac Wave 2 2x2:2 Wi-Fi Access Point

DATA SHEET

BENEFITS

SIMPLICITY

Ruckus' Outdoor APs simplify Wi-Fi deployments with one-touch technologies like SmartMesh™.

BRILLIANT 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 802.11ac Wave 2 Wi-Fi with IP-67 weather proofing.

MANAGEMENT OPTIONS TO SUIT YOUR NEEDS

Manage the T305 Series with physical or virtual controller appliances.

INCREASED CONNECTIVITY

Connect more devices simultaneously with two MU-MIMO spatial streams and concurrent dual-band 2.4/5GHz radios while also enhancing non-Wave 2 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.

BEYOND WI-FI

Support services beyond Wi-Fi with Cloudpath security and onboarding software, SPoT Wi-Fi locationing engine, and SCI network analytics.

Modern Wi-Fi device users expect reliable connectivity—anywhere, anytime, even if they are experiencing Wi-Fi for the first time. But users often experiencepoor coverage, dropped connections, and reduced data rates with "good enough" Wi-Fi solutions. 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 the first impressions matter, especially for first time Wi-Fi users. This is why the Ruckus T305 802.11ac Wave 2 series is designed to meet outdoor AP needs in the market today, even when basic Wi-Fi connectivity is all that is needed. Available in either internal or external omni-directional antenna models, for areas with poor to no coverage, the T305 Series uses patented Ruckus antenna optimization technologies to improve throughput, connection reliability, and deliver industry-leading 802.11ac Wave 2 performance to every connected client. At the same time, the T305 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 T305 Series is perfect for basic Wi-Fi connectivity for dense rural or urban environments. By providing a superior Wi-Fi experience to every user in dense outdoor locations, venue operators can improve guest satisfaction and loyalty, deliver new kinds of wireless application services, and increase revenues.

The Ruckus T305 Series incorporates Ruckus patented technologies:.

- 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 T305 Series is easy to manage through Ruckus' appliance and virtual management options.

ACCESS POINT ANTENNA PATTERN

Ruckus' BeamFlex adaptive antennas allow the T305 AP to dynamically choose among a host of antenna patterns (up to 64 possible combinations) 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

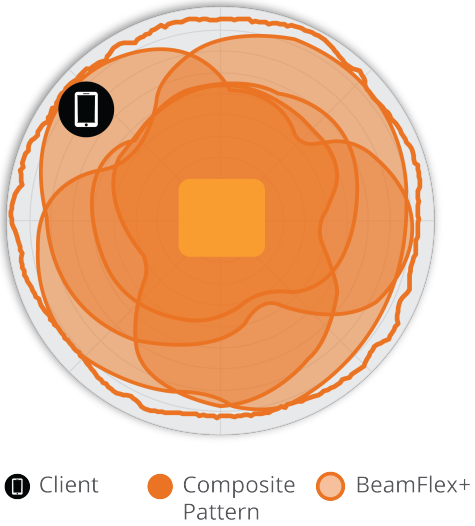


Figure 2. T305 2.4GHz Azimuth Antenna Patterns

Figure 3. T305 5GHz Azimuth Antenna Patterns

Figure 4. T305 2.4GHz Elevation Antenna Patterns

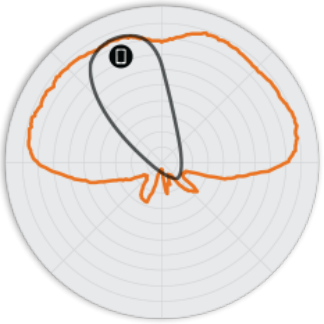
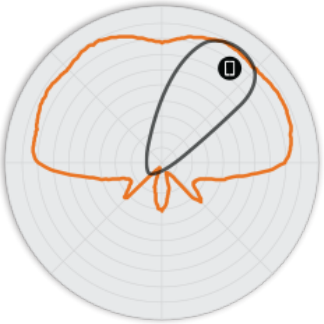


Figure 5. T305 5GHz Elevation Antenna Patterns



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.

WI-FI	
Wi-Fi Standards	• IEEE 802.11a/b/g/n/ac Wave 2
Supported Rates	• 802.11ac: 6.5 to 867 Mbps (MCS0 to MCS9, NSS=1to2 for VHT20/40/80 • 802.11n: 6.5 Mbps to 300Mbps (MCS0 to MCS15) • 802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6Mbps • 802.11b: 11, 5.5, 2 and 1 Mbps
Supported Channels	• 2.4GHz: 1-13 • 5GHz: 36-64, 100-144, 149-165
MIMO	• 2x2 SU-MIMO • 2x2 MU-MIMO
Spatial Streams	• 2 SU-MIMO • 2 MU-MIMO
Channelization	• 20, 40, 80MHz
Security	• WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i, Dynamic PSK • 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		
	T305i	**T305e**
Antenna Type	• BeamFlex adaptive antennas	
Antenna Gain (max)	• Up to 3dBi	• Up to 7dBi
Peak Transmit Power (aggregate across MIMO chains)	• 2.4GHz: 29dBm • 5GHz: 29dBm	
Max EIRP [1]	• Up to 32dBm	• Up to 36dBm
BeamFlex SINR Transmit Power Gain*	• Up to 6 dB	
Minimum Receive Sensitivity[2]	• -101dBm	
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**	
MCS0	**MCS7**	**MCS0**	**MCS7**
-95	-78	-92	-75

5GHZ RECEIVE SENSITIVITY							
VHT20		**VHT40**			**VHT80**		
MCS0	**MCS7**	**MCS0**	**MCS7**	**MCS9**	**MCS0**	**MCS7**	**MCS9**
-96	-77	-93	-74	-69	-90	-71	-66

2.4GHZ TX POWER TARGET	
Rate	**Pout (dBm)**
MCS0 HT20	23
MCS7 HT20	18
MCS0 HT40	22
MCS7 HT40	18

5GHZ TX POWER TARGET	
Rate	**Pout (dBm)**
MCS0 VHT20	24
MCS7 VHT20	20
MCS9 VHT20	18
MCS0 VHT40, VHT80	23
MCS7 VHT40, VHT80	20
MCS9 VHT40, VHT80	18

PERFORMANCE AND CAPACITY	
Peak PHY Rates	• 2.4GHz: 300Mbps 5GHz: 867Mbps
Client Capacity	• Up to 512 clients per AP
SSID	• Up to 31 per AP

RUCKUS RADIO MANAGEMENT	
Antenna Optimization	• BeamFlex
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

[1] Max EIRP varies by country setting.
* BeamFlex gains are statistical system level effects translated to enhanced SINR based on observations over time in real-world conditions with multiple APs and many clients.
[2] Rx sensitivity varies by band, channel width and MCS rate.

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NETWORKING	
Controller Platform Support	• SmartZone • 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

PHYSICAL INTERFACES		
	T305i	**T305e**
Ethernet	• 1 x 1GbE port, RJ-45	
Console Port	• RJ-45	

PHYSICAL CHARACTERISTICS		
	T305i	**T305e**
Physical Size	18.1(L) x 15.1(W) x 7.9 (H) cm 7.1(L) x 5.9(W) x 3.1(H) in.	
Weight	1kg (2.1lbs)	
Ingress Protection	IP-67	
Mounting	Wall, Drop ceiling, Desk Pole Mount Diameter 1" to 2.5"	
Operating Temperature	-20°C (-4°F) to 65°C (149°F)	
Operating Humidity	Up to 95%, non-condensing	
Wind Survivability	Up to 266km/h (165 mph)	

POWER[3]		
	T305i	**T305e**
Power Supply	Max Power Consumption	
802.3af/at (PoE)	7.92W	11.86W

CERTIFICATIONS AND COMPLIANCE	
Wi-Fi Alliance[4]	• Wi-Fi CERTIFIED™ a, b, g, n, ac • Passpoint®, Vantage
Standards Compliance[5]	• EN 60950-1 Safety • WEEE & RoHS • ISTA 2A Transportation

SOFTWARE AND SERVICES	
Location Based Services	• SPoT
Network Analytics	• SmartCell Insight (SCI)
Security and Policy	• Cloudpath

MODEL FEATURE DIFFERENCES	
Model	**Antenna**
T305i	Omni, Internal
T305e	Omni, External

ORDERING INFORMATION	
T305 OUTDOOR APS	
901-T305-WW71	T305i, omni, outdoor access point, 802.11ac Wave 2 2x2:2 internal BeamFlex, dual band concurrent. One Ethernet port, PoE input, console port. -20°C to 65°C operating Temperature. Includes mounting bracket and one year warranty. Does not include PoE injector.
901-T305-WW81	T305e, omni, outdoor access point, 802.11ac Wave 2 2x2:2 external antenna, dual band concurrent. One Ethernet port, PoE input, console port. -20°C to 65°C operating Temperature. Includes mounting bracket and one year warranty. Does not include PoE injector.

See Ruckus price list for country-specific ordering information.
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
902-1121-0000	• Spare weatherizing cable gland with option of one hole or 2 hole connection

PLEASE NOTE: When ordering outdoor APs, you must specify the destination region by indicating -US, -WW, or -Z2 instead of XX. 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.
For access points, -Z2 applies to the following countries: Algeria, Egypt, Israel, Morocco, Tunisia, and Vietnam.

[3] Max power varies by country setting, band, and MCS rate.
[4] For complete list of WFA certifications, please see Wi-Fi Alliance website.
[5] For current certification status, please see price list.

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