

T710

Outdoor 802.11ac Wave 2 4x4:4 Wi-Fi Access Point



DATA SHEET



BENEFITS

GREAT OUTDOOR WI-FI

Experience high performance outdoor Wave 2 Wi-Fi with IP-67 weather proofing and dual backhaul options with SFP and 2 gigabit Ethernet ports.

STUNNING WI-FI PERFORMANCE

Extends coverage with patented BeamFlex+™ adaptive antenna technology while mitigating interference by utilizing over 4,000 directional antenna patterns.

MULTIPLE MANAGEMENT OPTIONS

Manage the T710 from the cloud, with on-premises physical/virtual appliances, or without a controller.

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.

SERVE MORE DEVICES

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

POWER OTHER DEVICES

Daisy chain and power other devices like an IP camera, or another AP directly from the PoE output port.

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.

The busiest outdoor locations can have the most demanding wireless requirements. Somehow you need to provide the same top-tier capacity and performance as a crowded large office or convention center floor, but packaged in a way that can stand up to the rigors of outdoor deployments.

Designed for the highest-density outdoor venues, the Ruckus T710 access point delivers Ruckus' premier Wi-Fi in an ultra-lightweight, industrial-grade (IP 67-rated) enclosure. This dual-band 802.11ac AP features patented Ruckus technologies to extend range, mitigate interference, and deliver blazing fast performance—up to data rates of 800Mbps (2.4GHz) and 1.733Gbps (5GHz), the highest available for Wi-Fi clients. The T710 also provides a full range of next-generation 802.11ac features to deliver industry-leading capacity, reliability, and coverage in the most crowded outdoor spaces.

The T710 is an ideal solution for high-density public venues such as airports, convention centers, plazas, malls, and other dense urban environments. It is also well-suited to public outdoor hotspots, smart cities, and coverage for outdoor enterprise and university campuses, where support for data-intensive streaming HD video applications is imperative.

The Ruckus T710 802.11ac Wi-Fi AP incorporates patented technologies found only in the Ruckus Wi-Fi portfolio.

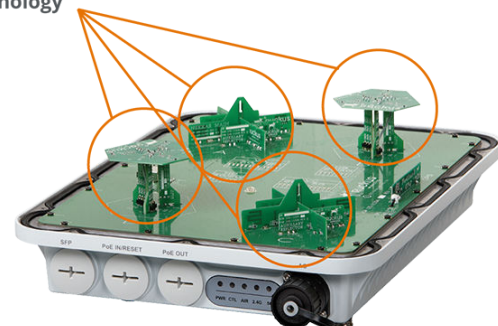
- Extended coverage with patented BeamFlex+ utilizing multi-directional antenna patterns.
- Improve throughput with ChannelFly, which dynamically finds less congested Wi-Fi channels to use.

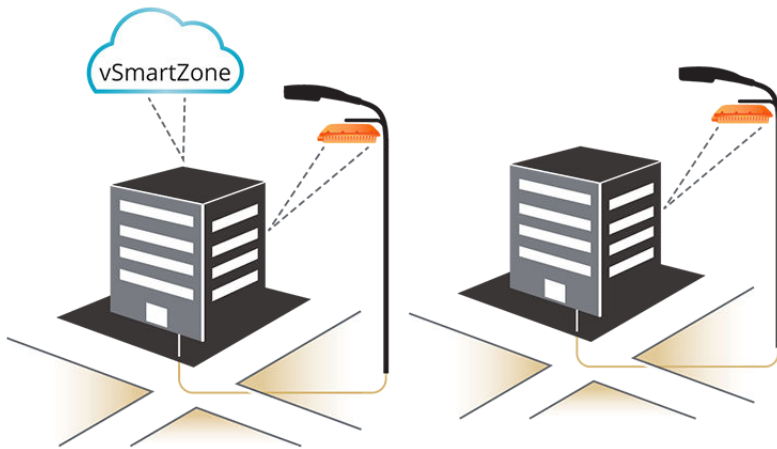
With 802.11ac Multi-User MIMO (MU-MIMO) support, the T710 can simultaneously transmit to multiple MU-MIMO capable devices, drastically improving RF efficiency and overall throughput for even non-Wave 2 clients.

The T710 is also designed with an SFP fiber interface that enables seamless connectivity to a fiber backhaul.

Whether you're deploying ten or ten thousand APs, the T710 is also easy to manage through Ruckus' appliance, virtual and cloud management options.

BeamFlex+ Adaptive Antenna Technology

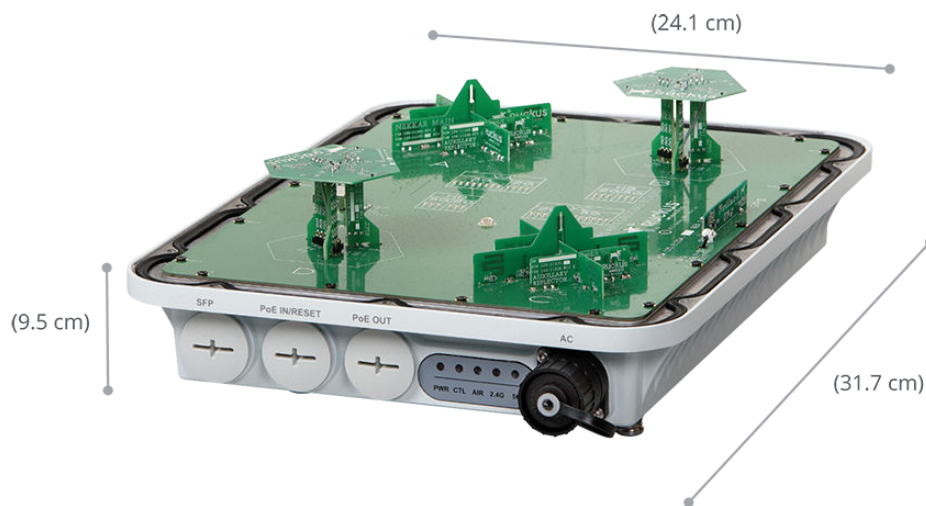




Flexible Architecture



Smart Mesh



ACCESS POINT ANTENNA PATTERN

Ruckus' BeamFlex+ adaptive antennas allow the T710 AP to dynamically choose among a host of antenna patterns (over 4,000 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

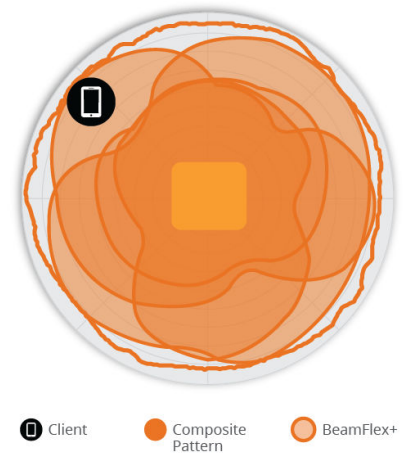


Figure 2. T710o 2.4GHz Azimuth Antenna Patterns



Figure 3. T710o 5GHz Azimuth Antenna Patterns



Figure 4. T710o 2.4GHz Elevation Antenna Patterns

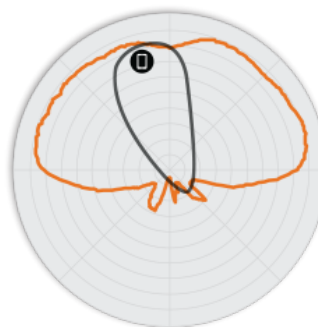
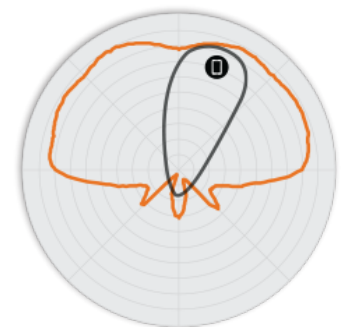


Figure 5. T710o 5GHz Elevation Antenna Patterns



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	<ul style="list-style-type: none"> IEEE 802.11a/b/g/n/ac Wave 2
Supported Rates	<ul style="list-style-type: none"> 802.11ac: 6.5 to 1,733Mbps (MCS0 to MCS9, NSS = 1 to 4 for VHT20/40/80) 802.11n: 6.5Mbps to 600Mbps (MCS0 to MCS 31) 802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6Mbps 802.11b: 11, 5.5, 2 and 1 Mbps
Supported Channels	<ul style="list-style-type: none"> 2.4GHz: 1-13 5GHz: 36-64, 100-144, 149-165
MIMO	<ul style="list-style-type: none"> 4x4 SU-MIMO 4x4 MU-MIMO
Spatial Streams	<ul style="list-style-type: none"> 4 SU-MIMO 3 MU MIMO
Radio Chains and Streams	<ul style="list-style-type: none"> 4x4:4
Channelization	<ul style="list-style-type: none"> 20, 40, 80MHz
Security	<ul style="list-style-type: none"> WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i, Dynamic PSK WIPS/WIDS
Other Wi-Fi Features	<ul style="list-style-type: none"> WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v Hotspot Hotspot 2.0 Captive Portal WISPr

RF	
Antenna Type	<ul style="list-style-type: none"> BeamFlex+ adaptive antennas with polarization diversity Adaptive antenna that provides over 4,000 unique antenna patterns per band
Antenna Gain (max)	<ul style="list-style-type: none"> Omni - Up to 3dBi Sector - Up to 8dBi
Peak Transmit Power (aggregate across MIMO chains)	<ul style="list-style-type: none"> 2.4GHz: 28dBm 5GHz: 28dBm
Minimum Receive Sensitivity¹	<ul style="list-style-type: none"> -104dBm
Frequency Bands	<ul style="list-style-type: none"> 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
-97	-79	-94	-78

5GHZ RECEIVE SENSITIVITY					
VHT20		VHT40		VHT80	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-96	-80	-94	-77	-91	-74

2.4GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 HT20	22
MCS7 HT20	19
MCS0 HT40	22
MCS7 HT40	19

5GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 VHT20	22
MCS7 VHT20	19
MCS0 VHT40, VHT80	22
MCS7 VHT40, VHT80	19

PERFORMANCE AND CAPACITY	
Peak PHY Rates	<ul style="list-style-type: none"> 2.4GHz: 600Mbps 5GHz: 1733Mbps
Client Capacity	<ul style="list-style-type: none"> Up to 512 clients per AP
SSID	<ul style="list-style-type: none"> Up to 31 per AP

RUCKUS RADIO MANAGEMENT	
Antenna Optimization	<ul style="list-style-type: none"> BeamFlex+ Polarization Diversity with Maximal Ratio Combining (PD-MRC)
Wi-Fi Channel Management	<ul style="list-style-type: none"> ChannelFly Background Scan Based
Client Density Management	<ul style="list-style-type: none"> Adaptive Band Balancing Client Load Balancing Airtime Fairness Airtime-based WLAN Prioritization
SmartCast Quality of Service	<ul style="list-style-type: none"> QoS-based scheduling Directed Multicast L2/L3/L4 ACLs
Mobility	<ul style="list-style-type: none"> SmartRoam
Diagnostic Tools	<ul style="list-style-type: none"> Spectrum Analysis SpeedFlex

¹ Rx sensitivity varies by band, channel width and MCS rate.

NETWORKING	
Controller Platform Support	<ul style="list-style-type: none"> SmartZone ZoneDirector Unleashed² Cloud Wi-Fi Standalone
Mesh	<ul style="list-style-type: none"> SmartMesh™ wireless meshing technology Self-healing Mesh
IP	<ul style="list-style-type: none"> IPv4, IPv6
VLAN	<ul style="list-style-type: none"> 802.1Q (1 per BSSID or dynamic per use based on RADIUS) VLAN Pooling Port-based
802.1x	<ul style="list-style-type: none"> Authenticator & Supplicant
Tunnel	<ul style="list-style-type: none"> L2TP, GRE, Soft-GRE
Policy Management Tools	<ul style="list-style-type: none"> Application Recognition and Control Access Control Lists Device Fingerprinting Rate Limiting

OTHER RADIO TECHNOLOGIES	
GPS	<ul style="list-style-type: none"> Types GLONAS...etc

PHYSICAL INTERFACES	
Ethernet	<ul style="list-style-type: none"> 2 x 10/100/1000 Mbps ports, RJ-45 LACP
Fiber	<ul style="list-style-type: none"> SFP, 1Gbps, NBASE-x

PHYSICAL CHARACTERISTICS	
Physical Size	<ul style="list-style-type: none"> 31.7(L) x 24.1(W) x 9.5(H) cm 12.5(L) x 9.49(W) x 3.7(H) in
Weight	<ul style="list-style-type: none"> 2.95kg 6.5lbs
Ingress Protection	<ul style="list-style-type: none"> IP-67
Mounting	<ul style="list-style-type: none"> Wall, Drop ceiling, Desk Secure bracket (sold separately)
Physical Security	<ul style="list-style-type: none"> Hidden latching mechanism Kensington lock T-bar Torx
Operating Temperature	<ul style="list-style-type: none"> -40°C (-40°F) to 65°C (145°F)
Operating Humidity	<ul style="list-style-type: none"> Up to 95%, non-condensing
Wind Survivability	<ul style="list-style-type: none"> Up to 266km/h (165mph)

POWER ³	
Power Supply	Max Power Consumption
802.3at	<ul style="list-style-type: none"> 25W

CERTIFICATIONS AND COMPLIANCE	
Wi-Fi Alliance⁴	<ul style="list-style-type: none"> Wi-Fi CERTIFIED™ a, b, g, n, ac Passpoint®, Vantage
Standards Compliance⁵	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> SPoT
Network Analytics	<ul style="list-style-type: none"> SmartCell Insight (SCI)
Security and Policy	<ul style="list-style-type: none"> Cloudpath

ORDERING INFORMATION	
901-T710-XX01	<ul style="list-style-type: none"> T710 dual band 802.11ac Outdoor Wireless Access Point, 4x4:4 streams, omni-directional Beamflex+ coverage, dual 10/100/1000 Ethernet ports, 90-264 Vac, POE in and POE out, Fiber SFP, GPS, IP-67 outdoor enclosure. Does not include power adapter.
901-T710-XX51	<ul style="list-style-type: none"> T710 dual band 802.11ac Outdoor Wireless Access Point, 4x4:4 Streams, 120 degree sector Beamflex+ coverage, dual 10/100/1000 Ethernet ports, 90-264 Vac, POE in and POE out, Fiber SFP, GPS, IP-67 Outdoor enclosure. Does not include power adapter.

See Ruckus price list for country-specific ordering information.
 Warranty: Sold with a limited 1-year warranty.
 For details see: <http://support.ruckuswireless.com/warranty>.

² Refer to Unleashed datasheets for SKU ordering information.

³ Max power varies by country setting, band, and MCS rate.

⁴ For complete list of WFA certifications, please see the Wi-Fi Alliance website.

⁵ For current certification status, please see the price list.

OPTIONAL ACCESSORIES	
902-0180-XX00	<ul style="list-style-type: none"> PoE Injector (60W)
902-0202-0000	<ul style="list-style-type: none"> EPON Optical Network Terminal, SFP Optic Module, 20km reach, single mode, SC/UPC, -40 to 85C, Includes SC/UPC fiber patch cable
902-0203-0000	<ul style="list-style-type: none"> 1000Base-LX, SFP (mini-GBIC) Optic Module, Single Mode, 10km reach, LC duplex, -40 to 85C. Includes LC-Duplex fiber patch cable
902-0183-0000	<ul style="list-style-type: none"> Spare Weatherizing Cable Gland with 1 hole
902-0185-0000	<ul style="list-style-type: none"> Spare Weatherized 4 pin AC Connector
902-0125-0000	<ul style="list-style-type: none"> Secure articulating mounting bracket
E1MG-SX-A	<ul style="list-style-type: none"> 1000BASE-SX SFP Optic, MMF, (LC), TAA compliant
E1MG-SX-A8	<ul style="list-style-type: none"> 1000BASE-SX SFP Optic, MMF, (LC), TAA compliant, 8-pack
E1MG-SX-OM	<ul style="list-style-type: none"> 1000BASE-SX SFP optic, MMF, LC connector, optical monitoring capable
E1MG-SX-OM-8	<ul style="list-style-type: none"> 1000BASE-SX SFP optic, MMF, LC connector, optical monitoring capable, 8-pack
E1MG-SX-OM-T	<ul style="list-style-type: none"> 1000BASE-SX SFP optic, MMF, LC connector, optical monitoring capable, industrial temperature (-40°C to 85°C)
E1MG-LX-A	<ul style="list-style-type: none"> 1000BASE-LX SFP Optic, SMF, LC connector, TAA compliant
E1MG-LX-A8	<ul style="list-style-type: none"> 1000BASE-LX SFP Optic, SMF, LC connector, TAA compliant, 8-pack
E1MG-LX-OM	<ul style="list-style-type: none"> 1000BASE-LX SFP optic, SMF, LC connector, optical monitoring capable
E1MG-LX-OM-8	<ul style="list-style-type: none"> 1000BASE-LX SFP optic, SMF, LC connector, optical monitoring capable, 8-pack
E1MG-LX-OM-T	<ul style="list-style-type: none"> 1000BASE-LX SFP optic, SMF, LC connector, optical monitoring capable, industrial temperature (-40°C to 85°C)
E1MG-LHA-OM	<ul style="list-style-type: none"> 1000BASE-LHA SFP optic, SMF, LC connector, optical monitoring capable
E1MG-LHA-OM-T	<ul style="list-style-type: none"> 1000BASE-LHA SFP optic, SMF, LC connector, optical monitoring capable, industrial temperature (-40°C to 85°C)
E1MG-BXD	<ul style="list-style-type: none"> 1000BASE-BXD SFP optic SMF, transmits at 1490nm and receives at 1310nm, LC connector, single strand SMF fiber. This optic should only be connected to an E1MG-BXU at the far end.
E1MG-BXU	<ul style="list-style-type: none"> 1000BASE-BXU SFP optic SMF, transmits at 1310nm and receives at 1490nm, LC connector, single strand SMF fiber. This optic should only be connected to an E1MG-BXD at the far end

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.