advanced media technologies®

MODEL T710

OUTDOOR 802.11AC WAVE 2 4X4:4 WI-FI ACCESS POINT

Ruckus® Simply Better Wireless.

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.

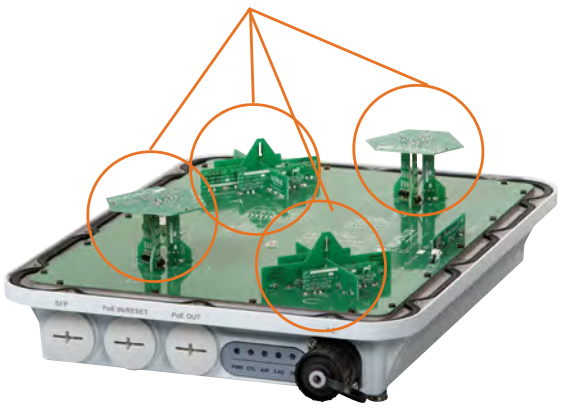
- Extended coverage with patented BeamFlex+ utilizing multi-directional antenna patterns.
- Improve throughput with ChannelFly, which dynamically finds less congested Wi-Fi channels to use.

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



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

GET 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

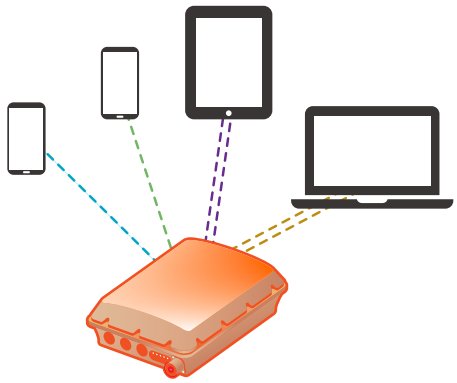
Daisy chain and power other devices like an IP camera, or another AP directly from the PoE output port

MORE THAN WI-FI

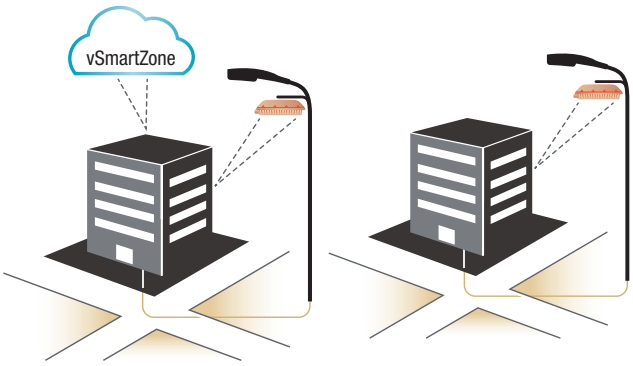
Enhance your network with Cloudpath security and management software, SPoT real-time Wi-Fi location engine and analytics software, and SCI network analytics.

T710
Outdoor 802.11ac Wave 2 4x4:4 Wi-Fi Access Point

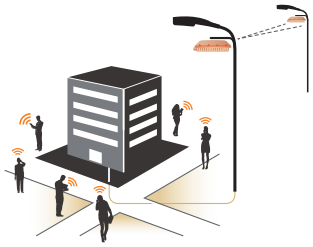
DATA SHEET



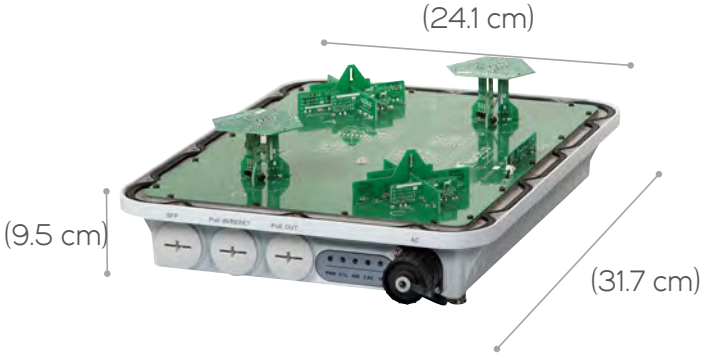
Blinding fast Wave 2 4x4:4 802.11ac with MU-MIMO



Flexible Architecture



Smart Mesh



FEATURES

WIRELESS

- 802.11ac 802.11ac Wave 2 Multi-User MIMO (MU-MIMO)
- Concurrent dual-band (5GHz/2.4GHz) support
- 2,533Mbps maximum PHY rate (1733 Mbps in 5GHz; 800Mbps in 2.4GHz)
- BeamFlex+ (PD-MRC) smart antenna, with support for 4,000+ unique antenna patterns enables up to 5dB of additional gain and up to 15dB of additional interference mitigation
- 802.11ac standard Tx Beamforming
- Antenna options: omni-directional and 120x30 degrees sector
- Unmatched Rx sensitivity down to -104dBm
- Improved Maximum Ratio Combining (MRC) for best-in-class receive sensitivity
- Space Time Block Coding for increased handset performance
- Low Density Parity Check (LDPC) for increased data throughput at all ranges
- 256-QAM support on 5GHz and 2.4GHz
- Admission control/load balancing*
- Band balancing
- Up to 16 BSSIDs per radio with unique QoS and security policies*
- Backward compatible with legacy 802.11 clients
- Dedicated dual band RF monitor enabling enhanced performance while providing Zero-Wait DFS capability
- IP 67 rated, -40°C to +65°C
- WPA-PSK (AES), 802.1X support for RADIUS and AD*
- Integrated GPS for location applications

INTERFACES

- 2 x 1GbE ports
- Support for LACP (Link Aggregation Control Protocol) to maximize the backhaul bandwidth using both Ethernet ports
- SFP Fiber Interface providing flexibility to backhaul to fiber

POWER

- AC power input (100-250 Vac, 50/60 Hz)
- 802.3at (PoE+) PoE Input mode of operation
- 802.3at PoE Output Power Sourcing Equipment (PSE) mode of operation, useful for daisy chaining and powering an additional Mesh AP or another device like an IP Surveillance Camera

SOFTWARE

- Smart Positioning Technology (Real-time location engine and analytics software)
- Cloudpath (Security and management software)
- SmartCell Insight (Networks analytics engine)
- Secure image download – enhancing platform security
- Multicast IP video streaming support
- Dynamic PSK*
- Captive portal and guest accounts *

* when used with management.

PATENTED BEAMFLEX+ TECHNOLOGY EXTENDS SIGNAL RANGE, IMPROVES RELIABILITY OF CLIENT CONNECTIONS

The T710 integrates patented software-controlled adaptive antennas that delivers additional signal gain per radio chain. As BeamFlex+ adapts to client locations and antenna polarity, the smart antenna technology optimizes the RF energy toward client on a per packet basis. This allows for substantial performance improvement and a reduction in packet loss from the ability to automatically mitigate interference and obstacles. BeamFlex+ with PD-MRC (polarization diversity) ensures the T710 listens in all polarizations simultaneously. This results in significant receive signal gain from mobile devices with weak transmitters.

MULTI-USER MIMO (MU-MIMO)

802.11ac MU-MIMO allows the T710 to transmit multiple spatial streams to multiple client devices simultaneously, increasing the total throughput and capacity of the wireless network. The T710 is able to provide up to three clients each their own dedicated full-bandwidth channel using an MU-MIMO technique known as spatial reuse. This capability enables several benefits.

Efficient use of available spectrum effectively multiplies the total capacity of a network, allowing it to meet the increasing data demand driven by the proliferation of mobile Wi-Fi clients and data-hungry applications and uses such as high-definition video streaming. Additionally, MU-MIMO does not require client devices to time-share connections with other clients on the network as in legacy Wi-Fi, which means each device experiences less wait time and makes the network more responsive overall. Even legacy clients benefit from MU-MIMO because of the increased RF efficiency; more capacity remains to support non-Wave 2 clients.

ADVANCED WLAN APPLICATIONS

When used with the Ruckus WLAN management systems, the T710 supports a wide range of value-added applications such as guest networking, Dynamic PSK, hotspot authentication, wireless intrusion prevention and many more. WLANs can also be grouped and shared by specific APs. In a centrally managed configuration, the T710 works with various authentication servers including AD, LDAP, and RADIUS.

T710

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

DATA SHEET

PHYSICAL CHARACTERISTICS

Power	• AC Input: 100-250 Vac, 50/60 Hz • PoE: 802.3at
Physical Size	• 31.7 cm (L), 24.1 cm (W), 9.5 cm (H)
Weight	• 6.5 lbs
Ethernet Ports	• 2 Ethernet ports, auto MDX, auto-sensing, 10/100/1000 Mbps, RJ-45 • Power over Ethernet (802.3at) with Category 5/5e/6 cable • Power over Ethernet (802.3at) Output with Category 5/5e/6 cable • Link Aggregation (LACP) • SFP port to support fiber backhaul
Environmental Conditions	• Operating Temperature:-40°F (-40°C) to 149°F (65°C) • Operating Humidity: up to 95% non-condensing
Power Consumption	• When PoE Out is not used - • 5.5W (minimum) • 10.4W (typical) • 25W peak

RF

Adaptive antenna	• 4,000+ unique antenna patterns, polarization diversity
Maximum Transmit Power	• 28 dBm on 2.4GHz; 28dBm on 5GHz
Physical antenna gain	• 28 dBm on 2.4GHz; 28dBm on 5GHz
BeamFlex SINR Tx gain	• up to 6dB
BeamFlex SINR Rx gain	• up to 3-5dB
Interference mitigation	• up to 15dB
Maximum Rx sensitivity	• -104dBm

PERFORMANCE AND CAPACITY

Phy Data Rates	• Up to 800Mbps (2.4GHz) • Up to 1733Mbps (5GHz)
Concurrent Stations	• Up to 512
Number Of Simultaneous Voip Clients	• Up to 30

NETWORK ARCHITECTURE

IP	• IPv4, IPv6, dual-stack
Vlans	• 802.1Q (1 per BSSID or dynamic, per user based on RADIUS) • Port-based
802.1X For Wired Ports	• Authenticator • Supplicant
Tunneling	• L2TP

MULTIMEDIA AND QUALITY OF SERVICE

802.11E/Wmm	• Supported
Software Queues	• Per WLAN priority (2), Per traffic type (4), per client
Traffic Classification	• Automatic, heuristics and TOS based or VLAN-defined
Rate Limiting	• Dynamic per-user or per-WLAN

MANAGEMENT

Deployment Options	• Standalone (individually managed) • Centrally managed

Wi-FI

Standards	• IEEE 802.11a/b/g/n/ac
Supported Data Rates	• 802.11ac: 29.3Mbps – 1733 Mbps (80MHz) • 802.11n: 6.5Mbps – 216.7 Mbps(20MHz) 13.5 Mbps – 800Mbps (40MHz) • 802.11a: 54, 48, 36, 24, 18, 12, 9 and 6Mbps • 802.11b: 11, 5.5, 2 and 1Mbps • 802.11g: 54, 48, 36, 24, 18, 12, 9 and 6Mbps
Radio Chains/ Streams	• 4x4:4
MIMO	• SU-MIMO — Up to 4 streams • MU-MIMO — Up to 3 streams
Channelization	• 20 MHz, 40 MHz, and/or 80 MHz
Frequency Bands	• IEEE 802.11ac: 5.15 – 5.85GHz • IEEE 802.11a/n: 5.15 – 5.85GHz • IEEE 802.11b: 2.4 – 2.484GHz
BSSIDs	• Up to 16 (2.4GHz) • Up to 16 (5GHz)
Power Save	• Supported
Certifications[4]	• WEEE/RoHS compliance • EN 60601-1-2 Medical • Wi-Fi Alliance certified • UL 2043 plenum rated
Subway And Railroad Certifications	• EN50121-1 EMC • EN50121-4 Immunity • IEC 61373 Shock & Vibration

*Wi-Fi Alliance certification in process

1 Max power varies by country setting, band, and MCS rate
2 BeamFlex+ gains are statistical system-level effects (including TxBF), translated to enhanced SINR here, and based on observations over time in real-world conditions with multiple APs and many clients
3 Rx sensitivity varies by band, channel width, and MCS rate
4 Refer to price list for current country certifications

MODEL	DESCRIPTION
T710 Dual band 802.11ac Wave 2 Access Point	
901-T710-XX01	T710 dual band 802.11ac Outdoor Wireless Access Point, 4x4:4 streams, omnidirectional 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	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.
Optional Accessories	
902-0180-XX00	Spare of Power over Ethernet (PoE) Injector (10/100/1000 Mbps) quantiy of 1 unit (T710-series, 7762-series, 7782-series, 8800-S access points), US Plug
902-0202-0000	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	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	Spare Data Connector for T300-series, 7782-series, 8800; contains 1 weatherizing data cable gland
902-0185-0000	Spare Weatherized AC Connector for 7762-AC, 7782-series, and 8800; contains 4-pin AC connector

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

Warranty: Sold with a limited one year warranty.

17-08-A

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