Ruckus
Simply Better Wireless.

ZoneFlex™ 7782 Series
DUAL BAND SMART WI-FI OUTDOOR AP

The Industry's Highest Capacity, Highest Performing Access Point with Adaptive Antenna Technology and Smart Wi-Fi Meshing

The ZoneFlex 7782 Series is the first dual-band 802.11n outdoor access point (AP) to integrate BeamFlex+ adaptive antenna technology coupled with transmit beamforming (TxBF) to enable much longer range signals, and more resilient mesh connections that automatically adapt to interference and changing environmental conditions.

The ZoneFlex 7782 Series implements Ruckus-patented BeamFlex+™ smart antenna technology that enables consistent, high-performance, extended coverage and multimedia support in the most challenging RF environments. BeamFlex+ combined with TxBF is capable of delivering up to 6 dB of signal-to-interference-plus-noise (SINR) improvement above the antenna gain and up to 15 dB of interference mitigation. Ruckus ChannelFly dynamic channel management optimizes client throughput up to 50 percent by selecting the best channel to operate on.

Supporting advanced Smart Mesh Networking, the Ruckus ZoneFlex 7782 Series is perfect for service providers looking to quickly and economically expand branded broadband services, offload data traffic from congested 3G networks, deploy multimedia hotspots or offer wireless broadband services where fixed line access is limited.

The ZoneFlex 7782 Series can be centrally managed by the ZoneDirector Smart WLAN controller or the Smart Cell Gateway (SCG) 200 as part of a unified indoor/outdoor wireless LAN, deployed as a standalone AP and managed individually, or through the FlexMaster remote Wi-Fi management system.

A Web-based wizard allows any computer user to configure ZoneFlex 7782 Series — creating a secure and sophisticated WLAN in a matter of minutes.
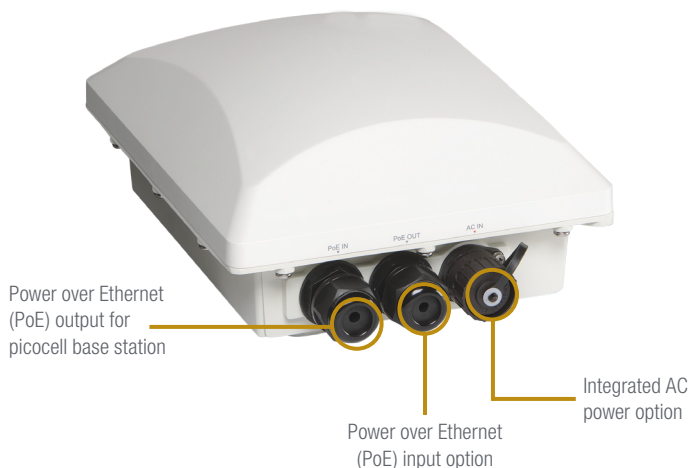
Ruckus ZoneFlex 7782 Series simply plugs into any Ethernet network and automatically discovers the ZoneDirector or SCG 200. No RF tuning, no client configuration needed. The small, lightweight hardware unit is designed for easy installation and to minimize the visual impact and public awareness challenges of introducing new infrastructure to a public venue.

BENEFITS

Unprecedented outdoor Wi-Fi performance
Advanced Smart Wi-Fi design with concurrent dual-band 802.11n radios support 3x3:3 MIMO (2x2:2 for N model). Purpose built for 3G offload, Wi-Fi wholesaling or integrated small cell networking over shared wireless mesh backhaul services in dense urban environments or public venues

Best in class channel selection technology
ChannelFly dynamic channel management is a novel capacity-driven channel selection technology that predicts and automatically selects the best performing channel based on statistical, real-time capacity analysis of all RF channels

Environmentally hardened with AC power
Enables fast and easy mounting to street lights, traffic controls and other street furniture. Includes hardened enclosures for outdoor deployment with IP-67 rated enclosure

Unified, centralized Wi-Fi management eases administration
ZoneDirector, SCG 200 and FlexMaster provide a detailed view into and control over both indoor and outdoor Smart Wi-Fi APs enabling seamless and system-wide administration of the entire wireless environment. ZoneFlex 7782 Series traffic can also backhaul into the mobile packet core using the SCG 200.

Unmatched Wi-Fi capacity and reliability
BeamFlex+ adaptive antenna technology combined with interference mitigation technology delivers up to 6dB of added signal gain and up to 15dB of interference mitigation and support for up to 500 unencrypted clients per AP

Polarization Diversity — Maximal Ratio Combining (PD-MRC)
The only outdoor AP which comes with PD-MRC, a polarization diversity capability that ensures reliable and consistent wireless connections to mobile devices such as smart phones and tablets

ZoneFlex™
7782 Series
DUAL BAND SMART WI-FI OUTDOOR AP

- Concurrent dual-band (5GHz/2.4GHz) support

- Adaptive antenna technology and advanced RF management

- Up to 6dB signal gain / 15dB interference mitigation

- Chip based transmit beamforming increasing signal gain up to 4dB when used with supported clients

- Automatic interference mitigation, optimized for high-density environments

- Standard 802.3af/at Power over Ethernet (PoE)

- Polarization Diversity for optimal mobile device performance

- Standard 802.3af/at output for surveillance cameras or small cell backhaul

- Integrated VAC power

- Integrated GPS for location services and network timing

- Wall, pole or ceiling mountable

- Small, lightweight, and unassuming form factor

- 2 to 4 times extended range and coverage

- Multicast IP video streaming

- 900 Mbps of user throughput (450 Mbps/radio)

- 32 BSSIDs with unique QoS and security policies*

- Advanced QoS packet classification and automatic priority for latency-sensitive traffic

- Continuous Spectrum Analysis

- Dynamic, per-user rate-limiting for hotspot WLANs

- WPA-PSK (AES), 802.1X support for RADIUS and Active Directory*

- Smart Mesh Networking*

- BYOD, Zero-IT and Dynamic PSK*

- Admission control/load balancing*

- Band steering and airtime fairness support

- Captive portal and guest accounts*

- Application recognition and control*

- SecureHotspot*

- SPOT location services*

- Band balancing*

*When used with Ruckus ZoneDirector controller

Power over Ethernet (PoE) output for picocell base station

Power over Ethernet (PoE) input option

Integrated AC power option

ZoneFlex™
7782 Series
DUAL BAND SMART WI-FI OUTDOOR AP

ZoneFlex 7782

Dual-band 802.11n 3:3x3, 900 Mbps

Omni-Directional smart antenna for 2.4GHz/5GHz
6 elements, +2000 patterns
360° coverage

- Well suited to a wide variety of deployments including mesh
- Best coverage and capacity at 360°
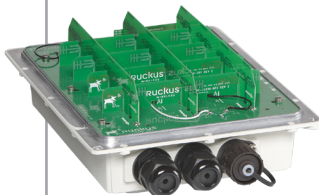- Ideal for poles, rooftops, or parapets

ZoneFlex 7782-S

Dual-band 802.11n 3:3x3, 900 Mbps

Internal sectorized smart antenna for 2.4GHz/5GHz
12 elements, +8 patterns
120° coverage

- Well suited for high density deployments
- Best coverage and capacity at 120° sectors
- Ideal for poles and exterior walls

ZoneFlex 7782-N

Dual-band 802.11n 2:2x2, 600 Mbps

Internal narrow sectorized smart antenna for 2.4GHz and 5GHz
4 elements, 30° narrow sector coverage

- Well suited to extremely high-density deployments
- Can be used in mesh applications
- Best coverage and capacity at 30°

ZoneFlex 7782-E
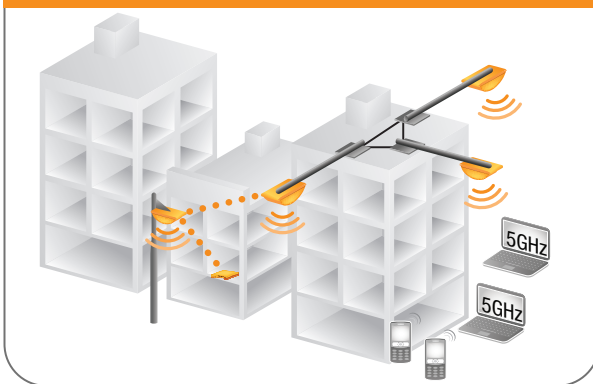
Dual-band 802.11n 3:3x3, 900 Mbps

External smart antenna support for both 2.4GHz and 5GHz

- Wide variety of external antennas can be attached giving great deployment flexibility
- Ideal for poles, street corners, roof tops
- Situations where AP is remote from antennas or where AP requires custom engineered RF coverage
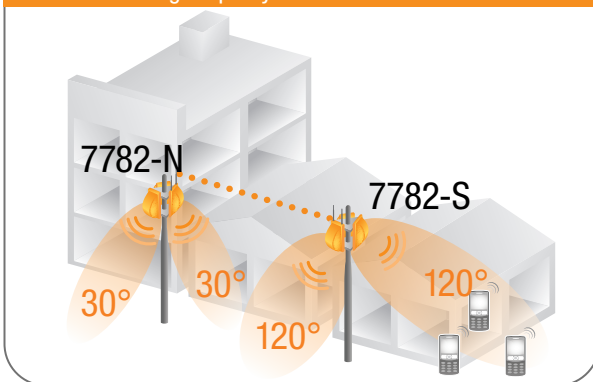
ZoneFlex™
7782 Series
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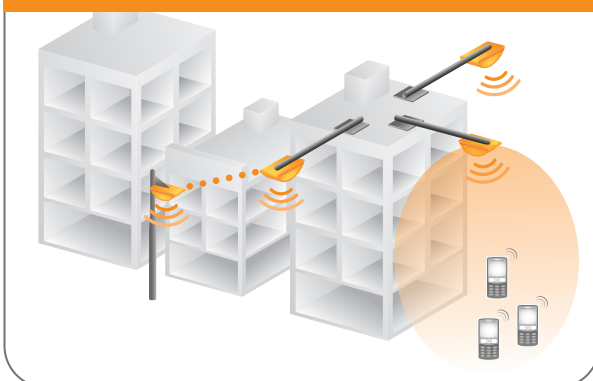**ZoneFlex 7782: General Purpose Outdoor, Enterprise**

- First 3x3:3 dual-band 802.11n smart outdoor AP with adaptive antenna array and TxBF
- Designed for extreme conditions
- Smart channel selection
- Concurrent dual-band 802.11n
- 360° coverage
- 6 elements, +2000 patterns
- IP-67 rated, -40°C to +65°C
- Standalone or centrally managed by ZoneDirector, Smart Cell Gateway (SCG) 200, or FlexMaster

ZoneFlex 7782-N/7782-S: Long-range, horizontal coverage/capacity

- Smart sectorized 3x3:3 802.11n AP (2x2:2 for N model)
- Optimized for horizontal, long-range coverage and high-density user environments
- Smart channel selection
- Concurrent dual-band 802.11n
- 120° or 30° smart sector antennas for longer range or high-density deployments
- IP-67 rated, -40°C to +65°C
- Standalone or centrally managed by ZoneDirector, SCG 200, or FlexMaster

ZoneFlex 7782-E: Mobile Data Offload

- Supports a wide variety of external antennas
- 360° 'beamforming' coverage
- Smart channel selection
- 2.4GHz and 5GHz external antennas
- Concurrent dual-band 802.11n
- IP-67 rated, -40°C to +65°C
- Managed by ZoneDirector, SCG 200, and FlexMaster

Specifications (7782, 7782-S, 7782-N, 7782-E)

PHYSICAL CHARACTERISTICS	
POWER	**AC Input (100-250 VAC 50/60 Hz)** • **Idle:** 8W • **Typical:** 10W • **Peak:** 18W (PoE output off) • **Peak:** 50W (PoE output 25W) **PoE Input** • **Idle:** 6W • **Typical:** 8W • **Peak:** 802.3af (PoE output off) • **Peak:** 44W (PoE output 25W)
PHYSICAL SIZE	• 23.9 cm / 9.4 In. (L), 19.5 cm / 7.68 In. (W), 11.8 cm / 4.65 In. (H)
WEIGHT	• 2.4 Kg / 5.29 Lbs
ETHERNET PORTS	**PoE Input** • 10/100/1000Base-T 802.3, 802.3u, 802.3ab, 802.3at/af PoE PD Input up to 40W with high power PoE injector • Jumbo frame support (2000 byte MTU) **PoE Output:** • 10/100/1000Base-T 802.3,802.3u, 802.3ab, 802.3at/af PoE PSE Output up to 25W • Jumbo frame support (2000 byte MTU)
GPS	• 1575.42 MHz GPS L1 radio band
ENVIRONMENTAL	• Operating temperature: -40 to 65C • Operating humidity: 5% to 100% condensing • IP 67

RF (7782, 7782-S, 7782-N)	
ANTENNA	• **7782:** 2000+ patterns • **7782-S:** 8+ patterns • **7782-N:** 1 pattern
PHYSICAL ANTENNA GAIN	• **7782:** 3 dBi (both bands) • **7782-S:** 6 dBi (2.4GHz); 8 dBi (5GHz) • **7782-N:** 9 dBi (2.4GHz); 15 dBi (5GHz)
BEAMFLEX* SINR TX GAIN	• Up to 6 dB
BEAMFLEX* SINR RX GAIN	• Up to 4 dB
INTERFERENCE MITIGATION	• Up to 15 dB
MINIMUM RX SENSITIVITY**	• -101 dBm (2.4GHz); -96 dBm (5GHz)

*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
**Rx Sensitivity varies by band, channel width, and MCS rate

PERFORMANCE AND CAPACITY	
CONCURRENT STATIONS	• Up to 500
SIMULTANEOUS VoIP CLIENTS	• Up to 30

MANAGEMENT	
DEPLOYMENT OPTIONS	• Standalone (individually managed) • Managed by ZoneDirector • Managed by FlexMaster • Managed by SmartCell™ Gateway (SCG 200)
CONFIGURATION	• Web User Interface (HTTP/S) • CLI (Telnet/SSH), SNMP v1, 2, 3 • TR-069 via FlexMaster

WI-FI	
STANDARDS	• IEEE 802.11a/b/g/n • 2.4GHz and 5GHz concurrent operation
RADIO CHAINS	• 3 x 3: 3 (2 x2: 2 for Narrow Beam)
RF POWER OUTPUT*	• 7782: 28 dBm (2.4GHz) / 26 dBm (5 GHz) • 7782-S: 28 dBm (2.4GHz) / 26 dBm (5 GHz) • 7782-N: 26 dBm (2.4GHz) / 24 dBm (5 GHz)
FREQUENCY BAND	• IEEE 802.11n: 2.4 – 2.484 GHz and 5.15 – 5.85 GHz • IEEE 802.11a: 5.15 – 5.875 GHz • IEEE 802.11g: 2.4 – 2.484 GHz
BSSID	• 32 per radio (64 per AP)**
ADVANCED RADIO FEATURES	• BeamFlex+ Adaptive Antenna Technology • TxBF, LDPC, and ML receiver • Spectrum Analysis
WIRELESS SECURITY	• WEP, WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i • Authentication via 802.1X, local authentication database, support for RADIUS and ActiveDirectory
CERTIFICATIONS***	• U.S., Canada , Europe, Argentina, Australia, Brazil, Chili, China, Columbia, Costa Rica, Hong Kong, India, Indonesia, Israel, Japan, Korea, Malaysia, Mexico, New Zealand, Philippines, Peru, Russia, Saudi Arabia, Singapore, South Africa, Taiwan, Thailand, UAE, Vietnam • WEEE/RoHS compliance • Wi-Fi Alliance Certification (Wi-Fi Certified) • Railway: EN 61373 Shock and Vibration; EN 50121-1 EMC Railway Rolling Stock; EN 50121-4 Immunity Railway Rolling Stock

* Maximum power varies by country, setting, band, and MCS rate
**Release 9.6
***Refer to price list for latest country availability

Product Ordering Information

MODEL	DESCRIPTION
ZoneFlex 7782 Outdoor Access Points	
901-7782-XX01	**7782:** ZoneFlex 7782 gray 802.11n 3x3:3 Outdoor Wireless Access Point, 360 degree Beamflex 2.4GHz/5GHz antenna. Includes mounting kit, 1 year warranty. Does not include PoE Injector. Does not include AC Power Cord. Includes AC connector.
901-7782-XX51	**7782-S:** ZoneFlex 7782-S 802.11n Outdoor Wireless Access Point, 120 degree Sector 2.4GHz/5GHz antenna. Includes mounting kit, 1 year warranty. Does not include PoE Injector. Does not include AC Power Cord.
901-7782-XX61	**7782-N:** ZoneFlex 7782-N 802.11n Outdoor Wireless Access Point, 30 degree Narrow Sector 2.4GHz/5GHz antenna. Includes mounting kit, 1 year warranty. Does not include PoE Injector. Does not include AC Power Cord.
901-7782-XX81	**7782-E:** ZoneFlex 7782-E 802.11n Outdoor Wireless Access Point, N-male antenna connectors for 2.4GHz/5GHz operation, Includes mounting kit, GPS antenna, 1 year warranty. Does not include PoE Injector. Does not include AC Power Cord.
Optional Accessories	
902-0180-xx00	Spares of Power over Ethernet (PoE) Injector (10/100/1000 Mbps) quantity of 1 unit, US Plug
902-0182-0003	Spare, Outdoor Mounting Bracket, Bare Metal, Any-Angle, Qty 1
902-0183-0000	Spare Data Connector; contains 1 weatherizing data cable gland
902-0185-0000	Spare Weatherized AC Connector; contains 4-pin AC connector

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