

Strategic Asset Procurement Evaluation Report: Wireless Controller Router Price

EXECUTIVE SUMMARY

Positioned at the critical nexus of CAPEX forecasting and network performance, the Wireless Controller Router (WCR) platform transcends conventional pricing models. This document provides a technical breakdown of the cost determinants, Total Cost of Ownership (TCO) levers, and hardware value metrics for enterprise and carrier-grade deployments. The analysis correlates physical component selection, software licensing tiers, and support lifecycles to tangible operational outcomes.



ARCHITECTURE & CHASSIS DESIGN

The hardware chassis design directly influences unit economics. Three primary

form factors dictate the baseline price envelope:

- Compact 1RU Edge Controller: Optimized for branch and SMB aggregation, featuring fixed port configurations (4x Gigabit Ethernet RJ-45 + 2x SFP).
- Modular 2RU Aggregation Router: Supports 2x expansion slots for mixed-media line cards (10G/25G SFP28, PoE++ modules).
- Carrier 4RU Chassis: High-availability backplane with 1+1 route processor redundancy, 2+1 power supply modules, and 40G/100G uplink capability.

HARDWARE FEATURES

Key built-for-purpose features that affect cost include:

- Integrated WLAN Controller: Manages up to 512 access points (license-dependent).
- Hardware Acceleration Engine: Offloads IPsec (up to 4 Gbps) and NAT sessions.
- Dual-Boot Flash Architecture: Redundant 16GB eMMC storage for zero-downtime firmware upgrades.
- Front-to-Back Airflow: Tool-less fan tray, optimized for 19-inch racks.

COMPLIANCE & STANDARDS

Certification conformance adds to engineering overhead but ensures global

procurement eligibility: CE, FCC Part 15 Class A, RoHS3, REACH, IEC 62368-1, and NEBS Level 3 (optional ruggedized variant).

TECHNICAL SPECIFICATIONS

Processor: Quad-core ARM Cortex-A72 at 1.6 GHz (dedicated NPU for forwarding)

System Memory: 4 GB DDR4 (upgradeable to 16 GB)

Flash Storage: 16 GB eMMC (dual image support)

Management Ports: 1x RJ45 Console, 1x USB 3.0, 1x 1GbE MGMT

Data Plane Interfaces: 4x 1GbE RJ45 + 2x 10G SFP+ (model dependent)

Wireless Controller Capacity: 256/512 APs (base/advanced license)

Forwarding Rate: 12.8 Mpps (64-byte packets)

Latency (L2/L3): < 3 microseconds (store-and-forward)

Parameter	Specification
Form Factor	1RU / 2RU / 4RU Chassis options
Switching Capacity	20 Gbps / 80 Gbps / 320 Gbps backplane
Power Supply	1+1 Redundant AC (100-240V) or DC (-48V)
Operating Temperature	0°C to 45°C (standard), -20°C to 65°C

	(ruggedized)
Max Power Consumption	65W (1RU), 180W (2RU full load)
MTBF (chassis)	280,000 hours @ 25°C

ORDERING OPTIONS

SKU Component Matrix for Price Configuration:

- Base Hardware Unit (WCR-2100): Includes chassis, backplane, 4x 1GbE + 2x SFP+.
- Software License Tiers: L0 (No controller, routing only), L1 (64 APs), L2 (256 APs), L3 (512 APs + advanced security).
- Power Supplies: AC 100-240V, DC -48V, or 1+1 redundant kit.
- Expansion Modules: 4x 10G SFP+ card, 8x PoE++ (802.3bt) card.
- Support Lifecycle: 1-year, 3-year, or 5-year Next Business Day Onsite.
- Accessory Bundle: Rack mount ears, console cable, rubber feet (always included).



PRICE POSITIONING & TCO NOTE

Base hardware pricing (without licensing) typically ranges from USD \$1,850 to \$4,200 for 1RU models and \$6,500 to \$14,000 for 2RU carrier versions. Perpetual software licenses add \$25–\$80 per managed AP. Recurring annual support is 12-18% of net hardware + license CAPEX. Total lifecycle cost heavily favors chassis with modular PSUs and field-replaceable fans (MTBF > 300,000 hours for passive backplane).