

Carrier Backbone Network 19-inch Chassis Dimensions



Overview

A 19-inch rack is a standardized frame or enclosure for mounting multiple electronic equipment modules. Each module has a front panel that is 19 inches (482.6 mm) wide. The 19 inch dimension includes the edges or ears that protrude from each side of the equipment, allowing the module to be fastened to the rack frame with screws or bolts.

Key Takeaways

Standard 19-inch carrier network chassis typically have a width of 19 inches (482.6 mm), variable depth (600–1200 mm), and heights ranging from 1U to 11U or more depending on the model.

Standard 19-Inch Rack Dimensions

A 19-inch rack is a globally standardized frame used for mounting servers, network equipment, and telecom devices. The front panel width is 19 inches (482.6 mm), while the height is measured in rack units (U), where 1U = 1.75 inches (44.45 mm). Depth varies depending on equipment and cooling requirements, typically ranging from 600 mm to 1200 mm (24–48 inches). This standardization ensures compatibility across different manufacturers and allows for modular stacking of devices in data centers or telecom rooms.

Example Carrier Chassis Dimensions FiberHome AN5516-01 OLT

- Width: 19 inches (standard rack width)
- Height: 11U (≈19.25 inches / 488 mm)

- Depth: Not explicitly specified, but designed to fit standard 19-inch racks
 - Slot Capacity: 20 slots (2 for core switching/control, 2 for power supply, 16 for service line cards)
 - Use Case: Central office deployments with high subscriber aggregation, supporting GPON, XG-PON, or P2P optical boards
- Cisco NCS 4009 Chassis
- Width: Compatible with ANSI 19-inch racks, minimum front opening 17.72 inches (450 mm) for insertion
 - Height: Typically 7-10U depending on configuration
 - Depth: Varies; installation requires planning for power and cooling
 - Features: Integrated power and cooling systems, fan trays, and support for multiple route processor cards
- Lantronix ION219 Chassis
- Width: 19 inches
 - Height: 19-slot chassis (height depends on slot spacing, typically 6-10U)
 - Depth: Standard rack-compatible depth
 - Features: High-density multi-protocol system for fiber integration, managed via ION Management Module
- Key Considerations
- Rack Unit Height (U): Determines how many devices can be stacked vertically. Carrier-class chassis often range from 6U to 11U.
 - Depth: Must accommodate cabling, airflow, and cooling; deeper chassis may require additional rack space.
 - Slot Layout: Critical for planning service line cards, power modules, and management/control cards.
 - Power and Cooling: Carrier backbone chassis include integrated AC/DC power and fan trays; ensure rack space allows for airflow and maintenance access. In summary, carrier backbone network chassis conform to the 19-inch rack standard, with widths fixed at 19 inches, heights in multiples of 1U (commonly 6-11U), and depths ranging from 600 mm to 1200 mm depending on equipment and cooling requirements. Specific models like the FiberHome AN5516-01, Cisco NCS 4009, and Lantronix ION219 illustrate these dimensions while providing high-density slot configurations for optical and network modules .

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