

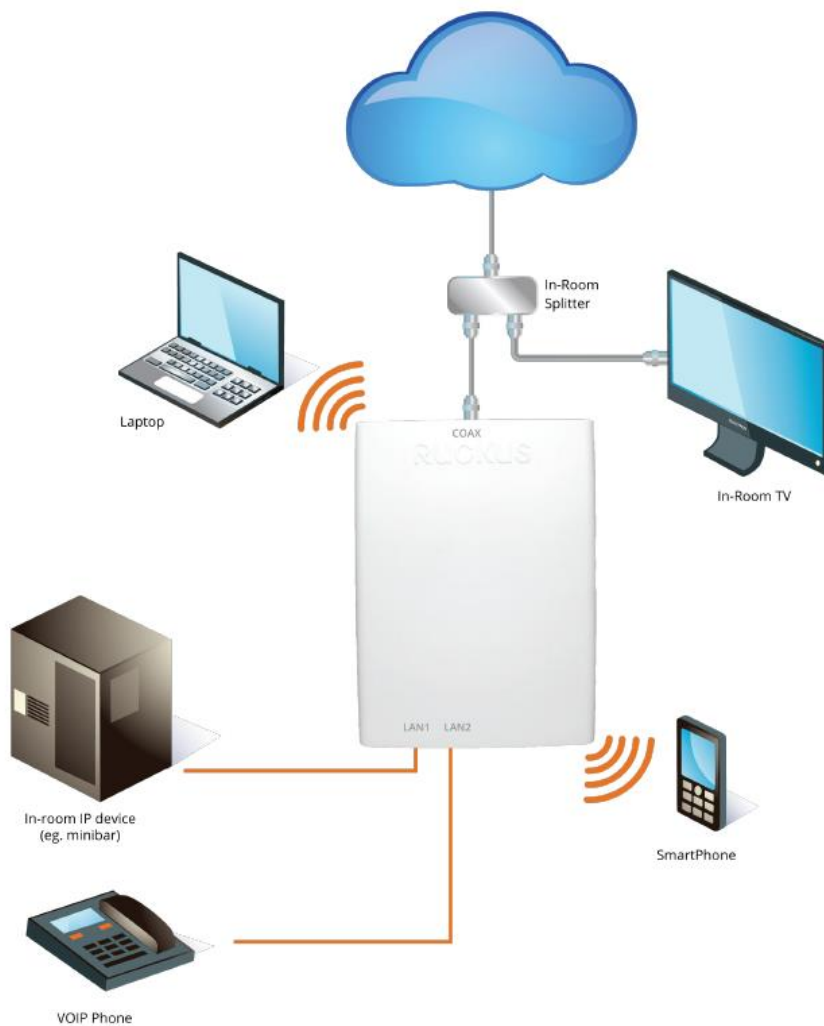
## RUCKUS C 110

### WI-FI AP, SWITCH AND DOCSIS 3.0 CABLE MODEM



The Ruckus C110 delivers a modern, in-room wall-mount solution that is fast and easy to install, using existing in-building or off-premises Cable Modem Termination Systems (CMTS). The C110 combines the industry's highest-performing 802.11ac Wave 2 wireless access point with a DOCSIS 3.0 cable modem and Ethernet switch.

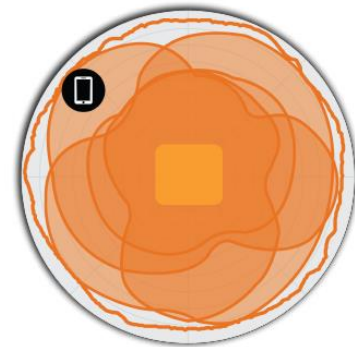
The C110 is the perfect choice for hotels, student residence halls, and multidwelling unit (MDU) properties that depend on coaxial cable to deliver high-speed Internet. Equipped with two Ethernet ports, it can connect IPTV set-top, VoIP telephones, and other wired devices. At the same time, the C110 delivers great 802.11ac wireless performance with advanced features such as guest access and Hotspot 2.0.



## ACCESS POINT ANTENNA PATTERN

Ruckus' BeamFlex+ adaptive antennas allow the C110 AP to dynamically choose among a host of antenna patterns in real-time to establish the best possible connection with every device. This leads to:

- Better Wi-Fi coverage
- Reduced RF interference



Client
  Composite Pattern
  BeamFlex+ Pattern

## SPECIFICATIONS

WI-FI					
Wi-Fi Standards	• IEEE 802.11a/b/g/n/ac Wave 2				
Supported Rates	• 802.11ac: 6.5 to 867Mbps (MCS0 to MCS9, NSS = 1 to 2 for VHT20/40/80) • 802.11n: 6.5Mbps to 300Mbps (MCS0 to MCS15) • 802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6Mbps • 802.11b: 11, 5.5, 2 and 1 Mbps				
Supported Channels	• 2.4GHz: 1-13 • 5GHz: 36-64, 100-144, 149-165				
MIMO	• 2x2 SU-MIMO • 2x2 MU-MIMO				
Spatial Streams	• 2 Streams SU/MU-MIMO				
Channelization	• 20, 40, 80MHz				
Security	• WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i, Dynamic PSK • WIPS/WIDS				
Other Wi-Fi Features	• WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v • Hotspot • Hotspot 2.0 • Captive Portal • WISPr				
RF					
Antenna Type	• BeamFlex+ adaptive antennas with polarization diversity • Adaptive antenna that provides multiple unique antenna patterns per band				
Antenna Gain (max)	• 2.4GHz: 3dBi • 5GHz: 3dBi				
Peak Transmit Power (aggregate across MIMO chains)	• 19 dBm for 2.4GHz • 22 dBm for 5GHz				
Minimum Receive Sensitivity <sup>1</sup>	• -96/-95dBm				
Frequency Bands	• 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		
-90	-72	-87	-69		
5GHZ RECEIVE SENSITIVITY					
VHT20		VHT40		VHT80	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-92	-72	-89	-69	-86	-64

2.4GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 HT20	16
MCS7 HT20	15
5GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 VHT20	19
MCS7 VHT20	14
MCS0 VHT40, VHT80	19
MCS7 VHT40, VHT80	14
MCS9 VHT40, VHT80	12
PERFORMANCE AND CAPACITY	
Peak PHY Rates	<ul style="list-style-type: none"> <li>• 2.4GHz: 300Mbps</li> <li>• 5GHz: 867Mbps</li> </ul>
Client Capacity	<ul style="list-style-type: none"> <li>• Up to 100 clients per AP</li> </ul>
SSID	<ul style="list-style-type: none"> <li>• Up to 32 per AP</li> </ul>
RUCKUS RADIO MANAGEMENT	
Antenna Optimization	<ul style="list-style-type: none"> <li>• BeamFlex+</li> <li>• Polarization Diversity with Maximal Ratio Combining (PD-MRC)</li> </ul>
Wi-Fi Channel Management	<ul style="list-style-type: none"> <li>• ChannelFly</li> <li>• Background Scan Based</li> </ul>
Client Density Management	<ul style="list-style-type: none"> <li>• Adaptive Band Balancing</li> <li>• Client Load Balancing</li> <li>• Airtime Fairness</li> <li>• Airtime-based WLAN Prioritization</li> </ul>
SmartCast Quality of Service	<ul style="list-style-type: none"> <li>• QoS-based scheduling</li> <li>• Directed Multicast</li> <li>• L2/L3/L4 ACLs</li> </ul>
Mobility	<ul style="list-style-type: none"> <li>• SmartRoam</li> </ul>
Diagnostic Tools	<ul style="list-style-type: none"> <li>• Spectrum Analysis</li> <li>• SpeedFlex</li> </ul>
NETWORKING	
Controller Platform Support	<ul style="list-style-type: none"> <li>• SmartZone</li> <li>• ZoneDirector</li> </ul>
Mesh	<ul style="list-style-type: none"> <li>• SmartMesh™ wireless meshing technology. Selfhealing Mesh.</li> </ul>
IP	<ul style="list-style-type: none"> <li>• IPv4, IPv6</li> </ul>
VLAN	<ul style="list-style-type: none"> <li>• 802.1Q (1 per BSSID or dynamic per use based on RADIUS)</li> <li>• VLAN Pooling</li> <li>• Port-based</li> </ul>
802.1x	<ul style="list-style-type: none"> <li>• Authenticator &amp; Supplicant</li> </ul>
Tunnel	<ul style="list-style-type: none"> <li>• L2TP, GRE, Soft-GRE</li> </ul>
Policy Management Tools	<ul style="list-style-type: none"> <li>• Application Recognition and Control</li> <li>• Access Control Lists</li> <li>• Device Fingerprinting</li> <li>• Rate Limiting</li> </ul>
CABLE MODEM	
DOCSIS Version	<ul style="list-style-type: none"> <li>• 1.0/1.1/2.0/3.0 compliant and certified</li> </ul>
Channel Bonding	<ul style="list-style-type: none"> <li>• Supports 8 downstream channels and 4 upstream channels</li> </ul>
Support and Management	<ul style="list-style-type: none"> <li>• Embedded diagnostics web interface</li> <li>• Status LED's</li> <li>• SNMP management</li> </ul>
PHYSICAL INTERFACES	
Ethernet	<ul style="list-style-type: none"> <li>• 2 x 10/100 Mbps local ports, RJ-45</li> </ul>
USB	<ul style="list-style-type: none"> <li>• 1 USB 2.0 port, Type A</li> </ul>
Cable Modem	<ul style="list-style-type: none"> <li>• Type F, DOCSIS/Euro DOCSIS 3.0 8x4 modem port</li> </ul>
PHYSICAL CHARACTERISTICS	
Physical Size	<ul style="list-style-type: none"> <li>• 180 (L) x 150(W) x 35(H) mm</li> <li>• 7.09 (L) x 5.9 (W) x 1.38 (H) in</li> </ul>
Weight	<ul style="list-style-type: none"> <li>• 386 g (13.62 oz)</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>• Electrical wallbox</li> <li>• Secure bracket (sold separately)</li> </ul>
Physical Security	<ul style="list-style-type: none"> <li>• Hidden latching mechanism</li> <li>• Kensington lock</li> <li>• T-bar Torx</li> <li>• Bracket (902-0108-0000) Torx screw &amp; padlock (sold separately)</li> </ul>
Operating Temperature	<ul style="list-style-type: none"> <li>• 0°C (32°F) - 40°C (104°F)</li> </ul>
Operating Humidity	<ul style="list-style-type: none"> <li>• Up to 95%, non-condensing</li> </ul>

<b>POWER<sup>2</sup></b>	
Power Supply	DC input: 12VDC 2.0A
Maximum Power Consumption	• 17.2W
<b>CERTIFICATIONS AND COMPLIANCE</b>	
Wi-Fi Alliance <sup>3</sup>	<ul style="list-style-type: none"> <li>• Wi-Fi CERTIFIED™ a, b, g, n, ac</li> <li>• Passpoint®, Vantage</li> </ul>
Standards Compliance <sup>4</sup>	<ul style="list-style-type: none"> <li>• EN 60950-1 Safety</li> <li>• EN 61000-4-2/3/5 Immunity</li> <li>• IEC 61373 Railway Shock &amp; Vibration</li> <li>• EN 62311 Human Safety/RF Exposure</li> <li>• WEEE &amp; RoHS</li> <li>• ISTA 2A Transportation</li> </ul>
<b>SOFTWARE AND SERVICES</b>	
Location Based Services	• SPoT
Network Analytics	• SmartCell Insight (SCI)
Security and Policy	• Cloudpath