ACCESS NETWORKS

Access Networks B670

Outdoor Wi-Fi 7 (802.11be) Access Point with 9.34 Gbps Data Rate

Bandwidth-hungry ultra-high-definition video, virtual reality, an explosion of new devices and content. With these kinds of demands, organizations in every industry need more from their Wi-Fi. But with hundreds of devices and nonstop wireless noise and interference, busy outdoor spaces can make challenging wireless environments.

The dawn of the Wi-Fi 7 era ushers in a new wave of possibilities. With its groundbreaking advancements in speed, capacity, latency, and reliability, Wi-Fi 7 has the potential to transform the way we connect and interact with the digital world.

From seamless streaming of ultra-high-definition content to immersive virtual and augmented reality experiences, Wi-Fi 7 enables applications that were previously unimaginable. Real-time social gaming can reach new heights, allowing for lag-free, competitive multiplayer experiences with unparalleled responsiveness.

Moreover, industries such as hospitality and education can benefit immensely from Wi-Fi 7's low latency and high reliability. Other verticals like MDUs, large public venues, and service providers gain greatly from Wi-Fi 7's unprecedented advancements in speed and capacity.

The Access Networks B670 is a high-end Wi-Fi 7, tri-band concurrent outdoor AP that delivers 6 spatial streams (2x2:2 in 2.4GHz, 5GHz and 6GHz or, in dual-band mode, 2x2:2 in 2.4GHz and 4x4:4 in 5GHz) With Multi-Link-Operation (MLO), Preamble Puncturing, 4K QAM Modulation and 320MHz channels. It delivers industry-leading performance environments with a combined data rate of 9.34 Gbps. Furthermore, a 5 Gbps Ethernet port eliminates wired backhaul bottleneck for full use of available Wi-Fi capacity.

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Beyond Wi-Fi

Wireless requirements within enterprises are expanding beyond Wi-Fi.

The B670 addresses the increasing client demands in complex residences, transit hubs, stadiums, conference centers, and other high-traffic outdoor spaces. It is the perfect choice for data intensive streaming multimedia applications like 4K/8K video transmissions, while supporting latency sensitive voice and data applications with stringent quality-of-service requirements.

The B670 dramatically improves network performance through a combination of patented wireless innovations and learning algorithms that includes:

Airtime Decongestion
Increases average network throughput in heavily congested environments

Transient Client management
Reduces interference traffic from unconnected Wi-Fi devices

BeamFlex®+ Adaptive Antennas
Extended coverage range and optimized throughput with patented dynamic multi-directional antennas and radio patterns and work with any client.

Whether you are deploying ten or ten thousand access points, the B670 is also easy to manage through multiple management options including including ARCC Cloud-Based Controller and OvrC®.

OvrC® Integration for Unleashed Access Networks Access Points

OvrC is a free, cloud-based remote management platform created by Snap One that empowers professionals to configure, manage, and troubleshoot devices across a network seamlessly. By combining high-performance, reliable hardware with the power of OvrC, the Access Networks® Unleashed Access Points provide a comprehensive solution for your networking needs. Enjoy streamlined setup, easy scalability, enhanced remote management capabilities, and more.

Access Networks Unleashed Access Points are also now available through the client OvrC Connect app.

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Benefits

Connect more devices simultaneously

Improve device performance, by enabling more simultaneous device connections with built-in 6 spatial streams (2x2:2 in 2.4GHz, 2x2:2 in 5GHz, 2x2:2 in 6GHz) technology. 9.34 Gbps Combined data rate.

High client density and performance

Provides exceptional end-user experience within densely connected homes, large meeting halls, general enterprise spaces, and large classrooms.

BeamFlex+ Adaptive Antenna Technology

For greater speed, fewer errors, and instant bandwidth delivery, BeamFlex+ patented technology offers first-of-its-kind smart antenna technology that maximizes signal coverage, throughput, and network capacity and work with any client. It further increases MIMO diversity gain and maximizes spatial multiplexing potential.

Great Outdoor Wi-Fi

Experience high performane outdoor Wi-Fi 7 with IP-67 weather proofing and multi-gigabit 5 GbE Ethernet port.

5 GbE eliminates bottleneck

Optimized multi-gigabit Wi-Fi performance delivered using the built-in 1/2.5/5GbE port to connect to multi-gigabit switches.

Built-in GPS

Facilitate the deployment of Automated Frequency Coordination (AFC) ensuring adherence to reguluatory requirements for 6GHz frequency use.

Multiple management options

Manage the B670 with on premise physical/virtual appliances and control auto-provisioning for faster deployment and seamless firmware upgrades.

Enhanced Security

The latest Wi-Fi security standard with WPA3 and receive enhanced protection from man-in-the-middle attacks. Adds the power of DPSK3 to WPA3/SAE combining enhanced security with the flexibility and ease of use of dynamic passphrase to secure network access.

More Than Wi-Fi

Support solutions beyond Wi-Fi with ARCC Cloud-Based Controller or OvrC® management.

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BeamFlex® Antenna Patterns

BeamFlex+ adaptive antennas allow the B670 access points to dynamically choose among a host of antenna patterns (over 4,000 possible combinations) in real-time to establish the best possible connection with every device. This leads to:

- **Better Wi-Fi coverage**
- **Reduced RF interference**

Traditional omni-directional antennas, found in generic access points, oversaturate the environment by needlessly radiating RF signals in all directions. In contrast, the BeamFlex+ adaptive antenna directs the radio signals per-device on a packet by-packet basis to optimize Wi-Fi coverage and capacity in real-time to support high device density environments. BeamFlex+ operates without the need for device feedback and hence can benefit even devices using legacy standards.

Fig 1. Example of BeamFlex+ pattern

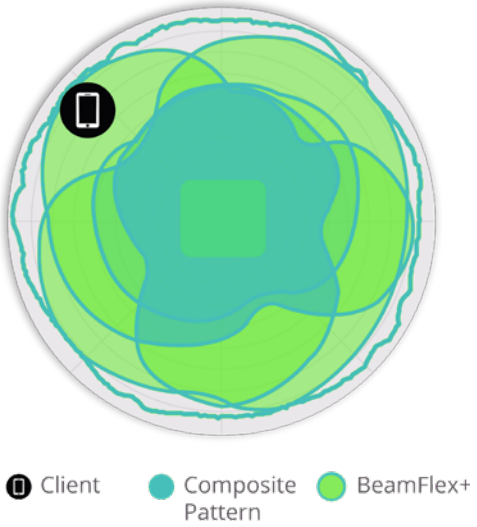

Fig 2. B670 2.4GHz Azimuth Antenna Patterns

Fig 3. B670 5GHz Azimuth Antenna Patterns

Fig 4. B670 6GHz Azimuth Antenna Patterns

Fig 5. B670 2.4GHz Elevation Antenna Patterns

Fig 6. B670 5GHz Elevation Antenna Patterns

Fig 7. B670 6GHz Elevation Antenna Patterns

Note: The outer trace represents the composite RF footprint of all possible BeamFlex+ antenna patterns, while the inner trace represents one BeamFlex+ antenna pattern within the composite outer trace.

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Specifications

WI-FI	
Wi-Fi Standards	• IEEE 802/11a/b/g/n/ac/ax/be, Wi-Fi 7[1]
Supported Rates	• 802.11be: 4 to 5765 Mbps • 802.11ax: 4 to 4804 Mbps • 802.11ac: 6.5 to 866 Mbps • 802.11n: 6.5 to 300 Mbps • 802.11a/g: 6 to 54 Mbps • 802.11b: 1 to 11 Mbps
Supported Channels	• 2.4GHz: 1-13 • 5GHz: 36-64, 100-144, 149-165 • 6GHz: 1-233
MIMO	• 2x2 SU-MIMO* in tri-band mode. 4x4(5GHz) in dual-band • 2x2 MU-MIMO* in tri-band mode. 4x4(5GHz) in dual-band
Spatial Streams	• 2 in tri-band mode or 4 in dual-band mode at 5GHz
Radio Chains and Streams	• 2x2:2 in all 3 bands. 4x4:4(5GHz) in dual-band mode
Channelization	• 20, 40, 80, 160, 320 MHz
Security	• WEP, WPA, WPA-PSK, WPA2, WPA2-PSK, WPA3, WPA3-SAE, OWE, PMF (802.11w), Dynamic PSK, DPSK3 • WIPS/WIDS. TPM 2.0, Secure Boot
Other Wi-Fi Features	• WMM, Power Save, Tx Beamforming, LDPC, STBC, 802.11r/k/v, MBO • MLO (Multi-link operation), Preamble Puncturing • Web Authentication and Guest Access • Hotspot, Hotspot 2.0 • Captive Portal • WISPr

RF	
Antenna Type	• BeamFlex+ adaptive antennas with polarization diversity • Adaptive antenna that provides 4,000+ unique antenna patterns per band
Antenna Gain (max)	• Up to 4dBi
Peak Transmit Power (Tx port/ chain + Combining gain)	• 2.4GHz: 25dBm (2x2) • 5GHz: 25dBm(2x2). 28dBm(4x4) • 6GHz: 25dBm (2x2)
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) • U-NII-5 (5.925–6.425GHz) • U-NII-6 (6.425–6.525GHz) • U-NII-7 (6.525–6.875GHz) • U-NII-8 (6.875–7.125GHz)

2.4GHZ RECEIVE SENSITIVITY (dBm)

HT20		HT40		VHT20		VHT40	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-97	-79	-94	-76	-97	-79	-94	-76
HE20/EHT20				HE40/EHT40			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-97	-79	-74	-68	-94	-76	-71	-65

5GHZ RECEIVE SENSITIVITY (dBm) in 2x2 tri-band mode

HT20/VHT20				HT40/VHT40				VHT80			
MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9
-96	-79	-76	-73	-93	-75	-73	-70	-90	-72	-70	-67
HE20/EHT20				HE40/EHT40				HE80/EHT80			
MCS0	MCS9	MCS13		MCS0	MCS9	MCS13		MCS0	MCS9	MCS13	
-96	-73	-61		-93	-70	-58		-90	-67	-55	

HE160/EHT160							
MCS0	MCS9	MCS13		MCS0	MCS9	MCS13	
-87	-64	-52		-84	-61	-55	

5GHZ RECEIVE SENSITIVITY (dBm) in 4x4 dual-band mode

HT20/VHT20				HT40/VHT40				VHT80			
MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9
-100	-82	-79	-76	-97	-79	-76	-73	-94	-76	-73	-70
HE20/EHT20				HE40/EHT40				HE80/EHT80			
MCS0	MCS9	MCS13		MCS0	MCS9	MCS13		MCS0	MCS9	MCS13	
-100	-76	-64		-97	-73	-61		-94	-70	-58	

HE160/EHT160							
MCS0	MCS9	MCS13		MCS0	MCS9	MCS13	
-91	-67	-55		-87	-64	-58	

6GHZ RECEIVE SENSITIVITY (dBm)

HE20/EHT20			HE40/EHT40			HE80/EHT80		
MCS0	MCS9	MCS13	MCS0	MCS9	MCS13	MCS0	MCS9	MCS13
-96	-73	-61	-93	-70	-58	-90	-67	-55

HE160/EHT160				EHT320			
MCS0	MCS9	MCS11	MCS13	MCS0	MCS9	MCS11	MCS13
-87	-64	-58	-52	-84	-61	-55	-49

2.4GHZ TX POWER TARGET (PER CHAIN)

Rate	Pout (dBm)
MCS0, HT20	22
MCS7, HT20	19
MCS9, VHT20	18
MCS11, HE40	16
MCS13, EHT40	12

5GHZ TX POWER TARGET (PER CHAIN)

Rate	Pout (dBm)
MCS0, HT40	22
MCS7, HT40	19
MCS9, VHT80	17.5
MCS11, HE160	16
MCS13, EHT160	14

6GHZ TX POWER TARGET (PER CHAIN)

Rate	Pout (dBm)
MCS0, HT40	22
MCS7, HT40	17.5
MCS9, VHT80	16.5
MCS11, HE160	15
MCS13, EHT320	13

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Specifications

POWER CONSUMPTION			
Mode	**Power Consumption**	**System Configuration**	**Wi-Fi Radios**
DC Power	33W	• 5Gbps Ethernet Enabled • 1Gbps Ethernet Enabled • GPS Enabled	2.4GHz (2x2) Tx 22dBm 5GHz (2x2) Tx 22dBm 6GHz (2x2) Tx 22dBm
802.3bt5 PoH, uPoE	33W	• 5Gbps Ethernet Enabled • 1Gbps Ethernet Enabled • GPS Enabled	2.4GHz (2x2) Tx 22dBm 5GHz (2x2) Tx 22dBm 6Ghz (2x2) Tx 22dBm
802.3at	25.5W	• 5Gbps Ethernet Enabled • 1Gbps Ethernet Enabled • GPS Enables	2.4GHz (2x2) Tx 20dBm 5GHz (2x2) Tx 20dBm 6Ghz (2x2) Tx 21dBm

PERFORMANCE AND CAPACITY	
Peak PHY Rates	• 2.4GHz: 689 Mbps • 5GHz: 5765 Mbps (4x4:4) or 2882 Mbps (2x2:2) • 6GHz: 5765 Mbps
Client Capacity	• Up to 768 clients per AP
SSID	• Up to 36 per AP

RADIO MANAGEMENT	
Antenna Optimization	• BeamFlex+ • Polarization Diversity with Maximal Ratio Combining (PD- MRC)
Wi-Fi Channel Management	• ChannelFly • Background Scan Based
Client Density Management	• Adaptive Band Balancing • Client Load Balancing • Airtime Fairness • Airtime-based WLAN Prioritization
SmartCast Quality of Service	• QoS-based scheduling, QoS Mirroring • Directed Multicast • L2/L3/L4 ACLs
Mobility	• SmartRoam
Diagnostic Tools	• Spectrum Analysis • SpeedFlex

NETWORKING	
Controller Platform Support	• ARCC • Unleashed with OvrC®
Mesh	• SmartMesh™ wireless meshing technology. Self-healing Mesh in 2.4 GHz, 5GHz, and 6GHz
IP	• IPv4, IPv6, dual-stack
VLAN	• 802.1Q (1 per BSSID or dynamic per user based on RADIUS) • VLAN Pooling • Port-based
802.1x	• Authenticator & Supplicant
Tunnel	• GRE, Soft-GRE
Policy Management Tools	• Application Recognition and Control • Access Control Lists • Device Fingerprinting • Rate Limiting • URL Filtering

PHYSICAL INTERFACES	
Ethernet	• One 100M/1/2.5/5GbE (PoE) port and one 10M/ 100M/1GbE port • Power over Ethernet (802.3af/at/bt) with Category 5e (or better) cable • LLDP support
DC Power	• 48V DC Power Jack

PHYSICAL CHARACTERISTICS	
Physical Size	• 24.8cm (L), 23.8cm (W), 10.8cm (H) • 9.8in (L) x 9.4in (W) x 4.3in (H)
Weight	• 2.8kg • 5lbs
Mounting	• Wall mount, pole mount, flat surface • Bracket included
Physical Security	• Secure bracket (sold separately) (902-0120-0000)
Operating Temperature	• -40°C (-40°F) to 65°C (145°F)
Operating Humidity	• Up to 95%, non-condensing
Wind Survivability	• 165 miles per hour

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Specifications

CERTIFICATIONS AND COMPLIANCE	
Wi-Fi Alliance[1]	• Wi-Fi CERTIFIED™ a, b, g, n, ac, ax, be (Wi-Fi 6, Wi-Fi 7[3]) • Passpoint®, Vantage
Standards Compliance[2]	• IEC/EN/UL 60950-1 Safety • IEC/EN/UL 62368-1 Safety • EN 60601-1-2 Medical • EN 61000-4-2/3/5 Immunity • EN 50121-1 Railway EMC • EN 50121-4 Railway Immunity • IEC 61373 Railway Shock & Vibration • UL 2043 Plenum • EN 62311 Human Safety/RF Exposure • WEEE & RoHS • ISTA 2A Transportation

SOFTWARE AND SERVICES	
Cloud Based Services	• ARCC
Cloud-Based Management	• OvrC®

[1] For complete list of WFA certifications, please see Wi-Fi Alliance website.

[2] For current certification status, please see price list.

ORDERING INFORMATION	
ANU-B670-US02	Access Netoworks B670 Wi-Fi 7 tri-band concurrent wireless Access Point with 2x2:2 (2.4GHz) + 2x2:2 (5GHz) + 2x2:2 (6GHz). Wi-Fi 7 in all three bands. 6GHz LPI mode and SP mode support with AFC. Software configurable to 2x2 (2.4GHz) + 4x4 (5GHz) dual-band mode. BeamFlex+, one 5/2.5/1-Gigabit Ethernet backhaul, one 1-Gigabit port, PoH/uPoE/802.3bt PoE support, onboard BLE and Zigbee selectable IoT radio, TPM 2.0, and Secure Boot. Built-in GPS power adapter not included. Includes a four year limited warranty. Mounting brackets included.

OPTIONAL ACCESSORIES	
902-1180-XX00	• Multigigabit PoE injector (2.5/5/10)-BaseT PoE port, 60W
902-0120-0000	• Spare Articulating Mounting Bracket
902-1170-XX00	• Secure Articulating Mounting Bracket with 10˚ increment
902-0196-0000	• Spare cable gland for weathering the RJ45 port, outdoor AP

Warranty: This Access Networks product includes a four year limited warranty. This warranty is described in greater detail here: https://www.snapone.com/legal/limited-hardware-warranty

BeamFlex® Smart Adaptive Antenna