DATA SHEET

RIVI RV35

Indoor Wi-Fi 6 (802.11ax) Access Point

OVERVIEW

Homes face more extreme demands on their wireless infrastructure than ever before.

Whether working out of a home office or streaming films & TV, demand for high-bandwidth applications and content is unrelenting. And they need strong, reliable connectivity. Your network needs to handle the task without missing a beat.

The RIVI RV35 delivers consistent, reliable Wi-Fi 6 (802.11ax) wireless networking at an affordable price. The AP features patented technologies for performance optimisation and interference mitigation found in our premier access points, delivering superior user experiences at extended ranges. But it provides them in an ultra-compact form factor.

Also, wireless requirements within homes are expanding beyond Wi-Fi with BLE, Zigbee and many other non-Wi-Fi wireless technologies resulting in creation of network silos. Homes need a unified platform to eliminate network silos. The RIVI RV35 is equipped to solve these challenges with a USB port supporting an optional pluggable BLE and Zigbee IoT module.

The RV35 Wi-Fi 6 AP incorporates patented technologies in the RIVI Wi-Fi portfolio.

- Extended coverage with BeamFlex utilising multi-directional antenna patterns.
- Improved throughput with ChannelFly®, which dynamically finds less congested Wi-Fi channels to use.

The RV35 provides an ideal combination of features and performance for home environments. Additionally, it supports up to 256 clients and 16 SSIDs per AP.

Whether you're deploying ten or ten thousand APs, the RV35 is easy to manage through RIVI's appliance and virtual management options.

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ACCESS POINT ANTENNA PATTERN

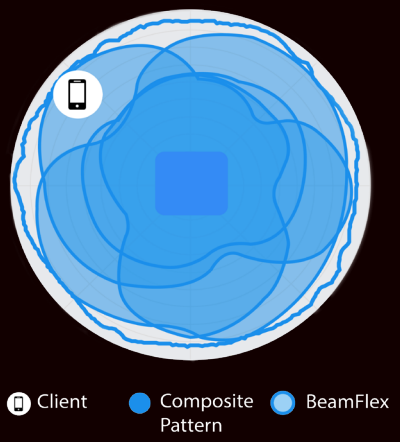
BeamFlex+ adaptive antennas allow the RV35 AP to dynamically choose among a host of antenna patterns in real-time to establish the best possible connection with every device.

This leads to:

- Better Wi-Fi coverage
- Reduced RF interference

Traditional omni-directional antennas, found in generic access points, oversaturate the environment by needlessly radiating RF signals in all directions. In contrast, the RIVI BeamFlex+ adaptive antenna directs the radio signals per-device on a packet by-packet basis to optimise 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.

Figure 1. Example of BeamFlex pattern



BENEFITS

Latest Wi-Fi Standards
The RV35 access point (AP) support the latest Wi-Fi 6 (802.11ax) technology.

Stunning Wi-Fi Performance
Patented technologies for performance optimisation and interference mitigation delivers extended coverage and superior user experience.

IoT Ready
Eliminate siloed networks and unify Wi-Fi and IoT technologies into one single network with the addition of an optional USB module to allow for the incorporation of any future wireless technologies.

Mesh Networking
Dynamically create self-forming, self-healing network mesh with patented SmartMesh technology reducing expensive cabling, and complex configurations by checking a box.

Affordable Enterprise-grade Performance
The RV35 delivers unprecedented price/ performance offering extended range at an affordable price.

Keep Existing Switches and Cables
Designed to operate on existing PoE switches and CAT 5e cabling to minimise costly power infrastructure upgrades.

Figure 2. RV35 2.4GHz Azimuth Antenna Patterns

Figure 3. RV35 5GHz AzimuthAntenna Patterns

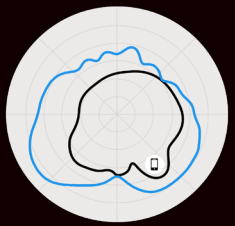


Figure 4. RV35 2.4GHz Elevation Antenna Patterns

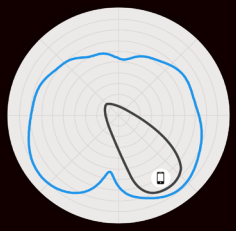
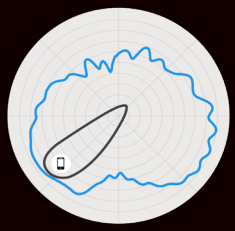


Figure 5. RV35 5GHz Elevation Antenna Patterns



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Indoor Wi-Fi 6 (802.11ax) Access Point

WI-FI	
Wi-Fi Standards	• IEEE 802.11a/b/g/n/ac/ax
Supported Rates	• 802.11ax: 4 to 1774 Mbps • 802.11ac: 6.5 to 867 Mbps (MCS0 to MCS9, NSS = 1 to 2 for VHT20/40/80) • 802.11n: 6.5 Mbps to 300 Mbps (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 5GHz • 2 streams SU/MU-MIMO 2.4GHz
Radio Chains and Streams	• 2x2:2 (5 GHz) • 2x2:2 (2.4GHz)
Channelization	• 20, 40, 80MHz
Security	• WPA-PSK, WPA-TKIP, WPA2 , WPA3-Personal, WPA3-Enterprise, AES, WPA3, 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	EV35c	EV35d	EV35se
Antenna Type	• BeamFlex adaptive antennas • Adaptive antenna that provides up to 64 unique antenna patterns per band		
Antenna Gain (max)	• Up to 3dBi		
Peak Transmit Power (aggregate across MIMO chains)	• 2.4GHz: 23 dBm • 5GHz: 23 dBm		
Minimum Receive Sensitivity[1]	• -101 dBm		
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 (dBm)			
HT20		HT40	
MCS0	MCS7	MCS0	MCS7
-94	-70	-91	-72

5GHZ RECEIVE SENSITIVITY (dBm)					
VHT20		VHT40		VHT80	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-95	-76	-92	-73	-89	-70

[1] Rx sensitivity varies by band, channel width and MCS rate.

2.4GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 HT20	20
MCS7 HT20	15

5GHZ TX POWER TARGET	
Rate	Pout (dBm)
MCS0 VHT20	20
MCS7 VHT20	17
MCS0 VHT40,VHT80	17
MCS7 VHT40, VHT80	17

PERFORMANCE AND CAPACITY	
Peak PHY Rates	• 2.4GHz: 574Mbps • 5 GHz: 1200Mbps
Client Capacity	• Up to 256 clients per AP
SSID	• Up to 16 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 • Directed Multicast • L2/L3/L4 ACLs
Mobility	• SmartRoam
Diagnostic Tools	• SpeedFlex

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NETWORKING	
Controller Platform Support	• Unleashed
Mesh	• SmartMesh™ wireless meshing technology. Self-healing Mesh
IP	• IPv4, IPv6
VLAN	• 802.1Q (1 per BSSID or dynamic per use based on RADIUS • VLAN Pooling • Port-based
802.1x	• Authenticator & Supplicant
Tunnel	• L2TP, GRE, Soft-GRE
Policy Management Tools	• Application Recognition and Control • Access Control Lists • Device Fingerprinting • Rate Limiting

PHYSICAL INTERFACES	
Ethernet	• 1 x 1GbE port, RJ-45
USB	• 1 USB 2.0 Port, Type A

PHYSICAL CHARACTERISTICS	
Physical Size	• 14.60(L) x 15.59(W) x 3.93(H) cm • 5.75(L) x 6.14(W) x 1.55(H) in
Weight	• 368g (13 oz)
Mounting	• Wall, Drop ceiling, Desk • Secure bracket (sold separately)
Physical Security	• Hidden latching mechanism • T-bar Torx
Operating Temperature	• 0 °C (32 °F) to 40 °C (104 °F)
Operating Humidity	• Up to 95%, non-condensing

POWER[3]	
Power Supply	**Maximum Power Consumption**
PoE (Full Functionality)	• 12.62W
DC input	• 11.4 W

CERTIFICATIONS AND COMPLIANCE	
Wi-Fi Alliance[4]	• Wi-Fi CERTIFIED™ a, b, g, n, ac • Wi-Fi CERTIFIED 6™ • WPA3™ -Enterprise, Personal • Wi-Fi Enhanced Open™ • Wi-Fi Agile Multiband™ • Passpoint® • Vantage • WMM
Standards Compliance[5]	• EN 60950-1 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	
Location Based Services	• SPoT
Network Analytics	• SmartCell Insight (SCI)
Security and Policy	• Cloudpath

ORDERING INFORMATION	
901-RIV-RV35-XX02	• **RV35** dual-band (5GHz and 2.4GHz concurrent) 802.11ax wireless access point, 2x2:2 + 2x2:2 streams, adaptive antennas, dual ports, PoE support. Plenum rated. Includes adjustable acoustic drop ceiling bracket. Does not include power adaptor.

[3] Max power varies by country setting, band, and MCS rate.

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

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

