DATA SHEET

RIVI

RIVI OASIS EV35

Outdoor 2x2:2 Wi-Fi 6 Access Point

OVERVIEW

Modern Wi-Fi device users expect reliable connectivity—anywhere, anytime. But in outdoor spaces with multiple users and constant RF noise, they are often frustrated by poor coverage, dropped connections, and reduced data rates. These aggravating Wi-Fi experiences can easily translate to negative perceptions of the space and the service provider.

The quality of the outdoor network experience becomes the "litmus test" for acceptance or rejection.

RIVI knows that one AP solution cannot meet every possible challenge of varied and complex outdoor requirements. This is why the RIVI EV35 Wi-Fi 6 access point is designed with more variety than any other outdoor AP in the market today. The EV35 uses patented antenna optimisation and interference mitigation technologies to improve throughput, connection reliability, and deliver industry-leading Wi-Fi 6 performance to every connected client. At the same time, the EV35 is designed for fast, simple installation with an ultra-lightweight, low profile, IP-67 rated enclosure that can stand up to the most challenging outdoor environments. At RIVI, we know that outdoor AP deployments are especially challenging for installation and maintenance, which is why the RIVI outdoor AP uses a variety of technologies, like SmartMesh that help simplify outdoor AP deployment.

The RIVI EV35 is perfect for highly connected outdoor spaces. By providing a superior Wi-Fi experience to every user in we can ensure peace of mind that every outdoor connected experience is seamless.

The RIVI EV35 incorporates patented technologies in the RIVI Wi-Fi portfolio.

- Extended coverage with patented BeamFlex+ utilising multi-directional antenna patterns.
- Improve throughput with ChannelFly, which dynamically finds less congested Wi-Fi channels to use. Whether you're deploying ten or ten thousand APs, the EV35 is easy to manage through RIVI's appliance and virtual management options.is why the RIVI outdoor AP uses a variety of technologies, like SmartMesh that help simplify outdoor AP deployment.

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RIVI®

RIVI OASIS EV35

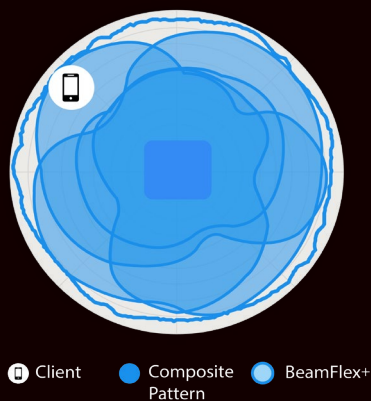Outdoor 2x2:2 Wi-Fi 6 Access Point

ACCESS POINT ANTENNA PATTERN

BeamFlex+ adaptive antennas allow the EV35 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.

BENEFITS

Simplicity
RIVI's Outdoor AP make Wi-Fi deployments extremely simple to deploy with one-touch technologies like SmartMesh™.

Stunning Wi-Fi Performance
Extends coverage with patented BeamFlex®+ adaptive antenna technology while mitigating interference by utilising up to 64 directional antenna patterns.

Great Outdoor Wi-Fi
Experience high performance outdoor Wi-Fi 6 with IP-67 weather proofing.

Automate Optimal Throughput
ChannelFly® dynamic channel technology uses machine learning to automatically find the least congested channels. You always get the highest throughput the band can support.

Figure 1. Example of BeamFlex+ pattern

● Client   ● Composite Pattern   ● BeamFlex+

Figure 2. 2.4GHz Azimuth Antenna Patterns
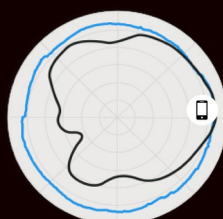

Figure 3. 5GHz Azimuth Antenna Patterns
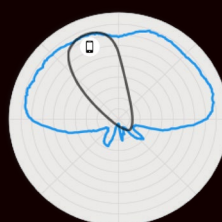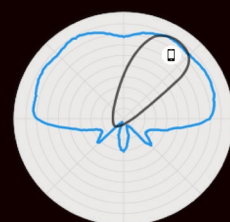

Figure 4. 2.4GHz Elevation Antenna Patterns

Figure 5. 5GHz Elevation Antenna Patterns

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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 • 802.11n: 6.5 to 300Mbps • 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
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 (5GHz) • 2x2:2 (2.4GHz)
Channelization	• 20, 40, 80MHz
Security	• WPA-PSK, WPA-TKIP, WPA2-Personal, WPA2-Enterprise, WPA3-Personal, WPA3-Enterprise, AES, 802.11i, Dynamic PSK, OWE • 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	Internal omnidirectional **BeamFlex+ adaptive internal antennas with polarization diversity**
Antenna Gain (max)	Up to 3dBi
Peak Transmit Power (Tx port/chain + 3dB Combining gain)	2.4GHz: 26 dBm 5GHz: 25 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

HT20		HT40		VHT20		VHT40	
MCS0	MCS7	MCS0	MCS7	MCS0	MCS7	MCS0	MCS7
-97	-78	-94	-75	-97	-78	-94	-75

HE20				HE40			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-97	-78	-73	-67	-94	-75	-70	-64

5GHZ RECEIVE SENSITIVITY

VHT20				VHT40				VHT80			
MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9	MCS0	MCS7	MCS8	MCS9
-97	-78	-75	-73	-95	-77	-71	-69	-92	-74	-68	-66

HE20				HE40				HE80			
MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11	MCS0	MCS7	MCS9	MCS11
-97	-78	-72	-67	-95	-77	-69	-64	-92	-74	-66	-61

2.4GHZ TX POWER TARGET

Rate	Pout (dBm)
MCS0 HT20	23
MCS7 HT20	18
MCS8 VHT20	17
MCS9 VHT40	16.5
MCS11 HE40	15

5GHZ TX POWER TARGET

Rate	Pout (dBm)
MCS0 VHT20	22
MCS7 VHT40, VHT80	20
MCS9 VHT40, VHT80	19
MCS11 HE20, HE40, HE80	15

PERFORMANCE AND CAPACITY

Peak PHY Rates	• 2.4GHz: 574 Mbps 5GHz: 1200 Mbps
Client Capacity	• Up to 512 clients per AP
SSID	• Up to 31 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	• Spectrum Analysis • SpeedFlex

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NETWORKING	
Controller Platform Support	• Unleashed and Cloud
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 PoE In - 802.3at Class 4

PHYSICAL CHARACTERISTICS	
Physical Size	• 162.3 mm (W) x 194.9 mm (L) x 80.9 mm (H) • 6.38 in (W) x 7.67 in (L) x 3.19 in (H)
Weight (w/ included bracket)	1.01kg (2.23Lbs)
Ingress Protection	IP-67
Mounting	• Pole Mount • Wall Mount • Flat Surface • Bracket included in the box
Operating Temperature	-20°C (4°F) to 65°C (149 °F)
Operating Humidity	Up to 95%, non-condensing
Wind Survivability	Up to 266km/h (165 mph)
Altitude	Up to 3,048m (10,000 ft), functional operation

POWER[2]		
Power Mode	System Configuration	Max Power Consumption (includes USB power)
802.3at (PoE) - Class 4	Full Functionality	13.24W
802.3af (PoE) - Class 3		11.42W
Idle (PoE)		7.78W

CERTIFICATIONS AND COMPLIANCE	
Wi-Fi Alliance[3]	• Wi-Fi CERTIFIED™ a, b, g, n, ac • Wi-Fi CERTIFIED™ 6 • WPA3™ - Enterprise, Personal • Wi-Fi Enhanced Open™ • Wi-Fi Agile Multiband™ • Wi-Fi Optimized Connectivity™ • Wi-Fi Vantage™ • WMM® • Passpoint®
Standards Compliance[4]	• IEC/EN/UL 62368-1 & IEC/EN 60950-1 Safety • FCC 15B, RSS-Gen, EN 301 489-1/17 • EN 61000-3-x Emissions • EN 61000-4-2/3/5 Immunity • EN 60601-1-2 Medical • EN 50121-1/4 Railway EMC • IEC 61373 Railway Shock & Vibration • UL 2043 Plenum • EN 62311 Human Safety/RF Exposure • WEEE & RoHS • ISTA 2A Transportation

ORDERING INFORMATION	
RIV-EV35-UNL	• **EV35** dual-band (5GHz and 2.4GHz concurrent) 802.11ax outdoor wireless access point, 2x2:2 streams, adaptive antennas, 1x GbE port, PoE support. Unleashed managed. Includes pole/ wall-mount bracket. Does not include PoE injector.
RIV-EV35-CLD	• **EV35** dual-band (5GHz and 2.4GHz concurrent) 802.11ax outdoor wireless access point, 2x2:2 streams, adaptive antennas, 1x GbE port, PoE support. Remote management (3 years hosted). Includes pole/ wall-mount bracket. Does not include PoE injector

CLOUD/ REMOTE MANAGEMENT LICENCE RENEWALS	
CLD-1-YR-RENEW	• 1 year hosted remote management licence renewal, per AP
CLD-3-YR-RENEW	• 3 year hosted remote management licence renewal, per AP

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

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

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