

NEWBRIDGE AP722-H

Outdoor Wi-Fi 7 (802.11be) Tri-Radio Access Point

2.4 GHz

5 GHz

5 GHz



A hardened outdoor Wi-Fi 7 access point on the Qualcomm IPQ5322 platform – 2x2 across 2.4 GHz and two independent 5 GHz radios for up to 6,452 Mbps aggregate PHY rate, with 160 MHz channels, Multi-Link Operation, six external N-type omni antennas, and a 10G SFP+ / 2.5G 802.3bt PoE uplink.

6.45 Gbps
TRI-RADIO PHY

2 × 5 GHz
INDEPENDENT RADIOS

–30 °C
TO 70 °C OUTDOOR

RADIO TECHNOLOGY

- 802.11be 5 GHz 2x2:2 – 2,882¹ Mbps (radio 1)
- 802.11be 5 GHz 2x2:2 – 2,882¹ Mbps (radio 2)
- 802.11be 2.4 GHz 2x2:2 – 688² Mbps
- Up to 6,452³ Mbps · 160 MHz · MLO

WIRED PORTS

- 1 × 2.5G 802.3bt PoE uplink
- 1 × 10G SFP+ fibre port
- SFP+ carries data only

OUTDOOR HARDENING

- Integrated lightning-protection board
- ESD ±15 kV air / ±8 kV contact
- Surge 4 kV common, 2 kV differential
- –30 °C to 70 °C operating

MANAGEMENT

- Newbridge 9X80 On-Premises Controller
- Newbridge Controller – cloud or on-prem
- Internet Access Management Gateway
- Standalone web GUI and remote management

INTRODUCTION

The Newbridge AP722-H is an outdoor Wi-Fi 7 (802.11be) access point built for coverage where a ceiling AP cannot go: courtyards, car parks, quaysides, stadium concourses and campus walkways. Six spatial streams – 2x2 MIMO across one 2.4 GHz radio and two independent 5 GHz radios – deliver up to 6,452 Mbps of aggregate PHY capacity while cutting airtime contention and co-channel interference.

Two separate 5 GHz radios double the usable 5 GHz capacity of a conventional dual-band outdoor AP. Multi-Link Operation combines the cleanest available links in real time, keeping latency-sensitive traffic fluid where a single 5 GHz radio would saturate. 4096-QAM modulation and 160 MHz channels lift peak rates on every radio.

Six external N-type omnidirectional antennas – two per radio, 6 dBi each – ship with the unit, so coverage can be shaped to the site rather than to the enclosure.

A 10 Gbps SFP+ fibre interface and a 2.5G 802.3bt PoE Ethernet port keep wired backhaul ahead of the air. Fibre backhaul lets the access point sit far from the wiring closet without repeaters – the right answer for a car park at the edge of a campus. The SFP+ port carries data only, so when backhauling over fibre the unit is still powered by 802.3bt PoE on the RJ45 uplink.

Powering is a single cable. 802.3bt PoE delivers both power and data to a pole or wall mount with no local outlet, and the access point draws under 30 W.

Outdoor electronics fail at the surge, not the silicon. An integrated lightning-protection board, ±15 kV air and ±8 kV contact ESD immunity, and 4 kV common-mode / 2 kV differential-mode surge withstand keep the unit alive through the weather that ends lesser hardware. It runs from –30 °C to 70 °C, and stores down to –40 °C.

Security is enforced at the air interface. WPA2 and WPA3-PSK encryption protect client sessions, MAC filtering and client isolation contain untrusted devices, and per-radio transmit power keeps coverage inside the property line.

Management scales with the deployment. The AP722-H runs standalone, under the Newbridge 9X80 on-premises controller, or under Newbridge Controller in the cloud – giving administrators centralised visibility, zero-touch provisioning, policy control, and automated firmware updates from a single pane of glass.

¹ The 5 GHz peak rate requires Wi-Fi 7 EHT with 160 MHz channel bandwidth and 4096-QAM, on compatible client devices. 160 MHz availability may vary by region and regulatory domain.
² The 2.4 GHz peak rate requires Wi-Fi 7 features on 2.4 GHz, including 40 MHz channel width and 4096-QAM, on compatible client devices, and may be restricted by local regulatory conditions.
³ The 6,452 Mbps figure is the aggregate theoretical PHY (link) rate – the sum of the 2.4 GHz and both 5 GHz PHY rates – not user-achievable throughput. Actual wireless data throughput and coverage vary with environmental conditions, network factors, product placement, network complexity, and client-specific limitations.

ANTENNAS

Type	External omnidirectional, field-replaceable
Gain	6 dBi per element
Count	6 – two per radio (2.4 GHz, 5 GHz radio 1, 5 GHz radio 2)
Connector	N type
Supplied	Included with the access point

TRANSMIT POWER (TX POWER)

STANDARD	RATE	TX (DBM)	RATE	TX (DBM)
2.4 GHz – TX POWER				
802.11b	11M	24±2dBm	1M	24±2dBm
802.11g	54M	23±2dBm	6M	24±2dBm
802.11n HT20	MCS7	23±2dBm	MCS0	24±2dBm
802.11n HT40	MCS7	22±2dBm	MCS0	24±2dBm
802.11ax HE20	MCS11	21±2dBm	MCS0	24±2dBm
802.11ax HE40	MCS11	21±2dBm	MCS0	24±2dBm
802.11be EHT20	MCS13	20±2dBm	MCS0	24±2dBm
802.11be EHT40	MCS13	20±2dBm	MCS0	24±2dBm

STANDARD	RATE	TX (DBM)	RATE	TX (DBM)
5 GHz RADIO 1 – TX POWER				
802.11a	54M	21±2dBm	6M	23±2dBm
802.11n HT20	MCS7	20±2dBm	MCS0	23±2dBm
802.11n HT40	MCS7	20±2dBm	MCS0	23±2dBm
802.11ac VHT20	MCS8	19±2dBm	MCS0	23±2dBm
802.11ac VHT40	MCS9	18±2dBm	MCS0	23±2dBm
802.11ac VHT80	MCS9	18±2dBm	MCS0	23±2dBm
802.11ax HE20	MCS11	18±2dBm	MCS0	23±2dBm
802.11ax HE40	MCS11	18±2dBm	MCS0	23±2dBm
802.11ax HE80	MCS11	18±2dBm	MCS0	23±2dBm
802.11ax HE160	MCS11	18±2dBm	MCS0	23±2dBm
802.11be EHT20	MCS13	18±2dBm	MCS0	23±2dBm
802.11be EHT40	MCS13	18±2dBm	MCS0	23±2dBm
802.11be EHT80	MCS13	18±2dBm	MCS0	23±2dBm
802.11be EHT160	MCS13	17±2dBm	MCS0	23±2dBm

STANDARD	RATE	TX (DBM)	RATE	TX (DBM)
5 GHz RADIO 2 – TX POWER				
802.11a	54M	20±2dBm	6M	22±2dBm
802.11n HT20	MCS7	20±2dBm	MCS0	22±2dBm
802.11n HT40	MCS7	20±2dBm	MCS0	22±2dBm
802.11ac VHT20	MCS8	19±2dBm	MCS0	22±2dBm
802.11ac VHT40	MCS9	19±2dBm	MCS0	22±2dBm
802.11ac VHT80	MCS9	18±2dBm	MCS0	21±2dBm
802.11ax HE20	MCS11	18±2dBm	MCS0	22±2dBm
802.11ax HE40	MCS11	18±2dBm	MCS0	22±2dBm
802.11ax HE80	MCS11	17±2dBm	MCS0	21±2dBm
802.11ax HE160	MCS11	17±2dBm	MCS0	21±2dBm
802.11be EHT20	MCS13	16±2dBm	MCS0	21±2dBm
802.11be EHT40	MCS13	16±2dBm	MCS0	21±2dBm
802.11be EHT80	MCS13	16±2dBm	MCS0	21±2dBm
802.11be EHT160	MCS13	16±2dBm	MCS0	21±2dBm

Transmit power is the conducted power at the antenna port and excludes the 6 dBi antenna gain. Effective radiated power, supported channels, and maximum permitted output vary by country/region per local regulatory requirements.

The two 5 GHz radios are independent. Both cover 5.150–5.850 GHz; channel assignment per radio is set by the controller or by local configuration.

RECEIVE SENSITIVITY (RX SENS)

STANDARD	RATE	RX (DBM)	RATE	RX (DBM)
2.4 GHz – RX SENSITIVITY				
802.11b	11M	-89dBm	1M	-95dBm
802.11g	54M	-75dBm	6M	-92dBm
802.11n HT20	MCS7	-72dBm	MCS0	-88dBm
802.11n HT40	MCS7	-70dBm	MCS0	-86dBm
802.11ax HE20	MCS11	-62dBm	MCS0	-88dBm
802.11ax HE40	MCS11	-60dBm	MCS0	-86dBm
802.11be EHT20	MCS13	-62dBm	MCS0	-88dBm
802.11be EHT40	MCS13	-60dBm	MCS0	-86dBm

STANDARD	RATE	RX (DBM)	RATE	RX (DBM)
5 GHz RADIO 1 – RX SENSITIVITY				
802.11a	54M	-72dBm	6M	-92dBm
802.11n HT20	MCS7	-68dBm	MCS0	-88dBm
802.11n HT40	MCS7	-68dBm	MCS0	-86dBm
802.11ac VHT20	MCS8	-65dBm	MCS0	-88dBm
802.11ac VHT40	MCS9	-58dBm	MCS0	-86dBm
802.11ac VHT80	MCS9	-58dBm	MCS0	-84dBm
802.11ax HE20	MCS11	-60dBm	MCS0	-90dBm
802.11ax HE40	MCS11	-58dBm	MCS0	-88dBm
802.11ax HE80	MCS11	-54dBm	MCS0	-84dBm
802.11ax HE160	MCS11	-51dBm	MCS0	-82dBm
802.11be EHT20	MCS13	-54dBm	MCS0	-86dBm
802.11be EHT40	MCS13	-52dBm	MCS0	-84dBm
802.11be EHT80	MCS13	-50dBm	MCS0	-82dBm
802.11be EHT160	MCS13	-48dBm	MCS0	-80dBm

STANDARD	RATE	RX (DBM)	RATE	RX (DBM)
5 GHz RADIO 2 – RX SENSITIVITY				
802.11a	54M	-74dBm	6M	-92dBm
802.11n HT20	MCS7	-72dBm	MCS0	-88dBm
802.11n HT40	MCS7	-63dBm	MCS0	-88dBm
802.11ac VHT20	MCS8	-60dBm	MCS0	-88dBm
802.11ac VHT40	MCS9	-60dBm	MCS0	-88dBm
802.11ac VHT80	MCS9	-60dBm	MCS0	-86dBm
802.11ax HE20	MCS11	-60dBm	MCS0	-90dBm
802.11ax HE40	MCS11	-58dBm	MCS0	-88dBm
802.11ax HE80	MCS11	-55dBm	MCS0	-84dBm
802.11ax HE160	MCS11	-51dBm	MCS0	-82dBm
802.11be EHT20	MCS13	-54dBm	MCS0	-86dBm
802.11be EHT40	MCS13	-52dBm	MCS0	-84dBm
802.11be EHT80	MCS13	-50dBm	MCS0	-82dBm
802.11be EHT160	MCS13	-48dBm	MCS0	-80dBm

Receive sensitivity is measured at the antenna port at a 10% packet error rate. Figures vary with channel width, interference, and client behaviour.

SYSTEM PLATFORM

Chipset Platform	Qualcomm IPQ5322 + QCN6224 + QCA8386
Flash	128 MB NAND
Memory	1 GB DDR4 (1024 MB)

WI-FI RADIO SPECIFICATIONS

Wireless Standards	IEEE 802.11a/b/g/n/ac/ax/be
Radios	3 – one 2.4 GHz, two independent 5 GHz
Frequency Bands	2.4 GHz: 2.400–2.484 GHz 5 GHz radio 1: 5.150–5.850 GHz 5 GHz radio 2: 5.150–5.850 GHz
Supported Rates	802.11be (Wi-Fi 7): 2.4 GHz up to 688 Mbps · 5 GHz up to 2,882 Mbps per radio 802.11ax: up to 2,402 Mbps (5 GHz, 160 MHz) 802.11ac: up to 867 Mbps (80 MHz) 802.11n: up to 300 Mbps (40 MHz) · 802.11a/g: up to 54 Mbps · 802.11b: up to 11 Mbps
MLO	- Wi-Fi 7 Multi-Link Operation (802.11be) - Combines the two 5 GHz links where the client supports it; the active combination depends on client capability, regulatory domain and configuration - Per link: up to 160 MHz channel width; up to 4096-QAM
Spatial Streams	2×2 per radio (6 streams total)
Channelization	20, 40, 80, 160 MHz
Modulation	Up to 4096-QAM (4K-QAM)
EVM	2.4 GHz – 802.11b ≤ –10 dB, 802.11g ≤ –25 dB, 802.11n ≤ –28 dB, 802.11ax ≤ –35 dB, 802.11be ≤ –38 dB 5 GHz – 802.11a ≤ –25 dB, 802.11n ≤ –28 dB, 802.11ac ≤ –32 dB, 802.11ax ≤ –35 dB, 802.11be ≤ –38 dB
Frequency Tolerance	±20 ppm

ANTENNAS

Type	6 × external omnidirectional, field-replaceable
Gain	6 dBi per element, two per radio
Connector	N type, supplied with the unit

PHYSICAL

Ethernet	1 × 10/100/1000/2500 Mbps RJ45, 802.3bt PoE input
Fibre	1 × 10G SFP+ (transceiver not included)
Power Supply	802.3bt PoE on the RJ45 port. The SFP+ port carries data only, so fibre backhaul still requires 802.3bt PoE on the RJ45 uplink.
Power Consumption	< 30 W max (access point). Add the SFP+ optical module's own draw to the PoE budget.
LED Indicators	PWR, SYS, SFP+, WAN, Wi-Fi
Reset	1 × reset button; press 10 seconds to restore factory defaults
Dimensions	243.2 × 218.3 × 68.3 mm (excluding antennas)
Weight	1.85 kg

ENVIRONMENTAL & PROTECTION

Operating Temperature	–30 °C to 70 °C
Storage Temperature	–40 °C to 70 °C
Operating Humidity	5% to 95%, non-condensing
ESD Immunity	Air ±15 kV, contact ±8 kV
Surge Withstand	Common mode 4 kV, differential mode 2 kV
Lightning Protection	Integrated lightning-protection board

PERFORMANCE AND CAPACITY

SSIDs	Up to 12 per AP (4 per radio)
BSSIDs	Up to 12 per AP (4 per radio)
Client Limit	Configurable, up to 64 per radio
Operating Modes	Access Point, Gateway

SOFTWARE SPECIFICATION

Wireless

- Multiple SSIDs: 4 per radio; SSID broadcast or hidden
- Seamless roaming to IEEE 802.11k/v
- Band steering, prioritising 5 GHz association
- Adjustable RF transmit power per radio
- Client isolation
- Wi-Fi scheduling, switching radios off outside service hours
- MAC address filtering
- Concurrent client limit, up to 64 per radio

Security

- OPEN
- WPA / WPA2-PSK (TKIP, AES)
- WPA3-PSK (AES)

Networking

- VLAN configuration
- Gateway and Access Point operating modes
- Cloud access in gateway mode

Management

- Web GUI, AC controller, remote and cloud management
- Configuration backup and restore
- Restore to factory defaults
- Immediate or scheduled reboot
- Administrator password management
- Firmware upgrade
- System log

ORDER INFORMATION

ORDER NO.	DESCRIPTION
NB-AP722-H	Newbridge AP722-H Wi-Fi 7 Outdoor Access Point, 2x2:2 (2.4 GHz), 2x2:2 (5 GHz) × 2, external antennas included
NB-AP722H-SU-1Y	Newbridge AP722-H Hardware and Software Support, 1Y
VC-AP722H-RPL-1Y	VCARE AP722-H NBD AHR, Hardware & Software Support, 1Y

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