

NEWBRIDGE AP744-H

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

2.4 GHz

5 GHz

6 GHz



A hardened IP67 outdoor Wi-Fi 7 access point on the Qualcomm IPQ9570 platform – 4x4 across 2.4, 5 and 6 GHz for up to 18.67 Gbps aggregate PHY rate, with 320 MHz channels, Multi-Link Operation, eight external 6 dBi omni antennas, and a 10G SFP+ / 10G 802.3bt PoE uplink.

18.67 Gbps

TRI-BAND PHY

12

SPATIAL STREAMS

IP67

OUTDOOR RATED

RADIO TECHNOLOGY

- 802.11be 6 GHz 4x4:4 – 11,528¹ Mbps
- 802.11be 5 GHz 4x4:4 – 5,764² Mbps
- 802.11be 2.4 GHz 4x4:4 – 1,376³ Mbps
- Up to 18.67⁴ Gbps · 320 MHz · MLO

WIRED PORTS

- 1 × 10G 802.3bt PoE uplink
- 1 × 2.5G LAN port
- 1 × 10G SFP+ fibre port

OUTDOOR HARDENING

- IP67 ingress protection
- ESD ±8 kV air / ±6 kV contact
- Surge 2 kV common, 1 kV differential
- Eight external 6 dBi omni antennas

MANAGEMENT

- Newbridge 9X80 On-Premises Controller
- Newbridge Controller – cloud or on-prem
- Internet Access Management Gateway
- Fat AP and Thin AP operating modes

INTRODUCTION

The Newbridge AP744-H is a flagship outdoor Wi-Fi 7 (802.11be) tri-band access point for the density that open spaces attract: stadium bowls, transport interchanges, campus quadrangles and event grounds. Twelve spatial streams – 4x4 MIMO across the 2.4 GHz, 5 GHz, and (where regulations permit) 6 GHz bands – deliver up to 18.67 Gbps of aggregate PHY capacity, and the access point serves up to 1,536 associated clients.

Powered by the Qualcomm IPQ9570 platform with 2 GB of DDR4 memory, it is engineered to sustain high throughput under heavy concurrency. 320 MHz channels on 6 GHz, 4096-QAM modulation, and Multi-Link Operation work in concert to lift peak rates, tighten latency, and keep every session responsive as client counts climb.

Eight external omnidirectional antennas ship with the unit: four dual-band 2.4/5 GHz elements serving both of those 4×4 radios, and four dedicated 6 GHz elements, each 6 dBi. Coverage is shaped to the site rather than to the enclosure.

Backhaul keeps pace with the air. A 10 Gbps SFP+ fibre interface and a 10 Gbps 802.3bt PoE Ethernet port carry the uplink, and a separate 2.5G LAN port serves local wired devices. The SFP+ port carries data only, so when backhauling over fibre the unit is still powered by 802.3bt PoE on the RJ45 uplink or by the DC input.

Flexible powering simplifies every rollout: the AP runs from 802.3bt PoE or a 54 V DC input, and draws under 42 W.

An IP67-rated enclosure seals the electronics against dust and immersion, with ± 8 kV air and ± 6 kV contact ESD immunity and 2 kV common-mode surge withstand. Storage is rated from -40 °C to 70 °C.

Security is enforced at the air interface. WPA2 and WPA3-PSK encryption protect client sessions, MAC whitelisting and user isolation contain untrusted devices, and per-radio transmit power keeps coverage inside the property line. WMM QoS prioritises latency-sensitive traffic.

Management scales with the deployment. The AP744-H runs standalone in Fat AP mode, or under the Newbridge 9X80 on-premises controller or Newbridge Controller in the cloud as a Thin AP – giving administrators centralised visibility, zero-touch provisioning, policy control, and automated firmware updates from a single pane of glass.

¹ The 6 GHz peak rate requires Wi-Fi 7 (802.11be) features – 320 MHz channel width and 4096-QAM (4K-QAM) – and compatible client devices. 320 MHz channels are exclusive to the 6 GHz band and may be restricted or unavailable in some regions due to regulatory limitations.

² 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.

³ 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.

⁴ The 18.67 Gbps figure is the aggregate theoretical PHY (link) rate – the sum of the 2.4 GHz, 5 GHz and 6 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.

INTERFACES



Underside interface bay – status LEDs, sealed cable glands for the 10G WAN, 2.5G LAN and 10G SFP+ ports, reset and console access behind a sealed service cover, and the grounding stud.

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	21±2dBm	6M	23±2dBm
802.11n HT20	MCS7	20±2dBm	MCS0	22±2dBm
802.11n HT40	MCS7	20±2dBm	MCS0	22±2dBm
802.11ax HE20	MCS11	18±2dBm	MCS0	22±2dBm
802.11ax HE40	MCS11	18±2dBm	MCS0	22±2dBm
802.11be EHT20	MCS13	18±2dBm	MCS0	22±2dBm
802.11be EHT40	MCS13	18±2dBm	MCS0	22±2dBm

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

STANDARD	RATE	TX (DBM)	RATE	TX (DBM)
6 GHz – TX POWER				
802.11ax HE20	MCS11	18±2dBm	MCS0	21±2dBm
802.11ax HE40	MCS11	18±2dBm	MCS0	21±2dBm
802.11ax HE80	MCS11	17±2dBm	MCS0	21±2dBm
802.11ax HE160	MCS11	17±2dBm	MCS0	21±2dBm
802.11be EHT20	MCS13	17±2dBm	MCS0	21±2dBm
802.11be EHT40	MCS13	17±2dBm	MCS0	21±2dBm
802.11be EHT80	MCS13	16±2dBm	MCS0	21±2dBm
802.11be EHT160	MCS13	16±2dBm	MCS0	21±2dBm
802.11be EHT320	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.

RECEIVE SENSITIVITY (RX SENS)

STANDARD	RATE	RX (DBM)	RATE	RX (DBM)
2.4 GHz – RX SENSITIVITY				
802.11b	11M	-88dBm	1M	-97dBm
802.11g	54M	-75dBm	6M	-92dBm
802.11n HT20	MCS7	-72dBm	MCS0	-92dBm
802.11n HT40	MCS7	-68dBm	MCS0	-88dBm
802.11ax HE20	MCS11	-63dBm	MCS0	-92dBm
802.11ax HE40	MCS11	-58dBm	MCS0	-88dBm
802.11be EHT20	MCS13	-58dBm	MCS0	-88dBm
802.11be EHT40	MCS13	-56dBm	MCS0	-86dBm

STANDARD	RATE	RX (DBM)	RATE	RX (DBM)
5 GHz – RX SENSITIVITY				
802.11a	54M	-75dBm	6M	-95dBm
802.11n HT20	MCS7	-72dBm	MCS0	-92dBm
802.11n HT40	MCS7	-70dBm	MCS0	-88dBm
802.11ac VHT20	MCS9	-68dBm	MCS0	-88dBm
802.11ac VHT40	MCS9	-63dBm	MCS0	-86dBm
802.11ac VHT80	MCS9	-60dBm	MCS0	-84dBm
802.11ax HE20	MCS11	-60dBm	MCS0	-88dBm
802.11ax HE40	MCS11	-58dBm	MCS0	-86dBm
802.11ax HE80	MCS11	-54dBm	MCS0	-84dBm
802.11ax HE160	MCS11	-52dBm	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)
6 GHz – RX SENSITIVITY				
802.11ax HE20	MCS11	-60dBm	MCS0	-88dBm
802.11ax HE40	MCS11	-58dBm	MCS0	-86dBm
802.11ax HE80	MCS11	-54dBm	MCS0	-84dBm
802.11ax HE160	MCS11	-52dBm	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
802.11be EHT320	MCS13	-46dBm	MCS0	-78dBm

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 IPQ9570 + QCN9274 ×3 + AQR113C + QCA8081
Flash	128 MB NAND
Memory	2 GB DDR4 (1024 MB × 2)

WI-FI RADIO SPECIFICATIONS

Wireless Standards	IEEE 802.11a/b/g/n/ac/ax/be
Frequency Bands	2.4 GHz: 2.400-2.484 GHz 5 GHz: 5.150-5.850 GHz 6 GHz: 5.925-7.125 GHz
Supported Rates	802.11be (Wi-Fi 7): 2.4 GHz up to 1,376 Mbps · 5 GHz up to 5,764 Mbps · 6 GHz up to 11,528 Mbps 802.11ax: up to 4,804 Mbps (160 MHz) 802.11ac: up to 1,733 Mbps (80 MHz) 802.11n: up to 600 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 5 GHz and 6 GHz links where the client supports it; the active band combination depends on client capability, regulatory domain and configuration - Per link: up to 160 MHz channel width (320 MHz on 6 GHz); up to 4096-QAM
Spatial Streams	4×4 per band (12 streams total)
Channelization	20, 40, 80, 160, 320 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 / 6 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

PHYSICAL

Uplink	1 × 10 Gbps adaptive RJ45, 802.3bt PoE input
LAN	1 × 10/100/1000/2500 Mbps RJ45
Fibre	1 × 10G SFP+ (transceiver not included)
Power Supply	802.3bt PoE on the RJ45 uplink, or DC 54 V / 1 A. The SFP+ port carries data only, so fibre backhaul still requires 802.3bt PoE or the DC input.
Power Consumption	< 42 W max (access point). Add the SFP+ optical module's own draw to the PoE budget.
LED Indicators	SYS, SFP, WAN, LAN, 2.4 GHz (green), 5 GHz (blue; also indicates 6 GHz)
Reset	1 × reset button; press 6-10 seconds to restore factory defaults
Dimensions	318.4 × 269.4 × 90.2 mm (excluding antennas)

ENVIRONMENTAL & PROTECTION

Ingress Protection	IP67
Operating Temperature	-20 °C to 55 °C
Storage Temperature	-40 °C to 70 °C
Operating Humidity	5% to 95%, non-condensing
ESD Immunity	Air ±8 kV, contact ±6 kV
Surge Withstand	Common mode 2 kV, differential mode 1 kV

PERFORMANCE AND CAPACITY

Associated Clients	Up to 1,536 per AP
SSIDs	Up to 12 per AP (4 per band)
BSSIDs	Up to 12 per AP (4 per band)
Operating Modes	Fat AP, Thin AP; Gateway, Access Point

SOFTWARE SPECIFICATION

Wireless

- SSID broadcast; 4 SSIDs per band, 12 per AP; hidden SSID
- Spectrum navigation with 5 GHz priority band steering
- Adjustable transmit power per radio
- User isolation, between networks and within the AP
- Wireless client limit
- Wi-Fi scheduling, switching radios off outside service hours
- MAC address filtering with whitelist
- QoS: WMM

Security

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

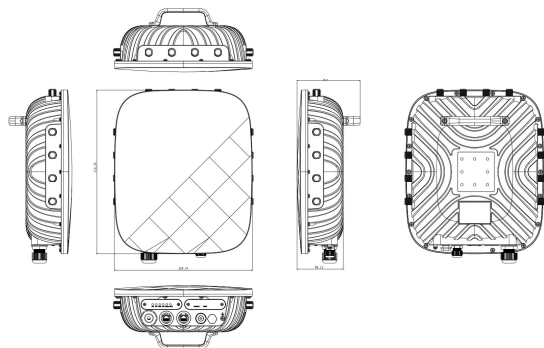
Networking

- Gateway mode: static IP, DHCP or PPPoE on the WAN port
- Access Point mode with Ethernet backhaul
- Built-in or external DHCP server
- Firewall
- Cloud platform server

Management

- Fat AP and Thin AP modes, with switching between them
- Configuration backup and restore
- Restore to factory defaults
- Immediate or scheduled reboot
- Firmware upgrade
- System time display and synchronisation
- System log

DIMENSIONS (unit: mm)



318.4 × 269.4 × 90.2 mm, excluding antennas

MOUNTING

Enclosure	IP67, pole or wall mount
Cable entry	Sealed glands on the underside
Earthing	Dedicated grounding stud

ANTENNAS

2.4 / 5 GHz	4 × external dual-band omnidirectional, 6 dBi each
6 GHz	4 × external omnidirectional, 6 dBi each
Total	8 elements, supplied with the access point

ORDER INFORMATION

ORDER NO.	DESCRIPTION
NB-AP744-H	Newbridge AP744-H Wi-Fi 7 Outdoor Access Point, 4x4:4 (2.4/5/6 GHz), IP67, external antennas included
NB-AP744H-SU-1Y	Newbridge AP744-H Hardware and Software Support, 1Y
VC-AP744H-RPL-1Y	VCARE AP744-H NBD AHR, Hardware & Software Support, 1Y

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