DATA SHEET

NEWBRIDGE AP744-C

Indoor Wi-Fi 7 (802.11be) Tri-Band 10Gbps Ceiling Access Point

2.4 GHz | 5 GHz | 6 GHz

A flagship Wi-Fi 7 ceiling access point on Qualcomm's newest 802.11be platform – 320 MHz channels and Multi-Link Operation across three bands, in one enterprise-grade device.

18.7 Gbps	320 MHz	10G SFP+
AGGREGATE PHY	CHANNEL WIDTH	FIBRE UPLINK

RADIO TECHNOLOGY

- 802.11be 6 GHz 4x4:4 – 11,528[1] Mbps
- 802.11be 5 GHz 4x4:4 – 5,764[2] Mbps
- 802.11be 2.4 GHz 4x4:4 – 1,376[3] Mbps
- Up to 18.7 Gbps[4] across 12 streams

WIRED PORTS

- 1 × 10G 802.3bt PoE port
- 1 × 2.5G Ethernet port
- 1 × 10G SFP+ fibre port
- 1 × USB 2.0

MANAGEMENT & AI

- Newbridge 9X80 On-Premises Controller
- Newbridge Controller – cloud or on-prem
- Internet Access Management Gateway
- Advanced reporting & network insight

SECURITY

- WPA2 / WPA3-PSK encryption
- Client isolation
- Privacy VLAN isolation
- 802.1X / RADIUS authentication

INTRODUCTION

The Newbridge AP744-C is a flagship Wi-Fi 7 (802.11be) tri-band access point engineered for the density, throughput, and latency demands of today's enterprise networks. Twelve spatial streams – 4×4 MIMO across the 2.4 GHz, 5 GHz, and (where regulations permit) 6 GHz bands – deliver up to 18.7 Gbps of aggregate PHY capacity while sharply cutting airtime contention and co-channel interference.

Powered by the Qualcomm IPQ9570 platform with 2 GB of DDR4 memory, it sustains high throughput under heavy concurrency. The defining capabilities of Wi-Fi 7 – 320 MHz channels, 4096-QAM modulation, and Multi-Link Operation – work in concert to lift peak rates and keep every session responsive as client counts climb.

MLO is the centrepiece: by transmitting across bands simultaneously and steering each flow to the cleanest available link in real time, the AP744-C keeps latency-sensitive traffic – video conferencing, cloud desktops, AR/VR, and real-time collaboration – fluid where single-band radios stall.

Where local regulation permits, the dedicated 6 GHz band – reserved for Wi-Fi 6E and Wi-Fi 7 clients – opens a wide swath of interference-free spectrum for an organisation's highest-value traffic. From offices and lecture halls to hotels, stadiums, and smart buildings, it scales cleanly under load.

A true 10 Gbps uplink sets the AP744-C apart. Its 10G SFP+ fibre port and multi-gigabit (10G/2.5G) Ethernet port operate simultaneously, so wired backhaul never throttles Wi-Fi 7's multi-gigabit airtime. Fibre backhaul also lets the access point sit far from the wiring closet without repeaters — ideal for large halls and sprawling campuses.

Flexible powering simplifies every rollout: the AP runs from 802.3bt PoE or a DC input, letting a single Ethernet cable deliver both power and data to a ceiling, corridor, or classroom wall — with no local outlet required at the mounting point.

Inside, 320 MHz channels, 4096-QAM, OFDMA, and intelligent traffic scheduling combine to serve dense client populations with sustained bandwidth and low latency, holding throughput steady where legacy access points degrade.

Security is enforced end to end. WPA2/WPA3-PSK encryption protects client sessions, 802.1X authentication integrates with RADIUS, and client isolation with private VLANs contains untrusted devices — clearing the compliance bar expected across enterprise, education, and hospitality networks.

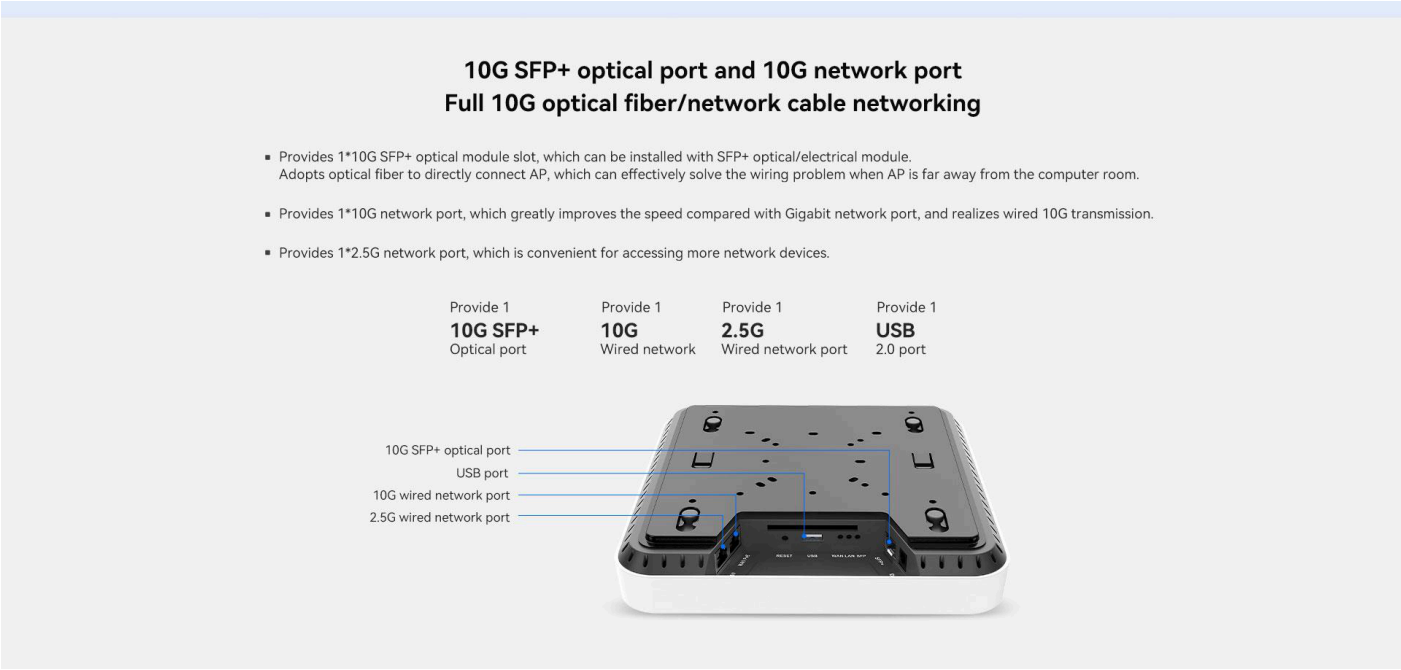
Management scales with the deployment. The AP744-C runs standalone or under Newbridge on-premises and cloud controllers, giving administrators centralised visibility, zero-touch provisioning, policy control, and automated firmware updates from a single pane of glass. Compact, quiet, and energy-efficient, it blends into any environment while delivering the performance next-generation wireless demands.

[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.

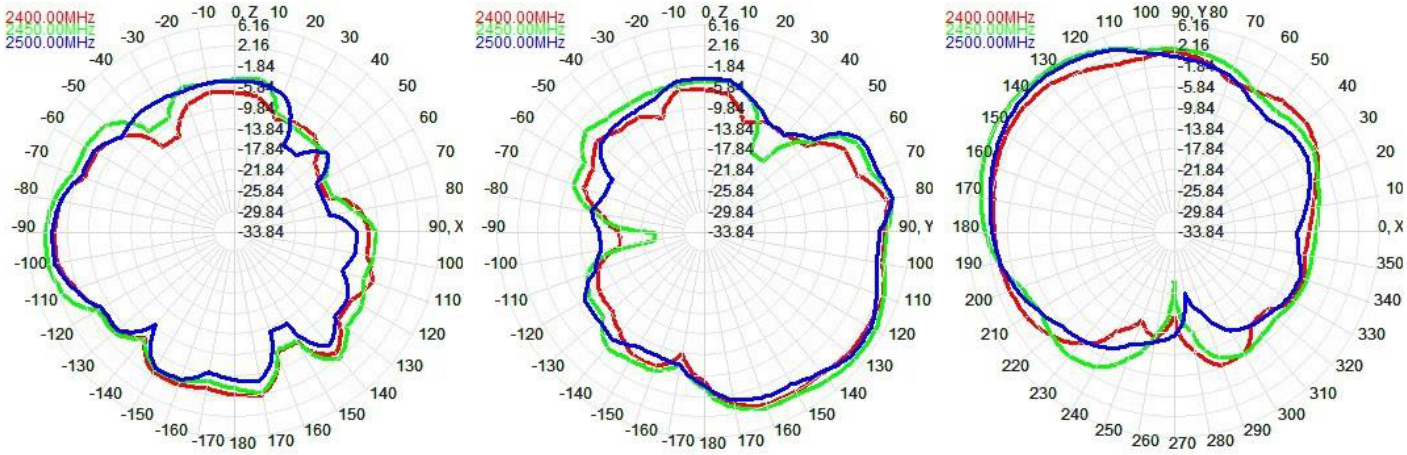
[3] The 2.4 GHz peak rate requires Wi-Fi 7 features on 2.4 GHz, including 40 MHz channel width and 4096-QAM, on compatible client devices, and may be restricted by local regulatory conditions.

[4] The 18.7 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.

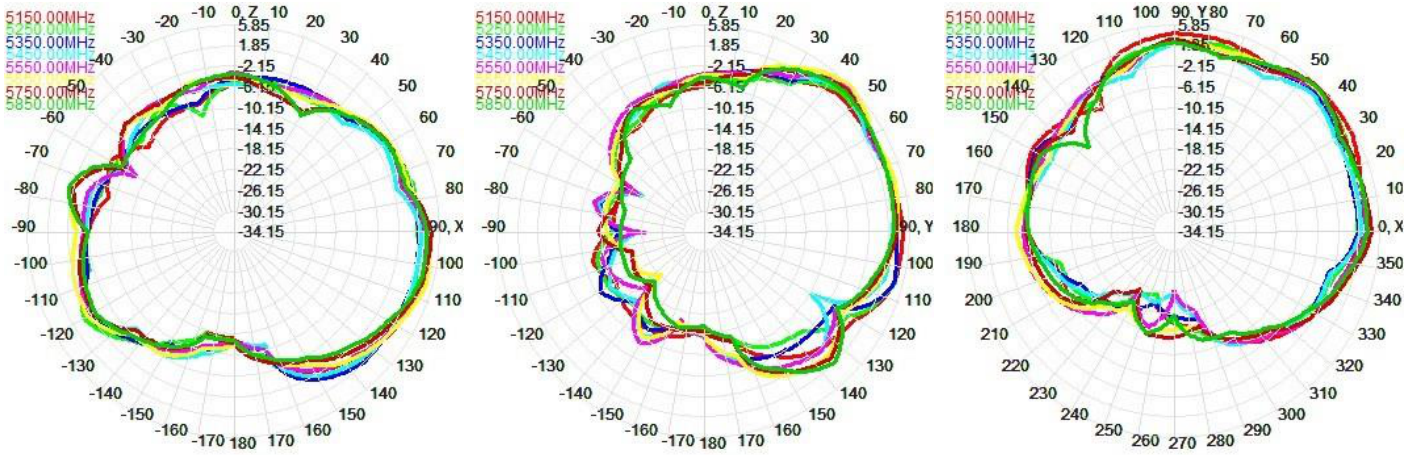


ACCESS POINT 2D RADIATION PATTERNS

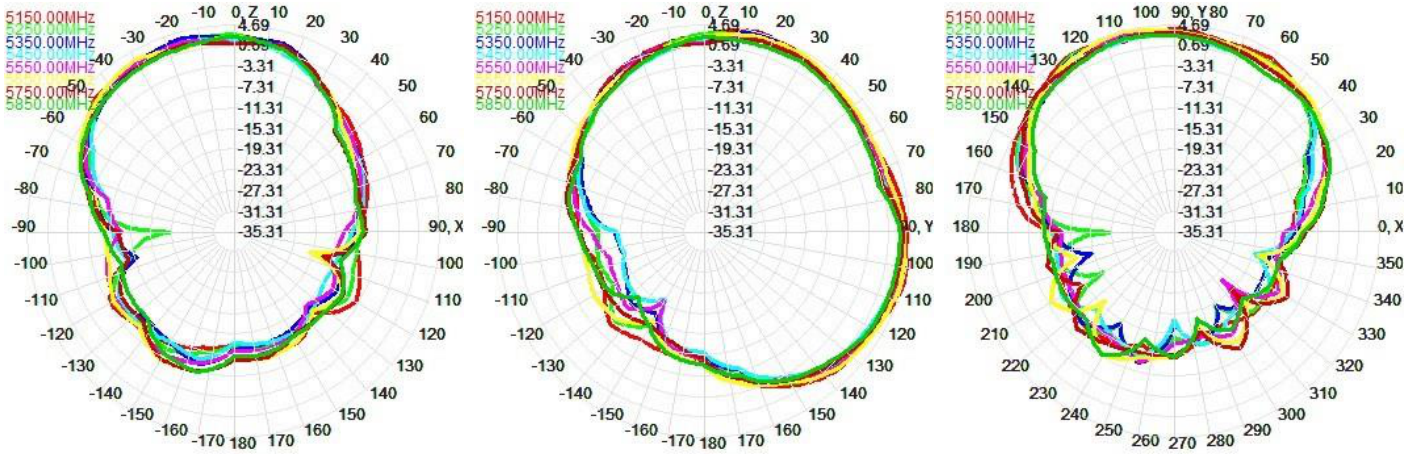
2.4 GHz



5 GHz



6 GHz



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. 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

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[1] ‣ 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
Supported Channels	‣ 2.4 GHz: 1–13 ‣ 5 GHz: 36–64, 100–144, 149–165 ‣ 6 GHz (Wi-Fi 6E/7): 1–233
MLO	‣ Bands in use: 5 GHz 4x4, 6 GHz 4x4 ‣ Channel Width: up to 160 MHz per band (or 320 MHz on 6 GHz) ‣ QAM Modulation: up to 4096-QAM
Spatial Streams	4×4 per band (12 streams total). MLO across 5 GHz & 6 GHz – MLO stream count depends on client capability and operating mode.
Channelization	20, 40, 80, 160, 320 MHz
Modulation	OFDM: BPSK, QPSK, 16/64/256-QAM, 1024-QAM, 4096-QAM
Antenna	12 built-in omnidirectional antennas (4 per band). Gain: 1.7 dBi @2.4 GHz, 4 dBi @5 GHz, 4 dBi @6 GHz
Max Transmit Power	2.4 GHz < 24±2 dBm · 5 GHz < 23±2 dBm · 6 GHz 23±2 dBm
EVM	2.4 GHz: 11b ≤ -10, 11g ≤ -25, 11n ≤ -28, 11ax ≤ -35, 11be ≤ -38 dB · 5/6 GHz: 11a ≤ -25, 11n ≤ -28, 11ac ≤ -32, 11ax ≤ -35, 11be ≤ -38 dB
Frequency Tolerance	±20 ppm
Security	WPA2 AES, WPA2/WPA3, WPA3

PHYSICAL

WAN	1 × 100/1,000/10,000 Mbps, 802.3bt PoE
LAN	1 × 100/1,000/2,500 Mbps
SFP+	1 × 10G SFP+
USB	1 × USB 2.0
Reset	1 × Reset button (hold 6–10 s to restore factory defaults)
LED	Red / Green / Blue
Power Supply	PoE (IEEE 802.3bt); DC 2.0 mm input, 54V / 1A
Power Consumption	< 40 W
Dimensions	220 × 220 × 42 mm
Weight	1.38 kg
Operating Temperature	Working: -10 °C to 55 °C · Storage: -40 °C to 70 °C
Operating Humidity	5% to 95% (Non-Condensing)
ESD	Air: ±8K, Touch: ±6K
Electrical Surge	Common Mode: 2K, Differential Mode: 1K

PERFORMANCE & CAPACITY

Peak PHY Rates	‣ 2.4 GHz: 1,376[3] Mbps ‣ 5 GHz: 5,764[2] Mbps ‣ 6 GHz: 11,528[1] Mbps
Maximum Stations Capacity	Up to 1,024 associated clients per radio (3,072 per AP) – association limit; recommended active capacity depends on RF design and traffic profile
BSSID	Up to 12 per AP (4 per band)

SOFTWARE SPECIFICATION

Operating Modes

- Fat AP (standalone) and FIT AP (controller-managed) modes, switchable
- Gateway mode: WAN uplink via static IP, DHCP, or PPPoE
- AP mode: bridges wireless clients to an upstream router via Ethernet
- Home dashboard: AP up/down rates, running time, device & Wi-Fi information

Wireless

- SSID broadcast; up to 12 SSIDs (4 per band); Chinese SSID supported
- Hide SSID
- Encryption: OPEN, WPA/WPA2-PSK (TKIP/AES), WPA3-PSK (AES)
- Wireless MAC address filtering (whitelist)
- Spectrum navigation (5 GHz / 6 GHz first)
- Wi-Fi scheduled off (timer)
- User isolation (between networks and within the AP)
- Adjustable transmit power · Client number limit · QoS: WMM

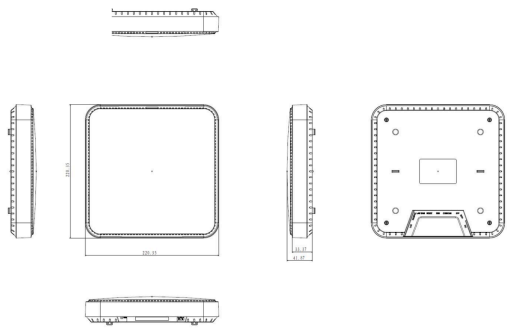
Network & Services

- IP: IPv4 / IPv6 dual-stack
- Connection: static, from management server, or from gateway
- DHCP server: built-in or external
- Cloud server management · Firewall · PPPoE dial-up
- VLAN: VLAN pooling / port-based
- 802.1x: authenticator & supplicant · Roaming

Device Management

- Configuration backup & restore; restore factory settings
- Restart: scheduled and immediate
- Firmware upgrade
- Time management: system time display & synchronization
- System log · Fat / FIT AP switching

DIMENSIONS (unit: mm)



220 × 220 × 42 mm

ORDER INFORMATION

ORDER NO.	DESCRIPTION
NB-AP744-C	Newbridge AP744-C Wi-Fi 7 Ceiling Mount Access Point, 4x4:4 (2.4/5/6 GHz)
NB-AP744C-SU-1Y	Newbridge AP744-C Hardware and Software Support, 1Y
VC-AP744C-RPL-1Y	VCARE AP744-C NBD AHR, Hardware & Software Support, 1Y

CE markings indicate that a product complies with European Union (EU) regulations and directives regarding health, safety and environmental protections. CE marking also has implications for obtaining full RoHS compliance.

 Supported channels and transmit power vary by country/region per local regulatory requirements. In Malaysia, 6 GHz (Wi-Fi 7) operation is limited to the license-exempt 5925–6425 MHz sub-band for indoor low-power use per MCMC; channels above 6425 MHz are disabled and not for use in Malaysia.

Contact us at https://www.newbridge-tech.com/