

# NEWBRIDGE AP522-W

Hospitality Indoor Wi-Fi 5 (802.11ac) 2x2:2 Wireless Access Point



## Wi-Fi as-a-Services – Industry 1<sup>st</sup>

- Zero CAPEX Subscription Model
- Unlock client resources.

## KEY FEATURES

### Radio Technology

- 802.11ac – 5 GHz 2x2:2 (867<sup>1</sup> Mbps)
  - 802.11ac – 2.4 GHz 2x2:2 (300<sup>2</sup> Mbps)
- Maximum combined data rate of 1.167<sup>3</sup> Gbps for high performance even with high bandwidth, low latency application.

### Wired Connectivity

- 1 x 100/1,000Mbps auto-sensing uplink speed Ethernet POE port
- 2 x 100/1,000Mbps auto-sensing link speed Ethernet port
- 1 x RJ11 port

### Management, Controller, Reporting and AI Machine learning.

- NB 9X80 Series On-Premises Controller
- NB Cloud Managed Controller – Standard or Premium
- NB Internet Access Management Gateway
- Simplified Deployments and Provisioning
- Advanced Reporting and Network Insight

### Security

- Support Client Isolation
- Privacy VLAN Isolate From Potential Hackers

## Newbridge Wi-Fi 5 wall mount access point equipped with Qualcomm's latest chipset and feature AC technology.

### INTRODUCTION

The NEWBRIDGE AP522-W specific designed for closed in-room wireless access to delivers secure Wi-Fi connectivity for hotel guest room, hostels and any rooms that's required robust connectivity. It's overcome the fire-rate and soundproof rated door that restricted wireless signal weak from ceiling AP at corridor.

AP522-W built-in MU-MIMO 2x2:2 spatial stream, both 2.4 GHz and 5GHz has a two-antenna configuration -- with two transmitters and two receivers -- and can support two concurrent spatial streams on each radio frequency.

Powered up by single uplink port RJ45 UTP POE+ through any POE+ Switches and 1-port downlink to POE devices such as IP Phone or any POE supported IoT devices, additional 3-port downlink for PC/laptops, IPTV or IoT device not required POE. An Extra pass-through port allow analog phone connection and 1-port USD charger for smart phone. These combination port give greater flexibility to Property Owner/Hotel Operator to provide lower cost deployment by saving extra cabling cost to the room that provide more IP devices connection required.

MU-MIMO allows for an AP to serve multiple users at the same time and on the same frequency (in the case of DL MU-MIMO), or for multiple users to transmit to a single AP at the same time and on the same frequency (in the case of UL MU-MIMO). MU-MIMO works because APs generally have more antennas compared to clients (e.g., cell phones or laptops).

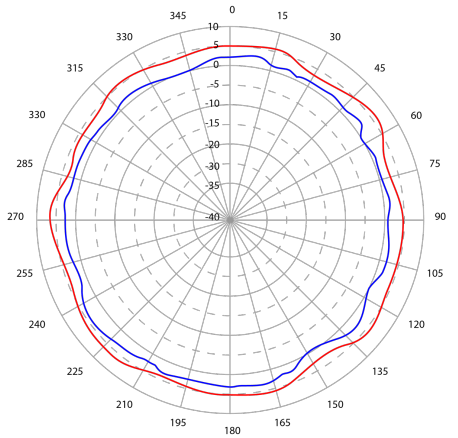
# NEWBRIDGE AP522-W

Indoor Wi-Fi 5 (802.11ac) Access Points

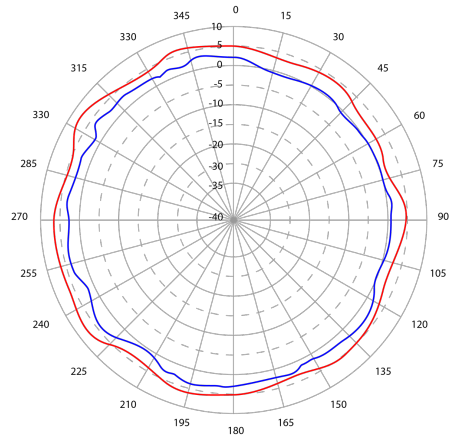
## ACCESS POINT ANTENNA PATTERN

Horizontal planes (top view)

2.45 GHz Wi-Fi



5.5 GHz Wi-Fi



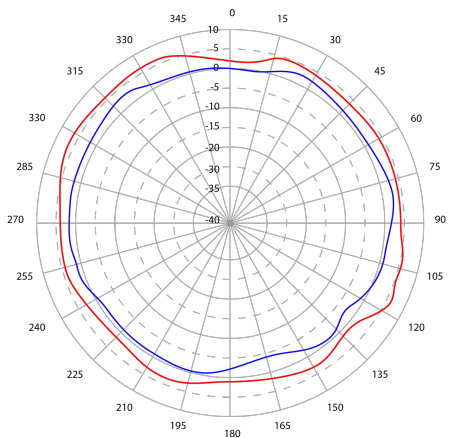
— Average Azimuth

— Average Downtilt

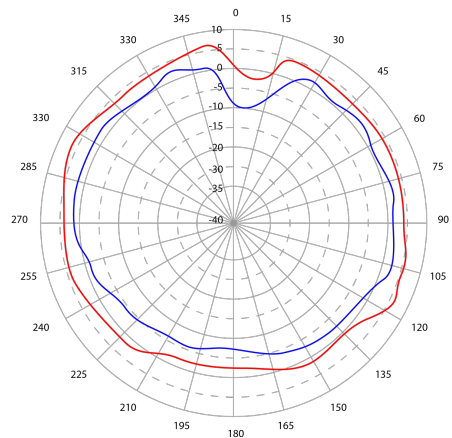
Vertical (elevation) planes (side view, AP facing down)

Showing side view with AP rotated 0 and 90 degrees

2.45 GHz Wi-Fi



5.5 GHz Wi-Fi



— Average Elevation 0

— Average Elevation 90

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## Indoor Wi-Fi 5 (802.11ac) Access Points

### 2.4GHz - RF PERFORMANCE TABLE

BAND, rate	Maximum Transmit Power (dBm) Per transmit chain	Maximum Transmit Power (dBm) 2 chains	Receiver sensitivity (dBm) Per receive chain
2.4GHz, 802.11b			
1Mbps	18	23	-94
11Mbps	16	23	-85
2.4GHz, 802.11g			
6Mbps	17	23	-90
54Mbps	15	23	-72
2.4GHz, 802.11n HT20			
MCS0	16	23	-88
MCS7	14	22	-70
2.4GHz, 802.11n HT40			
MCS0	15	23	-86
MCS7	13	22	-68

### 5GHz - RF PERFORMANCE TABLE

BAND, rate	Maximum Transmit Power (dBm) Per transmit chain	Maximum Transmit Power (dBm) 2 chains	Receiver sensitivity (dBm) Per receive chain
5GHz, 802.11a			
6Mbps	15	23	-90
54Mbps	13	23	-74
5GHz, 802.11n/ac/VHT20			
MCS0	14	23	-88
MCS9	12	21	-86
5GHz, 802.11n/ac/VHT40			
MCS0	23	23	-86
MCS9	11	21	-68
5GHz, 802.11n/ac/VHT80			
MCS0	12	23	-80
MCS9	10	21	-58

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## Indoor Wi-Fi 5 (802.11ac) Access Points

### Wi-Fi Radio Specifications

Wireless Standards	<ul style="list-style-type: none"><li>IEEE 802.11a/b/g/n/ac</li></ul>
Supported Rates	<ul style="list-style-type: none"><li>802.11ac: 6.5 to 867 Mbps</li><li>802.11n: 6.5 to 300 Mbps</li><li>802.11a/g: 6 to 54 Mbps</li><li>802.11b: 1 to 11 Mbps</li></ul>
Supported Channels	<ul style="list-style-type: none"><li>2.4GHz: 1-13</li><li>5GHz : 36-64, 100-144, 149-165</li></ul>
MIMO	<ul style="list-style-type: none"><li>2x2 MU-MIMO (Backward compatible to SU-MIMO for older devices)</li></ul>
Spatial Streams	<ul style="list-style-type: none"><li>2SS for MU-MIMO on both radios</li></ul>
Channelization	<ul style="list-style-type: none"><li>20, 40, 80 MHz</li></ul>
Modulation Techniques	<ul style="list-style-type: none"><li>OFDM: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM</li></ul>
Security	<ul style="list-style-type: none"><li>WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i, Dynamic PSK</li></ul>

### PERFORMANCE AND CAPACITY

Peak PHY Rates	<ul style="list-style-type: none"><li>2.4GHz : 300<sup>2</sup> Mbps</li><li>5GHz : 867<sup>1</sup> Mbps</li></ul>
Maximum Stations Capacity	<ul style="list-style-type: none"><li>Support up to 128<sup>4</sup> associated client devices per radio or 256 associated client per AP concurrently</li></ul>
BSSID	<ul style="list-style-type: none"><li>Up to 8 per AP</li></ul>

<sup>4</sup> Each AP522-W provides connectivity for a maximum of 256 associated clients per radio (256 in total). In real-world scenarios, the maximum recommended client density is dependent on environmental conditions.

### RF

Antenna Type	<ul style="list-style-type: none"><li>omni antenna for 2.4 GHz</li><li>omni antenna for 5 GHz</li><li>Vertical polarization</li></ul>
Antenna Elements	<ul style="list-style-type: none"><li>2 elements for 2.4 GHz band and 2 elements for 5 GHz band</li></ul>
Antenna Gain (max)	<ul style="list-style-type: none"><li>Up to 4 dBi</li></ul>
Transmit Power (EIRP), Subject to local authority approval	<ul style="list-style-type: none"><li>2.4 GHz at 23 dBm</li><li>5 GHz at 23 dBm</li></ul>
Frequency Bands	<ul style="list-style-type: none"><li>20, 40, 80 MHz</li></ul>
Receiver Sensitivity, min.	<ul style="list-style-type: none"><li>-95 dBm</li></ul>
Frequency Bands	<ul style="list-style-type: none"><li>ISM (2.4-2.484GHz)</li><li>U-NII-1 (5.15-5.25GHz)</li><li>U-NII-2A (5.25-5.35GHz)</li><li>U-NII-2C (5.47-5.725GHz)</li><li>U-NII-3 (5.725-5.85GHz)</li></ul>

### PHYSICAL

Ethernet Interface	<ul style="list-style-type: none"><li>1 x 10/100/1000 Mbps auto-negotiation Power Over Ethernet (PoE) port, RJ45</li><li>2 x 10/100/1000 Mbps auto-negotiation Ethernet port, RJ45</li><li>1 x Console port, RJ11</li></ul>
Power Supply	<ul style="list-style-type: none"><li>IEEE 802.3af (48V)</li></ul>
Dimensions	<ul style="list-style-type: none"><li>Height (H): 86 mm, Width (W): 86 mm, Depth (D) 35 mm</li></ul>
DC Jack	<ul style="list-style-type: none"><li>Yes (12VDC: 12V—1.5A)</li></ul>
Power Consumption	<ul style="list-style-type: none"><li>&lt; 8W</li></ul>
Weight	<ul style="list-style-type: none"><li>0.570 kg</li></ul>
Operating Temperature	<ul style="list-style-type: none"><li>Working Temperature: -20°C to 55°C</li><li>Storage Temperature: -40°C to 70°C</li></ul>
Operating Humidity	<ul style="list-style-type: none"><li>Working Humidity : 5% to 95%</li><li>Storage Humidity : Max. 90%</li></ul>

### NETWORKING

Operating Mode	<ul style="list-style-type: none"><li>Controller-managed</li><li>Standalone</li></ul>
IP	<ul style="list-style-type: none"><li>IPv4, IPv6, dual-stack</li></ul>
VLAN	<ul style="list-style-type: none"><li>VLAN Pooling</li><li>Port-based</li></ul>
802.1x	<ul style="list-style-type: none"><li>Authenticator &amp; Supplicant</li></ul>
Roaming	<ul style="list-style-type: none"><li>Yes</li></ul>

### ORDER INFORMATION

NB-AP522-W	<ul style="list-style-type: none"><li>Newbridge AP522-W Wi-Fi 5 Ceiling Mount Wireless Access Point, 2x2:2 (2.4GHz) and 2x2:2 (5GHz)</li></ul>
NB-AP622W-SU-1Y	<ul style="list-style-type: none"><li>Newbridge AP522-W Hardware and Software Support - 1Y</li></ul>
VC-AP622W-RPL-1Y	<ul style="list-style-type: none"><li>VCARE AP522-W NBD AHR, HW &amp; SW SUPPORT, 1Y</li></ul>

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



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