

NEWBRIDGE NB3944-X WIRELESS ACCESS POINT

Excellent Wi-Fi 6 (802.11ax) performance with dual radios, eight spatial stream (4x4:4 in 5GHz, 4x4:4 in 2.4GHz)

Newbridge Wi-Fi 6 access points provide high-performance connectivity for any organization experiencing growing numbers of IoT and mobility requirements. With a maximum real-world aggregate data rate of 3.65 Gbps, deliver the speed and reliability needed for any enterprise. Furthermore, 2.5GbE Ethernet ensures the backhaul will not be a bottleneck for full use of available Wi-Fi capacity.

PERFORMANCE IMPROVEMENT

The NB3944-X are designed to improve user experience by maximizing Wi-Fi efficiency and stability.

Orthogonal frequency-division multiple access (OFDMA), bi-directional multi-user MIMO and cellular optimization. With up to 4 spatial streams (4SS) and 160MHz channel bandwidth (VHT160), NB3944-X suitable in any high-density deployment such as university campus, concert, gymnasium, etc.



KEY FEATURES

- Up to 3.65 Gbps data rate
- Built-in technology that resolves sticky client issues for Wi-Fi 6 and Wi-Fi 5 devices
- OFDMA and MU-MIMO for enhanced multi-user efficiency
- Band steering, support seamless roaming, 5Ghz prior over 2.4Ghz

Bi-directional Multi-user MIMO (MU-MIMO)

Like DL/UL MU-MIMO in Wi-Fi 5 (802.11ac Wave2), the NB3944-X uses spatial multiplexing to increase the number of simultaneous users of the same frequency resources, increasing capacity (i.e., system throughput), time efficiency and spectral efficiency.

HIGH-DENSITY CONNECTIVITY

NB3944-X provides connectivity for a maximum of 512 associated clients per radio (1024 in total). In real-world scenarios, the maximum recommended client density is dependent on environmental conditions.

MANAGEMENT

A unique feature of Newbridge APs is the flexibility to operate in either standalone or controller-based mode.

In standalone mode, the AP serves a management user interface to configure the settings.

While in controller mode, the APs are centrally managed with well optimized the performance, roaming and security.

WI-FI RADIO SPECIFICATIONS

- AP type: Indoor, dual radio, 5GHz and 2.4GHz 802.11ax 4x4 MIMO
- 5GHz radio: Four spatial stream Single User (SU) MIMO for up to 2,475Mbps wireless data rate with individual 4SS HE80 (or 2SS HE160) 802.11ax client devices, or with four
- 1SS or two 2SS HE80 802.11ax MU-MIMO capable client devices simultaneously
- 2.4GHz radio: Four spatial stream Single User (SU) MIMO for up to 1,182Mbps wireless data rate with individual 4SS HE40 (HE20) 802.11ax client devices or with two 2SS HE40 (HE20) 802.11ax MU-MIMO capable client devices simultaneously
- Support for up to 512 associated client devices per radio, and up to 16 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
 - 2.400 to 2.4835GHz
 - 5.150 to 5.250GHz
 - 5.250 to 5.350GHz
 - 5.725 to 5.850GHz
- Available channels: Dependent on configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
 - 802.11b
 - 802.11a/g/n/ac (OFDM)
 - 802.11ax: (OFDMA)
 - Supported modulation types:
- Modulation Techniques: OFDMA: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024Q
- 802.11n high-throughput (HT) support: HT20/40
- 802.11ac very high throughput (VHT) support: VHT20/40/80/80+80
- 802.11ax high efficiency (HE) support: HE20/40/80/160
- Supported data rates (Mbps):
 - 802.11b: 1, 2, 5.5, 11
 - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
 - 802.11n: 6.5 to 600 (MCS0 to MCS31, HT20 to HT40), 800 with 256-QAM
 - 802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4, VHT20 to VHT160), 2,475 with 1024-QAM
 - 802.11ax (2.4GHz): 3.6 to 1,182 (MCS0 to MCS11, NSS = 1 to 4, HE20 to HE40)
 - 802.11ax (5GHz): 3.6 to 2,475 (MCS0 to MCS11, NSS = 1 to 4, HE20 to HE160)
- Maximum transmit power:
 - 2.4 GHz band: +22 dBm
 - 5 GHz band: +22 dBm

CERTIFICATION

- RoHS Compliance
- CE

RF PERFORMANCE TABLE – 2.4GHz

	Data Rate	Maximum TX Power	RX Sensitivity		Data Rate	Maximum TX Power	RX Sensitivity
2.4GHz 802.11b	1Mbps	22dBm	-102	2.4GHz 802.11ax HE20	MCS0	22dBm	-95
	2Mbps	22dBm	-99		MCS1	22dBm	-93
	5.5Mbps	22dBm	-97		MCS2	22dBm	-91
	11Mbps	22dBm	-95		MCS3	22dBm	-89
2.4GHz 802.11g	6Mbps	22dBm	-97		MCS4	22dBm	-86
	9Mbps	22dBm	-95		MCS5	20dBm	-84
	12Mbps	22dBm	-93		MCS6	20dBm	-82
	18Mbps	22dBm	-91		MCS7	20dBm	-80
	24Mbps	21dBm	-89		MCS8	19dBm	-77
	36Mbps	21dBm	-87		MCS9	19dBm	-75
	48Mbps	21dBm	-85		MCS10	15dBm	-72
54Mbps	21dBm	-83	MCS11	15dBm	-69		
2.4GHz 802.11n HT20	MCS0	22dBm	-95	2.4GHz 802.11ax HE40	MCS0	22dBm	-92
	MCS1	22dBm	-93		MCS1	22dBm	-90
	MCS2	22dBm	-90		MCS2	22dBm	-87
	MCS3	22dBm	-87		MCS3	22dBm	-85
	MCS4	22dBm	-85		MCS4	22dBm	-82
	MCS5	21dBm	-82		MCS5	19dBm	-80
	MCS6	21dBm	-80		MCS6	19dBm	-78
	MCS7	21dBm	-78		MCS7	19dBm	-77
2.4GHz 802.11n HT40	MCS0	22dBm	-93		MCS8	19dBm	-75
	MCS1	22dBm	-90		MCS9	19dBm	-72
	MCS2	22dBm	-87		MCS10	16dBm	-69
	MCS3	22dBm	-94	MCS11	16dBm	-66	
	MCS4	22dBm	-81				
	MCS5	20dBm	-78				
	MCS6	20dBm	-78				
	MCS7	20dBm	-73				

RF PERFORMANCE TABLE – 5GHz

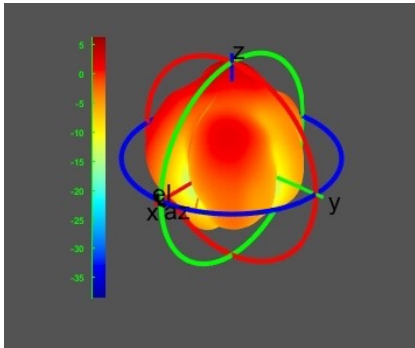
	Data Rate	Maximum TX Power	RX Sensitivity
5GHz 802.11a	6Mbps	17dBm	-97
	9Mbps	17dBm	-95
	12Mbps	17dBm	-93
	18Mbps	17dBm	-91
	24Mbps	16dBm	-89
	36Mbps	16dBm	-87
	48Mbps	16dBm	-85
	54Mbps	16dBm	-82
5GHz 802.11n/ac VHT20	MCS0	17dBm	-97
	MCS1	17dBm	-96
	MCS2	17dBm	-94
	MCS3	17dBm	-82
	MCS4	17dBm	-90
	MCS5	16dBm	-88
	MCS6	16dBm	-85
	MCS7	16dBm	-83
	MCS8	15dBm	-81
5GHz 802.11n/ac VHT40	MCS0	17dBm	-95
	MCS1	17dBm	-93
	MCS2	17dBm	-91
	MCS3	17dBm	-89
	MCS4	17dBm	-87
	MCS5	15dBm	-85
	MCS6	15dBm	-83
	MCS7	15dBm	-80
	MCS8	14dBm	-77
		MCS9	14dBm
5GHz 802.11n/ac VHT80	MCS0	17dBm	-91
	MCS1	17dBm	-89
	MCS2	17dBm	-87
	MCS3	17dBm	-85
	MCS4	17dBm	-82
	MCS5	14dBm	-79
	MCS6	14dBm	-77
	MCS7	14dBm	-75
	MCS8	13dBm	-72
		MCS9	13dBm

	Data Rate	Maximum TX Power	RX Sensitivity
5GHz 802.11n/ac VHT80+80	MCS0	17dBm	-86
	MCS1	17dBm	-84
	MCS2	17dBm	-82
	MCS3	17dBm	-80
	MCS4	17dBm	-77
	MCS5	14dBm	-74
	MCS6	14dBm	-71
	MCS7	14dBm	-68
		MCS8	11dBm
	MCS9	11dBm	-63
5GHz 802.11ax HE20	MCS0	17dBm	-96
	MCS1	17dBm	-95
	MCS2	17dBm	-93
	MCS3	17dBm	-91
	MCS4	17dBm	-89
	MCS5	16dBm	-87
	MCS6	16dBm	-85
	MCS7	16dBm	-82
	MCS8	15dBm	-79
	MCS9	15dBm	-77
		MCS10	15dBm
	MCS11	12dBm	-71
5GHz 802.11ax HE40	MCS0	17dBm	-94
	MCS1	17dBm	-93
	MCS2	17dBm	-91
	MCS3	17dBm	-89
	MCS4	17dBm	-86
	MCS5	15dBm	-83
	MCS6	15dBm	-81
	MCS7	15dBm	-79
	MCS8	14dBm	-76
	MCS9	14dBm	-74
		MCS10	12dBm
	MCS11	12dBm	-68

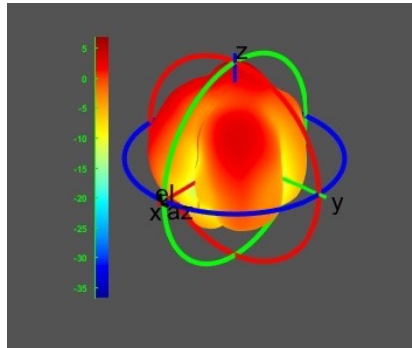
RF PERFORMANCE TABLE – 5Ghz

	Data Rate	Maximum TX Power	RX Sensitivity
5GHz 802.11ax HE80	MCS0	17dBm	-91
	MCS1	17dBm	-90
	MCS2	17dBm	-88
	MCS3	17dBm	-86
	MCS4	17dBm	-84
	MCS5	14dBm	-82
	MCS6	14dBm	-79
	MCS7	14dBm	-77
	MCS8	13dBm	-74
	MCS9	13dBm	-71
	MCS10	10dBm	-69
MCS11	10dBm	-66	
5GHz 802.11ax HE160	MCS0	17dBm	-86
	MCS1	17dBm	-84
	MCS2	17dBm	-82
	MCS3	17dBm	-79
	MCS4	17dBm	-77
	MCS5	14dBm	-75
	MCS6	14dBm	-72
	MCS7	14dBm	-70
	MCS8	11dBm	-67
	MCS9	11dBm	-65
	MCS10	10dBm	-62
MCS11	10dBm	-59	

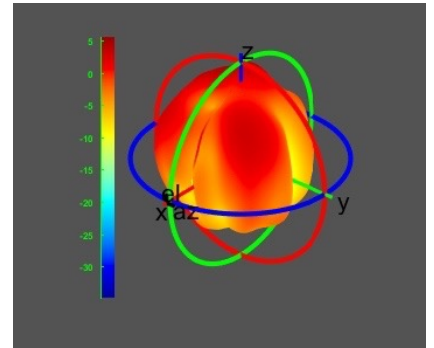
ANTENNA RADIATION PATTERNS (3D)



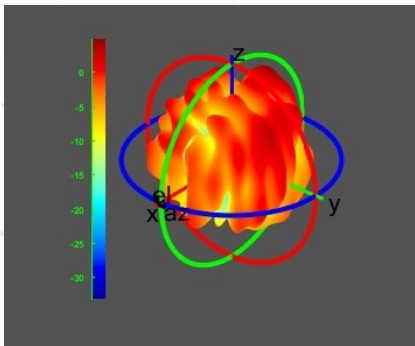
2.40GHz



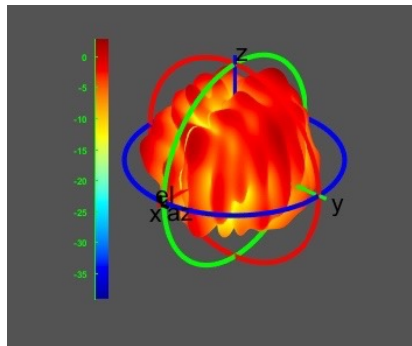
2.45GHz



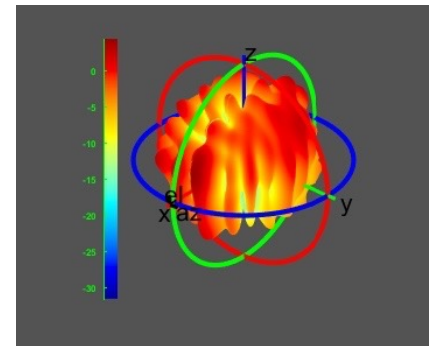
2.50GHz



5.15GHz



5.35GHz



5.85GHz

SPECIFICATIONS

Wi-Fi	
Wireless Standard	<ul style="list-style-type: none"> 802.11a/b/g/n/ac/ax
Supported Rates	<ul style="list-style-type: none"> 802.11ax: 3.6 Mbps - 2,475 Mbps 802.11ac: 6.5 Mbps - 1733 Mbps 802.11n: 6.5 Mbps - 600 Mbps 802.11a/g: 6.5 - 54 Mbps 802.11b: 1- 11 Mbps
Supported Channels	<ul style="list-style-type: none"> 2.4GHz: 1-13 5GHz: 36-64, 100-144, 149-165
Spatial Streams	<ul style="list-style-type: none"> 4 streams SU/MU MIMO 5Ghz 4 streams SU/MU MIMO 2.4Ghz
Radio Chains and streams	<ul style="list-style-type: none"> 4x4:4 (5Ghz) 4x4:4 (2.4Ghz)
Channelization	<ul style="list-style-type: none"> 20, 40, 80, 160/80+80MHz
Security	<ul style="list-style-type: none"> WPA-PSK WPA-TKIP WPA2 AES WPA3 802.11i Dynamic PSK

PERFORMANCE AND CAPACITY	
Peak PHY Rates	<ul style="list-style-type: none"> 2.4GHz : 1,182 Mbps 5 GHz : 2,475 Mbps
Maximum Capacity	<ul style="list-style-type: none"> Up to 1,024 clients per AP
BSSID	<ul style="list-style-type: none"> Up to 32 per AP

NETWORKING	
Controller Supported	<ul style="list-style-type: none"> Newbridge NB9000 Controller Series
IP	<ul style="list-style-type: none"> IPv4, IPv6, dual-stack
VLAN	<ul style="list-style-type: none"> VLAN Pooling Port-based
802.1x	<ul style="list-style-type: none"> Authenticator & Supplicant

RF	
Antenna Type	<ul style="list-style-type: none"> 3dBi omni antennas
Antenna Elements	<ul style="list-style-type: none"> 4 elements for 2.4 GHz band 4 elements for 5 GHz band
Antenna Gain	<ul style="list-style-type: none"> Up to 3dBi
Tx Power EIRP	<ul style="list-style-type: none"> +22 dBm on 2.4 GHz +22 dBm on 5 GHz
Frequency Bands	<ul style="list-style-type: none"> 20, 40, 80, 160/80+80MHz
Receiver Sensitivity	<ul style="list-style-type: none"> -96 dBm

PHYSICAL	
Ethernet Interface	<ul style="list-style-type: none"> 2-port RJ45 10/100/1000/2500 Base-T 802.11at+ Ethernet Uplink
Power Supply	<ul style="list-style-type: none"> IEEE 802.3at+ 48V
Dimensions	<ul style="list-style-type: none"> Height (H): 198 mm, Width (W): 198 mm, Depth (D) 42 mm
DC Jack	<ul style="list-style-type: none"> Yes , 12V-3A
Power Consumption	<ul style="list-style-type: none"> 35W (Max)
Weight	<ul style="list-style-type: none"> 0.900 kg
Operating Temperature	<ul style="list-style-type: none"> -20 °C to 45 °C, Storage: 0 °C to 70 °C
Operating Humidity	<ul style="list-style-type: none"> 5% to 95%, Storage: Max. 90%

ORDER INFORMATION	
NB3944-X	<ul style="list-style-type: none"> NB3944-X dual-band (2.4 GHz & 5 GHz) 802.11 a/b/g/n/ac/ax Ceiling Mount Wireless Access Point, 4x4:4 (2.4GHz) and 4x4:4 (5GHz)
NB3944-X-1Y	<ul style="list-style-type: none"> NB3944-X AHR1Y
NB3944-X-3Y	<ul style="list-style-type: none"> NB3944-X AHR3Y