

# Extreme Speed, Flexibility, and Reliability

## B5x Point-to-Point (PTP) Backhaul Radio

4.9–6.4 GHz



The Mimosa B5x is one of the industry's fastest unlicensed backhaul solutions. It's ideal for short to medium range relay and tower links, custom-engineered collocation, and licensed 4.9 GHz spectrum. It's modular, with the ability to connect N5-X compatible twist on antennas (12 dBi horn, 16 dBi horn, 20 dBi dish, 25 dBi dish—not included).

### Fast and Flexible

As one of the highest capacity, unlicensed PTP solutions in the industry, it delivers up to 1.5 Gbps (IP). 160 MHz of aggregate channel capacity and GPS Sync mode provide flexibility for performance.

### Double Reliability

Tame unlicensed spectrum interference via custom-engineered multi-channel and auto-everything technology—as good as two smart links in one radio.

### Extended Frequency

Rise above the noise with extended frequency support from 4.9–6.4 GHz.

### Ultra Rugged

Carrier-grade IP67 design allows the B5x to withstand the harshest of environmental conditions.

### Easily Add New Links

The B5x is spectrum friendly. Unique, high-precision GPS Sync technology reuses the same channel network wide. Keep adding more capacity to more sites and waste less spectrum.

### Monitor With Ease

Assessing link health and identifying potential problems has never been easier. Links are instantly monitored from the Mimosa management platform.

## Technical Specifications

### Performance

- **Max Throughput:**  
Up to 1.5 Gbps IP aggregate UL/DL (1.7 Gbps PHY)
- **Low Latency:** <1 ms in auto mode
- **Wireless Protocols:**  
Fixed TDMA and TDMA-FD (Frequency Diversity) with 75:25, 67:33, or 50:50 traffic ratios with 2, 4, or 8 ms timeslots;  
Auto-TDMA

### Radio

- **MIMO & Modulation:** 4x4:4 MIMO OFDM up to 256QAM
- **Bandwidth:** Single or dual 20/40/80 MHz channels;  
Regulations vary by region
- **Frequency Range:** 4.90–6.40 GHz;  
Restricted by country of operation
- **Max Output Power:**  
30 dBm (1x mode, i.e. single freq)  
27 dBm (2x mode, i.e. dual freq)
- **Sensitivity (MCS 0):**  
-87 dBm @ 80 MHz  
-90 dBm @ 40 MHz  
-93 dBm @ 20 MHz
- **Integrated Antenna Gain:** 8 dBi  
(with no optional antenna accessory attached)
- **Additional Flexible Antenna Options** (not included):  
N5-X compatible twist on antennas—  
12 dBi horn; 16 dBi horn; 20 dBi dish; 25 dBi dish

### Power

- **Max Power Consumption:** 20 W
- **System Power Method:**  
48 VDC passive isolated PoE injector
- **System Lightning & ESD Protection:** 6 kV
- **Recommended Power Supply** (not included):  
50 VDC passive Gigabit PoE injector

### Physical

- **Dimensions:**  
Height: 241 mm (9.5")  
Width: 139 mm (5.5")  
Depth: 76 mm (3.0")
- **Weight:** 1.4 kg (3.1 lbs) without mount
- **Enclosure Characteristics:** Die-cast aluminum
- **Wind Survivability:** 200 km/h (125 mph)
- **Mounting:** 2 standard pole straps required (not included);  
Compatible with FlexiMount XL

### Environmental

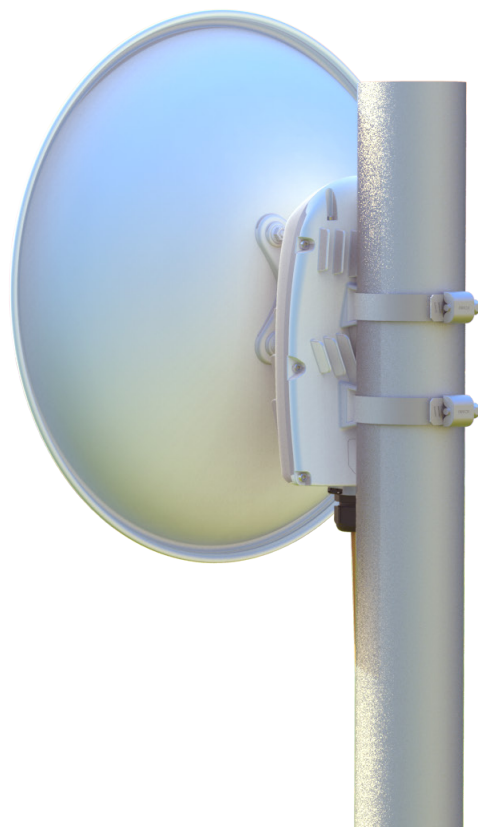
- **Outdoor Ingress Protection Rating:** IP67
- **Operating Temperature:** -40°C to +55°C (-40°F to 131°F)
- **Operating Humidity:** 5 to 100% condensing
- **Operating Altitude:** 4,420 m (14,500') maximum
- **Shock and Vibration:** ETS 300-019-2-4 class 4M5

### Features




- **Gigabit Ethernet:** 10/100/1000-BASE-T
- **Dual Link Operation:**  
2 independent dual-stream radios operating on non-contiguous frequencies; Automatic load balancing of traffic across 4 total MIMO streams with individual stream encoding up to 256 QAM
- **Management Services:**  
Mimosa management; SNMPv2 & Syslog legacy monitoring; HTTPS; HTML 5 based Web UI
- **Smart Spectrum Management:**  
Active scan monitors/logs ongoing RF interference across channels (no service impact); Dynamic auto-optimization of channel and bandwidth use
- **Security:** 128-bit AES PSK with hardware acceleration
- **QoS:** 4 classes of QoS, with user configurable priority queuing, weighted fair queuing, MIR, CIR, and rate limiting
- **GPS Location:** GNSS-1 (GPS + GLONASS)
- **Collocation Synchronization:**  
1PPS GPS TX/RX synchronization for collocated co-channel radios; Adjustable up/downstream bandwidth ratio

### Regulatory and Compliance

- **Approvals:**  
FCC Part 15.407, IC RSS210, CE,  
ETSI 301 893/302 502
- **RoHS Compliance:** Yes
- **Safety:** EN 62638-1,  
CAN/CSA C22.2 No. 62368-1

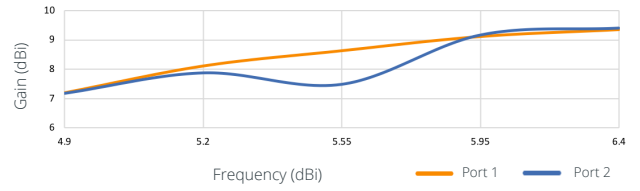
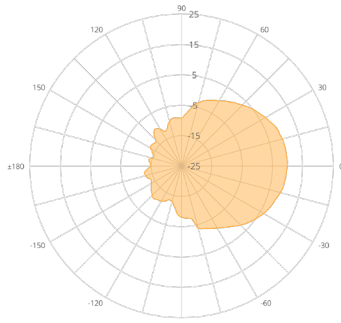


### N5-X Modular Antenna Options for the B5x

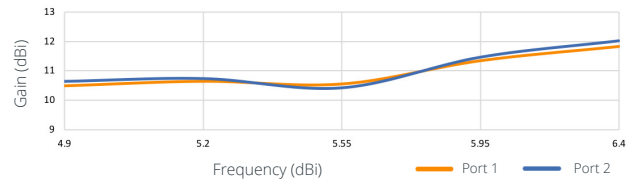
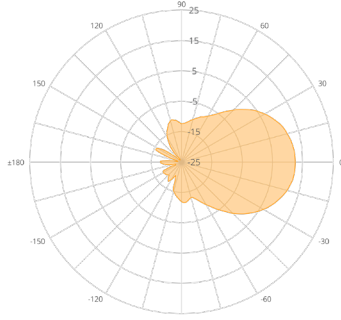
					
<b>Product</b>	B5x (no antenna)	N5-X12 (horn)	N5-X16 (horn)	N5-X20 (dish)	N5-X25 (dish)
<b>Gain</b>	8 dBi	12 dBi	16 dBi	20 dBi	25 dBi
<b>Polarization</b>	Dual-slant 45°	Dual-slant 45°	Dual-slant 45°	Dual-slant 45°	Dual-slant 45°
<b>Beamwidth, Symmetric (3 dB)</b>	58°	38°	22°	12°	8°
<b>Front-to-Back Ratio (min)</b>	21 dB	29 dB	50 dB	35 dB	40 dB
<b>Front-to-Side Ratio (min)</b>	21 dB	27 dB	43 dB	37 dB	> 45 dB
<b>Weight</b>	1.4 kg (3.1 lbs)	0.16 kg (0.35 lbs)	0.61 kg (1.35 lbs)	0.77 kg (1.70 lbs)	0.98 kg (2.15 lbs)
<b>Dimensions</b>	Height: 241 mm (9.5") Width: 139 mm (5.5") Depth: 76 mm (3.0")	Diameter: 76 mm (2.99") Depth: 67 mm (2.63")	Diameter: 160 mm (6.29") Depth: 116 mm (4.57")	Diameter: 270 mm (10.63") Depth: 83 mm (3.27")	Diameter: 429 mm (16.89") Depth: 116 mm (4.57")
<b>Mount</b>	Dual-pole clamps	Mimosa N5-X twist-on	Mimosa N5-X twist-on	Mimosa N5-X twist-on	Mimosa N5-X twist-on
<b>Wind Survivability</b>	200 km/h (125 mph)	200 km/h (125 mph)	200 km/h (125 mph)	200 km/h (125 mph)	200 km/h (125 mph)
<b>Wind Loading</b>	2.79 kg @ 160 km/h (6.14 lbs @ 100 mph)	3.27 kg @ 160 km/h (7.20 lbs @ 100 mph)	5.13 kg @ 160 km/h (11.30 lbs @ 100 mph)	14.55 @ 160 km/h (32.07 lbs @ 100 mph)	36.26 kg @ 160 km/h (79.95 lbs @ 100 mph)

## Polar Plots and Gain Across Frequency

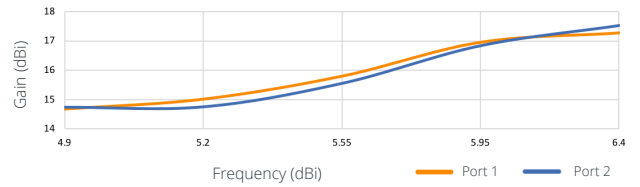
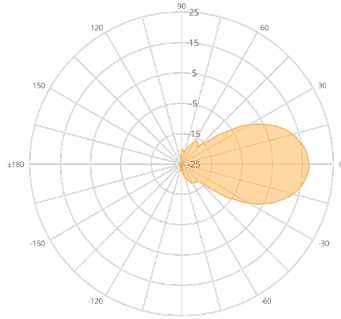
Native, Built-In (8 dBi)



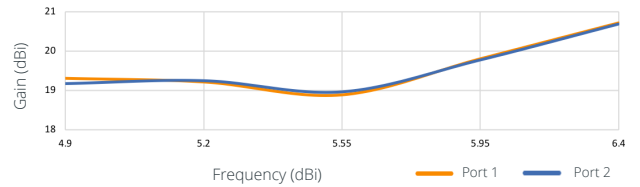
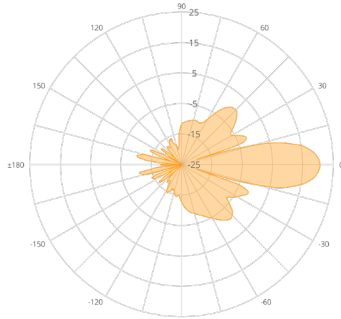
N5-X12 (12 dBi)



N5-X16 (16 dBi)



N5-X20 (20 dBi)



N5-X25 (25 dBi)

