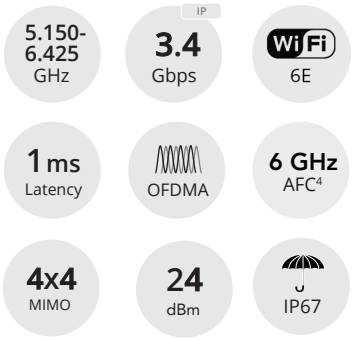
mimosa
a Radisys Company

Datasheet

B6x - High Capacity, Extreme Speed, and Super Value

B6x Point-to-Point (PTP) Backhaul Radio
5.15–6.425 GHz



The Mimosa B6x 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 unlicensed 5.15-6.4 GHz spectrum. It's modular, with the ability to connect N5-X compatible twist on antennas (dish—not included). With the latest in Wi-Fi 6E OFDMA technologies, and access to new 6 GHz bands, the B6x achieves extremely low latency with speeds of up to 3.4 Gbps and high reliability with new noise fighting features.

Fast and Flexible
Deliver industry-leading unlicensed point-to-point connectivity together with the N5-X antenna, offering up to 3.4 Gbps (IP) across various models (12 to 30+ dBi). Benefit from 320 MHz aggregate channel capacity and GPS Sync mode for peak performance flexibility.

OFDMA Modulation
Unlicensed spectrum interference mitigation using OFDMA modulation coupled with dual-channel and auto-everything technology.

Ultra Rugged
Carrier-grade IP67 design allows the B6x to withstand the harshest of environmental conditions.

Extended Frequency
Rise above the noise with extended frequency support from 5.15–6.425 GHz. N5-X antennas also offer best-in-class sidelobe noise rejection.

GPS Sync for Rapid Expansion
Collocate in close proximity with other Mimosa GPS enabled radios to quickly expand network.

Monitor With Ease
Assessing link health and identifying potential problems has never been easier. Links are instantly monitored from Mimosa Management Platform.

Need more information?
Get in touch with the Mimosa sales team by visiting
https://mimosa.co/contact-us

Technical Specifications

Performance

- **Max Throughput:**
  Up to 3.4 Gbps IP aggregate UL/DL (4.3 Gbps PHY)
- **Wireless Protocols:**
  TDMA, TDMA-FD, Auto-TDD
- **Low Latency:**
  <1 ms in auto mode

Radio

- **Modulation:** 4x4 MU-MIMO; OFDMA 1024QAM
- **Bandwidth:** Single or dual 160 MHz channels , 320 MHz aggregate channel capacity
- **Frequency Range:** 5150–6425 MHz Restricted by country of operation
- **Max Output Power:** 24 dBm
- **Sensitivity (MCS 0):**
  - @ 1024 QAM -47 dBm
  - @ 160 MHz -50 dBm
  - @ 80 MHz -53 dBm
  - @ 40 MHz -56 dBm

Power

- **Max Power Consumption:** 30 W
- **System Power Method:** PoE Port, or via the separate DC port
- **System Lightning & ESD Protection:** 6 kV
- **PoE Power Supply:**
  Passive POE compliant, 48–56 V (PoE injector not included)

Physical

- **Dimensions:**
  Height: 290 mm (11.4")
  Width: 167mm (6.6")
  Depth: 89mm (3.5")
- **Weight:** 1.7 kg (3.7 lbs)
- **RF Connector Type:** N5-X twist-on
- **Enclosure Characteristics:**
  Die-cast aluminum
- **Mounting:** Requires two standard pole straps for mounting to 30 mm (1.2") to 90mm Bracket with + - 20 degrees elevation adjustement is needed.

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

Regulatory and Compliance

- **Approvals:**
  (Pending - target Q1 2024)
- **RoHS Compliance:** Yes
- **Safety:** (Pending - target Q1 2024)

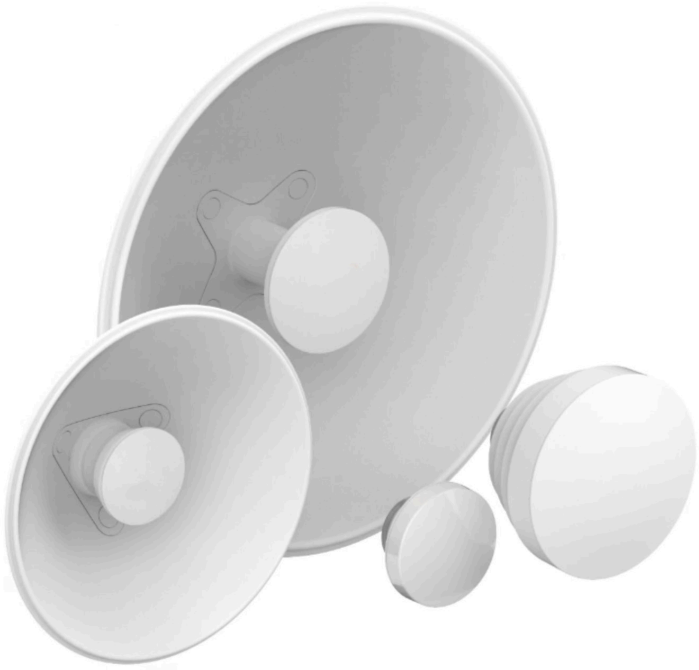
Features

- **Dual SFP+:** 10 Gbps Fiber via SFP+ cage. Single or multi-mode compatibility. (SFP insert modules not included)
- **Gigabit Ethernet:** 10/100/1000 BASE-T
- **Dual Link Operation:**
  Dual 2x2 radios operating with independent asymmetric channel and link auto-adaption for each radio channel pair; Automatic load balancing of traffic across 2 non-contiguous channels (4 total MIMO streams)
- **Management Services:** Mimosa Cloud, MMP; 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
- **Part Number:** 100-00116

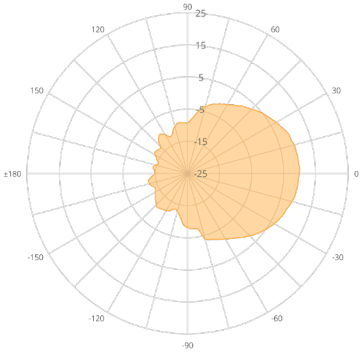
N5-X Modular Antenna Options for the B6x

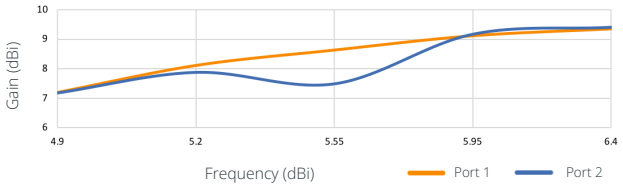
					
Product	B6x (Without antenna)	N5-X12 (horn)	N5-X16 (horn)	N5-X20 (dish)	N5-X25 (dish)
Part Number	100-00116	100-00086	100-00087	100-00088 - 2PK 100-00090 - 8PK	100-00091 - 8PK
Gain	8 dBi Native	12 dBi	16 dBi	20 dBi	25 dBi
Polarization	Dual-slant 45°	Dual-slant 45°	Dual-slant 45°	Dual-slant 45°	Dual-slant 45°
Beamwidth, Symmetric (3 dB)	58°	38°	22°	12°	8°
Front-to-Back Ratio (min)	21 dB	29 dB	50 dB	35 dB	40 dB
Front-to-Side Ratio (min)	21 dB	27 dB	43 dB	37 dB	> 45 d
Weight		0.16 kg (0.35 lbs)	0.61 kg (1.35 lbs)	0.77 kg (1.70 lbs)	0.98 kg (2.15 lbs)
Dimensions		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″)
Mount		Mimosa N5-X twist-on	Mimosa N5-X twist-on	Mimosa N5-X twist-on	Mimosa N5-X twist-on
Wind Survivability		200 km/h (125 mph)	200 km/h (125 mph)	200 km/h (125 mph)	200 km/h (125 mph)
Wind Loading		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 Frequencies

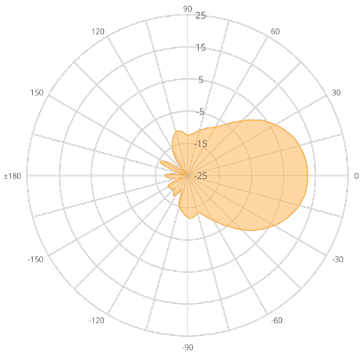


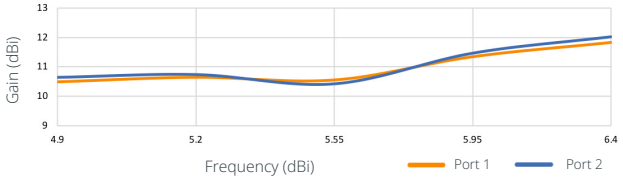
Native,
Built-In (8 dBi)



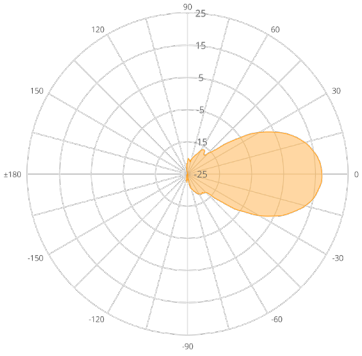


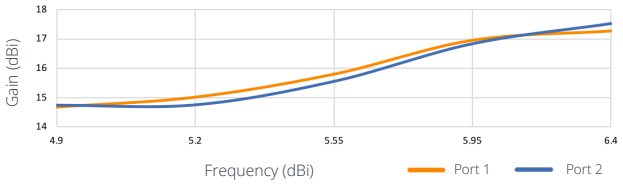
N5-X12 (12 dBi)



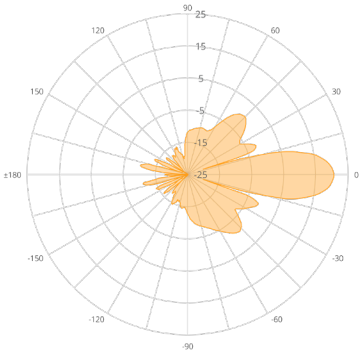


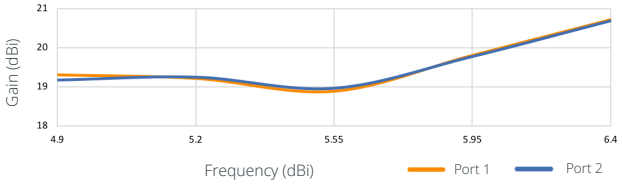
N5-X16 (16 dBi)



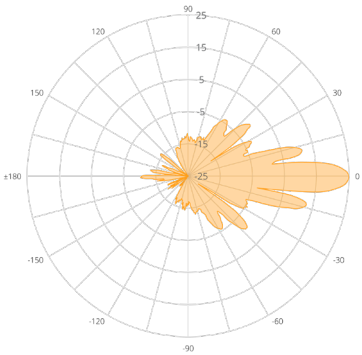


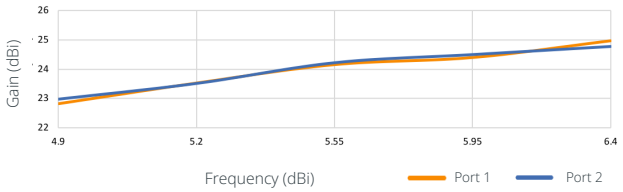
N5-X20 (20 dBi)





N5-X25 (25 dBi)





Mimosa Networks, a wholly owned subsidiary of Radisys, is the global technology leader in wireless broadband solutions, enabling service providers to connect dense urban and hard-to-reach rural homes at a fraction of the cost of fiber. Mimosa Networks was acquired in 2023 by Radisys, the global leader in open telecom solutions.

