

Antennas Pinwheel OEM



ANTENNA MODULE FOR OEM INTEGRATORS



DESIGNED FOR INTEGRATION

The NovAtel Pinwheel OEM antenna module provides Pinwheel® antenna technology in an easy to integrate assembly targeted for use in machine control and precision agriculture applications. The Pinwheel OEM provides optimum flexibility to create high performance antenna and smart antenna products using your own industrial designs.

MULTI-CONSTELLATION FOR ENHANCED POSITIONING

The Pinwheel OEM receives GPS L1/L2/L2C/L5, GLONASS L1/L2, Galileo E1/E5a/E5b and BeiDou B1/B2 signals. The antenna module also receives L-Band signals for correction services.

SMALL FORM FACTOR

The small form factor antenna module measures only 143 mm x 30 mm. It accepts an input voltage of 5.0 VDC and draws less than 40 mA.

The Pinwheel OEM comes with a 22 dB LNA and is designed for use in custom smart antenna products and for integrating into alternative enclosures, such as roof top domes.

PROVEN PINWHEEL TECHNOLOGY

NovAtel's patented Pinwheel antenna technology provides choke ring type performance in a small, lightweight, easily integrated package.

BENEFITS

- + GPS L1/L2/L2C/L5, GLONASS L1/L2, Galileo E1/E5a/E5b, BeiDou B1/B2 and L-Band signals maximize performance
- + Easily integrated into smart antennas and alternative custom enclosure assemblies

FEATURES

- + Proven NovAtel Pinwheel technology
- + Small form factor facilitates easier integration
- + Excellent multipath rejection
- + Stable phase center
- + RoHS compliant

If you require more information about our antennas, visit www.novatel.com/antennas

Pinwheel OEM

PERFORMANCE

Signals Tracked

GPS	L1, L2, L2C, L5
GLONASS	L1, L2
Galileo	E1, E5a, E5b
BeiDou	B1, B2
L-Band	
SBAS	

3 dB Pass Band (typical)

L1, L-Band, E1, B1	1568.0 ± 43.0 MHz
L2	1236.0 ± 18.3 MHz
L5, E5a	1176.0 ± 12.0 MHz
E5b	1207.0 ± 12.0 MHz
B2	1191.8 ± 25.0 MHz

Out-of-Band Rejection (typical)

L1, L-Band, E1, B1	±100 MHz 30 dBc
L2, E5a, E5b, B2	±200 MHz 45 dBc

LNA Gain 22 dB (typical)

Gain at Zenith (90°)

L1, L-Band, E1, B1	+3.0 dBic (minimum)
L2	+1.5 dBic (minimum)
E5a, L5	-1.0 dBic (minimum)
E5b, B2	+0.0 dBic (minimum)

Gain Roll-Off (from Zenith to Horizon)

L1, L-Band, E1, B1	12 dB (minimum)
L2, L5, E5a, E5b, B2	10 dB (minimum)

Phase Center Stability <3 mm¹

Noise Figure 2.5 dB (typical)

VSWR ≤2.0 : 1

L1-L2 Differential Propagation Delay 5 ns (maximum)

Nominal Impedance 50 Ω

PHYSICAL AND ELECTRICAL

Dimensions 143 mm diameter x <30 mm

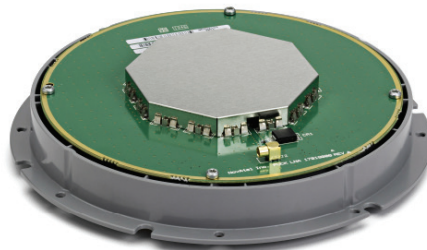
Weight <120 g

Power

Input voltage +5.0 ±5% VDC

Current draw 40 mA (typical)

Connector MMCX right angle female



Bottom View

ENVIRONMENTAL

Temperature

» Operating -40°C to +85°C

» Storage -55°C to +85°C

Humidity 95% non-condensing

Vibration (operating)¹

» Random MIL-STD-202F

» Sinusoidal SAEJ1211, Section 4.7

Shock² IEC 68-2-27 (Ea)

Bump² IEC 68-2-29 (Eb)

Compliance FCC, CE³

RoHS EU Directive 2011/65/EU

For the most recent details of this product:

www.novatel.com/products/gnss-antennas/oem-component-antennas/pinwheel-oem/

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Version 5 Specifications subject to change without notice.

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1. As measured in NovAtel Anechoic chamber.
2. Environmental testing validated in a NovAtel antenna enclosure.
3. Compliant by design—not tested.