VEXXIS™ Antennas GNSS-802

CUTTING EDGE ANTENNA TECHNOLOGY WITH SUPERIOR TRACKING PERFORMANCE

INNOVATIVE DESIGN WITH MULTIPLE PATENTS

The VEXXIS GNSS-800 series antennas feature a patented multi-point feeding network and radiation pattern optimization technology. In additional to having enhanced performance in multipath environments, the GNSS-802 antenna is able to maintain a low profile while achieving both high peak zenith gain and low gain roll-off from zenith to horizon, without sacrificing tracking performance. This new technology significantly enhances the low elevation angle tracking capabilities, extending operation to the entire GNSS constellation. Furthermore, the antenna is able to achieve greater phase center stability through our innovative element design. This directly translates into improved carrier phase measurement and a better RTK solution.

TRACKING IN CHALLENGING ENVIRONMENTS

The ability to track low elevation satellites, while maintaining a high gain for higher elevation satellites, makes the GNSS-802 an excellent choice for any applications where the sky is partially visible, such as operating close to tree lines, under foliage or in urban canyons. The antenna is able to track any visible satellites from horizon to zenith, providing the maximum number of observations for an enhanced positioning solution.

NOVATEL'S TOUGHEST PRECISION ANTENNA

The GNSS-800 family of antennas are the toughest high precision antennas NovAtel has designed to date, ensuring their survivability in even the harshest operating environments. The antennas feature ultra-durable watertight enclosures, and have been proven to sustain intense vibration, earning the MIL-STD-810G rating.

FEATURES

+ Supports dual-frequency GPS and GLONASS signals
+ Multi-point antenna feed provides stable phase center and enhanced multipath rejection
+ Radiation pattern optimization technology yields exceptional low elevation satellite tracking
+ Provides exceptional tracking performance previously unachievable in a small form factor
+ Hermetically sealed enclosure to endure the toughest environments

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

GNSS-802

PERFORMANCE

Signal Received

GPS	L1, L2
GLONASS	L1, L2
Galileo	E1
BeiDou	B1

Pass Band (typical)

Upper passband	1588.0 ± 23.0 MHz
Lower passband	1234.0 ± 17.0 MHz

Out-of-Band Rejection

Band edges ± 50 MHz	40 dB minimum
Band edges ± 100 MHz	60 dB minimum

LNA Gain 29 dB (typical)

Gain at Zenith (90°)[1]

L1/G1	+5.0 dBic minimum
L2/G2	+5.0 dBic minimum

Gain Roll-Off (from Zenith to Horizon)

L1/E1/B1	10 dB
L2/G1/G2	12 dB

Phase Center Stability <2.0 mm

Noise Figure <2.0 dB (typical)

VSWR ≤2.0 : 1

L1-L2 Differential Propagation Delay 5 ns (maximum)

Group Delay Ripple <15 ns

Nominal Impedance 50 Ω

PHYSICAL AND ELECTRICAL

Dimensions 179 mm D × 55 mm H

Weight 500 g

Connector TNC female

Mounting 5/8" thread mount

Power

Input voltage	+3.8 to +18.0 VDC
Current	60 mA (maximum)

ENVIRONMENTAL

Temperature

Operating	-40°C to +85°C
Storage	-55°C to +85°C

Humidity 95% non-condensing

Salt Fog MIL-STD-810G (CH1), 509.6

Water/Dust Resistance IP67, IP69K

Vibration (operating)

Random	MIL-STD-810G (CH1), 514.7 (15 g) Annex E Procedure 1, Category 24

Shock MIL-STD-810G (CH1), 516.7 (40 g), Procedure 1

Bump IEC 68-2-27 Ea (25 g)

Regulatory Compliance FCC, CE

RoHS EU Directive 2011/65/EU

1. G1 zenith gain is 4dBic (typical).

For the most recent details of this product:
www.novatel.com/products/gnss-antennas/vexxis-series-antennas/gnss-800-series-antennas/

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VEXXIS™ Antennas GNSS-802L

CUTTING EDGE ANTENNA TECHNOLOGY WITH SUPERIOR TRACKING PERFORMANCE

INNOVATIVE DESIGN WITH MULTIPLE PATENTS

The VEXXIS GNSS-800 series antennas feature a patented multi-point feeding network and radiation pattern optimization technology. In additional to having enhanced performance in multipath environments, the GNSS-802L antenna is able to maintain a low profile while achieving both high peak zenith gain and low gain roll-off from zenith to horizon, without sacrificing tracking performance. This new technology significantly enhances the low-elevation angle tracking capabilities, extending operation to the entire GNSS constellation. Furthermore, the antenna is able to achieve greater phase center stability through our innovative element design. This directly translates into improved carrier phase measurement and a better RTK solution.

TRACKING IN CHALLENGING ENVIRONMENTS

The ability to track low elevation satellites while maintaining a high gain for higher elevation satellites makes the GNSS-802L an excellent choice for any applications where the sky is partially visible, such as operating close to tree lines, under foliage, or in urban canyons. The antenna is able to track any visible satellites from horizon to zenith, providing the maximum number of observations for an enhanced positioning solution.

NOVATEL'S TOUGHEST PRECISION ANTENNA

The GNSS-800 family of antennas are the toughest high precision antennas NovAtel has designed to date, ensuring their survivability in even the harshest operating environments. The antennas feature ultra-durable watertight enclosures and have been proven to sustain intense vibration, earning the MIL-STD-810G rating.

FEATURES

+ Supports dual-frequency GPS and GLONASS signals
+ L-Band signal reception, supporting correction services such as TerraStar
+ Multi-point antenna feed provides stable phase center and enhanced multipath rejection
+ Radiation pattern optimization technology yields exceptional low elevation satellite tracking
+ Provides exceptional tracking performance previously unachievable in a small form factor
+ Hermetically sealed enclosure to endure the toughest environments

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GNSS-802L

PERFORMANCE

Signal Received

GPS	L1, L2
GLONASS	L1, L2
Galileo	E1
BeiDou	B1
L-Band	

Pass Band (typical)

Upper passband	1569.0 ± 43.0 MHz
Lower passband	1234.0 ± 17.0 MHz

Out-of-Band Rejection

Band edges ± 50 MHz	40 dB minimum
Band edges ± 100 MHz	60 dB minimum

LNA Gain 29 dB (typical)

Gain at Zenith (90°)[1]

L1/B1/E1/G1	+5.0 dBic minimum
L2/G2	+5.0 dBic minimum
L-Band	+5.0 dBic minimum

Gain Roll-Off (from Zenith to Horizon)

L1/B1/E1/G1	10 dB
L2/G2	12 dB
L-Band	10 dB

Phase Center Stability <2.0 mm

Noise Figure <2.0 dB (typical)

VSWR ≤2.0 : 1

L1-L2 Differential Propagation Delay 5 ns (maximum)

Group Delay Ripple <15 ns

Nominal Impedance 50 Ω

PHYSICAL AND ELECTRICAL

Dimensions 179 mm D × 55 mm H

Weight 500 g

Connector TNC female

Mounting 5/8" thread mount

Power

Input voltage	+3.8 to +18.0 VDC
Current	60 mA (maximum)

ENVIRONMENTAL

Temperature

Operating	-40°C to +85°C
Storage	-55°C to +85°C

Humidity 95% non-condensing

Salt Fog MIL-STD-810G (CH1), 509.6

Water/Dust Resistance IP67, IP69K

Vibration (operating)

Random: MIL-STD-810G (CH1), 514.7 (15 g) Annex E Procedure 1, Category 24

Shock MIL-STD-810G (CH1), 516.7 (40 g), Procedure 1

Bump IEC 68-2-27 Ea (25 g)

Regulatory Compliance FCC, CE

RoHS EU Directive 2011/65/EU

1. G1 zenith gain is 4 dBic (typical).

For the most recent details of this product:
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VEXXIS™ Antennas GNSS-804

CUTTING EDGE ANTENNA TECHNOLOGY WITH SUPERIOR TRACKING PERFORMANCE

INNOVATIVE DESIGN WITH MULTIPLE PATENTS

The VEXXIS GNSS-800 series antennas feature a patented multi-point feeding network and radiation pattern optimization technology. In additional to having enhanced performance in multipath environments, the GNSS-804 antenna is able to maintain a low profile while achieving both high peak zenith gain and low gain roll-off from zenith to horizon without sacrificing tracking performance. This new technology significantly enhances the low-elevation angle tracking capabilities, extending operation to the entire GNSS constellation. Furthermore, the antenna is able to achieve greater phase center stability through our innovative element design. This directly translates into improved carrier phase measurement and a better RTK solution.

TRACKING IN CHALLENGING ENVIRONMENTS

The ability to track low elevation satellites while maintaining a high gain for higher elevation satellites makes the GNSS-804 an excellent choice for any applications where the sky is partially visible, such as operating close to tree lines, under foliage, or in urban canyons. The antenna is able to track any visible satellites from horizon to zenith, providing the maximum number of observations for an enhanced positioning solution.

NOVATEL'S TOUGHEST PRECISION ANTENNA

The GNSS-800 family of antennas are the toughest high precision antennas NovAtel has designed to date, ensuring their survivability in even the harshest operating environments. The antennas feature ultra-durable watertight enclosures, and have been proven to sustain intense vibration, earning the MIL-STD-810G rating.

FEATURES

+ **Supports dual-frequency GPS, GLONASS, Galileo and BeiDou signals**
+ **Multi-point antenna feed provides stable phase center and enhanced multipath rejection**
+ **Radiation pattern optimization technology yields exceptional low elevation satellite tracking**
+ **Provides exceptional tracking performance previously unachievable in a small form factor**
+ **Hermetically sealed enclosure to endure the toughest environment**

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

GNSS-804

PERFORMANCE

Signal Received

GPS	L1, L2
GLONASS	L1, L2
Galileo	E1, E5b
BeiDou	B1, B2

Pass Band (typical)

Upper passband	1588.0 ± 23.0 MHz
Lower passband	1225.5 ± 28.5 MHz

Out-of-Band Rejection

Band edges ± 50 MHz	40 dB minimum
Band edges ± 100 MHz	60 dB minimum

LNA Gain 29 dB (typical)

Gain at Zenith (90°)[1]

L1/B1/E1/G1	+5.0 dBic minimum
L2/B2/E5b/G2	+5.0 dBic minimum

Gain Roll-Off (from Zenith to Horizon)

L1/B1/E1/G1	10 dB
L2/B2/E5b/G2b	12 dB

Phase Center Stability <2.0 mm

Noise Figure <2.0 dB (typical)

VSWR ≤2.0 : 1

L1-L2 Differential Propagation Delay 5 ns (maximum)

Group Delay Ripple <15 ns

Nominal Impedance 50 Ω

PHYSICAL AND ELECTRICAL

Dimensions 179 mm D × 55 mm H

Weight 500 g

Connector TNC female

Mounting 5/8" thread mount

Power

Input voltage	+3.8 to +18.0 VDC
Current	60 mA (maximum)

ENVIRONMENTAL

Temperature

Operating	-40°C to +85°C
Storage	-55°C to +85°C

Humidity 95% non-condensing

Salt Fog MIL-STD-810G (CH1), 509.6

Water/Dust Resistance IP67, IP69K

Vibration (operating)

Random	MIL-STD-810G (CH1), 514.7 (15 g) Annex E Procedure 1, Category 24

Shock MIL-STD-810G (CH1), 516.7 (40 g), Procedure 1

Bump IEC 68-2-27 Ea (25 g)

Regulatory Compliance FCC, CE

RoHS EU Directive 2011/65/EU

1. G1 zenith gain is 4 dBic (typical)

For the most recent details of this product:
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VEXXIS™ Antennas GNSS-804L

CUTTING EDGE ANTENNA TECHNOLOGY WITH SUPERIOR TRACKING PERFORMANCE

INNOVATIVE DESIGN WITH MULTIPLE PATENTS

The VEXXIS GNSS-800 series antennas feature a patented multi-point feeding network and radiation pattern optimization technology. In additional to having enhanced performance in multipath environments, the GNSS-804L antenna is able to maintain a low profile while achieving both high peak zenith gain and low gain roll-off from zenith to horizon, without sacrificing tracking performance. This new technology significantly enhances the low-elevation angle tracking capabilities, extending operation to the entire GNSS constellation. Furthermore, the antenna is able to achieve greater phase center stability through our innovative element design. This directly translates into improved carrier phase measurement and a better RTK solution.

TRACKING IN CHALLENGING ENVIRONMENTS

The ability to track low elevation satellites while maintaining a high gain for higher elevation satellites makes the GNSS-804L an excellent choice for any applications where the sky is partially visible, such as operating close to tree lines, under foliage, or in urban canyons. The antenna is able to track any visible satellites from horizon to zenith, providing the maximum number of observations for an enhanced positioning solution.

NOVATEL'S TOUGHEST PRECISION ANTENNA

The GNSS-800 family of antennas are the toughest high precision antennas NovAtel has designed to date, ensuring their survivability in even the harshest operating environments. The antennas feature ultra-durable watertight enclosures, and have been proven to sustain intense vibration, earning the MIL-STD-810G rating.

FEATURES

+ Supports dual-frequency GPS, GLONASS, Galileo and BeiDou signals
+ L-Band signal reception, supporting correction services such as TerraStar
+ Multi-point antenna feed provides stable phase center and enhanced multipath rejection
+ Radiation pattern optimization technology yields exceptional low elevation satellite tracking
+ Provides exceptional tracking performance previously unachievable in a small form factor
+ Hermetically sealed enclosure to endure the toughest environments

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

GNSS-804L

PERFORMANCE

Signal Received

GPS	L1, L2
GLONASS	L1, L2
Galileo	E1, E5b
BeiDou	B1, B2
L-Band	

Pass Band (typical)

Upper passband	1569.0 ± 43.0 MHz
Lower passband	1225.5 ± 28.5 MHz

Out-of-Band Rejection

Band edges ± 50 MHz	40 dB minimum
Band edges ± 100 MHz	60 dB minimum

LNA Gain 29 dB (typical)

Gain at Zenith (90°)[1]

L1/B1/E1/G1	+5.0 dBic minimum
L2/B2/E5b/G2	+5.0 dBic minimum
L-Band	+5.0 dBic minimum

Gain Roll-Off (from Zenith to Horizon)

L1/B1/E1/G1	10 dB
L2/B2/E5b/G2	12 dB
L-Band	10 dB

Phase Center Stability <2.0 mm

Noise Figure <2.0 dB (typical)

VSWR ≤2.0 : 1

L1-L2 Differential Propagation Delay 5 ns (maximum)

Group Delay Ripple <15 ns

Nominal Impedance 50 Ω

PHYSICAL AND ELECTRICAL

Dimensions 179 mm D × 55 mm H

Weight 500 g

Connector TNC female

Mounting 5/8" thread mount

Power

Input voltage	+3.8 to +18.0 VDC
Current	60 mA (maximum)

ENVIRONMENTAL

Temperature

Operating	-40°C to +85°C
Storage	-55°C to +85°C

Humidity 95% non-condensing

Salt Fog MIL-STD-810G (CH1), 509.6

Water/Dust Resistance IP67, IP69K

Vibration (operating)

Random	MIL-STD-810G (CH1), 514.7 (15 g) Annex E Procedure 1, Category 24

Shock MIL-STD-810G (CH1), 516.7 (40 g), Procedure 1

Bump IEC 68-2-27 Ea (25 g)

Regulatory Compliance FCC, CE

RoHS EU Directive 2011/65/EU

1. G1 zenith gain is 4 dBic (typical)

For the most recent details of this product: www.novatel.com/products/gnss-antennas/vexxis-series-antennas/gnss-800-series-antennas/

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VEXXIS™ Antennas GNSS-850

CUTTING EDGE ANTENNA TECHNOLOGY WITH SUPERIOR TRACKING PERFORMANCE

INNOVATIVE DESIGN WITH MULTIPLE PATENTS

The VEXXIS GNSS-800 series antennas feature a patented multi-point feeding network and radiation pattern optimization technology. In additional to having enhanced performance in multipath environments, the GNSS-850 antenna is able to maintain a low profile while achieving both high peak zenith gain and low gain roll-off from zenith to horizon, without sacrificing tracking performance. This new technology significantly enhances the low elevation angle tracking capabilities, extending operation to the entire GNSS constellation. Furthermore, the antenna is able to achieve greater phase center stability through our innovative element design. This directly translates into improved carrier phase measurement and a better RTK solution.

TRACKING IN CHALLENGING ENVIRONMENTS

The ability to track low elevation satellites while maintaining a high gain for higher elevation satellites makes the GNSS-850 an excellent choice for any applications where the sky is partially visible, such as operating close to tree lines, under foliage, or in urban canyons. The antenna is able to track any visible satellites from horizon to zenith, providing maximum number of observations for an enhanced positioning solution.

NOVATEL'S TOUGHEST PRECISION ANTENNA

The GNSS-800 family of antennas are the toughest high precision antennas NovAtel has designed to date, ensuring their survivability in even the harshest operating environments. The antennas feature ultra-durable watertight enclosures, and have been proven to sustain intense vibration, earning the MIL-STD-810G rating.

FEATURES

+ Supports all GNSS Constellations and frequencies
+ L-Band signal reception, supporting correction services such as TerraStar
+ Multi-point antenna feed provides stable phase center and enhanced multipath rejection
+ Radiation pattern optimization technology yields exceptional low elevation satellite tracking
+ Provides exceptional tracking performance previously unachievable in a small form factor
+ Hermetically sealed enclosure to endure the toughest environments

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

GNSS-850

PERFORMANCE

Signal Received

GPS	L1, L2, L5
GLONASS	L1, L2, L3
Galileo	E1, E5a/b, E6
BeiDou	B1, B2, B3
L-Band	

Pass Band (typical)

Upper passband	1569.0 ± 43.0 MHz
Lower passband	1232.0 ± 68.0 MHz

Out-of-Band Rejection

Band edges ± 50 MHz	40 dB minimum
Band edges ± 100 MHz	60 dB minimum

LNA Gain 29 dB (typical)

Gain at Zenith (900)[1]

L1/B1/E1/G1	+5.0 dBic minimum
L2/B2/E5b/G2	+5.0 dBic minimum
L5/E5a	+3.0 dBic minimum
L-Band	+5.0 dBic minimum

Gain Roll-Off (from Zenith to Horizon)

L1/B1/E1/G1	10 dB
L2/B2/E5b/G2	12 dB
L5/E5a	12 dB
L-Band	10 dB

Phase Center Stability <2.0 mm

Noise Figure <2.0 dB (typical)

VSWR ≤2.0 : 1

L1-L2 Differential Propagation Delay 5 ns (maximum)

Group Delay Ripple <15 ns

Nominal Impedance 50 Ω

PHYSICAL AND ELECTRICAL

Dimensions 179 mm D × 55 mm H

Weight 500 g

Connector TNC female

Mounting 5/8" thread mount

Power

Input voltage	+3.8 to +18.0 VDC
Current	60 mA (maximum)

ENVIRONMENTAL

Temperature

Operating	-40°C to +85°C
Storage	-55°C to +85°C

Humidity 95% non-condensing

Salt Fog MIL-STD-810G (CH1), 509.6

Water/Dust Resistance IP67, IP69K

Vibration (operating)

Random: MIL-STD-810G (CH1), 514.7 (15 g) Annex E Procedure 1, Category 24

Shock MIL-STD-810G (CH1), 516.7 (40 g), Procedure 1

Bump IEC 68-2-27 Ea (25 g)

Regulatory Compliance FCC, CE

RoHS EU Directive 2011/65/EU

1. G1 zenith gain is 4 dBic (typical). L5 zenith gain is 3 dBic (typical)

For the most recent details of this product: www.novatel.com/products/gnss-antennas/vexxis-series-antennas/gnss-800-series-antennas/

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