

Warranty Policy

NovAtel Inc. warrants that its Global Positioning System (GPS) products are free from defects in materials and workmanship, subject to the conditions set forth below, for the following periods of time:

GPSAntenna™ Modules	One (1) Year
Cables and Accessories	Ninety (90) Days

Date of sale shall mean the date of the invoice to the original customer for the product. NovAtel's responsibility respecting this warranty is limited solely to product repair at an authorized NovAtel location only. Determination of repair will be made by NovAtel personnel or by technical personnel expressly authorized by NovAtel for this purpose.

THE FOREGOING WARRANTIES DO NOT EXTEND TO (I) NONCONFORMITIES, DEFECTS OR ERRORS IN THE PRODUCTS DUE TO ACCIDENT, ABUSE, MISUSE OR NEGLIGENT USE OF THE PRODUCTS OR USE IN OTHER THAN A NORMAL AND CUSTOMARY MANNER, ENVIRONMENTAL CONDITIONS NOT CONFORMING TO NOVATEL'S SPECIFICATIONS, OR FAILURE TO FOLLOW PRESCRIBED INSTALLATION, OPERATING AND MAINTENANCE PROCEDURES, (II) DEFECTS, ERRORS OR NONCONFORMITIES IN THE PRODUCTS DUE TO MODIFICATIONS, ALTERATIONS, ADDITIONS OR CHANGES NOT MADE IN ACCORDANCE WITH NOVATEL'S SPECIFICATIONS OR AUTHORIZED BY NOVATEL, (III) NORMAL WEAR AND TEAR, (IV) DAMAGE CAUSED BY FORCE OF NATURE OR ACT OF ANY THIRD PERSON, (V) SHIPPING DAMAGE; OR (VI) SERVICE OR REPAIR OF PRODUCT WITHOUT PRIOR WRITTEN CONSENT FROM NOVATEL.

IN ADDITION, THE FOREGOING WARRANTIES SHALL NOT APPLY TO PRODUCTS DESIGNATED BY NOVATEL AS BETA SITE TEST SAMPLES, EXPERIMENTAL, DEVELOPMENTAL, PREPRODUCTION, SAMPLE, INCOMPLETE OR OUT OF SPECIFICATION PRODUCTS OR TO RETURNED PRODUCTS IF THE ORIGINAL IDENTIFICATION MARKS HAVE BEEN REMOVED OR ALTERED.

THE WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WRITTEN OR ORAL, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE EXCLUDED.

NOVATEL SHALL NOT BE LIABLE FOR ANY LOSS, DAMAGE OR EXPENSE ARISING DIRECTLY OR INDIRECTLY OUT OF THE PURCHASE, INSTALLATION, OPERATION, USE OR LICENSING OR PRODUCTS OR SERVICES. IN NO EVENT SHALL NOVATEL BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR NATURE DUE TO ANY CAUSE.

There are no user-serviceable parts in the GPSAntenna and no maintenance is required. When the GPSCard status code indicates that the unit is faulty, replace with another unit and return the faulty unit to NovAtel Inc.

You must obtain a RETURN MATERIAL AUTHORIZATION (RMA) number by calling GPS Customer Service at 1-800-280-2242 (North America only) or 403-295-4900 before shipping any product to NovAtel or Dealer.

Once you have obtained an RMA number, you will be advised of proper shipping procedures to return any defective product. When returning any product to NovAtel, please return the defective product in the original packaging to avoid ESD and shipping damage.

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September 3, 1999
GM-00000012 Rev. 4

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NovAtel GPSAntenna™ Model 521

- User Information –
S67-1575-67



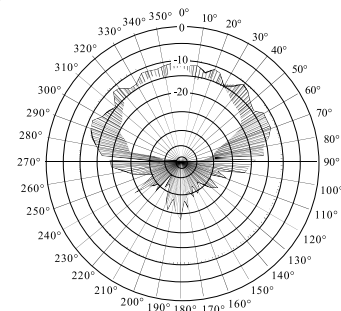
Description

The compact, lightweight Model 521 GPSAntenna is designed for use in any mobile application.

The Model 521 is an active GPS Antenna, 55.9 millimetres in diameter, with lightning and rain protection features. This antenna includes the following:

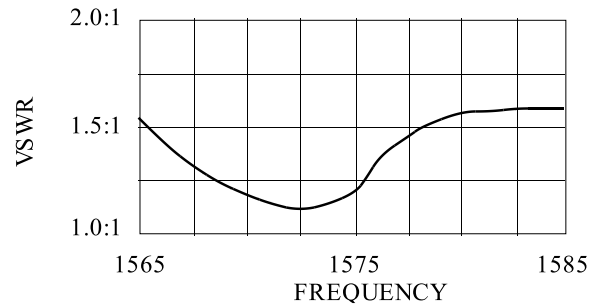
- universal single hole mounting with threaded connector and nut
- internal 26dB amplifier
- designed for long cable remote installation
- band pass filtering
- DC bias provided through the coaxial connector

NovAtel offers optional coaxial cables of various lengths and models for interconnecting between the GPSAntenna™ and NovAtel GPSCard™ receivers.



Radiation Pattern

GPSAntenna Model 521 VSWR Performance



Technical Specifications

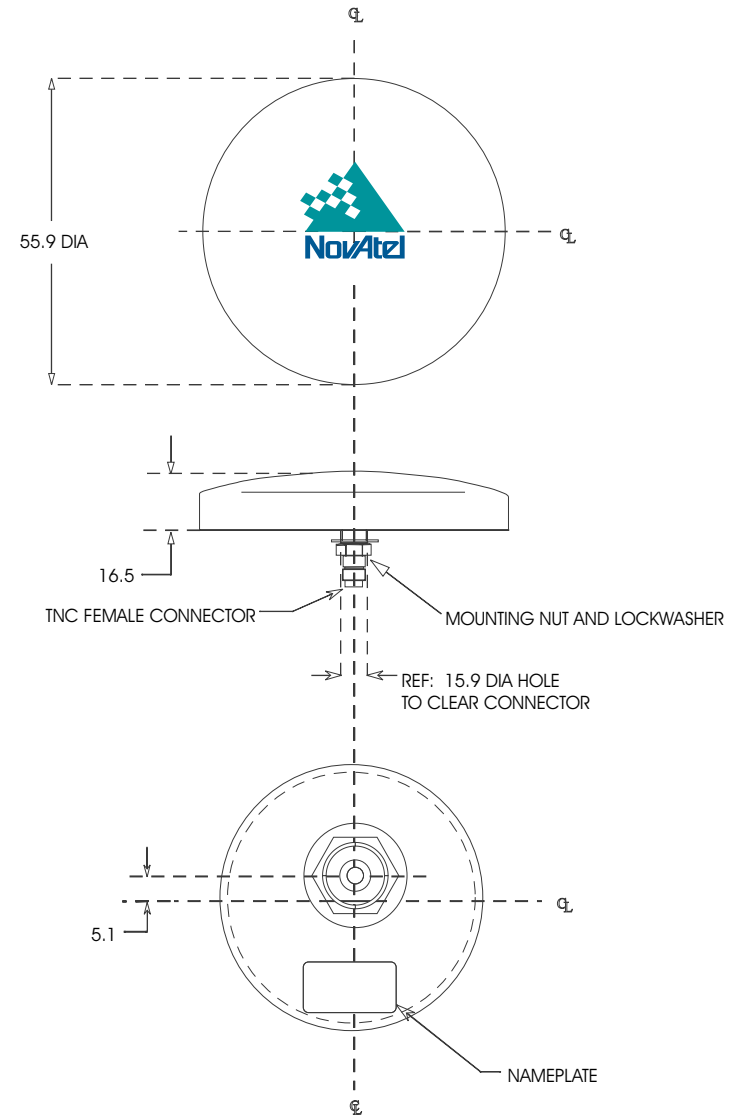
- Electrical -

Frequency	1575.42 ± 2 MHz
Polarization	RHCP
Impedance	50 ohms
Power Handling	100 mW (+20 dBm)
Axial Ratio (max)	3.0 dB
Gain (Antenna)	-1.0 dBic 0 ≤ Ø < 75° -2.5 dBic 75 ≤ Ø < 80° -4.5 dBic 80 ≤ Ø < 85° -7.5 dBic Ø < 90° @ horizon
Gain (Preamp)	26 dB ± 3 dB
Supply Voltage	+4.0 to +24 Vdc @ 25 mA max
Band Reject	22 dB @ 1625 MHz
Lightening Protection	DC grounded

- Mechanical & Environmental -

Finish:	Thermoset plastic, natural white-base iridite, per MIL-C-541
Weight:	3 oz.
Height:	16.5 mm
Diameter:	55.9 mm
Material:	6061-T6 aluminum thermoset plastic
Connector:	TNC female
Temperature:	-55 °C to +85 °C
Vibration:	10 G's
Altitude:	-100 to 55,000 ft.

Mechanical Drawings



NOTE: All dimensions in millimetres
1 inch = 25.4 millimetres