

**Part No. 1002649**

# GPS/GLONASS/Beidou/Galileo Patch Dual Feed Antenna

**1.575 GHz, 1.598 GHz, 1.606 GHz**

Supports: Tracking, Smart Home, Agriculture, Automotive, Healthcare, Digital Signage, Wearables, Industrial Devices



## GPS / GLONASS / Beidou / Galileo Dual Feed Patch Antenna

1.575 GHz, 1.598 GHz, 1.606 GHz

### KEY BENEFITS

#### Reduced Costs and Time-to-Market

Standard antenna eliminates design fees and cycle time associated with a custom solution; getting products to market faster.

#### Quicker Time-to-Market

By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

#### Reliability

Products are the latest RoHS version compliant.

### APPLICATIONS

- Embedded design
- POS, Headsets, Tablets
- Gateway, Access Point
- Handheld
- Telematics
- Tracking
- Healthcare
- M2M, Industrial devices
- Smart Grid
- OBD-II

Ethertronics' antennas deliver on the key needs of device designers for higher functionality and performance in smaller/thinner designs. These innovative antennas provide compelling advantages for a GNSS enabled handheld devices, media players and other mobile devices.

### Electrical Specifications

Typical characteristics, measured on a 70 x 70 mm PCB ground plane.

Frequency (GHz)	1.559 – 1.563	1.575	1.559 – 1.591	1.593 – 1.610
GNSS Bands	Beidou	GPS	Galileo	Glionass
Peak Gain (dBi)	5	5.5	5.5	5.5
Center Frequency $f_0$ (GHz)	1.561	1.575	1.575	1.603
Average Return Loss	< -15			
Axial Ratio	1 dB			
Feed Point Impedance	50 $\Omega$ unbalanced			

### Mechanical Specifications & Ordering Part Number

Ordering Part Number	1002649
Size (mm)	25.0 x 25.0 x 6.7
Mounting (mm)	Adhesive (Nitto 5000NS 22 x 22 x 0.16) & 2 through-hole Soldered Pins
Weight (grams)	14.3
Packaging	Plastic Tray

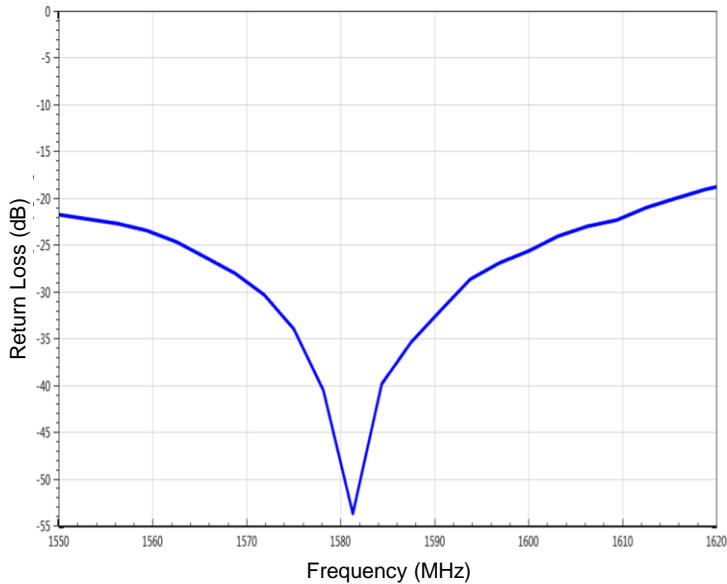


GPS / GLONASS / Beidou / Galileo Dual Feed Patch Ethertronics' Embedded Antenna Specifications  
Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

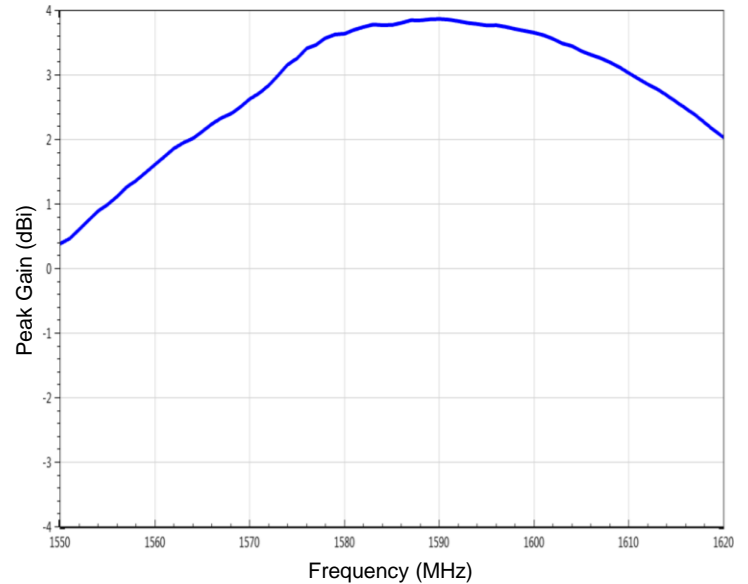
### VSWR and Peak Gain Plots

Typical performance on 70 x 70 mm PCB

Return Loss



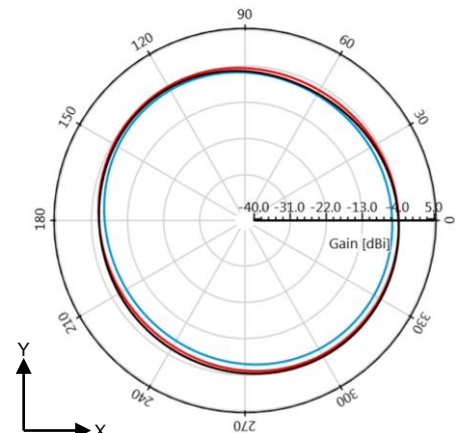
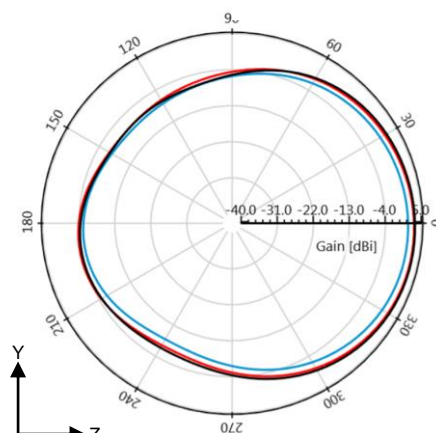
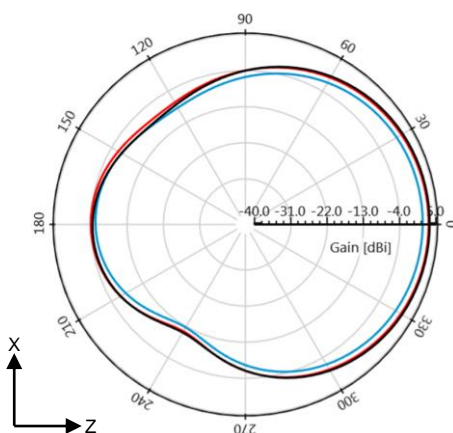
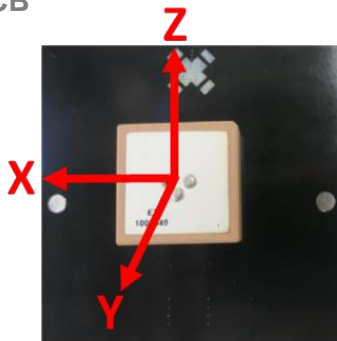
Peak Gain



### Antenna Radiation Patterns

Typical performance on 70 x 70 mm PCB

Measured @ 1561, 1575, 1603 MHz





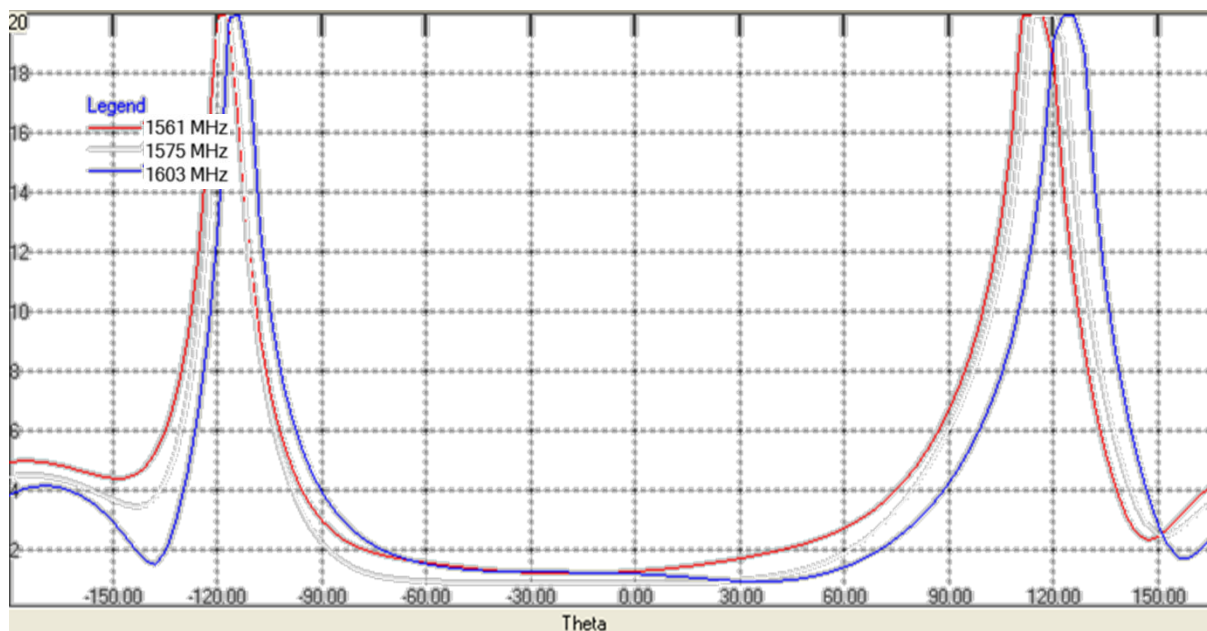
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### Axial Ratio Plots

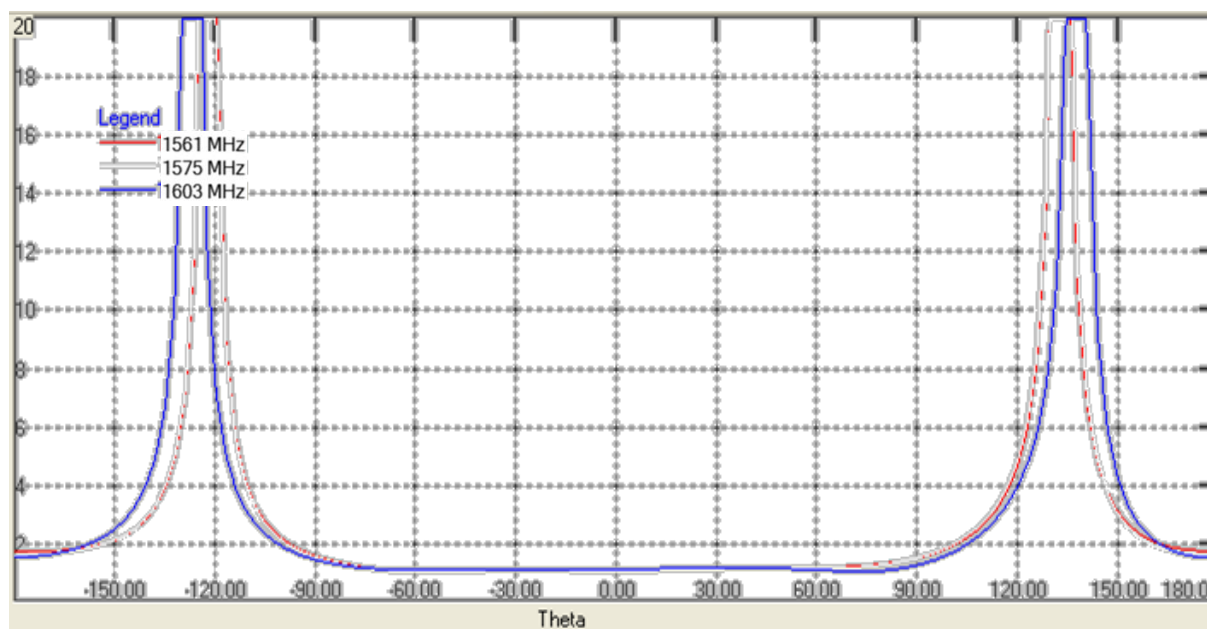
Typical performance on 70 x 70 mm PCB

Measured @ 1561, 1575, 1603 MHz

Phi = 0



Phi = 90

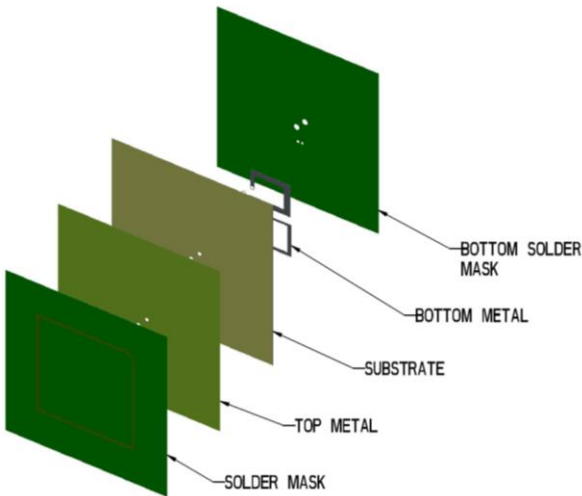




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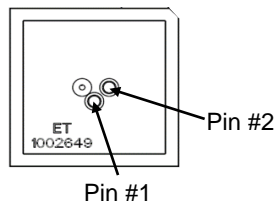
## Antenna Layout

Typical layout dimensions (mm)



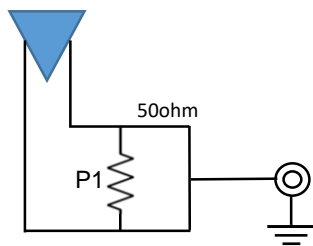
### Pin Descriptions

Pin#	Description
1	Feed
2	Feed

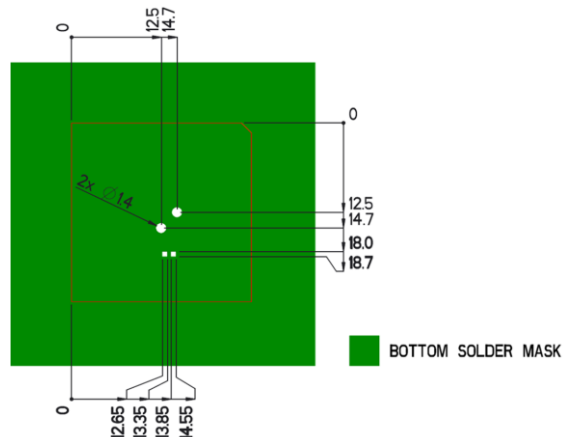
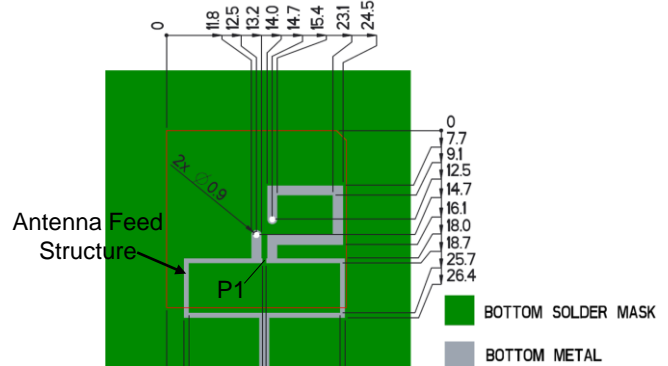
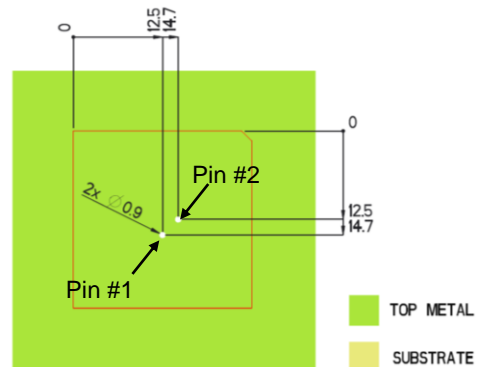
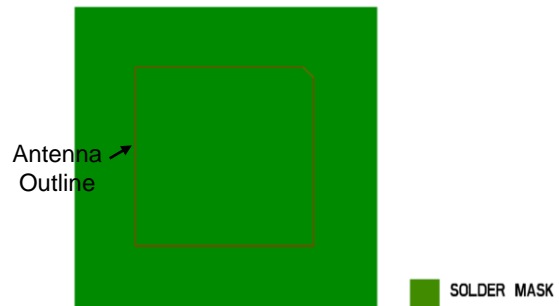
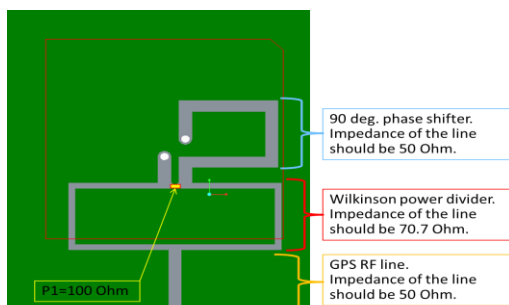


### Matching Pi Network

Component	Value	Tolerance
P1	100Ω	±5%



### Impedance Definition



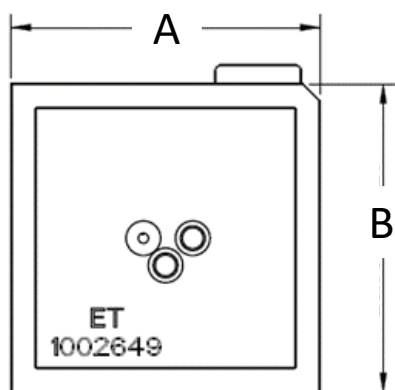


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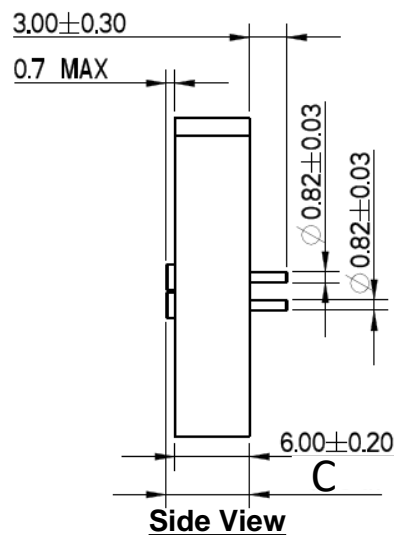
## Mechanical Dimensions

Typical antenna dimensions, in mm.

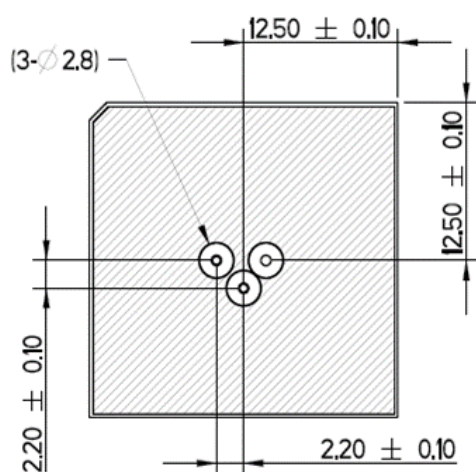
Part Number	A (mm)	B (mm)	C (mm)
1002649	$25.0 \pm 0.2$	$25.0 \pm 0.2$	$6.7 (+0.2/-0.4)$



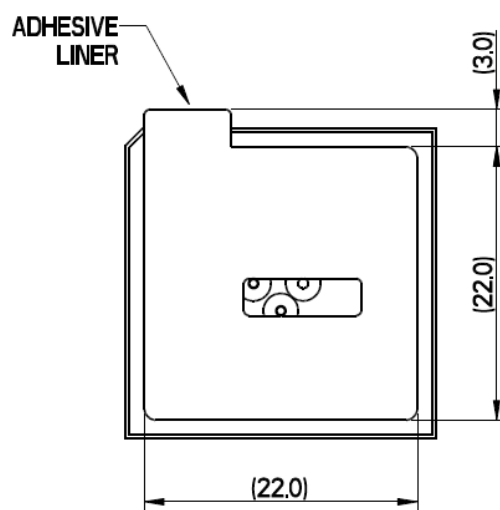
**Top View**



**Side View**



**Bottom View**



**Adhesive Liner View  
(Bottom)**

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