

# Part No. 1004259

## GPS/GLONASS Ceramic Patch Antenna (Active)

**1.575 GHz; 1.602 GHz**

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



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### KEY BENEFITS

#### Reduced Costs & Time-to-Market

Standard antennas eliminate design fees, redesign cycle time and minimize risk associated with customer solution. Quicker time to market.

#### 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
- Telematics
- Tracking
- Healthcare
- M2M, Industrial devices
- Smart Grid
- OBD-II
- Not recommended in harsh environments

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 GPS/GLONASS enabled handheld devices, media players and other mobile communications devices.

GPS/GLONASS active patch antenna solution utilizes a Low Noise Amplifier (LNA) mounted on a PCB for superior performance.

### Electrical Specifications

Typical Characteristics, on 70 x 70 mm PCB ground plane.

Frequency	1.575 GHz	1.593 – 1.610 GHz
GNSS Bands	GPS	GLONASS
Center Frequency $f_0$	1.575 GHz	1.602 GHz
Gain at Zenith	5.0 dBiC (typ)	
Output VSWR	1.5 (typ)	
Average Efficiency	79%	
Impedance	50 ohm	
Polarization	R.H.C.P	
Operation Voltage	3.0 ± 0.1 V	
LNA/Filter Gain	20 ± 3 dB (DC = 3.0 V)	
Operation Temperature	-40 to +85 °C	

### Mechanical Specifications & Ordering Part Number

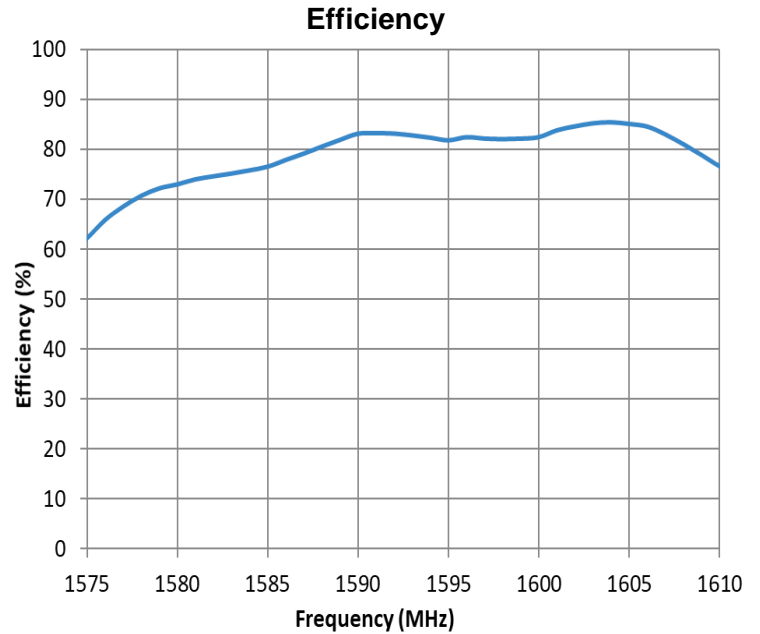
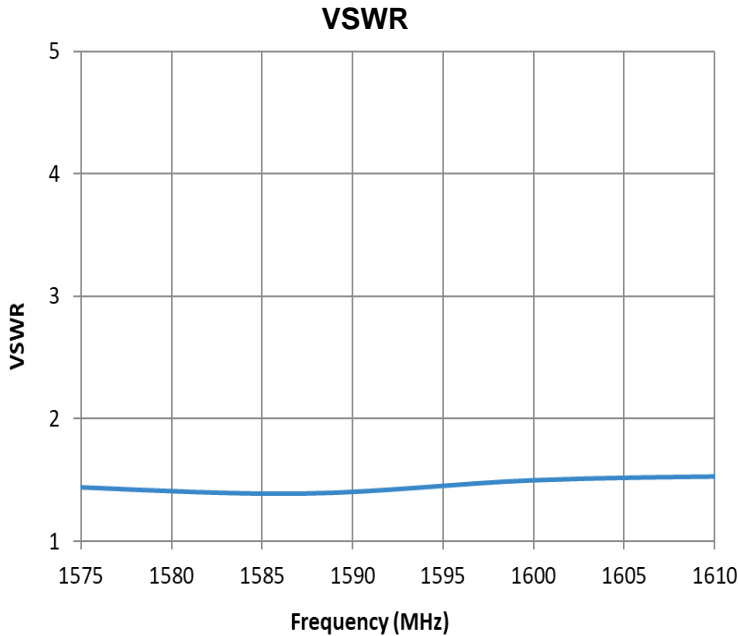
Ordering Part Number	1004259
Size (mm)	25 x 25 x 6.5 mm
Mounting	Attached to flat surface
Weight (grams)	11.2
Connector	IPEX MHF
Cable (mm)	RF Ø 1.13 Gray, 76.0 ± 3
Storage Temperature (°C)	-40 to +85
Packaging	Plastic Tray



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

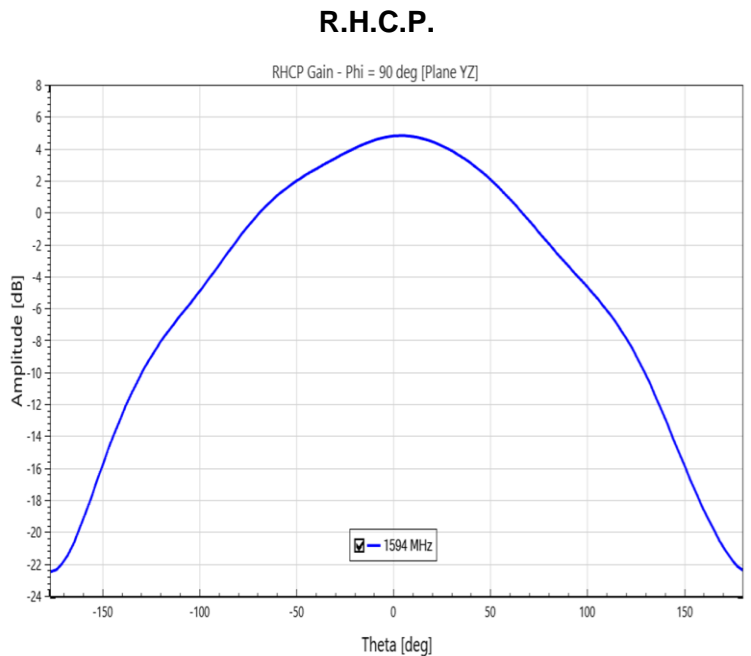
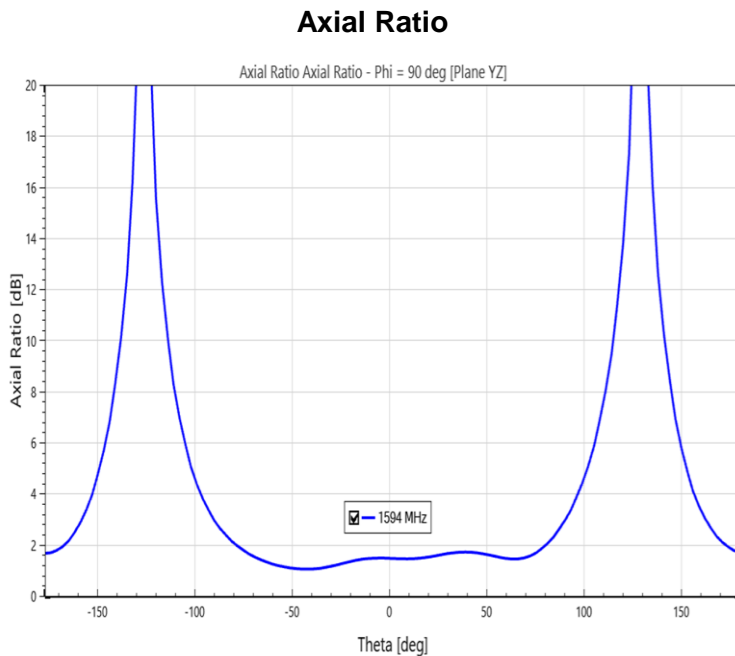
### VSWR and Efficiency Gain Plots

Typical performance on 70 x 70 mm PCB



### Axial Ratio/RHCP charts

Typical performance on 70 x 70 mm PCB



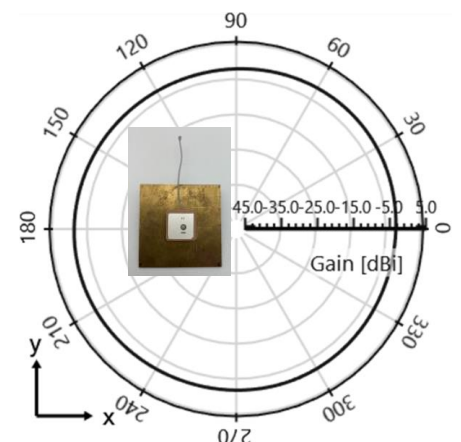
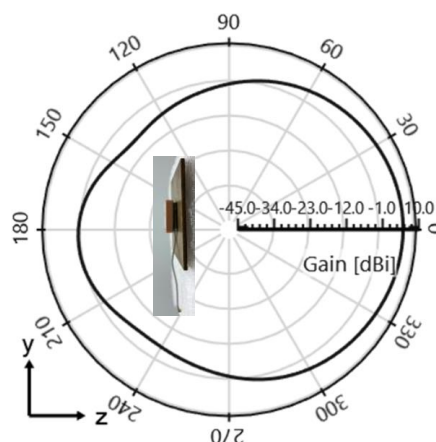
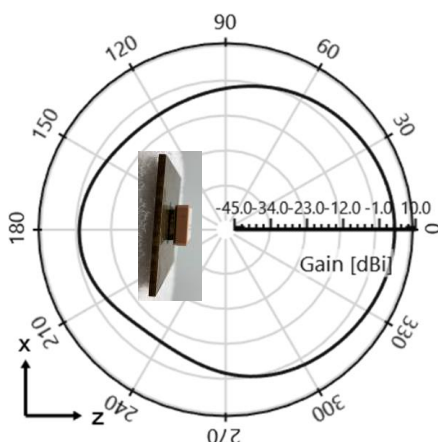
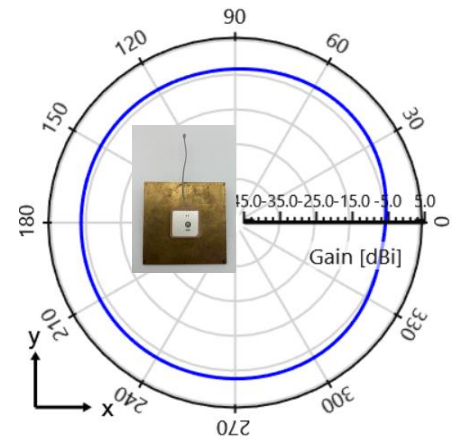
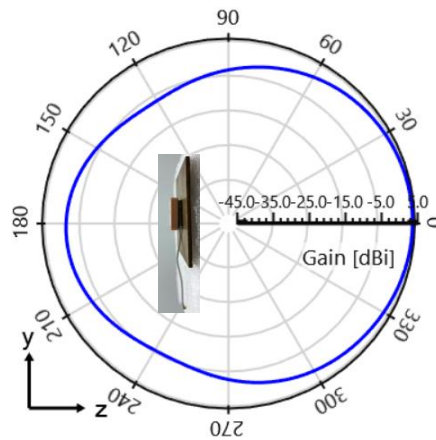
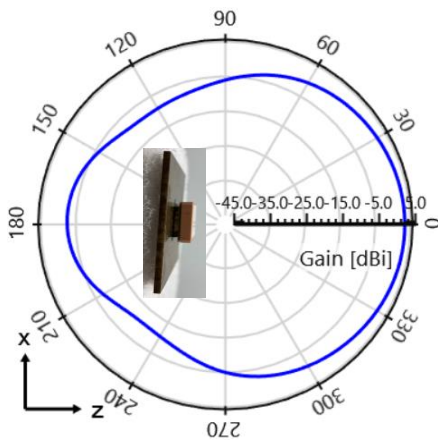


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### Antenna Radiation Patterns

Typical performance on 70 x 70 mm PCB  
Measured @ 1575, 1602 MHz

- ☒ — 1575 MHz
- ☒ — 1602 MHz



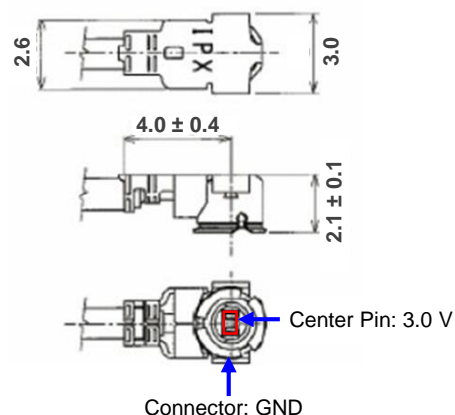


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### Filter/LNA Specifications

Gain	$20 \pm 3\text{dB}$ ( $3.0 \pm 0.1\text{V}$ )
Voltage (Vcc)	$3.0 \pm 0.1\text{V}$
Current (Iin)	$4.5 \pm 1.5\text{ mA}$
Output VSWR	2.0 max (DC = 3.0V)

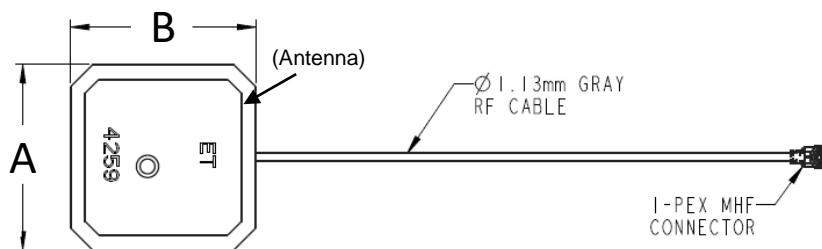
### Connector Dimensions (mm)



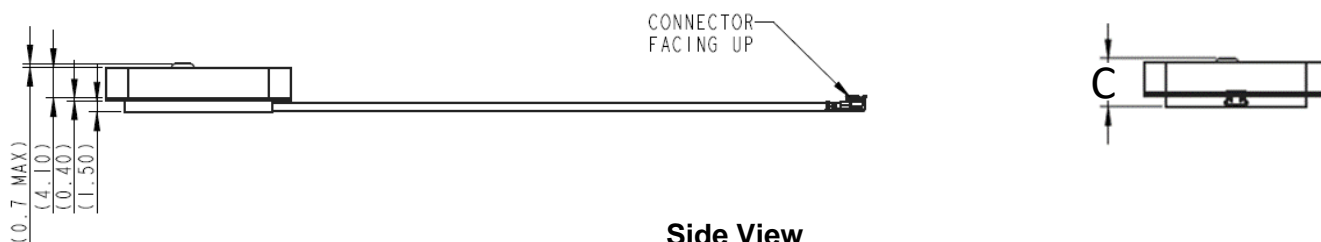
### Mechanical Dimensions

Typical antenna dimensions (mm)

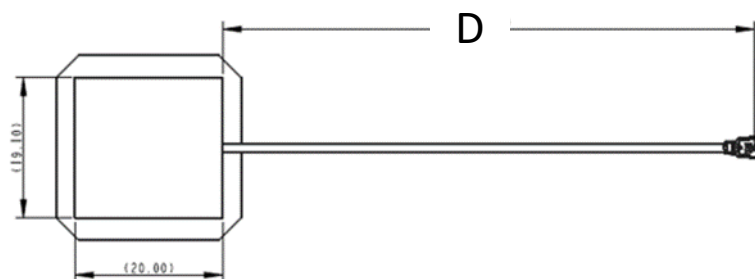
Part Number	A (mm)	B (mm)	C (mm)	D (mm)
1004259	25.0	25.0	6.5	$76.0 \pm 3.0$



### Top View



### Side View



### Bottom View

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