

## Overview

Southwest Antennas part # 1027-020 is a small form factor GPS Passive L1 antenna which can be deployed for accurate timing and location services on GPS receivers, manpack radios, hand-held tactical radio systems, and other small form factor radio systems.

The small size and light weight design of this rugged, high-performance GPS antenna versus similar GPS Passive antennas make it ideal for unmanned system, autonomous vehicles, and other automated or remote assets where antenna size needs to be minimized.

## Features:

- GPS L1 frequency +/- 10 MHz bandwidth
- Exceptional pattern bandwidth
- Small form factor, light-weight design: 0.5 oz
- Ruggedized design
- Ground plane independent
- Recessed non-rotating SMA(m) RF connector
- Waterproof to 20 meters (65.6 ft.) when mated

## Applications

- Navigation systems
- Military and security
- Manpack radios
- Handheld radios
- Small form factor radios
- Low profile vehicle mounts
- Unattended/ Intelligent Munitions Systems
- Dismounted soldier-level communications
- Unmanned ground vehicles
- I.E.D. recognition & destruction jamming systems
- Asset tracking
- Precision timing
- LBS & M2M applications
- Oil & gas industries
- Law enforcement
- Mobile computing
- UAV Systems

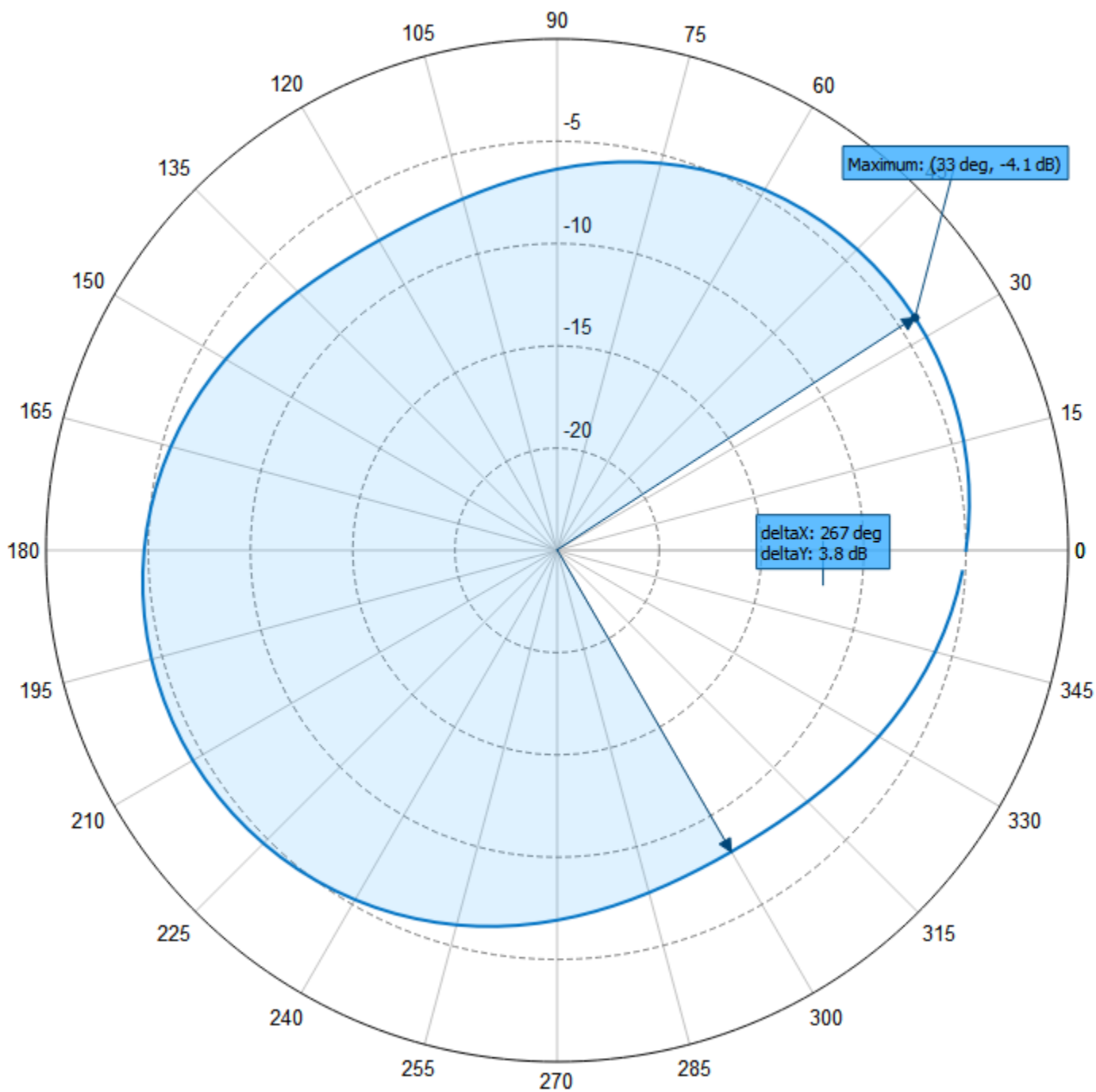


## Product Specifications

Parameter	Value	Units	Tolerance
<b>Antenna Pattern</b>	Hemispherical Antenna		
<b>Frequency Band</b>	GPS L1		
<b>Impedance</b>	50	Ohms	
<b>Minimum Frequency</b>	1.565 / 1,565	GHz / MHz	
<b>Maximum Frequency</b>	1.585 / 1,585	GHz / MHz	
<b>Frequency Bandwidth</b>	0.02 / 20	GHz / MHz	
<b>Maximum VSWR</b>	2.0:1		
<b>Maximum Gain</b>	1.20	dBic	
<b>Axial Ratio</b>	1.3	dB	Max @ zenith (2 dB max @ -3dB beamwidth). Axial ratio measured from cF @ 1,575 MHz.
<b>Polarization</b>	RHCP		
<b>Horizontal (AZ) Beamwidth</b>	360	Degrees	
<b>Vertical (EL) Beamwidth</b>	114 - 124	Degrees	
<b>Ground Plane Required</b>	No		
<b>Radome Material</b>	Ultem 1000		
<b>Color</b>	Black		
<b>Immersion</b>	20	Meters	When fully mated
<b>RF Connector Type</b>	Recessed SMA(m) Non-Rotating		
<b>IP Rating</b>	IP67		
<b>Storage Temperature Range</b>	-60 to +185	°F	(-51.1 to +85 °C)
<b>Product Height</b>	1.73 / 43.94	inches / mm	±.010

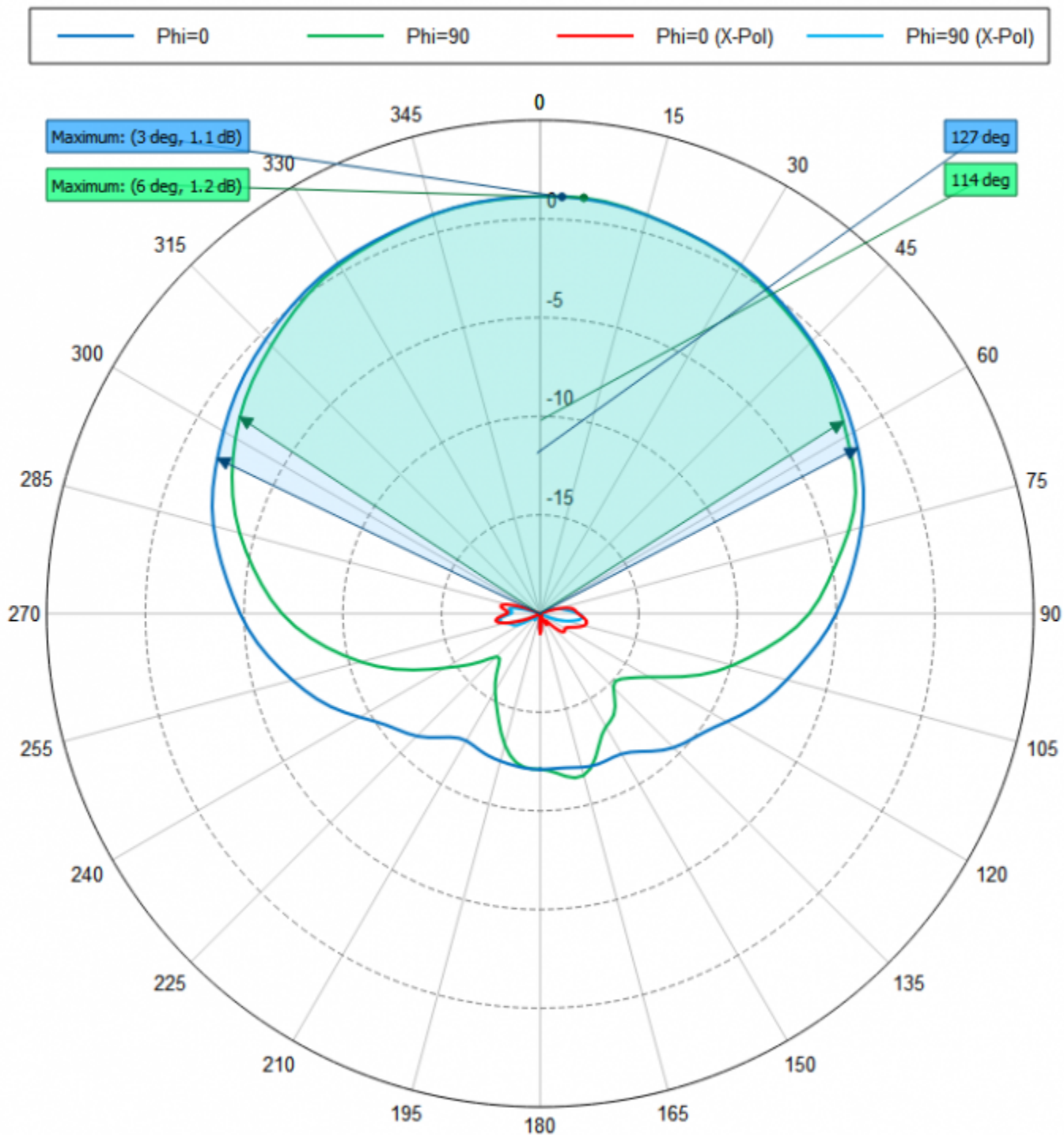
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Parameter	Value	Units	Tolerance
<b>Product Diameter</b>	0.60 / 15.24	inches / mm	±.010
<b>Product Weight</b>	0.5 / 14.2	oz / grams	



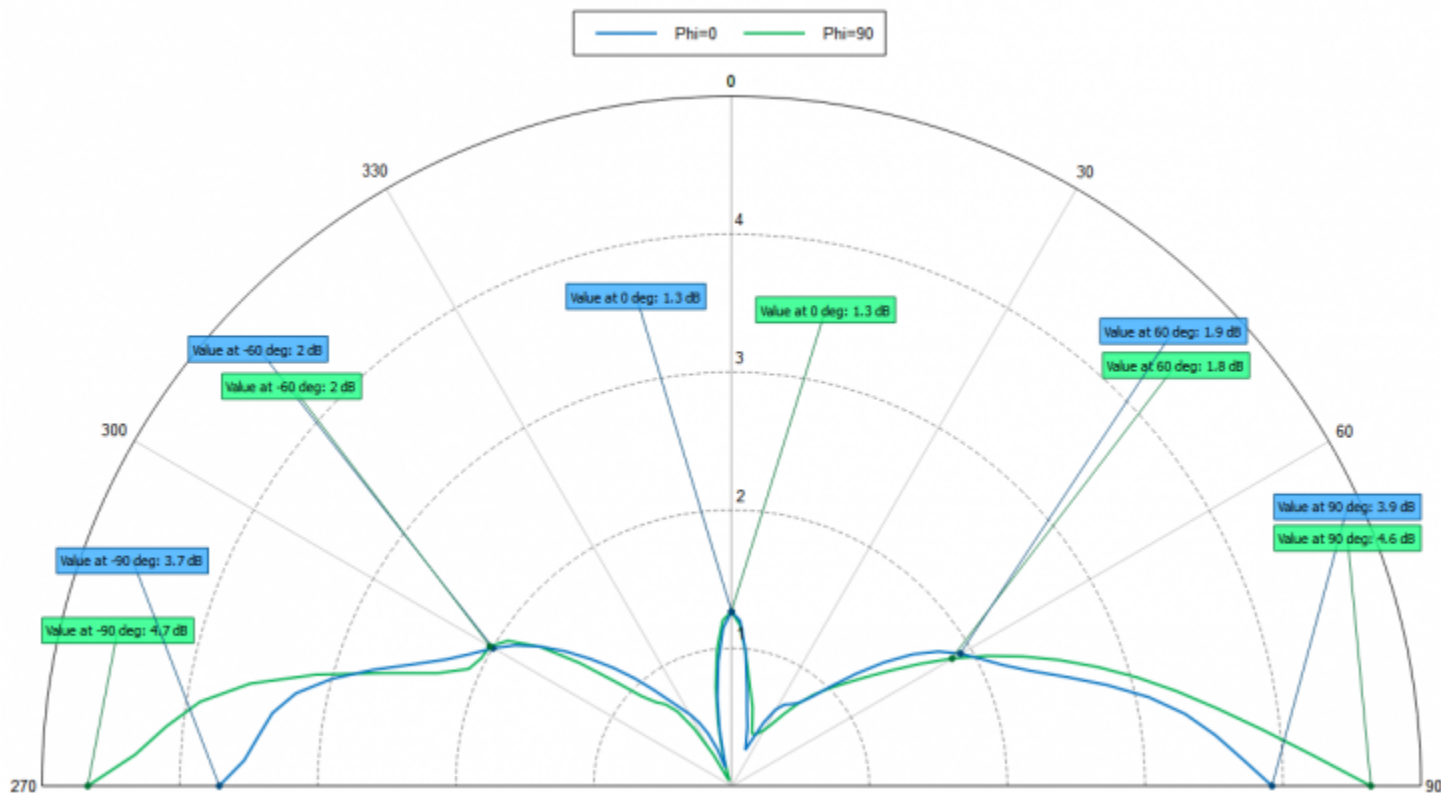
**Azimuth Pattern**

Azimuth Pattern @ 1,575 MHz

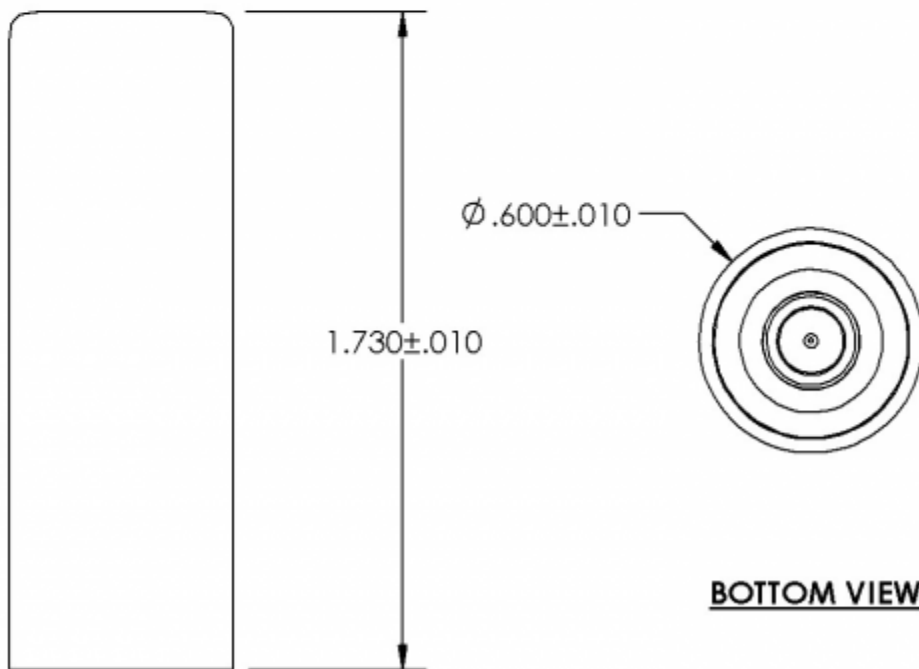
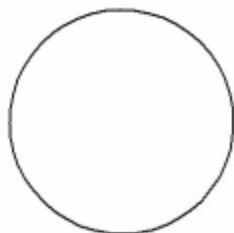


**Elevation Pattern**

LHCP and RHCP Elevation Patterns @ 1,575 MHz



Elevation Axial Ratio Plot @ 1,575 MHz



**Engineering Drawing**

All dimensions are in inches