

## Overview

Southwest Antennas part # 1027-035 is a high-performance and ruggedized Iridium and GPS Passive L1 antenna designed to provide accurate timing and location services for Iridium or GPS receivers, manpack radios, hand-held tactical radio systems, and other small form factor radio systems. Key features include a quadrifilar helical antenna design, excellent axial ratio, compact size, and light weight design.

This antenna supports Iridium transmission and reception for worldwide voice and data communication. For GPS use this antenna is receive-only and can only be used for position and timing services.

The small size and light weight design of this rugged, high-performance Iridium / GPS antenna makes it ideal for unmanned systems, autonomous vehicles, and other automated or remote assets where antenna size needs to be minimized.

Part # 1027-035 features a recessed TNC(m) Non-Rotating RF connector and is IP68 rated.

## Features

- Iridium and GPS L1 Frequency Coverage
- Supports Iridium Transmission Mode
- Small, Lightweight Form Factor
- Ruggedized Design
- Ground Plane Independent
- Recessed TNC(m) Non-Rotating RF connector
- Exceptional Pattern Bandwidth
- IP68 Rated
- Waterproof to 200 meters (656 feet) When Fully 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 Aerial and Ground Vehicles
- I.E.D. Recognition & Destruction Jamming Systems
- Asset Tracking
- Precision Timing
- LBS and M2M Applications
- Oil and Gas industries
- Law Enforcement
- Mobile Computing

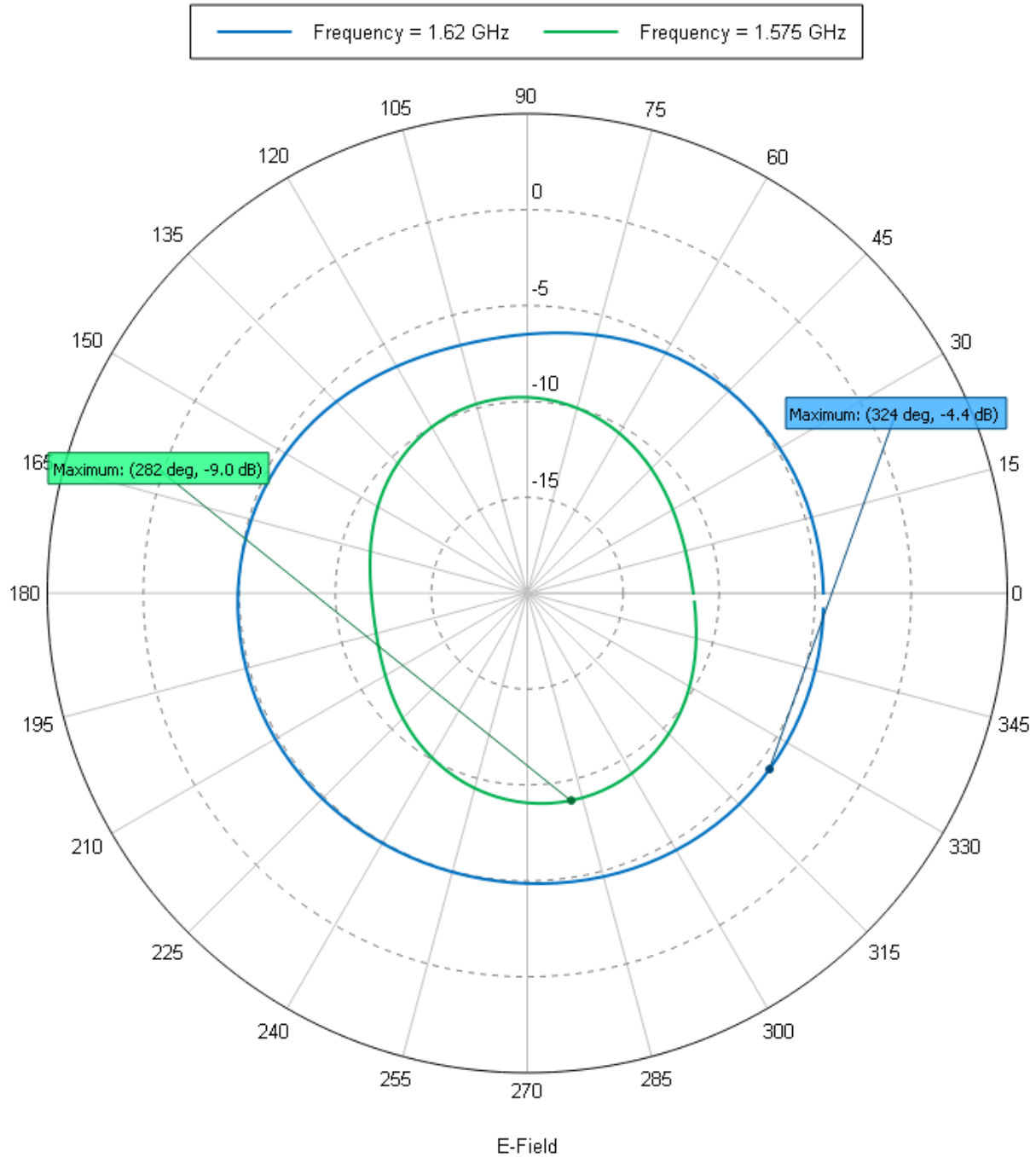


## Product Specifications

| Parameter               | Value                 | Units     | Tolerance                                                                                         |
|-------------------------|-----------------------|-----------|---------------------------------------------------------------------------------------------------|
| Antenna Pattern         | Hemispherical Antenna |           |                                                                                                   |
| Frequency Band          | GPS L1 & Iridium      |           |                                                                                                   |
| Impedance               | 50                    | Ohms      |                                                                                                   |
| Minimum Frequency       | 1.565 / 1,565         | GHz / MHz |                                                                                                   |
| Maximum Frequency       | 1.585 / 1,585         | GHz / MHz |                                                                                                   |
| Minimum Frequency 2     | 1.616 / 1,616         | GHz / MHz |                                                                                                   |
| Maximum Frequency 2     | 1.6265 / 1,626.5      | GHz / MHz |                                                                                                   |
| Maximum VSWR            | 2.0:1                 | Ratio     |                                                                                                   |
| Maximum Gain            | 2.30                  | dBic      |                                                                                                   |
| Polarization            | RHCP                  |           |                                                                                                   |
| Color                   | Black                 |           |                                                                                                   |
| Axial Ratio             | 1.0                   | dB        | 0.8 dB typical. Max @ zenith (3dB max @ -3dB beamwidth). Axial ratio measured from cF @ 1620 MHz. |
| Horizontal AZ Beamwidth | 360                   | Degrees   |                                                                                                   |
| Vertical EL Beamwidth   | 120                   | Degrees   |                                                                                                   |
| Radome Material         | Ultem 1000            |           |                                                                                                   |
| Ground Plane Required   | No                    |           |                                                                                                   |
| Immersion               | 200.00 / 656.17       | m / ft    | When Fully Mated                                                                                  |
| RF Connector Type       | TNC(m) Non-Rotating   |           |                                                                                                   |

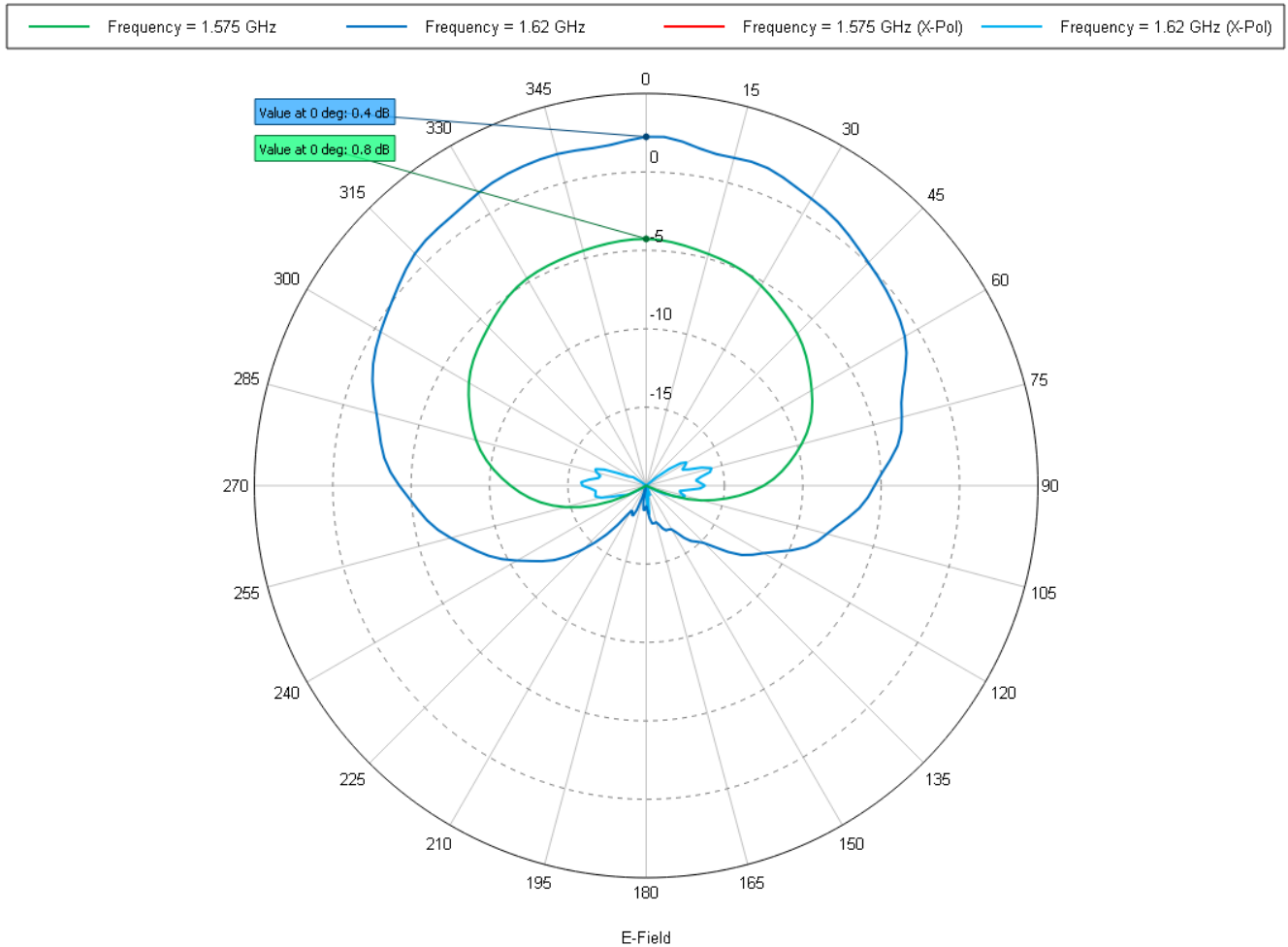
| Parameter                 | Value        | Units          | Tolerance                           |
|---------------------------|--------------|----------------|-------------------------------------|
| IP Rating                 | IP68         |                | Tested to 200 meters for 30 minutes |
| Storage Temperature Range | -60 to +185  | °F             | (-51.1 to +85 °C)                   |
| Product Height            | 2.13 / 54.10 | inches /<br>mm | ±0.02                               |
| Product Diameter          | .70 / 17.78  | inches /<br>mm | ±0.15                               |
| Product Weight            | 0.86 / 24.38 | oz / g         |                                     |

### 1027-035 Iridium Antenna (Azimuth)

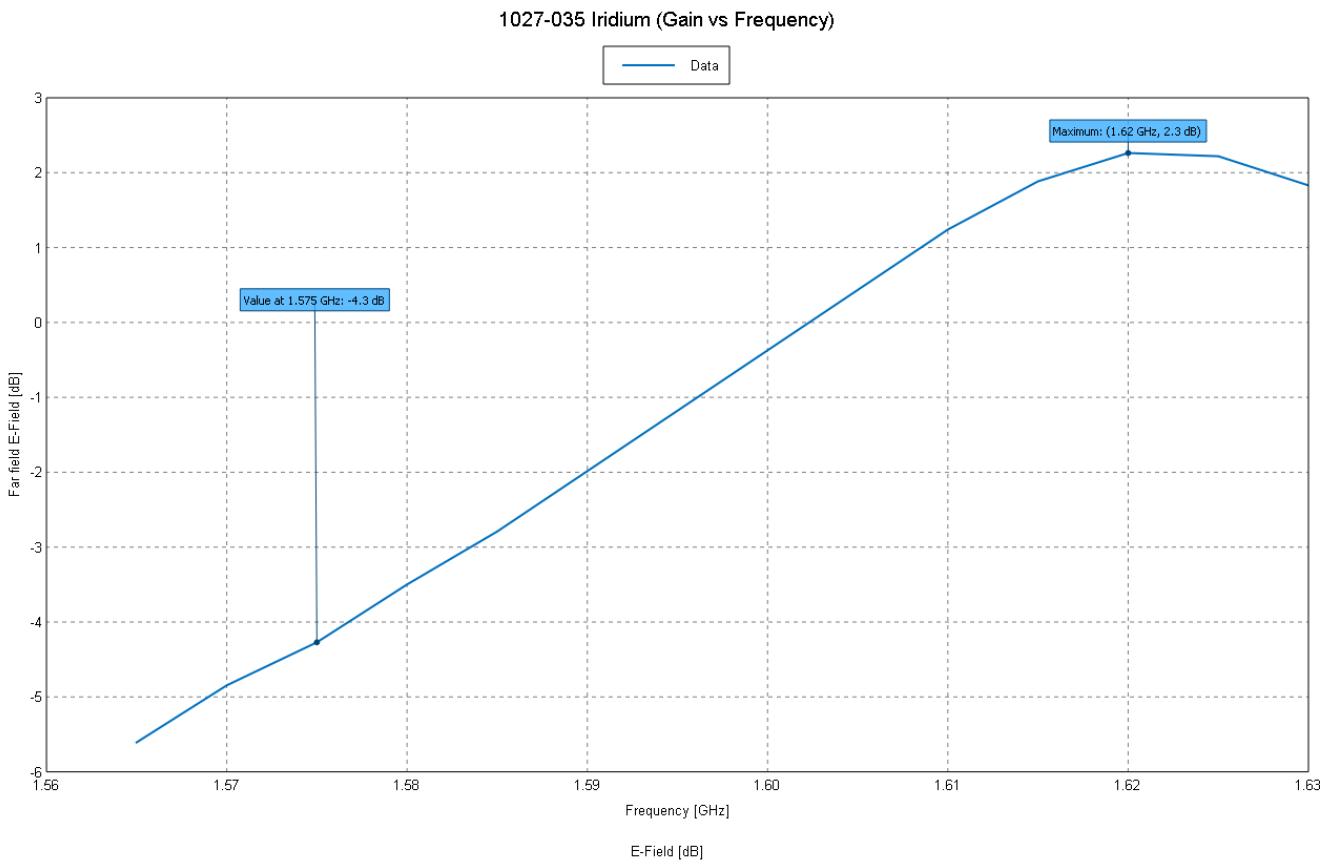


### Azimuth Pattern

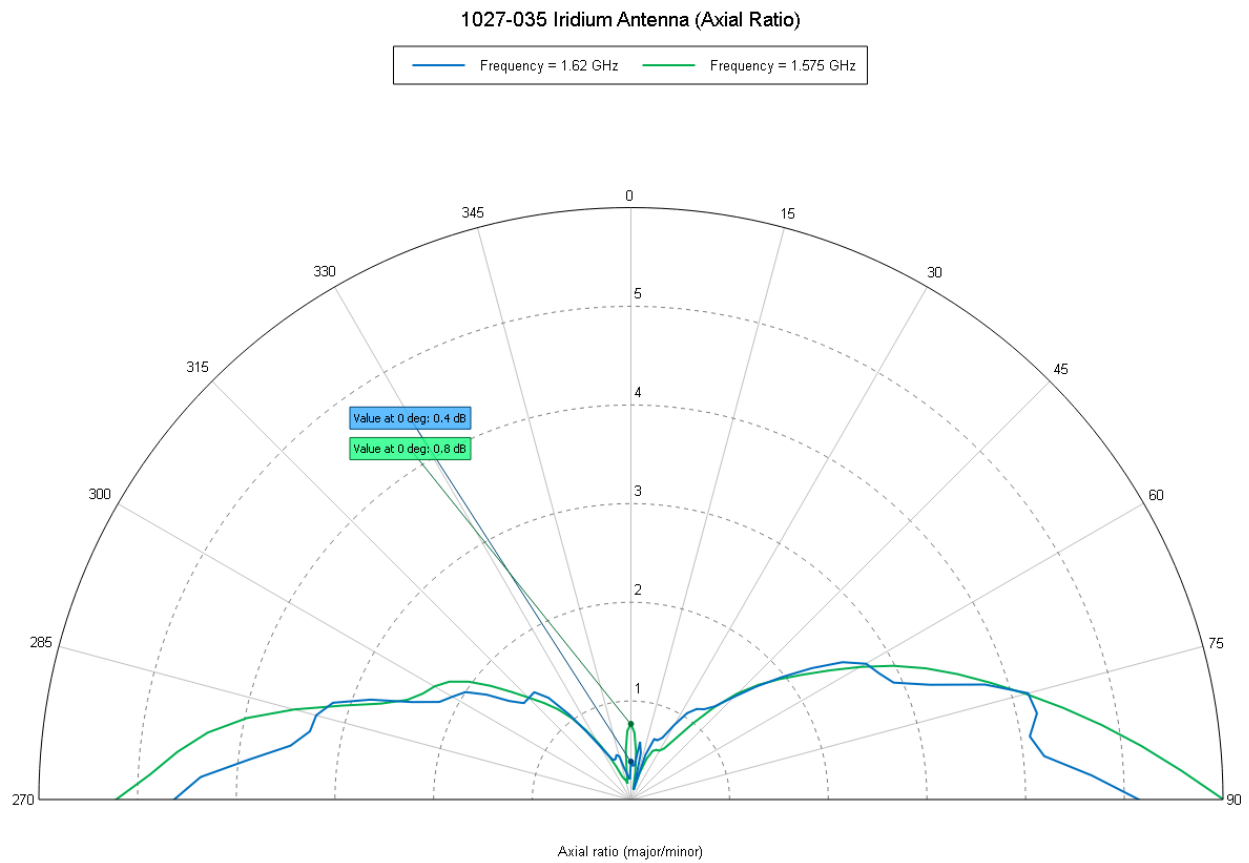
1027-035 Iridium Antenna (Elevation)



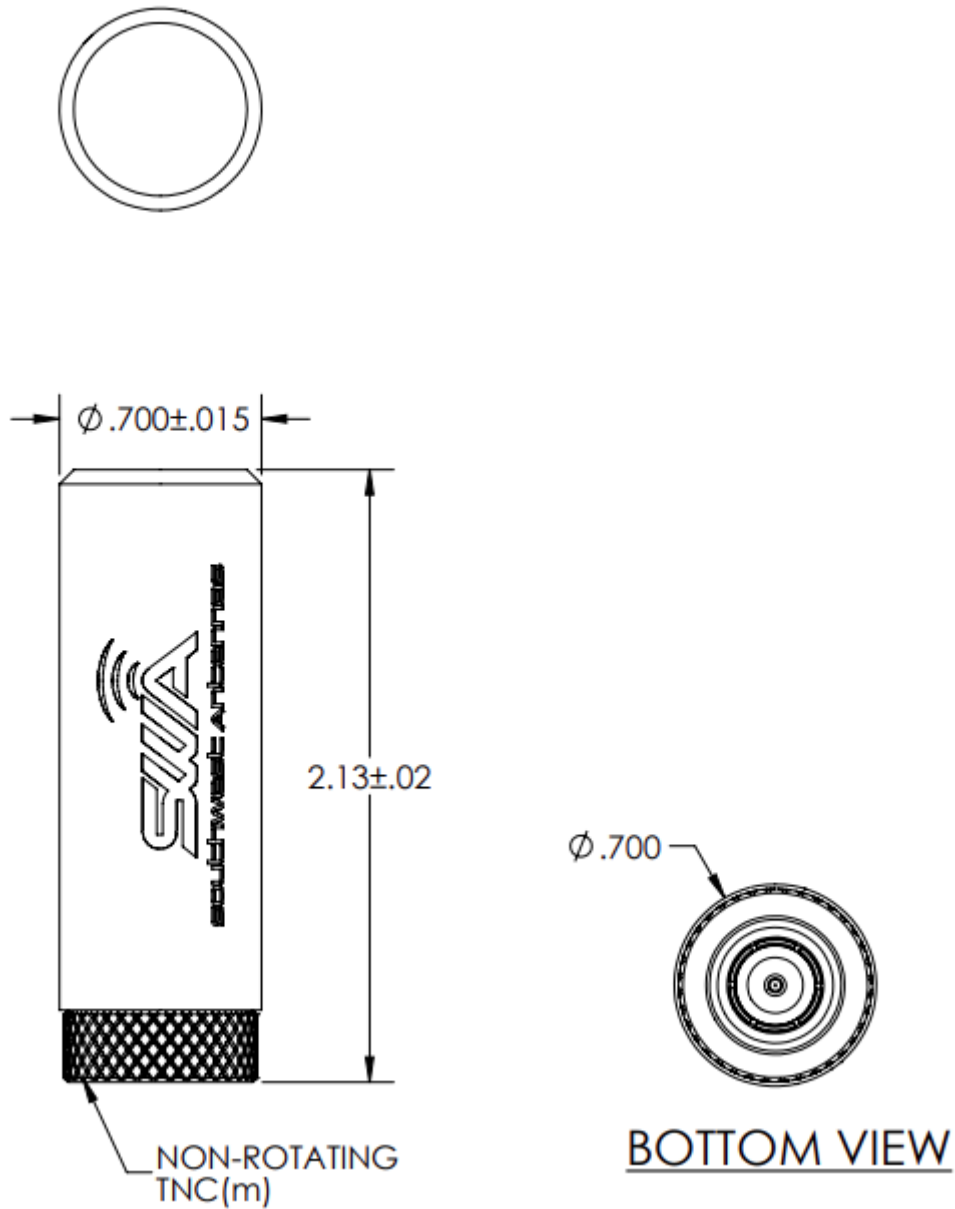
Elevation Pattern



**Gain vs. Frequency Plot**



**Axial Ratio Plot**



### Engineering Drawing

All dimensions are in inches