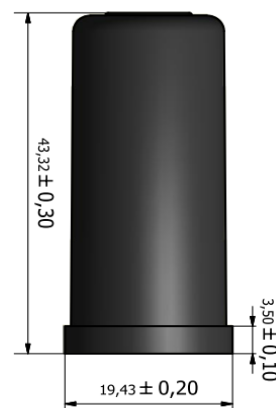


# MWSL-3105 "The dielectric-loaded helical antennas solution"

Rugged Iridium dielectric loaded antenna: SMA (male)

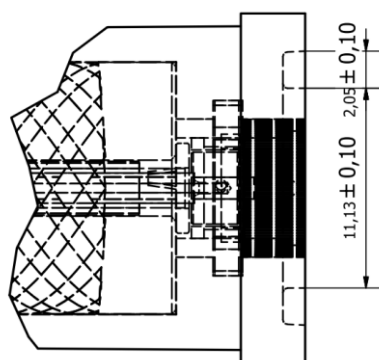
## APPLICATIONS

- Iridium Satellite Telephones
- Iridium Messaging Terminals
- Logistics Management
- Research bouys
- Asset Tracking/Messaging
- Emergency Location
- Disaster Communications



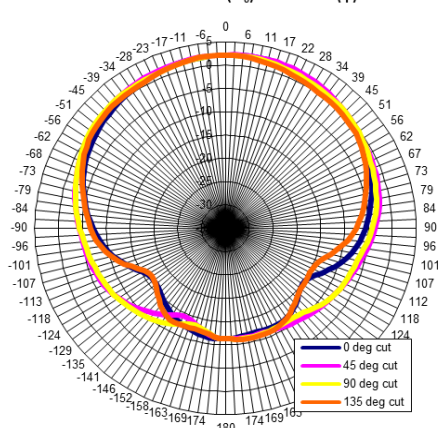
## Product Description

The rugged MWSL3105 antenna is a durable elastomeric-plastic overmoulded and dielectric-loaded decafilax-helix antenna which uses MARUWA's distinctive materials technology to provide the highest available efficiency in a small size. The dielectric core together with the fly-wheeling effect of the advanced decafilax helical design provide excellent beamwidth and low elevation gain, which is maintained in relatively cluttered use scenarios. The MWSL3105 acts as its own filter, attenuating signals from common cellular and ISM frequencies by as much as 30dB.



## Typical Elevation Gain Pattern

Elevation Plot ( $G_e$ ) for Azimuth ( $\phi$ )



## Key Features

- Highest available efficiency per unit of volume
- Excellent beamwidth and low elevation gain
- Relatively unimpaired by cluttering objects
- Designed for harsh environments: exposed to force, dust and moisture
- Base flange groove for O-ring water-seal

| Design Specifications | Typical                    | Units           |
|-----------------------|----------------------------|-----------------|
| Type                  | Decafilax-Helix            | -               |
| Frequency             | 1616.0-1626.0              | MHz             |
| Efficiency            | 65%                        | Total spherical |
| Gain (RHCP)           | +2                         | dBic at zenith  |
| Beamwidth             | >135                       | Degrees         |
| Bandwidth             | 20                         | MHz             |
| Axial Ratio           | <1.5                       | at zenith       |
| VSWR                  | <2.0:1                     | -               |
| Impedance             | 50                         | Ohms            |
| Operating Temp        | -40→+85                    | °C              |
| Overall dimensions    | 19.4 ( $\phi$ ) x 43.3 (L) | mm              |
| Weight                | 29                         | grams           |