TURBOWAVE

Stub Loaded Helix Antenna with Reflector (SLH12)

Features & Benefits

- High gain - increases transmission range
- Circularly polarized
- Suppresses multipath interference
- Penetrates structures and foliage
- Reduces need for line-of-sight
- Compact size (Helix 6" long x 2" diameter, reflector 6.5" diameter)
- Multiple mounting and usage options (both external and internal)
- Easy installation
- Robust radome protects antenna in harsh outdoor environments
- Competitively priced

Description

TurboWave's smart antennas are designed to increase transmission range and reduce multipath interference created by reflections from objects along the path of an access point.

The Stub Loaded Helix (SLH) antenna was developed after more than five years of research at Virginia Tech[1]. It is a compact helix antenna that has performance characteristics similar to the conventional helix antenna but only one-quarter the size. This significant size reduction is obtained through a unique patented antenna geometry that maximizes antenna performance and efficiency while minimizing size. The addition of a cupped reflector to the antenna increases the gain and reduces the beamwidth.

TurboWave's SLH12 was specifically designed for high performance wireless networks and uses circular polarization rather than conventional linear polarization in order to reduce multipath interference.

The SLH12 is ideal for applications where more gain is needed than that of the SLH10 or a narrower beamwidth is required for additional isolation.

PRELIMINARY DATA

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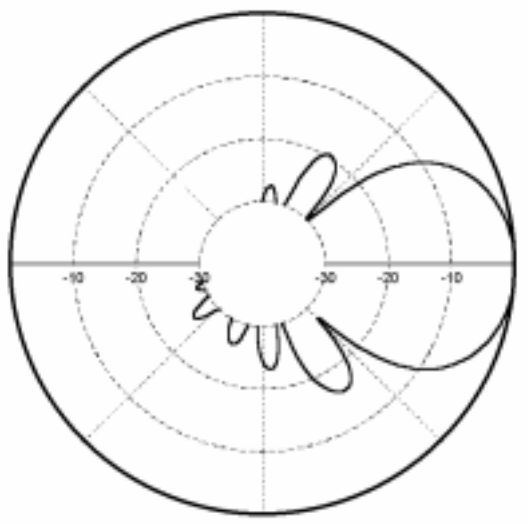

Radiation Pattern of Stub Loaded Helix w/ cup reflector (SLH12)

Specifications (SLH12)

Frequency Range	**2.4 - 2.5 GHz**
Peak Gain	**12 dBic**
Beamwidth (-3 dB)	**40°**
Polarization	**Right Hand Circular**
Axial Ratio	**< 3 dB**
Nominal Impedance	**50 ohms**
VSWR	**< 1.7:1**
RF Connector	**Rev. thread TNC**
RF Power Handling	**10 Watts**
Weight	**< 1 lb.**
Wind Loading	**<0.25 sq. ft.**

Why circular polarization?
Most WLAN systems use conventional linear polarization, usually vertical polarization. In an environment where multipath signals are strong, linear polarization is subject to severe destructive interference from the multipath, which can result in the loss of signals. Circular polarization has the behavior that upon reflection, the sense of polarization switches. Thus, the dominant multipath signals arrive at the receive antenna with opposite sense polarization and are attenuated by the antenna by 15 dB or more. This means less fading due to multipath interference. There is also empirical evidence to indicate that circular polarization has greater building penetration than linear polarization.

For further information about the SLH12 and other TurboWave products contact:

TurboWave 801-225-3682
http://TurboWave.com

[1] The Stub Loaded Helix is covered by U.S. Patent #5,986,621. All rights owned by Virginia Tech Intellectual Properties. Exclusively licensed by TurboWave, Inc.

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