

## Features

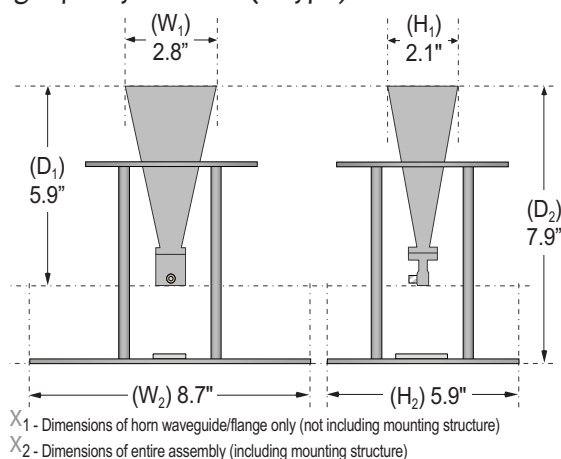
- **Frequency Range**  
18 GHz to 40 GHz
- **Transmit & Receive Capabilities**  
emissions/immunity applications
- **Individual Calibration Included**  
per ANSI C63.5 with NIST traceability
- **Three-year Standard Warranty**

## Description

The AH-840 is a broadband, linearly polarized Double Ridge Waveguide Horn Antenna, operating over the frequency range of 18 GHz to 40 GHz. It can be used as a receiving or transmitting antenna.

## Construction

The AH-840 is designed to be extremely durable, making it an ideal choice for daily use in laboratory environments, both indoors and outdoors, and even under continuous exposure to extreme weather conditions. The antenna is constructed using high grade, corrosion resistant aluminum. The outer surface is also painted to provide additional protection. The antenna is fitted with a high quality 2.92 mm (K-type) coaxial connector.



## Calibration

Each antenna is individually calibrated per ANSI C63.5 with NIST traceability. The calibration data and certificate is provided. Recognized ISO 17025 accredited calibration is also available upon request.



## Application

The AH-840 Double Ridge Horn Antenna is suitable for use as an EMI test antenna for qualification-level regulatory compliance measurements (FCC, CE, MIL-STD-461, RTCA DO-160, FDA, SAE, etc.).

The AH-840 is equally suitable for use as a transmitting antenna for establishing radiated RF fields for product immunity tests. It is capable of handling power levels up to 10 Watts with the waveguide to coaxial adapter in place. By removing the adapter and connecting directly, or with a length of waveguide to your amplifier's waveguide output, field strengths of over 1,000 V/m @ 1 meter can be achieved with only 200 Watts input power.

Another common application for the AH-840 is to use it as a "substitution antenna" for determining the Effective Radiated Power (ERP) and/or Effective Isotropic Radiated Power (EIRP) of intentional radiators (RF transmitters). These tests are typically applicable for products operating within licensed frequency bands, and also for European acceptance tests per ETSI standards for radio equipment.

Notwithstanding the above, the AH-840 can also be used for site comparisons, shielding effectiveness tests of large enclosures, field monitoring, site surveys and other general purposes.

## Mounting

The AH-840 can easily be secured to any tripod or mast via its standard 1/4-inch x 20 mounting hole located in the center of the antenna's base plate.

### Specifications

Product Name	Double Ridge Horn Antenna
Frequency Range	18 GHz to 40 GHz
Polarization	Linear
Nominal Impedance	50Ω
Power Handling (CW)	10W/200W [with/without] waveguide to coaxial adapter
Connector	2.92 mm [K-type] (female)
Antenna Factor	35.4 to 42.6 (average: 37.3) [dB(m <sup>-1</sup> )]
Isotropic Gain	19.1 to 23.6 (average: 21.9) dBi
VSWR	1.12 to 1.77 (average: 1.42) :1
Return Loss	11.1 to 25.0 (average: 15.9) dB
Specifications	FCC, CISPR, EN, ETSI, FAA, MIL-STD-461, SAE, etc.
Horn/Waveguide Dimensions	2.1" x 2.8" x 5.9" [5.3 x 7.1 x 15 cm]
Complete Assembly Dimensions	5.9" x 8.7" x 7.9" [15 x 22 x 20 cm]
Weight	1 lb. [0.5 kg]

All specifications are subject to change without notice.  
All values are typical, unless specified.

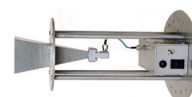
### Accessories available from Com-Power:



PAM-840A Preamplifier (18-40 GHz)



AT-812 Antenna Tripod

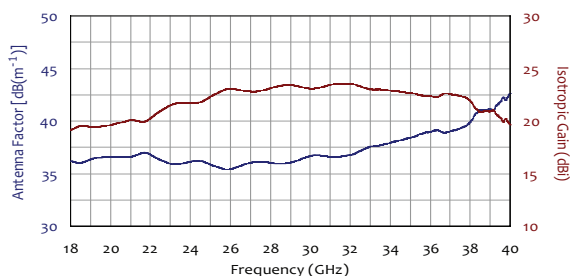


AHA-840 Active Horn Antenna (18-40 GHz)

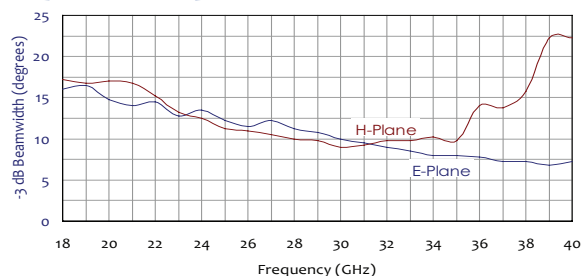
### Also Available:

AH-826 Horn Antenna (18-26.5 GHz)  
AHA-118 Active Horn Antenna (1-18 GHz)  
AL-100, ALC-100, ALP-100 Log Periodic Antennas

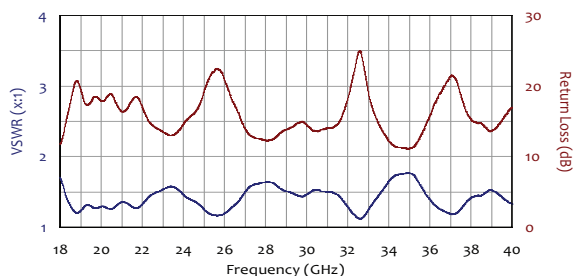
### Antenna Factors / Isotropic Gain



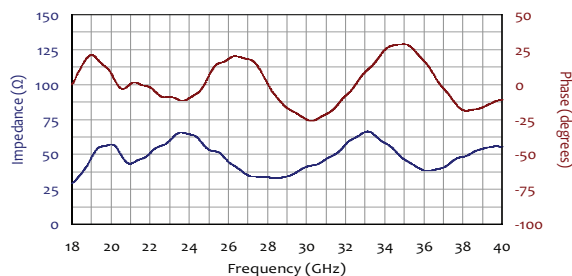
### -3 dB [Half-Power] Beamwidth



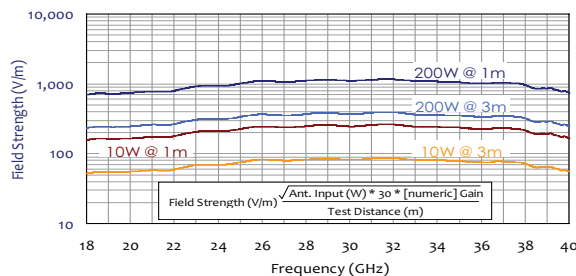
### VSWR/Return Loss



### Impedance/Phase



### Typical Field Strength with 10W/200W Input



### Typical Forward Power Levels

