

Features

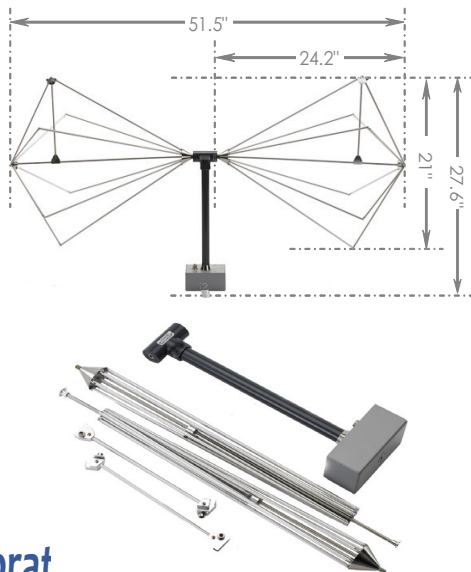
- **Collapsible Element Design**
with removeable “gamma match” element
- **Transmit & Receive Capabilities**
emissions/immunity applications
- **Individual Calibration Included**
per ANSI C63.5 with NIST traceability
- **Three-year Standard Warranty**

Description

The ABF-900A is a broadband, linearly polarized Biconical Antenna with collapsible elements, operating over the frequency range of 25 MHz to 300 MHz. Each full-size biconical element (54 cm cage diameter) collapses to a maximum diameter of 5 cm for easy transport/storage.

Construction

The antenna elements are constructed of a corrosion resistant, polished aluminum. Unlike other collapsible biconical elements, the ABF-900A elements include a removable “gamma match” rod, which is necessary in order to avoid a “dip” in the antenna factor which would otherwise be present between approximately 275 and 290 MHz.



Calibrat

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 ABF-900A Biconical Antenna is intended for use as an EMI test antenna for qualification-level regulatory compliance measurements (FCC, CE, Mil-Std, RTCA DO-160, FDA, SAE Automotive, etc.).

The ABF-900A can also be used in conjunction with an RF power amplifier (up to 50 watts) to generate RF fields associated with RF immunity tests.

In addition, a pair of ABF-900A Biconical Antennas can also be used for Normalized Site Attenuation (NSA) calibrations of Open Area Test Sites (OATS) or Semi-Anechoic Chambers using the Geometry Specific Correction Factors (GSCF) given in Tables G.1 through G.3 of ANSI C63.5: 2006, as their physical dimensions fall within the minimum and maximum values given in Figure G.1 of ANSI C63.5 (Dimensions of biconical dipole antennas evaluated for numerical correction). For biconical antennas having dimensions which do not fall between these values, the GSCF values must be measured separately on a Standard Antenna Calibration Site (SACS) as described in ANSI C63.5.

Notwithstanding the above applications, the ABF-900A can also be used for test site comparisons, shielding effectiveness tests of large enclosures, field monitoring, site surveys, etc.

Mounting

The ABF-900A is available with an ATHP-812 Antenna Pipe Holder, which clamps around the antenna feed tube connecting the balun housing to the element assembly.

The ATHP-812 incorporates a standard 1/4-inch x 20 mounting hole, which allows it to be affixed to Com-Power’s AT-812 Tripod, AM-400 Antenna Mast, or other similar structures with compatible mounting arrangements.

Specifications

Product Name	Biconical Antenna (with collapsible elements)
Frequency Range	25 MHz to 300 MHz
Polarization	Linear
Nominal Impedance	50Ω
Power Handling	50 Watts Continuous
Connector	N-type (female)
Antenna Factor	[see graph below]
Isotropic Gain	[see graph below]
VSWR/Return Loss	[see graph below]
Radiated Field Strength	[see graph below]
Specifications	FCC, CISPR, EN, ETSI, FAA, Mil-Std, Automotive, etc.
Dimensions (L x W x H)	27.6" x 51.5" x 21" [69.2 x 130.9 x 51.3 cm]
Weight	5 lbs. [2.26 kg]

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

Accessories available from Com-Power:



PAM-103 Preamplifier



AT-812 Antenna Tripod

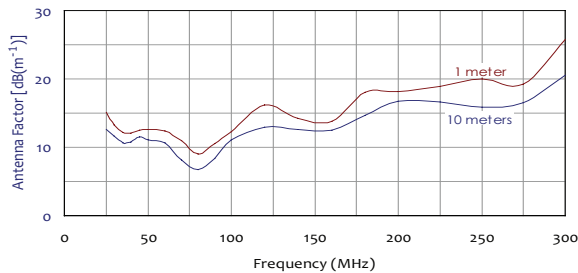


SPA-800 Spectrum Analyzer

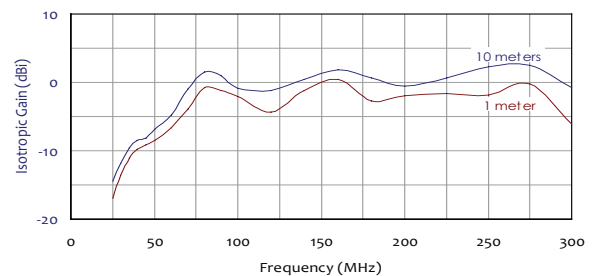
Also Available:

AL-130 Active Loop Antenna
AM-741 Active Monopole Antenna
AL-100, ALP-100, ALC-100 Log Periodic Antennas

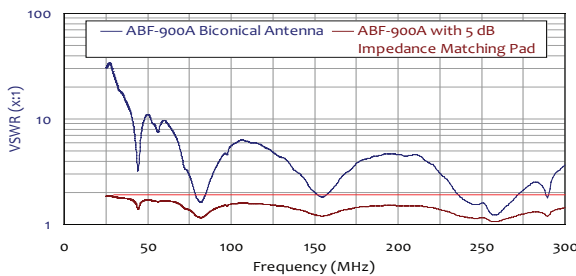
Typical Antenna Factors



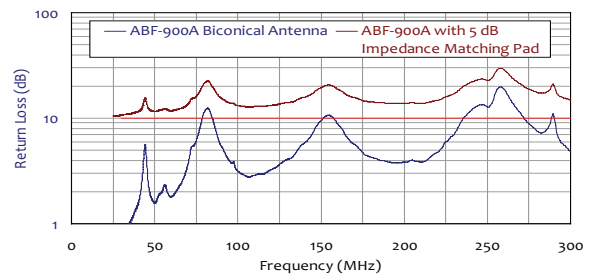
Typical Isotropic Gain



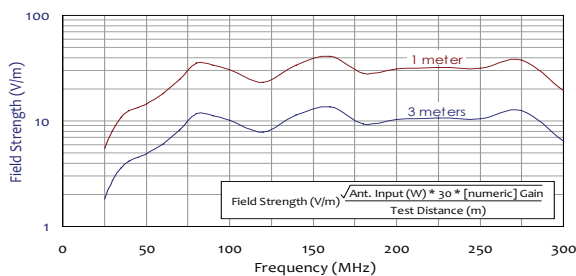
Typical VSWR Characteristics



Typical Return Loss Characteristics



Typical Field Strength with 50W Input Power



Typical Forward Power Levels vs Field Strength

