COM-POWER

Biconical Antenna
AB-300M

Features

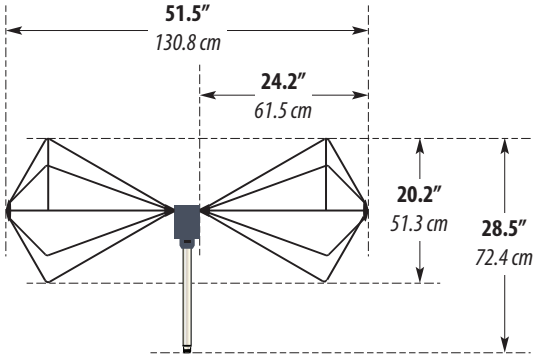
- Frequency Range: 25 MHz to 300 MHz
- Complies with ±1 dB Antenna Symmetry/Balance Requirements of ANSI C63.5 and CISPR 16-1-4
- Transmit & Receive Capabilities
- Available with Fixed or Collapsible Elements
- Individual Calibration Included
- Three-year Standard Warranty

Description

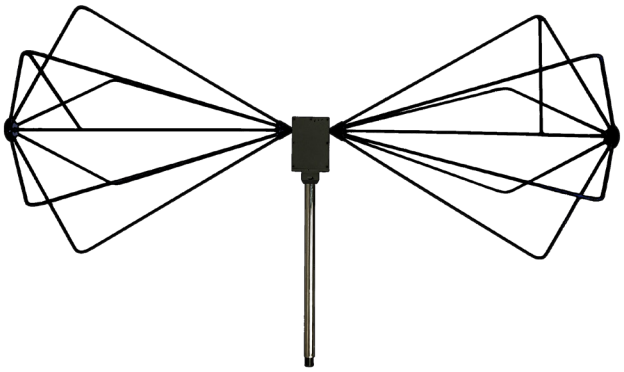
The **AB-300M** is a broadband, linearly polarized Biconical Dipole Antenna, operating over the frequency range of 25 MHz to 300 MHz. It can be used as either a receiving antenna (for EMI measurements) or as a transmitting antenna (for immunity tests) at power levels up to 50watts.

Construction

The **AB-300M** boasts an improved antenna design and excellent performance with the balun transformer relocated near the front of the antenna just behind the element connections.



The standard [fixed] antenna elements are constructed using corrosion resistant aluminum which is powder coated for additional durability. Optionally available collapsible elements, constructed from high quality, polished aluminum are also available. The collapsible elements (shown below) expand to the same shape as the fixed elements, with insertable gamme match rods.



Application

The **AB-300M** Biconical Antenna is intended for use as an EMI test antenna for qualification-level regulatory compliance measurements (FCC, CE, MIL-STD-461, RTCA DO-160, FDA, SAE Automotive, and similar applications).

The antenna is also available with an optional 5 dB impedance-matching attenuator to comply with the minimum 10 dB return loss requirement in CISPR 16-1-4.

The **AB-300M** can also be used in conjunction with an RF power amplifier (up to 50 watts) to generate RF fields associated with radiated immunity testing of products.

In addition, a pair of **AB-300M** Biconical Antennas can be used for Normalized Site Attenuation (NSA) calibrations of Open Area Test Sites (OATS) or Semi-Anechoic Chambers (SAC) using the Geometry Specific Correction Factors (GSCF) given in Tables G.1 through G.3 of ANSI C63.5, as its physical dimensions conform to the minimum and maximum values given in Figure G.1 of ANSI C63.5 (Dimensions of biconical dipole antennas evaluated for numerical correction). Biconical antennas not conforming with these dimensions require onerous and expensive GSCF calibrations on an Antenna Calibration Site (ACS) as described in Annex H of ANSI C63.5.

Notwithstanding the above applications, the **AB-300M** can also be used for test site comparisons, shielding effectiveness tests of large enclosures, field monitoring, site surveys and other general purposes.

Calibration

Each antenna is individually calibrated per ANSI C63.5 or SAE ARP958 with NIST traceability. The calibration data and certificate is provided. Recognized ISO 17025 accredited calibration is also available upon request.

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Specifications

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

Product Name	**Biconical Antenna**
Frequency Range	**25 MHz to 300 MHz**
Polarization	**Linear**
Ant. Symmetry (balance)	**< 1 dB**
Nominal Impedance	**50Ω**
Power Handling	**50 Watts** *(continuous)*
Connector	**N-type** *(female)*
Antenna Factors	*(see graph below)*
Isotropic Gain	*(see graph below)*
VSWR/Return Loss	*(see graphs below)*
Max. Radiated Field	*(see graph below)*
Test Specifications	FCC, CISPR, EN, ETSI, FAA, MIL-STD 461, Automotive and similar
Dimensions	**51.5" x 20.2" x 28.5"** [130.8 x 51.3 x 72.4 cm]
Weight	**4.5 lbs.** [2 kg]

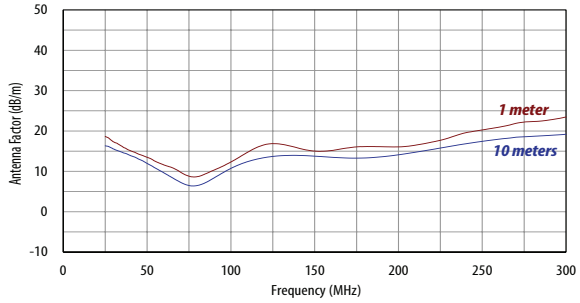
Antenna Ordering Options

ORDER CODE	OPTION DESCRIPTION
AB-300M-**F**	Fixed *[standard]* Elements
AB-300M-**C**	Collapsible Elements
AB-300M-**B**	Balun ONLY *[no elements]*
AB-300M-**F-A5**	Fixed Elements w/5 dB Attenuator
AB-300M-**C-A5**	Collapsible Elements w/5 dB Attenuator
AB-300M-**B-A5**	Balun ONLY w/5 dB Attenuator

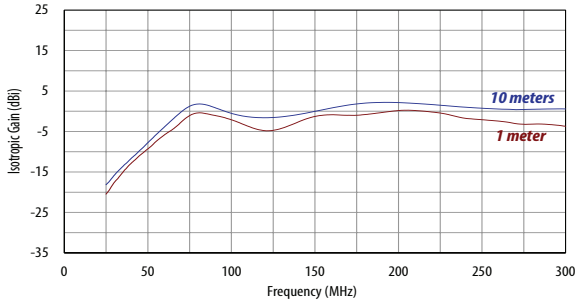
Antenna Accessories

ITEM DESCRIPTION	PART NO.
Additional Set of Fixed Elements	AELE-BF
Additional Set of Collapsible Elements	AELE-BC
Mounting Adapter for Tripod	ATA-22MR
Mounting Adapter for Antenna Mast	AMA-22MR

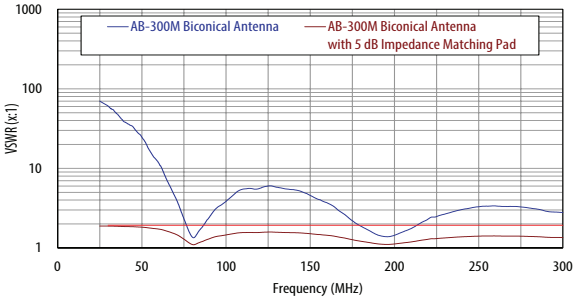
Typical Antenna Factors



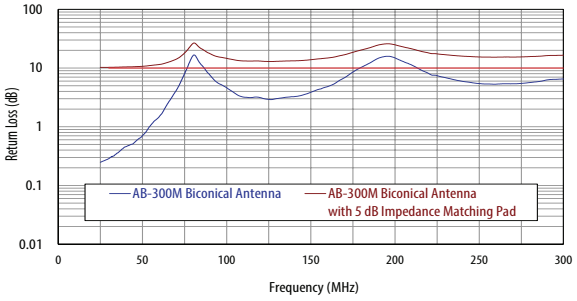
Typical Isotropic Gain



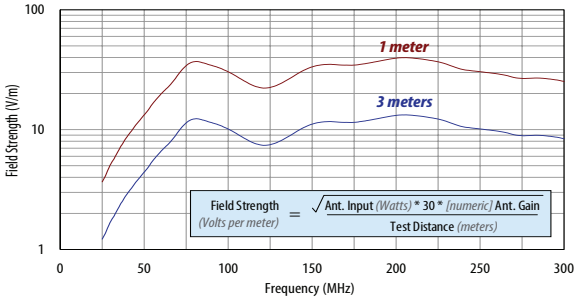
Typical Voltage Standing Wave Ratio (VSWR)



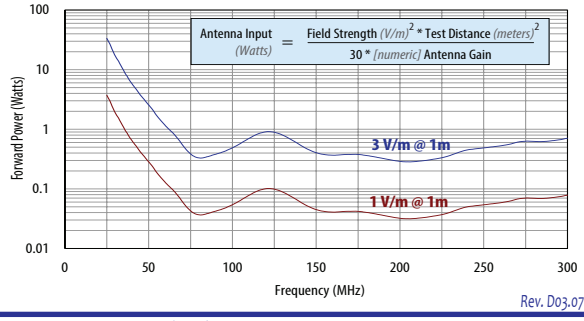
Typical Return Loss



Typical Field Strength with 50W Input Power



Typical Forward Power Levels



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