

## 3110C BICONICAL ANTENNA

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ETS-Lindgren's Model 3110C Biconical Antennas combine several unique features to achieve high levels of performance. The balun, feedline, and element cage design give the model 3110C response curves that are almost linear, making it ideal for swept measurements. The antenna's insensitivity to orientation in the vertical plane helps eliminate any unnoticed or unrecorded change in orientation as the cause for a change in test results.

To achieve this kind of performance, the balun is designed using an unbalanced-to-balanced transformer. This results in very even current transformation. Ferrites are also placed along the feedlines, reducing common mode current that can interfere with the antenna pattern in the vertically polarized measurements.

The 3110C is also easy to mount, and now features a stinger mount with square collar. This collar allows for easy polarization alignment when using an ETS-Lindgren mast.

Common applications for the model 3110C include measurements to MIL-STD specifications, ANSI C63.4, FCC-18 and EN 55022 emissions testing.

### Key Features

- Frequency Range 30 MHz to 300 MHz
- Compact Size for Use in Limited Space
- Unique Element Design Improves Performance
- Improved Balun Design for Increased Efficiency
- Flexible Mounting
- Excellent RF Symmetry

### Features

#### Unique Element Design

Some biconical antennas exhibit an electrical "bump" at 281 MHz, but ETS-Lindgren's biconical element crosspiece design improves performance by eliminating this problem. The biconical's crosspiece connects the center element to the outer element diminishing the "bump". Another enhancement is element cages that cannot be overtightened when screwed into the balun.

#### Improved Balun Design

With a balun constructed from a micro-transformer, the 3110C has an excellent impedance match and balance between 50  $\Omega$  and 200  $\Omega$  (the impedance of the biconical elements), for the whole frequency range of the antenna.

#### Compact Size

Because of their compact size, ETS-Lindgren Biconical Antennas are ideal for anechoic chambers and shielded enclosures.

#### Quality Construction

Biconical elements are constructed of lightweight corrosion resistant aluminum, providing years of trouble-free indoor and outdoor service.

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## Specifications

### Electrical Specifications

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**Frequency Minimum:** 30 MHz

**Frequency Maximum:** 300 MHz

**Connectors:** Type N (f)

**Nominal Impedance:** 50  $\Omega$

**Maximum Continuous Power:** 250 mW

**Peak Power:** NA

**VSWR:** 2.0:1

**Pattern Type:** Omnidirectional

**Polarization:** Linear

### Physical Specifications

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**Depth:** 79.0 cm (31.10 in)

**Diameter:** 52 cm (20.47 in)

**Width:** 132.1 cm (52.01 in)

**Weight:** 2.7 kg (5.95 lb)

### Additional Specifications

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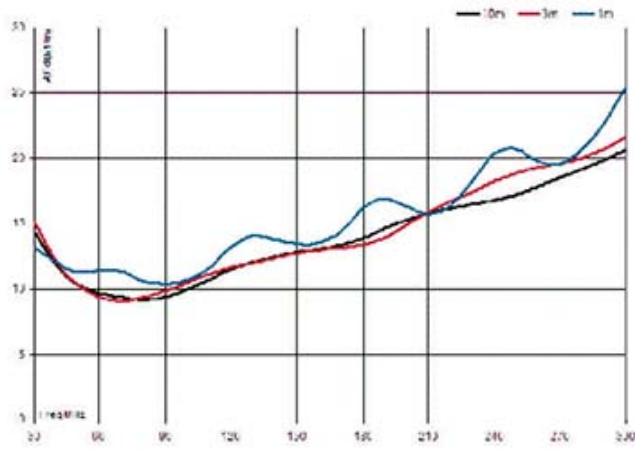
- Model 3110C Antenna with Antenna Elements, Base and Balun
- Stinger and Standard 1/4 in x 20 Mounting
- Individually Calibrated at 1 m Horizontal Polarization per SAE ARP 958.
- 10 m Calibration (Horizontal Polarization) per ANSI C63.5 and a Signed Certificate of Calibration
- Conformance Provided for Gain and Antenna Factors
- Manual

### Product Options

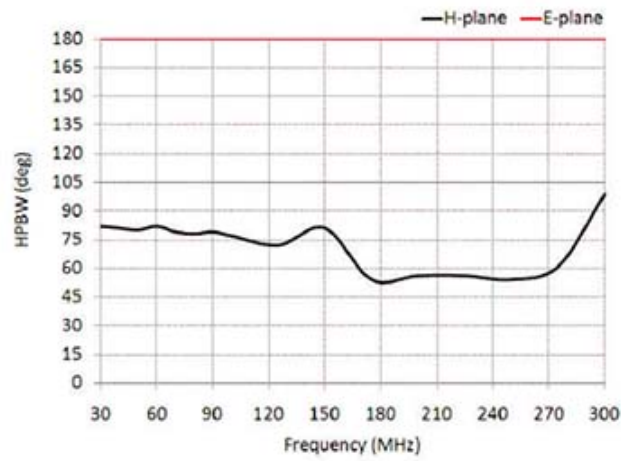
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Product Charts

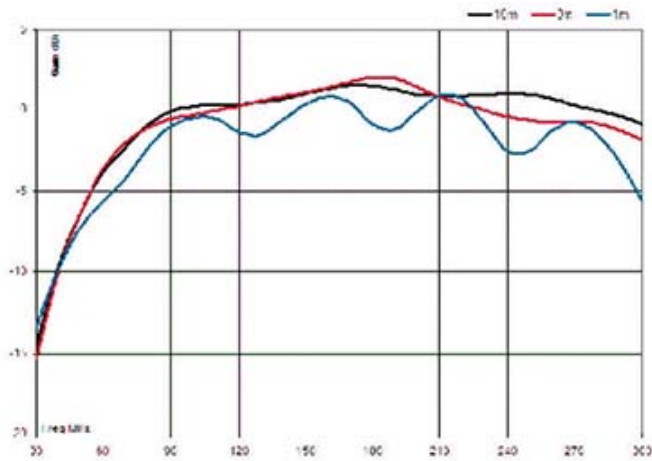
3110C Biconical Antenna Factor



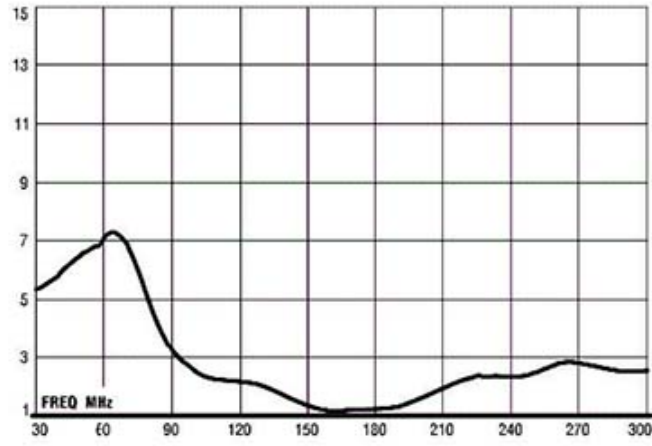
3110C Biconical Antenna Beamwidth Typical Measured Data



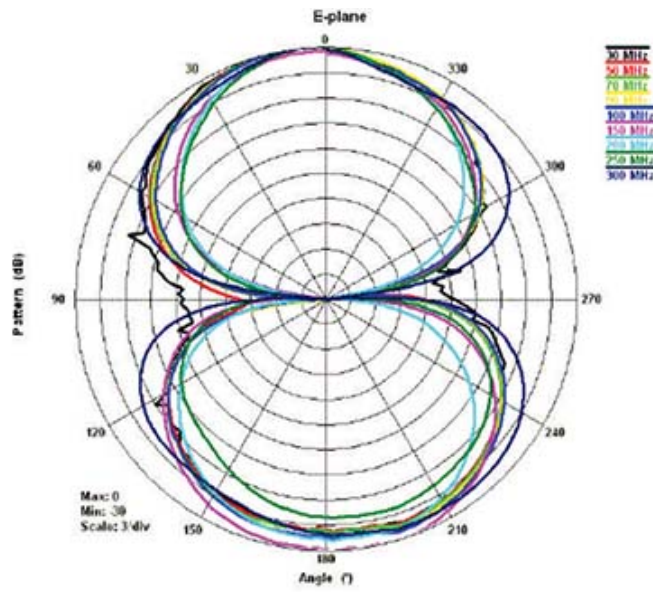
3110C Biconical Antenna Gain



3110C VSWR



3110C E-Plane  
30 MHz to 300 MHz



3110C H-Plane  
30 MHz to 300 MHz

