

3117-PB Double-Ridged Waveguide Horn with Pre-Amplifier



ETS-Lindgren's Model 3117-PB is a special version of our popular Model 3117 Double-Ridged Waveguide Horn Antenna, fitted with an updated pre-amplifier package and calibrated as a single unit. By doing this, any possible mismatches between antenna and pre-amplifier are taken into account in the antenna factor (AF), which is provided with this unit. The antenna is ideal as a receive antenna for emissions testing above 1 GHz. Please note, the 3117-PB is not intended for RSE testing of intentional radiators.

Key Features

- 1 GHz to 18 GHz Frequency Range
- Maintains Single Lobe Radiation
- Fitted with Pre-Amplifier for Increased Sensitivity
- Extremely Low AF
- Flexible Mounting
- Not intended for RSE Testing of Intentional Radiators

Product Features

Frequency Range

This antenna covers the 1 GHz to 18 GHz range, making it ideal as a receive antenna for any emissions testing above 1 GHz.

Maintains Single Lobe Radiation

Like the model 3117, the model 3117-PB maintains a single main lobe pattern in the direction of the horn axis over its frequency range. This characteristic is essential for even distribution of electromagnetic energy on a target surface, and accurate measurement of gain and emissions. The model 3117's unique design suppresses the propagation of high order modes. The result is an antenna with a well-defined single lobe radiation pattern that outperforms other antennas in its class.

Fitted Amplifier

The pre-amplifier attached to the antenna has a frequency range of 1 GHz to 18 GHz and a typical gain of 28 dB. The gain flatness across the range is 2.5 dB. The pre-amplifier has a maximum noise figure of 4 dB maximum with the typical noise figure being 3 dB. The power output is +17 dB minimum at the 1 dB point. The input and output characteristics of the pre-amplifier are an input and output VSWR of 2: 1 maximum.

Low Antenna Factor

The result of matching the model 3117 with the pre-amplifier is an antenna that is calibrated as a system. This results in a low AF for the entire frequency range.

Specifications

Physical Specifications

Length: 33.0 cm (12.99 in)

Width: 17.5 cm (6.89 in)

Height: 19.7 cm (7.76 in)

Weight: 1.4 kg (3.09 lb)

Electrical Specifications

Frequency Minimum: 1 GHz

Frequency Maximum: 18 GHz

VSWR (Average): N/A (Rx Only)

Maximum Continuous Power: N/A (Rx Only)

Impedance (Nominal): 50

Connector (Amplifier Output): SMA (Female)

Product Options

- ETS-Lindgren Offers Several Non-metallic, Non-reflective Tripods

Product Configuration

- Antenna and Pre-amplifier
- Mounting Fixture for 1/4 in x 20 Thread
- Rear "Stinger" Mount
- AC/DC Power Supply for the Pre-amplifier Module
- Individually Calibrated at 1m per the SAE ARP 958
- Manual