

## 3117-PB DOUBLE-RIDGED WAVEGUIDE HORN WITH PRE-AMPLIFIER

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### 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

### 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  $\pm 2.5$  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 an extremely low AF that is less than -2 dB (1/m) for the entire frequency range.

## Specifications

### Electrical Specifications

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**Frequency Minimum:** 1 GHz

**Frequency Maximum:** 18 GHz

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

**Maximum Continuous Power:** N/A (Rx Only)

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

**Connector (Amplifier Output):** SMA (Female)

### Physical Specifications

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**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)

### Other Specifications

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- 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