

ANTENNAS WITH PRE-AMPS 3116C-PA Double-Ridged Waveguide Horn with Pre-Amplifier

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The antenna is ideal as a receive antenna for emissions testing above 18 GHz. Please note, the 3116-PA is not intended for RSE testing of intentional radiators.

Key Features

- 18 GHz to 40 GHz Frequency Range
- Maintains Single Lobe Radiation
- Fitted with Pre-Amplifier for Increased Sensitivity
- Extremely Low AF
- Flexible Mounting

Features

Frequency Range

This antenna covers the 18 GHz to 40 GHz range when fitted with the pre-amplifier. The range is determined by the pre-amplifier module. The range makes it ideal as a receive antenna for any emissions testing above 18 GHz.

Maintains Single Lobe Radiation

Like the model 3116C, the model 3116C-PA 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.

Fitted Amplifier

The pre-amplifier attached to the antenna has a frequency range of 18 GHz to 40 GHz and a typical gain of 35 dB. The gain flatness across the range is ± 3 dB and the noise figure is 3.7 dB. The power output is +8 dB minimum at the 1 dB point. The input and output characteristics of the pre-amplifier are an input and output VSWR of 2.9:1 maximum. The operating temperature ranges from -40°C to $+75^{\circ}\text{C}$ (-40°F to $+167^{\circ}\text{F}$).

Low Antenna Factor

The result of matching the model 3116C with the pre-amplifier is an antenna that is calibrated as a system and it provides an extremely low AF that is less than 15 dB (1/m) for the entire frequency range.

Specifications

Electrical Specifications

Frequency Minimum: 18 GHz
Frequency Maximum: 40 GHz
VSWR (Average): N/A (Rx Only)
Maximum Continuous Power: N/A (Rx Only)
Impedance (Nominal): 50 Ω
Connector: K (2.92 mm, Female)
Polarization: Linear
Pattern Type: Directional

Physical Specifications

Length: 14.2 cm (5.59 in)
Width: 26.9 cm (10.59 in)
Height: 22.1 cm (8.70 in)
Weight: 1.4 kg (3.09 lb)

Other Specifications

- Antenna and Pre-amplifier
- Mounting Fixture for $\frac{1}{4}$ x 20 Thread Stinger Mount
- AC/DC Power Supply for the Pre-amplifier Module
- Individually calibrated at 1 m per SAE ARP 958 at our A2LA accredited lab
- Actual Antenna Factors and a Signed Certificate of Calibration Conformance
Included with Manual
- Manual

Product Charts

3116C-PA Double-Ridged Waveguide Horn Antenna with Pre-Amplifier Typical Antenna Factors and Gain

