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# EMC Antennas

# Double-Ridged Waveguide Horn with Pre-Amplifier

Model 3116C-PA

#### **FEATURES:**

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



ETS-Lindgren's Model 3116C-PA Double-Ridged Waveguide Horn Antenna with Pre-Amplifier

#### **ETS-LINDGREN'S MODEL 3116C-PA**

is a special version of our popular Model 3116C Double-Ridged Waveguide Horn Antenna, fitted with a 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 18 GHz.

# 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  $\pm$  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°C (-40°F to +167°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.

#### **Flexible Mounting**

The Model 3116C-PA includes both a 1/4 20 thread classic mount and a rear "stinger" mount.

#### STANDARD CONFIGURATION

- Antenna and Pre-amplifier
- Mounting Bracket for 1/4 20 Threads
- Stinger Mount
- AC/DC Power Supply for the Pre-amplifier Module
- Individually Calibrated Factors at 1m per SAE ARP 958
- Manual

#### **OPTIONS**

- 4-TR Tripod
- 7-TR Tripod



## **Electrical Specifications**

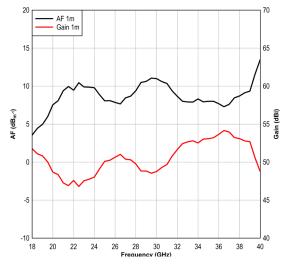
MODEL	FREQUENCY	VSWR	MAXIMUM CONTINUOUS	IMPEDANCE	CONNECTOR
	Range	(AVG)	POWER	(NOMINAL)	Type
3116C-PA	18 GHz to 40 GHz	N/A (Rx Only)	N/A (Rx Only)	50 Ω	K (2.92 mm, Female)

# **Physical Specifications**

MODEL	LENGTH*	WIDTH	HEIGHT*	WEIGHT
3116C-PA	14.2 cm	26.9 cm	22.1 cm	1.4 kg
	5.6 in	10.6 in	8.7 in	3.0 lb

<sup>\*</sup>Includes stinger and pre-amplifier box.

### **Model 3116C-PA Typical Antenna Factor and Gain**



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