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 ±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

<table>
<thead>
<tr>
<th>MODEL</th>
<th>FREQUENCY RANGE</th>
<th>VSWR (AVG)</th>
<th>MAXIMUM CONTINUOUS POWER</th>
<th>IMPEDANCE (NOMINAL)</th>
<th>CONNECTOR TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3116C-PA</td>
<td>18 GHz to 40 GHz</td>
<td>N/A (Rx Only)</td>
<td>N/A (Rx Only)</td>
<td>50 Ω</td>
<td>K (2.92 mm, Female)</td>
</tr>
</tbody>
</table>

### Physical Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>LENGTH*</th>
<th>WIDTH</th>
<th>HEIGHT*</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3116C-PA</td>
<td>14.2 cm</td>
<td>26.9 cm</td>
<td>22.1 cm</td>
<td>1.4 kg</td>
</tr>
<tr>
<td></td>
<td>5.6 in</td>
<td>10.6 in</td>
<td>8.7 in</td>
<td>3.0 lb</td>
</tr>
</tbody>
</table>

*Includes stinger and pre-amplifier box.

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

![Graph of Antenna Factor and Gain](chart.png)