

## OPEN BOUNDARY QUAD-RIDGED HORN 3164-01 Open Boundary Quad-Ridged Horn

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ETS-Lindgren's Model 3164-01 Open Boundary Quad-ridged Horn Antenna takes the open boundary concept to its extreme by providing a totally open horn, including an open boundary feed cavity. The model 3164-01 allows antenna engineers to perform measurements down to 100 MHz and up to 1 GHz with a single antenna. Its ability to measure two orthogonal polarized fields simultaneously means that it can be used to measure radiation patterns regardless of the orientation of the antenna under test.

### Key Features

- Excellent Gain Characteristics
- Dual Linearly Polarized
- Better Than 25 dB Cross-Port Isolation

### Features

#### Frequency Range

The 3164-01 brings the performance of the 3164 series horns down to 100 MHz. However, the antenna is not simply a scaled model of other horns in the series. To reduce weight and improve the low end performance, this antenna was designed without an enclosed feed cavity. Although the feed cavity is not present, the antenna can still be mounted inside chambers; nested in the absorber or against a ground plane. The gain is not dramatically affected by the mounting scheme.

#### Excellent Gain Characteristics

Like the other 3164 series horns, the 3164-01 has a very fat gain performance for the upper 2/3 of its frequency range. The gain variation over that upper range is usually less than 2 dB variation.

#### Dual Linear Polarization

The 3164-01 has two sets of orthogonal ridges each fed via a coaxial input. The result is an antenna that can simultaneously measure two orthogonally polarized components of the field. This characteristic makes it ideal for measuring antennas as they are rotated in the quiet zone on an anechoic chamber or antenna range. The inputs are located extremely close to each other which reduces the difference in gain between them.

#### Cross-Port Polarization

As in the other horns in this family, the model 3164-01 exhibits great cross-port isolation with levels better than 25 dB.

## Specifications

### Electrical Specifications

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**Frequency Maximum:** 1 GHz  
**Frequency Minimum:** 100 MHz  
**Pattern Type:** Directional  
**Polarization:** Dual Linear  
**VSWR Ratio (AVG):** 3:1 maximum; 1.75:1 average  
**Maximum Continuous Power:**

- 750 watts @ 100 MHz
- 200 watts @ 1 GHz

**Impedance (Nominal):** 50  $\Omega$   
**Connectors:** (2) Type N Female

### Physical Specifications

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**Aperture Height:** 188 cm (74.02 in)  
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**Length:** 174 cm (68.50 in)  
**Weight:** 69 kg (152.12 lb)

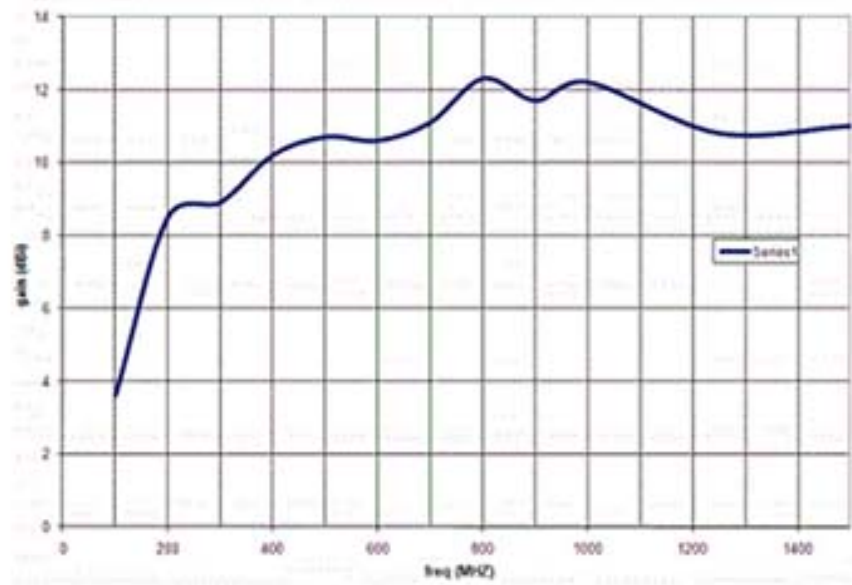
### Other Specifications

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- Antenna Including Hardware for On-Site Antenna Assembly
- Measured Input Parameters including VSWR and Cross-Port Isolation

### Product Charts

**Model 3164-01**  
Open Boundary Quad-Ridged Horn  
Gain



**Model 3164-01**  
Open Boundary Quad-Ridged Horn  
VSWR

