ANTENNA MODEL 3164-01

MODEL 3164-01

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

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.

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 this series. To reduce weight and improve the low end performance the 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 minimally affected by the mounting scheme.

Excellent Gain Characteristics

Like the other 3164 series horns, the 3164-01 has a very flat 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 other 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.

Technical Specifications

Electrical	
Frequency Minimum	100 MHz
Frequency Maximum	1 GHz
VSWR	1.75:1 (Average), 3:1 (Maximum)
Impedance (Nominal)	50
Maximum Continuous Power	750 W @ 100 MHz, 200 W @ 1 GHz
Connectors	2 Type N (Female)
Pattern Type	Directional
Polarization	Dual Linear
Physical	
Apeture Height	188 cm (74.02 in)
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Depth	174 cm (27.6 in)
Weight	69 kg (152.12 lb)