

# Dual Linear Polarized Lens Horn Antenna

8 to 160 GHz, 30 dBi Directivity

## DESCRIPTION

Anteral's Dual Polarized Lens Horn Antennas (DPLHA) are an integrated system composed of an **orthomode transducer (OMT)** that provides high isolation and cross-polarization (XP) cancellation and a **conical horn antenna with a plano-convex Teflon (PTFE) lens** added in the aperture, in order to apply phase correction and achieve high gain, low VSWR and low side-lobes, with minimum size.

They are designed to cover the frequency range of 8 to 160 GHz in several bands with 30 dBi nominal mid-band gain and a typical VSWR of 1.25. The OMT supports either horizontal or vertical polarized signals with more than 30 dB cross-polarization rejections and 35 dB isolation. The OMT is configured with two waveguide ports for the horizontal and vertical polarization. Besides, custom bands and gain values can be requested. Anteral offers LHAs with linear or circular polarization.

## APPLICATIONS

Dual Polarized Lens Horn Antennas are especially useful when high gain is required with the minimum size. Therefore, these antennas are widely used in radar applications, communication links and meteorological systems, among others.

New cutting-edge space applications include LHA's for MiniSat, MicroSat, NanoSat and CubeSat communications.

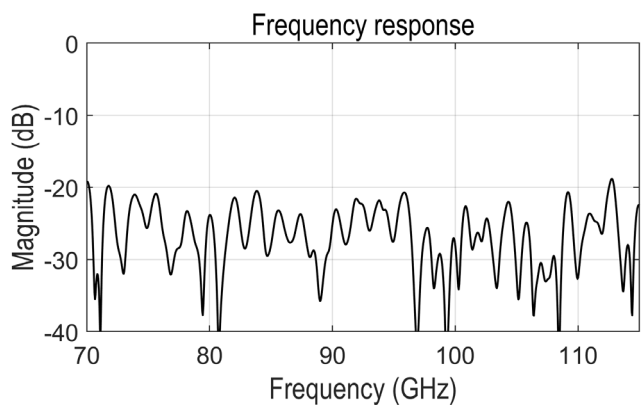
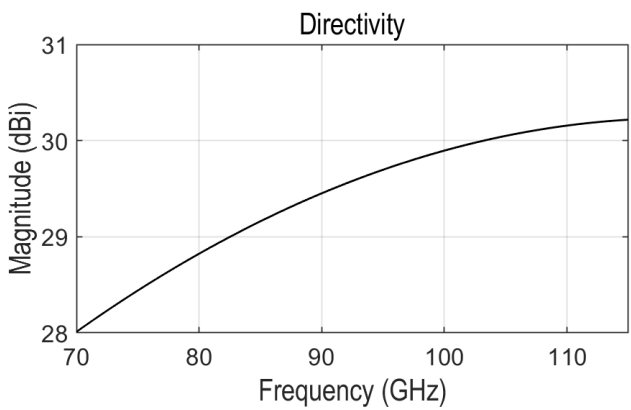
## ELECTRICAL SPECIFICATIONS

Model	Frequency (GHz)	S11 (dB)	Directivity (dBi)	Isolation (dB)	XP* (dB)
DLPLHA-30-WR90	8.2 - 12.4	-18	30.4	45	45
DLPLHA-30-WR75	10 - 15	-18	30.8	45	45
DLPLHA-30-WR62	12.4 - 18	-18	31.1	40	45
DLPLHA-30-WR51	15 - 22	-18	31.9	40	40
DLPLHA-30-WR42	18 - 26.5	-18	31	40	40
DLPLHA-30-WR34	22 - 33	-18	30.4	40	40
DLPLHA-30-WR28	26.5 - 40	-18	30.8	35	40
DLPLHA-30-WR22	33 - 50	-18	30.5	35	35
DLPLHA-30-WR19	40 - 60	-18	30.5	35	35
DLPLHA-30-WR15	50 - 75	-18	30.3	35	35
DLPLHA-30-WR12	60 - 90	-18	30.2	35	35
DLPLHA-30-WR10	75 - 110	-18	30.1	35	30
DLPLHA-30-WR06	120 - 160	-18	30.2	35	30

\* at boresight

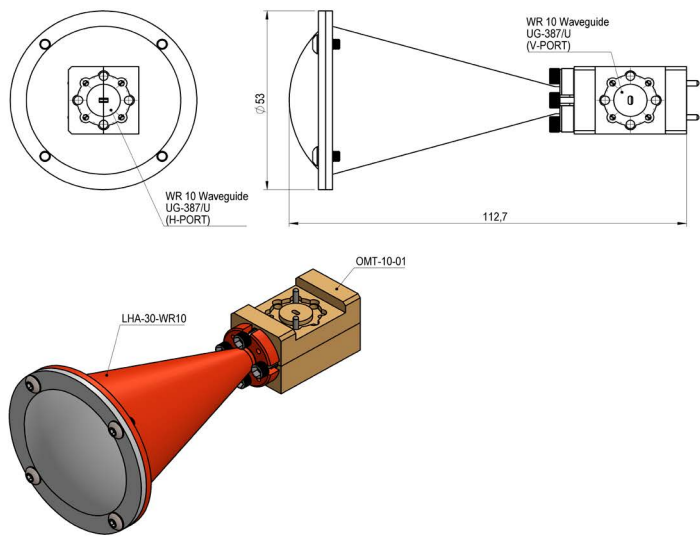
All data are typical values. Contact us for other DLPLHA and more information.

TYPICAL PERFORMANCE



MECHANICAL OUTLINE

Flange	Standard UG-xxx/U
Operating temperature	-40°C to +85°C
External color	Aluminum. Gold plated in some cases.
Material	Aluminum.
Lens material	PTFE or HDPE depending on the model



Additional notes

All data are simulated. Typical performance data and mecanical outline correspond to DLPLHA-30-WR10 model.

Actual values could vary slightly.

The return loss performance of all items is checked before delivery.

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