K-Band Lens Horn Antenna
## 18 to 26.5 GHz, WR42, 30 dBi Gain

DESCRIPTION

Anteral's Lens Horn Antennas are conical horn antennas with a **plano-convex** high-density polyethylene (HDPE) lens added in the aperture, in order to apply phase correction and achieve high gain, low VSWR and low side-lobes, with minimum size.

The LHA-30-WR42 model operates at the K-band between 18 and 26.5 GHz with 30 dBi nominal mid-band gain and a typical VSWR of 1.25.

APPLICATIONS

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.

Anteral also offers their Focusing Lens Horn Antennas with double-convex lenses to exhibit very well define focusing beams with short focal distances which makes them optimal for testing and material characterization.

Plane-wave
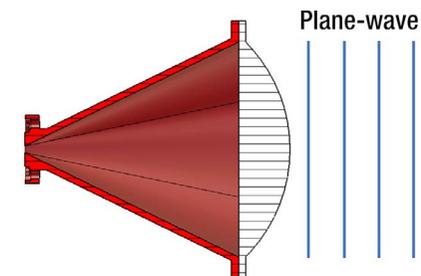
ELECTRICAL SPECIFICATIONS

Parameter	Typical value
Frequency	18 -26.5 GHz
Gain	30 dBi
3 dB Beamwidth, E-plane	4.8 deg
3 dB Beamwidth, H-plane	5.5 deg
Sidelobe, E-plane	-18 dB
Sidelobe, H-plane	-18 dB
S11	-18 dB

Radiation Pattern at 22.25 GHz

Directivity over frequency

Return Loss
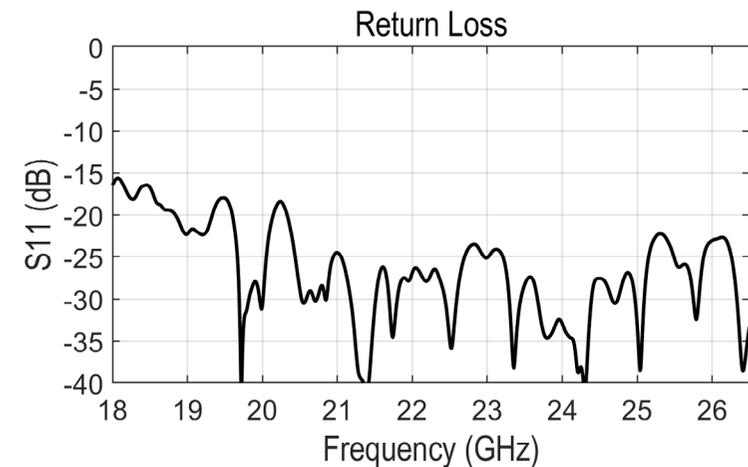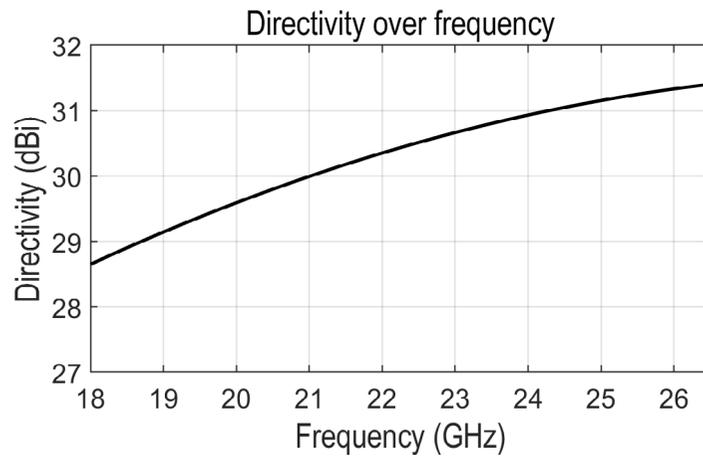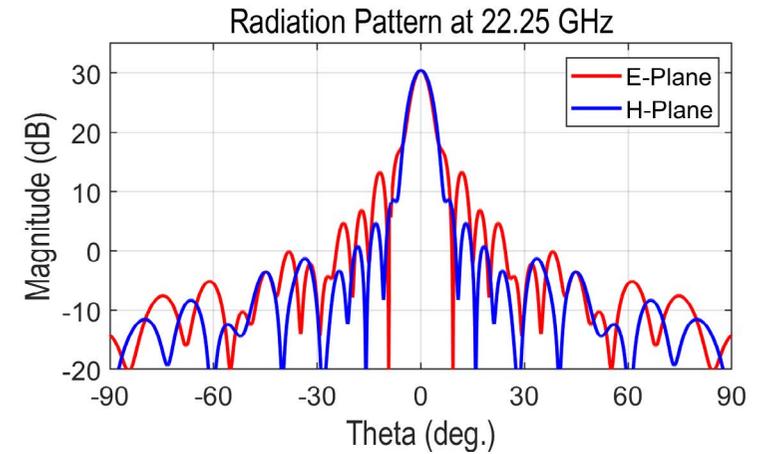
MECHANICAL SPECIFICATIONS

Parameter	Description
Antenna Port*	WR-42 (10.668 mm x 4.318 mm)
Flange	UBR 220
Total length	226.60 mm
Total diameter	190 mm
Total weight	980 g
Horn Material	Aluminum
Lens Material	HDPE
External Color	Ruby Red

*The antenna includes a rectangular to circular waveguide transition (WR-42 to WC-168)
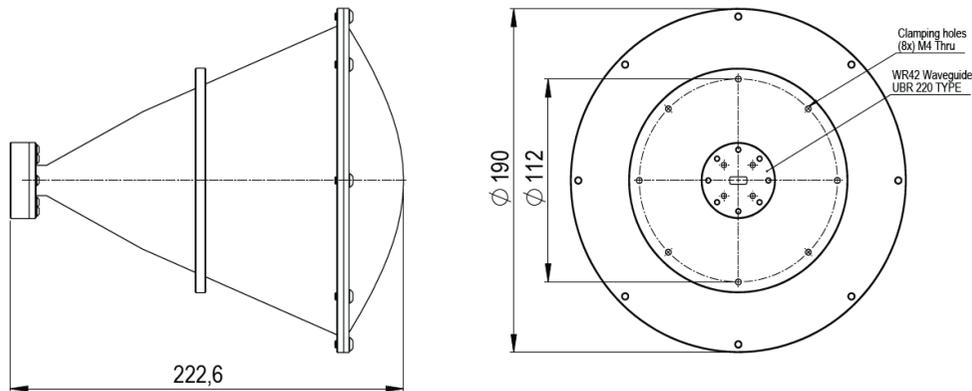
CLAMPING STRUCTURE

Anteral's Lens Horn Antennas are drilled with some threads for clamping purpose. See the mechanical outline.Anteral also offers clamping structure for the LHA-30-WR42 with the following specifications.

Model	Material	Weight (g)
LHA-30-WR42-CLAMP	*Aluminum*	550

*The base is drilled with 4 through holes but any custom holes can be added.

MECHANICAL OUTLINE
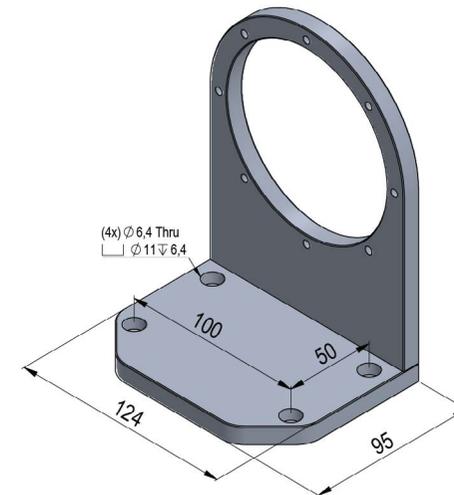
Additional notes

Gain, return loss and radiation pattern data are simulated. Actual values have been checked experimetaly but they could vary slightly.
The return loss performance of all items is checked before delivery.
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