Anteral offers custom designs for any frequency, for the following types of horn antennas:
- Circular smooth-walled horn with optimized profile via "splines".
- Circular corrugated horn with vertical corrugations and optimized profile.
- Circular corrugated horn with axial corrugations and optimized profile.
- All kind of rectangular smooth-walled horns; pyramidal, sectoral, Standard Gain Horn, diagonal.
- Ridge rectangular guide horns for high bandwidth applications.

Anteral also offers very high performance transitions designs, rectangular wave guide or square to circular wave guide to connect the antennas. Those transitions have much lower length than conventional designs.

**Specialized in**

Design of corrugated horn antennas, with extensive experience in the design of antennas for communication satellites. We offer designs of size, at least 30% shorter than conventional designs.

**Custom designs**

Custom designs allow to choose the variation of the radiation pattern in the desired bands, so the client can choose for a given beamwidth, the following characteristics:
- The sidelobe level.
- The return loss level.
- Stability in the position of the phase center.

Moreover Anteral also provides customizable the variation of beamwidth in the operation band or bands. The beamwidth can be stable with the frequency, optimized for illuminate reflectors.

**Feasible designs**

- Sidelobes and cross-polarization up to -45 dB in all bands.
- S11 of -40 dB in all bands, including transition from rectangular to circular wave-guide.
- Low variation of phase center position, less than ± 0.2 λ in all bands.
* For a relative bandwidth of 40% or 50% in the case of sub-bands, being able to achieve better outcomes with lower bandwidth requirements.

Anteral offers the service of fabrication the previously designed horn antennas. For this service the frequencies that are allowed are between 1 GHz and 200 GHz for corrugated technology and between 1 GHz and 750 GHz for other technologies.

The fabrication is made with high-precision machined aluminum block by turning and milling. The clamping system, interfaces and other details are directly specified by customer or international standards, whatever is needed.

We also offer the service of measurements (adaptation, gain and radiation pattern) of the previously designed horn antennas. Frequencies allowed for measurements are between 1 GHz and 500 GHz.

**Contact**

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