

Main Features

- Frequency range: 19.2-21.2 GHz & 29-31 GHz.
- Main parameters:
 - Directivity: 15 dB (19.2 GHz)
18.7 dB (29 GHz)
 - RL 25 dB
 - XP -28 dB.
- Input waveguide: Circular custom K-Ka band.
- Dual band spline horn with high efficiency and low sidelobe level.
- Can feed a Single Offset Reflector (offset/D = 0.6) with f/D between 0.7 and 1.
- Lightweight antenna.

SPH-K-KA-D15

The SPH-K-KA-D15 is a spline horn designed to feed a reflector and to provide high performance communications due to its high efficiency and low sidelobe level. Due its great characteristics this spline horn is suitable for several applications.

Typical applications

- Satcom
- Military
- Commercial

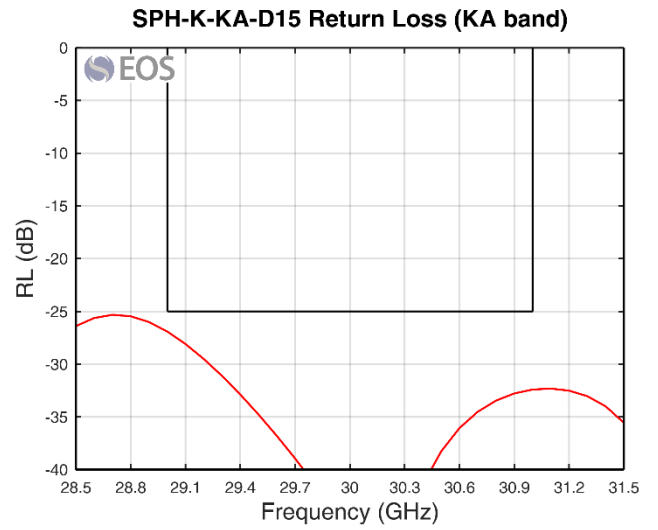
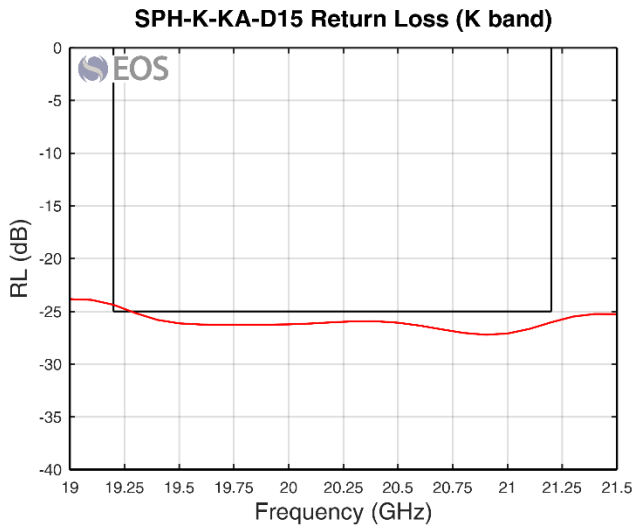
Performance

Parameter	Units	Value
Frequency	GHz	19.2 - 21.2 29 - 31
Return loss	dB	> 25
Directivity	dB	15 @19.2 GHz 18.7 @29 GHz
Crosspolar level	dB	< -28
Sidelobe level	dB	-20 @ Ka band
Field of view (FoV)	°	38
Taper	dB	-12 dB at 33 deg
Partial power over FoV	%	> 95 @19.2-21.2 GHz > 92 @29-31 GHz
Phase center variation over frequency	mm	4 @19.2-31 GHz
Ports	-	Input waveguide: Custom K-Ka band

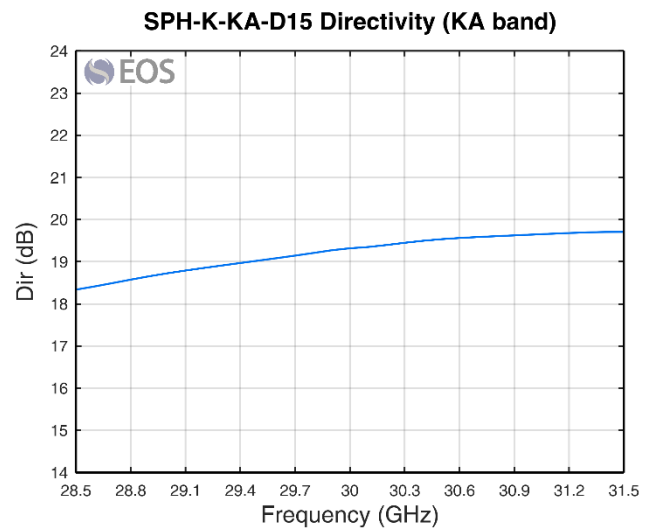
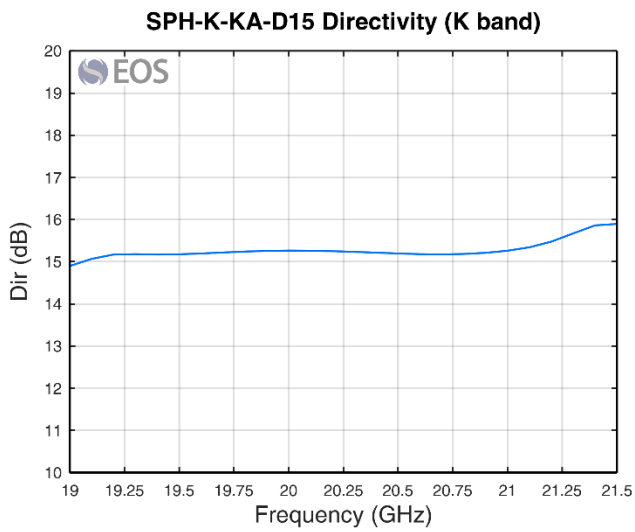
* Specifications for a designed and simulated model

Simulated results

Return loss

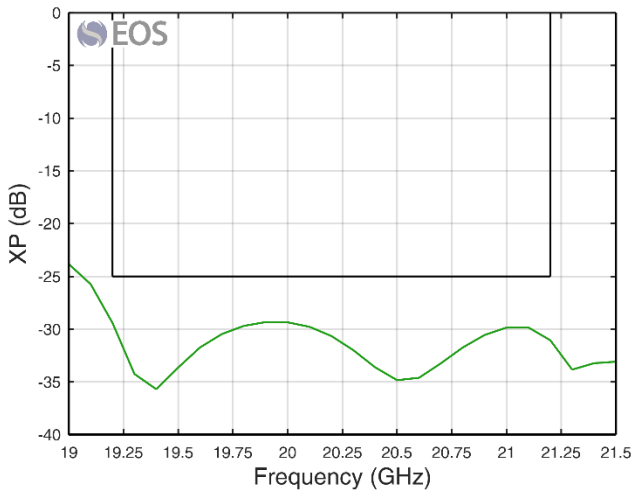


Directivity

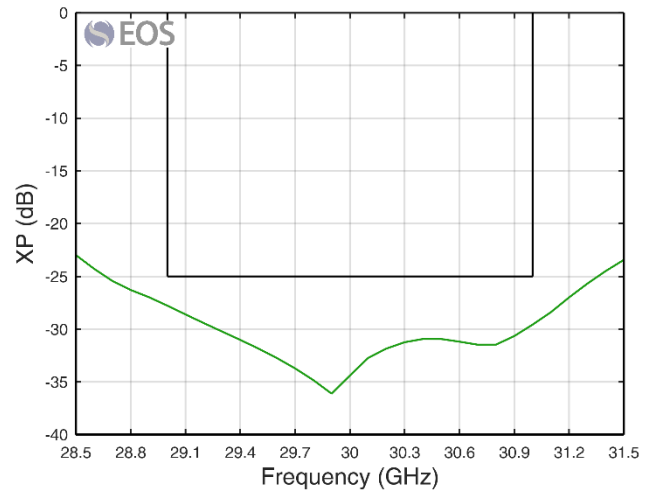


Maximum crosspolar level

SPH-K-KA-D15 Max XP in FoV (K band)

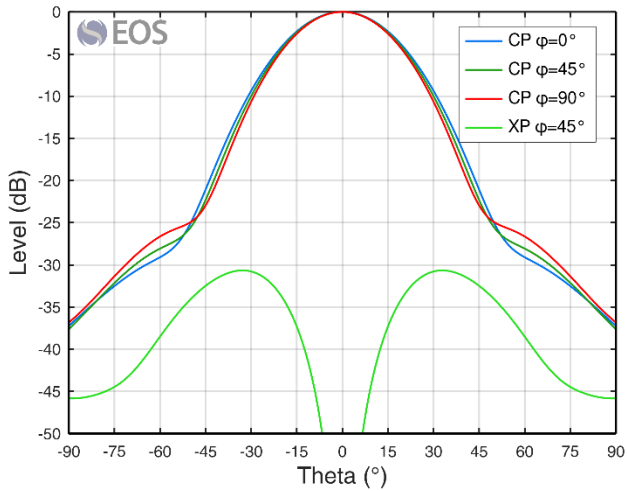


SPH-K-KA-D15 Max XP in FoV (KA band)

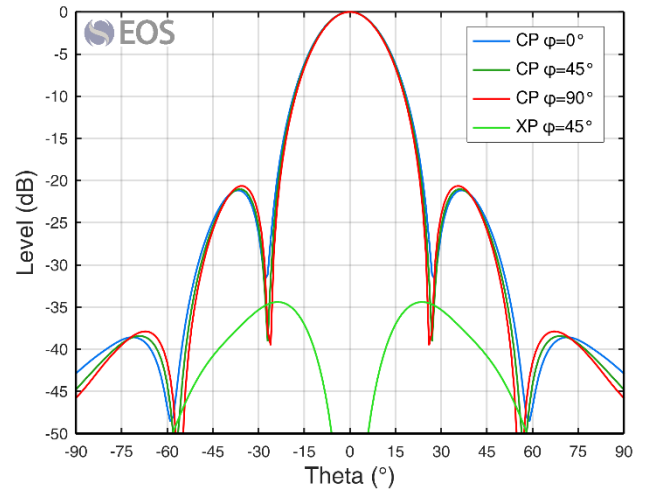


Radiation patterns

SPH-K-KA-D15 Radiation Pattern at 20.20 GHz



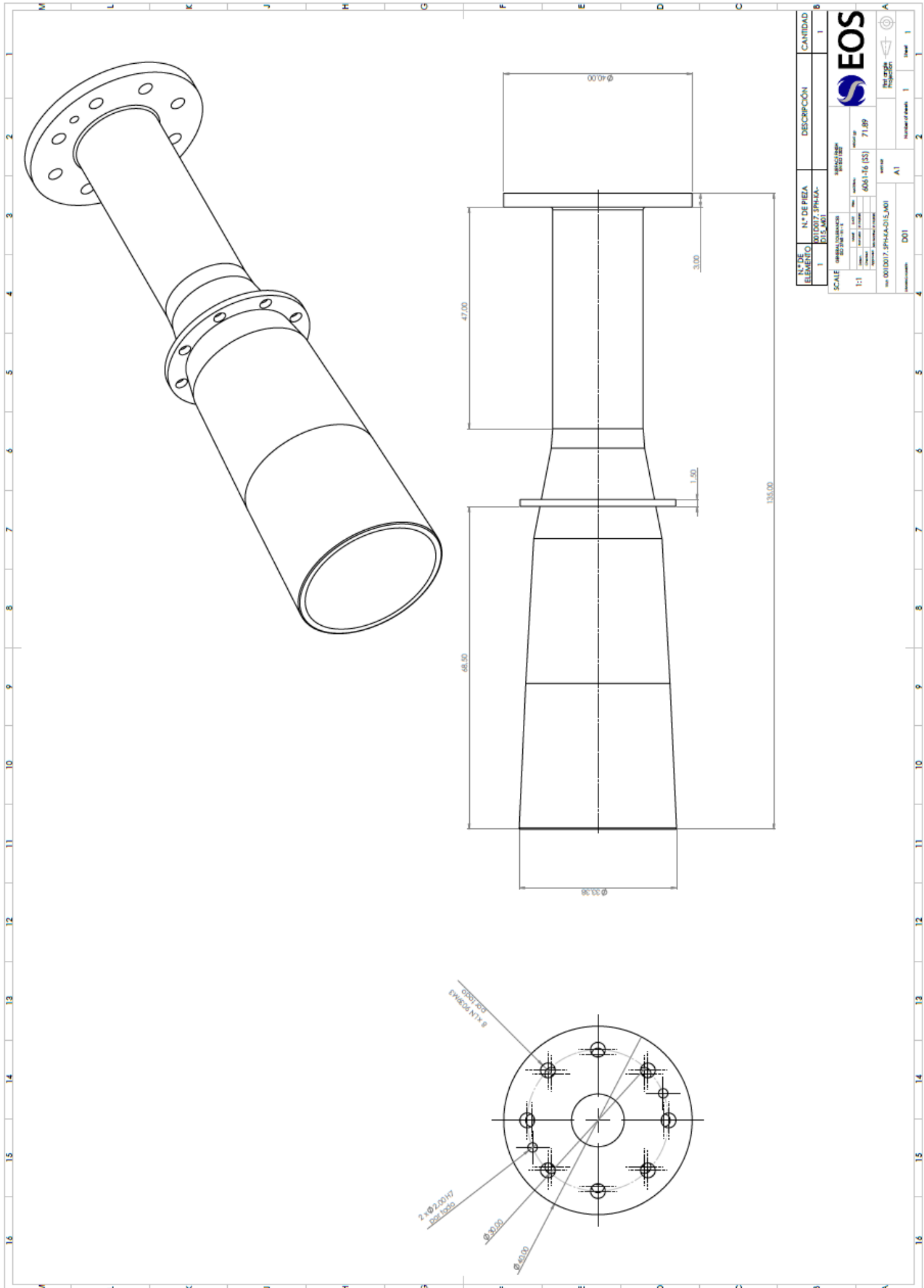
SPH-K-KA-D15 Radiation Pattern at 30.00 GHz



Physical characteristics

Parameter	Units	Value
Dimensions (LxWxH)	mm	135 x 40 x 40
Mass	g	72
Material	-	AL 6061
Surface treatment	-	-

Mechanical design and interfaces





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