



FEED-RAD-K-KA-DLP

The FEED-RAD-K-KA-DLP is designed to feed a reflector at K and Ka band mainly for Earth Observation Radiometry applications. It provides very low spill over and therefore the feed offers low sidelobes level. This feed could be also suitable for telecom applications since it can be customized adjusting the frequency bands and parameters to the desired ones.

Performance

Parameter	Units	Value
Frequency	GHz	18.6 – 18.8 36 – 37
Polarization	-	Dual linear K and Ka band
Return loss	dB	> 25
Directivity	dB	18.8 @18.7 GHz 22 @36.5 GHz
Max Crosspolar level	dB	< -30
Polarization Isolation (H/V)	dB	40
Frequency band isolation	dB	50
Insertion loss	dB	0.5 @18.6-18.8 GHz 0.5 @36-37 GHz
Sidelobe level	dB	< 27
FoV	°	30
Partial power over FoV	%	> 99 @18.6-18.8 GHz > 99 @36-37 GHz

Main Features

- Frequency range: 18.6-18.8 GHz & 36-37 GHz.
- Directivity: 18.8 dB (18.7 GHz)
22 dB (36.5 GHz)
- Return loss 25 dB
- Crosspolar values lower than -30 dB.
- Dual linear polarization feed with very low spillover.
- Low phase pattern variation and low phase center variation.
- Can feed a Single Offset Reflector (offset/D = 0.6) with f/D between 0.8 and 1.25.

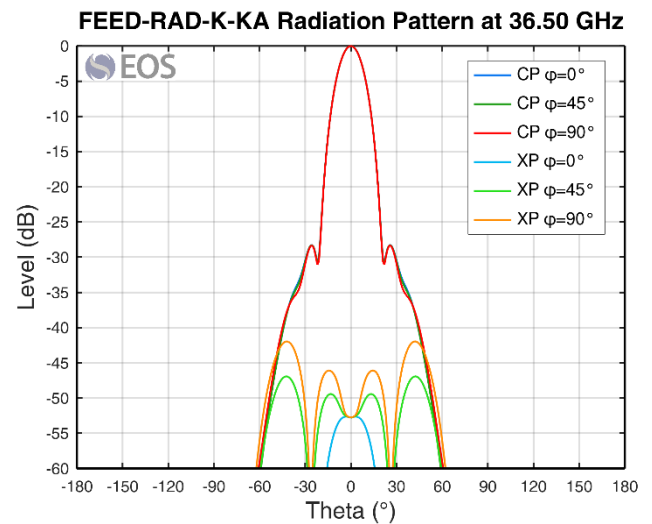
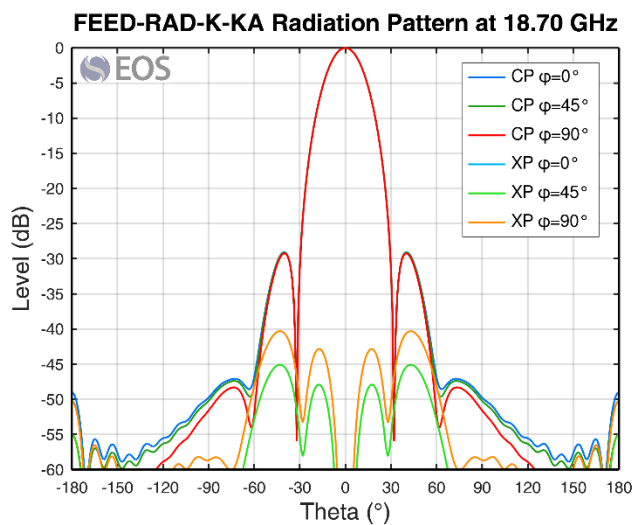
Typical applications

- Radiometry
- Aerospace
- Ground stations

Phase center variation over frequency	mm	3 @18.6-37 GHz
Ports	-	2 ports/each band: V and H polarization two ports at WR42 and two at WR28

Results

Radiation pattern

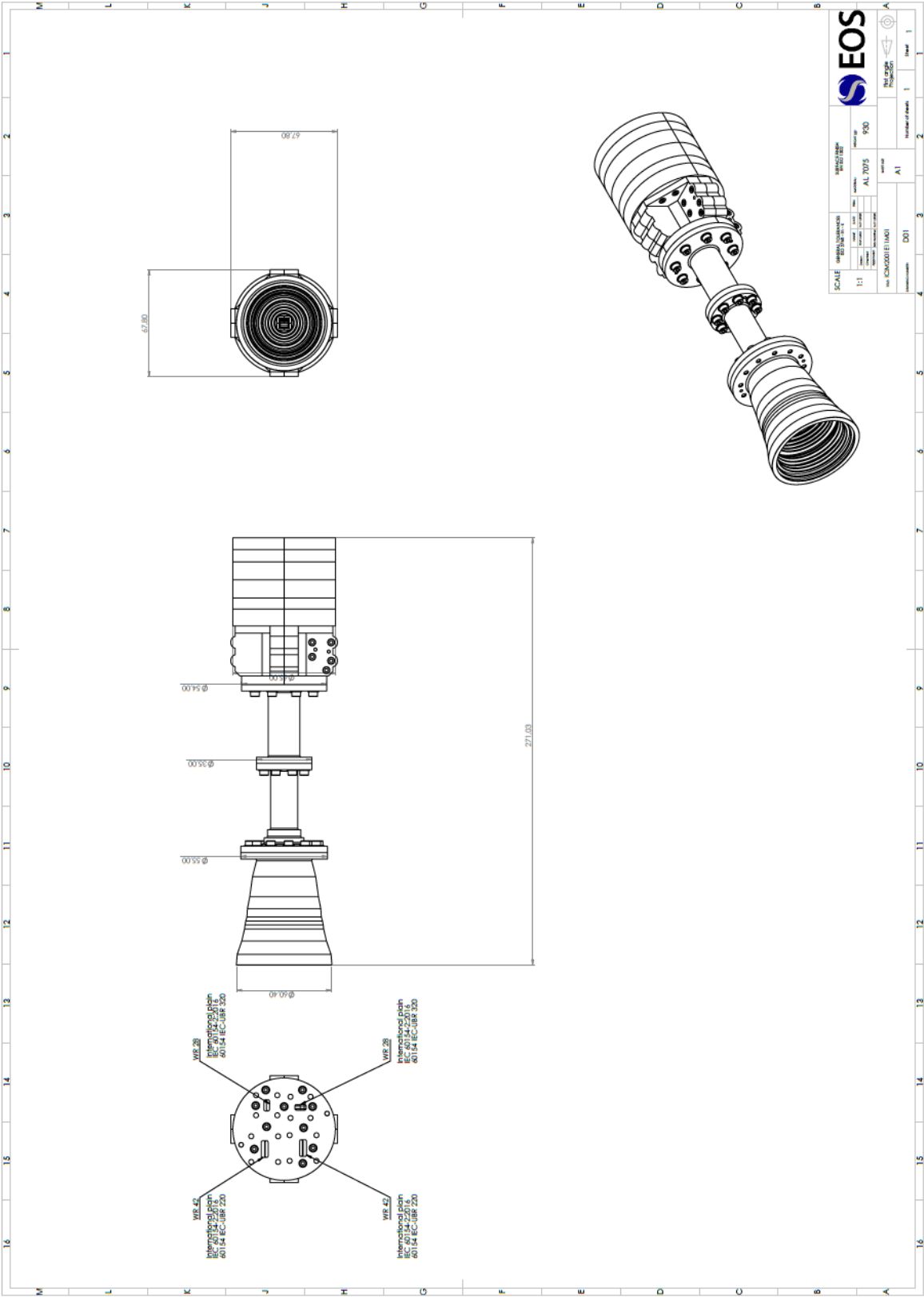


Physical characteristics

Parameter	Units	Value
Dimensions (LxWxH)	mm	271 x 68 x 68
Mass	g	930
Material	-	AL 7075
Surface treatment	-	Under specification
Coating	-	Under specification



Mechanical design and interfaces





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