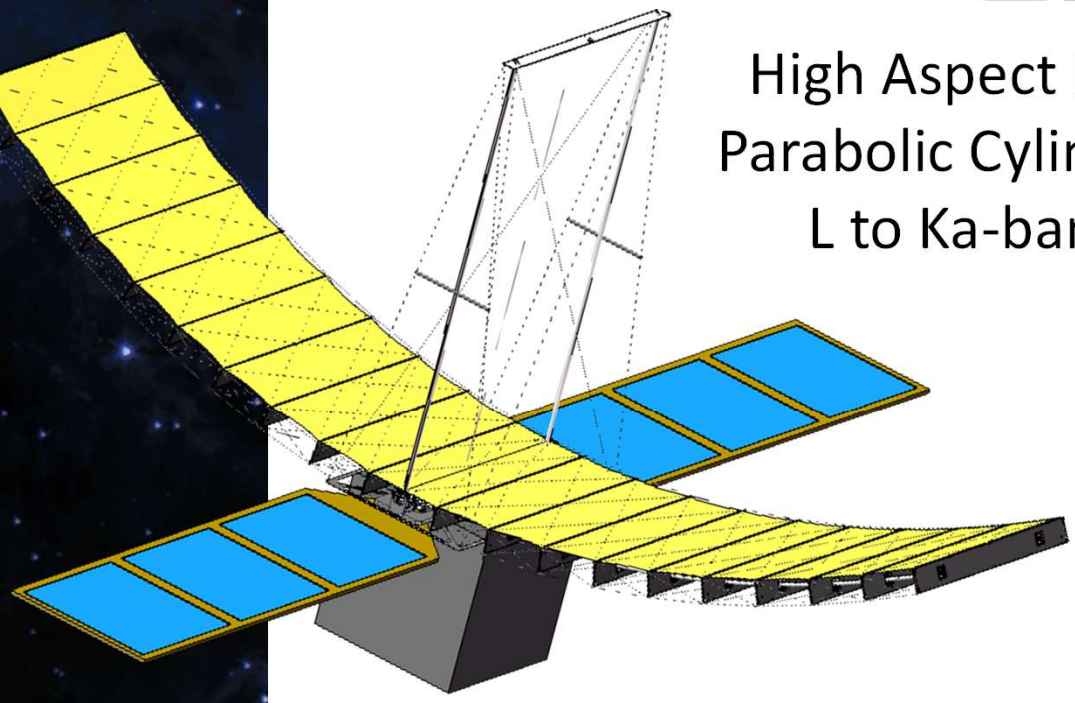
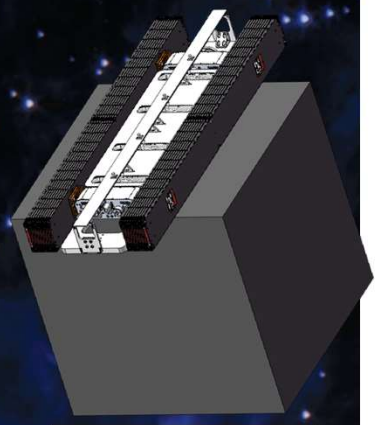
TENSAR

High Aspect Ratio Parabolic Cylindrical L to Ka-band



Deployed Antenna



Stowed Antenna

Key Features

- Tensegrity Synthetic Aperture Radar
- Designed for ESPA class bus; pictured 1 x 1 x 1 m
- Baseline design is 1.4 x 7 m effective aperture
- Scalable to larger apertures
- Stows in 1.4 x 0.5 x .2 m volume
- > 1 Hz deployed first mode and < 25 kg mass
- Baseline C-band feed allows 43 dB gain; RF Test scheduled for Oct 2021
- Breadboard demonstrated X-band surface repeatability
- Net shaping allows surface precision up to Ka-Band
- Reflecting surface can be gold wire mesh, passive reflect array membrane, rigid panels
- TRL 6 by Sept 2022 under NASA SBIR PHII-E
- Patent pending US 16/869,420

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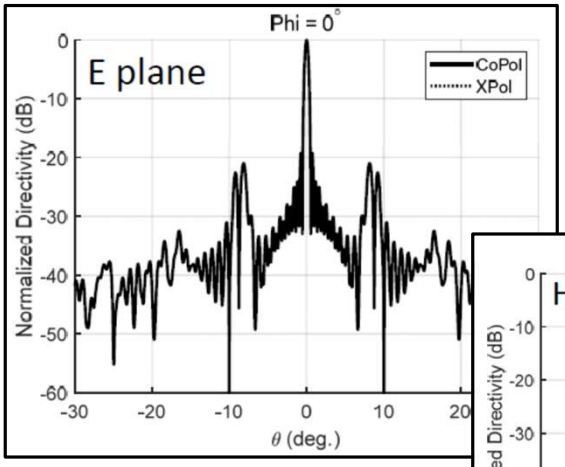
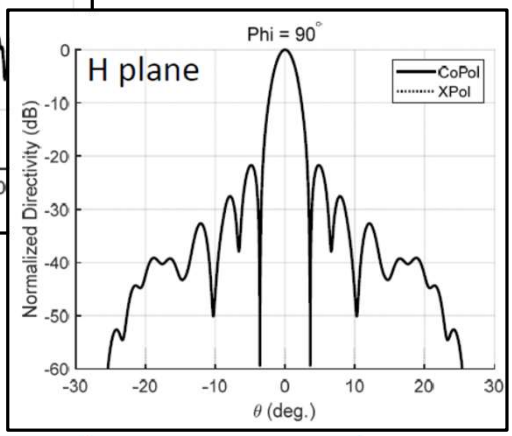
C-band RF Performance Specifications





@5.357GHz	
Total Directivity	44.19 dB
Ap. Efficiency	62.37 %
HPBW (E-plane)	0.46 deg.
HPBW (D-plane)	0.65 deg.
HPBW (H-plane)	2.73 deg.
First SLL (E-p.)	-19.22 dB
First SLL (H-p.)	-21.71 dB

About Tendeg

Tendeg LLC provides antennas, precision deployable structures, and mechanical engineering design and analysis services for space missions. The company was founded in 2007 by a group of space industry veterans with an average of 22 years experience in designing and building space flight hardware. Tendeg has offices near Denver, and Aspen.

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