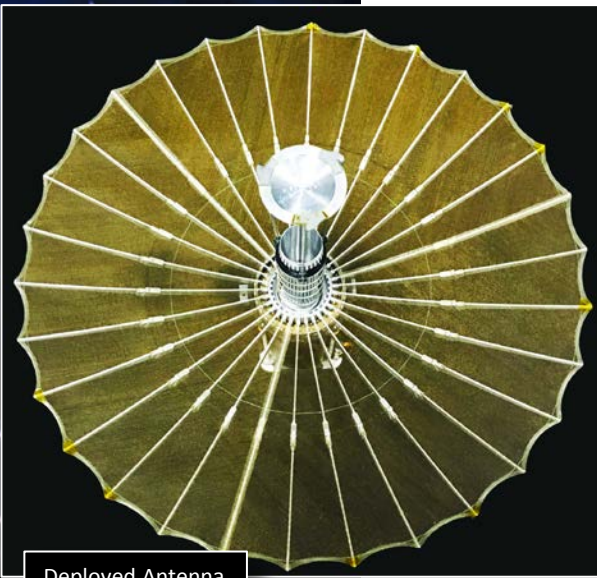


Deployable Ka/Ku-Band Antenna For Small Satellites (KaPDA)

- 1.6U Form Factor
- >42 dBi Antenna Gain
- 1.5kg



Deployed Antenna

Key Features

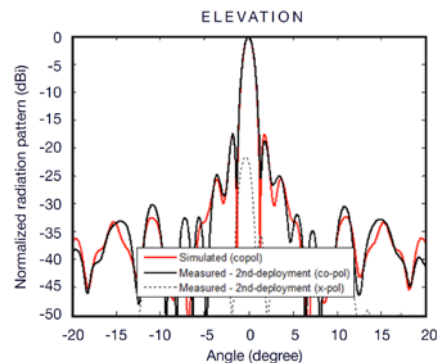
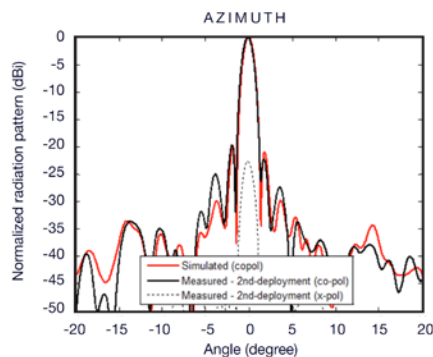
- Enables new groundbreaking CubeSat missions with >42 dBi antenna gain
- Provides over 100× increase of data communication rates over S-band parabolic antenna — over 10,000× increase in rate over X-band patch antenna of the same input power
- 0.5 Meter diameter reflector
- Stows in ~1.6U (10 x 10 x 16 cm³)
- Optimized for operation at 32–34 GHz and 35.75 GHz
- Polarization capabilities: RHCP, LHCP, V and H
- With modifications to the subreflector and feed, antenna can be modified to operate at S, L, C, X, Ku, and K bands
- Can be used for communication or radar instruments
- Antenna has been constructed and tested to 14.1 Grms
- KaPDA to fly in May 2018 on NASA RainCube mission
- Designed by JPL – Exclusively licensed by Tendeg
- Patent Pending



Stowed Antenna

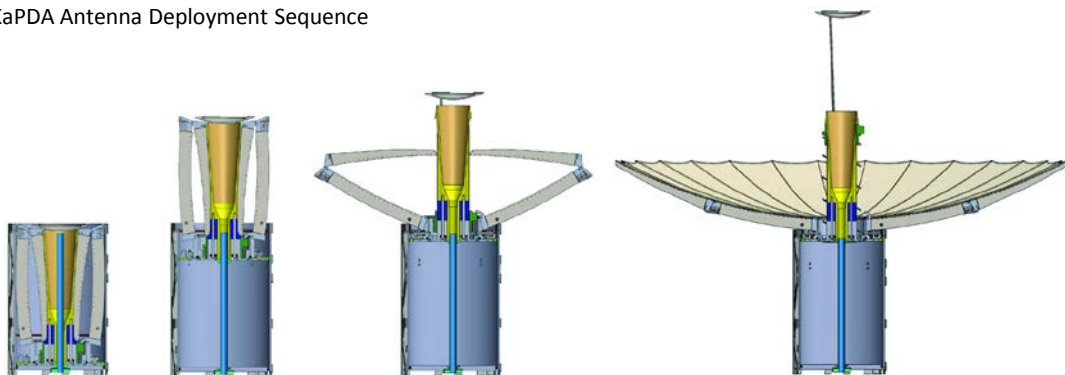
TENDEG

Performance Specifications



Metric	Units	As Built
Stowed Size	cm ³	9.7 x 9.7 x 161 (1.6U)
Deployed Diameter	cm	51
Gain	dB	42.7
Beamwidth	degrees	1.2
Sidelobe Level	dB	<= 17
XPD	dB	> 20
RMS Surface Accuracy	mm	0.22
Mass	kg	1.4
Thermal	°C	-20 to 85

KaPDA Antenna Deployment Sequence



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, Aspen, and Los Angeles.

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ANTENNAS & PRECISION DEPLOYABLES FOR SPACE