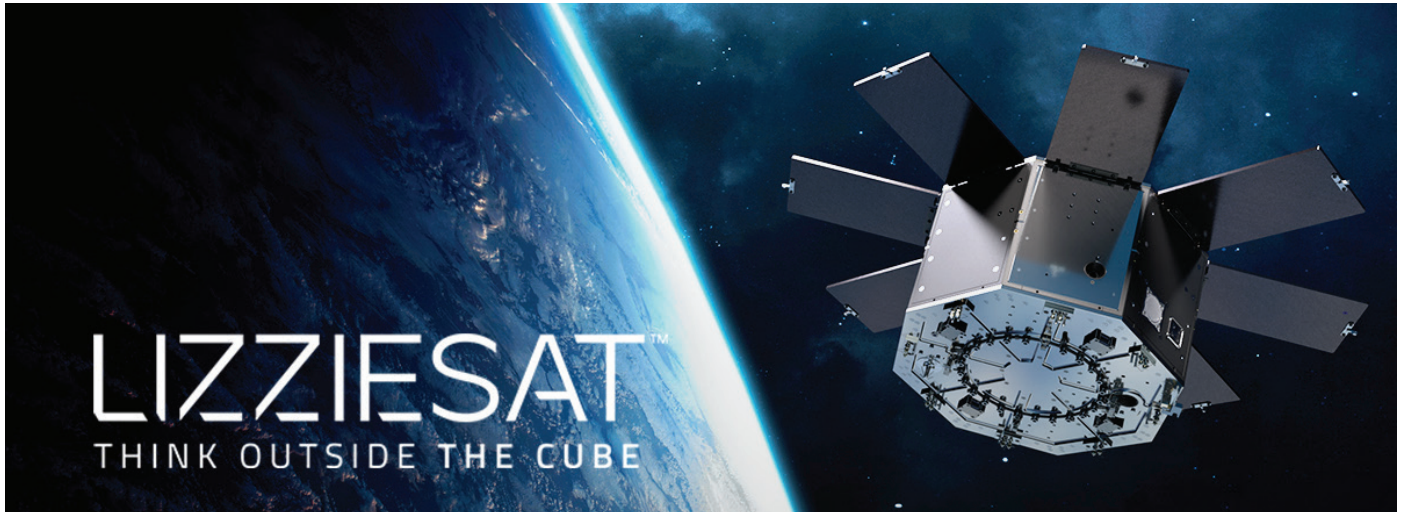


# LIZZIESAT™

MULTI-MISSION SATELLITE BUS



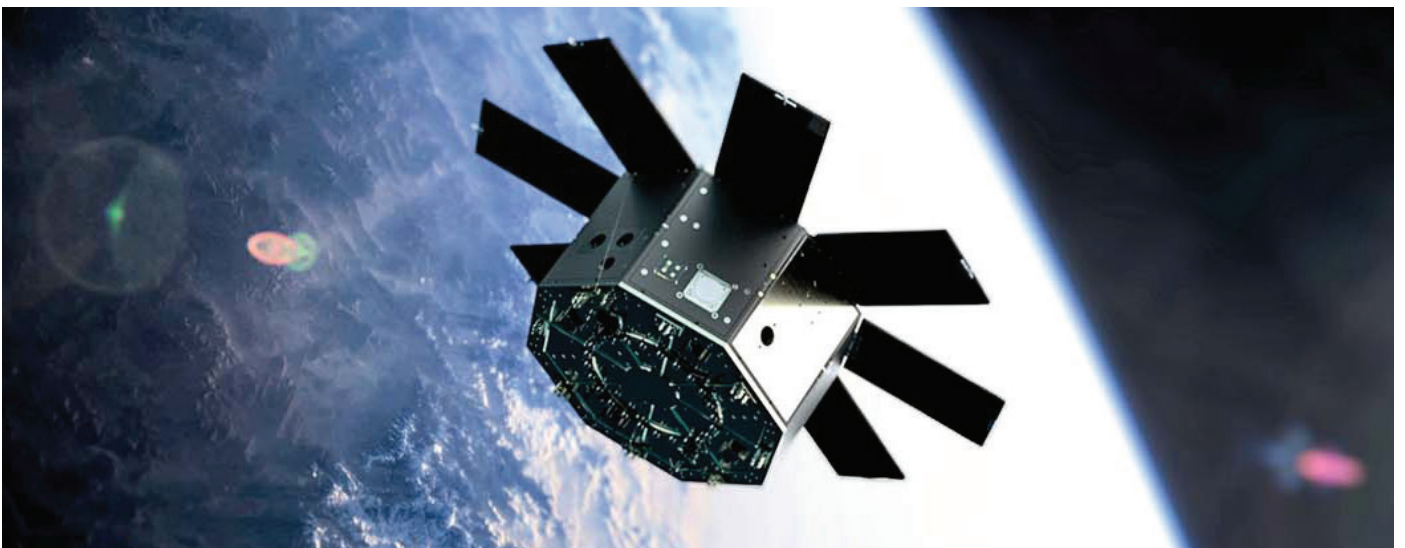
LizzieSat™ is more than just a satellite; it's a comprehensive and adaptable space solution. This state-of-the-art satellite seamlessly integrates custom payloads with a robust infrastructure of communication, power, navigation, and computing subsystems. Through this harmonious fusion, we proudly extend access to invaluable Low Earth Orbit data to our clients across the globe.

Our satellite excels in collecting remote sensing data that caters to a wide spectrum of industries and sectors, including commercial, government, defense, and academia. As our flagship satellite, LizzieSat™ not only provides a cost-effective gateway to space but also offers multi-customer payload options, ensuring flexibility and value.

What sets LizzieSat™ apart is its seamless integration with the Sidus Constellation. This connection provides comprehensive and full-service access, amplifying the capabilities for collecting and analyzing space-borne data. As a result, our clients receive richer and more precise data on Earth in significantly reduced time frames.

## IDEAL FOR

- » Antennas
- » Command and Data Handling (C&DH) Hardware
- » Magnetometers and Magnetorquers
- » Microgravity and Radiation Exposure Testing
- » Propulsion
- » Radio Frequency Hardware
- » Reaction Wheels
- » Remote Sensors
- » Solar Cells
- » Star Trackers
- » Sun Sensors



# >> LIZZIESAT™ SPECS

SIZE	
Class	Microsatellite
Mass	100 kg
Shape	Octagonal Prism
Volume	11,500 in <sup>3</sup> (188 U)

DIMENSIONS	
Side Width	12.0 in.
Height	17.2 in.
Flat-to-Flat	29.0 in.
Tip-to-Tip	31.4 in.

PAYLOAD CAPACITY	
Mass	35 kg (without propulsion); 20 kg (with propulsion)
Volume	27 U (without propulsion); 18 U (with propulsion)
Power	28 V (each)

ORBITAL PARAMETERS	
Altitude	300 - 650 km
Inclinations	30.0°, 45.0°, 51.6°, 63.4°, 92.0°, 98.6°
Orbital Period	90.4 - 97.6 minutes

POWER STORAGE	
Battery Type	Lithium Ion
Energy Storage	1100 Wh [Two (2) 550 Wh battery assemblies]
Operating Voltage	24.0 V - 33.6 V

ATTITUDE, DETERMINATION AND CONTROL (ADCS)	
ADCS Type	3-Axis Control
Mean Accuracy	0.01° (3σ)
Pointing Knowledge	0.01° (3σ)
Mean High Frequency Jitter	(>20 Hz): 1.0e-6°/s (3σ)
Mean Low Frequency Vibration	(<20 Hz): 5.8e-6°/s (3σ)

PROPULSION (OPTIONAL)	
Type	Bi-Propellant 1N Thruster
Propellant	Nitrous Oxide (N <sub>2</sub> O) and Propylene (C <sub>3</sub> H <sub>6</sub> )
Total Impulse	11.5 kNs
Total Delta-V (ΔV)	115 m/s

# LIZZIESAT™

SOLAR PANELS	
Power	400 W
# of Deployable Panels	8
# of Mount Panels	1
Solar Cell	Triple Junction GaInP/GaAs/Ge on Ge Substrate
Panel Structure	Aluminum Honeycomb with Composite Skin

PAYLOAD DATA DOWNLINK	
Transmitter Type	X-Band
Frequency Range	8.025 - 8.4 GHz
Data Rate	150 Mbps
RF Output Power	27 - 33 dBm
Protocol	DVB-S2 - ETSI EN 302 307-1
Modulation	QPSK, 8-PSK, 16-APSK, 32-APSK

TELEMETRY, TRACKING AND COMMAND (TT&C)	
Transmitter (Tx) Type	S-Band
Tx Frequency	2200 - 2300 MHz
Tx Data Rate	2 Mbps
Tx RF Output Power	up to 30 dBm
Tx Protocol	CCSDS 131.0-B
Tx Modulation	QPSK, 8-PSK, 16-APSK, 32-APSK
Receiver (Rx)	S-Band
Rx Frequency	2025 - 2120 MHz
Rx Data Rate	256 kbps
Rx Protocol	CCSDS 231.0-B-3
Rx Modulation	BPSK, OQPSK

