

SPACE FLIGHT LABORATORY

Smaller Satellites, Bigger Return www.utias-sfl.net

Satellite Platforms

	THUNDER	SPARTAN	JAEGER 1211/1611	NEMO	DEFIANT	NAUTILUS	DAUNTLESS
	3U	6U	12U/16U		20.501	www.area fee	, , , , , , , , , , , , , , , , , , ,
Mass	3 - 6 kg	6 - 12 kg	12 - 24 kg	15-20 kg	20-50 kg	up to 150 kg	up to 500 kg
Volume	10 x10 x34 cm	10 x20 x36 cm	12U: 20 x20 x36 cm 16U: 20 x20 x45 cm	20 x30 x44 cm	36 x36 x45 cm (scalable)	60 x60 x60 cm (scalable)	1 x1 x 1 m (scalable)
Payload Mass	Up to 3 kg	Up to 6 kg	Up to 15 kg	Up to 12 kg	Up to 30 kg	up to 90 kg	up to 300 kg
Payload Volume	Up to 2 dm³ 2U	Up to 4 dm³ 4U	Up to 10 dm³ 10U	Up to 12 dm³	Up to 26 dm ³	up to 0.16 m³	up to 0.80 m³
Payload Power	Up to 31 Wh/orbit 62 W peak	Up to 46 Wh/orbit 160 W peak ⁽⁴⁾	Up to 76 Wh/orbit 215 W peak ⁽⁴⁾	Up to 37 Wh/orbit 160 W peak	Up to 76 Wh/orbit 215 W peak	Up to 122 Wh/orbit 525 W peak	Up to 260 Wh/orbit 800 W peak
ACS	2° (1)	2° (1)	2° (1)	2° (1)	2° (1)	2° (1)	2° (1)
inertial	10 arcsec (2)	10 arcsec (2)	10 arcsec (2)	10 arcsec (2)	10 arcsec (2)	10 arcsec (2)	10 arcsec (2)
stability	1,000 03,000 03,000	34 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 arcsec (3)	1 arcsec (3)	1 arcsec (3)	1 arcsec (3)	1 arcsec (3)
ACS	3-axis inertial,	3-axis inertial,	3-axis inertial,	3-axis inertial,	3-axis inertial,	3-axis inertial,	3-axis inertial,
Modes	nadir, target	nadir, target	nadir, target	nadir, target	nadir, target	nadir, target	nadir, target
	tracking	tracking	tracking	tracking	tracking	tracking	tracking
Downlink	Up to	Up to	Up to	Up to	Up to	Up to	Up to
	2 Mbps	50 Mbps	50 Mbps	50 Mbps	120 Mbps	240 Mbps	400 Mbps
Propulsion	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Navigation	GPS, 5-10m	GPS, 5-10m	GPS, 5-10m	GPS, 5-10m	GPS, 5-10m	GPS, 5-10m	GPS, 5-10m
Launch	COTS	COTS	COTS	XPOD Duo	Separation	Separation	Separation
Interface	Deployers	Deployers	Deployers	XPOD Delta	System	System	System
Quality	Newspace or	Newspace or	Newspace or	Microspace	Microspace	Microspace	Microspace
Approach	Microspace	Microspace	Microspace	** Land Co. Farmer Co.		Contraction of the Contract of	
Mission	CanX-2, NTS,	Kepler, AISSat	Kepler	GHGSat-D,C1,C2,	HE360,	NEMO-HD	LEO 2
Heritage	CanX-7	Constellation, BRITE	NorSat-3	NorSat-1, -2, -3,	GrayJay,		
		Constellation, EV9, CanX-4, CanX-5		HE360P, DMSat-1	NorSat-TD,		

With magnetometer, sun sensor, reaction wheels in 30 min.

2. With star tracker and three reaction wheels in 30 seconds.

3. With gyro, star-tracker, and reaction wheels in 10 seconds.

4. Articulated solar arrays available



THUNDER 3U - 6 kg 10 x 10 x 34 cm Payload: 3 kg, 62 W

> **NEMO** – 20 kg 20 x 30 x 44 cm

Payload: 12 kg, 160 W



DEFIANT - up to 50 kg

36 x 36 x 45 cm, scalable

Payload: up to 30 kg, 215 W

DAUNTLESS - up to 500 kg 1 x 1 x 1 m, scalable Payload: up to 300 kg, 800 W

NAUTILUS – up to 150 kg 60 x 60 x 60 cm, scalable Payload: up to 90 kg, 525 W

SPARTAN 6U XL- 12kg 10 x 20 x 36 cm

Payload: 6 kg, 160 W