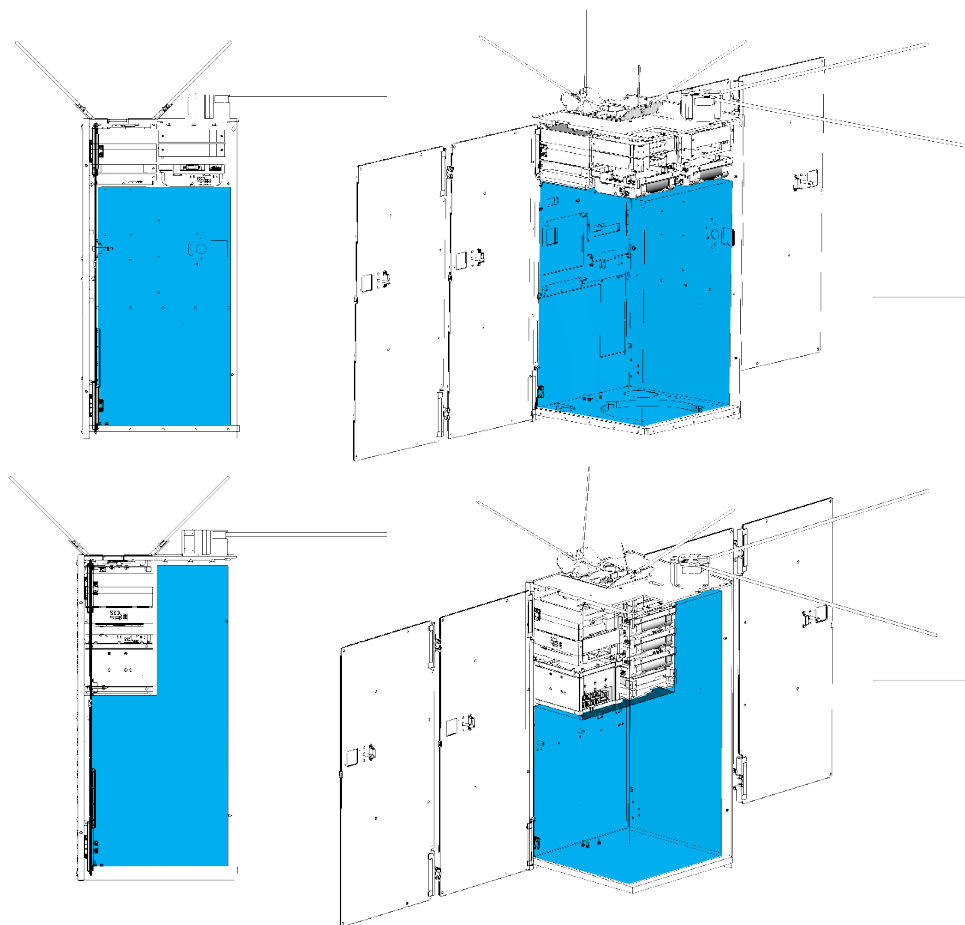


16U



Available **PAYLOAD BAY**

NORMAL PAYLOAD
14.9 L

L-SHAPED PAYLOAD
14.3 L

Payload Dimensions $216.2 \times 216.2 \times 337$ mm

Payload Mass* 25 kg
Based on our preferred pod

Spacecraft Mass* 7 kg
Payload excluded

Spacecraft Dimensions $226.3 \times 226.3 \times 454$ mm

* Up to, depending on configuration

PARAMETERS		VALUES	NOTES
Payload Power (Sun Tracking)		peak power: 140-505 W	EPS 1200, 2000
Platform Power	Average power consumption:	7.9 W	
	Peak power consumption:	25 W	
Battery Capacity		58-620 Wh	Depending on battery pack
Payload Voltage Channels	EPS 1200	3V3, 5 V, Vbat (9.9-12.3 V)	
	EPS 2000	Vbat (23.1-28.7 V or 26.4-32.8 V)	
Solar array (SAR)	Voltage range	6-25 V or 30-70 V	
	Channel power	12 W	
	Channel number	Up to 20	
Absolute Knowledge Error (AKE)**		Baseline: 0.4 deg High Performance: 0.004 deg	Baseline: Coarse Attitude Determination and Control. High Performance: Includes star tracker over Baseline configuration, offering Fine Attitude Determination and Control. 1-sigma, angular magnitude
Absolute Performance Error (APE)**		Baseline: 0.6 deg High Performance: 0.017 deg	
Jitter		30 urad	RMS, over complete spectrum.
Slew Rates		up to 2 deg/s/axis	Dependent on payload inertia and pointing constraints.
Frequency		5 Hz	
Modes		Detumbling, Safe and Normal mode.	
Pointing Constraints (3-axis)		Sun, Moon, Ground Target, (Off-) Nadir, Velocity, Inertial Reference (e.g. Star Coordinates), Satellite Tracking.	
GNSS	Position Accuracy	2 m	CEP
	Velocity Accuracy	0.1 m/s	CEP
	Time delay	5 ns	
	Beacon transmitter (ISL) RF parameters	137.1-137.925 MHz (VHF)	
Mechanical		Card Guide, Box-in-a-Box	
Payload Data Interfaces (fixed)		1 × SPI (LVCMOS3V3) 1 × SPI (LVDS I/O) 2 × (LVCMOS3V3 I/O) 2 × SpaceWire	1 × CAN 2.0B 1 × USB 2.0 1 × USB 3.0 1 × Gigabit Ethernet
Payload Data Interfaces (Up to 10, customer selectable)		Dual RS-232 Dual RS-422 RS-485	M-LVDS Dual I2C LVDS
Data Rates and Frequencies (professional band)		UHF: Frequency: 399-403 MHz uplink/ downlink: up to 150 kbps maximum transmit power: 30 dBm	S-Band: Frequency: 2200-2290 MHz Downlink Data Rate: up to 15 Mbps Uplink* Data Rate: up to 15 Mbps Maximum transmit power: 30 dBm
Modulation		OOK/FSK/GFSK	
On-Board Computer	CPU core	ARM Cortex-M7	Payload Controller
	Clock frequency	Up to 300 MHz	CPU core
			Clock frequency
Data storage	OBC	16 GByte eMMC, 16 MByte MRAM	Operating System
	IPC	256 GByte SD card, 8GByte eMMC	Linux
Subsystem interconnection		Rigid backplane with nano-D and micro-D connectors	Radiation resistant
Redundancy		Subsystem level cold redundancy	
Designed Lifetime		Up to 5 years	
Technological Readiness Level		TRL 9	
Operating temperature range		-40-+80°C	

** Expressed at 1-sigma confidence level, magnitude (RSS of angular components).