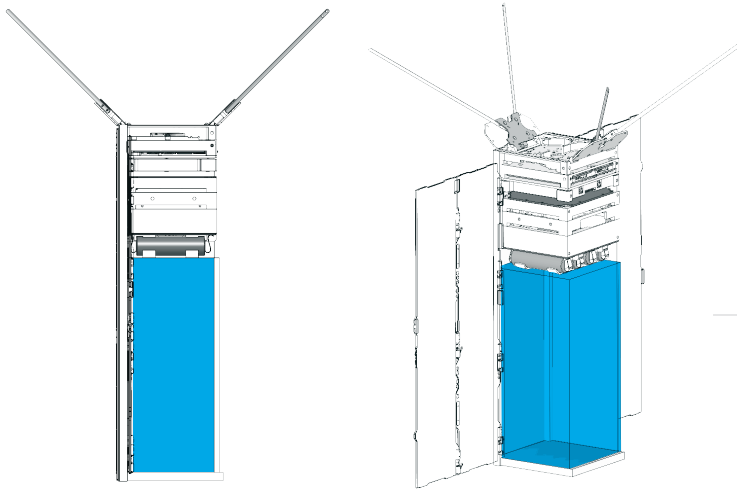


3U

Available PAYLOAD BAY



PAYLOAD VOLUME

1.5 L

Payload Dimensions	94× 94 × 205 mm
Payload Mass*	2.65 kg
Based on our preferred pod	
Spacecraft Mass*	3.3 kg
Payload excluded	
Spacecraft Dimensions	100 × 100 × 366 mm

* Up to, depending on configuration

PARAMETERS		VALUES	NOTES
Payload Power (Sun Tracking)		peak power: 45-145 W	EPS1000, EPS1200
Platform Power	Average power consumption:	4.5 W	
	Peak power consumption:	20 W	
Battery Capacity		58-146 Wh	Depending on battery pack
Payload Voltage Channels		3V3, 5V, Vbat (9.9-12.3V)	
Solar array (SAR)	Voltage range	6-25V	
	Channel power	12 W	
	Channel number	Up to 5	
Absolute Knowledge Error (AKE)**		0.4 deg	1-sigma (magnitude)
Absolute Performance Error (APE)**		0.6 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.	
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	Limitations on simultaneous use of multiple interfaces may apply LVDS options: 2 × TX/RX or 4 × TX or 4 × RX
Modulation		OOK/FSK/GFSK	
On-Board Computer	CPU core	ARM Cortex-M7	
	Clock frequency	Up to 300 MHz	
Payload Controller	Operating System	Linux	
	CPU core	4x ARM Cortex-A35	
		Clock frequency	Up to 1.2 GHz
OBC		16 GByte eMMC, 16 MByte MRAM	Radiation resistant
IPC		256 GByte SD card, 8 GByte eMMC	
Subsystem interconnection		Rigid backplane with nano-D and micro-D connectors	Micro-D: MIL-DTL-83513, Nano-D: MIL-DTL-32139
Redundancy		Subsystem level cold /hot (COM) redundancy	
Designed Lifetime		Up to 5 years	
Technological Readiness Level		TRL 9 - all subsystems	
Operating temperature range		-40~+80°C	
Launch Vehicles		SpaceX Falcon 9, Ariane Space Vega-C, Antares, Ariane 5, Atlas V, Delta IV, Electron, H-IIA, Soyuz 2.1	

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