TAKE ME 2 SPACE

Arya-3 (3U CubeSat Bus)

Technical Specifications

1. Project Overview

TM2Space will provide a satellite bus platform including all necessary subsystems in the bus. The subsystems depend on the customer requirements of the bus and can be varied accordingly.

1.1 Systems of 3U Satellite Bus

Subsystem	Quantity	Datasheet
AeroMag Control	1	https://drive.google.com/file/d/1Rh9TsQo_UHn3Y_sZMEnN0YogzLg2WYOm/view?usp=drive_link
Solar Panels	body mounted only	https://drive.google.com/file/d/1su1NffY79Y33_D3vB0yLNcsivBi7r6Lw/view?usp=drive_link
EPS	1	https://drive.google.com/file/d/1zCM6gKKXOwGaiZE67J3RjWI1SOWTupNv/view?usp=drive_link
Battery Pack (50Wh)	2	https://drive.google.com/file/d/15H1onnKZB98vKwd1Rz8Mi7vHzW7chY4C/view?usp=drive_link
CMCube (OBC)	1	https://drive.google.com/file/d/106FxmrFTz8CbKcdiPlhrEHqjJz22DSsd/view?usp=drive_link
SunSense (Coarse)	6	https://drive.google.com/file/d/1sdqSaDwkxuQylodNWsEMFu1Nxbg7n5S7/view?usp=drive_link
Reaction wheel (2.5mNms)	4	https://drive.google.com/file/d/1BUs-JCguPvyV9rxb6IvY00tetRH5Cylx/view?usp=sharing

GPS	1 (Board + Antenna)	https://drive.google.com/file/d/1LojaELN4eITXp4JDpIHQJtL6G7wfGFlW/view?usp=drive_link
xHF	1 (transceiver + antenna + deployment)	https://drive.google.com/file/d/10pHUgJZQ0ffOTEJop7IOWpALXKSFdb4V/view?usp=drive_link
HyperMagCoil	2	https://drive.google.com/file/d/1w8q79hn0jJz7kQHQm46WVevvL33OC1Ru/view?usp=drive_link
AirCoil	1	https://drive.google.com/file/d/1Zdh4ZvELm6ttYt2dHYi5vrtUkSbKfXYn/view?usp=drive_link

1.2 Technical Specifications

The following table outlines the key technical specifications of the satellite bus proposed.

Satellite Bus	3U
Mass	1.7 kg
Dimensions	100x100x340.5 mm
Power Generation	8.4W (Peak)
Battery	100 Wh with Li-ion pack (configurable)
Bus Voltage	3.3V, 5V, 12V, Battery raw
Pointing Knowledge	<5° (1σ)
Pointing Accuracy	<10° (1σ)
GPS Accuracy (optional subsystem)	PPS accuracy 20 ns Position accuracy 12 m (3σ) Velocity accuracy 0.9 m/s (3σ)
Slew Rate (2.5mNms reaction wheel assembly)	5.15 deg/s on each axis 5.5 deg/s simultaneous on all three axes
Encryption	AES-256-GCM/CBC (On-board)
Design Life	1 year (no propulsion)
Payload	
Mass	Up to 1 kg
Envelope	Up to 1U (configurable)
Power for payload (peak)	20 W
Payload Interface	
Data	I2C/CAN/SPI/UART

TMTC	UHF
Power	3.3V, 5V, 12V, Battery raw
Payload Data Transmission	10kbps (UHF)
Data Storage	up to 32 GB

2. Budget Estimate

Category	Item	Price (excl. Taxes)
Satellite Bus (excl. AIT)	3U CubeSat Bus (Body mounted panels only)	₹ 61,24,915
Payload Integration with bus and testing	Require information on the payload to determine integration effort	TBD

**The above prices are exclusive of AIT, deployer, launch, LEOP & GSaaS. TM2S works with partners to provide the above services and can submit a bundled pricing on request.*

Questions? Queries? Contact us at info@tm2.space