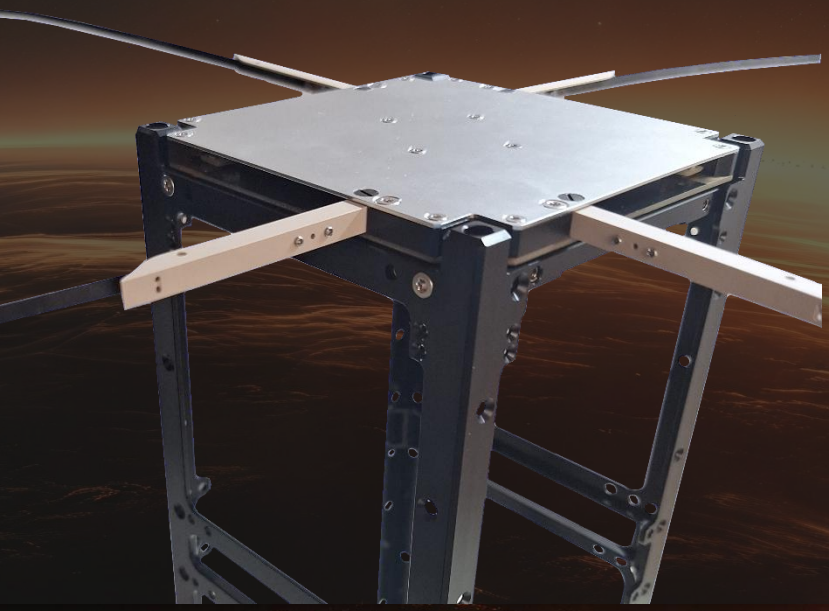
2NDSpace

CHORUS Antennas

TRL 9

CUBESAT DEPLOYABLE ANTENNAS

2NDSpace's products derive from a decade of experience of the 2NDSpace team in the design of space systems and successful nanosatellites missions. All 2NDSpaceproducts are conceived to offer excellence combined with customization-as-a-standard approach and reduced lead time.
CHORUS is a **modular** antenna system that can be configured according to mission and platform requirements, offering high reliability and high performance from **1U to 12U** CubeSat for UHF and VHF frequencies.



- Modular configuration
- Circular or linear polarization
- Embedded deployment control system
- Triple redundant deployment system
- Integrated deployment switches
- Customizable frequency from 150MHz to 928MHz
- Ultra-low signal return loss

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PRODUCT **PORTFOLIO**

	CHORUS-01 LP	CHORUS-01 CP	CHORUS-06 LP	CHORUS-06 CP
Type	Dual Dipole	Turn-style	Dual Dipole	Turn-style
Deployment System	Triple Redundant	Triple Redundant	Triple Redundant	Triple Redundant
Polarization	2x Linear	Circular	2x Linear	Circular
Frequency range	140 → 928 MHz	140 → 928 MHz	140 → 928 MHz	140 → 928 MHz
Beamwidth	20MHz	20MHz	20MHz	20MHz
VSWR	< 1.3	< 1.3	< 1.3	< 1.3
Main Gain	0 dBi	0 dBi	0 dBi	0 dBi
Control System Voltage	3.3/5 V	3.3/5 V	3.3/5 V	3.3/5 V
Deployment Control	Embedded	Embedded	Embedded	Embedded
Deployment Control Circuit	2x Redunded	2x Redunded	2x Redunded	2x Redunded
Communication	I2C	I2C	I2C	I2C

QUALIFICATION AND **ACCEPTANCE TEST**

	Functional/AIT	Electrical control	Vibration test	Mechanical Shock	TVAC Test
Qualification Test	✓	✓	NASA GEVS: GSFC-STD-7000A ESA ECSS-E-ST-10-03C	NASA GEVS: GSFC-STD-7000A ESA ECSS-E-ST-10-03C	NASA GEVS: GSFC-STD-7000A ESA ECSS-E-ST-10-03C
Acceptance Test	✓	✓			

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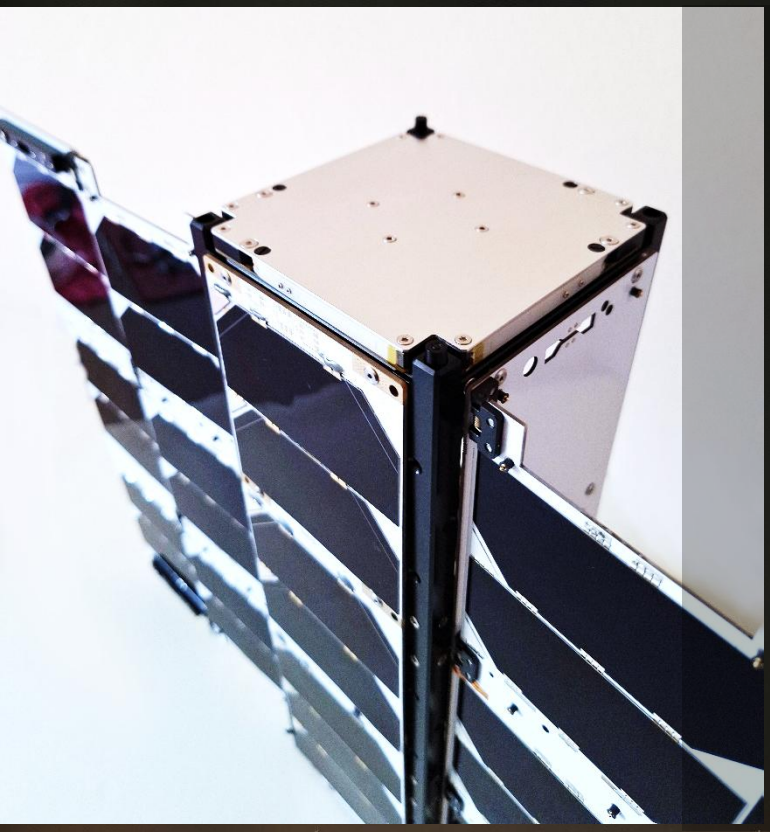
FLIGHT HERITAGE



- Compact and lightweight deployable antennas ensuring minimal stowage volume while providing high-performance communication capabilities.
- Customizable operating frequency within the UHF and VHF bands to meet mission-specific communication requirements.
- Integrated Deployment Control System: A built-in control unit for managing the deployment sequence, ensuring reliable and repeatable antenna unfolding in space. The system includes deployment status feedback, and failsafe mechanisms to enhance operational reliability.
- Double Redundant deployment control system based on resettable HDRM
- Highest efficiency with VSWR below 1.35 for all antenna configurations

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