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 2NDSpace products 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 16U** CubeSat for UHF and VHF frequencies.



- Modular configuration
- Circular or linear polarization
- Embedded deployment control system
- Double redundant deployment system
- Integrated deployment switches
- Customizable frequency from 140MHz to 928MHz
- Ultra-low signal return loss

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PRODUCT **PORTFOLIO**

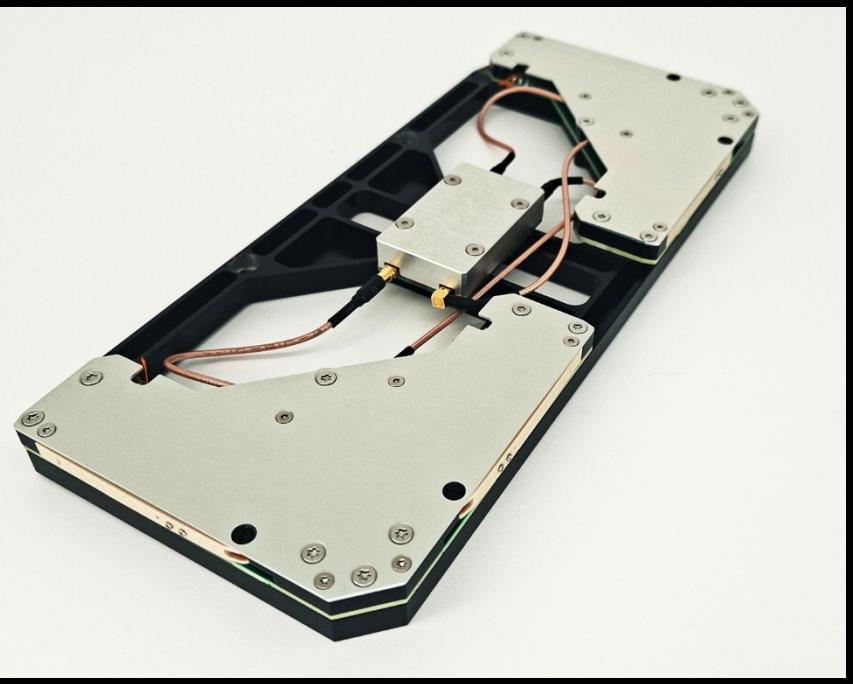
	CHORUS-01-LP	CHORUS-01-CP	CHORUS-01-M	CHORUS-01-MD	CHORUS-06-M	CHORUS-06-CP	CHORUS-06-D
Type	2x Dipoles	Turnstile	4x Monopoles	2x Monopoles 1x Dipole	2x Monopoles	Turnstile	1x Dipole
Deployment System	Double Redundant	Double Redundant	Double Redundant	Double Redundant	Double Redundant	Double Redundant	Double Redundant
Polarization	Linear	Circular	Linear	Linear	Linear	Circular	Linear
Frequency range	140 – 928 MHz	140 – 928 MHz	140 – 928 MHz	140 – 928 MHz	140 – 928 MHz	140 – 928 MHz	140 – 928 MHz
Bandwidth	10-20 MHz	10-20 MHz	10-20 MHz	10-20 MHz	10-20 MHz	10-20 MHz	10-20 MHz
VSWR	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
Typical Gain	>0 dBi	>0 dBi	>0 dBi	>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	3.3/5 V	3.3/5 V	3.3/5 V
Deployment Control	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded	Embedded
Deployment Control Circuit	Double Redundant	Double Redundant	Double Redundant	Double Redundant	Double Redundant	Double Redundant	Double Redundant
Communication	I2C	I2C	I2C	I2C	I2C	I2C	I2C
Mass	85 g	85 g	85 g	85 g	43 g	106 g	43 g

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 1.3 for all antenna configurations

TYPICAL APPLICATIONS

- Telemetry, Tracking & Command (TT&C)
- Amateur Radio (AMSAT / APRS)
- AIS Vessel & Aircraft Tracking
- IoT & Low-Rate Data Downlink
- Earth Observation Nanosatellites

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