

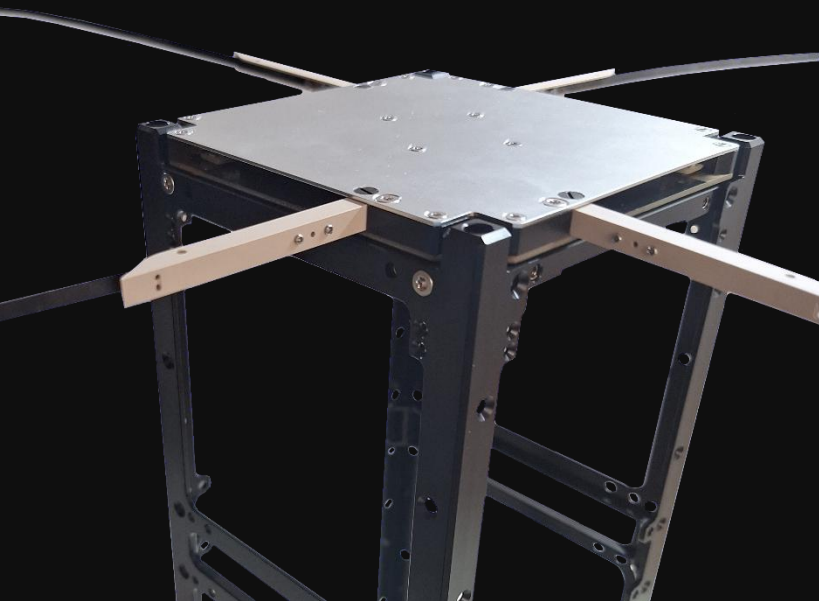
CHORUS Antennas

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 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

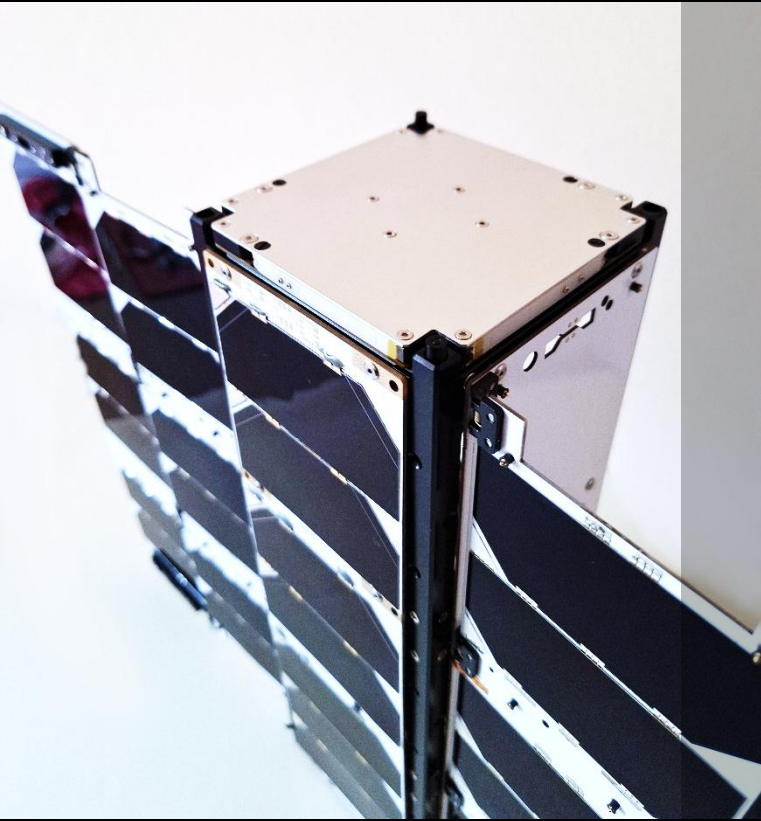
Ultra-low signal return loss

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 | ✓ | ✓ | | | |



- **Compact and lightweight** deployable antennas ensuring minimal storage 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

