

RF INTERCONNECT SOLUTIONS FOR SATELLITE SYSTEMS

Satellites are now a core part of everyday infrastructure. Businesses and industries around the world depend on these systems and the networks operating in orbit. Satellites rely on sophisticated RF architecture to handle communication, sensing and navigation functions. Whether it is moving large volumes of data or maintaining precise signal performance, RF capability directly impacts overall system reliability. As satellites continue to push toward higher frequencies, the importance of dependable RF interconnect solutions continues to grow. Amphenol RF supports satellite broadband applications with robust product designs that ensure signal integrity in the harsh conditions of space.



APPLICATIONS

1 GUIDANCE, NAVIGATION AND TELEMETRY

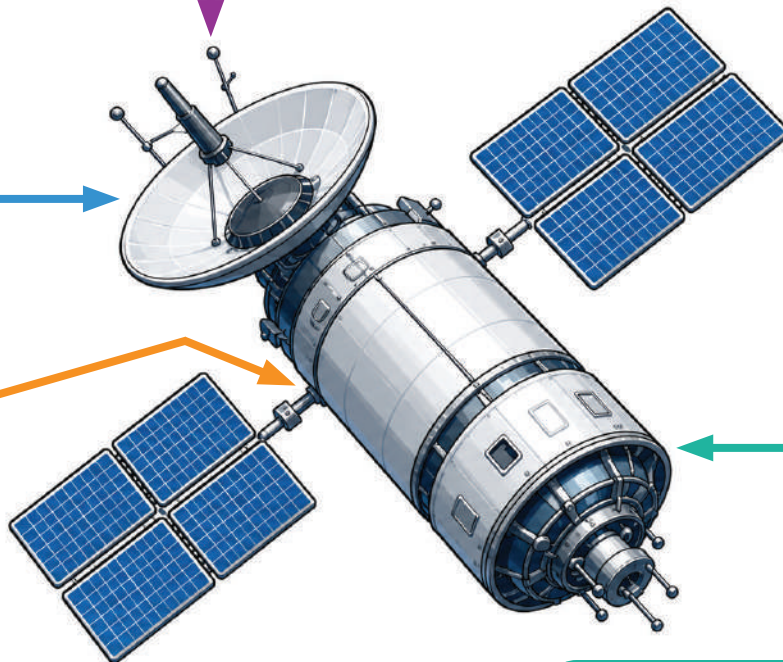
Enables precise positioning, tracking and communication to detect objects and maintain orbital position.

2 ANTENNA

Facilitates RF signal transmission and reception between the satellite, ground stations and other satellites.

3 AVIONICS

Command center of satellite. Manages operations and coordinates communication between subsystems.



4 PAYLOAD MODULE

Houses the core mission electronics and RF systems:

- Satellite RF Links
- Phased arrays and beamforming
- Payload of RF signal chains
- Transponder

DIFFERENT TYPES OF SATELLITES

- Communication Satellites
- Earth Observation Satellites
- Navigation Satellites (GNSS)
- Defense and Security Satellites
- Science and Deep Space Satellites

CORE COMPETENCIES

- Ruggedized products offering dust, vibration and corrosion resistance
- Extreme weather resistant RF interconnect
- Customized hybrid solutions supporting RF signal and power
- Lightweight and compact high-frequency products
- High density products that can accommodate the restricted space restraints
- Non-magnetic product options for sensitive mission requirements
- Cleanroom manufacturing and assembly capabilities for aerospace-grade quality

PRODUCTS



2.92 MM



SMA



SMP



SMPM



TNC

SEMI-RIGID
CABLE ASSEMBLIES

ALSO AVAILABLE



Adapters

Designed for applications requiring two RF interfaces (between series or in-series) to be connected together.



Fixed Length Cable Assemblies

Pre-configured cable assemblies featuring common connector and cable configurations available in standard lengths.



Amphenol Ruggedized Products (ARC)

The ARC series is designed to offer more ruggedized connectors, adapters and cable assembly options in various durable interfaces.



Non-magnetic RF Connectors

The non-magnetic RF connector series ensure optimal performance and safety in space applications where magnetic interference is a concern. By eliminating the risk of magnetic disruption, these connectors safeguard sensitive equipment and maintain reliable signal integrity for mission-critical operations.



Customized solutions tailored to meet the specific design requirements of your projects.

DESIGN FEATURES



IP-Rated Waterproof

Waterproof sealed solutions are engineered to protect your application from outside elements and are fully tested to IP67 or higher specifications in the mated and unmated condition.



Vibration-Resistant

One-piece bodies and other design considerations are taken into account to provide a more robust option for applications where there are concerns for the security of the locking interface due to extreme conditions.