

Engineering your needs



Sicilsat



Sicilsat Communications operates in the area of satellite communication systems. The company was founded in 2015 by Concetto Squadrito which has more than thirty years of experience in the telecommunications sector.

The main activities are design, manufacture, installation, testing and operational support of up-link and satellite systems. Sicilsat Communications designs and manufactures fixed and mobile satellite systems, adapting them to the requirements of its customers.

This allows to obtain high reliability, a good standard realization, while maintaining a very competitive final price.





Networking

High quality and competitiveness cohabit thanks to networking.
In this way we can scale up in order to employ the most suitable skills required.

Our main partnership are:



Montbonnot ST Martin
FRANCE



UNIVERSITÀ
degli STUDI
di CATANIA

UNICT
Catania (IT)



Gov-Sat
Luxemburg



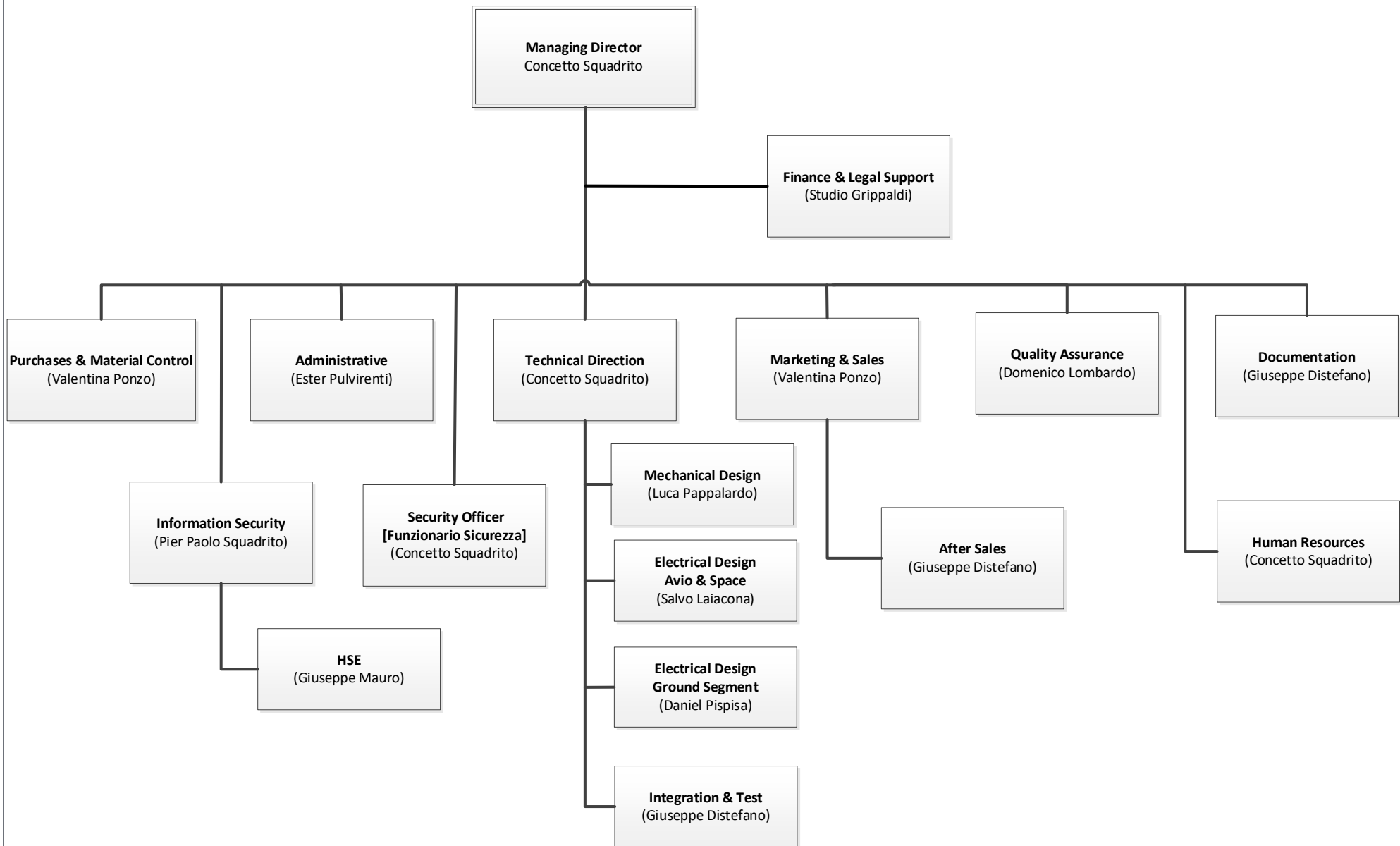
UNIVERSITÀ
DEGLI STUDI
DI PALERMO

UNIPA
Palermo (IT)



Antenna check Point S.r.l.
Rome (IT)

Organization Chart



Brand Registration



Registrato / Registered 10/05/2021

No 018376042

**UFFICIO DELL'UNIONE EUROPEA PER LA PROPRIETÀ
INTELLETTUALE
CERTIFICATO DI REGISTRAZIONE**

Si rilascia il presente certificato di registrazione per il marchio dell'Unione europea identificato in appresso. I dati ad esso relativi sono stati iscritti nel Registro dei Marchi dell'Unione europea.

**EUROPEAN UNION INTELLECTUAL PROPERTY
OFFICE
CERTIFICATE OF REGISTRATION**

This Certificate of Registration is hereby issued for the European Union trade mark identified below. The corresponding entries have been recorded in the Register of European Union trade marks.



*Il Direttore esecutivo / The Executive
Director*

Christian Archambeau



Certifications and Affiliations



CERTIFIED
INFORMATION SECURITY
MANAGEMENT SYSTEM



UNI CEI EN ISO/IEC **27001:2017**

CERTIFIED QUALITY
MANAGEMENT SYSTEM



UNI EN ISO **9001:2015**

Sicilsat is an ISO9001-2015 and ISO27001-2017 certified company



CONFINDUSTRIA



Siamo presenti su

acquistinretepa.it



Il portale degli acquisti della
Pubblica Amministrazione



Sicilsat is present on the main procurement portals

02. Customers

European Space Agency (ESA)
Telespazio S.p.A Fucino, Lario, Scanzano
Thales Alenia Space Rome
INFN Institute of nuclear Physics
Italian Space Agency Rome (ASI)
GOV-SAT Luxembourg
Skylogic Torino
Eutelsat Paris
SES Luxembourg
Northrop Grumman defence system Sigonella
C P II





Main Capacity



We can offer customized telecommunications systems that match the most varied requirements.

Our strengths are:

- Know-how that allows to perform in all steps of system development, from design to complete installation, testing and acceptance of the services after sale.
- The capability to design and integrate our internal, critical parts of the system.
- A high ratio value between quality and money allows us to be very competitive in any market.
- A group of engineers with a high technical profile and long experience in the sector.
- A complete set of instrumentation that allows us to face any challenge without problems.
- A variety of electromagnetic and mechanical simulation software that puts us at the forefront in Europe for design capacity.
- Company Security Certification (NOSI) and security clearance room.

Products and Services



Products:

- Satellite systems:
Antenna size from 1 mt. to 13 mt.
Single and Multi-Band from S to V Band
- Antenna Control Units.
- Redundancy equipment.
- Motorization systems two or three-axis.
Azimuth over elevation type and X-Y type.
- Deicing systems.

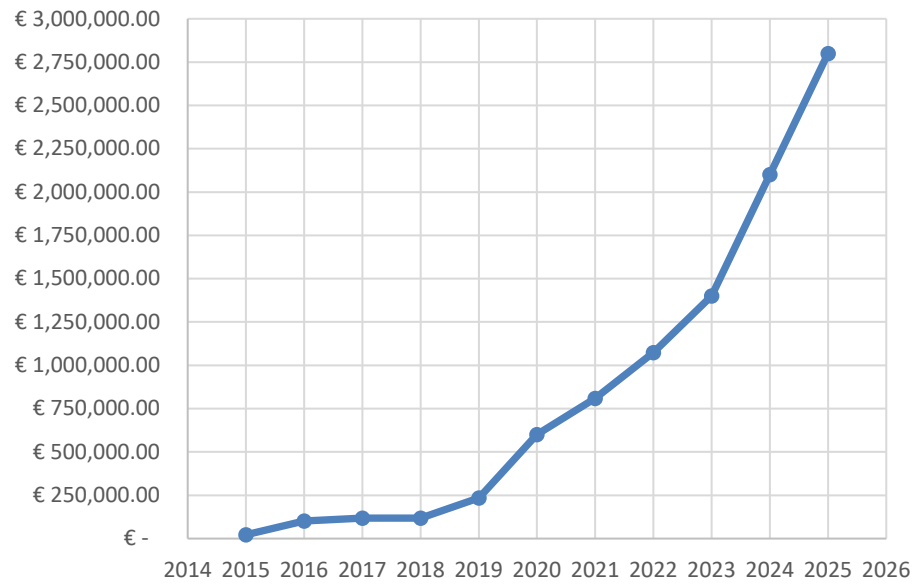
Services:

- Refurbishment activity on existing satellite stations
- Logistic support:
Feasibility study, Site survey, and Maintenance activity.
- Test Activities and Measurements:
 - Anechoic chamber from 1 GHz to 60 GHz
 - Testing instruments from 10 MHz to 60 GHz.
 - 10 Km Etna Boresight for Antenna Test.
 - Environmental chamber from -65° to +180°.

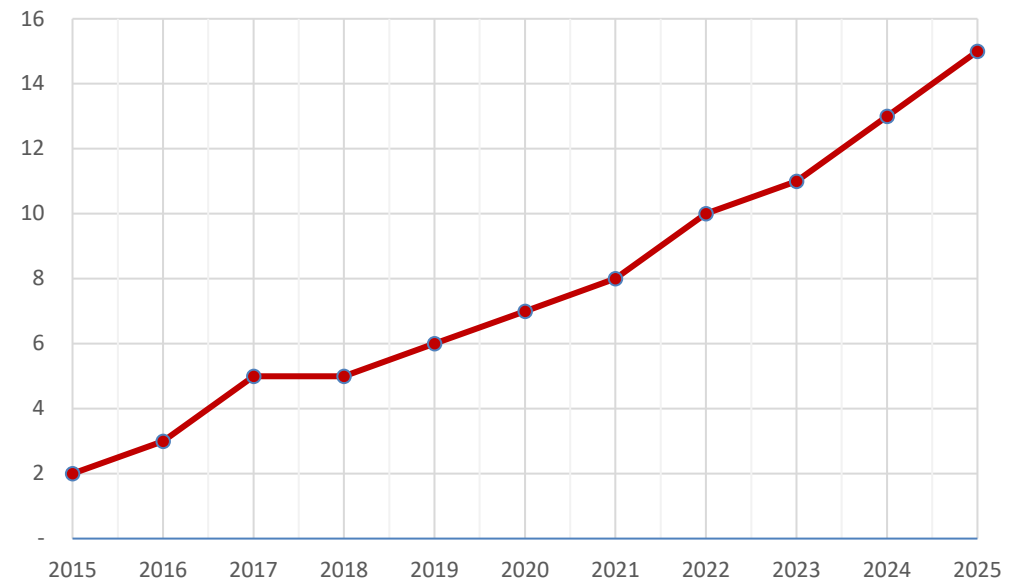
Business Trend



Sicilsat Turnover

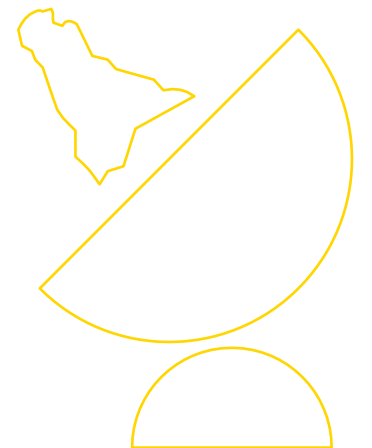


Staff Employed



04. Our Skills

Radio Frequency and Antenna Geometry Design
microstrip and Planar antenna Design
Mechanical Design
Safety and EMC Design Analysis
Measurements (Boresight and Anechoic Chamber)
Local External Suppliers
Ground Station Equipment Design



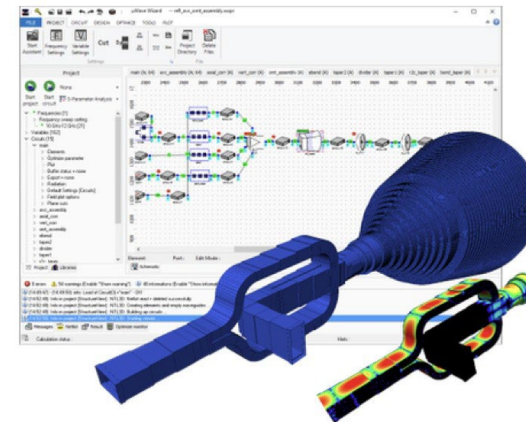


Radio Frequency Design

We have capabilities to design and manufacture of waveguide components, corrugated horn or feeds with customer specification.

Sicilsat use **μWaveWizard™** is a full wave 3D electro-magnetic design automation suite with a hybrid solver approach that combines the flexibility of the Finite-Element-Method (FEM) with the speed and accuracy of Mode-Matching (MM) for cost effective development of passive microwave systems and components, including antennas. The ability to parametrize component properties for control by different optimizers and the increased computational efficiency derived from solving individual circuit components before combining their respective solutions at circuit level are the benefits of this concept.

Simulation time and development cost can be significantly reduced by composing RF microwave structures fast and easy using a combination of predefined parametric building elements and user generated elements instead of cumbersome drafting of complete 3D models of complex structures.



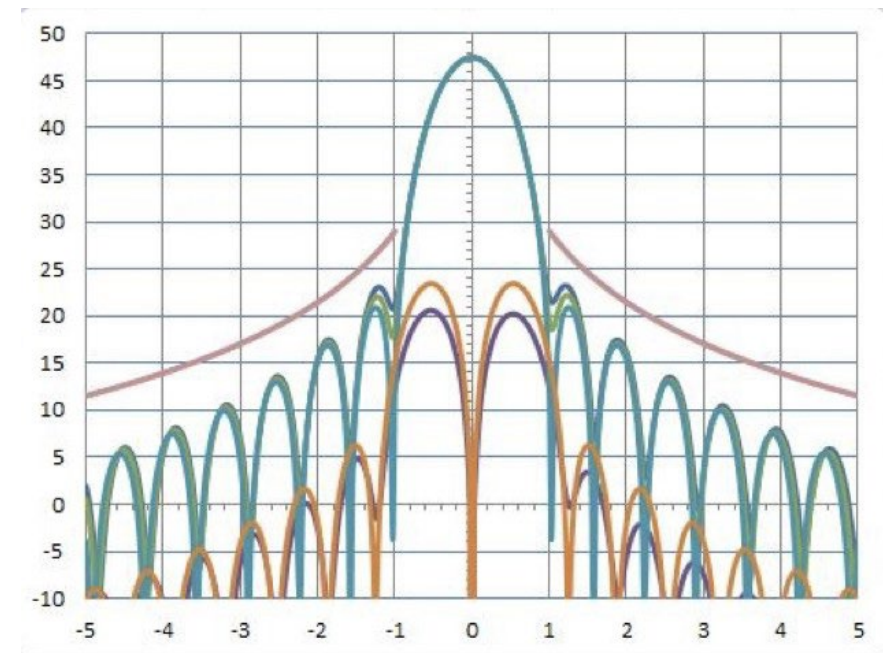
Antenna Geometry Design



Sicilsat use a dedicated software tool for reflector systems (GRASP from TICRA) enabling fast and accurate analysis and design of even the most advanced reflector antenna systems. the software provides the versatility needed by the antenna engineer to model the primary radiation from a reflector system, accounting for imperfections such as surface errors, support struts, cut-out regions, scattering, and more.

We are able of designing:

- Single Reflector
- Double Reflector
- Dichroic Surfaces
- Shaped Surfaces



TICRA

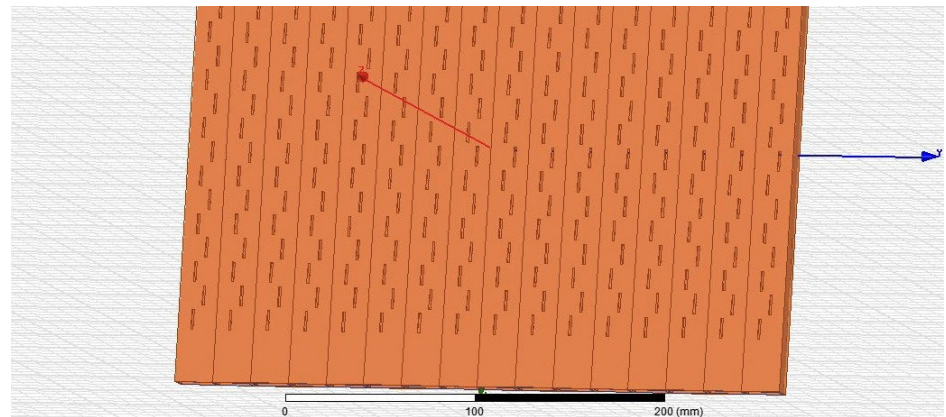
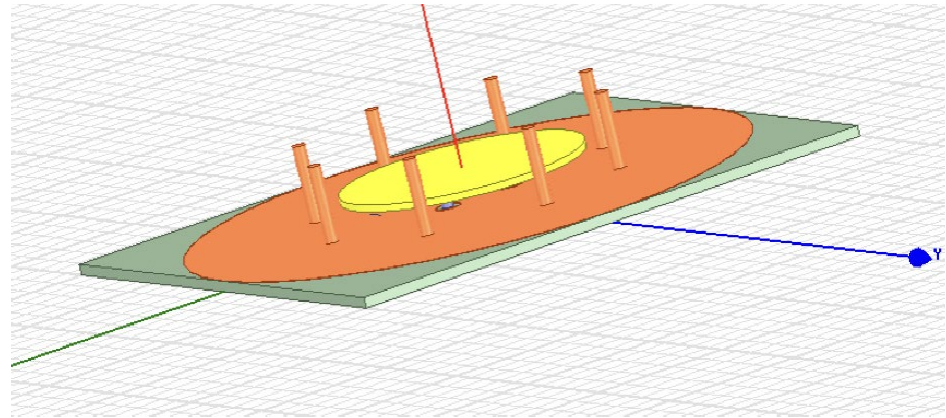




Microstrip or Planar Antenna Design

Sicilsat uses HFSS from Ansys for the design of planar antennas and array systems.

A candidate array design can examine input impedances of all elements under any beam scan condition. Phased array antennas can be optimized for performance at the element, subarray or complete array level based on element match (passive or driven) far-field and near-field pattern behavior over any scan condition of interest. Infinite array modeling involves one or more antenna elements placed within a unit cell. The cell contains periodic boundary conditions on the surrounding walls to mirror fields, creating an infinite number of elements.

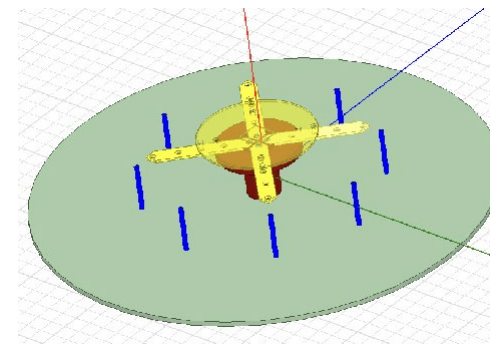
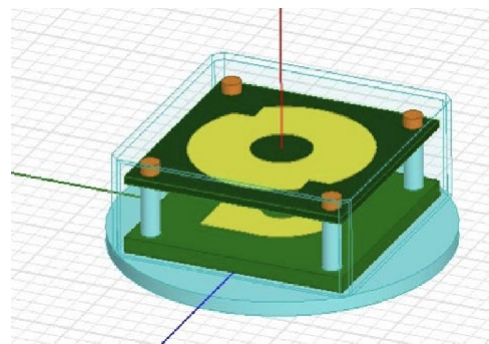




Microstrip or Planar Antenna Design

Element scan impedance and embedded element radiation patterns can be computed, including all mutual coupling effects. The method is especially useful for predicting array-blind scan angles that can occur under certain array beam steering conditions.

Finite array simulation technology leverages domain decomposition with the unit cell to obtain a fast solution for large finite-sized arrays. This technology makes it possible to perform complete array analysis to predict all mutual coupling, scan impedance, element patterns, array patterns and array edge effects.



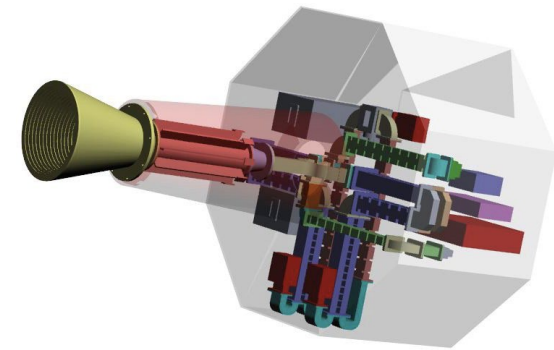
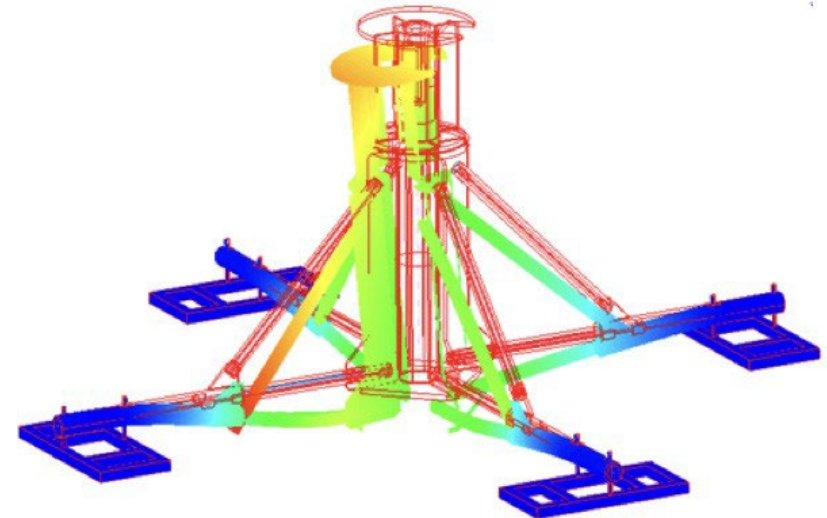
Mechanical Design



Thanks to a powerful use of CAD/CAE/ CAM system (Solidworks), Sicilsat is able to analyze complex mechanical structures.

In particular we can perform:

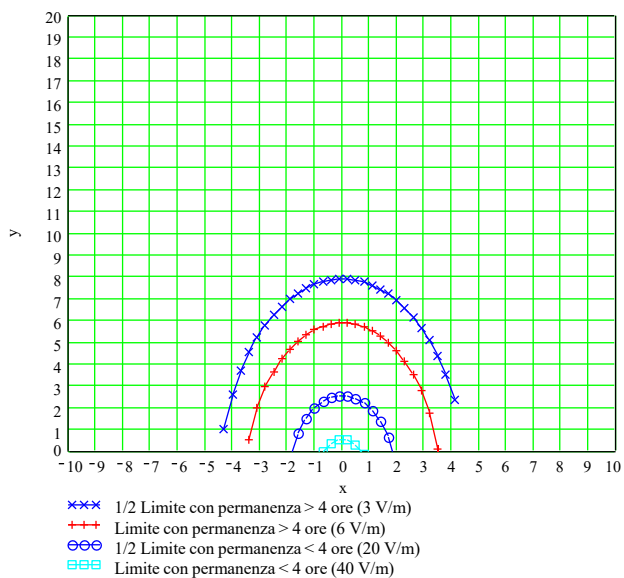
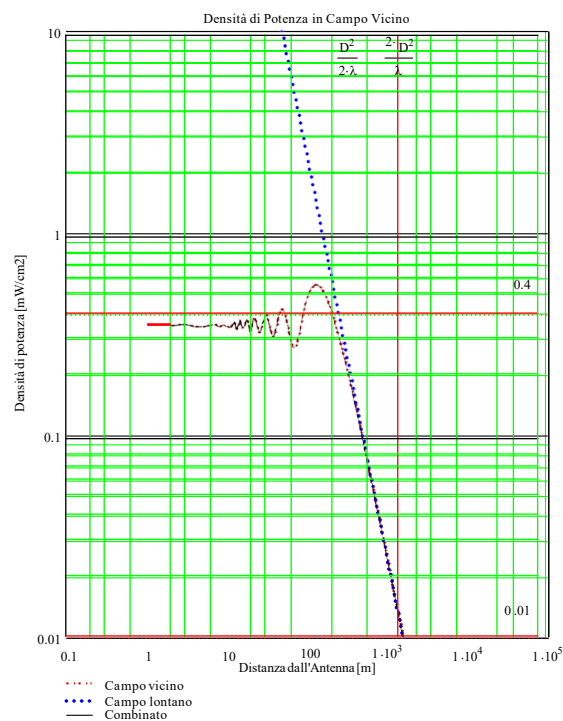
- Tolerance analysis
- Thermal analysis
- Resonance frequency analysis
- Stress Analysis of complex antenna structure and motorization
- Load wind and earthquake load analysis



Safety and EMC Design Analysis



EMC safety analysis for the job site and the customer. Safety analysis, hazard risk and safety procedure for any kind of job site and type of installation. Italian law 81/08 and 106/09 modification.

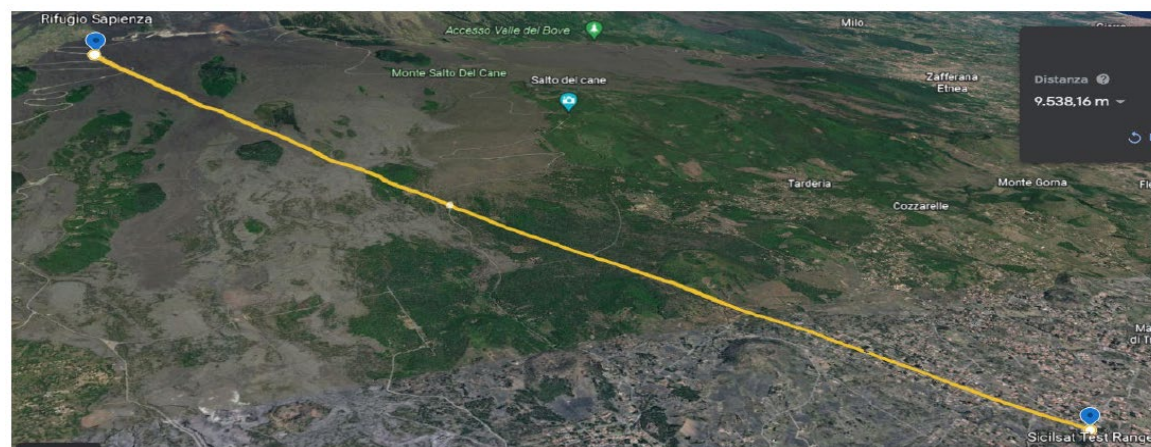
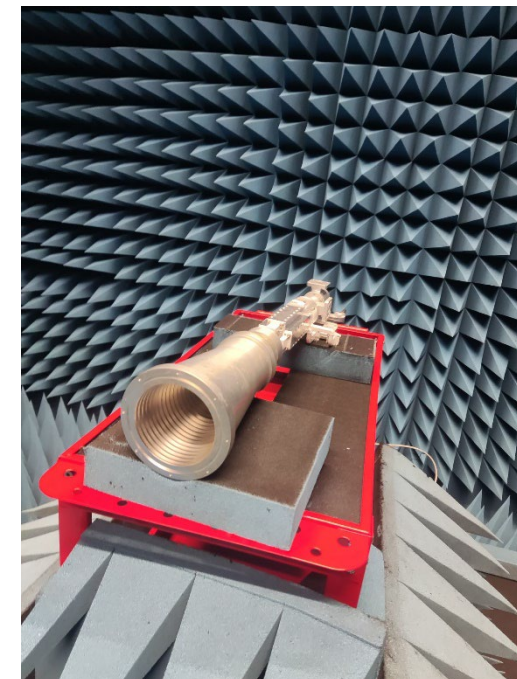




Measurements

We use a wide range of instrumentation to fully test coaxial and wave guide components from 10 MHz to 60 GHz.

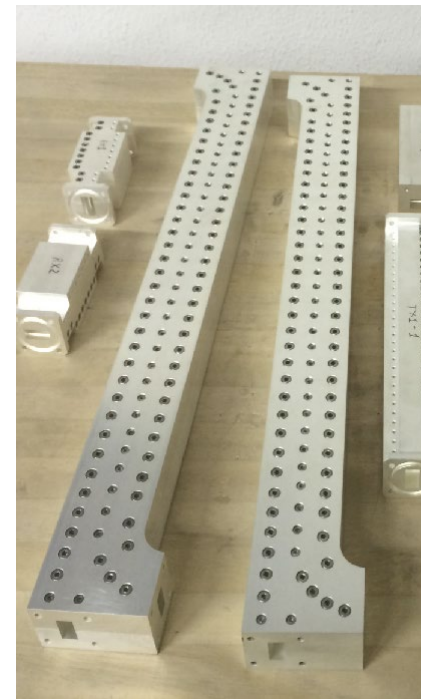
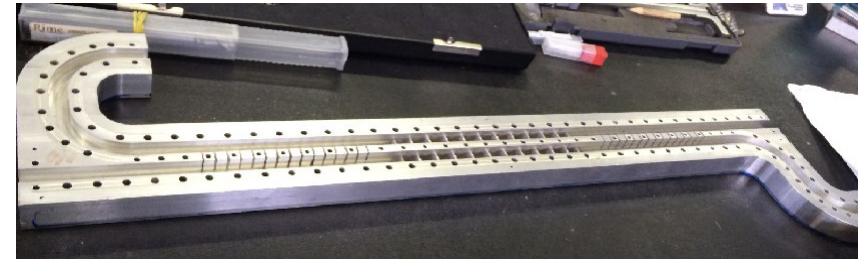
- Spectrum Analyzer
- Network Analyzer
- Vector Analyzer
- Noise Figure Analyzer
- Power Meter
- Signal Generator
- Frequency Counter
- Anechoic chamber
- 10 km Boresight for Antenna Test
- Environmental Chamber





External Suppliers

In our hinterland there are several precision mechanic workshops that support us in the realization of the different technologies necessary for the construction of our projects.

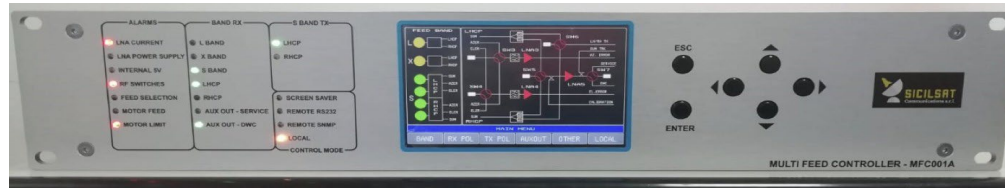


Station Equipment



Sicilsat Communications is capable of developing various control equipment, standard or with customers specifications.

- Antenna Control Unit
- Deicing Control System
- Customized Data Logger
- N:1 Redundant Logic
- Motor Drive Unit
- Reference and Power Injector
- Customized equipment under request



05. Projects

Space&Avio Area
Ground Segment Activities



Space&AvioArea



We design systems capable of operating on board both satellites and avionics systems.

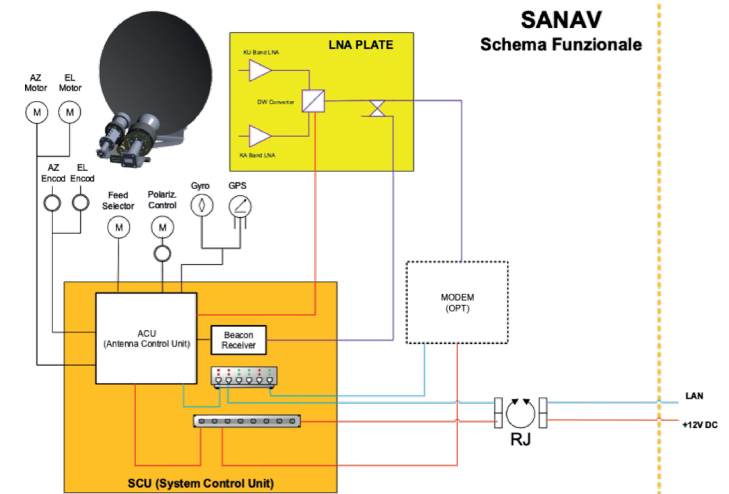
In the development of these applications, in addition to the typical requirements of space communications, the utmost attention is taken to satisfy all the characteristic requirements of these platforms, such as weight, dimensions, temperature range, vibrations, reliability, etc.

The satisfactory results obtained in the deliveries already made make us able to ensure the complete functionality of our systems in all these specific applications.

ASI Italian Space Agency

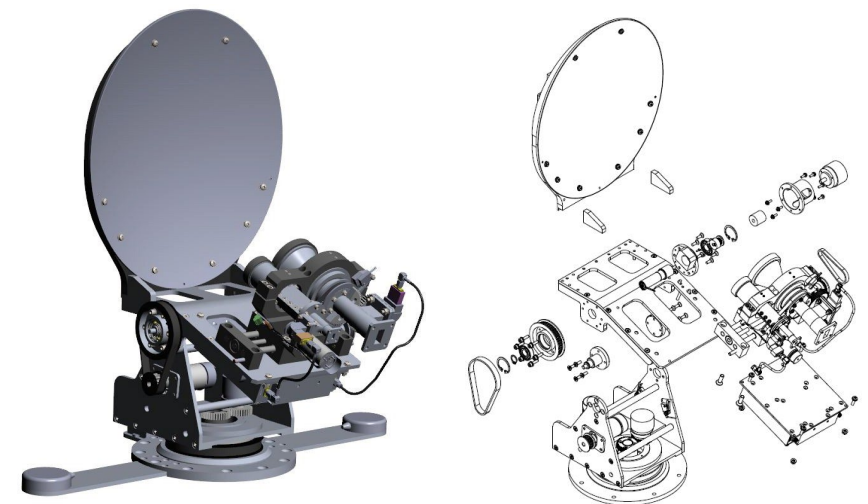


Ku and ka small terminal



Sicilsat Communications Via della Resistenza, 44 95030 Pedara (CT) - www.sicilsat-comms.com

REV 1.0



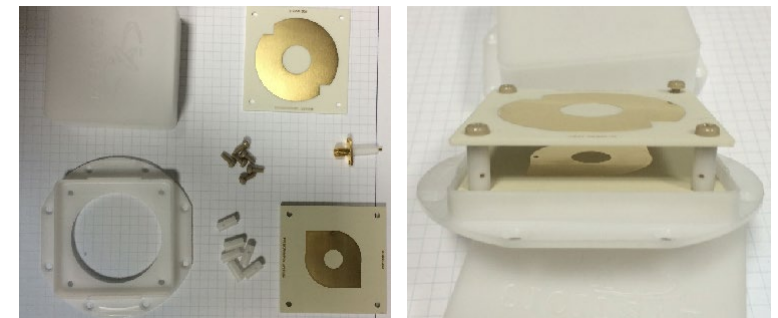
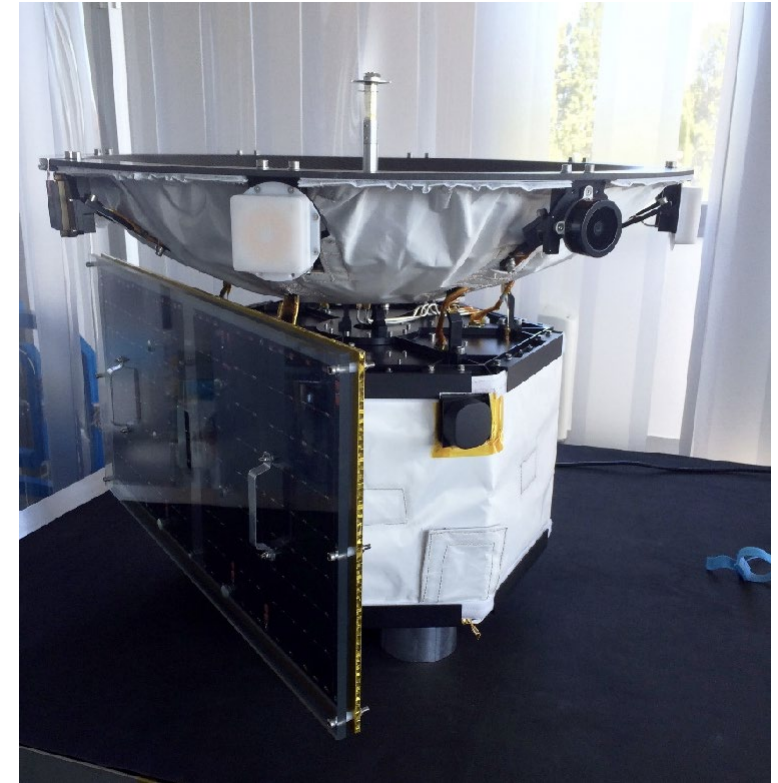
ASI (Italian Space Agency) Project System design and development of a complete high-performance small terminal operating in Ku and Ka band, for ultralight aircraft and UAVs.

Project completed in partnership

ASI Italian Space Agency



Nanosatellite NEMOSAT

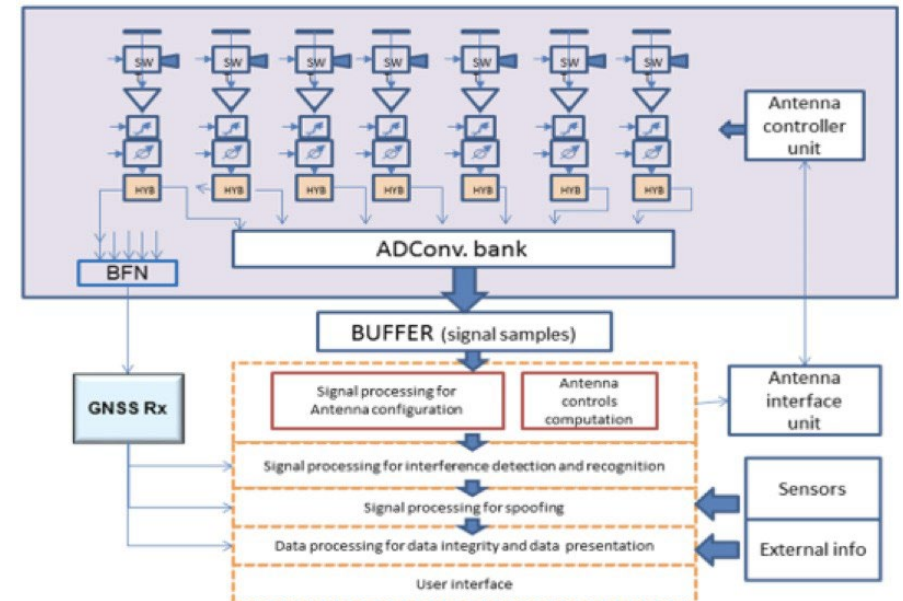


System Project design, manufacturing and test of TT&C S-band Antenna for Nanosatellite NEMOSAT.

ASI Italian Space Agency

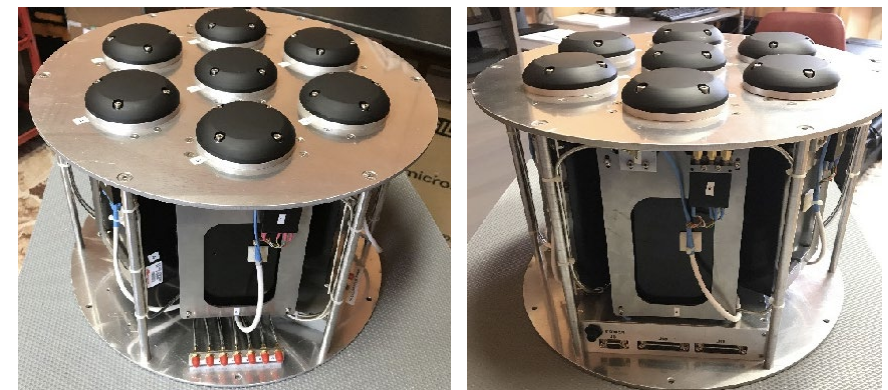


TESEI

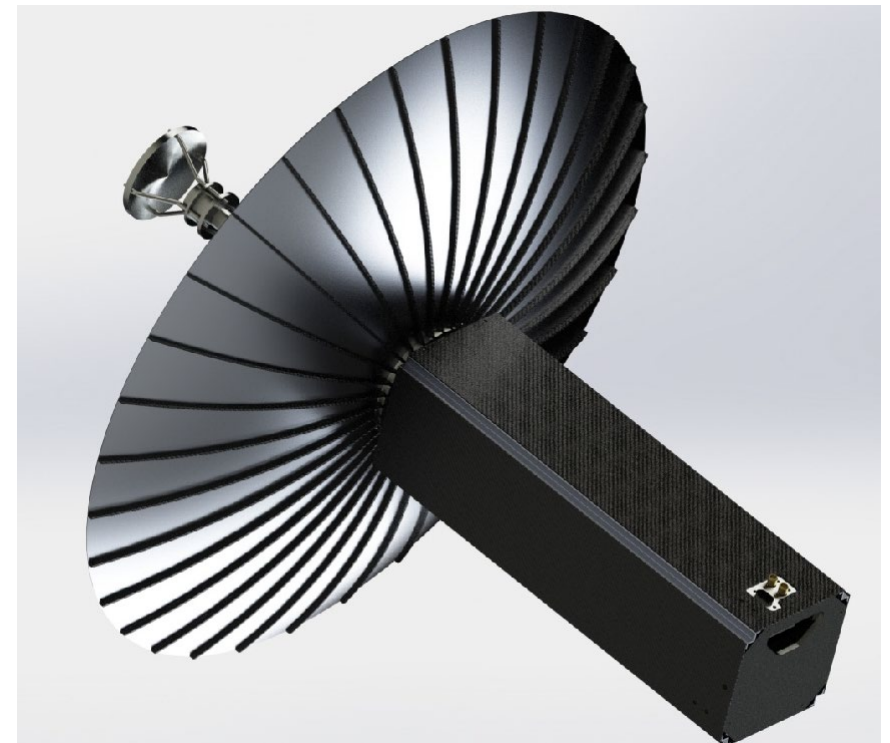
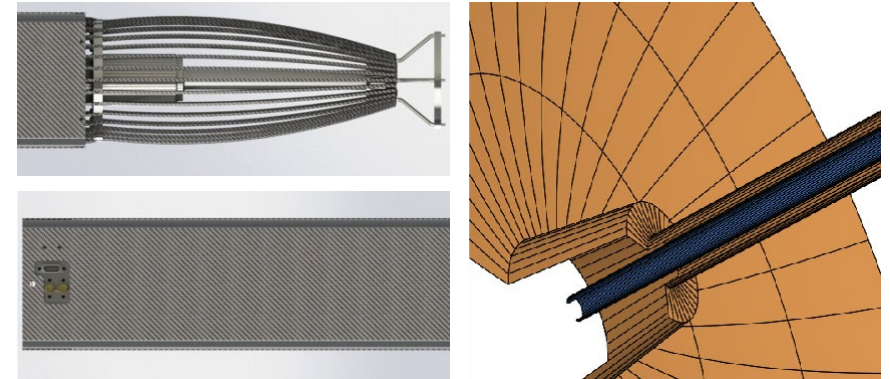


TESEI is an ASI (Italian Space Agency) project for the design and prototyping of a GNSS Terminal, able to increase the integrity of the given location and allow the detection and locating of interference and signals spoofing, also introducing forms of interference mitigation.

Project completed in partnership



Deployable Ka-band antenna



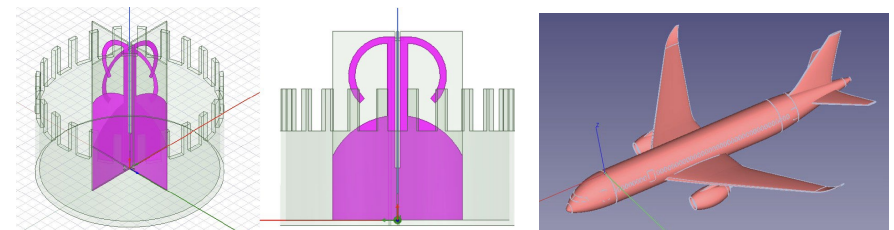
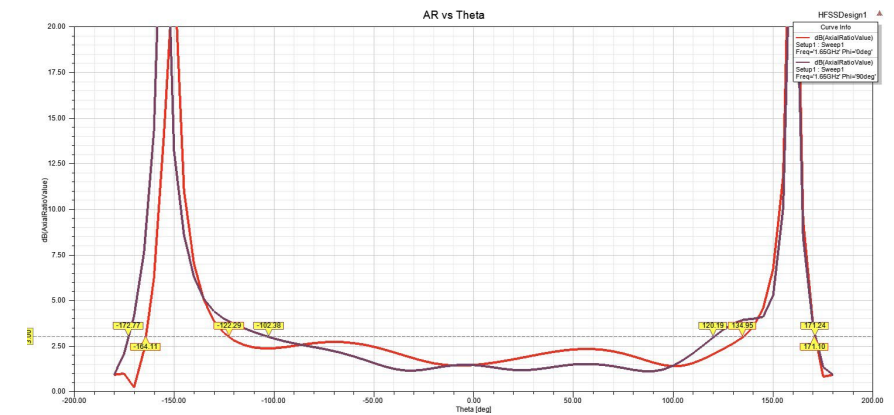
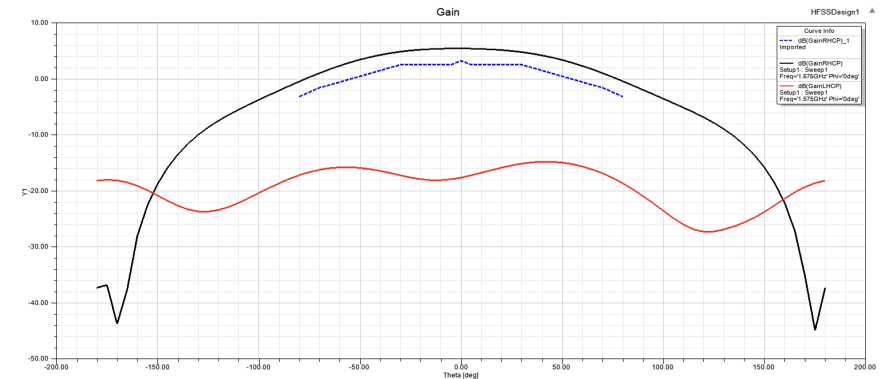
ESA Project for Ka-band [23 ÷ 26] GHz
Deployable 0.5 mt high gain Antenna for
CubeSat.

Project completed in partnership



AVAT is an ESA Project for L-band Aeronautical Antenna for multiband services such as GPS L1-L5, Iridium, AMS(R)S, [1150 ÷ 1660] MHz band, 36% BW.

Project completed in partnership

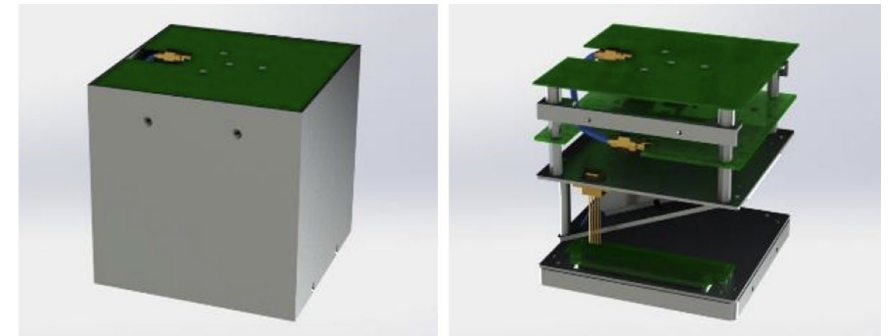
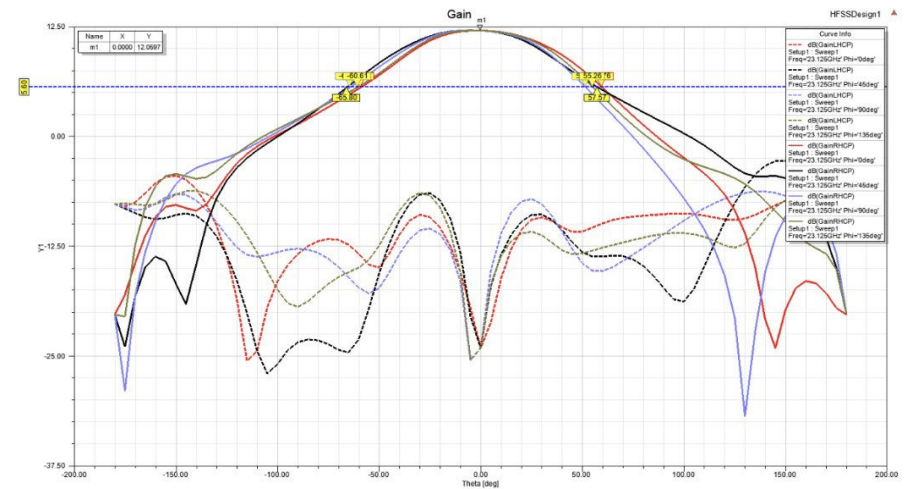




ESA Project for Small Antenna and Receive only system working in Ka-band for use on smaller satellite and CubeSat.

- Ka-band Array Antenna
- Ka-band LNA and Down-Converter
- L-band Switch Unit
- DVBS2 Demodulator

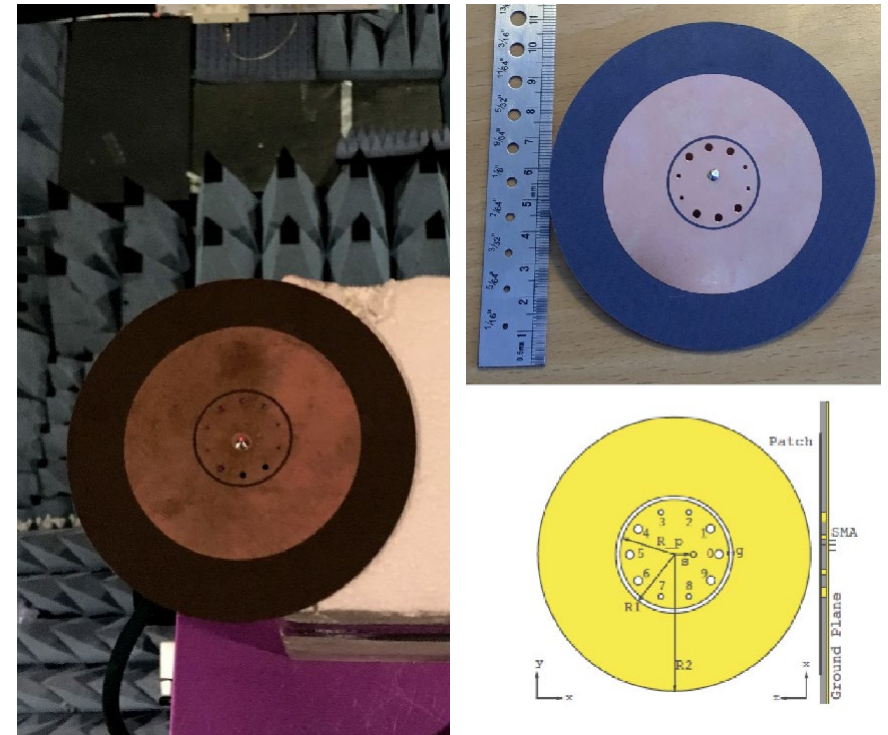
Project completed in partnership



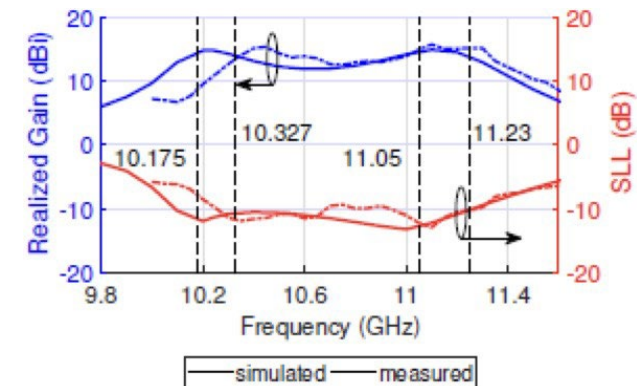
Progetto interno Sicilsat



Ku-band Wideband Circular Patch



Ku band Wideband Circular Patch antenna with High Gain and Sidelobe Suppression.

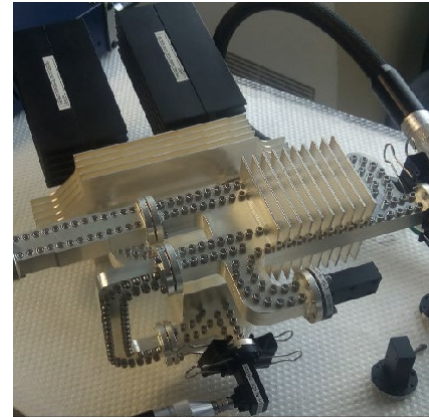


Ground Segment

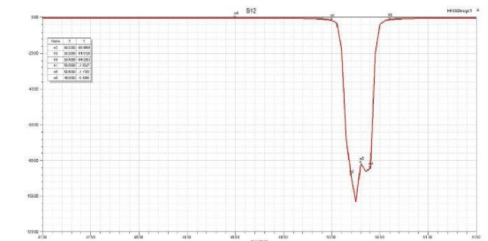
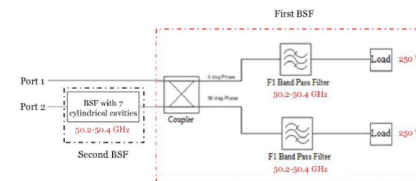
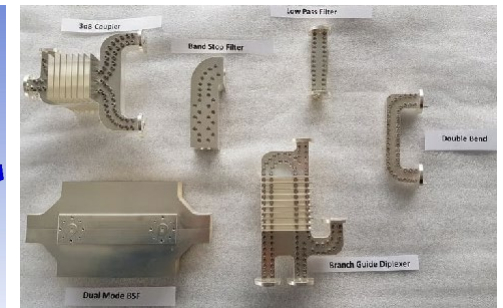
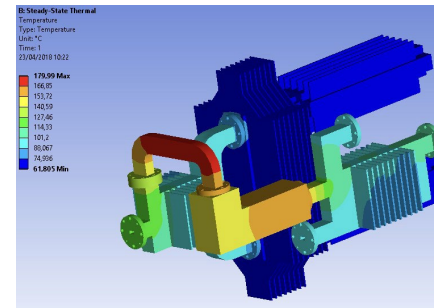
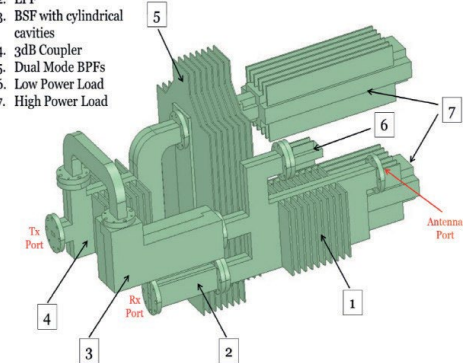


We are able to design systems (mobile and fixed) on all frequency bands assigned to satellite services (from L band to Ka) and any architecture (TX/RX, only RX or TX), able to transmit any power thanks a wide range size of antennas.

High Power Q/V Diplexer



1. Branch Guide Diplexer
2. LPF
3. BSF with cylindrical cavities
4. 3dB Coupler
5. Dual Mode BPFs
6. Low Power Load
7. High Power Load



High Power Q/V Diplexer is an ESA Project Rx [37.5 ÷ 42.5] GHz, Tx [47.2 ÷ 51.4] GHz, with [50.2 ÷ 50.4] GHz hole in Tx band, 500 W CW.

EUTELSAT

1.8mt Ka band Terminal

- 3 Terminal Hilink
- 2 Terminal KVHTS
- 2 Terminal E10B



1.8mt Antenna Ka band with 2 ports circular polarized feed.
RX 17.30 – 20.20 GHz
TX 27.50 – 30.00 GHz



TELESPAZIO



2.4mt Ka band Terminal

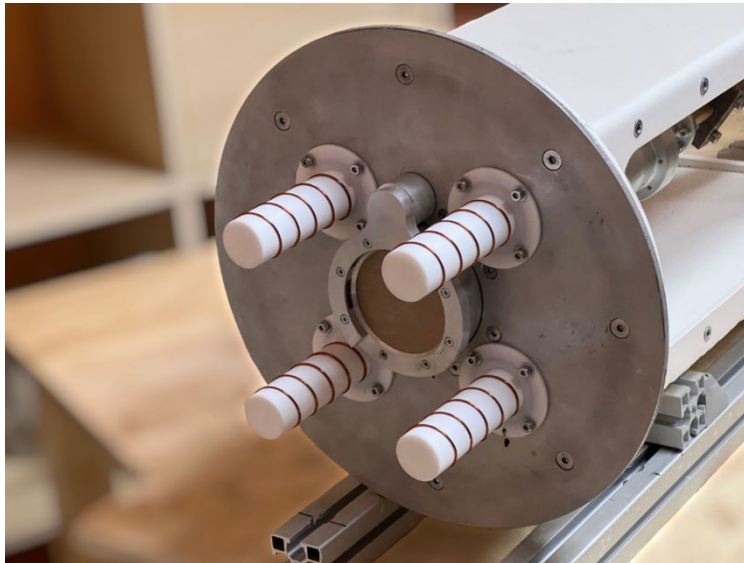
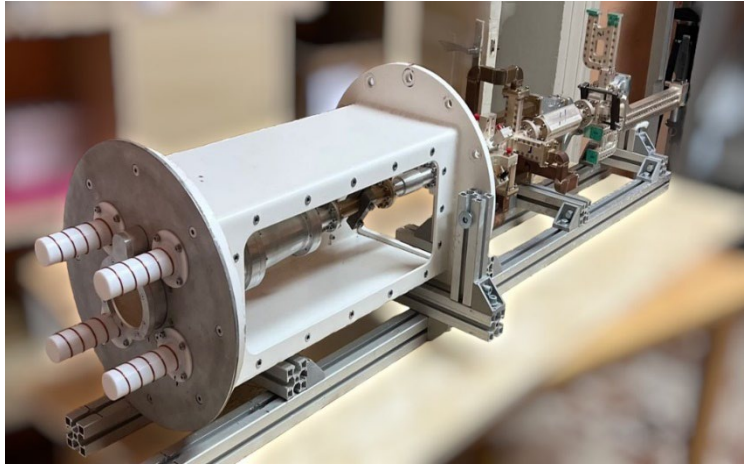


2.4mt Antenna Ka band with 2 ports circular polarized feed.
RX 18.20 - 21.20 GHz TX 29.0 - 31.00 GHz

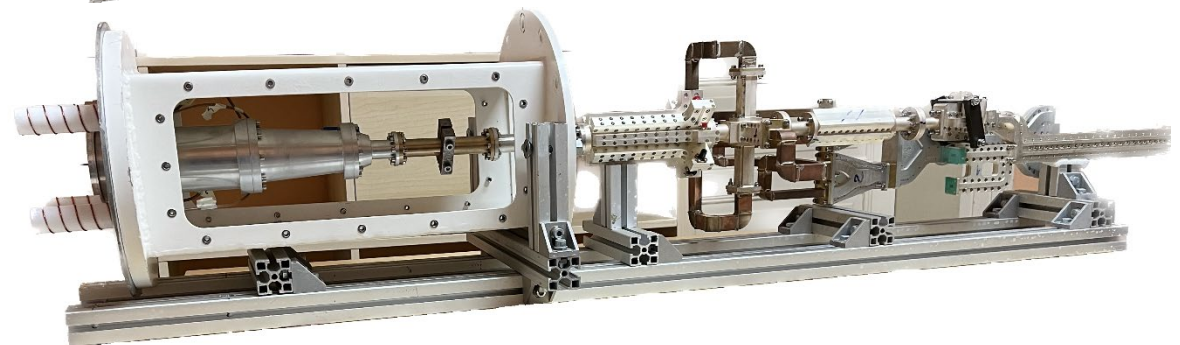
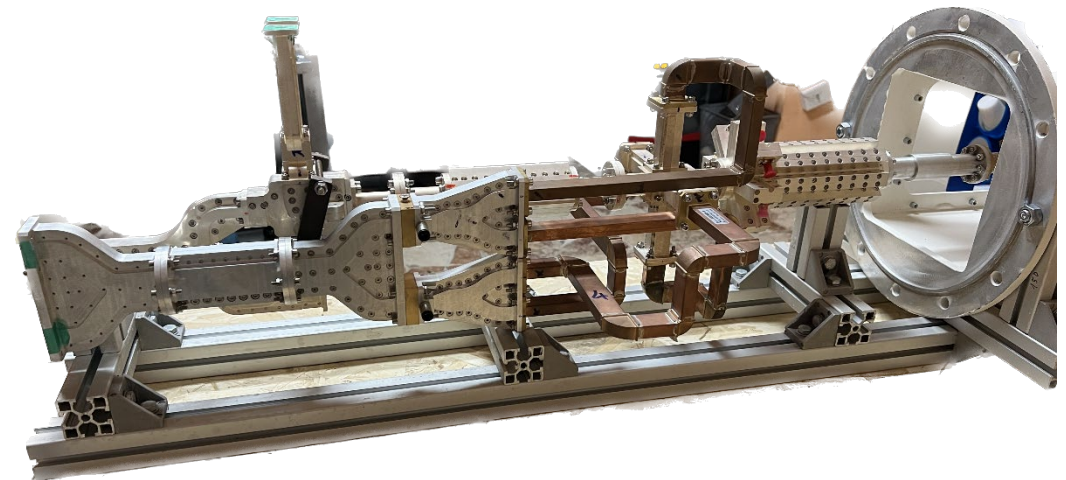
A4X Italia



Simultaneous Multiband Feed 12 ports



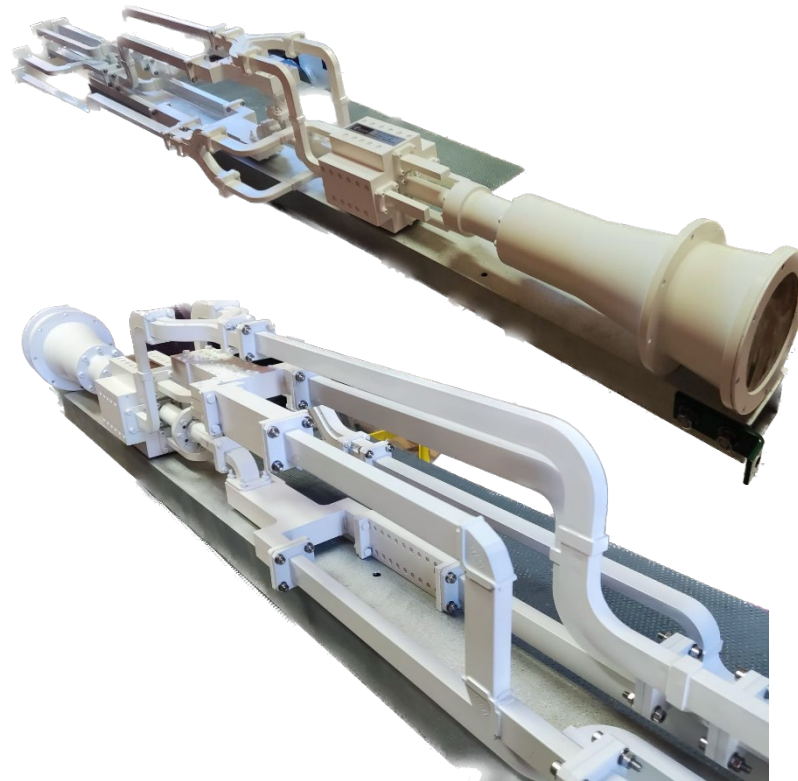
Description	Frequency	Reference
Ka – Band		
Rx Ka Band	21250 ÷ 22150 MHz	Double Circular Polarization
Tx Ka Band	24500 ÷ 25400MHz	Double Circular Polarization
TRK Band	21300 ÷ 21500 MHz	Linear Polarization
Ku – Band		
Rx Ku Band	11500 ÷ 12500 MHz	Double Circular Polarization
Tx Ku Band	17150 ÷ 18150MHz	Double Circular Polarization
S – Band		
Rx S Band	2400 ÷ 2650 MHz	Single Circular Polarization



EUTELSAT



Simultaneous Wide band Ku and DBS band 6 ports Feed for Vertex RSI 6.3mt Antenna



Description	Frequency	Reference
Rx Ku Band	10.700 ÷ 12750 MHz	Double Linear Polarization
Tx1 Ku Band	13750 ÷ 14800 MHz	Double Linear Polarization
Tx2 DBS Band	17300 ÷ 18400 MHz	Double Linear Polarization

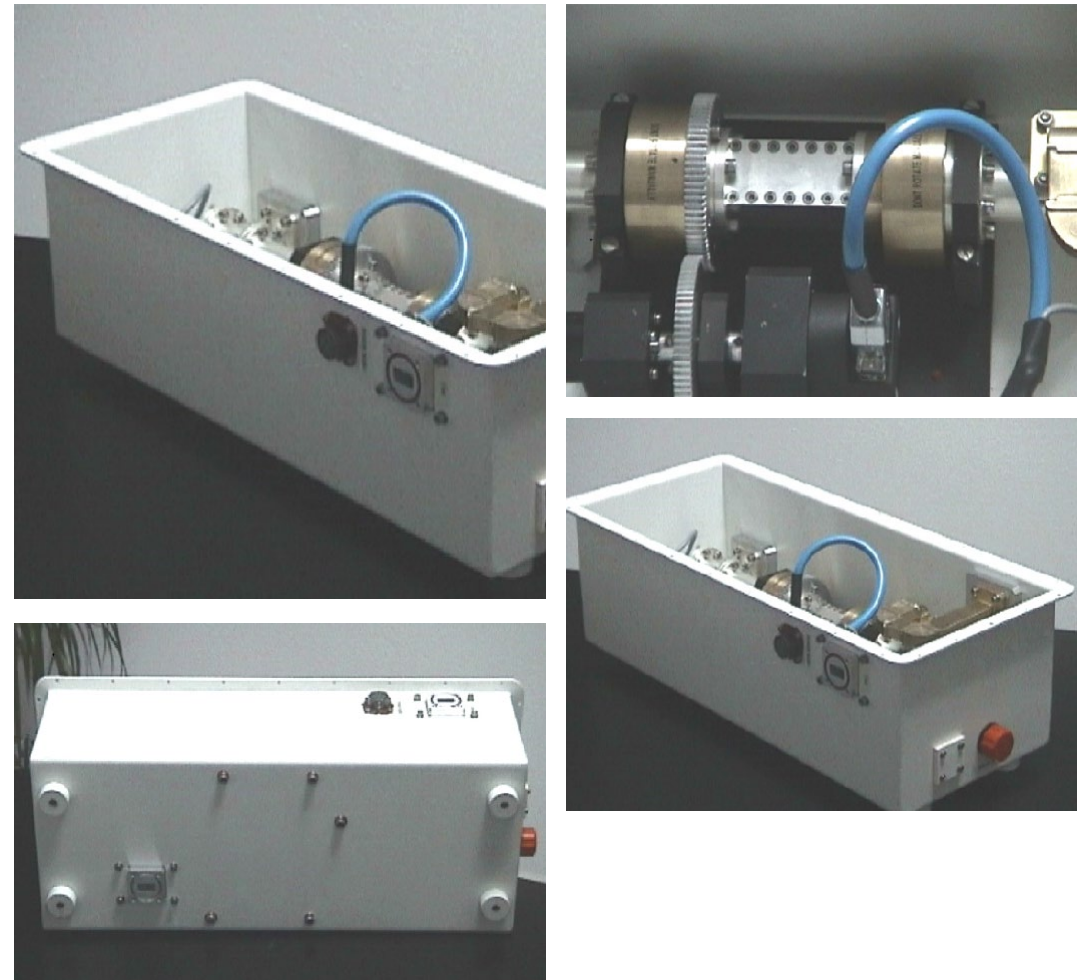
5.6mt Old Vertex antenna Servosystem and ACU refurbishment



Our control system can be configured with extensive solutions and can be installed on new and old antennas from 2m up to 18m in diameter with the following basic characteristics:

- Indoor or Outdoor Configuration
- Controlled axes for 2 or 3 axes
- Motor control both AC and DC
- Absolute encoders from 13 up to 21 bits
- Step tracks
- Program Track
- Memory tracks
- TLE data management and Orbit calculation
- Positioner control
- Local and Remote Control Via WEB or SNMP
- Handheld for local control

Ku-Band Variable Power control



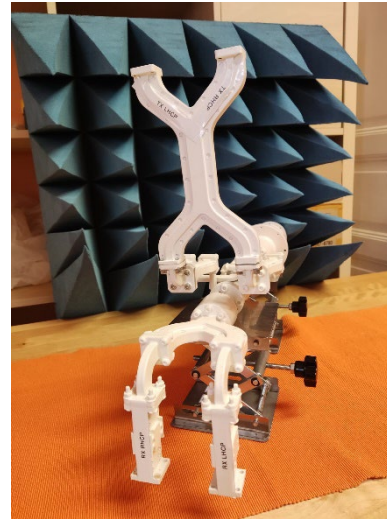
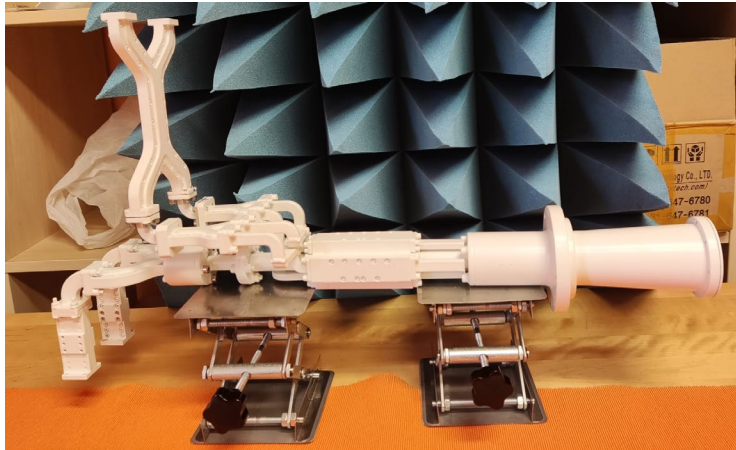
Ku Band Soft Fail (VPC) 13.75 – 14.5 GHz
2 Kw Power Handling.

DBS and Ka band is also available

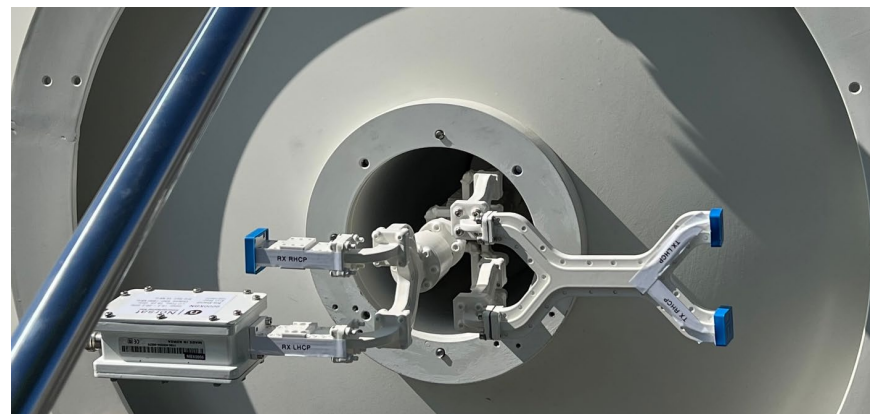
EUTELSAT



1.5mt Ka band Terminal with 4 ports feed Circular Polarized



RX Band : 17.70 – 21.20 GHz
TX Band: 27.00 – 31.00 GHz
RX Axial Ratio : 0.8 dB
TX Axial Ratio : 0.5 dB
TX-RX Isolation : > 100 dB
PDR RX/TX Band > 19 dB
Antenna RX Gain @ 19.5 GHz : 47.7 dBi
Antenna TX Gain @ 29.0 GHz : 51.0 dBi
Power Handling : 500W CW each ports



Globecast



5mt Ku-band HUB



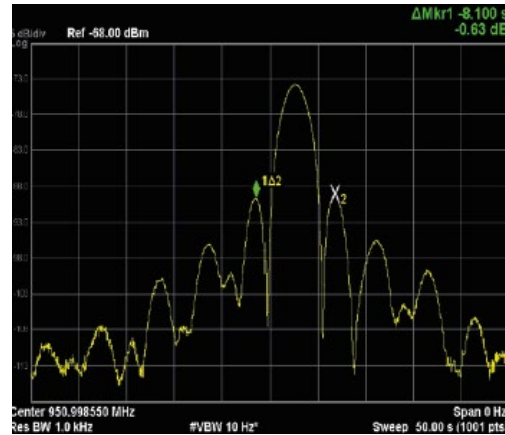
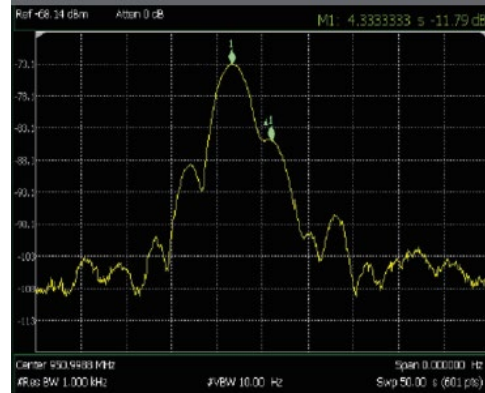
System Project design, installation and test of 5 mt Ku-band HUB for Globecast station in Rome and Milan.

Project completed in partnership

VIVACOM (Bulgarian)



12mt C Band Antenna (TNA57)



Ground station Refurbishment with New C band Feed, shaped Sub reflector and Feed cone. With the new feed the final G/T increase 2.5 dB



Support, test and put into service of 8 hub in Europe with 9 mt Viasat Ka-band Antenna for KASAT Satellite.



Arabasat 5C

9mt Ka-Band Viasat



Support, test and put into service of 3 HUB with 9 mt Ka-band Viasat Antenna for ARABSAT 5C for Kacst Saudi Arabia.



Telespazio

11mt Ku-band Antenna



Relocation of 11 mt Vertex Ku-band Antenna at Telespazio Fucino Station.

Project completed in partnership

Telespazio

7mt antenna SKY

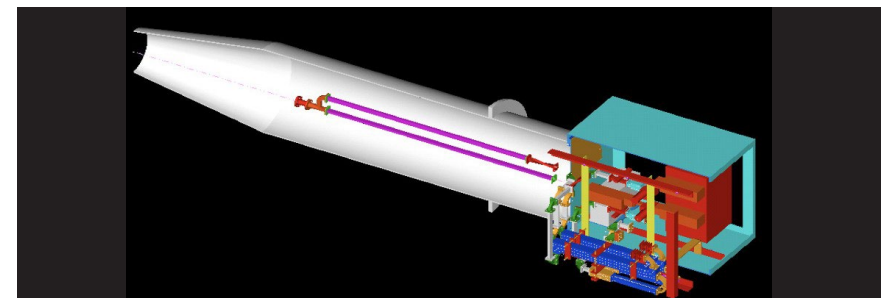
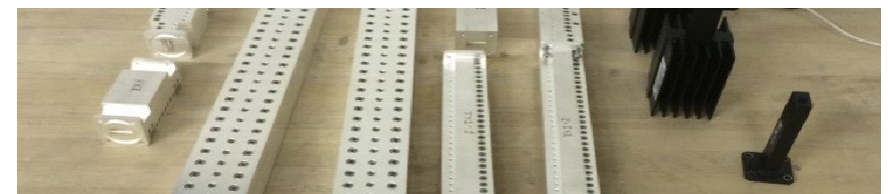


Design installation and test of wideband feed for 7 mt antenna for SKY Tv in Rome.

Project completed in partnership

Telespazio

13 mt Comelit Antenna



Design installation and test of wideband feed for 13 mt Comelit Antenna for Telespazio satellite station in Gera Lario (Milan).

Project completed in partnership



Design, development and test of two S-band filters for EUMETSAT in Fucino Station.

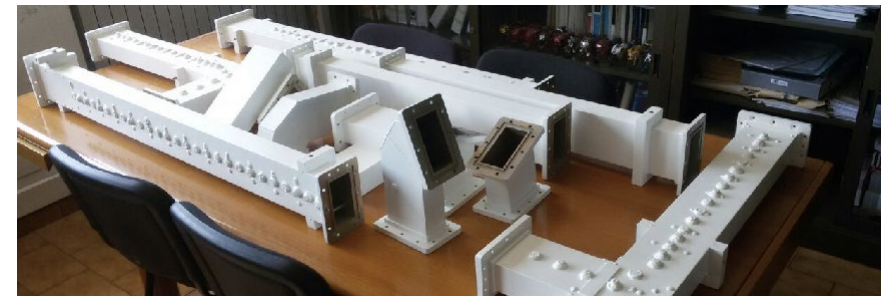
Telespazio

S-band 10 mt Refurbishment



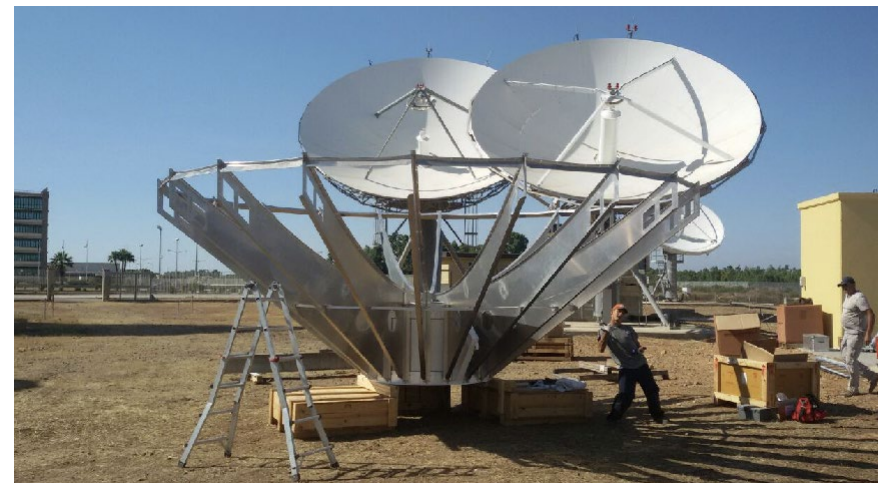
Refurbishment of S-band 10 mt Scientific Atlanta Antenna for Telespazio in Fucino Station.

Project completed in partnership



Skylogic

6.5 mt KU-band



6.5 mt Ku-band GDSatcom Hub installation
in SKYLOGIC Sardinia Teleport.

GovSat

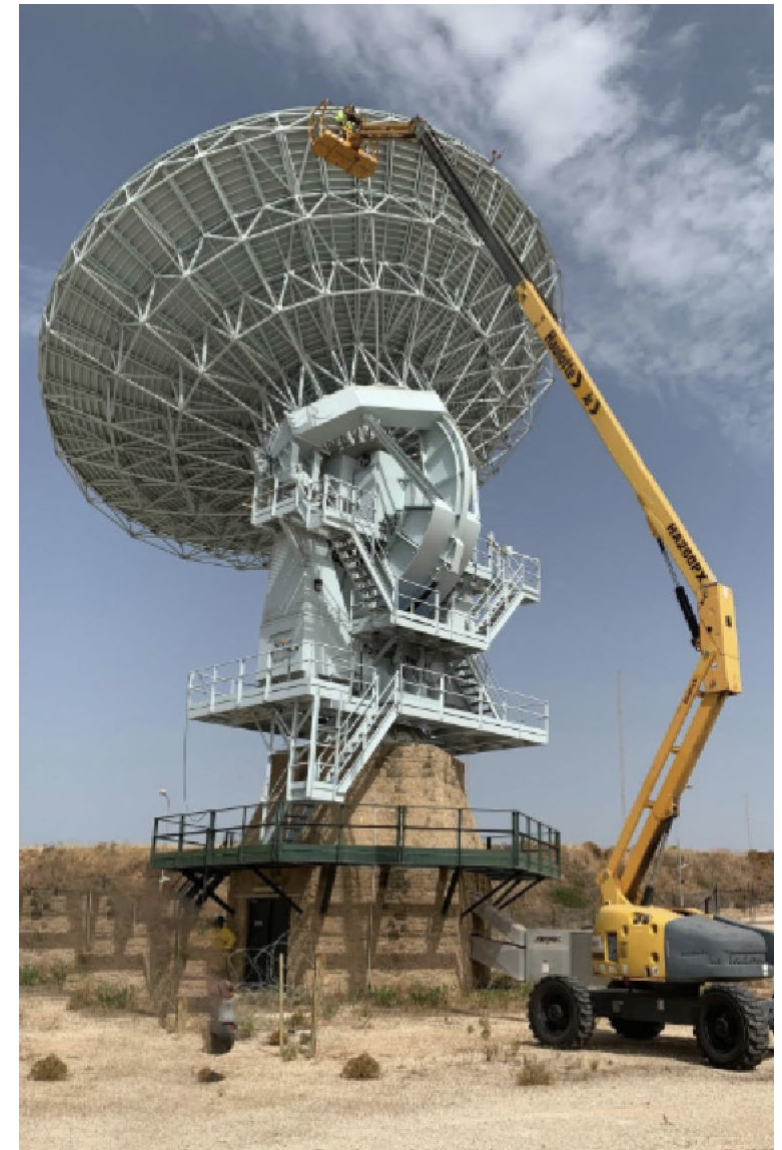
support Sigonella Activity



13.1 mt Ku-band Ground Station on Sigonella Center Operational, Preventive and Corrective Maintenance for SES Luxembourg and Gov-Sat.

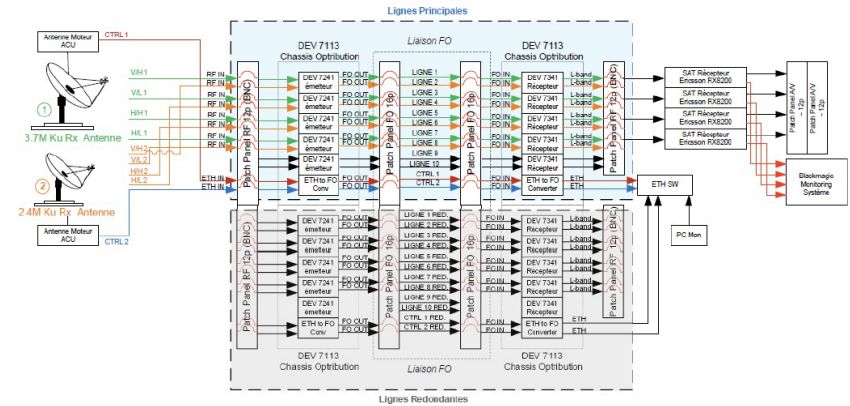


General Dynamics Logistic support on MUOS Site (Niscemi).



Supervision (CH)

2 RXO system installation



Supply, installation and test of 2 RXO satellite systems with 3.7 and 2.4 m antennas TUNISIA.

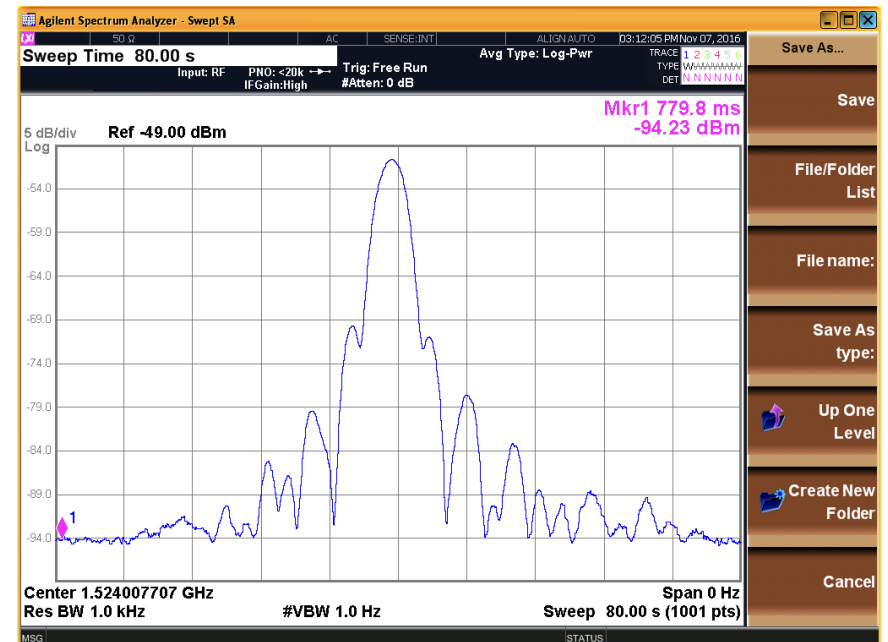
Sicilsat Internal Project



Small terminal ku-band



Design of 1.0 mt Ku-band Antenna with dielectric Tx/Rx Feed.



Sicilsat

Internal Project

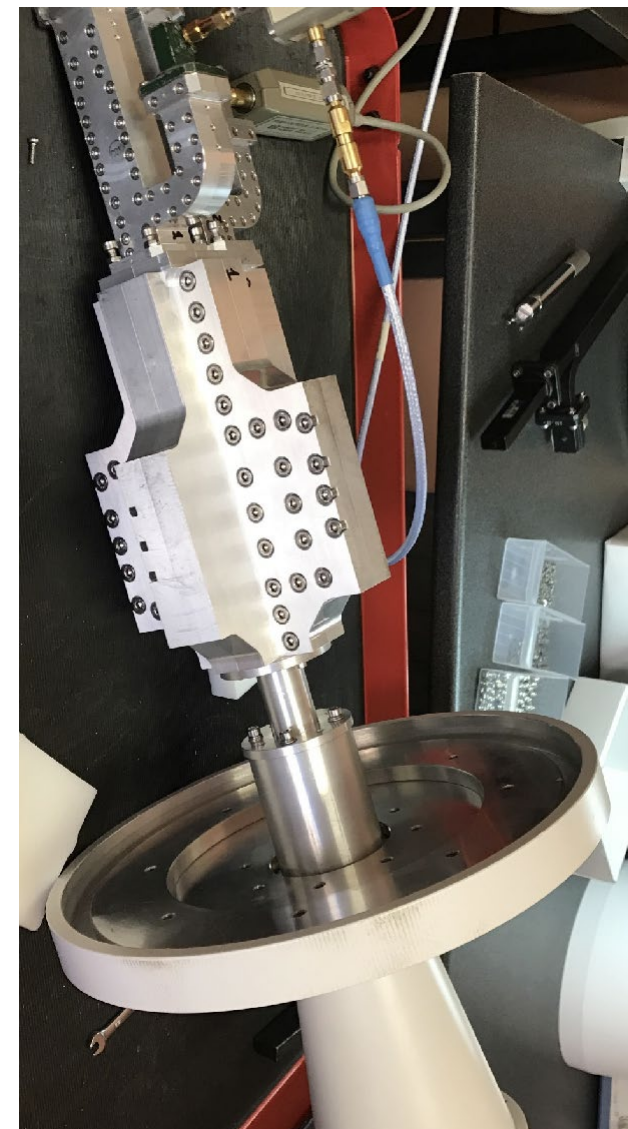


4 ports DBS-band Feed

Characteristics	Value
RX Frequency Band	10.70 – 12.75 GHz
TX Frequency Band	17.30 – 18.40 GHz
Number ports	4
Polarization	Double Linear (Vert./ Horz.)
Rx Return loss	<-20 dB
Tx Return loss	<-20 dB
Isolation	Tx/Rx in Rx band <-100 dB Tx/Rx in Tx band <-110 dB
Rx Insertion loss	<0.3 dB
Tx Insertion loss	<0.2 dB
RX On Axis Cross Polarization	35.0 dB
TX On Axis Cross Polarization	35.0 dB

Design development and test of 4 ports DBS Feed Linear Polarized

- Rx [10.70 ÷ 12.75] GHz, Tx [17.30 ÷ 18.40] GHz
- Compact design only 350 mm long
- High Power 5 KW for each port
- Very Low Cross Polarization

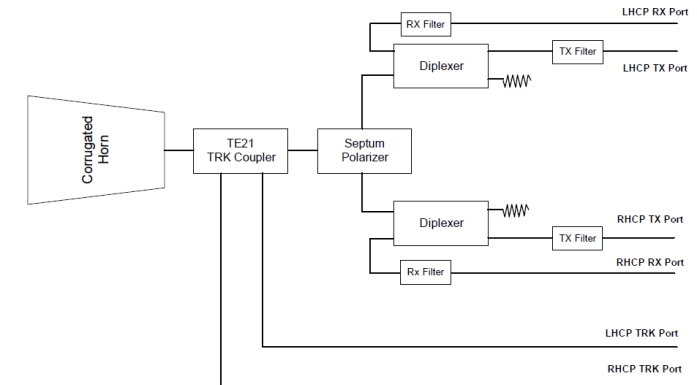


Sicilsat

Internal Project (Viasat)

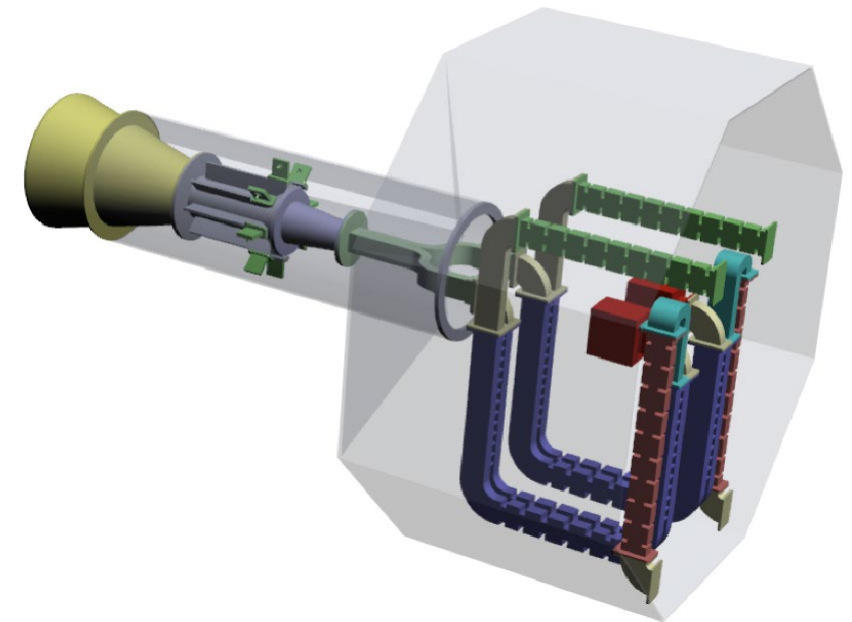


S-band feed design



Design of S-band Rx/Tx Feed with Monopulse feature developed for 9.1 mt Viasat Antenna.

- Rx [2.2 ÷ 2.3] GHz, Tx [2.025 ÷ 2.120] GHz
- Monopulse [2.2 ÷ 2.3] GHz
- Axial Ratio 1.0 dB
- Isolation Between Rx/Tx 120 dB
- Very Low Cross Polarization



Telespazio

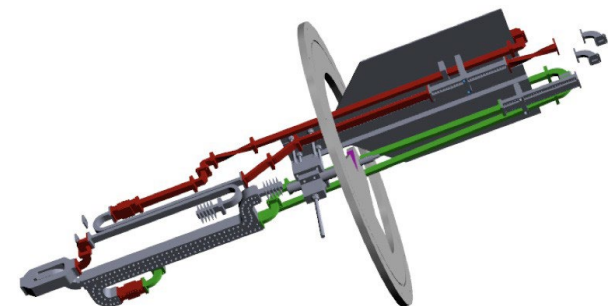


6 Ports feed

Design, development and test of 6 ports Ku & DBS Feed Linear Polarized installed in old 7.5 mt Telespazio Antenna on Fucino Station.

- The feed is able of simultaneously operating in all bands and in both polarizations
- Rx [10.70 ÷ 12.75] GHz
- Tx1 [12.90 ÷ 14.50] GHz
- Tx2 [17.30 ÷ 18.40] GHz

Project completed in partnership



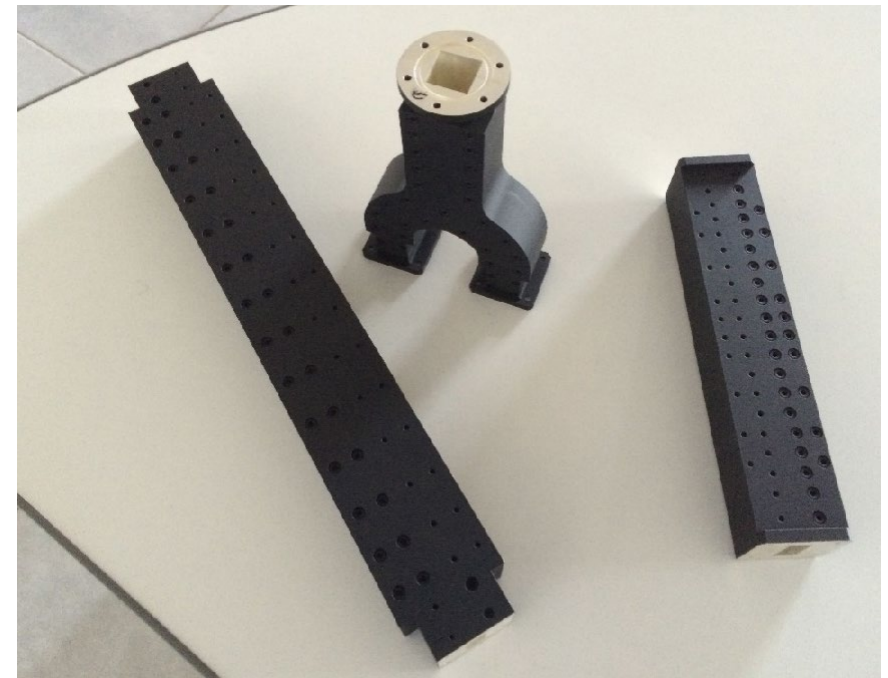
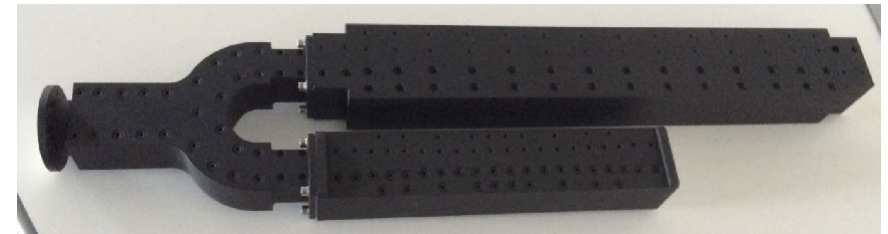
Selex Communications



X-band 2 ports feed

Design and development of 2 ports High Isolation X-band Feed Circular Polarized.

- Rx [7.25 ÷ 7.75] GHz, Tx [7.9 ÷ 8.40] GHz
- Compact design only 350 mm
- High Isolation 170 dB for Tx Band, 130 dB for Rx Band
- 1.5 dB max Axial Ratio
- Low Insertion Loss and VSWR



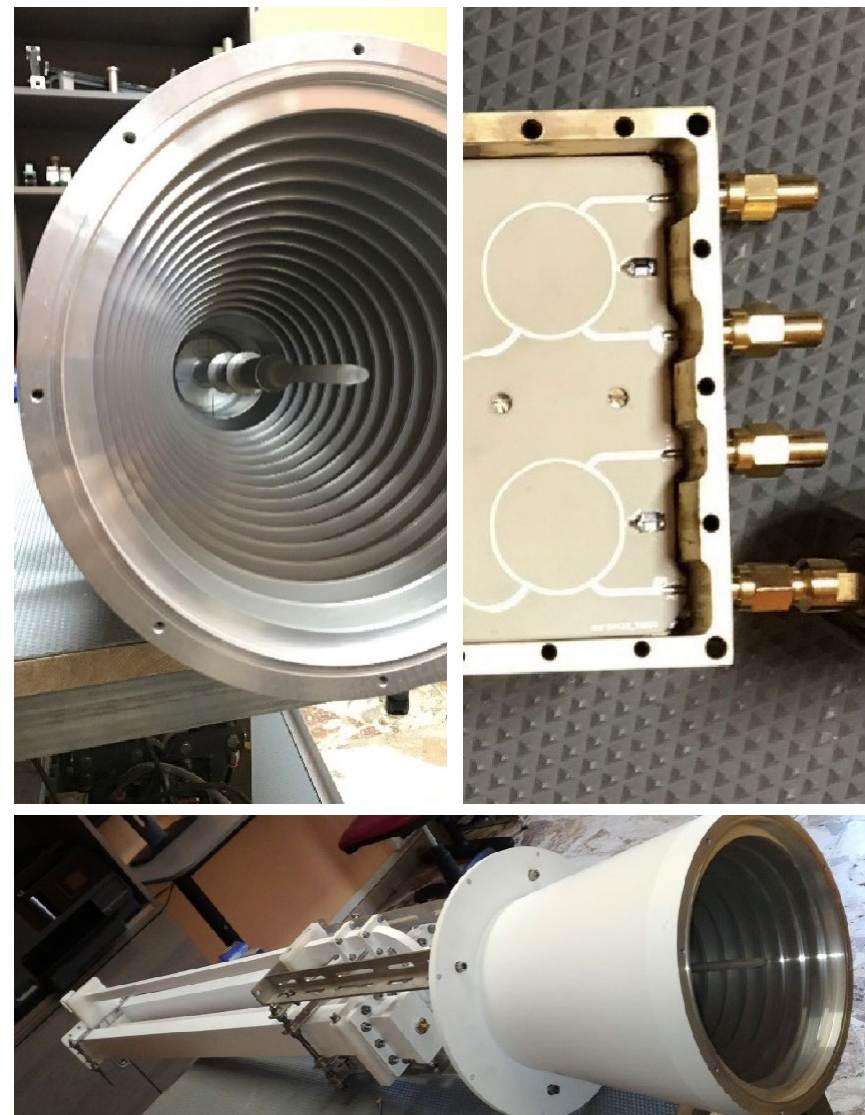
Mediterranean Technology



4 ports C/Ku-band feed

Design and development of 4 ports Feed for 7 mt Scientific Atlanta old Antenna (mod 8010) working in C and Ku band. The feed has been design with two horns in order to obtain high G/T value in both bands.

- C-band [3.40 ÷ 4.20] GHz double Circular Polarization
- Ku-band [10.70 ÷ 12.75] GHz double Linear Polarization
- 0.8 dB max C-band Axial Ratio
- 35 dB min Ku-band Cross Polar



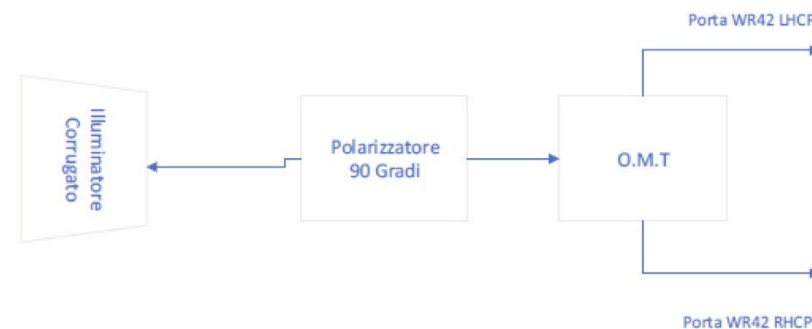
Mediterranean Technology



Ka Wideband Feed

Design and development of Rx only Ka wideband 2 ports Feed for 2.4mt Circular Polarized.

- Ka-band [17.2 ÷ 22.20] GHz double Circular Polarization
- 25% bandwidth
- Axial Ratio 0.7 dB full band
- 30 dB min Isolation Port



A4X Italia



C-band low axial ratio Feed

Design and development of Tx/Rx C-band 2 ports Feed with low axial ratio, circular polarized.

- Rx band [3.625 ÷ 4.2] GHz 25 dB Cross Polarization
- Tx band [5.850 ÷ 6.425] GHz 30 dB Coss Polarization
- 80 dB min Isolation Port



A4X Italia

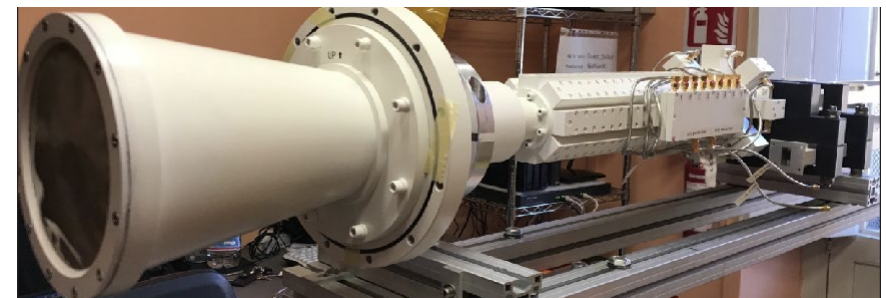
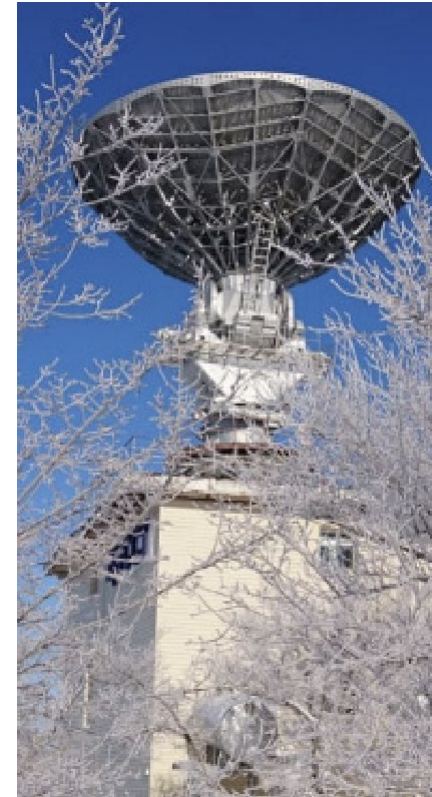


X-band Feed with monopulse

Feed signal chain	
Frequency Band	8.0 - 8.4 GHz
Polarization	Circular (RHCP/LHCP)
Cross Polarization	25 dB min
Return Loss	19 dB min
Insertion Loss	0.5 dB max
Filter rejection	25 dB min@ 7.8 GHz 25 dB min@ 8.7 GHz
Feed tracking chain	
Frequency Band	8.0 - 8.4 GHz
Polarization	Circular (RHCP/LHCP)
Filter rejection	25 dB min@ 7.8 GHz 25 dB min@ 8.7 GHz
Difference channel null depth	38 dB min respect to sum

Antenna Performance		
Antenna Gain @ 8.2 GHz	58.0 dBi	1.0 mm RMS
Polarization	Circular (RHCP/LHCP)	
Cross Polarization	25 dB min	
LNA Noise Figure@8.2 GHz	0.7 dB	
G/T@ 8.2 GHz T=25°C, 10° Elev.	37.29 dB/K	

Design and development of Rx only X-band Feed with monopulse feature.



A4X Italia



X-band LEO Antenna



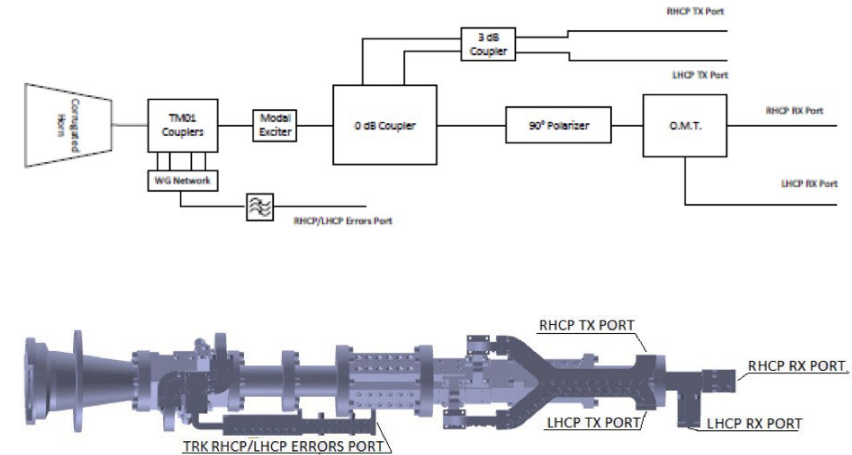
Characteristics	Value
RX Frequency Band	7.90 – 8.40 GHz
Rx Return loss	<-20 dB
Isolation	Rx/Rx in Rx band <-25 dB
Rx Insertion loss	<0.2 dB
RX Axial ratio	0.5.0 dB
Port Interface	WR112

Design and development of Rx only X-band Feed for 2.4 mt Hexapod antenna.

A4X Italia

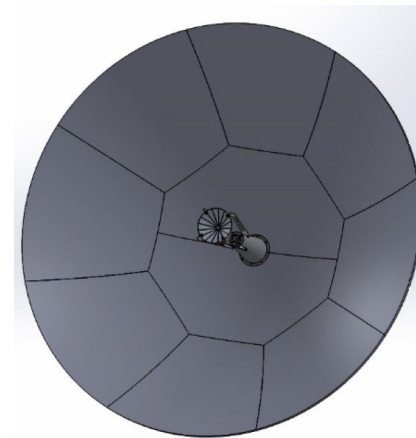


Ka/Q band 6 ports antenna



Design and development of Rx/Tx Ka/Q band 6 ports Feed with Monopulse features for 4 mt relocatable Antenna Rx band [19.0 ÷ 21.2] GHz, Tx band [42.5 ÷ 44.0] GHz.

Design and development of Rx/Tx Ka/Q band 6 ports Feed with Monopulse features Rx band [19.0 ÷ 21.2] GHz, Tx band [42.5 ÷ 44.0] GHz.



ThalesAlenia Space

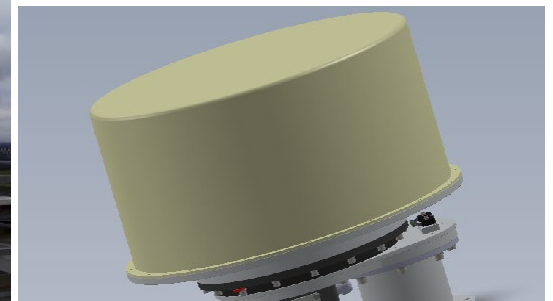
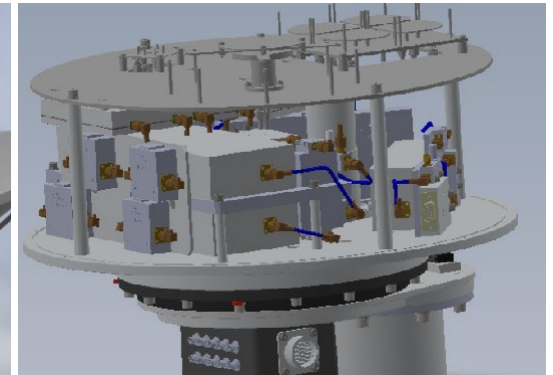
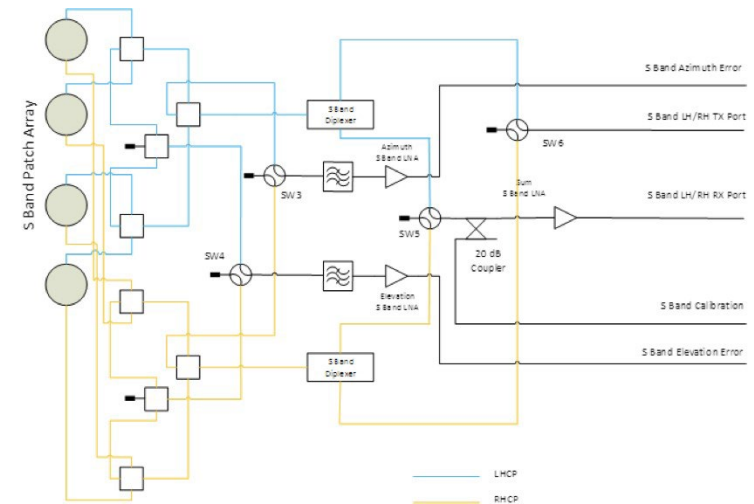


L/S/X Feed with monopulse

Design and development of L/S/X band multifeed sub-system for 5.0 mt Orbit Antenna Thales.

- L band [1100 ÷ 1600] MHz 37% bandwidth RX only LH/RH pol.
- S band [2000 ÷ 2300], [2025 ÷ 2120] MHz 14% bandwidth Rx/Tx/Monopulse LH/RH pol
- X band [8000 ÷ 8500] MHz 6% bandwidth Rx only LH/RH pol.

Design and development of L/S/X band multifeed sub-system for 5.0 mt Orbit Antenna Thales.

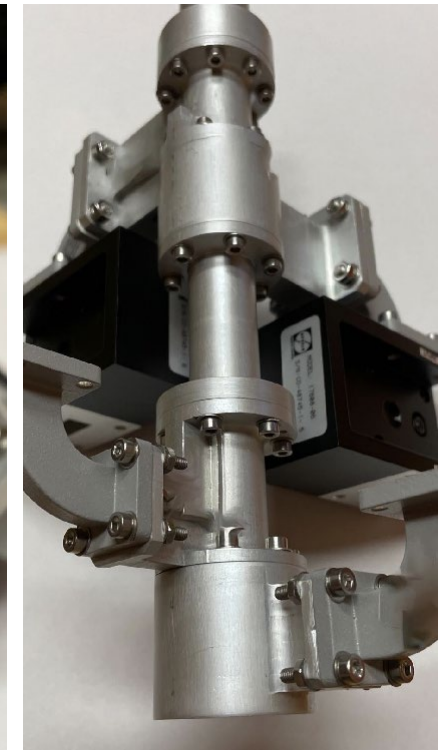
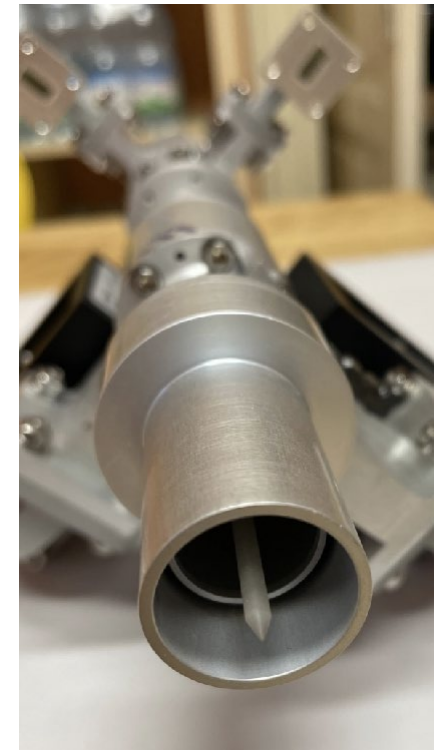


Telespazio



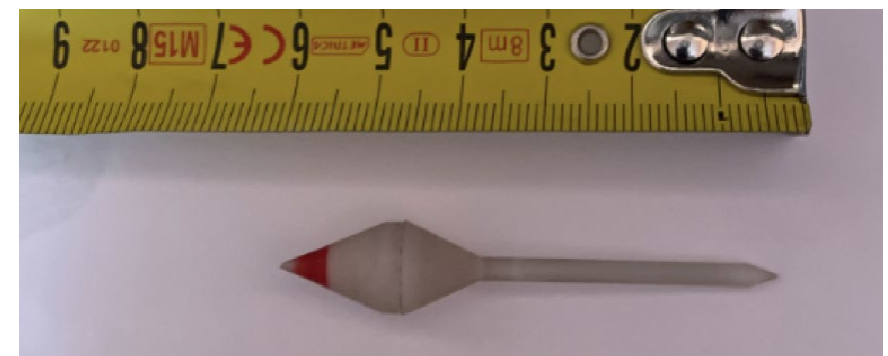
Ku/Ka Band 4 ports Feed

Description	Parameter
Ku Frequency band	10.7 – 12.75 GHz
Ka Frequency band	17.2 – 22.2 GHz
Ku band Polarization	Double Linear (Vertical/Horizontal)
Ka band Polarization	Double Circular (LHCP/ RHCP)
Ports number	4
Ka band Axial Ratio	1.5 dB
Ku Band Axial Ratio	30 dB
Ku/Ka band Return Loss	-16 dB min
Ku/Ka band Insertion Loss	0.15 dB max
Ka band Ports Isolation	20 dB min
Ku band Ports Isolation	35 dB min
Feed Material	Aluminium silver plated
Ka band Interface	WR42 flat
Ku band Interface	WR75 flat



Design of simultaneous Ku/Ka Band 4 ports feed for Telespazio SpA 2.4mt antenna.

- Ku Band 10.700 GHz – 12.750 GHz double linear polarization.
- Ka Band 17.200 GHz – 22.200 GHz double circular polarization with 1 dB max axial ratio.



Test and integration support

Project	Site
Inmarsat	Fucino
Inmarsat	Nemea
Eutelsat	Cagliari
Inmarsat	Aussaguel
Eutelsat	Sintra
Inmarsat	Cheia
Eutelsat	Larnaca
Inmarsat	Kofinou
Eutelsat	Sofia
Inmarsat	Fiumicino
Inmarsat	Burum

GD/CPI test activity in Europe for Inmarsat and Eutelsat Project.

Sicilsat provided skilled personnel and a complete set of Ka-band instrumentation to be able to fully test the complete Hub system.

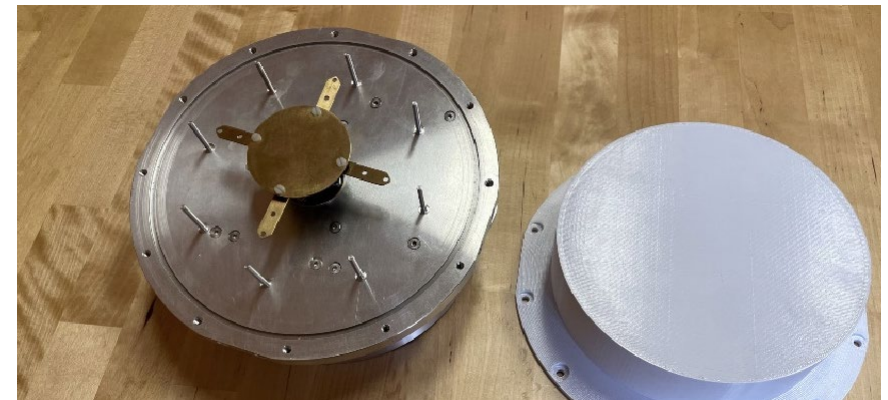


University of Rome La Sapienza.

Department of astronautical engineering

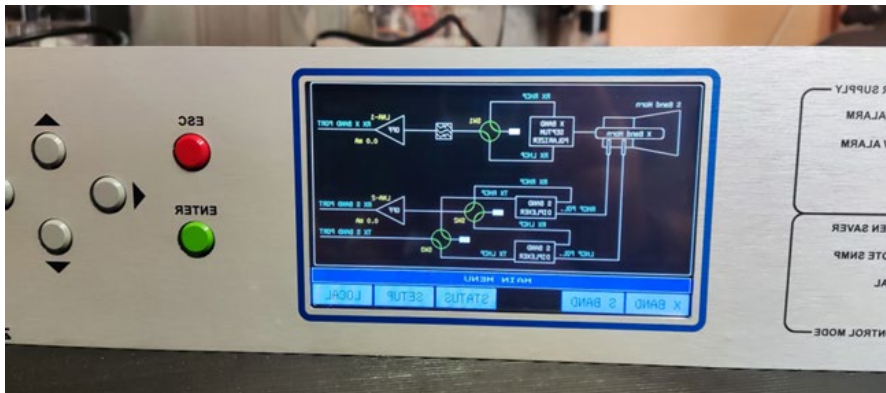
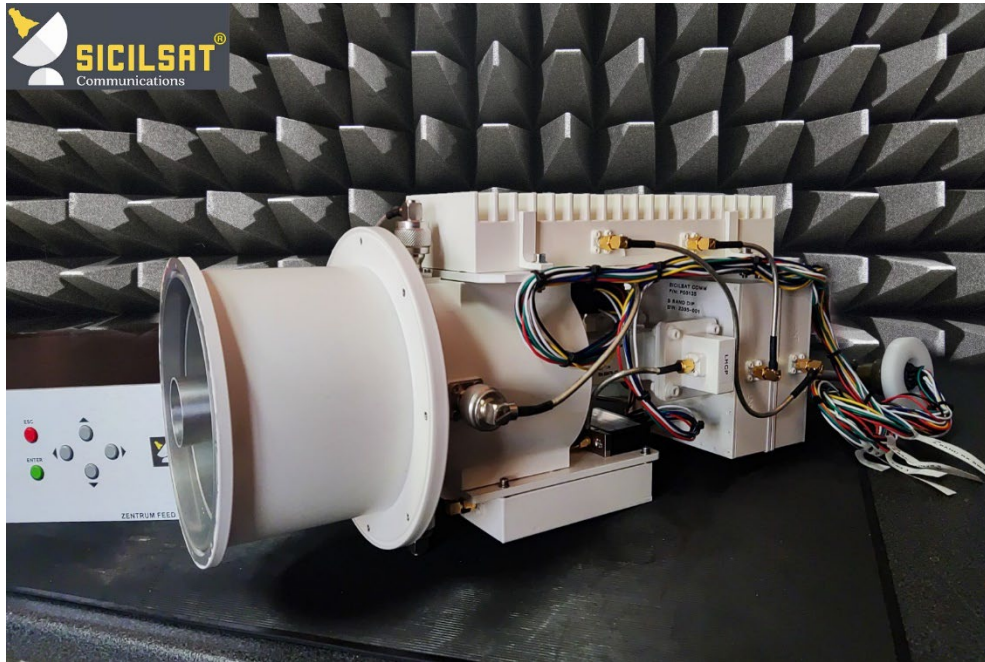


S-band Leo system



Design and Installation of LEO Antenna system
full motion working in S band for UNI-Roma.

ZfT Zentrum for Telematik



Design and Installation of 6 ports feed S band TX/RX and contemporary X Band Feed and controller.

Telespazio



Motorization for 1.2, 1.8, 2.4mt Antenna with step track

168.0.10/protect/beaconrx.htm

TELESPAZIO
una società LEONARDO e THALES

Powered by Sicilsat Communication s.r.l.

SICILSAT

• Status/Control • Satellite DB • Beacon Rx • Configuration • Ethernet • Installation

BEACON RECEIVER

Frequency 1750.000 MHz	Beacon Level -74.4 dBm	Reference Level -85.0 dBm	Attenuation 10.0 dBm
Peak Frequency 1750.0 MHz	DC Output 0.0 Volt	Slope 0.750 Volt	Scan window(+/-) 100 KHz

Status

POWER PLL LOCKED LOW SIGNAL PEAKING COMM.FAULT

Settings

Frequency.....:	1750.000	(950/2150 MHz)
Reference Level:	-85.0	(-90/-40 dBm)
Slope.....:	0.750	(0.1/5.0 Volt/dBm)
Attenuation.....:	10.0	(dBm)
Scan window.....:	100	(KHz)

External 10MHz Reference

Peak Search Save Settings

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www.telespazio.it www.sicilsat.com



A4X Italia

4 ports Ka-band feed and Optics



Design of 4 ports extended KA band Feed circular polarized with Monopulse feature.

Innovative quad ridge Polarizer design with wide band and low axial ratio.

Rx [17.300 ÷ 19.000] GHz

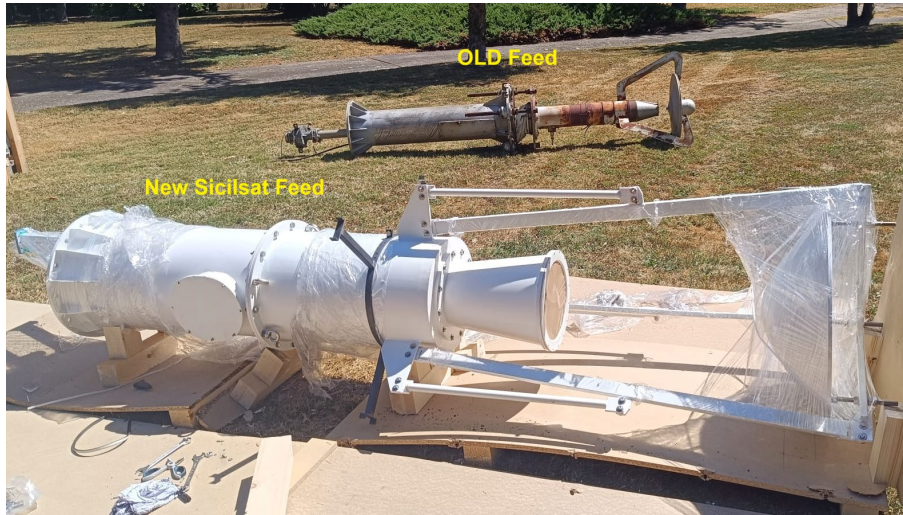
Tx [27.500 ÷ 30.500] GHz

Monopulse 18.970 GHz

HDT (Hungaro DigiTel Plc) Budapest



2 ports C-band feed and Optics for old TNA-57 12mt Antenna Feed Refurbishment



Ground station Refurbishment with New C band Feed.
Shaped Sub reflector and Feed cone.
With the new feed the final G/T increase 2.5 dB

Mediterranean Technology

4 ports C&Ku Band Simultaneous on Scientific Atlanta 8010



	C Band	Ku Band
Frequency	3.4 – 4.2 GHz	10.7 – 12.75 GHz
Polarization	Dual Circular (LHCP/RHCP)	Dual Linear (Vert./ Horiz.)
Return Loss	18 dB	20 dB
Insertion Loss	0.35 dB	0.2 dB
Axial Ratio	0.5 dB	35 dB
Pressurization	2 PSG	2 PSG

2.4mt Double reflector Antenna with 4 ports C&Ka Band Simultaneous

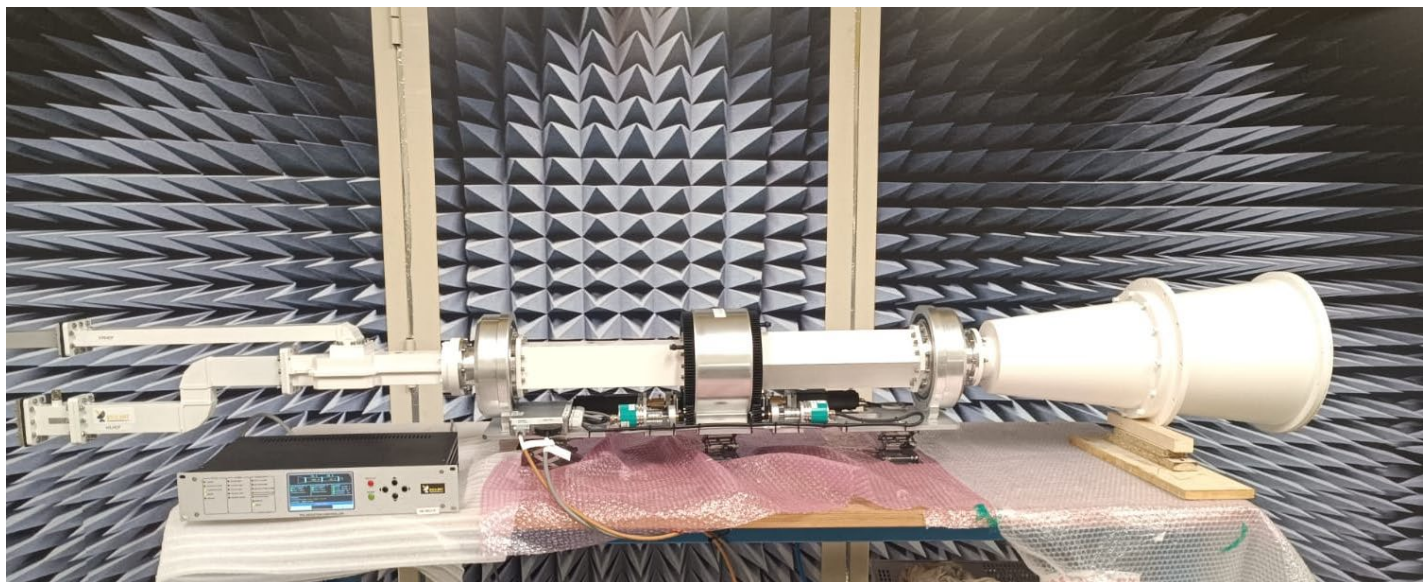


Description	Parameter
Ku Frequency band	10.7 – 12.75 GHz
Ka Frequency band	17.2 – 22.2 GHz
Ku band Polarization	Double Linear (Vertical/Horizontal)
Ka band Polarization	Double Circular (LHCP/ RHCP)
Ports number	4
Ka band Axial Ratio	1.0 dB
Ku Band Axial Ratio	30 dB
Ku/Ka band Return Loss	-16 dB min
Ku/Ka band Insertion Loss	0.15 dB max
Ka band Ports Isolation	20 dB min
Ku band Ports Isolation	35 dB min
Feed Material	Aluminium silver plated
Ka band Interface	WR42 flat
Ku band Interface	WR75 flat



Nti (Nuevas Tecnologías Inalambricas)

2 ports C Band Linear and Circular polarization on old Scientific Atlanta 8114 model



Parameter	Value
Frequency	3.4 – 4.2 GHz
Polarization	Dual Circular (LHCP/RHCP)
Return Loss	18 dB
Insertion Loss	0.35 dB
Axial Ratio	0.5 dB
Pressurization	2 PSG

ETNA-150 Mobile Vehicles Antenna



Sicilsat can supply ETNA-150 in any frequency band requested by the customer.
Simultaneous multi-band versions are also available on request.



Reflectors Material	• Aluminum
Main reflector size	• X 1500 mm • Y 1500 mm
RMS Reflector	• 0.25 mm
Wind Load	• Operational 70 Km/h • Survival 100 Km/h • Survival (Antenna Stowed) 180 Km/h
Temperature	• Operative -30°C a +60°C • Survival -40°C to +70°C
Antenna Handling	• 3-axis drive • Manual handling by means of a crankla in the event of a malfunction of the engine
Pointing accuracy	• Azimuth 0.04° • Elevation 0.04° • Polarization 0.5°
Axis Speed	Azimuth & Elevation min 0.2°/sec max 1.5°/sec Polarization min 0.2°/sec max 5°/sec
Handling range	• Azimuth +/- 175° • Elevation 15° - 90° • Polarization +/- 95°
Hardware Limits	• Azimuth 2 CW/CCW • Elevation 2 UP/DW • Polarization 2 CW/CCW • Stow 1
Spoiler	• Spoiler Fiberglass

Setup of Satellite Mobile Vehicles



06. Contacts

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