Satcom

LUNAR COMMUNICATION

CELESTIA

Celestia TTI
ttinorte.com
sales@ttinorte.es
Santander. SPAIN

Celestia STS
celestia-sts.com
info@celestia-sts.com
Noordwijk. THE NETHERLANDS

Celestia Callisto
callisto-space.com
sales@callisto-space.com
Villefranche de Lauragais. FRANCE

Celestia Antwerp
celestia-antwerp.be
sales@celestia-antwerp.be
Antwerp. BELGIUM

Celestia UK
celestia-uk.com
info@celestia-uk.com
Edinburgh. UK

Celestia TST
tst-sistemas.com
sales@tst-sistemas.es
Santander. SPAIN

Crafted in Europe, delivered worldwide

Elevating excellence

CELESTIA | RTI

CELESTIA | CSTS

CELESTIA | Callisto

CELESTIA | Antwerp

CELESTIA | C

CELESTIA | TST

CELESTIA

European group of multi-technology companies

Our group companies operate **across the globe but share a common purpose.** Together, we exist to lead the **continuous search for cutting-edge solutions** with reliable, affordable, European made high technology.

About us

Put simply, we connect ground to space, producing reliable solutions to communications challenges.

We are creating turnkey communications solutions for a **worldwide market.**

For over 25 years, our business has been synonymous with world-class innovation, quality and engineering excellence with a customer focus.

We deliver technology products, systems and services to our partners across the **aerospace, defence, satellite, scientific and IoT sectors.**

Global in reach, our **multi-disciplined teams** create smart responses to communications challenges using new ideas, new technologies and new ways of thinking.

We have the backing of **Waterland Private Equity** accelerating our growth ambition.

We have a strong heritage in partnering with businesses and international space agencies from development to commercialisation in a wide range of key enabling technologies.

We are built to innovate

Where we are

We have design, manufacturing and testing facilities in Spain, the Netherlands, Belgium, France and the UK.

European team working together as one. Our European origins bring a legacy of quality craftmanship to the global stage, offering solutions that are regionally rooted but internationally recognised.

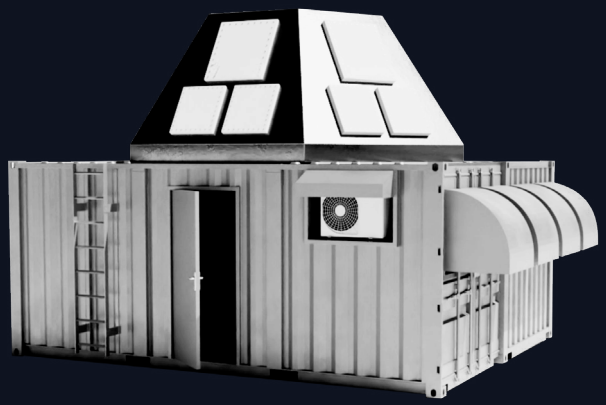
Our engineering and production facilities are located in **six different countries across Europe,** putting us within close reach of our customers. **Crafted in Europe, delivered worldwide**

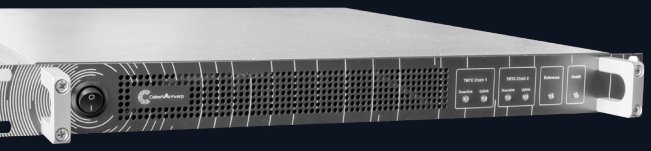
CELESTIA

Electronically Steered Antennas

Groundbreaking technology based on beam forming technologies capable of tracking multiple satellites simultaneously, optimising capital investment.

Satellite Gateways for **Multi-Orbit constellations**, ground stations for TT&C and Earth Observation and User Terminals for air and spaceborne applications.





Modems

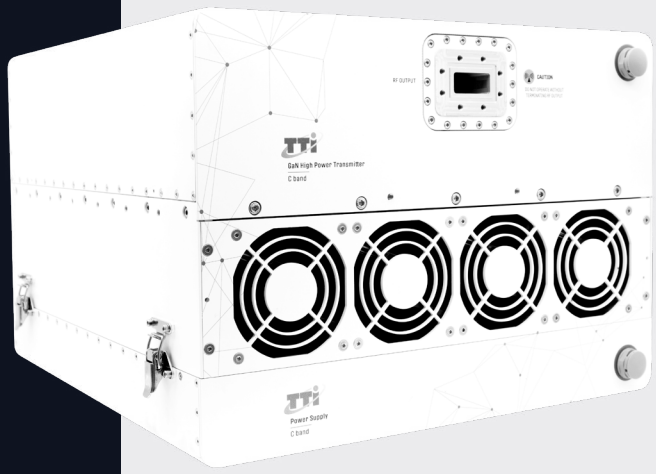
Wide product portfolio of baseband modems for TT&C, Earth Observation, ULS-Galileo.

Unique Optical Modems.

Satellite Ground Stations

System Engineering, Ground Station Equipment, Test Systems, Monitoring & Control Solutions and Radar Systems.

A product line of flexible, scalable and robust **M&C Solutions for complex infrastructures.**



SSPAs (Solid State Power Amplifiers)

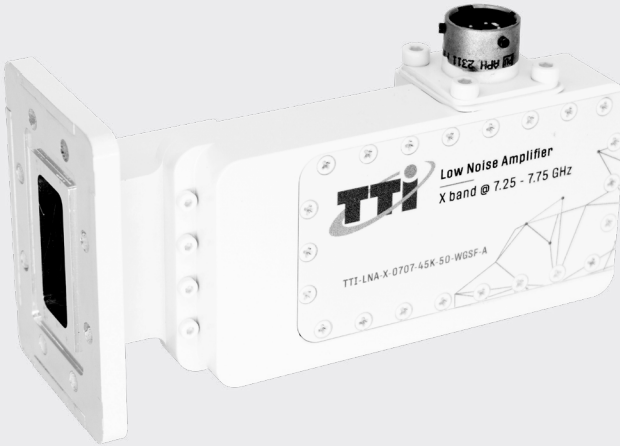
A wide product portfolio based on GaN technology, from tens of Watts up to kWs, covering very low frequency bands up to Q band.

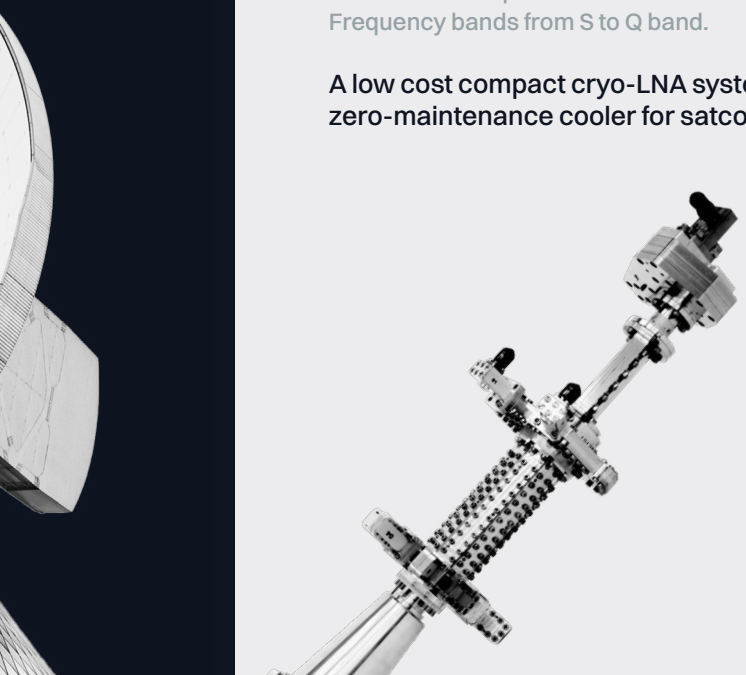
Hundreds of GaN SSPAs deployed in the field in very demanding sectors.

LNAs (Low Noise Amplifiers)

A product line of Low Noise Amplifiers (LNAs) for Satcom reception and Earth Observation. Frequency bands from S to Q band.

A low cost compact cryo-LNA system using a zero-maintenance cooler for satcom.





Passive RF Components

Different types of antenna feeders, probes, horns, polarisers and Orthomode Transducers (OMTs), from UHF to millimetric frequency bands.

Custom solutions adapted to customer requirements.

SSPAs/BUCs

SATCOM - Lunar communication

CELESTIA

SATCOM

LUNAR COMMUNICATION - GaN based SSPAs

BAND	TYPE	Psat	FREQUENCY
K	Outdoor / Indoor		
	SSPA	500 W / 250 W	22.5-23.15 GHz
X	Outdoor / Indoor		
	SSPA	800 W / 400 W	7.145-7.235 GHz
	Phase combined system	1.3 kW	

RCU - Remote Control Unit for SSPAs/BUCs/UCs

BAND	TYPE	M&C - SSPAs/BUCs/UCs	CONFIGURATION
RCU	Outdoor / Indoor		
	Standard	Up to 3	Redundant configuration & Phase combined systems
	Hyper	Up to 4	
	Ultra	Up to 8	

LNAs / Compact cryo LNAs

SATCOM

SATCOM

LUNAR COMMUNICATION - LNAs / Compact cryo LNAs

BAND	TYPE	FREQ. BAND	NOISE TEMP.	INPUT VSWR	GAIN	INPUT PORT
Ka	LNA	25.5-27 GHz	≤155 K	≤1.6:1	>43 dB	WR34
	Compact cryo LNA		≤40 K	≤2.0:1	>50 dB	
X	LNA	8.4-8.5 GHz	≤50 K	<1.6:1	>55 dB / >60 dB	CPR112G

RCU - Remote Control Unit for LNAs/LNBs

MODEL	M&C - LNAs/LNBs	CONFIGURATION
RCU	Up to 6	1:0, 1:1, 1:2 redundancy systems

SSPAs / BUCs

SATCOM - LUNAR COMMUNICATION

K

GaN SSPA - Outdoor

250 W / 500 W

22.55 – 23.15 GHz

Psat	54 dBm / 57 dBm
Plinear	51 dBm / 54 dBm
Size	744 x 102 x 483 mm

K

GaN SSPA - Indoor

250 W / 500 W Water cooling

22.55 – 23.15 GHz

Psat	54 dBm / 57 dBm
Plinear	51 dBm / 54 dBm
Size	556 x 177 x 483 mm

X

GaN SSPA - Indoor

400 W / 800 W Water cooling

7.145 - 7.235 GHz

Psat	56 dBm / 59 dBm
Plinear	53 dBm / 56 dBm
Size	600 x 132.5 x 483 mm

X

High power GaN SSPA - Outdoor/Indoor

1.3 kW Phase combined system

7.145 - 7.235 GHz

Psat	61.2 dBm
Plinear	59 dBm

SSPAs / BUCs

M&C SSPA/BUC/UC SYSTEMS

RCU

Remote Control Unit - Outdoor

Redundant systems & Phase combined

Config.	1:0, 1:1, 2:1 & Phase combined
M&C	Up to 3 SSPAs/BUCs - STANDARD
	Up to 4 SSPAs/BUCs - HYPER
	Up to 8 SSPAs/BUCs - ULTRA
Size	360 x 286 x 64 mm

RCU

Remote Control Unit - Indoor

Redundant systems & Phase combined

Config.	1:0, 1:1, 2:1 & Phase combined
M&C	Up to 3 SSPAs/BUCs - STANDARD
	Up to 4 SSPAs/BUCs - HYPER
	Up to 8 SSPAs/BUCs - ULTRA
Size	483 x 88 x 305 mm

SSPAs / BUCs

REDUNDANCY SYSTEMS

Redundancy system - Outdoor

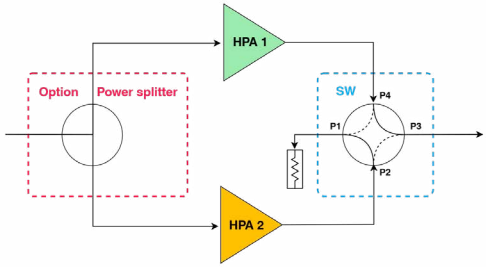
1:1 or 2:1

Freq. bands	Ka, K, DBS, Ku, X and C
Transmitters	SSPAs/BUCs
WG kit	WG switches/sections/loads
Frame	Standard outdoor frame

Redundancy system - Indoor

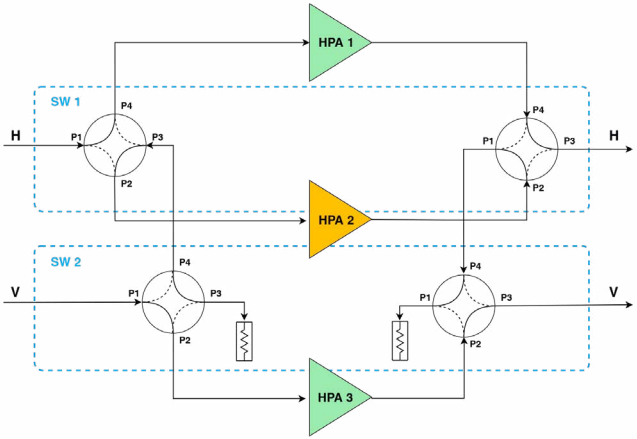
1:1 or 2:1

Freq. bands	Ka K DBS Ku X C
Transmitters	SSPAs/BUCs
WG kit	WG switches/sections/loads
Frame	Rack cabinet



Redundancy system - Outdoor / Indoor

1:1 configuration



Redundancy system - Outdoor / Indoor

2:1 configuration

LNAs / Compact cryo LNAs

SATCOM - LUNAR COMMUNICATION

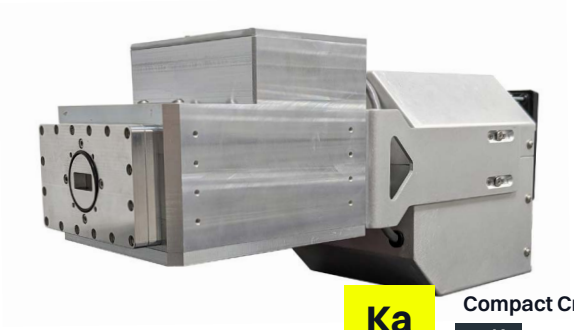
Ka

LNA

155 K

25.5 - 27 GHz

Input VSWR	<1.5:1
Gain	>43 dB
Input port	WR34
Size	65 x 55 x 30 mm



Ka

Compact Cryo LNA

40 K

25.5 - 27 GHz

Input VSWR	<2.0:1
Gain	>50 dB
Input port	WR34
Size	612 x 235 x 188 mm

X

LNA

50 K

8.4 - 8.5 GHz

Input VSWR	<1.6:1
Gain	> 55 dB / > 60 dB
Input port	WG
Size	101.2 x 65.8 x 46.6 mm

Satcom

M&C LNA/LNB SYSTEMS

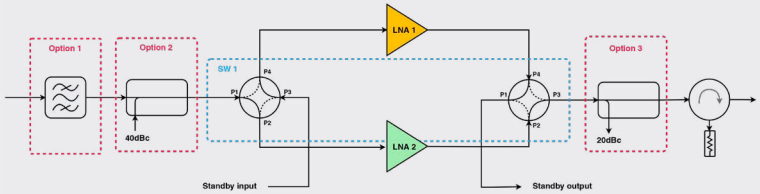
RCU

Remote Control Unit

M&C LNA/LNB systems

Config.	1:0, 1:1, dual 1:1, 1:2
M&C	Up to 6 LNAs/LNBs
Size	483 x 88 x 305 mm

REDUNDANCY SYSTEMS



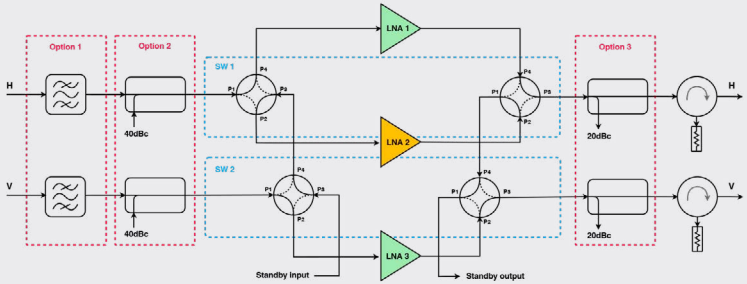
Redundancy system

1:1 or 1:2

Freq. bands	Q, Ka, X and S
Receivers	LNAs/LNBs
WG kit	WG switches/sections/loads
Frame	Standard outdoor plate

Redundancy system

1:1 configuration



Redundancy system

1:2 configuration

CELESTIA

We are here for you

Our team will be delighted to assist you.

Share your idea with us, discuss all your specific needs, and let's make it a reality.

celestia-tech.com
sales@celestia-tech.com

CELESTIA

VER. 012025