# Anteral

Innovative Antennas,
Passives & Radar Technologies.

# OUTLINE

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OUR COMPANY

02
OUR DEVELOPMENTS

03
ANTENNAS & PASSIVES

04
uRAD: RADAR TECHNOLOGY

05
R&D

Anteral

# 01
# OUR COMPANY

Anteral

# WHERE WE COME FROM

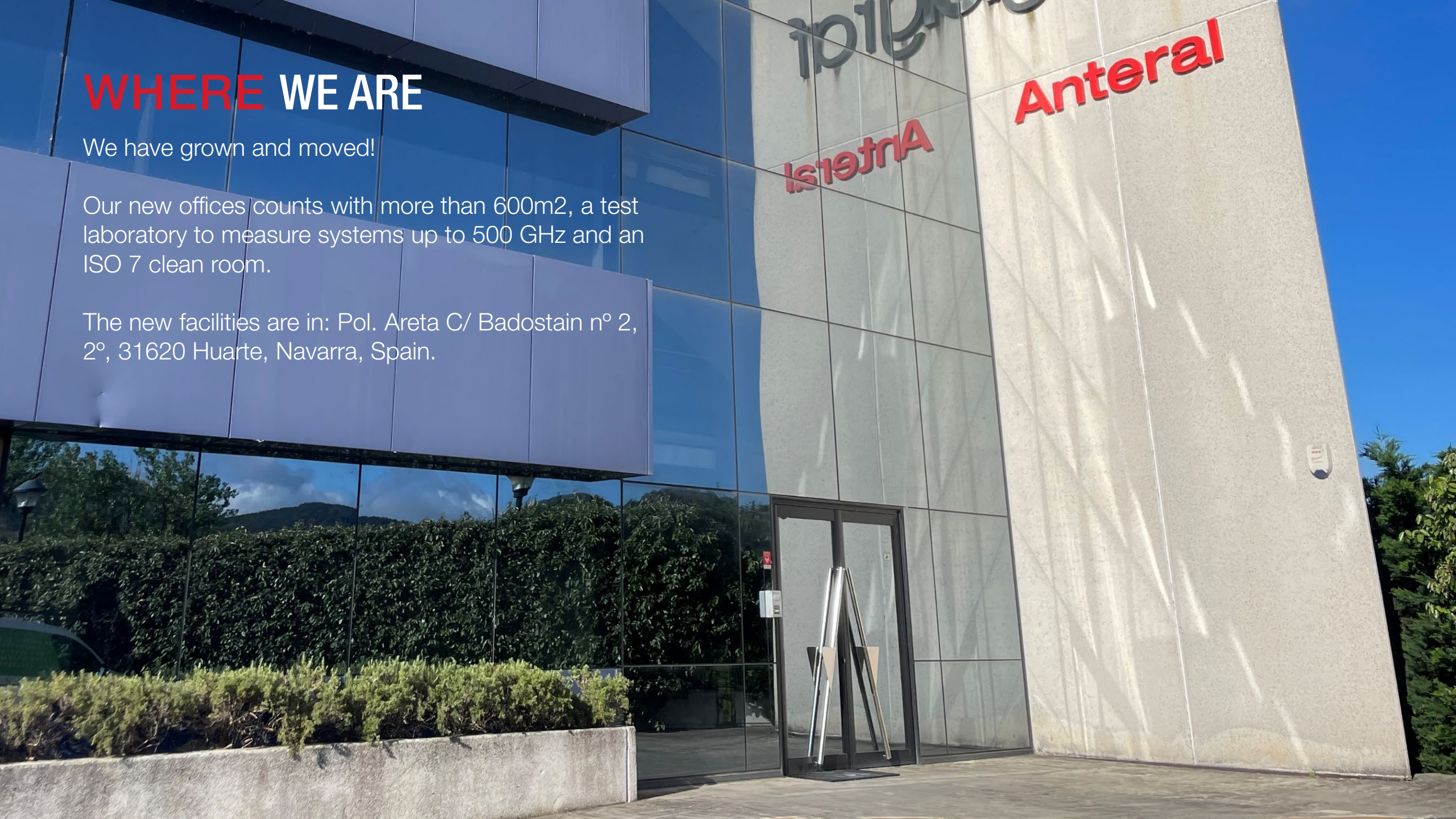
Stablished in 2010
SPIN OFF company from Public University of Navarra
Knowledge transfer from the Antenna Group

# WHERE WE ARE

We have grown and moved!

Our new offices counts with more than 600m2, a test laboratory to measure systems up to 500 GHz and an ISO 7 clean room.

The new facilities are in: Pol. Areta C/ Badostain nº 2, 2º, 31620 Huarte, Navarra, Spain.




# WHERE WE ARE

**#Navarra2Space**

**Clients in more than 50 countries trust in us**

DISTRIBUTORS:
Germany
Argentina
China
India
Israel
Japan
Korea
UK
EEUU

Pol. Areta C/ Badostain nº 2, 2º, 31620
Huarte, Navarra, Spain

# WHO WE ARE

Dr. Itziar Maestrojuán Biurrun
CHIEF EXECUTIVE OFFICER (CEO)

Dr. Víctor Torres Landivar
RADAR CTO

Dr. Fernando Teberio Berdún
ANTENNAS & PASSIVES CTO

Raquel Esteban Ríos
ADMINISTRATIVE

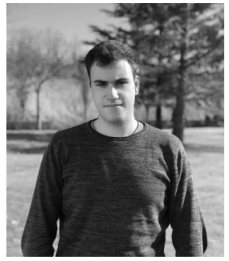
Xabier Frances Oiz
MECHANICAL ENGINEER

Mario Royo Romero
RF TEST ENGINEER

Alejandro Orbaiceta Fernández
RF ENGINEER

Ibai Calero Fernández
RF ENGINEER

Gonzalo Thomas Erviti
PROJECT MANAGER



Pablo Gonzalo Palacios
TELECOM. STUDENT

Yumur Yalmaz Kerim
SOFTWARE DEVELOPER

Andoni Marzo Oyarbide
PHD CANDIDATE/RESEARCHER

Guillermo Berasategui Herranz
SOFTWARE ENGINEER

Javier Jiménez Peña
RF ENGINEER

Itziar Aldaia Galarreta
ADMINISTRATIVE

Vanessa Urdíroz Castillo
MARKETING & COMMUNICATION MANAGER

Dr. David Santiago Arriazu
RF ENGINEER

Juanjo Ballesta Huertas
PhD STUDENT

Xabier Zúñiga Yanguas
ELECTRONICS ENGINEER

Mónica Pierola Gaviria
MECHANICAL ENGINEER

Adrián Rubio Lamana
RF ENGINEER

21 people – 35% PhD – 85% Engineers

Innovation – Quality -Team building –
Commitment - Passion for challenges

# 02
# OUR DEVELOPMENT LINES

# ANTERAL DEVELOPMENT LINES

## ANTENNAS & PASSIVES

Development of high performance antennas and passives for Space, Telecommunications, etc.

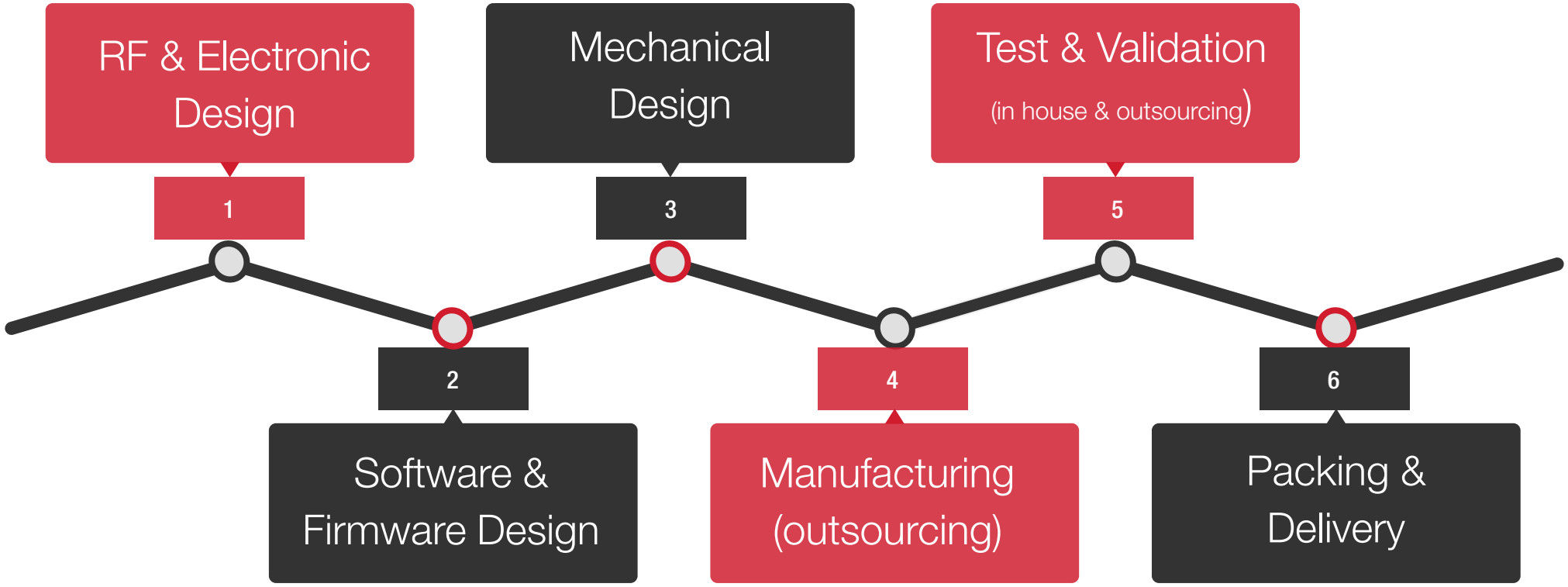
## RADAR

Development of radar technology for Smart Cities, Industry, etc.

## R&D

Continuous research and innovation

# COMPLETE DEVELOPMENT



# 03
# ANTENNAS & PASSIVES

# SPACE & NEW SPACE

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# LAUNCHERS

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# SATCOM

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# TELECOMMUNICATIONS

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5G & 6G
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# SECURITY & DEFENCE


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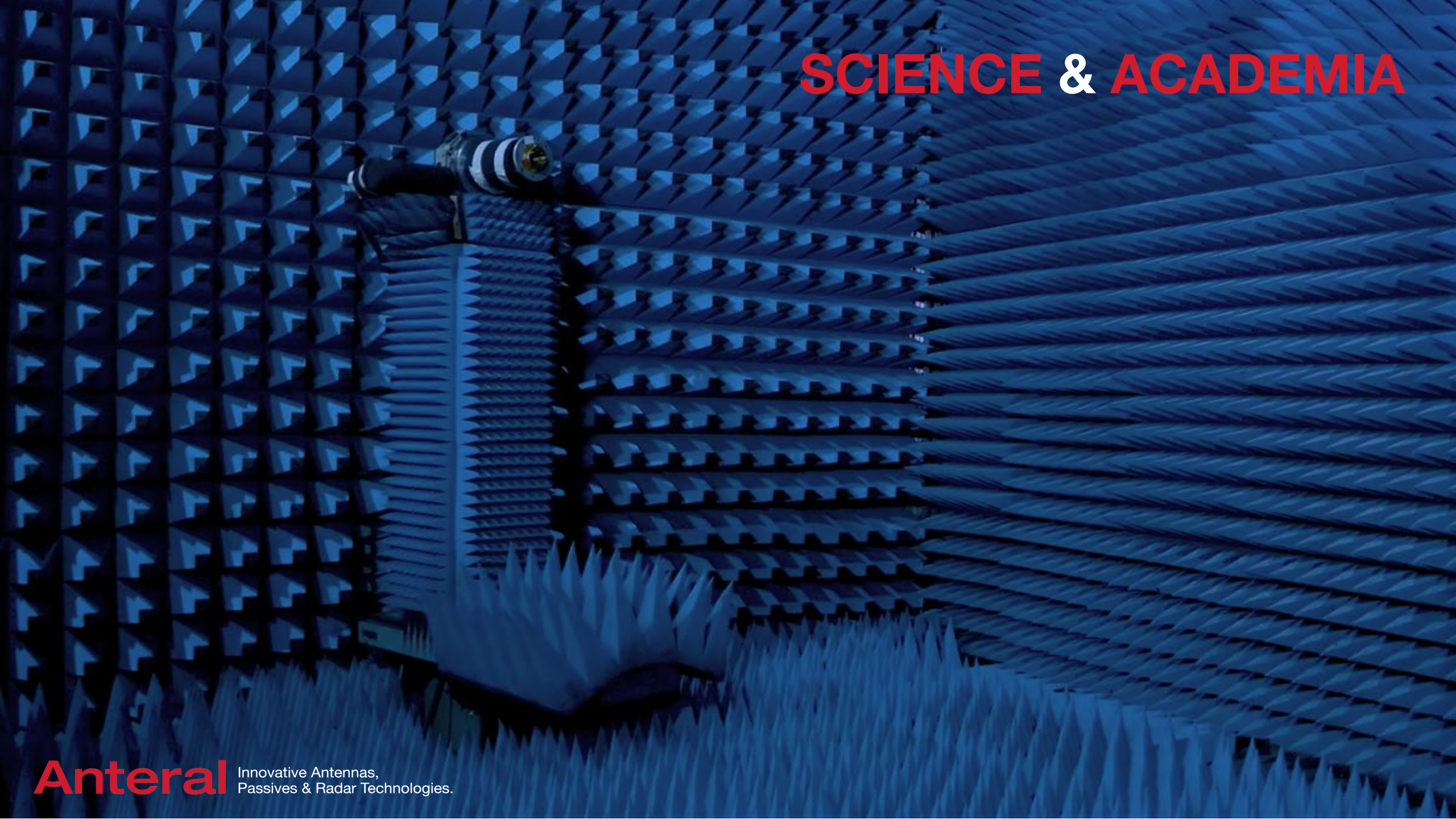

# SCIENCE & ACADEMIA

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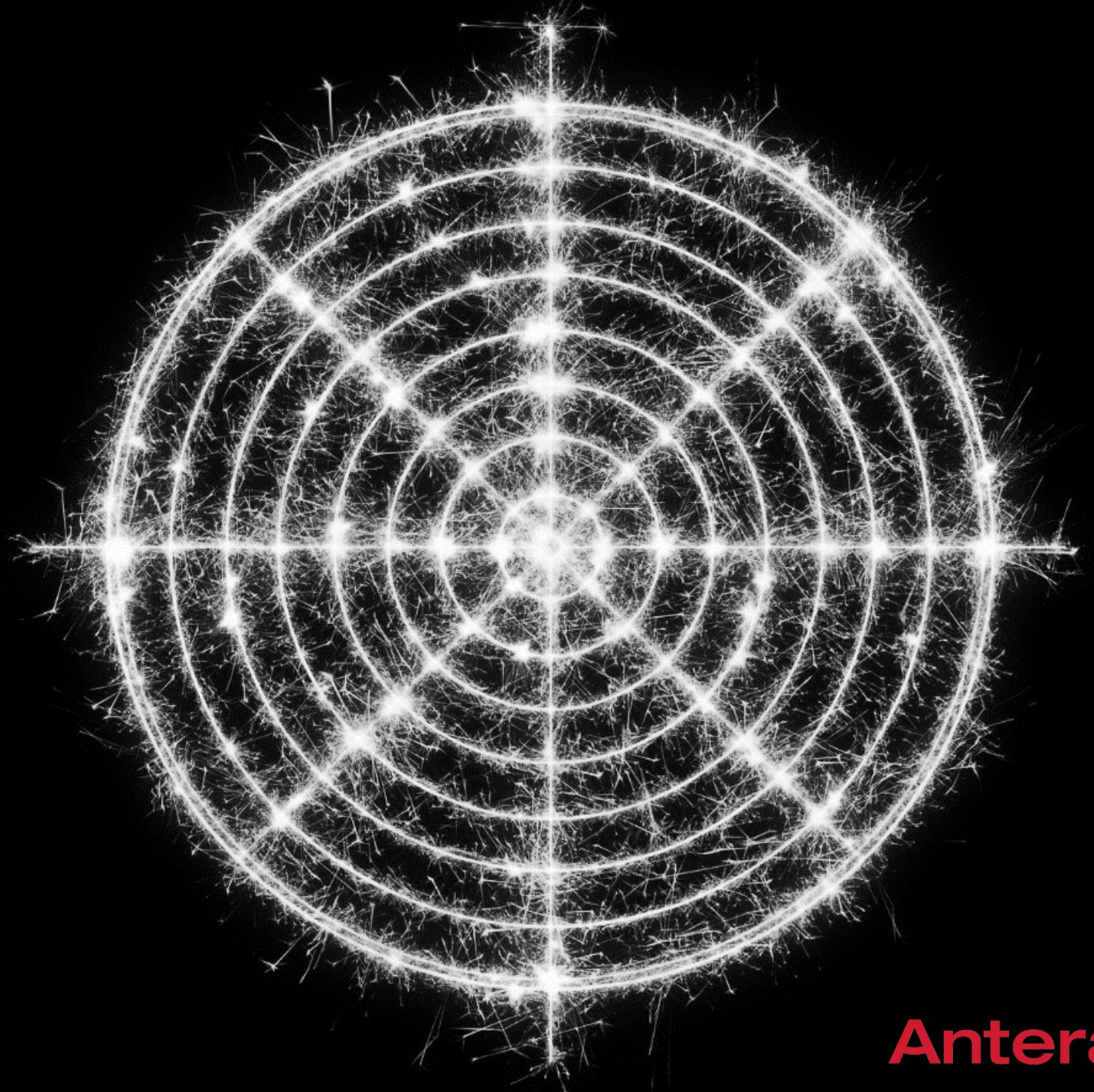
# RADAR
# TECHNOLOGY



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# HERITAGE & EXPERIENCE

+ 14 years of experience
+ 25 Space programs
+ 30 R&D programs
+100 flight models on board
+ 50 countries
+ 250 products

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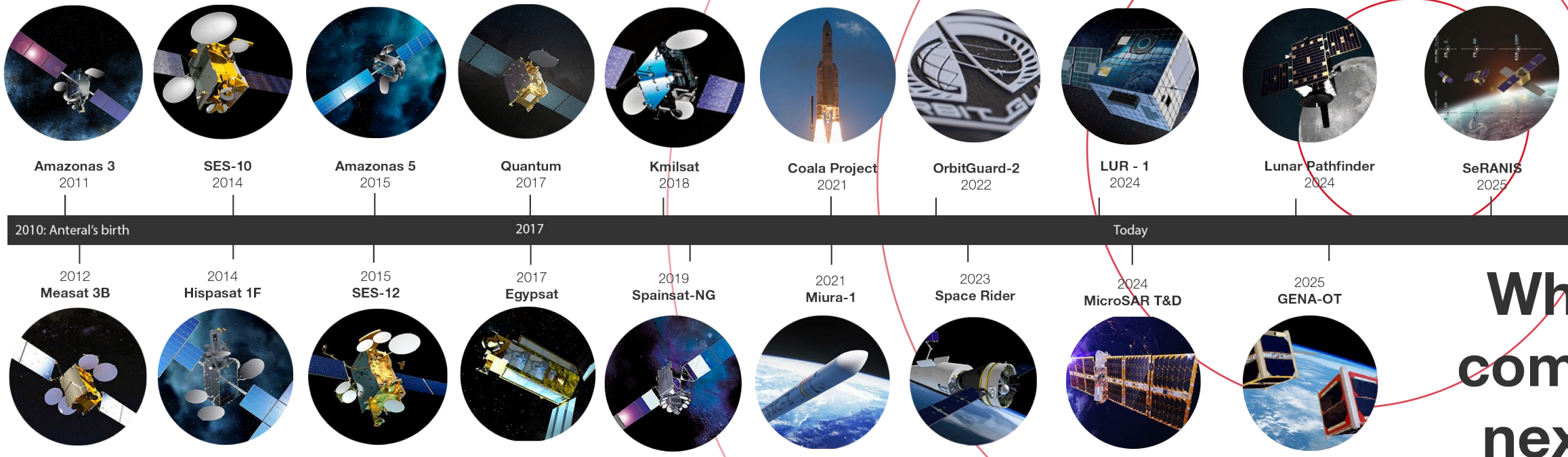
# AEROSPACE MISSIONS




**What comes next?**

# OUR CLIENTS

ThalesAlenia Space
A Thales / Finmeccanica Company

gmv
INNOVATING SOLUTIONS

AIRBUS
DEFENCE & SPACE

HITACHI

esa

NASA JPL

indra

L3HARRIS™
FAST. FORWARD.

ALL.SPACE

PARADIGMA
technologies

AERTEC

. . .

# OUR PRODUCTS

# SGH - Standard Gain Horn Antennas

WR90 - WR1.5

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# NFP - Near Field Probes

WR90 – WR1.5

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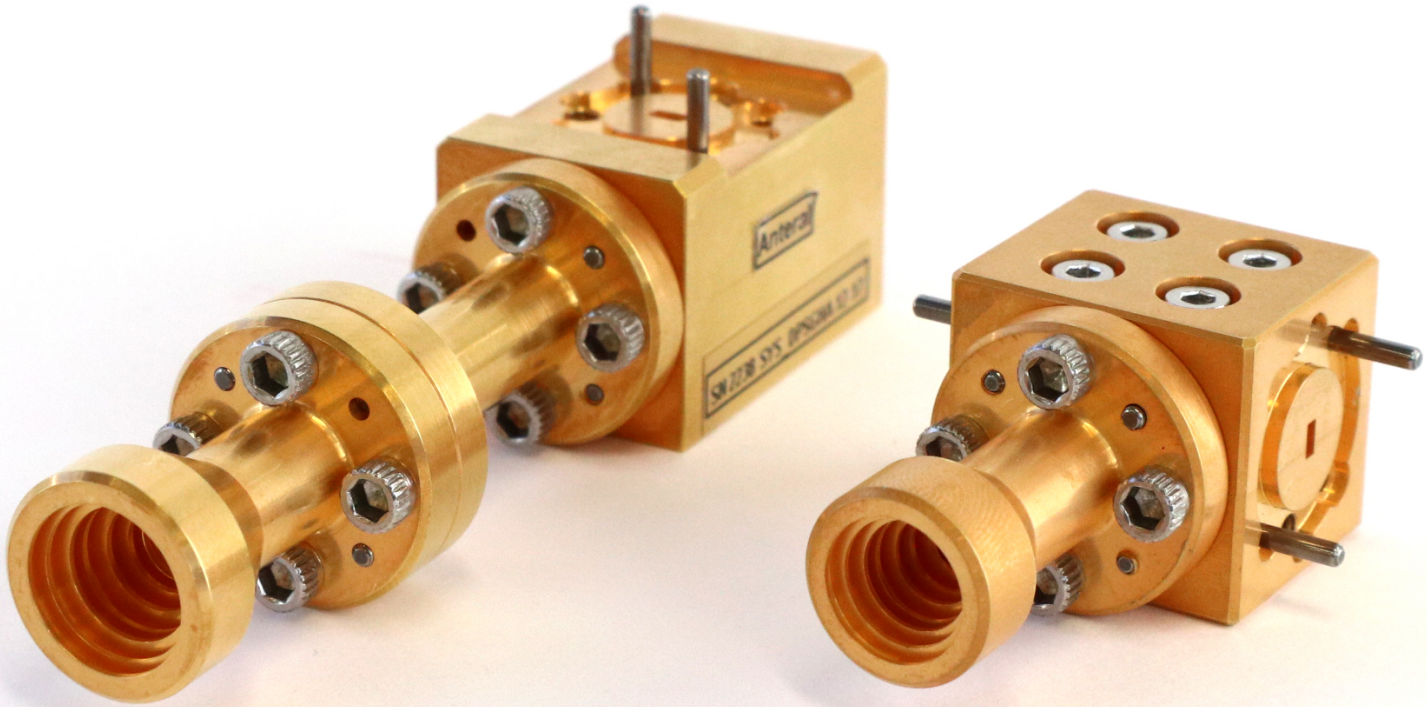
# SYSTEMS – Dual linear & circular polarized antennas

WR12, Gain 18 dBi, Isolation 40 dB

WR10, Gain 18 dBi, AR 1 dB

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# CATR – Dual circular polarized antennas

2-port, Q/V-band, 13 dBi Directivity, AR < 0.4 dB, Isolation > 25 dB


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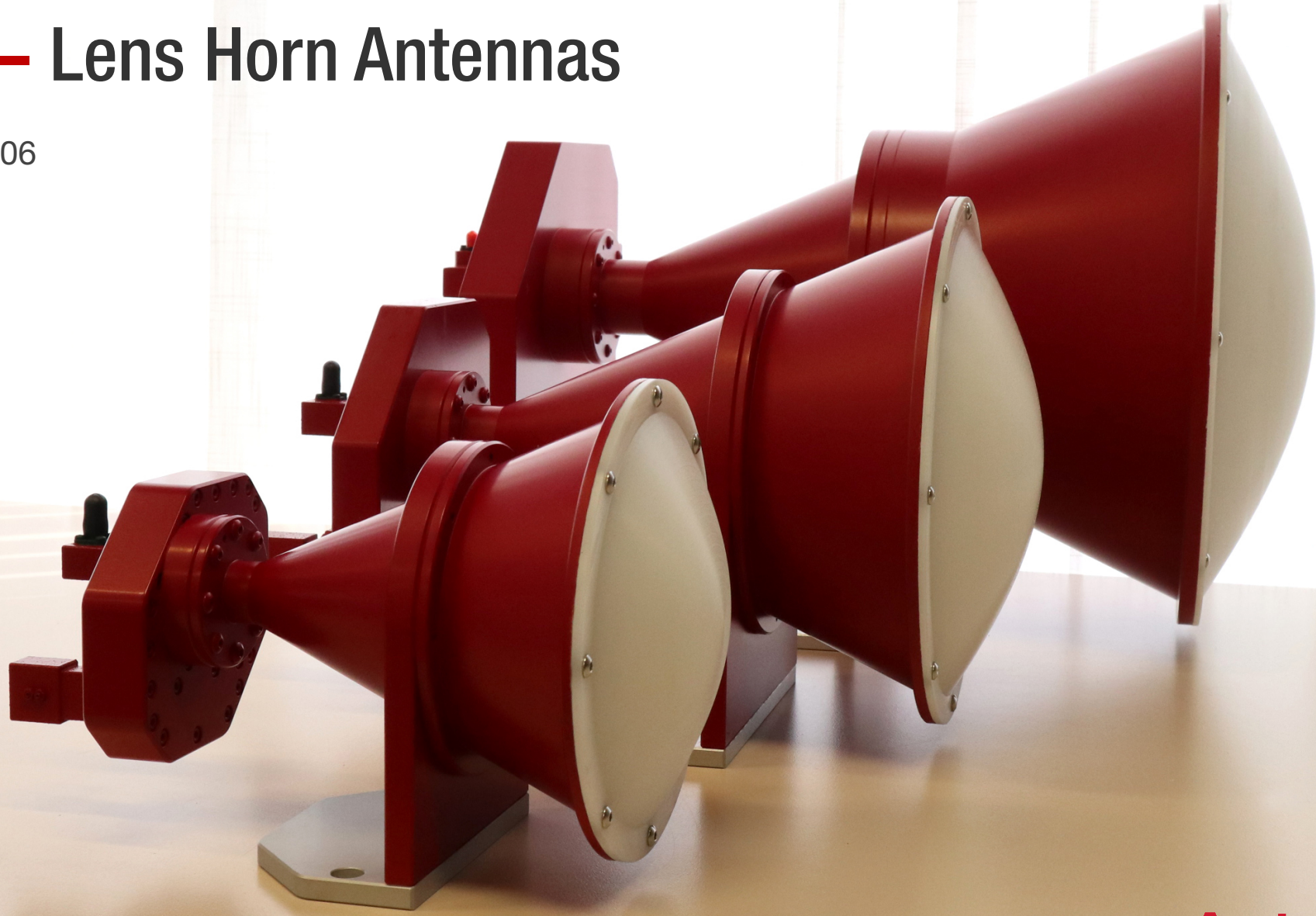
# FLHA – Focusing Lens Horn Antennas

# LHA – Lens Horn Antennas

WR90 – WR06



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# HGLHA - High Gain Lens Horn Antennas

WR06 – WR1.9

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# CRS – Cassegrain Reflector System Arrays

WR15 – WR1.9

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# SYSTEMS – Dual circular reflector antennas

WR10, Gain 40 dBi, perfect for radar applications


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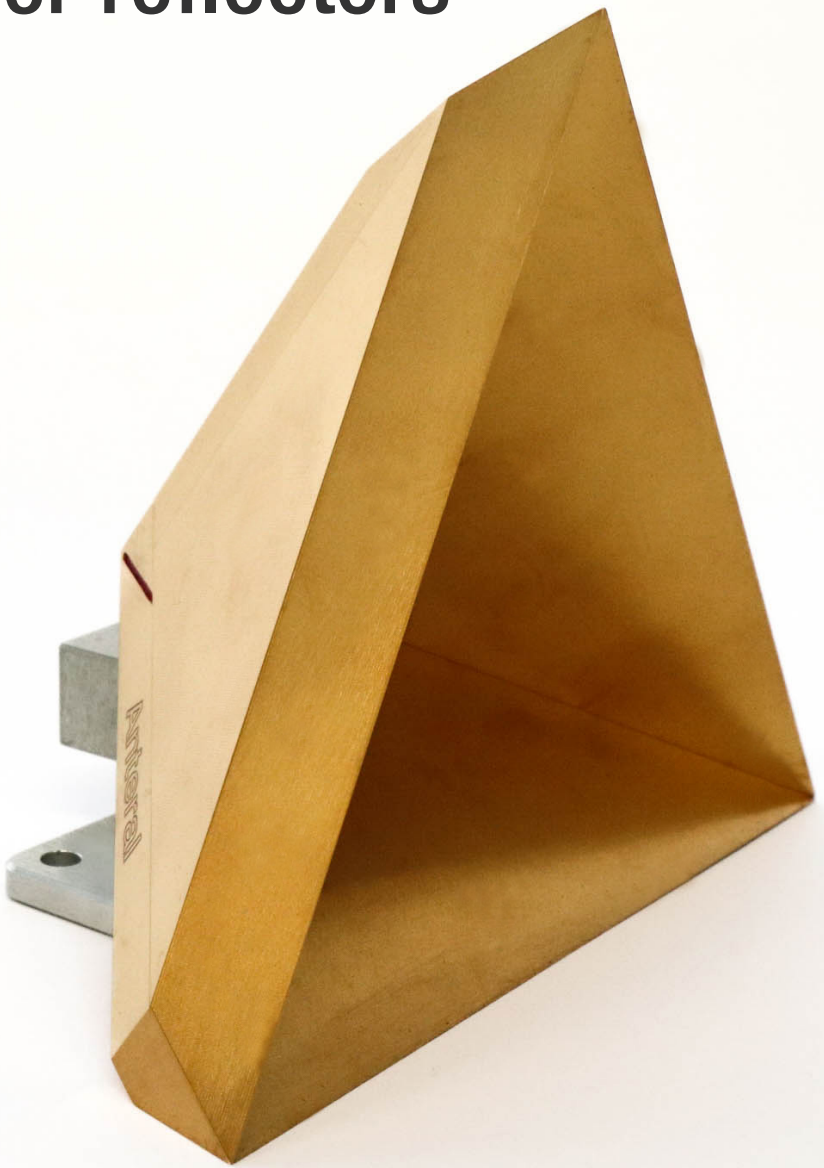
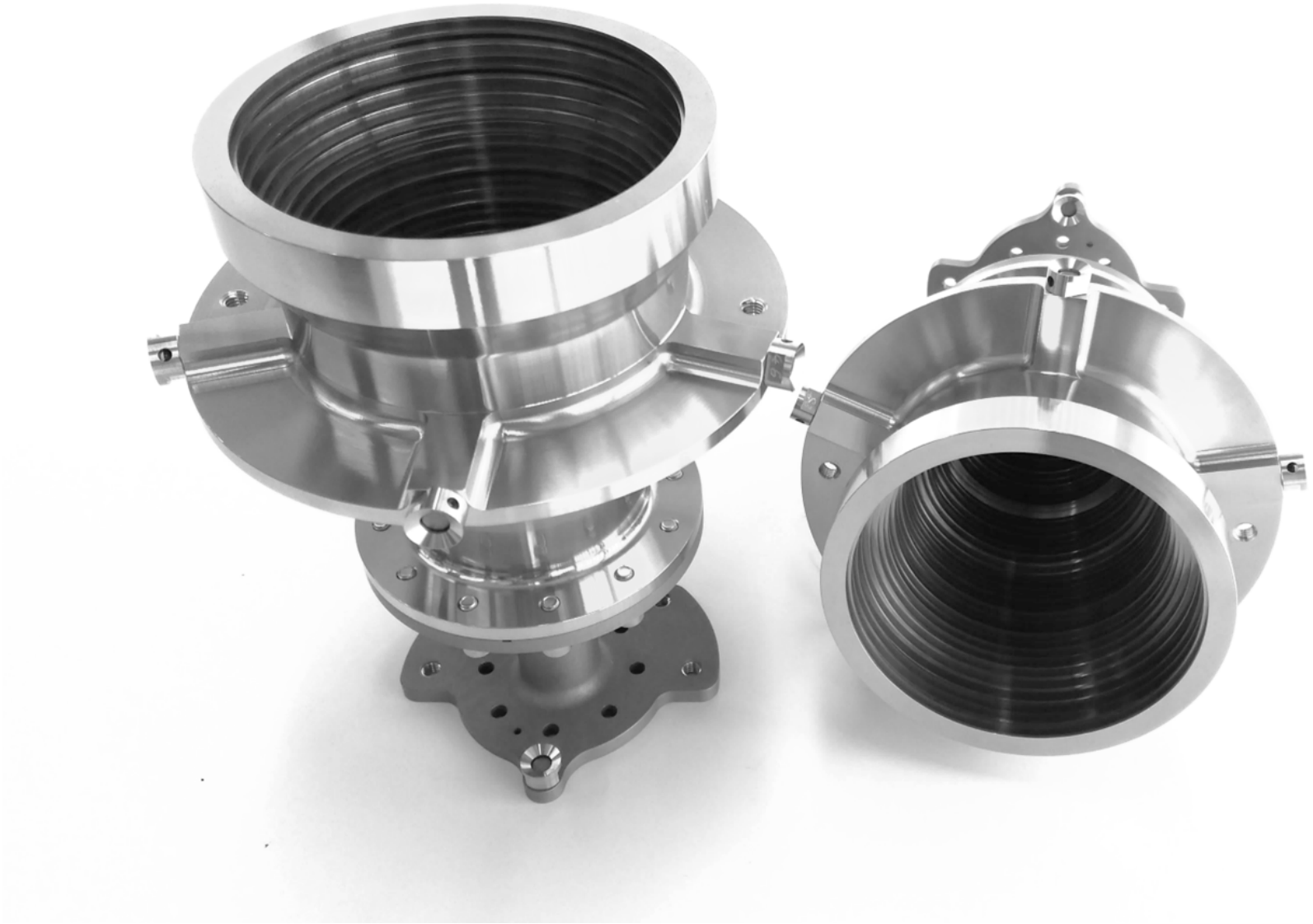
# TCR – Trihedral corner reflectors



# FEEDHORN
# ANTENNAS



Axial & radial corrugated feedhorn antennas

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# FEEDHORN **ANTENNAS**

Smooth-waveguide splined-profile feedhorn antennas

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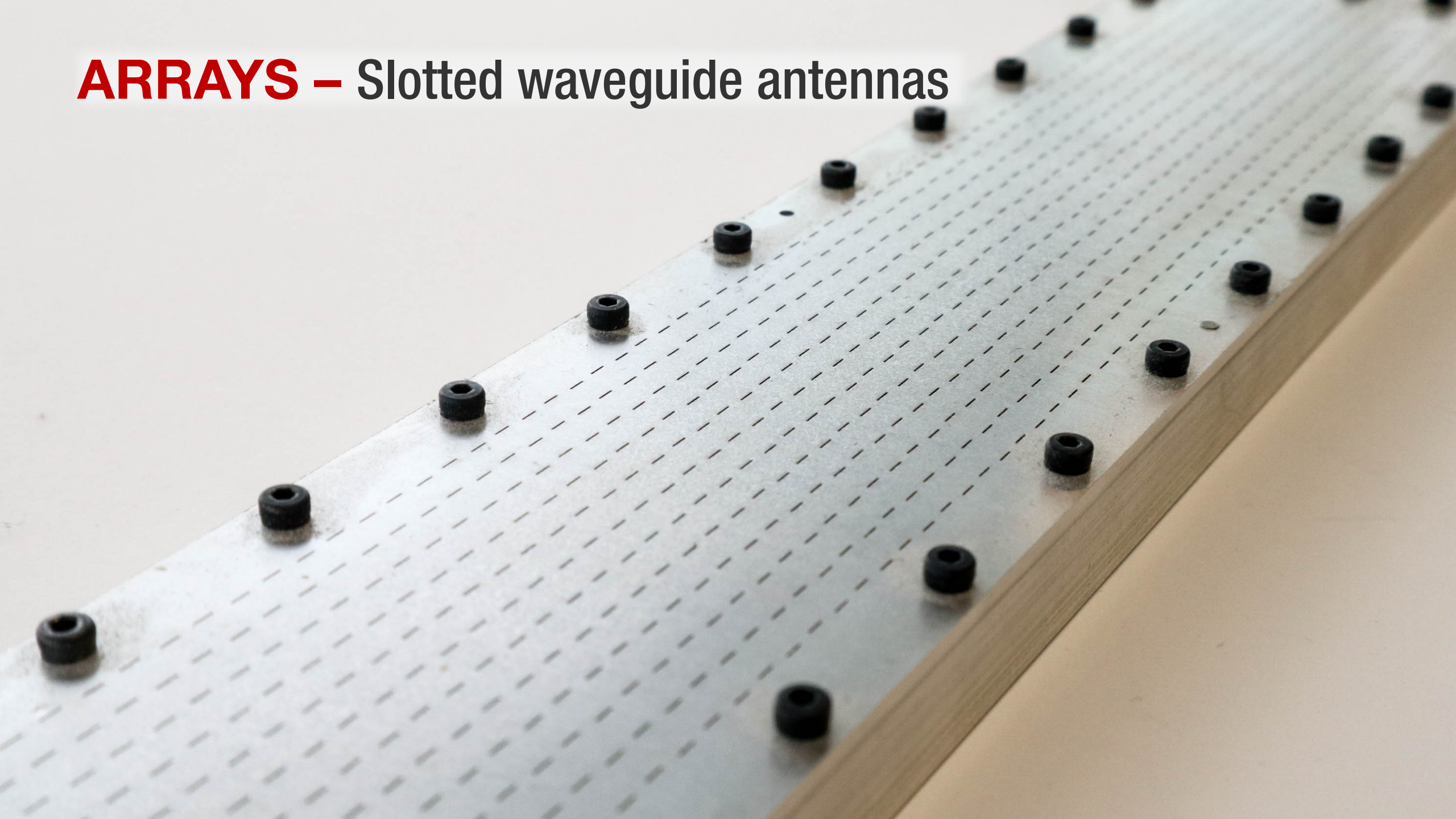
# ARRAYS – Slotted waveguide antennas



# PLANNAR

## ANTENNAS for Launchers

GNSS
TT&C
Termination
(UHF, LS, L, S & C bands)

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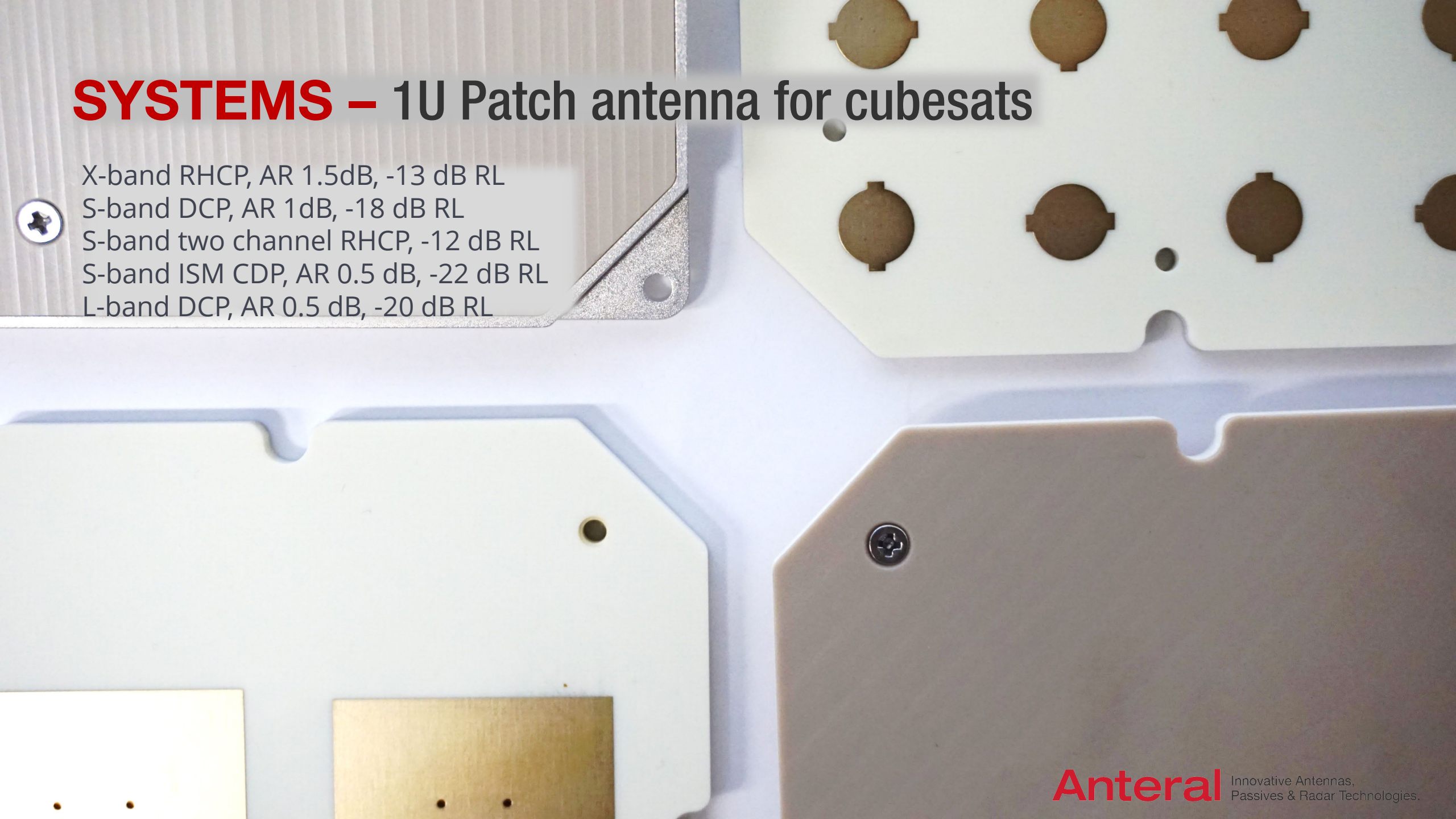
# SYSTEMS – 1U Patch antenna for cubesats

X-band RHCP, AR 1.5dB, -13 dB RL
S-band DCP, AR 1dB, -18 dB RL
S-band two channel RHCP, -12 dB RL
S-band ISM CDP, AR 0.5 dB, -22 dB RL
L-band DCP, AR 0.5 dB, -20 dB RL



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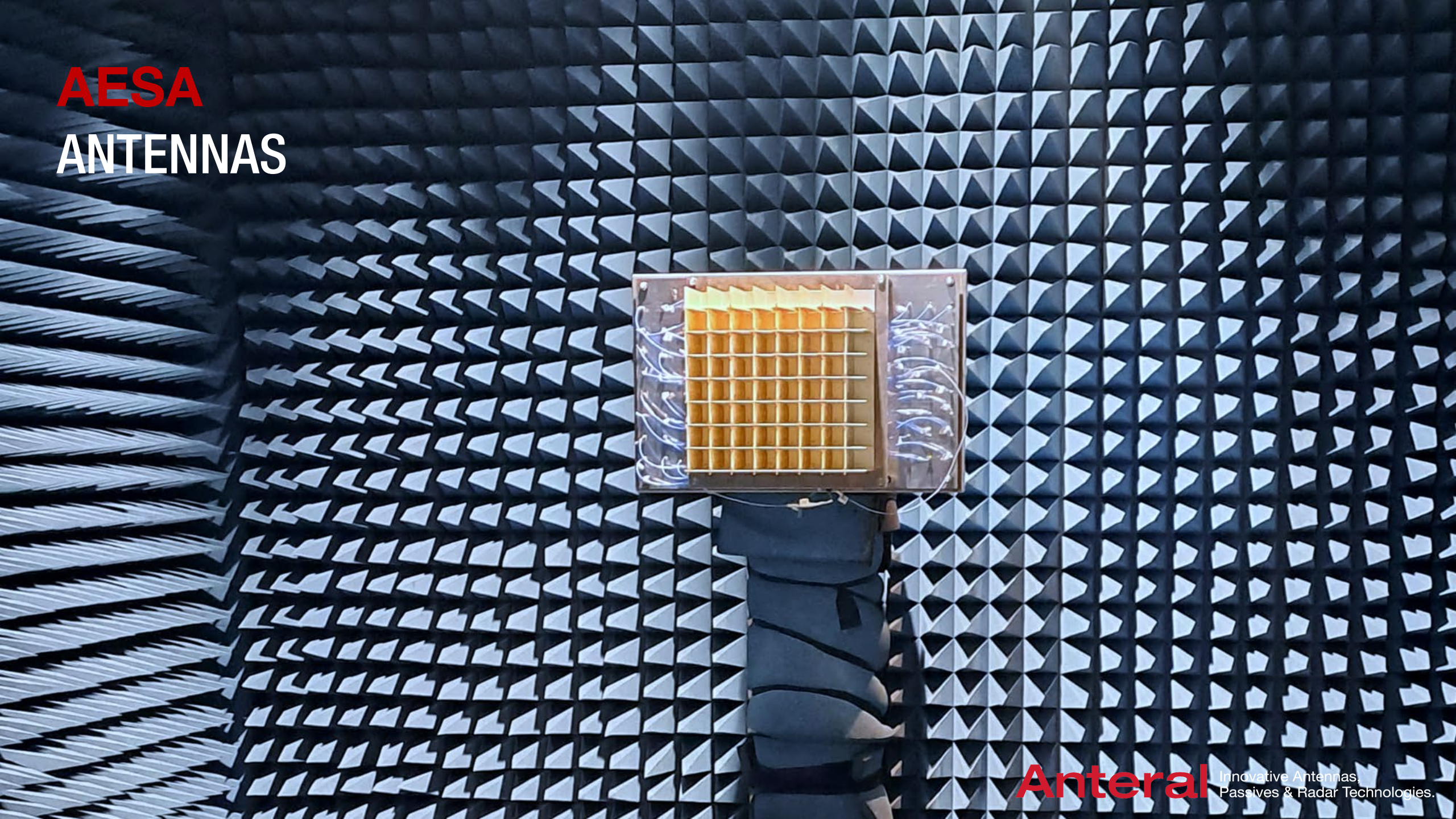
# AESA
# ANTENNAS



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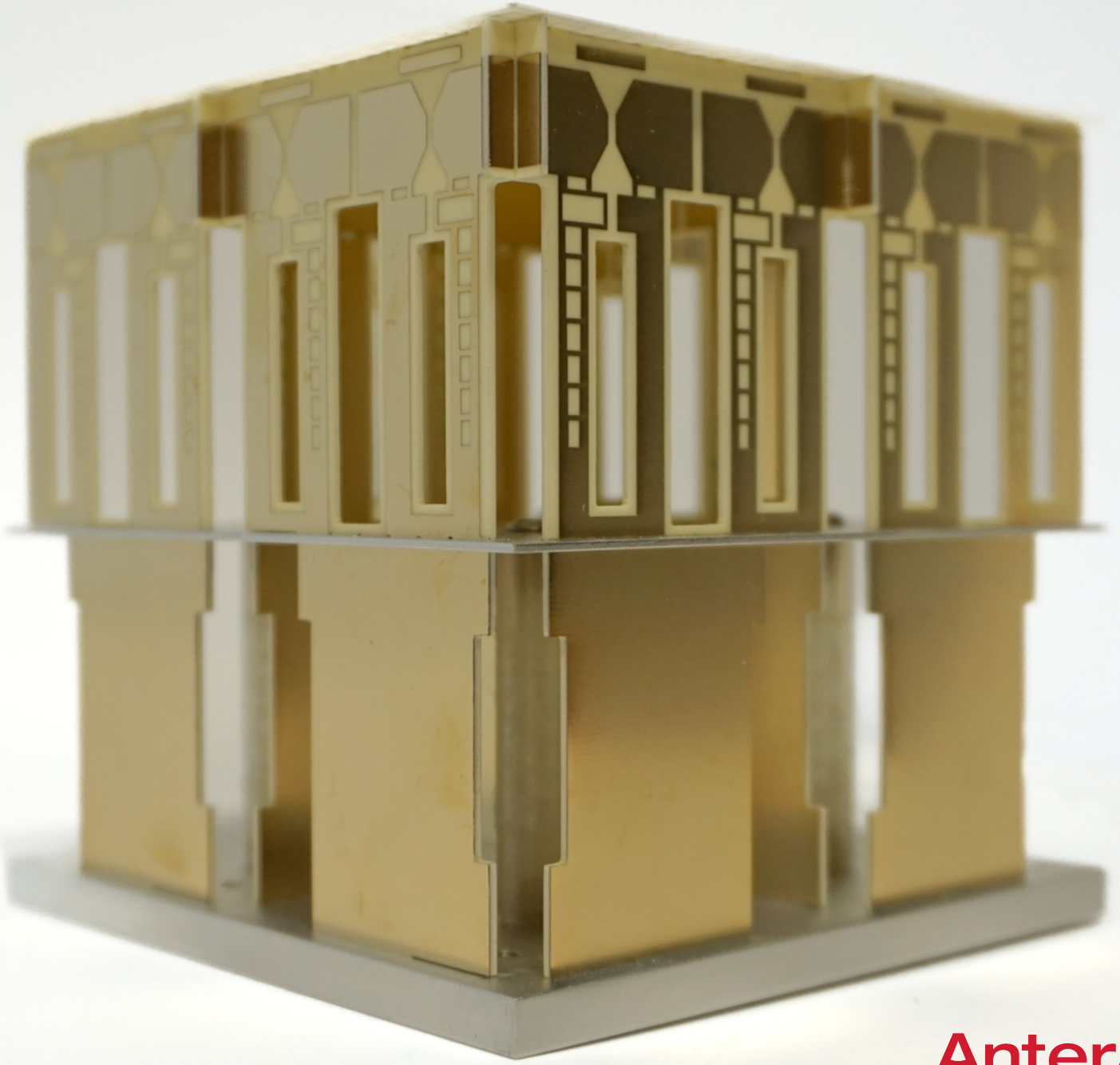
# AESA
## ANTENNAS



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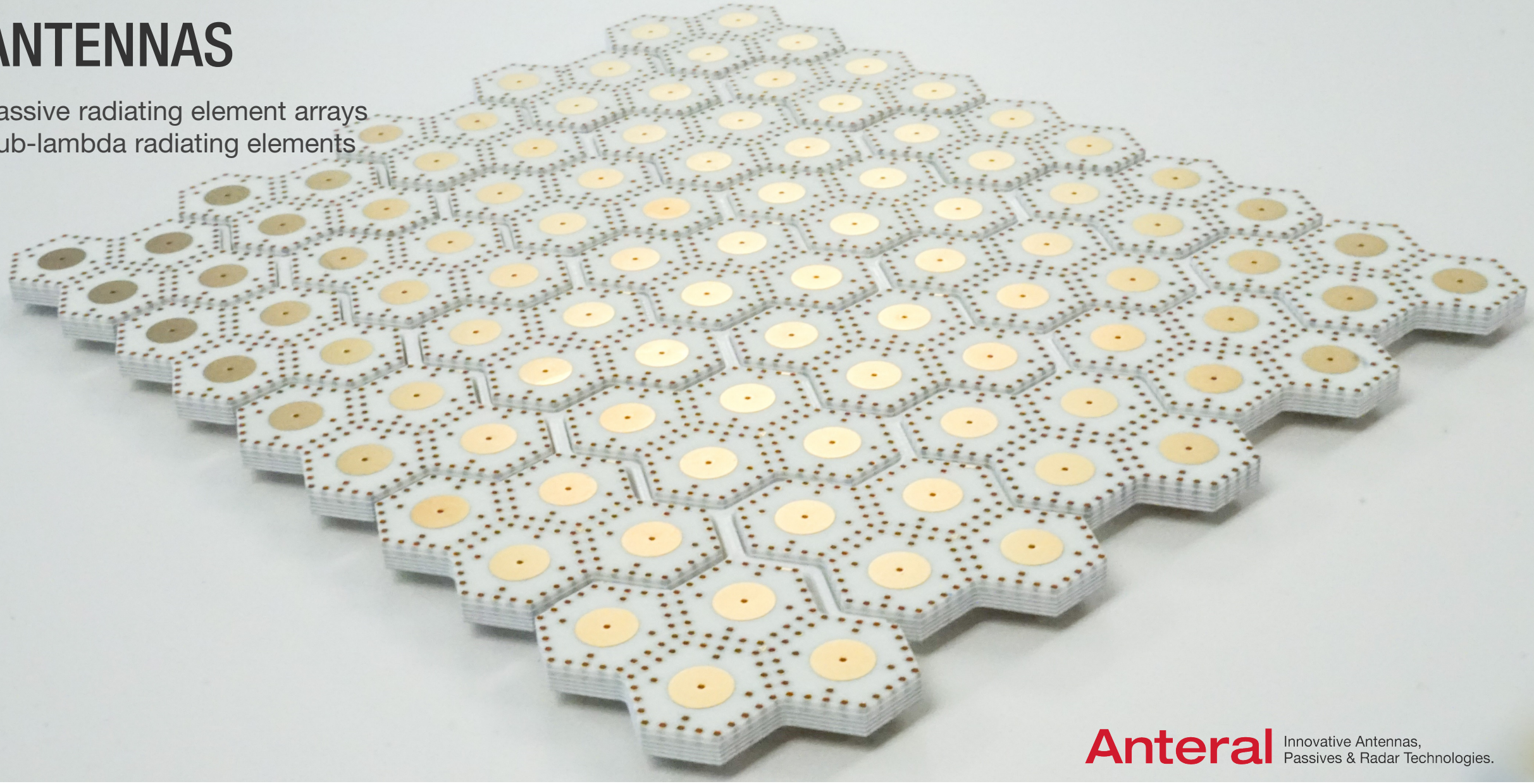
# PHASE ARRAY
# ANTENNAS

Passive radiating element arrays
Sub-lambda radiating elements



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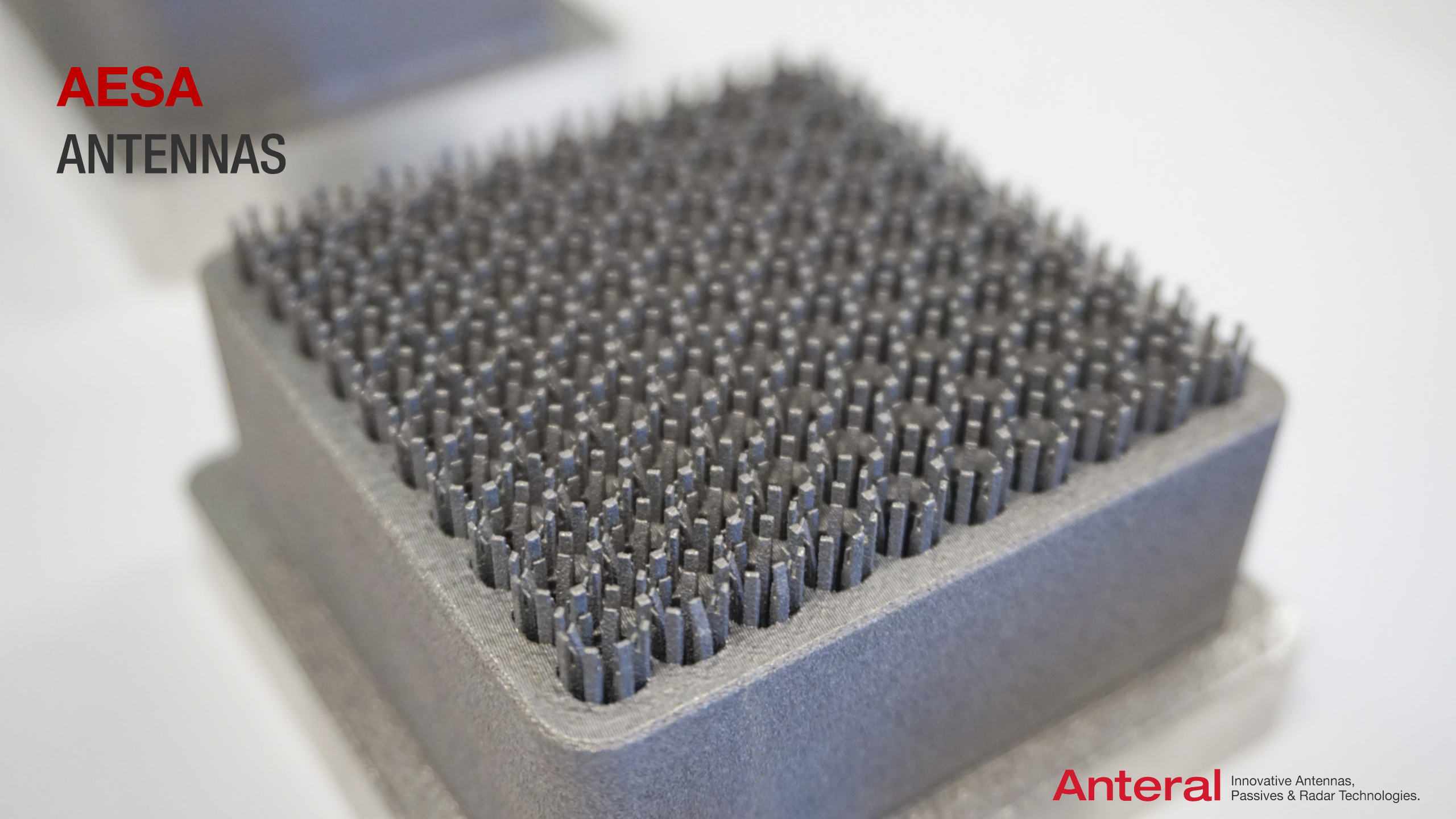
# AESA
# ANTENNAS



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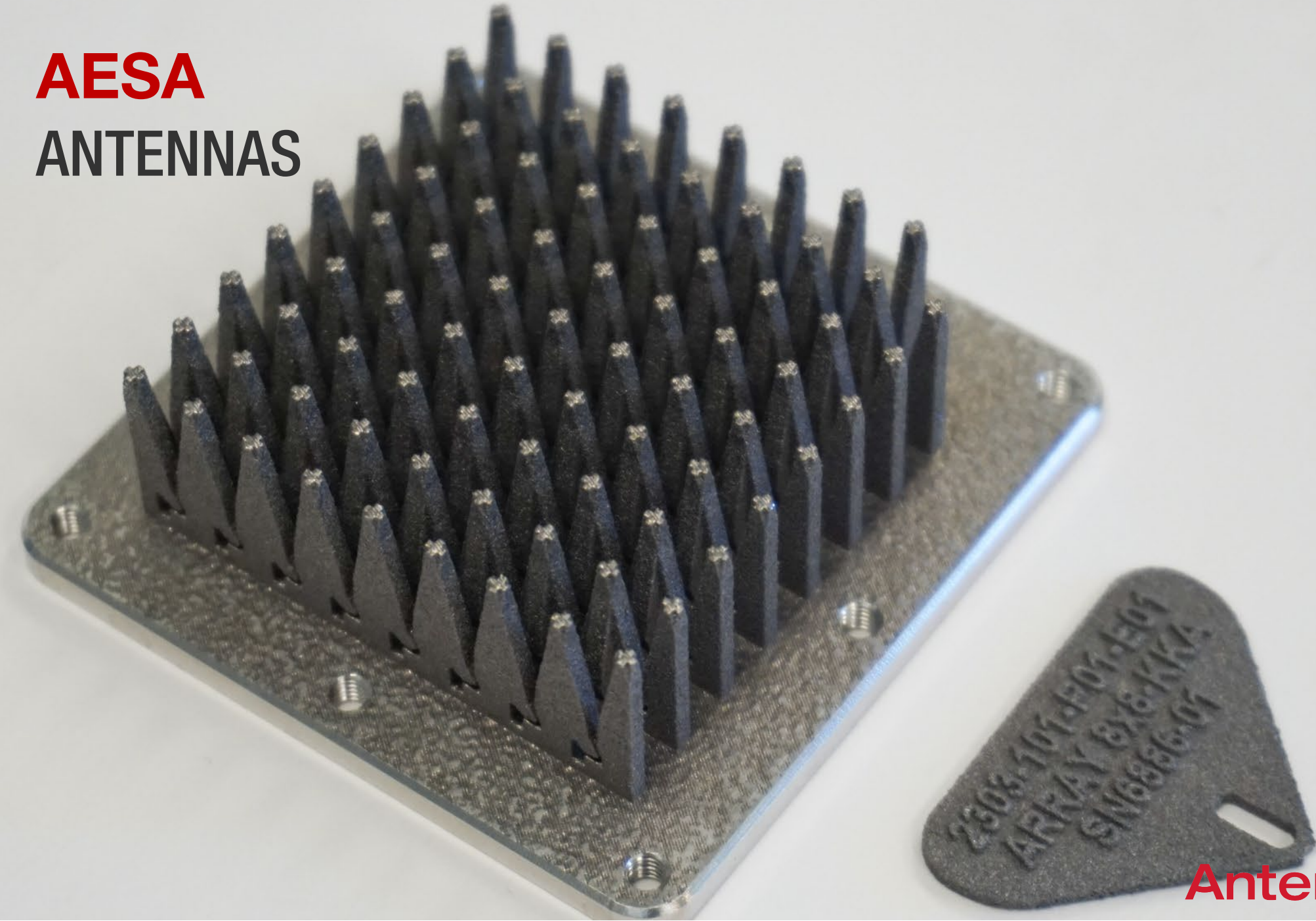
# AESA
## ANTENNAS



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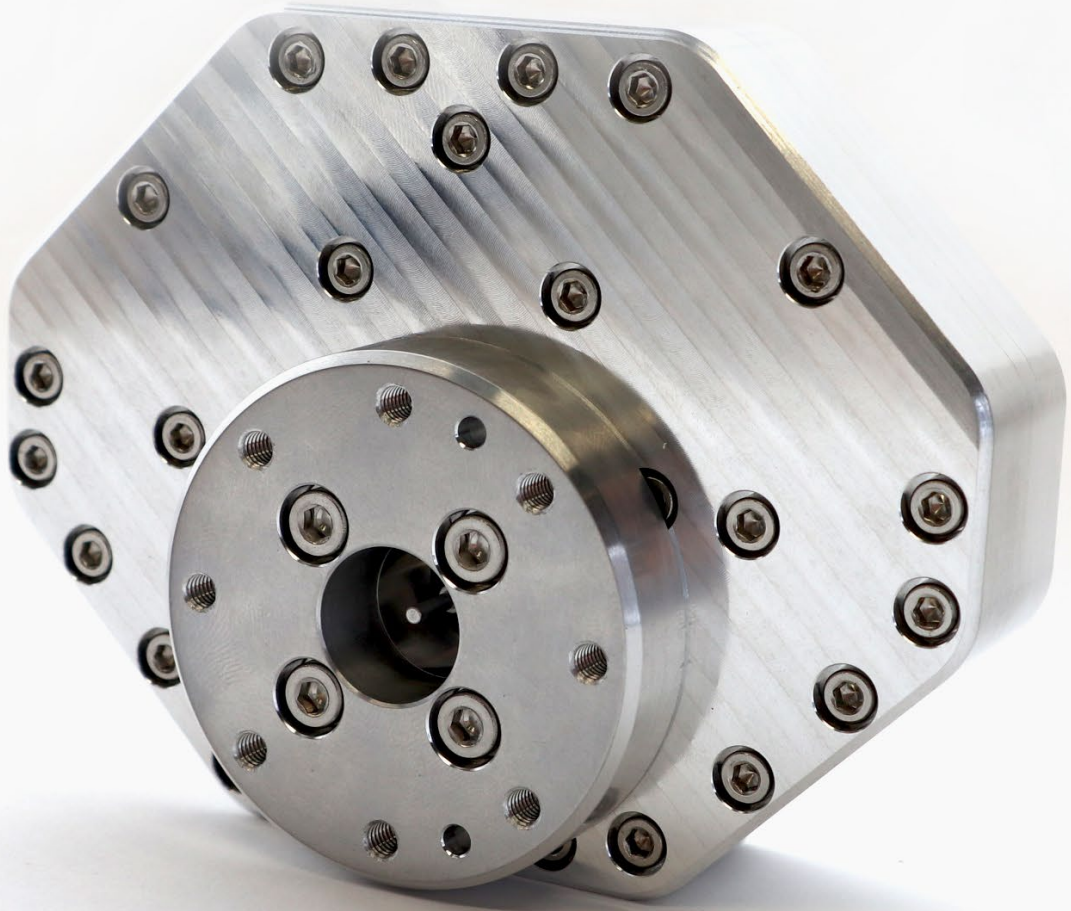
# **OMT –** Orthomode transducers

WR112 – WR6.5



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# POL - Polarizers

WR112 – WR10


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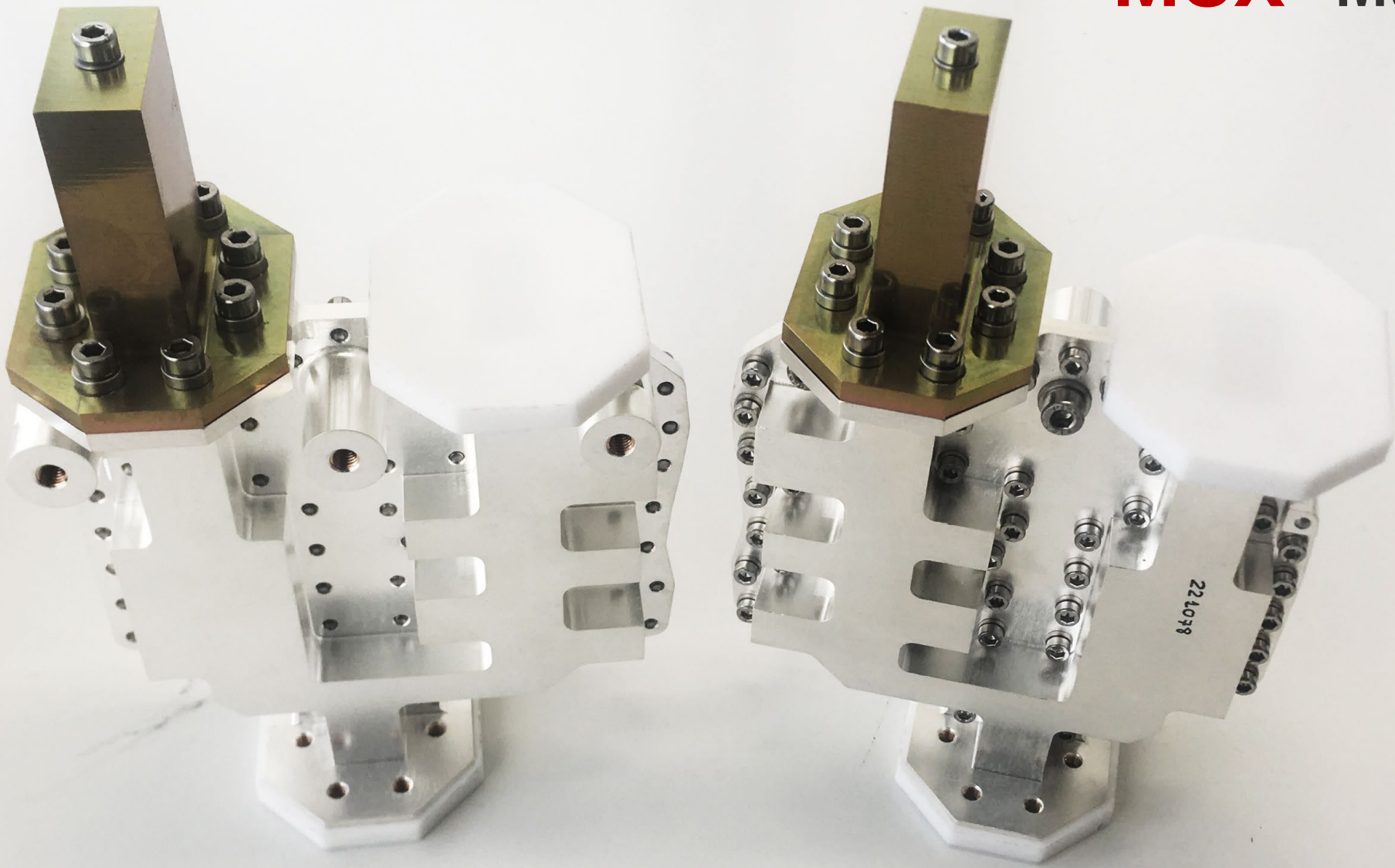
# MUX- Multiplexers

WR229 – WR10



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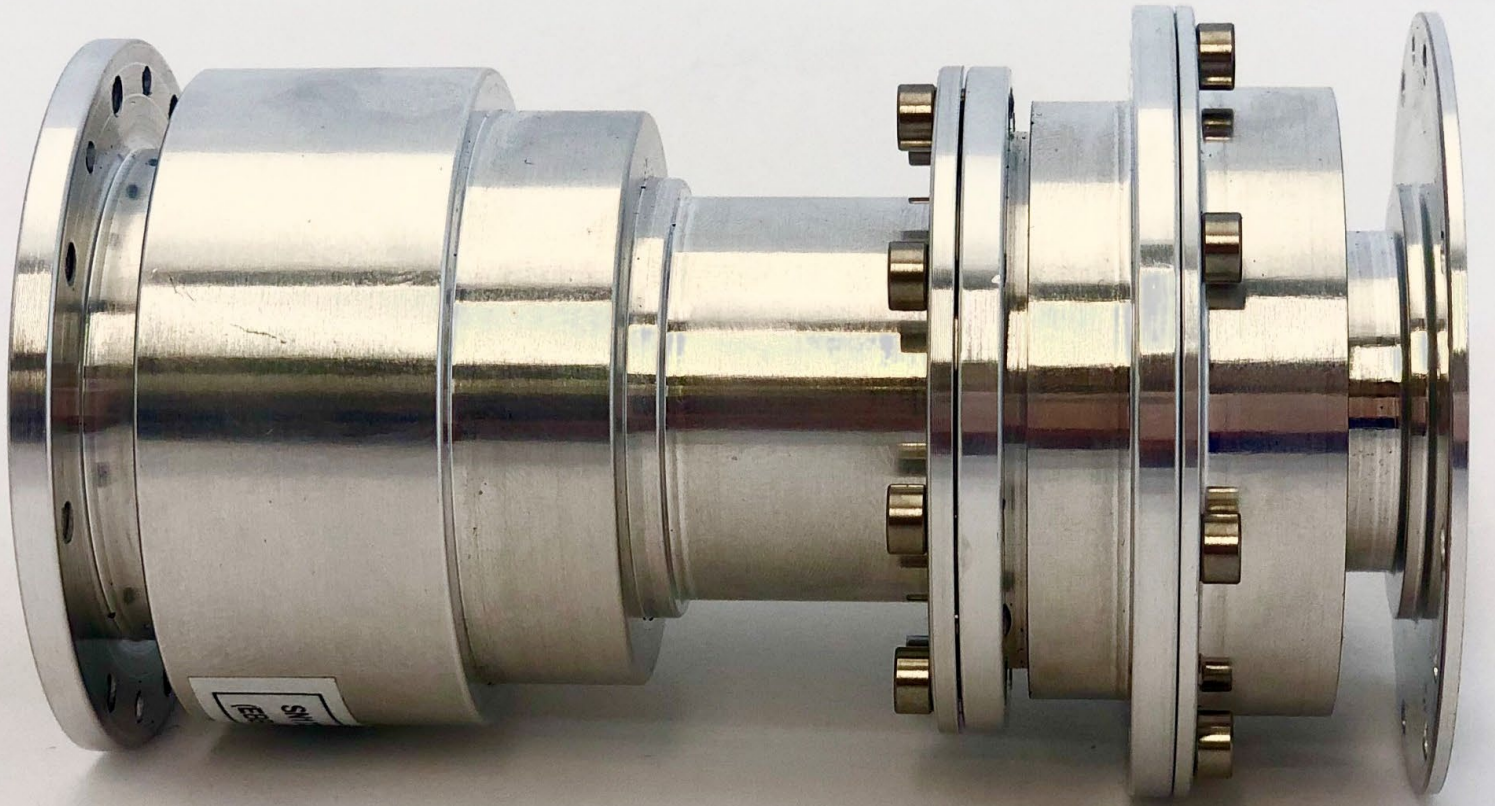
# FILT - Filters

WR229 – WR10



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# CPL - Couplers

WR229 – WR10


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# **FSS –** Frequency selective surfaces

# **WGP –** Wire Grid Polarizers

DC – 2 THz


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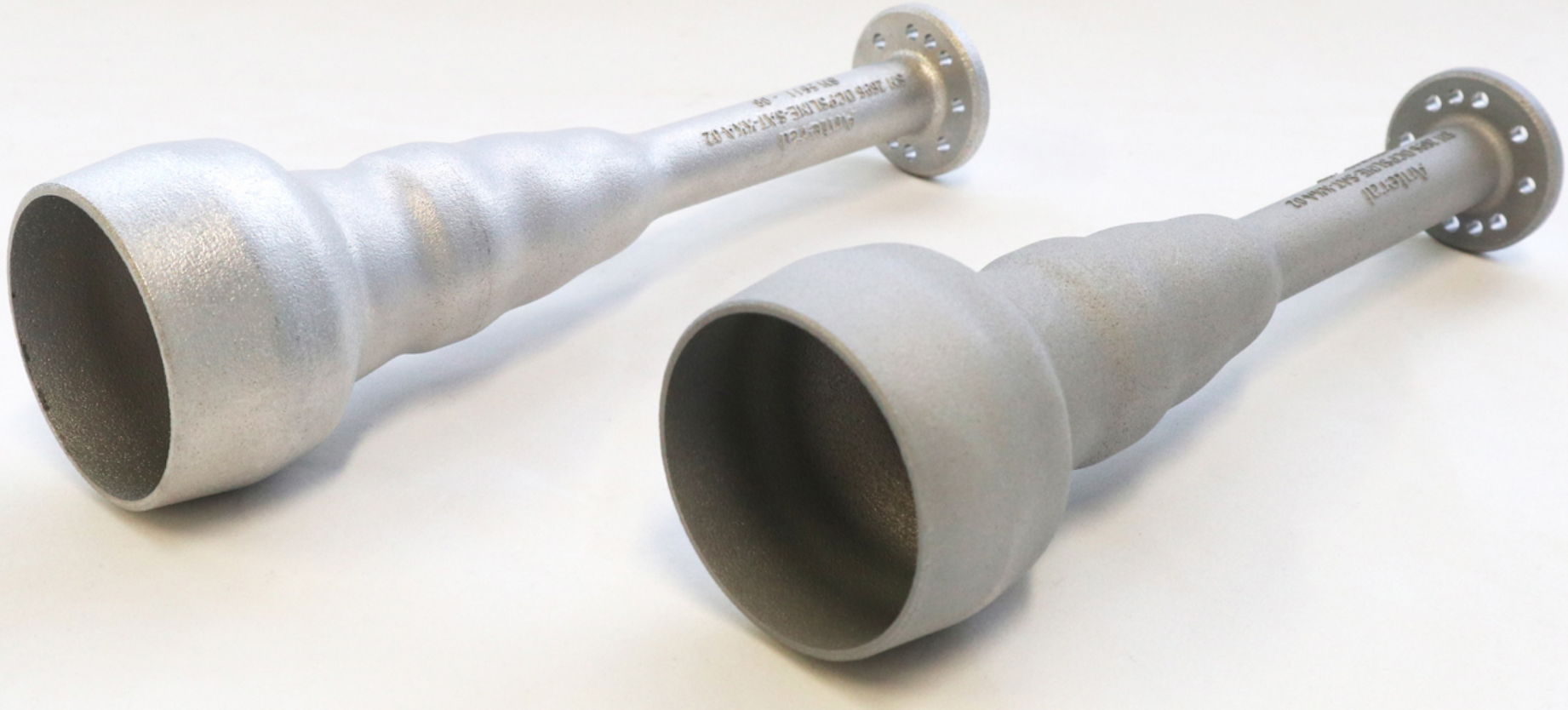
# ALM DESIGN

K/Ka-band DRA Feeder



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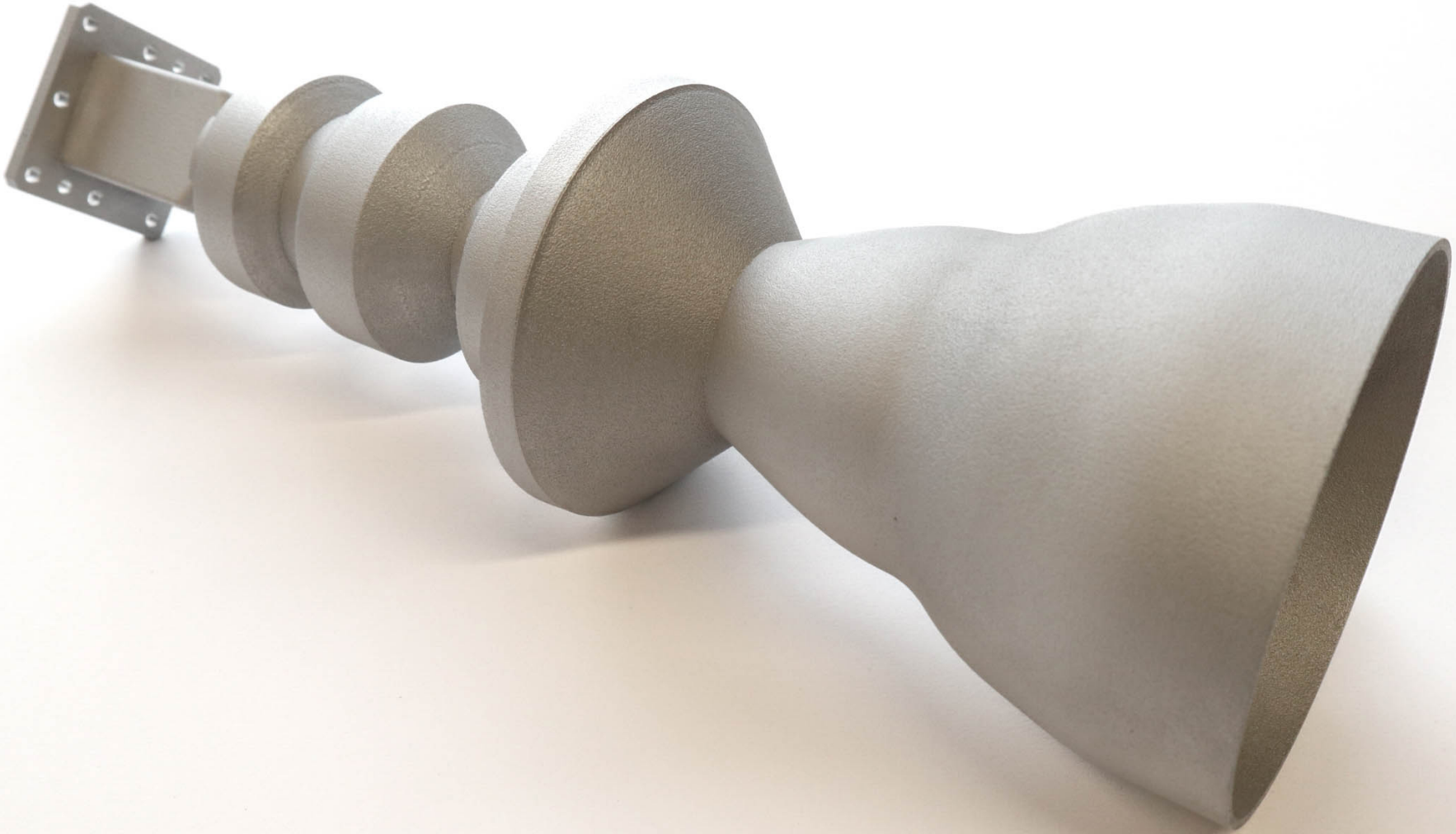
# ALM DESIGN

X-band DRA Feeder



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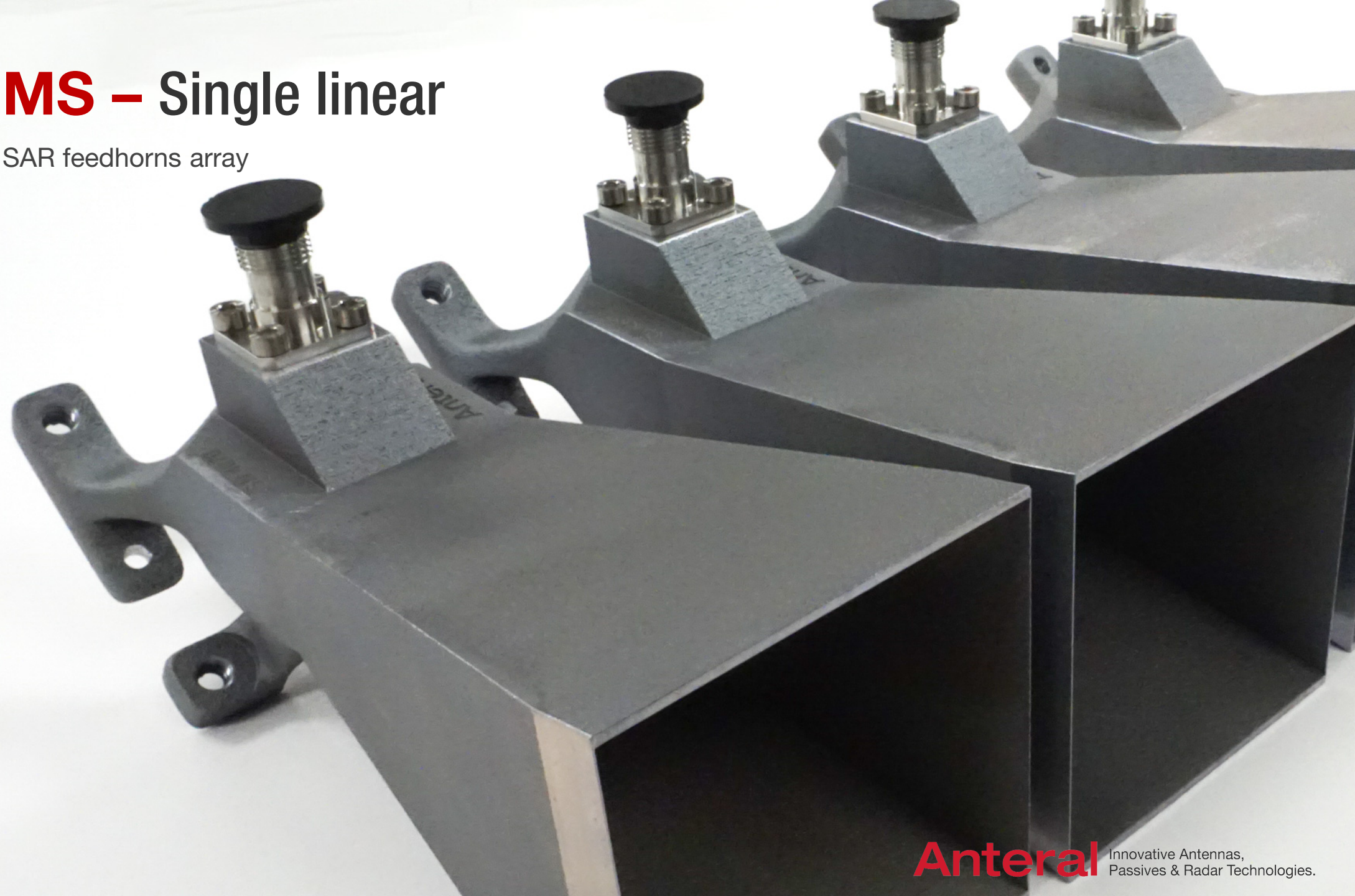
# SYSTEMS – Single linear

1-port, C-band, SAR feedhorns array



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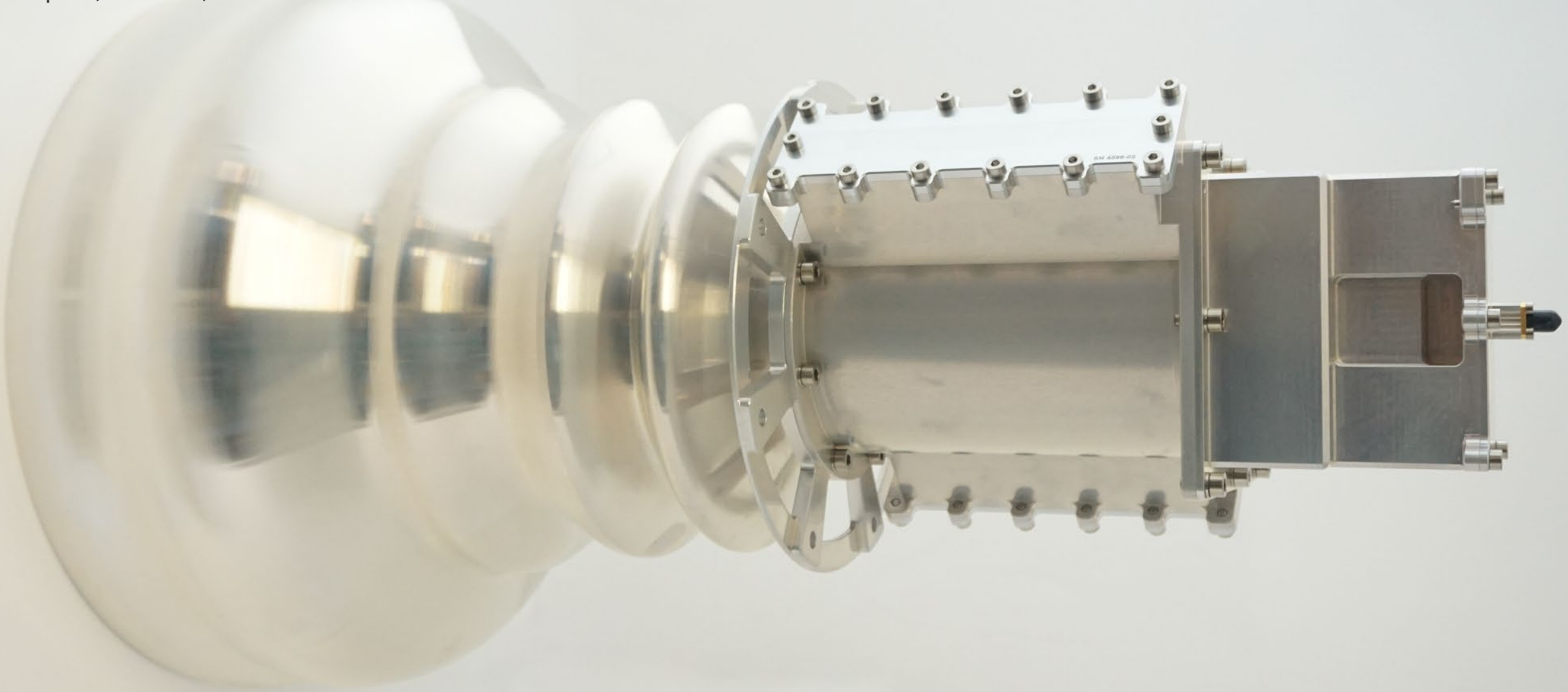
# SYSTEMS – Single circular polarized antennas

1-port, S-band, Widebeam antenna



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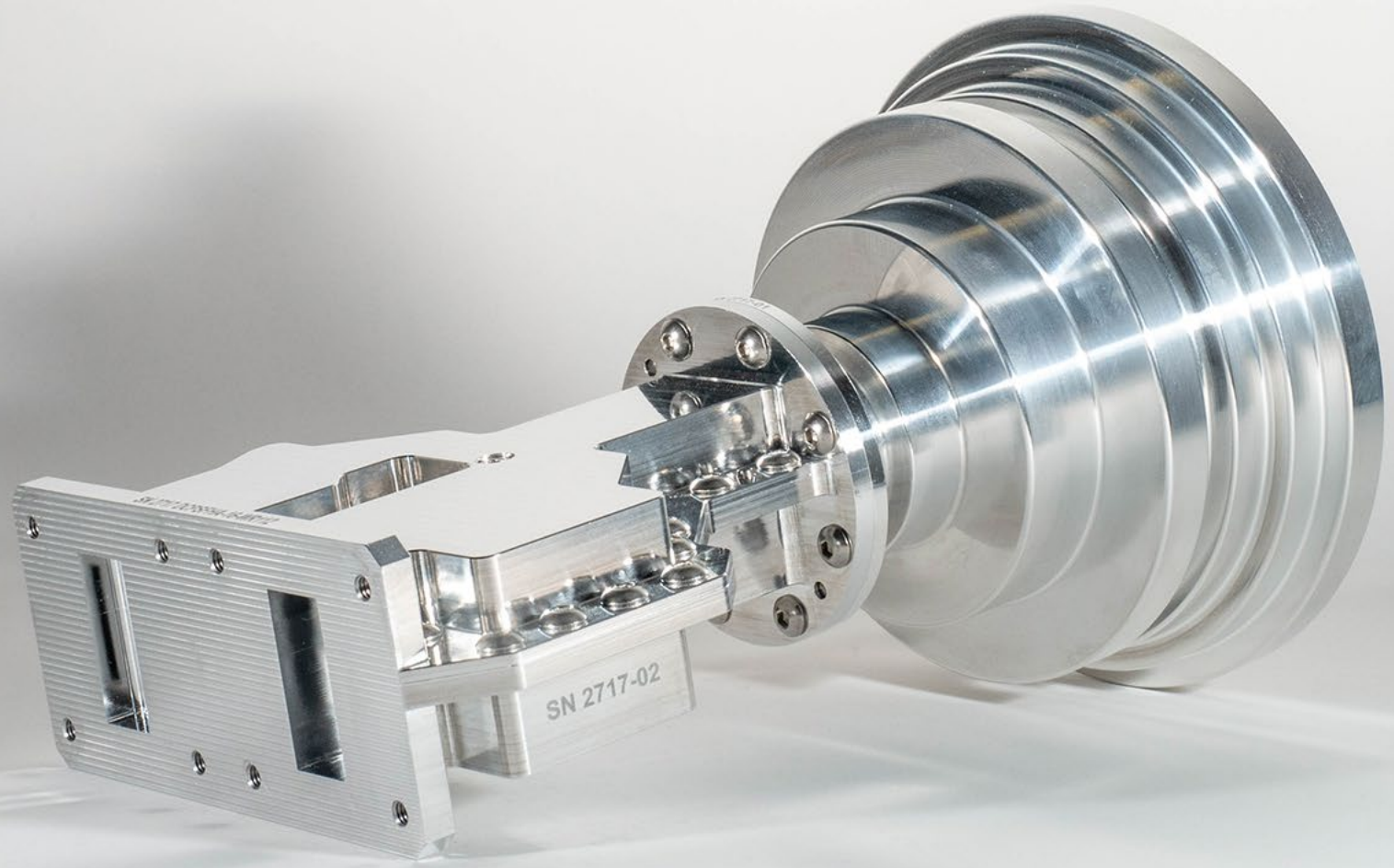
# SYSTEMS – Dual circular polarized antennas

2-port, X-band, Gain 17 dBi, AR 0.5 dB, Isolation 70 dB

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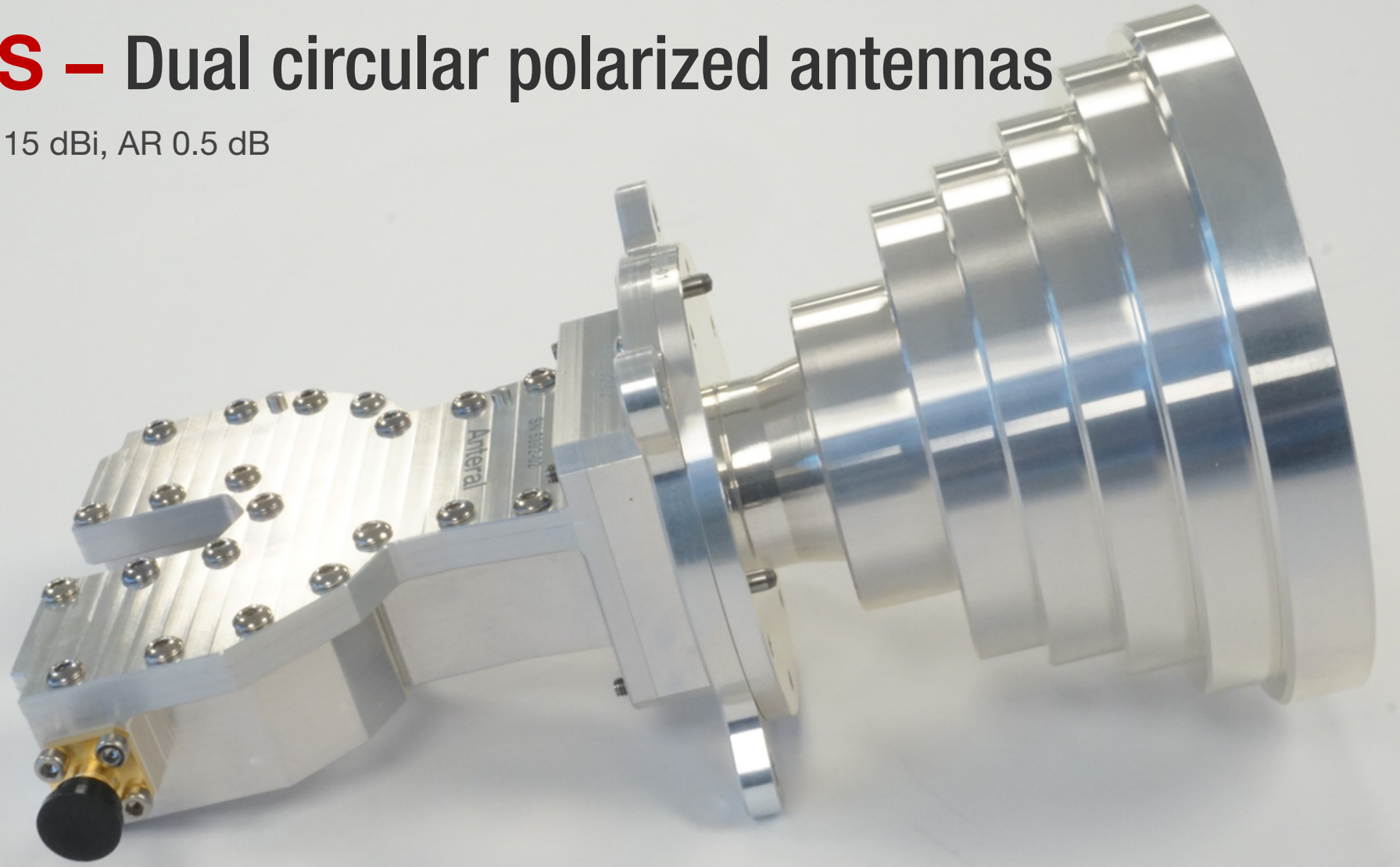
# SYSTEMS – Dual circular polarized antennas

2-port, X-band, Gain 15 dBi, AR 0.5 dB

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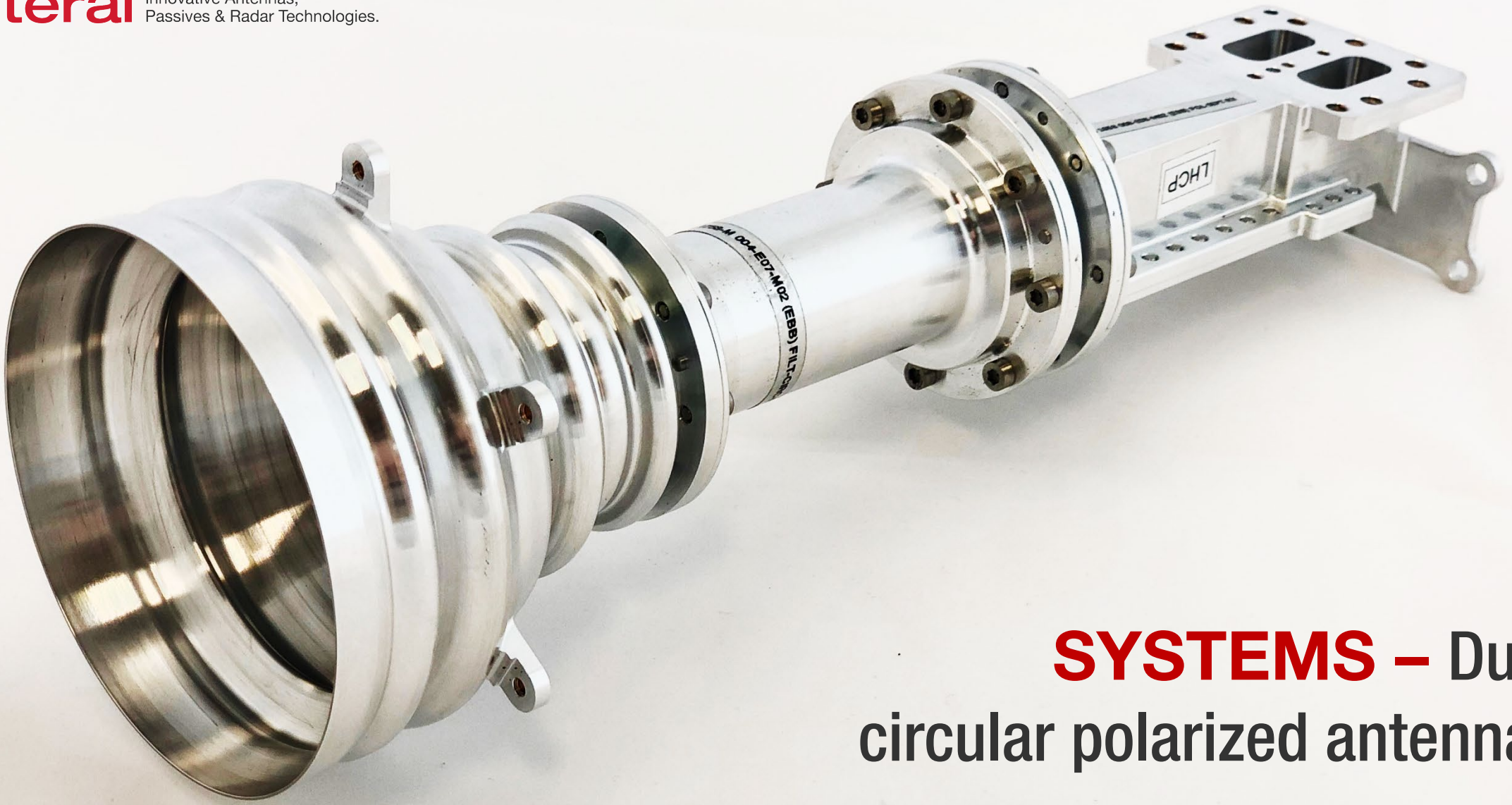
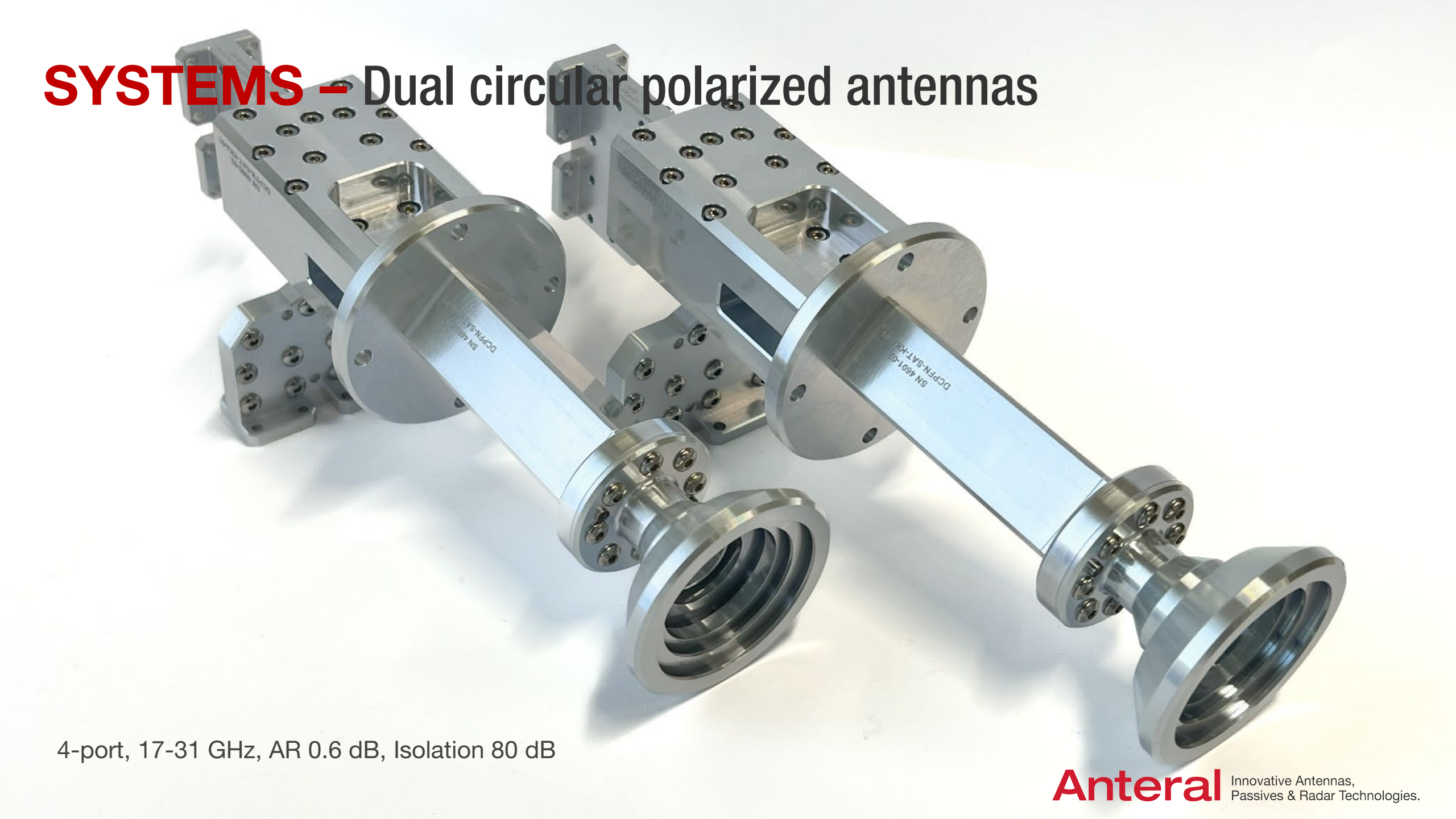



# SYSTEMS – Dual circular polarized antennas

2-port, X-band, Gain 16 dBi, AR 0.25 dB

# SYSTEMS – Dual circular polarized antennas



4-port, 17-31 GHz, AR 0.6 dB, Isolation 80 dB

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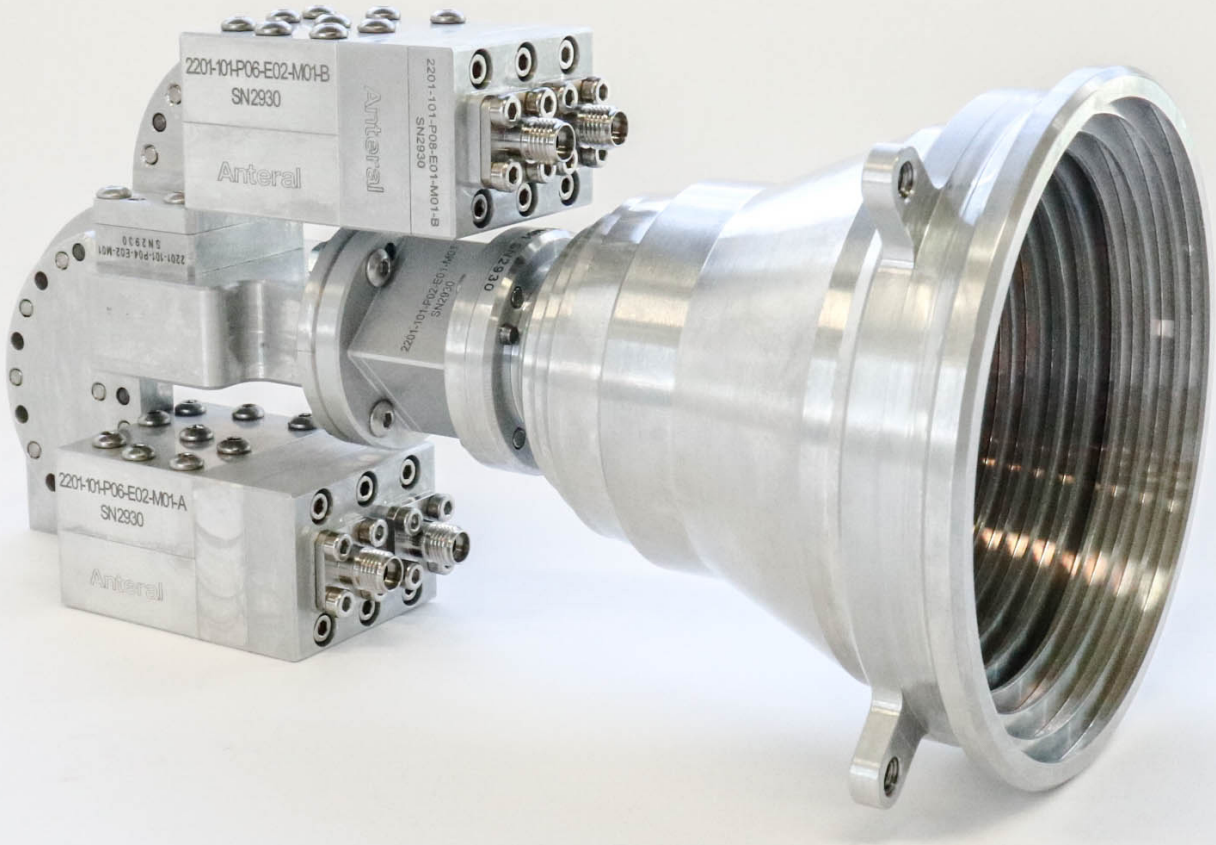
# SYSTEMS – Dual circular polarized antennas

4-port, K/Ka-band (17 – 31 GHz), Gain 21 dBi, AR 0.8 dB

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# SYSTEMS – Dual circular polarized antennas

2-port, K-Ka-band, 14.5 dBi Directivity, AR < 1 dB, 230 g

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# SYSTEMS – Dual circular polarized antennas

2-port, Q-band, Gain 28 dBi, AR 0.3 dB

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# SYSTEMS – Dual circular polarized antenna

QV Band, 37.5-52.4 GHz, AR < 0.5 dB, 30 dB directivity

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# SYSTEMS – Dual circular polarized antenna

E-band, 71-86 GHz, AR <0.5 dB, 30.5 dB directivity

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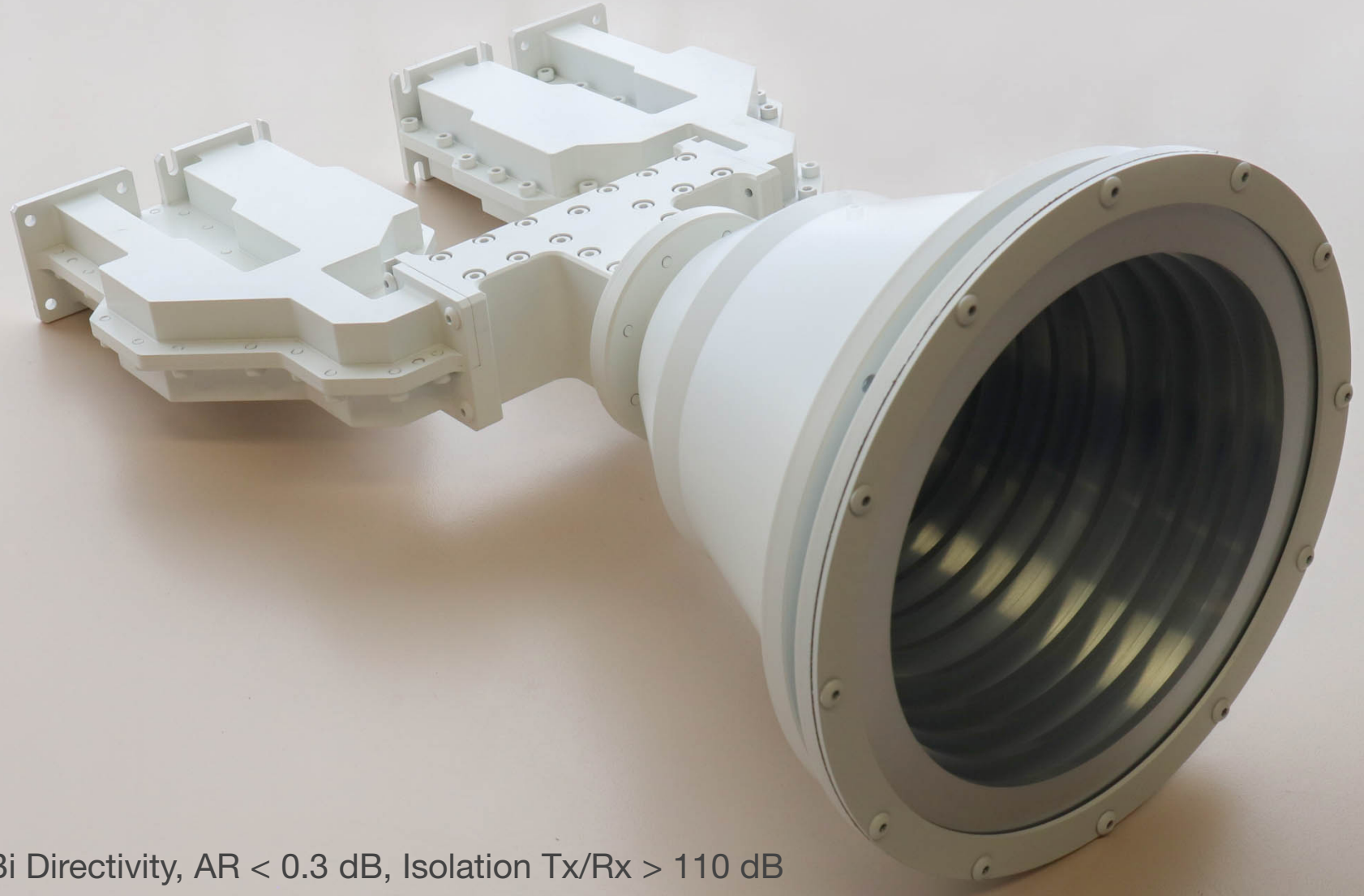
# GND SYSTEMS – Dual circular polarized antennas



4-port, Ku-band, Gain 30 dBi, AR 0.5 dB, Isolation 100 dB

# GND SYSTEMS – Dual circular polarized antennas



4-port, X-band, 20 dBi Directivity, AR < 0.3 dB, Isolation Tx/Rx > 110 dB

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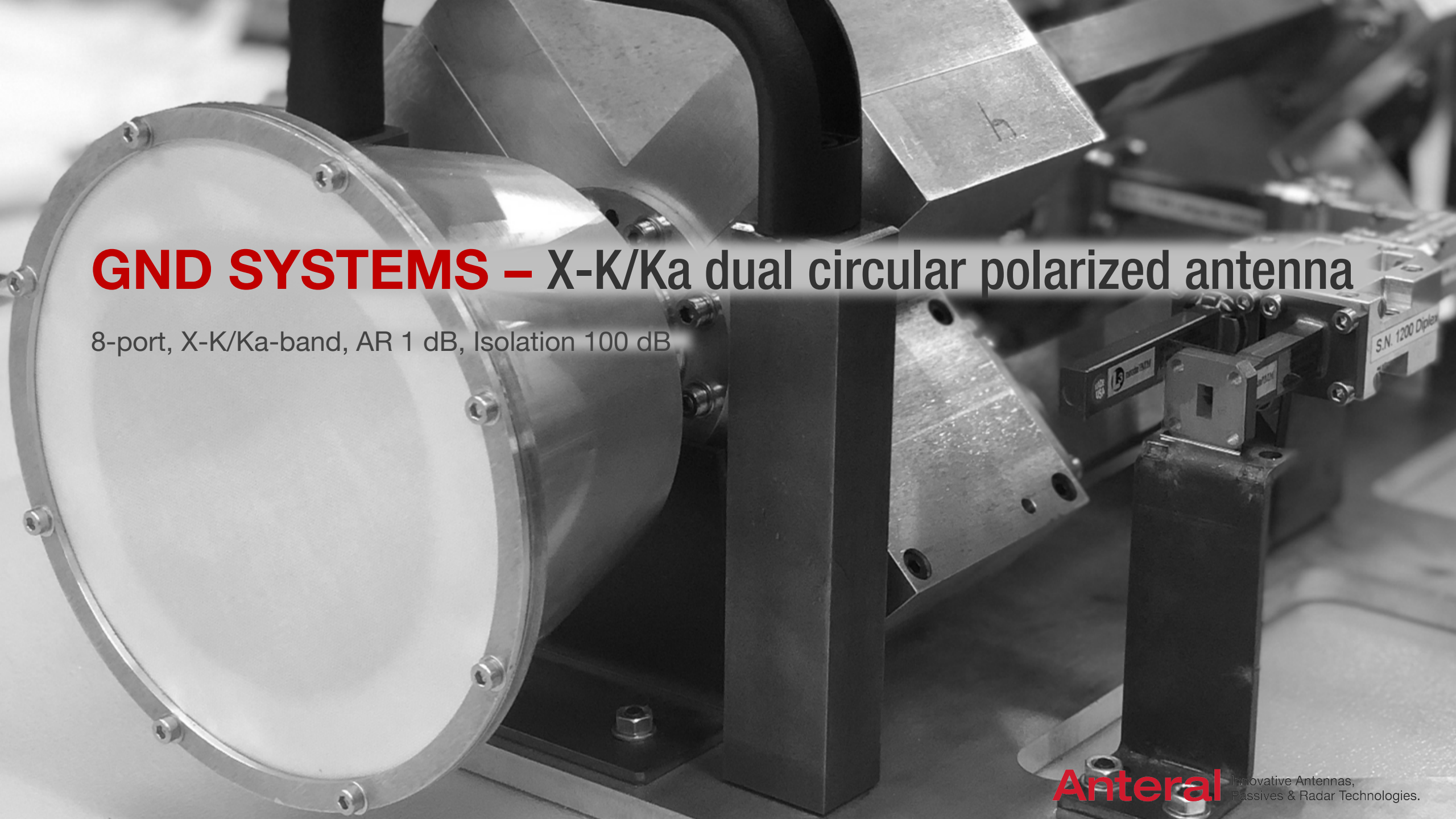


# GND SYSTEMS – X-K/Ka dual circular polarized antenna

8-port, X-K/Ka-band, AR 1 dB, Isolation 100 dB

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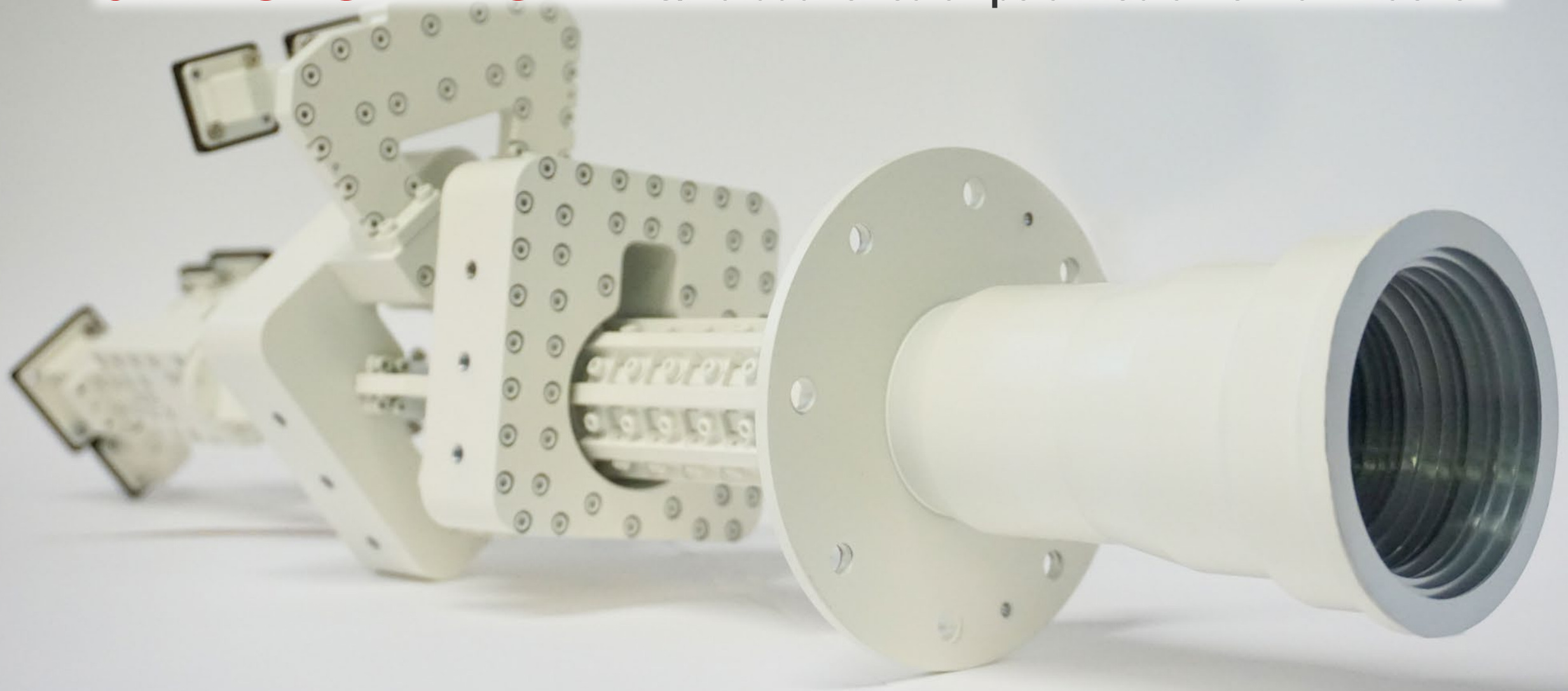
# GND SYSTEMS – DBS/Ka dual circular polarized antenna +tracker



6-port, DBS/Ka-band, AR 0.5 dB, Isolation 110 dB

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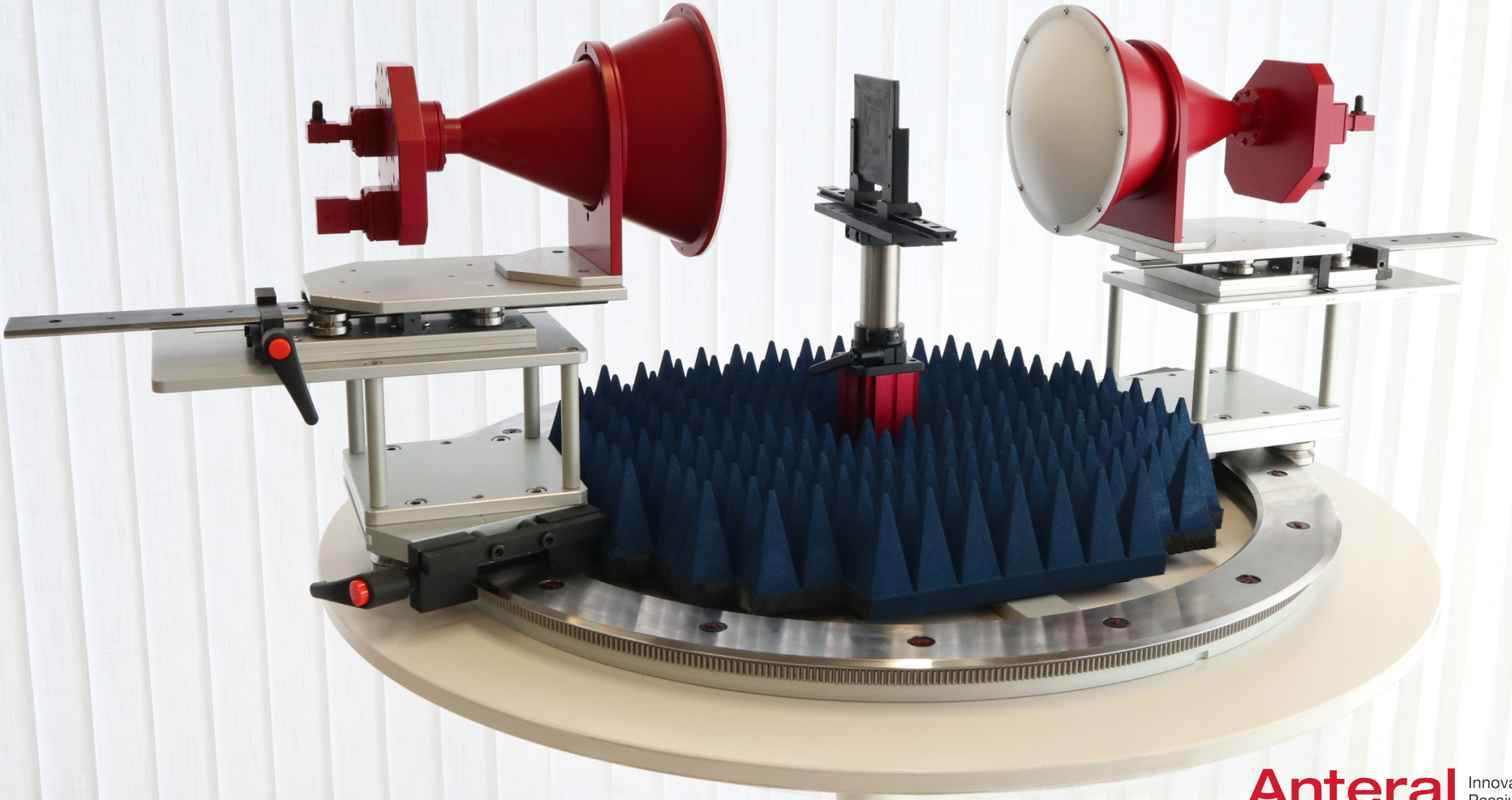
# SYSTEMS – Material characterization



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# AD-HOC DESIGNS

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