Simplification is Our Innovation

2026

IMP Range

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Radiall

Disclaimer

AGENDA

- **MARKET APPLICATION INTRODUCTION**
- **WHY IMP SERIES ?**
- **RADIALL VALUE PROPOSITION**
- **KEY BENEFITS**
- **PRODUCT DETAILS – IMP SERIES**
  - Overview
  - IMP – LP Range
  - IMP – HD Range
  - IMP – SR Range
- **MARKETING TOOLS**
- **IMP SYNTHESIS**

MARKET APPLICATION INTRODUCTION

Beamforming is everywhere

Communication | Satcom | Radar & Electronic warfare | Directed Energy

MARKET APPLICATION INTRODUCTION

Beamforming Applications


Unmanned platforms


Ground Radar


Directed energy


Space technologies


Jet fighters

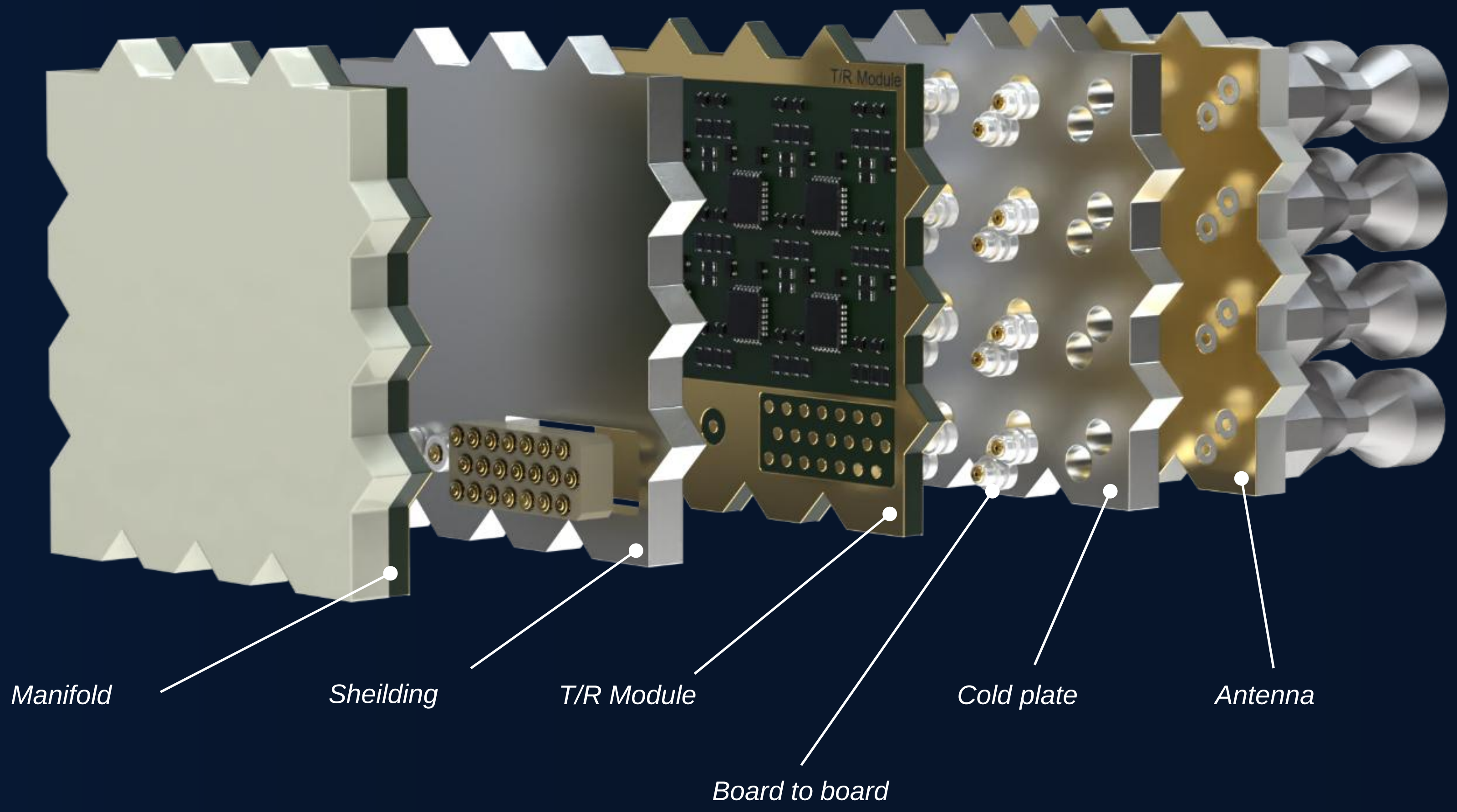

Missiles


Surface communication


Sea platforms

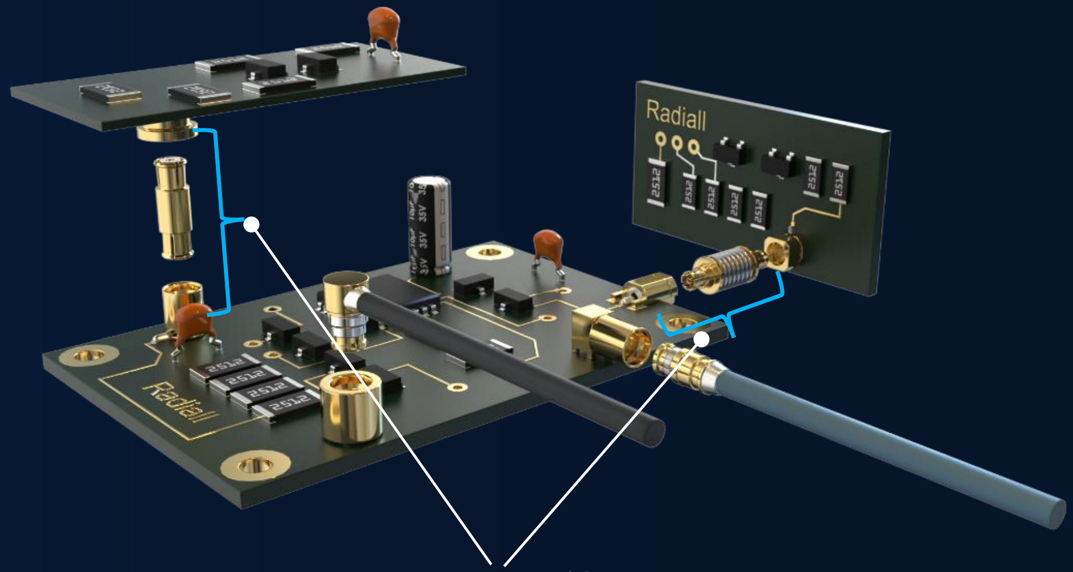
The photos are for illustrative purposes only to represent the type of platform and are by no means a reflection of the actual installation

BEAMFORMING OVERVIEW

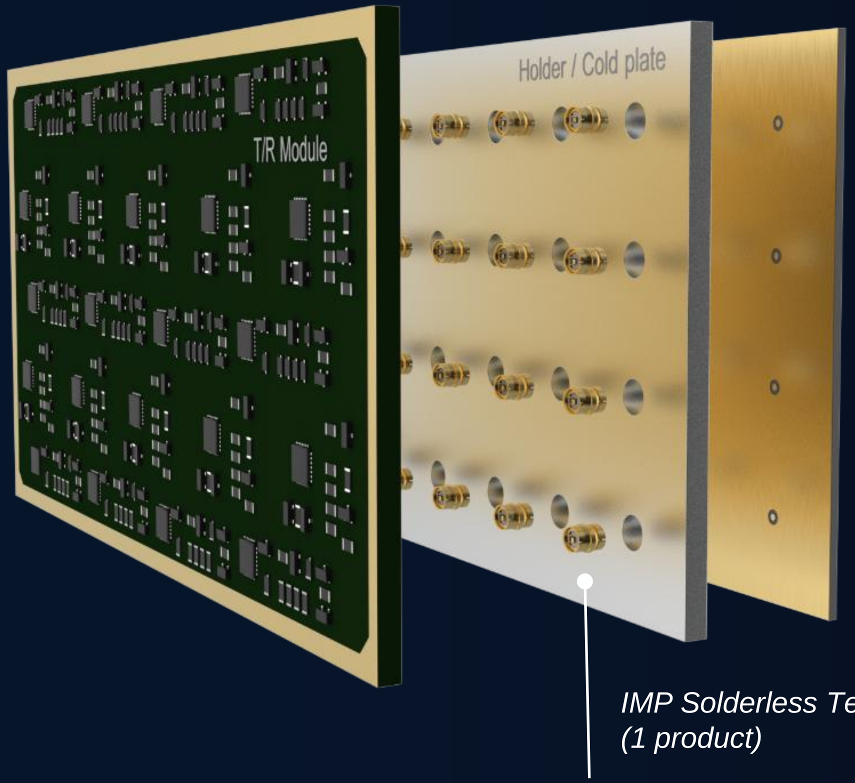


BEAMFORMING OVERVIEW

Board to Board



3 components architecture
(SMP, SMPM, SMPW)



IMP Solderless Technology
(1 product)

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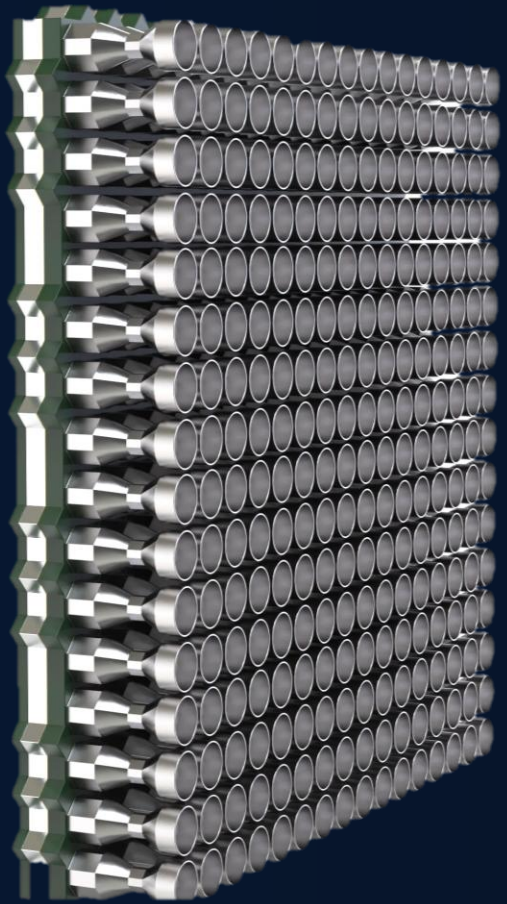
IMP SYNTHESIS

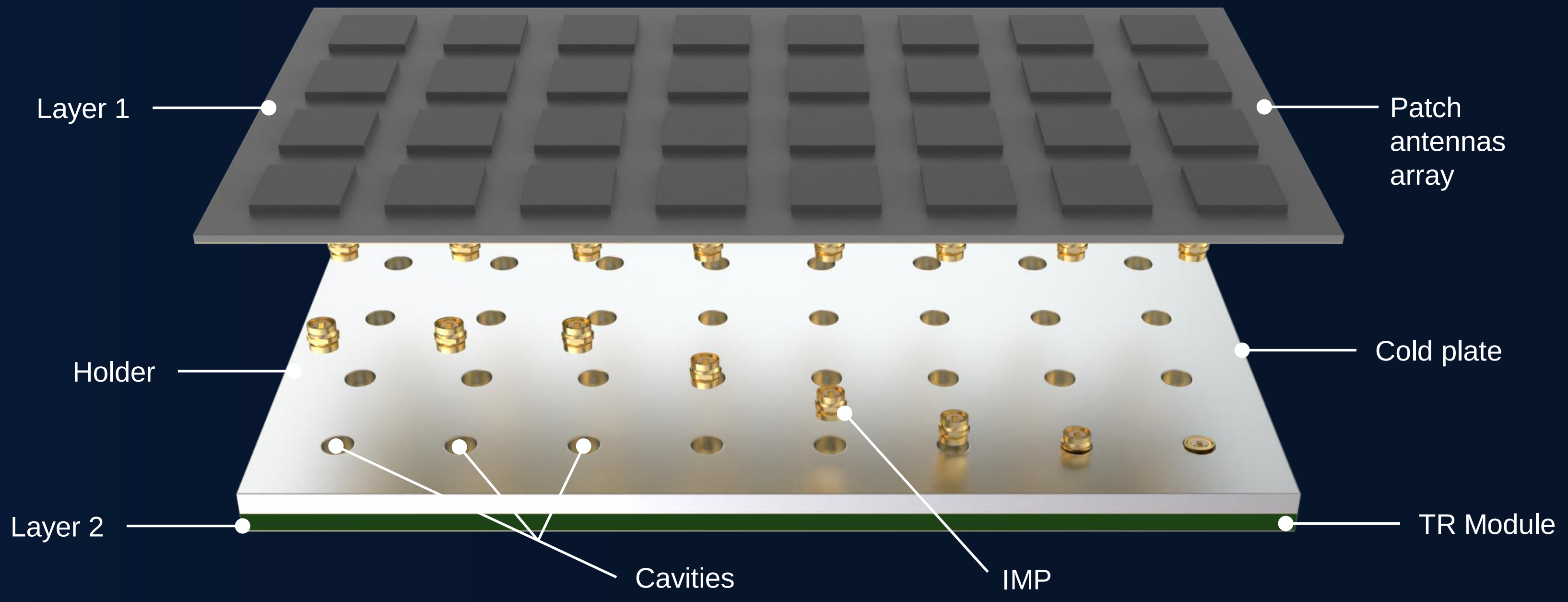
WHY IMP SERIES ?



- Designed for Ku & Ka band
- Low Insertion Loss *(-0,22dB @ 12GHz on R107825020)*
- Solderless, compact & lightweight solution
- Total cost saving

WHY IMP SERIES ?

IMP → **I**nterconnect **M**icro miniature **P**ressure contact

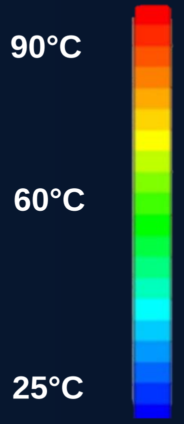


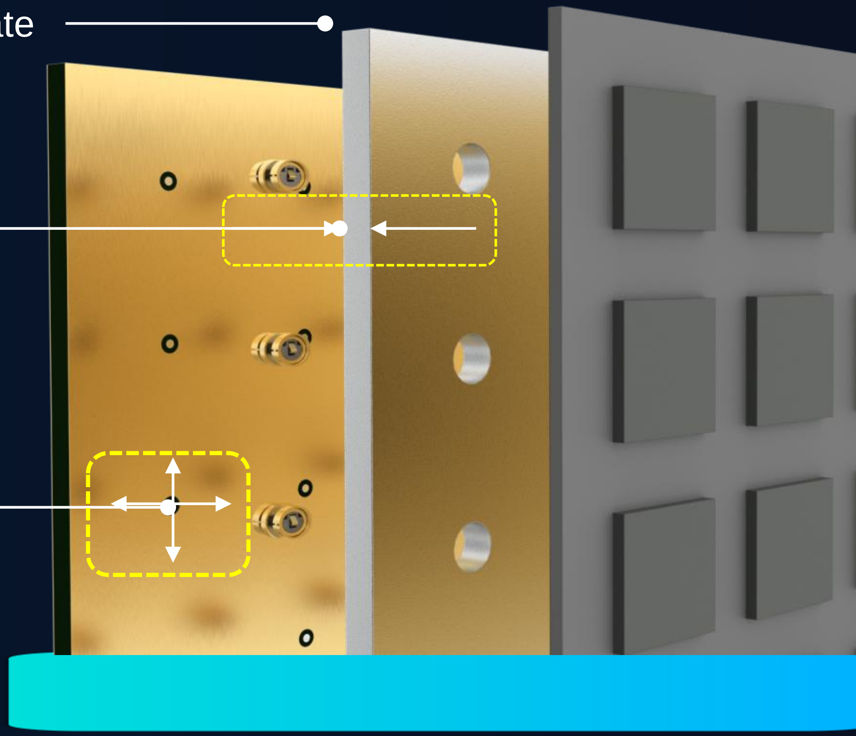
A **solderless** board to board interconnect solution

WHY IMP SERIES ?

Cold plate function

Function 1 :
Thermal management





Cold plate

Function 2 :
Board to board distance

Function 3 :
Positioning of the
product on the boards

These images are provided for illustrative purposes only to explain the technology and do not in any way represent an exact example of a typical beamforming application.

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RADIALL VALUE PROPOSITION

R&D investment

7-8% of revenue

(twice the industry standard)

CONTINUOUS R&D IMPROVEMENT PROGRAM

Product development cycle time reduction • Done right the first time

≃300 Active Patents

RESEARCH & TECHNOLOGY TO PREPARE FOR THE FUTURE

Long-term roadmap • Collaborative projects with universities, research centers and labs

RADIALL VALUE PROPOSITION

French Design and Manufacturing

ITAR free

No restricted exports

- *ITAR Free*

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KEY BENEFITS

ASSEMBLY

PERFORMANCE

Insertion Loss
divided by 2

CALIBRATION

Quick and reliable

MAINTENANCE

Time saver

KEY BENEFITS

ASSEMBLY

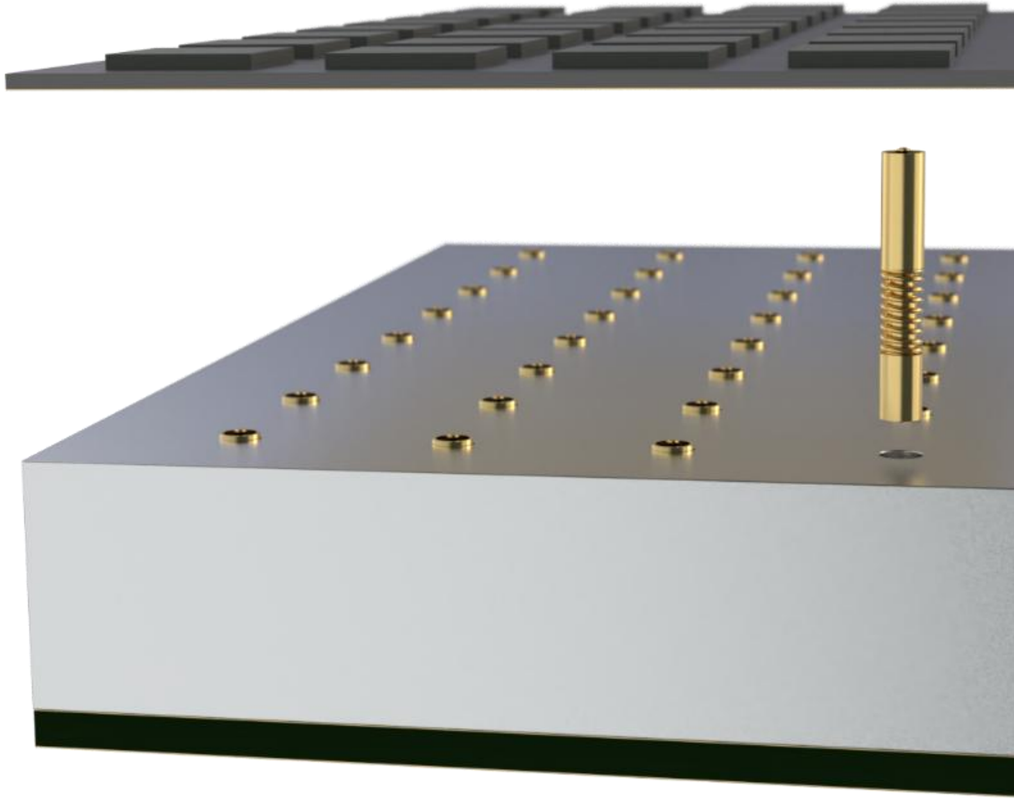
Drop it into the cavity… That's it !

Design phase

- Think of a cylinder
- Easier product integration

Space saving

- Integration in the wall thickness of the shielding architecture
- Very compact interconnect solution (from 1,41mm board to board)

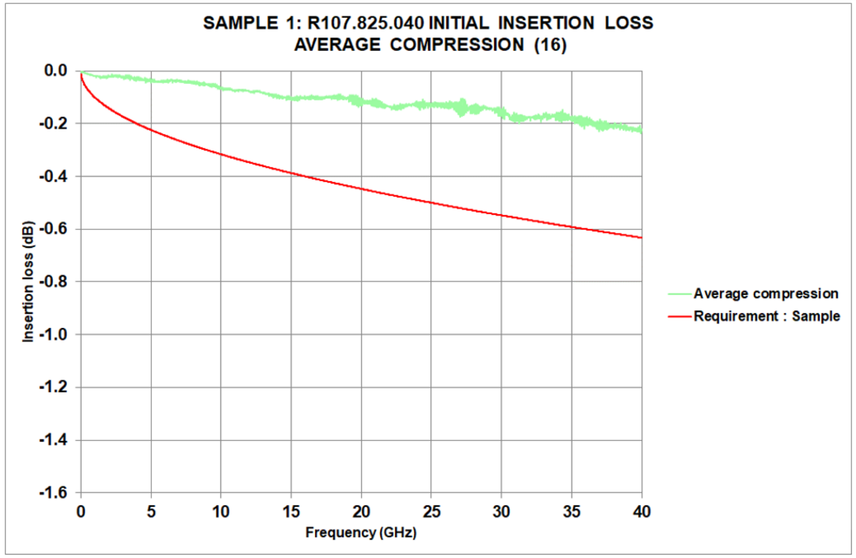


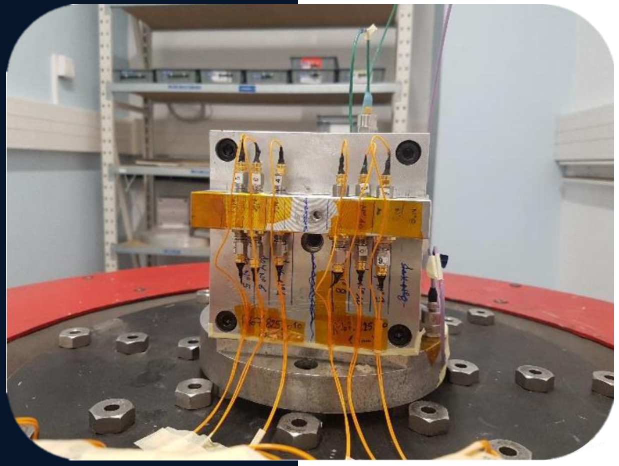
KEY BENEFITS

PERFORMANCE

Insertion Loss divided by 2

- Insertion Loss is divided by 2~3 compared to conventional 3 components architecture like SMP or SMPM.
- Designed for harsh environment
  eg.: vibrations compliance
  to MIL-STD-202 Method 204 condition D
- Space evaluated





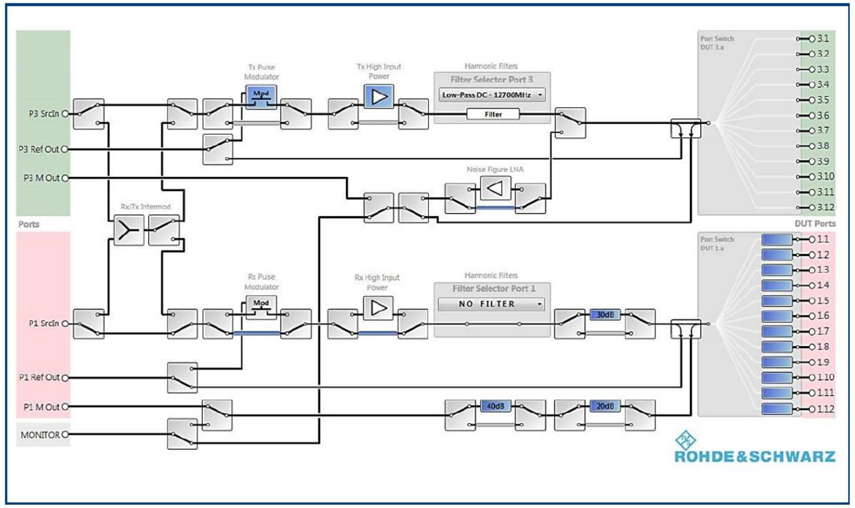
Frequency range : **10 – 2,000 Hz**
Displacement : **0,06 inch peak peak**
Acceleration : **20g**
Sweep cycle : **10 Hz – 2 000 Hz - 10 Hz**
Time cycle : **20 min**
Number of cycles : **12 for each axis**

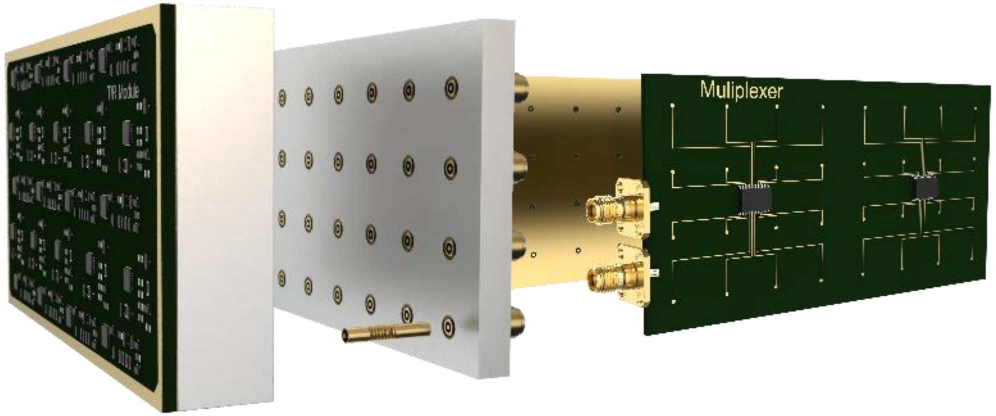
KEY BENEFITS

CALIBRATION

Quick and reliable

- Allowing pressure contact testing with test jig
- Huge time saving for calibration



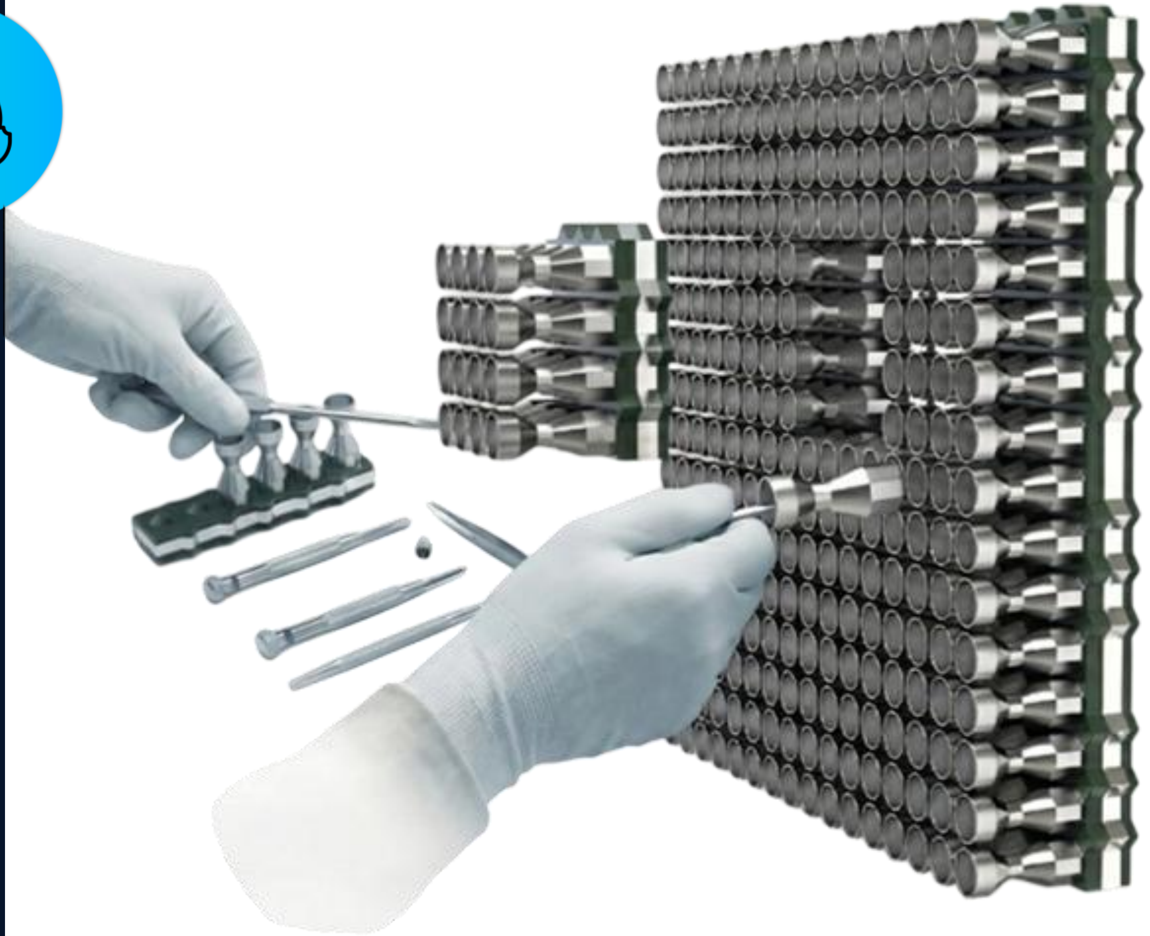


KEY BENEFITS

MAINTENANCE

Time saver

- No solder – ease of access to the system for maintenance purposes
- Field maintenance made possible



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- IMP – SR Range

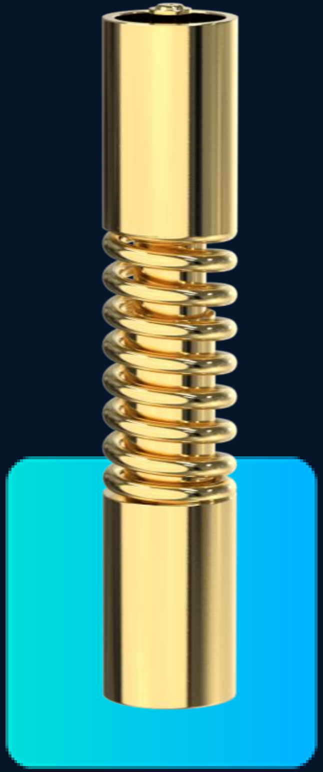
MARKETING TOOLS

IMP SYNTHESIS

PRODUCT DETAILS - OVERVIEW

IMP Range

IMP-LP
***L**ow **P**rofile*



IMP-HD
***H**igh **D**ensity*

IMP-SR
***S**ignal & **R**F*

PRODUCT DETAILS - OVERVIEW

Success Story Beamforming Applications


Sea platforms


Jet fighters


Unmanned platforms


Ground Radar


Missiles


Space technologies

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IMP – LP RANGE

Low Profile

PRODUCT DETAILS / IMP – LP Range

IMP-LP is a versatile product that allows for multiple configurations on demand

Parallel interconnection

Solderless one side with probe as a feeding element

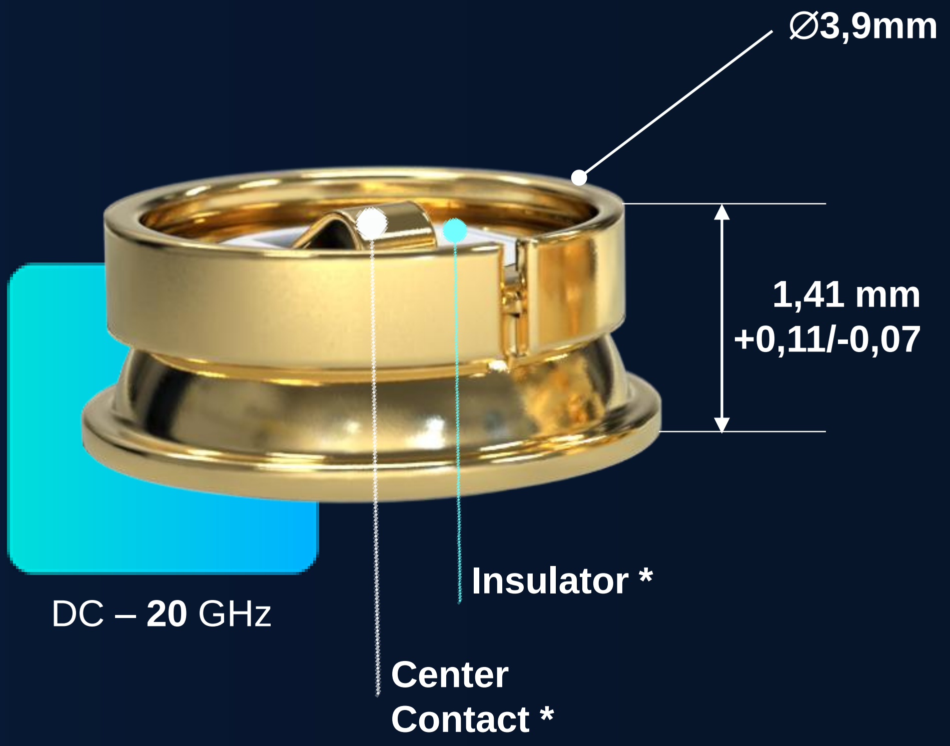
Edge receptacle for 90° interconnection

Edge pad receptacle to interconnect to another IMP-LP (edge, hybrid…)

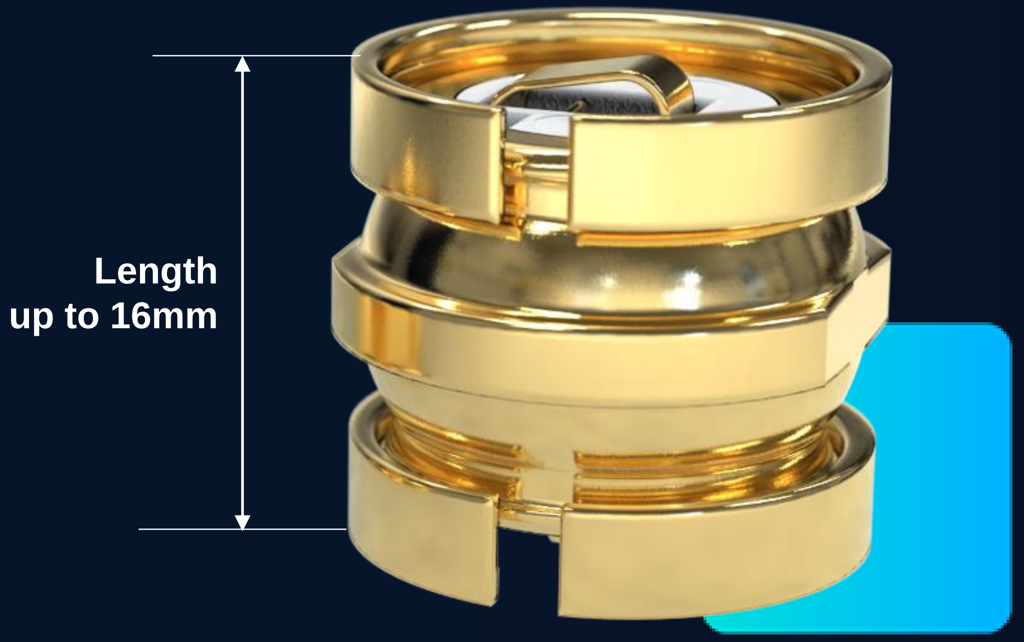
Panel to PCB interconnection

IMP LP : BOARD TO BOARD CONFIGURATION

** Center contact and insulator are created through the use of hard tooling – for custom developments hard tooling will be required.*

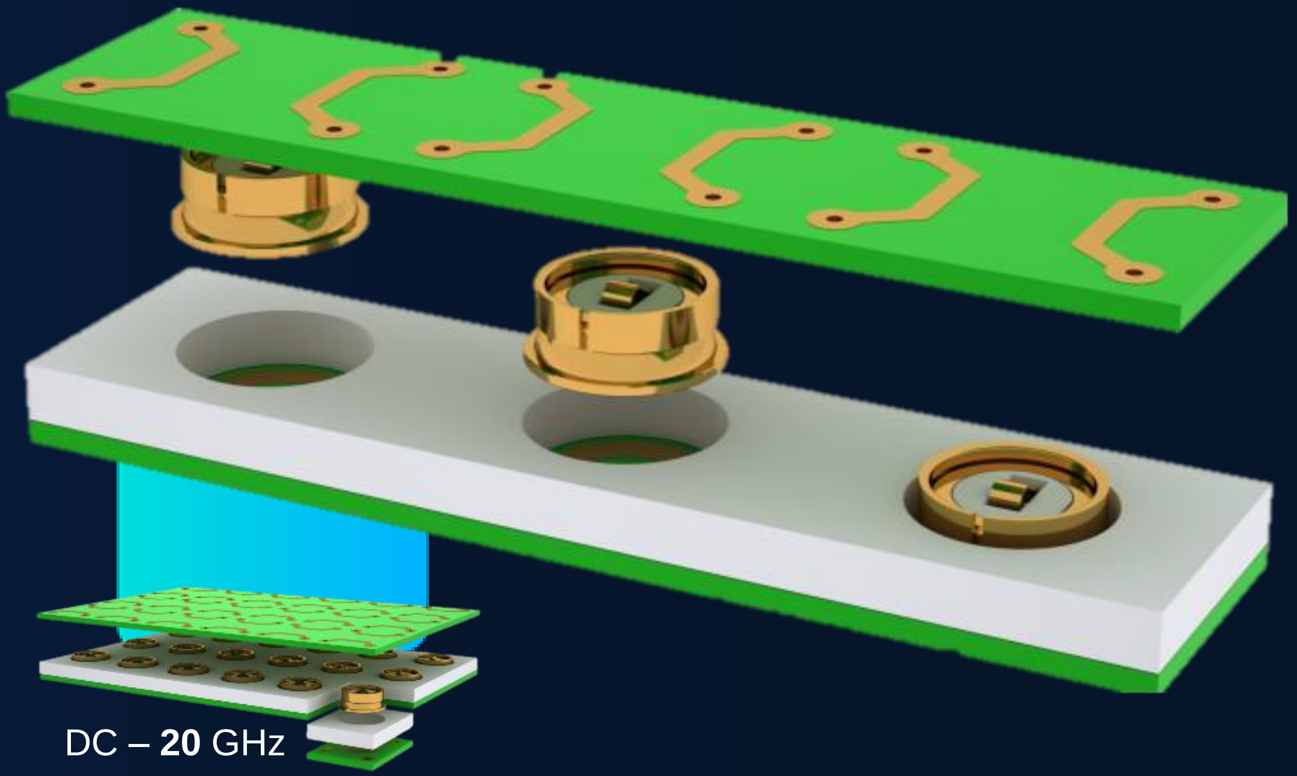


DC – **20** GHz

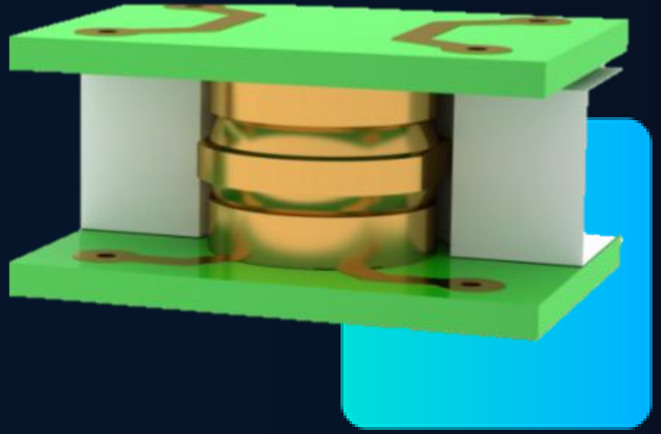


DOUBLE IMP-LP

IMP LP : BOARD TO BOARD CONFIGURATION

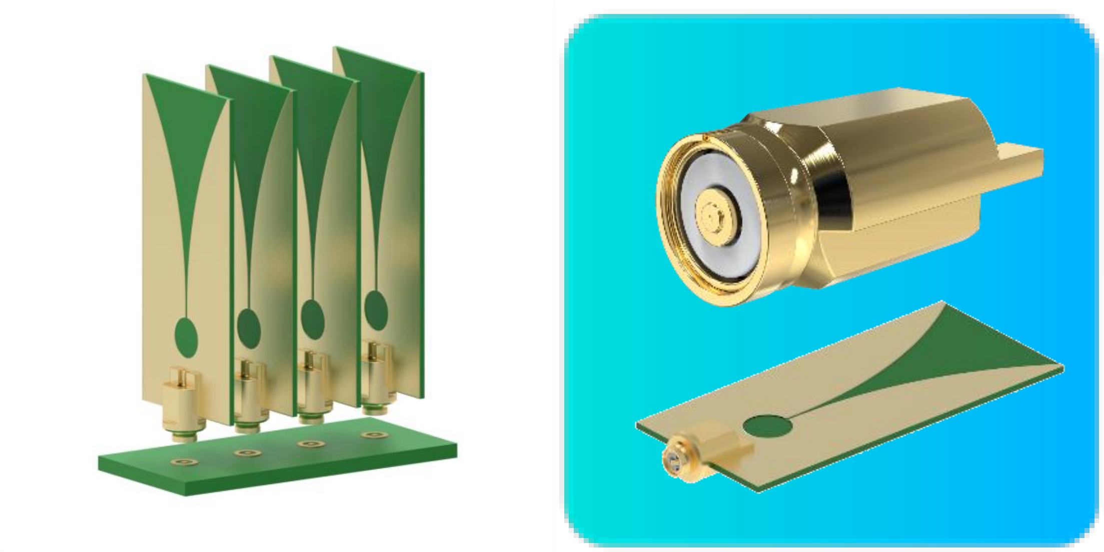


DC – **20** GHz

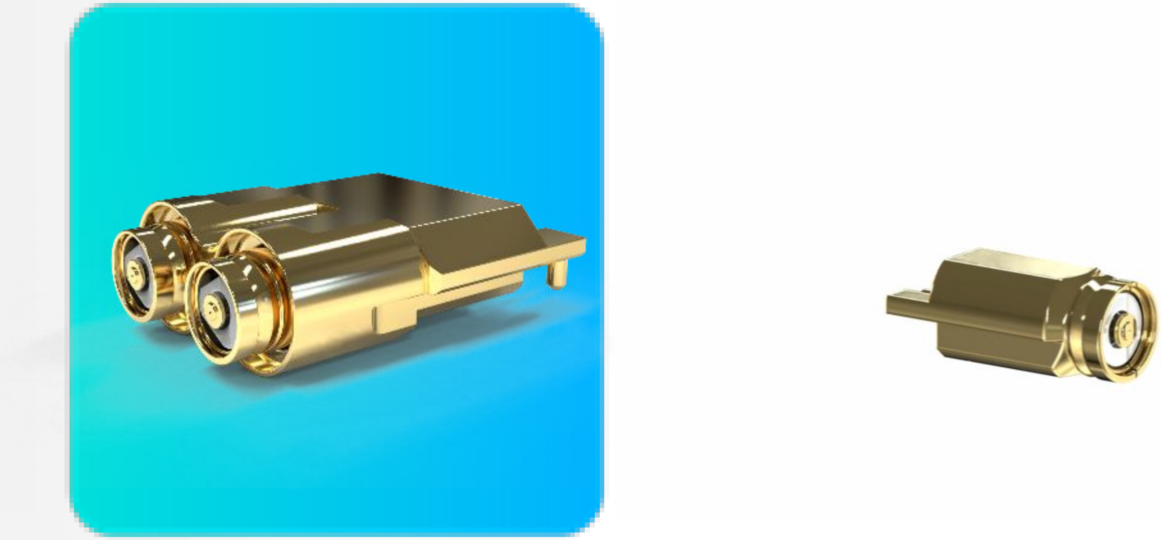


DOUBLE IMP-LP

IMP LP : EDGE CONFIGURATION

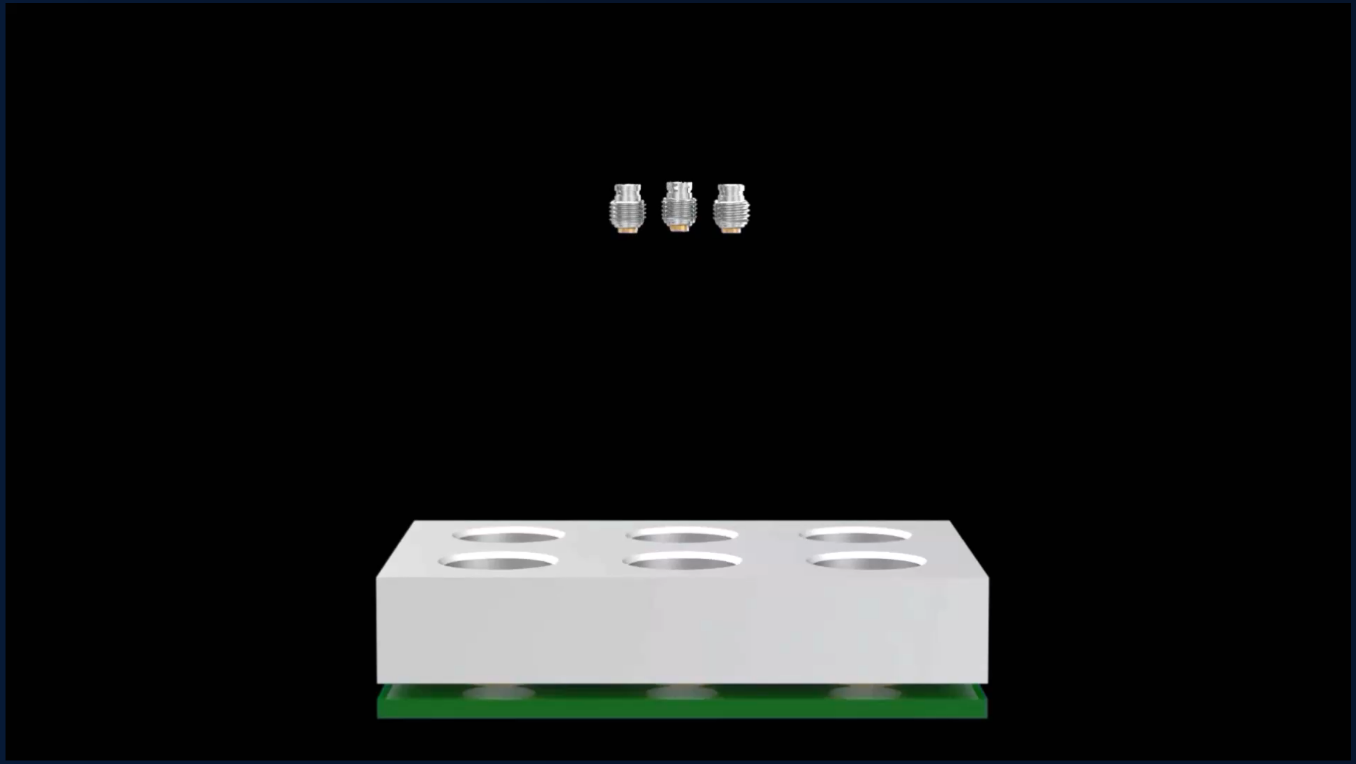


IMP-LP encapsulated in an edge receptacle



Multiple configurations on demand

IMP LP : HYBRID CONFIGURATION

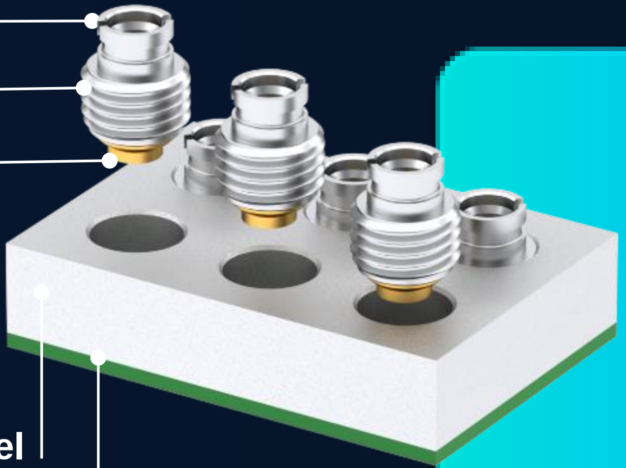


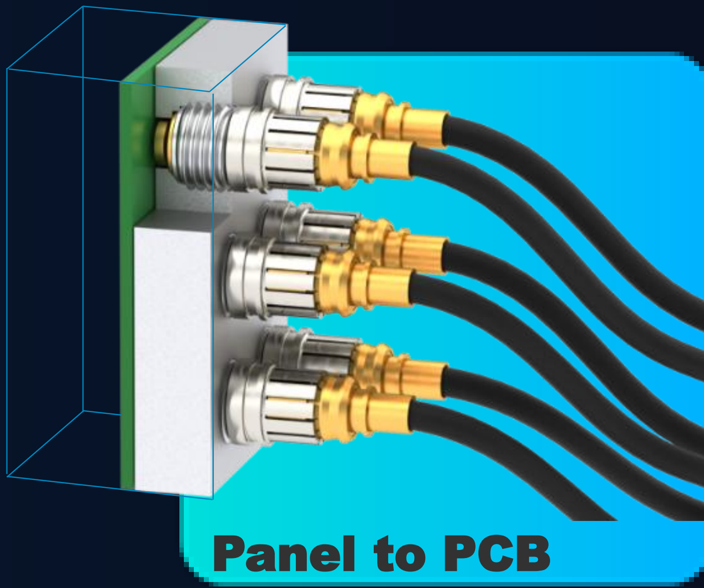
Panel to PCB

A solderless front panel interconnect solution to the back PCB

Multiple front interfaces available

IMP LP : HYBRID CONFIGURATION





IMP – HD RANGE

High Density

PRODUCT DETAILS / IMP – HD Range

EASE OF USE

Drop it into the cavity … That's it

- High Axial tolerance
- Small diameter (dense integration)

MAIN FEATURES

- Frequency range up to **20GHz**
- Insertion Loss **≤0,52dB**
- **Low Phase Noise option**

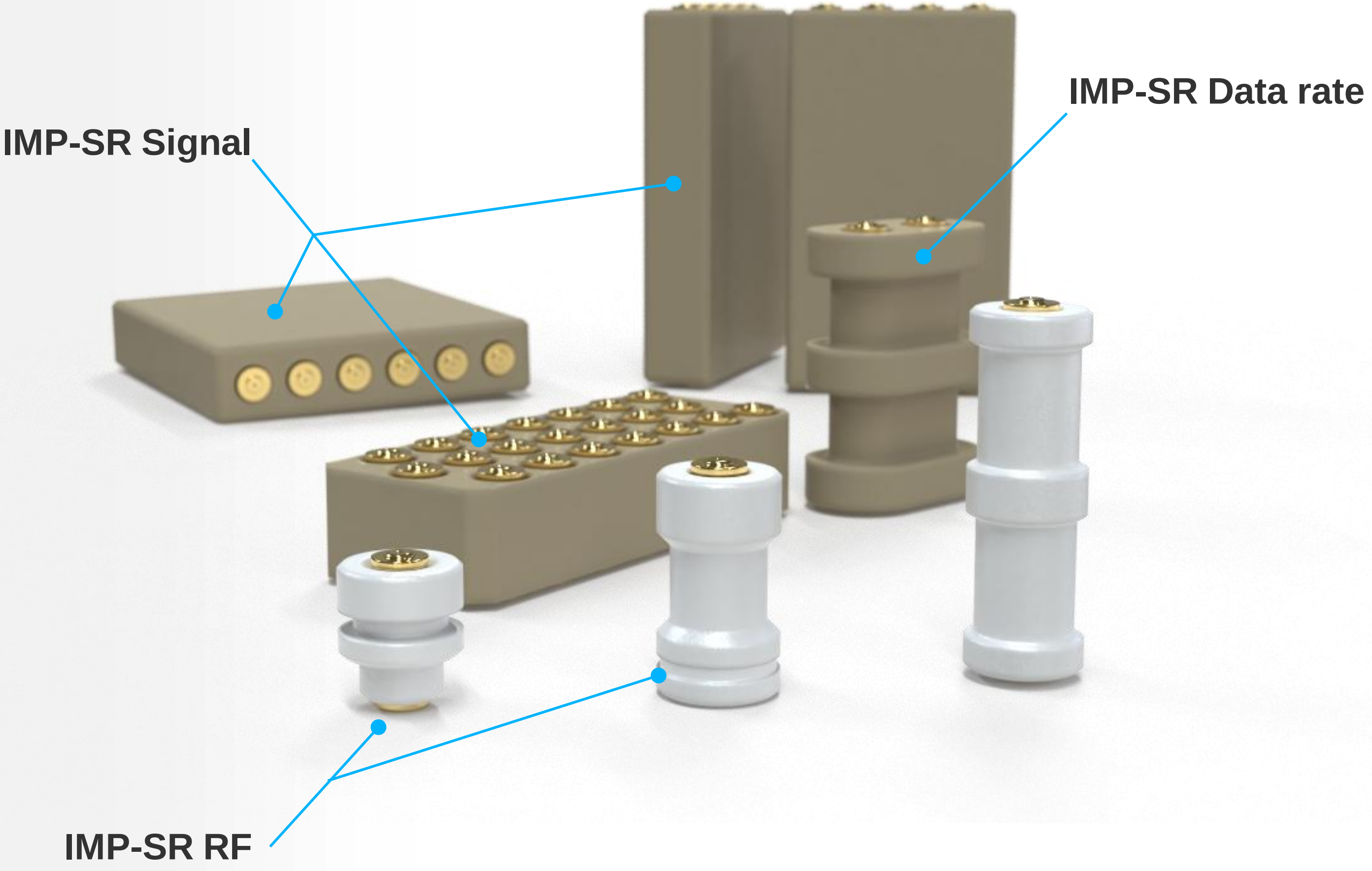
IMP - SR RANGE

*Signal & **RF***

IMP-SR RANGE

3 Configurations

- RF Transmission
- Signal
- Data rate by differential pair



CONFIGURATION IMP-SR RF

RF Model

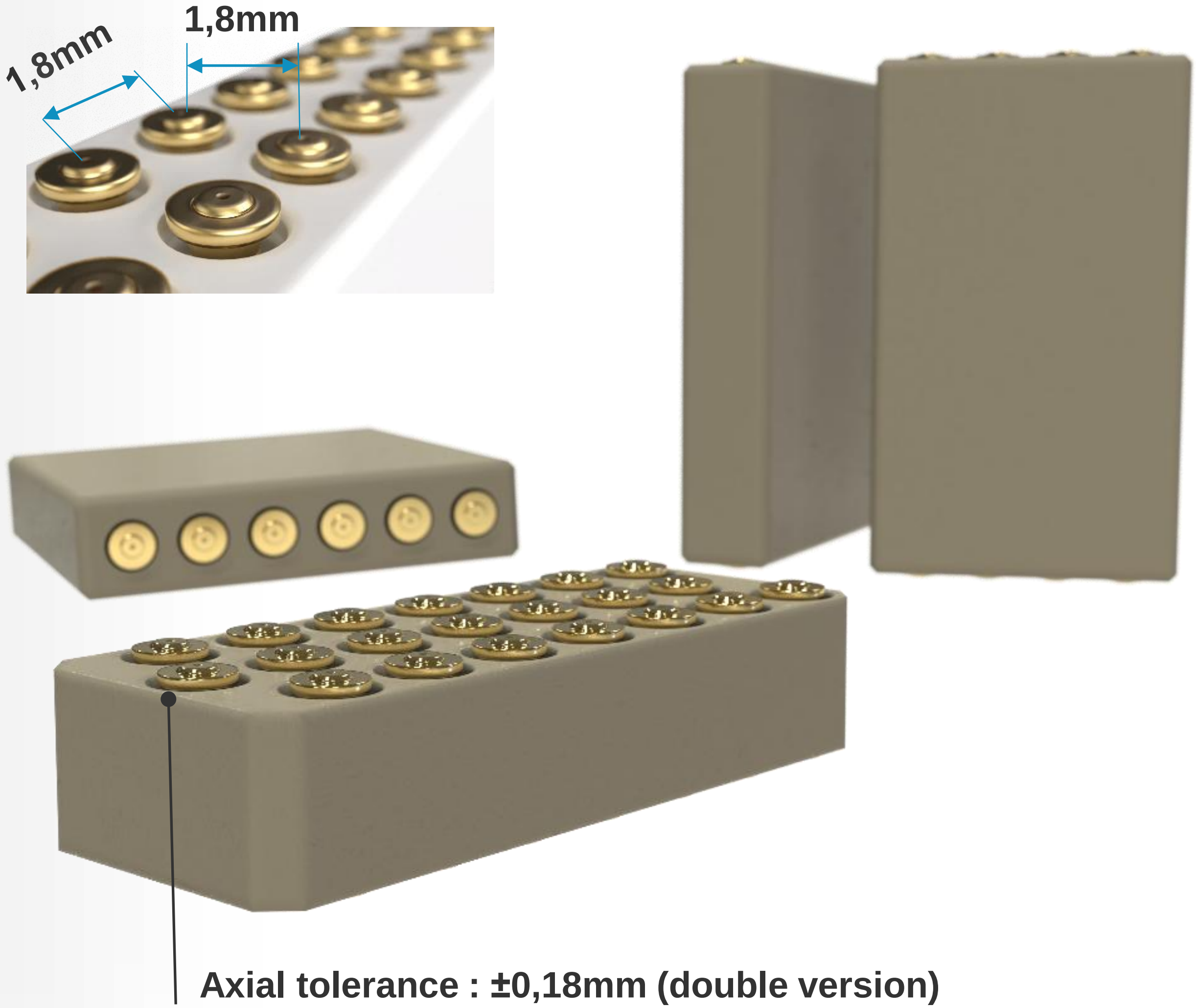
- Board to board distance from **3,1mm**
- **Ø 2,52mm**
- Frequency range up to **40GHz**
- Very low Insertion Loss (typ. -0,2dB)

CONFIGURATION
IMP-SR Signal

Signal Model

Design on demand :

- Board to board distance
- Quantity of contacts
- Contacts arrangement



Axial tolerance : ±0,18mm (double version)

CONFIGURATION IMP-SR Data Rate

Data Rate Model

Designed for high transmission data rate

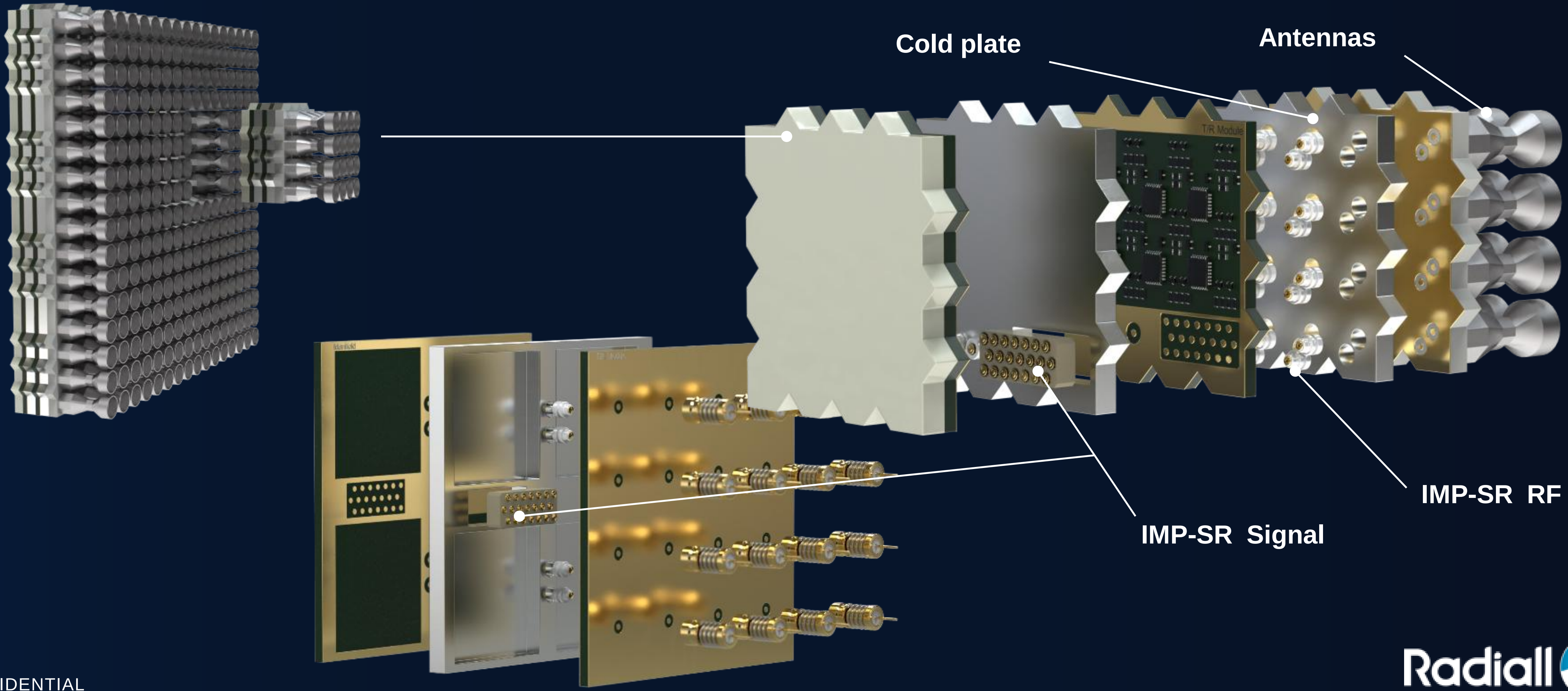
- Designed to work by differential pair
- To be integrated in the shielding architecture for EMI & data rate performances

When used in Half duplex mode, working frequency up to 27GHz

Impedance 100Ω

PRODUCT DETAILS / IMP – SR Range

Example of architecture integration



PRODUCT DETAILS / IMP – SR Range

Custom design

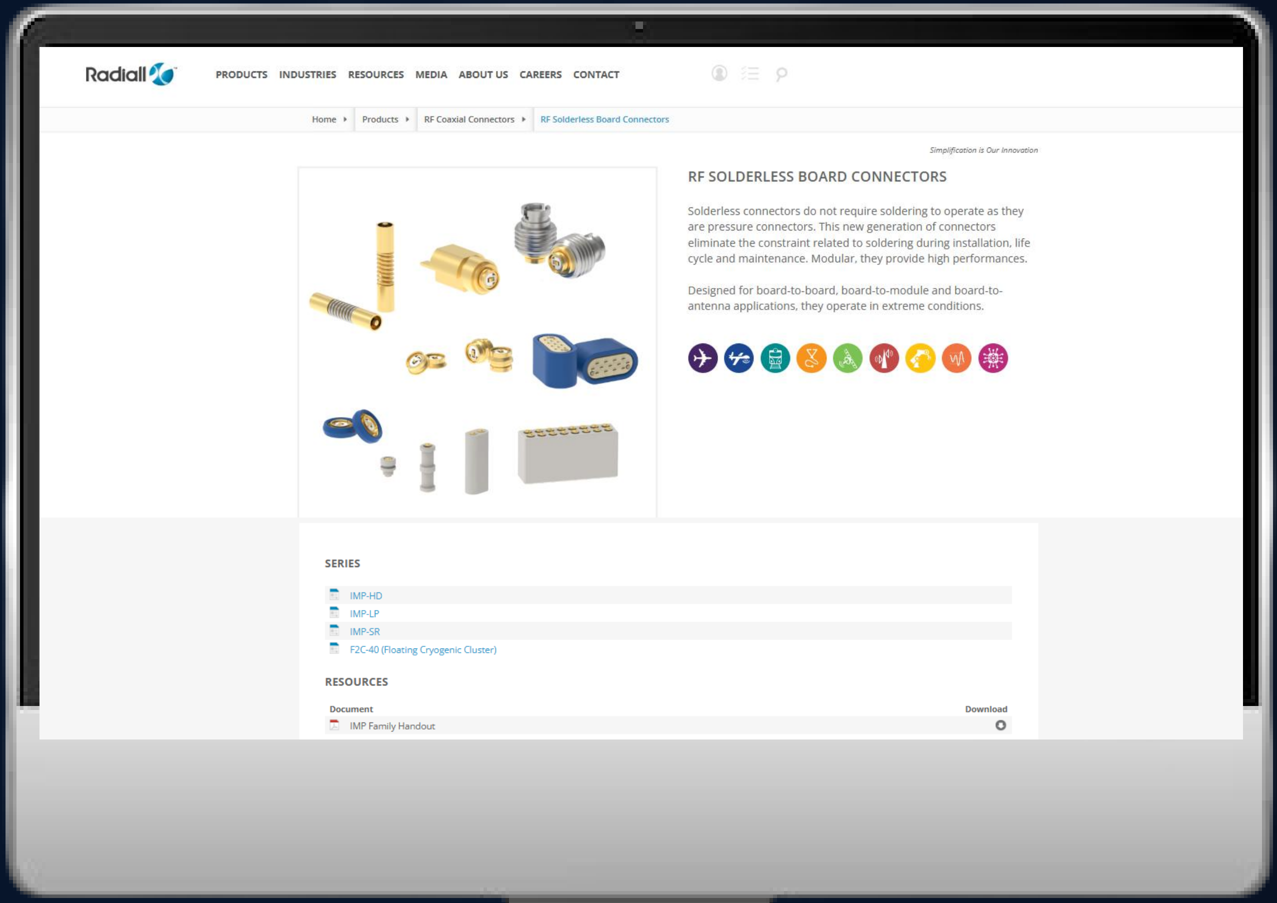
On Demand
Integration : Make it simple

MARKETING TOOLS

MARKETING TOOLS

[Click here to access on our online tools](#)

Handout
Flyer



RF SOLDERLESS BOARD CONNECTORS

Solderless connectors do not require soldering to operate as they are pressure connectors. This new generation of connectors eliminate the constraint related to soldering during installation, life cycle and maintenance. Modular, they provide high performances.

Designed for board-to-board, board-to-module and board-to-antenna applications, they operate in extreme conditions.

SERIES

- IMP-HD
- IMP-LP
- IMP-SR
- F2C-40 (Floating Cryogenic Cluster)

RESOURCES

Document	Download
IMP Family Handout	⊙

For more information,
please contact your sales representative

IMP SYNTHESIS

IMP SYNTHESIS

PRODUCT	DIAMETER	FREQUENCY	B2B Distance	Power
IMP-LP	**3,9mm**	**20 GHz**	**≥1,41mm**	24,5W cw @18GHz (Max power delivered by amplifier) 23,6W cw @12GHz (Max power delivered by amplifier) 36W cw @ 6GHz (Max power delivered by amplifier) 80W cw @ 2GHz (One sample checked @ 105W & 200W = passed)
IMP-HD	**2,8mm**	**20 GHz**	**≥13,4 mm**	160Wpp 80Wrms continuous @12GHz 40° Eq. to 712 Wpp 366 Wrms DutyCycle DC20% Eq. to 1280 Wpp 640 Wrms DutyCycle DC10%
IMP-SR	**2,52mm**	**40 GHz**	**≥3,10 mm**	45W cw @10GHz / 17W cw @18GHz

PRODUCT	*DIAMETER*	*FREQUENCY*	*B2B Distance*
SMP	*≥4,19mm (Ø5mm)*	*40 GHz*	*≥10,3mm*
SMPM	*≥3,96mm (Ø4,44mm)*	*65 GHz*	*≥7,62mm*

THANK YOU