Rosenberger

Test & Measurement

SMPX Multiport Connectors, Adaptors & Cable Assemblies

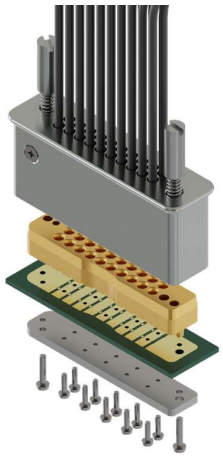
ROSENBERGER NORTH AMERICA

High Performance Solutions for High Density Applications

Covering a frequency range up to 110 GHz per lane while maintaining a consistent impedance profile with low insertion and return loss, our SMPX (Sub Miniature Push-On Multiport) connectors are excellent for high frequency applications where design density limitations matter.

Features and Benefits

- Excellent RF channel alignment & registration
- Solderless design: Ease of installation and maintenance
- High density with its 2.54 mm pitch
- Coplanar waveguide and stripline transmission lines compatible
- High Performance: 110 GHz (50 ohms)

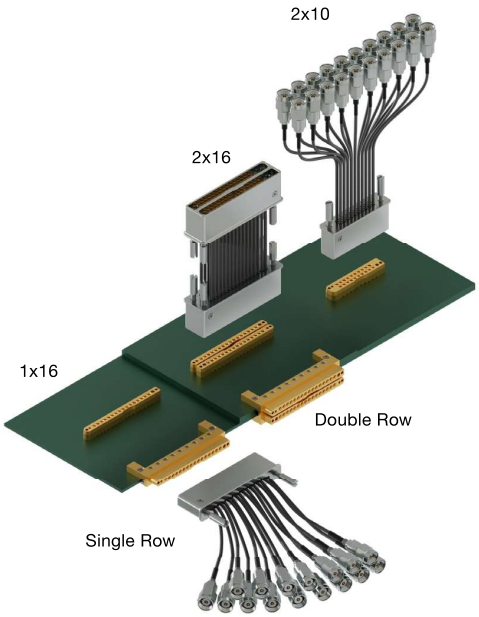


Multiple configurations available:

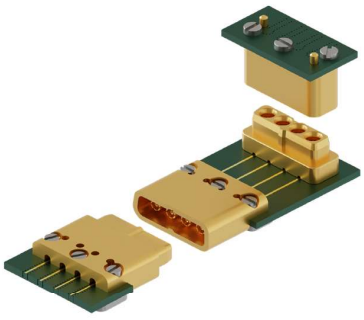
- Single row or double row of: 2, 4, 8 or 16 ports
- Edge launch or vertical mount
- Twinax or coax cable assemblies

High customization potential:

- Custom number of rows & ports.
  Ex: 2 rows of 10 ports
- Custom cable assemblies configuration.
  Ex: Twinax termination
- Multiple PCB thicknesses compatibility



Versatile mating configurations:



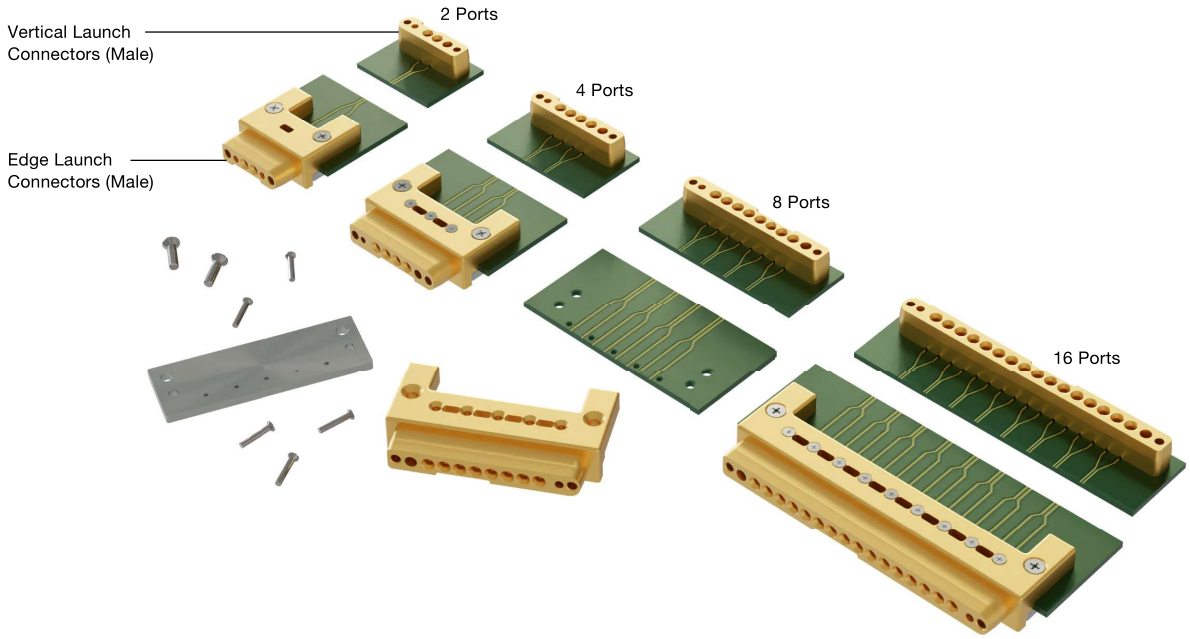
Board to Board

Cable to Board

Cable to Cable

SMPX Solderless Board Mount Connectors & SMPX to Precision RF Adaptors

Multiport SMPX connectors available in gangs of 2, 4, 8 & 16 conductive pins per single row. The following configurations are in stock:



Solderless Connectors

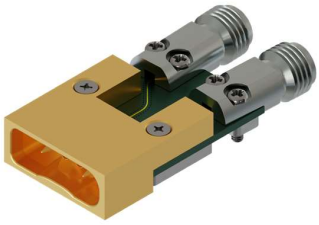
For design and maintenance flexibility ensuring a faster assembly and yield time

SMPX PCB Connectors

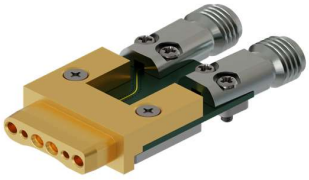
- High Density: 2.54 mm pitch
- Solderless: Easy field installation and replacement for lower cost, fast cycle time and high repeatability
- Compatible with both Coplanar Waveguide & Stripline transmission lines
- Smooth bore for blind mate connection

SMPX to Precision Adaptors

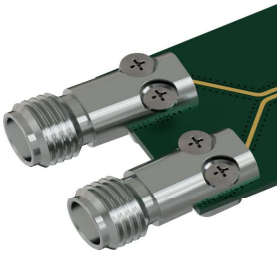
They offer a cost-effective option for effective characterization, validation & verification



Female SMPX to Precision RF



Male SMPX to Precision RF



1.00 mm to 2.92 mm EMI precision connectors on opposite end

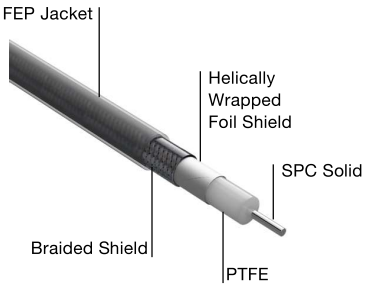
Versatility Enabled with SMPX Cable Assemblies

Our standard offering includes the following cable combinations for all 4 connector configurations: 2 ports. 4 ports, 8 ports, 16 ports, with customization offered upon request.

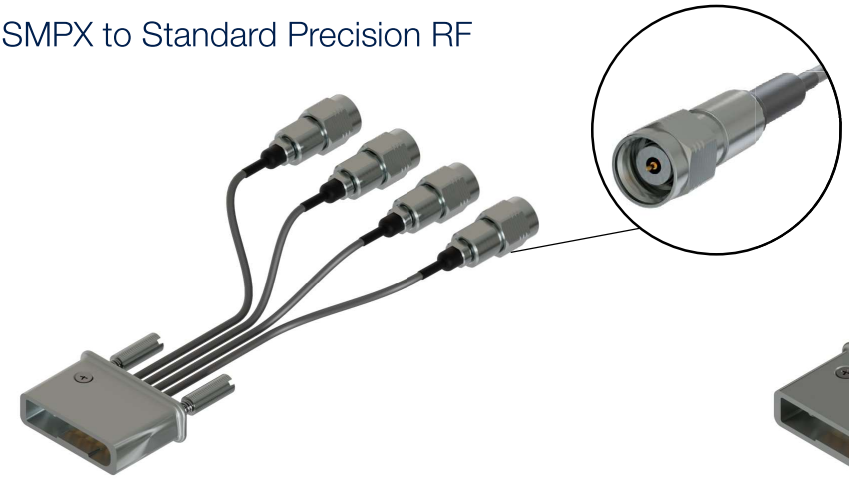
Coax Cable Assemblies

Coax cable assemblies offer a reliable high-performance solution with their very low cable loss. They present an excellent solution for characterization, validation & verification.

Flexible ø.047 Coax Cable

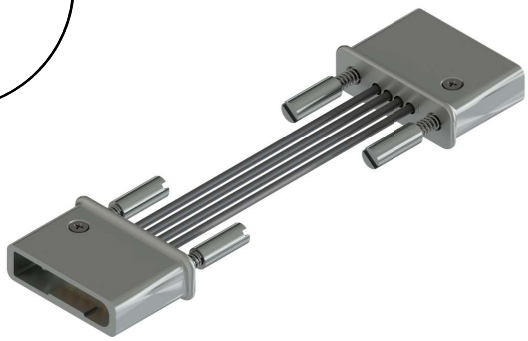


SMPX to Standard Precision RF



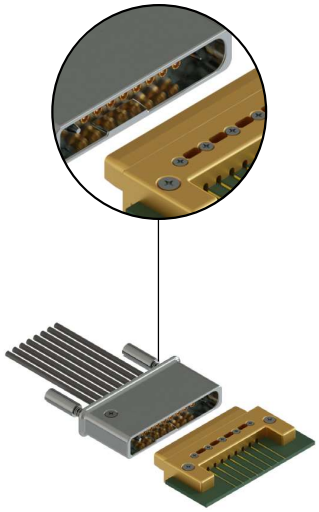
Female Straight to Standard Precision Connectors with options ranging from 1.00 mm to 2.92 mm

SMPX to SMPX

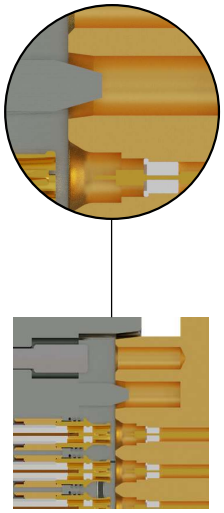


Female Straight to Female Straight

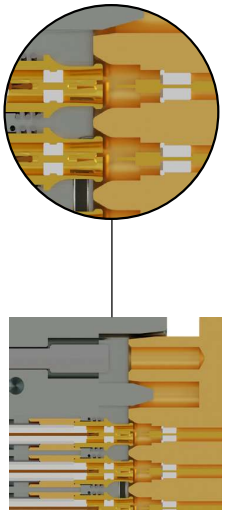
Sequential Mating Design Enables Blind Mating by Protecting the RF Elements



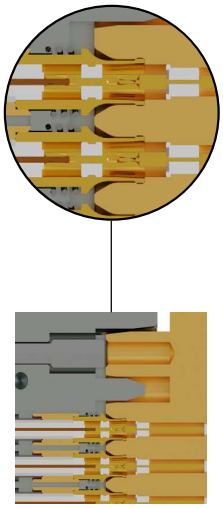
Keying designed in both PCB connector and cable assembly shells ensures proper bodies alignment



Guiding pins enter first the connector body to ensure conductive pins concentricity



Next the female socket body enters floating region to eliminate leaves bending or breaking

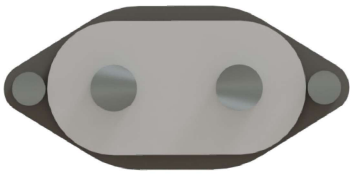


As the female socket enters the mating region springs ensure proper mating at stop position

Twinax Cable Assemblies

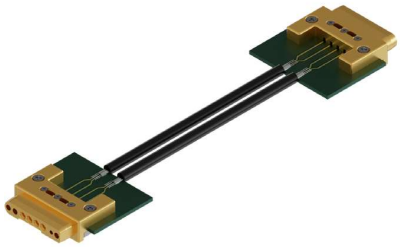
Twinax cables transmit a single signal in differential pairs with very low skew, ensuring extra protection from environmental factors.

Our line of twinax SMPX cable assemblies answers three of the most prominent industry trends: Cost effectiveness, high density design and high data rate requirements. They are also fully capable of 112Gb/s and 224Gb/s data rates.

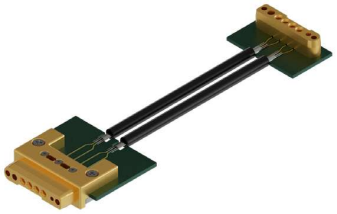


Twin Conductors

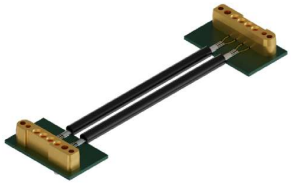
SMPX to SMPX



Male Straight to Male Straight



Male Straight to Male Right Angle



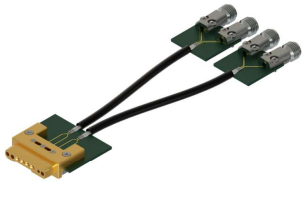
Male Right Angle to Male Right Angle

Female Straight to Female Straight

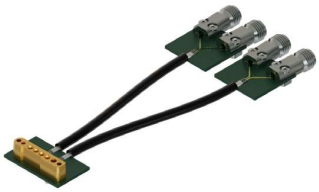
Female Straight to Male Straight

SMPX to Precision RF

SMPX to Precision Connectors Cable Assemblies offer a cost-effective option for effective characterization, validation & verifaction.



SMPX Male Straight to Standard Precision Connectors



SMPX Male Right Angle to Standard Precision Connectors

SMPX Female Straight to Standard Precision Connectors

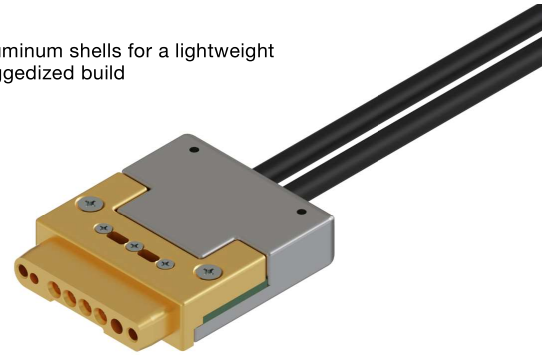
1.00 mm to 2.92 mm EMI precision connectors on opposite end

Compact Interconnects for Maximum System Design Versatility

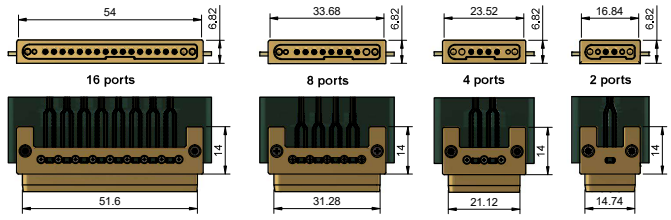
Material & Environmental Specifications		
Materials	Connectors Body	Brass
	Centre Contact	Gold plated BeCu
	Insulators	PCTFE
	Protective Shells	Aluminum
	Twinax Cable Tubing	Nylon
	Coax Cable Type	Flexible ø.047
	Precision RF Cable Connectors	Stainless steel body with BeCu Center Contact
Working Temperature Range		-65°C to +165°C

Material & Environmental Specifications			
Configurations	Mating Forces per channel		Typical Mating cyclest
	Engage	Disengage	
Smooth bore board mount SMPS connector	1.5 lbs	1.0 lbs	>1000 cycles

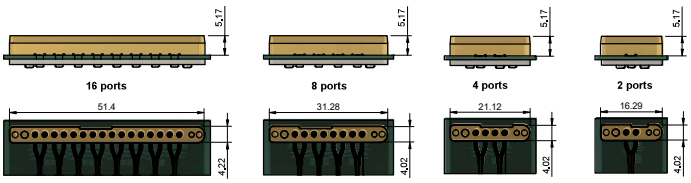
Aluminum shells for a lightweight ruggedized build



Edge Launch SMPX - Male



Vertical Launch SMPX - Male



Cable length can go from .15m to 1.00m

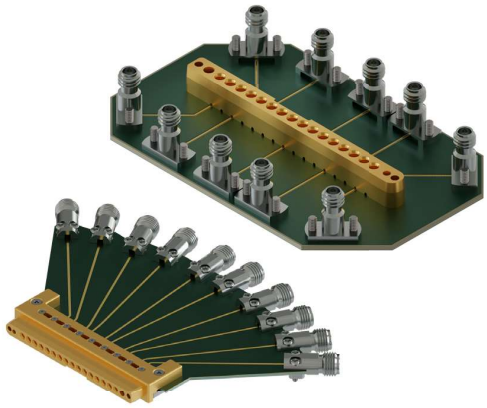
Signal Integrity Prioritized

We recognize one of the industry's biggest challenges: consolidating a PCB stack up with the appropriate connector. From connector selection all the way to specific footprint optimization, our facilities and expertise allow us to tailor our connectors to your particular application.

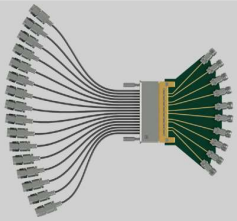
We Can Provide You With:

- Custom evaluation boards
- 3D & SI simulation files provided for your own testing and design
- Quick turnaround designs: Design, prototyping and validation all done in house

SMPX Test Board
Available for purchase



General Electrical Specifications	Board Mount SMPX Connectors (224 Gb/s)
Nominal Impedance	50 ohms
Frequency Range	DC - 110 GHz
Insertion Loss	< 0.25 dB to 90 GHz
Return Loss	> 20 dB @ DC to 40 GHz > 15 dB @ 40 GHz to 60 GHz > 10 dB @ 60 GHz to 90 GHz
Insulation Resistance	5,000 megohms
DWV (at sea level)	250 VRMS typical
Power Handling (at sea level & ambient temperature)	16 W @ 1 GHz @ 25°C
RF Leakage	> 100 dB

Cable Assemblies Signal Integrity Performance	Test Setup for 6 inch .047 SMPS to 1.85mm Cable Assembly + Edge Launch SMPX Connector + Test PCB to 1.85mm
	
Nominal Impedance	50 ohms
Frequency Range	DC - 110 GHz
Insertion Loss	< 0.25 dB to 90 GHz
Insulation Resistance	5,000 megohms
DWV (at sea level)	250 VRMS typical

Vertical Mount PCB Connector

PART NUMBER	DESCRIPTION
W2S101-40ML3-2	SMPX Vertical Mount Connector 1x2
W2S101-40ML3-4	SMPX Vertical Mount Connector 1x4
W2S101-40ML3-8	SMPX Vertical Mount Connector 1x8
W2S101-40ML3-16	SMPX Vertical Mount Connector 1x16

Edge Mount PCB Connector

PART NUMBER	DESCRIPTION
W2S201-40ML3-2	SMPX Edge Mount Connector 1x2
W2S201-40ML3-4	SMPX Edge Mount Connector 1x4
W2S201-40ML3-8	SMPX Edge Mount Connector 1x8
W2S201-40ML3-16	SMPX Edge Mount Connector 1x16

SMPX to SMPX Cable Assembly

PART NUMBER	DESCRIPTION
H70U-W202-W202-xxxxx*	SMPX to SMPX Coax Assembly 1x2
H70U-W204-W204-xxxxx*	SMPX to SMPX Coax Assembly 1x4
H70U-W208-W208-xxxxx*	SMPX to SMPX Coax Assembly 1x8
H70U-W216-W216-xxxxx*	SMPX to SMPX Coax Assembly 1x16

SMPX to Precision Cable Assembly

PART NUMBER	DESCRIPTION
H70U-W202-08S1-xxxxx*	SMPX to RPC-1.85 male Coax Assembly 1x2
H70U-W204-08S1-xxxxx*	SMPX to RPC-1.85 male Coax Assembly 1x4
H70U-W208-08S1-xxxxx*	SMPX to RPC-1.85 male Coax Assembly 1x8
H70U-W216-08S1-xxxxx*	SMPX to RPC-1.85 male Coax Assembly 1x16
H70U-W202-09S1-xxxxx*	SMPX to RPC-2.40 male Coax Assembly 1x2
H70U-W204-09S1-xxxxx*	SMPX to RPC-2.40 male Coax Assembly 1x4
H70U-W208-09S1-xxxxx*	SMPX to RPC-2.40 male Coax Assembly 1x8
H70U-W216-09S1-xxxxx*	SMPX to RPC-2.40 male Coax Assembly 1x16
H70U-W202-02S1-xxxxx*	SMPX to RPC-2.92 male Coax Assembly 1x2
H70U-W204-02S1-xxxxx*	SMPX to RPC-2.92 male Coax Assembly 1x4
H70U-W208-02S1-xxxxx*	SMPX to RPC-2.92 male Coax Assembly 1x8
H70U-W216-02S1-xxxxx*	SMPX to RPC-2.92 male Coax Assembly 1x16

(xxxxx = length in mm)

Website

For more information refer to our website:

www.rosenbergerna.com

Rosenberger

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