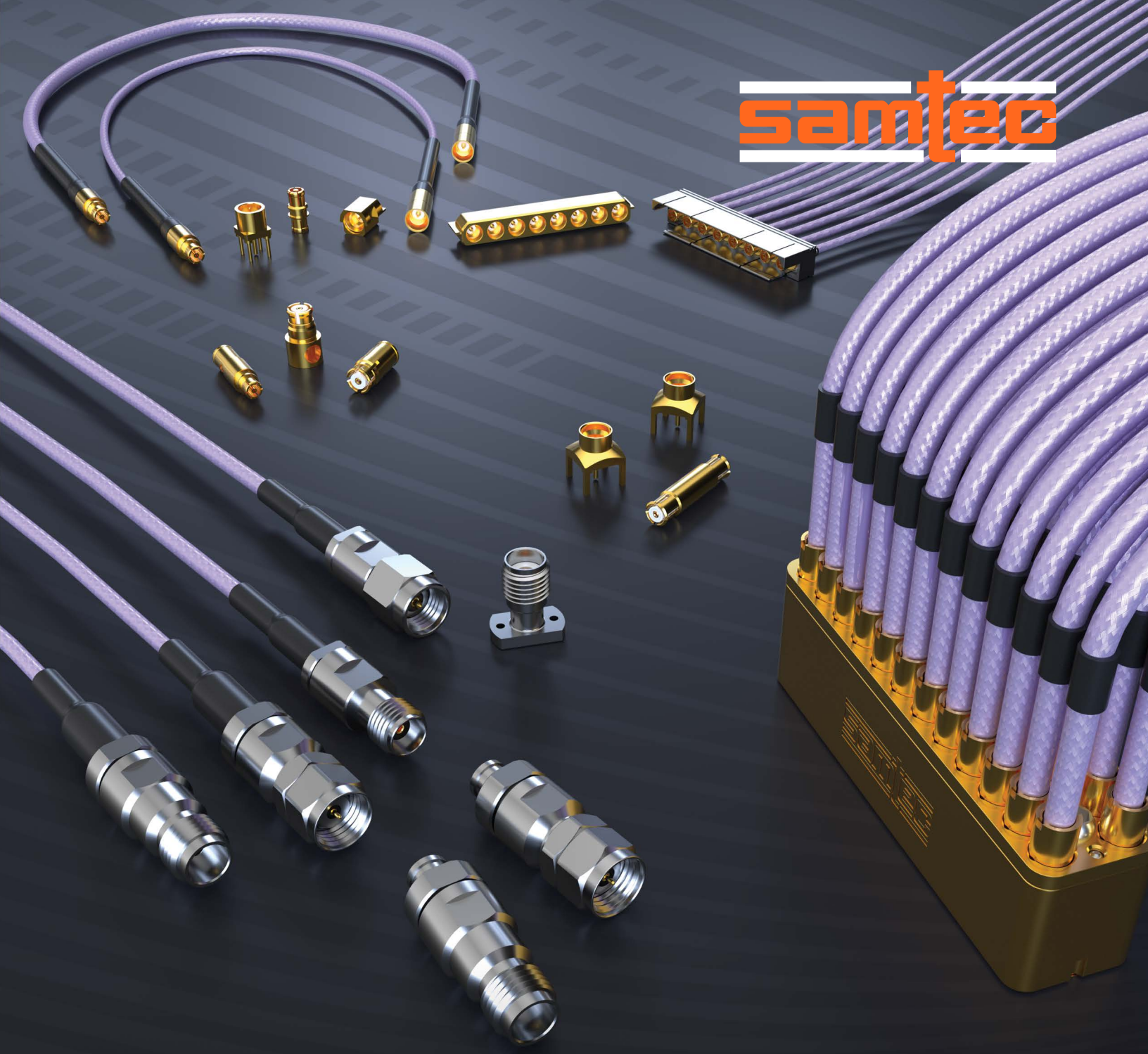


PRECISION RF

MICROWAVE / MILLIMETER WAVE

INTERCONNECT SOLUTIONS GUIDE

PRECISION RF

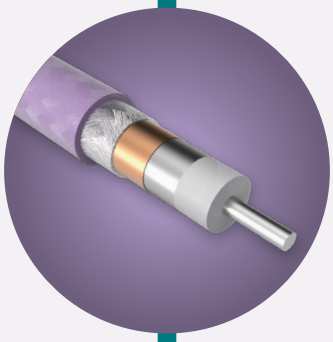
Microwave / Millimeter Wave Cable Assemblies & Interconnects

The Samtec RF product line includes 18 to 110 GHz High-Frequency, Precision RF solutions for microwave and mmWave applications, including full cable assemblies, cable connectors and board level interconnects. Our focus is on delivering high-quality RF products that meet precision and performance expectations, blended with industry-leading system-level signal integrity expertise.

Vertical Integration

=

Full System Support



CABLES

Design & Fabrication of Raw Cable

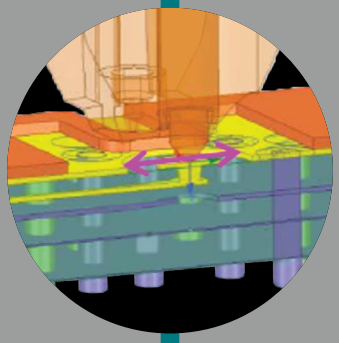
Cable Assemblies

CONNECTORS

Design & Fabrication

Cable Connectors

Board Connectors



TECH SUPPORT

Launch Optimization

Simulation & Testing

Full System Optimization

TABLE OF CONTENTS

High-Frequency, Precision RF starts at K band (18-26.5 GHz) and supports extreme low-latency wireless communication. For additional information about Samtec's High-Frequency, Precision RF solutions, please contact: RFGroup@samtec.com.

samtec.com/PrecisionRF

HIGH-FREQUENCY RF PRODUCT OVERVIEW

AVAILABLE NOW

CABLE ASSEMBLIES

50 Ω Microwave Cable

- .047 Cable – SMPM, 1.85 mm, 2.40 mm, 2.92 mm (RF047-A Series)
- .085 Cable – 2.40 mm, 2.92 mm (RF085 Series)
- .086 Cable – SMPM, 1.85 mm, 2.40 mm (RF086 Series)
- RG 405 (.086) – SMP, SMA (RF405 Series)
- RG 402 (.141) – SMA (RF402 Series)

RG 402 (SMA) *RG 405 (SMP)* *.086 (2.40 mm)* *.047 (2.40 mm)* *.085 (2.92 mm)*

Samtec Low Loss Microwave Cable

- MWC-2350CU-01 – 2.40 mm, 2.92 mm (RF23C Series)
- MWC-2550-01 – SMP, SMA (RF25S Series)
- MWC-2350-01 – 3.50 mm (RF23S Series)

RF25S (SMA) *RF23S (3.50 mm)* *RF23C (2.40 mm)* *RF23C (2.92 mm Plug & Jack)*

BOARD CONNECTORS

Push-On Systems

- 65 GHz – SMPM: Through-Hole, Edge Mount and Bullet (SMPM-TH, SMPM-EM & PRFIA Series)
- 40 GHz – SMP: Through-Hole, Edge Mount and Bullet (SMP Series)

SMPM Connectors with Bullets

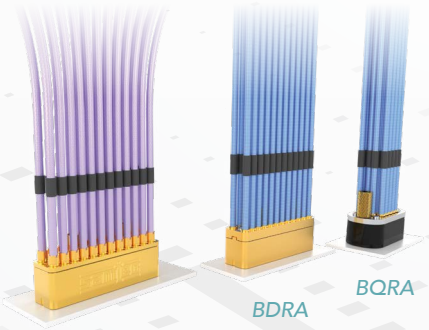
Threaded Systems

- 65 GHz – 1.85 mm Compression, Vertical (185 Series)
- 50 GHz – 2.40 mm Compression, Vertical (240 Series)
- 40 GHz – 2.92 mm Compression, Vertical (292 Series)

2.92 mm *2.40 mm & 1.85 mm*

TEST & MEASUREMENT

- Bulls Eye® 70 GHz System with 360˚ Grounding (BE70A Series)
- Bulls Eye® 50 GHz Pogo Pin System (BE40A Series)
- Bulls Eye® 20 GHz System (BDRA Series, BQRA Series)



BE70A / BE40A *BDRA* *BQRA*

BULLSEYE® TEST POINT SYSTEM

5G Networking, HPC/AI and Automotive 2.0 are driving unprecedented industry growth, along with massive increases in transmission speeds, frequencies and densities. Effectively balancing increased channel throughput with extremely low latency is just one of many resulting challenges.

Samtec offers off-the-shelf industry standard solutions, along with the ability to completely customize an interconnect, in order to support these next generation system demands.

IN DEVELOPMENT

CABLE CONNECTORS

110 GHz

- 1.00 mm (PRF10 Series)

65 GHz

- SMPM (PRFM0 Series)
- 1.85 mm (PRF18 Series)

34 - 50 GHz

- 2.40 mm – 50 GHz (PRF24 Series)
- 2.92 mm – 40 GHz (PRF92 Series)
- SMP – 40 GHz (PRF00 Series)
- 3.50 mm – 34 GHz (PRF35 Series)
- SSMA – 34 GHz (PRFS1 Series)

18 GHz

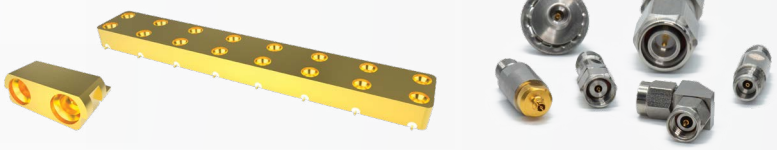
- TNCA (PRF04 Series)
- N Type (PRF06 Series)
- SMA (PRF01 Series)

CABLE ASSEMBLIES

- .047 Cable – 1.35 mm, SMPM Right-Angle, Bulkhead Jack (RF047-A Series)
- .086 Cable – 2.92 mm (RF086 Series)
- .178 Cable – 2.92 mm, SMA, TNCA, N Type (RF180 Series)
- .277 Cable – SMA, TNCA, N Type (RF280 Series)
- MWC-19550-FCU-01 – 2.40 mm & 2.92 mm (RF120 Series)
- MWC-2350CU-01 – SMPM (RF23C Series)
- Ganged Mid-Board, Latching SMPM Assembly
- Micro-Cell, Air-Foamed Dielectric (.086 & .047 Assemblies)

BOARD CONNECTORS

- 90 GHz – 1.35 mm Compression, Vertical
- 65 GHz – SMPM: Blocks, Surface Mount, Right-Angle Through-Hole
- Between Series & In-Series Adaptors (1.00 mm, 1.85 mm, 2.40 mm, SMPM, 2.92 mm, 3.50 mm, SMA, N Type, TNCA)



TEST & MEASUREMENT

- Bulls Eye® +70 GHz Test Systems

BULLSEYE® TEST POINT SYSTEM

HIGH-FREQUENCY MICRO WAVEGUIDES

- Ultra Small Form Factor
- Low Loss Dielectric
- Highly Flexible Cable
- High-Performance at a Lower Overall Cost Than Traditional Metallic Waveguides

PRECISION RF
BOARD & CABLE ASSEMBLIES

VERTICAL INTEGRATION • MATED SETS • INDUSTRY-LEADING SERVICE

TO 110 GHz, REPEATABILITY, TECH SUPPORT

Precision RF interconnects require precise, repeatable electrical and mechanical results. Samtec's microwave and Signal Integrity engineers have a complex understanding of each signal path connection, so you can trust Samtec RF interconnects will meet these demands every time.

Features & Benefits

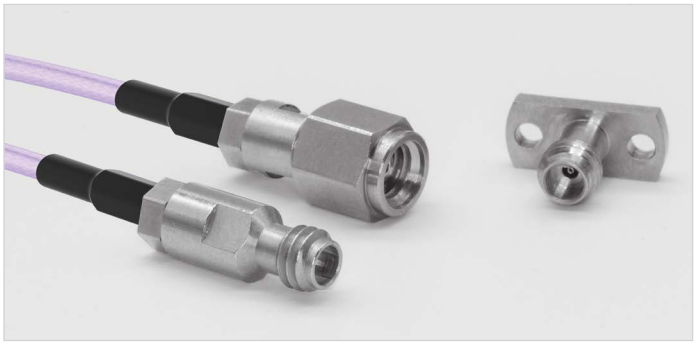
Full cable assemblies and board level interconnects supporting microwave/millimeter wave technologies are backed by the highest level of service and support in the industry.

- High-frequency bands (DC to 110 GHz)
- Offering full mated sets – board level interconnects and full cable assemblies
- Variety of solutions: 1.00 mm (110 GHz) to TNCA (18 GHz), and adaptors
- Excellent repeatability and Low VSWR
- Highest level of service and support in the industry
- Customized solutions available
- Visit **samtec.com/RF** for Samtec's full line of off-the-shelf RF solutions

1.00 mm • to 110 GHz • Excellent Repeatability

PART NO. (SERIES)		
Board Connector	Cable Connector	Cable Assemblies
In Development	PRF10	In Development

- Air dielectric design for low VSWR and insertion loss
- High-performance cable assemblies in development
- Excellent repeatability



1.85 mm • to 65 GHz • Intermateable with 2.40 mm

PART NO. (SERIES)		
Board Connector	Cable Connector	Cable Assemblies
185	PRF18	RF047-A, RF086

- Air dielectric design for low VSWR and insertion loss
- Rugged interface for consistent, reliable performance
- Intermateable with 2.40 mm

SMPM • to 65 GHz • Miniature Footprint

PART NO. (SERIES)		
Board Connector	Cable Connector	Cable Assemblies
SMPM	PRFM0	RF047-A, RF086, RF23C

- Push-on design for quick, easy mating
- Miniature footprint; 30% smaller than SMP
- Full detent or smooth bore for varying retention forces
- Bullet adaptor for board-to-board blind mate applications

2.40 mm • to 50 GHz • Intermateable with 1.85 mm

PART NO. (SERIES)		
Board Connector	Cable Connector	Cable Assemblies
240	PRF24	RF047-A, RF085, RF086, RF23C, RF120

- Air dielectric design for low VSWR and insertion loss
- Rugged interface for consistent, reliable performance
- Intermateable with 1.85 mm

2.92 mm • to 40 GHz • Intermateable with 3.50 mm & SMA

PART NO. (SERIES)		
Board Connector	Cable Connector	Cable Assemblies
292	PRF92	RF047-A, RF085, RF086, RF23C, RF120, RF180

- Air dielectric design for low VSWR and insertion loss
- Rugged interface for consistent, reliable performance
- Intermateable with 3.50 mm and SMA

SMP • to 40 GHz • Compensates for Misalignment

PART NO. (SERIES)		
Board Connector	Cable Connector	Cable Assemblies
SMP	PRF00	RF25S, RF405

- Push-on design for quick, easy mating
- Full detent or smooth bore for varying retention forces
- Bullet adaptor for board-to-board blind mate applications
- Compensates for misalignment

3.50 mm • to 34 GHz • Intermateable with 2.92 mm & SMA

PART NO. (SERIES)		
Board Connector	Cable Connector	Cable Assemblies
N/A	PRF35	RF23S

- Air dielectric design for low VSWR and insertion loss
- Rugged interface for consistent, reliable performance
- Intermateable with 2.92 mm and SMA

SSMA • to 34 GHz • Reduced Size for High-Density

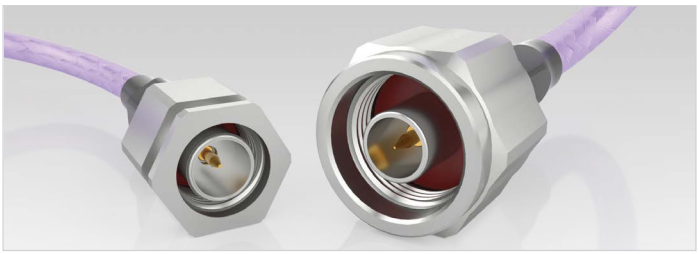
PART NO. (SERIES)		
Board Connector	Cable Connector	Cable Assemblies
N/A	PRFS1	In Development

- PTFE-loaded dielectric
- Reduced size for high-density

SMA / N Type / TNCA • to 18 GHz • Extended Frequency Options

PART NO. (SERIES)		
Board Connector	Cable Connector	Cable Assemblies
SMA	PRF01	RF402, RF405, RF25S, RF180, RF280

Interface Type	Cable Connector	Cable Assemblies
N Type	PRF06	RF180, RF280
TNCA	PRF04	RF180, RF280



SMA

- Ideal for size, performance and cost-critical applications
- Intermateable with 2.92 mm and 3.50 mm
- Extended frequency versions to 26.5 GHz also available

N Type

- Robust interface environmental seal
- High power capability

TNCA

- Excellent voltage breakdown resistance
- Superior average power handling

ALSO AVAILABLE: PRECISION RF ADAPTORS

- Between series and in-series adaptors
- Designed for well-performing VSWR
- 1.00 mm, 1.85 mm, 2.40 mm, 2.92 mm, 3.50 mm, N Type, SMA, SMPM, TNCA

PRECISION RF CABLE CONNECTORS

CABLE CONNECTORS • INDUSTRY STANDARD MICROWAVE CABLES

PERFORMANCE, PRECISION & QUALITY

Designed for a wide range of use in the microwave/mmWave industry, Samtec's high-frequency cable connectors are manufactured with a precise tolerance interface to ensure superior repeatability and high mechanical stability.

Precision RF Cable Connector Features

RF microwave/millimeter wave precision interconnects offer the precision, quality and performance needed to move into the millimeter wave spectrum through 110 GHz.

- Samtec's line of precision cable connectors offers the flexibility to terminate to an industry-standard cable specified for your application
- High-frequency bands (DC to 110 GHz)
- 2.92 mm cross-mateable to other industry standards (SMA, 3.50 mm)
- 2.40 mm and 1.85 mm are intermateable
- 1.00 mm cable connectors up to 110 GHz
- Customized solutions available
- Visit samtec.com/RF for Samtec's full line of standard, off-the-shelf RF solutions

Cable Connectors • Industry Standard Cable Compatibility Guide

Series	GHz	Type	Industry Cable
PRF10	110	1.00 mm	.047, semi-rigid
PRF18	65	1.85 mm	.047, semi-rigid
			.047 Temp-Flex, low loss flexible, 29 AWG
			Harbour SS405, flexible alternative to RG 405
			RG 405, .085, semi-rigid
			.086 Temp-Flex, low loss flexible
PRFM0		SMPM	.047 Temp-Flex, low loss flexible, 29 AWG
			.047 Temp-Flex, low loss flexible, 28 AWG
			Harbour SS405, flexible alternative to RG 405
			.086 Temp-Flex, low loss flexible
PRF24	50	2.40 mm	Harbour SS405, flexible alternative to RG 405
			RG 405, .085, semi-rigid
			.086 Temp-Flex, low loss flexible
			Semflex HP120, low loss flexible
			Semflex HP160, low loss flexible
			IW 1401, low loss flexible
			IW 1501, low loss flexible
			Dynawave DF150, low loss flexible
PRF92	40	2.92 mm	.047, semi-rigid
			RG 405, .085, semi-rigid
			.085, semi-rigid, 23 AWG
			Harbour SS405, flexible alternative to RG 405
			.086 Temp-Flex, low loss flexible
			Haverhill HC35004, .118, semi-rigid
			Semflex HP120, low loss flexible
			RG 402, .141, semi-rigid
			Semflex HP160, low loss flexible
			IW 1501, low loss flexible
			Dynawave DF150, low loss flexible
			Dynawave DF140, low loss flexible
			Harbour LL142, low loss flexible
			Semflex HP190, low loss flexible
			Times Max Gain 200, low loss flexible
PRF00		SMP	.047 Temp-Flex, low loss flexible, 29 AWG
			.085, semi-rigid, 23 AWG

110 GHz | 1.00 mm

65 GHz | 1.85 mm & SMPM

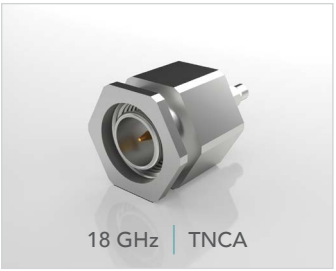
50 GHz | 2.40 mm

40 GHz | 2.92 mm & SMP

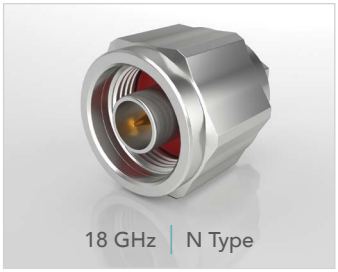
34 GHz | 3.50 mm

34 GHz | SSMA

Series	GHz	Type	Industry Cable
PRF35	34	3.50 mm	RG 405, .085, semi-rigid
			Semflex HP120, low loss flexible
			RG 402, .141, semi-rigid
			Semflex HP160, low loss flexible
PRFS1		SSMA	RG 405, .085, semi-rigid
			Harbour SS402, flexible alternative to RG 402
PRF01	18	SMA	.047, semi-rigid
			RG 405, .085, semi-rigid
			Harbour LL120, low loss flexible
			IW 1201, low loss flexible
			RG 402, .141, semi-rigid
			Semflex HP160, low loss flexible
			Dynawave DF150, low loss flexible
			Harbour SS402, flexible alternative to RG 402
			Harbour LL142, low loss flexible
			Harbour SB142, low loss flexible
			Semflex HP190, low loss flexible
			Times Max Gain 200, low loss flexible
			Semflex LA290, low loss flexible
			Harbour LL335i, low loss flexible
			Harbour LL335, low loss flexible
			Semflex HP305, low loss flexible
PRF06		N Type	Harbour LL142, low loss flexible
			Harbour SB142, low loss flexible
			Semflex HP190, low loss flexible
			Semflex LA290, low loss flexible
			Harbour LL335i, low loss flexible
			Harbour LL335, low loss flexible
			Semflex HP305, low loss flexible
			Semflex HP120, low loss flexible
			Harbour SS402, flexible alternative to RG 402
			RG 402, .141, semi-rigid
PRF04		TNCA	Harbour LL142, low loss flexible
			Semflex HP190, low loss flexible
			Semflex LA290, low loss flexible
			Harbour LL335i, low loss flexible
			Harbour LL335, low loss flexible



18 GHz | TNCA

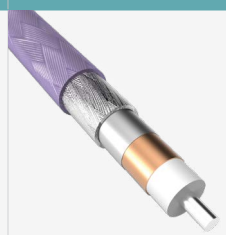


18 GHz | N Type

18 GHz | SMA

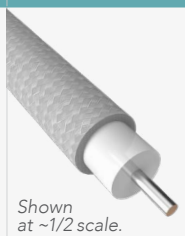
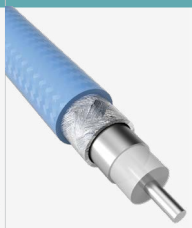
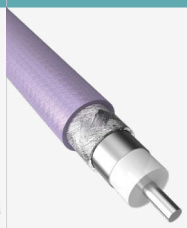
50 Ω MICROWAVE CABLES

STANDARD, OFF-THE-SHELF ASSEMBLIES

TYPE		MWC-2550-01	MWC-2350-01	MWC-2350CU-01	MWC-19550-FCU-01	RG 405 (.086")
						
ELECTRICAL						
Max Frequency (GHz)		40	35	50	45	20
Insertion Loss (dB/m)	1 GHz	0.79	0.72	0.69	0.43	0.72
	26 GHz	3.80 @ 20 GHz	3.71 @ 20 GHz	4.21	2.69	4.26 @ 20 GHz
	40 GHz	—	—	5.55	3.53	—
	50 GHz	—	—	6.46	—	—
Propagation Delay (ns/m)		4.76	4.72	4.76	4.12	4.79
Velocity of Propagation		70%			81%	70%
Capacitance (pF/m)		96.80	95.45	97.80	82.39	104.97
CONSTRUCTION						
Center Conductor		Solid Silver Plated Copper				
Dielectric		FEP			Foam Fluoropolymer	PTFE
Shield		1) Ag Plated Cu 2) Ag Plated Cu		1) Ag Plated Cu 2) Cu Tape 3) Ag Plated Cu	1) Ag Plated Cu 2) Ag Plated Cu	Tinned Cu
Jacket		FEP				—
MECHANICAL						
Operating Temp		-40˚ C to 200˚ C		-65˚ C to 125˚ C	-65˚ C to 150˚ C	-40˚ C to 125˚ C
Min. Bend Radius (mm)		9.00	12.00	6.00	12.50	3.18
Connector Options		SMA, SMP	3.50 mm	2.92 mm, 2.40 mm, SMPM	2.92 mm, 2.40 mm	SMA, SMP
PART NUMBER						
Series		RF25S	RF23S	RF23C	RF120	RF405

CHOOSE YOUR CABLE CONNECTOR

Samtec cable assemblies are available with a variety of cable connector options, all as standard off-the-shelf solutions. Visit **samtec.com/precisionRF**.

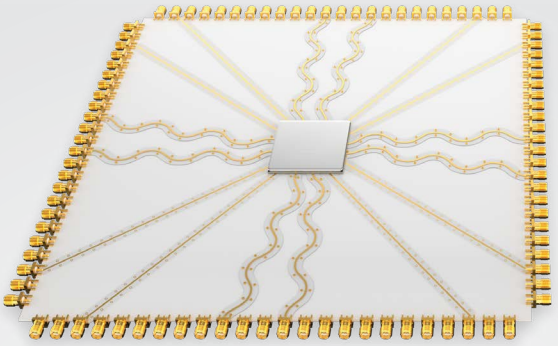
TYPE		RG 402 (.141")	.047 Low-Loss Flexible	.085 Low-Loss Flexible	.086 Low-Loss Flexible	.178 Low-Loss Flexible	.277 Low-Loss Flexible
		 Shown at ~1/2 scale.				 Shown at ~1/2 scale.	 Shown at ~1/3 scale.
ELECTRICAL							
Max Frequency (GHz)		20	65	50	65	40	18
Insertion Loss (dB/m)	1 GHz	0.40	1.10	0.62	0.65	0.26	0.16
	26 GHz	2.30 @ 20 GHz	6.80	2.96	3.95	1.22 @ 18 GHz	0.78 @ 18 GHz
	40 GHz	—	8.80	3.68	5.07	—	—
	50 GHz	—	10.13	4.12	5.82	—	—
Propagation Delay (ns/m)		4.79	4.76	4.75	4.20	4.17	4.02
Velocity of Propagation			70%		79.4%	80%	83%
Capacitance (pF/m)		98.072	95.00	88.2	83.37	82.00	
CONSTRUCTION							
Center Conductor		Solid Silver Plated Copper					
Dielectric		PTFE	PFA	Solid PTFE	Foam Fluoro-polymer	PTFE Tape	
Shield		Tinned Cu	1) Ag Plated Cu 2) Ag Plated Cu	Spiral Strip Ag Plated Cu	1) Ag Plated Cu 2) Ag Plated Cu	1) Flat Ag Plated Cu 2) Al Polyester 3) Round Ag Plated Cu	
Jacket		—	FEP				
MECHANICAL							
Operating Temp		-40˚ C to 125˚ C	-65˚ C to 150˚ C	-55˚ C to 200˚ C	-65˚ C to 150˚ C	-55˚ C to 200˚ C	
Min. Bend Radius (mm)		6.35	10.00	13.20	8.89	24.80	38.10
Connector Options		SMA	1.85 mm, 2.40 mm, 2.92 mm, SMPM	2.92 mm, 2.40 mm	1.85 mm, 2.40 mm, 2.92 mm, SMPM	2.92 mm, SMA, TNCA, N Type	SMA, TNCA, N Type
PART NUMBER							
Series		RF402	RF047-A	RF085	RF086	RF180	RF280

TEST & MEASUREMENT

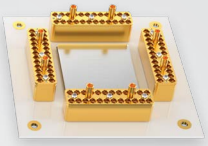
OPTIMIZED PERFORMANCE TO 70 GHz

HIGH-DENSITY • SPACE-SAVING DESIGN • SHORTER TRACE LENGTHS

Traditional with SMAs

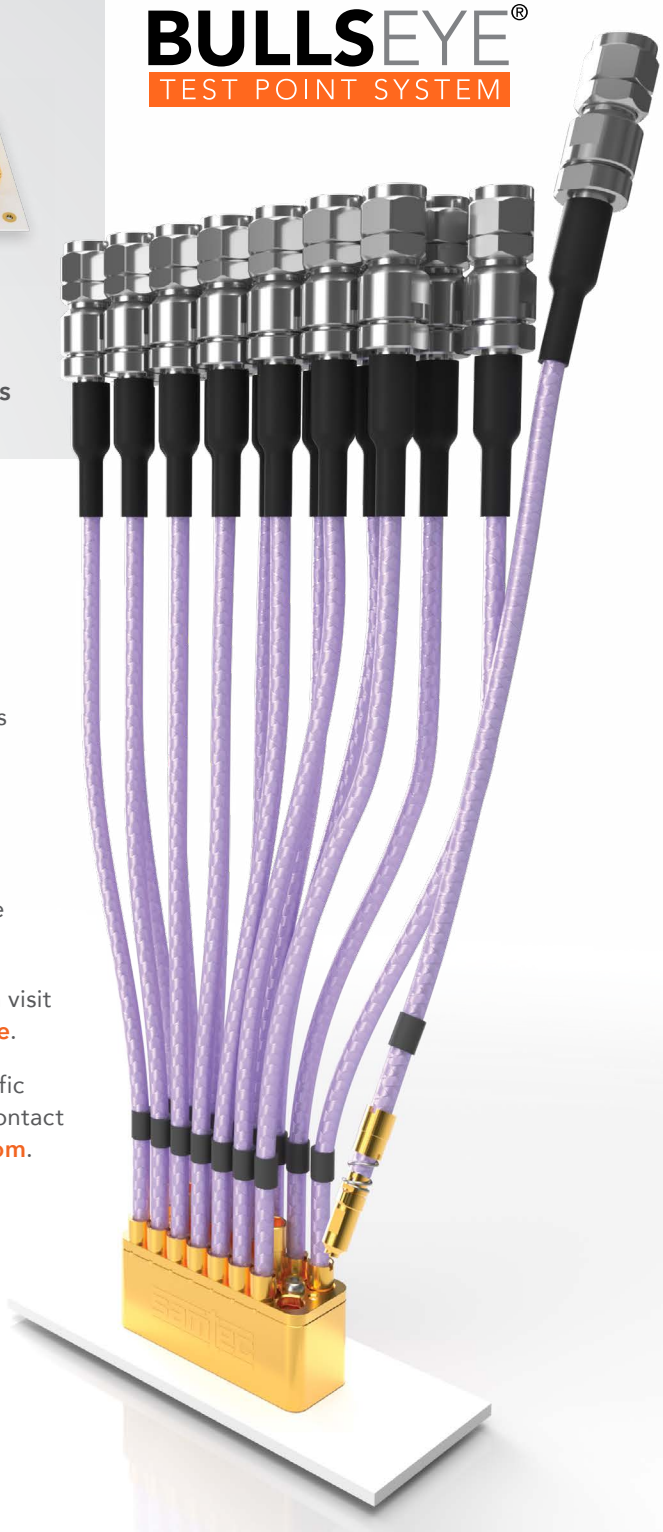


Bulls Eye®



Enables Smaller Evaluation Boards & Shorter Trace Lengths

BULLSEYE® TEST POINT SYSTEM



Bulls Eye® High-Performance Test

The high-density array designs and advanced cabling solutions within Samtec's Bulls Eye® product family support test and measurement applications to 70 GHz.

- Compression interface to the board provides easy on/off and eliminates soldering costs
- High-density, space-saving design
- Enables smaller evaluation boards and shorter trace lengths
- Installation: while the attach process for each series is similar, each have unique specifications that need to be observed

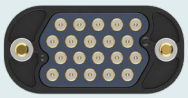
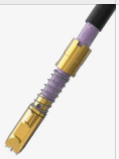
Custom Solutions Also Available

For more information visit samtec.com/BullsEye.

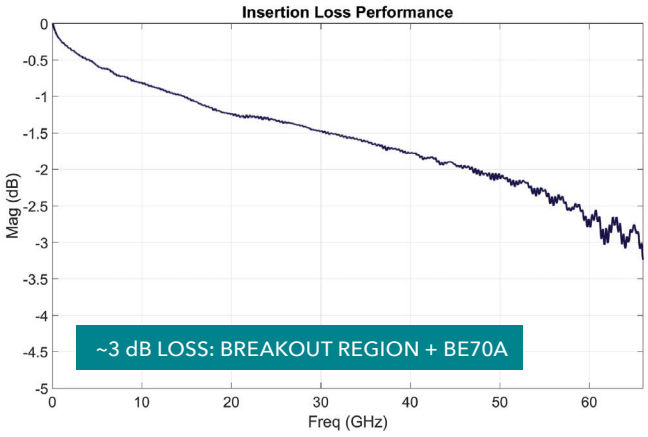
To discuss your specific application, please contact RFGroup@samtec.com.

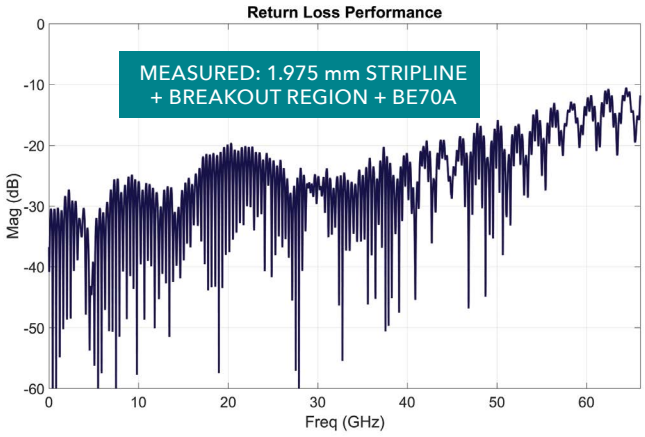
BULLSEYE® TEST POINT SYSTEM

Product Family Cross Reference Guide

ASSEMBLY	70 GHz	50 GHz	40 GHz	20 GHz	
					
End 2 Connectors	1.85 mm	2.40 mm (50 GHz)	2.92 mm (40 GHz)	2.92 mm (2 Row)	2.92 mm (4 Row)
Samtec Series	BE70A	BE40A		BDRA	BQRA
Cable Type	.086	MWC-2350CU-01		MWC-2350-01	
Cable Management	Yes				
PCB Transition	Microstrip or Stripline			Stripline	
Design	Spring-Loaded Contact; 360° Grounding 	Pogo-Pin for Signal & Ground 		Fixed-Pin for Signal; Elastomer & Block for Ground 	
No. of Positions	2x 3, 4, 6, 8, 10, 12, 14, 16			2x 12	20
Impedance	50 Ω				
FPGA Development Kit		Xilinx® Zynq® UltraScale+™ RFSoC ZCU1275			Xilinx® Virtex® UltraScale™ FPGA VCU110

Bulls Eye® Performance • BE70A, 2 x 4 Footprint, 12-Inch Cable





CUSTOM RF
APPLICATION SPECIFIC SOLUTIONS

EXTREME FLEXIBILITY • QUICK-TURN MODIFICATIONS • CUSTOM DESIGNS

Samtec's fully vertically integrated business model enables the flexibility to quickly and efficiently identify and/or develop innovative, application-specific interconnect solutions to meet a variety of demands in digital/analog systems. Contact RFGroup@samtec.com to discuss your application.

Customized Cable Assemblies • Extreme Flexibility

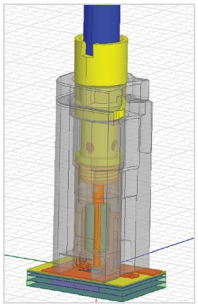
- Mix & Match solutions for any application
- Choose any cable connector
- Choose any standard cable

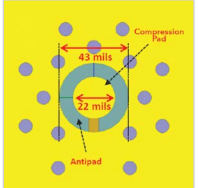
Quick-Turn Modifications & Customs • Standards & New Designs

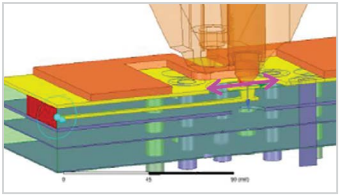
- Termination types
- Custom tail lengths / designs
- Right-angle height adjustment
- Heat-shrink tubing
- High-frequency applications
- Pick & Place machine designs
- Alternate platings
- Custom labels
- Test & Measurement solutions

Technical Support • Full System Design & Development

- Launch design
- Prototyping
- Fabrication
- Simulations
- Launch optimization support
- Full system test & measurement







NEXT GENERATION WAVEGUIDE TECHNOLOGY

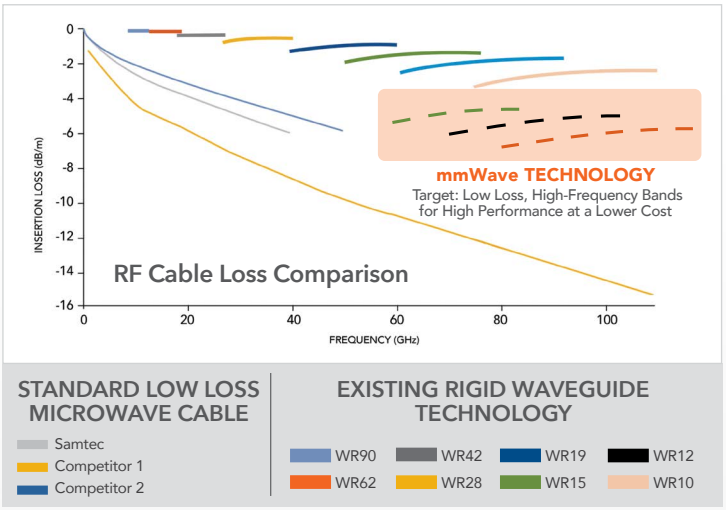
ULTRA SMALL FORM FACTOR • LOW LOSS DIELECTRIC • FLEXIBLE CABLE

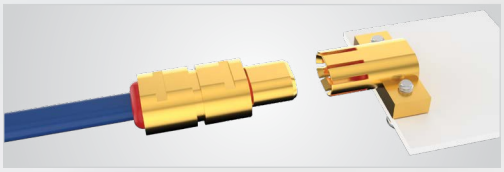
To support the demands of next generation systems, Samtec is developing innovative interconnect solutions such as our new mmWave technology, which enables a high-frequency, ultra-small form factor, and highly flexible waveguide design.

Samtec High-Frequency Micro Waveguides offer high-performance at a lower overall cost than traditional metallic waveguides. Products currently in testing:

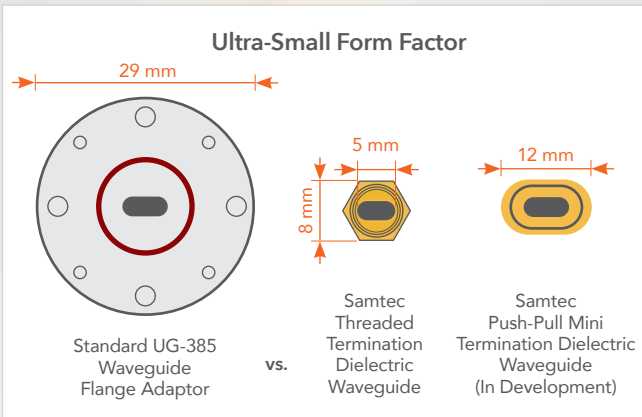
- Threaded Termination Cable and mating PCB Launch Right-Angle Connector
- In Development: Push-Pull Style Mini Termination Cables and mating PCB Launch Right-Angle Connector
- Roadmap: Low Loss Dielectric Push-Pull Mini Termination Cable and Vertical PCB Launch Connector
- Adaptors to traditional waveguide interfaces also available

Contact RFGroup@samtec.com for additional details.



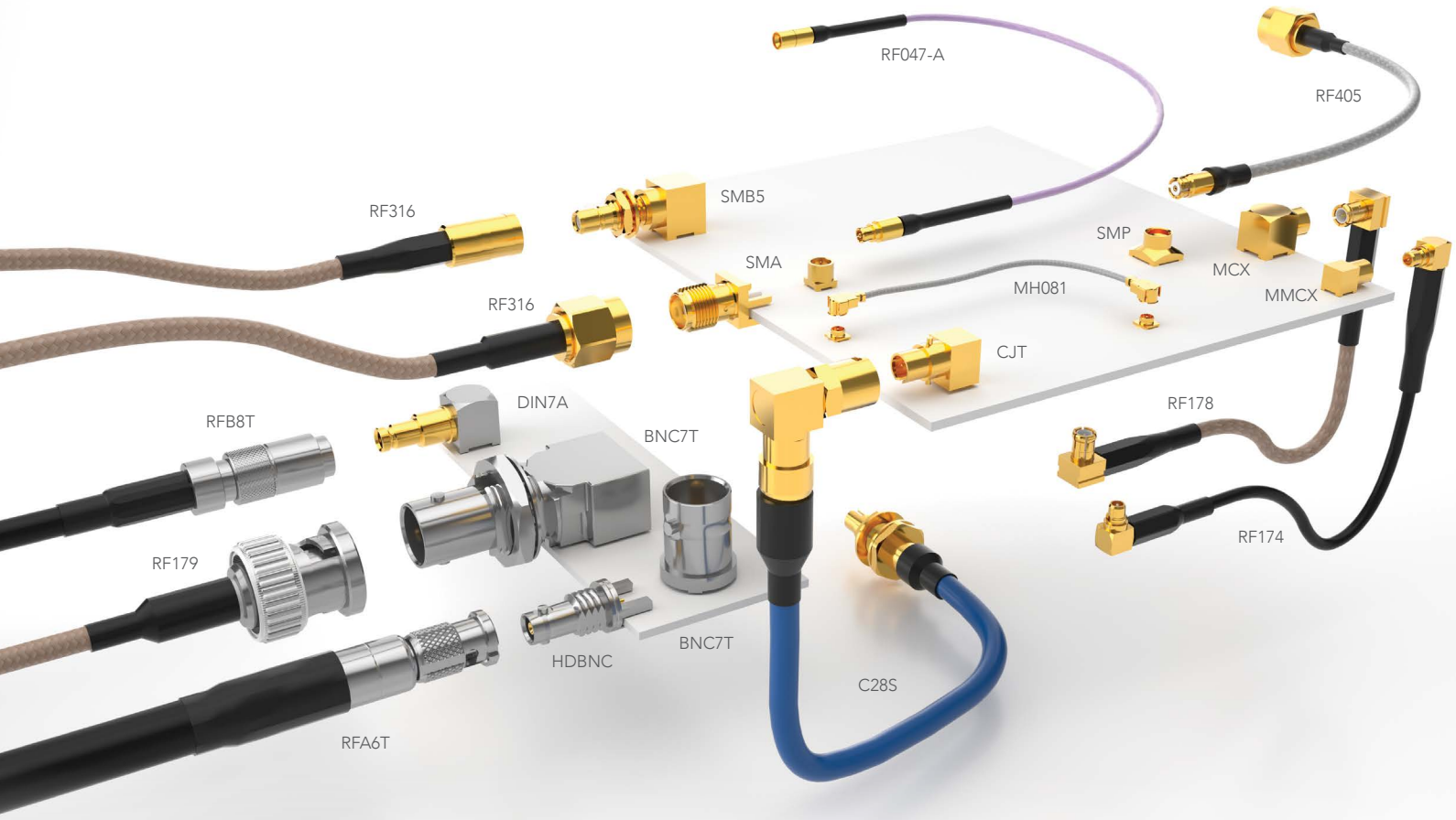


Push-Pull Mini Termination Cable & PCB Launch Right-Angle Connector
(In Development)



COMPLETE RF
INTERCONNECT SOLUTIONS

50 Ω & 75 Ω • 12G-SDI • NON-MAGNETIC • ORIGINAL SOLUTIONS



Full Line RF Cable Assemblies & Connectors

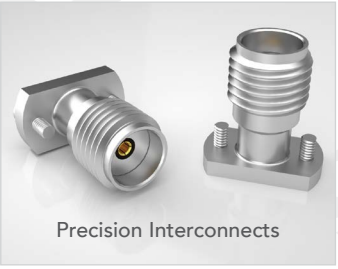
As a manufacturer of a broad line of electronic interconnects, Samtec offers full RF solution capabilities. In addition to high-performance precision RF, high-frequency, and high-performance test systems, Samtec's full line includes:

- Micro High-Frequency U.FL and W.FL
- 50 Ω and 75 Ω cable assemblies, cable connectors and board level interconnects
- Ganged and high isolation cable systems
- 100 Ω shielded twisted pair cable assemblies
- Micro-mini interconnects
- Non-magnetic RF solutions

Samtec is the service leader in the industry with the resources and willingness to provide technical support for launch optimization, simulation and test & measurement. Visit **samtec.com/RF** for additional information.

50 Ω RF Cables & Connectors

- High-frequency cables: semi-flexible, solid, foamed or air enhanced dielectric
- Variety of straight and right-angle jacks, plugs and bulkhead jacks
- Double-shielded RG 316 cable
- Micro high-frequency U.FL/W.FL assemblies
- Wide variety of industry standard cables with mix & match cable connectors
- Precision interconnects supporting frequencies from 18 to 110 GHz



Precision Interconnects

Non-Magnetic RF Solutions

- Truly non-magnetic RF solutions; 100% inspected for magnetic permeability
- Nearly all Samtec interconnects can be ordered as non-magnetic
- Supported by Samtec's quick-turn lead times and unmatched service
- Ideal for medical imaging, advanced driver assistance systems, hand held devices, etc.
- Contact **RFGroup@samtec.com**

75 Ω RF Cables & Connectors

- Wide variety of industry standard cables with mix & match cable connectors
- Low profile BNC with Pick & Place capability, optimized for high volume manufacturing
- RFB8T Series (with Belden 1855A cable)
- Wide variety of terminations: BNC, HD-BNC™, DIN 1.0/2.3, SMB
- Straight and right-angle, die cast options
- 12G-SDI optimized 75 Ω interconnects

HD-BNC™ is a trademark of Amphenol.

Low Profile BNC with Pick & Place Capability

12G-SDI Broadcast Video Solutions

- Samtec has the largest variety of 12G-SDI optimized products
- Analysis and launch optimization: **RFGroup@samtec.com**
- 75 Ω BNC, HD-BNC™ and DIN 1.0/2.3
- Right-angle, vertical, edge mount, low profile and standard or tall through-hole
- For additional details, please visit: **samtec.com/12gsdi**

12G-SDI Broadcast Video

Samtec Original Solutions

- High vibration and 75 Ω MMCX
- Ganged micro-miniature high-performance RF cable assemblies with rugged contacts
- Circular RF shielded twisted pair system
- IsoRate® cost-efficient high-performance isolated signal systems
- Machined U.FL to 500 cycles

Ganged Micro Scale Isolated Signal Systems

HIGH-DENSITY SOLUTIONS FOR <10 GHz APPLICATIONS

HIGH-DENSITY / SPACE SAVING • INCREASED CHANNELS & THROUGHPUT

High-performance interconnects typically used in digital applications are finding new homes in analog applications.

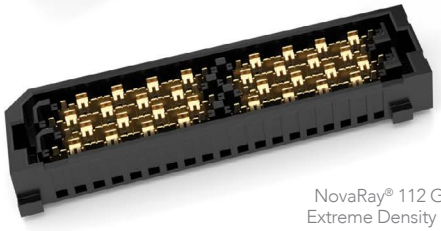
A primary benefit is the potential for a higher-density of RF channels in a more compact footprint, while maintaining return loss and isolation requirements, in addition to the opportunity for routing power and signal lines through this same interconnect.

This allows for incredible space savings without sacrificing performance, which is ideal for frequencies less than 10 GHz.

Contact **RFGroup@samtec.com** to discuss your application.

High-Speed Differential Pair Edge Card Connectors

NovaRay® 112 Gbps PAM4 Extreme Density and Performance Cable Assembly and Connector

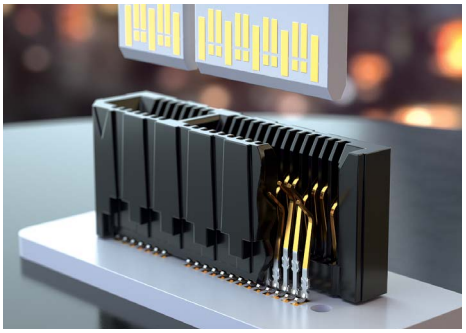


NovaRay® 112 Gbps PAM4 Extreme Density Connectors

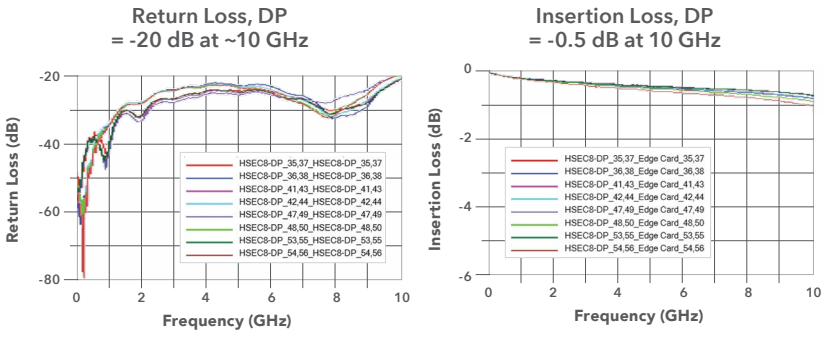
LP Array® Low Profile Open-Pin-Field Arrays

Small Form Factor / High-Performance • High-Density & Space-Savings

Approximately 170 I/Os in a single housing can greatly reduce the overall size of a system, compared to a traditional RF solution, while still meeting isolation and reflection expectations. Inventory and costs are also more easily managed with a high-speed, high-density, one-piece solution. Visit **samtec.com/EdgeCard** for complete specifications and test reports.



High-Speed Differential Pair Edge Card connector uses Samtec's Edge Rate® contact system to support high-mating cycles and 28 Gbps performance.

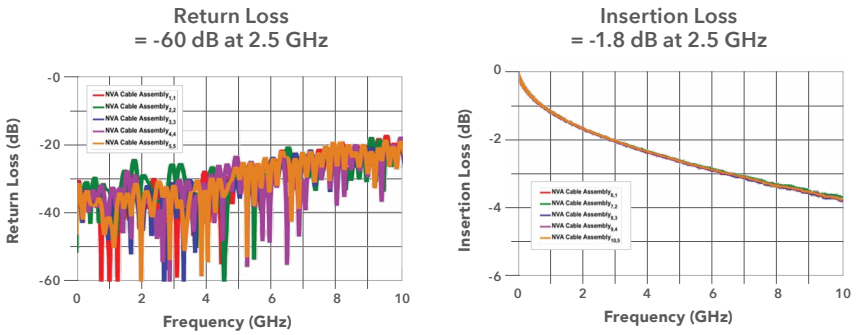


Dual-row, high-speed edge card (HSEC8-DP Series). 1.60 mm (.062") mating card; PCB traces de-embedded.

RFSoC Modules • Extreme Density & Throughput

An RFSoC provides multi-channel analog/digital conversions and processing on a single chip often at ~2.5 GHz frequencies. Pairing Samtec's NovaRay® extreme density, surface mount cabling solution with an RFSoC can increase channel throughput, maintain signal integrity and offer an outlet for power. Visit **samtec.com/NovaRay** for complete specifications and test reports.

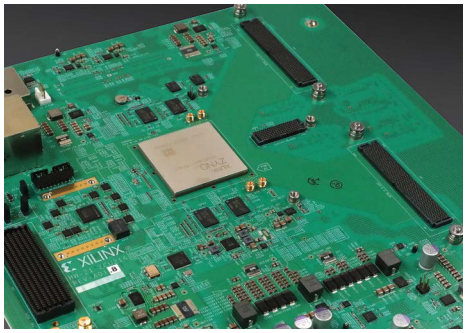
NovaRay® Extreme Density Arrays are an ideal solution for achieving increased throughput in high-performance RFSoC applications.



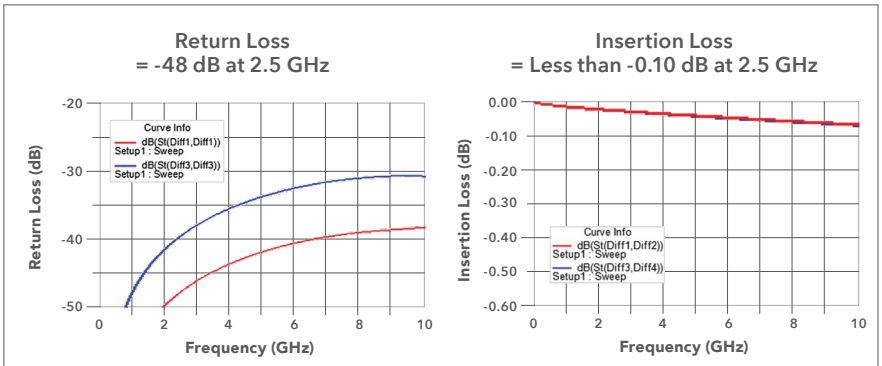
NovaRay® cable (NVAC/NVAM Series), 18-inch cable; 5 lanes measured; PCB traces de-embedded.

RFSoC Modules • RF / Power / Signal Routing

Samtec Open-Pin-Field Arrays allow for easy configuration of single-ended, 50 Ω or differential pair, 100 Ω signal routing. Using Samtec's LP Array™ Low Profile, High-Density Open-Pin-Field Arrays for analog/digital connection offers 80x more channels versus a standard RF connector in a relative space. Visit **samtec.com/LPArray** for complete specifications and test reports.



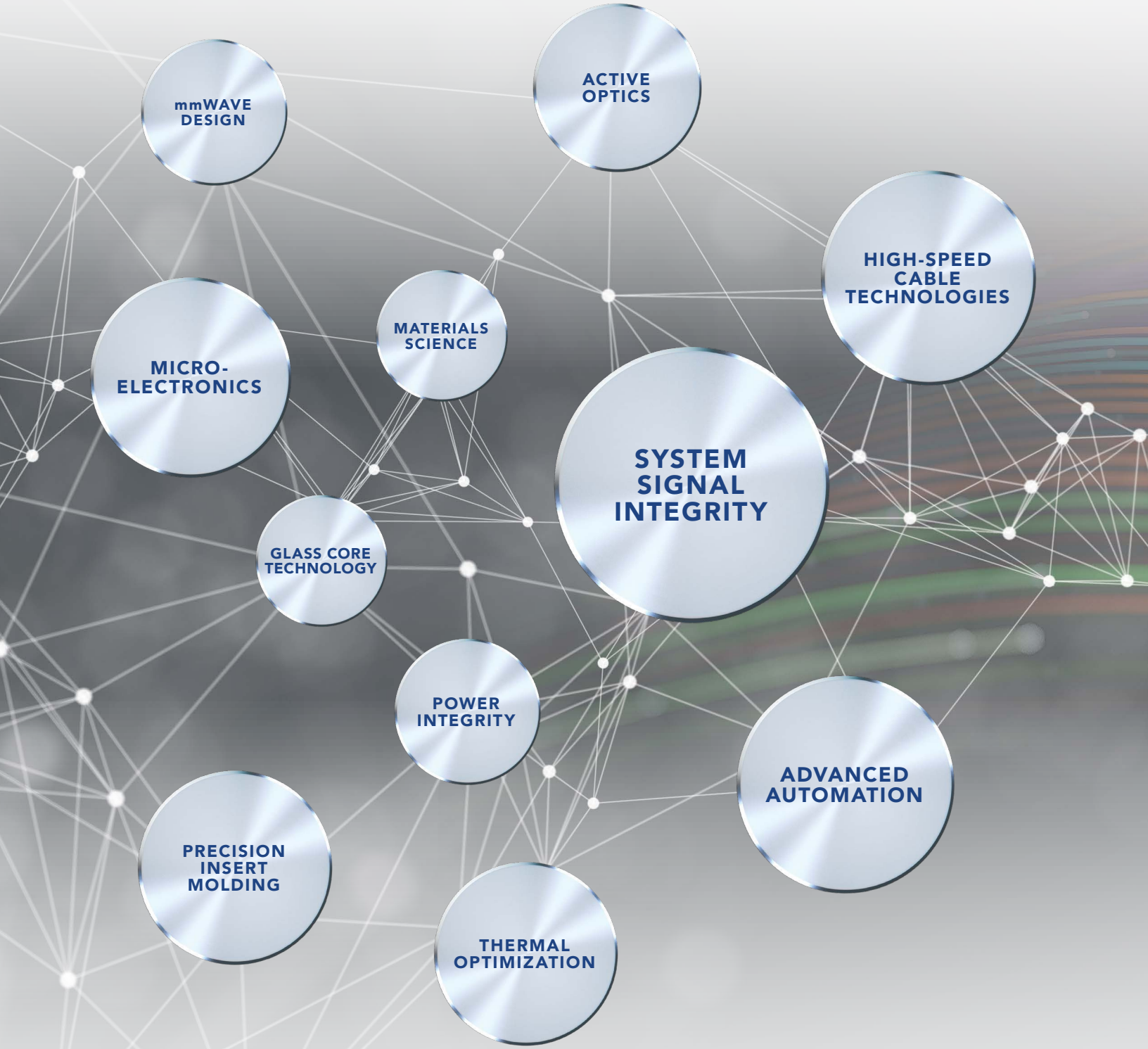
Samtec LP Array™ provides I/O expansion in the Xilinx® Zynq® UltraScale+™ RFSoC ZCU216 Evaluation Kit for rapid prototyping and high-performance RF application development.



LP Array™ Mezzanine Interconnect (LPAF/LPAM Series). Curve: Lane 1 vs Lane 2 sweep; PCB traces de-embedded.

INTEGRATION LEADS TO

Samtec's integrated approach provides high-level design and development of advanced interconnect systems and **TECHNOLOGIES**, along with industry-leading expertise that allows us to offer effective strategies and support for **optimizing the entire signal channel of high-performance systems.**



INNOVATION

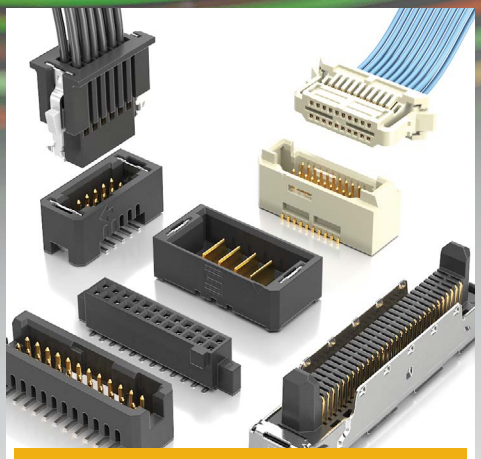
Samtec is structured like no other company in the interconnect industry. We work in a fully integrated capacity that enables true collaboration and results in uniquely innovative **PRODUCTS** because **our technology teams are not limited by the boundaries of traditional business units.**

OPTICS

HIGH-SPEED CABLES

PRECISION RF

HIGH-SPEED / HIGH-DENSITY BOARD-TO-BOARD



MICRO RUGGED / POWER

samtec

SUDDEN SERVICE®

UNITED STATES • NORTHERN CALIFORNIA • SOUTHERN CALIFORNIA • SOUTH AMERICA • UNITED KINGDOM
GERMANY • FRANCE • ITALY • NORDIC/BALTIC • BENELUX • ISRAEL • INDIA • AUSTRALIA / NEW ZEALAND
SINGAPORE • JAPAN • CHINA • TAIWAN • HONG KONG • KOREA