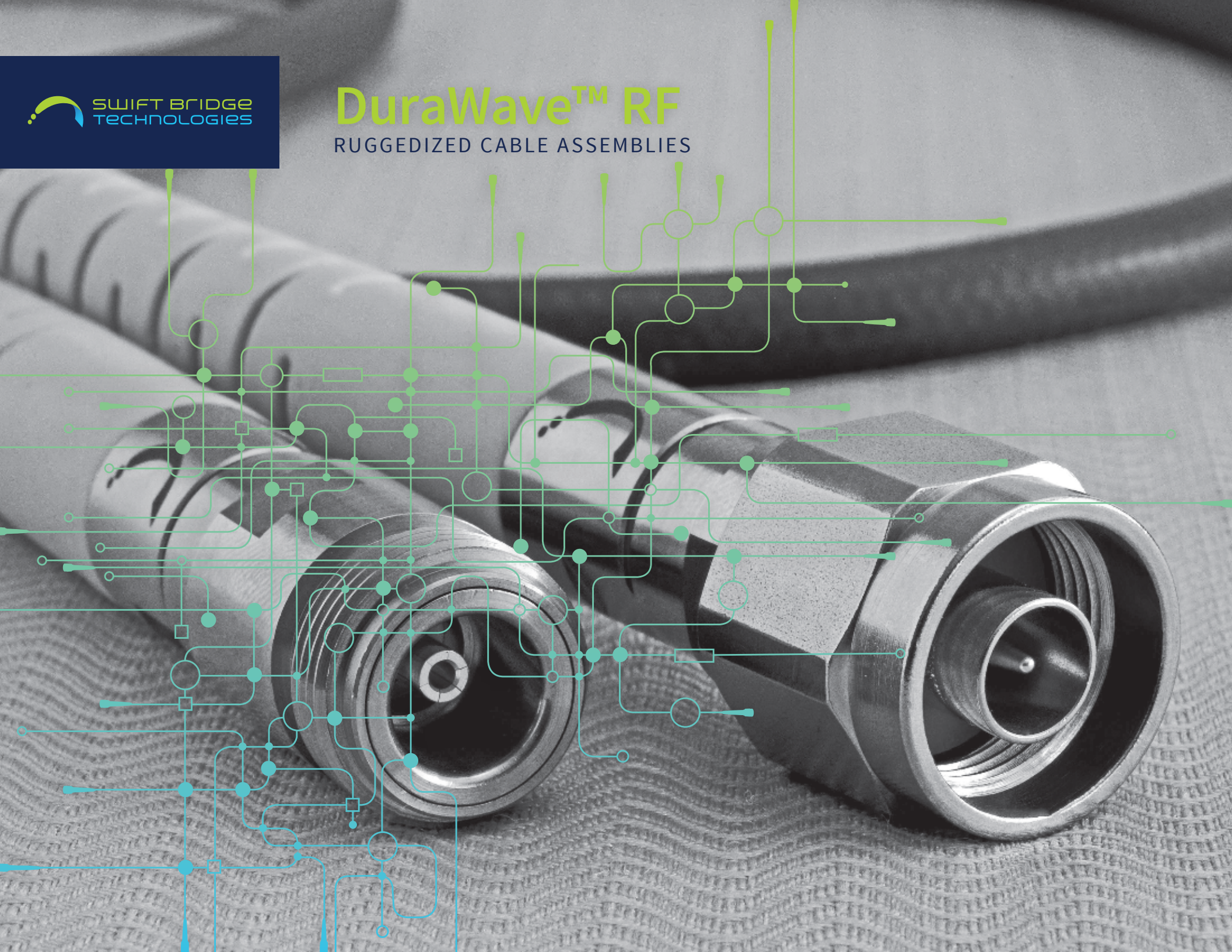
SWIFT BRIDGE TECHNOLOGIES

DuraWave™ RF

RUGGEDIZED CABLE ASSEMBLIES



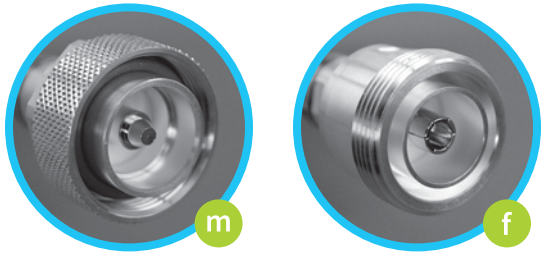
DuraWave™ RF RUGGEDIZED CABLE ASSEMBLIES

DuraWave™ RF cable assemblies utilize a rugged armored construction and are designed for on-site field testing, manufacturing environments and the testing laboratory. The cable construction employs crush and torque resistant armoring to prevent external stresses from being introduced into the coaxial transmission line. Molded flex reliefs distribute cable stresses away from the connector and prevent excessive bending of the cable. DuraWave™ cable assemblies will endure the physical stresses for outdoor use and harsh production environments. These cables are designed to offer maximum flexibility and are jacketed with a weather resistant material rated for 125°C continuous use. Cable assemblies are available with a broad range of ruggedized connectors in both male and female versions: 7/16, DIN 9.5, TNC, N, and Precision SMA.

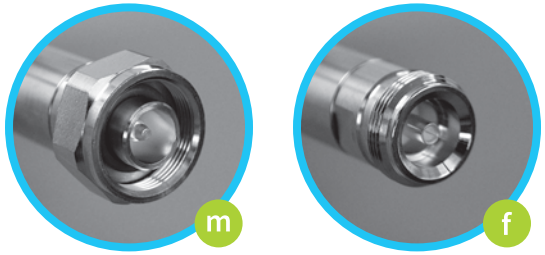
CONNECTOR OPTIONS

The broad range of connectors eliminates the need for RF adapters to interconnect with a host of applications. These adapters would otherwise introduce additional and unnecessary signal losses and degrade measurement performance. 55 unique cable assembly configurations are possible with the five male and five female connector types.

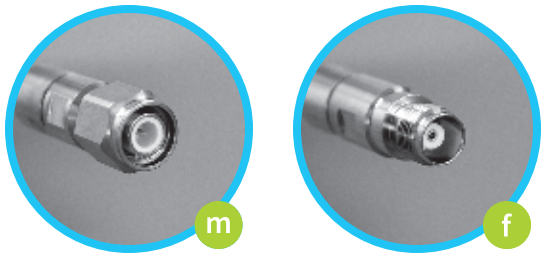
7/16 (m) & (f) | DC – 7.5 GHz



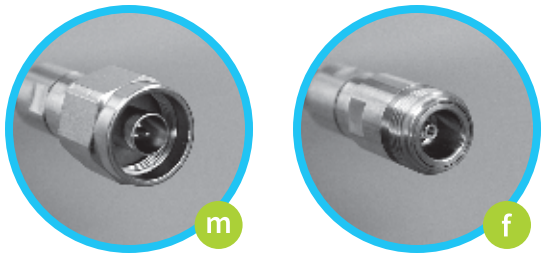
DIN 9.5 (m) & (f) | DC – 7.5 GHz



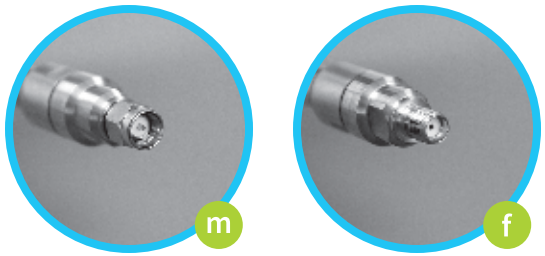
TNC (m) & (f) | DC – 11 GHz



N (m) & (f) | DC – 18 GHz



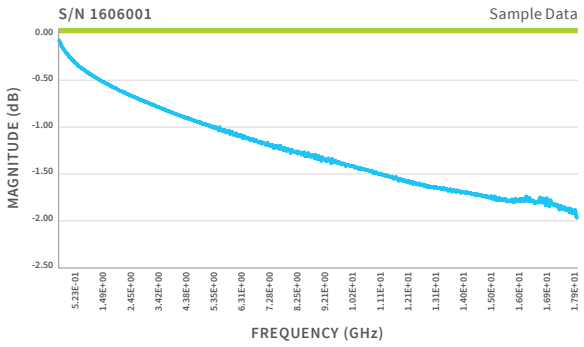
Precision SMA (m) & (f) | DC – 26.5 GHz



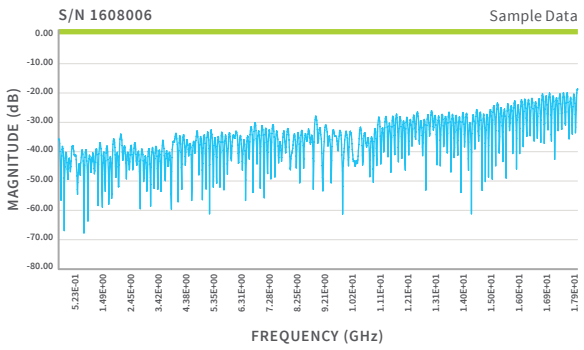
N(m) TO N(m) CABLE ASSEMBLY **DC-18GHz**

S-PARAMETER PERFORMANCE, typical

S21 INSERTION LOSS

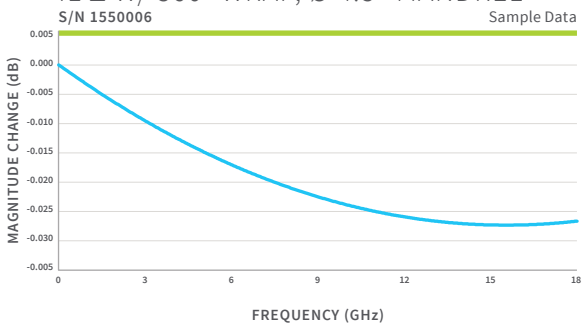


S22 RETURN LOSS

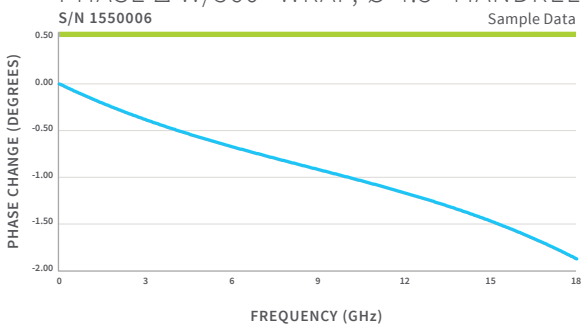


INSERTION LOSS and PHASE STABILITY, typical

IL Δ W/ 360° WRAP, Ø 4.5" MANDREL



PHASE Δ W/360° WRAP, Ø 4.5" MANDREL



APPLICATIONS

TEST & MEASUREMENT

OUTDOOR RUGGEDIZED

TELECOMMUNICATIONS

PERFORMANCE SPECIFICATIONS

MAX OPERATING FREQUENCY (SMA TO SMA ASSEMBLY)	26.5 GHz

MECHANICAL CHARACTERISTICS	
Inside Minimum Cable Bend Radius (static), in	1
Inside Minimum Cable Bend Radius (dynamic), in	2
Flexural Durability, Flex Cycles (2” Bend Radius)	>1000
Temperature Range	-45°C to 85°C

CONSTRUCTION	
Center Conductor	SPC, Solid
Dielectric	Low Density PTFE
Inner Shield	SPC Flat wire
Outer Shield	SPC braid
Torque Eliminator	Stainless Steel Braid
Crush Resistant Armor	Stainless Steel Coil
Jacket	Polyolefin, 125°C

ELECTRICAL CHARACTERISTICS	
Impedance, ohms	50 ± 1.5
Typical Velocity of Propagation, %	78
Capacitance (nominal), pf/ft	26
Shielding Effectiveness thru 20 GHz, db	100
Flexure Phase Stability, 360° loop around 4.5” diameter mandrel +/- degrees of phase change	±2° @ 7.5 GHz ±4° @ 18 GHz
Max. Structural VSWR thru Max. Frequency (w/ connector)	1.3:1
Max. Return Loss thru Max. Frequency (w/ connector), dB	-18
Typical Attenuation, dB at 1 meter (coax only)	

1.0 GHz	0.36	6.0 GHz	0.98	18.0 GHz	1.87
3.0 GHz	0.66	12.0 GHz	1.48	26.0 GHz	2.36

REGULATORY	All materials comply with the EU RoHS directive 2011/65/EC and published exemptions.

CONNECTOR SPECIFICATIONS

SPECIFICATIONS		7/16 (m)	7/16 (f)	DIN 9.5 (m)	DIN 9.5 (f)	TNC (m)	TNC (f)	N (m)	N (f)	SMA (m)	SMA (f)
FREQUENCY RANGE (GHz)		7.5	7.5	7.5	7.5	11	11	18	18	26.5	26.5
NOMINAL IMPEDANCE (ohms)		50	50	50	50	50	50	50	50	50	50
RECOMMENDED MATING TORQUE		15-20 ft·lbs	15-20 ft·lbs	7.5 ft·lbs	7.5 ft·lbs	12-15 in·lbs	12-15 in·lbs	12-15 in·lbs	12-15 in·lbs	8-10 in·lbs	8-10 in·lbs
CONNECTOR DURABILITY (min. mate/demate cycles)		>500	>500	>500	>500	>500	>500	>500	>500	>500	>500
MATERIALS OF CONSTRUCTION											
CONNECTOR BODY COMPONENTS	303 SS[6]					●	●	●	●	●	●
	Brass[7]	●	●	●	●						
CENTER CONTACT	BeCu[5]					●	●	●	●	●	●
	Phosphor Bronze	●	●	●	●						
DIELECTRIC	PTFE[4]	●	●	●	●	●	●	●	●	●	●
SEALS, GASKETS, O-RINGS	Silicone Rubber[3]	●	●	●	●	●	●	●	●	●	●
FINISH											
CONNECTOR BODY COMPONENTS	Passivated [1]					●	●	●	●	●	●
	Silver[8]	●	●								
	White Bronze			●	●						
CENTER CONTACT	Gold[2]					●	●	●	●	●	●
	Gold[9]	●	●								
	Silver			●	●						

[1] Passivated per ASTM-A-987 and AMS-QQ-P-35 | [2] Gold plating, minimum 50µin, per ASTM-B-488, Type 2, Code C, Class 1, over 50µin minimum of nickel per AMS-QQ-N-290, Class 1 | [3] Silicone rubber per ZZ-R-765 and MIL-R-5847 Class 2 A&B, Grades 50-70 | [4] PTFE per ASTM-D-1710, Type 1, Grade 1, Class A | [5] Beryllium copper per ASTM-B-196, Alloy C17300, ASTM Temper TD04 | [6] Corrosion resistant Type 303 Stainless Steel, non-magnetic, per ASTM-A-484 and ASTM-A-582 | [7] Brass per QQ-B-626 | [8] Silver plating, minimum 80µin, over copper strike | [9] Gold plating, minimum 3µin, over 100µin minimum of nickel

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