

Cable Assemblies

SpaceFlex™

Advanced Space-Grade Cables

Design / Performance Features

- 5 flexible cable options
- Broadband frequencies to 100 GHz
- Flexible, durable ETFE cable jackets
- -65 /+165°C temperature performance
- Straight & Right Angle connector configurations
- Multipaction protection design options available
- Shielding Effectiveness >100dB
- Low / non-outgassing materials
- High reliability J-STD-001 soldering

RF cable and connector assemblies and associated interconnects are key components for both current and future space applications. Winchester SpaceFlex™ cables are designed to deliver the challenging, mission critical performance these advanced systems require.

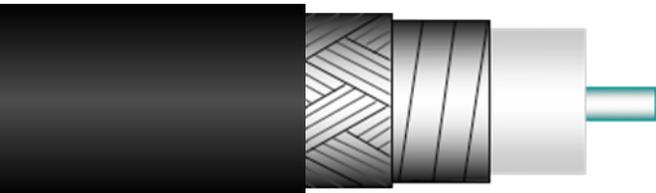
RF interconnects must function reliably in the harsh electrical, mechanical, and environmental conditions of space. SpaceFlex products are designed with optimized materials and constructions to withstand the harsh vibrations, shock, temperature extremes and radiation of space. They maintain lightweight, low-profile configurations while delivering excellent high-frequency, low-loss, phase-stable performance.

These space-grade designs are ideally suited for LEO, MEO, and GEO applications where highly reliable, longterm performance is paramount.

	SpaceFlex 226	SpaceFlex 141	SpaceFlex 240	SpaceFlex 086	SpaceFlex 047
Frequency (maximum)	26 GHz	30 GHz	40 GHz	50 GHz	100 GHz
Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Operating Temperature	-65°C to +165°C	-65°C to +165°C	-65°C to +165°C	-65°C to +165°C	-65°C to +165°C
Nominal Attenuation @ 25°C and Seal Level	dB/100 ft	dB/100 ft	dB/100 ft	dB/100 ft	dB/100 ft
0.5 GHz	4.78	7.94	7.05	14.64	23.56
1 GHz	6.85	11.59	10.12	21.06	33.67
3 GHz	12.23	21.65	18.16	38.01	59.87
6 GHz	17.81	32.79	26.56	55.88	86.81
12 GHz	26.20	50.73	39.32	83.28	127.05
18 GHz	33.05	66.23	49.81	106.00	159.63
26 GHz	40.99	85.01	62.05	132.68	197.18
30 GHz	-	93.89	67.69	145.02	214.37
40 GHz	-	-	80.84	173.94	254.14
50 GHz	-	-	-	200.86	290.64
80 GHz	-	-	-	-	388.27
100 GHz	-	-	-	-	447.11
K1	6.56	10.35	9.62	19.85	32.45
K2	0.29	1.24	0.50	1.21	1.22
Shielding Effectiveness	100 dB	100 dB	100 dB	100 dB	100 dB
Minimum Bend Radius	0.725 inch (18.41 mm)	0.80 (20.32 mm)	1.08 inch (27.43 mm)	0.48 inch (12.19 mm)	0.3 inch (7.62 mm)
Outer Cable Diameter	0.145 inch (3.68 mm)	0.160 inch (4.06 mm)	0.216 inch (5.48 mm)	0.096 inch (2.44 mm)	0.058 inch (1.47 mm)
Thermal Shock	MIL-STD-202, method 107, condition B-3				
Mechanical Shock	MIL-STD-202, method 213, condition F				
Sinusoidal Vibration*	MIL-STD-202, method 104, condition G				
Random Vibration*	MIL-STD-202, method 214, condition K				
Waterproof Rating*	IP67 (ATW versions only)				

MATERIAL AND FINISH

Cable Jacket (Black)	ETFE, (Tefzel™) Type X per ASTM D3159
Center Conductor	Solid, silver plated copper, per ASTM B298 and Solid, silver plated copper clad steel, per ASTM B501 (SF086, SF141)
Dielectric	Solid PTFE, Type F, per ASTM D4894 or D4895
First Shield	Silver plated copper, per ASTM B298
Secondary Shield	Silver plated copper, per ASTM B298



CABLE/CONNECTOR MATRIX

SpaceFlex	SMPM(f)	SMPM(f) R/A	SMP(f)	SMP(f) R/A	SMA(m)	SMA(m) R/A	SMA(f) BHD	2.92 (m)	2.92(f) BHD
SF047	X	X	X	X	X				
SF086			X	X	X	X	X		
SF141				X	X	X	X	X	
SF226				X	X	X	X	X	
SF240								X	X

About Winchester Interconnect

Winchester Interconnect is a US-based manufacturer of high-precision connectors, cable assemblies, and cable. Our products are ideal for military and aerospace, industrial, medical, and space applications where expertise and reliability are critical to your success.

Our 30,000+ connectivity solutions include standard and custom RF and microwave interconnects, hermetic connectors and packaging, micro-miniature connectors and assemblies, fiber optic connectors, industrial cable, and undersea cable

We work in the toughest industries where failure is not an option. For connectivity applications requiring high performance in harsh environments, life-saving systems, and the latest connected technologies, our industry-leading knowledge and engineering capabilities will ensure reliable, cutting-edge interconnect solutions that won't fail when it matters most.

Our Industries & Market Solutions



Robotics
AMRs



Entertainment



Oil & Gas



Marine
Subsea



Aerospace
Defense



Rail Mass
Transit



Medical



Custom