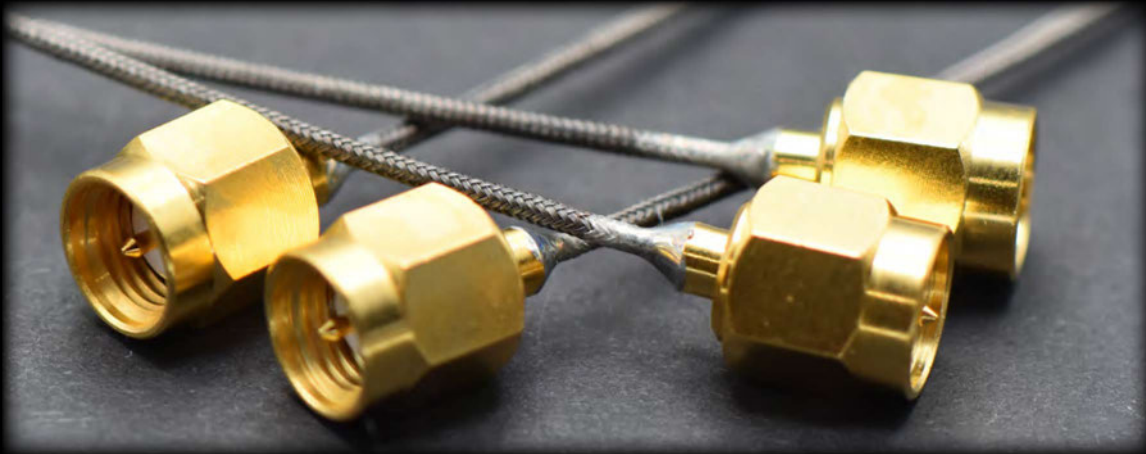




Custom Cable Solutions for Quantum Applications



MicroFlex Flexible Coax Cable

Cable Material	Cable Diameter	Impedance	Electrical Performance	Heat Load Performance	Superconducting	Non-magnetic
304 Stainless Steel	0.040 in.	50Ω	★	★★★★★	No	No
Phosphor Bronze	0.040 in.	50Ω	★★★★	★★	No	Yes
Niobium-titanium*	0.040 in.	50Ω	★★★★★★	★★★★★★	Yes*	Yes

*For temperatures below 9K

Connector Options

Connector Type	Frequency	Non-magnetic available	Footprint Size
SMA 	18 GHz	Yes	★★★★★
SMP / GPO 	26.5 GHz	Yes	★★★
2.92mm 	40 GHz	No	★★★★★
SMMP / Mini-SMP / GPPO 	65 GHz	Yes	★★

Other connectors available
All soldered connections



connecting | quantum >

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304 Stainless Steel MicroFlex Cable

Specifications	Characteristic Impedance:		50Ω +/- 2.5	
	Cable outer diameter:		0.040" +/- 0.002"	
	Conductor diameter:		0.010" (30 AWG)	
	Inner Conductor:		304 Stainless steel	
	Outer conductor:		304 Stainless steel braid	
	Dielectric:		PTFE	
	Braid coverage:		95%	
	Cutoff frequency:		123.48 GHz	
	Minimum Bend Radius:		0.200"	

Cable Length (inches)	Heat Load			
	Temp Gradient (K)			
		0.1K to 1K	1K to 4K	4K to 10K
	6	0.025	0.867	6.942
	12	0.012	0.434	3.471
	18	0.008	0.289	2.314
	20	0.007	0.260	2.083
	24	0.006	0.217	1.736
	*table values in μW (microwatts)			

Frequency (GHz)	Attenuation		
	Temperature (K)		
		300K	4K
	0.5	1.81	1.13
	1	2.54	1.61
	5	5.68	3.58
	10	8.07	5.07
	20	11.61	7.15
	*table values in dB/ft.		

Phosphor Bronze MicroFlex Cable

Specifications	Characteristic Impedance:		50Ω +/- 2.5	
	Cable outer diameter:		0.040" +/- 0.002"	
	Conductor diameter:		0.010" (30 AWG)	
	Inner Conductor:		Phosphor bronze	
	Outer conductor:		Phosphor bronze braid	
	Dielectric:		PTFE	
	Braid coverage:		95%	
	Cutoff frequency:		123.48 GHz	
	Minimum Bend Radius:		0.200"	
Heat Load				
Temp Gradient (K)				
	0.1K to 1K	1K to 4K	4K to 10K	
6	0.182	6.865	29.395	
12	0.091	3.432	14.698	
18	0.061	2.288	9.798	
20	0.055	2.059	8.819	
24	0.046	1.716	7.349	
*table values in μW (microwatts)				
Attenuation				
Temperature (K)				
	300K	4K		
0.5	0.67	0.6		
1	0.94	0.84		
5	2.09	1.88		
10	2.98	2.68		
20	4.27	3.84		
*table values in dB/ft.				

Niobium-Titanium MicroFlex Cable

Specifications	Characteristic Impedance:		50Ω +/- 2.5
	Cable outer diameter:		0.040" +/- 0.002"
	Conductor diameter:		0.010" (30 AWG)
	Inner Conductor:		Niobium-titanium
	Outer conductor:		Niobium-titanium braid
	Dielectric:		PTFE
	Braid coverage:		95%
	Cutoff frequency:		123.48 GHz
	Minimum Bend Radius:		0.200"

Cable Length (inches)	Heat Load			
	Temp Gradient (K)			
		0.1K to 1K	1K to 4K	4K to 10K
	6	0.021	0.877	7.451
	12	0.010	0.438	3.726
	18	0.007	0.292	2.484
	20	0.006	0.263	2.235
	24	0.005	0.219	1.863
	*table values in μW (microwatts)			

Frequency (GHz)	Attenuation		
	Temperature (K)		
		300K	4K
	0.5	1.82	less than 0.45 (superconducting)
	1	2.59	
	5	5.83	
	10	8.07	
	20	11.76	
*table values in dB/ft.			