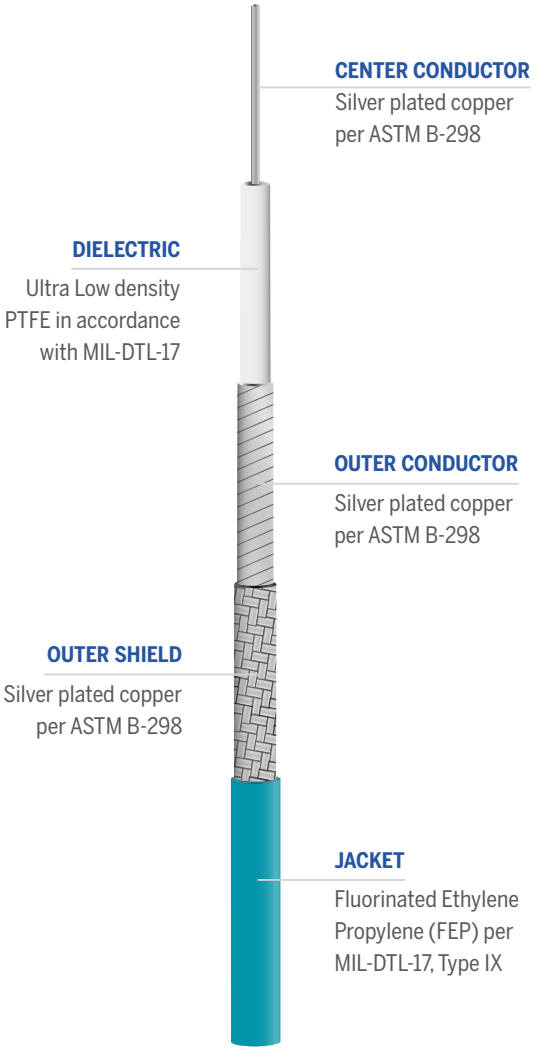
UFB311A

UTiFLEX®

UFB311A is the ideal coaxial solution for high-frequency applications in aerospace, defense, and advanced test systems. Its robust construction and reliable electrical performance make it perfect for use in radar systems, electronic warfare platforms, and space-constrained test environments. When design demands consistent performance under pressure, trust UTiFLEX® to deliver.

Impedance 50 Ohms | **Operating Temperature** -65°C to +125°C | **RoHS** Compliant

Details and Materials



Mechanical/Physical Properties

Center Conductor Diameter	in	0.0907
	mm	2.30
Dielectric Diameter	in	0.2430
	mm	6.17
Outer Conductor Diameter	in	0.2540
	mm	6.45
Outer Shield Diameter	in	0.280
	mm	7.11
Jacket Diameter	in	0.311
	mm	7.90
Jacket Wall Thickness	in	≥ 0.010
	mm	≥ 0.254
Weight	grams/ft	≤ 44.5
	grams/m	≤ 146.0
Min Static Bend Radius	in	1.000
	mm	25.40
Dynamic Flex Life - Snake[3]	cycles	15,000
Center Conductor Strands		1

Electrical Properties

Velocity of Propagation	(%)	84.5
RF Shielding	(dB) at 1 GHz	≥ 100
Capacitance	pF/ft	24.10
	pF/m	79.06
Maximum Frequency	GHz	19.25
Corona Extinction Voltage	VRMS @ 60Hz	2600
Dielectric Withstanding Voltage	VRMS @ 60Hz	5000
Insertion Loss Stability	% Change[2]	≤ 5
K1	Ft (m)	4.43 (0.145)
K2	Ft (m)	0.11 (0.004)

206 Jones Blvd, Pottstown, PA 19464, United States +1 (610) 495-0110

MICRO·COAX
AN AMPHENOL COMPANY

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Maximum Attenuation[1], Power, and VSWR[6,7]

(at 20°C and Sea Level)

Frequency GHz	Attenuation dB/100ft	dB/m	Power Watts (CW)	VSWR
0.5	3.0	0.10	3023	1.25
1	5.0	0.15	2126	1.25
5	10.0	0.34	931	1.25
10	15.0	0.50	648	1.25
18	21.0	0.68	474	1.25

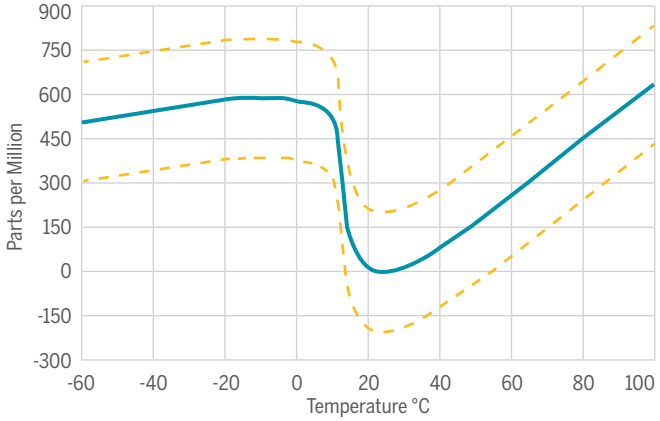
Environmental Properties

Thermal Shock	MIL-STD-202, Method 107, 20 Cycles, -65 to 125 °C (cable and SMA connectors only)
Aging Stability	MIL-DTL-17, Paragraph 4.8.16, +125 °C for 168 hours (cable and SMA connectors only)
Vibration	MIL-STD-202, Method 204, Test Condition B
High Pressure	Pressure increased ≤ 10 bar/min to 100 +/- 2 bar for 12 hrs.
Low Pressure	SAE-AS-13441, Method 1004.1
Humidity	MIL-STD-810, Method 507.5, Procedure I and II
Salt Fog	MIL-STD-810, Method 509, Procedure I
Sand and Dust	MIL-STD-810, Method 510, Procedure I
Stress Crack Resistance	MIL-DTL-17, Paragraph 4.8.17
Cold Bend Test	MIL-DTL-17, Paragraph 4.8.19
Outgassing	Less than 1% TML and 0.1% CVCM
Radiation Resistance	30 Mrads
Flammability	14 CFR Part 25, Appendix F, Part I (b)(7), 60° flammability test

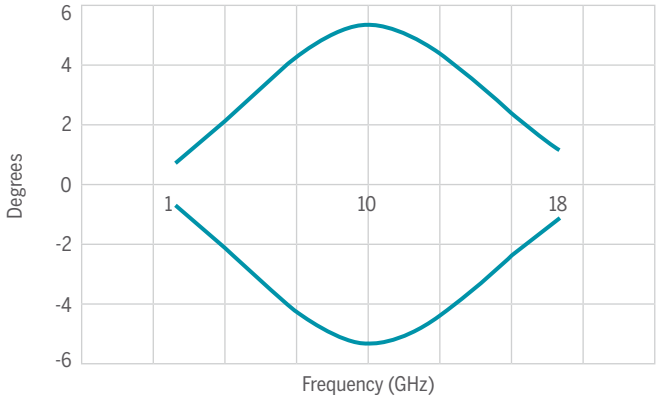
Notes

1. Maximum Attenuation (db./100Ft) = K1√F + K2F where F is Frequency in GHz.
2. Insertion Loss change, while vibrated at a frequency of 6 Hz and an amplitude of 1 inch.
3. Connect both ends of cable to flex (snake) machine. The movement of the flex machine arm from 36 to 18 inches, stopping, and then returning to 36 inches shall be 1 flex cycle.
4. Typical phase change vs bending for cable wrapped 360° around 3 in diameter mandrel.
5. Cable assemblies of equal length and connectors made from the same cable manufacturing lot shall phase track within 200 PPM of each other.
6. Test Plots required with Shipment (Attenuation and VSWR).
7. VSWR testing to be performed on 20-foot minimum lengths with gating used to remove connector contributions. Minimum frequency points shall be 1601.

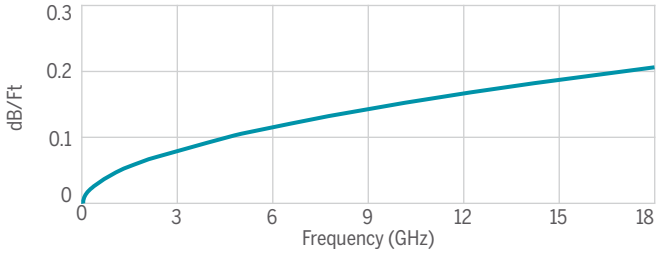
Typical Phase Change vs. Temperature[5]



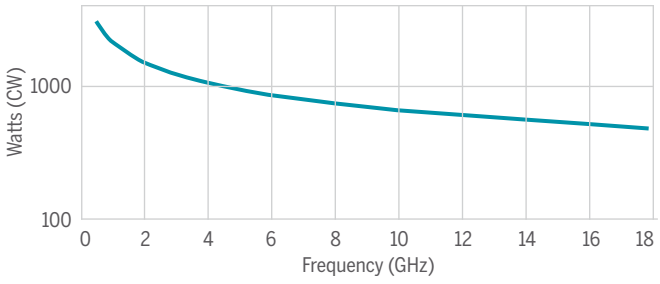
Typical Phase Change Window vs. Bending[4]



Maximum Insertion Loss



Maximum Power Handling



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