



RFORANGE®

MegaPhase RF Orange Flexible Cable To 110 GHz



The MegaPhase RF Orange® product line now features 110 GHz capabilities! This rugged, armored test cable allows for excellent VSWR, phase and amplitude stability versus flexure and temperature. Whether you're in a lab, production environment, or building an ATE, this rugged test cable provides a long service life with repeatable performance throughout the life cycle of the cable.

- Phase Stable
- Low VSWR
- Armored
- Ultra-Flexible

Electrical Data

Maximum Frequency:
110 GHz

Impedance:
50 Ω nominal

Propagation Velocity:
TM32 69% nominal
TM67 80% nominal
TM110 78.7 % nominal

Time Delay:
TM32 1.47 ns/ft (4.82 ns/m)
TM67 1.27 ns/ft. (4.167 ns/m)
TM110 1.291 ns/ft. (4.236 ns/m)

Shielding Effectiveness:
-100 dB minimum (cable only)

Dielectric Withstanding Voltage:
TM32 10 kV at 60 Hz
TM67 1.2 kV at 60 Hz
TM110 400 V at 60 Hz

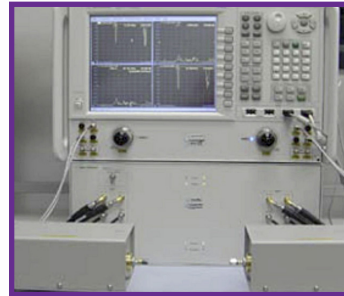
Capacitance:
TM32 29.0 pF/ft (95.1 pF/m)
TM67 25.4 pF/ft. (83.3 pF/m)
TM110 25.82 pF/ft. (84.71 pF/m)

Mechanical Data

Outer Diameter:
0.285 in (0.724 cm)

Static Bend Radius:
1.5 in (3.81 cm)

Max. Operating Temperature:
-67 to 275° F (-55 to 135° C)
TM32 includes TM26, TM18, TM8, TM4
TM67 includes TM50, TM40, TM34



Cable Construction

Inner Conductor: Solid Ag-plated Cu

Dielectric:

TM32 PTFE

TM67, TM110 Foamed FEP

Outer Conductor: TM 32 - GrooveTube® Cu
TM 67 / TM 110 - Ag plated Cu/
Ag plated Cu

Standard Finish: Polyolefin over
Metallic Braid

Available Connectors

(dependent on cable type)

1.0mm 1.85mm. 2.4mm. 2.92mm, 3.5mm,
BNC, SMA, TNC, Type N,

Maximum Assembly Length

(Consult Factory)

122 Banner Road, Stroudsburg, PA 18360-6433

Tel: 570-424-8400

Solutions@MegaPhase.com | www.MegaPhase.com



MegaPhase RF Orange Flexible Cable To 110 GHz (continued)

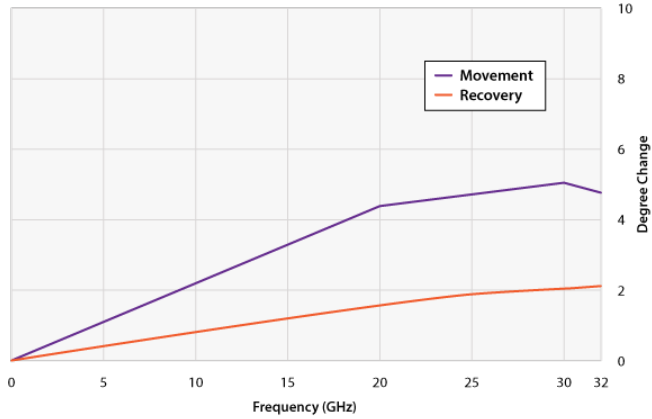
Specifications

Frequency		TM32 Series*		TM67 Series**		TM110 Series***		Conn Loss dB	VSWR
		Attenuation		Attenuation		Attenuation			
Band	GHz	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m		
UHF	0.3	0.062	0.203	0.104	0.341	0.167	0.548	0.006	1.10
	0.5	0.082	0.268	0.135	0.443	0.217	0.711	0.009	
	0.8	0.106	0.348	0.172	0.566	0.276	0.904	0.012	
L	1.0	0.120	0.394	0.194	0.635	0.309	1.014	0.014	
S	2.0	0.178	0.585	0.279	0.915	0.442	1.451	0.024	1.15
	2.4	0.199	0.652	0.307	1.009	0.486	1.596	0.027	
	3.0	0.227	0.744	0.347	1.137	0.547	1.793	0.032	
C	4.0	0.270	0.885	0.405	1.328	0.636	2.087	0.040	
	6.0	0.347	1.138	0.505	1.658	0.789	2.588	0.055	
X	8.0	0.417	1.367	0.593	1.945	0.921	3.020	0.070	1.20
	10.0	0.482	1.580	0.672	2.205	1.039	3.408	0.084	1.25
	12.4	0.555	1.822	0.759	2.491	1.168	3.832	0.101	1.30
Ku	15.0	0.631	2.070	0.847	2.779	1.297	4.255	0.118	
	18.0	0.715	2.345	0.941	3.089	1.435	4.707	0.139	
K	20.0	0.769	2.522	1.001	3.285	1.522	4.992	0.152	1.35
	22.0	0.821	2.695	1.059	3.475	1.605	5.266	0.165	
	24.0	0.873	2.865	1.115	3.659	1.686	5.530	0.178	
	26.5	0.937	3.073	1.183	3.881	1.783	5.849	0.194	
Ka	28.0	0.974	3.196	1.223	4.011	1.839	6.035	0.204	1.40
	30.0	1.024	3.358	1.274	4.181	1.913	6.277	0.217	
	32.0	1.072	3.518	1.325	4.347	1.985	6.513	0.230	
	34.0			1.375	4.510	2.055	6.743	0.243	1.45
	36.0			1.423	4.669	2.124	6.969	0.256	
V	40.0			1.518	4.980	2.257	7.406	0.281	1.50
	45.0			1.633	5.356	2.417	7.931	0.313	
	50.0			1.743	5.719	2.571	8.436	0.344	1.55
	60.0			1.955	6.414	2.864	9.396	0.406	
	67.0			2.097	6.881	3.059	10.035	0.450	1.60
	70.0					3.140	10.302	0.468	
W	80.0					3.403	11.166	0.530	1.60
	90.0					3.656	11.995	0.591	
	100.0					3.900	12.795	0.652	
	110.0					4.136	13.571	0.713	

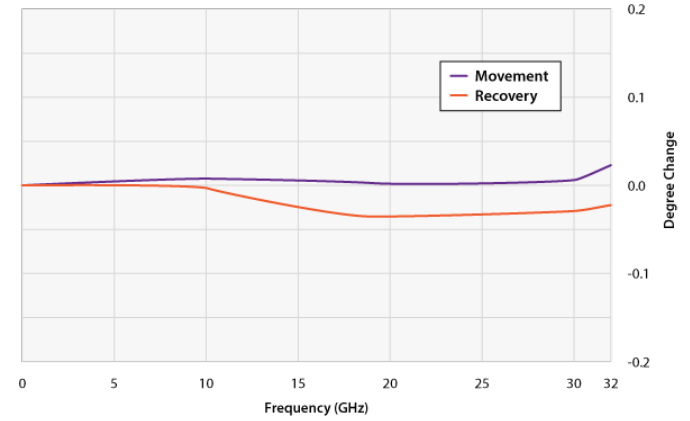
*TM32 includes TM26, TM18, TM8, TM4. **TM67 includes TM50, TM40, TM34. ***TM110 includes TM70

MegaPhase RF Orange Flexible Cable to 32 GHz

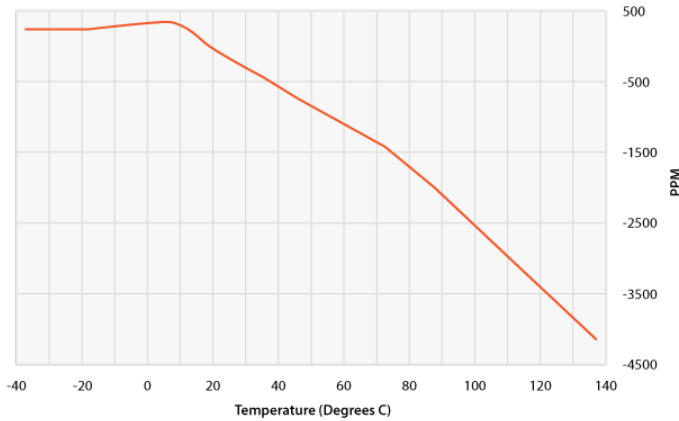
Phase Change vs. Flexure



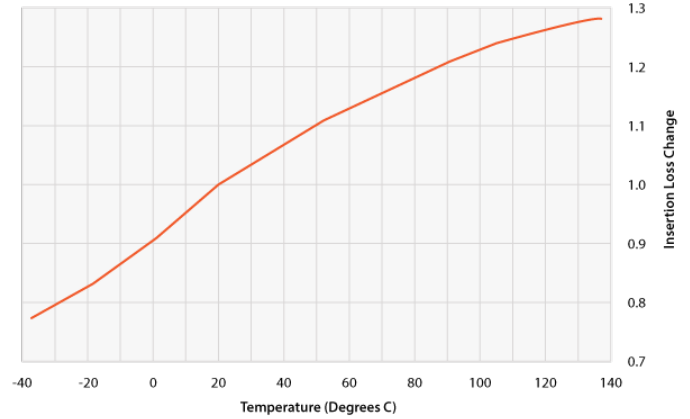
Insertion Loss vs. Flexure



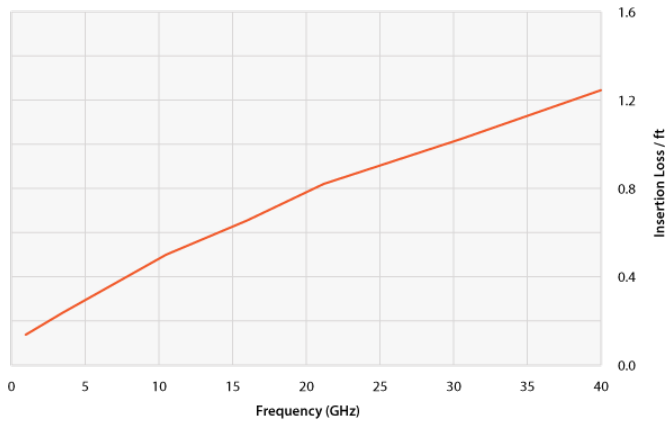
Phase Change vs. Temperature



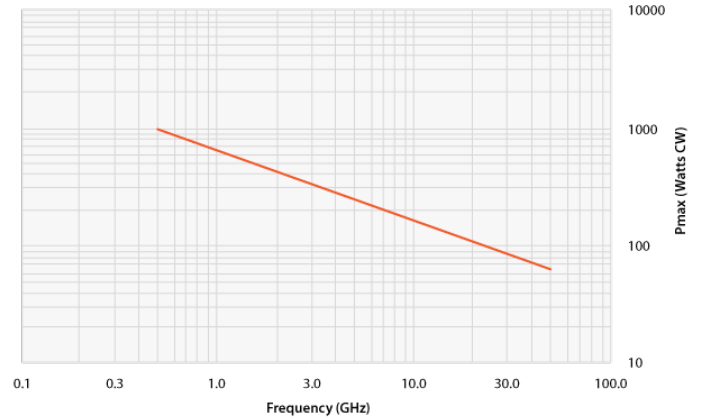
Insertion Loss vs. Temperature



Insertion Loss

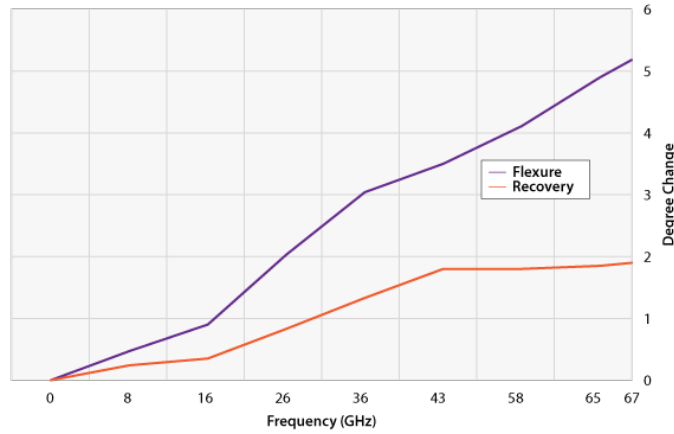


Cable CW Power Handling

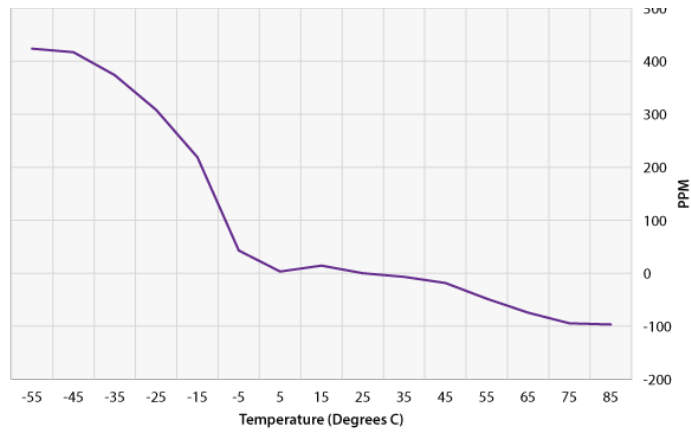


MegaPhase RF Orange Flexible Cable to 67 GHz

Phase vs. Flexure



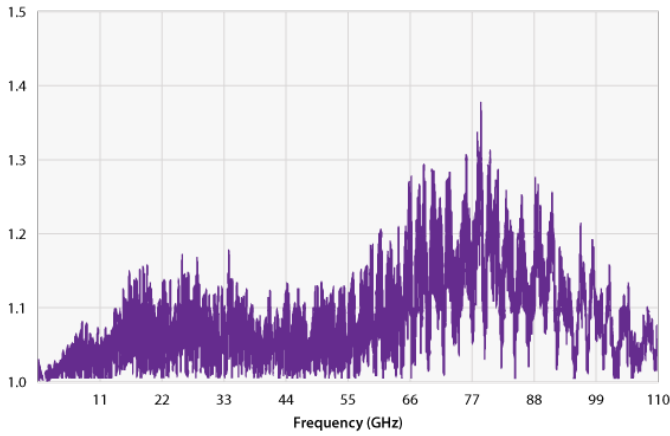
Phase vs. Temperature



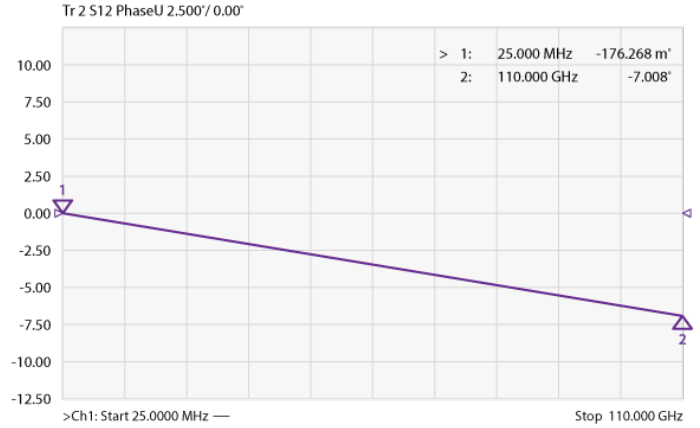


MegaPhase RF Orange Flexible Cable to 110 GHz

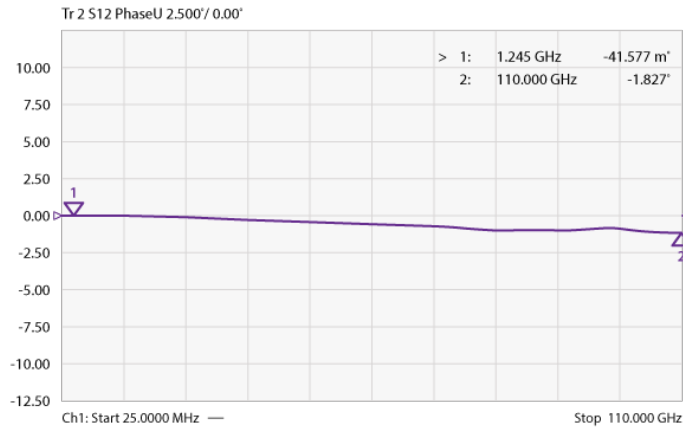
Typical VSWR



Phase vs. Flexure



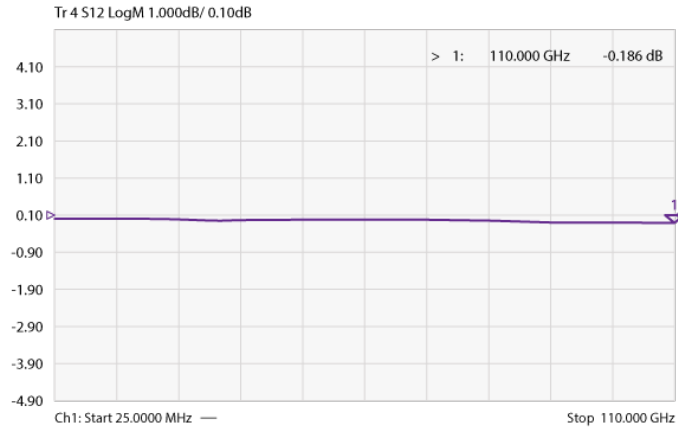
Phase Recovery





MegaPhase RF Orange Flexible Cable to 110 GHz

Insertion Loss vs. Flexure



Insertion Loss Recovery

