



MEGAPHASE HYPERFLEX™ CABLE



MegaPhase® HyperFlex™ Cable

Superior Flexibility for Tight Routing Applications

- Solderless termination design eliminates solder wicking and enables tight, right-angle bends directly behind the connector
- Enhanced flexibility compared to traditional solder-terminated cables for small-form-factor applications
- Available in multiple cable sizes with DC–67 GHz performance, ideal for dense packaging and restricted routing environments

Electrical Data

Maximum Frequency	Impedance	Propagation Velocity	Time Delay
HFx090 67 GHz HFx120 50 GHz HFx141 40 GHz	50 Ω nominal	HFx090, HFx120, HFx141 69.5% nom	HFx090, HFx120, HFx141 1.47 ns/ft (4.82 ns/m)
Shielding Effectiveness (Typical)	Dielectric Withstanding Voltage	Capacitance	
-110 dB minimum (cable only)	HFx090 600 Vrms HFx120 900 Vrms HFx141 1100 Vrms	HFx090 29.0 pF/ft (95 pF/m) HFx120, HFx141 29.1 pF/ft (95.5 pF/m)	

Mechanical Data

Finished Outer Diameter	Static Bend Radius	Weight
HFx090 0.090 in (2.286 mm) HFx120 0.120 in (3.048 mm) HFx141 0.141 in (3.5814 mm)	HFx090 0.10 in (2.54 mm) HFx120 0.20 in (5.08 mm) HFx141 0.30 in (7.62 mm)	HFx090 4.1 grams/ft (13.45 grams/m) HFx120 7.5 grams/ft (24.60 grams/m) HFx141 11.2 grams/ft (36.75 grams/m)

Cable Construction

Triple Shielded FEP Outer Jacket

Available Connectors

SMA, 2.92mm, 2.4mm, SMP, Mega8
Other connectors available upon request

Min/Max Length

4 in/48 in

Operating Temp. Range

-55 to 125°C

All electrical and mechanical parameters provided within this specification are typical/normal.



MEGAPHASE HYPERFLEX™ CABLES

Specifications

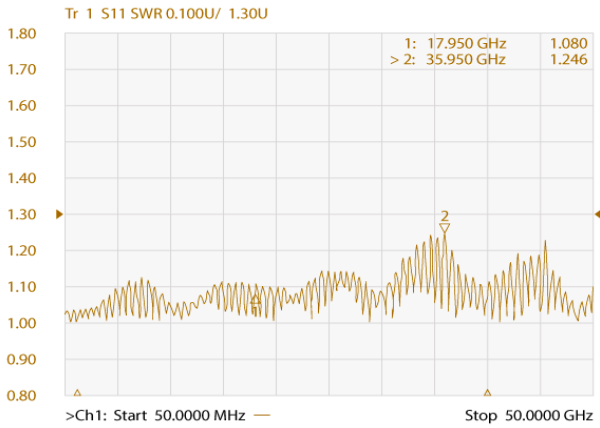
Frequency		HFx090		HFx120		HFx141		Conn Loss dB	VSWR
		Attenuation		Attenuation		Attenuation			
Band	GHz	dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m		
UHF	0.3	0.197	0.645	0.084	0.277	0.091	0.297	0.006	1.10
	0.5	0.255	0.838	0.111	0.363	0.118	0.388	0.009	
	0.8	0.326	1.069	0.143	0.469	0.151	0.496	0.012	
L	1.0	0.366	1.201	0.162	0.530	0.170	0.558	0.014	1.15
S	2.0	0.527	1.729	0.238	0.781	0.246	0.808	0.024	
	2.4	0.581	1.905	0.264	0.867	0.272	0.892	0.027	
C	3.0	0.654	2.146	0.301	0.986	0.307	1.008	0.032	1.20
	4.0	0.764	2.507	0.356	1.168	0.360	1.181	0.040	
X	6.0	0.953	3.128	0.454	1.490	0.452	1.483	0.055	1.25
	8.0	1.118	3.668	0.542	1.779	0.533	1.747	0.070	
Ku	10.0	1.267	4.156	0.624	2.046	0.606	1.988	0.084	1.30
	12.4	1.431	4.694	0.715	2.346	0.687	2.255	0.101	
K	15.0	1.596	5.235	0.809	2.654	0.770	2.525	0.118	1.35
	18.0	1.773	5.817	0.912	2.993	0.859	2.818	0.139	
Ka	20.0	1.885	6.185	0.978	3.210	0.916	3.004	0.152	1.40
	22.0	1.994	6.541	1.043	3.422	0.970	3.184	0.165	
V	24.0	2.099	6.885	1.106	3.630	1.024	3.359	0.178	1.45
	26.5	2.226	7.302	1.184	3.883	1.089	3.572	0.194	
V	28.0	2.300	7.546	1.229	4.033	1.127	3.696	0.204	1.50
	30.0	2.397	7.864	1.289	4.230	1.176	3.859	0.217	
V	32.0	2.492	8.176	1.348	4.423	1.225	4.019	0.230	1.50
	34.0	2.585	8.480	1.406	4.614	1.273	4.176	0.243	
V	36.0	2.676	8.780	1.464	4.803	1.320	4.331	0.256	1.50
	40.0	2.854	9.362	1.577	5.174	1.412	4.362	0.281	
V	45.0	3.068	10.065	1.715	5.627			0.313	1.50
	50.0	3.275	10.744	1.850	6.071			0.344	
V	60.0	3.671	12.044					0.406	1.50
	67.0	3.937	12.916					0.450	

Cable	A	B	Cable
HyperFlex090	0.350	0.016	Cable Insertion Loss/ft : (A x √ freqGHz + B x freqGHz)
HyperFlex120	0.145	0.0165	
HyperFlex141	0.160	0.010	

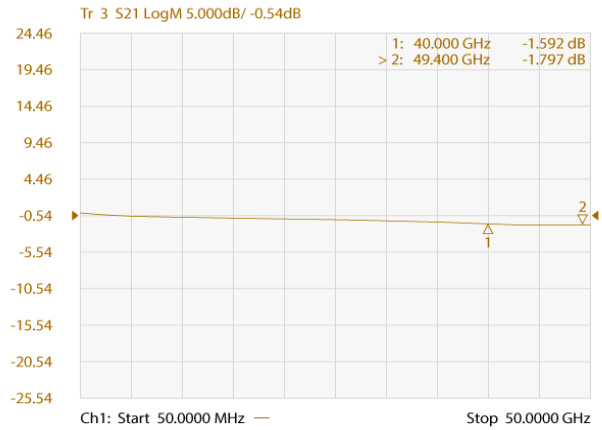


MEGAPHASE HYPERFLEX™ SERIES CABLES

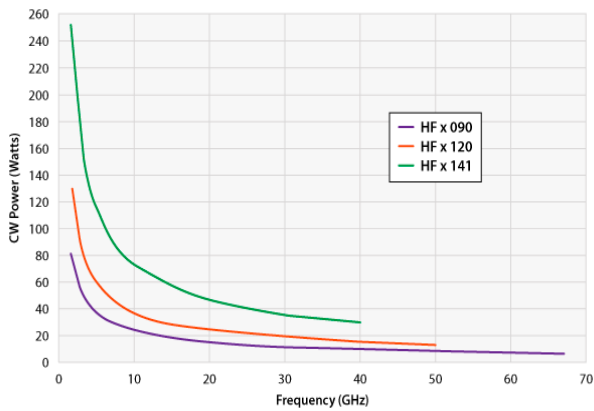
Typical VSWR Performance for HFX120 6 in. Assembly



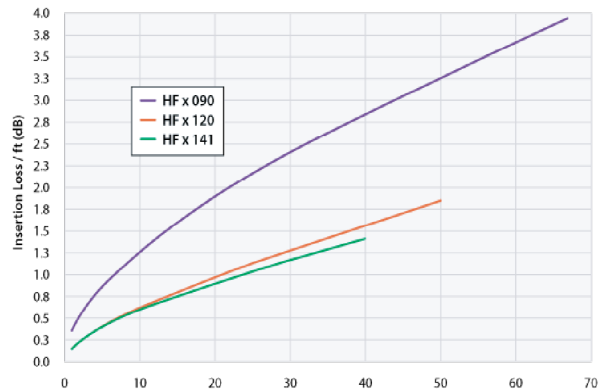
Typical Insertion Loss Performance for HFX120 6 in. Assembly



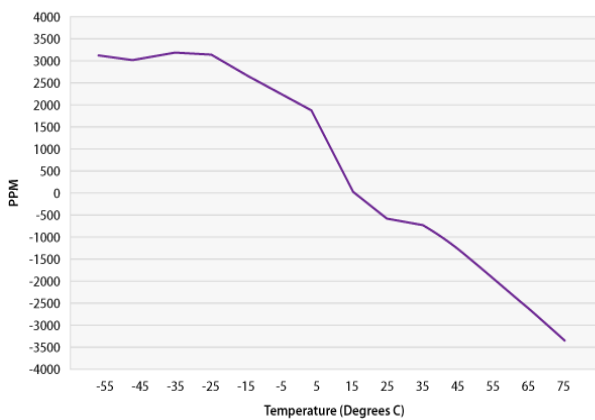
HyperFlex™ CW Power Capability 25°C @ Sea Level



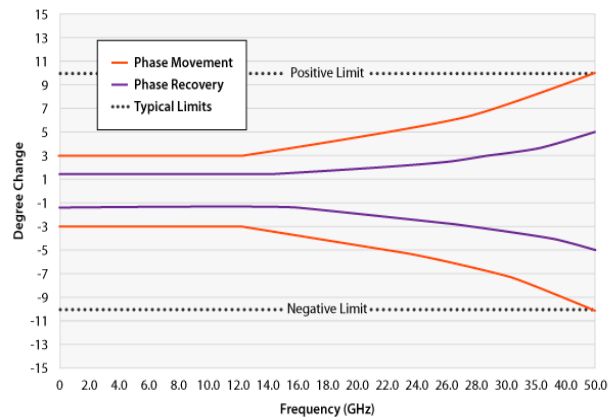
HyperFlex™ Insertion Loss



Phase Change vs. Temperature



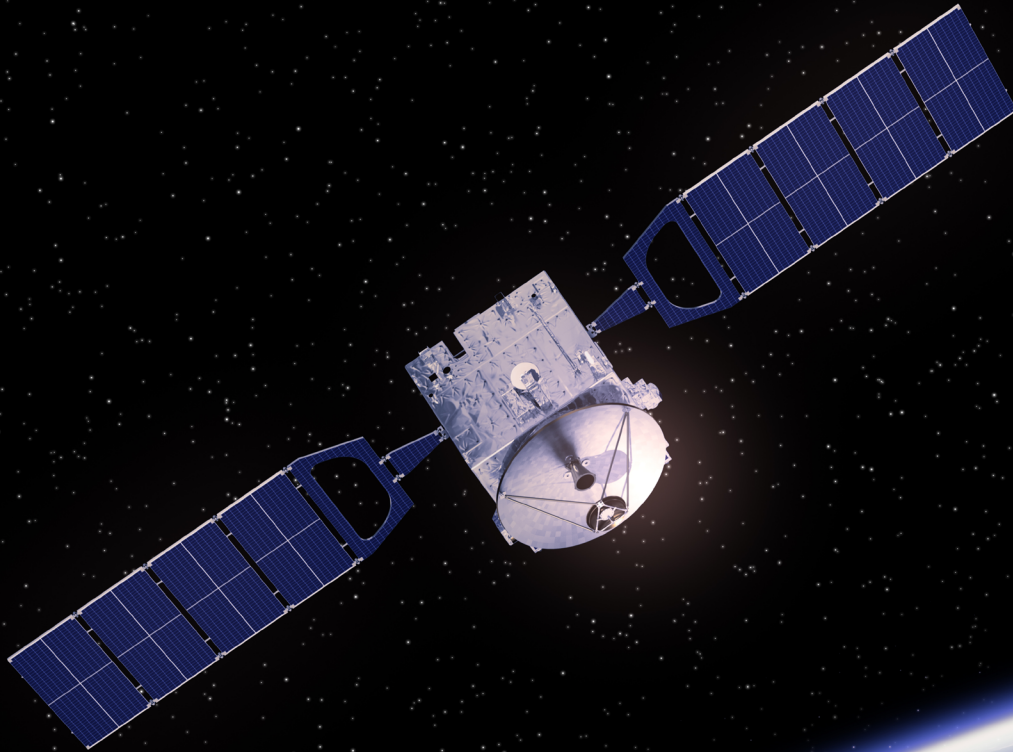
Phase Change vs. Flexure





MegaPhase®

With the right connection anything is possible



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About us

Founded in 1998 and headquartered in Stroudsburg, Pennsylvania, MegaPhase designs and manufactures high-performance RF coaxial cables and connectors for OEMs in critical markets including test instrumentation, defense, aerospace, telecommunications, and satellite systems. Serving more than 500 customers in 30 countries—including major technology leaders and the U.S. government—MegaPhase is best known for its industry-leading GrooveTube® technology, a breakthrough flexible cable design used in high-reliability, high-power, and phase-defined applications across ground, sea, air, and space platforms. All products are manufactured in-house, tested 100% in a state-of-the-art RF lab up to 110 GHz, and engineered to deliver exceptional phase stability, low loss, and long-term measurement repeatability, helping customers achieve more reliable results at a lower cost per measurement.

MegaPhase

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