



MegaPhase®



## HyperFlex

### MegaPhase® HyperFlex™ Cable

MegaPhase has introduced a new cable that offers superior flexibility when compared to traditional solder-terminated connectors of similar sizes and applications. The HyperFlex™ Cable incorporates a solderless termination, eliminating solder wicking and enabling tight, right-angle bends directly behind the connector.

HyperFlex™ is available in three different series, .090, .120 and .141 inch diameter, with a frequency range of DC -67 GHz. This cable is ideally suited for inside-the-box and small form factor applications where tight routing is required.

#### Cable Construction:

Triple Shielded  
FEP Outer Jacket

#### Min/Max Length:

4in/48in

#### Available Connectors:

SMA, 2.92mm, 2.4mm, SMP, Mega8

#### Operating Temp. Range:

-55 to 125° C

#### Electrical Data

##### Maximum Frequency:

HFx090 67 GHz  
HFx120 50 GHz  
HFx141 40 GHz

##### Impedance:

50 Ω nominal

##### Propagation Velocity:

HFx090, HFx120, HFx141, 69.5% nom

##### Time Delay:

HFx090, HFx120, HFx141  
1.47 ns/ft (4.82 ns/m)

##### Shielding Effectiveness (Typical):

-110 dB minimum (cable only)

##### Dielectric Withstanding Voltage:

HFx090 600 Vrms  
HFx120 900 Vrms  
HFx141 1100 Vrms

##### Capacitance:

HFx090 29.0 pF/ft. (95 pF/m)  
HFx120, HFx141, 29.1 pF/ft. (95.5 pF/m)

#### Mechanical Data

##### Finished Outer Diameter:

HFx090 0.090 in. (2.286 mm)  
HFx120 0.120 in. (3.048 mm)  
HFx141 0.141 in. (3.5814 mm)

##### Static Bend Radius:

HFx090 .10 in. (2.54 mm)  
HFx120 .20in. (5.08 mm)  
HFx141 .30 in. (7.62 mm)

##### Weight:

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)

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



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## MegaPhase HyperFlex™ Series Cable (continued)

### 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	1.00	0.366	1.201	0.162	0.530	0.170	0.558	0.014	
S	2.0	0.527	1.729	0.238	0.781	0.246	0.808	0.024	1.15
	2.4	0.581	1.905	0.264	0.867	0.272	0.892	0.027	
	3.0	0.654	2.146	0.301	0.986	0.307	1.008	0.032	
C	4.0	0.764	2.507	0.356	1.168	0.360	1.181	0.040	
	6.0	0.953	3.128	0.454	1.490	0.452	1.483	0.055	
X	8.0	1.118	3.668	0.542	1.779	0.533	1.747	0.070	1.20
	10.0	1.267	4.156	0.624	2.046	0.606	1.988	0.084	1.25
	12.4	1.431	4.694	0.715	2.346	0.687	2.255	0.101	
Ku	15.0	1.596	5.235	0.809	2.654	0.770	2.525	0.118	1.30
	18.0	1.773	5.817	0.912	2.993	0.859	2.818	0.139	
K	20.0	1.885	6.185	0.978	3.210	0.916	3.004	0.152	1.35
	22.0	1.994	6.541	1.043	3.422	0.970	3.184	0.165	
	24.0	2.099	6.885	1.106	3.630	1.024	3.359	0.178	
	26.5	2.226	7.302	1.184	3.883	1.089	3.572	0.194	
Ka	28.0	2.300	7.546	1.229	4.033	1.127	3.696	0.204	1.40
	30.0	2.397	7.864	1.289	4.230	1.176	3.859	0.217	
	32.0	2.492	8.176	1.348	4.423	1.225	4.019	0.230	
	34.0	2.585	8.480	1.406	4.614	1.273	4.176	0.243	
	36.0	2.676	8.780	1.464	4.803	1.320	4.331	0.256	
V	40.0	2.854	9.362	1.577	5.174	1.412	4.632	0.281	1.45
	45.0	3.068	10.065	1.715	5.627			0.313	
	50.0	3.275	10.744	1.850	6.071			0.344	1.50
	60.0	3.671	12.044					0.406	
	67.0	3.937	12.916					0.450	
Cable		A	B	Cable					
HyperFlex090		0.35	0.016	Cable Insertion Loss/ft : (A x √ freqGHz + B x freqGHz)					
HyperFlex120		0.145	0.0165						
HyperFlex141		0.160	0.010						

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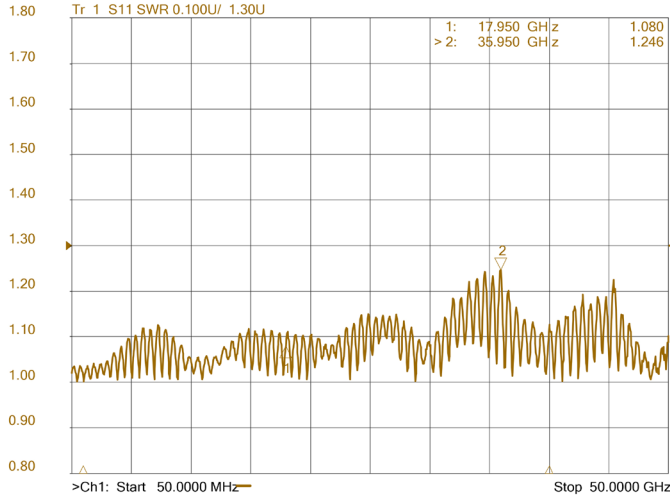
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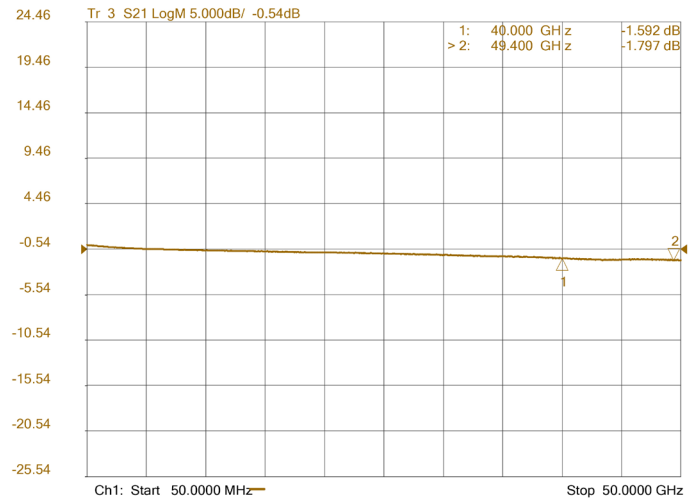
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## MegaPhase HyperFlex™ Series Cable (continued)

### Typical VSWR Performance For HFx120 6in Assembly



### Typical Insertion Loss Performance For HFx120 6in Assembly



### HyperFlex CW Power Capability 25°C @ Sea Level

