

MegaPhase



With the right connections,
anything is possible.

MegaPhase VNA Test Port Extension Cables

High Performance VN Series Cable Assemblies

MegaPhase VNA cable assemblies are designed to ease the time associated with test equipment calibrations where compensation for loss, mismatches, and feedthroughs are critical to the test outcome.

VN series cables are mechanically stable and can be bent with little effect on insertion loss, phase or VSWR. They can be employed time and again when rigorous test regiments are called for.

Cable assemblies are available in user defined lengths up to 25 feet. These low loss alternatives to expensive OEM test cables are the perfect solution for any test lab employing critical test equipment in their production operations.

The cable is constructed with an armored jacket and boot to protect the connectors and for effective VNA, PNA, and scalar test calibrations. Cables are available in phase matched lengths and come with a large variety of integrated connectors including the popular ruggedized NMD type.

Electrical Data

Maximum Frequency:

50 GHz

Impedance:

50 Ω nominal

Propagation Velocity:

60% nominal

Time Delay:

1.47 ns/ft (4.82 ns/m)

Shielding Effectiveness:

-110 dB minimum (cable only)

Dielectric Withstanding Voltage:

10 kV at 60 Hz

Capacitance:

29.0 pF/ft (95.1 pF/m)

Mechanical Data

Finished Outer Diameter:

0.625 in (1.588 cm)

Static Bend Radius:

4.0 in (10.16 cm)

Weight with Standard Jacket/Armor:

0.18 lbs/ft (0.26 kg/m)

Max. Assembly Length:

25 ft (8 m)

Crush Resistance:

250 lbs/linear in (44.6 kg/linear cm)

Operating Temp. Range:

-76 to 248° F (-60 to 120° C)

Above 185° F (85° C) use "T" designation

Cable Construction

Inner Conductor: Solid Ag-plated Cu

Dielectric: PTFE

Outer Conductor: GrooveTube® Cu

Standard Finish: Metal Braid/
Metal Conduit

(a wide variety of other protective finishes and armors available)

Available Connectors

1.85mm, 2.4mm, 2.92mm, 3.5mm,
7mm, SMA, TNC, Type N

122 Banner Road, Stroudsburg, PA 18360-6433

Tel: 1-877-634-2742 | 570-424-8400

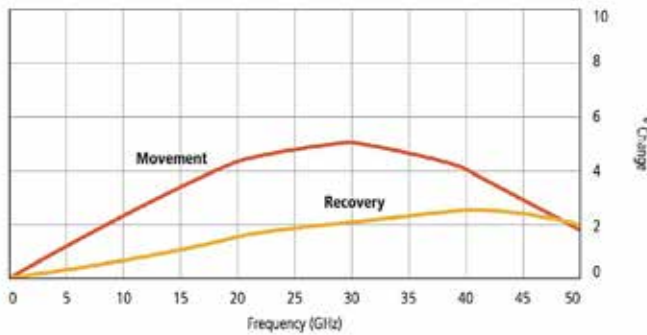
Solutions@MegaPhase.com | www.MegaPhase.com



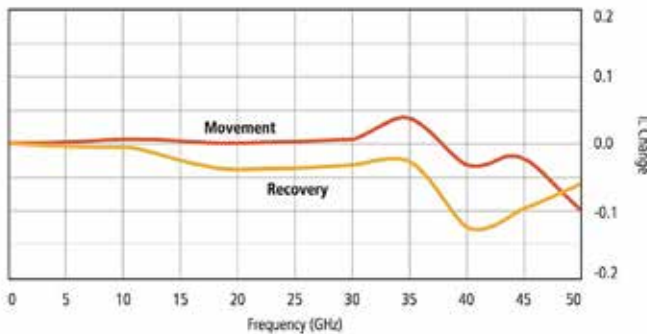
With the right connections,
anything is possible.

MegaPhase VNA Test Port Extension Cables (continued)

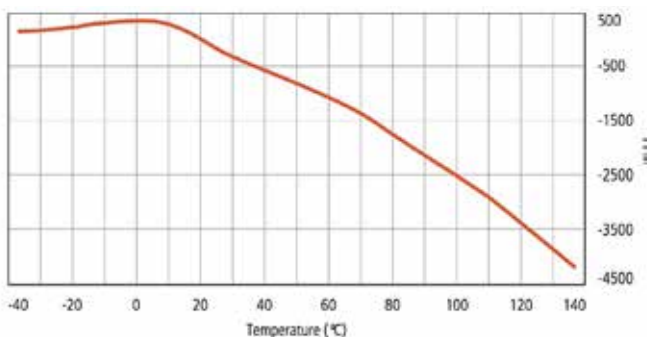
Phase Change vs. Flexure



Insertion Loss vs. Flexure



Phase Change vs. Temperature



Specifications

Frequency		Part No.	Attenuation		Conn. Loss dB	VSWR	
GHz	Band		dB/ft	dB/m			
0.3	UHF	VN4	0.062	0.203	0.006	1.10	
0.5			0.082	0.268	0.009		
0.8			0.106	0.348	0.012		
1.0	L		0.120	0.394	0.014	1.15	
2.0	S		0.178	0.585	0.024		
2.4			0.199	0.652	0.027		
3.0			0.227	0.744	0.032		
4.0	C		VN8	0.270	0.885	0.040	1.20
6.0				0.347	1.138	0.055	
8.0	X		VN18	0.417	1.367	0.070	1.25
10.0		0.482		1.580	0.084		
12.4		0.555		1.822	0.101		
15.0	Ku	VN18	0.631	2.070	0.118	1.30	
18.0			0.715	2.345	0.139		
20.0	K	VN26	0.769	2.522	0.152	1.35	
22.0			0.821	2.695	0.165		
24.0			0.873	2.865	0.178		
26.5			0.937	3.073	0.194		
28.0	Ka	VN34	0.974	3.196	0.204	1.40	
30.0			1.024	3.358	0.217		
32.0			1.072	3.518	0.230		
34.0			1.121	3.676	0.243		
36.0	VN40	1.168	3.833	0.256	1.45		
40.0		1.262	4.141	0.281			
45.0	Q	VN50	1.377	4.158	0.313	1.50	
50.0	V		1.490	4.888	0.344		

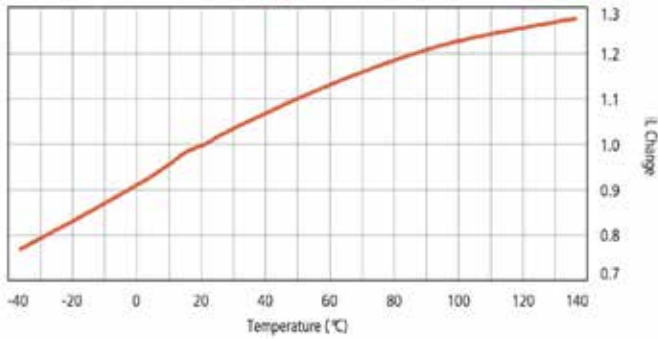
Note: Typical Insertion Loss dB = (Attenuation)(Length) + 2(Conn. Loss)
 Attenuation at any frequency = (0.10506 x $\sqrt{\text{freq GHz}}$) + (0.01494 x freq GHz)



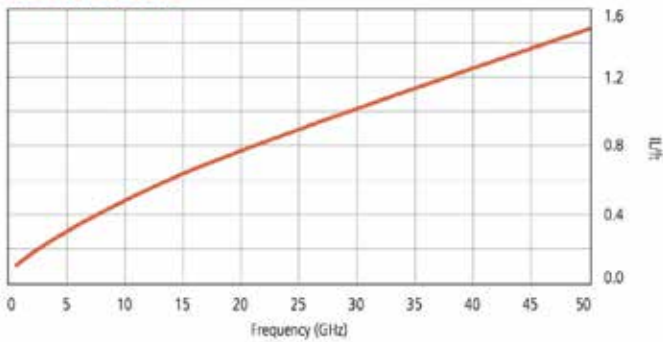
With the right connections,
anything is possible.

MegaPhase VNA Test Port Extension Cables (continued)

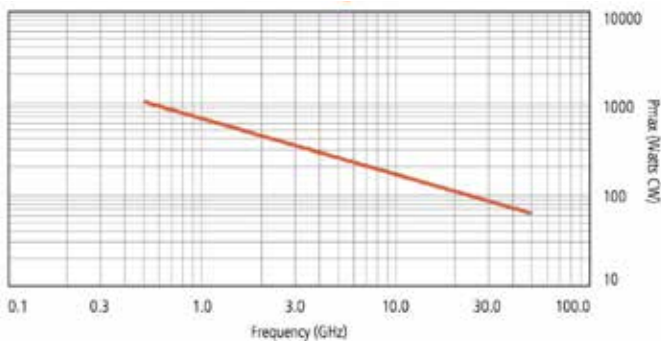
Insertion Loss vs. Temperature



Insertion Loss



Cable CW Power Handling



Note: Data at ambient temperature and sea level. Power handling of a cable assembly is also connector dependent and includes variables such as altitude, temperature and system VSWR. See website for connector power handling standards, including altitude, temperature and VSWR derating.