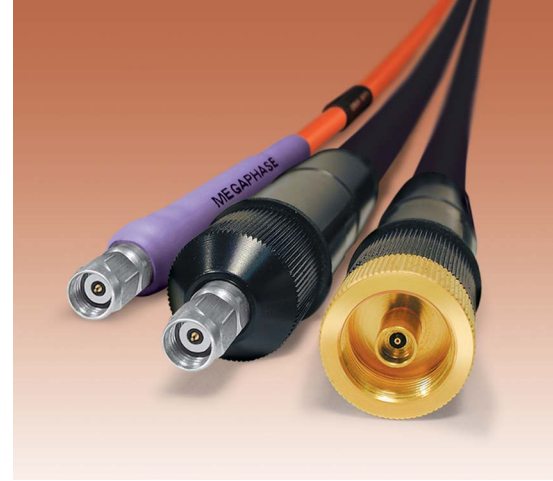


70 GHz Test Cables



Ultra Wide Band & Broadband Test Cables for 65, 67 & 70 GHz Applications

MegaPhase’s industry-leading test cable has been optimized for consistent and repeatable performance through 70 GHz. This phase and amplitude stable test cable features 1.85mm connectors, including connectors that mate directly with 1.85mm VNA ports. MegaPhase 70 GHz test cable products are built-to-order with any combination of 1.85mm connectors, including our Factory Formed right angles. Available in lengths from 12 inches to 25 feet (30 cm to 8 m).

Electrical Data

Maximum Frequency:	70 GHz
Impedance:	50 Ω nominal
Propagation Velocity:	75% nominal
Time Delay:	1.23 ns/ft (4.04 ns/m)
Shielding Effectiveness:	-120 dB minimum (cable only)
Dielectric Withstanding Voltage:	3 kV at 60 Hz
Capacitance:	24.4 pF/ft (80.1 pF/m)

Mechanical Data

Finished Outer Diameter:	TM: 0.285 in (0.724 cm) VN: 0.625 in (1.588 cm)
Static Bend Radius:	TM: 1.5 in (3.81 cm) VN: 4.0 in (10.16 cm)
Weight with Standard Jacket/Armor:	TM: 0.05 lbs/ft (0.067 kg/m) VN: 0.18 lbs/ft (0.260 kg/m)
Crush Resistance:	250 lbs/linear in (44.6 kg/linear cm)
Operating Temp. Range:	TM: -67 to 275° F (-55 to 135° C) VN: -76 to 248° F (-60 to 120° C) Above 185° F (85° C) use “T” designation and provide temperature range.

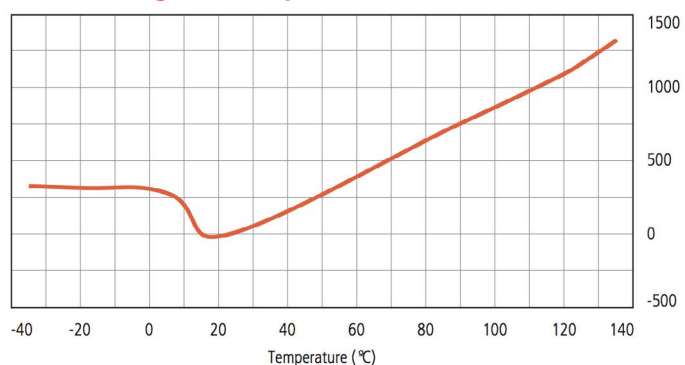
Cable Construction

Inner Conductor:	Solid Ag-plated Cu
Dielectric:	PTFE Tape
Outer Conductor:	Ag-plated Cu Strip/Ag-plated Cu Flat Braid
Standard Finish:	TM: Polyolefin over Metallic Armor VN: PET Braid over METallic Braid

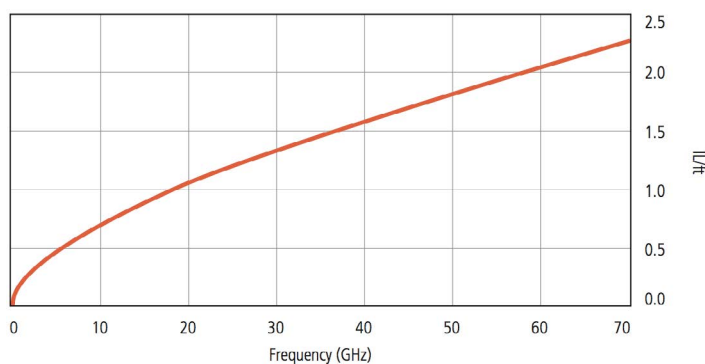
(a wide variety of other protective finishes and armors available)

70 GHz Test Cables (cont'd)

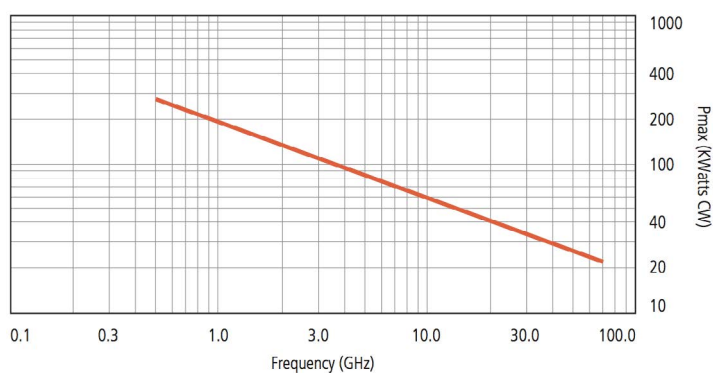
Phase Change vs. Temperature



Insertion Loss



Cable CW Power Handling



Specifications

Frequency		Attenuation		Conn. Loss dB	VSWR	
GHz	Band	dB/ft	dB/m			
0.3	UHF	0.107	0.352	0.006	1.10	
0.5		0.139	0.457	0.009		
0.8		0.178	0.584	0.012		
1.0	L	0.200	0.656	0.014		
2.0	S	0.288	0.946	0.024		
2.4		0.318	1.043	0.027		
3.0		0.359	1.176	0.032		
4.0	C	0.419	1.375	0.040		1.15
6.0		0.524	1.719	0.055		
8.0	X	0.615	2.018	0.070		1.20
10.0		0.698	2.290	0.084		
12.4		0.789	2.589	0.101		
15.0	Ku	0.881	2.891	0.118	1.25	
18.0		0.980	3.216	0.139		
20.0	K	1.043	3.422	0.152		1.30
22.0		1.104	3.611	0.165		
24.0		1.163	3.814	0.178		
26.5		1.234	4.048	0.194		
28.0	Ka	1.276	4.185	0.204	1.35	
30.0		1.330	4.364	0.217		
32.0		1.383	4.539	0.230		
34.0		1.436	4.711	0.243		
36.0		1.487	4.879	0.256		
40.0	O	1.587	5.207	0.281	1.40	
45.0		1.708	5.604	0.313		
50.0	V	1.825	5.988	0.344	1.45	
55.0		1.939	6.360	0.375		
60.0		2.049	6.723	0.406		
65.0		2.157	7.078	0.437		
67.0		2.200	7.218	0.450		
70.0		2.263	7.425	0.468		

Note: Typical Insertion Loss dB = (Attenuation)(Length) + 2(Conn. Loss)
 Attenuation at any frequency = $(0.19043 \times \sqrt{\text{freq GHz}}) + (0.00957 \times \text{freq GHz})$