



MICROWAVE SYSTEMS

SilverLine®-VNA (18, 26.5 and 40 GHz)

Vector Network Analyzer Test Cables:

- Vector Network Analyzer Measurements
- Laboratory Use
- Research and Development

SilverLine®-VNA is a precision test cable with excellent loss, VSWR and phase/flexure stability. Protected by a torque and crush resistant armor, SilverLine®-VNA test cables exhibit extraordinary ruggedness comparable to OEM supplied test cables but at a fraction of the cost, making them the ideal choice for daily use in factory and lab applications.

The braided PET outer jacket makes SilverLine®-VNA easy to handle, non-conductive and improves flexibility when compared to extruded jackets. The chrome plated metal back shell maintains the integrity of the cable to connector interface and allows for easy handling.



Features & Benefits:

- 18, 26.5 and 40 GHz options
- Low loss 40 GHz cables now available!
- Phase, Loss & VSWR stable
- High flex life
- Torque and crush resistant stainless steel armor
- Chrome plated strain relief back shells
- ROHS Compliant

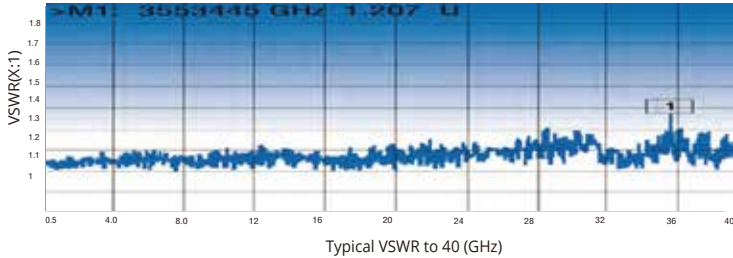


Flex Test (one full cycle)



Cable is pulled off center 10" in both directions

** Phase stability data IAW Times' phase/flex test criteria as demonstrated above.



Connectors:

- Instrument grade
- Passivated stainless steel
- Captive center contacts

Attachment Method:

Solder/clamp/crimp. Protective metal back shell

*Requires mating connections to be clean and within mechanical specifications. Calibrated torque wrench required.

**RF stability and flex life are in accordance with the flex test method example. Data is for cables 4ft or shorter. Longer cables may exhibit different stability characteristics. A cable will exhibit some instability when new. A very brief period of use is required to alleviate cable component stresses from manufacturing after which the cable will "settle" and maintain the values stated

Care and Handling Guidelines:

While armored, 26.5 & 40 GHz cables are sensitive microwave instruments. Small, flexible cables can easily be forced beyond the recommended minimum bend radius. This will likely degrade or destroy the RF performance. All flexible cables have a limited flex life. Develop procedures that limit flexing. 2.4 and 1.85mm interfaces are delicate. Keep them meticulously clean and the center contacts concentric within the outer contact. Use a microscope to examine if necessary. DO NOT mate connectors that are dirty, suspected of being damaged or outside concentric tolerances. Connectors must be aligned when mating. Misalignment could damage the interfaces and voids the warranty. Test equipment makers publish extensive use and handling procedures on their web sites that cover these and related topics.

ALWAYS:

- Inspect interfaces before every mate. Clean if needed.
- Gently start the coupling nut and fully thread with fingers first.
- Hand tighten, but if a calibrated torque wrench is used 8 lbs max.
- Limit use to experienced technicians.
- Cap connectors and store cables separately in a protective container.
- Keep a spare pair of cables ready, just in case.

NEVER:

- Force the cable to bend beyond the recommended minimum radius.
- Force two connectors. If any resistance is felt STOP and examine.
- Mate to another series.
- Mate connectors that are not aligned and concentric.
- Put foreign or dirty objects into the interface.

Warranty:

Product to be free from workmanship and materials defects and to meet stated data sheet performance for a period of 90 days. Excludes cable or connector interface damage from misuse, abuse, mishandling or mis-mating outside the data sheet recommendations. Warranty claims are subject to factory analysis and may include analysis charges depending on findings.

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Mechanical Specifications

Dimensions	in	mm
Armored Diameter: armor/strain relief	0.430	10.80
Min bend radius, armored (max flex life)	2.500	63.50
Crushing (armored version)	1050 lbs/lin.in	
Mating life cycle *	500	
Temperature range	32°/+ 86°F 0°/+30°C	

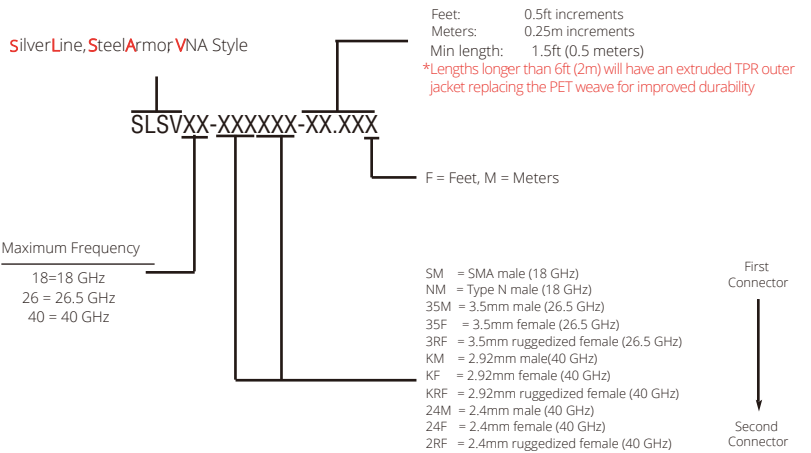
Electrical Specifications

Impedance	50 Ohms			
Velocity of Propagation	78%			
Shielding Effectiveness	>100 dB			
Capacitance	26 pf/ft (85 pf/m)			
VSWR (maximum)	18 GHz	26.5 GHz	40 GHz	
SM & NM	1.3:1			
3.5mm	1.35:1			
2.9mm & 2.4mm	1.45:1			
Phase Stability (degrees)**	typical	+/-1.0	+/-1.5	+/-2.0
Amplitude Stability (dB)**	typical	+/-0.02	+/-0.035	+/-0.04
Attenuation, max@77°F (25°C)		dB/100 ft	(dB/100 m)	
18 GHz		51	167	
26.5 GHz		63	206	
40 GHz		82	269	

Cable Power Handling (Cable Only)

@77°F (25°C) sea level, watts (max)		
18 GHz		24
26.5 GHz		20
40 GHz		15

Ordering Information:



A brand new cable can have a break-in period of several hundred flexes.

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