

SilverLine-LP™ (Low-PIM)

Passive Intermodulation Testing

- Cell Site PIM Testing
- Antenna Production Test
- Low PIM Component Production Test



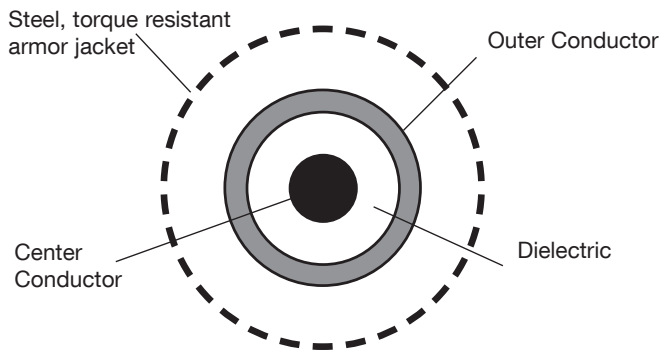
Features and Benefits

- Much easier to handle than corrugated cable
- Better than -117dbm (-160dbc) Performance
- Set of low PIM adaptors with connector saver (optional)
- Low attenuation
- Rugged, durable, steel armored design
- Retractable, OneTurn™ connector for fast-on fast-off mating
- Coupling nut includes metric and English sizes
- Water resistant
- RoHS compliant

SilverLine-LP™ is the first test cable specifically designed for field and production Passive Intermodulation (PIM) Testing. Unlike standard corrugated test leads that experience rapid failures due to kinking and connector/cable interface breakage, SilverLine-LP™ is steel armored and has a massive, solid metal back shell to protect the cable to connector interface against virtually all possibilities for damage. This robust design results in much longer product life and reduces the occurrence of faulty test results.

SilverLine™ PIM is ideal for use with Portable PIM testers in field test applications. It is also ideal for use with bench top PIM Analyzers in a lab or factory environment. In the field this reliable, high quality test cable cuts costs by providing a more dependable test lead, eliminating the need to re-build or re-terminate a test lead on site or cancel a test entirely. In the factory it saves labor by providing more accurate and consistent results over a far longer product life, thus reducing the possibility of rejects caused by faulty test leads. In the uncertain world of PIM, SilverLine-LP™ is an excellent value, keeping costs in check.

SilverLine-LP™



Cable Construction

Cable: Low loss, solid copper outer conductor with armor

Armor: Full, 100% non-interleaved spiral steel sheath with wide angle, torque resistant steel braid overlay. Water, UV and abrasion resistant TPR outer jacket.

Connectors

- Body: Tri-metal plated brass
- Shell: Aluminum
- Water resistant
- US and European hex sizes
- OneTurn™ feature for fast on/off mating

Connector Attachment

Fully soldered center contact and shield. Attachment includes a three inch long, ribbed, wedge clamp-to-armor for the strongest most robust retention system in the industry.

Best Practices for PIM Measurements:

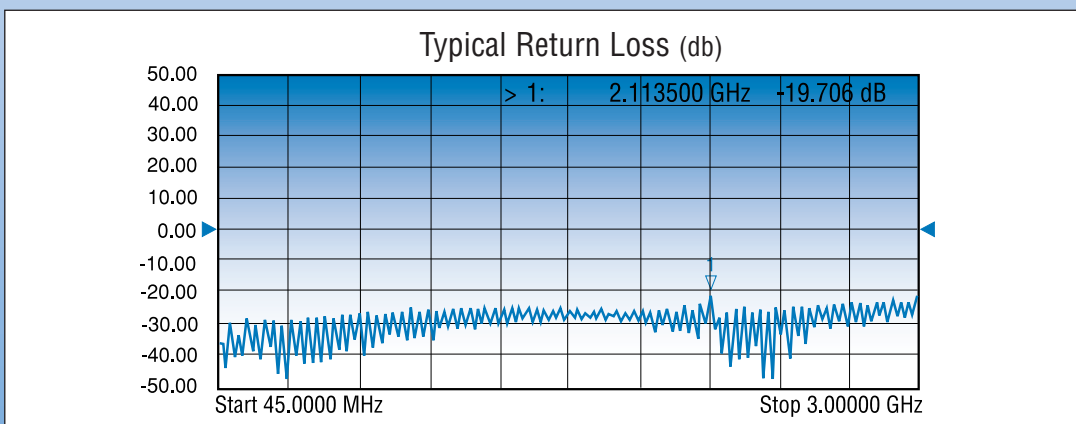
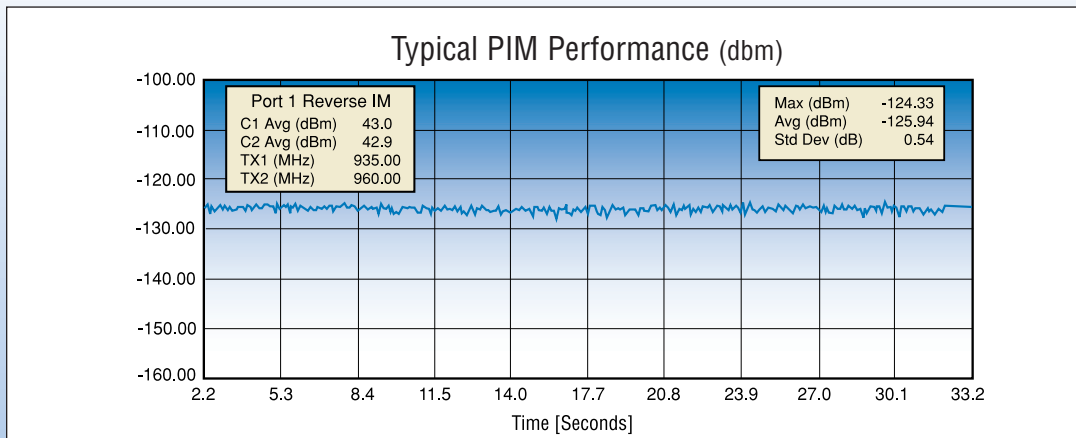
*Achieving a long life and consistent PIM results with brass connectors requires interfaces to be clean at all times. Inspect and remove dust, dirt and metal particles regularly. Replace protective caps when not in use. The use of a connector saver (male to female adaptor) on the DUT (Device-under-Test) end of the cable is recommended.

**PIM values vary slightly during test. A SilverLine-LP™ test lead will vary between -117 dbm to -125 dbm with the cable at rest or in motion. Cables are supplied without interface gaskets, eliminating the need for high torque values. Hand-tight should be sufficient. Loosen and re-snug coupling nuts if minimum PIM values are not achieved the first time. As with any high performance RF coax cable, flex it as little as needed and do not bend it beyond the recommended minimum bend radius.

Physical & Mechanical Specifications		
Dimensions	in	mm
Armor	0.59	14.99
Weight: lbs/ft (kg/m)	Cable & Armor Combined: 0.258 (0.383)	
Armor Crush Resistance	>1200 lbs per linear inch	
Bend Radius (min)	7.5"	190.5mm
Connector Retention	>500 lbs	
Mating Life Cycle	1000*	
Storage Temperature	-40°/+185°F	-40°/+85°C
Electrical Specifications		
Passive Intermodulation	-117 dbm (-160 dbc) min. at rest**	
VSWR (ret. loss) DC - 3 GHz	1.25:1 (19db) typ.	1.35:1 (16.54db) max
Impedance	50 Ohms	
Velocity of Propagation	83%	
Shielding Effectiveness	> -100db	
Attenuation Max	@ 77°F (+25°C)	
	MHz	db/100 ft db/100m
	800	3.6 11.8
	900	3.9 13.0
	1800	5.6 18.7
	1900	5.8 19.0
	2100	6.2 20.1
	3000	7.5 24.7
Power handling @77°F (+25°C) (Watts, Avg.) (Sea Level) (Cable Only)		
	MHz	Watts (average)
	800	946
	900	729
	1800	460
	1900	445
	2100	430
	3000	340

Specifications subject to change without notice.

PIM Performance and Return Loss vs. Frequency



Ordering Information

SilverLine, Steel armor, Low PIM

SLSLP03-76M76M-XX.XXMK

3 GHz

K = Includes set of three low PIM adaptors.
Omit for cable assembly only

Every 0.25 meter length from 1.5 meters
Example: -02.75M = 2.75m

Low PIM adaptor kit PN: 660-0007EA

Kit contents:



Female bullet, M-F r/a
and M-F connector saver



Heavy duty nylon case with sturdy velcro closure,
individual compartments, belt clip and metal lanyard

Low PIM Accessories



Bench PIM Load - pn 67020

Frequency:	800MHz - 3000MHz
Size: in (mm)	7.1h x 2.8w x 5.04d (180 x 68 x 128)
Approx Weight:	6.8 lbs. (3.08kg)
Impedance:	50 Ohms
Return Loss:	16 db min
Intermodulation:	-165 dbc (2 x 43 dbm carriers)
Power Handling:	75 watts average
Coupling Torque:	21 ft-lbs (29 N*m) min 36 ft-lbs (49 N*m) max
Operating Temp:	32-95°F (0-32°C)
Connector Type:	7-16 Female

Includes folding handle, wrench flats to aid torquing to proper values and protective interface cap.

Frequency:	800MHz - 2500MHz
Size: in (mm)	10.4L x 3w (263 x 76)
Approx Weight:	3.4 lbs. (1.54kg)
Impedance:	50 Ohms
Return Loss:	16 db min
Intermodulation:	-165 dbc (2 x 43 dbm carriers)
Power Handling:	40 watts average
Coupling Torque:	21 ft-lbs (29 N*m) min 36 ft-lbs (49 N*m) max
Operating Temp:	32-95°F (0-32°C)
Connector Type:	7-16 male, 7-16 female

Includes wrench flats to aid torquing to proper values, interface caps, and lanyard loop.



Portable PIM Load - pn 67019*

** Caution: Always cap unmated end during use.*



**3/8" Corrugated Low Pim Test Lead
pn SLCOR03-76M76M-03.00M
(101-4372PC)**

Cable Type:	3/8" Super Flexible Corrugated Cable
Connectors:	7-16 male both ends
Length:	3 meters
Impedance:	50 Ohms
Return Loss:	< 26db 1800-2100MHz
Intermodulation:	< -165 dbc (2 x 43 dbm carriers)



World Headquarters: 358 Hall Avenue, Wallingford, CT 06492 • Tel: 203-949-8400, 1-800-867-2629 • Fax: 203-949-8423
 International Sales: 4 School Brae, Dysart, Kirkcaldy, Fife, Scotland KY1 2XB UK • Tel: +44(0)1592655428
 China Sales: No. 318 Yuan Shan Road, Shanghai 201108 China • Tel: 86-21-51761234 • Fax: 86-21-64424098
www.timesmicrowave.com