

SilverLine-LP™ (Low-PIM)

Passive Intermodulation Testing

- Cellular Site Certification
- Troubleshooting
- Performance Analysis
- Antenna or Radio Component Production Test



Features and Benefits

- Much easier to handle than raw corrugated cable
- Better than -117dbm (-160dbc) Performance*
- Includes a set of low PIM adaptors
- Low attenuation
- Rugged, durable, steel armored design
- Retractable, OneTurn™ connector for fast-on fast-off mating
- European and US Hex sizes all in one
- Water resistant
- RoHS compliant



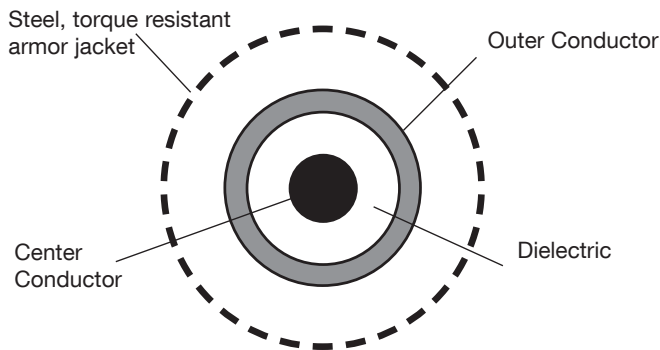
SilverLine™-LP is another first from Times Microwave. There now exists a cable assembly specifically designed for low passive intermodulation performance and to withstand the physical abuse of field testing.

SilverLine™-LP works well with both the latest generation of portable field PIM analyzers and traditional bench top models. A field or production test technician need no longer struggle with bare corrugated cable as a temporary test lead only to have it kink, crack and fail repeatedly, requiring a steady supply of replacements.

SilverLine™-LP incorporates the very best of Times' field proven cable assembly technology, TuffGrip™ armor design and a revolutionary new concept in connector attachment that makes connector/cable junction failures a thing of the past.

The SilverLine™-LP manufacturing process has been tailored to achieve low, consistent PIM performance and user friendliness! As an added value every low PIM assembly comes complete with a set of three Times low pim adaptors to suit all installation test needs.

*Cable at rest



Cable Construction

Inner Conductor: Copper clad aluminum

Dielectric: Foam PE

Shield: Copper

Armor: Full, 100% non-interleaved spiral steel sheath overlaid with steel, opposing force structure for torque resistance. Waterproof, UV and abrasion resistant, black TPE outer jacket.

Connectors

- Body: Tri-metal plated brass
- Shell: Aluminum
- Waterproof
- Accommodates US and European hex sizes
- OneTurn™ feature for fast-on fast-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.

*Achieving mating life with brass requires interfaces to be clean at all times. Remove dust, dirt and especially any metal particles after every mate cycle using a lint free cotton swab and/or dry compressed air. Damage to connector interface voids the warranty. Protect connector interface at all times by replacing protective caps when not in use.

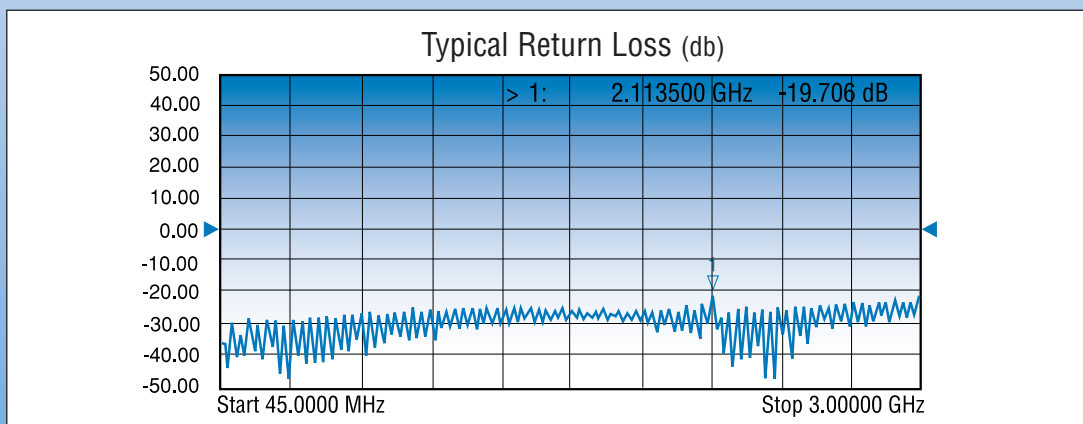
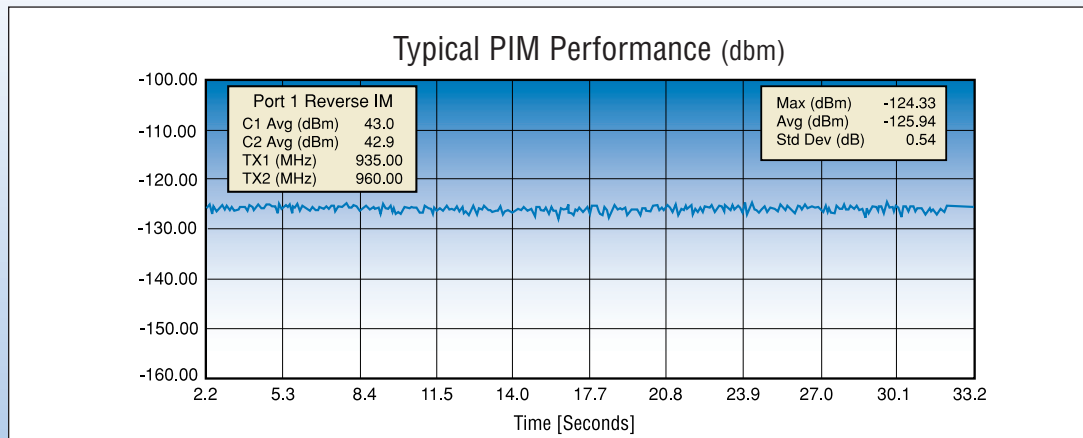
**Proper torque (21 ft/lbs) and cleanliness are mandatory (see note above for cleaning). PIM value will vary within approx -117 dbm to 125 dbm even with cable at rest. Loosen then re-torque coupling nuts if -120 dbm is not achieved when connectors are first torqued.

Physical & Mechanical Specifications		
Dimensions	in	mm
Center Conductor	0.11	2.80
Dielectric	0.25	6.35
Outer shield	0.37	9.50
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)	18	457.2
Connector Retention	>500 lbs	
Mating Life Cycle	1000*	
Length Tolerances	+/-2% of Length	
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	
Capacitance	24.3 pf/ft	79.7 pf/meter
Attenuation Max	@ 77°F (+25°C)	
	MHz	d/b100 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.

For longest life, flex the cable as little as possible and maintain at an 18 in (45.72mm) bend diameter minimum.

PIM Performance and Return Loss vs. Frequency



Ordering Information

SLLP03-76M76M-XX.XXMK

3 Ghz

Low PIM adaptor kit PN: 660-0007EA

Kit contents:



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

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

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



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)



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