

SPPTM Coaxial Cables

ISO 9001 Certified

In-Building, Low Loss, Low PIM, Plenum Rated Cable Assemblies

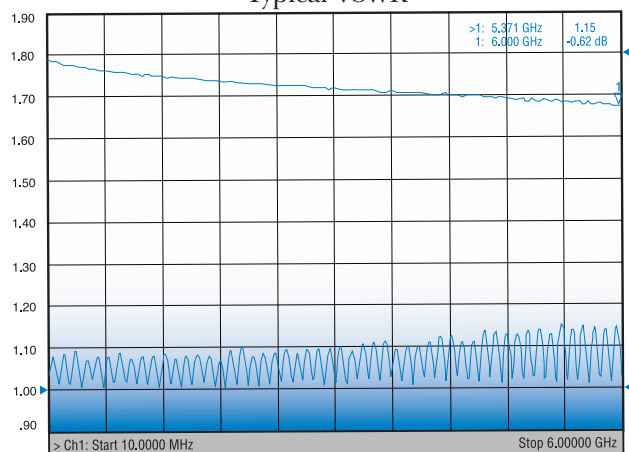
- *Excellent PIM (typically -160 dBc) for optimum system performance*
- *UL910 plenum rated satisfying building code requirements*
- *Super flexible for ease of installation*
- *Corrugated copper outer conductor providing greater than 100dB shielding*
- *Wideband low VSWR typically 1.15:1 from 50 to 6000MHz covering all in-building technologies*
- *Durable FEP outer jacket is suitable for outdoor use*



SPP2-50, SPP-375, SPP-500 50 Ohm low loss low PIM coaxial cable assemblies

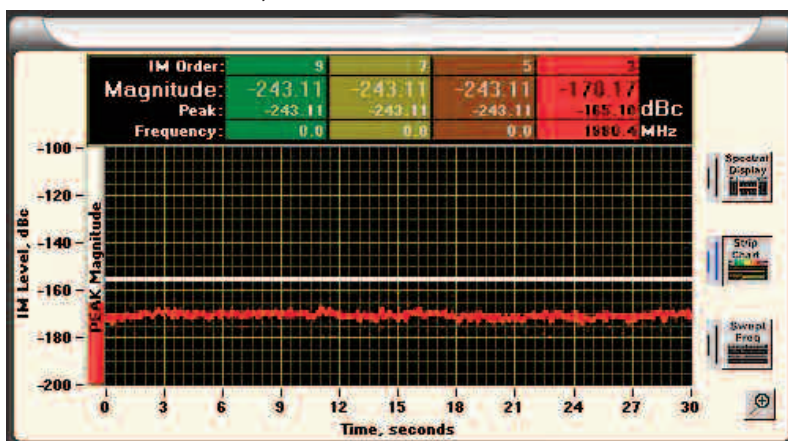
- Standard assemblies in 1, 2 and 3 meter lengths with popular connector combinations
- 100% tested for static and dynamic PIM, VSWR and Insertion Loss
- Custom length assemblies are available
- 10 year Times Microwave warranty

Typical VSWR

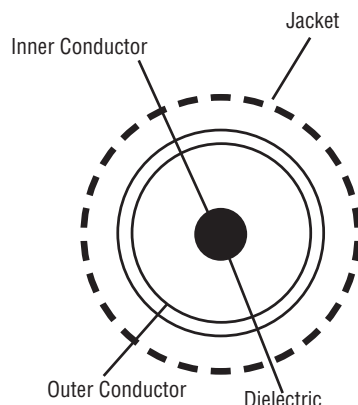


SPP250NMNM1.0M

Dynamic PIM Test Results



SPP™ Coaxial Cables



Cable Construction

Inner Conductor: Solid bare copper

Dielectric: Tape wrapped low density PTFE

Outer Conductor: Seam welded corrugated copper tube

Jacket: Extruded FEP

Physical Specifications		SPP-250		SPP-375		SPP-500	
Cable Stock Codes:		15314		15318		15319	
Jacket: Extruded FEP; OD: in(mm)		0.280	(7.1)	0.402	(10.2)	0.500	(13.4)
Outer Conductor: Corrugated Copper Tube; OD: in(mm)		0.250	(6.3)	0.380	(9.6)	0.472	(12.1)
Dielectric: LD PTFE OD: in(mm)		0.190	(4.8)	0.285	(7.1)	0.370	(9.4)
Center Conductor: Solid BCCAl; OD: in(mm)		0.068	(1.7)	0.100	(2.7)	0.136	(3.5)
Bend Radius: in(mm)		1.25	(32)	1.38	(35)	1.50	(38)
Bending Moment: ft-lbs (N-m)		0.8	(1.0)	1.7	(2.0)	2.0	(2.4)
Tensile Strength: lb (kg)		150	(68.2)	175	(79.5)	210	(95.5)
Flat Plate Crush Strength: lb/in (kg/mm)		100	(1.8)	100	(1.8)	110	(2.0)
Weight: lbs/1000 ft (kg/km)		66	(78)	115	(127)	200	(167)
Environmental Specifications							
Installation Temperature Range °C/°F		-55/+200	(-67/+392°)	-55/+200	(-67/+392°)	-55/+200	(-67/+392°)
Storage Temperature Range °C/°F		-55/+200	(-67/+392°)	-55/+200	(-67/+392°)	-55/+200	(-67/+392°)
Operating Temperature Range °C/°F		-55/+200	(-67/+392°)	-55/+200	(-67/+392°)	-55/+200	(-67/+392°)
Electrical Specifications							
Velocity of Propagation: %		76%		76%		76%	
Impedance: Ohms		50 Ohms		50 Ohms		50 Ohms	
Capacitance: pF/ft (pF/m)		27.0	(8.2)	27.5	(8.4)	29.0	(8.8)
Inductance: µH/ft (uH/m)		0.067	(0.22)	0.067	(0.22)	0.069	(0.23)
Shielding Effectiveness: dB		>100		>100		>100	
Passive Intermodulation (PIM): dBc		<-160		<-160		<-160	
Center Conductor DC Resistance: Ohms/1000 ft/(km)		3.0	(9.84)	1.30	(4.26)	0.82	(2.70)
Shield DC Resistance: Ohms/1000 ft (km)		2.00	(6.56)	1.52	(4.98)	1.00	(3.28)
Attenuation & Average Power @ MHz		dB/100 ft (dB/100m) kW		dB/100 ft (dB/100m) kW		dB/100 ft (dB/100m) kW	
450		3.8	(12.4) 0.97	2.8	(9.2) 2.01	2.3	(7.5) 2.50
900		5.4	(17.7) 0.68	3.7	(12.1) 1.41	3.3	(10.8) 1.75
2000		8.3	(27.2) 0.46	5.7	(18.7) 0.93	5.1	(16.7) 1.15
5800		14.8	(48.5) 0.26	10.3	(33.8) 0.53	9.2	(30.2) 0.65
Connectors (solder body) (Connectors with BLK suffix packed 100 in bulk)							
N Male Straight		TC-SPP250-NM-LP (3190-2833BLK)		TC-SPP375-NM-LP (3190-2951)		TC-SPP500-NM-LP (3190-2946)	
N Male Right Angle		TC-SPP250-NM-RA-LP (3190-2834BLK)		-		-	
N Female		TC-SPP250-NF-LP (3190-2851BLK)		-		TC-SPP500-NF-LP (3190-3011)	
N Female Bulkhead		TC-SPP250-NF-BH-LP (3190-2835)		-		-	
7-16 DIN Male Straight		TC-SPP250-716M-LP (3190-2853BLK)		TC-SPP375-716M-LP (3190-2940)		TC-SPP500-716M-LP (3190-2945)	
7-16 DIN Male Right Angle		TC-SPP250-716M-RA-LP (3190-2854BLK)		-		-	
SMA Male Straight		TC-SPP250-SM-LP (3190-2947)		-		-	
4.1/9.5 mini DIN Male Straight		TC-SPP250-4195M-LP (3190-3014)		-		-	
7-16 DIN Female Straight		TC-SPP250-716F-LP (3190-3002)		-		-	
Connectors (Field Installable, non solder)							
N Male Right Angle		EZ-SPP250-NM-RA-LP (3190-2965)		-		-	
7-16 DIN Male Right Angle		EZ-SPP250-716M-RA-LP (3190-2966)		-		-	
Tools							
Strip Tool		ST-SPP-250 (3192-154)		ST-SPP-375 (3192-167)		ST-SPP-500 (3192-168)	
Debur Tool		DBT-U (3192-001)		DBT-U (3192-001)		DBT-U (3192-001)	
Cutting Tool		CCT-01 (3190-1544)		CCT-01 (3190-1544)		CCT-01 (3190-1544)	

Smart Part Number Key for SPP Low PIM Jumpers

Cable Size

250 = SPP250
375 = SPP375
500 = SPP500

Length (3 or 4 Characters)

(ex. x.x or xx.x)

Feet: 0.5 increments only
Meters: 0.5 increments only

SPPXXXYYYXXXYY.XX

F= Feet M= Meters

ex. SPP250NMNMR2.0M
(N Male to N Male right angle, 2 meters)

Connector Codes (2 or 3 Characters)

DF =	7/16 DIN Female
DFB =	7/16 DIN Female bulkhead
DM =	7/16 DIN Male
DMR =	7/16 DIN Male right angle
NF =	N Female
NFB =	N Female bulkhead
NM =	N Male
NMR =	N Male right angle
SM =	SMA Male
41M =	4.1/9.5 mini DIN Male

First Connector

Second Connector

Electrical:

- Insertion Loss should not exceed
(1.1 x published attenuation + 2 x 0.15dB)
- VSWR
Maximum of 1.25:1 to 2 GHz
Maximum of 1.35:1 to 6 GHz

Many assembly configurations are available from stock.
Refer to the on-line [Price List](#) for specific configurations.

About TIMES MICROWAVE SYSTEMS

Times Microwave Systems, was founded in 1948 as the Times Wire and Cable Company. Today, the company specializes in the design and manufacture of high performance flexible, semi-flexible and semi-rigid coaxial cable, connectors and cable assemblies. With over 60 years of leadership in the design, development, and manufacture of coaxial products for defense microwave systems, Times Microwave Systems is the acknowledged leader, offering high tech solutions for today's most demanding applications.

Cable assemblies from Times Microwave Systems are used as interconnects for microwave transmitters, receivers, and antennas on airframes, missiles, ships, satellites, and ground based communications systems, and as leads for test and instrumentation applications.

As a highly specialized and technically focused company, Times Microwave Systems has been able to continually meet the challenges of specialty engineered transmission lines for both the military and commercial applications, drawing upon our:

- Thousands of unique cable and connector designs
- Exceptional RF and microwave design capability
- Precise material and process controls
- Unique in-house testing capabilities including RF shielding/leakage, vibration, moisture/vapor sealing, phase noise and flammability
- Years of MIL-T-81490, MIL-C-87104, and MIL-PRF-39012 experience
- ISO 9001 Certification

In 2010, Times Microwave Systems introduced its Times-Protect™ line of lightning and surge protection solutions to address the challenging needs of wireless systems in the 21st century.

With over 60 years of Times Microwave Systems aerospace cable and connector technology experience and unparalleled design expertise, Times Microwave Systems' staff of Field Applications Engineers can help to provide the right solution for your interconnect applications.



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