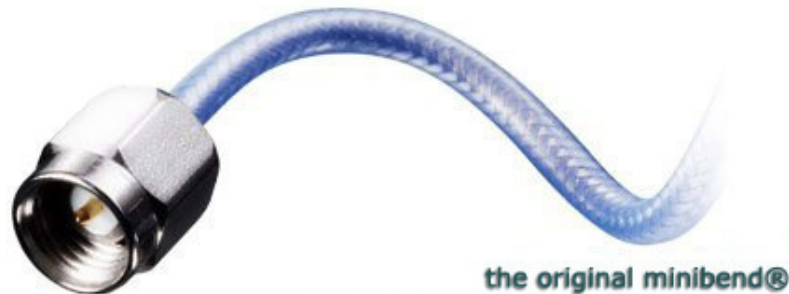


Astrolab original minibend

High performance, low profile

available as an 'R' ruggedized assembly



Product Description

minibend® is a true flexible coaxial cable assembly which is designed for use in low profile, internal, point-to-point interconnections between RF modules within communications systems. minibend® replaces small custom semi-rigid cable with standard flexible cables eliminating the need for predefined custom lengths and bend configurations. minibend® provides you with a preassembled and tested high performance, cost effective alternative in a variety of standard lengths.

Product Features

- Direct replacement for .086" semi-rigid cable
- Precision stainless steel SMA plug connectors (Patented - US Patent Office)
- Stock delivery on standard lengths
- Eliminates need for costly right angle connectors
- Guaranteed 15 lbs. pull force
- Triple shielded for high isolation
- Frequency range up to 24 GHz
- Low Cost
- 99.9% lead free

Environmental Limits

Temperature Range: -45°C to +85°C

Thermal Shock: per Mil-Std-202, Method 107, Test Cond. A

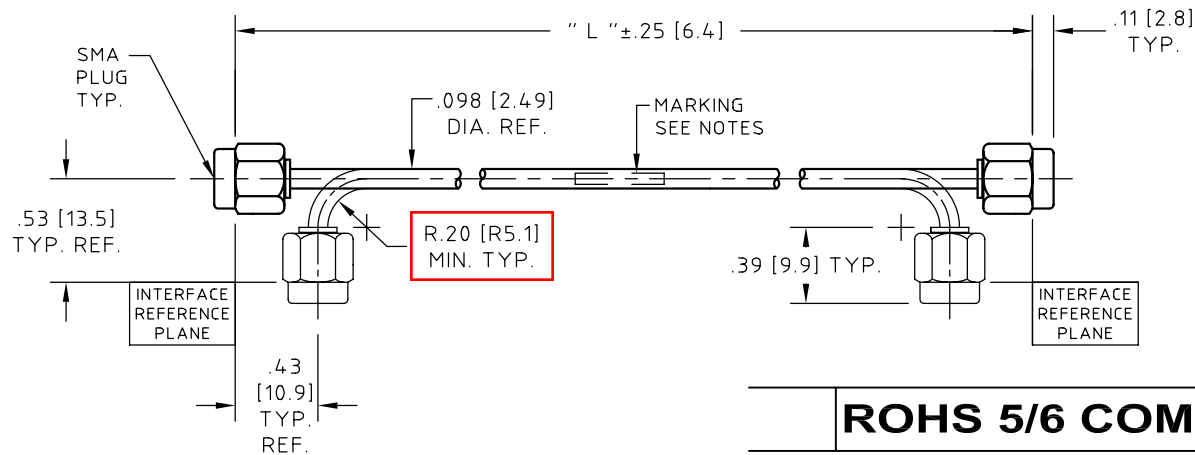
Vibration: per Mil-Std-202, Method 214, Test Cond. B

Shock: per Mil-Std-202, Method 213, Test Cond. A, 40Gs

Phase Versus Flexure Reference Data

Astrolab performed phase tests on hundreds of minibend® cable assemblies. Following are two standard Astrolab tests with the corresponding data. In test one, minibend-6 assembly's were flexed 90° in a 0.25 inch radius directly behind the connector. In test two, minibend-16 assembly's were flexed 180° with a 0.4 inch radius in the middle. Typical data is listed here:

	TEST ONE	TEST TWO
24 GHz.	1.4°	3.9°
18 GHz.	1.2°	2.9°
12.4 GHz.	0.9°	1.8°
1 GHz.	0.1°	0.2°



ROHS 5/6 COMPLIANT

NOTES:

- DESCRIPTION, CABLE ASSEMBLY, SMA PLUG TO SMA PLUG.
- CABLE, COAXIAL CABLE HUBER+SUHNER Astrolab P/N 32081 MEETS OR EXCEEDS MIL-DTL-17. SEE HUBER+SUHNER Astrolab CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -A-, SMA PLUG: HUBER+SUHNER Astrolab P/N 29094C-32-81 INTERFACE DIMENSIONS IAW MIL-STD-348. SEE HUBER+SUHNER Astrolab CONTROL DRAWING FOR MATERIALS AND FINISHES.
- CONNECTOR -B-, SMA PLUG: SAME AS CONNECTOR -A-.

NOTES CONTINUED:

- MARKING: MARKING APPROXIMATELY CENTERED DIRECTLY ON CABLE AS FOLLOWS:
MINIBEND-xx YYWW
WHERE xx DENOTES THE LENGTH OF THE CABLE ASSEMBLY AND YYWW THE DATE CODE FOR DATE OF MANUFACTURE. NO MARKING ON CABLE ASSEMBLIES SHORTER THAN 2.50 [63.5]. MARKING ON PACKAGING ONLY.
- ELECTRICAL CHARACTERISTICS: IMPEDANCE, 50.0 Ohms NOMINAL. FREQUENCY, INSERTION LOSS AND VSWR SEE CHART.
- MECHANICAL: OPERATING TEMPERATURE RANGE, -45° C TO +85° C. PULL STRENGTH TO 15.0 LBs [66.7 N].
- ATTENUATION FORMULAS:
8A. CALCULATE AT 18.0 GHz
(dB) = 1.20 dB/FT. X L(ft.).+25 dB
8B. CALCULATE AT 24.0 GHz
(dB) = 1.39 dB/FT. X L(ft.).+29 dB

HUBER+SUHNER Astrolab PART NUMBER	DIMENSION "L"	2.0 GHz		12.4 GHz		18.0 GHz		24.0 GHz	
		VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB	VSWR	I.L. dB
minibend-2.5	2.50 [63.5]	1.20:1	0.18	1.25:1	0.36	1.35:1	0.50	1.40:1	0.57
minibend-3	3.00 [76.2]	1.20:1	0.19	1.25:1	0.40	1.35:1	0.55	1.40:1	0.64
minibend-3.5	3.50 [88.9]	1.20:1	0.21	1.25:1	0.44	1.35:1	0.60	1.40:1	0.70
minibend-4	4.00 [101.6]	1.20:1	0.23	1.25:1	0.48	1.35:1	0.65	1.40:1	0.75
minibend-4.5	4.50 [114.3]	1.20:1	0.24	1.25:1	0.54	1.35:1	0.70	1.40:1	0.82
minibend-5	5.00 [127.0]	1.20:1	0.26	1.25:1	0.57	1.35:1	0.75	1.40:1	0.87
minibend-5.5	5.50 [139.7]	1.20:1	0.27	1.25:1	0.62	1.35:1	0.80	1.40:1	0.93
minibend-6	6.00 [152.4]	1.20:1	0.29	1.25:1	0.65	1.35:1	0.85	1.40:1	0.99
minibend-6.5	6.50 [165.1]	1.20:1	0.30	1.25:1	0.70	1.35:1	0.90	1.40:1	1.04
minibend-7	7.00 [177.8]	1.20:1	0.32	1.25:1	0.74	1.35:1	0.95	1.40:1	1.10
minibend-8	8.00 [203.2]	1.20:1	0.35	1.25:1	0.82	1.35:1	1.05	1.40:1	1.22
minibend-9	9.00 [228.6]	1.20:1	0.38	1.25:1	0.91	1.35:1	1.15	1.40:1	1.35
minibend-10	10.00 [254.0]	1.20:1	0.41	1.25:1	0.98	1.35:1	1.24	1.40:1	1.46
minibend-11	11.00 [279.4]	1.20:1	0.44	1.25:1	1.07	1.35:1	1.34	1.40:1	1.58
minibend-12	12.00 [304.8]	1.20:1	0.47	1.25:1	1.15	1.35:1	1.42	1.40:1	1.68
minibend-13	13.00 [330.2]	1.20:1	0.50	1.25:1	1.23	1.35:1	1.53	1.40:1	1.81
minibend-14	14.00 [355.6]	1.20:1	0.53	1.25:1	1.30	1.35:1	1.62	1.40:1	1.92
minibend-15	15.00 [381.0]	1.20:1	0.57	1.25:1	1.40	1.35:1	1.73	1.40:1	2.04
minibend-16	16.00 [406.4]	1.20:1	0.60	1.25:1	1.47	1.35:1	1.82	1.40:1	2.15
minibend-17	17.00 [431.8]	1.20:1	0.63	1.25:1	1.56	1.35:1	1.95	1.40:1	2.26
minibend-18	18.00 [457.2]	1.20:1	0.66	1.25:1	1.64	1.35:1	2.05	1.40:1	2.38
minibend-19	19.00 [482.6]	1.20:1	0.69	1.25:1	1.72	1.35:1	2.15	1.40:1	2.49
minibend-20	20.00 [508.0]	1.20:1	0.72	1.25:1	1.80	1.35:1	2.25	1.40:1	2.61
minibend-		1.20:1		1.25:1		1.35:1		1.40:1	

SEE NOTE 8

UNLESS OTHERWISE SPECIFIED CONCENTRICITY .004 T.I.R. CORNERS AND FILLETS .005 MAX. RADIUS OR CHAMFER. SURFACE FINISH 63 RMS MICROINCHES OR BETTER.

FRACTIONS	± 1/16
X	± .030
XX	± .015
XXX	± .005
ANGLES	± 1°
DO NOT SCALE DRAWING	

NAME	DATE	<p>THIS DRAWING CONTAINS PATENTABLE AND PROPRIETARY INFORMATION. THE DESIGN CANNOT BE USED WITHOUT WRITTEN PERMISSION OF HUBER + SUHNER ASTROLAB.</p>
PREP. M. KEATING	11/07/95	
ELEC.		
MECH.		
Q.C.		

CABLE ASSEMBLY, SMA PLUG TO SMA PLUG.

AQ	ECN No. 15734	08/09/13	EB		THDS. TO BE IN ACCORD WITH U.S. DEPT. OF COMM. SCREW THD. STDS. FOR FEDERAL SERVICES 1950 SUPL. TO HANDBOOK H 28.	SCALE 1:1	CODE IDENT. 16301	DWG NO. minibend-XX	REV AQ
REV.	DESCRIPTION	DATE	BY	APPROVED					