

# STORM FLEX™

## 047, 086, & 141 SERIES



### STORM FLEX™ 047 & 086

#### MINIATURE ASSEMBLIES

With 0.055" and 0.096" (1.40 mm and 2.44 mm) diameters, durable construction, and low profiles in SMA SP configuration, Storm Flex™ miniature cables offer **superior electrical performance in a trouble-free, compact assembly.**

#### IDEAL WHEN:

- *Development of complicated semi-rigid cable drawings is prohibitive from a standpoint of time or cost.*
- *Expensive SMA right-angle connectors may be prohibitive from a standpoint of cost.*
- *Installation of other miniature cable assemblies has caused expensive or hard-to-find failures.*
- *High density devices require stable, miniature cable assemblies for connection during test.*

### STORM FLEX™ 141

Combining flexibility and durability with a larger diameter (0.160"/4.064 mm), Storm Flex™ 141 maintains **excellent electrical characteristics through multiple flexures** and offers a **high strength flexible replacement for RG 402 semi rigid cable.**

#### FEATURES

- ~ *Solid PTFE dielectric*
- ~ *Ultra-high strength, multilayer outer braid*
- ~ *0.055", 0.096", & 0.160" (1.40 mm, 2.44 mm, & 4.06 mm) diameters*
- ~ *Wide range of low profile SMA, GPO®, and GPPO® connectors*

#### BENEFITS

- ~ *High compression resistance and greater durability*
- ~ *Eliminates cable breakage associated with repeated bending and handling*
- ~ *Provides alternatives to 0.047", 0.086", & 0.141" (1.19 mm, 2.18 mm, & 3.58 mm) semi-rigid cable – eliminating costs associated with time-consuming cable layout*
- ~ *Storm Flex™ cables can be configured to solve tough packaging challenges*

**Need it NOW?** We stock **Storm Flex™ 047, 086, & 141 Express** assemblies in a number of popular lengths, all terminated with 18 GHz SMA male connectors.

For applications requiring custom lengths or connector options, the **standard Storm Flex™ 047, 086, & 141 lines** can be **configured to meet your unique requirements.**



*High value microwave and electronic interconnect solutions*

[www.stormproducts.com/microwave](http://www.stormproducts.com/microwave)

SPECIFICATIONS	STORM FLEX™		
	047	086	141
<b>Cable Designator</b>	<b>900</b>	<b>910</b>	<b>920</b>
Diameter (in/mm)	0.055/1.40	0.096/2.44	0.160/4.06
Max Frequency (GHz)	50	50	26.5
Attenuation–Nominal @ 2 GHz (dB/ft)	0.59	0.28	0.17
Attenuation–Nominal @ 10 GHz (dB/ft)	1.37	0.68	0.43
Attenuation–Nominal @ 18 GHz (dB/ft)	1.89	0.95	0.61
Shielding Effectiveness (dB, 0-18 GHz)*	-85 or better	-90 or better	-90 or better
Phase Matching	Available (except Express)	Available (except Express)	Available (except Express)
Minimum Centerline Bend Radius (in/mm), static	0.100/2.54	0.187/4.75	0.320/8.13
Connector Retention (lbs/kg min), straight pull	10/4.54	10†/4.54†	40/18.14
Connector Retention (lbs/kg min), right angle pull	5/2.27	10†/4.54†	15/6.80
Weight (grams/ft/m)	1.54/5.05	5.25/17.22	13.4/43.95
Temperature Range (°C)	-54 to +125	-54 to +125	-54 to +125

\* Based on a 14"/355.6 mm assembly with SMA SP connectors

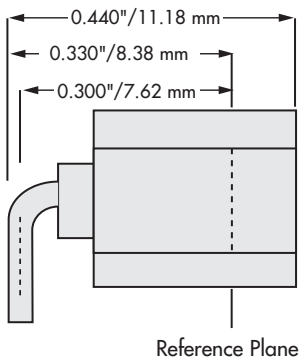
† 30 lb/13.61 kg straight and 20 lb/9.07 kg right angle pull strength can be achieved by using assembly p/n 910-0505. Consult Storm for details.

## Ultra Durability & Low Profiles Lower Costs

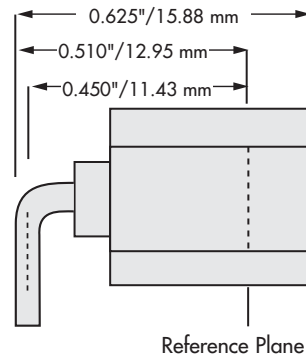
When lowering costs, saving space, or greater durability is needed, look to Storm Flex™ assemblies. Due to the extremely strong construction, all Storm Flex™ assemblies can withstand multiple flexures immediately behind the connectors without breaking or degrading. The benefit: fewer failures and reduced rework. In addition, the low profiles attainable using Storm Flex™ 047 and 086 with SMA straight plug connectors make Storm Flex™ miniature assemblies the ideal alternative to expensive SMA right-angle connectors.

### Ultra Low Profile Storm Flex™ 047

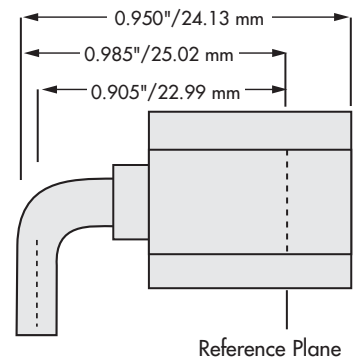
One of the lowest profiles available in the industry.



### Low Profile Storm Flex™ 086



### Storm Flex™ 141



The bend dimension with RA connector is 0.541"/13.74 mm (from reference plane to top of connector)

**Specifications subject to change without notice.**

**When you need it NOW!** Storm Flex™ 047 and 086 Express assemblies—in the lengths listed below and terminated with 18 GHz SMA male connectors—are available off-the-shelf using the listed part numbers.

**STORM FLEX™ 047**

▣ **CONNECTOR COMBINATION PART NUMBERS\***

CONNECTOR OPERATING FREQUENCY

	CONNECTOR OPERATING FREQUENCY								
	50 GHz	40 GHz	26.5 GHz		18 GHz				
	2.4 mm SP	GPPO® SJ	SMA SP	SSMA SP	SMA SP	GPPO® RAJ	GPO® SJ	GPO® RAJ	
50 GHz	2.4 mm SP	4040	2140	0340	3040	0240	2240	0640	0940
40 GHz	GPPO® SJ	2140	2121	0321	2130	0221	2122	0621	0921
26.5 GHz	SMA SP	0340	0321	0303	0330				
	SSMA SP	3040	2130	0330	3030	0230	2230	0630	0930
18 GHz	SMA SP	0240	0221		0230	0202	0222	0206	0209
	GPPO® RAJ	2240	2122		2230	0222	2222	0622	0922
	GPO® SJ	0640	0621		0630	0206	0622	0606	0609
	GPO® RAJ	0940	0921		0930	0209	0922	0609	0909

**ORDERING INFORMATION: Storm Flex™ 047 Express**

Part Number w/ SMA SP	Length (in/mm) ±0.125/3.18	2 GHz 10 GHz 18 GHz		
		VSWR, Typical		
		1.07:1	1.15:1	1.15:1
		INSERTION LOSS Nominal (dB)		
900-0202-002.5	2.50/63.50	0.20	0.42	0.58
900-0202-003	3.00/76.20	0.22	0.48	0.66
900-0202-003.5	3.50/88.90	0.25	0.54	0.74
900-0202-004	4.00/101.60	0.27	0.59	0.82
900-0202-006	6.00/152.40	0.37	0.82	1.13
900-0202-008	8.00/203.20	0.47	1.05	1.45
900-0202-010	10.00/254.00	0.56	1.28	1.77
900-0202-012	12.00/304.80	0.66	1.51	2.08
900-0202-014	14.00/355.60	0.76	1.74	2.40
900-0202-016	16.00/406.40	0.86	1.97	2.71

**STORM FLEX™ 086**

▣ **CONNECTOR COMBINATION PART NUMBERS\***

CONNECTOR OPERATING FREQUENCY

	CONNECTOR OPERATING FREQUENCY								
	50 GHz	26.5 GHz		18 GHz					
	2.4 mm SP	SMA SP	SSMA SP	SMA SP	SMA SJ	GPO® SJ	GPO® RAJ	GPPO® SJ	
50 GHz	2.4 mm SP	4040	0340	3040	0240	0440	0640	0740	2140
26.5 GHz	SMA SP	0340	0303	0330					
	SSMA SP	3040	0330	3030	0230	0430	0630	0730	2130
18 GHz	SMA SP	0240		0230	0202	0204	0206	0207	0221
	SMA SJ	0440		0430	0204	0404	0406	0407	0421
	GPO® SJ	0640		0630	0206	0406	0606	0607	0621
	GPO® RAJ	0740		0730	0207	0407	0607	0707	0721
	GPPO® SJ	2140		2130	0221	0421	0621	0721	2121

**ORDERING INFORMATION: Storm Flex™ 086 Express**

Part Number w/ SMA SP	Length (in/mm) ±0.125/3.18	2 GHz 10 GHz 18 GHz		
		VSWR, Typical		
		1.05:1	1.10:1	1.16:1
		INSERTION LOSS Nominal (dB)		
910-0202-004	4.00/101.60	0.17	0.36	0.51
910-0202-004.5	4.50/114.30	0.18	0.38	0.55
910-0202-005	5.00/127.00	0.19	0.41	0.59
910-0202-005.5	5.50/139.70	0.20	0.44	0.63
910-0202-006	6.00/152.40	0.22	0.47	0.66
910-0202-007	7.00/177.80	0.24	0.53	0.74
910-0202-008	8.00/203.20	0.26	0.58	0.82
910-0202-009	9.00/228.60	0.29	0.64	0.90
910-0202-010	10.00/254.00	0.31	0.70	0.98
910-0202-012	12.00/304.80	0.36	0.81	1.14
910-0202-014	14.00/355.60	0.40	0.92	1.30
910-0202-016	16.00/406.40	0.45	1.03	1.46
910-0202-018	18.00/457.20	0.50	1.15	1.61

CONNECTOR CODES	
SP	Straight Plug
SJ	Straight Jack
RAJ	Right-Angle Jack

\* Other connector styles available; Consult Storm.

GPO and GPPO are registered marks of Corning Gilbert Inc.

## STORM FLEX™ 141

### CONNECTOR COMBINATION PART NUMBERS\*

#### CONNECTOR OPERATING FREQUENCY

	26.5 GHz	18 GHz	12 GHz			
	SMA SP†	SMA SP†	SMA SJ	N SP	SMA RAP	
26.5 GHz	SMA SP†	0303				
18 GHz	SMA SP†		0202	0204	0250	0205
	SMA SJ		0204	0404	0450	0405
12 GHz	N SP		0250	0450	5050	0550
	SMA RAP		0205	0405	0550	0505

† Center conductor of cable used as contact.

For 18 GHz SMA SP connector with separate contact, use connector combination part numbers below:

	18 GHz	
18 GHz	SMA SP	1212
	SMA SJ	0412
	N SP	1250
12 GHz	SMA RAP	0512

\* Other connector styles available; Consult Storm.

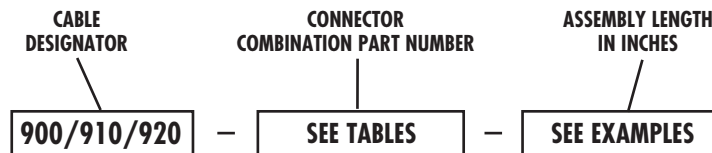
**When you need it NOW!** Storm Flex™ 141 Express assemblies—in the lengths listed below and terminated with 18 GHz SMA male connectors—are available off-the-shelf using the listed part numbers.

### ORDERING INFORMATION: Storm Flex™ 141 Express

Part Number w/ SMA SP	Length (in/mm) ±0.125/3.18	2 GHz 10 GHz 18 GHz		
		VSWR, Typical		
		1.03:1	1.06:1	1.10:1
INSERTION LOSS Nominal (dB)				
920-0202-004	4.00/101.60	0.08	0.18	0.26
920-0202-005	5.00/127.00	0.10	0.22	0.31
920-0202-006	6.00/152.40	0.11	0.25	0.36
920-0202-008	8.00/203.20	0.14	0.32	0.46
920-0202-010	10.00/254.00	0.17	0.39	0.56
920-0202-012	12.00/304.80	0.20	0.47	0.66
920-0202-014	14.00/355.60	0.23	0.54	0.76
920-0202-016	16.00/406.40	0.25	0.61	0.86
920-0202-018	18.00/457.20	0.28	0.68	0.97
920-0202-024	24.00/609.60	0.37	0.89	1.27

CONNECTOR CODES	
SP	Straight Plug
SJ	Straight Jack
RAP	Right-Angle Plug

### ORDERING INFORMATION: Part Number Designation



#### EXAMPLES:

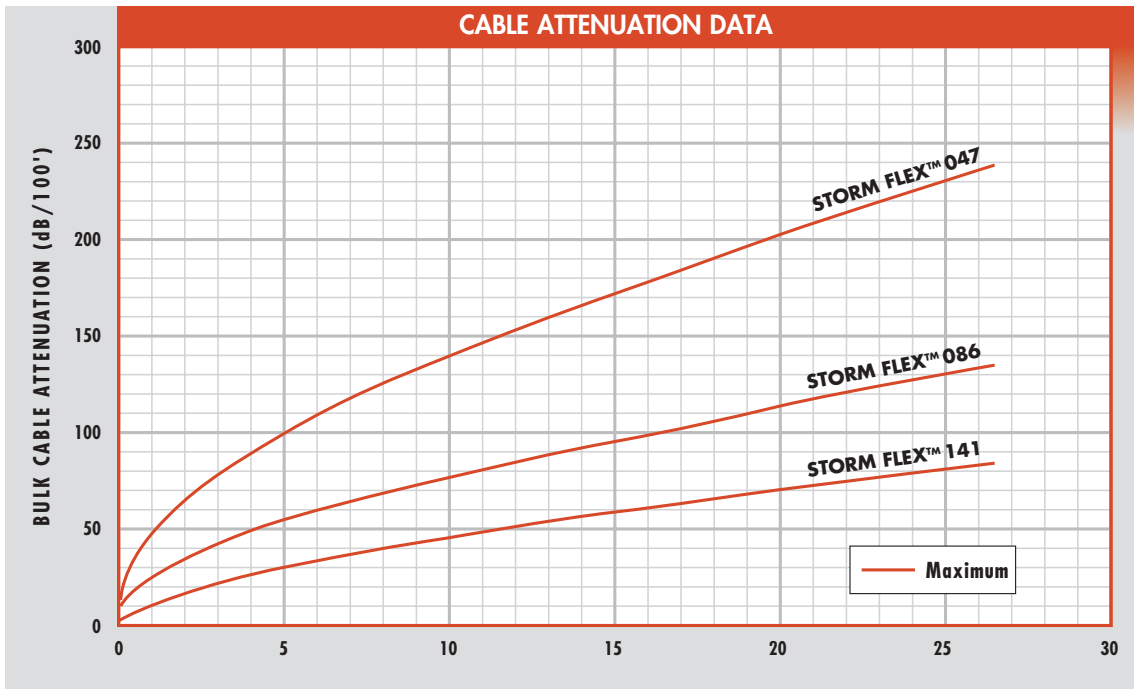
900-0622-048 = Storm Flex™ 047, GPO® SJ to GPPO® RAJ (assembly operates to 18 GHz), **48 inches**

910-0303-006 = Storm Flex™ 086, SMA SP to SMA SP (assembly operates to 26.5 GHz), **6 inches**

910-0202-024 = Storm Flex™ 086, SMA SP to SMA SP (assembly operates to 18 GHz), **24 inches**

920-0204-014 = Storm Flex™ 141, SMA SP [with center conductor of cable used as contact] to SMA SJ (assembly operates to 18 GHz), **14 inches**

920-0412-014 = Storm Flex™ 141, SMA SJ [with separate contact] to SMA SP (assembly operates to 18 GHz), **14 inches**



For cable assembly insertion loss, call us or visit our Web site, [www.stormproducts.com/microwave](http://www.stormproducts.com/microwave)

**CABLE CONSTRUCTION**

**Storm Flex™ 047**



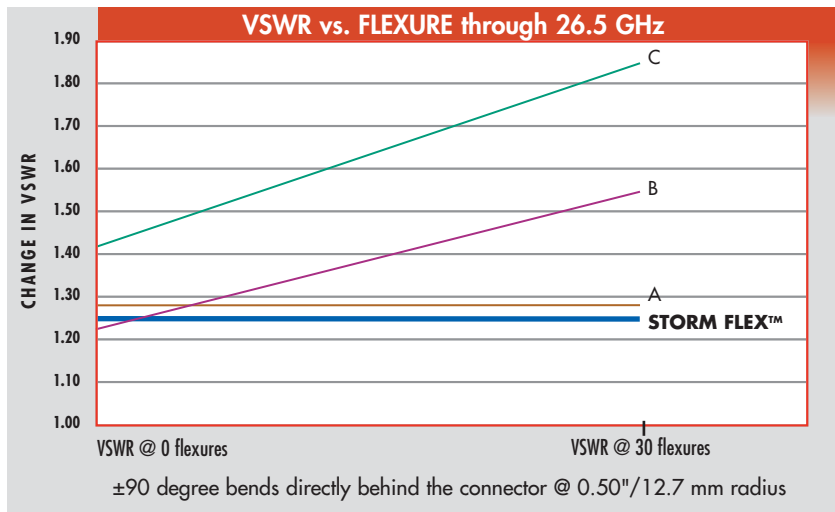
**Storm Flex™ 086 & 141**



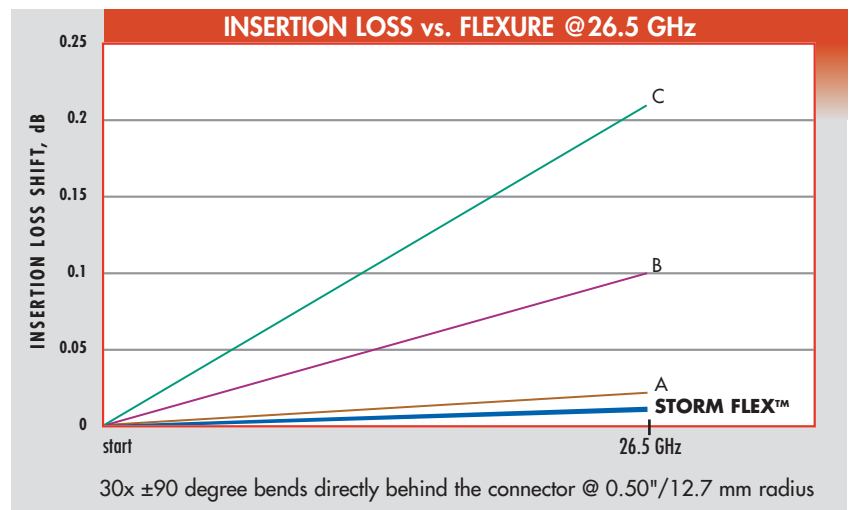
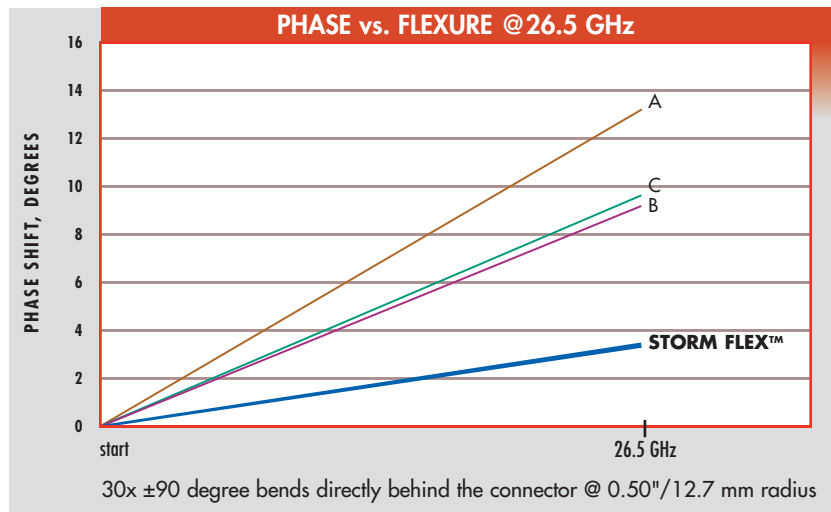
**BUILT FOR USE . . . BUILT TO LAST**

**THE FLEXIBILITY TO HANDLE TIGHT BENDS.  
DURABILITY YOU CAN RELY ON.  
PERFORMANCE TESTED.**

Built to be durable, Storm Flex™ products provide consistent performance with flexure...**out-performing leading competitors when put to the test.**



- STORM FLEX™
- Competitor A
- Competitor B
- Competitor C



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