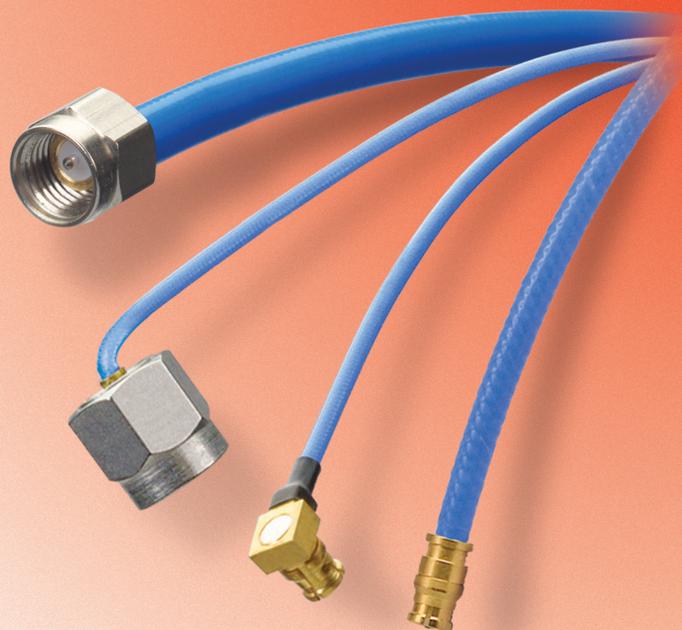


# STORM FLEX®

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"/4.06 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.

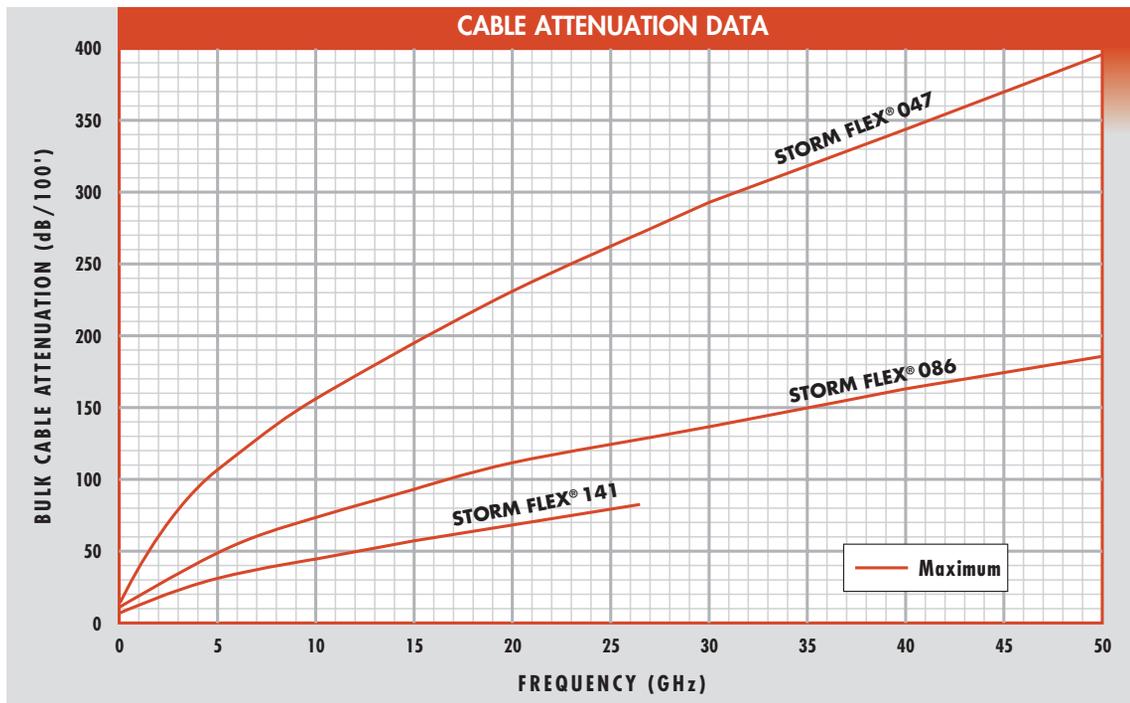
For applications requiring custom lengths or connector options, the **standard Storm Flex® 047, 086, & 141** lines can be **configured to meet your unique requirements.**



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electronic interconnect solutions*

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

**CABLE CONSTRUCTION**



**Storm Flex® 047**

- A** Solid silver-plated copper-clad steel center conductor
- B** Solid PTFE dielectric
- C** High coverage, silver-plated copper ribbon braid
- D** High coverage, silver-plated stainless-steel braid
- E** Extruded FEP jacket



**Storm Flex® 086 & 141**

- A** Solid silver-plated copper-clad steel center conductor
- B** Solid PTFE dielectric
- C** Helically wrapped silver-plated copper foil shield
- D** High coverage, silver-plated high strength alloy braid
- E** Extruded FEP jacket

| 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 @ 18 GHz (dB/ft)               | 1.94                       | 0.94                       | 0.60                       |
| Attenuation–Nominal @ 26.5 GHz (dB/ft)             | 2.42                       | 1.17                       | 0.76                       |
| Attenuation–Nominal @ 50 GHz (dB/ft)               | 3.52                       | 1.71                       | –                          |
| Shielding Effectiveness (dB, 0-18 GHz)*            | > 85                       | > 100                      | > 110                      |
| Phase Matching                                     | Available (except Express) | Available (except Express) | Available (except Express) |
| Minimum Centerline Bend Radius (in/mm), static     | 0.04/1.02                  | 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                 |
| Operating Temperature Range (°C)                   | –63 to +125                | –55 to +125                | –55 to +125                |

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

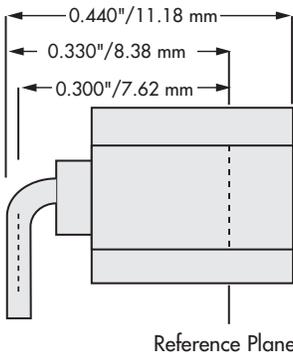
† 30 lb/13.61 kg straight and 20 lb/9.07 kg right angle pull strength can be achieved by using assembly p/n 910-0505. Consult Storm for details.

## Ultra Durability & Low Profiles Lower Costs

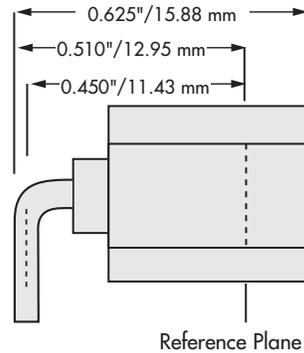
When lowering costs, saving space, or greater durability is needed, look to Storm Flex® assemblies. Due to the extremely strong construction, all Storm Flex® assemblies can withstand multiple flexures immediately behind the connectors without breaking or degrading. The benefit: fewer failures and reduced 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

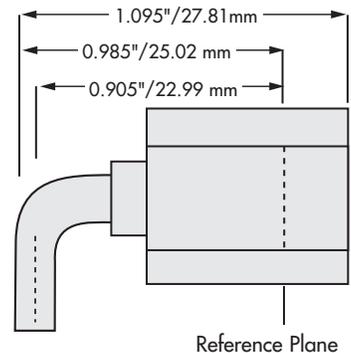
One of the lowest profiles available in the industry.



### 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)

\* Dimensions shown typical of 910-0202 configuration.

† Dimensions shown typical of 920-0202 configuration.

**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) |        |        |
| 900-0202-006          | 6.00/152.40                | 0.37                        | 0.83   | 1.16   |
| 900-0202-008          | 8.00/203.20                | 0.47                        | 1.07   | 1.48   |
| 900-0202-010          | 10.00/254.00               | 0.56                        | 1.30   | 1.80   |
| 900-0202-012          | 12.00/304.80               | 0.66                        | 1.53   | 2.13   |
| 900-0202-014          | 14.00/355.60               | 0.76                        | 1.76   | 2.45   |
| 900-0202-016          | 16.00/406.40               | 0.86                        | 1.99   | 2.77   |

**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                        | 0.35   | 0.50   |
| 910-0202-004.5        | 4.50/114.30                | 0.18                        | 0.38   | 0.54   |
| 910-0202-005          | 5.00/127.00                | 0.19                        | 0.41   | 0.58   |
| 910-0202-006          | 6.00/152.40                | 0.21                        | 0.47   | 0.66   |
| 910-0202-007          | 7.00/177.80                | 0.24                        | 0.52   | 0.74   |
| 910-0202-008          | 8.00/203.20                | 0.26                        | 0.58   | 0.81   |
| 910-0202-009          | 9.00/228.60                | 0.28                        | 0.63   | 0.89   |
| 910-0202-010          | 10.00/254.00               | 0.31                        | 0.69   | 0.97   |
| 910-0202-012          | 12.00/304.80               | 0.35                        | 0.80   | 1.13   |
| 910-0202-014          | 14.00/355.60               | 0.40                        | 0.91   | 1.28   |
| 910-0202-016          | 16.00/406.40               | 0.45                        | 1.02   | 1.44   |
| 910-0202-018          | 18.00/457.20               | 0.49                        | 1.14   | 1.59   |

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

\* Other connector styles available, including 2.9 mm & BNC; 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    |        |      |         |      |
|          | SMA SP†  |         | 0202   | 0204 | 0250    | 0205 |
| 18 GHz   | SMA SJ   |         | 0204   | 0404 | 0450    | 0405 |
|          | N SP     |         | 0250   | 0450 | 5050    | 0550 |
| 12 GHz   | SMA RAP  |         | 0205   | 0405 | 0550    | 0505 |

† Center conductor of cable used as contact.

For 26.5 GHz SMA SP connector with separate contact, use connector combination part numbers below:

|          | 26.5 GHz |      |
|----------|----------|------|
| 26.5 GHz | SMA SP   | 1212 |
| 18 GHz   | SMA SJ   | 0412 |
|          | N SP     | 1250 |
| 12 GHz   | SMA RAP  | 0512 |

\* Other connector styles available; consult Storm.

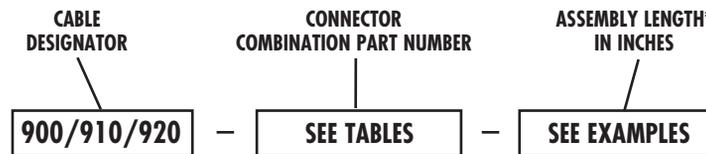
**When you need it NOW!** Storm Flex® 141 Express assemblies—in the lengths listed below and terminated with 18 GHz SMA male connectors—are available off-the-shelf using the listed part numbers.

**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) |        |        |
| 920-0202-006          | 6.00/152.40                | 0.16                        | 0.34   | 0.48   |
| 920-0202-010          | 10.00/254.00               | 0.21                        | 0.48   | 0.68   |
| 920-0202-012          | 12.00/304.80               | 0.24                        | 0.55   | 0.78   |
| 920-0202-014          | 14.00/355.60               | 0.27                        | 0.62   | 0.88   |
| 920-0202-016          | 16.00/406.40               | 0.30                        | 0.69   | 0.98   |
| 920-0202-018          | 18.00/457.20               | 0.33                        | 0.76   | 1.08   |
| 920-0202-024          | 24.00/609.60               | 0.41                        | 0.97   | 1.38   |
| 920-0202-036          | 36.00/914.40               | 0.58                        | 1.39   | 1.98   |
| 920-0202-048          | 48.00/1219.20              | 0.74                        | 1.81   | 2.58   |
| 920-0202-060          | 60.00/1524.00              | 0.91                        | 2.23   | 3.18   |
| 920-0202-072          | 72.00/1828.8               | 1.08                        | 2.64   | 3.78   |

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

■ **ORDERING INFORMATION: Part Number Designation**



Jacket option for Storm Flex® 086 only: To order polyurethane jacket in place of standard FEP, use Cable Designator 910P.

**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

910P-0404-024 = Polyurethane jacketed Storm Flex® 086, SMA SJ to SMA SJ (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

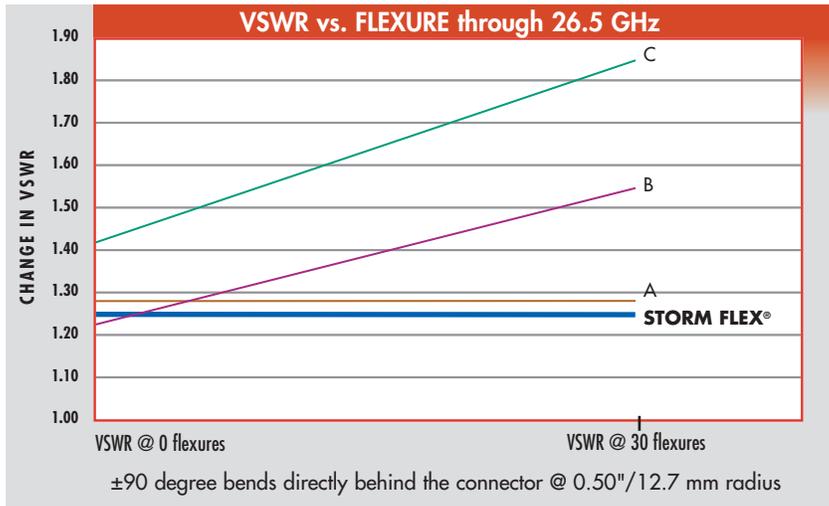
920-0412-014 = Storm Flex® 141, SMA SJ to SMA SP [with separate contact] (assembly operates to 18 GHz), 14 inches

\*Assembly length is measured from the end of straight connectors and from the centerline of right-angle connectors.

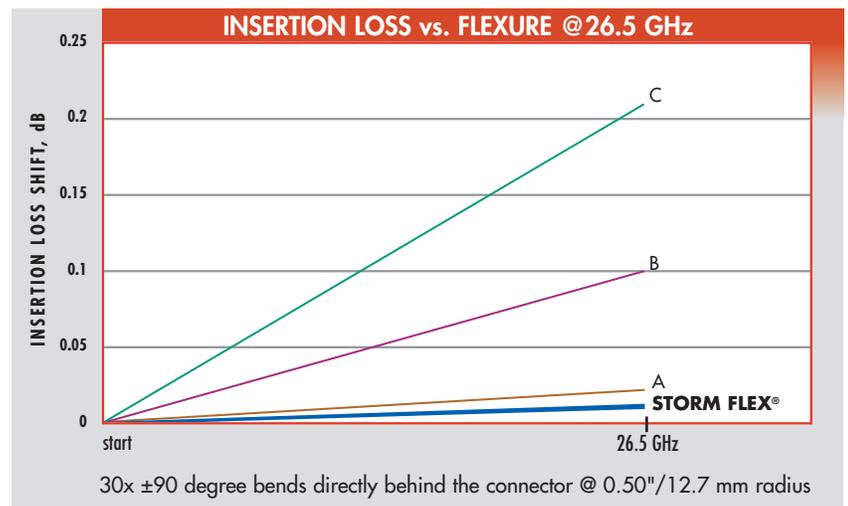
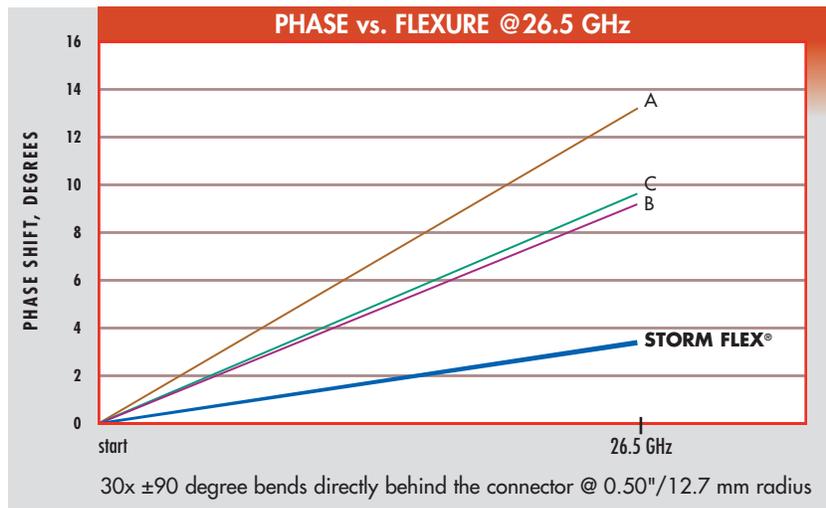
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**THE FLEXIBILITY TO HANDLE TIGHT BENDS.  
DURABILITY YOU CAN RELY ON.  
PERFORMANCE TESTED.**

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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AS9100/ISO 9001 REGISTERED

PR1-0028 Rev A

Test data based on Storm Flex® 086 cable.