

# InstaBend® 047

High Performance Microwave Assemblies



InstaBend® are flexible, coaxial microwave assemblies designed for interconnects between RF circuit cards, modules and enclosure panels. The cable can be bent very closely behind the connector, simplifying cable routing.

## Features:

- Sold as cable assemblies
- Low outgassing materials per ASTM E595
- Class 100,000 clean room manufacturing
- Vented connectors, if applicable
- Optimized for lowest attenuation
- Ultra stable performance with flexure
- Superior shielding effectiveness (>90 dB)
- Radiation Resistance: 30 MRads

## Specifications

**Ω** Impedance  
50 Ohms

**Op Temp**  
-85 to +257°F  
-65 to +125°C

Units

	Units	
Diameter	in (mm)	0.064 (1.63)
Weight	lb/ft (g/m)	0.004 (6)
Minimum Bend Radius	in (mm)	0.130 (3.30)
Maximum Frequency	GHz	50
Velocity of Propagation	%	70
Capacitance	pF/ft (pF/m)	29.9 (98.1)
Delay	ns/ft (ns/m)	1.45 (4.76)
Shielding	dB	>90

## Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length} + \text{Connector Loss}$$

Cable Insertion Loss  
f = Frequency (MHz)

Use K values with  
matching length unit

K values	dB/ft	dB/m
K1	0.01195	0.03920795
K2	0.000013	0.000042653

### CENTER CONDUCTOR

Silver Plated Copper  
Clad Steel

### DIELECTRIC

PTFE

### SHIELD

Silver Plated Copper  
Clad Steel

### OUTER BRAID

Silver Plated Copper  
Clad Steel

### JACKET

Blue FEP

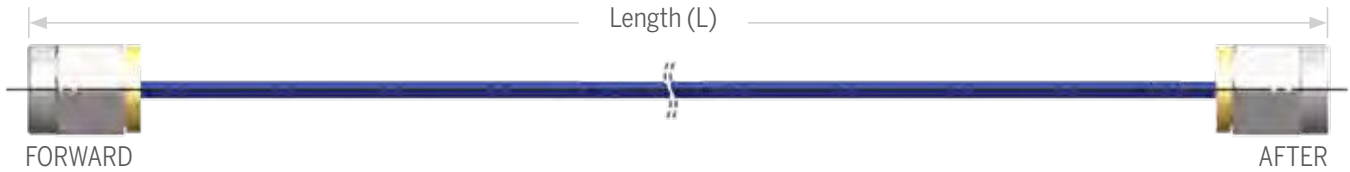
## Insertion loss & VSWR

Stock Code	Max. Insertion Loss in dB @ 40GHz	Max. VSWR @ 40GHz
IE-00414-01	1.53	1.40
IE-00414-02	2.07	1.40
IE-00414-03	2.60	1.40
IE-00414-04	3.13	1.40
IE-00414-05	3.67	1.40
	Max. Insertion Loss in dB @ 22GHz	Max. VSWR @ 22GHz
IE-00415-01	1.10	1.35
IE-00415-02	1.48	1.35
IE-00415-03	1.85	1.35
IE-00415-04	2.23	1.35
IE-00415-05	2.61	1.35

# InstaBend® 047

High Performance Microwave Assemblies

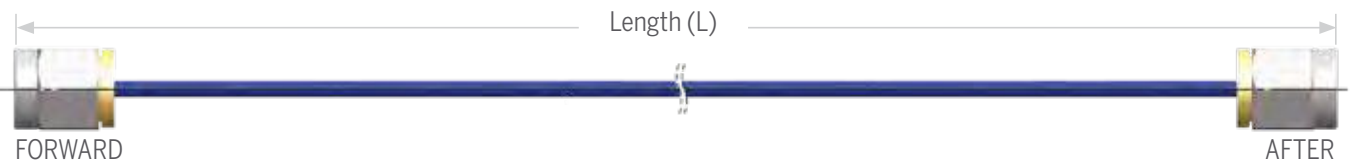
## Ordering Guide



**IBS047** - **SP121** **SP121** - **XX.X** **IN**  
 Forward Connector      After Connector      Length      Units of measure  
 IN - Inches

Stock Code	Part-Number	Length (L) in inch
IE-00414-01	IBS047-KMKM-4.0IN	4
IE-00414-02	IBS047-KMKM-6.0IN	6
IE-00414-03	IBS047-KMKM-8.0IN	8
IE-00414-04	IBS047-KMKM-10.0IN	10
IE-00414-05	IBS047-KMKM-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP121	Type K (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x v(f) (GHz)



**IBS047** - **SP112** **SP112** - **XX.X** **IN**  
 Forward Connector      After Connector      Length      Units of measure  
 IN - Inches

Stock Code	Part-Number	Length (L) in inch
IE-00415-01	IBS047-SMSM-4.0IN	4
IE-00415-02	IBS047-SMSM-6.0IN	6
IE-00415-03	IBS047-SMSM-8.0IN	8
IE-00415-04	IBS047-SMSM-10.0IN	100
IE-00415-05	IBS047-SMSM-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP112	Type SMA (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x v(f) (GHz)



Global manufacturing capability: US, and Asia.



Heritage—in the air and on the ground, thousands of assemblies built over decades.



Assembled and tested assemblies provide assured performance.

Rev.3: 3/27/2023