TIMES MICROWAVE SYSTEMS
AN AMPHENOL COMPANY

Commercial Space

APPLICATIONS

MaxGain®

InstaBend®

InstaBend®
PhaseStable

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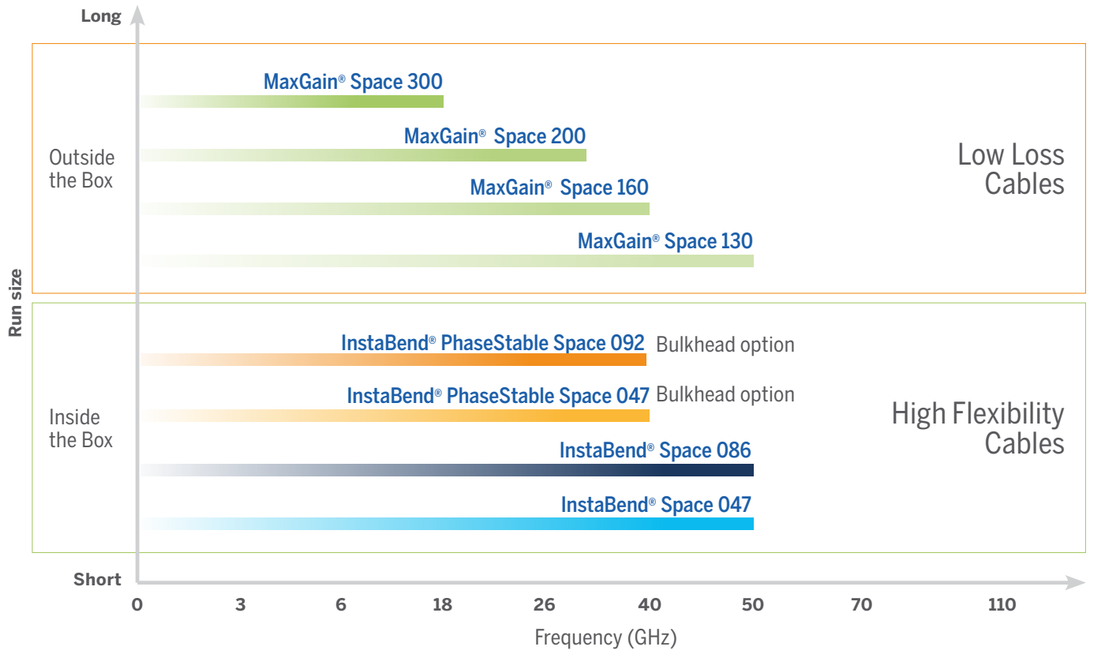
Space Assembly comparison chart

Space Assembly Type	Abbreviation	Max. Frequency	Connector
MaxGain® Space Assemblies	MGS-130	50	SP014
	MGS-160	40	SP029
			SP007
	MGS-200	30	SP013
			SP018
	MGS-300	18	SP052
InstaBend® Space Assemblies	IBS-047	50	SP121
			SP112
	IBS-086	50	SP120
			SP110
InstaBend® PhaseStable Space Assemblies	IBPS-047	40	SP107
			SP133
			SP149
	IBPS-092	40	SP116
			SP129
			SP150

Cable Assembly Guide

Selecting the correct assembly for the right application is not always an easy task. Below are some considerations when selecting RF assemblies for space environments.



- Radiation environment: 30 Mrads
- Temperature Range: -90C+150C
- Clean Room manufacturing
- CofC
- T-VAC compatible
- Low outgassing per ASTM E595: TML ≤1% and CVCM ≤0.01%
- 100% visual inspection
- Baseline electricals performance (IL, VSWR)
- Space heritage available on request

Rev.3: 3/21/2023

Commercial Space Line

MaxGain® Space 130

High Performance Microwave Cable Assemblies

MaxGain® Assemblies are high-performance, ultra-low-loss microwave coaxial cables. Built with our unique spiral outer conductor technology, this light-weight cable is a reliable, high frequency interconnect solution.

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 -67 to +302°F -55 to +150°C

	Units	
Diameter	in (mm)	0.130 (3.30)
Weight	lb/ft (g/m)	0.018 (27)
Minimum Bend Radius	in (mm)	0.625 (16)
Maximum Frequency	GHz	53
Velocity of Propagation	%	80
Capacitance	pF/ft (pF/m)	25.4 (83.3)
Delay	ns/ft (ns/m)	1.27 (4.17)
Shielding	dB	>90

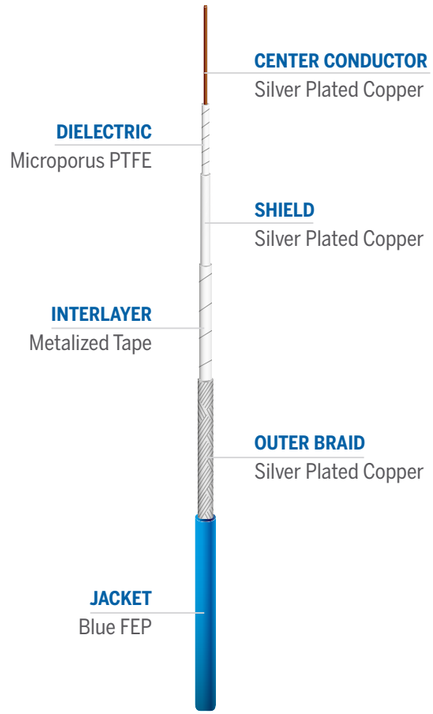
Calculation

IL = (K1 x √(f) + K2 x f) x Cable Length + Connector Loss

Cable Insertion Loss
f = Frequency (MHz)

Use **K** values with matching length unit

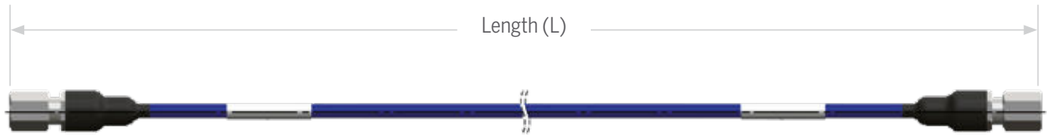
K values	dB/ft	dB/m
K1	0.437597	1.435756
K2	0.000146	0.000479



Insertion loss & VSWR @ 50GHz

Stock Code	Max. Insertion Loss in dB	Max. VSWR
IE-00406-01	1.87	1.40
IE-00406-02	2.64	1.40
IE-00406-03	4.62	1.40
IE-00406-04	6.60	1.40

Ordering Guide



MGS130 -SPO14 SPO14- XX.X MM

- -SPO14: Connector A
- SPO14-: Connector B
- XX.X: Length
- MM: Units of measure MM - Milimeters

Stock Code	Part-Number	Length (L) in mm
IE-00406-01	MGS130-2.4M2.4M-0.3M	300
IE-00406-02	MGS130-2.4M2.4M-0.5M	500
IE-00406-03	MGS130-2.4M2.4M-1.0M	1000
IE-00406-04	MGS130-2.4M2.4M-1.5M	1500

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SPO14	Type 2.4mm (M) Straight	Stainless Steel, Passivated	Beryllium Copper, Gold Plated	0.08 x √f (GHz)

Rev.3: 3/21/2023

Commercial Space Line

MaxGain® Space 160

High Performance Microwave Cable Assemblies

TIMES MICROWAVE SYSTEMS
AN AMPHENOL COMPANY

MaxGain® Assemblies are high-performance, ultra-low-loss microwave coaxial cables. Built with our unique spiral outer conductor technology, this light-weight cable is a reliable, high frequency interconnect solution.

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

Impedance 50 Ohms

Op Temp -67 to +302°F -55 to +150°C

	Units	
Diameter	in (mm)	0.160 (4.04)
Weight	lb/ft (g/m)	0.026 (38)
Minimum Bend Radius	in (mm)	0.750 (19.0)
Maximum Frequency	GHz	40
Velocity of Propagation	%	80
Capacitance	pF/ft (pF/m)	25.4 (83.3)
Delay	ns/ft (ns/m)	1.27 (4.17)
Shielding	dB	>90

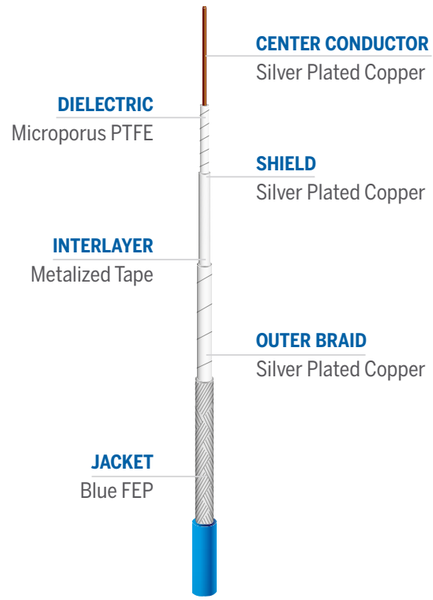
Calculation

IL = (K1 x √(f) + K2 x f) x Cable Length + Connector Loss

Cable Insertion Loss
f = Frequency (MHz)

Use K values with matching length unit

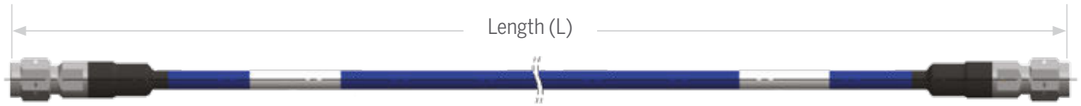
K values	dB/ft	dB/m
K1	0.368	1.136243
K2	0.000146	0.000479



Insertion loss & VSWR

Stock Code	Max. Insertion Loss in dB @ 40GHz	Max. VSWR @ 40GHz
IE-00407-01	1.98	1.40
IE-00407-02	3.41	1.40
IE-00407-03	4.81	1.40
IE-00407-04	6.27	1.40
	Max. Insertion Loss in dB @ 22GHz	Max. VSWR @ 22GHz
IE-00408-01	1.43	1.35
IE-00408-02	2.53	1.35
IE-00408-03	3.52	1.35
IE-00408-04	4.51	1.35

Ordering Guide

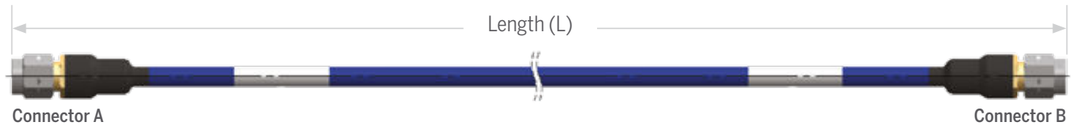


MGS160 -SPO29 SPO29- XX.X MM

- -SPO29: Connector A
- SPO29-: Connector B
- XX.X: Length
- MM: Units of measure MM - Milimeters

Stock Code	Part-Number	Length (L) in mm
IE-00407-01	MGS160-KMKM-0.5M	500
IE-00407-02	MGS160-KMKM-1.0M	1000
IE-00407-03	MGS160-KMKM-1.5M	1500
IE-00407-04	MGS160-KMKM-2.0M	2000

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SPO29	Type 2.92mm (M) Straight	Stainless Steel, Passivated	Beryllium Copper, Gold Plated	0.08 x √f (GHz)



MGS160 -SPO07 SPO07- XX.X MM

- -SPO07: Connector A
- SPO07-: Connector B
- XX.X: Length
- MM: Units of measure MM - Milimeters

Stock Code	Part-Number	Length (L) in mm
IE-00408-01	MGS160-SMSM-0.5M	500
IE-00408-02	MGS160-SMSM-1.0M	1000
IE-00408-03	MGS160-SMSM-1.5M	1500
IE-00408-04	MGS160-SMSM-2.0M	2000

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SPO07	Type SMA (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.08 x √f (GHz)

Rev.3: 3/21/2023

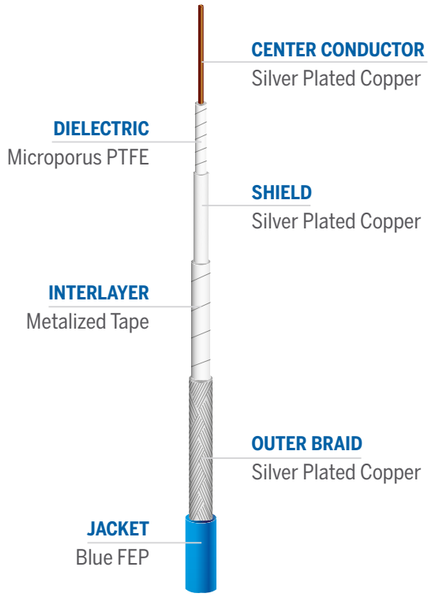
Commercial Space Line

MaxGain® Space 200

High Performance Microwave Cable Assemblies

TIMES MICROWAVE SYSTEMS
AN AMPHENOL COMPANY

MaxGain® Assemblies are high-performance, ultra-low-loss microwave coaxial cables. Built with our unique spiral outer conductor technology, this light-weight cable is a reliable, high frequency interconnect solution.



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

Impedance 50 Ohms | Op Temp -67 to +302°F -55 to +150°C

	Units	
Diameter	in (mm)	0.201 (5.10)
Weight	lb/ft (g/m)	0.037 (55)
Minimum Bend Radius	in (mm)	1.25 (31.8)
Maximum Frequency	GHz	30
Velocity of Propagation	%	80
Capacitance	pF/ft (pF/m)	25.40 (83.3)
Delay	ns/ft (ns/m)	1.27 (4.17)
Shielding	dB	>90

Calculation

IL = (K1 x √(f) + K2 x f) x Cable Length + Connector Loss

Cable Insertion Loss
f = Frequency (MHz)

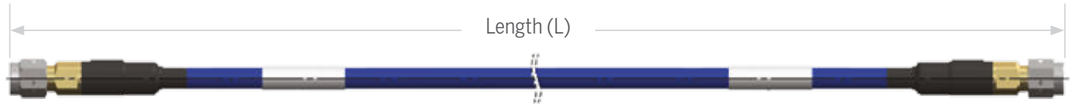
Use K values with matching length unit

K values	dB/ft	dB/m
K1	0.2461	0.807454
K2	0.000139	0.000456

Insertion loss & VSWR

Stock Code	Max. Insertion Loss in dB @ 30GHz	Max. VSWR @ 30GHz
IE-00409-01	1.43	1.35
IE-00409-02	2.31	1.35
IE-00409-03	4.07	1.35
IE-00409-04	4.95	1.35
	Max. Insertion Loss in dB @ 22GHz	Max. VSWR @ 22GHz
IE-00410-01	1.03	1.35
IE-00410-02	1.76	1.35
IE-00410-03	3.21	1.35
IE-00410-04	3.94	1.35

Ordering Guide

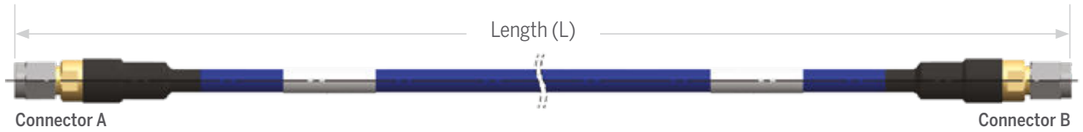


MGS200 -SP013 SP013- XX.X MM

- -SP013: Connector A
- SP013-: Connector B
- XX.X: Length
- MM: Units of measure MM - Milimeters

Stock Code	Part-Number	Length (L) in mm
IE-00409-01	MGS200-KMKM-0.5M	500
IE-00409-02	MGS200-KMKM-1.0M	1000
IE-00409-03	MGS200-KMKM-2.0M	2000
IE-00409-04	MGS200-KMKM-2.5M	2500

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP013	Type K (M) Straight	Stainless Steel, Passivated	Beryllium Copper, Gold Plated	0.06 x √f (GHz)



MGS200 -SP018 SP018- XX.X MM

- -SP018: Connector A
- SP018-: Connector B
- XX.X: Length
- MM: Units of measure MM - Milimeters

Stock Code	Part-Number	Length (L) in mm
IE-00410-01	MGS200-SMSM-0.5M	500
IE-00410-02	MGS200-SMSM-1.0M	1000
IE-00410-03	MGS200-SMSM-2.0M	2000
IE-00410-04	MGS200-SMSM-2.5M	2500

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP018	Type SMA (M) Straight	Stainless Steel, Passivated	Beryllium Copper, Gold Plated	0.06 x √f (GHz)

Rev.3: 3/21/2023

Commercial Space Line

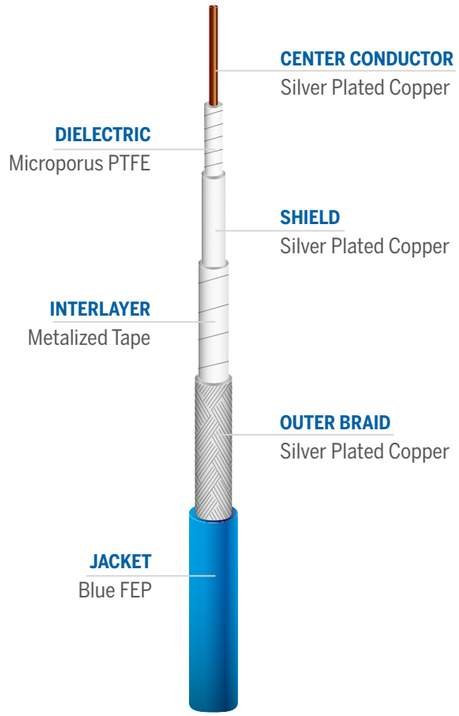
MaxGain® Space 300

High Performance Microwave Cable Assemblies

MaxGain® Assemblies are high-performance, ultra-low-loss microwave coaxial cables. Built with our unique spiral outer conductor technology, this light-weight cable is a reliable, high frequency interconnect solution.

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 -67 to +302°F -55 to +150°C

	Units	
Diameter	in (mm)	0.314 (7.98)
Weight	lb/ft (g/m)	0.093 (138)
Minimum Bend Radius	in (mm)	1.750 (44.45)
Maximum Frequency	GHz	18.0
Velocity of Propagation	%	81
Capacitance	pF/ft (pF/m)	24.8 (81.2)
Delay	ns/ft (ns/m)	1.25 (4.10)
Shielding	dB	>90

Calculation

IL = (K1 x √(f) + K2 x f) x Cable Length + Connector Loss

Cable Insertion Loss
f = Frequency (MHz)

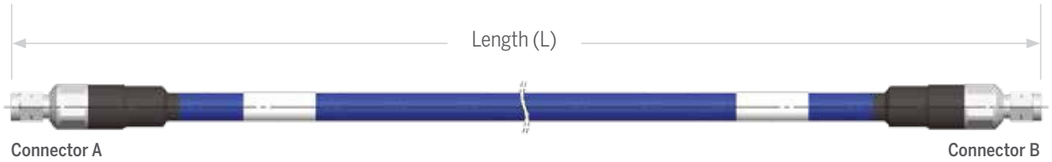
Use K values with matching length unit

K values	dB/ft	dB/m
K1	0.1413	0.463605
K2	0.000102	0.000335

Insertion loss & VSWR @ 18GHz

Stock Code	Max. Insertion Loss in dB	Max. VSWR
IE-00411-01	1.21	1.25
IE-00411-02	2.09	1.25
IE-00411-03	2.64	1.25
IE-00411-04	2.86	1.25

Ordering Guide



MGS300 -SPO52 SPO52- XX.X MM

- SPO52 — Connector A
- SPO52 — Connector B
- XX.X — Length
- MM — Units of measure, MM - Milimeters

Stock Code	Part-Number	Length (L) in mm
IE-00411-01	MGS300-SMSM-1.0M	1000
IE-00411-02	MGS300-SMSM-2.0M	2000
IE-00411-03	MGS300-SMSM-2.5M	2500
IE-00411-04	MGS300-SMSM-3.0M	3000

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SPO52	Type SMA (M) Straight	Stainless Steel, Passivated	Beryllium Copper, Gold Plated	0.06 x √f (GHz)

Rev.3: 3/21/2023

Commercial Space Line

InstaBend® Space 047

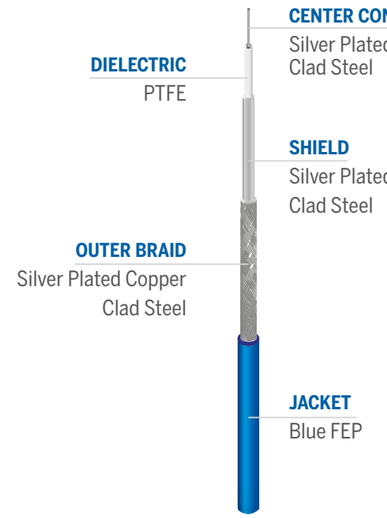
High Performance Microwave Assemblies

TIMES MICROWAVE SYSTEMS
AN AMPHENOL COMPANY

InstaBend® are flexible, coaxial microwave assemblies designed for interconnects between RF circuit cards, modules and enclosure panels. The cable can be formed 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

Impedance 50 Ohms

Op Temp -85 to +257°F -65 to +125°C

	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 x √(f) + K2 x f) x Cable Length + Connector Loss

Cable Insertion Loss
f = Frequency (MHz)

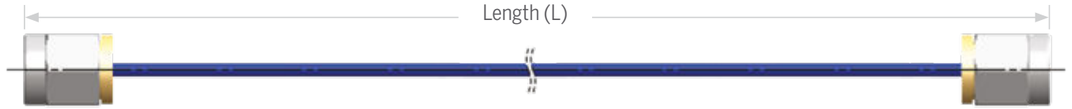
Use K values with matching length unit

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

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

Ordering Guide

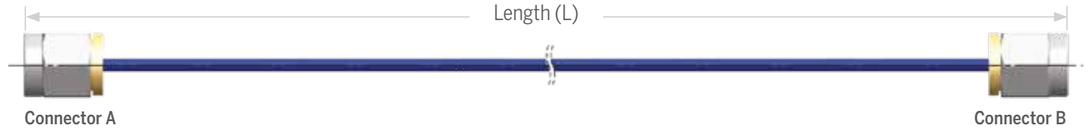


IBS047 -SP121 SP121- XX.X IN

- -SP121: Connector A
- SP121-: Connector B
- XX.X: Length
- IN: Units of measure IN - Inchs

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 √(f) (GHz)



IBS047 -SP112 SP112- XX.X IN

- -SP112: Connector A
- SP112-: Connector B
- XX.X: Length
- IN: Units of measure IN - Inchs

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	10
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 √f (GHz)

Rev.3: 3/21/2023

Commercial Space Line

InstaBend® Space 086

High Performance Microwave Assemblies

TIMES MICROWAVE SYSTEMS
AN AMPHENOL COMPANY

InstaBend® are flexible, coaxial microwave assemblies designed for interconnects between RF circuit cards, modules and enclosure panels. The cable can be formed 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
- 90º torque resistance

Specifications

Impedance 50 Ohms | Op Temp -85 to 257°F -65 to 125°C

	Units	
Diameter	in (mm)	0.108 (2.74)
Weight	lb/ft (g/m)	0.013 (19)
Minimum Bend Radius	in (mm)	0.25 (6.35)
Maximum Frequency	GHz	50
Velocity of Propagation	%	70
Capacitance	pF/ft (pF/m)	29 (95.1)
Delay	ns/ft (ns/m)	1.45 (4.76)
Sheilding	dB	>90

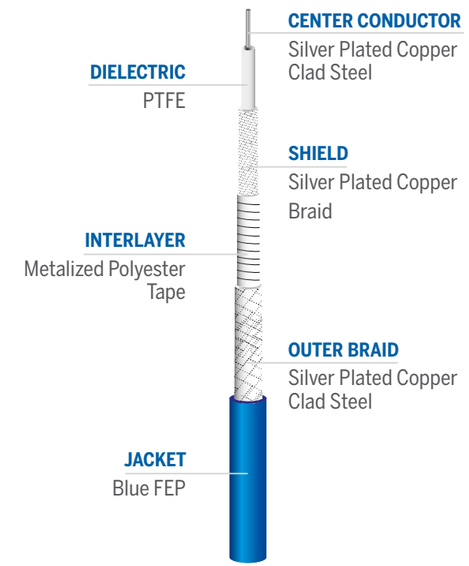
Calculation

IL = (K1 x √(f) + K2 x f) x Cable Length + Connector Loss

Cable Insertion Loss
f = Frequency (MHz)

Use K values with matching length unit

K values	dB/ft	dB/m
K1	0.006446	0.021148
K2	0.000013	0.000043



Insertion loss & VSWR

Stock Code	Max. Insertion Loss in dB @ 40GHz	Max. VSWR @ 40GHz
IE-00412-01	1.45	1.40
IE-00412-02	1.78	1.40
IE-00412-03	2.11	1.40
IE-00412-04	2.45	1.40
	Max. Insertion Loss in dB @ 22GHz	Max. VSWR @ 22GHz
IE-00413-01	1.02	1.35
IE-00413-02	1.24	1.35
IE-00413-03	1.47	1.35
IE-00413-04	1.71	1.35

Ordering Guide

IBS086 -SP120 SP120- XX.X IN

-SP120: Connector A
SP120-: Connector B
XX.X: Length
IN: Units of measure IN - Inchs

Stock Code	Part-Number	Length (L) in inch
IE-00412-01	IBS086-KMKM-6.0IN	6
IE-00412-02	IBS086-KMKM-8.0IN	8
IE-00412-03	IBS086-KMKM-10.0IN	10
IE-00412-04	IBS086-KMKM-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP120	Type 2.92mm (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x √(f) (GHz)

IBS086 -SP110 SP110- XX.X IN

-SP110: Connector A
SP110-: Connector B
XX.X: Length
IN: Units of measure IN - Inchs

Stock Code	Part-Number	Length (L) in inch
E-00413-01	IBS086-SMSM-6.0IN	6
IE-00413-02	IBS086-SMSM-8.0IN	8
IE-00413-03	IBS086-SMSM-10.0IN	10
IE-00413-04	IBS086-SMSM-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP110	Type SMA (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x √f (GHz)

Rev.3: 3/21/2023

Commercial Space Line

InstaBend® PhaseStable 047

TIMES MICROWAVE SYSTEMS
AN AMPHENOL COMPANY

IBPS-047 is a low-loss, highly flexible, foam-core micro coaxial cable. Originally designed for space satellite programs, this high-performance cable has many applications across multiple markets. It has a broad frequency range and strong durability making it ideal for medical, test equipment, and many other RF applications.

CENTER CONDUCTOR
Silver Plated Copper Clad Steel

DIELECTRIC
TF4® Dielectric

SHIELD
Silver Plated Copper Flat Braid

OUTER BRAID
Silver Plated Copper

JACKET
Blue FEP

Features

- Phase stable performance over temperature
- 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 -65 to 150°C

	Units	
Diameter	in (mm)	0.062 (1.58)
Weight	lb/ft (g/m)	0.031 (46)
Minimum Bend Radius	in (mm)	0.25 (6.5)
Maximum Frequency	GHz	40
Velocity of Propagation	%	76
Capacitance	pF/ft (pF/m)	26.7 (87.6)
Delay	ns/ft (ns/m)	1.25 (4.10)
Sheilding	dB	>80

Calculation

IL = (K1 x √(f) + K2 x f) x Cable Length + Connector Loss

Cable Insertion Loss
f = Frequency (MHz)

Use K values with matching length unit

K values	dB/ft	dB/m
K1	0.01176752	0.03860924
K2	0.00000775	0.00002543

Insertion loss & VSWR

Stock Code	Max. Insertion Loss in dB @ 40GHz	Max. VSWR @ 40GHz
IE-00419-01	1.45	1.40
IE-00419-02	1.94	1.40
IE-00419-03	2.43	1.40
IE-00419-04	2.92	1.40
IE-00419-05	3.43	1.40
	Max. Insertion Loss in dB @ 40GHz	Max. VSWR @ 40GHz
IE-00420-01	1.45	1.40
IE-00420-02	1.94	1.40
IE-00420-03	2.43	1.40
IE-00420-04	2.92	1.40
IE-00420-05	3.43	1.40
	Max. Insertion Loss in dB @ 27GHz	Max. VSWR @ 27GHz
IE-00421-01	1.17	1.35
IE-00421-02	1.56	1.35
IE-00421-03	1.96	1.35
IE-00421-04	2.35	1.35
IE-00421-05	2.76	1.35

Ordering Guide

IBPS047 -SP107 SP107- XX.X IN

Connector A | Connector B | Length | Units of measure: IN - Inchs

Stock Code	Part-Number	Length (L) in inch
IE-00419-01	IBPS047-KMKM-4.0IN	4
IE-00419-02	IBPS047-KMKM-6.0IN	6
IE-00419-03	IBPS047-KMKM-8.0IN	8
IE-00419-04	IBPS047-KMKM-10.0IN	10
IE-00419-05	IBPS047-KMKM-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP107	Type K (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x √(f) (GHz)

IBPS047 -SP107 SP133- XX.X IN

Connector A | Connector B | Length | Units of measure: IN - Inchs

Stock Code	Part-Number	Length (L) in inch
IE-00420-01	IBPS047-KMKF-4.0IN	4
IE-00420-02	IBPS047-KMKF-6.0IN	6
IE-00420-03	IBPS047-KMKF-8.0IN	8
IE-00420-04	IBPS047-KMKF-10.0IN	10
IE-00420-05	IBPS047-KMKF-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP133	Type K (F) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x √(f) (GHz)

IBPS047 -SP149 SP149- XX.X IN

Connector A | Connector B | Length | Units of measure: IN - Inchs

Stock Code	Part-Number	Length (L) in inch
IE-00421-01	IBPS047-SMSM-4.0IN	4
IE-00421-02	IBPS047-SMSM-6.0IN	6
IE-00421-03	IBPS047-SMSM-8.0IN	8
IE-00421-04	IBPS047-SMSM-10.0IN	10
IE-00421-05	IBPS047-SMSM-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP149	Type SMA (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x √f (GHz)

Rev.3: 3/21/2023

Commercial Space Line

InstaBend® PhaseStable 092

TIMES MICROWAVE SYSTEMS
AN AMPHENOL COMPANY

InstaBend® PhaseStable 092 is an Ultra-Flexible phase-stable coax assembly featuring a proprietary fluorocarbon dielectric, TF4®, eliminating the PTFE change phase occurring around 19 ºC. PhaseTrack assemblies have the same triple-shield construction used in our popular SF®, SFT®, SilverLine®, and MilTech® cables and are ideal for applications demanding stable electrical performance over temperature.

CENTER CONDUCTOR
Silver Plated Copper Clad Steel

DIELECTRIC
TF4® Dielectric

SHIELD
Silver Plated Copper

INTERLAYER
Metalized Polyimide Tape

OUTER BRAID
Silver Plated Metal Clad Fiber

JACKET
Black Tefzel

Features:

- Phase stable performance over temperature
- Sold as cable assemblies
- Low outgassing materials per ASTM E595
- Class 100,000 clean room manufacturing
- Vented connectors, if applicable
- Radiation Resistance: 100 MRads

Specifications

Impedance 50 Ohms | Op Temp -65 to 150°C

	Units	
Diameter	in (mm)	0.103 (2.61)
Weight	lb/ft (g/m)	0.0113 (17)
Minimum Bend Radius	in (mm)	0.5 (12.7)
Maximum Frequency	GHz	40
Velocity of Propagation	%	79.5
Capacitance	pF/ft (pF/m)	25.4
Delay	ns/ft (ns/m)	1.24 (4.07)
Sheilding	dB	-90

Calculation

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

Cable Insertion Loss
f = Frequency (MHz)

Use K values with matching length unit

K values	dB/ft	dB/m
K1	0.006575	0.021573
K2	0.000009607	0.000031521

Insertion loss & VSWR

Stock Code	Max. Insertion Loss in dB @ 40GHz	Max. VSWR @ 40GHz
IE-00416-01	1.06	1.35
IE-00416-02	1.29	1.35
IE-00416-03	1.53	1.35
IE-00416-04	1.76	1.35
	Max. Insertion Loss in dB @ 27GHz	**Max. VSWR @ 27GHz**
IE-00417-01	0.83	1.50
IE-00417-02	1.06	1.50
IE-00417-03	1.29	1.50
IE-00417-04	1.53	1.50
IE-00417-05	1.76	1.50
	Max. Insertion Loss in dB @ 27GHz	**Max. VSWR @ 27GHz**
IE-00418-01	1.06	1.35
IE-00418-02	1.29	1.35
IE-00418-03	1.53	1.35
IE-00418-04	1.76	1.35

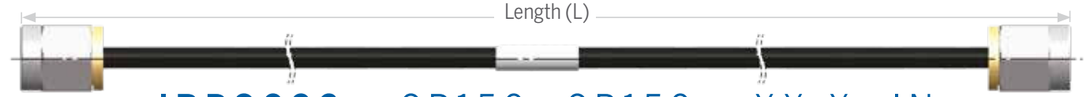
Ordering Guide

Stock Code	Part-Number	Length (L) in inch
IE-00416-01	IBPS092-KMKM-6.0IN	6
IE-00416-02	IBPS092-KMKM-8.0IN	8
IE-00416-03	IBPS092-KMKM-10.0IN	12
IE-00416-04	IBPS092-KMKM-12.0IN	10

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP116	Type K (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x √(f) (GHz)

Stock Code	Part-Number	Length (L) in inch
IE-00417-01	IBPS092-MSMPFMSMPF-4.0IN	4
IE-00417-02	IBPS092-MSMPFMSMPF-6.0IN	6
IE-00417-03	IBPS092-MSMPFMSMPF-8.0IN	8
IE-00417-04	IBPS092-MSMPFMSMPF-10.0IN	10
IE-00417-05	IBPS092-MSMPFMSMPF-12.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP129	Type Mini SMP (F) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x √(f) (GHz)



Stock Code	Part-Number	Length (L) in inch
IE-00418-01	IBPS092-SMSM-6.0IN	6
IE-00418-02	IBPS092-SMSM-8.0IN	8
IE-00418-03	IBPS092-SMSM-10.0IN	10
IE-00418-04	IBPS092-SMSM-10.0IN	12

Connector Code	Description	Connector Body	Center Contact	Connector Loss (per pair)
SP150	Type SMA (M) Straight	Stainless Steel, Gold Plated	Beryllium Copper, Gold Plated	0.06 x √f (GHz)

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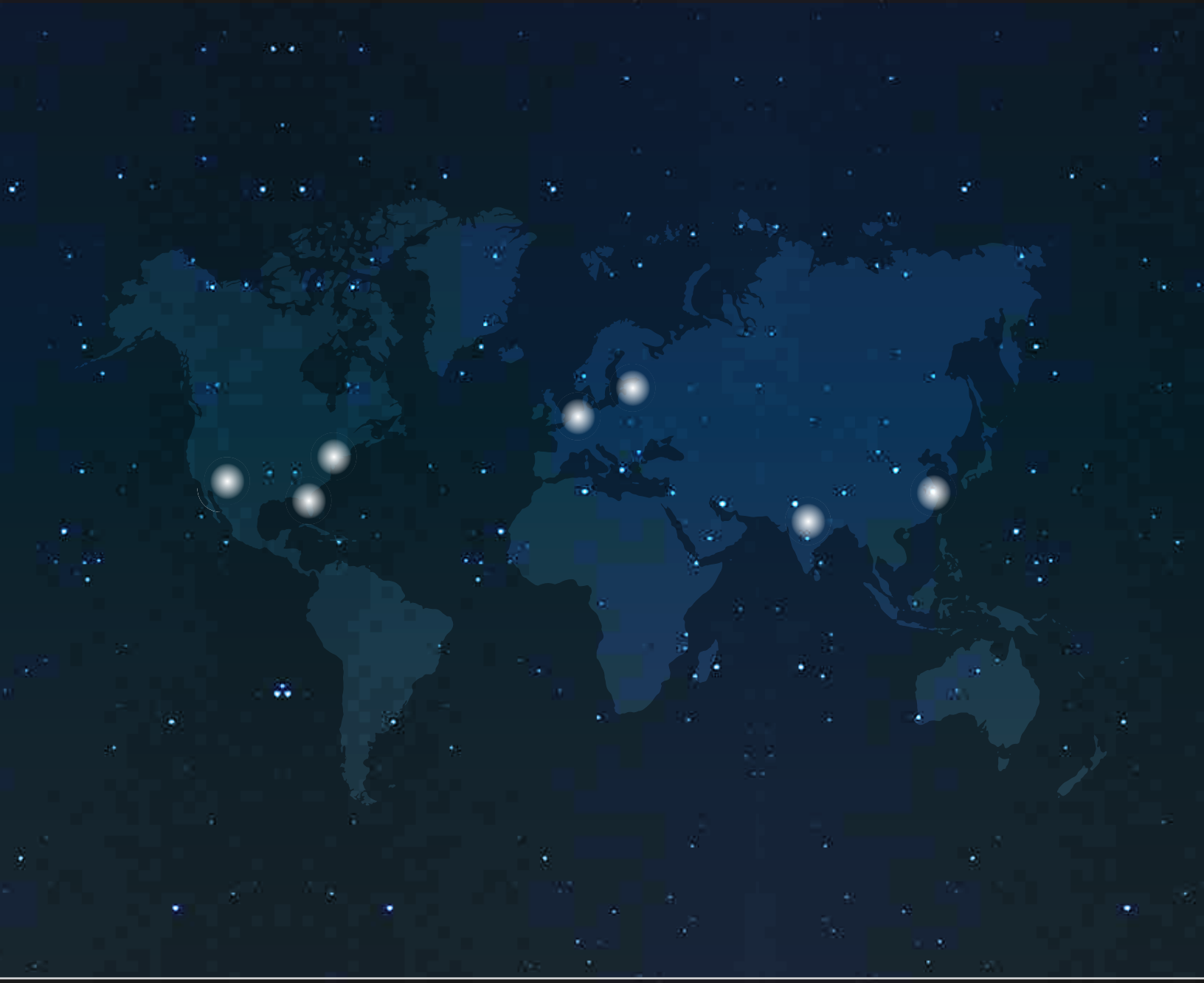

TIMES
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AN AMPHENOL COMPANY

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