

High Performance Cable Assemblies

Johnson offers microwave and millimeter wave frequency cable assemblies which offer superior mechanical and electrical performance, excellent return loss and phase stability. They are designed using low-loss, ultra low-loss flexible and semi-rigid cable types.

Cable assemblies are available in straight and right-angle configurations in the following families: 2.92 mm, 2.4 mm, 1.85 mm and SMPM, SMP, and SMAs. Johnson prides itself on building standard and custom products to meet our customers requirements.

Features

- Excellent operating performance up to 67 GHz
- VSWR range from 1.30 to 1.50
- Vp, Velocity of Propagation from 74% to 76%

Applications

- Test and Measurement
- Wireless and Radar Systems
- Satellite and Defense systems
- Networking Equipment



1.85 mm Straight Plug to 1.85 mm Straight Plug (67 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	Insertion Loss (Max dB)		VSWR (Max)
						20 GHz	67 GHz	67 GHz
415-0537-MM100	-	100 mm	Flexible	0.096 in	+4 mm / -0.0 mm	<-0.7 dB	<-1.2 dB	1.30
415-0537-006	6 in	-	Flexible	0.096 in	+0.157 in / -0.0 in	<-0.8 dB	<-1.5 dB	1.30
415-0537-MM200	-	200 mm	Flexible	0.096 in	+5 mm / -0.0 mm	<-1.1 dB	<-1.9 dB	1.30
415-0537-012	12 in	-	Flexible	0.096 in	+0.196 in / -0.0 in	<-1.5 dB	<-2.4 dB	1.30
415-0537-018	18 in	-	Flexible	0.096 in	+0.314 in / -0.0 in	<-2.1 dB	<-3.3 dB	1.30
415-0537-MM500	-	500 mm	Flexible	0.096 in	+10 mm / -0.0 mm	<-2.3 dB	<-3.6 dB	1.30
415-0537-024	24 in	-	Flexible	0.096 in	+0.393 in / -0.0 in	<-2.8 dB	<-4.0 dB	1.30
415-0537-036	36 in	-	Flexible	0.096 in	+0.590 in / -0.0 in	<-3.5 dB	<-6.1 dB	1.30
415-0537-M1.0	-	1000 mm	Flexible	0.096 in	+15 mm / -0.0 mm	<-3.7 dB	<-6.6 dB	1.30

High Performance Cable Assemblies

Flexible

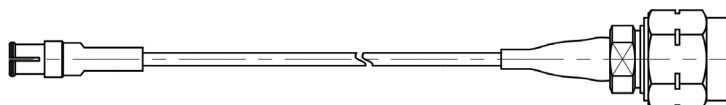


2.4 mm Straight Plug to 2.4 mm Straight Plug (50 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	Insertion Loss (Max dB)		VSWR (Max)
						20 GHz	50 GHz	50 GHz
415-0536-MM100	-	100 mm	Flexible	0.096 in	+4 mm / -0.0 mm	<-0.6 dB	<-1.0 dB	1.30
415-0536-006	6 in	-	Flexible	0.096 in	+0.157 in / -0.0 in	<-0.7 dB	<-1.2 dB	1.30
415-0536-MM200	-	200 mm	Flexible	0.096 in	+5 mm / -0.0 mm	<-1.0 dB	<-1.6 dB	1.30
415-0536-012	12 in	-	Flexible	0.096 in	+0.196 in / -0.0 in	<-1.4 dB	<-2.0 dB	1.30
415-0536-018	18 in	-	Flexible	0.096 in	+0.314 in / -0.0 in	<-2.0 dB	<-2.7 dB	1.30
415-0536-MM500	-	500 mm	Flexible	0.096 in	+10 mm / -0.0 mm	<-2.2 dB	<-3.1 dB	1.30
415-0536-024	24 in	-	Flexible	0.096 in	+0.393 in / -0.0 in	<-2.7 dB	<-3.5 dB	1.30
415-0536-036	36 in	-	Flexible	0.096 in	+0.590 in / -0.0 in	<-3.3 dB	<-5.0 dB	1.30
415-0536-M1.0	-	1000 mm	Flexible	0.096 in	+15 mm / -0.0 mm	<-3.6 dB	<-5.5 dB	1.30

SMP Straight Female to 2.4 mm Straight Plug (40 GHz)



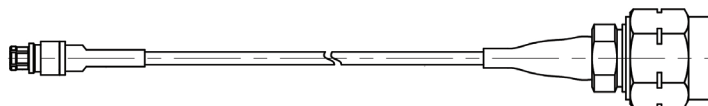
Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	Insertion Loss (Max dB)		VSWR (Max)
						40 GHz	40 GHz	40 GHz
415-0543-MM100	-	100 mm	Flexible	0.047 in	+4 mm / -0.0 mm	<-2.3 dB		1.33
415-0543-006	6 in	-	Flexible	0.047 in	+0.157 in / -0.0 in	<-2.5 dB		1.33
415-0543-MM200	-	200 mm	Flexible	0.047 in	+5 mm / -0.0 mm	<-3.4 dB		1.33
415-0543-012	12 in	-	Flexible	0.047 in	+0.196 in / -0.0 in	<-4.1 dB		1.33
415-0543-018	18 in	-	Flexible	0.047 in	+0.314 in / -0.0 in	<-5.8 dB		1.33
415-0543-MM500	-	500 mm	Flexible	0.047 in	+10 mm / -0.0 mm	<-6.5 dB		1.33
415-0543-024	24 in	-	Flexible	0.047 in	+0.393 in / -0.0 in	<-7.3 dB		1.33
415-0543-036	36 in	-	Flexible	0.047 in	+0.590 in / -0.0 in	<-10.6 dB		1.33
415-0543-M1.0	-	1000 mm	Flexible	0.047 in	+15 mm / -0.0 mm	<-11.2 dB		1.33

High Performance Cable Assemblies

Flexible



SMPM Straight Female to 2.4 mm Straight Plug (50 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	Insertion Loss (Max dB) 50 GHz		VSWR (Max) 50 GHz
415-0545-MM100	-	100 mm	Flexible	0.047 in	+4 mm / -0.0 mm	<-2.4dB		1.5
415-0545-006	6 in	-	Flexible	0.047 in	+0.157 in / -0.0 in	<-2.6dB		1.5
415-0545-MM200	-	200 mm	Flexible	0.047 in	+5 mm / -0.0 mm	<-3.5dB		1.5
415-0545-012	12 in	-	Flexible	0.047 in	+0.196 in / -0.0 in	<-4.2 dB		1.5
415-0545-018	18 in	-	Flexible	0.047 in	+0.314 in / -0.0 in	<-5.9 dB		1.5
415-0545-MM500	-	500 mm	Flexible	0.047 in	+10 mm / -0.0 mm	<-6.6dB		1.5
415-0545-024	24 in	-	Flexible	0.047 in	+0.393 in / -0.0 in	<-7.4 dB		1.5
415-0545-036	36 in	-	Flexible	0.047 in	+0.590 in / -0.0 in	<-10.7 dB		1.5
415-0545-M1.0	-	1000 mm	Flexible	0.047 in	+15 mm / -0.0 mm	<-11.4dB		1.5

2.92 mm Straight Plug to 2.92 mm Straight Plug (40 GHz)



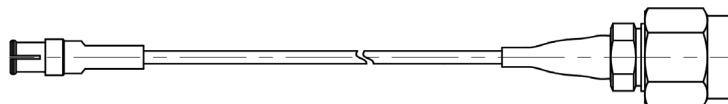
Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	Insertion Loss (Max dB) 20 GHz 40 GHz		VSWR (Max) 40 GHz
415-0210-MM100	-	100 mm	Flexible	0.160 in (HP160S)	+4 mm / -0.0 mm	<-0.98dB	<-1.69dB	1.25
415-0210-006	6 in	-	Flexible	0.160 in (HP160S)	+0.157 in / -0.0 mm	<-0.77dB	<-1.37dB	1.25
415-0210-MM200	-	200 mm	Flexible	0.160 in (HP160S)	+5 mm / -0.0 mm	<-1.53dB	<-2.50dB	1.25
415-0210-012	12 in	-	Flexible	0.160 in (HP160S)	+0.197 in / -0.0 in	<-1.10dB	<-1.87dB	1.25
415-0210-018	18 in	-	Flexible	0.160 in (HP160S)	+0.315 in / -0.0 in	<-1.44dB	<-2.36dB	1.25
415-0210-MM500	-	500mm	Flexible	0.160 in (HP160S)	+10 mm / -0.0 mm	<-1.53dB	<-2.50dB	1.25
415-0210-024	24 in	-	Flexible	0.160 in (HP160S)	+0.590 in / -0.0 in	<-1.77dB	<-2.86dB	1.25
415-0210-MM750	-	750mm	Flexible	0.160 in (HP160S)	+15 mm / -0.0 mm	<-2.07dB	<-3.31dB	1.25
415-0210-036	36 in	-	Flexible	0.160 in (HP160S)	+1.18 in / -0.0 in	<-2.43dB	<-3.85dB	1.25
415-0210-M1.0	-	1000 mm	Flexible	0.160 in (HP160S)	+30 mm / -0.0 mm	<-2.62dB	<-4.12dB	1.25

High Performance Cable Assemblies

Flexible

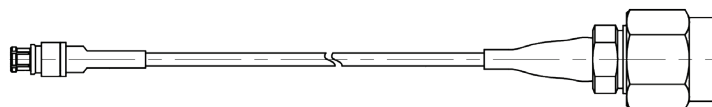


SMP Straight Female to 2.92 mm Straight Plug (40 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	Insertion Loss (Max dB) 40 GHz	VSWR (Max) 40 GHz
415-0542-MM100	-	100 mm	Flexible	0.047 in	+4 mm / -0.0 mm	<-2.3 dB	1.33
415-0542-006	6 in	-	Flexible	0.047 in	+0.157 in / -0.0 in	<-2.5 dB	1.33
415-0542-MM2200	-	200 mm	Flexible	0.047 in	+5 mm / -0.0 mm	<-3.2 dB	1.33
415-0542-012	12 in	-	Flexible	0.047 in	+0.196 in / -0.0 in	<-3.8 dB	1.33
415-0542-018	18 in	-	Flexible	0.047 in	+0.314 in / -0.0 in	<-5.1 dB	1.33
415-0542-MM500		500 mm	Flexible	0.047 in	+10 mm / -0.0 mm	<-5.5 dB	1.33
415-0542-024	24 in	-	Flexible	0.047 in	+0.393 in / -0.0 in	<-6.5 dB	1.33
415-0542-036	36 in	-	Flexible	0.047 in	+0.590 in / -0.0 in	<-9.2 dB	1.33
415-0542-M1.0	-	1000 mm	Flexible	0.047 in	+15 mm / -0.0 mm	<-9.9 dB	1.33

SMPM Straight Female to 2.92 mm Straight Plug (40 GHz)



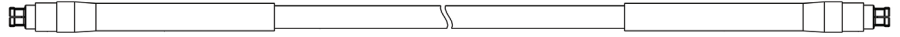
Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	Insertion Loss (Max dB) 40 GHz	VSWR (Max) 40 GHz
415-0544-MM100	-	100 mm	Flexible	0.047 in	+4 mm / -0.0 mm	<-2.4dB	1.4
415-0544-006	6 in	-	Flexible	0.047 in	+0.157 in / -0.0 in	<-2.6dB	1.4
415-0544-MM200	-	200 mm	Flexible	0.047 in	+5 mm / -0.0 mm	<-3.3 dB	1.4
415-0544-012	12 in	-	Flexible	0.047 in	+0.196 in / -0.0 in	<-3.8 dB	1.4
415-0544-018	18 in	-	Flexible	0.047 in	+0.314 in / -0.0 in	<-5.1 dB	1.4
415-0544-MM500		500 mm	Flexible	0.047 in	+10 mm / -0.0 mm	<-5.7 dB	1.4
415-0544-024	24 in	-	Flexible	0.047 in	+0.393 in / -0.0 in	<-6.6 dB	1.4
415-0544-036	36 in	-	Flexible	0.047 in	+0.590 in / -0.0 mm	<-9.3 dB	1.4
415-0544-M1.0	-	1000 mm	Flexible	0.047 in	+30 mm / -0.0 mm	<-10.0 dB	1.4

High Performance Cable Assemblies

Flexible

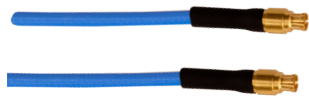


SMPM Straight Female to SMPM Straight Female (40 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 40 GHz
415-0527-006	6 in	-	Flexible	0.086 in	±0.15 in	1.50 Max
415-0527-MM200	-	200 mm	Flexible	0.086 in	±6 mm	1.50 Max
415-0527-MM250	-	250 mm	Flexible	0.086 in	±6 mm	1.50 Max
415-0527-012	12 in	-	Flexible	0.086 in	±0.25 in	1.50 Max
415-0527-018	18 in	-	Flexible	0.086 in	±0.25 in	1.50 Max
415-0527-MM500	-	500 mm	Flexible	0.086 in	±6 mm	1.50 Max
415-0527-024	24 in	-	Flexible	0.086 in	±0.25 in	1.50 Max
415-0527-036	36 in	-	Flexible	0.086 in	±0.50 in	1.50 Max
415-0527-M1.0	-	1000 mm	Flexible	0.086 in	±12 mm	1.50 Max

SMPM Straight Female to SMPM Straight Female (40 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 40 GHz
415-0533-006	6 in	-	Flexible	0.047 in	±0.15 in	1.50 Max
415-0533-MM200	-	200 mm	Flexible	0.047 in	±6 mm	1.50 Max
415-0533-MM250	-	250 mm	Flexible	0.047 in	±6 mm	1.50 Max
415-0533-012	12 in	-	Flexible	0.047 in	±0.25 in	1.50 Max
415-0533-018	18 in	-	Flexible	0.047 in	±0.25 in	1.50 Max
415-0533-MM500	-	500 mm	Flexible	0.047 in	±6 mm	1.50 Max
415-0533-024	24 in	-	Flexible	0.047 in	±0.25 in	1.50 Max
415-0533-036	36 in	-	Flexible	0.047 in	±0.50 in	1.50 Max
415-0533-M1.0	-	1000 mm	Flexible	0.047 in	±12 mm	1.50 Max

High Performance Cable Assemblies

Flexible



SMPM Straight Female to SMPM Right Angle Female (30 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 30 GHz
415-0528-006	6 in	-	Flexible	0.086 in	±0.15 in	1.50 Max
415-0528-MM200	-	200 mm	Flexible	0.086 in	±6 mm	1.50 Max
415-0528-MM250	-	250 mm	Flexible	0.086 in	±6 mm	1.50 Max
415-0528-012	12 in	-	Flexible	0.086 in	±0.25 in	1.50 Max
415-0528-018	18 in	-	Flexible	0.086 in	±0.25 in	1.50 Max
415-0528-MM500	-	500 mm	Flexible	0.086 in	±6 mm	1.50 Max
415-0528-024	24 in	-	Flexible	0.086 in	±0.25 in	1.50 Max
415-0528-036	36 in	-	Flexible	0.086 in	±0.50 in	1.50 Max
415-0528-M1.0	-	1000 mm	Flexible	0.086 in	±12 mm	1.50 Max

SMPM Straight Female to SMPM Right Angle Female (20 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 20 GHz
415-0534-006	6 in	-	Flexible	0.047 in	±0.15 in	1.30 Max
415-0534-MM200	-	200 mm	Flexible	0.047 in	±6 mm	1.30 Max
415-0534-MM250	-	250 mm	Flexible	0.047 in	±6 mm	1.30 Max
415-0534-012	12 in	-	Flexible	0.047 in	±0.25 in	1.30 Max
415-0534-018	18 in	-	Flexible	0.047 in	±0.25 in	1.30 Max
415-0534-MM500	-	500 mm	Flexible	0.047 in	±6 mm	1.30 Max
415-0534-024	24 in	-	Flexible	0.047 in	±0.25 in	1.30 Max
415-0534-036	36 in	-	Flexible	0.047 in	±0.50 in	1.30 Max
415-0534-M1.0	-	1000 mm	Flexible	0.047 in	±12 mm	1.30 Max

High Performance Cable Assemblies

Flexible



SMPM Right Angle Female to SMPM Right Angle Female (30 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 30 GHz
415-0529-006	6 in	-	Flexible	0.047 in	±0.15 in	1.50 Max
415-0529-MM200	-	200 mm	Flexible	0.047 in	±6 mm	1.50 Max
415-0529-MM250	-	250 mm	Flexible	0.047 in	±6 mm	1.50 Max
415-0529-012	12 in	-	Flexible	0.047 in	±0.25 in	1.50 Max
415-0529-018	18 in	-	Flexible	0.047 in	±0.25 in	1.50 Max
415-0529-MM500	-	500 mm	Flexible	0.047 in	±6 mm	1.50 Max
415-0529-024	24 in	-	Flexible	0.047 in	±0.25 in	1.50 Max
415-0529-036	36 in	-	Flexible	0.047 in	±0.50 in	1.50 Max
415-0529-M1.0	-	1000 mm	Flexible	0.047 in	±12 mm	1.50 Max

SMPM Right Angle Female to SMPM Right Angle Female (20 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 20 GHz
415-0535-006	6 in	-	Flexible	0.047 in	±0.15 in	1.30 Max
415-0535-MM200	-	200 mm	Flexible	0.047 in	±6 mm	1.30 Max
415-0535-MM250	-	250 mm	Flexible	0.047 in	±6 mm	1.30 Max
415-0535-012	12 in	-	Flexible	0.047 in	±0.25 in	1.30 Max
415-0535-018	18 in	-	Flexible	0.047 in	±0.25 in	1.30 Max
415-0535-MM500	-	500 mm	Flexible	0.047 in	±6 mm	1.30 Max
415-0535-024	24 in	-	Flexible	0.047 in	±0.25 in	1.30 Max
415-0535-036	36 in	-	Flexible	0.047 in	±0.50 in	1.30 Max
415-0535-M1.0	-	1000 mm	Flexible	0.047 in	±12 mm	1.30 Max

High Performance Cable Assemblies

Semi-Rigid



SMPM Straight Female to SMPM Straight Female (18 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 18 GHz
415-0524-006	6 in	-	Semi-Rigid	0.086 in	±0.15 in	1.50 Max
415-0524-012	12 in	-	Semi-Rigid	0.086 in	±0.25 in	1.50 Max
415-0524-MM200	-	200 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0524-MM250	-	250 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0530-006	6 in	-	Semi-Rigid	0.047 in	±0.15 in	1.50 Max
415-0530-012	12 in	-	Semi-Rigid	0.047 in	±0.25 in	1.50 Max
415-0530-MM200	-	200 mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max
415-0530-MM250	-	250mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max

SMPM Straight Female to SMPM Right Angle Female (18 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 18 GHz
415-0525-006	6 in	-	Semi-Rigid	0.086 in	±0.15 in	1.50 Max
415-0525-012	12 in	-	Semi-Rigid	0.086 in	±0.25 in	1.50 Max
415-0525-MM200	-	200 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0525-MM250	-	250 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0531-006	6 in	-	Semi-Rigid	0.047 in	±0.15 in	1.50 Max
415-0531-012	12 in	-	Semi-Rigid	0.047 in	±0.25 in	1.50 Max
415-0531-MM200	-	200 mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max
415-0531-MM250	-	250mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max

High Performance Cable Assemblies

Semi-Rigid



SMPM Right Angle Female to SMPM Right Angle Female (18 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 18 GHz
415-0526-006	6 in	-	Semi-Rigid	0.086 in	±0.15 in	1.50 Max
415-0526-012	12 in	-	Semi-Rigid	0.086 in	±0.25 in	1.50 Max
415-0526-MM200	-	200 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0526-MM250	-	250 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0532-006	6 in	-	Semi-Rigid	0.047 in	±0.15 in	1.50 Max
415-0532-012	12 in	-	Semi-Rigid	0.047 in	±0.25 in	1.50 Max
415-0532-MM200	-	200 mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max
415-0532-MM250	-	250mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max

SMP Straight Female to SMP Straight Female (18 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 18 GHz
415-0500-006	6 in	-	Semi-Rigid	0.086 in	±0.15 in	1.50 Max
415-0500-012	12 in	-	Semi-Rigid	0.086 in	±0.25 in	1.50 Max
415-0500-MM200	-	200 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0500-MM250	-	250 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0506-006	6 in	-	Semi-Rigid	0.047 in	±0.15 in	1.50 Max
415-0506-012	12 in	-	Semi-Rigid	0.047 in	±0.25 in	1.50 Max
415-0506-MM200	-	200 mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max
415-0506-MM250	-	250mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max

High Performance Cable Assemblies

Semi-Rigid



SMP Straight Female to SMP Right Angle Female (18 GHz)



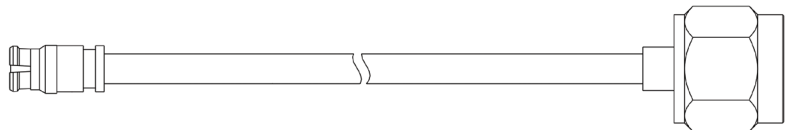
Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 18 GHz
415-0501-006	6 in	-	Semi-Rigid	0.086 in	±0.15 in	1.50 Max
415-0501-012	12 in	-	Semi-Rigid	0.086 in	±0.25 in	1.50 Max
415-0501-MM200	-	200 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0501-MM250	-	250 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0507-006	6 in	-	Semi-Rigid	0.047 in	±0.15 in	1.50 Max
415-0507-012	12 in	-	Semi-Rigid	0.047 in	±0.25 in	1.50 Max
415-0507-MM200	-	200 mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max
415-0507-MM250	-	250mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max

SMP Right Angle Female to SMP Right Angle Female (18 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 18 GHz
415-0502-006	6 in	-	Semi-Rigid	0.086 in	±0.15 in	1.50 Max
415-0502-012	12 in	-	Semi-Rigid	0.086 in	±0.25 in	1.50 Max
415-0502-MM200	-	200 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0502-MM250	-	250 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0508-006	6 in	-	Semi-Rigid	0.047 in	±0.15 in	1.50 Max
415-0508-012	12 in	-	Semi-Rigid	0.047 in	±0.25 in	1.50 Max
415-0508-MM200	-	200 mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max
415-0508-MM250	-	250mm	Semi-Rigid	0.047 in	±6 mm	1.50 Max

SMP Straight Female to SMA Straight Male (18 GHz)



Part Number	Cable Length		Cable Type	Cable Diameter	Tolerance	VSWR (Max) 18 GHz
415-0520-006	6 in	-	Semi-Rigid	0.086 in	±0.15 in	1.50 Max
415-0520-012	12 in	-	Semi-Rigid	0.086 in	±0.25 in	1.50 Max
415-0520-MM200	-	200 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max
415-0520-MM250	-	250 mm	Semi-Rigid	0.086 in	±6 mm	1.50 Max



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