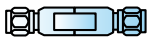
Typical Configuration



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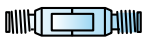
11904A
83059A
1250-1159
1250-1748
85058-60007



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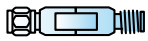
85058-60008



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11904C
11904D
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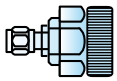

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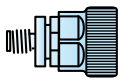

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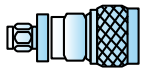

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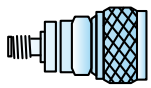

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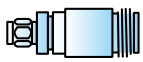
1250-1744



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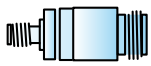
1250-1750



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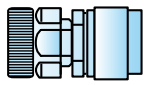
1250-1772



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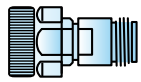

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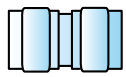

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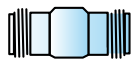
1250-1528



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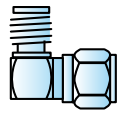
1250-1529

11852B
11852B Option 004
1250-0597



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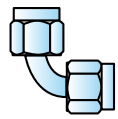

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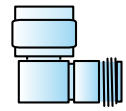
1250-1698



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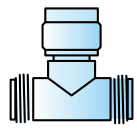


1250-0559

1250-0846

3

Overview

Many coaxial connector types are available in the RF and microwave industry, each designed for a specific purpose and application. For measurement applications, it is important to consider the number of connects/disconnects, which impact the connector's useful life.

The frequency range of any connector is limited by the excitation of the first circular waveguide propagation mode in the coaxial structure. Decreasing the diameter of the outer conductor increases the highest usable frequency; filling the air space with dielectric lowers the highest usable frequency and increases system loss.

Performance of all connectors is affected by the quality of the interface for the mated pair. If the diameters of the inner and outer conductors vary from the nominal design, if plating quality is poor, or if contact separation at the junction is excessive, then the reflection coefficient and resistive loss at the interface will be degraded.

A few connectors, such as the APC-7, are designed to be sexless. Most are female connectors that have slotted fingers, which introduce a small inductance at the interface. The fingers accommodate tolerance variations but reduce repeatability and may ultimately break after 1000 connections. Agilent offers slotless versions of connectors in certain measuring products, which decrease inductance and increase repeatability.

The following is a brief review of common connectors used in test and measurement applications:

APC-7 (7 mm) Connector

The APC-7 (Amphenol Precision Connector-7 mm) offers the lowest reflection coefficient and most repeatable measurement of all 18 GHz connectors. Development of the connector was a joint effort between HP and Amphenol, which began in the 1960s. This is a sexless design and is the preferred connector for the most demanding applications, notably metrology and calibration.

Type-N Connector

The type-N (Navy) 50 Ω connector was designed in the 1940s for military systems operating below 4 GHz. In the 1960s, improvements pushed performance to 12 GHz and later, mode-free, to 18 GHz. Agilent offers some products with slotless type-N center conductors for improved performance to 18 GHz. Agilent type-N connectors are completely compatible with MIL-C-39012. Certain 75 Ω products use a type-N design with smaller center conductor diameters, and thus are not compatible with 50 Ω connectors.

SMA Connector

The SMA (Subminiature A) connector was designed by Bendix Scintilla Corporation and is one of the most commonly used RF/microwave connectors. It is intended for use on semirigid cables and in components that are connected infrequently. Most SMA connectors have higher reflection coefficients than other connectors available for use to 24 GHz because of the difficulty to anchor the dielectric support.

3.5 mm Connector

The 3.5 mm connector was primarily developed at Hewlett Packard – now Agilent Technologies, with early manufacturing at Amphenol. Its design strategy focused on highly-rugged physical interfaces that would mate with popular SMA dimensions, allowing thousands of repeatable connections. It is mode-free to 34 GHz.

1.0 mm Launch

The launch adapter has a 1.0 mm female connector on one end and a glass to metal seal interface on the other end. This is for transition of ultra-high frequency (up to 110 GHz) signals from coax into a microstrip package or onto a circuit board.

2.92 mm Connector

The 2.92 mm connector mates with SMA and 3.5 mm connectors and offers mode-free performance to 40 GHz.

2.4 mm Connector

The 2.4 mm connector was developed by HP, Amphenol, and M/A-COM for use to 50 GHz. This design eliminates the fragility of the SMA and 2.92 mm connectors by increasing the outer wall thickness and strengthening the female fingers. It can mate with SMA, 3.5 mm and 2.92 mm with the use of precision adapters. The 2.4 mm product is offered in three quality grades; general purpose, instrument, and metrology. General purpose grade is intended for economy use on components, cables, and microstrip, where limited connections and low repeatability is acceptable. Instrument grade is best suited for measurement applications where repeatability and long life are primary considerations. Metrology grade is best suited for calibration applications where the highest performance and repeatability are required.

1.85 mm Connector

The 1.85 mm connector was developed in the mid-1980s by Hewlett Packard – now Agilent Technologies – for mode-free performance to 65 GHz. HP offered their design as public domain in 1988 to encourage standardization of connector types; a few devices are available from various manufacturers for research work. The 1.85 mm connector mates with the 2.4 mm connector and has the same ruggedness. In recent years, the 1.85 mm connector has been optimized to operate mode-free to 67 GHz. Many experts have considered this connector to be the smallest possible coaxial connector for common usage up to 67 GHz.

1.0 mm Connector

Designed to support transmission all the way to 110 GHz, this 1.0 mm connector is a significant achievement in precision manufacturing resulting in a reliable and flexible interconnect.

BNC Connector

The BNC (Bayonet Navy Connector) was designed for military use and has gained wide acceptance in video and RF applications to 2 GHz. Above 4 GHz, the slots may radiate signals. Both 50 Ω and 75 Ω versions are available. A threaded version (TNC) helps resolve leakage for common applications up to 12 GHz.

SMC Connector

The SMC (Subminiature C) is much smaller than an SMA connector, making it suitable for some applications with size constraints. It is often used up to 7 GHz where low leakage and few connections are required.

Connector Care and Signal Performance

While many Agilent RF/microwave connectors have been designed for rugged mechanical interfaces, the user must be aware that cleanliness of the surfaces and care in applying torque to the connector nut are crucial to long life and full signal performance. The following table shows the recommended torque for various connector types.

Recommended torque values for connectors

Connector type	Torque lb-inch (N-cm)
Precision 7 mm	12 (136)
Precision 3.5 mm	8 (90)
SMA	5 (56) Use the SMA torque value to connect male SMA connectors to female precision 3.5 mm connectors. Use the 3.5 mm torque value to connect male 3.5 mm connectors to the female SMA (8 lb-inch).
Precision 2.4 mm	8 (90)
Precision 1.85 mm	8 (90)
Precision 1.0 mm	4 (45)
Type-N	Type-N connectors may be connected finger tight. If a torque wrench is used, 12 lb-inch (136 N-cm) is recommended.

1.0 mm Adapters

- Increased measurement versatility
- Ease-of-use for on-wafer and coaxial measurements

Increased measurement versatility

For microwave and RF engineers making coaxial measurements at 50, 67 or 110 GHz, the Agilent 11920/1/2 Series 1.0 mm adapters provide an easy way of measuring coaxial devices at high frequencies. The Agilent 11920 A/B/C 1.0 mm to 1.0 mm are designed for the measurement of components with 50 Ω 1.0 mm connectors. The Agilent 11921 A/B/C/D, 1.0 mm to 1.85 mm, and the Agilent 11922 A/B/C/D, 1.0 mm to 2.4 mm, are intended to be used as general purpose adapters that are versatile and interchangeable. These adapters increase the capability needed to use test systems, such as the Agilent N5250A.

Ease-of-use for on-wafer and coaxial measurements

Each connector has an air dielectric interface and a center conductor that is supported by a low-loss plastic bead. Available with male and female connectors, these Agilent 1.0 mm adapters provide ease-of-use for microwave engineers who need to connect their test systems. The Agilent 1.0 mm adapters allow engineers to make fewer connections directly to their test port while maintaining the accuracy of their test system.

1.0 mm Connector Launch

Flexible microcircuit packaging

The Agilent 11923A 1.0 mm female connector launch threads into a package or fixture housing to transition a microwave circuit from microstrip to coaxial connector. The 11923A connector launch is intended for use with the N5250A and other test systems up to 110 GHz. The 11923A 1.0 mm female connector has an air dielectric interface and center conductor that is supported by a low-loss plastic bead on one end and a glass-to-metal seal interface on the other end. This interface consists of a 0.162 mm diameter pin that extends inside the package or fixture for connection onto a microwave circuit.

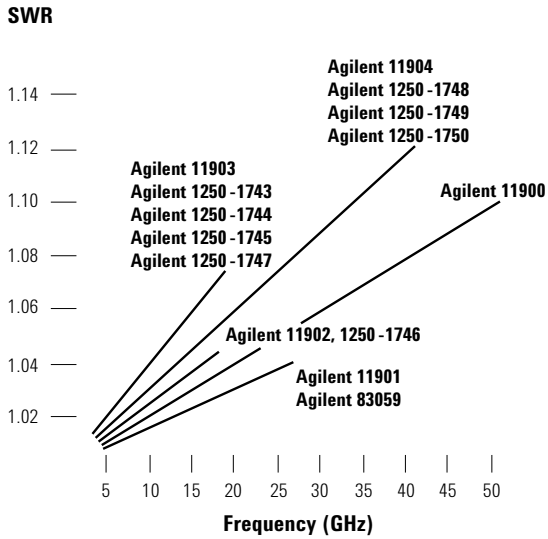
The 11923A is pre-assembled and supplied with a machining detail for mounting the launch and assembly instructions. The user is responsible for making the connection onto the circuit card, machining the package, and installing the connector. If a quasi-hermetic seal is desired, epoxy may be applied to threads of the launch prior to installation. The procedure describing the necessary dimensions for the package and installation is provided with the launch assembly.

Metrology Grade Adapters [1]

Model	Type [2]	Frequency range	Return loss	Repeatability [3] (min)	Overall length (nom) mm (in)	Ref. plane to ref. plane length (nom) mm (in)	Diameter (nom) mm (in)
11900A	2.4 mm (m), 2.4 mm (m)	DC to 50 GHz	> 26 dB	44 dB	16.2 (0.64)	12.4 (0.49)	9 (0.35)
11900B	2.4 mm (f), 2.4 mm (f)	DC to 50 GHz	> 26 dB	44 dB	18.5 (0.73)	12.4 (0.49)	8 (0.31)
11900C	2.4 mm (m), 2.4 mm (f)	DC to 50 GHz	> 26 dB	44 dB	17.4 (0.69)	12.4 (0.49)	9 (0.35)
11901A	2.4 mm (m), 3.5 mm (m)	DC to 26.5 GHz	> 26 dB	54 dB	20.9 (0.82)	16.1 (0.63)	9 (0.35)
11901B	2.4 mm (f), 3.5 mm (f)	DC to 26.5 GHz	> 32 dB	54 dB	21.1 (0.83)	16.1 (0.63)	8 (0.31)
11901C	2.4 mm (m), 3.5 mm (f)	DC to 26.5 GHz	> 32 dB	54 dB	20.2 (0.80)	16.1 (0.63)	9 (0.35)
11901D	2.4 mm (f), 3.5 mm (m)	DC to 26.5 GHz	> 32 dB	54 dB	21.8 (0.86)	16.1 (0.63)	9 (0.35)
11903A	2.4 mm (m), Type-N (m)	DC to 18 GHz	> 28 dB	48 dB	49.1 (1.93)	46.1 (1.82)	22 (0.86)
11903B	2.4 mm (f), Type-N (f)	DC to 18 GHz	> 28 dB	48 dB	58.3 (2.30)	46.1 (1.82)	15.7 (0.62)
11903C	2.4 mm (m), Type-N (f)	DC to 18 GHz	> 28 dB	48 dB	57.4 (2.26)	46.1 (1.82)	15.7 (0.62)
11903D	2.4 mm (f), Type-N (m)	DC to 18 GHz	> 28 dB	48 dB	50.0 (1.97)	46.1 (1.82)	22 (0.86)
11904A	2.4 mm (m), 2.92 mm (m) [4]	DC to 40 GHz	> 24 dB	40 dB	16.4 (0.64)	11.3 (0.45)	9 (0.35)
11904B	2.4 mm (f), 2.92 mm (f)	DC to 40 GHz	> 24 dB	40 dB	16.3 (0.64)	11.3 (0.45)	8 (0.31)
11904C	2.4 mm (m), 2.92 mm (f)	DC to 40 GHz	> 24 dB	40 dB	13.3 (0.52)	11.3 (0.45)	9 (0.35)
11904D	2.4 mm (f), 2.92 mm (m)	DC to 40 GHz	> 24 dB	40 dB	17.0 (0.67)	11.3 (0.45)	9 (0.35)
11904S	2.4 mm to 2.92 mm matched set						

[1] Agilent 1190x adapters are phase matched within each family
[2] *f* = jack, m = plug
[3] Repeatability = –20 Log | Δr | , where | Δr | = | r m1 – r m2 |
[4] 2.92 mm is compatible with 3.5 mm

Typical Precision Adapter Performance



Slotless Connectors

Precision slotless sockets (female connectors) were developed by Agilent to provide the most accurate traceable calibration possible. Connectors that use precision slotless sockets are metrology grade connectors. The outside diameter of the socket does not change when mated with pins of varying diameters, within the tolerance requirements of a metrology grade connector.

Conventional slotted sockets are flared by the inserted pin. Because physical dimensions determine connector impedance, electrical characteristics of the connector pair are dependent upon the mechanical dimensions of the pin. While connectors are used in pairs, their pin and socket halves are always specified separately as part of a standard, instrument, or device under test. Because the slotted socket's outer diameter changes with different pin diameters, it is very difficult to make precision measurements with the conventional slotted socket connector. The measurement of the device is a function of its connector.

Slotless sockets are used in the following calibration kits:

85052B standard mechanical calibration kit
85052C precision mechanical calibration kit
85052D economy mechanical calibration kit
85054B standard mechanical calibration kit
85054D economy mechanical calibration kit
85056A standard mechanical calibration kit
85056D economy mechanical calibration kit

Metrology/instrument Grade Adapter Selection Guide

Connector type	1.0 mm	1.85 mm	2.4 mm	2.92 mm	3.5 mm	7 mm	Type-N (50 Ω)	Type-N (75 Ω)
1.0 mm	11920A/B/C	11921E/F/G/H	11922A/B/C/D					
1.85 mm		85058-60007 85058-60008 85058-60009						
2.4 mm			11900A/B/C	11904A/B/C/D 11904S	11901A/B/C/D 1250-2277	11902A/B	11903A/B/C/D	
3.5 mm					83059A/B/C 1250-1748 1250-1749	1250-1746 1250-1747	1250-1743 1250-1744 1250-1745 1250-1750	
Type N (50 Ω)								11852B 11852B Option 004

Instrument Grade Adapters

Model	Type [1]	Frequency range	Return loss (typ)	Overall length (nom) mm (in)	Ref. plane to ref. plane length (nom) mm (in)	Diameter (nom) mm (in)
83059A	3.5 mm (m), 3.5 mm (m)	DC to 26.5 GHz	32 dB	28.4 (1.12)	23.1 (0.91)	10 (0.39)
83059B	3.5 mm (f), 3.5 mm (f)	DC to 26.5 GHz	32 dB	26.9 (1.06)	23.1 (0.91)	10 (0.39)
83059C	3.5 mm (m), 3.5 mm (f)	DC to 26.5 GHz	32 dB	25.7 (1.01)	23.1 (0.91)	10 (0.39)
83059K	Set of Agilent 83059A, B, C in wood case					
1250-1743	3.5 mm (m), type-N (m)	DC to 18 GHz	28 dB	44.2 (1.74)	40.8 (1.61)	20.8 (0.82)
1250-1744	3.5 mm (f), type-N (m)	DC to 18 GHz	28 dB	43.6 (1.72)	40.8 (1.61)	20.8 (0.82)
1250-1745	3.5 mm (f), type-N (f)	DC to 18 GHz	28 dB	42.7 (1.68)	31.6 (1.24)	15.8 (0.62)
1250-1746	3.5 mm (m), APC-7	DC to 18 GHz	34 dB	37.9 (1.49) [2]	33.1 (1.30)	22.0 (0.87)
1250-1747	3.5 mm (f), APC-7	DC to 18 GHz	28 dB	37.0 (1.46) [2]	33.1 (1.30)	22.0 (0.87)
1250-1748	3.5 mm (m), 3.5 mm (m)	DC to 26.5 GHz	25 dB	45.1 (1.78)	39.6 (1.56)	9.2 (0.36)
1250-1749	3.5 mm (f), 3.5 mm (f)	DC to 34 GHz	23 dB	43.5 (1.71)	39.6 (1.56)	9.2 (0.36)
1250-1750	3.5 mm (m), type-N (f)	DC to 18 GHz	24 dB	43.4 (1.71)	31.6 (1.24)	15.8 (0.62)
85058-60007	1.85 mm (m), 1.85 mm (m) [3]	DC to 65 GHz	22 dB	29.5 (1.16)	25.2 (0.99)	9.1 (0.36)
85058-60008	1.85 mm (f), 1.85 mm (f) [3]	DC to 65 GHz	22 dB	31.3 (1.23)	25.2 (0.99)	9.1 (0.36)
85058-60009	1.85 mm (m), 1.85 mm (f) [3]	DC to 65 GHz	22 dB	30.4 (1.20)	25.2 (0.99)	9.1 (0.36)
11852B [4]	50 Ω type-N (f), 75 Ω type-N (m)	DC to 3 GHz	30 dB	60.1 (2.37)	50.2 (1.98)	22 (0.87)
11852B Option 004 [4]	50 Ω type-N (m), 75 Ω type-N (f)	DC to 3 GHz	30 dB	60.1 (2.37)	50.2 (1.98)	22 (0.87)

[1] *f* = jack, m = plug
[2] Overall length with threaded coupling sleeve extended
[3] 1.85 mm is compatible with 2.4 mm. To adapt 1.85 mm to other connector types, use Agilent 1190x Series adapters
[4] Insertion loss is 5.7 dB typical

General Purpose Grade Adapter Selection Guide

Connector type	1.85 mm	SMA	SMA Tee	SMB	SMC	Type-N (50 Ω)	Type-N (75 Ω)	BNC (75 Ω)	Type-N Tee	BNC (50 Ω)
1.85 mm	N5520A/B/C									
SMA		1250-1158 1250-1159 1250-1462		1250-0674	1250-0675					1250-0562 1250-1200
Right Angle, SMA		1250-1249 1250-1397 1250-1741								
SMA Tee			1250-1698							
SMB		1250-0674		1250-0672 1250-1391		1250-0671				1250-1857
SMC		1250-0675 1250-1694			1250-0827 1250-0837 1250-0838 1250-1113	1250-1152				
7 mm		11533A 11534A 1250-1468				11524A 11525A				
BNC (50 Ω)		1250-1200 1250-0562		1250-1236 1250-1237 1250-1899	1250-0831 1250-0832					
Type-N (50 Ω)		1250-1250 1250-1404 1250-1636 1250-1772			1250-1152	1250-1529 1250-0777 1250-0778 1250-1472 1250-1475	1250-0597			1250-1473 1250-1474 1250-1476 1250-1477
Type-N (75 Ω)								1250-1533 1250-1534 1250-1535 1250-1536		
Right angle, Type-N (50 Ω)						1250-0176				
Type-N tee									1250-0559 1250-0846	
BNC (75 Ω)								1250-1286 1250-1287		
BNC Trixial										1250-0595 1250-1830 1250-1930

Adapter Kit Selection Guide

Connector type	3.5 mm	7 mm	Type-N (50 Ω)	Type-N (75 Ω)	BNC (75 Ω)	Type-F (75 Ω)	BNC (50 Ω)	7-16
3.5 mm	83059K		11878A					
Type-N (50 Ω)			11853A				11854A	
Type-N (75 Ω)				86213A		86211A		

1.0 mm Adapters

Model	11920A 11920B 11920C	11921E 11921F 11921G 11921H	11922A 11922B 11922C 11922D	11923A
Features	◄ Excellent accuracy and measurement versatility ►			
Frequency range	DC to 110 GHz	DC to 67 GHz	DC to 50 GHz	DC to 110 GHz
Frequency response				
Insertion loss	0.5 dB	0.5 dB	0.7 dB	1.0 dB
Return loss	24 dB DC to 20 GHz 20 dB 20 to 50 GHz 18 dB 50 to 75 GHz 14 dB 75 to 110 GHz	20 dB	20 dB	16 dB
Input power				
Max CW power	10 W	10 W	10 W	6 W
Repeatability [1]	–35 dB	–35 dB 1.0 mm –40 dB 1.85 mm	–35 dB 1.0 mm –44 dB 2.4 mm	
RF connectors				
A, E	1 mm (m) to 1 mm (m)	1 mm (m) to 1.85 mm (m)	1 mm (m) to 2.4 mm (m)	1 mm (f) to circuit card launch
B, F	1 mm (f) to 1 mm (f)	1 mm (f) to 1.85 mm (f)	1 mm (f) to 2.4 mm (f)	
C, G	1 mm (m) to 1 mm (f)	1 mm (m) to 1.85 mm (f)	1 mm (m) to 2.4 mm (f)	
D, H		1 mm (f) to 1.85 mm (m)	1 mm (f) to 2.4 mm (m)	

[1] Measured at 25 °C

Specifications

Specifications describe the instrument's warranted performance over the temperature range 0 to 55° C (except where noted). Supplemental characteristics are intended to provide information for applying the instrument by giving typical but nonwarranted performance parameters. These are noted as "typical", "nominal", or "approximate".

1.0 mm (f) Connector Launch

Model	Coax connector type	Frequency (GHz)	Insertion loss
11923A	(f) to circuit card launch	DC to 110	better than: –1.0 dB

Supplemental Characteristics

Model	Return loss	Max CW power
11923A	–16 dB	better than: 6 W

Environmental Specifications

	Operating	Non-operating
Temperature	0° to 55 °C	–40° to 75 °C
Altitude	< 15.000 meters (< 50.000 feet)	< 15.000 meters (< 50.000 feet)

The operating temperature is a critical factor in the performance during measurements and between calibrations. Storage or operation within an environment other than that specified above may cause damage to the product and void the warranty.

Non-operating environmental specifications apply to storage and shipment. Products should be stored in a clean, dry environment. Operating environmental specifications apply when the product is in use. Products should not be operated in a condensing environment.

General Purpose Grade Adapters

Adapters APC-7 [1]	
11524A	APC-7 to type-N (f)
11525A	APC-7 to type-N (m)
11533A	APC-7 to SMA (m)
11534A	APC-7 to SMA (f)
Adapters type-N, standard 50 Ω	
	SWR <1.03 to 1.3 GHz
1250-1472	Type-N (f) to type-N (f)
1250-1473	Type-N (m) to BNC (m)
1250-1474	Type-N (f) to BNC (f)
1250-1475	Type-N (m) to type-N (m)
1250-1476	Type-N (m) to BNC (f)
1250-1477	Type-N (f) to BNC (m)
Adapters SMA	
1250-1158	SMA (f) to SMA (f)
1250-1159	SMA (m) to SMA (m)
1250-1249	SMA right angle (m) (f)
1250-1397	SMA right angle (m) (m)
1250-1462	SMA (m) to SMA (f)
1250-1698	SMA tee (m) (f) (f)
1250-1200	BNC (f) to SMA
E9633A	SMA (m) to BNC (m)
1250-1899	BNC (f) to SMB (m)
E9634A	SMA (f) to BNC (m)

Adapters type-N, standard 50 Ω	
1250-0077	Type-N (f) to BNC (m)
1250-0082	Type-N (m) to BNC (m)
1250-0176	Type-N (m) to type-N (f) right angle (use below 12 GHz)
1250-0559	Type-N tee, (m) (f) (f)
1250-0777	Type-N (f) to type-N (f)
1250-0778	Type-N (m) to type-N (m)
1250-0780	Type-N (m) to BNC (f)
1250-0846	Type-N tee (f) (f) (f)
1250-1250	Type-N (m) to SMA (f)
1250-1562	Type-N (f) to SMA (m)
1250-1636	Type-N (m) to SMA (m)
1250-1772	Type-N (f) to SMA (f)
Adapters type-N, standard 75 Ω [2]	
1250-0597	Type-N (m) (50 Ω) to type-N (f) (75 Ω)
1250-1528	Type-N (m) to type-N (m)
1250-1529	Type-N (f) to type-N (f)
1250-1533	Type-N (m) to BNC (m)
1250-1534	Type-N (f) to BNC (m)
1250-1535	Type-N (m) to BNC (f)
1250-1536	Type-N (f) to BNC (f)
Adapters type BNC, standard 50 Ω	
1250-0076	Right angle BNC (UG-306/D)
1250-0080	BNC (f) to BNC (f) (UG-914/U)
1250-0216	BNC (m) to BNC (m)
1250-0556	BNC (f) to WECO video (m)
1250-0595	BNC (f) to BNC triaxial (m)
1250-0781	BNC tee (m) (f) (f)
1250-1830	BNC (f) to BNC triaxial (f)
1250-1930	BNC (m) to BNC triaxial (f)
Adapters BNC, standard 75 Ω [3]	
1250-1286	Right angle BNC (m) (f)
E9628A	BNC (f) to BNC (f)
1250-1288	BNC (m) to BNC (m)
Adapters SMB, SMC [4]	
1250-0670	SMC tee (m) (m) (m)
1250-0671	SMB (m) to type-N (m)
1250-0672	SMB (f) to SMB (f)
1250-0674	SMB (m) to SMA (f)
1250-0675	SMC (m) to SMA (f)
1250-0827	SMC (m) to SMC (m)
1250-0831	SMC (m) to BNC (m)
1250-0832	SMC (f) to BNC (f)
1250-0837	SMC tee (m) (m) (m)
1250-0838	SMC tee (f) (m) (m)
1250-1023	SMC (m) to type-N (m)
1250-1113	SMC (f) to SMC (f)
1250-1152	SMC (f) to type-N (m)
1250-1236	SMB (f) to BNC (f)
1250-1237	SMB (m) to BNC (f)
1250-1391	SMB tee (f) (m) (m)
1250-1857	SMB (f) to BNC (m)

[1] APC-7 is a registered trademark of the Bunker Ramo Corporation
[2] Type-N outer conductor; center pin sized for 75 Ω characteristic
[3] BNC outer conductor; center pin sized for 75 Ω characteristic
[4] SMB and SMC are often used inside Agilent instruments for inter-module RF connections. SMB is snap-on configuration. SMC is screw-on configuration.