



# RF/Microwave Adapters DC — 65 GHz

## INTRODUCTION

With the introduction of the industry's first swept right-angle microwave adapter in the 1970s, the CarlisleIT name has become synonymous with precision RF and microwave adapters.

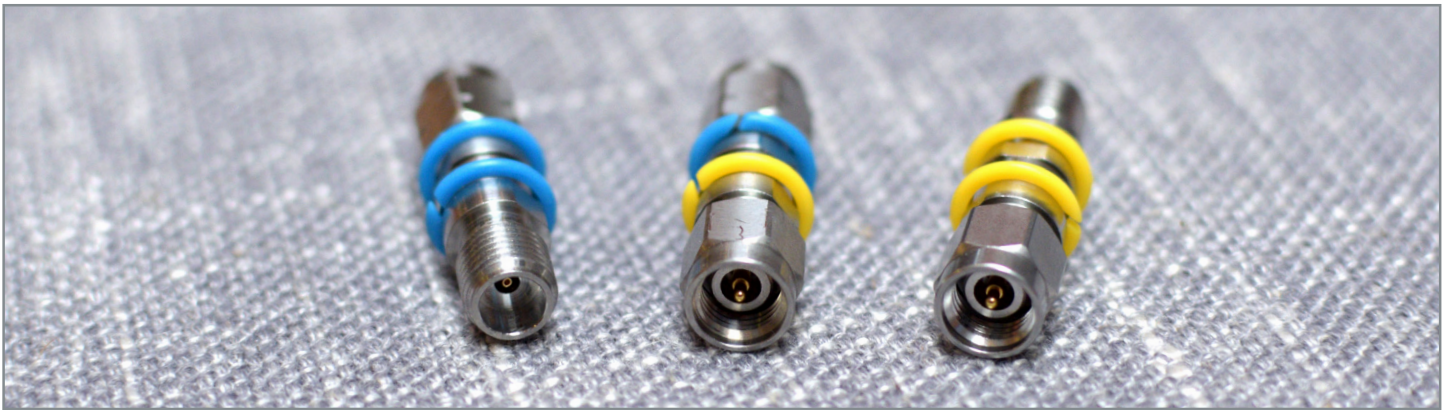
We offer a full-gender family of Precision RF adapters in different connector options to cover applications ranging from DC – 65 GHz. These adapters come standard in a passivated stainless steel body with a captivated beryllium copper center conductor to ensure mating repeatability. In addition, options such as gold-plated housing or non-captivated center conductor are also available to fit the desired application. All of our adapters are 100% tested to ensure optimum performance over their respective frequency range.

## FEATURES

- » Complete Family of Straight In-Series & Between-Series Precision RF Adapters
- » 50Ω Impedance
- » Low VSWR & Insertion Loss
- » Color Coded Rings for Series Indication

## IN-SERIES & BETWEEN-SERIES

In order to facilitate adapting from one connector configuration to another, we also offer Between-Series adapters for different connection types. In this case, the frequency range is limited by the connector with the lower frequency of operation. Similar to the In-Series adapters, options such as gold-plated housing or non-captivated center conductor are also available to fit the desired application.



Between-Series Adapters



In-Series Adapters

# RF Adapters In-Series & Between-Series

## INTRODUCTION

This is a complete family of 50 ohm straight adapters available in 1.85 mm, 2.40 mm, 2.92 mm & 3.50 mm interfaces.





## PRODUCT NUMBERS & SPECIFICATIONS

Product	Part No.	Description	Connector 1	Connector 2	Freq. Range	VSWR (Max)
In-Series Adapters	TMA-8FS-8FS-00	MW ADAPTER 1.85mm FEMALE - 1.85mm FEMALE	1.85mm Female	1.85mm Female	DC - 65 GHz	1.20:1 @ 65 GHz
	TMA-8MS-8FS-00	MW ADAPTER 1.85mm MALE - 1.85mm FEMALE	1.85mm Male	1.85mm Female		
	TMA-8MS-8MS-00	MW ADAPTER 1.85mm MALE - 1.85mm MALE	1.85mm Male	1.85mm Male		
	TMA-4FS-4FS-00	MW ADAPTER 2.4mm FEMALE - 2.4mm FEMALE	2.4mm Female	2.4mm Female	DC - 50 GHz	1.20:1 @ 50 GHz
	TMA-4MS-4FS-00	MW ADAPTER 2.4mm MALE - 2.4mm FEMALE	2.4mm Male	2.4mm Female		
	TMA-4MS-4MS-00	MW ADAPTER 2.4mm MALE - 2.4mm MALE	2.4mm Male	2.4mm Male		
	TMA-9FS-9FS-00	MW ADAPTER 2.92mm FEMALE - 2.92mm FEMALE	2.92mm Female	2.92mm Female	DC - 40 GHz	1.20:1 @ 40 GHz
	TMA-9MS-9FS-00	MW ADAPTER 2.92mm MALE - 2.92mm FEMALE	2.92mm Male	2.92mm Female		
	TMA-9MS-9MS-00	MW ADAPTER 2.92mm MALE - 2.92mm MALE	2.92mm Male	2.92mm Male		
	TMA-5FS-5FS-00	MW ADAPTER 3.5mm FEMALE - 3.5mm FEMALE	3.5mm Female	3.5mm Female	DC - 26.5 GHz	1.18:1 @ 26.5 GHz
	TMA-5MS-5FS-00	MW ADAPTER 3.5mm MALE - 3.5mm FEMALE	3.5mm Male	3.5mm Female		
	TMA-5MS-5MS-00	MW ADAPTER 3.5mm MALE - 3.5mm MALE	3.5mm Male	3.5mm Male		
Between-Series Adapters	TMA-8FS-4FS-00	MW ADAPTER 1.85mm FEMALE - 2.4mm FEMALE	1.85mm Female	1.85mm Female	DC - 50 GHz	1.20:1 @ 50 GHz
	TMA-8MS-4FS-00	MW ADAPTER 1.85mm MALE - 2.4mm FEMALE	1.85mm Male	1.85mm Female		
	TMA-8FS-4MS-00	MW ADAPTER 1.85mm FEMALE - 2.4mm MALE	1.85mm Female	1.85mm Male		
	TMA-8MS-4MS-00	MW ADAPTER 1.85mm MALE - 2.4mm MALE	1.85mm Male	1.85mm Male		
	TMA-8FS-9FS-00	MW ADAPTER 1.85mm FEMALE - 2.92mm FEMALE	1.85mm Female	2.92mm Female	DC - 40 GHz	1.20:1 @ 40 GHz
	TMA-8MS-9FS-00	MW ADAPTER 1.85mm MALE - 2.92mm FEMALE	1.85mm Male	2.92mm Female		
	TMA-8FS-9MS-00	MW ADAPTER 1.85mm FEMALE - 2.92mm MALE	1.85mm Female	2.92mm Male		
	TMA-8MS-9MS-00	MW ADAPTER 1.85mm MALE - 2.92mm MALE	1.85mm Male	2.92mm Male		
	TMA-8FS-5FS-00	MW ADAPTER 1.85mm FEMALE - 3.5mm FEMALE	1.85mm Female	3.5mm Female	DC - 26.5 GHz	1.18:1 @ 26.5 GHz
	TMA-8MS-5FS-00	MW ADAPTER 1.85mm MALE - 3.5mm FEMALE	1.85mm Male	3.5mm Female		
	TMA-8FS-5MS-00	MW ADAPTER 1.85mm FEMALE - 3.5mm MALE	1.85mm Female	3.5mm Male		
	TMA-8MS-5MS-00	MW ADAPTER 1.85mm MALE - 3.5mm MALE	1.85mm Male	3.5mm Male		
	TMA-4FS-9FS-00	MW ADAPTER 2.4mm FEMALE - 2.92mm FEMALE	2.4mm Female	2.92mm Female	DC - 40 GHz	1.20:1 @ 40 GHz
	TMA-4MS-9FS-00	MW ADAPTER 2.4mm MALE - 2.92mm FEMALE	2.4mm Male	2.92mm Female		
	TMA-4FS-9MS-00	MW ADAPTER 2.4mm FEMALE - 2.92mm MALE	2.4mm Female	2.92mm Male		
	TMA-4MS-9MS-00	MW ADAPTER 2.4mm MALE - 2.92mm MALE	2.4mm Male	2.92mm Male		
	TMA-4FS-5FS-00	MW ADAPTER 2.4mm FEMALE - 3.5mm FEMALE	2.4mm Female	3.5mm Female	DC - 26.5 GHz	1.18:1 @ 26.5 GHz
	TMA-4MS-5FS-00	MW ADAPTER 2.4mm MALE - 3.5mm FEMALE	2.4mm Male	3.5mm Female		
	TMA-4FS-5MS-00	MW ADAPTER 2.4mm FEMALE - 3.5mm MALE	2.4mm Female	3.5mm Male		
	TMA-4MS-5MS-00	MW ADAPTER 2.4mm MALE - 3.5mm MALE	2.4mm Male	3.5mm Male		
TMA-9FS-5FS-00	MW ADAPTER 2.92mm FEMALE - 3.5mm FEMALE	2.92mm Female	3.5mm Female	DC - 26.5 GHz	1.18:1 @ 26.5 GHz	
TMA-9FS-5MS-00	MW ADAPTER 2.92mm FEMALE - 3.5mm MALE	2.92mm Female	3.5mm Male			
TMA-9MS-5FS-00	MW ADAPTER 2.92mm MALE - 3.5mm FEMALE	2.92mm Male	3.5mm Female			
TMA-9MS-5MS-00	MW ADAPTER 2.92mm MALE - 3.5mm MALE	2.92mm Male	3.5mm Male			

# RF Adapters In-Series & Between-Series

## RF ADAPTERS

CarlisleIT features precision RF adapters with color-coded rings on each end that identify connector type. The color-coding scheme is as follows:

	Orange	DC - 26.5GHz	3.5mm Connector
	Yellow	DC - 40GHz	2.92mm (K) Connector
	Green	DC - 50GHz	2.4mm Connector
	Blue	DC - 67GHz	1.85mm (V) Connector

## SIGNAL INTEGRITY PERFORMANCE

These adapters offer excellent signal integrity with low VSWR, and low insertion loss. Figure 1 shows the VSWR data and Figure 2 shows the insertion loss for a 2.92mm female to 2.92mm female adapter. It can be seen that the adapter introduces minimal insertion loss in the channel and exhibits excellent VSWR performance of approximately 1.12 at 40 GHz.

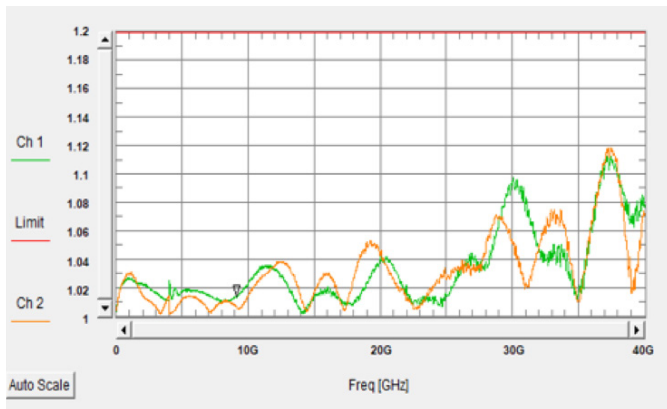


Fig. 1: VSWR performance of 2.92mm female to 2.92mm female adapter

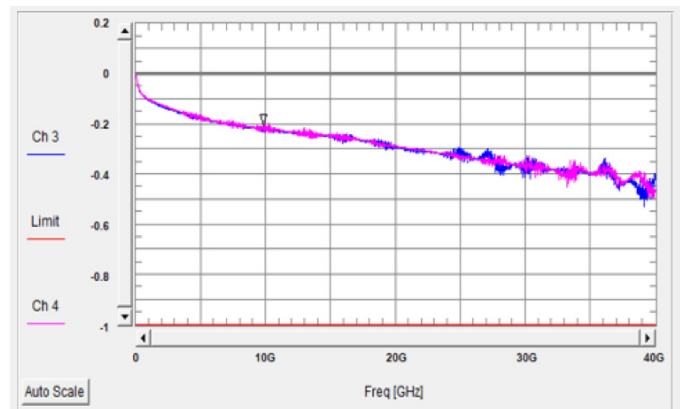


Fig. 2: Low insertion loss of 2.92mm female to 2.92mm female adapter

CarlisleIT Precision RF adapters are readily available within two weeks after receiving the order.

## Global Manufacturing. Local Support.

Wherever you are, so are we. With manufacturing centers around the globe, our highly qualified team of nearly 350 engineers is up to any challenge. Our extensive worldwide manufacturing capabilities, coupled with end-to-end local project management and engineering support, allow us to design, build, test, and certify your product in-house, saving you the time and hassle of managing multiple vendors.



### FACILITIES CERTIFICATIONS

- » AS 9100
- » ISO 9001
- » ISO 13485
- » ISO 14001
- » ITAR registration
- » MIL-SPEC / SAE
- » RoHS compliance

### UNITED STATES

#### ALABAMA

2150 Michigan Ave.  
Brookley Complex  
Mobile, AL 36615  
(251) 650.0600

#### CALIFORNIA

2731 Loker Avenue West  
Carlsbad, CA 92010  
(760) 931.1844

12900 Alondra Blvd.  
Cerritos, CA 90703  
(562) 498.0901

4200 Garner Road  
Riverside, CA 92501  
(951) 788.0252

12840 Bradley Ave  
Sylmar, CA 91342  
(818) 362.3300

6740 Nancy Ridge Drive  
San Diego, CA 92121  
(858) 450.1591

#### FLORIDA

100 Tensolite Drive  
St. Augustine, FL 32092  
(904) 829.5600

#### PENNSYLVANIA

206 Jones Blvd.  
Pottstown, PA 19464  
(601) 495.0110

#### WASHINGTON

7911 South 188th St., Ste. 100  
Kent, WA 98032  
(425) 251.0700

34935 SE Douglas St.  
Snoqualmie, WA 98065  
(425) 396.8861

#### WISCONSIN

5300 W. Franklin Drive  
Franklin, WI 53132  
(414) 421.5300

### MEXICO

Bldv. Luis Donaldo Colosio M. 1195  
Colonia Obrera  
84048 Nogales Sonora, Mexico  
+52 63.1314.6105

Av. Ferrocarril # 1730 int. 16 y 17  
Parque Industrial Los Pinos II  
Tijuana, B.C. Mexico 22120  
(760) 517-1805

### EUROPE

#### SWITZERLAND

Nord-Sud, Stabile 3A, CH-6934  
Bioggio, Switzerland  
+41 91.611.5161

### UNITED KINGDOM

Unit 9 Walker Rd., Walker Industrial Estate,  
Guide, Blackburn, Lancashire, BB1 2QE, UK  
+44 1254.660054

Dakota House  
Coventry Airport  
Baginton, Coventry  
CV8 3AZ, UK  
+44 2476.882695

### ASIA

#### CHINA

Qiaolong Rd. No. 7 Xinghu Industrial Park,  
DengWu Village, QiaoTou Town 523533  
Dongguan Guangdong, China  
+86 769.8102.6363

#### MEDICAL TECHNOLOGIES (DONGGUAN) CO., LTD.

Qiaolong Rd. No. 2, Xinghu Industrial Zone,  
DengWu Village, QiaoTou Town 523533,  
Dongguan Guangdong, China  
+86 769.8255.6339

Let's connect.



CarlisleIT.com

