RF/Microwave Adapters DC — 65 GHz

INTRODUCTION

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

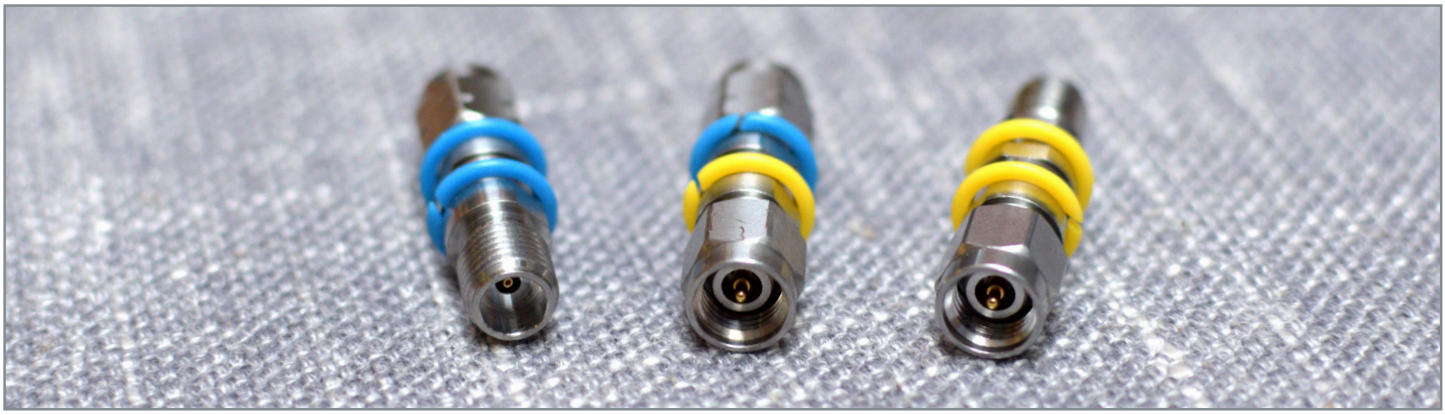
We offer a full-gender family of precision RF adapters in different connector options to cover applications ranging from DC – 65 GHz. These adapters come standard in a passivated stainless steel body with a captivated beryllium copper center conductor to ensure mating repeatability. In addition, options 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

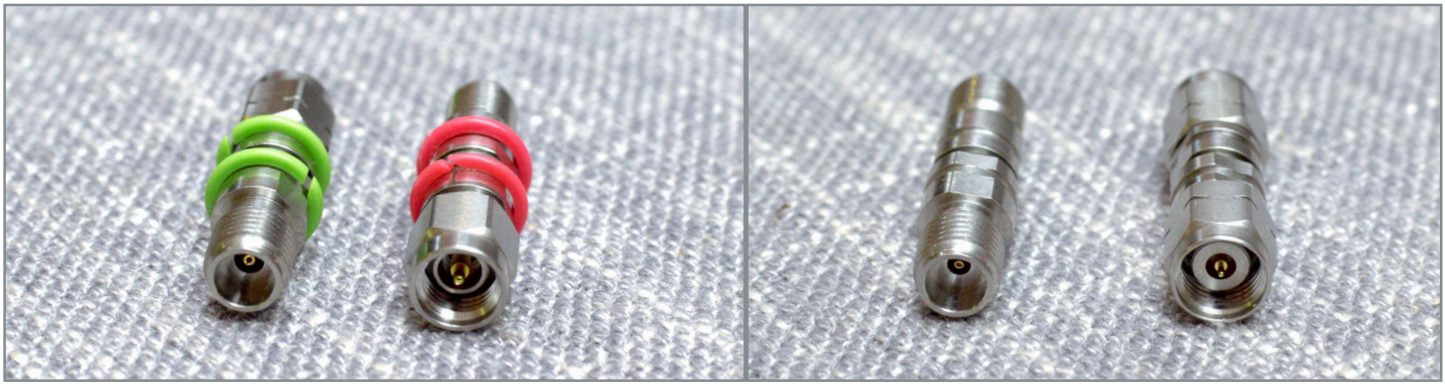
- Complete Family of Straight In-Series & Between-Series Precision RF Adapters
- 50 Ω Impedance
- Low VSWR & Insertion Loss
- Color Coded Rings for Series Indication

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

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RF Adapters In-Series & Between-Series

INTRODUCTION

This is a complete family of 50 Ω straight adapters available in 1.85 mm, 2.40 mm, 2.92 mm, and 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 1.85 mm FEMALE - 1.85 mm FEMALE	1.85 mm Female	1.85 mm Female	DC - 65 GHz	1.20:1 @ 65 GHz
	TMA-8MS-8FS-00	MW ADAPTER 1.85 mm MALE - 1.85 mm FEMALE	1.85 mm Male	1.85 mm Female		
	TMA-8MS-8MS-00	MW ADAPTER 1.85 mm MALE - 1.85 mm MALE	1.85 mm Male	1.85 mm Male		
	TMA-4FS-4FS-00	MW ADAPTER 2.4 mm FEMALE - 2.4 mm FEMALE	2.4 mm Female	2.4 mm Female	DC - 50 GHz	1.20:1 @ 50 GHz
	TMA-4MS-4FS-00	MW ADAPTER 2.4 mm MALE - 2.4 mm FEMALE	2.4 mm Male	2.4 mm Female		
	TMA-4MS-4MS-00	MW ADAPTER 2.4 mm MALE - 2.4 mm MALE	2.4 mm Male	2.4 mm Male		
	TMA-9FS-9FS-00	MW ADAPTER 2.92 mm FEMALE - 2.92 mm FEMALE	2.92 mm Female	2.92 mm Female	DC - 40 GHz	1.20:1 @ 40 GHz
	TMA-9MS-9FS-00	MW ADAPTER 2.92 mm MALE - 2.92 mm FEMALE	2.92 mm Male	2.92 mm Female		
	TMA-9MS-9MS-00	MW ADAPTER 2.92 mm MALE - 2.92 mm MALE	2.92 mm Male	2.92 mm Male		
	TMA-5FS-5FS-00	MW ADAPTER 3.5 mm FEMALE - 3.5 mm FEMALE	3.5 mm Female	3.5 mm Female	DC - 26.5 GHz	1.18:1 @ 26.5 GHz
	TMA-5MS-5FS-00	MW ADAPTER 3.5 mm MALE - 3.5 mm FEMALE	3.5 mm Male	3.5 mm Female		
	TMA-5MS-5MS-00	MW ADAPTER 3.5 mm MALE - 3.5 mm MALE	3.5 mm Male	3.5 mm Male		
Between-Series Adapters	TMA-8FS-4FS-00	MW ADAPTER 1.85 mm FEMALE - 2.4 mm FEMALE	1.85 mm Female	1.85 mm Female	DC - 50 GHz	1.20:1 @ 50 GHz
	TMA-8MS-4FS-00	MW ADAPTER 1.85 mm MALE - 2.4 mm FEMALE	1.85 mm Male	1.85 mm Female		
	TMA-8FS-4MS-00	MW ADAPTER 1.85 mm FEMALE - 2.4 mm MALE	1.85 mm Female	1.85 mm Male		
	TMA-8MS-4MS-00	MW ADAPTER 1.85 mm MALE - 2.4 mm MALE	1.85 mm Male	1.85 mm Male		
	TMA-8FS-9FS-00	MW ADAPTER 1.85 mm FEMALE - 2.92 mm FEMALE	1.85 mm Female	2.92 mm Female	DC - 40 GHz	1.20:1 @ 40 GHz
	TMA-8MS-9FS-00	MW ADAPTER 1.85 mm MALE - 2.92 mm FEMALE	1.85 mm Male	2.92 mm Female		
	TMA-8FS-9MS-00	MW ADAPTER 1.85 mm FEMALE - 2.92 mm MALE	1.85 mm Female	2.92 mm Male		
	TMA-8MS-9MS-00	MW ADAPTER 1.85 mm MALE - 2.92 mm MALE	1.85 mm Male	2.92 mm Male		
	TMA-8FS-5FS-00	MW ADAPTER 1.85 mm FEMALE - 3.5 mm FEMALE	1.85 mm Female	3.5 mm Female	DC - 26.5 GHz	1.18:1 @ 26.5 GHz
	TMA-8MS-5FS-00	MW ADAPTER 1.85 mm MALE - 3.5 mm FEMALE	1.85 mm Male	3.5 mm Female		
	TMA-8FS-5MS-00	MW ADAPTER 1.85 mm FEMALE - 3.5 mm MALE	1.85 mm Female	3.5 mm Male		
	TMA-8MS-5MS-00	MW ADAPTER 1.85 mm MALE - 3.5 mm MALE	1.85 mm Male	3.5 mm Male		
	TMA-4FS-9FS-00	MW ADAPTER 2.4 mm FEMALE - 2.92 mm FEMALE	2.4 mm Female	2.92 mm Female	DC - 40 GHz	1.20:1 @ 40 GHz
	TMA-4MS-9FS-00	MW ADAPTER 2.4 mm MALE - 2.92 mm FEMALE	2.4 mm Male	2.92 mm Female		
	TMA-4FS-9MS-00	MW ADAPTER 2.4 mm FEMALE - 2.92 mm MALE	2.4 mm Female	2.92 mm Male		
	TMA-4MS-9MS-00	MW ADAPTER 2.4 mm MALE - 2.92 mm MALE	2.4 mm Male	2.92 mm Male		
	TMA-4FS-5FS-00	MW ADAPTER 2.4 mm FEMALE - 3.5 mm FEMALE	2.4 mm Female	3.5 mm Female	DC - 26.5 GHz	1.18:1 @ 26.5 GHz
	TMA-4MS-5FS-00	MW ADAPTER 2.4 mm MALE - 3.5 mm FEMALE	2.4 mm Male	3.5 mm Female		
	TMA-4FS-5MS-00	MW ADAPTER 2.4 mm FEMALE - 3.5 mm MALE	2.4 mm Female	3.5 mm Male		
	TMA-4MS-5MS-00	MW ADAPTER 2.4 mm MALE - 3.5 mm MALE	2.4 mm Male	3.5 mm Male		
	TMA-9FS-5FS-00	MW ADAPTER 2.92 mm FEMALE - 3.5 mm FEMALE	2.92 mm Female	3.5 mm Female	DC - 26.5 GHz	1.18:1 @ 26.5 GHz
	TMA-9FS-5MS-00	MW ADAPTER 2.92 mm FEMALE - 3.5 mm MALE	2.92 mm Female	3.5 mm Male		
	TMA-9MS-5FS-00	MW ADAPTER 2.92 mm MALE - 3.5 mm FEMALE	2.92 mm Male	3.5 mm Female		
	TMA-9MS-5MS-00	MW ADAPTER 2.92 mm MALE - 3.5 mm MALE	2.92 mm Male	3.5 mm Male		

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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 2.92 mm female to 2.92 mm female adapter. It can be seen that the adapter introduces minimal insertion loss in the channel and an exhibits excellent VSWR performance of approximately 1.12 at 40 GHz.

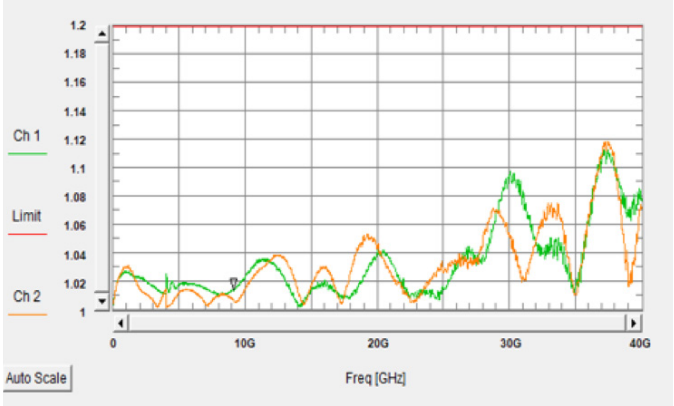

Fig.1: VSWR performance of 2.92 mm female to 2.92 mm female adapter

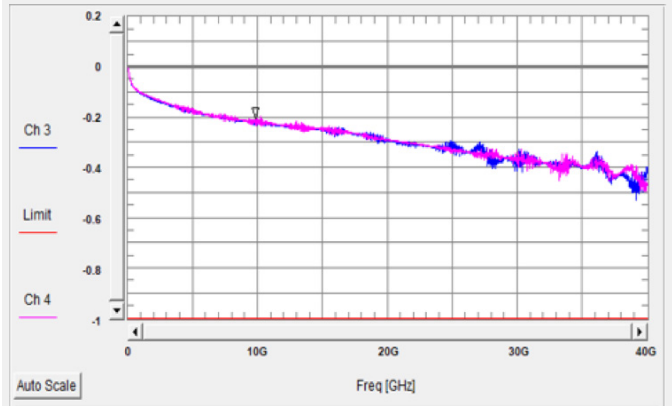

Fig. 2: Low insertion loss of 2.92 mm female to 2.92 mm female adapter

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

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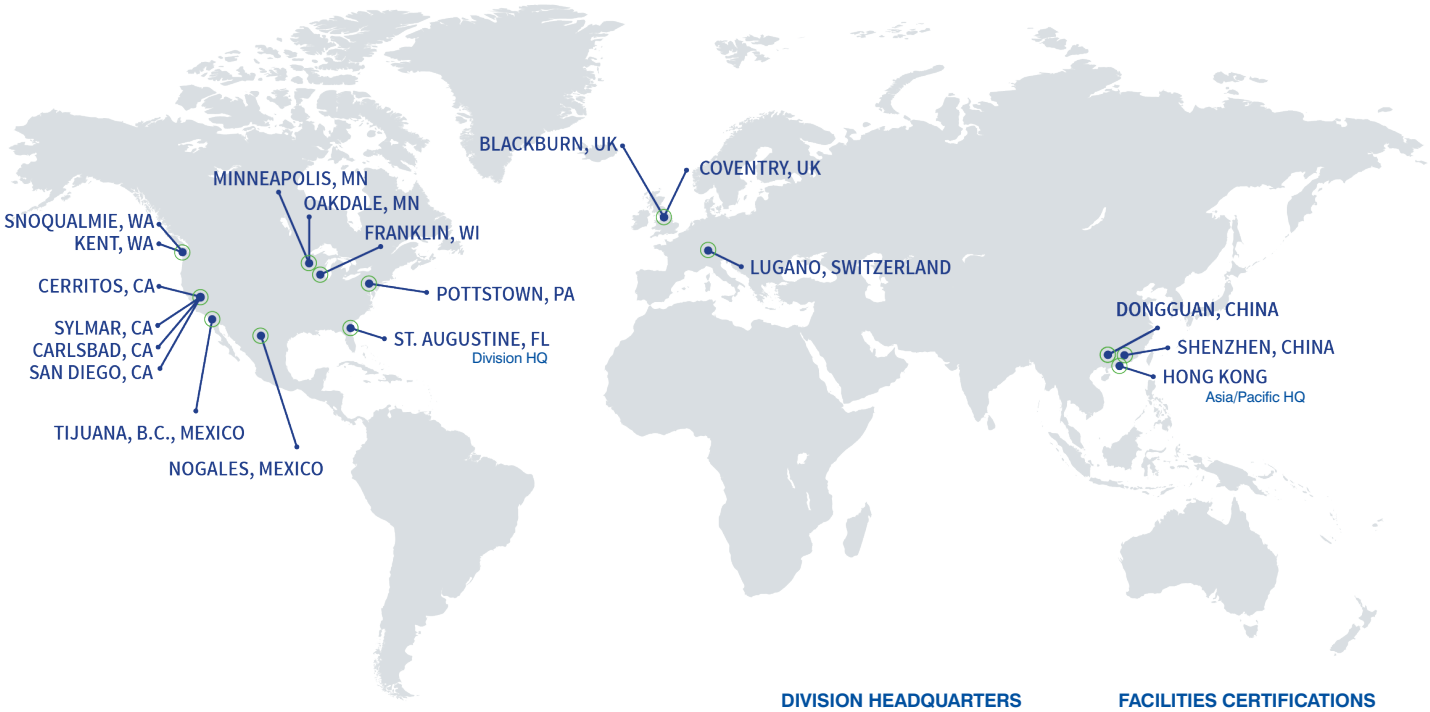
Global Manufacturing. **Local Support.**

Wherever you are, so are we. With manufacturing centers around the globe, our highly qualified team of 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.



DIVISION HEADQUARTERS

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FACILITIES CERTIFICATIONS

- AS9100
- ISO 9001
- ISO 13485
- ISO 14001
- ITAR registration
- MIL-SPEC/SAE
- RoHS compliance

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