



A. Series

Adapters

Fixed adapters
Limited misalignment



Large misalignment



Spring adapters
Large misalignment spring-loaded



Receptacles

Board to board



Module to module



Board to module

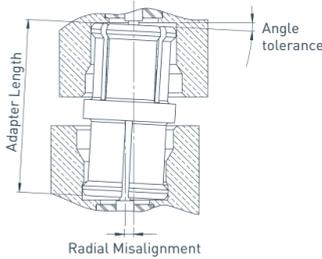


PCB mount



Angle tolerance and radial misalignment

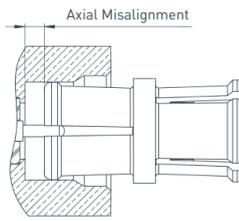
Little influence on VSWR & RF leakage
The amount of radial misalignment
will depend on the bullet length



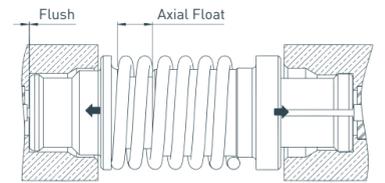
Radial Misalignment = SIN(angle tolerance) x length of adapter

Distance tolerance and axial misalignment

Fixed adapters
Big influence on VSWR & RF leakage
Best performance when flush
(fully mated, zero misalignment)



Spring adapters
No influence on VSWR & RF leakage (always flush)
Influence on phase

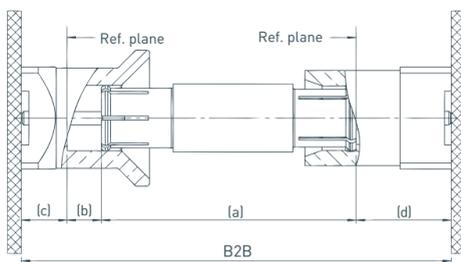


B. Distance Measurements

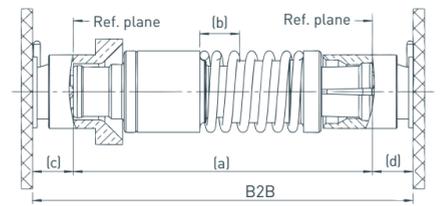
B2B distance

for typical configurations

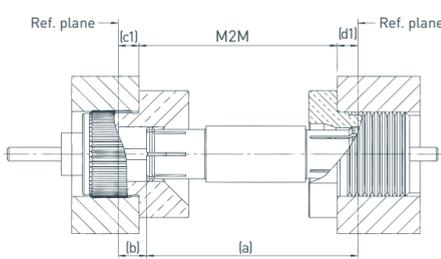
B2B - Fixed adapter (SMP-MAX)
Optimum distance = $a + c + d + b/2$
Min distance = $a + c + d (*)$
a = adapter length
b = axial misalignment



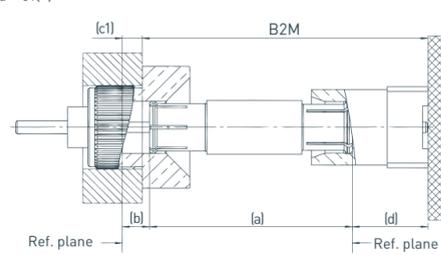
B2B - Spring adapter (SMP)
Optimum distance = $a + c + d - b/2$
Min distance = $a + c + d - b (*)$
a = adapter length, uncompressed
(no force applied)
b = axial tolerance



Module to module
Optimum distance = $a - c1 - d1 + b/2$
Min distance = $a - c1 - d1 (*)$



Board to module
Optimum distance = $a + d - c1 + b/2$
Min distance = $a + d - c1 (*)$



Area

PCB surface



*Contact us for precise distance calculation including machining tolerance. Solder paste thickness on PCB is not considered (Radiall recommends a thickness of 150 µm | 5.850 milinch) for SMT receptacle.

C. Electrical Options

Frequency

Measured in GHz (Max)

VSWR

@3GHz

Power (Watt)

CW at 3GHz, T=25°C

Our most important connection is with you.™



A. Series

B. Distance Measurements

C. Electrical Options

Name	Angle tolerance and radial misalignment	Distance tolerance and axial misalignment	B2B distance*	Area	Frequency	VSWR	Power (Watt)
SMP-Max	±3° Max	At least 2 mm (.079 in)	13 mm (.51 in)	6 mm² (.236 in²)	6 GHz	1.20	300 W at 2.7 GHz
BMR-Spring	±6° Max	At least 2 mm (.079 in)	30 mm (1.18 in)	9.5 mm² (.37 in²)	8 GHz	1.10	350 W at 2.7 GHz
IMP-Spring 18	±0.7 mm (±.027 in) One - piece connector, special case	At least 1 mm (.039 in)	7.6 mm (.30 in)	∅ 7mm (∅ .27 in)	18 GHz	1.10	150 W
IMP-Spring	±1 mm (±.04 in) One - piece connector, special case	At least 2 mm (.079 in)	16 mm (.63 in)	∅ 7mm (∅ .27 in)	6 GHz	1.15	150 W
SMPM-Spring	±3° Max	At least 1.3 mm (.51 in)	12.7 mm (.50 in)	4 mm² (.16 in²)	18 GHz	1.10	100 W
SMP-Spring	±3.5° Max	Up to 6 mm (.236 in)	16.4 mm (.64 in)	∅ 6 mm (∅ .236 in)	18 GHz	1.15	120 W
IMP	One - piece connector, special case	0.4 mm (.016 in)	2 mm (.08 in)	4.5 mm² (.18 in²)	6 GHz	1.25	50 W
SMPM	±3° Max	0.25 mm (.010 in)	8.8 mm (.35 in)	4 mm² (.16 in²)	65 GHz	1.10	100 W
SMP	±3.5° Max	0.25 mm (.010 in)	10.3 mm (.41 in)	∅ 4.6 mm (∅ .18 in)	40 GHz	1.10	120 W
SMP-COM	±3.5° Max	0.4 mm (.016 in)	9.7 mm (.38 in)	5 mm² (.19 in²)	12.4 GHz	1.12	120 W
MMBX	±4.5° Max	0.6 mm (.024 in)	6.7 mm (.26 in)	6 mm² (.236 in²)	12.4 GHz	1.15	150 W

*Minimum Distance using Catalog Receptacles. Board-to-board distance can be reduced by using custom receptacles. Please consult us.



Board to Board



area offices
local contacts

Our most important connection is with you.™

It's not just a slogan. It's a statement of our earnest desire to put you at the forefront of all our business practices. As part of Radiall's mission to be available and accessible, we make it a priority to have local offices around the globe ready and able to assist you – wherever you are, whenever you need us.

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Radiall Navigator™

Radiall Navigator™ is a tool designed to assist our partners and customers that provides sharing information about Radiall products as easy as possible in one single document.

With this in mind, we have created Radiall Navigator as a supplemental guide to information available in our catalogs and on our website (www.radiall.com). We recognize that time is a very limited and valuable asset. We are confident that Radiall Navigator will help users understand our products, terminologies, and references better.

Radiall's Vision Statement

Connectivity has a profound and dramatic impact on the lives of people throughout the world. Because of advancements in technology, our lives are more convenient, more secure, more enjoyable and richer than ever. The speed of data enables communication in the most remote areas so people can reach all corners of the globe, allows for important defense and security, and facilitates space exploration. But technology doesn't just happen. It starts in the mind with ideas, making connections never considered in ways that nobody dreamed possible. Seeing the future in ways previously unimagined is the act of innovation and it begins with people – the inventors, the dreamers, the pioneers and the engineers – enriching the lives of billions. At Radiall, we have one single, solitary mission; Empower the people that enrich our lives. Enable their innovation by providing reliability and repeatability. Give them useful information and provide them with valuable guidance when determining the best course for success. We don't invent the future, we enable it. We inspire innovation, we embrace challenges, we challenge the conventional and we collaborate with you to succeed. At Radiall, we're proud to say – Our most important connection is with you.

