

# SMP-MAX 50 Ohm Board-to-Board RF Connectors



**Virtually eliminating assembly error and simplifying design requirements, SMP-MAX 50 Ohm Board-to-Board RF Connectors use patented technology to increase mechanical tolerances**

## Features and Benefits

Patented technology accommodates significant misalignment variation and increases board-to-board mechanical tolerances	Eliminates the risk of assembly errors during manufacturing. Reduces manufacturing time and costs by simplifying design efforts
Impedance-matching insulator to reduce effects of axial misalignment	Ensures signal integrity by preventing significant change in VSWR (return loss) with gaps up to 2.00mm
Board-mount receptacle with a conical center contact	Prevents additional stress due to misalignment and increases reliability
Funnel-shape (catcher's mitt) design in PCB receptacle with up to 3° of angular misalignment allowance	Minimizes stubbing of mating pairs. Facilitates blind mating
Wide operating frequency range of DC to 10 GHz	Meets wireless communications' required range of 800 MHz to 2.5 GHz
Optional adapter lengths of 12.70 to 76.20mm	Accommodates a wide variation in board-to-board distances
Subminiature-sized connector series	Saves both space and weight for smaller applications
Rugged construction	Delivers 100-minimum mating life cycle
Power handling: 300W at +25°C, 2.7 GHz	Provides ideal performance for RF amplifiers
Push-on and snap coupling options	Offers two levels of retention for design flexibility: high-retention snap for sturdy connections and low-retention push on for applications involving swapping out boards
Through-hole and surface mount options available	Provides flexibility to meet application requirements



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## Applications

### Data/Computing

PCB Manufacturing

### Telecommunications/Networking

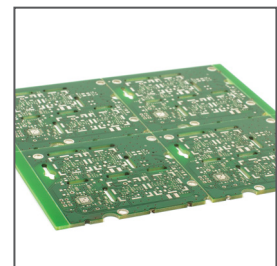
- Radio Heads
- Base Stations
- Repeaters
- GPS Devices



GPS Device



Remote Radio Head



PCB Manufacturing

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## Specifications

### REFERENCE INFORMATION

Packaging: Tray, Bulk, Single Bag, Tape and Reel  
Designed In: Millimeters  
RoHS: Yes  
Halogen Free: Yes

### PHYSICAL

Housing: Brass/Beryllium Copper  
Male Center Contact: Brass  
Female Center Contact: Beryllium Copper  
Plating:  
Body & Contact – Gold Over  
High-Phosphorous Nickel Over Copper

### ELECTRICAL

Nominal Impedance: 50 Ohms  
Voltage (max.): 330 Vrms  
Frequency Rating: DC to 10 GHz  
Power (50 Ohm Design):  
>300W at 2.7 GHz and 25°C  
>200W at 2.7 GHz and 85°C  
VSWR (max.): 1.20 – DC to 3 GHz  
1.35 – 3 to 10 GHz  
Insertion Loss (max.): 0.12 – DC to 3 GHz  
0.25 – 3 to 10 GHz

### MECHANICAL

Center Contact Retention Force: > 7N  
Force to Engage/Disengage:  
Engagement Force (Typical)  
Detent (Snap-On) – 45N  
Smooth Bore – 14N  
Disengagement Force (Typical)  
Detent (Snap-On) – 9 to 45N  
Smooth Bore (Slide-On) – 9N  
Connector Durability (min.): 100 Cycles  
Insulator: PEEK or Teflon  
Operating Temperature: -55 to +165°C

## Ordering Information

Series No.	Component
73420	SMP-MAX Board-to-Board RF Connectors

[www.molex.com/link/smpmax.html](http://www.molex.com/link/smpmax.html)