MMP INTRODUCTION

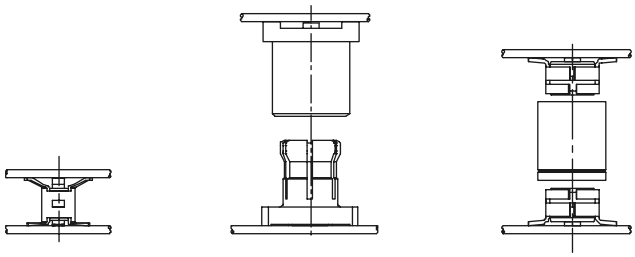
RADIALL, the pioneer in SMT coaxial connectors with the MMS series, has become a world wide leader in this technology.
Thanks to this SMT expertise, RADIALL now announces another breakthrough : the next generation of SMT coaxial connectors called **MMP** (**M**icro **M**iniature **P**ressure contact).

The **MMP** technological advance allows :
- cost savings
- further miniaturization
- exceptional RF performance
- reliability

The **MMP** product line includes :
- **IMP** series : board to board application
- **UMP** series : board to wire application

The **IMP** series (**I**nterconnect **M**icro miniature **P**ressure contact) innovation consists of 1 coaxial connector when usually the same application requires either 2 coaxial connectors (a male SMT receptacle and a female SMT receptacle), or 3 coaxial connectors (2 SMT receptacles and an in-series adapter) Catalog P/N : ***D1 039 CE.***

Board to board application



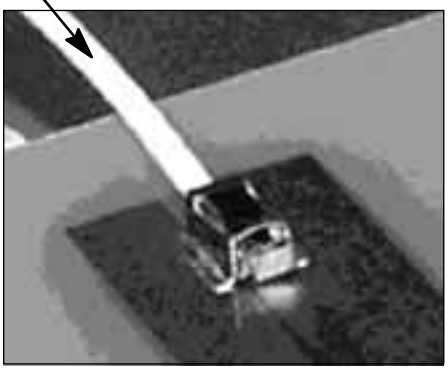
IMP
1 coaxial connector

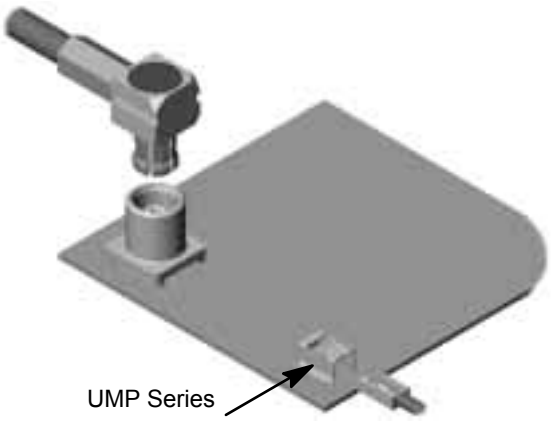
MCX
2 coaxial connectors

MMS
3 coaxial connectors

The **UMP** series (**U**ltra **M**iniature **P**ressure contact) consists of 1 coaxial connector when 2 coaxial connectors (coaxial plug and SMT coaxial receptacle) are usually used.

Board to wire application

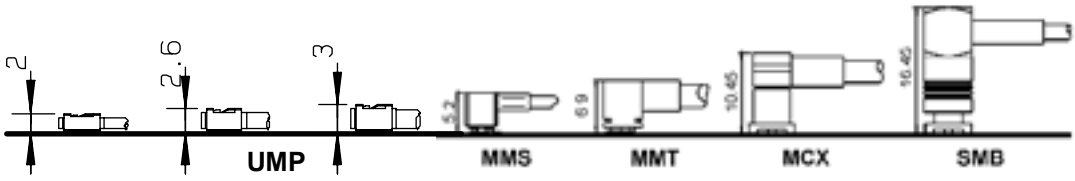




UMP Series

INTRODUCTION

The **Ultra Miniature Pressure** contact (**UMP**) from **Radiall** features high RF performance in the world's lowest profile (2 mm mated height). Packaged in tape & reel, the **UMP** is ideal for high volume applications. The **UMP** can be used on board or edge applications and can be used in conjunction with external or embedded antennas. There are 3 different heights (2, 2.6 and 3 mm) available in the 3 types of connection (lock, snap-on and slide-on)



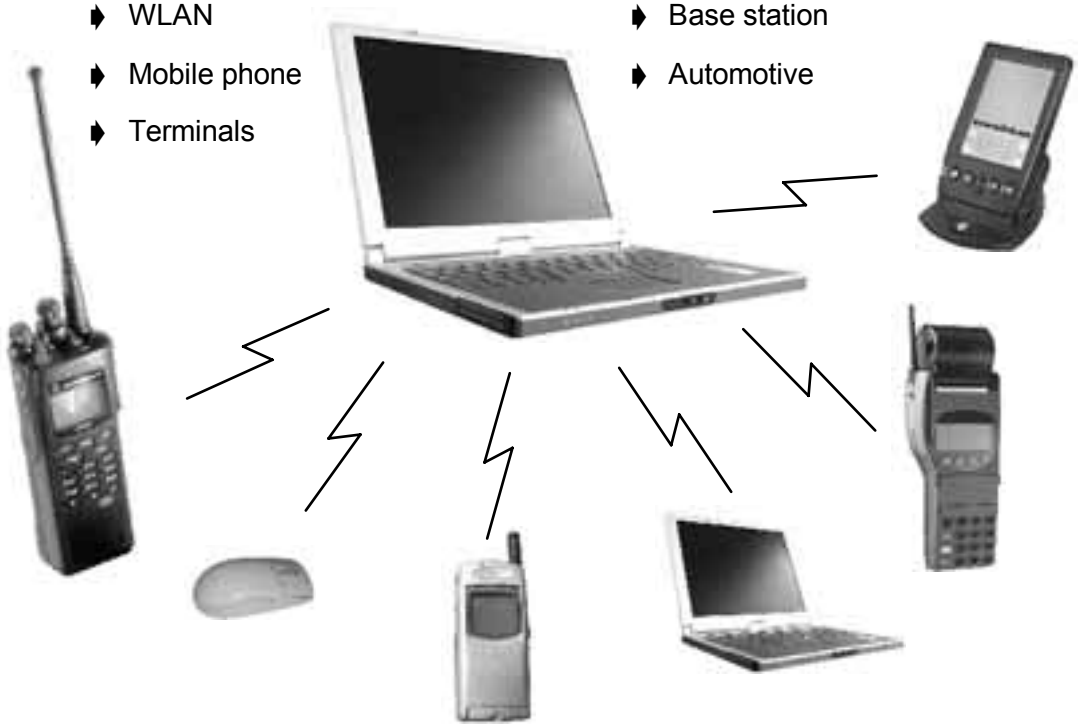
Main product interest

- World's lowest profile: < 2mm
- High density: UMP receptacle needs only 15.8mm^2 on board (4.4 x 3.6mm)
- World's lightest (0.003g for the receptacle and 0.08g for the plug)
- Small space for connection: needs only 2 mm of height
- Cost effective solution: 1 coax connector only
- Coupling mechanism choice (lock, snap-on, slide-on)

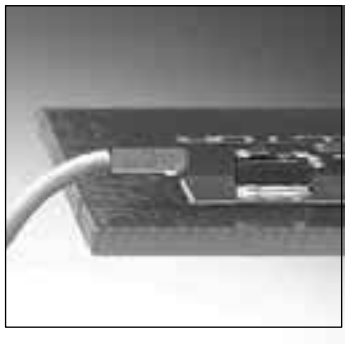
Applications:

UMP series can be used on board-to-board (or board-to-antenna) applications:

- WLAN
- Mobile phone
- Terminals
- Base station
- Automotive



Key specifications:



- Operating frequency: DC-6 GHz
- Typical VSWR: Frequency Value
  2 GHz 1.07:1
  4 GHz 1.12:1
  6 GHz 1.20:1
- Max. insertion loss (dB) : 0.2√F
- RF leakage (dB): -40 at 2 GHz
- Durability: 100 matings min (lock plug)
  3000 matings min (snap-on plug)
  10000 matings (slide-on plug)
- Cable retention force (1 mm cable) : 20N
- Plating : gold

Pick and place & packaging :

- Design adapted to automated pick and place machines. The footprint of UMP allows video positioning by using the component's shadow to facilitate its placement

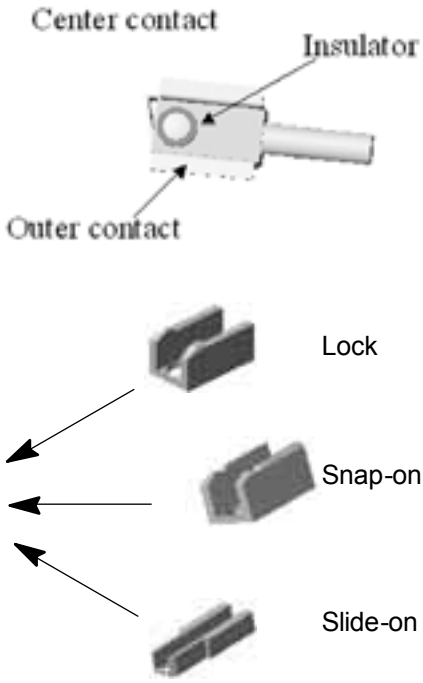
Panasonic®
Factory Automation
Approval

- Packaging : The **UMP** receptacle is packaged in reels of plastic embossed tape.

Type of mating :

Only 1 coaxial connector

With 3 types of connection :



- lock : *no risk of disconnection
  *need a disconnecting tool
  *number of matings < 100
  *withstands severe vibrations

- snap-on : *disconnectable without tooling (small retention)
  *number of matings < 3000
  *use in development or in perfecting stage
  *easy maintenance

- slide-on : * disconnectable without tooling (no retention)
  · number of matings < 10000
  · use in tests

Plugs exist in the 3 types of mating (lock, snap-on and slide-on) for each height of receptacles (2, 2.6 and 3 mm).

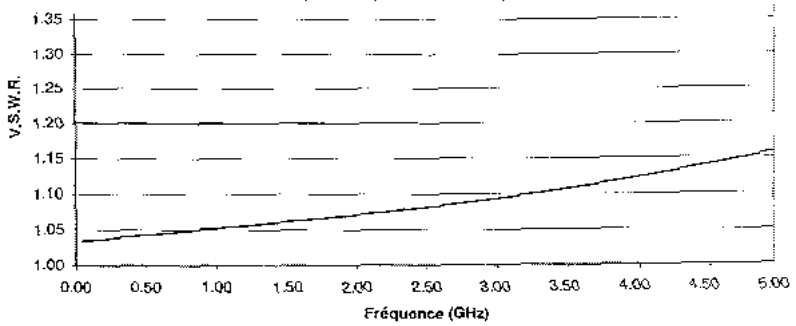
UMP

CHARACTERISTICS

See test report SC99.03.5865

		TEST STANDARD	RESULTS
ELECTRICAL			
Impedance		CE CC 22 000	50 Ω
Frequency range			DC - 6 GHz
Max VSWR (mated connectors)			1.05 + 0.03 F
Max Insertion loss (dB)			0.2 $\sqrt{F}$
RF leakage (mated connectors)			- 40dB min at 2 GHz
Insulation resistance			1000 MΩ min
Contact resistance	center contact outer contact		60 mΩ 10 mΩ
Working voltage			100 VRMS
Dielectric withstanding voltage			350 VRMS
MECHANICAL			
Durability	lock snap-on slide-on	CE CC 22 000	100 matings 3000 matings 10000 matings
Force to engage			5 N
Cable retention force	cable 1/50		20 N
Sine vibrations		IEC 68-2-6	passed
Random vibrations		IEC 68-2-36	passed
Shocks		IEC 68-2-29	50 g /11 ms half sinus 3 shocks / 3 directions/2 senses
Retention on test board			20 N min
Damp heat		IEC 68-2-56	passed
Weight	receptacle plug		0.03g 0.08g
ENVIRONMENTAL			
Operating Temperature		CE CC 22 000	- 40/+90°C
MATERIALS			
Bodies	plug receptacle		Brass Berylium copper
Center contact			Brass
Outer contact			Berylium copper
Insulator			PTFE
PLATINGS			
Bodies			Gold
Center contact			Gold
Outer contact			Gold

Power : P= 50 W at sea level, 40°C, at 1.8 GHz, V.S.W.R.=1.1



Frequency	Typical VSWR
1 GHz	1.05
2 GHz	1.07
3 GHz	1.09
4 GHz	1.12
5 GHz	1.16
6 GHz	1.20