

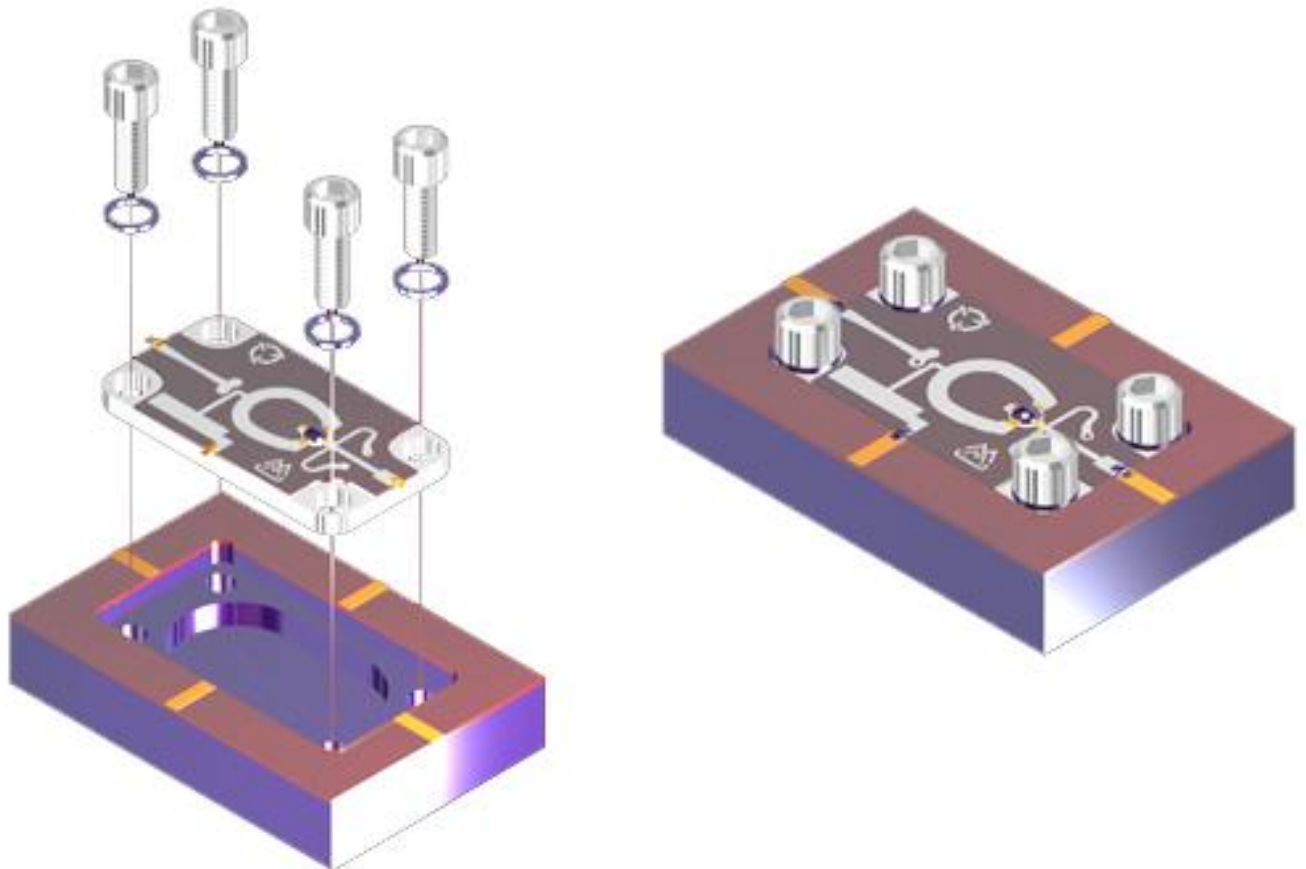


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### Open Carrier Mixer Mounting

Marki Microwave Carrier mixers, doublers, and amplifier/doublers are designed for easy integration into low cost microwave radio and other wireless systems. Planar construction insures reliable operation and repeatable performance.

Carrier components are recess mounted in to the system carrier/substrate for most applications. Screws attach the device to the system carrier or housing ground. See the recommended system board pocket for the applicable carrier style. For best performance the mixer is placed as close as possible to the RF input. A small gap on the LO will not degrade the mixer performance. See the ES-Carrier application note for special considerations when installing this more flexible carrier.

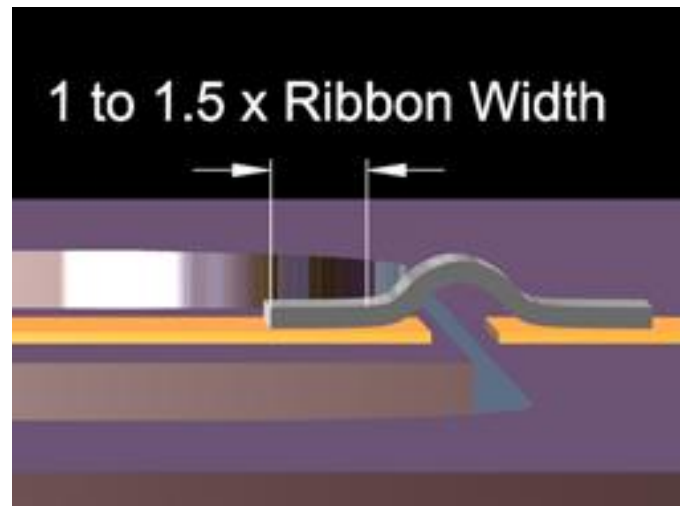




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### **Solderable Interface:**

To interface with another solderable device, a 2 mil thick, 15 to 20-mil wide tin-plated copper ribbon is recommended (Semiconductor Packaging Materials (SPM - <http://www.sempck.com/>), (914) 273-5500). The length of the contact area is 1 to 1.5 times the width of the ribbon. Only a very minimal stress relief is required. A wider ribbon or pre-shaped form is used for the interface to a surface mounted carrier.

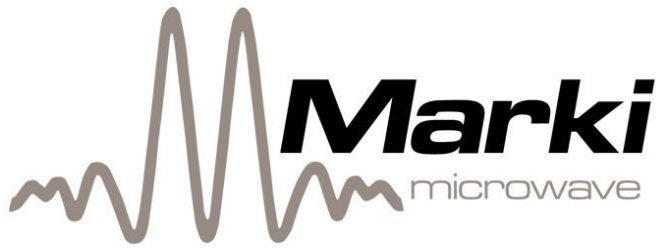


### **Gold-Plated Thin or Thick-Film Interface:**

For thin or thick-film integration, a 10-mil wide, 4-mil thick gold-plated Kovar block is reflow-soldered to the softboard device trace, which allows for gold bond wire (shown) or gold ribbon attach.

Alternately, a gold-plated copper-ribbon or silver ribbon (1-mil thick, 15-mil wide, 99.99% Silver - also available through SPM) is soldered to the carrier device. The other end of the ribbon is gap-welded to the gold-plated thin or thick-film trace.

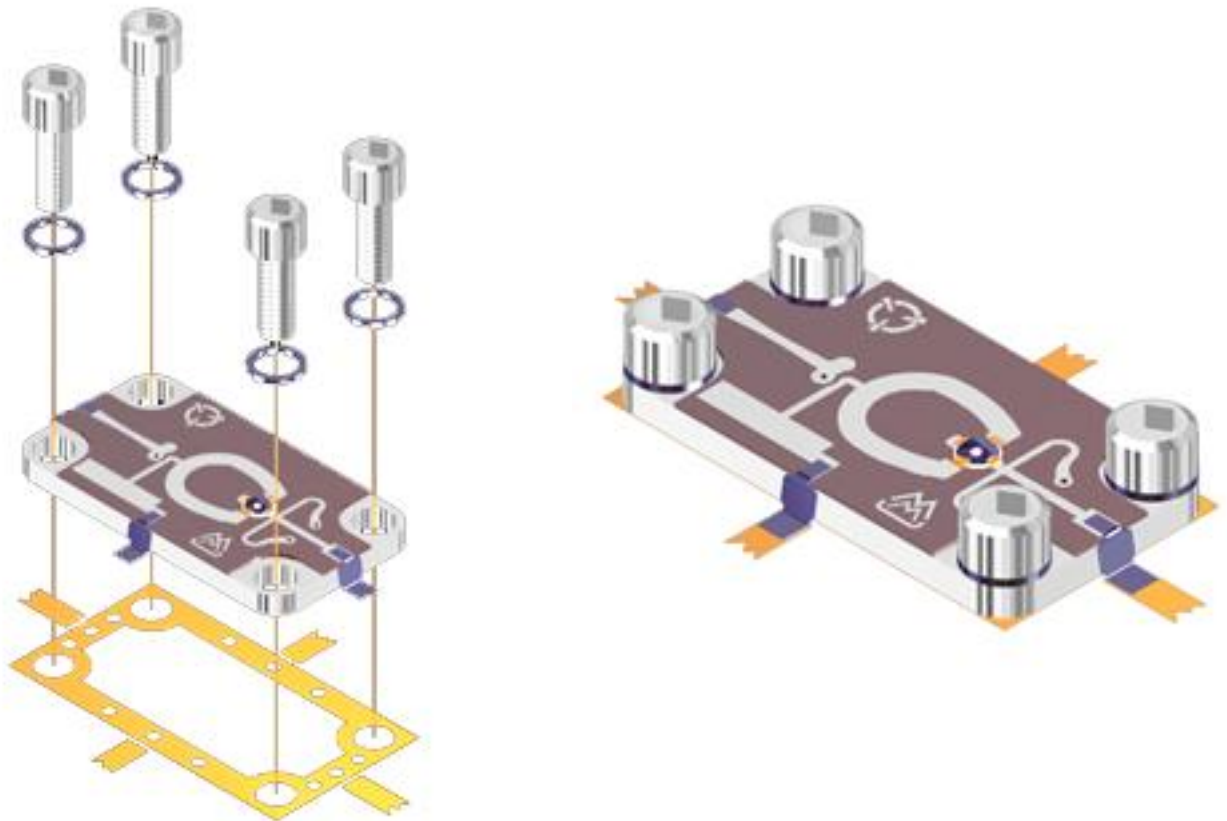


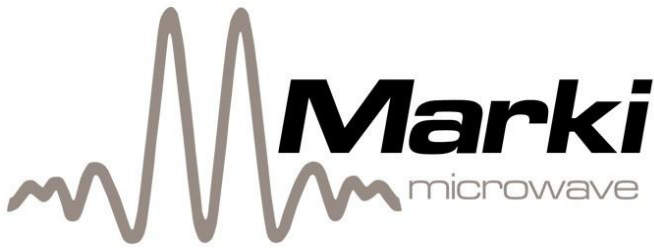


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### Surface Mount

For frequencies below 10 GHz, carrier components may be surface-mounted directly to the system substrate, with grounds provided by via holes. The following page shows the recommended footprint and via holes for this option. A wider ribbon soldered close to the carrier will optimize performance when surface mounting a carrier mixer.





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E-Carrier Surface Mount System Circuit Footprint

