DC-20 GHz SMA PACKAGE FOR BREADBOARDING HYBRID CIRCUITS

APP NOTE: 39-001

Prototyping with Monolithic Microwave Integrated Circuits (MMICs) requires, high frequency experience, wire-bonding equipment, expensive probe station and a lot of patience. During the development process RF/Microwave engineers have to prototype and characterize various MMICs to create amplifiers, mixers and other types of high frequency circuits. To reduce the prototyping cycle, Electro-Photonics has designed the RHyNO™, a unique off the shelf DC-20 GHz test module shown in Fig 1, which makes working with hybrid circuits a breeze.

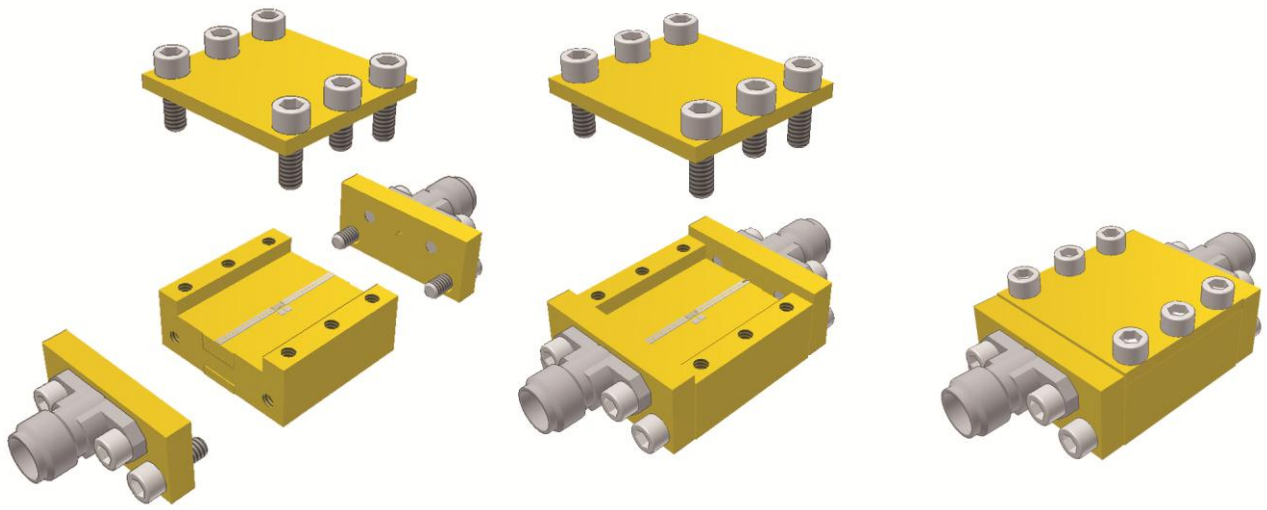

Fig 1: Standard 2 port DC-20GHz hybrid prototyping module

The RHyNO™ can be easily customized into 2- or 3-port module, with or without feedthrus, allowing quick prototyping with various MMICs by swapping out appropriate mid-sections. One can prototype on the base and then connect the end launches, and bolt on the cover to the module. In minutes, you can be testing your hybrid circuit easily on a standard vector network analyzer (VNA). This is the preferred method over testing on a probe station, since most hybrid circuits will be placed in some type of package. To utilize the probe station, one can simply attach a microstrip probe adapter. (See Fig 2 and 3)

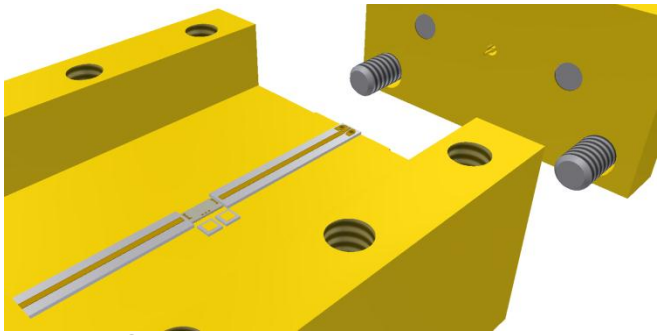

Fig 2: Launch assembly removed for probe access

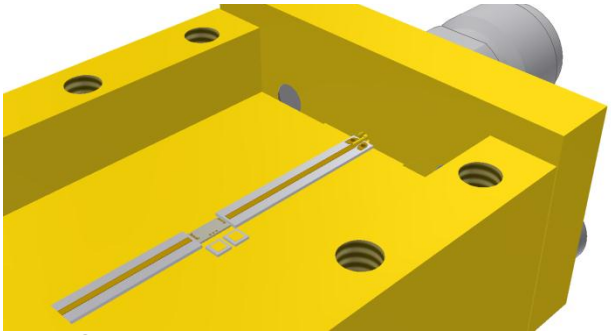

Fig 3: Launch assembly attached for standard measurement

In addition, to prototyping with active devices, the RHyNO™ can also be used for characterizing passive surface mount components to 20 GHz like the SMD filter shown in Fig 4.

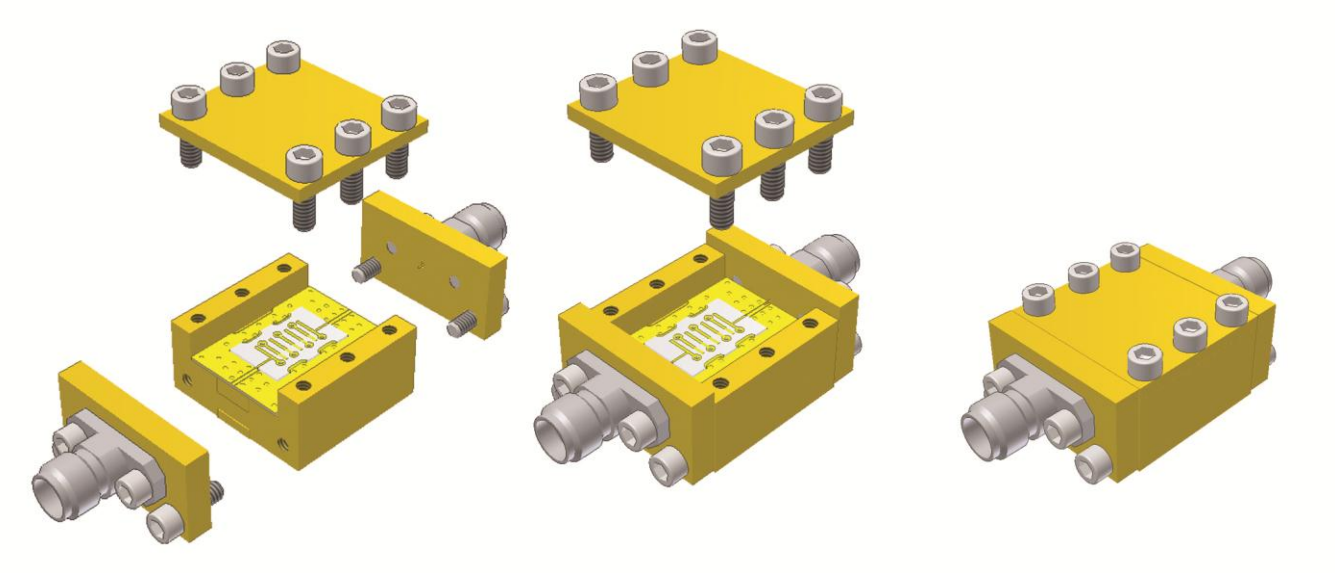

Fig 4: Prototyping with SMD filter

The end launches are designed with low (1.60:1) VSWR and typical insertion loss of 0.7 dB to 20 GHz. The RHyNO™ gives you everything you need to create and test hybrid circuits to 20 GHz.

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