

Probe Holder for On-Wafer Operation of 33 to 110 GHz Waveguide Tuners

Load Pull and Noise Parameter measurements of transistor chips on-wafer at millimetre wave frequencies are possible using Focus' millimetre wave tuners, models 5033, 7550 and 11075, and GGB's biasable waveguide probes models 50, 75 and 120 [1]. The probes are rigidly connected to the tuners which are themselves mounted on the positioners.

In order to stabilize the setup a special bracket, model WGB-1, is required between the tuner body and the probe (photo).

Description

The probe holder (bracket) is made of two pieces, one straight piece and one piece in form of an L. Both carry adjustment screws and slots to fit fine alignments of the microwave probe to the waveguide input port of the tuner and allow to eliminate any mechanical stress. The bracket has to be assembled after the probe has been mounted on the waveguide in order to avoid stress. The screws on the bracket must be tightened only after all parts fit each other freely. The bracket permits adjustment in all 3 axis in order to be able to fit with any possible position of the probe.

The waveguide probe bracket is available for WR-22 (model 5033, 33-50 GHz), WR-15 (model 7550, 50-75 GHz) and WR-10 tuners, model 11075 (75-110 GHz). One bracket assembly per tuner is required. The bracket assembly is provided with three #6-32 and two #8-32 screws and Allen keys. One outside wall of each tuner needs to be modified to include two #8-32 threads for the bracket.

[1] "V band On-Wafer Measurements using CCMT Model 7550", Product Note 5A, Focus Microwaves, March 1995.

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July 1995