

Abstracts

Spaceflight-Qualified Tunable C-Band Parametric Amplifier System

R.K. Hendricks. "Spaceflight-Qualified Tunable C-Band Parametric Amplifier System." 1972 G-MTT International Microwave Symposium Digest of Technical Papers 72.1 (1972 [MWSYM]): 11-13.

An integrated spaceflight-qualified tunable C-band parametric amplifier system has been developed. The amplifier system is a single small package and is designed for minimum power drain. It consists of temperature compensated bias circuits, a waveguide pump network, waveguide mounted varactors, and a microstrip 5-port circulator in a 5- in³ aluminum housing weighing less than 0.5 lb. The measured performance of the system includes: 140 MHz minimum instantaneous 3-dB bandwidth, 17 dB minimum peak gain, >500 MHz tunable bandwidth, and 154 K maximum passband noise temperature.

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