Abstracts

Electronically-Tunable, Low Noise K/sub a/-Band Paramp-Downconverter Satellite Communications Receiver

H.C. Okean, J.A. DeGruyl, L.J. Steffek, A.J. Kelly and S.J. Foti. "Electronically-Tunable, Low Noise K/sub a/-Band Paramp-Downconverter Satellite Communications Receiver." 1975 MTT-S International Microwave Symposium Digest of Technical Papers 75.1 (1975 [MWSYM]): 43-45.

The K/sub a/-band-to-UHF parametric amplifier-downconverter satellite communications receiver described herein provides less than 4dB SSB noise figure over either electronically selectable sideband of the externally supplied ~37.5 GHz local oscillator, each of which is downconverted to a fixed 500-650 MHz IF output band. To achieve such widely tunable low noise performance, this receiver utilizes state-of-the-art varactors, a unique, solid-state pumped Ka-band paramp design and a low noise balanced mixer-transistor IF amplifier, incorporated with associated power supply and thermal stabilization in a self-contained 6" x 5" x 4" package.

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