Abstracts

A MESFET-Controlled X-Band Active Bandpass Filter

Y. Yamamoto, K.-I. Kawasaki and T. Itoh. "A MESFET-Controlled X-Band Active Bandpass Filter." 1991 Microwave and Guided Wave Letters 1.5 (May 1991 [MGWL]): 110-111.

A new MESFET-controlled active band-pass filter has been developed in X-band. This filter loss is compensated for by the negative resistance generated by a MESFET. The series tank circuit of the filter includes another MESFET that is controlled either by a gate-to-source bias or by a semiconductor laser illumination. The center frequency of the passband can be shifted by 75 MHz with an accompanying bandwidth change from 6 MHz to 17 MHz when the gate-to-source voltage of the tuning MESFET is varied. Laser illumination of this MESFET shifts the center frequency of the filter by 57 MHz with a bandwidth change from 6.5 MHz to 10 MHz.

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