Abstracts

A Low-Voltage, High-Power T/R-Switch MMIC Using LC Resonators

T. Tokumitsu, I. Toyoda and M. Aikawa. "A Low-Voltage, High-Power T/R-Switch MMIC Using LC Resonators." 1995 Transactions on Microwave Theory and Techniques 43.5 (May 1995 [T-MTT]): 997-1003.

A novel T/R switch is proposed for high-power/low-distortion operation at a low control voltage. LC-resonant switches composed of inductors, capacitors, and switch FET's are incorporated in TX and RX arms to provide a reverse control scheme that removes the rf-voltage limitation in the transmit mode. A 1.9-GHz LC-resonant T/R switch MMIC with a total FET periphery of 3.36 mm exhibits 3rd IMR less than -40 dB for an input power up to 31 dBm when controlled at 0 V/-2 V. This MMIC occupies an area as small as less than 2x2 mm. This will make it possible to implement advanced T/R-switches at PCS and ISM frequencies below 5 GHz.

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