Abstracts

Novel low-cost ultra-wideband, ultra-short-pulse transmitter with MESFET impulse-shaping circuitry for reduced distortion and improved pulse repetition rate

Jeong Soo Lee and Cam Nguyen. "Novel low-cost ultra-wideband, ultra-short-pulse transmitter with MESFET impulse-shaping circuitry for reduced distortion and improved pulse repetition rate." 2001 Microwave and Wireless Components Letters 11.5 (May 2001 [MWCL]): 208-210.

A new ultra-wideband, ultra-short-pulse transmitter has been developed using microstrip lines, step-recovery and Schottky diodes, MESFET, and monolithic microwave integrated circuit (MMIC) amplifier. This transmitter employs a novel MESFET impulse-shaping circuit to achieve several unique advantages, including less distortion, easy broadband matching, and increased pulse repetition rate. The transmitter produces 300-ps monocycle pulses with about 2 V peak-to-peak and a pulse repetition rate of 10 MHz. The measured pulses have good symmetry and low ringing level.

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