

All Solid-State Low-Noise Receivers for 210-240 GHz

J.W. Archer. "All Solid-State Low-Noise Receivers for 210-240 GHz." 1982 Transactions on Microwave Theory and Techniques 30.8 (Aug. 1982 [T-MTT]): 1247-1252.

Low-noise all solid-state receiver systems for room temperature and cryogenic operation between 210 and 240 GHz are described. The receivers incorporate a single-ended fixed tuned Schottky barrier diode mixer, a frequency-tripled Gunn source as local oscillator and a GaAsFET IF amplifier. Single sideband receiver noise temperatures are typically 1300 K (7.39-dB noise figure) for a room temperature system and 470 K (4.18-dB noise figure) for a cryogenically cooled receiver operating at 20 K.

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