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X-Band Down Conversion Mixer for Ground Radar Applications

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In this paper, the design and implementation of an X-band down conversion mixer for ground radar applications have been introduced. The single-balanced configuration has been chosen for this design employing a pair of high performance beam-lead Schottky-barrier diodes. The designed and fabricated passive mixer circuit satisfied all of the required specifications at RF frequency of 9.4 GHz with conversion loss about 6 dB over a wide dynamic range of the input RF power with very good isolation between different ports.