ABSTRACT

The work contains 70 pages, 53 figures, 2 tables and 16 sources have been used.

Objective: The analysis of the basic approaches to the construction of frequency mixers, the development of mathematical and simulation models of a subharmonic mixer based on Schottky diodes..

The main principles and approaches to designing frequency mixers based on various elemental bases are considered.

The mathematical and simulation models of the subharmonic mixer are developed.

The subharmonic mixer circuit based on the counter-parallel diode pair is simulated in two modifications: during the transfer in the range of 2 GHz and 132 GHz.

A comparison of the obtained modeling results with real prototypes is made.

Keywords: frequency converter, subharmonic mixer, bandpass filter, simulation model, millimeter frequency range.