

## **Annotation**

The diploma project is aimed at studying the characteristics of directional planar antennas. Methods for optimizing the characteristics of microstrip antennas are considered. The main characteristics of planar antennas are calculated and the results are analyzed.

In the section "life Safety", the necessary air exchange is calculated, and the air conditioner is selected and recommended.

In the economic part, a business plan is proposed and the economic efficiency of the project is calculated.