Summary

In this master work the possibility of implementation GSM standard to nondestructive testing has been examined, which enables to easily adapt to new control objects and different types of problems.

Possible methods of nondestructive testing have been presented and reasonable ultrasonic NDT method has been chosen. Basic types of wireless data transmition and their advantages and disadvantages have been discribed .

Functional scheme have been described and developed. Timing diagrams and working proces of flaw have been showed. The calculation of piezoelectric transducer has been done. The results of these calculations determine basic sensor geometric parameters, resolution and thickness of antireflaction layer.

Device schematic diagram and parameters of basic blocks have been designed. The system meets all the requirements. Parts of the electrical circuit, comparative data analysis have been made.

Type of wireless data transmition has been chosen and an experimental GSM-module has been described.

Key words: automation control, ultrasound wireless system, wireless flaw technologies.