

RESEARCH AND MANUFACTURE OF UHF LOW NOISE AMPLIFIER FOR THE SATELLITE COMMUNICATION

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Abstract

Along with the strong development of science and technology, communications satellite development aimed at improving the disadvantages of ground wireless network, achieving higher capacity, wider bandwidth, giving customers many new services and convenient with low cost. In satellite communications transceivers very important role, here is the main parts affecting the quality of the satellite signal.

In the signal receiver system, Low-noise amplifier (LNA) is a special amplifier module to amplify very weak signals from the antenna. It is usually located very close to the receiving antenna to minimize loss.

In this thesis, along with understanding the theory of satellite signal receivers, high frequency techniques, a sample Low-noise amplifier operating at UHF band has been designed, simulated, fabricated and measured. The circuit is designed and used high-frequency chip 2086 SPF - SPF 3043, the chips has high-gain amplifier and low-noise figure leads to in consistent with the circuit design. Thesis was designed, simulated and successfully fabricated low-noise amplifier consists of two amplifier stage. Measurement results obtained in accordance with the simulation results and obtained Gain can be used for satellite communication.

Key word: LNA, UHF, two amplifier stage.