

## Study of the influence of the resistance value of thick-film resistive components on the power of low-frequency noise

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*The article presents the results of a study of the spectral characteristics of the low-frequency noise power from the resistance of resistors manufactured using thick-film technology by the printer printing method in two modes. The first, at a fixed voltage on the resistor  $U = 3.6$  V and the second at a fixed current  $I = 7.8$  mA. It is shown that with a decrease in the width of the resistive film, the resistance fluctuations and the mean square value of the low-frequency noise power change according to a quadratic law, based on the obtained characteristics of the spectral density of the low-frequency noise power. In this case, the mean square amplitude value of the noise power increases at a fixed current and decreases at a fixed voltage. From a scientific point of view, an important result has been obtained, which in the future can be used in the study of electrical conductivity mechanisms and the assessment of electrophysical parameters of resistive components, including the analysis of the reliability of resistive components based on low-frequency noise.*

**Keywords:** low frequency noise; low frequency noise power; resistance fluctuations; carbon resistor; printer printing; thick film technology.

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