

# Analysis of Methods for Characterizing Frequency-Converting Devices

FROLOV DANIL

*Кубанский государственный университет (Краснодар), Россия*  
e-mail: frolov.drf@gmail.com

КОРОТКОВ К.

ЛЕВЧЕНКО А.

БАБЕНКО АКИМ

*Кубанский государственный университет (Краснодар), Россия*  
e-mail: akbabenko@mail.ru

ГНОЕВОЙ АЛЕКСАНДР

*Кубанский государственный университет (Краснодар), Россия*  
e-mail: alienpro1@gmail.com

We propose a theoretical analysis of methods for characterizing devices with frequency conversion (vector mixer calibration methods). There are several methods for making such measurements, but their advantages and disadvantages have not been analyzed until now. This paper compares values of phase error and estimates of delay between three known vector mixer calibration methods. Analysis is made for the RF band. We use flow graphs and Mason theorem to calculate error limits of different methods.