

There are currently many low cost software defined radio (SDR) receivers in the market such as RTL-SDR dongles. These devices can be used to receive the radio frequency (RF) signals in the range of their tuners (front-end). The stability and the accuracy of the local oscillator (LO) among the important aspects that can be affect the performance of SDR receivers. This paper describes a method based GSM signals can be used to determine the frequency offset of the RTL-SDR dongles on MATLAB environment. The developed tool is evaluated using two popular RTL-SDR dongles models with and without temperature controlled local oscillator (TCXO).