

**Low Noise, Wide Bandwidth CMOS Low-Dropout Regulator Modules for RF Transceivers**  
Principal Investigators: *Dr. B. Bakkaloglu, Arizona State University*

This project will focus on generating robust, low power (less than 20uA quiescent current), high accuracy (3% without trim), low 1/f and low thermal noise (spot noise density less than 100nV/sqHz at 10kHz and less than 15nV/sqHz noise floor) -dropout regulator (LDO) topologies for fully integrated wireless and wireline transceivers. In order to achieve these specifications, we plan to apply novel -shaped chopper stabilization techniques to LDO modules for very low 1/f noise applications. In order to achieve fast response we plan to utilize current