

Low Power Frequency Synthesis using BAW/IC Integration, by Brian Otis, University of Washington, Seattle

High Q bulk-acoustic wave (BAW/FBAR) resonators have the potential to significantly improve the power dissipation, performance, and size of wireless systems. The high Q nature of BAW resonators allows the realization of very low phase-noise/jitter RF oscillators, providing clean low power clock sources for RF transceivers, data interfaces, high speed ADC sampling clocks, and wide-bandwidth frequency synthesizers. In this talk, we discuss the opportunities and limitations of BAW-based oscillators and synthesizers. Design case studies of BAW-based analog and digital PLLs will be discussed, and measured results presented.