

## Relation of parallel resistance to the passive double SAW resonator

### ABSTRACT

This paper presents the relationship of parallel resistor to the frequency response of the passive remote acoustic wave resonators (SAWRs) sensor system in 433.42MHz and 433.92MHz. Impedance matching is achieved with the connection of L-network to the parallel SAW resonator. The main objective of this finding is to improve the sensor of narrow bandwidth application. Circuit with high quality factor (Q factor) has better suppression for narrow band application. Parallel resistor improves the system by increasing the Q factor. Increasing the parallel resistance will decreased the bandwidth of the resonant frequency. Simulation results of the system are presented and discussed.

**Keyword:** L-network; Quality factor; SAWR sensor system