

## **Theory of Operation**

The radio TRX is an 802.15.4 compliant IC and is connected to a single ended antenna. The modulation is offset QPSK and uses DSSS to spread the signal for transmission. The antenna is a planar inverted F antenna consisting of a formed metal structure attached to the TRX feed and ground and suspended above the ground plane of the PCB. The ground consists of a single ground for digital and analog. Its physical implementation consists of a ground plane running across the bottom outer layer of the PCB.

The radio is used in a low duty cycle mesh architecture where the normal duty cycle is less than 1% during normal mesh operation. There is no intentional radiation during sleep mode.