

XECOM, INC.

XE900S-500

900 MHZ TRANSCEIVER

THEORY OF OPERATION

The Xecom XE900S-500 Transceiver Module is a frequency hopping spread spectrum transceiver operating in the 902 MHz to 928 MHz ISM band. It transmits with a maximum power of 0.5 watts (+27 dBm) into a fixed $\frac{1}{4}$ wave monopole antenna with a nominal gain of 0 dBi.

Transmission occurs on a pseudo-randomly ordered group of 50 channels determined are chosen from a pool of 52 available channels. Each radio is programmed with a seed value that determined the table based on a defined pseudorandom generator. Each channel carries a single packet of information for a duration no longer than 52 mS.

The receiver is a direct (zero IF) conversion type meaning that there is no offset local oscillator. Individual channel selection occurs within the receiver without the need for external filtering. An overall bandpass filter restricts the receiver to the stated ISM band.