

TRANSMITTER DESCRIPTION

The 13.56Mhz crystal (Y1) generates the main oscillator signal used in the transmitter circuit. This signal is applied to the gate (U1A) which controls the carrier on/off sequence. The carrier is then passed through gate (U1D) which inverts the “off” dc level which prevents power consumption of the level shifter (Q6). The level shifted carrier is coupled to (Q6) through RC circuit C12 and R14. This places the power amplifier (Q6) in class C mode which minimizes overall power consumption. Impedance matching and low pass filtering are provided by the Pi filter (C13, L3, and C14). The antenna Q and resonance are provided by R11 and C9.

MODULATION

Direct amplitude modulation is applied to the circuit through Q2 and R3. Q2 fully saturated provides full carrier amplitude with R3 reducing the carrier by 30% with Q2 being cut off.