

## **TERRAIN TWISTER B5119 27.145 MHz TRANSMITTER**

The EUT is a low powered, hand held unit for controlling the movement of a toy car. The EUT is powered by a 9-volt battery. It is designed to operate on a single fixed frequency in the 26.98-27.28 MHz band. See the attached block diagram and schematic.

Input switches trigger an integrated circuit (U1) which produces the digital control signals that will modulate the carrier signal. The carrier signal is generated by a crystal oscillator circuit comprised of a 27.145 MHz crystal (Y1) and a pnp transistor (Q2). The RF carrier signal is modulated by the digital control signal at the base of an RF amplifier stage (Q3). The modulated output signal of the RF amplifier is coupled to the antenna (via C12) through a "pi" matching network comprised of C13, T1 and C14. The antenna is about 15 inches long and permanently attached.

A LED acts as a power-on indicator.