Introduction

The MCTA2 is a frequency hopped spread spectrum transceiver module designed to be compatible with US (FCC Part 15.249) and Canadian (RSS-210) regulations for license free use in the 900 MHz ISM band. The MCTA1 transceiver is integrated into the Micro remote control products.

Theory of Operation

The MCTA2 is a radio transceiver for the 900 MHz ISM bands. The transceiver microcontroller includes a CPU, GPI/O, a fully integrated frequency synthesizer, a power amplifier, a modulator and a receiver unit. The MCTA2 microcontroller GPI/O port is connected to switches and LEDs through protection circuit. The switch data is sent through RF circuit to the antenna and the data received from antenna is sent to the LEDs through GPI/O. The microcontroller is responsible for the control of the entire board. The MCTA2 transceiver contains a linear regulator which generates a constant 2.5 VDC. It also includes a battery charger circuit for charging a LiPO battery when connected to the external 5 VDC car charger or universal wall charger.

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Specifications

Frequency Range:

- Min.: 902.2 MHz
- Max.: 927.8 MHz

Supply Voltage: 4.2 VDC Nominal
Operating Temperature: -40 +85 degree C
Transmitter R.F. Power Output: +10 dBm Max.
Receive sensitivity: -100 dBm
Type of Emission: Frequency Hopping Spread Spectrum
Transmitted data rate (Manchester-encoder embedded): 100 kbps