Introduction

The MCT245 is a direct sequence spread spectrum transceiver product designed to be compatible with US (FCC Part 15.247) and Canadian (RSS-210) regulations for license free use in the 2.4GHz ISM band. The MCT245 transceiver is a stand-alone Kar-Tech remote control product.

Theory of Operation

The MCT245 is a radio transceiver product for the 2.4GHz 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 MCT245 is primarily a receiver that communicates with a transmitter bidirectionally in a half-duplex fashion. The data received from antenna is sent to the RF microcontroller. The microcontroller takes the RF data to control outputs. The microcontroller also monitors input signals from local inputs. This data is sent to the RF processor and then is sent from the RF processor to RF circuit, and then to the antenna. The microcontroller is responsible for the control of the entire communication. The MCT245 transceiver contains a DC regulator which generates a constant 1.8 VDC for the digital circuitry. The RF section runs on the 3.3V supply.

The receivers are matched to the transmitters to use the same channels and sequence as the transmitter's signals.

Specifications

EUT : MCT245
Test Model : MCT245
Power Supply : DC 9-30V
Hardware Version : A
Software Version : A
SRD :
Operation frequency:2407MHz-2470MHz
Channel Number : 64 Channels
2407~2467MHz for Hop one;
2408~2468MHz for Hop two;
2409~2469MHz for Hop three;
2410~2470MHz for Hop four;
Channel Spacing : 1MHz
Modulation Type : GFSK
Antenna Description : Monopole antenna, 4dBi(Max.)