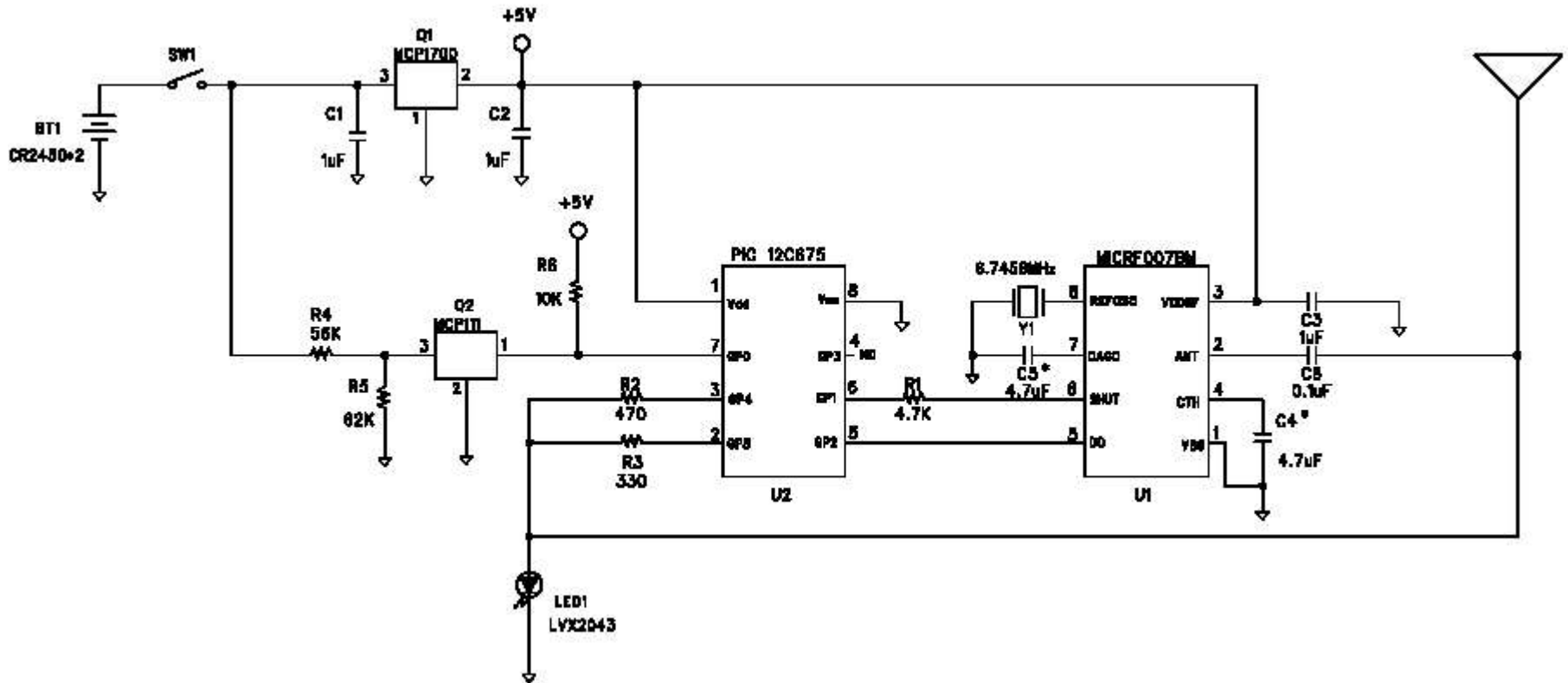
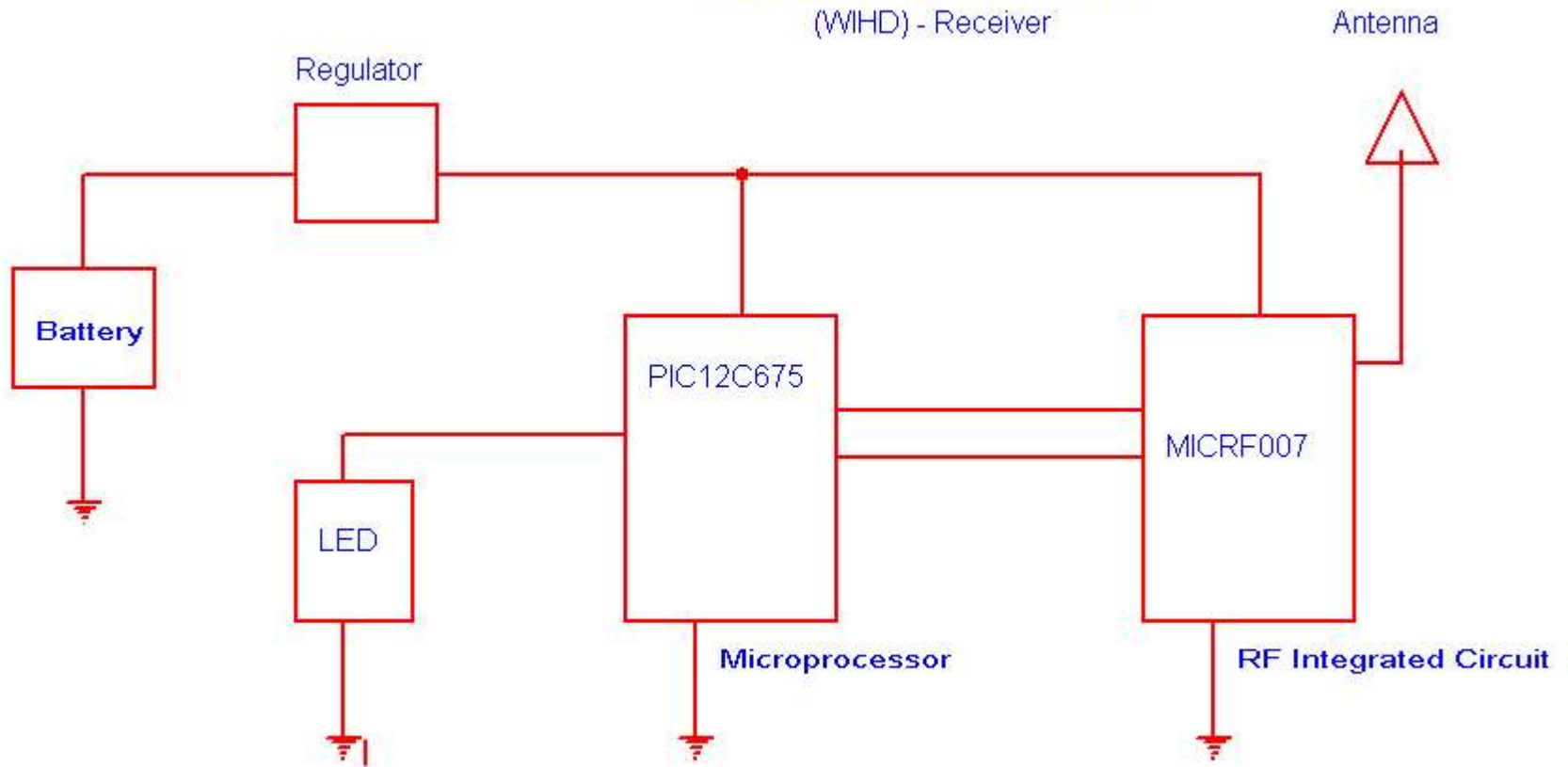


Cruisader Receiver Schematic



BLOCK DIAGRAM

(WIHD) - Receiver



Description/Operation

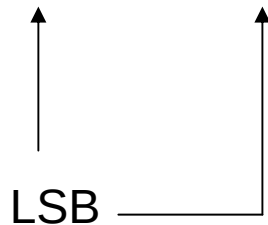
- The MICRF007 is a single chip ASK/OOK (ON-OFF Keyed) Receiver IC for remote wireless applications, employing Micrel's latest QwikRadio™ technology. This device is a true "antenna-in to data-out" monolithic device. All RF and IF tuning is accomplished automatically within the IC which eliminates manual tuning, and reduces production costs. The result is a highly reliable yet extremely low cost solution. The MICRF007 is an enhanced version of the MICRF002 and MICRF011. The MICRF007 is a conventional superhetrodyne receiver, with an (internal) Local oscillator fixed at a single frequency based on an external reference crystal or clock. As with any conventional superhetrodyne receiver, the transmit frequency must be accurately controlled, generally with a crystal or SAW (Surface Acoustic Wave) resonator.
- 2-Byte communication data is received by the microprocessor consisting of: First byte is an intelligent header and second byte is data.
- The header information controls whether the LED blinks in Bright Mode or Dim Mode.
- The Data information controls the rate of blinking and duration of blinking.
- Once blinking, if no additional control signal is received from the transmitter, the LED will cease blinking after approximately 8 seconds.

Header

- 0xA5 Blink Command – DIM Mode
- 0x5A Blink Command – Bright Mode

- 1010 0101 = 5A

- 0101 1010 = A5



Command/Data

- 0000 1000 = Button Press “Blink Once”
- 0000 0100 = Button Press “Blink Twice”
- 0000 1010 = Blink 2 seconds
- 0000 0010 = Stop Blinking
- 0000 1100 = Signal Strength “Zero”
- 1000 1100 = Signal Strength “One”
- 0100 1100 = Signal Strength “Two”
- 1110 1100 = Signal Strength “Seven”
- 1001 1100 = Signal Strength “Nine”

Bill of Materials

•	Item	Quantity	Reference Designator	Part
•	1	2	BT1	Battery, CR2450
•	2	1	SW1	Slide Switch, PC mount
•	3	1	R1	Resistor, 4.7K
•	4	1	R2	Resistor, 470
•	5	1	Y1	Crystal, 6.7458 MHz
•	6	3	C1, C2, C3	Cap, 1uF
•	7	1	C4	Cap, 4.7 uF
•	8	1	U1	IC, MICRF007
•	9	1	Q1	Regulator, MCP1700
•	10	1	U2	IC, PIC12C675
•	11	1	Q2	IC, Reset, MCP111
•	12	1	R5	Resistor, 62K
•	13	1	R6	Resistor, 10K
•	14	1	R3	Resistor, 330
•	15	1	R4	Resistor, 56K
•	16	1	C5	Cap, 4.7uF
•	17	1	C6	Cap, 0.1uF
•	18	1	LED1	LED, Red, 3mm