

081-1- RF433 Remote Control Technical Description

1. Power Supply

- Operates on 3V lithium coin cell battery (CR2025 or equivalent)
- Voltage range: 2.1V–3.6V DC
- Low-power design for extended battery life

2. Microcontroller Unit (MCU)

- MCU Model: STX650M
- Manages button input processing and RF signal encoding
- Integrated sleep mode for reduced power consumption
- Operates at 433.92MHz carrier frequency synchronization

3. RF Transmitter Module

- RF IC: STX650M
- Modulation: ASK (Amplitude Shift Keying)
- Frequency: 433.92MHz $\pm$ 150kHz
- Data Rate: 2-10kbps (configurable via MCU)

4. Antenna Design

- Integrated PCB trace antenna
- 1/4 wavelength helical pattern design (tuned for 433MHz band)
- Impedance matching network included on-board

- Antenna trace length: Optimized for $\lambda/4$ radiation efficiency

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception,

which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

TRadiation Exposure Statement

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

.

FCC ID:2BWKC-081-1