

Company: Levven Automation Inc.

Make: GoConex

Models: GC10, GPC10, GDT15, GPDT15, GPC20

Description: The circuit is powered by typical household AC line voltage and is permanently connected to the building's mains wiring.

EZR32HG220F64R55 is an integrated circuit microcontroller and radio transceiver.

Radio signals are transmitted and received on one of 33 channels from 903 MHz to 927 MHz.

A single-wire quarter-wave monopole antenna is used to transmit and receive radio signals.

A dual-colour indicator LED can inform the user of status information.

The IC uses an external 30 MHz crystal oscillator.

There is one push-button switch by which users can give inputs to the IC.

Basic operation state machine:

- A. Powered when mains voltage applied.
- B. Wait to receive a radio message from a transmitter (light switch)
- C. Send acknowledgement wireless signal accordingly
- D. Energize the load circuit (light fixture, fan, etc)
- E. Go to B

The antenna is a simple single wire quarter-wave monopole formed from a 78mm long hookup wire soldered to a hole on the device printed circuit board.

Assume antenna gain theoretical maximum, which will have a gain of 5.19 dBi (3db higher than a theoretical dipole at 2.19 dBi).

Antenna gain measured is 5.19 dBi