SmartShade Circuit Description

RYSE SmartShades can automate any shade with a beaded chain or looped string cord. It allows customer to control a shade or blends electrically.

- Rigado BMD-340① is a BLE5.0 module that is dedicated to implement Blue tooth communicating between the SmartShade and cell phones.
- Rigado BMD-340① has a built-in PCB trace antenna⑤. The antenna works in BLE band(2.4G-2.485GHz)
- Rigado BMD-340① controls a few LEDS⑨. The LEDs tells users how to interact with SmartShade.
- Rigado BMD-340① interfaces a few buttons⑧. The buttons tells SmartShade what to do.
- MSP430 MCU② is a stand by MCU that count how much the cord moves(back-drive) manually by a human force. It reads the two signals that are 90 degrees interval in terms of phase generated by the hall effect sensor built-in the motor. It implements a quadrature encoder to tell the direction and counts.
- MSP430 MCU② interfaces with Rigado BMD-340① by two interrupt lines and SPI bus.
- Power Input⑩ is a connector for taking 9-13V from the wall adapter or battery pack.
- Power switches④&⑥ turn on/off the power of motor or MSP430 MCU. They are controlled by Rigado BMD-340①.
- The regulator③ regulates 3.3v to the whole system from 9-13V input.②⑦⑩