Technical Description of Model: AMPLICALL 3

General description

The unit is powered by one A23 Size 12VDC battery. Press button S1 is the power switches. Power regulator is U3 XC6202P502P.
MCU is micro-controller IC U1 EM78P153.
Crystal X2 provides 3.58MHz.
SAW resonator frequency is 433.92 MHz.

Theory of operation

- Frequency band: 433.92MHz
- Number of channel: 1
- Modulation Type: ASK Modulation

Antenna description

- Number of antenna: ___1____
- Antenna type: Printed Antenna
- Permanently affixed on PCB
- Antenna gain: ___0____ dBi

Function description

Power supply

The unit is powered by one A23 Size 12VDC battery. Press button S1 is the power switches.

Power regulator circuit

The power regulator IC is U3 XC6202P502P.It provides the steady 5V power to MCU IC U1 EM78P153.

Transmit data control circuit

The transmit data control circuit is mainly composed of MCU IC U1 EM78P153 and crystal X2 3.58MHz. It generates control data & pairing data, and drives power amplifier to generate delay time control signal.

Time-delay control circuit

The time-delay control circuit is mainly composed of transistors Q21 and Q22.When switch is pressed , the Q1 become conducted for a short time;U1 will generate 3s high level signal to drive Q21,Q22 become conducted to continues providing power.

Transmission indication circuit

The transmit indicator circuit is mainly composed of transistor Q4 and LED 1.Once the unit is transmitting signal, the LED1 is power on.

RF power amplifier circuit

The RF power amplifier circuit is major composed of high-frequency transistor IC Q2 2SC3356 and SAW RESONATOR IC SAW1.It generates and amplifies the RF high frequency signal ,and decodes the control data & pairing data from MCU IC U1 EM78P153, finally transmit RF signal to paired receiver.

Antenna matching circuit

The antenna matching circuit is mainly composed of inductor L2, capacitors C17, C19. It can attenuate the others useless harmonic.