

### **Smart Filter Transmitter Operational Description**

The Smart Filter Transmitter is low powered, detecting air condition filter and other features. See function description is attached. The transmitter is powered by a 3 volt battery ( please see attached photo). It is designed to operate on a single fixed frequency at 433.92Mhz. See the attached block diagram and schematic.

There is 1 button trigger the integrated circuit (U1) which produces digital control signals and will modulate the carrier signal (ASK). The carrier signal is generated by a crystal (X1) and npn transmitter (Q1). The modulated output of the RF stage is coupled to the on board antenna. The on board antenna is attached on PCB around 120mm.

The transmitter is manually operated by the button pushed momentarily within 3 seconds and will automatically deactivate send signal to receiver. This feature is incorporated by the U1 internally.

All tuning and verification are performed by the manufacture and there are no adjustments can be made by user.