Technical Description of the Circuit:

The circuit is a RF rain gauge transmitter, the MCU TM8712 will measure the rain fall by the reel switch accompanied with the moving magnet on the tipping bucket and code the data, also there is a thermometer sensor to measure the temperature and the MCU will code the temperature into digital data.

Afterward, the data is transferred to the RF circuit which is a SAW stabilized Colpitts Oscillator (Constructed by Q1, L1, L2, C1, C2, C3, C4, C5, R1, R3 and X1) every 3 minutes, when the Data pin output HIGH level to the oscillator, the oscillator is turned on and output 433.92MHz RF signal, when the Data pin output LOW level to the oscillator, the oscillator is turned off and this ON & OFF process modulate the code data into 433.92MHz with ON OFF KEYING..

Also there is an antenna matching network (Constructed by C7, C8, L3 and L4) after the SAW stabilized Colpitts Oscillator, this network suppress harmonic and spurious and match the Oscillator to the antenna.