Obtain new target frequency setting

Power Up Flag Set?

Frequency Select Enable pin Low?

NO

YES

Obtain new target frequency setting

Obtain upper and lower detection threshold settings

Convert target frequency to decimal digits and transmit via serial as ASCII

Convert upper threshold setting to decimal digits and transmit via serial as ASCII

Convert lower threshold setting to decimal digits and transmit via serial as ASCII

Run Goertzel Algorithm

Magnitude greater than current threshold?

NO

YES

Set detection output HIGH

Set the lower threshold as the current threshold

Transmit “X1” via serial

Set detection output LOW

Set the upper threshold as the current threshold

Transmit “X0” via serial

Convert algorithm output magnitude to decimal digits and transmit via serial as ASCII

Clear power up flag

Start – Processor Power Up

Processor Initialization and Configuration

Set power up flag