Mathematical Analysis of the Transmission side

The frequency of sending a 0 and 1 bit are as shown in the flowchart. Though our model did not produce accurate results, by mathematically going through the transmission, process we were able to deduce that the problem is in the receiving side. The figure in appendix A is the waveform of a zero bit being sent and by inspection, the waveform does indeed have a period of .2 milliseconds which gives a frequency of 5000k Hz.

We also determined the time it takes to send a single bit will be:

= 0.05 sec

The figure in appendix B shows a bit 0 being sent between two ‘1’ bits, roughly between time 40.3ms and 90 ms, which does follow our calculations of taking 0.05 seconds to send a single bit.