

We currently have a provisional Patent application for a system we created that uses Passive RFID UHF systems (902-MHz-928MHz) using commercially available off-the-shelf RFID interrogators.

We currently use them in their FCC licensed capacity. For the purposes of our testing, we are using an Alien 9900+ Enterprise reader (FCC ID: P65ALR9900 IC; 4370A-ALR9900).

We utilize IR sensors mounted in a doorway to signal the RF radio to come on and read for 5 seconds. During these 5 seconds, we read all tags that can reach the interrogators antennas (which are mounted immediately on either side of the doorway). Some of the tags we read are moving, and others are stationary, but close enough to the doorway that they are also read as someone moves through the doorway.

We currently have methodologies in place which help discern a moving tag from a stationary tag, and this is over 90-percent effective. We know that we can additionally utilize phase angle data from each tag to get a better understanding of tag movement while the radio is on.

We know that if we turn on the radio, and monitor a stationary tag in an environment that does not have someone moving through it, we should get pretty consistent (within tolerance) readings of the phase angle statistic. We also know that if the tag moves we can see shifting in the values of this statistic.

However, it is also clear that this shifting in the phase angle values are specific to reads that occur over a single frequency. In deployed environments, where the reader is operating in the ISV, in the manner licensed by the FCC, the RFID interrogator will hop frequencies every 400 milliseconds. Therefore, if we begin to plot a history of phase angle statistics for a tag (transponder) then the valuable lifespan of that history at face value is ONLY 400 milliseconds before the reader hops and the linear plot of this data becomes skewed.

We are looking to set the RFID interrogator to a static frequency within its already specified bandwidth (902-928). By being able to temporarily set this static frequency we will be able to more efficiently monitor the effect of movement on the phase angle statistic and therefore develop smarter and more efficient algorithms on the analysis of these phase angle statistics.

Please note that WE WILL NOT IN ANY WAY BE ALTERING power of the RFID interrogator, target frequencies or bandwidth of the RFID INTERROGATOR, or anything relating to the FCC license covering the use of this reader.

Please further note that the ability to set the reader to this mode has already been confirmed by the manufacturer to us and together we have confirmed the theory and usefulness of the phase angle statistic. However, the manufacturer can only enable our internal RFID interrogator to do this after we obtain the proper license from the FCC.

All testing will be in our lab and offices at the addresses under which this application is filed at 1814 S. Range Avenue, Denham Springs, LA 70726. No modified hardware/software will be delivered, installed, or used in any other location whatsoever.

As I previously mentioned our pending provisional patent application, the inclusion of technology produced by this experimentation needs to be included in our final patent application for the product, which is due next month, which is why we are hoping that you will be able to grant us the license for this experimentation in an expedited manner.