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B.E. PROJECT REPORT

On

“POWER EFFICIENT RFID COMMUNICATION PROTOCOL”

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ABSTRACT

Active Radio Frequency Identification (Active RFID) is a wireless automated technology used to identify, track, process and share information about an object from the environment. As microcontrollers and radio frequency transponders are smaller in size, more power efficient, and less expensive, this technology is growing and starting to expand significantly through all the industries.

This Project is to develop a fully functional active RFID system based with low power consumption. There is a through survey has been done in available active RFID system in market and thus came up with a new low power RFID system which is far better than what we had in old protocol and hardware. This system hardware and protocol which is implemented here is of better standard for ultra-low complexity, ultra-low cost and ultra-low power consumption. The main purpose of this project is to reduce the power consumption of the active tags for them to last at least one and half years. In this project there were no restrictions of changing the hardware, therefore the main protocol tasks were discussed and designed before the hardware, in that way the hardware was optimum for the protocol.

There was a need of go deep through the software and hardware in order to come with a better energy efficient solution, and still have the same functionality. This Project presents a functional TDMA based protocol which was designed and developed in a specific tracking system application. Here we have come with a mechanism in order to tracks the end point (tags) continuously to provide the safety to these tags life has to be more than one year.