FastChecker Evaluates UHF Tag Performance

Following years of research and analysis, Brazilian engineer Michel Normanha Bardauil has developed a solution called FastChecker, designed to evaluate the performance of UHF RFID tags, which collects information difficult or impossible to obtain solely with conventional readers. FastChecker was

developed in Campinas, Brazil, as a project for MB Engenharia, a company responsible for the FastTag product line.

“The device is used to compare tag performance in a complete way,” Bardauil says, “as well as to carry out the detailed evaluation of each one, showing the results according to each frequency within the ETSI and FCC band for UHF RFID.”

The FastChecker prototype

The FastChecker can be connected to a computer (which is used to process test results) via a simple USB cable. “I have been active in the RFID industry for six years,” Bardauil says, “and I noticed that it was necessary to use sophisticated and expensive laboratory equipment to get a complete view of UHF RFID systems, and to thus ensure their proper functioning. FastChecker was created with the aim of providing a basic tool for professionals to improve the quality of RFID projects, at a lower cost.”

According to Bardauil, having a good signal strength to power

the tags is of the utmost importance to ensuring the robustness of RFID solutions. “When an RFID system is in operation, the signal strength will drop as soon as it leaves the reader, until it reaches the tag,” he states. “After the signal is processed by the tag, its intensity also goes down until it returns to the reader. The intensity of the signal that returns, when compared to the sensitivity of the reader receiver circuit, determines the margin that the system has to operate efficiently. “

This margin also depends on how sensitive the tag is. “If the power of the reader can be decreased and the tag responds, it means that with more power, we will have a higher return signal, or even more margin,” Bardauil says. “With FastChecker, you can determine the minimum transmitted power to complete the tag interrogation cycle for each frequency, thereby determining its sensitivity.” According to Bardauil, FastChecker can be used, for example, to determine the best tag and its optimal position on hospital equipment, since the choice of location influences its performance a great day.

For laboratory services, the equipment helps to establish how to apply tags to objects containing organic materials, as well as surgical instruments. With regard to retail companies, the system is being tested by professionals who deploy applications across a number of different products, helping them to minimize the number of tag types to meet the demand for various goods. “Control over RFID technology is increasingly expanding to the origin of products,” Bardauil states, “from manufacturing and agriculture to livestock and services.:

“This demand comes from the commercial sector, because the technology makes it easier to control and trace products,” Bardauil adds. “FastChecker then becomes essential for large companies to control the quality of the application of tags by their suppliers.” Because the system is an easy-to-operate and

affordable device, he indicates, it serves the educational environment by demonstrating the practical applications of UHF RFID technology.

The FastChecker software will soon be made available for download at getfasttag.com. With the software, users can open files generated by the FastChecker hardware, and thus interpret the test results. “For the operation of the FastChecker equipment, however, besides freeware software, it is necessary to have the license file of operation that is an integral part of the equipment,” Bardauil notes.

The marketing of the equipment, which has a warranty of one year, will take place directly at the company’s website or via reseller channels. “We are selecting interested parties to resell or represent our products, both in Brazil and abroad,” Bardauil states. FastChecker costs $2,000 with the software license. The launch is slated for April 2019.