

# Real Estate Files Found With RFID

Madison Abstract is using an EPC Gen 2 RFID system it helped design to track hundreds of client files throughout its offices.

By Claire Swedberg

June 6, 2008—Madison Abstract Inc., a title insurance and real estate company, has developed an RFID-based system that it says provides it an edge in the commercial real estate market by locating files instantaneously. The company's solution employs Concept2 Solution software and integration, as well as Motorola fixed and handheld tags and interrogators, to find files throughout its office.

The company typically works with 800 to 1,000 active files at any particular time, says William Cryan, Madison Abstract's VP and CIO. File folders filled with paper documents could be located in a variety of places throughout a 9,000-square-foot area comprising several offices. Before installing this new system, employees filled out an "out card," which they placed in the location of a file they were removing. That system had numerous shortcomings, however: The files did not always remain with that employee, the worker who last had the file might be unavailable when it was being requested, or the file itself might be left by a photocopy machine or in another office.

As a result, when an attorney's office needed a client's document while closing on a property, for instance, it could be left waiting as Madison Abstract's staff searched for that particular record. Cryan says he began exploring options several years ago, including document-management software, which he claims would have been too cumbersome and expensive, and bar coding, which would have required that employees remember to scan a bar-coded label attached to each folder as they moved it. The typical RFID solutions, he says, were not appropriate either, because most required active RFID tags, which were also expensive and too large for his files.

Instead, Cryan began to consider how EPC Gen 2 passive UHF tags might work. Not finding a solution available, he turned to Motorola in November 2007 and presented his idea—an EPC Gen 2 RFID system that would locate files in his office by tracking their movement from one room to the next, or through hallways.

Motorola brought in Concept2 Solution, and together they developed the solution that was installed in late January, according to Joe Franz, Concept 2's director of business development. The resulting system offers two functions: It locates files and employees wearing EPC Gen 2 RFID badges within a specific room, using three fixed-position XR440 Motorola RFID readers and 12 antennas; then, in situations in which a file is missing within a specific room, the office employs an MC9090-G RFID Motorola handheld interrogator to pinpoint the file's exact location.

Upon first creating a file, a Madison Abstract employee inputs data about the property, including the name of the real estate purchaser, as well as documents related to that purchase. This information is stored in the company's SQL database. The worker then attaches an RFID tag to the folder containing those documents, and uses an RFID interrogator to read the folder tag's unique ID number, which is linked to the in-house identification number for the file and property purchasers.

Antennas deployed around the office read the folder's tag and transmit that data back to the SQL server via a cabled connection. Concept2 software then allows the user to locate where the folder has been. The user can surmise the file's location by viewing which antenna it most recently passed and noting the direction by the order of the previously passed antennas.

In addition, the 25 office employees wear ID badges that link to their names on the server. In that way, users not only know where a particular file is located, but also who put it there. If the file still can not be found, an employee sweeps through an office utilizing a Motorola handheld reader with a 3-foot read range. Like a Geiger counter, the MC9090-G RFID reader emits a visual and audible alert whenever it comes within range of the folder.

There have been, and continue to be, some tweaks since the system was installed in January of this year, Cryan says, as well as several obstacles to overcome. In one case, Franz notes, an antenna in the office building's common hallway, directly in front of the Madison Abstract entrance, failed to function. It took several remediation efforts, including swapping out the cables and reader port before installers discovered that foil lining the ceiling tiles was interfering with RF transmissions.

To resolve this issue, they installed a smaller Motorola antenna, the AN480, which was able to operate normally in that environment. Because the amount of data the system has generated is so vast, Cryan says his company has now instructed the system to save information about the files' locations for only the previous 20 days.

**RELATED\_ARTICLES** The return on investment is hard to measure, Cryan says. "We deal almost exclusively with commercial real estate," he notes, and the value of property closing through Madison Abstract on a typical day is \$150 million. "If I can't find a key document that is part of a file, and the attorneys are sitting in the closing room, maybe four of them, charging \$250 to \$450 an hour, I can't tell you how valuable this system can be."

In the past, when an attorney's office called requesting a specific file or document, they typically had to wait for Madison Abstract to locate that record. With an older, archived document, that could often take hours or days—a delay to which attorneys are typically accustomed. However, Cryan says, with the RFID system, Madison Abstract's staff can locate a folder within seconds, while that lawyer's office is still on the line. "It's hard to put a value on that," he states. "It's a matter of instant gratification, and we are able to project the appearance that we are on top of things."

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