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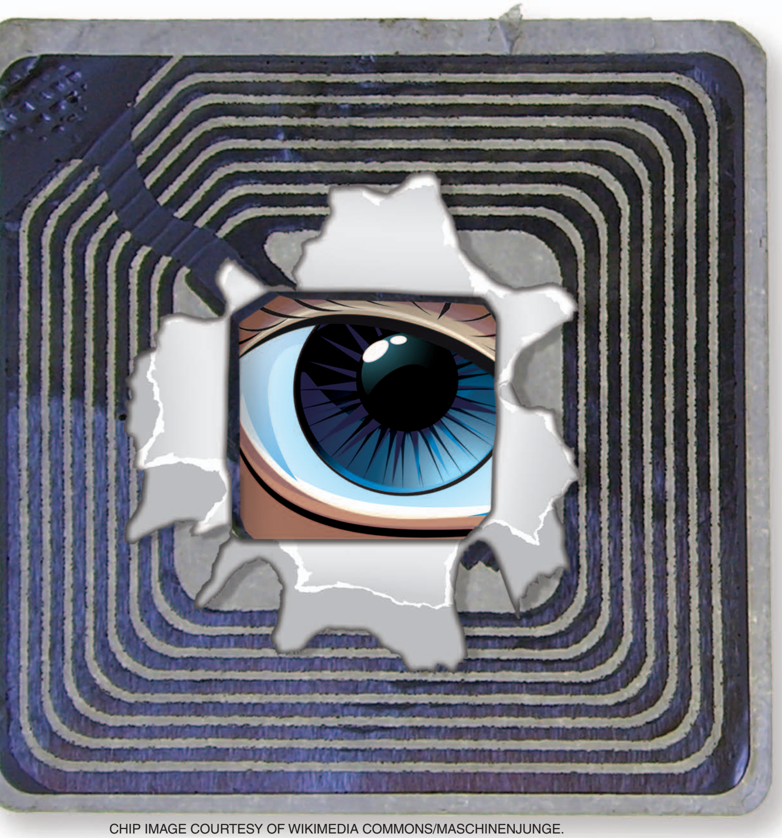
Protect Yourself from RFID

Fend off frightening tracking tech.

By Katherine Albrecht and Liz McIntyre

A creepy new spying technology called radio-frequency identification (RFID) is starting to show up on products you buy at stores like Walmart, and it could be used to track your every move. RFID uses tiny microchips hooked up to miniature antennas to track items from a distance. This chip and antenna combination is called an RFID tag. Each tag contains an ID number that uniquely identifies the item to which it is attached. It is like a Social Security number for things. RFID tags are tracked by RFID reading devices. These readers gather information from the tags via radio waves, similar to the radio waves that allow you to listen to your favorite FM radio station. RFID radio waves, like FM radio waves, travel invisibly through solid objects such as purses, backpacks, wallets, and shopping bags.



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HOW DO RFID SYSTEMS KEEP TRACK OF ITEMS?

RFID readers collect and process information from matching RFID tags whenever they are in reading range. Since each tag contains a unique ID number and is associated with a specific item, it is possible to link items to specific customers at checkout. This makes it possible to track customers using tagged items, like shoes, as a proxy. There are some preliminary plans to watch the tags at all times, long after purchase and anywhere in the world, through a developing infrastructure known as the Internet of Things.

RFID tags are easy to hide. They can be sandwiched in price labels, hidden within the soles of shoes, printed on boxes, and even woven right into fabric and clothing labels [1]. Right now, you might have one in a store loyalty card or credit card and not know it! Most RFID tags get their power from the reader device, so they do not need batteries. With no parts to wear out, they can beam tracking information to RFID readers indefinitely. The readers can also be hidden, and we have seen plans to embed them in floors, doorways, ceiling tiles, and store

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shelves. Retail logistics departments justify investing in RFID because it lets them locate store inventory at all times and ensure that the shelves stay stocked. Marketing departments, on the other hand, love the thought of using RFID to gather intimate data on customers by tracking their movements and secretly scanning the contents of their pockets, purses, or backpacks.

SCANNING FOR RFID

This all-seeing, X-ray-type vision is why we nicknamed RFID microchips "spychips." We got the lowdown on RFID by attending industry conferences and uncovering a cache of secret documents that detailed how global corporations and government agencies hope to use RFID-tagged items to track consumers not only in retail stores but also in public spaces and even private homes.

If this all sounds preposterous, we assure you it is not. IBM has patented something it calls a "person-tracking unit" that can track people wearing and carrying RFID-tagged items in public places such as museums, shopping malls, theaters, libraries, and even elevators and public restrooms [2].

Unfortunately, IBM is not alone. AT&T, Procter & Gamble, NCR, and other big companies have all developed equally horrifying ways to abuse RFID technology—and abuses have already occurred. Companies like Gillette [3] and Procter & Gamble [4] have already hidden RFID tags in innocuous-looking products. These tagged items triggered hidden cameras to watch people when they were moved.

RFID offers companies tremendous power to learn more about their customers' behavior, deliver targeted advertising, and even decide which customers deserve top-shelf service and which ones to treat badly to discourage them from shopping in their stores. However, the power only flows one way. In their voracious worldview, marketers are the watchers and the manipulators, and the consumers are the watched and manipulated.

HOW DO I PROTECT MYSELF?

It is not easy to avoid RFID since tags can be hidden so easily in the things you buy. The good news is that we have been sounding the alarm in the early stages while there is still time to stop businesses from putting these horrible ideas into practice. Here is what you can do:

- Educate yourself about RFID. Read our bestselling book *Spychips: How Major Corporations and Government Plan to Track Your Every Move,* with details about RFID and where companies plan on using it to learn more about the serious societal implications of the technology. The book is in many libraries and can be found new and used in bookstores and online. You can read the hilarious introduction by famed science fiction writer Bruce Sterling as well as the first chapter at www.spychips.com [5].
- Sign up to receive information about RFID and other invasive tracking plans via our Web site at www.spychips.com.
- Ask stores if they are using RFID and, if so, where and how. If they are using it on consumer products, we recommend avoiding the store, or, at the very least, demanding that RFID tags on the things you buy be removed or permanently disabled at checkout. In our opinion, removing and disabling RFID is the moral responsibility of the store, and it is not a burden they should pass on to you, the customer.
- Finally, help us spread the word about the downsides of RFID. Share this article with friends, coworkers, and loved ones. If we work together and let stores know we will not tolerate being tracked, they will have to honor our collective power. We consumers have more control than we realize since stores depend on our shopping dollars. Give your financial support to retailers that put customers first!

ACKNOWLEDGMENT

This article has been adapted from Katherine Albrecht and Liz McIntyre, http://www.ehow.com/ehow-tech/blog/protect-yourself-from-rfid-really-frightening-id-technology/.

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Katherine Albrecht (kma@post.harvard.edu) is an internationally known privacy researcher, consumer advocate, bestselling author, and nationally syndicated radio host. She is also a senior executive with the private search engines StartPage and Ixquick and helped develop StartMail, private e-mail that makes encryption available for regular people. She earned her master's degree in technology, innovation, and education and her Ph.D. degree in human development and consumer education from Harvard University and has studied at the MIT Media Lab.

Liz McIntyre (liz@startmail.com) is an award-winning investigative writer and former bank examiner with a flair for exposing corporate shenanigans and bureaucratic misdeeds. She is also an internationally known privacy expert, consumer advocate, and coauthor of the best-selling exposé on RFID technology, *Spychips*. Currently, she works to promote privacy-friendly consumer services, such as StartPage.com, and coauthors an online security and privacy column for eHow with Katherine Albrecht.

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