

RFID Workshop - Comment, P049106
Federal Trade Commission
Office of the Secretary
Donald S. Clark, Secretary
Room 159-H (Annex G)
600 Pennsylvania Avenue
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Comments submitted via e-mail
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Comments from
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Mr Secretary,

Thank you for offering an extension for public comment on the uses, efficiencies, and implications for consumers associated with radio frequency identification (RFID) technology. Although I have not attended the workshop, I am an engineer by trade and have read all of the handouts and have extensively read about RFIDs to understand the technology. I am also a subscriber of CASPIAN's newsletter and have read EFF's treatise on the matter.

1. Issues Surrounding RFID

Privacy

I am concerned about RFIDs that are used to track individual products from the manufacturer, through distribution warehouses, into the store and then out in the consumers hands. Without regulation, RFIDs can invade the privacy of individuals by not turning off or removing the RFID from the product when it is sold, and matching individual items with a particular consumer.

To counter this claim, retailers insist that used for product tracking do not have the data capacity to track or collect "intrusive levels of personal information from individuals" and "do not contain any personally identifiable information". However, may I point out that each RFID has enough bits to not only identify the manufacturer and item, but to uniquely assign a serial number to each and every item. One of the fundamental purposes of RFIDs is to carry more data than a barcode and to be readable at a distance.

Currently, when purchasing items in stores, identifying information such as the client's name from the customers's credit card or loyalty card and the SKU from the barcode of each product is available. Stores like Target stores record the client's private information together with SKUs of items in their database to ease returns of purchases and gifts.

When RFIDs are implemented, all the additional digits carried by the RFID could also be recorded in this database. Now, a match between the data gathered by RFID readers with consumers' personal information exists.

It does not take a large leap of faith to see that retailers can track a shopper's movements, and tailor their marketing pitches to whatever the customer is wearing or to the items in his or her cart. Companies will naturally use whatever means are available in order to maximize sales and minimize returns. Because each item can be tracked to a particular consumer, RFID offers a convenient solution to better understand the buying habits of their consumers. But without regulation, corporations have no incentive to protect consumer privacy.

Confidentiality

I am concerned that RFIDs if not disabled when a consumer leaves a store could infringe on consumers confidentiality.

Let me offer the following example. In order to insure that medications are made with proper freshness and process, RFIDs are used to track the product from its manufacture, through its warehouses into the pharmacy. In order to save work counting pills and to ensure accurate product delivery, the pills are delivered to the patient in a blister pack. The same RFID that is used to track its origin can now be used to maintain a real-time inventory of the pharmacy. When the patient takes the blister pack home, its RFID is still active. Anyone with a handheld RFID scanner will be able to read the code for the items in an office. Databases with the item numbers will be readily available on the Internet the way that there are already SKU and barcode databases.

Unreasonable Search and Seizure

What will prevent police from scanning a vehicle with an RFID reader at a sobriety checkpoint under sneak and peak provisions? Or how about while moving? The RFID'd liquor, beer or wine may be closed, but nevertheless may give the police a reason to do a spot check?

Personal Security

I am concerned that RFID in passports, money, pharmaceuticals, tires and other high-value products can be read by criminals and lead to selective crimes. It's not inconceivable that gangs could weave up and down a parking at a shopping mall with a handheld RFID reader looking for brand new tires when their RFID readily emits the brand, size and date manufactured. How about other valuables such as cash, passports, etc. ? Will I be safe in my home when RFIDs left turned on in products I own make it easier for criminals to find all the high-value items?

Freedom of speech, thought and expression

I am concerned that RFID in books, Video tapes, CDs can be scanned at a distance to determine what "terrorist" materials a person might be in possession of.

2. Future of RFID

I believe that retailers will be asking for more range, more data capacity, and read/write capabilities.

Range

While retailers insist the range of RFID tags is only a few feet at most, current brochures for the RFIDs claim reading distances up to 25 feet. These reading distances can be extended with directional antennas. The more items can be counted from one location, the faster an inventory can be performed.

The concern here is that RFIDs will be able to be read from further and further away, giving more anonymity to the person or machine doing the reading.

Data Capacity

In the computer industry, software is like a gas. Computer memories and hard disks never store enough data and are constantly getting larger. I believe the trend will continue. RFIDs will carry more and more data with them. As more data space is available on the RFIDs, more applications will develop.

The concern here is that the more data can be recorded, what kind of data will be recorded?

Read/Write Capability

Currently, most RFIDs are write once and read many times – like an E-PROM. It is not inconceivable, that the RFIDs get to be a bit smarter and get flash memory instead. This would give the RFIDs the ability to read and write. One use of such a product would be to write date and times a particular product was manufactured and was inventoried. I.e. passing from shipping into the warehouse, from the warehouse to the store, from the back room and into the showroom... etc.

The concern is that the RFID could be used to track movements and into competitor stores. For example, what if an expensive leather purse came with a special tracking RFID? It could record the day and time that the purse was scanned. And, at a later date, when returning to the store a special read command could be issued in order to dump all of the collected data.

Interface to sensors

It is not hard to imagine that an RFID could be interfaced with position sensors or temperature sensors to enable it to record the environment around it while being scanned. This might help the manufacturer and retailer to determine if the product has been subject to tampering or unusual temperatures.

My concern is that RFIDs may not be an adequate sensor technology. Due to their low cost, inaccurate data may be recorded with the devices.

3. What is the impact on consumers of current and/or anticipated RFID uses?

Environmental Concerns

RFID may have environmental impacts. If RFIDs are sewn into garments, eventually, it will need to be separated from the garments before the fibers are recycled. The same goes for plastic goods, glass, tires... etc. The concern is that this process may be difficult and thus render what was recyclable as more landfill.

4. What approaches have led or will lead to use of RFID in ways that accommodate privacy and security concerns?

Mandatory Kill

Some people have suggested a procedure called mandatory kill to turn off RFIDs as the product is sold to the consumer. The problem with this method is that it is not in the retailers interest to do so. It makes the process of accepting returns or exchanges in the case of gifts more difficult.

Also, killing tags at the store exit doesn't solve the problem of tracking consumer behavior inside the store. It is still possible to measure the contents of shopping carts with sensors that can be located in the store.

Also, mandatory kill does not solve *disposal problems*. It would be preferable to me if RFIDs were removed entirely when a product is sold to the consumer.

Blocker Tags

Recently, RSA Security has developed a device to block certain tagged information so RFID scanners cannot see it. Such "blocker tags" are designed to disrupt RFID transmissions and thus protect a person's privacy from those who might abuse it. Blocker tags might give consumers a false sense of security because RFIDs can use any number of unlicensed frequencies. Furthermore, such a device can cause unwanted interference with other devices sharing unlicensed frequencies such as cordless phones, baby monitors, bluetooth, Wi-Fi... Such devices should be prohibited on the grounds of generating willful and malicious interference.

As you state in your invitation for comments "The FTC works for the consumer to prevent fraudulent, deceptive, and unfair business practices in the marketplace and to provide information to help consumers spot, stop, and avoid them." It would seem reasonable that invasion of privacy by RFIDs fits in the mission of the FTC. I would like to urge the FTC to do more than providing information to consumers about RFIDs, but to regulate their use to assure the constitutional rights of the consumer.

Yours Truly,

Konrad Roeder