Drivers

The global Near Field Communications (NFC) market is growing rapidly. In fact, in 2011 alone, 30 million NFC-equipped handsets shipped worldwide. Championed by mobile phone handset manufactures, the integration of NFC into phones allows for many new, exciting applications. These applications include using a mobile phone to make payments at the cash register and wirelessly transferring paperless receipts to your phone after a purchase. Not limited to phones, NFC technology is being integrated in security access and control systems, used for peer-to-peer file sharing applications, transit transportation payment systems, point of sale terminals and credential storage and exchange (such as electronics business cards).

NFC versus RFID

A key difference is transmit and receive distance. Radio Frequency Identification (RFID) can be viewed as a product or item using advanced barcode labels to enable rapid accountability of items. An RFID system can use both active (powered) and passive (non-powered) tags and is read by a central “reader” – the primary device tasked with scanning the tagged products. RFID systems are capable of transmitting and recording energy over a distance of a few meters! This transmission distance is problematic when the information is sensitive, such as personal account information, and must be kept closer than RFID allots. NFC defines the intended link budget between the two NFC designed antennas as being able to communicate up to a distance of 4” (100mm).

Challenges

One of the major challenges of integrating NFC into a product’s system is having confidence the antenna will meet the requirements of the NFC standard required. As an antenna supplier, it is critical to understand these standards. When integrating an antenna, size, shape, and material selection is critical to the design-in process. Pulse offers experience in understanding these requirements and testing to the standards to ensure compliance.
Catalog Offering

In an effort to meet the growing demands for catalog NFC antenna solutions, Pulse is proud to announce the launch of four new antenna solutions. The W3579 and W3580 are ferrite-backed flex antennas designed for tight-quarter placement integration, for lower volume programs. These two 35x50mm antennas were optimized using the NXP NFC controller PN544, most commonly used for mobile phones and portable equipment. Both antennas are readily available for sampling.

Ferrite-loaded antennas are a fast solution to start proving concepts, but they are cost prohibitive for large volume programs primarily due to the ferrite materials used. To address this, Pulse is launching two new antenna concepts which follow design trends of major OEM equipment manufacturers in the security, mobile, and POS terminal industries use. Both antennas are expected to launch 3Q12.

The W7001 is an NFC stamp antenna designed for cost considerations. It consists of a flexible, conformable PCB with adhesive for quick, easy mounting. If needed, a specific connector and wire/cable assembly may be added as required by the individual integration. Target applications should focus on contact and non-contact short distances (10-35mm), such as payment applications.

The W7002 is an NFC wire loop antenna optimized on a plastic carrier. The carrier is designed to allow for small industry-sized screws for vibration-resistant considerations. The design can also accommodate a specific connector and wire/cable assembly as required by the individual integration. Target applications should focus on non-contact mid range distances (30-100mm) such as security access applications.

If you are looking to partner with an antenna supplier to make your products compliant with NFC standards, from ISO 14443B specifications to NFC-Forum Type 4 Tag compliance, let Pulse be your first choice!