

RFID & NFC

RFID and NFC technologies used in contactless payment methods.

RFID stands for "Radio Frequency Identification," involving wireless communication through antennas that create magnetic fields.

Common frequencies include 13.56 MHz (used by PN532 and RC522) and 125 KHz (used by RDM6300). Tags contain a chip powered by the reader's magnetic field via "Wireless Energy Transfer." When a tag enters the reader's magnetic field, it powers up its IC to communicate data back to the reader. The communication process involves amplitude changes in the carrier wave due to data being sent from the tag.

While both technologies share similarities, NFC (Near Field Communication) has standardized rules allowing more complex data exchanges at close range.

NFC requires proximity (a few centimeters), enabling devices like smartphones to act as both readers and tags.