

# The World Needs Multiple RFID Frequencies, Standards

No single RFID technology fulfills all the requirements of existing and potential markets.

March 12, 2007—RFID solutions are gaining worldwide acceptance in new, high-volume implementations outside of traditional markets, most notably in the retail supply chain. At NXP Semiconductors, we believe that when choosing and implementing RFID, the goal should be to select a solution that results in best possible performance and will benefit the end user for a particular application.

Arguments that established RFID solutions have no place in the market or are immature do not help the process of adoption, nor do they make end users comfortable using RFID as part of a solution. The consequence of such positioning is a delay in the adoption of RFID technology, preventing the industry from demonstrating the commercial and societal advantages RFID can bring.

No single technology optimally satisfies all the requirements of existing and potential markets. The industry has worked diligently to standardize three main RF bands: low frequency (LF), 125 to 134 kHz; high frequency (HF), 13.56 MHz; and ultrahigh frequency (UHF), 860 to 960 MHz. As with many other technologies, RFID continues to see further development toward improving its performance and, thus, its use in applications. The industry is currently focusing on four main areas:

- Increasing security levels of contactless cards used for authentication and payment purposes.
- Developing the HF Gen 2 specification for item-level tracking in open supply chains.
- Developing the UHF Gen 2 specification for item-level management.
- Creating more robust solutions for near-field (NF) UHF.

Both [ISO](#) and [EPCglobal](#) support these initiatives via continuous development of new standards, providing end users the vital assurance of interoperability, backwards compatibility and multi-vendor support.

RELATED\_ARTICLES Due to the requirements of a complex world and its varied and unique identification problems, such companies as [STMicroelectronics](#), [Texas Instruments](#), [Infineon](#) and [NXP Semiconductors](#) are supplying RFID tag and label ICs for multiple RFID frequencies.

Other identification technologies are likely to become significant for RFID in the future. Examples may include dual-frequency technologies and polymer IC implementations of current RFID solutions. It is important, therefore, that RFID technology providers assist their customers and partners in finding the best technology solutions for the required applications.

*Dirk Morgenroth is the RFID marketing director of [NXP Semiconductors](#).*

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