
FEIG and STMicroelectronics Collaborate on Contactless Product Personalization for Fast, Flexible, Cost-Efficient Logistics

Convenient NFC-based solution extends readable area to 1m x 1m x 1m for fast personalization of palletized items. Leveraging ST25DV dynamic tags, eliminates powering-up or removing items from palettes or boxes.

STMicroelectronics, a global semiconductor leader serving customers across the spectrum of electronics applications, and FEIG Electronic, a leading RFID-reader and antenna specialist, have combined their RFID know-how in a time-saving logistics solution that can help cut numerous costs and enhance flexibility for vendors of high-tech products such as smart industrial, consumer, and medical devices.

Together the companies have created a production-ready contactless system capable of personalizing palletized items containing ST's ST25DV NFC dynamic tags in just a few seconds, eliminating the need to power-up or even remove the products from their packaging. With this system, end users can eliminate the costs associated with inline programming and leverage contactless NFC technology to enjoy efficient, economical, and flexible stock-management and logistics.

A typical application configures setup parameters such as manufacturer ID, serial number, and default language in new products before they are shipped. Historically a laborious and time-consuming process that requires connecting each unit to a programmer, basic setting up can now take place at any convenient point in the supply chain using this new contactless solution.

The innovative solution extends the readable range for contactless NFC interactions beyond the typical distance of only a few centimeters, to create a 1m x 1m x 1m readable space. By connecting the FEIG ID LR2500 long-range reader/writer to two pairs of long-range antennas positioned on either side of the reading area, the FEIG system can simultaneously program batches of products containing the ST25DV dynamic NFC tags placed in the reading area.

May 2021

“Our ST25DV dynamic NFC tag is a catalyst for creative contactless applications that enhance numerous activities including smart manufacturing, asset tracking, and brand protection”, said Sylvain Fidelis, Memory Division Marketing Director, STMicroelectronics. “In this case, the tag’s dual RF and host interfaces and large built-in non-volatile memory let FEIG’s powerful long-range system update the personalization settings of already-packaged products quickly and efficiently.”

“Working with ST, we have produced a game-changing innovation that enables product manufacturers to boost productivity, save factory space, and benefit from extra flexibility to organize product personalization and shipping”, said Wolfgang Meissner, Senior Product Manager at FEIG Electronic GmbH. “Leveraging features of the ST25DV, the use case we have demonstrated can be extended to activities such as updating existing inventory with latest firmware before dispatch.”

Note to Editors

ST’s ST25DV dynamic tag is compliant with the NFC Forum Type-5 specification and contains up to 64Kbits of EEPROM, an I2C interface that allows the tag to connect to a host microcontroller or processor, and energy-harvesting circuitry. An integrated buffer of 256 Bytes permits high data-transfer speeds suitable for exchanging larger files such as firmware upgrades.

Ready to be embedded in a wide range of IoT and Industry 4.0 products, ST25DV tags allow battery-free communication throughout the product lifetime, from in-factory customization and tracking to field maintenance and end of life. For further information about the ST25DV please visit:

https://www.st.com/content/st_com/en/products/nfc/st25-nfc-rfid-tags-readers/st25-dynamic-nfc-tags/st25dv-i2c-series-dynamic-nfc-tags.html

The FEIG RF Long Range Reader ID LR2500 combines a powerful transmitter, operating up to 12 Watts, with a high-sensitivity receiver to cover an enlarged and at the same time homogeneous tag detection range. Due to its fast data processing and the

May 2021

outstanding anti-collision performance, the reader is suitable for applications with a high number of tags inside the reading area.

FEIG multiplexers and long-range antennas with automatic tuners matched to the readers allow an easy setup of the equipment. For further information about the ID LR2500 please visit:

<https://www.feig.de/en/products/identification/frequency/#hf>

To see high-speed contactless personalization from ST and FEIG in action, please visit:

<https://fast.wistia.net/embed/channel/9yko25mpez?wchannelid=9yko25mpez&wmediaid=pclj7tgw37>