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ST25 NFC / RFID solutions for wireless Qi charging protection applications

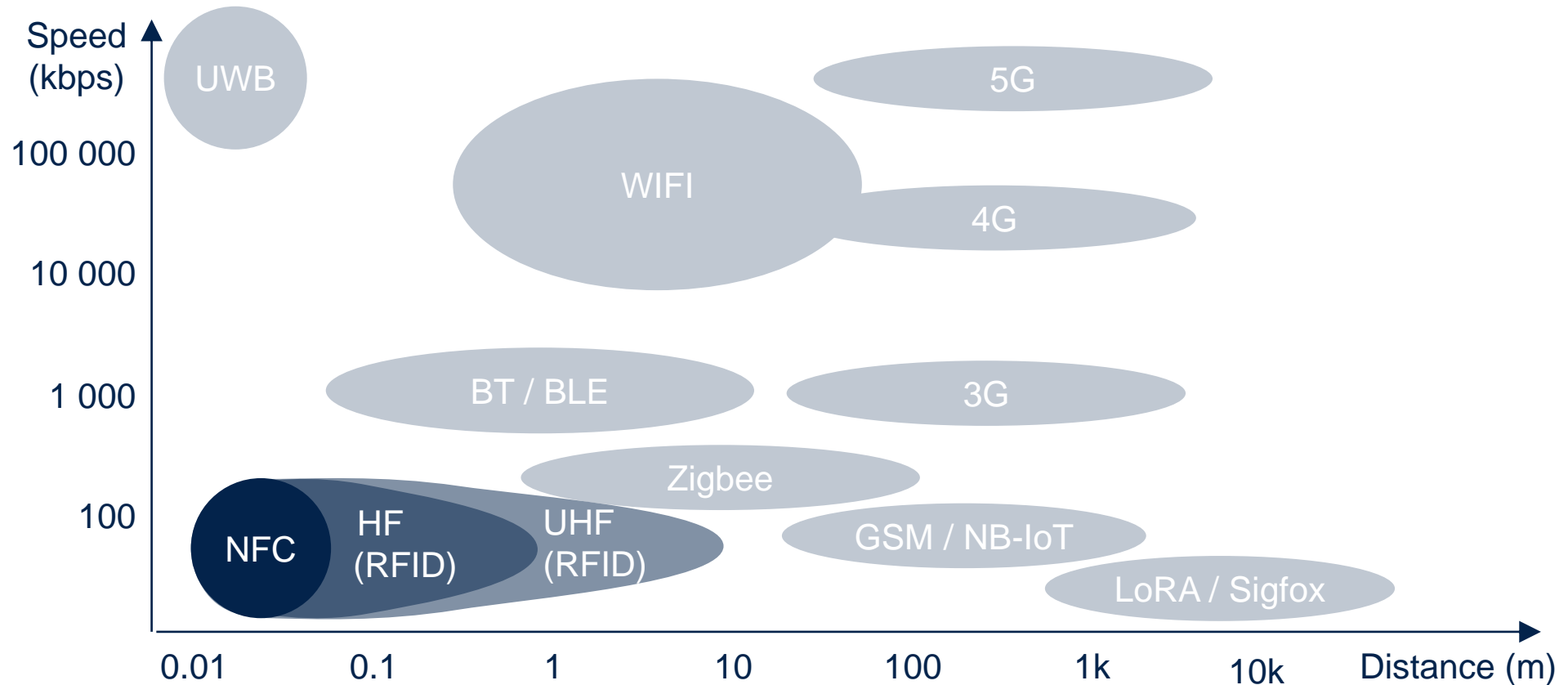
Foreign Object Detection (FOD) for wireless Qi charging, battery management, charging & sharing...





NFC, RFID HF & UHF technologies

Complementary solutions to Wireless Technologies



Communication from 1cm (NFC) to up to 10m (RFID UHF)

Wireless Qi charging protection applications



NFC technology

Near Field Communication



- Short range contactless communication
- Technology operating at 13.56MHz frequency
- Based on RFID HF ISO14443 & ISO15693 standards

Interactive and zero power



- NFC tags powered by phone or RFID reader
- Enabling convenient connection to the Cloud for IoT
- NFC-enabled mobile phone can engage with items by a simple tap

NFC is developed by NFC Forum



- Interoperability between devices with NFC Forum certified products
- Standardized use cases (URL web link, Bluetooth handover...)

Fast growing employment in Mobile phone



- More than 70% of new phones come with NFC
- NFC is used for Mobile Payment with Android and iOS (ApplePay)
- Apple added in 2019 support of NFC reader / writer mode from iOS13 onward



NFC main use cases & benefits

Qi charging protection

NFC



Wireless Qi charging field can damage NFC cards such as credit card, e-passport...

- NFC card protection: detection of NFC cards (Foreign Object Detection) present in front of wireless charging field to avoid destruction
- Product authentication through NFC link

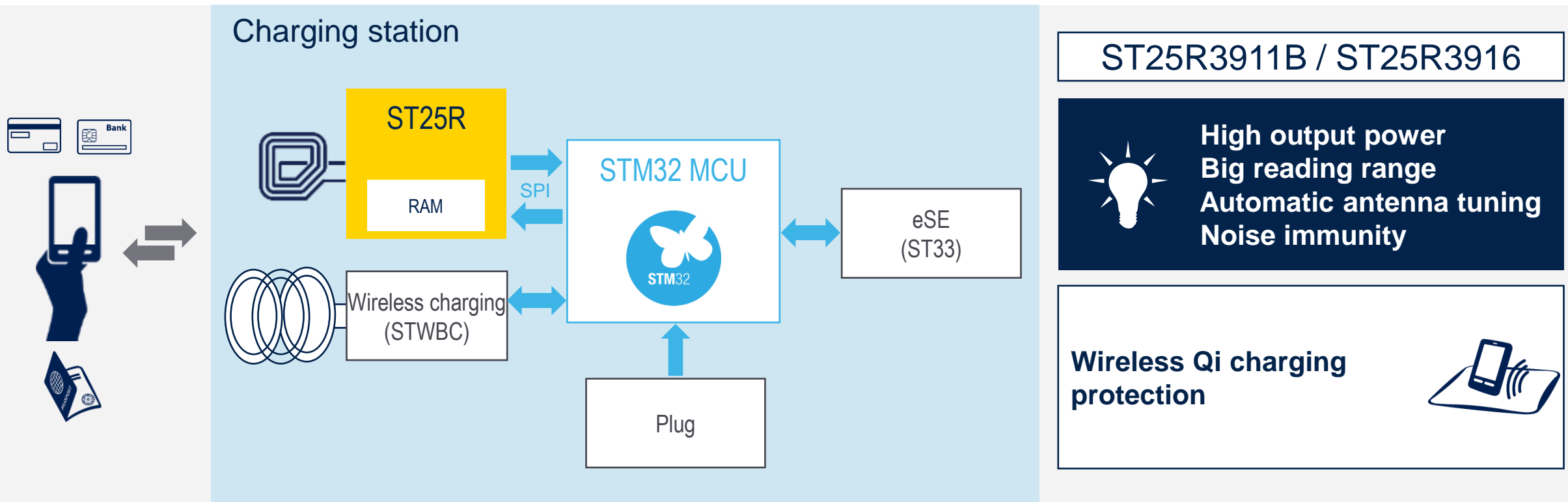


Faster communication thanks Wireless charging commands
Trusted communication thanks to short reading distance



NFC reader

Typical NFC Reader Block Diagram & Usage for Battery charging





ST25 rich eco-system



- Discovery Kits based on STM32 MCU
- STM32 Nucleo boards ecosystem
- STM32Cube software ecosystem



- Antenna e-design tool
- Schematic, BOM, Gerber
- IBIS models



- PC software tool ST25 SDK
- Mobile Apps ST25 SDK (Android & iOS)

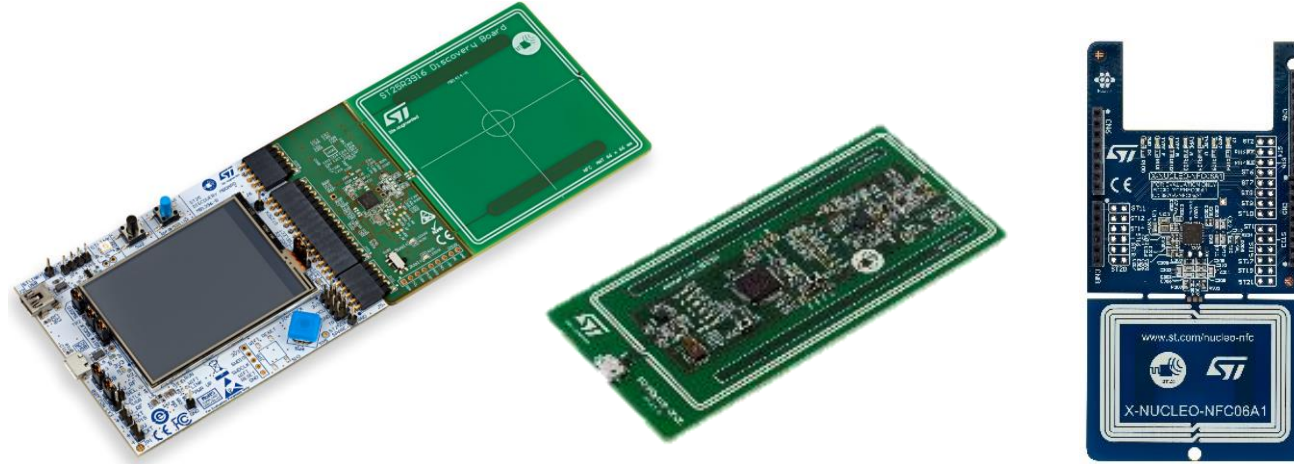


- Documentation
- Training
- Webinar
- MOOC



ST25 hardware solutions

Speed-up Evaluation, Prototyping and Design



HF / NFC READER KITS

- ST25R3916-DISCO
- X-NUCLEO-NFC06A1
- ST25R3911B-DISCO
- X-NUCLEO-NFC05A1



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Solutions for NFC / RFID tags & readers



ST25 SIMPLY MORE CONNECTED