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ST25 NFC / RFID for wireless communication and iot applications

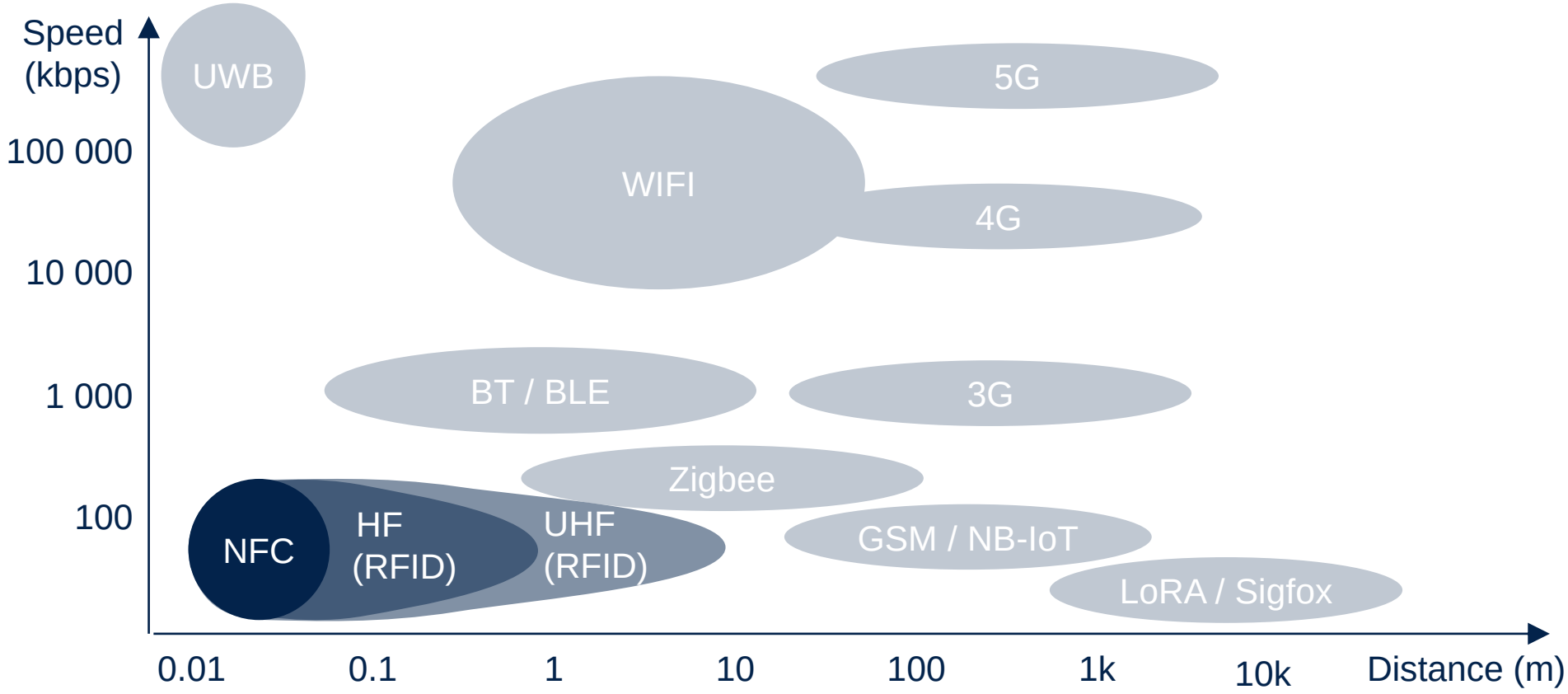
Gateway, Set Top Box, router, IP phone, conference system, Switches, IoT nodes…

MMY division

ST25

NFC, RFID HF & UHF technologies

Complementary solutions to Wireless Technologies



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

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

Convenient installation

NFC

- Wireless networks extended pairing / provisioning
  => insert new product (node) in a wireless network by just taping it thanks to NFC
- Product activation

Servicing & Maintenance

NFC

- Update parameters even if device is powered off thanks to NFC phone
- Quick Firmware upgrade via fast transfer mode
- Contactless access to maintenance records
- Data tracking

End user experience

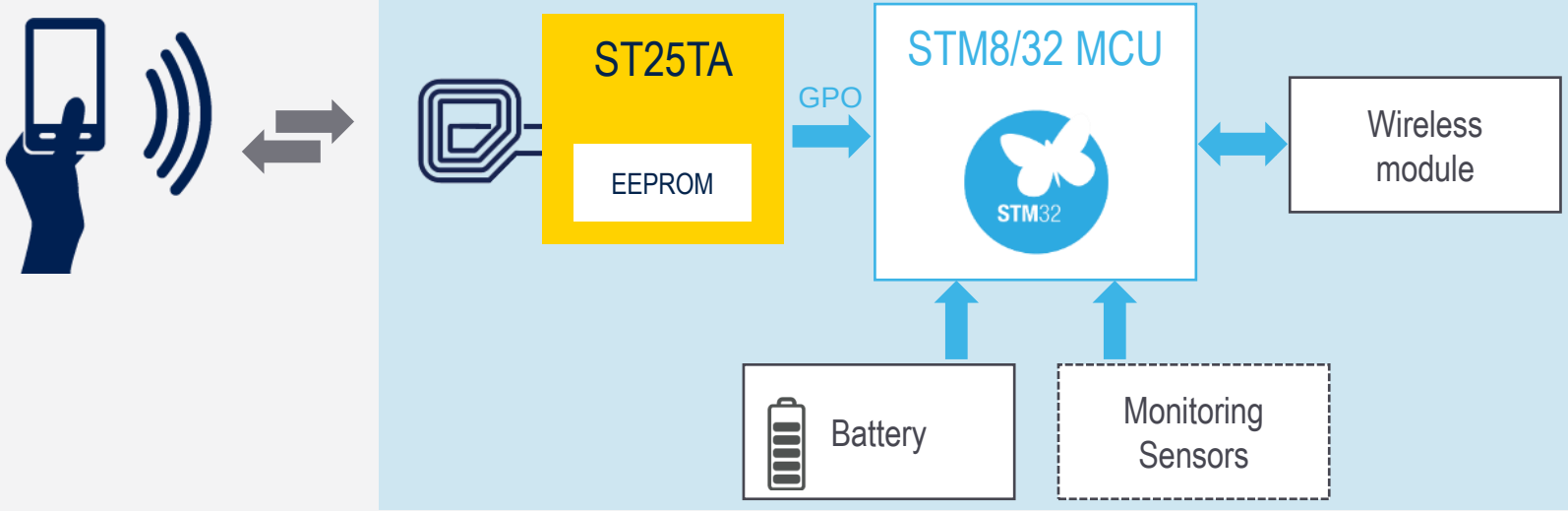
NFC

- Extended wireless pairing (Bluetooth and wifi pairing)
- Geolocation

Interactive and zero power technology (Tag powered by Reader)
Built-in wireless pairing with NFC phone
Simple and flexible

NFC tag

Typical NFC Tag Block Diagram & Usage for Wireless com. & IoT



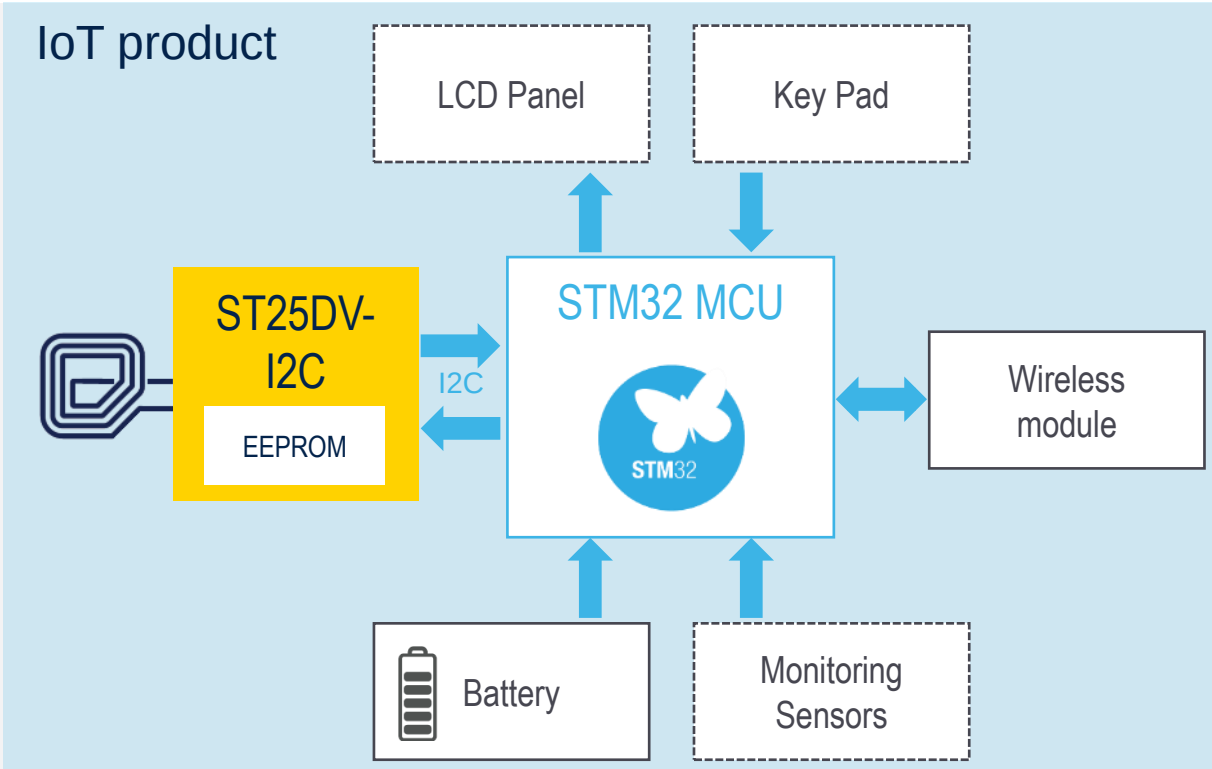
ST25TA02KB / ST25TV02K

RF field detect MCU for wake-up
TruST25 digital signature
Passwords

Convenient installation
End user experience

Dynamic NFC tag

Typical Dynamic NFC Tag Block Diagram & Usage for Wireless com. & IoT



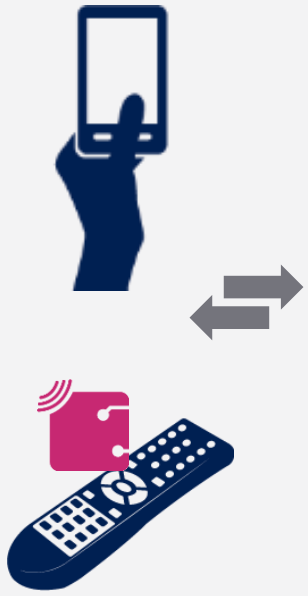
ST25DV04K / 16K / 64K

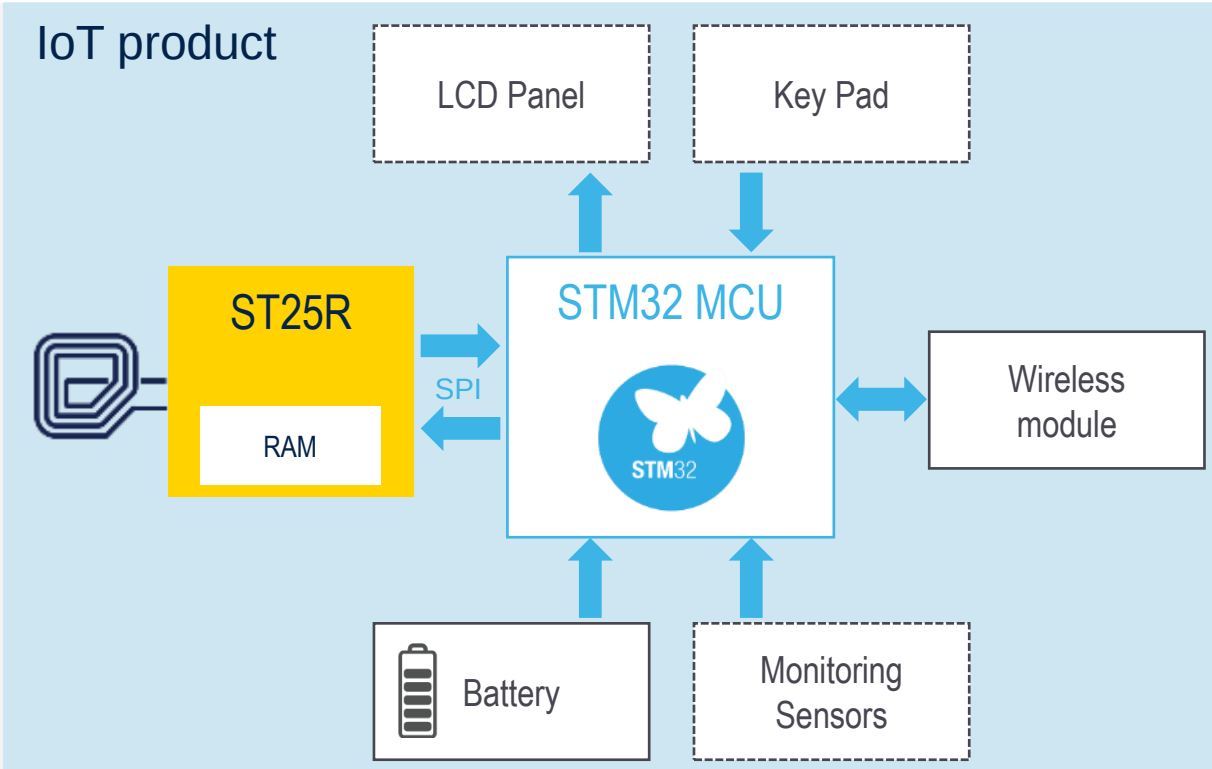
I2C fast interface
Fast Transfer Mode
Energy Harvesting

Convenient installation
Servicing & Maintenance
End user experience

HF / NFC reader

Typical NFC Reader Block Diagram & Usage for Wireless com. & IoT





ST25R3916 / ST25R95

High output power
Low power consumption
Automatic antenna tuning

Convenient installation
Servicing & Maintenance
End user experience

ST25 rich eco-system

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

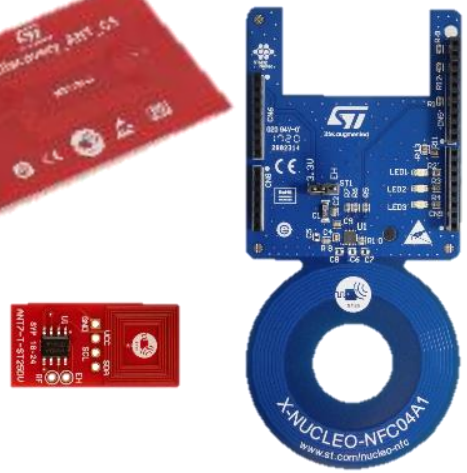
- Antenna e-design tool
- Schematic, BOM, Gerber
- IBIS models

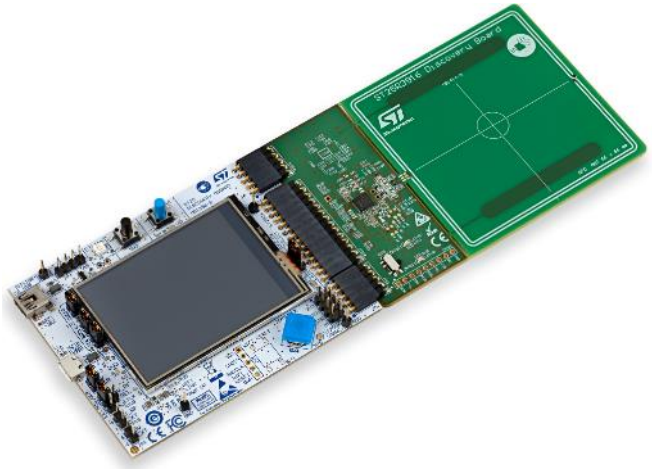
- PC software tool ST25 SDK
- Mobile Apps ST25 SDK (Android & iOS)

- Documentation
- Training
- Webinar
- MOOC

ST25 hardware solutions

Speed-up Evaluation, Prototyping and Design





NFC TAG KITS

- CLOUD-ST25TA02KB
- ST25-TAG-BAG-U

DYNAMIC NFC TAG KITS

- ST25DV-DISCOVERY
- ANT-1-6-ST25DV
- X-NUCLEO-NFC04A1
- ANT7-T-ST25DV04K

HF / NFC READER KITS

- ST25R3916-DISCO
- X-NUCLEO-NFC06A1

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Solutions for NFC / RFID tags & readers

ST25

ST25 SIMPLY MORE CONNECTED