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NFC for Consumer Applications

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ST25 products family

Consumer engagement, Asset tracking, Ticketing, Gaming, Brand protection, Access control, ...

www.st.com/st25t



13.56MHz



NFC phone / RFID Reader

Industrial, Lighting, Consumer, Metering, Appliance, Healthcare, ... (Fast Transfer Mode and SW upgrade)

www.st.com/st25d

Dynamic tags



13.56MHz



NFC phone / RFID Reader

POS & mPOS Terminals, Automotive, Access control, Gaming, ...

www.st.com/st25r

Readers



13.56MHz



or



or



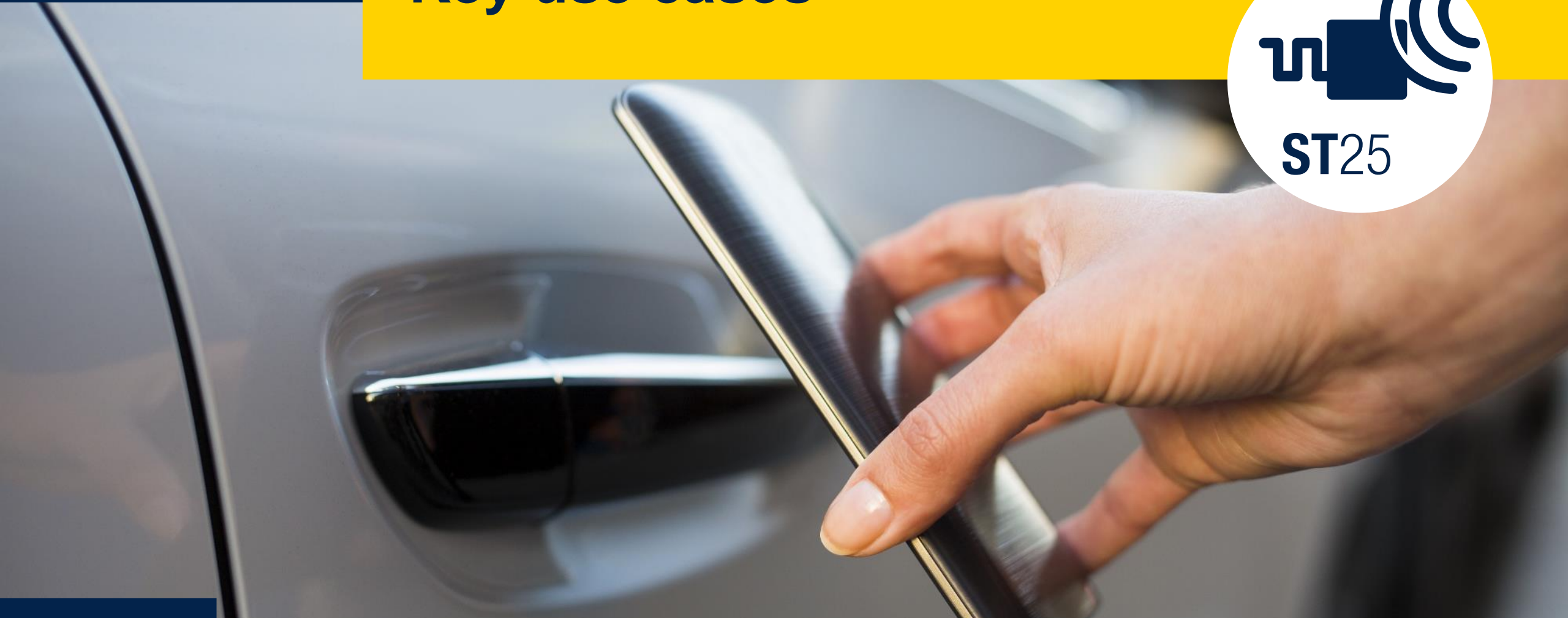
NFC phone

ST25 NFC / RFID portfolio one-stop-shop for tags and readers

Tags			Dynamic Tags				NFC / HF Readers					UHF Readers
ST25TA	ST25TB	ST25TV	M24SR	M24LR	ST25DV-I2C	ST25DV-PWM	ST25R95 *	ST25R3911B ST25R3912	ST25R3914 ST25R3915	ST25R3916 ST25R3917	ST25R3920	ST25RU3993
ISO14443-A 106kbps NFC Type 4	ISO14443-B 106Kbps	ISO15693 up to 53Kbps NFC Type 5	ISO14443-A 106kbps NFC Type 4	ISO15693 up to 53kbps	ISO15693 up to 53kbps NFC Type 5	ISO15693 up to 53kbps NFC Type 5	ISO14443-A/B ISO15693	ISO14443-A/B Felica ISO15693 ISO18092	ISO14443-A/B Felica ISO15693 ISO18092	ISO14443-A/B Felica ISO15693 ISO18092	ISO14443-A/B Felica ISO15693 ISO18092	ISO18000 6c & b Gen2 Protocol
EEPROM 512b-64Kb 200 year retention 1M cycles	EEPROM 512b-04Kb 40 year retention 1M cycles	EEPROM 512b-64Kb 200 year retention 1M cycles	EEPROM 2Kb-64Kb 200 year retention 1M cycles	EEPROM 4Kb-64Kb 40 year retention 1M cycles	256B Buffer EEPROM 4Kb-64Kb 40 year retention 1M cycles	EEPROM 2Kb 40 year retention 100K cycles	Reader/Writer Card Emulation	Reader/Writer P2P EMVco & PBOC	Reader/Writer P2P AEC-Q100	Reader/Writer P2P Card Emulation EMVco & PBOC	Reader/Writer P2P Card Emulation AEC-Q100	Reader / Writer -90dBm sensitivity Internal VCO
TruST25 128b password 20b counter UID RF Detect	32b counter Lock OTP bits UID	TruST25 64b password 16b counter UID Tamper Detect	128b password RF disable RF Detect UID	32b password E-Harvesting RF Detect UID	Fast X-fer Mode 64b password E-Harvesting RF Detect UID	TruST25 64b password UID		VHBR Auto Ant. Tuning Dyn. Power Out Multi-antenna	Auto Ant. Tuning Dyn. Power Out Multi-antenna	Active waveshaping Auto Ant. Tuning Dyn Power Out Multi-antenna	Active waveshaping Auto Ant. Tuning Dyn. Power Out Multi-antenna	Dense Reader Mode Linear RSSI Automatic PSRR Auto ACK
			I2C 1MHz 2.4V-5.5V	I2C 400kHz 1.8V-5.5V	I2C 1MHz 1.8V-5.5V	2x PWM 488-31.25 kHz 1.8V-5.5V	SPI & UART 2Mbps 2.7V-5.5V 230mW	SPI 6Mbps 2.4V-5.5V 1W – 1.4W	SPI 6Mbps 2.4V-5.5V 1W	SPI 10Mbps I2C 3.4Mbps 2.4V-5.5V 1.6W	SPI 5Mbps I2C 3.4Mbps 2.4V-5.5V 1.6W	SPI 10Mbps 1.65V-5.5V 0-20dBm
SBN12 / SBN075 / FPN5	SBN12	SBN12 / SBN075 / FPN5	SO8 / TSSOP8 / FPN8 / SBN12	SO8 / TSSOP8 / FPN8	SO8 / TSSOP8 / FPN8 / FPN12 / WLCSP10 / SBN12	SO8 / TSSOP8	32-pin QFN	WF 32-pin QFN / 32-pin QFN / WLCSP-30 / Wafer	WF 32-pin QFN / 32-pin QFN	WF 32-pin QFN / WLCSP-36	WF 32-pin QFN	48-pin QFN

*: same as former CR95HF / ST95HF

Key use cases

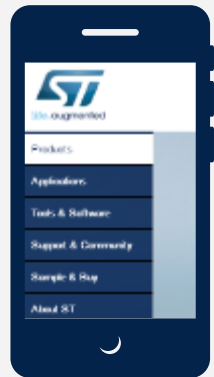


URL link “tap & get web page”

Direct access to a Web page



Native support with NFC phone (NDEF)



Open a web page
thanks to URI information stored inside the ST25 tags

iOS and Android compatibility

ST solutions



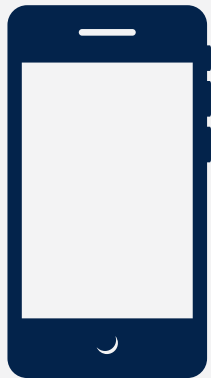
- Tag
- Dynamic Tag

“Tap & get app”

Direct access to download an app



Native support with NFC phone (NDEF)



Direct link to Google Play and Apple store
to download an app

iOS and Android compatibility

ST solutions



- Tag
- Dynamic Tag

Consumer engagement & brand recognition with Cloud management



Branding and Consumer Engagement

Product identification with enriched information

Identity check using TruST25 digital signature

Tamper detect for open-close detection

ST solutions



• Tag

Accessory recognition

Brand recognition and parameters setting



NFC for accessory identification

Convenient and reliable brand identification

Automatic System configuration

Upon accessory type recognition

Brand Recognition

Ensure only branded accessory are used

ST solutions



- Tag
- Dynamic Tag
- HF Reader



NFC Main Use Cases & Benefits

Brand recognition

NFC



- Ensure the cartridge is genuine
- Reader + Tag application

Product configuration

NFC



- Parameter settings like heating temperature, air flow, etc
- Firmware upgrade

End user experience

NFC



- E-warranty card & customer registration
- Cartridge re-order
- Data logging (cartridge parameters, time of use..)



- Interactive and zero power technology (Tag powered by Reader)
- Trusted communication thanks to short reading distance

Entertainment & gaming

Enhance your gaming possibilities by using NFC

Figurines come to life,
using NFC to connect to a gaming console

Player and figurine interaction
without any external battery need

ST solutions



- Tag
- HF Reader



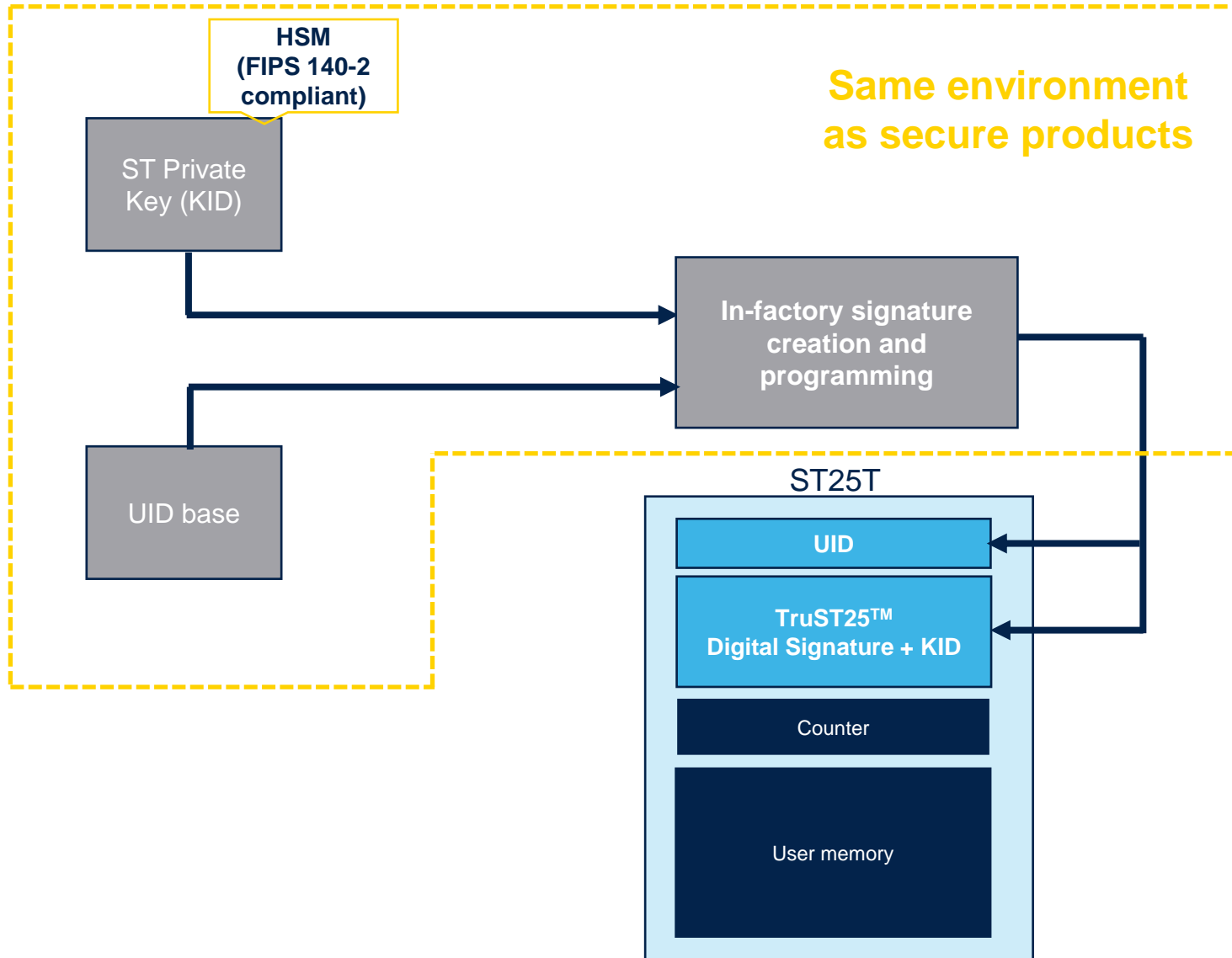
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TruST25 Digital Signature



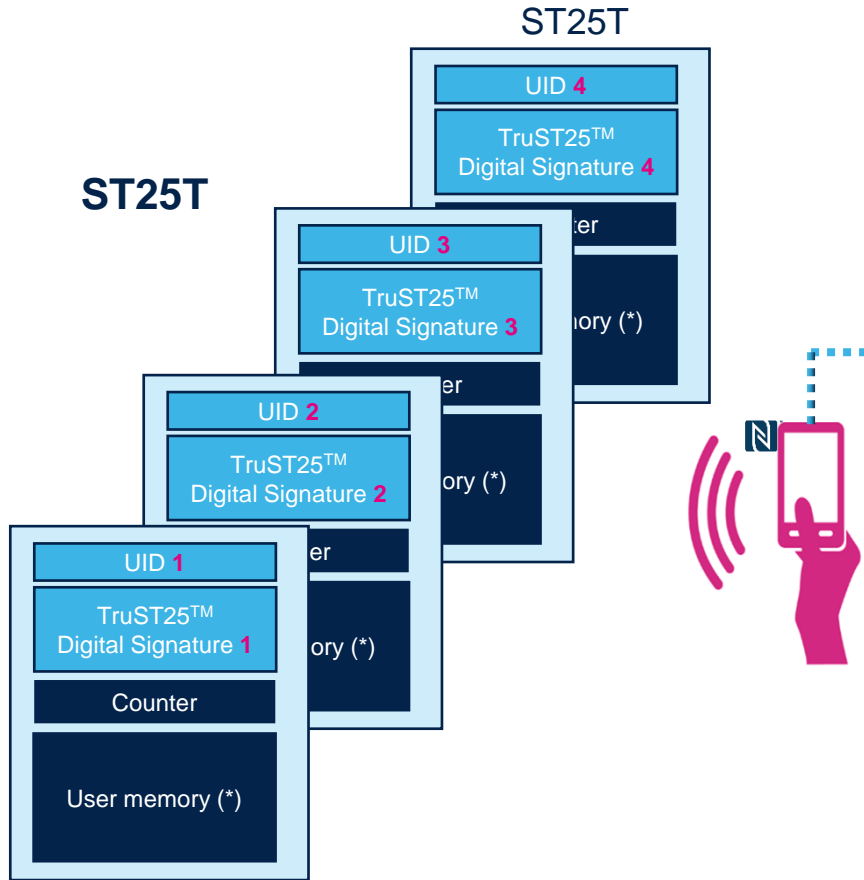


ST in-Factory Digital Signature creation in secure environment

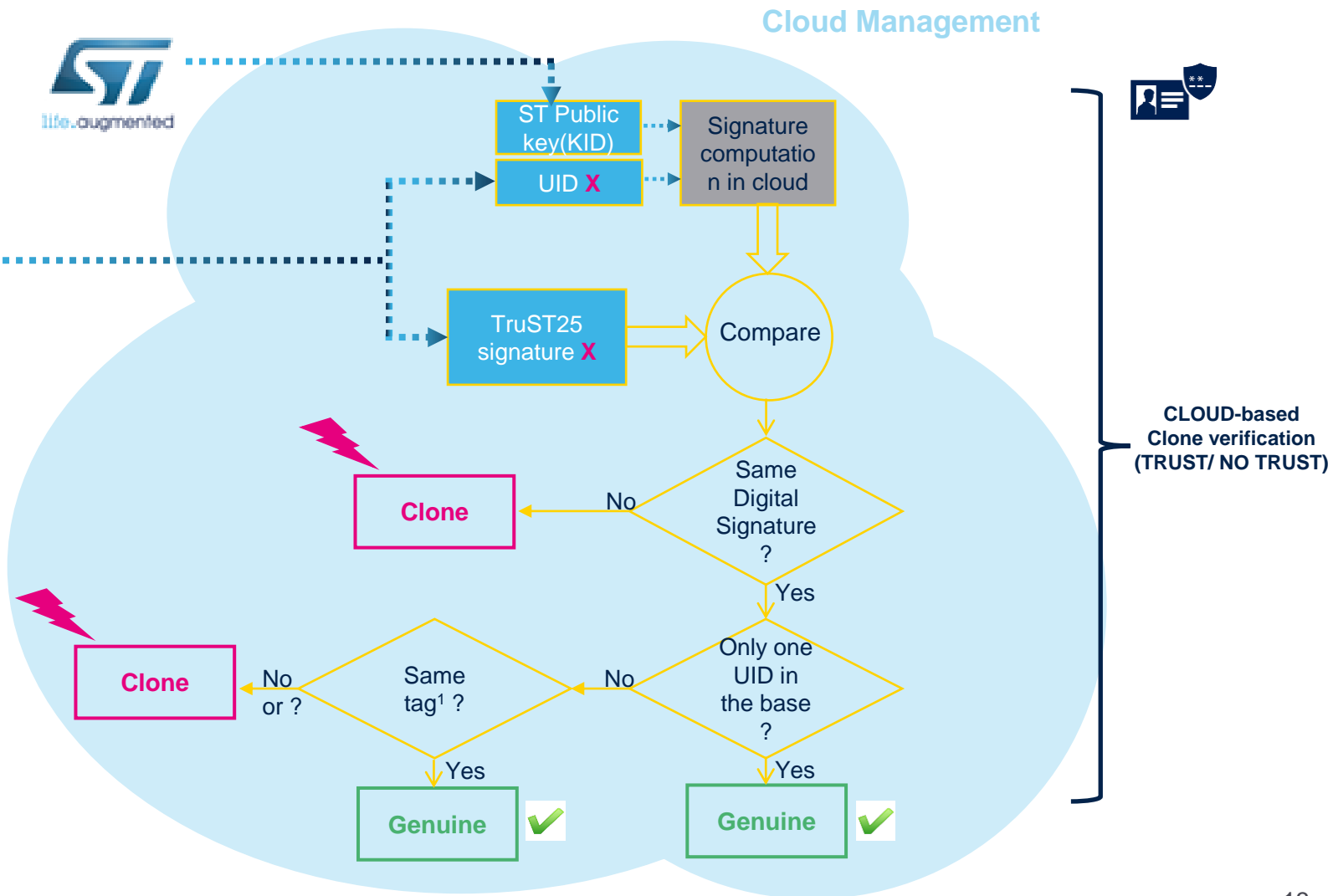




TruST25 Product Authentication Process



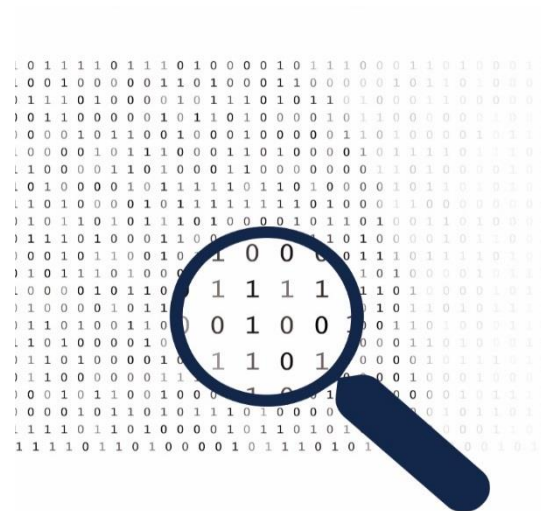
(*) User Memory content might be encrypted and signed by user



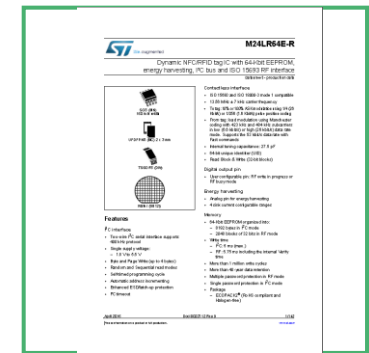


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- A dedicated application note will describe how to read and verify the TruST25™ Digital Signature.
 - AN5104 for ST25TV
 - AN5101 for ST25TA
- Smartphone App to verify the Digital Signature
- Source code Support



Documentation





Thank you