

STSAFE-VJ100-CCC

Secure solution for digital key systems CCC V3



End-to-end solution for car access system with state of the art performance

Connectivity is driving growth and creating a new automotive ecosystem. Digital key access in the automotive industry has become a new challenge to address.

Based on an embedded secure element (eSE), a secure gateway, and a contactless solution compliant with CCC V3, ST offers a full system solution for secure car access.

DEVICE-TO-VEHICLE CONNECTIVITY

Once paired, the device (mobile phone, digital car-key fob or smart card) and the vehicle gateway are connected after mutual authentication based on asymmetric cryptography.

DIGITAL KEYS

A mobile phone

- ST54 eSE integrating ST33 Secure Element and an NFC Controller
- JavaCard OS with Java Applet

A smart card

- ST31 eSE with NFC Card Emulation mode

VEHICLE GATEWAY

In-vehicle connectivity

- Secure processing based on SPC58 MCU and ST33K-A eSE companion chip for secure storage with ST25R3920 NFC reader embedded in the door handle
- Automotive-grade solution

KEY BENEFITS

- CCC V3 standard specification compliant
- Secure access based on tamper-proof eSE (EAL6+ CC-certified)
- Implementing NFC-A, a robust and widespread technology
- Flexible integration in body control or gateway module

Secure NFC car access solution

(NFC + secure element + automotive MCU)

STSAFE-VJ100-CCC secure element

- Fail-safe secure storage
- Up to CC EAL6+ hardware certified solution
- Reinforced secure boot and cryptographic services
- Enhanced platform and software integrity

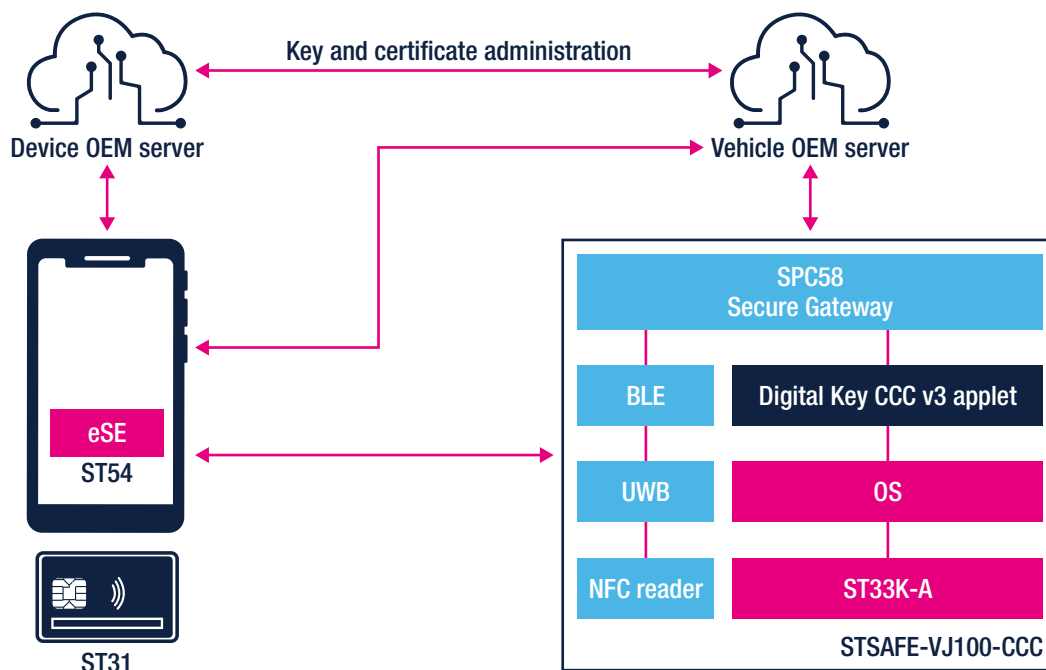
ST25R3920 NFC reader/writer

- Long reading range for a better user experience
- Low-power consumption for key or phone detection
- Advanced features to ensure fast and successful design

SPC58 automotive MCU

- Scalable MCU family with hardware security module, smart low-power and gateway capability
- Ensures platform and software integrity as well as secure in-vehicle communication

Digital key system scheme



Device summary

Product name	Component	Interface	Output power	Advanced features
ST25R3920	NFC reader/writer	SPI/I ² C	Up to 1.6 W	Automatic Antenna Tuning Dynamic Power Output
Product name	Component	Processing	Memory	Security
ST31P450	Secure element	Arm SecurCore® SC000 28 MHz	256 K – 480 K Flash 12 K User RAM	EAL5+ CC certified
ST54H/ST54J	Secure element & NFC controller	Arm SecurCore® SC300/Arm Cortex-M3	2 M Flash 64 K User RAM	EAL5+ CC certified
SPC58	Automotive MCU	1x core/80 MHz 2x core/200 MHz	512 K – 10 M Flash 64 K – 1.3 M RAM	HSM (EVITA Med./Full) Device Life Cycle
Product name	Component	OS support	Packages	Security
STSAFE-VJ100-CCC	Secure solution for automotive digital key systems based on ST33K-A secure element	Javacard OS v 3.0.5/GP 2.3 + Digital key system CCC V3 applet Interfaces SPI	TSSOP 20	CC EAL6+ (Hardware)



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