

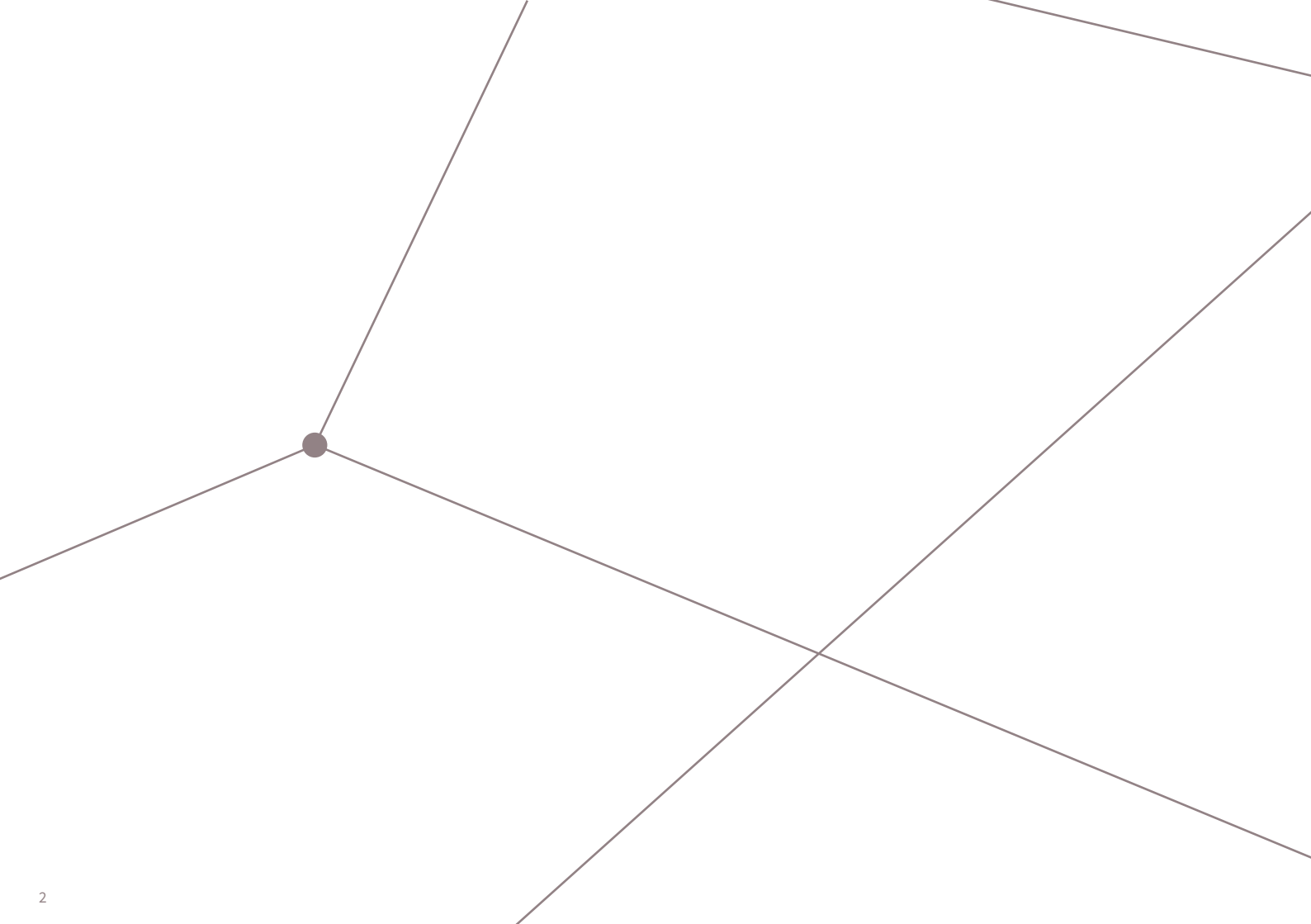


Infineon Chip Card & Security ICs Portfolio

Security for the connected world

www.infineon.com/security







Security for the connected world

In an increasingly connected world securing the interaction and communication among people, electronic devices and infrastructures becomes a number one priority. Addressing this need for security is the charter of Infineon. Infineon is the leading provider of security solutions and offers tailored and ready to use security solutions serving a wide range of applications from smart cards to new, emerging use cases. Outstanding security expertise and technology innovation based on almost 30 years of experience, system competence and the broadest security solution portfolio focused on customer needs is what makes Infineon the preferred security partner.

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Technologies & Open Standards



Integrity Guard

The smartest security concept in the industry

Rely on Integrity Guard with its highly sophisticated digital security architecture, including fully encrypted data path and a self-checking dual CPU core



Boosted NFC

NFC Security Solution for smallest form factors

Created for mobile payment with the ultra-low power consumption, small PCB footprint and extraordinary contactless performance



SOLID FLASH™

Flexible and robust memory using a comprehensive security concept

Master your security applications quickly with SOLID FLASH™ flexible non-volatile memory technology



Mega Memory

Unrivalled total memory sizes

Enables next-generation eGovernment documents (e.g. LDS 2.0 ePassports and Multi-Application eID cards)



Coil on Module

Simplified Dual Interface card design and manufacturing

Get to market significantly faster than the competition with our award-winning Coil on Module package technology



VHBR

The fastest contactless performance

With support of Very High Bit Rates (VHBR)



CIPURSE™ – Open security standard

- › Is built on proven standards such as ISO/IEC 7816, AES-128 and ISO/IEC 14443-4
- › Provides a single, consistent set of security, personalization, administration and life cycle management functions
- › Includes advanced security mechanisms such as unique cryptographic protocol for inherent protection against differential power analysis (DPA) and differential fault attacks (DFA)
- › Offers three distinctive development profiles enabling a complete range of products suitable for tickets, cards and mobile phones

CIPURSE™ is a trademark of the OSPT Alliance

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Payment

Dual-interface & Contactless Security Controller ¹⁾				
Product name	SLE 77CLFX1367P(M)  SOLID FLASH™	SLE 77CLFX1567P(M)  SOLID FLASH™	SLE 77CLFX1847P(M)  SOLID FLASH™	SLE 77CLFX2007P(M)  SOLID FLASH™
Product description	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller
Interfaces	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Optimized for sub-ID1	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Optimized for sub-ID1	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Optimized for sub-ID1	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Optimized for sub-ID1
Memory	136kByte SOLID FLASH™, 6kByte RAM	156kByte SOLID FLASH™, 6kByte RAM	184kByte SOLID FLASH™, 6kByte RAM	200kByte SOLID FLASH™, 6kByte RAM
CPU	16-bit	16-bit	16-bit	16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	Dual interface module, MCC8, Coil on Module, Wafer sawn	Dual interface module, MCC8, Coil on Module, Wafer sawn	Dual interface module, MCC8, Coil on Module, Wafer sawn	Dual interface module, MCC8, Coil on Module, Wafer sawn
Typical applications	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse
Certification level	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo





¹⁾ Supporting CIPURSE™ for all contactless and NFC applications

SLE 77CLFX2400P(M)  SOLID FLASH™	SLE 77CLFX2407P(M)  SOLID FLASH™	SLE 78CLFX2404P(M)  Integrity Guard  SOLID FLASH™	SLC 32PDA348  SOLID FLASH™ new	SLC 32PDL348  SOLID FLASH™ new
Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller
ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Optimized for sub-ID1	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Optimized for sub-ID1	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Optimized for sub-ID1	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Optimized for sub-ID1
240kByte SOLID FLASH™, 6kByte RAM	240kByte SOLID FLASH™, 6kByte RAM	240kByte SOLID FLASH™, 6kByte RAM	348kByte SOLID FLASH™, 10kByte RAM	348kByte SOLID FLASH™, 10kByte RAM
16-bit	16-bit	16-bit	16-bit	16-bit
DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA and ECC up to 2304 bits	RSA and ECC up to 2304 bits
-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Wafer sawn	Dual interface module, MCC8, Coil on Module, Wafer sawn	Wafer sawn	Dual interface module, MCC8, Coil on Module, Wafer sawn	Dual interface module, MCC8, Coil on Module, Wafer sawn
EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse, eSignature	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse, eSignature	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse, eSignature
CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo





Payment






	Dual-interface & Contactless Security Controller		
Product name	SLE 78CLFX2406P(M) ¹⁾  Integrity Guard  SOLID FLASH™	SLE 78CLFX3006P(M) ¹⁾  SOLID FLASH™	iKaffeeX (SLJ 32PDA018W/036W) and iKaffeeW (SLJ 32PDL018W/036W) new  SOLID FLASH™
Product description	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	iKaffee is Infineon's advanced Java Card based payment solution portfolio optimized for the LatAm Visa market
Interfaces	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Optimized for sub-ID1	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Optimized for sub-ID1	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface
Memory	240kByte SOLID FLASH™, 6kByte RAM	300kByte SOLID FLASH™, 6kByte RAM	240kByte SOLID FLASH™, 36kByte (36kByte + 1kByte for M) EEPROM, 6kByte RAM
CPU	Dual 16-bit	Dual 16-bit	16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	3DES
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 2048-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +70°C
Delivery forms	Wafer sawn	Dual interface module, Coil on Module, Wafer sawn	Dual interface module
Typical applications	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse, eSignature	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse, eSignature	EMV DDA, Global Platform/Java
Certification level	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	EMVCo

¹⁾ Supporting CIPURSE™ for all contactless and NFC applications

	Contact-based Security Controller			
Product name	SLE 77CF800S  SOLID FLASH™	SLE 77CF1000S  SOLID FLASH™	SLE 77CF1200S  SOLID FLASH™	SLE 77CFX1360P  SOLID FLASH™
Product description	Security Controller	Security Controller	Security Controller	Security Cryptocontroller
Interfaces	ISO 7816	ISO 7816	ISO 7816	ISO 7816
Memory	80kByte SOLID FLASH™, 4kByte RAM	100kByte SOLID FLASH™, 4kByte RAM	120kByte SOLID FLASH™, 4kByte RAM	136kByte SOLID FLASH™, 6kByte RAM
CPU	16-bit	16-bit	16-bit	16-bit
Symmetrical Cryptography	DES, AES	DES, AES	DES, AES	DES, 3DES, AES up to 256-bit
Asymmetrical Cryptography	–	–	–	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn
Typical applications	EMV SDA, Loyalty	EMV SDA, Loyalty	EMV SDA, Loyalty	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse
Certification level	EMVCo	EMVCo	EMVCo	CC EAL5+ high/EMVCo

Payment

	Contact-based Security Controller			
Product name	SLE 77CFX1560P  SOLID FLASH™	SLE 77CFX1840P  SOLID FLASH™	SLE 77CFX2000P  SOLID FLASH™	SLE 77CFX2400P  SOLID FLASH™
Product description	Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller
Interfaces	ISO 7816	ISO 7816	ISO 7816	ISO 7816
Memory	156kByte SOLID FLASH™, 6kByte RAM	184kByte SOLID FLASH™, 6kByte RAM	200kByte SOLID FLASH™, 6kByte RAM	240kByte SOLID FLASH™, 6kByte RAM
CPU	16-bit	16-bit	16-bit	16-bit
Symmetrical Cryptography	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Asymmetrical Cryptography	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn
Typical applications	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse
Certification level	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo

SLC 32PCA300  SOLID FLASH™	new	SLE 78CX360P  Integrity Guard	SLE 78CX480P  Integrity Guard	SLE 78CFX2404P  Integrity Guard  SOLID FLASH™
Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	
ISO 7816	ISO 7816	ISO 7816	ISO 7816	
300kByte SOLID FLASH™, 8kByte RAM	36kByte EEPROM, 224kByte ROM, 8kByte RAM	48kByte EEPROM, 224kByte ROM, 8kByte RAM	240kByte SOLID FLASH™, 6kByte RAM	
16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit	
3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	
RSA and ECC up to 2304 bits	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	
-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	
Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	
EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse, eSignature	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse, eSignature	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse, eSignature	EMV DDA, EMV CDA, Global Platform/Java, Loyalty, ePurse, eSignature	
CC EAL6+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL6+ high/EMVCo	







Mobile Communication

	SIM & UICCs			
Product name	SLC 14MCO256	SLC 14MCO288	SLC 14MCO312	SLC 14MCO340
Product description	32-bit SIM-card controller	32-bit SIM-card controller	32-bit SIM-card controller	32-bit SIM-card controller
Interfaces	ISO 7816	ISO 7816	ISO 7816	ISO 7816
Memory	256kByte FLASH, 10kByte RAM	288kByte FLASH, 10kByte RAM	312kByte FLASH, 10kByte RAM	340kByte FLASH, 10kByte RAM
CPU	32-bit	32-bit	32-bit	32-bit
Symmetrical Cryptography	-	-	-	-
Asymmetrical Cryptography	-	-	-	-
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	FCOS™ module, Wafer sawn	FCOS™ module, Wafer sawn	FCOS™ module, Wafer sawn	FCOS™ module, Wafer sawn
Typical applications	SIM & UICC	SIM & UICC	SIM & UICC	SIM & UICC
Certification level	-	-	-	-






SLC 14MCO384	SLC 14MCO420	SLC 14MCO480	SLE 76CF2564P	SLE 76CF2962P
32-bit SIM-card controller	32-bit SIM-card controller	32-bit SIM-card controller	16-bit SIM-card controller	16-bit SIM-card controller
ISO 7816	ISO 7816	ISO 7816	ISO 7816	ISO 7816
384kByte FLASH, 12kByte RAM	420kByte FLASH, 12kByte RAM	480kByte FLASH, 12kByte RAM	256kByte FLASH, 9kByte RAM	296kByte FLASH, 9kByte RAM
32-bit	32-bit	32-bit	16-bit	16-bit
-	-	-	-	-
-	-	-	-	-
-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
FCOS™ module, Wafer sawn	FCOS™ module, Wafer sawn	FCOS™ module, Wafer sawn	FCOS™ module, Wirebond module, Wafer sawn	FCOS™ module, Wirebond module, Wafer sawn
SIM & UICC	SIM & UICC	SIM & UICC	SIM & UICC	SIM & UICC
-	-	-	-	-







Mobile Communication

	SIM & UICCs			
Product name	SLE 76CF3202P	SLE 76CF3442P	SLE 76CF3602P	SLE 76CF4002P
Product description	16-bit SIM-card controller	16-bit SIM-card controller	16-bit SIM-card controller	16-bit SIM-card controller
Interfaces	ISO 7816	ISO 7816	ISO 7816	ISO 7816
Memory	320kByte FLASH, 9kByte RAM	344kByte FLASH, 9kByte RAM	360kByte FLASH, 9kByte RAM	400kByte FLASH, 12kByte RAM
CPU	16-bit	16-bit	16-bit	16-bit
Symmetrical Cryptography	-	-	-	-
Asymmetrical Cryptography	-	-	-	-
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	FCOS™ module, Wirebond module, Wafer sawn	FCOS™ module, Wirebond module, Wafer sawn	FCOS™ module, Wirebond module, Wafer sawn	FCOS™ module, Wirebond module, Wafer sawn
Typical applications	SIM & UICC	SIM & UICC	SIM & UICC	SIM & UICC
Certification level	-	-	-	-

SLE 76CF4480P	SLE 76CF5120P	SLE 97CNFX8000PE  Optimized  SOLID FLASH™	SLE 97CNFX1M00PE  Optimized  SOLID FLASH™	SLE 97CNFX1M30PE  Optimized  SOLID FLASH™
16-bit SIM-card controller	16-bit SIM-card controller	32-bit SWP SIM-card Security Cryptocontroller	32-bit SWP SIM-card Security Cryptocontroller	32-bit SWP SIM-card Security Cryptocontroller
ISO 7816	ISO 7816	ISO 7816, SWP (Mifare compatible)	ISO 7816, SWP (Mifare compatible)	ISO 7816, SWP (Mifare compatible)
448kByte FLASH, 12kByte RAM	504kByte FLASH, 12kByte RAM	800kByte SOLID FLASH™, 32kByte RAM	1MByte SOLID FLASH™, 32kByte RAM	1.3MByte SOLID FLASH™, 32kByte RAM
16-bit	16-bit	32-bit	32-bit	32-bit
3DES, AES up to 256-bit	3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
–	–	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
FCOS™ module, Wirebond module, Wafer sawn	FCOS™ module, Wirebond module, Wafer sawn	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn
SIM & UICC	SIM & UICC	SWP SIM/UICC (NFC), Embedded SIM, CIPURSE™ for mobile	SWP SIM/UICC (NFC), Embedded SIM, CIPURSE™ for mobile	SWP SIM/UICC (NFC), Embedded SIM, CIPURSE™ for mobile
–	–	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo





Mobile Communication






	SIM & UICCs			
Product name	SLE 97CNFX1M50PE  Optimized  SOLID FLASH™	SLE 97CNFX8000PE  SOLID FLASH™	SLE 97CUNFX1M00PE  SOLID FLASH™	SLE 97CUNFX1M30PE  SOLID FLASH™
Product description	32-bit SWP SIM-card Security Cryptocontroller	32-bit USB and SWP SIM-card Security Cryptocontroller	32-bit USB and SWP SIM-card Security Cryptocontroller	32-bit USB and SWP SIM-card Security Cryptocontroller
Interfaces	ISO 7816, SWP (Mifare compatible)	ISO 7816, SWP (Mifare compatible), USB	ISO 7816, SWP (Mifare compatible), USB	ISO 7816, SWP (Mifare compatible), USB
Memory	1.5MByte SOLID FLASH™, 32kByte RAM	800kByte SOLID FLASH™, 32kByte RAM	1MByte SOLID FLASH™, 32kByte RAM	1.3MByte SOLID FLASH™, 32kByte RAM
CPU	32-bit	32-bit	32-bit	32-bit
Symmetrical Cryptography	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Asymmetrical Cryptography	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn
Typical applications	SWP SIM/UICC (NFC), Embedded SIM, CIPURSE™ for mobile	USB SIM/UICC, Embedded SIM	USB SIM/UICC, Embedded SIM	USB SIM/UICC, Embedded SIM
Certification level	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo

		Machine-to-Machine (M2M) Cellular		
SLE 97CUNFX1M50PE  SOLID FLASH™	SLE 78CLFX4000P(M)  Integrity Guard  Optimized  SOLID FLASH™	SLM 76CF2561P	SLM 76CF3201P  SOLID FLASH™	SLM 76CF3601P  SOLID FLASH™
32-bit USB and SWP SIM-card Security Cryptocontroller	Dual-interface SIM Security Cryptocontroller	Security Controller optimized for industrial M2M applications	Security Controller optimized for industrial M2M applications	Security Controller optimized for industrial M2M applications
ISO 7816, SWP (Mifare compatible), USB	ISO 18092 passive mode, ISO 14443 A/B, ISO 7816, Mifare compatible interface	ISO 7816	ISO 7816	ISO 7816
1.5MByte SOLID FLASH™, 32kByte RAM	404kByte SOLID FLASH™, 8kByte RAM	256kByte SOLID FLASH™, 8kByte RAM	320kByte SOLID FLASH™, 8kByte RAM	360kByte SOLID FLASH™, 8kByte RAM
32-bit	Dual 16-bit	16-bit	16-bit	16-bit
DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit
RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	–	–	–
-25 to +85°C	-25 to +85°C	-40 to +105°C	-40 to +105°C	-40 to +105°C
FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn	Dual interface module, Wafer sawn	Wafer sawn, P-M2M4.7, MFF2	Wafer sawn, P-M2M4.7, MFF2	Wafer sawn, P-M2M4.7, MFF2
USB SIM/UICC, Embedded SIM	SIMpass™ ¹⁾ , Dual I/F NFC SIM	Industrial M2M, Consumer M2M	Industrial M2M, Consumer M2M	Industrial M2M, Consumer M2M
CC EAL5+ high/EMVCo	CC EAL6+ high/EMVCo	–	–	–









¹⁾ SIMpass™ is a trademark of Watchdata

Mobile Communication











	Machine-to-Machine (M2M) Cellular			
Product name	SLM 76CF5120P  SOLID FLASH™	SLI 76CF3600P  SOLID FLASH™	SLI 76CF5120P  SOLID FLASH™	SLM 97CNFX6000PE  SOLID FLASH™
Product description	Security Cryptocontroller optimized for industrial M2M applications	Security Cryptocontroller optimized for automotive M2M applications	Security Cryptocontroller optimized for automotive M2M applications	Security Cryptocontroller optimized for industrial M2M applications
Interfaces	ISO 7816	ISO 7816	ISO 7816	ISO 7816, SWP
Memory	504kByte SOLID FLASH™, 12kByte RAM	360kByte SOLID FLASH™, 8kByte RAM	504kByte SOLID FLASH™, 12kByte RAM	608kByte SOLID FLASH™, 32kByte RAM
CPU	16-bit	16-bit	16-bit	32-bit
Symmetrical Cryptography	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit
Asymmetrical Cryptography	–	–	–	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-40 to +105°C	-40 to +105°C	-40 to +105°C	-40 to +105°C
Delivery forms	Wafer sawn, P-M2M4.7, MFF2	MFF2	MFF2	Wafer sawn, P-M2M4.7, MFF2
Typical applications	Industrial M2M, Consumer M2M	Specialized Electronic Equipment, Automotive M2M	Specialized Electronic Equipment, Automotive M2M	Industrial M2M
Certification level	–	–	–	CC EAL5+ high

SLM 97CNFX8000PE  SOLID FLASH™	SLM 97CNFX1M00PE  SOLID FLASH™	SLI 97CNFX6000PE  SOLID FLASH™	SLI 97CNFX8000PE  SOLID FLASH™	SLI 97CNFX1M00PE  SOLID FLASH™
Security Cryptocontroller optimized for industrial M2M applications	Security Cryptocontroller optimized for industrial M2M applications	Security Cryptocontroller optimized for automotive M2M applications	Security Cryptocontroller optimized for automotive M2M applications	Security Cryptocontroller optimized for automotive M2M applications
ISO 7816, SWP	ISO 7816, SWP	ISO 7816, SWP	ISO 7816, SWP	ISO 7816, SWP
800kByte SOLID FLASH™, 32kByte RAM	1MByte SOLID FLASH™, 32kByte RAM	608kByte SOLID FLASH™, 32kByte RAM	800kByte SOLID FLASH™, 32kByte RAM	1MByte SOLID FLASH™, 32kByte RAM
32-bit	32-bit	32-bit	32-bit	32-bit
3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit
RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
-40 to +105°C	-40 to +105°C	-40 to +105°C	-40 to +105°C	-40 to +105°C
Wafer sawn, P-M2M4.7, MFF2	Wafer sawn, P-M2M4.7, MFF2	MFF2	MFF2	MFF2
Industrial M2M	Industrial M2M	Automotive M2M	Automotive M2M	Automotive M2M
CC EAL5+ high	CC EAL5+ high	CC EAL5+ high	CC EAL5+ high	CC EAL5+ high

Near-Field-Communication







	SWP UICCs			
Product name	SLE 97CNFX8000PE  Optimized  SOLID FLASH™	SLE 97CNFX1M00PE  Optimized  SOLID FLASH™	SLE 97CNFX1M30PE new  Optimized  SOLID FLASH™	SLE 97CNFX1M50PE new  Optimized  SOLID FLASH™
Product description	32-bit SWP SIM-card Security Cryptocontroller	32-bit SWP SIM-card Security Cryptocontroller	32-bit SWP SIM-card Security Cryptocontroller	32-bit SWP SIM-card Security Cryptocontroller
Interfaces	ISO 7816, SWP (Mifare compatible)	ISO 7816, SWP (Mifare compatible)	ISO 7816, SWP (Mifare compatible)	ISO 7816, SWP (Mifare compatible)
Memory	800kByte SOLID FLASH™, 32kByte RAM	1MByte SOLID FLASH™, 32kByte RAM	1.3MByte SOLID FLASH™, 32kByte RAM	1.5MByte SOLID FLASH™, 32kByte RAM
CPU	32-bit	32-bit	32-bit	32-bit
Symmetrical Cryptography	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Asymmetrical Cryptography	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn	FCOS™ module, VQFN-8, Wirebond module, Chip Scale Package, Wafer sawn
Typical applications	SWP Micro SD, SWP SIM & UICC (NFC), Mobile Payment, Embedded SIM with NFC functionality, CIPURSE™ for mobile	SWP Micro SD, SWP SIM & UICC (NFC), Mobile Payment, Embedded SIM with NFC functionality, CIPURSE™ for mobile	SWP Micro SD, SWP SIM & UICC (NFC), Mobile Payment, Embedded SIM with NFC functionality, CIPURSE™ for mobile	SWP Micro SD, SWP SIM & UICC (NFC), Mobile Payment, Embedded SIM with NFC functionality, CIPURSE™ for mobile
Certification level	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo

Embedded Secure Elements - IC ¹⁾






SLE 97CNFX8004PE	SLE 97CSNFX8004PE	SLE 97CNFX1M04PE	SLE 97CSNFX1M04PE	SLE 97CNFX1M34PE new
 Optimized  SOLID FLASH™	 Optimized  SOLID FLASH™	 Optimized  SOLID FLASH™	 Optimized  SOLID FLASH™	 Optimized  SOLID FLASH™
32-bit SWP Security Cryptocontroller designed for Embedded Secure Element	32-bit SWP Security Cryptocontroller designed for Embedded Secure Element	32-bit SWP Security Cryptocontroller designed for Embedded Secure Element	32-bit SWP Security Cryptocontroller designed for Embedded Secure Element	32-bit SWP Security Cryptocontroller designed for Embedded Secure Element
ISO 7816, SWP (Mifare compatible)	ISO 7816, SWP (Mifare compatible), GPIOs, SPI	ISO 7816, SWP (Mifare compatible)	ISO 7816, SWP (Mifare compatible), GPIOs, SPI	ISO 7816, SWP (Mifare compatible)
800kByte SOLID FLASH™, 32kByte RAM	800kByte SOLID FLASH™, 32kByte RAM	1MByte SOLID FLASH™, 32kByte RAM	1MByte SOLID FLASH™, 32kByte RAM	1.3MByte SOLID FLASH™, 32kByte RAM
32-bit	32-bit	32-bit	32-bit	32-bit
3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit
RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 2048-bit, ECC up to 521-bit
-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
SMD, Chip Scale Package, Wafer sawn	SMD, Chip Scale Package, Wafer sawn	SMD, Chip Scale Package, Wafer sawn	SMD, Chip Scale Package, Wafer sawn	Chip Scale Package, Wafer sawn
Embedded Secure Element, Mobile Payment	Embedded Secure Element, Mobile Payment	Embedded Secure Element, Mobile Payment	Embedded Secure Element, Mobile Payment	Embedded Secure Element, Mobile Payment
CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo

¹⁾ Supporting CIPURSE™ for all contactless and NFC applications




Near-Field-Communication

	Embedded Secure Elements - IC ¹⁾		
Product name	SLE 97CSNFX1M34PE  Optimized  SOLID FLASH™	SLE 97CNFX1M54PE new  Optimized  SOLID FLASH™	SLE 97CSNFX1M54PE new  Optimized  SOLID FLASH™
Product description	32-bit SWP Security Cryptocontroller designed for Embedded Secure Element	32-bit SWP Security Cryptocontroller designed for Embedded Secure Element	32-bit SWP Security Cryptocontroller designed for Embedded Secure Element
Interfaces	ISO 7816, SWP (Mifare compatible), GPIOs, SPI	ISO 7816, SWP (Mifare compatible)	ISO 7816, SWP (Mifare compatible), GPIOs, SPI
Memory	1.3MByte SOLID FLASH™, 32kByte RAM	1.5MByte SOLID FLASH™, 32kByte RAM	1.5MByte SOLID FLASH™, 32kByte RAM
CPU	32-bit	32-bit	32-bit
Symmetrical Cryptography	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit
Asymmetrical Cryptography	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 2048-bit, ECC up to 521-bit	RSA up to 2048-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	SMD, Chip Scale Package, Wafer sawn	Chip Scale Package, Wafer sawn	Chip Scale Package, Wafer sawn
Typical applications	Embedded Secure Element, Mobile Payment	Embedded Secure Element, Mobile Payment	Embedded Secure Element, Mobile Payment
Certification level	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo





¹⁾ Supporting CIPURSE™ for all contactless and NFC applications

	Boosted NFC Secure Elements	
Product name	SLE 78CAFX4000P(M)  Integrity Guard  Optimized  SOLID FLASH™	SLE 77CAFX2400P(M)  Optimized  SOLID FLASH™
Product description	Dual 16-bit Security Cryptocontroller designed for Boosted NFC	16-bit Security Cryptocotroller designed for Boosted NFC
Interfaces	ISO 7816, ACLB, Mifare compatible interface	ISO 7816, ACLB, Mifare compatible interface
Memory	400kByte SOLID FLASH™, 8kByte RAM	240kByte SOLID FLASH™, 6kByte RAM
CPU	Dual 16-bit	16-bit
Symmetrical Cryptography	3DES	3DES
Asymmetrical Cryptography	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C
Delivery forms	Wafer sawn	Wafer sawn
Typical applications	Boosted NFC MicroSD, Boosted NFC SIM, Mobile Payment	Boosted NFC MicroSD, Mobile Payment
Certification level	CC EAL6+ high/EMVCo	CC EAL5+ high/EMVCo

Near-Field-Communication





	NFC Tags		
Product name	SLE 66R01PN my-d™ move NFC  Ready	SLE 66R16P my-d™ NFC  Ready	SLE 66R32P my-d™ NFC  Ready
Product description	Intelligent 152Byte EEPROM with pre-configured NFC memory	Intelligent 2560Byte EEPROM with pre-configured NFC memory	Intelligent 5120Byte EEPROM with pre-configured NFC memory
Interface	ISO/ IEC 14443-3 Type A, NFC Forum Type 2 Tag operation	ISO/ IEC 14443-3 Type A, NFC Forum Type 2 Tag operation	ISO/ IEC 14443-3 Type A, NFC Forum Type 2 Tag operation
Memory organization	One fixed sector	One fixed sector T2T sector (up to 1kByte), pre-configured NFC memory	One fixed sector T2T sector (up to 1kByte), pre-configured NFC memory
Counter	16-bit counter with anti-tearing support	16-bit counter with anti-tearing support	16-bit counter with anti-tearing support
EEPROM - user	128Byte	2024Byte	4072Byte
EEPROM - administration	24Byte	536Byte	1048Byte
Security features	Unique serial number, 32-bit password protection for read and/ or write access, Block locking, Individual page locking, Password retry counter	Unique serial number, Individual page locking	Unique serial number, Individual page locking
Distance (read/write)	Typically up to 10cm	Typically up to 10cm	Typically up to 10cm
Data rate	106kbit/s	106kbit/s to card up to 848kbit/s to reader	106kbit/s to card up to 848kbit/s to reader
Endurance	10,000	100,000	100,000
Retention time, minimum	5 years	10 years	10 years
Delivery forms	Wafer sawn, NiAu-bump	NiAu-bump, MCC2, MCC8	NiAu-bump, MCC2, MCC8
Tools	Evaluation Kit Contactless	Evaluation Kit Contactless	Evaluation Kit Contactless
Typical applications	Device Pairing, Smart Posters, Consumer Good Information	Device Pairing, Smart Posters, Consumer Good Information	Device Pairing, Smart Posters, Consumer Good Information

Government Identification













Dual-interface & Contactless Security Controller ¹⁾				
Product name	SLE 78CLX360P  Integrity Guard	SLE 78CLX800P  Integrity Guard	SLE 78CLX1280P  Integrity Guard	SLE 78CLX1440P  Integrity Guard
Product description	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller
Interfaces	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface
Memory	36kByte EEPROM, 280kByte ROM, 8kByte RAM	80kByte EEPROM, 280kByte ROM, 8kByte RAM	128kByte EEPROM, 280kByte ROM, 8kByte RAM	144kByte EEPROM, 280kByte ROM, 8kByte RAM
CPU	Dual 16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn
Typical applications	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eVehicle Registration Card/eCar Registration, eSignature
Certification level	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo

¹⁾ Supporting CIPURSE™ for all contactless and NFC applications















Government Identification

Dual-interface & Contactless Security Controller ¹⁾				
Product name	SLE 78CLX1600P  Integrity Guard	SLE 77CLF1001P  SOLID FLASH™	SLE 77CLFX2000P  SOLID FLASH™	SLE 77CLFX2400P  SOLID FLASH™
Product description	Dual-interface and Contactless Security Cryptocontroller	Contactless Security Controller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller
Interfaces	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface
Memory	160kByte EEPROM, 280kByte ROM, 8kByte RAM	100kByte SOLID FLASH™, 4kByte RAM	200kByte SOLID FLASH™, 6kByte RAM	240kByte SOLID FLASH™, 6kByte RAM
CPU	Dual 16-bit	16-bit	16-bit	16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	-	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	Dual interface module, Contactless module, Wafer sawn	Contactless module, Bumped wafer, Wafer sawn	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn
Typical applications	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, eHealth card/eSocial card, eDriver's License, eVehicle Registration Card/eCar Registration	National eID, eHealth card/eSocial card, eDriver's License	National eID, eHealth card/eSocial card, eDriver's License
Certification level	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo











¹⁾ Supporting CIPURSE™ for all contactless and NFC applications

SLE 78CLFX2400P  Integrity Guard  SOLID FLASH™	SLE 78CLFX3000P  Integrity Guard  SOLID FLASH™	SLE 78CLFX300VP  Integrity Guard  VHBR  SOLID FLASH™	SLE 78CLFX4000P  Integrity Guard  SOLID FLASH™	SLE 78CLFX400VP  Integrity Guard  VHBR  SOLID FLASH™
Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller
ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Very High Bit Rates (VHBR) with up to 6.8Mbit/s	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Very High Bit Rates (VHBR) with up to 6.8Mbit/s
240kByte SOLID FLASH™, 8kByte RAM	300kByte SOLID FLASH™, 8kByte RAM	300kByte SOLID FLASH™, 8kByte RAM	404kByte SOLID FLASH™, 8kByte RAM	404kByte SOLID FLASH™, 8kByte RAM
Dual 16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit
DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn
National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature
CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo





Government Identification







Dual-interface & Contactless Security Controller ¹⁾				
Product name	SLE 78CLFX5000PH  Integrity Guard  Mega Memory  SOLID FLASH™	SLE 78CLFX500VPH  Integrity Guard  VHBR  SOLID FLASH™  Mega Memory	SLE 78CLFX6280PH new  Integrity Guard  Mega Memory  SOLID FLASH™	SLE 78CLFX628VPH new  Integrity Guard  VHBR  SOLID FLASH™  Mega Memory
Product description	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller
Interfaces	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Very High Bit Rates (VHBR) with up to 6.8Mbit/s	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Very High Bit Rates (VHBR) with up to 6.8Mbit/s
Memory	500kByte SOLID FLASH™, 12kByte RAM	500kByte SOLID FLASH™, 12kByte RAM	628kByte SOLID FLASH™, 12kByte RAM	628kByte SOLID FLASH™, 12kByte RAM
CPU	Dual 16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn
Typical applications	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature
Certification level	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo

¹⁾ Supporting CIPURSE™ for all contactless and NFC applications












		Contact-based Security Controller		
SLE 78CLFX1M10PH new  Integrity Guard  Mega Memory  SOLID FLASH™	SLE 78CLFX1M1VPH new  Integrity Guard  VHBR  SOLID FLASH™  Mega Memory	SLE 77CF1000S  SOLID FLASH™	SLE 77CF1200S  SOLID FLASH™	SLE 77CFX1560P  SOLID FLASH™
Dual-interface and Contactless Security Cryptocontroller	Dual-interface and Contactless Security Cryptocontroller	Security Controller	Security Controller	Security Cryptocontroller
ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Very High Bit Rates (VHBR) with up to 6.8Mbit/s	ISO 7816	ISO 7816	ISO 7816
628kByte SOLID FLASH™, 444kByte ROM, 12kByte RAM	628kByte SOLID FLASH™, 444kByte ROM, 12kByte RAM	100kByte SOLID FLASH™, 4kByte RAM	120kByte SOLID FLASH™, 4kByte RAM	156kByte SOLID FLASH™, 6kByte RAM
Dual 16-bit	Dual 16-bit	16-bit	16-bit	16-bit
DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, AES	DES, AES	DES, 3DES, AES up to 256-bit
RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	-	-	RSA up to 4096-bit, ECC up to 521-bit
-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Dual interface module, Contactless module, Wafer sawn	Dual interface module, Contactless module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn
National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, ePassport, eHealth card/eSocial card, eDriver's License, eVisa, eResidence Permit, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, eHealth card/eSocial card	National eID, eHealth card/eSocial card	National eID, eHealth card/eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration
CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	EMVCo	EMVCo	CC EAL5+ high/EMVCo




Government Identification

	Contact-based Security Controller			
Product name	SLE 77CFX1840P  SOLID FLASH™	SLE 77CFX2000P  SOLID FLASH™	SLE 77CFX2400P  SOLID FLASH™	SLE 78CX360P  Integrity Guard
Product description	Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller
Interfaces	ISO 7816	ISO 7816	ISO 7816	ISO 7816
Memory	184kByte SOLID FLASH™, 6kByte RAM	200kByte SOLID FLASH™, 6kByte RAM	240kByte SOLID FLASH™, 6kByte RAM	36kByte EEPROM, 224kByte ROM, 8kByte RAM
CPU	16-bit	16-bit	16-bit	Dual 16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn
Typical applications	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature
Certification level	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo











SLE 78CX800P  Integrity Guard	SLE 78CX1280P  Integrity Guard	SLE 78CX1440P  Integrity Guard	SLE 78CX1600P  Integrity Guard	SLE 78CFX2400P  Integrity Guard  SOLID FLASH™
Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller
ISO 7816	ISO 7816	ISO 7816	ISO 7816	ISO 7816
80kByte EEPROM, 288kByte ROM, 8kByte RAM	128kByte EEPROM, 288kByte ROM, 8kByte RAM	144kByte EEPROM, 288kByte ROM, 8kByte RAM	160kByte EEPROM, 288kByte ROM, 8kByte RAM	240kByte SOLID FLASH™, 8kByte RAM
Dual 16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit
3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn
National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/ eCar Registration, eSignature
CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL6+ high/EMVCo

Government Identification









	Contact-based Security Controller			
Product name	SLE 78CFX3000P  Integrity Guard  SOLID FLASH™	SLE 78CFX4000P  Integrity Guard  SOLID FLASH™	SLE 78CFX5000PH  Integrity Guard  Mega Memory  SOLID FLASH™	SLE 78CFX6280PH   Integrity Guard  Mega Memory  SOLID FLASH™
Product description	Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller
Interfaces	ISO 7816	ISO 7816	ISO 7816	ISO 7816
Memory	300kByte SOLID FLASH™, 8kByte RAM	404kByte SOLID FLASH™, 8kByte RAM	500kByte SOLID FLASH™, 12kByte RAM	628kByte SOLID FLASH™, 12kByte RAM
CPU	Dual 16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn
Typical applications	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature
Certification level	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo

Product name	SLE 78CFX1M10PH new  Integrity Guard  Mega Memory  SOLID FLASH™
Product description	Security Cryptocontroller
Interfaces	ISO 7816
Memory	628kByte SOLID FLASH™, 444kByte ROM, 12kByte RAM
CPU	Dual 16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C
Delivery forms	Contact-based module, Wafer sawn
Typical applications	National eID, eHealth card/ eSocial card, eDriver's License, eTachograph, eVehicle Registration Card/eCar Registration, eSignature
Certification level	CC EAL6+ high/EMVCo









Government Identification

	Government ID Bundles			
Product name	SLJ 52GDA080DR  Integrity Guard  VHBR  SOLID FLASH™  Ready	SLN 52GDA128DM  Integrity Guard  Ready	SLJ 52GDL128DL  Integrity Guard  Ready	SLJ 32GDA064CL new  SOLID FLASH™  Ready
Product description	JavaCard Platform, enabling ePassport, eDriver's License, eSign Applet & Match-on-Card	Native Generic ID Platform with embedded ePassport, eDriver's License & eSign	JavaCard Platform, including ePassport, eDriver's License & eSign Applet	JavaCard ID Flex Platform
Communication Interfaces	ISO 7816, ISO 14443 A/B, Very High Bit Rates (VHBR) with up to 6.8Mbit/s, Mifare compatible interface	ISO 7816, ISO 14443 A/B	ISO 7816, ISO 14443 A/B, Mifare compatible interface	ISO 7816, ISO 14443 A/B, Mifare compatible interface
Supported Standards	JC 3.0, GP 2.2, ICAO BAC, SAC, AA, BSI-TR03110 v1.11 and v2.10 EAC, ISO 7816-4, 8, 9, ISO 18013 BAP, EAP config 1-4, PKCS#15, ISO 19794-2 Match on Card	ICAO BAC, SAC, AA, BSI-TR03110 v1.11 and v2.10 EAC, ISO 7816-4, 8, 9, ISO 18013 BAP, EAP config 1-4, PKCS#15	JC 3.0, GP 2.2, ICAO BAC, SAC, AA, BSI-TR03110 v1.11 EAC, ISO 18013 BAP, EAP config 1-4, PKCS#15	JC 3.0, GP 2.1.1, Mifare compatible interface
User Memory	36, 80, 128kByte EEPROM	36, 80, 128kByte EEPROM	36, 80, 128kByte EEPROM	36, 64kByte EEPROM
Operating System	Oracle Java Card OS	MTCOS ID	JTOP ID	JTOP ID flex
Symmetrical Cryptography	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Asymmetrical Cryptography	RSA up to 3072-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 2048-bit
Typical applications	National eID, ePassport, eHealth card/ eSocial card, eDriver's License, eVisa, eResidence Permit, eVehicle Registration Card/ eCar Registration, eSignature	National eID, ePassport, eHealth card/ eSocial card, eDriver's License, eVisa, eResidence Permit, eVehicle Registration Card/ eCar Registration, eSignature	National eID, ePassport, eHealth card/ eSocial card, eDriver's License, eVisa, eResidence Permit, eVehicle Registration Card/ eCar Registration, eSignature	National eID, eHealth card/ eSocial card, eDriver's License, eVisa, eResidence Permit, eVehicle Registration Card/ eCar Registration, eSignature
Certification level	CC EAL5+ high, FIPS 140-2 Level3	CC EAL4+ high	CC EAL5+ high	-






USB Tokens

	USB Tokens (16-bit)			
Product name	SLE 78CUFX3000PH  Integrity Guard  SOLID FLASH™	SLE 78CUFX3009PH  Integrity Guard  SOLID FLASH™	SLE 78CUFX500FPH  Integrity Guard  SOLID FLASH™	SLE 78CUFX5000PH  Integrity Guard  SOLID FLASH™
Product description	USB-Security Cryptocontroller	USB-Security Cryptocontroller for use in chipcard formfactor	USB-Security Cryptocontroller for use in chipcard formfactor	Multi-Interface USB-Security Cryptocontroller
Interfaces	USB 2.0, ISO 7816	USB 2.0, ISO 7816	USB 2.0, ISO 7816	USB 2.0, GPIO, I2C, SPI, ISO 7816
Memory	300kByte SOLID FLASH™, 12kByte RAM	300kByte SOLID FLASH™, 12kByte RAM	500kByte SOLID FLASH™, 12kByte RAM	500kByte SOLID FLASH™, 16kByte RAM
CPU	Dual 16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	VQFN32-13, Wafer sawn	Contact-based module, Wafer sawn	Contact-based module, Wafer sawn	VQFN32-13, Wafer sawn
Typical applications	USB Tokens	USB Tokens	USB Tokens	USB Tokens
Certification level	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo



USB Tokens

	USB Tokens (16-bit)			
Product name	SLE 78CLUFX3000PH ¹⁾  Integrity Guard  SOLID FLASH™	SLE 78CLUFX5000PH ¹⁾  Integrity Guard  SOLID FLASH™	SLE 78CLUFX5007PH ¹⁾  Integrity Guard  SOLID FLASH™	SLE 78CLUX5000PH ¹⁾  Integrity Guard  SOLID FLASH™
Product description	Multi-Interface USB-Security Cryptocontroller with a contactless interface	Multi-Interface USB-Security Cryptocontroller with a contactless interface	Multi-Interface USB-Security Cryptocontroller with a contactless interface	Multi-Interface USB-Security Cryptocontroller with a contactless interface
Interfaces	USB 2.0, GPIO, ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	USB 2.0, GPIO, SPI, ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	USB 2.0, GPIO, I2C, SPI, ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Sub-ID1 optimized product	USB 2.0, GPIO, I2C, SPI, ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface
Memory	300kByte SOLID FLASH™, 12kByte RAM	500kByte SOLID FLASH™, 16kByte RAM	500kByte SOLID FLASH™, 16kByte RAM	500kByte SOLID FLASH™, 182kByte ROM, 16kByte RAM
CPU	Dual 16-bit	Dual 16-bit	Dual 16-bit	Dual 16-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	VQFN32-13, Wafer sawn	VQFN32-13, Wafer sawn	VQFN32-13, Wafer sawn	VQFN32-13, Wafer sawn
Typical applications	USB Tokens	USB Tokens	USB Tokens	USB Tokens
Certification level	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo	CC EAL6+ high/EMVCo

¹⁾ Supporting CIPURSE™ for all contactless and NFC applications

USB Tokens (32-bit)			
SLE 78CLUX5007PH ¹⁾  Integrity Guard  SOLID FLASH™	SLE 97CUFX5000PH  SOLID FLASH™	SLE 97CUFX500FPH  SOLID FLASH™	SLE 97CUSIFX5000PH  SOLID FLASH™
Multi-Interface USB-Security Cryptocontroller with a contactless interface	USB-Security Cryptocontroller	USB-Security Cryptocontroller for use in a chipcard formfactor	Multi-Interface USB-Security Cryptocontroller
USB 2.0, GPIO, I2C, SPI, ISO 7816, ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface, Sub-ID1 optimized product	USB 2.0, ISO 7816	USB 2.0, ISO 7816	USB 2.0, GPIO, I2C, SPI, ISO 7816
500kByte SOLID FLASH™, 182kByte ROM, 16kByte RAM	504kByte SOLID FLASH™, 20kByte RAM	504kByte SOLID FLASH™, 20kByte RAM	504kByte SOLID FLASH™, 24kByte RAM
Dual 16-bit	32-bit	32-bit	32-bit
DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
-25 to +85°C	-25 to +85°C	-25 to +85°C	-25 to +85°C
VQFN32-13, Wafer sawn	VQFN32-13, Wafer sawn	Contact-based module, Wafer sawn	VQFN32-13, Wafer sawn
USB Tokens	USB Tokens	USB Tokens	USB Tokens
CC EAL6+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo



USB Tokens

	USB Tokens (32-bit)	
Product name	SLE 97CUSIFX8000PH  SOLID FLASH™	SLE 97CUSIFX1M00PH  SOLID FLASH™
Product description	Multi-Interface USB-Security Cryptocontroller	High Density Multi-Interface USB-Security Cryptocontroller
Interfaces	USB 2.0, GPIO, I2C, SPI, ISO 7816	USB 2.0, GPIO, I2C, SPI, ISO 7816
Memory	792kByte SOLID FLASH™, 24kByte RAM	1MB SOLID FLASH™, 32kByte RAM
CPU	32-bit	32-bit
Crypto coprocessor symmetrical	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C
Delivery forms	VQFN32-13, Wafer sawn	VQFN32-13, Wafer sawn
Typical applications	USB Tokens	USB Tokens
Certification level	CC EAL5+ high/EMVCo	CC EAL5+ high/EMVCo

Transport Ticketing

	Security Products with integrated CIPURSE™ functionality		
Product name	SLS 32TLC100(M) CIPURSE™ Security Controller	SLS 32TLC004S(M) CIPURSE™4move	SLM 10TLC002L CIPURSE™move
Product description	Contactless Security Controller featuring CIPURSE™ functionality and Mifare compatibility	Contactless Security Controller featuring CIPURSE™ functionality and Mifare compatibility	Contactless Security Memory featuring CIPURSE™ functionality
Interfaces	ISO/IEC 14443-3 Type A, ISO/IEC 14443-4 Transmission Protocol, Mifare compatibility optional, NFC Forum Type 4 Tag configurable	ISO/IEC 14443-3 Type A, ISO/IEC 14443-4 Transmission Protocol, Mifare compatibility optional, NFC Forum Type 4 Tag configurable	ISO/IEC 14443-3 Type A, ISO/IEC 14443-4 Transmission Protocol, NFC Forum Type 4 Tag configurable
Integrated CIPURSE™ functionality	Security Architecture of CIPURSE™, Built-in command set based on ISO 7816-4/-9, Fully configurable file system based on ISO/IEC 7816-4	Security Architecture of CIPURSE™, Built-in command set based on ISO 7816-4/-9, Fully configurable file system based on ISO/IEC 7816-4	Security Architecture of CIPURSE™, Built-in command set based on ISO 7816-4/-9, Fully configurable file system based on ISO/IEC 7816-4
Supported profiles	CIPURSE™V2, CIPURSE™T with consistent transaction mechanism	CIPURSE™V2, CIPURSE™S	CIPURSE™V2, CIPURSE™L
Capabilities	Up to 8/16 CIPURSE™ applications configurable, Mifare 1K/4K compatible emulation optional	Up to 8 CIPURSE™ applications configurable, Mifare 1K/4K compatible emulation optional	1 CIPURSE™ application
User memory	8kByte	4kByte	304Byte
Personalization	File system oriented personalization interface	File system oriented personalization interface	File system oriented personalization interface
Cryptography	AES 128-bit	AES 128-bit	AES 128-bit
Delivery forms	Wafer sawn, NiAu-bump, MCC8	Wafer sawn, NiAu-bump, MCC8	Wafer sawn, NiAu-bump, MCC8
Tools	CIPURSE™ Development Kit	CIPURSE™ Development Kit	CIPURSE™ Development Kit
Typical applications	Public Transport, Ticketing, Access Management, Micropayment	Public Transport, Ticketing, Access Management, Micropayment	Public Transport, Ticketing, Access Management, Micropayment
Certification level	CC EAL5+ high	CC EAL5+ high	CIPURSE™ Certification

Transport Ticketing

	Contactless Security Controller	
Product name	SLE 77CLF601P(M) ¹⁾  SOLID FLASH™	SLE 77CLF1001P(M)  SOLID FLASH™
Product description	Contactless Security Controller	Contactless Security Controller
Interfaces	ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface	ISO 14443 A/B, ISO 18092 passive mode, Mifare compatible interface
Memory	60kByte SOLID FLASH™, 4kByte RAM	100kByte SOLID FLASH™, 4kByte RAM
CPU	16-bit	16-bit
Cryptography	DES, 3DES, AES up to 256-bit	DES, 3DES, AES up to 256-bit
Crypto coprocessor asymmetrical	-	-
Delivery forms	Wafer sawn, NiAu-bump, MCC8	Wafer sawn, NiAu-bump, MCC8
Typical applications	Public Transport, Ticketing	Public Transport, Ticketing
Certification level	CC EAL5+ high	CC EAL5+ high

¹⁾ Supporting CIPURSE™ for all contactless and NFC applications

Mifare compatible, my-d™ proximity and ticketing products				
Product name	SLE 66R16S my-d™ proximity	SLE 66R32S my-d™ proximity	SLE 66R04S my-d™ proximity	SLE 66R35(I)(R)(E7) Fully Mifare Compatible
Product description	Security memory with authentication, 2560Byte EEPROM	Security memory with authentication, 5120Byte EEPROM	Security memory with authentication, 770Byte EEPROM	Intelligent 1kByte EEPROM using Mifare technologies, (I) = Supporting 4-byte fixed number, non unique ID (R) = Supporting 4-byte reused ID, (E7) = Supporting 7-byte UID
Interface	ISO/IEC 14443-3 Type A	ISO/IEC 14443-3 Type A	ISO/IEC 14443-3 Type A	ISO/IEC 14443-3 Type A
Memory organization	Up to 15 sectors fully configurable (14 secure, 1 plain)	Up to 15 sectors fully configurable (14 secure, 1 plain)	Up to 15 sectors fully configurable (14 secure, 1 plain)	16 fixed sectors
Counter	Up to 65,536 units, support of anti-tearing	Up to 65,536 units, support of anti-tearing	Up to 65,536 units, support of anti-tearing	-
EEPROM - user	2008Byte	4056Byte	576Byte	768Byte
EEPROM - administration	552Byte	1064Byte	194Byte	256Byte
Security features	Transport key, Unique serial number, Mutual authentication with 64-bit keys, Hierarchical key management	Transport key, Unique serial number, Mutual authentication with 64-bit keys, Hierarchical key management	Transport key, Unique serial number, Mutual authentication with 64-bit keys, Hierarchical key management	Transport key, Mutual three pass authentication with 48-bit keys
Distance (read/write)	Typically up to 10cm and above	Typically up to 10cm and above	Typically up to 10cm and above	Typically up to 10cm and above
Data rate	106kbit/s to card up to 848kbit/s to reader	106kbit/s to card up to 848kbit/s to reader	106kbit/s to card up to 848kbit/s to reader	106kbit/s
Endurance	100,000	100,000	100,000	100,000
Retention time, minimum	10 years	10 years	10 years	10 years
Delivery forms	Wafer sawn, NiAu-bump, MCC2, MCC8	Wafer sawn, NiAu-bump, MCC2, MCC8	Wafer sawn, NiAu-bump, MCC2, MCC8	Wafer sawn, NiAu-bump, MCC2, MCC8
Tools	Evaluation Kit Contactless	Evaluation Kit Contactless	Evaluation Kit Contactless	Evaluation Kit Contactless
Typical applications	Public Transport, Ticketing	Public Transport, Ticketing	Public Transport, Ticketing	Public Transport, Ticketing, Access Management

Transport Ticketing


	Mifare compatible, my-d™ proximity and ticketing products	
Product name	SLE 66R01P my-d™ move	SLE 66R01L my-d™ move lean
Product description	Intelligent 1216-bit EEPROM	Intelligent 576-bit EEPROM
Interface	ISO/ IEC 14443-3 Type A, NFC Forum Type 2 Tag operation	ISO/ IEC 14443-3 Type A, NFC Forum Type 2 Tag operation
Memory organization	1 fixed sector	1 fixed sector
Counter	16-bit counter with anti-tearing support	-
EEPROM - user	128Byte	48Byte
EEPROM - administration	24Byte	24Byte
Security features	Unique serial number, 32-bit password protection for read and/ or write access, Block locking, Individual page locking, Password retry counter	Unique serial number, Block locking, Individual page locking
Distance (read/write)	Typically up to 10cm	Typically up to 10cm
Data rate	106kbit/s to card, up to 848kbit/s to reader	106kbit/s
Endurance	10,000	10,000
Retention time, minimum	5 years	5 years
Delivery forms	Wafer sawn, NiAu-bump	Wafer sawn, NiAu-bump
Tools	Evaluation Kit Contactless	Evaluation Kit Contactless
Typical applications	Public Transport, Ticketing, Access Management	Public Transport, Ticketing, Access Management





Components for Terminals

	EasySAM
Product name	SLF 9620
Product description	Secure access module for Mifare compatible interface, my-d™ algorithm, 3DES and AES128. Enables secured authentication between the reader and my-d™ chip cards or cards using Mifare technology, AES128-based authentication schemes. It features a dedicated key management system including key derivation and key upload.
Interface	ISO/ IEC 7816-3 T=1
Memory organization	Fixed pre-defined file system
Security features	Mifare compatible encryption, my-d™ encryption schemes, 3DES and AES128, Online and offline modes, Secured key loading
Data rate	High baud rate up to 1.25Mbit/s
Anticollision	-
Delivery forms	ID-1/000 card (SIM format), M5.1, VQFN-8
Typical applications	Security applications with key-based authentication, Public Transport, Ticketing, Access Management
Tools	Evaluation Kit Contactless

	CIPURSE™ SAM
Product name	SLF 9630
Product description	CIPURSE™ secure access module with Mifare compatible interface. Enables secured authentication between the reader and CIPURSE™ chip cards or cards using Mifare technology, AES128-based authentication schemes. It features a dedicated key management system including key derivation and key upload.
Interface	ISO/ IEC 7816-3 T=1
Memory organization	Fully configurable, multi-application file system
Security features	CIPURSE™ and Mifare compatible encryption, 3DES, AES128, AES 192 and AES256, Online and offline modes, Secured key loading
Data rate	Subject to the active interface
Delivery forms	ID-1/ID-000 card (SIM format), VQFN-8
Typical applications	Security applications with key-based authentication, Public Transport, Ticketing, Access Management, Micropayment
Tools	CIPURSE™ Development Kit
Certification level	CIPURSE™ Certification, Hardware: CC EAL6+ high

Authentication



	Turnkey Solution		
Product name	OPTIGA™ Trust SLS 10ERE	OPTIGA™ Trust P SLJ 52ACA	OPTIGA™ Trust E SLS 32AIA new  SOLID FLASH™
Product description	Original Product Authentication and Brand Protection Solution	Programmable solution for improved security of electronic devices in connected systems	Easy and cost effective security solution for high value goods
Interfaces	SWI	ISO 7816	I2C
Memory	3.5kbit EEPROM	150kByte EEPROM, 8kByte RAM	3kByte SOLID FLASH™
CPU	nDSP	8-bit/16-bit	8-bit/16-bit
Symmetrical Cryptography	–	3DES, AES up to 256-bit	3DES, AES up to 256-bit
Asymmetrical Cryptography	ECC 163-bit	RSA up to 2048-bit, ECC up to 521-bit	ECC 256-bit
Ambient temperature	-30 to +85°C	-25 to +85°C	-40 to +85°C
Delivery forms	USON-3	VQFN-32	USON-10-2
Typical applications	Consumer electronics, Smart Home, Internet of Things (IoT), Printer Cartridges, Authentication of System Services, Accessories, Printers, Original Replacement Parts, Functionalities and Parts in Networked Systems, Original Components, Smart Metering, IP/Software Protection (eg. Industrial Control)	USB type-C, PKI networks, Smart Home, Industrial automation, Internet of Things (IoT), Authentication of System Services, Accessories, Functionalities and Parts in Networked Systems, M2M Communication, Smart Metering, System Configuration Management, IP/Software Protection (eg. Industrial Control)	USB type-C, PKI networks, Consumer electronics, Smart Home, Industrial automation, Internet of Things (IoT), Authentication of System Services, Accessories, Original Replacement Parts, Functionalities and Parts in Networked Systems, Original Components, Smart Metering, System Configuration Management, IP/Software Protection (eg. Industrial Control)
Certification level	–	CC EAL5+ high	–

	Contact-based Security Controller		
Product name	SLE 97CSFX1M00PE  SOLID FLASH™	SLE 97CIFX1M00PE  SOLID FLASH™	SLC 52EIA500  Integrity Guard  SOLID FLASH™
Product description	Security Cryptocontroller	Security Cryptocontroller	Security Cryptocontroller
Interfaces	SPI, ISO 7816	ISO 7816, I2C	I2C
Memory	1MByte SOLID FLASH™, 32kByte RAM	1MByte SOLID FLASH™, 32kByte RAM	500kByte SOLID FLASH™, 182kByte ROM, 16kByte RAM
CPU	32-bit	32-bit	Dual 16-bit
Symmetrical Cryptography	3DES, AES up to 256-bit	3DES, AES up to 256-bit	3DES, AES up to 256-bit
Asymmetrical Cryptography	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C	-25 to +85°C	-25 to +85°C
Delivery forms	SMD, Wafer sawn	SMD, Wafer sawn	VQFN-32, Wafer sawn
Typical applications	Authentication of System Services, Printers, System Configuration Management	Authentication of System Services, Printers, System Configuration Management	Authentication of System Services, Printers, System Configuration Management
Certification level	CC EAL5+ high	CC EAL5+ high	CC EAL6+ high

Trusted Computing

	Trusted Platform Module (TPM)			
Product name	OPTIGA™ TPM SLB 9645	OPTIGA™ TPM SLB 9660	OPTIGA™ TPM SLB 9665	OPTIGA™ TPM SLB 9670
Product description	Security Cryptocontroller for Trusted Platform Modules	Security Cryptocontroller for Trusted Platform Modules	Security Cryptocontroller for Trusted Platform Modules	Security Cryptocontroller for Trusted Platform Modules
Interfaces	I2C	LPC Bus	LPC Bus	SPI
CPU	16-bit	16-bit	16-bit	16-bit
Symmetrical Cryptography	Acc. to TCG standard	Acc. to TCG standard	Acc. to TCG standard	Acc. to TCG standard
Asymmetrical Cryptography	Acc. to TCG standard	Acc. to TCG standard	Acc. to TCG standard	Acc. to TCG standard
Ambient temperature	-20 to +85°C, -40 to +85°C	-20 to +85°C, -40 to +85°C	-20 to +85°C, -40 to +85°C	-20 to +85°C, -40 to +85°C
Delivery forms	TSSOP-28, VQFN-32	TSSOP-28, VQFN-32	TSSOP-28, VQFN-32	VQFN-32
Typical applications	Internet of Things (IoT), Industrial embedded computing, Google Chromebook on ARM, Notebooks, Desktops, Tablets on Windows 8 RT/ Linux	Internet of Things (IoT), Notebooks, Desktop, Tablet on Windows 8.x and Windows 10 on x86, Industrial embedded computing on x86, Google Chromebook on x86, Notebook, Desktops, Tablets on x86	Internet of Things (IoT), Notebooks, Desktop, Tablet on Windows 8.x and Windows 10 on x86, Industrial embedded computing on x86, Notebook, Desktops, Tablets on x86	Internet of Things (IoT), Industrial embedded computing on all micro architectures/all operating systems, Google Chromebook on ARM, Google Chromebook on x86, Notebook, Desktops, Tablets on all micro architectures/all operating systems
Certification level	-	CC EAL4+ moderate	CC EAL4+ moderate	CC EAL4+ moderate
Standard	TPM (1.2)	TPM (1.2)	TPM (2.0)	TPM (1.2)/ TPM (2.0)

Pay-TV





	Contact-based Security Controller
Product name	SLE 79   SOLID FLASH™
Product description	Security Controller
Interfaces	ISO 7816
Memory	504kByte FLASH, 8kByte RAM
CPU	Dual Custom 16-bit
Symmetrical Cryptography	3DES, AES up to 256-bit
Asymmetrical Cryptography	RSA up to 4096-bit, ECC up to 521-bit
Ambient temperature	-25 to +85°C
Delivery forms	VQFN-8, FCOS™ module, Wirebond module, Wafer sawn
Typical applications	Conditional Access
Certification level	CC EAL5+ high






Object Identification

	my-d™ vicinity plain			
Product name	SRF 55V02P	SRF 55V02P HC	SRF 55V10P	SRF 55V10P HC
Product description	Plain memory, 2.5kbit EEPROM	Plain memory, 2.5kbit EEPROM	Plain memory, 10kbit EEPROM	Plain memory, 10kbit EEPROM
Interface	ISO/ IEC 18000-3 mode 1	ISO/ IEC 18000-3 mode 1	ISO/ IEC 18000-3 mode 1	ISO/ IEC 18000-3 mode 1
Memory organization	1 fixed sector	1 fixed sector	1 fixed sector	1 fixed sector
Counter	Up to 65,536 units, support of anti-tearing	Up to 65,536 units, support of anti-tearing	Up to 65,536 units, support of anti-tearing	Up to 65,536 units, support of anti-tearing
EEPROM - user	224Byte	224Byte	992Byte	992Byte
EEPROM - administration	64Byte	64Byte	256Byte	256Byte
Security features	Unique serial number, Individual page locking	Unique serial number, Individual page locking	Unique serial number, Individual page locking	Unique serial number, Individual page locking
Distance (read/write)	Typically up to 1.5m	Typically up to 1.5m	Typically up to 1.5m	Typically up to 1.5m
Data rate	26.48kbit/s	26.48kbit/s	26.48kbit/s	26.48kbit/s
Endurance	100,000	100,000	100,000	100,000
Retention time, minimum	10 years	10 years	10 years	10 years
Delivery forms	Wafer sawn, NiAu-bump, MCC2, MCC8	Wafer sawn, NiAu-bump, MCC2, MCC8	Wafer sawn, NiAu-bump, MCC2, MCC8	Wafer sawn, NiAu-bump, MCC2, MCC8
Tools	Evaluation Kit Contactless	Evaluation Kit Contactless	Evaluation Kit Contactless	Evaluation Kit Contactless
Typical applications	Inventory Control, Libraries	CD Inlays, Laundry	Inventory Control, Libraries	Factory Automation, Inventory Control

my-d™ vicinity secure			
SRF 55V02S	SRF 55V02S HC	SRF 55V10S	SRF 55V10S HC
Security memory with authentication, 2.5kbit EEPROM	Security memory with authentication, 2.5kbit EEPROM	Security memory with authentication, 10kbit EEPROM	Security memory with authentication, 10kbit EEPROM
ISO/ IEC 18000-3 mode 1	ISO/ IEC 18000-3 mode 1	ISO/ IEC 18000-3 mode 1	ISO/ IEC 18000-3 mode 1
Up to 15 sectors fully configurable (14 secure, 1 plain)	Up to 15 sectors fully configurable (14 secure, 1 plain)	Up to 15 sectors fully configurable (14 secure, 1 plain)	Up to 15 sectors fully configurable (14 secure, 1 plain)
Up to 65,536 units, support of anti-tearing	Up to 65,536 units, support of anti-tearing	Up to 65,536 units, support of anti-tearing	Up to 65,536 units, support of anti-tearing
224Byte	224Byte	992Byte	992Byte
64Byte	64Byte	256Byte	256Byte
Transport key, Unique serial number, Mutual authentication with 64-bit keys, Hierarchical key management	Transport key, Unique serial number, Mutual authentication with 64-bit keys, Hierarchical key management	Transport key, Unique serial number, Mutual authentication with 64-bit keys, Hierarchical key management	Transport key, Unique serial number, Mutual authentication with 64-bit keys, Hierarchical key management
Typically up to 1.5m	Typically up to 1.5m	Typically up to 1.5m	Typically up to 1.5m
26.48kbit/s	26.48kbit/s	26.48kbit/s	26.48kbit/s
100,000	100,000	100,000	100,000
10 years	10 years	10 years	10 years
Wafer sawn, NiAu-bump, MCC2, MCC8	Wafer sawn, NiAu-bump, MCC2, MCC8	Wafer sawn, NiAu-bump, MCC2, MCC8	Wafer sawn, NiAu-bump, MCC2, MCC8
Evaluation Kit Contactless	Evaluation Kit Contactless	Evaluation Kit Contactless	Evaluation Kit Contactless
Ticketing, Brand Protection	Ticketing, Brand Protection	Ticketing, Brand Protection	Ticketing, Brand Protection








Modules

	Contact-based Controller Modules			
Product name	S-MID4.8 new	S-MFC6.8	S-MFC6.6	S-MFC5.6
Picture				
Product description	Contact based module for highly demanding applications	Black lined contact-based module, 8 contacts	Black lined contact based module, 6 contacts	Contact-based module, 6 contacts, FCOS™ technology, transparent PET Tape
Pitch	14.25mm	14.25mm	9.5mm	9.5mm
Dimensions	13 x 11.8mm	13 x 11.8mm	11 x 8.3mm	11 x 8.3mm
Thickness	max. 420µm	max. 470µm	max. 470µm	max. 500µm
Contact Surface	Au	NiAu	NiAu	NiAu
ISO - reference	ISO 7816-1, ISO 7810	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3
Derivatives	Pd surface	Au surface, Pd surface, S-MFC6.8-8-1, S-MFC6.8-8-3	Au surface, Pd surface, S-MFC6.6-6-1, S-MFC6.6-6-3	Au surface, S-MFC5.6-6-1
Delivery form	Tape & Reel	Tape & Reel	Tape & Reel	Tape & Reel
Main applications	Healthcare, Government Identification, Authentication	Payment, Government Identification	Payment, Government Identification	SIM & UICC

S-MFC5.4	S-MFC1.6-6-1	P-M2M4.7	P-M4.8	T-M4.8
				
contact-based module, 6 contacts, FCOS™ technology, transparent PET Tape	contact-based module, 6 contacts, FCOS™ technology, transparent PET Tape	Contact-based module, 8 contacts, Epoxy Tape, Wire Bond, Mold	Contact-based module, 8 contacts, Epoxy Tape, Wire Bond, Mold	Contact-based module, 8 contacts, Epoxy Tape, Wire Bond, Glob Top
9.5mm	9.5mm	14.25mm	14.25mm	14.25mm
10.4 x 7.6mm	11 x 8.3mm	12.8 x 10.8mm	13 x 11.8mm	13 x 11.8mm
max. 420µm	max. 0.9mm	max. 600µm	max. 600µm	max. 580µm
Ag	Ni Coating	CIN+	CIN	CIN
ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3
Au surface, S-MFC5.4-6-1	Ni coating	Au surface	Au surface, Pd surface	Au surface, Pd surface, T-M4.8-8-1, T-M4.8-8-2
Tape & Reel	Tape & Reel	Tape & Reel	Tape & Reel	Tape & Reel
SIM & UICC	SIM & UICC	Industrial M2M, Consumer M2M	Payment, Government Identification	Payment, Government Identification, Pay-TV




Modules

Contactless Controller & Memory Modules			
Product name	P-MCS8-2-1 new	P-MCC8-2-6	P-MCC2-2-1
Picture			
Product description	Thin contactless mold module	Optimized standard contactless mold module, successor of P-MCC8-2-3	2 Antenna contacts, Wire Bond, Mold, Leadframe
Pitch	9.5mm	9.5mm	4.75mm
Dimensions	8.1 x 5.15mm	8.1 x 5.15mm	10.3 x 2.9mm
Thickness	max. 250µm	max. 340µm	max. 330µm
Contact Surface	Ag	Ag	Ag
ISO - reference	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3
Derivatives	-	-	-
Delivery form	Tape & Reel	Tape & Reel	Tape & Reel
Main applications	Payment, Government Identification	Payment, Government Identification, Transport Ticketing	Access Control, Transport Ticketing





Dual Interface Modules				
S-COM10.6 new  Coil on Module	S-COM8.6  Coil on Module	T-M8.4	T-M8.8 new	P-M8.4
				
Dual Interface Module with inductive coupling for highly demanding applications	Black lined dual interface module, 6 CB contacts and Coil on Module, Inductive coupling	Dual Interface Module, 8 contacts CB, 2 Antenna contacts, Epoxy Tape, Wire Bond, Glob Top	Dual Interface Module, 8 contacts CB, 2 Antenna contacts, Epoxy Tape, Wire Bond, Glob Top	Dual Interface Module, 8 contacts CB, 2 Antenna Contacts, Epoxy Tape, Wire Bond, Mold
14.25mm	14.25mm	14.25mm	14.25mm	14.25mm
13 x 11.8mm	13 x 11.8mm	13 x 11.8mm	13 x 11.8mm	13 x 11.8mm
max. 420µm	max. 470µm	max. 580µm	max. 580µm	max. 620µm
Au	NiAu	CIN	Au	CIN
ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3	ISO 7816-1, ISO 7810, ISO 10373-1/-3
Pd surface	Au surface, Pd surface	Au surface, C4/ C8, La/ Lb to, Pd surface, T-M8.4-8-1, T-M8.4-8-2, T-M8.4-8-8	Au surface, Pd surface	Au surface
Tape & Reel	Tape & Reel	Tape & Reel	Tape & Reel	Tape & Reel
Healthcare, Payment, Government Identification, Authentication	Payment	Payment, Government Identification	Payment, Government Identification	Payment, Government Identification

Modules

SMD Packages				
Product name	PDIP-14-2 new	DSO-8-2	DSO-20-2	TSSOP-28-2
Picture				
Product description	Plastic Dual Inline Package, Trough Hole Mounted	Dual Small Outline, Gullwing Lead	Dual Small Outline, Gullwing Lead	Thin Shrink Small Outline, Gullwing Lead
Pitch	2.54mm	1.27mm	1.27mm	0.65mm
Dimensions	19.05 x 7.87mm	4.93 x 3.94mm	12.8 x 7.6mm	9.7 x 4.4mm
Thickness	max. 4.37mm	max. 1.75mm	max. 2.64mm	max. 1.1mm
Contact Surface	Sn	Sn	Sn	Sn
ISO - reference	-	-	-	-
Derivatives	-	-	-	-
Delivery form	Tube	Tape & Reel	Tape & Reel	Tape & Reel
Main applications	Pay-TV	Authentication, Pay-TV	Authentication, Pay-TV	Trusted Computing


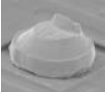

VQFN-8-1,-2,-4/MFF2	VQFN-10-2	VQFN-32-13
		
Small Outline No-Leads, Exposed Pad	Small Outline No-Leads, Exposed Pad	Quad Flat No-Leads, Exposed Pad
1.27mm	1.27mm	0.5mm
5 x 6mm	6 x 5mm	5 x 5mm
max. 900µm	max. 900µm	max. 900µm
NiPd-AuAg	NiPd-AuAg	NiPd-AuAg
-	-	-
-	-	-
Tape & Reel	Tape & Reel	Tape & Reel
Automotive M2M, Industrial M2M, Consumer M2M, Authentication	Authentication, Pay-TV	Embedded Secure Element, Trusted Computing, USB Tokens

Modules

SMD Packages				
Product name	USON-8-1,-4 new	USON-8-3 new	USON-10-1	USON-10-2 new
Picture				
Product description	Small Outline No-Leads, Exposed Bar Pad	Small Outline No-Leads, Exposed Pad	Small Outline No-Leads, Exposed Bar Pad	Small Outline No-Leads, Exposed Pad
Pitch	0.5mm	1.0mm	0.5mm	0.5mm
Dimensions	2.5 x 2.5mm	4.2 x 4.0mm	3 x 3mm	3 x 3mm
Thickness	max. 600µm	max. 600µm	max. 600µm	max. 600µm
Contact Surface	NiPd-AuAg	NiPd-AuAg	NiPd-AuAg	NiPd-AuAg
ISO - reference	-	-	-	-
Derivatives	-	-	-	-
Delivery form	Tape & Reel	Tape & Reel	Tape & Reel	Tape & Reel
Main applications	Authentication	Authentication	Authentication	Embedded Secure Element

WFWLB-6-1 new	WFWLB-16-3 new
	
Chip Scale Package, Solder Ball Array	Chip Scale Package, Solder Ball Array
0.5mm	0.5mm
1.96 x 1.39mm	2.72 x 2.55mm
max. 700µm	max. 700µm
SnAgCu	SnAgCu
–	–
–	–
Tape & Reel	Tape & Reel
Authentication	Near-Field-Communication, Embedded Secure Element, Authentication

Preassembly

Preassembly			
Product name	Bumping NiAu	Stud Bump	Wafer Thinning and Dicing
Picture			
Product description	NiAu bump on the pad: typical h=30μm	Gold bump on the pad: typical h=28μm	Bare Die delivery on UV foil in wafer frame
Thickness	-	-	55μm, 150μm other thicknesses on request
Mapping	Based on SEMI	Based on SEMI	Based on SEMI
Delivery form	Wafer frame	Wafer frame	Wafer sawn on UV foil
Documents	Specification NiAu Bumping, Chip Delivery Specification for 8"/12" Wafer, General Issue and Product Specific Issue	Specification Stud Bumping, Chip Delivery Specification for 8"/12" Wafer, General Issue and Product Specific Issue	Chip Delivery Specification for 8"/12" Wafer, General Issue and Product Specific Issue

Notes

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- › Germany 0800 951 951 951 (German/English)
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