1 GENERAL INFORMATION

1.1 Product description

The "Gem e-Seal" combines a USB device with the capabilities of a smart card and an integrated reader. This device offer on-board security applications like digital signature or user identification. The "SIMM card" seal in the product is compatible with ISO7816-4 data structure, command and return code.

The Gem e-Seal is a plug & play device, requiring no additional cable or wiring; it's compliant with a USB 2.0 full speed. The power of the Gem e-Seal is supply by USB connector, and then the Personal Computer manages the applications.

Typical applications are:
- Home-banking
- Enterprise banking
- e-Commerce
- Internet access
- Secure content download
- Computer access control
- Network security
- Personal identification
- Others…

The Gem e-Seal is a product developed by the Gemplus Company.

For more information, see product's data sheet at section 1.6.

1.2 Related Submittal(s) / Grant(s)

All host equipment used in the test configuration are FCC granted, when relevant.

1.3 Tested System Details

The FCC IDs for all equipment, plus description of all cables used in the tested system (including inserted cards, which have grants) are :

Trade Mark – Model Number (Serial number)	**FCC ID**	**Description**	**Cable description**
Gem e-Seal * PN: (sn:)	**MES1**	**Smart card reader**	**none**
HEWLETT PACKARD Vectra VLi8 pn:D7963A (sn: FR94020533)	Doc. Of Conf.	Personal computer	All data cables are shielded Power cable unshielded
HEWLETT PACKARD pn: D2846 (sn: JP74001000)	Doc. Of Conf.	21" color monitor	Shielded video cable with ferrite at each end
Microsoft pn: 58264 (sn: 03932025)	C3KAZB1	Mouse	Shielded cable
HEWLETT PACKARD pn: C4734-60111 (sn: M971168931)	GYUR385K	Keyboard	Shielded cable
HEWLETT PACKARD 895CXI pn: C6410A (sn: MY9761915S)	Doc. Of Conf.	Parallel printer	HP C2950A shielded parallel cable
TELEX (sn: 700.373.000A)	None	Microphone	Shielded cable
LABTEC LT100 pn: D8387A (sn: none)	None	Headset	Shielded cable
HEWLETT PACKARD 48GX (sn: 83802369)	None	Graphic Calculator	Unshielded cable with ferrite

*Equipment Under Test

1.4 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4-2000, CISPR22-1997/A1:2000 and EN55022:1998/A1:2000.
Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.5 Test facility

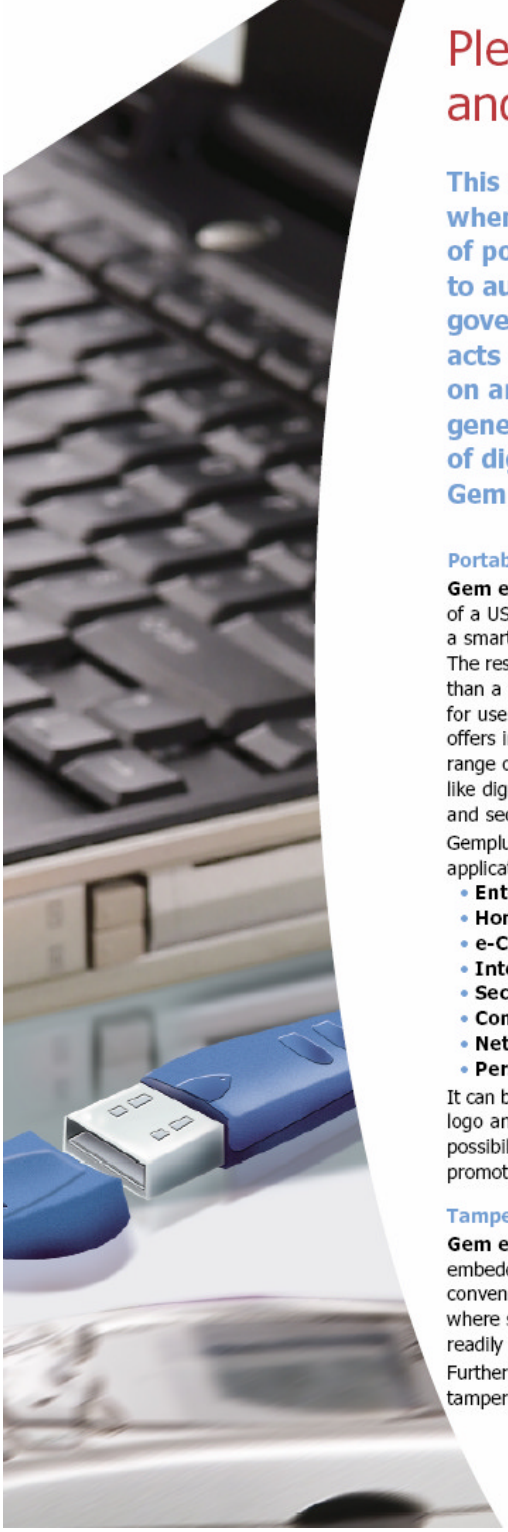
Tests have been performed on December 12th, 2003.

The test facility used to collect the radiated and conducted data is the SMEE ***Actions Mesures*** facility, located ZI des Blanchisseries, 38500 VOIRON, France. This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4-1992 in a letter dated August 04, 1999 (registration number 94821).
This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, accreditation number 1-0844 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.

1.6 Data sheet of the product

GEMPLUS™
beyond smart

Gem e-Seal



Please sign your name and stamp it

This is something we often hear in Chinese daily life when it comes to paperwork. The seal is the symbol of power and has been used in China for centuries to authenticate personal documents, from official government businesses to private affairs. The seal acts as your promise. However, times have moved on and even though the practice is still alive, new generations stand to benefit from the high levels of digital security provided by products such as Gem e-Seal, a USB token from Gemplus.

Portable USB design

Gem e-Seal combines the simplicity of a USB device with the capabilities of a smart card and an integrated reader. The resulting token is not much bigger than a key and is made in tough plastic for use in the harshest conditions. It offers increased efficiency and a broad range of on-board security applications like digital signature, user identification and secure on-line transactions.

Gemplus' **Gem e-Seal** is ideal for applications such as:

- **Enterprise banking**
- **Home banking**
- **e-Commerce**
- **Internet access**
- **Secure content download**
- **Computer access control**
- **Network security**
- **Personal identification**

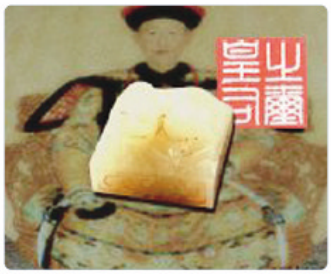
It can be personalized with a company logo and Gemplus also offers other possibilities for customisation as to promote a unique brand.

Tamper-proof security

Gem e-Seal is a token with an embedded smart card for extra convenience especially in situations where smart card readers are not readily available.

Furthermore, this avoids any potential tampering with the card. The result is that only authorised users will be allowed to access your network or other confidential information.

It is designed for digital signature, storage of keys and certificates and encryption of e-mail and Internet connections, providing the highest possible level of security and non-repudiation, a crucial feature for proving financial transactions.



Double authentication

Geme-Seal guarantees a two-part authentication; the token itself as well as the associated PIN, providing extra security for the most sensitive applications.

It offers all the power of a multi-application dynamic smart card in a USB key form factor, an ideal option for those users that require a combination of security, portability, robustness and convenience.

www.gemplus.com

Feature	Description
Operating systems supported	• Windows 98, 98SE, Me, 2000 and Xp
API's	• Microsoft PC/SC environment with associated drivers • PKCS#11 v2.01 • Microsoft CryptoAPI
Key form factor	• Dimensions: 64 mm x 16 mm x 8 mm with a keyring • Weight: 10 g
Host interface	• USB full speed (12 Mbps) • USB type A • Hubless • Power supply thru USB port • Operating voltage [4.4 to 5.5V]
Human interface	• LED one color (green)
Crypto-processor features	• 16 Kbytes of EEPROM (for keys, certificates and PKCS#11 objects) • ISO7816-4 compatible data structure, command and return codes • 3DES algorithm for secure messaging compliant with ISO7816-4, and for ciphering & deciphering • SSL 1024 bits RSA signature • RSA (up to 1024 bits) signature/decryption, normal mode and CRT mode • RSA (up to 1024 bits) verification • DSA signature and verification • RSA On-board Key generation (512 and 1024 bits) • SHA-1 and MD5 algorithms for Hashing • Random number generation (8 bytes and 32 bytes) • Padding with PKCS#1 version 1.5, ISO9796-2, ANSI X9.31
Operating/Storage temperature	• Operating: 0°C/+55°C • Storage: -20°C/+60°C
Electro-magnetic standards	• Europe: 89/336/CEE guideline • EN 55022: 1994 Class B • EN 50082-1: 1994 • EN 50081-1: 1992 • EN 61000-4-2: 1995 • EN 61000-4-3: 1997 • EN 61000-4-4: 1995 • Comply with EMC directive 89/336/EEC • USA: FCC part 15 Class B
Security levels	• Europe: EN60950 • IEC950: 1991, Am,3: 1995 • USA: UL1950 third edition, dated July 28, 1995 • Canada: CSA950 • Comply with low voltage directive 73/23/EEC
Standards/ Certifications	• ISO/IEC 7816-4 • Microsoft Windows Hardware Quality Labs (WHQL), Windows Logo Program WLP 2.0 • USB 2.0 full speed • CCID - Chip card Interface device 1.0