1   GENERAL INFORMATION

1.1   Product description

The GemPC Twin device is a smart card reader (plug and Play) connected to a Personal Computer. Smart cards which can be used with the GemPC Twin reader are ISO7816-1/2/3/4 compatible smart cards. It is introduced in the GemPC Twin reader, and the Personal Computer manages applications; Typical applications are:
- Computer access control
- Internet shopping
- Online banking services
- E-purse facilities
- Electronic smart card personalization
- Development of smart card application software
- Others…

The GemPC Twin reader is connected with the Personal Computer by either the USB Type A slot or serial terminal. GemPC Twin is provided with either serial or USB cables depending on customer's needs. The power of this reader is supply by either USB connector for USB setup or keyboard connector for serial setup.

The GemPC Twin 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
GemPC Twin PN: HWP108760* **(sn: none)**	**MES473GPC**	**Smart card reader**	**Serial Shielded cable attached to product (RS232 + Keyboard connector)**
GemSAFE ™ Entreprise (sn: 000020004303921)	None	Smart card	none
Dell Latitude CPi PN: Cpi AD400XTB (sn: VSRW6) with AC adaptor block 9364U	Doc. Of Conf	Laptop	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
HEWLETT PACKARD pn: C3751B (sn: LZA62831261)	DZL211029	Mouse	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

*Equipment Under Test

1.4   Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-1992, 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 September 30th , 2002.

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), accreditation number 1-0844 as compliant with test site criteria and competence in 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

The innovative smart card interface

Novel design at low-cost – The new reader from the world's leading provider of smart card enabled solutions.

Using its best selling single-chip interface, GemCore Pro, Gemplus has created a new reader, GemPC Twin, that works in tandem with your smart card design, while offering the enduser the choice of a serial or USB connection.

GemPC Twin provides an unrivalled, cost effective and secure way to enhance your smart card based applications. This is especially relevant for corporate security, Internet shopping and online banking services where confidentiality is a must.

The proven security, reliability and efficiency of this new architecture have made GemCore-based devices such as GemPC Twin world favorites, passing all computing and banking certifications such as Microsoft WHQL (Windows Hardware Quality Labs) and EMV (Europay, MasterCard, Visa).
GemPC Twin is also compliant with Microsoft's soon to be released CCID driver.

New transparent design

Customization of a smart card reader slows

down time to market and increases the cost of production.
Gemplus removes both of these issues by providing a fully transparent reader that makes the most your smart card design. By avoiding graphical reader personalization, GemPC Twin allows you to use the smart card as a promotional tool, bringing down overall costs. Ergonomic and compact, the new design of GemPC Twin will be a welcome addition to any workstation.

An intelligent approach

Companies deploying a smart cardbased solution face the problem of knowing which type of PC connection the end-user needs, either serial or
USB. GemPC Twin overcomes this problem by being compliant with both standards and can be provided with either serial or USB cables depending on customers' needs. The power of this reader is its ability to automatically reconfigure the way it communicates by simply inserting either cable (removing the need for additional software or drivers).

Same Gemplus expertise

Gemplus designs, develops and delivers industry leading smart card interface technologies backed by a dedicated team to ensure successful and profitable implementation of our products.

Choosing Gemplus GemPC smart card readers also provides access to a full range of associated software, services and support which have made Gemplus the undisputed world leader in Smart Card enabled solutions. Working with our Integration and Consulting Services team means that you benefit from many years of experience in the deployment and integration of smart card solutions in telecommunications, financial services and e-business security fields. Our highly skilled experts provide quick to market, costeffective, and best-in class services ranging from audit and application design to solution and system integration, change management, customer support, training & seminars.

Technical Specifications

Host Interface
• Plug and Play
GemPC Twin [Serial mode]
- serial RS232
- programmable transmission from 9,600 to 115,200 bps
GemPC Twin [USB mode]
- USB full speed (12Mbps)

Smart Card Interface
GemCore Pro hardware and firmware architecture:
• supports ISO7816 Class A, B and C (5V, 3V, 1.8V)
• supports all ISO7816 TA1 parameters (up to 344 kbds)
• reads from and writes to all ISO7816-1,2,3,4 microprocessor cards, T=0 and T=1 (memory cards support upon request)
• short circuit detection

Smart Card Connector
• 8 frictions contacts – ISO location
• 10,000 insertion cycles
• EMV level 1 mechanically compliant
• embossed smart cards supported

Human Interface
• LED one Color (Green)

Standards/Certifications

• ISO/IEC 7816-1,2,3,4: IC Cards with Contacts
• EMV level 1, EMV'96 version 3.1.1 (EMV2000 under completion at printing time)
• Microsoft Windows® Hardware Quality Labs (WHQL)
• USB 2.0 Full speed (GemPC Twin in USB mode)
• CCID - Chip Card Interface Device - 1.0 (GemPC Twin in USB mode)

APIs
• Microsoft PC/SC environment with associated drivers
• other environments (OCF, CT-API) upon request

Operating Systems Support
• Windows 98, 98SE, Me, 2000, XP (Windows 95OSR2, NT4.00 for GemPC Twin in serial mode)
• Other OS supported upon request (Linux, MacOS X)

Cable/Power Supply
GemPC Twin [Serial mode]
- cable 1.5 m long
- serial DB9 connector
- power supply thru PS/2 port
- op. voltage 5V +/- 10%
GemPC Twin [USB mode]
- cable 1.5 m long
- USB type A connector
- power supply thru USB port
- op. voltage [4.4 -> 5.5V]

Environmental Performances
• CE, FCC part 15 Class B, VCCI, BSMI, C-Tick
• EN 60950/UL950/CSA950
• operating temperature:
+5°C to +55°C
• storage temperature:
-25°C to +60°C

Dimensions
• LWH 68 x 63 x 12 mm