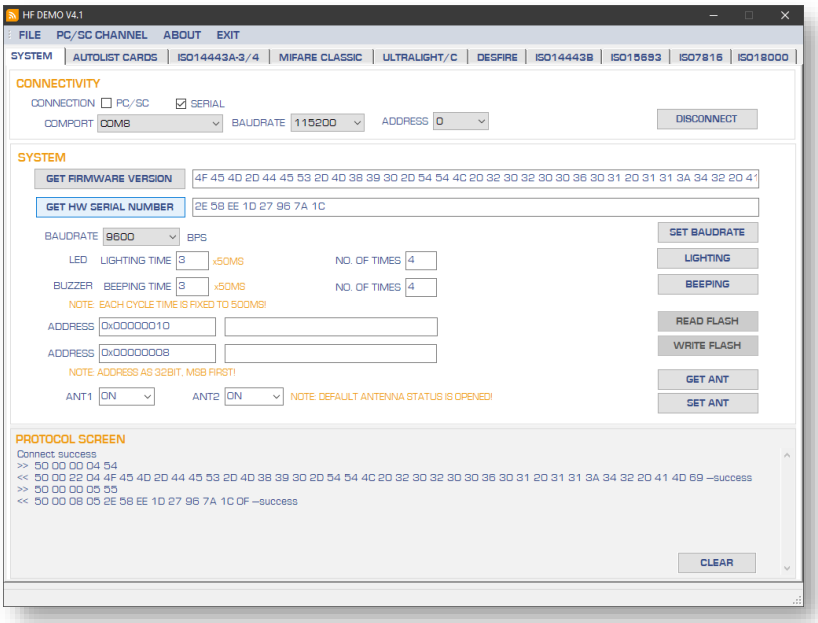

OEM-DESFire Series
13.56 MHz OEM RFID Module
Test Software Brief Manual

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1 Operation Examples

1.1 USB Driver Installation

If the device is connected to a PC for the first time, it can take some time for automatic installation of the Silicon Labs 210x Series VCP driver. If this is the case, pls. wait until this is fully done.

In rare cases it is possible, that automatic installation fails. Then perform a manual installation.
You can download the latest drivers here:

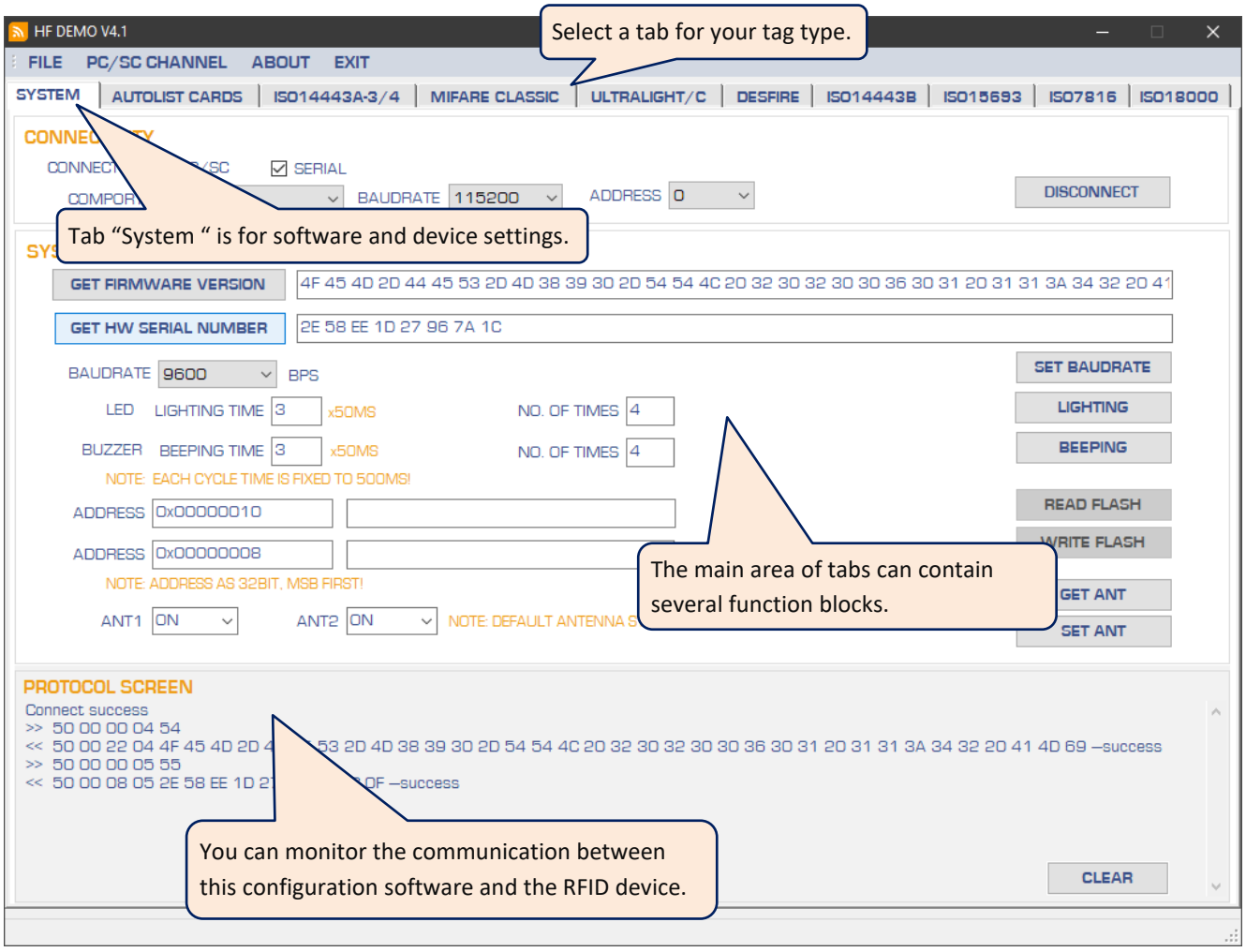
https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers

1.2 Driver Installation PC/SC

Support for PC/SC is part of Windows OS. The automatic installation of the device driver takes much longer than for the serial interface (VCP). If you plug in the device for the first time, please wait until all processes finish.

If you place an RFID tag to a PC/SC device for the first time, further drivers need to be installed. Please be patient until this is completely finished.

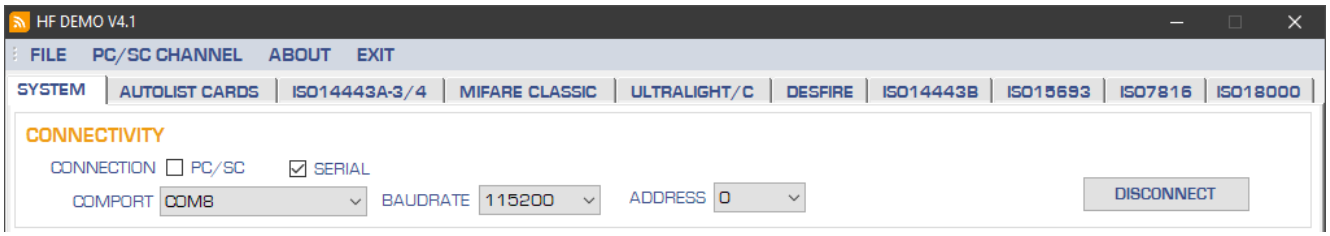
1.3 Software Screen Overview



2 Software Functions in Detail

2.1 Tab “System”

2.1.1 Establishing Connection (VCP)

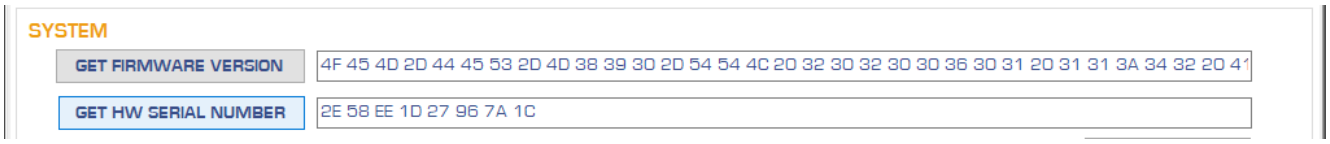


The factory default setting for DESFire devices is 115200 Baud.
Establish the connection with [Connect]. Please pay attention to the status message on the Protocol Screen at the bottom of this software.

2.1.2 Establishing Connection (PC/SC)

Checkmark “PC/SC” and select your device from the pull down menu “COMPORT”.

2.2 Reading Firmware Version and Hardware Serial Number



2.2.1 Changing The Baudrate

Do not change the baudrate using this function!

2.2.2 IO Commands

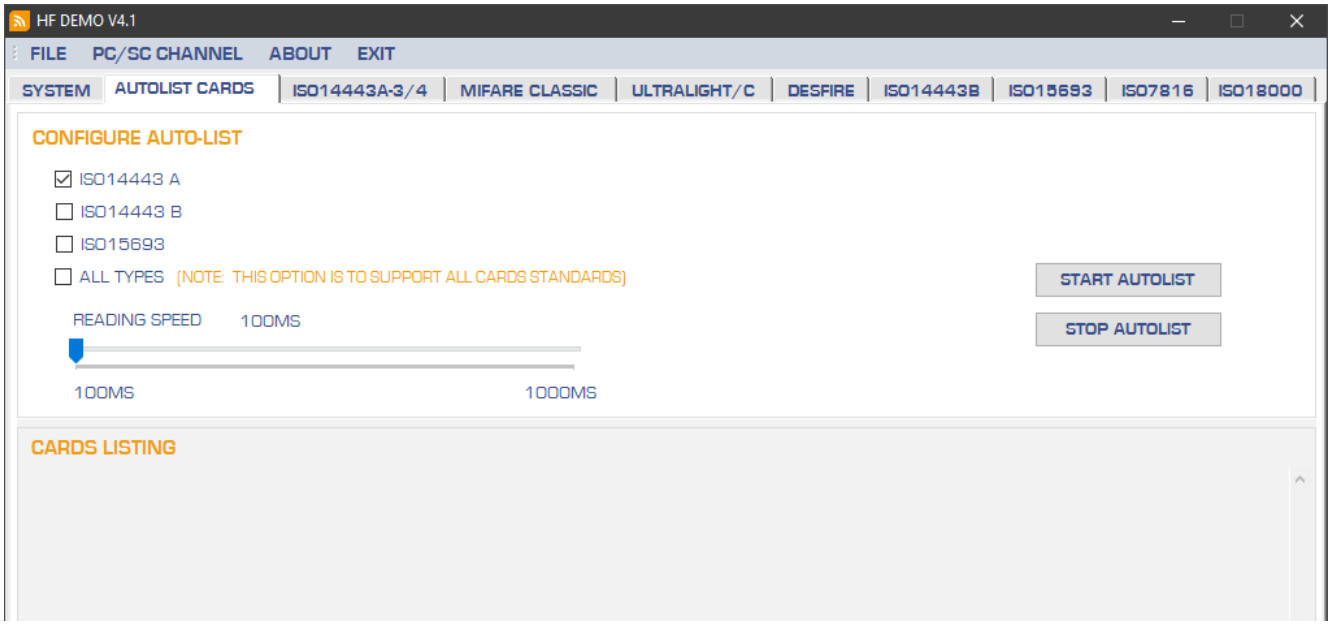
Some devices have hardware to react to LED and Buzzer commands.

2.2.3 Address Setting (Reserved for Future Use)

This is intended for device working on an RS485 bus.

2.2.4 Antenna Configuration

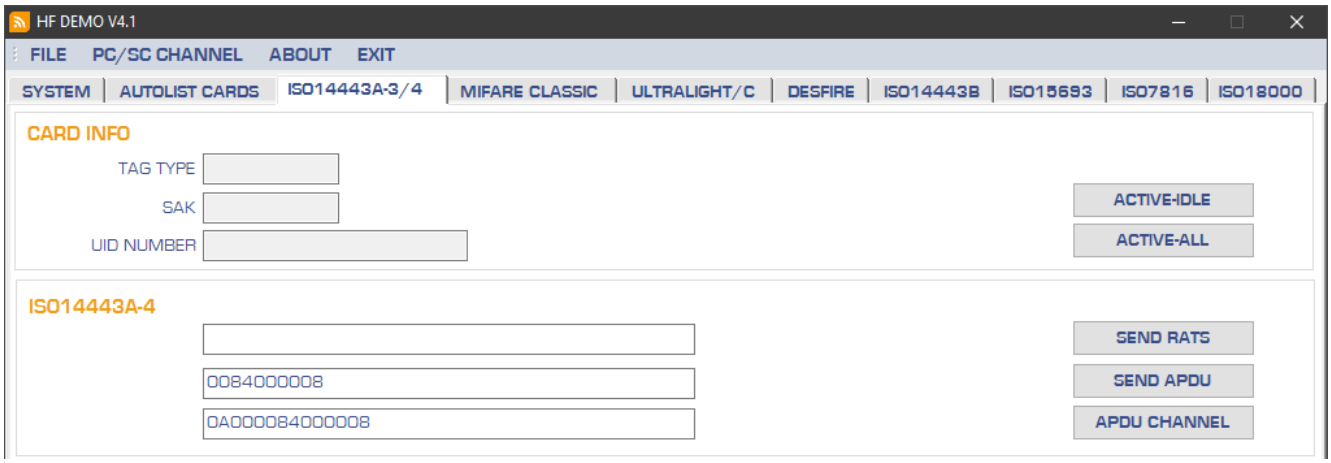
2.3 Tab “AUTOLIST CARDS”



This tab is to send continuous commands to detect tags. Use this tab to detect the tag type.

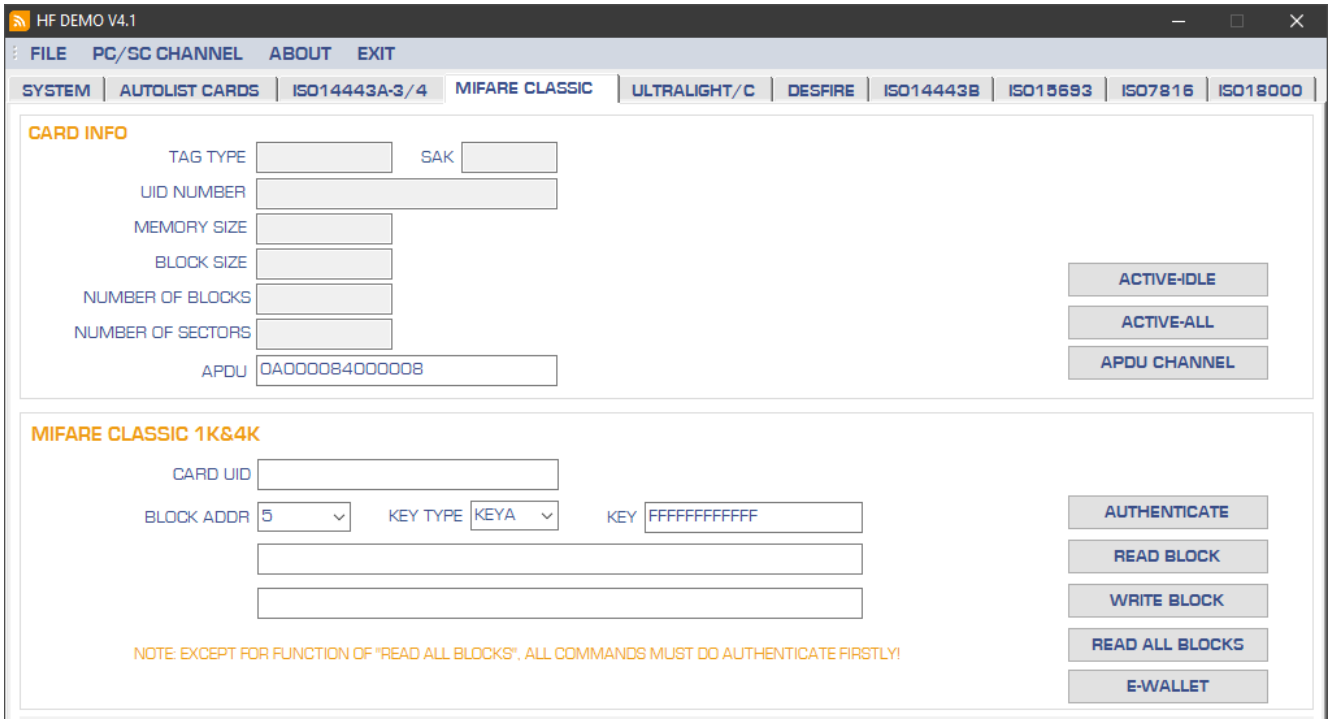
This is not a configuration tab for the explicit auto-list cards configuration command 0x23.

2.4 Tab “ISO1443A-3/4”

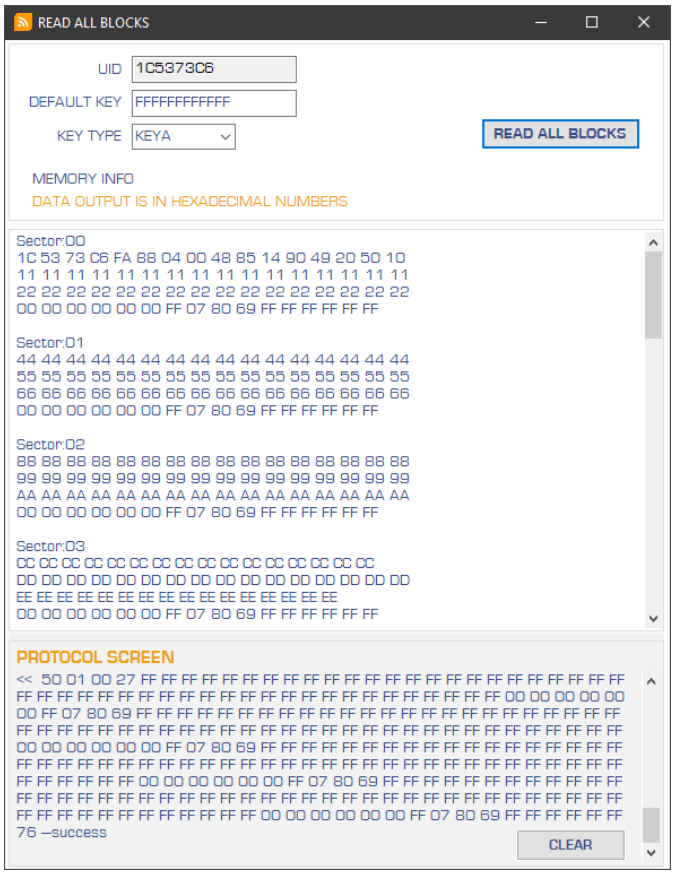


Active-IDLE= Send REQ, Anticollision, select, this will only work with cards that are NOT halted.
Active-ALL = Send WUPA , Anticollision, select, this will work with all cards.

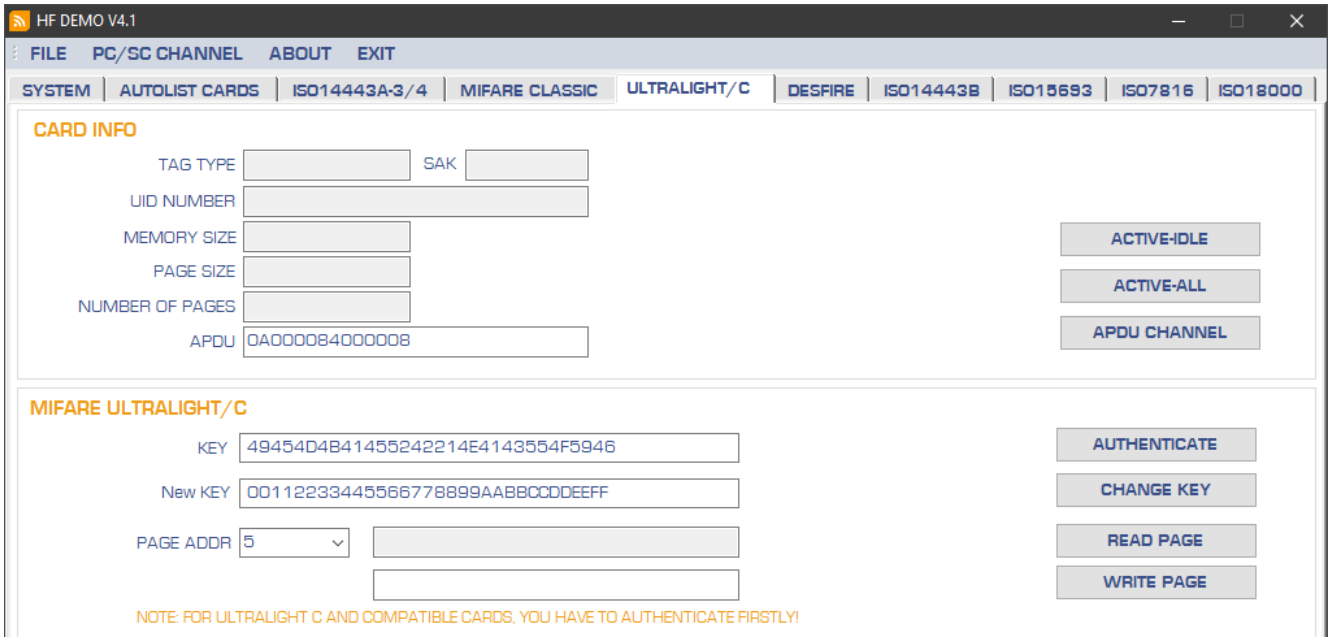
2.5 Tab “MIFARE Classic”



If you have detected a Miface Classic card with [ACTIVE-IDLE] or [ACTIVE-ALL], you can click on [READ ALL BLOCKS] to read out all accessible memory blocks or on [E-WALLET] to check the payment functions for Mifare Classic.

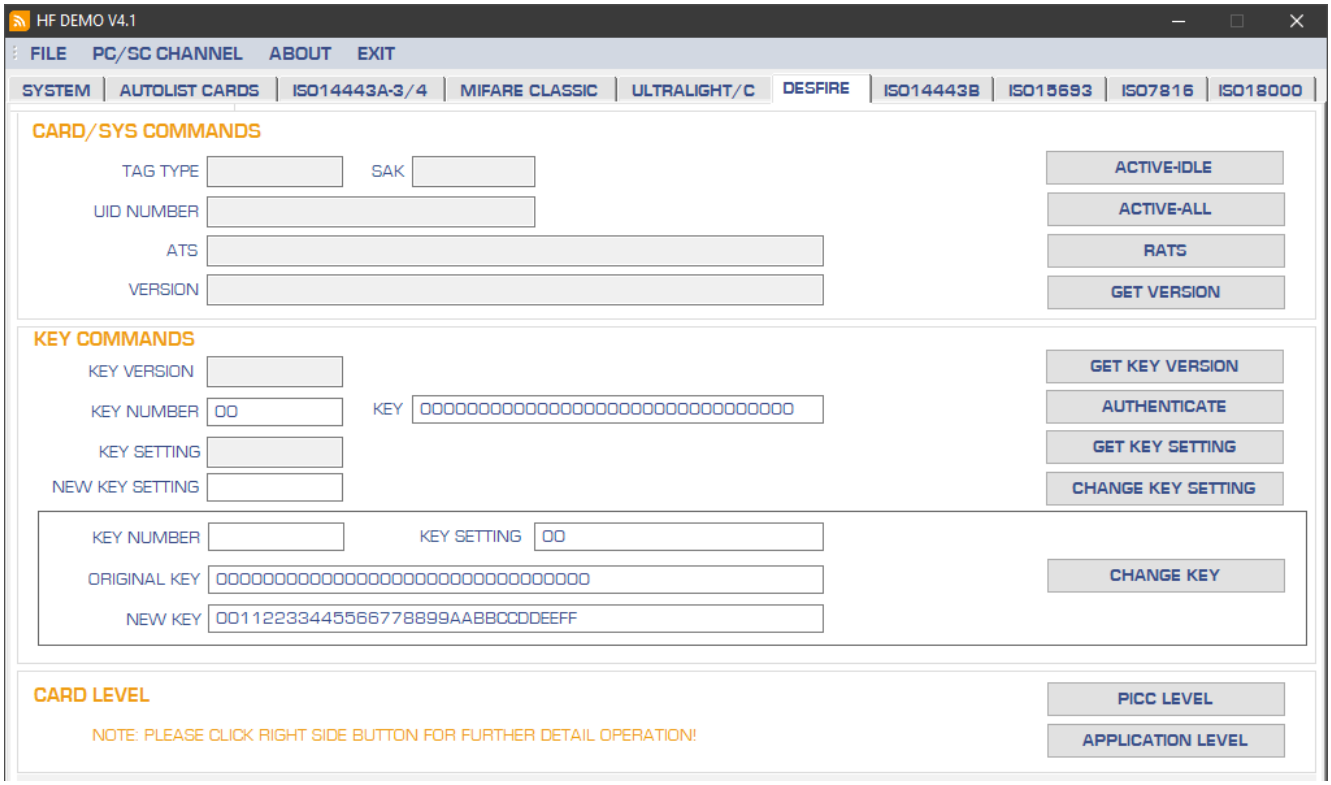

READ ALL BLOCKS
UID
1C537306
DEFAULT KEY
FFFFFFFFFFFF
KEY TYPE
KEYA
READ ALL BLOCKS
MEMORY INFO
DATA OUTPUT IS IN HEXADECIMAL NUMBERS
Sector:00
1C 53 73 C6 FA 88 04 00 48 85 14 90 49 20 50 10
11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11
22 22 22 22 22 22 22 22 22 22 22 22 22 22 22 22
00 00 00 00 00 00 FF 07 80 69 FF FF FF FF FF FF
Sector:01
44 44 44 44 44 44 44 44 44 44 44 44 44 44 44 44
55 55 55 55 55 55 55 55 55 55 55 55 55 55 55 55
66 66 66 66 66 66 66 66 66 66 66 66 66 66 66 66
00 00 00 00 00 00 FF 07 80 69 FF FF FF FF FF FF
Sector:02
88 88 88 88 88 88 88 88 88 88 88 88 88 88 88 88
99 99 99 99 99 99 99 99 99 99 99 99 99 99 99 99
AA AA AA AA AA AA AA AA AA AA AA AA AA AA AA AA
00 00 00 00 00 00 FF 07 80 69 FF FF FF FF FF FF
Sector:03
CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC CC
DD DD DD DD DD DD DD DD DD DD DD DD DD DD DD DD
EE EE EE EE EE EE EE EE EE EE EE EE EE EE EE EE
00 00 00 00 00 00 FF 07 80 69 FF FF FF FF FF FF
PROTOCOL SCREEN
<< 50 01 00 27 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00 00 00 00 00 00 FF 07 80 69

2.6 Tab”Ultralight/C”

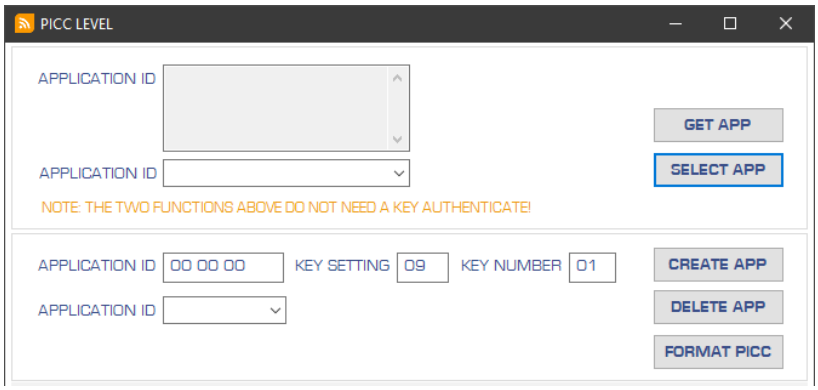


If you need to access further Ultralight functions, refer to the tag’s manual and use the APDU channel to send manufacturer-specific commands directly to the RFID tag.

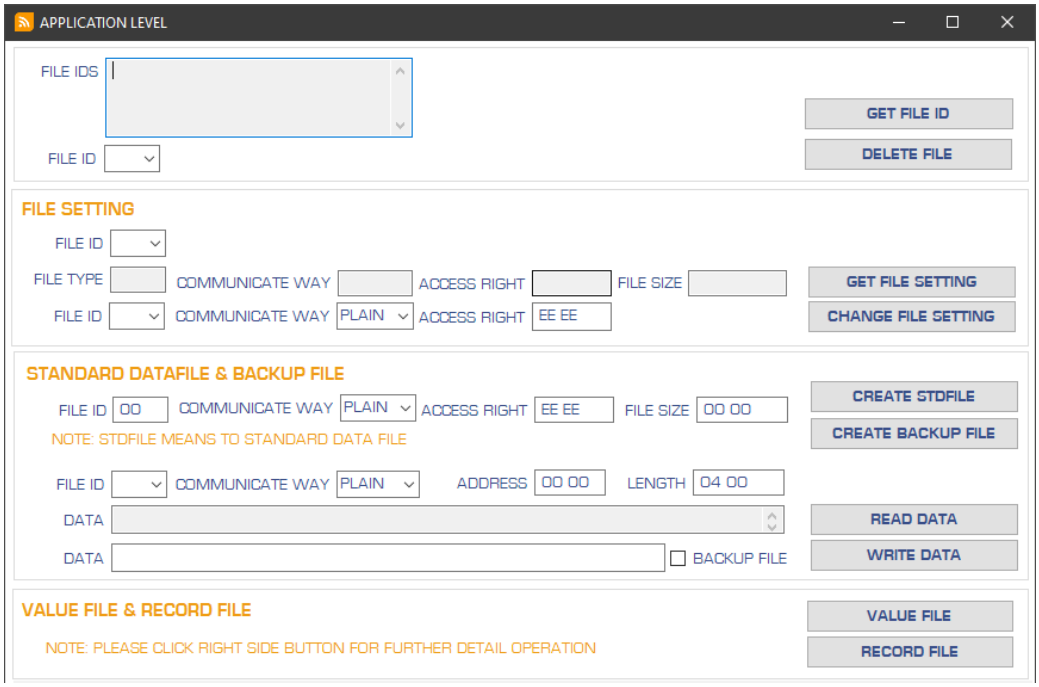
2.7 Tab “DESFire”



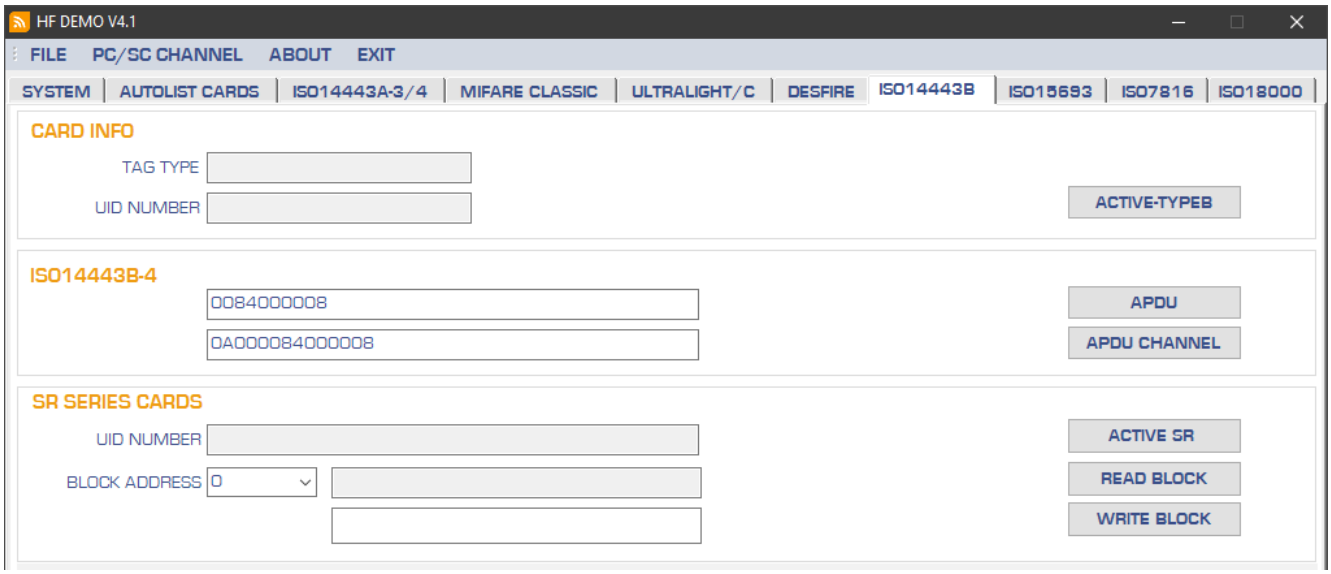
The memory of a DESFire RFID tag is organized as a computer memory. You can have folders, which are called “Applications”. Access the Application management by click on the button [PICC LEVEL].



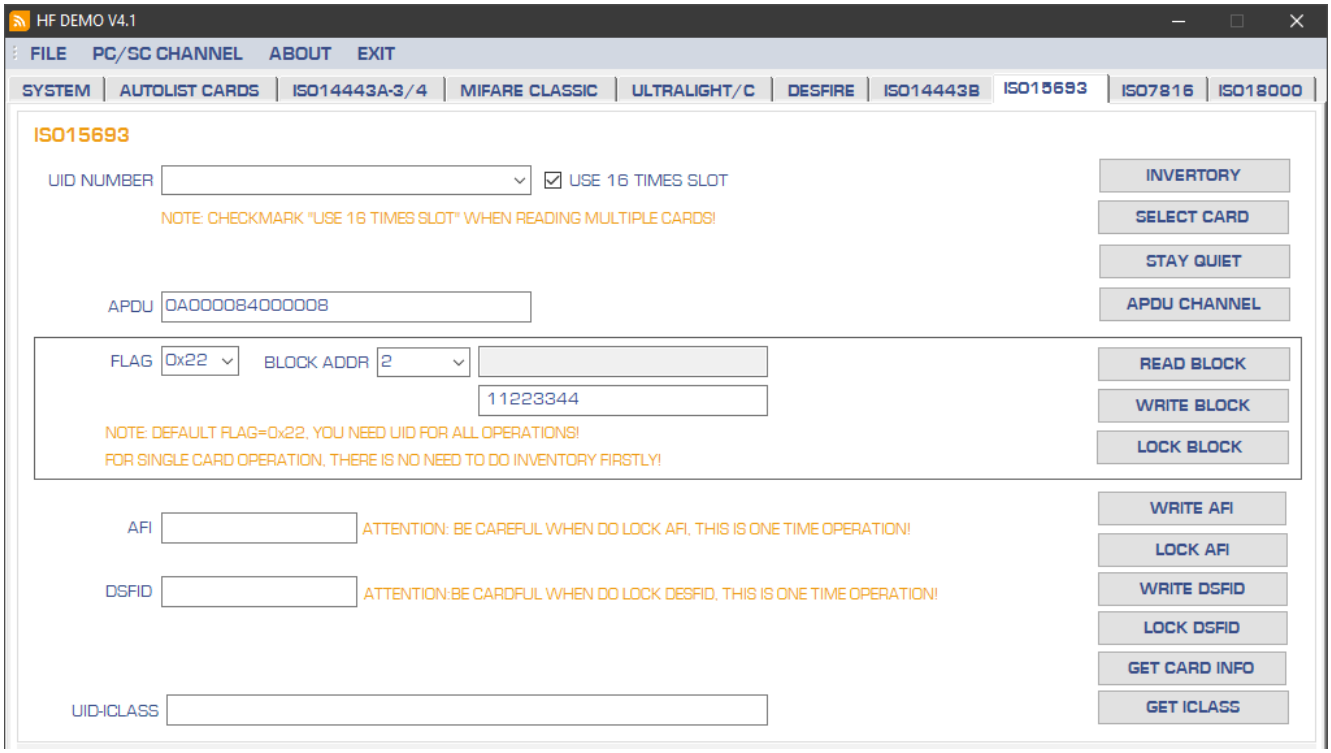
After you have selected or created an Application, you can open the file management by click on the button [APPLICATION LEVEL] in the main screen.



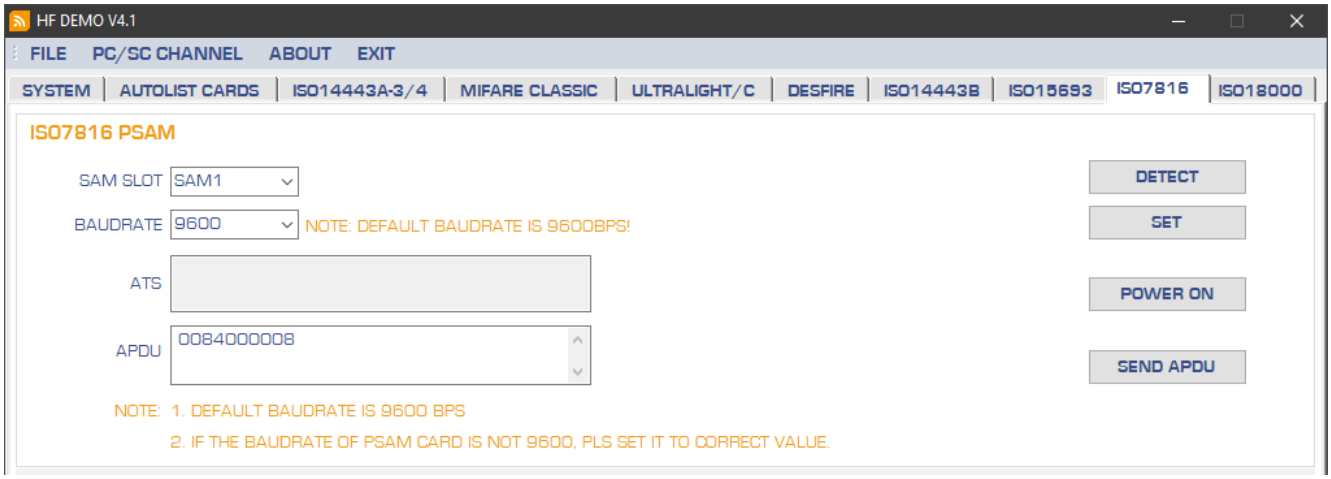
2.8 Tab “ISO 14443B”



2.9 Tab “ISO15693”

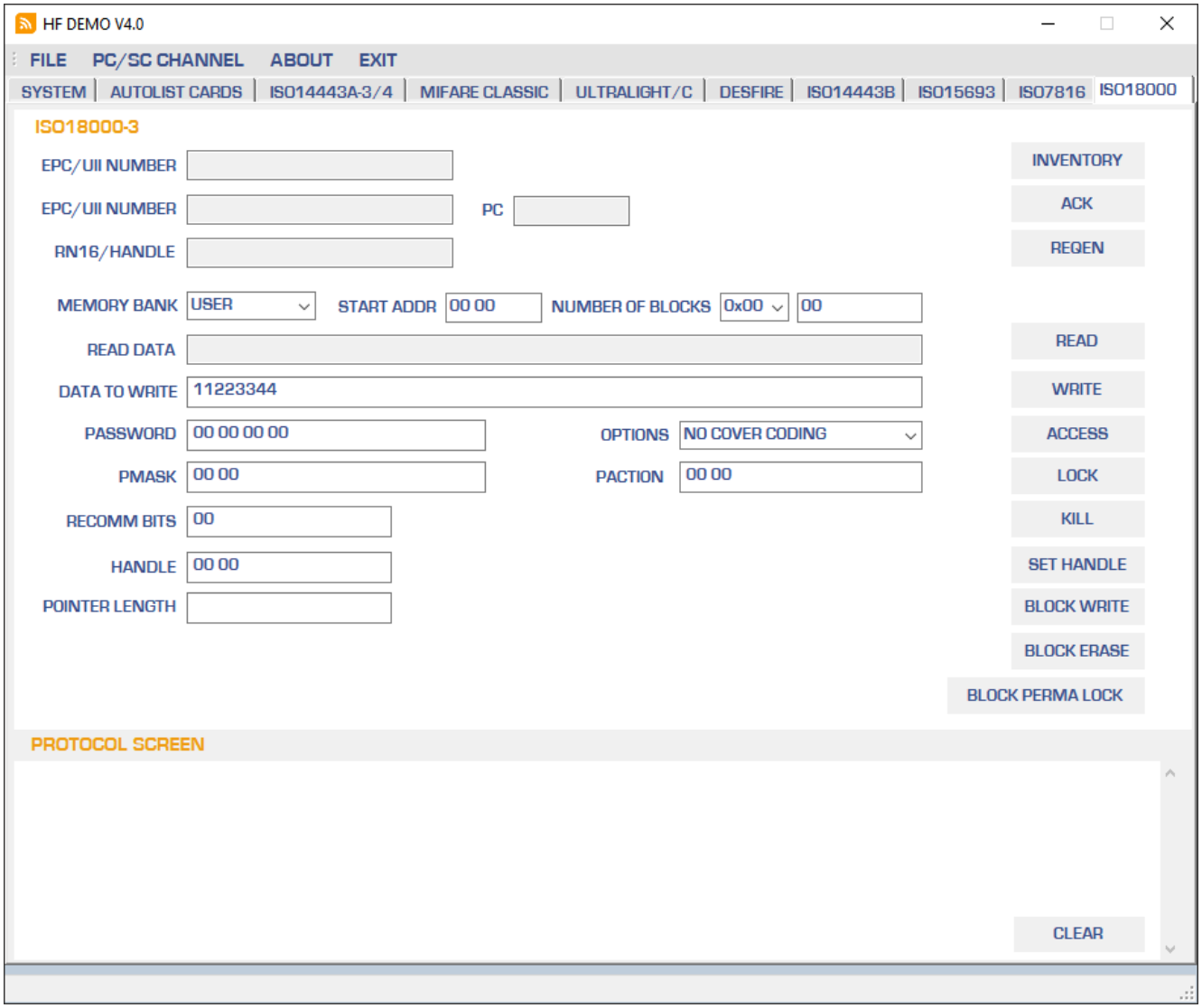


2.10 Tab “ISO7816”



2.11 Tab “ISO18000”

2.11.1 Overview

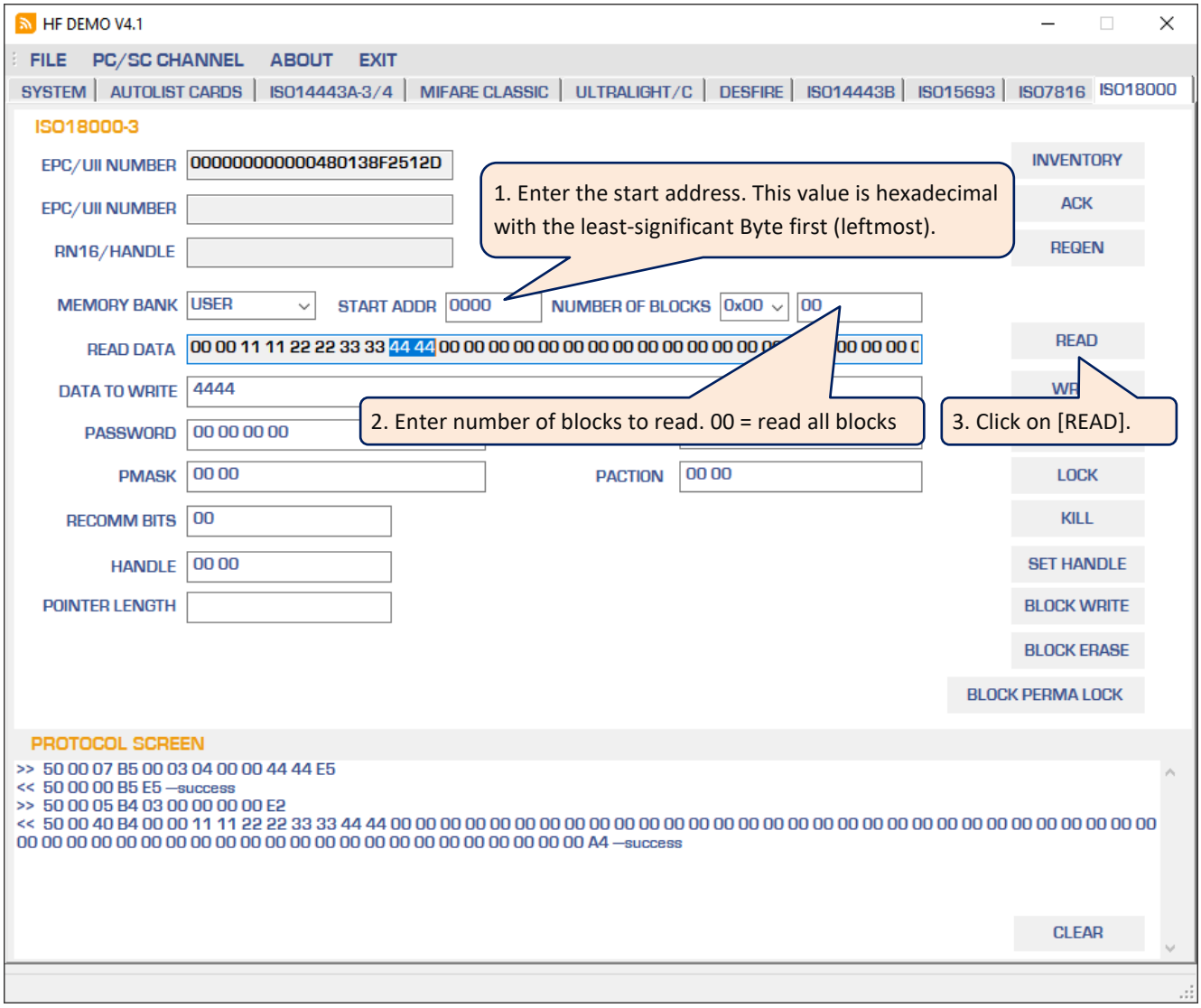


2.11.2 Write 1 Block of Data in Block 0x0004

Important Note

The I-Code ILT-M supports to write only 1 block at once using this command.

2.11.3 Read All Blocks, New Data at Block 0x0004


HF DEMO V4.1
FILE
PC/SC CHANNEL
ABOUT
EXIT
SYSTEM
AUTOLIST CARDS
ISO14443A-3/4
MIFARE CLASSIC
ULTRALIGHT/C
DESFIRE
ISO14443B
ISO15693
ISO7816
ISO18000
ISO18000-3
EPC/UII NUMBER
00000000000480138F2512D
EPC/UII NUMBER
RN16/HANDLE
MEMORY BANK
USER
START ADDR
0000
NUMBER OF BLOCKS
0x00
00
READ DATA
00 00 11 11 22 22 33 33 44 44 00 00 00