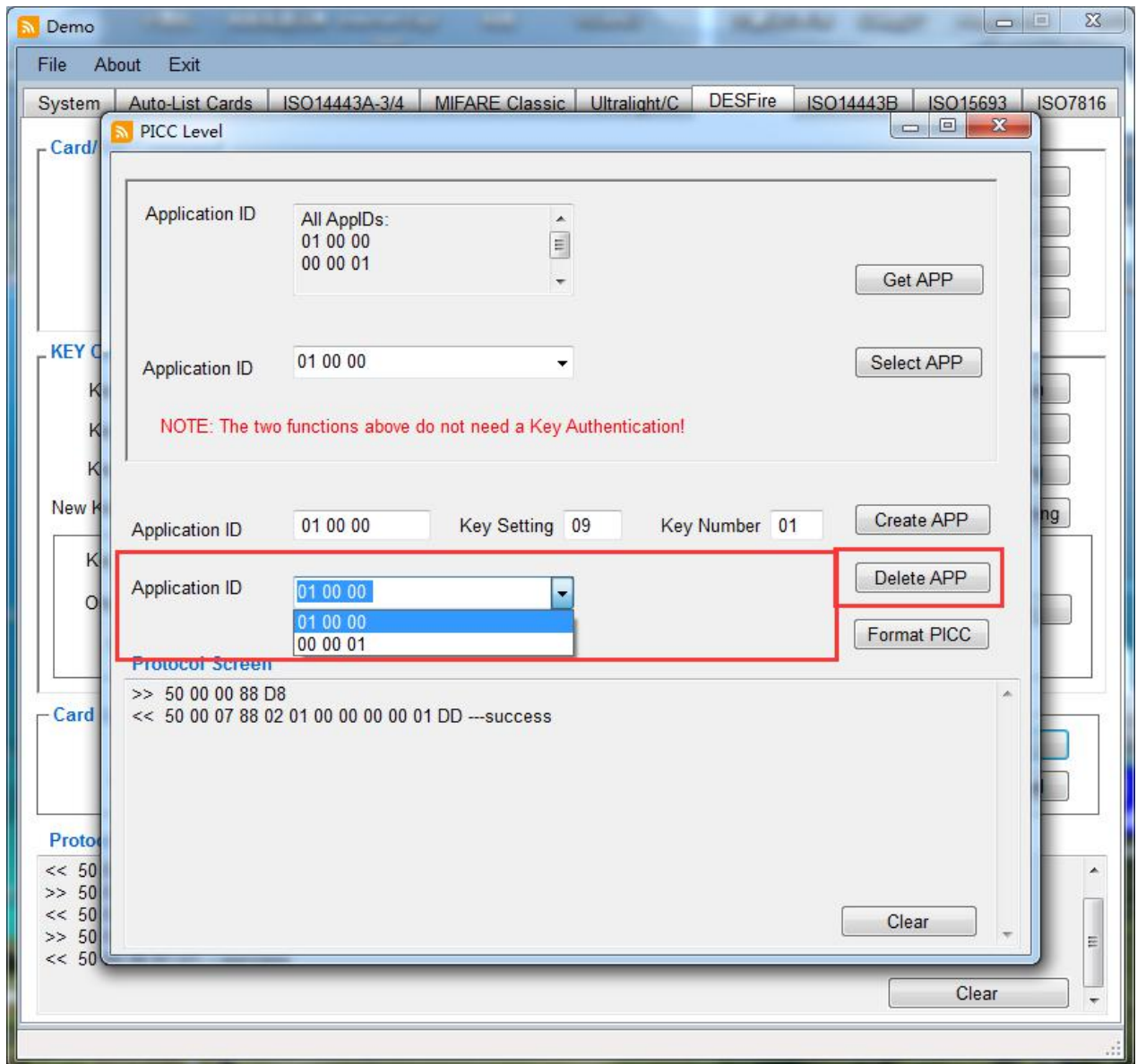


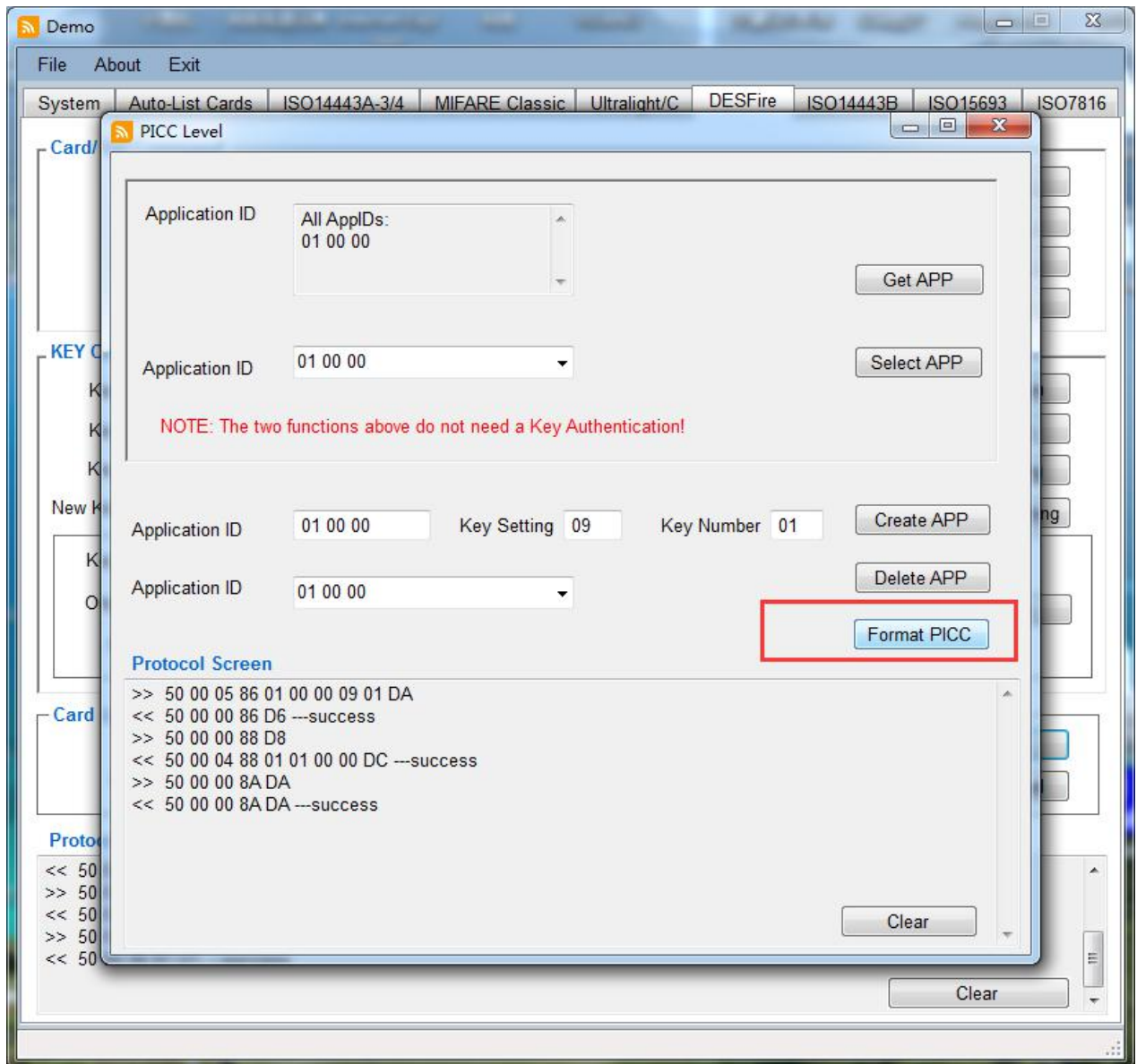
2.8.9.4 PICC Level-Delete Application

This command is to delete the application ID or IDs, the all application IDs will be listing on left side box.



2.8.9.5 PICC Level-Format PICC

This command releases the PICC user memory and no parameter are passed with this command



2.8.10 DESFire Card- Application Level

When enter into Application Level, it must do Select APP --> Authenticate Master Key firstly .

The screenshot displays the 'Demo' application window with the 'DESFire' tab selected. The interface is organized into several sections:

- Card/Sys Command:** Contains input fields for Tag Type (4403), SAK (20), UID number (042F171AEB2F80), ATS (067577810280), and Version (04010101001A0504010101041A05042F171AEB2F80BA351765604712). Buttons on the right include 'Active-IDLE', 'Active-ALL', 'RATS', and 'Get Version'.
- KEY Commands:** Includes fields for Key Version, Key Number (00), Key Setting, and New Key Setting. A 'KEY' field contains a long hexadecimal string. Buttons on the right include 'Get Key Version', 'Authenticate', 'Get Key Setting', and 'Change Key Setting'. Below this, there are fields for Key Number, Key Setting (00), Original Key, and New Key (00112233445566778899AABBCCDDEEFF), with a 'Change Key' button.
- Card Level:** Features a red note: 'NOTE: Please click right side button for further detail operation!'. Two buttons are present: 'PICC Level' and 'Application Level', which is highlighted with a red rectangle.
- Protocol Screen:** A text area showing a series of hexadecimal commands and responses, such as '<< 50 00 00 81 D1 ---success' and '>> 50 00 11 81 00 00 00 00 00 00 00 00 00 00 00 00 00 00 C0'. A 'Clear' button is located at the bottom right.

2.8.10.1 Application Level-Get File IDs

This command returns the File IDs of all active files within the currently selected application

The screenshot displays the 'ApplicationLevel' software window. At the top, a 'File IDs' list shows 'No Files'. Below this is a 'File ID' dropdown menu. To the right are buttons for 'Get FileID' and 'Delete File'. The 'File Setting' section includes a 'File ID' dropdown, 'File Type', 'Communicate way', 'Access right', and 'File size' fields, with buttons for 'Get File Setting' and 'Change File Setting'. The 'Standard DataFile & Backup File' section features fields for 'File ID', 'Communicate way', 'Access right', and 'File size', with buttons for 'Create StdFile' and 'Create BackupFile'. A red note states 'NOTE: StdFile means to Standard Data File'. Below this are fields for 'File ID', 'Address', and 'Length', with buttons for 'Read Data' and 'Write Data'. A 'Data' field and a 'BackupFile' checkbox are also present. The 'Value File & Record File' section has a red note: 'NOTE: Please click right side button for further detail operation!', and buttons for 'Value File' and 'Record File'. The 'Protocol Screen' at the bottom shows a log of commands: '>> 50 00 00 8C DC' and '<< 50 00 01 8C 00 DD ---success', with a 'Clear' button.

ApplicationLevel

File IDs: No Files

File ID: [Dropdown]

Get FileID

Delete File

File Setting

File ID: [Dropdown]

File Type: [Dropdown] Communicate way: [Dropdown] Access right: [Dropdown] File size: [Dropdown]

Get File Setting

File ID: [Dropdown] Communicate way: 00 Access right: EE EE

Change File Setting

Standard DataFile & Backup File

File ID: 00 Communicate way: 00 Access right: EE EE File size: 00 00 00

Create StdFile

NOTE: StdFile means to Standard Data File

Create BackupFile

File ID: [Dropdown] Address: 00 00 Length: 04 00

Data: [Text Area]

Read Data

Data: [Text Area] BackupFile: ☐

Write Data

Value File & Record File

Value File

Record File

NOTE: Please click right side button for further detail operation!

Protocol Screen

>> 50 00 00 8C DC

<< 50 00 01 8C 00 DD ---success

Clear

2.8.10.2 Application Level-Get File Setting

To Get information on the properties of a specific file, and the File ID need to be selected when proceeding

The screenshot displays the 'ApplicationLevel' software window. The 'File IDs' list at the top contains '05'. Below it, the 'File ID' dropdown is set to '05'. The 'File Setting' section, highlighted with a red border, includes fields for 'File ID' (05), 'File Type' (00), 'Communicate way' (00), 'Access right' (EEEE), and 'File size' (10 00 00). A 'Get File Setting' button is located to the right of these fields. Below this section, the 'Standard DataFile & Backup File' section contains fields for 'File ID' (05), 'Communicate way' (00), 'Access right' (EE EE), and 'File size' (10 00 00), with 'Create StdFile' and 'Create BackupFile' buttons. A note states 'NOTE: StdFile means to Standard Data File'. Below this, there are fields for 'File ID' (05), 'Address' (00 00), and 'Length' (04 00), along with 'Read Data' and 'Write Data' buttons. A 'BackupFile' checkbox is also present. The 'Value File & Record File' section has 'Value File' and 'Record File' buttons, with a note: 'NOTE: Please click right side button for further detail operation!'. The 'Protocol Screen' at the bottom shows a list of hexadecimal data exchanges, with the last two lines highlighted by a red box: '>> 50 00 01 8D 05 D9' and '<< 50 00 07 8D 07 00 00 EE EE 10 00 CD ---success'. A 'Clear' button is at the bottom right of the protocol screen.

ApplicationLevel

File IDs: 05

File ID: 05

Get FileID

Delete File

File Setting

File ID: 05

File Type: 00

Communicate way: 00

Access right: EEEE

File size: 10 00 00

Get File Setting

File ID: 05

Communicate way: 00

Access right: EE EE

Change File Setting

Standard DataFile & Backup File

File ID: 05

Communicate way: 00

Access right: EE EE

File size: 10 00 00

Create StdFile

Create BackupFile

NOTE: StdFile means to Standard Data File

File ID: 05

Address: 00 00

Length: 04 00

Data:

Data:

BackupFile

Read Data

Write Data

Value File & Record File

Value File

Record File

NOTE: Please click right side button for further detail operation!

Protocol Screen

```
<< 50 00 01 8C 00 DD ---success
>> 50 00 06 8F 05 00 EE EE 10 00 CC
<< 50 00 00 8F DF ---success
>> 50 00 00 8C DC
<< 50 00 02 8C 01 05 DA ---success
>> 50 00 01 8D 05 D9
<< 50 00 07 8D 07 00 00 EE EE 10 00 CD ---success
```

Clear

2.8.10.3 Application Level-Change File Settings

This is to change the access parameters of an existing file.

Parameters to be changed:

File ID: file number within currently selected application, One byte

Communication way: new communication settings, One byte

Access right: new access rights, Two byte

More details information, please refer to datasheet of using card accordingly

The screenshot shows the 'ApplicationLevel' software window. It contains several sections for configuring file settings and viewing protocol data.

File IDs: A list box showing '05'. Buttons: 'Get FileID', 'Delete File'.

File ID: A dropdown menu showing '05'. Buttons: 'Get File Setting', 'Delete File'.

File Setting: A section with fields for File ID (05), File Type (00), Communicate way (00), Access right (EEEE), and File size (10 00 00). Buttons: 'Get File Setting', 'Change File Setting' (highlighted with a red box).

Standard DataFile & Backup File: A section with fields for File ID (05), Communicate way (00), Access right (EE EE), and File size (10 00 00). Buttons: 'Create StdFile', 'Create BackupFile'. Below this, there are fields for File ID (05), Address (00 00), and Length (04 00). Buttons: 'Read Data', 'Write Data'. A checkbox for 'BackupFile' is also present.

Value File & Record File: A section with buttons 'Value File' and 'Record File'. A note says: 'NOTE: Please click right side button for further detail operation!'.

Protocol Screen: A section showing protocol data. A red box highlights the following text:


```
>> 50 00 04 8E 05 00 EE EE DF
    << 50 00 00 8E DE ---success
```

 A 'Clear' button is located at the bottom right of this section.

2.8.10.4 Application Level-Create Std Data File/ Create Backup Data file

This is used to create files for the storage of plain unformatted user data within an existing application on the PICC, and Create Backup Data File supporting the feature of an integrated backup mechanism.

Parameters to be created:

File ID: File number of the new file and range from 0x00 to 0x0F, ONE byte

Communicate way: Communication setting, ONE byte

Access right: Access right for the new file, TWO byte

File size: the file of the file in byte, THREE byte

More details information, please refer to datasheet of using card accordingly

The screenshot shows the 'ApplicationLevel' software window. It contains several sections for configuring file creation:

- File IDs:** A list box showing 'No Files'. Buttons for 'Get FileID' and 'Delect File' are on the right.
- File ID:** A dropdown menu.
- File Setting:**
 - File ID: dropdown
 - File Type: dropdown
 - Communicate way: dropdown
 - Access right: dropdown
 - File size: dropdown
 - Buttons: 'Get File Setting' and 'Change File Setting'.
- Standard DataFile & Backup File:**
 - File ID: dropdown (highlighted with a red box, value '05')
 - Communicate way: dropdown (value '00')
 - Access right: dropdown (value 'EE EE')
 - File size: dropdown (highlighted with a purple box, value '10 00 00'). A purple label 'LSB first' is next to it.
 - Buttons: 'Create StdFile' and 'Create BackupFile'.
 - NOTE: StdFile means to Standard Data File
 - File ID: dropdown
 - Address: dropdown (value '00 00')
 - Length: dropdown (value '04 00')
 - Data: text area
 - Data: text area
 - Buttons: 'Read Data' and 'Write Data'.
 - Checkbox: 'BackupFile'.
- Value File & Record File:**
 - Buttons: 'Value File' and 'Record File'.
 - NOTE: Please click right side button for further detail operation!
- Protocol Screen:**
 - Text area showing protocol data:


```
>> 50 00 00 8C DC
<< 50 00 01 8C 00 DD ---success
>> 50 00 06 8F 05 00 EE EE 10 00 CC
<< 50 00 00 8F DF ---success
```
 - Button: 'Clear'.

2.8.10.5 Application Level-Delete File

This command is to permanently deactivate a file within the file directory of currently selected application

This operation invalidates the file directory entry of the specified file which means that the file can't be accessed anymore.

The screenshot shows the 'ApplicationLevel' software interface. At the top, there is a 'File IDs' list showing 'No Files'. Below this, a red rectangular box highlights the 'File ID' dropdown menu and the 'Delete File' button. The interface is divided into several sections: 'File Setting', 'Standard DataFile & Backup File', 'Value File & Record File', and 'Protocol Screen'. The 'File Setting' section includes fields for File ID, File Type, Communicate way, Access right, and File size, with buttons for 'Get File Setting' and 'Change File Setting'. The 'Standard DataFile & Backup File' section includes fields for File ID, Communicate way, Access right, and File size, with buttons for 'Create StdFile' and 'Create BackupFile'. It also includes a 'NOTE: StdFile means to Standard Data File' and fields for File ID, Address, and Length, with buttons for 'Read Data' and 'Write Data'. The 'Value File & Record File' section includes a 'NOTE: Please click right side button for further detail operation!' and buttons for 'Value File' and 'Record File'. The 'Protocol Screen' section is empty and has a 'Clear' button at the bottom right.

2.8.10.6 Application Level-Read Data

To read data from Standard Data Files or Backup Data Files

Parameters to be operated:

File ID: the file number to be read from, ONE byte

Address: the starting position for the read operation, THREE byte, range from 0x00 00 00 to 0x FF FF FF

Length: the number of data bytes to be read, THREE byte, and range 0x00 00 00 to 0x FF FF FF

The screenshot shows the 'ApplicationLevel' software window. The 'Standard DataFile & Backup File' section is active, with a red box highlighting the 'Read Data' operation fields. The fields include 'File ID' (05), 'Address' (00 00), 'Length' (04 00), and 'Data' (00000000). The 'Read Data' button is highlighted in blue. Other sections include 'File Setting', 'Value File & Record File', and 'Protocol Screen'.

File IDs
File IDs: 05
File ID: 05
Buttons: Get FileID, Delect File

File Setting
File ID: 05
File Type: 00, Communicate way: 00, Access right: EEEE, File size: 10 00 00
Buttons: Get File Setting, Change File Setting

Standard DataFile & Backup File
File ID: 00, Communicate way: 00, Access right: EE EE, File size: 00 00 00
Buttons: Create StdFile, Create BackupFile
NOTE: StdFile means to Standard Data File
File ID: 05, Address: 00 00, Length: 04 00
Data: 00000000
Buttons: Read Data, Write Data
BackupFile checkbox

Value File & Record File
Buttons: Value File, Record File
NOTE: Please click right side button for further detail operation!

Protocol Screen
>> 50 00 00 8C DC
<< 50 00 02 8C 01 05 DA ---success
>> 50 00 01 8D 05 D9
<< 50 00 07 8D 07 00 00 EE EE 10 00 CD ---success
>> 50 00 05 95 05 00 00 04 00 C1
<< 50 00 04 95 00 00 00 00 C1 ---success
Clear

2.8.10.7 Application Level-Write Data

To write data to Standard Data Files and Backup Data Files

Parameters to be operated:

File ID: the file number to be written into, ONE byte

Address: the starting position for the writing operation, THREE byte, range from 0x00 00 00 to 0x FF FF FF

Length: the number of data bytes to be read, THREE byte, and range 0x00 00 00 to 0x FF FF FF

Data:

More details information, please refer to datasheet of using card accordingly

The screenshot shows the 'ApplicationLevel' software interface. The 'Write Data' section is highlighted with a green box. It includes a 'Data' input field with the value '01020304', a 'BackupFile' checkbox, and a 'Write Data' button. Other sections include 'File IDs', 'File Setting', 'Standard DataFile & Backup File', 'Value File & Record File', and 'Protocol Screen'.

File IDs
 File IDs: 05
 File ID: 05
 Get FileID
 Delect File

File Setting
 File ID: 05
 File Type: 00
 Communicate way: 00
 Access right: EEEE
 File size: 10 00 00
 Get File Setting
 File ID: 05
 Communicate way: 00
 Access right: EE EE
 Change File Setting

Standard DataFile & Backup File
 File ID: 00
 Communicate way: 00
 Access right: EE EE
 File size: 00 00 00
 Create StdFile
 Create BackupFile
 NOTE: StdFile means to Standard Data File
 File ID: 05
 Address: 00 00
 Length: 04 00
 Data: 00000000
 Read Data
 Data: 01020304
 BackupFile
 Write Data

Value File & Record File
 Value File
 Record File
 NOTE: Please click right side button for further detail operation!

Protocol Screen
 << 50 00 02 8C 01 05 DA ---success
 >> 50 00 01 8D 05 D9
 << 50 00 07 8D 07 00 00 EE EE 10 00 CD ---success
 >> 50 00 05 95 05 00 00 04 00 C1
 << 50 00 04 95 00 00 00 00 C1 ---success
 >> 50 00 09 96 05 00 00 04 00 01 02 03 04 CA
 << 50 00 00 96 C6 ---success
 Clear

2.8.11 Application Level-Value File

2.8.11.1 Value File -Create Value File

To create files or the storage and manipulation of 32bit signed integer value within an existing application on the PICC

More details information, please refer to datasheet of using card accordingly

The screenshot displays the 'ApplicationLevel' software interface, specifically the 'Value File' tab. The interface is divided into several sections:

- Value File Section:** This section contains fields for 'File ID' (00), 'Communicate way' (00), 'Access right' (00 00), 'Limit Credit' (00), 'Lower Limit' (00 00 00 00), 'Upper Limit' (00 00 00 00), and 'Value' (00 00 00 00). A 'Create Value File' button is located to the right of these fields.
- File ID and Value Section:** Below the first section, there are fields for 'File ID' (00) and 'Value' (01 00 00 00), with a 'Get Value' button to the right.
- Transaction Section:** This section includes buttons for 'Credit', 'Debit', 'Commit Transaction', 'Absort Transaction', and 'Limit Credit'.
- Protocol Screen:** A text area at the bottom shows the communication protocol. It displays the following data:

```
>> 50 00 11 91 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 D0
<< 50 00 00 91 C1 ---success
```

A 'Clear' button is located at the bottom right of this section.

2.8.11.2 Value File -Get Value

It allows to read the currently stored value from Value File

The screenshot displays the 'Value File' application window. The 'Value File' section contains several input fields: 'File ID' (00), 'Communicate way' (00), 'Access right' (00 00), 'Limit Credit' (00), 'Lower Limit' (00 00 00 00), 'Upper Limit' (00 00 00 00), and 'Value' (00 00 00 00). A red box highlights the 'File ID' (00) and 'Value' (00 00 00 00) fields, along with the 'Get Value' button. Below this, there are buttons for 'Credit', 'Debit', 'Commit Transaction', 'Absort Transaction', and 'Limit Credit'. The 'Protocol Screen' section shows a list of commands and responses, with a red box highlighting the last two: '>> 50 00 01 97 00 C6' and '<< 50 00 04 97 00 00 00 00 C3 ---success'. A 'Clear' button is located at the bottom right of the 'Protocol Screen' area.

Value File

File ID: 00 Communicate way: 00 Access right: 00 00 Limit Credit: 00
Lower Limit: 00 00 00 00 Upper Limit: 00 00 00 00 Value: 00 00 00 00 Create Value File

File ID: 00 Value: 00 00 00 00 Get Value

File ID: 00 Value: 01 00 00 00 Credit Debit
Commit Transaction Absort Transaction Limit Credit

Protocol Screen

```
>> 50 00 11 91 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 D0  
<< 50 00 00 91 C1 ---success  
>> 50 00 01 97 00 C6  
<< 50 00 04 97 00 00 00 00 00 C3 ---success
```

Clear

2.8.11.3 Value File-Transactions operation

The transactions are including:

Credit: increase a value stored in a Value File

Debit: decrease a value stored in a Value File

Commit Transaction: Validate all previous write access on Backup Data File, Value Files and Record Files within one application

Abort Transaction: invalidate all previous write access on Backup Data File, Value Files and Record Files within one application

Limit Credit: limited increase of a value in a Value File without having full Read&Write permission to the file

More details information, please refer to datasheet of using card accordingly

The screenshot displays the 'Value File' application window. The interface is divided into two main sections: 'Value File' and 'Protocol Screen'.

Value File Section:

- Top row: File ID (00), Communicate way (00), Access right (00 00), Limit Credit (00).
- Second row: Lower Limit (00 00 00 00), Upper Limit (00 00 00 00), Value (00 00 00 00), and buttons 'Create Value File' and 'Get Value'.
- Third row: File ID (00), Value (00 00 00 00), and buttons 'Credit', 'Debit', 'Commit Transaction', 'Absort Transaction', and 'Limit Credit'.

Protocol Screen Section:

- A large empty area for displaying protocol data.
- A 'Clear' button at the bottom right.

A red rectangular box highlights the transaction control area, specifically the 'File ID', 'Value', and the 'Credit', 'Debit', 'Commit Transaction', 'Absort Transaction', and 'Limit Credit' buttons.

2.8.12 Application Level- Record File

2.8.12.1 Record File-Create Linear/Cyclic Record File

This is used to create files for multiple storage of structural data, for example for logging transactions,

More details information, please refer to datasheet of using card accordingly

The screenshot shows a software window titled "Record File" with three main sections:

- Create/Clear Record File:** This section is highlighted with a red border. It contains input fields for "File ID" (00), "Communicate way" (00), "Access right" (00 00), "File size" (00 00 00), and "Record Number" (00 00). To the right are three buttons: "Create Linear Record File", "Create Cyclic Record File", and "Clear Record File".
- Read Record:** This section contains input fields for "File ID" (00), "Record No." (00 00), and "Record Number" (00 00). Below these is a large empty text area and a "Read Record" button.
- Write Record:** This section contains input fields for "File ID" (00) and "Address" (00 00). Below these is a large empty text area and a "Write Record" button.
- Protocol Screen:** This section at the bottom contains a large empty text area and a "Clear" button.

2.8.12.2 Record File-Read Record

To read out a set of complete records from a Cyclic or Liner Record File

Parameters to be read:

File ID: the file number to be read from, ONE byte length

Record No: the offset of the newest record which is read out, THREE bytes long

Record Number: the number of records to be read from PICC

The screenshot displays the 'Record File' application window. It is divided into three main sections: 'Create/Clear Record File', 'Read Record', and 'Write Record'. The 'Read Record' section is highlighted with a red rectangular border. This section contains input fields for 'File ID' (00), 'Record No.' (00 00), and 'Record Number' (00 00). Below these fields is a large, empty text area for displaying the read records. A 'Read Record' button is located at the bottom right of this section. The 'Create/Clear Record File' section at the top includes fields for 'File ID' (00), 'Communicate way' (00), 'Access right' (00 00), 'File size' (00 00 00), and 'Record Number' (00 00), along with buttons for 'Create Linear Record File', 'Create Cyclic Record File', and 'Clear Record File'. The 'Write Record' section below the 'Read Record' section has fields for 'File ID' (00) and 'Address' (00 00), a large text area for input, and a 'Write Record' button. At the bottom of the window is the 'Protocol Screen' section, which is currently empty and has a 'Clear' button at its bottom right.

2.8.12.3 Record File-Write Record

To write data to a Cyclic or Liner Record File

Parameters to be written:

File ID: the file number to be written into and has to be range from 0x00 to 0x07, ONE byte length

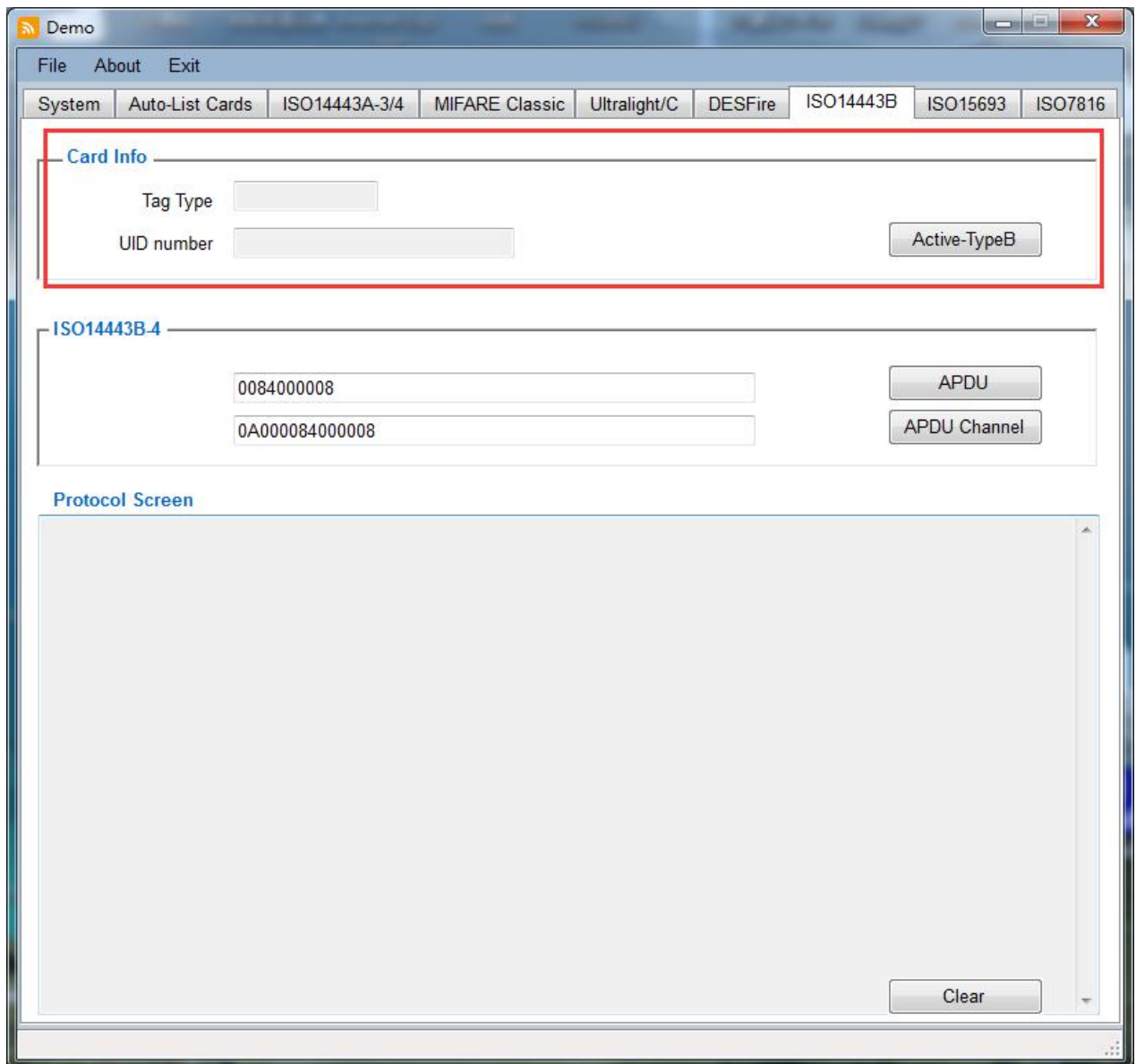
Address: the offset within one single record, and range from 0x00 00 00 00 to record size - 1

The screenshot displays the 'Record File' application window. It is divided into four main sections: 'Create/Clear Record File', 'Read Record', 'Write Record', and 'Protocol Screen'. The 'Write Record' section is highlighted with a red rectangular border. This section contains a 'File ID' input field with the value '00', an 'Address' input field with the value '00 00', a large empty text area for data entry, and a 'Write Record' button. The 'Create/Clear Record File' section at the top includes fields for 'File ID' (00), 'Communicate way' (00), 'Access right' (00 00), 'File size' (00 00 00), and 'Record Number' (00 00), along with buttons for 'Create Linear Record File', 'Create Cyclic Record File', and 'Clear Record File'. The 'Read Record' section below it has fields for 'File ID' (00), 'Record No.' (00 00), and 'Record Number' (00 00), a large empty text area, and a 'Read Record' button. The 'Protocol Screen' at the bottom is a large empty text area with a 'Clear' button in the bottom right corner.

2.9 ISO14443B

2.9.1 ISO14443B- Active-TypeB

To active ISO14443 Type B cards/tag



2.9.2 ISO14443B-4 APDU

The screenshot displays the 'Demo' application window with a menu bar (File, About, Exit) and a tabbed interface. The 'ISO14443B' tab is selected. The 'Card Info' section contains fields for 'Tag Type' and 'UID number', along with an 'Active-TypeB' button. The 'ISO14443B-4' section features two input fields: the top one contains '0084000008' and is highlighted with a red rectangle, with an 'APDU' button to its right; the bottom one contains '0A000084000008' with an 'APDU Channel' button to its right. The 'Protocol Screen' section at the bottom is a large text area with a 'Clear' button in the bottom right corner.

Demo

File About Exit

System Auto-List Cards ISO14443A-3/4 MIFARE Classic Ultralight/C DESFire ISO14443B ISO15693 ISO7816

Card Info

Tag Type

UID number

Active-TypeB

ISO14443B-4

APDU

APDU Channel

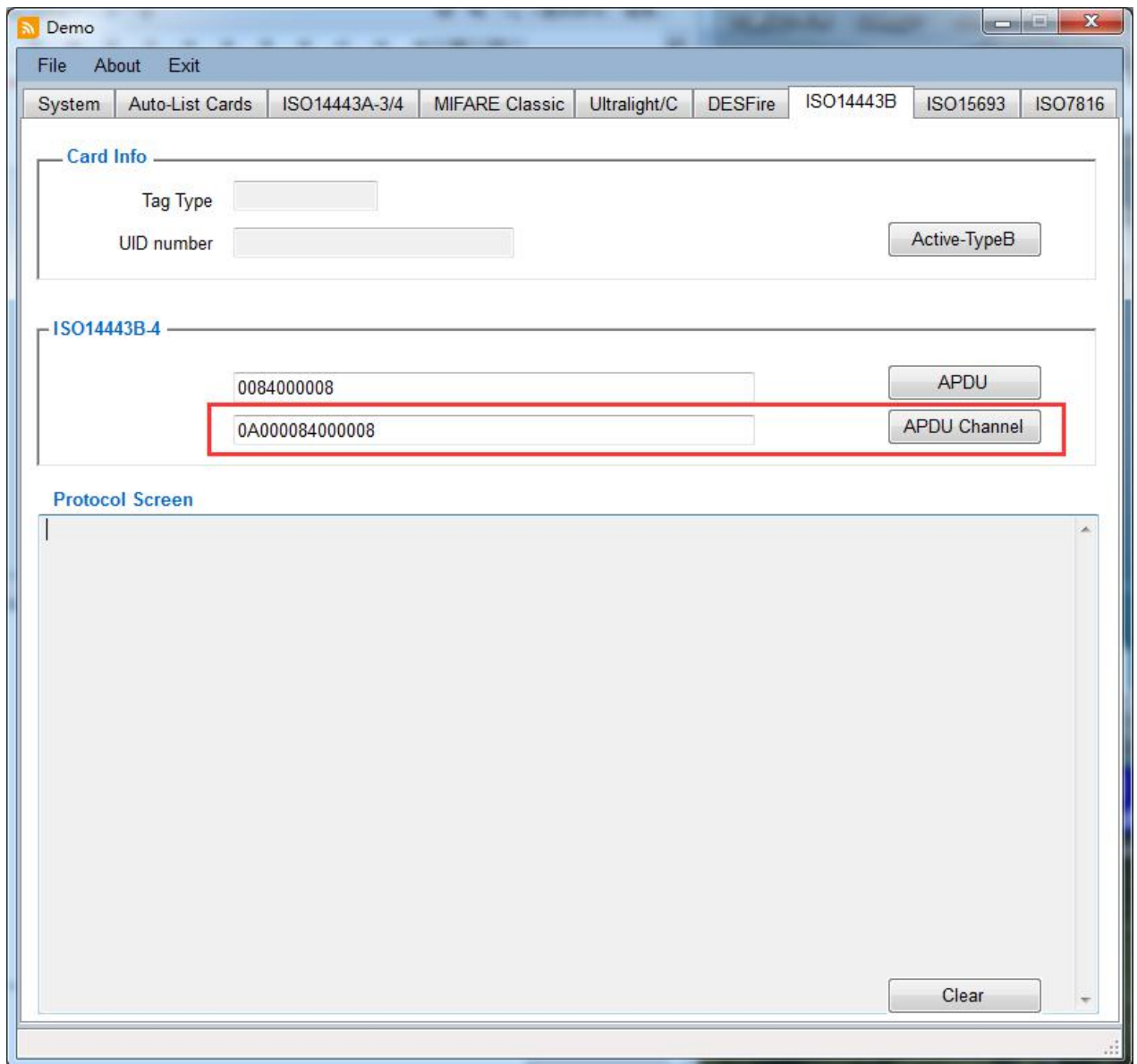
Protocol Screen

Clear

2.9.3 ISO14443B-4 APDU Channel

This is transfer channel to send any available commands to the card directly through RF chipset.

Details commands please refer to ISO14443B-4 Standard .

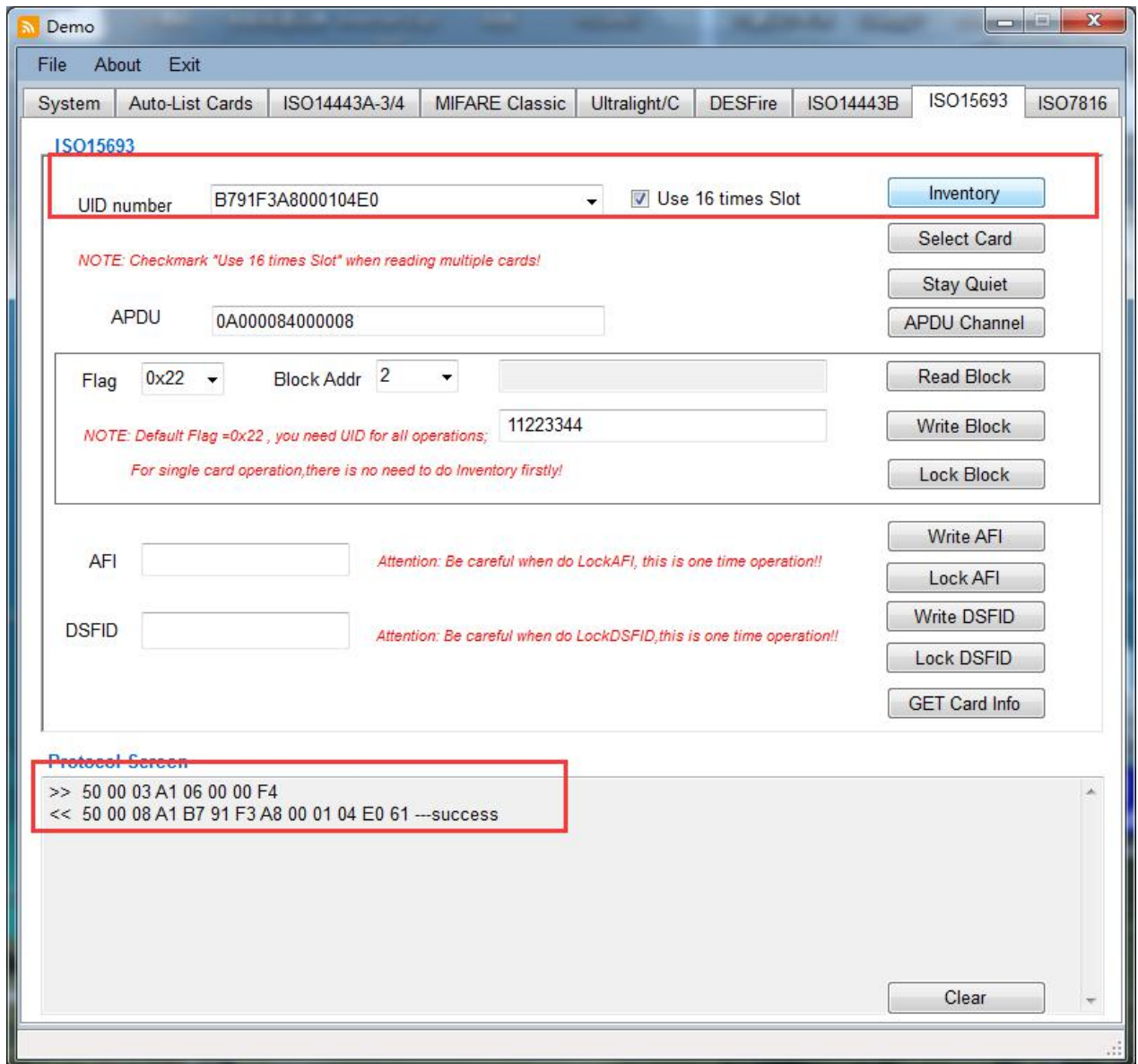


2.10 ISO15693

2.10.1 ISO15693-Inventory

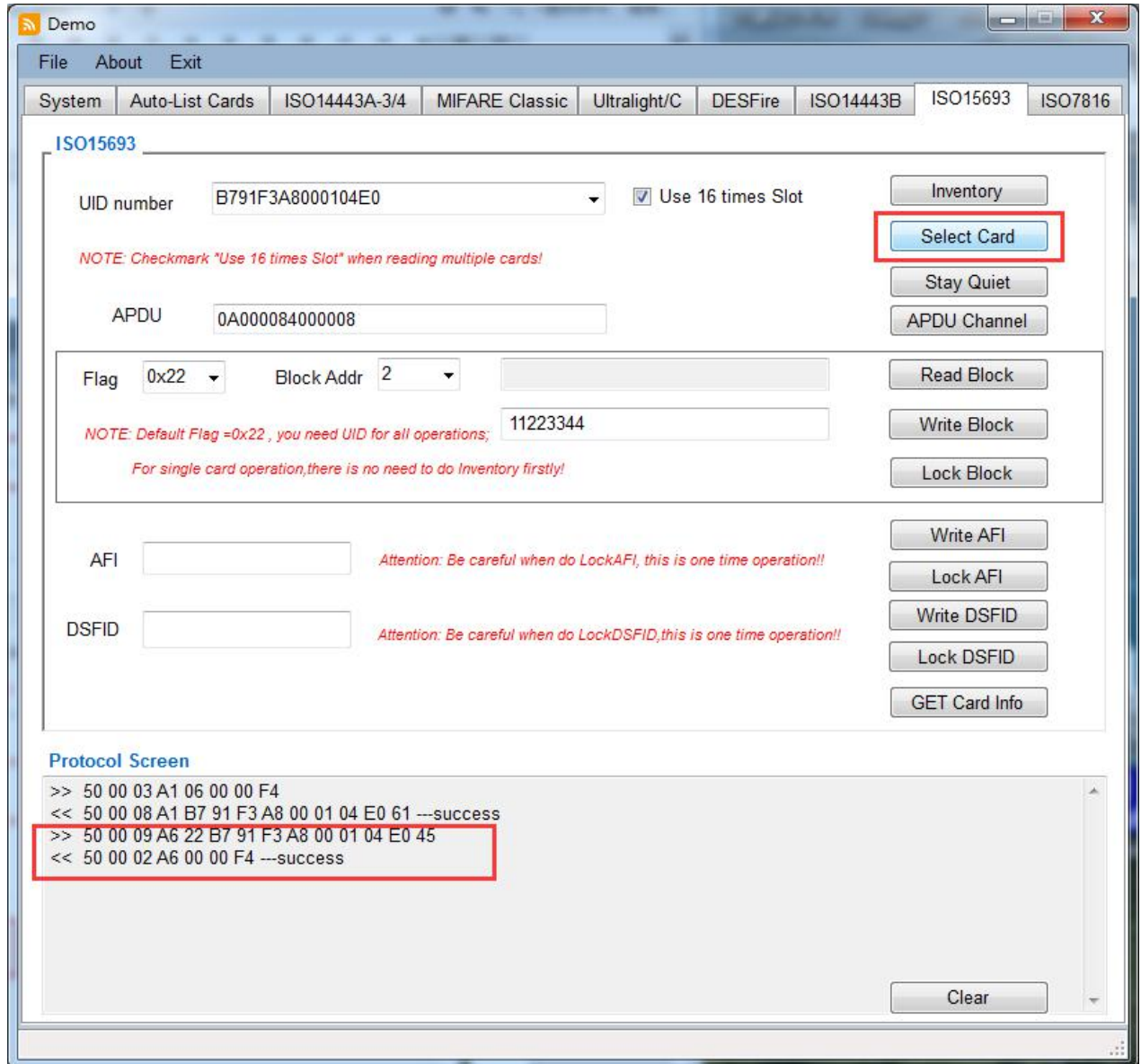
To get the UID of ISO15693 standard cards/tags.

When ☒ Use 16 times Slot is selected, it can be read multiple cards in one time, and the all UID numbers will be listing on leftside box.



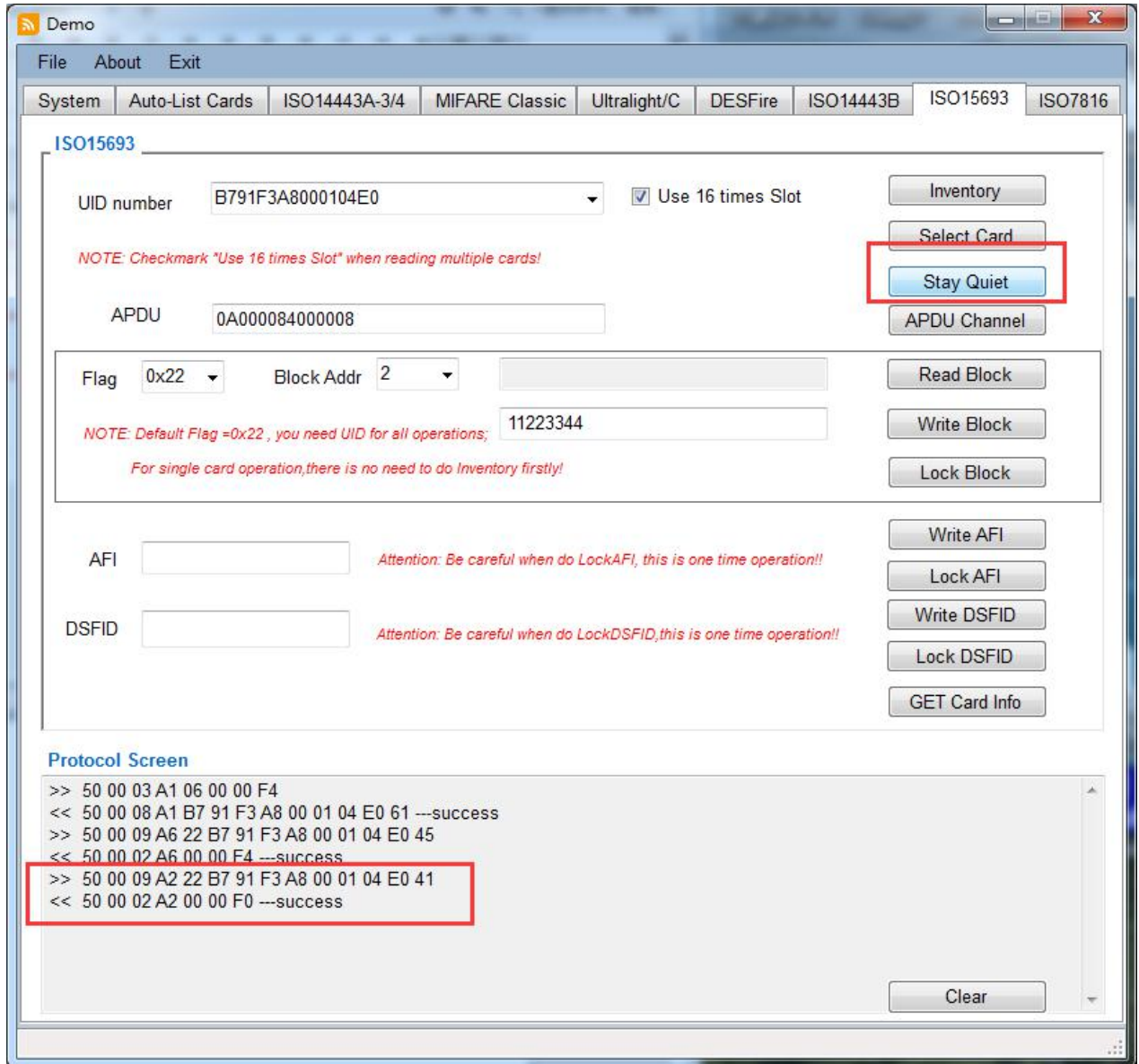
2.10.2 ISO15693-Select card

To select the card for further read/write operations, when there are multiple cards, please select the right one on UID number lists after inventory.



2.10.3 ISO15693-Stay Quiet

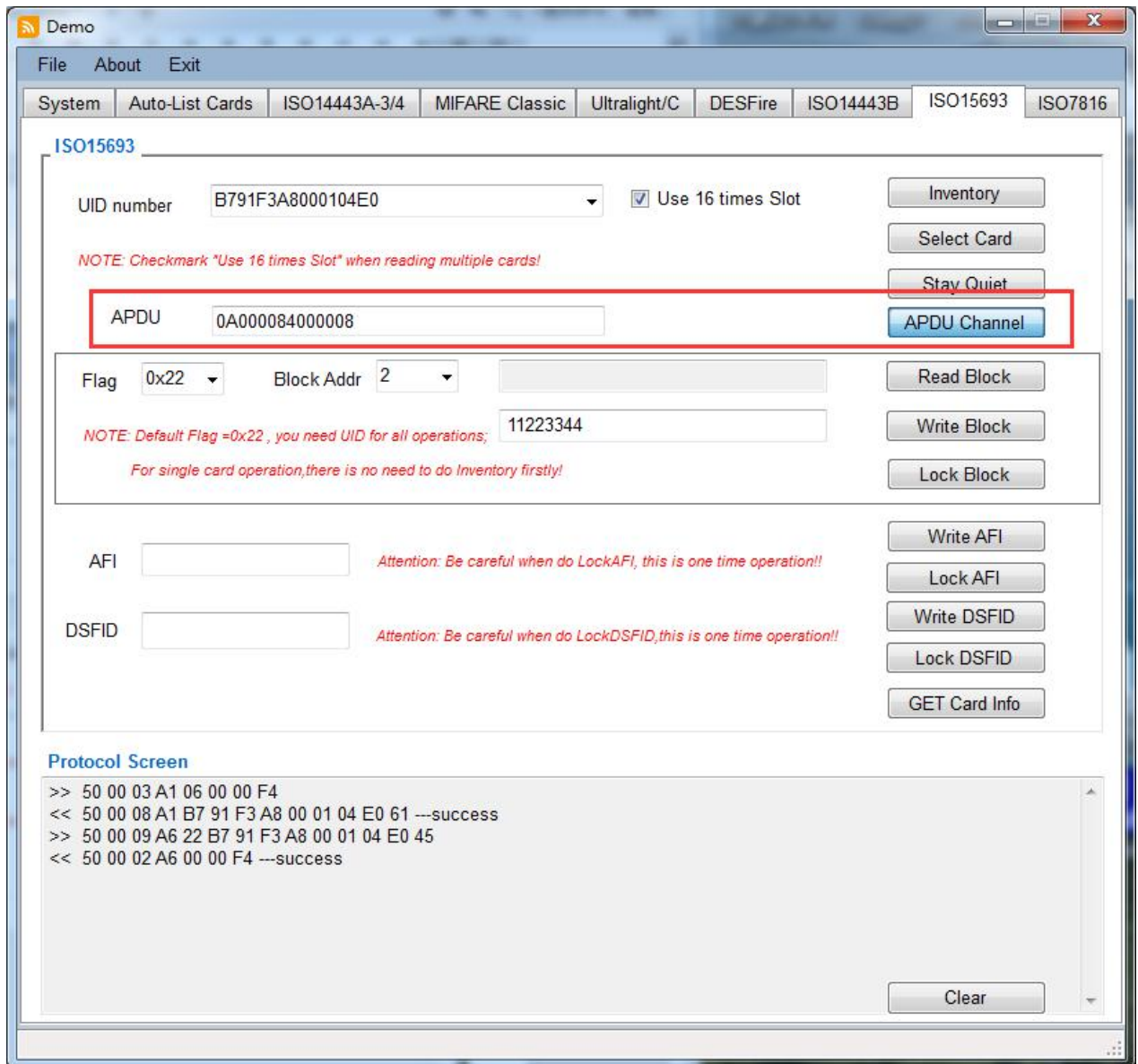
To make the card to be slept



2.10.4 ISO15693-APDU

This is transfer channel to send any available commands to the card directly through RF chipset.

And The first CMD before transfer must be ISO15693_Inventory, this will set the reader (or module) go into ISO15693 mode, Details commands please refer to ISO15693 Standard .



2.10.5 ISO15693-Read Block

To read the data in specific block address

Parameters to be optional:

Flag: 0x22 or 0x02, refer to datasheet of using card

Block Addr: the block address to be read

Demo

File About Exit

System Auto-List Cards ISO14443A-3/4 MIFARE Classic Ultralight/C DESFire ISO14443B ISO15693 ISO7816

ISO15693

UID number B791F3A8000104E0 ☒ Use 16 times Slot Inventory

NOTE: Checkmark "Use 16 times Slot" when reading multiple cards! Select Card

APDU 0A000084000008 Stay Quiet

APDU Channel

Flag 0x22 Block Addr 2 00000000 **Read Block**

NOTE: Default Flag =0x22 , you need UID for all operations; 11223344 Write Block

For single card operation,there is no need to do Inventory firstly! Lock Block

AFI *Attention: Be careful when do LockAFI, this is one time operation!!* Write AFI

DSFID *Attention: Be careful when do LockDSFID,this is one time operation!!* Lock AFI

Write DSFID

Lock DSFID

GET Card Info

Protocol Screen

```
>> 50 00 03 A1 06 00 00 F4
<< 50 00 08 A1 B7 91 F3 A8 00 01 04 E0 61 ---success
>> 50 00 09 A6 22 B7 91 F3 A8 00 01 04 E0 45
<< 50 00 02 A6 00 00 F4 ---success
>> 50 00 0B A3 22 02 01 B7 91 F3 A8 00 01 04 E0 41
<< 50 00 06 A3 00 00 00 00 00 00 F5 ---success
```

Clear

2.10.6 ISO15693-Write Block

To write data into specific block address

Parameters to be optional:

Flag: 0x22 or 0x02, refer to datasheet of using card

Block Addr: the block address to be written, 4byte length

ISO15693

UID number: B791F3A8000104E0 ☒ Use 16 times Slot

NOTE: Checkmark "Use 16 times Slot" when reading multiple cards!

APDU: 0A0000840000008

Flag: 0x22 Block Addr: 2

NOTE: Default Flag =0x22 , you need UID for all operations;

For single card operation, there is no need to do Inventory firstly!

Buttons: Inventory, Select Card, Stay Quiet, APDU Channel, Read Block, Write Block, Lock Block

AFI: *Attention: Be careful when do LockAFI, this is one time operation!!*

DSFID: *Attention: Be careful when do LockDSFID, this is one time operation!!*

Buttons: Write AFI, Lock AFI, Write DSFID, Lock DSFID, GET Card Info

Protocol Screen

```
>> 50 00 03 A1 06 00 00 F4
<< 50 00 08 A1 B7 91 F3 A8 00 01 04 E0 61 ---success
>> 50 00 09 A6 22 B7 91 F3 A8 00 01 04 E0 45
<< 50 00 02 A6 00 00 F4 ---success
>> 50 00 0B A3 22 02 01 B7 91 F3 A8 00 01 04 E0 41
<< 50 00 06 A3 00 00 00 00 00 00 F5 ---success
>> 50 00 0A A5 22 02 B7 91 F3 A8 00 01 04 E0 47
<< 50 00 02 A5 00 00 F7 ---success
```

Clear

2.10.7 ISO15693-Lock Block

To lock the specific block address

Parameters to be optional:

Flag: 0x22 or 0x02, refer to datasheet of using card

Block Addr: the block address to be locked

The screenshot shows the 'ISO15693' tab selected in the 'Demo' application. The interface includes a menu bar (File, About, Exit) and a tabbed control panel with options: System, Auto-List Cards, ISO14443A-3/4, MIFARE Classic, Ultralight/C, DESFire, ISO14443B, ISO15693, and ISO7816. The 'ISO15693' section contains the following fields and controls:

- UID number:** A dropdown menu showing 'B791F3A8000104E0'. To its right is a checked checkbox labeled 'Use 16 times Slot'.
- NOTE:** Checkmark "Use 16 times Slot" when reading multiple cards!
- APDU:** A text input field containing '0A000084000008'.
- Flag:** A dropdown menu showing '0x22'.
- Block Addr:** A dropdown menu showing '2'.
- 00000000:** A text input field.
- 11223344:** A text input field.
- NOTE:** Default Flag =0x22 , you need UID for all operations; For single card operation, there is no need to do Inventory firstly!
- Buttons:** Inventory, Select Card, Stay Quiet, APDU Channel, Read Block, Write Block, Lock Block (highlighted with a red box), Write AFI, Lock AFI, Write DSFID, Lock DSFID, and GET Card Info.
- AFI:** A text input field with a red warning note: 'Attention: Be careful when do LockAFI, this is one time operation!!'.
- DSFID:** A text input field with a red warning note: 'Attention: Be careful when do LockDSFID, this is one time operation!!'.
- Protocol Screen:** A large empty area at the bottom with a 'Clear' button.

2.10.8 ISO15693-Write AFI

AFI=Application Family Identifier, which it's a 8-bit value and located at Byte 2 in Block -2 ,and it allows for example the creation of label families.

For details please refer to ISO 15693-3.

The screenshot shows the 'Demo' application window with the 'ISO15693' tab selected. The interface includes a menu bar (File, About, Exit) and a tabbed control area with options: System, Auto-List Cards, ISO14443A-3/4, MIFARE Classic, Ultralight/C, DESFire, ISO14443B, ISO15693, and ISO7816. The 'ISO15693' section contains the following fields and controls:

- UID number:** A dropdown menu showing 'B791F3A8000104E0'. To its right is a checkbox labeled 'Use 16 times Slot' which is checked.
- APDU:** A text input field containing '0A000084000008'.
- Flag:** A dropdown menu showing '0x22'.
- Block Addr:** A dropdown menu showing '2'.
- 00000000:** A text input field.
- 11223344:** A text input field.
- AFI:** A text input field. A red box highlights this field and the 'Write AFI' button. A red note next to it says: 'Attention: Be careful when do LockAFI, this is one time operation!!'.
- DSFID:** A text input field. A red note next to it says: 'Attention: Be careful when do LockDSFID, this is one time operation!!'.

On the right side of the interface, there is a vertical column of buttons: Inventory, Select Card, Stay Quiet, APDU Channel, Read Block, Write Block, Lock Block, Write AFI (highlighted with a red box), Lock AFI, Write DSFID, Lock DSFID, and GET Card Info. At the bottom of the window is a 'Protocol Screen' area with a 'Clear' button.

2.10.9 ISO15693-Lock AFI

For details please refer to ISO/IEC 15693-3.

Demo

File About Exit

System Auto-List Cards ISO14443A-3/4 MIFARE Classic Ultralight/C DESFire ISO14443B ISO15693 ISO7816

ISO15693

UID number B791F3A8000104E0 ☒ Use 16 times Slot Inventory

NOTE: Checkmark "Use 16 times Slot" when reading multiple cards!

APDU 0A000084000008 Select Card

Stay Quiet

APDU Channel

Flag 0x22 Block Addr 2 00000000 Read Block

NOTE: Default Flag =0x22 , you need UID for all operations; 11223344 Write Block

For single card operation,there is no need to do Inventory firstly! Lock Block

AFI Attention: Be careful when do LockAFI, this is one time operation!! Write AFI

Lock AFI

DSFID Attention: Be careful when do LockDSFID,this is one time operation!! Write DSFID

Lock DSFID

GET Card Info

Protocol Screen

Clear

2.10.10 ISO15693-Write DSFID

DSFID= Data Storage Format Identifier, which is located at Byte 3 in Block -2.

For details please refer to ISO/IEC 15693-3.

The screenshot displays the 'Demo' application window with the 'ISO15693' tab selected. The interface includes a menu bar (File, About, Exit) and a system tab bar at the top. The main area is titled 'ISO15693' and contains several input fields and buttons. The 'UID number' field is set to 'B791F3A8000104E0', and the 'Use 16 times Slot' checkbox is checked. A red note states: 'NOTE: Checkmark "Use 16 times Slot" when reading multiple cards!'. The 'APDU' field is set to '0A000084000008'. Below this, the 'Flag' is set to '0x22', 'Block Addr' is '2', and the '00000000' field is set to '11223344'. A red note states: 'NOTE: Default Flag =0x22, you need UID for all operations; For single card operation, there is no need to do Inventory firstly!'. The 'AFI' field is empty, with a red note: 'Attention: Be careful when do LockAFI, this is one time operation!!'. The 'DSFID' field is empty, with a red note: 'Attention: Be careful when do LockDSFID, this is one time operation!!'. The 'Write DSFID' button is highlighted with a green border. Other buttons include 'Inventory', 'Select Card', 'Stay Quiet', 'APDU Channel', 'Read Block', 'Write Block', 'Lock Block', 'Write AFI', 'Lock AFI', 'Lock DSFID', 'GET Card Info', and 'Clear' in the 'Protocol Screen' section.

ISO15693

UID number: B791F3A8000104E0 ☒ Use 16 times Slot

NOTE: Checkmark "Use 16 times Slot" when reading multiple cards!

APDU: 0A000084000008

Flag: 0x22 Block Addr: 2 00000000

NOTE: Default Flag =0x22, you need UID for all operations; 11223344

For single card operation, there is no need to do Inventory firstly!

AFI: Attention: Be careful when do LockAFI, this is one time operation!!

DSFID: Attention: Be careful when do LockDSFID, this is one time operation!!

Buttons: Inventory, Select Card, Stay Quiet, APDU Channel, Read Block, Write Block, Lock Block, Write AFI, Lock AFI, Write DSFID, Lock DSFID, GET Card Info

Protocol Screen

Clear

2.10.11 ISO15693-Lock DSFID

For details please refer to ISO/IEC 15693-3.

The screenshot shows a software window titled "Demo" with a menu bar (File, About, Exit) and a tabbed interface. The "ISO15693" tab is selected, showing various fields and buttons for card operations. The "UID number" field contains "B791F3A8000104E0" and the "Use 16 times Slot" checkbox is checked. The "APDU" field contains "0A0000840000008". The "Flag" dropdown is set to "0x22", "Block Addr" is "2", and the "00000000" field is highlighted. The "11223344" field is also visible. The "DSFID" field is highlighted with a green border, and the "Lock DSFID" button is highlighted with a blue border. The "Protocol Screen" at the bottom is empty, with a "Clear" button.

ISO15693

UID number: B791F3A8000104E0 ☒ Use 16 times Slot

NOTE: Checkmark "Use 16 times Slot" when reading multiple cards!

APDU: 0A0000840000008

Flag: 0x22 Block Addr: 2 00000000

NOTE: Default Flag =0x22 , you need UID for all operations;

For single card operation,there is no need to do Inventory firstly!

AFI: *Attention: Be careful when do LockAFI, this is one time operation!!*

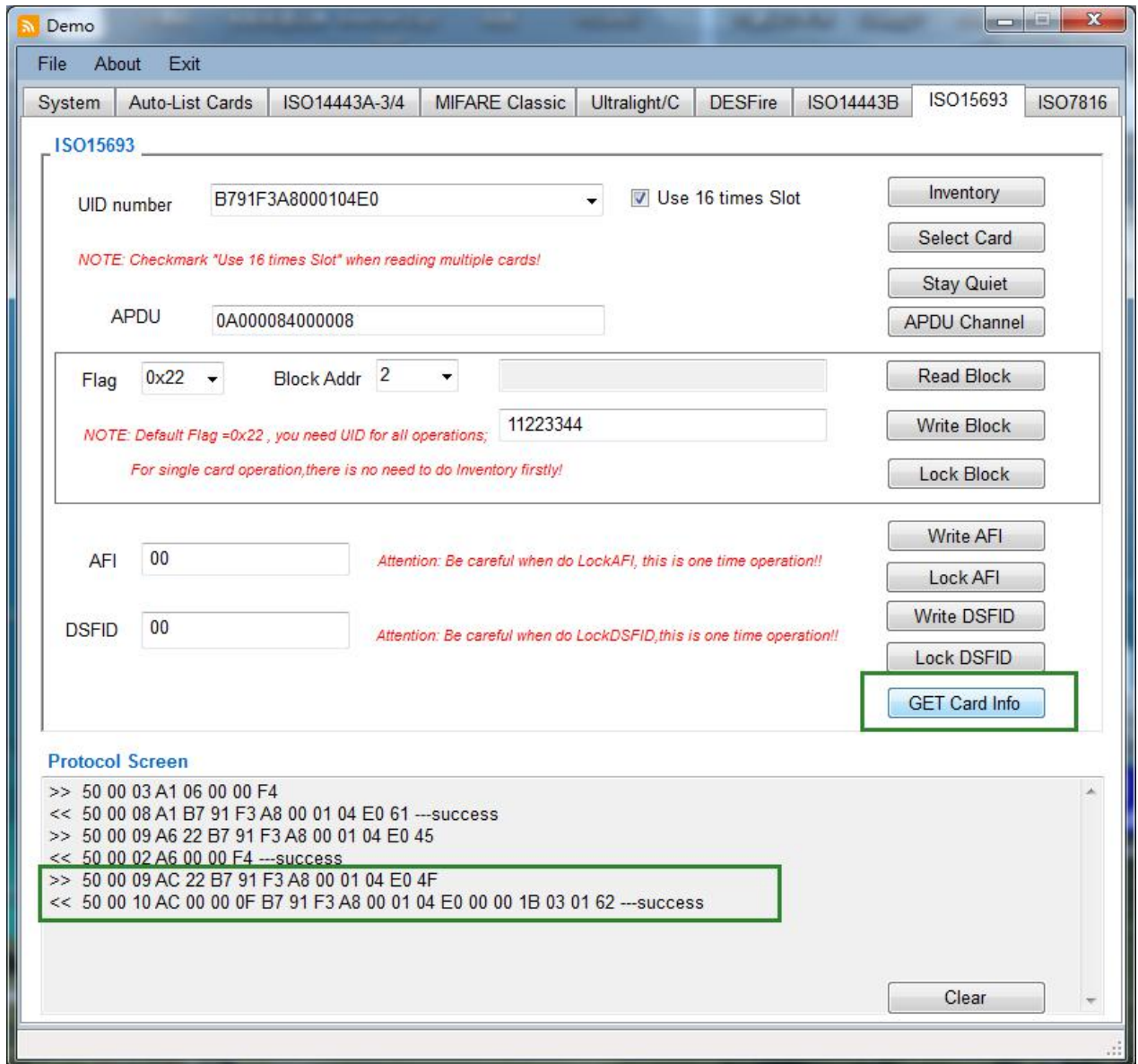
DSFID: *Attention: Be careful when do LockDSFID,this is one time operation!!*

Buttons: Inventory, Select Card, Stay Quiet, APDU Channel, Read Block, Write Block, Lock Block, Write AFI, Lock AFI, Write DSFID, Lock DSFID, GET Card Info

Protocol Screen

Clear

2.10.12 ISO15693-Get Card Info



Other functions not on above listing or any other specific request about our device, please contact our sales person or technical engineers for support, THANK YOU.

Contact information:

SHENZHEN CHIKEK Intelligent TECH CO.,LTD

Room 210, 2nd Bldg, WanYuan Commercial Building, 71th District, XinAn Street,BaoAn, 518101, SHENZHEN

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Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01

2.2 List of applicable FCC rules

FCC Part 15.225: Operation within the band 13.110–14.010 MHz

2.3 Specific operational use conditions

The module may not be co-located with any other transmitter or antenna. The module shall be only used with the original antenna(s) that has been originally tested and certified with this module.

As long as the above conditions are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.)

The module is connected to PC through serial port board, and the module is controlled by fixed frequency software.

The end user manual shall include all required regulatory information/warning as show in this manual.

2.4 Limited module procedures

The module is a restricted module, the module itself lacks the shielding cover, antenna and other parts, does not meet the integrity of the module!

Additional testing and certification is necessary when specific host originally granted with this module.

2.5 Trace antenna designs

The module may be operated only with the PCB antenna with which it is authorized.

2.6 RF exposure considerations

Co-located issue shall be met as mentioned in “Specific operational use conditions”.

Product manufacturer shall provide below text in end-product manual

“Radiation Exposure Statement:

The product comply with the US portable RF exposure limit set forth for an uncontrolled environment

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and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.”

2.7 Antennas

Model name	Antenna type	Antenna gain
IDT305MT	PCB	0dBi

2.8 Label and compliance information

Product manufacturers need to provide a physical or e-label stating

“Contains FCC ID: S6A-IDT305MT” with finished product

2.9 Information on test modes and additional testing requirements

Test tool: HF DEMO V4.1 shall be used to set the module to transmit continuously

2.10 Additional testing, Part 15 Subpart B disclaimer

The module is only FCC authorized for the specific rule parts listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15

Subpart B compliance testing with the modular transmitter installed.

FCC statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.