

1 Installation Notes

Decompressed the EzCoding package to your PC, if there is a warning in antivirus software, please add the program as trust. If this is the first time you use EzCoding in Windows 8 and below systems, please install the driver. Win10 doesn't need to install the driver.

The newly released USB driver has been upgraded due to the driver signature problem of the CodingBox which shipped before October 2019. The old version of the driver is no longer supported in the EzCoding V1011 version. After the CodingBox is connected to the USB cable, the digital tube will display a number. Please use "FWUpdateTools" on our website (www.sfp codingbox.com) to update firmware. Please see below UpdateGuide for your reference.

Tab 1: Update Guide

Numbers	Suggest	Firmware entry area	Applicable driver
'0'	No need to upgrade	Application region	WinUSB
'8'	Upgrade with FWUpdateTools	Application region	Box driver
'1' and blink	Email to support@sfp codingbox.com for support	Bootloader region	WinUSB
'-' and blink	Email to support@sfp codingbox.com for support	Bootloader region	Box driver
OFF	Firmware may be damaged, return to factory for repair		WinUSB

1.1 Driver Installation

Open "EzCoding_Winusb_Driver.exe" in the "Driver" folder.

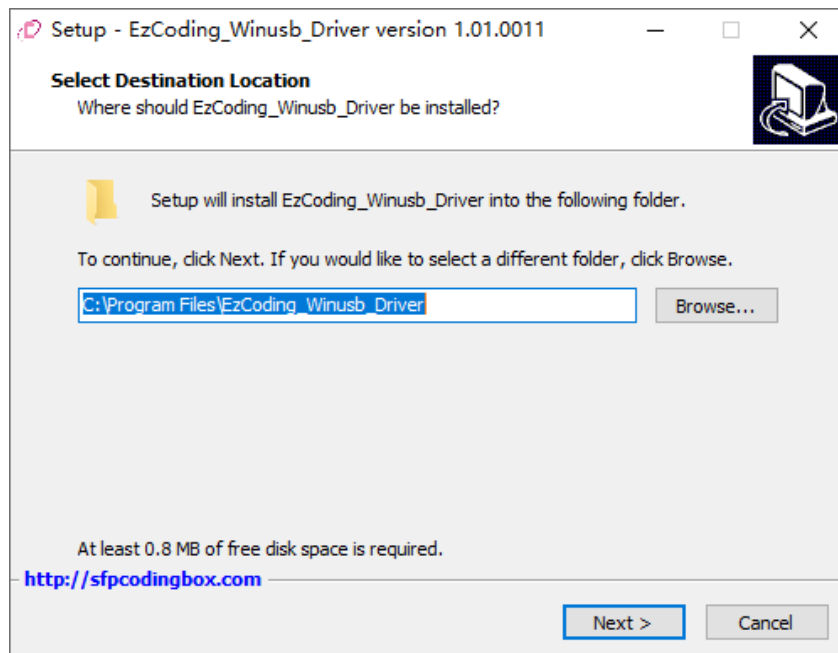


Fig 1: Driver installation step 1

Click "Next>"

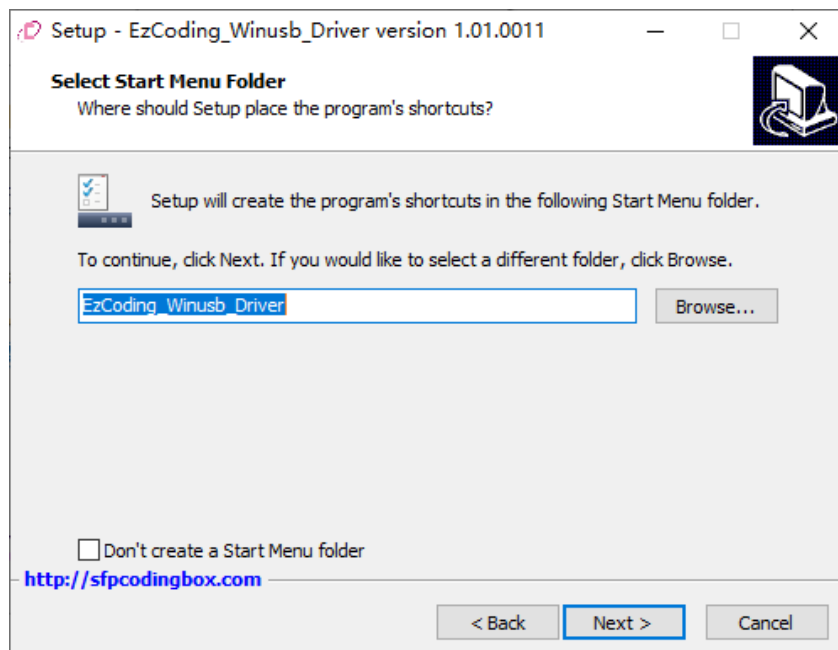


Fig 2: Driver installation step 2

Click "Install"

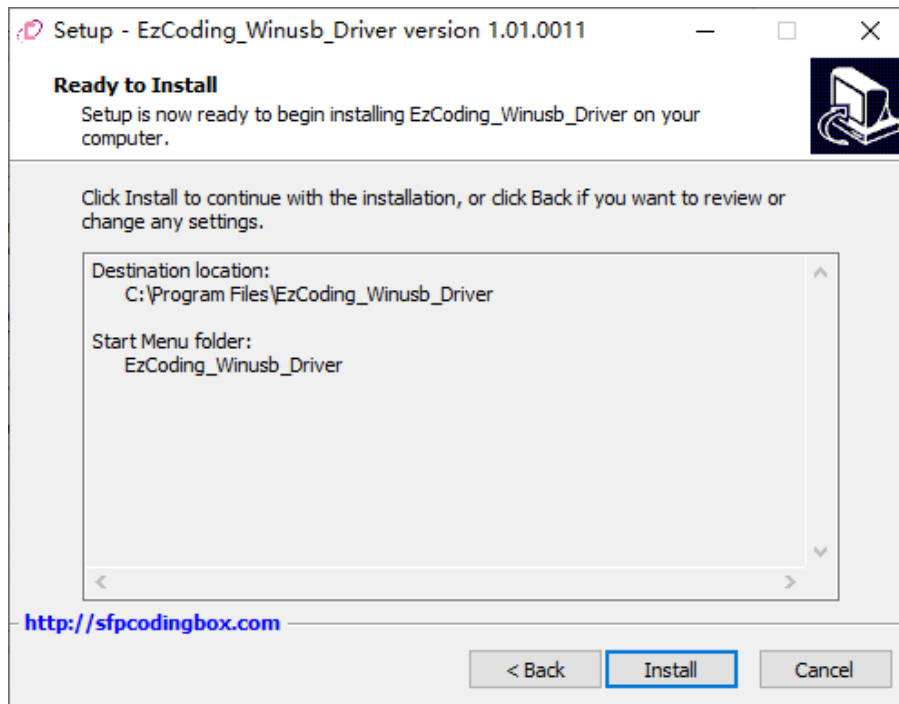


Fig 3: Driver installation step 3

Click "Install this driver software anyway".

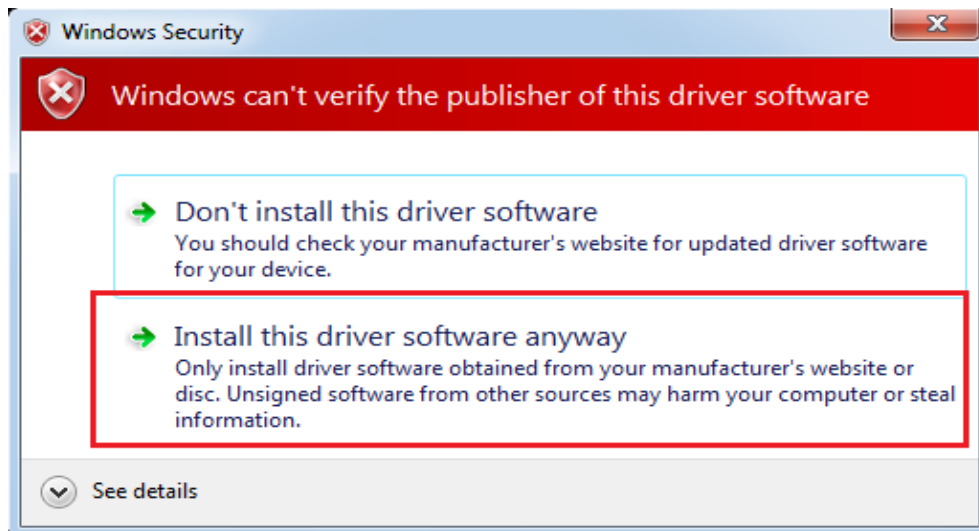


Fig 4: signature prompt when Driver installation

Open Device Manager to check if the driver (USB3-1 TestBoard) is loaded.

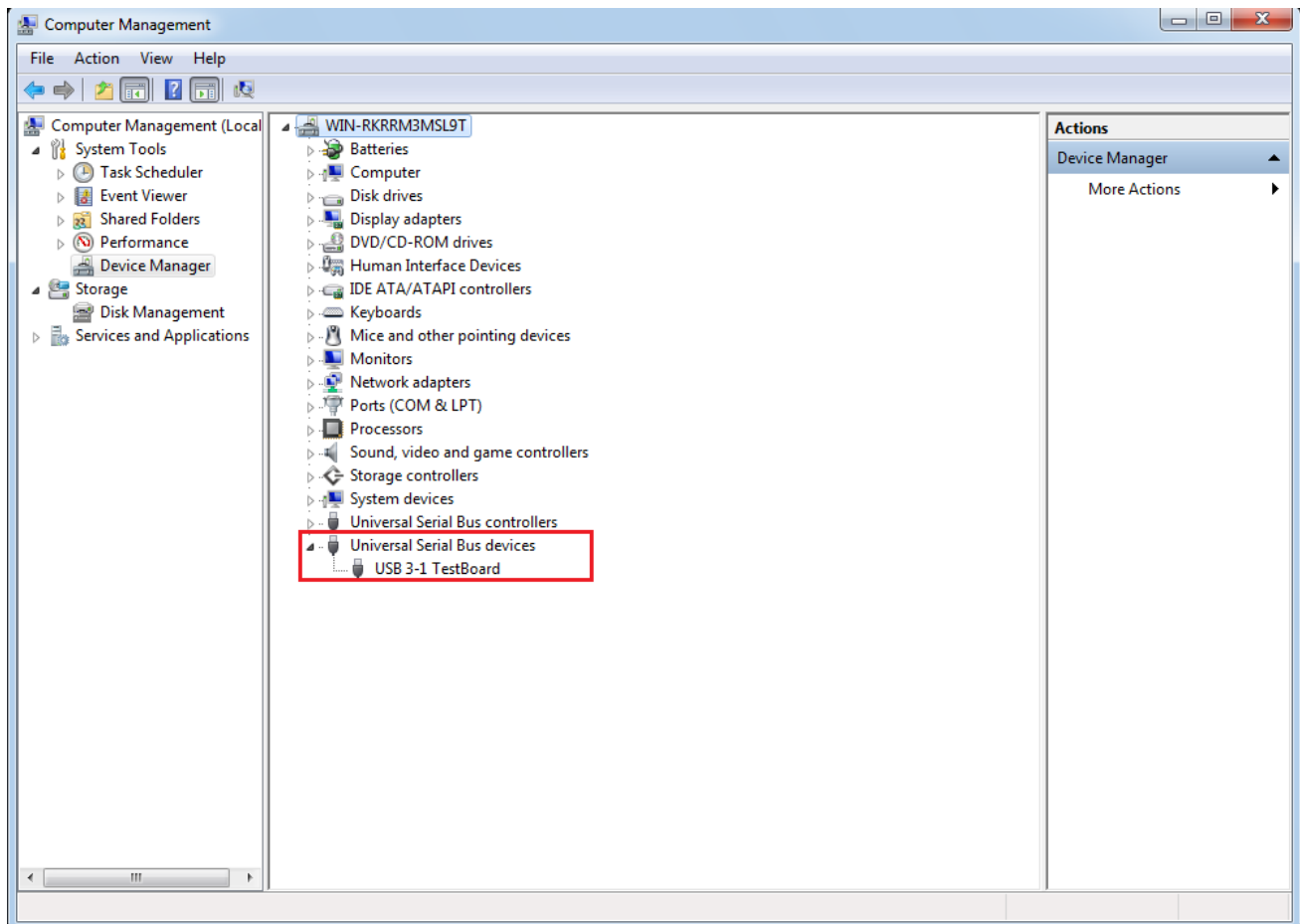


Fig 5: Device manager

2 Basic function

2.1 Interface function area

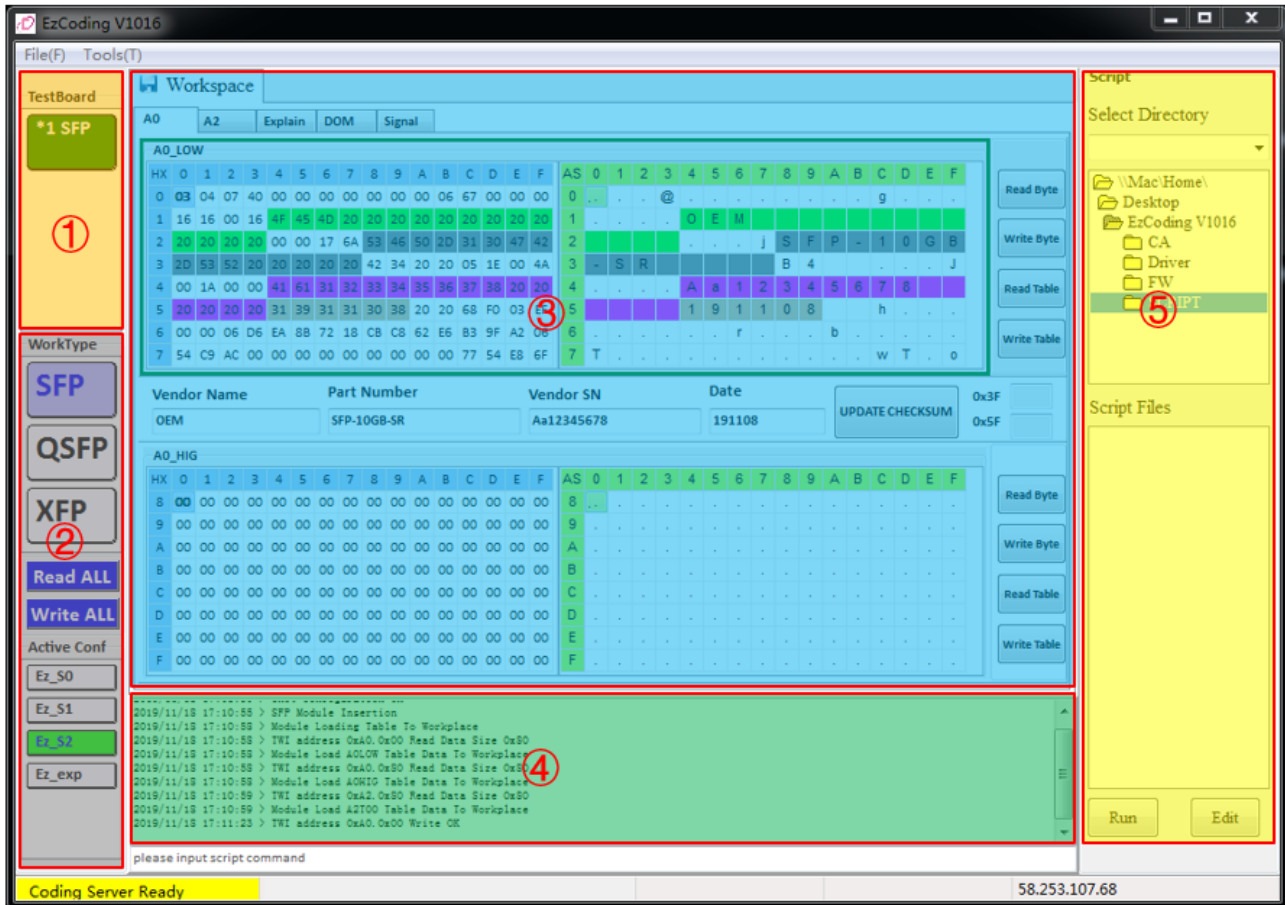


Fig 6: Interface

- (1) CodingBox detection area, display the number of CodingBox we connected and the type of module we inserted.
- (2) Workplace configuration area, please choose the type of module before writing or reading modules. The type must be the same as the module you inserted.
You can configure "Active conf", "read ALL" and "Write ALL" in "Tools"→"Options".
- (3) Workplace display area, different modules will have different Workplaces, each table defines 128 bytes of data, covering the module's Seriesid definition and table selection definition area. The buttons on the right can read/write single byte or entire table data.
- (4) Log area, prompt and record operation.

- (5) The script ribbon, the default script is in the SCRIPT directory, and you can choose to "run" and "Edit" saved script.

2.2 EzCoding data flow chart

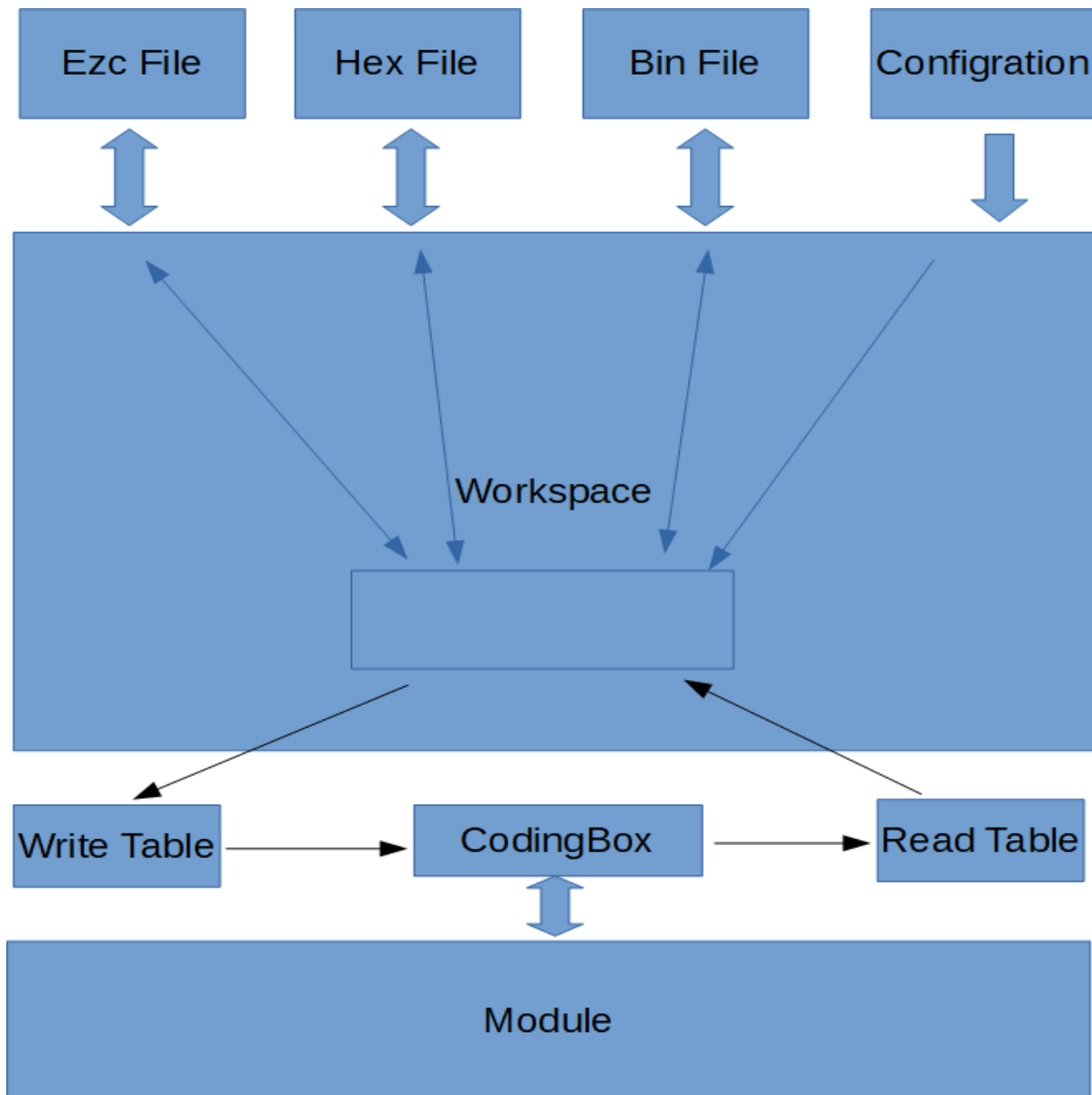


Fig 7: EzCoding data flow chart

- (1) The file we processed is saved in the Dataspace data space of Workspace.
- (2) When we Write/Read Table, the data in Workspace interacts with the data table which inside the module through CodingBox.

2.3 Open and save code

The file menu have defined opening/saving bin, hex, and ezc files.

2.3.1 Open and save 128 bytes Bin file

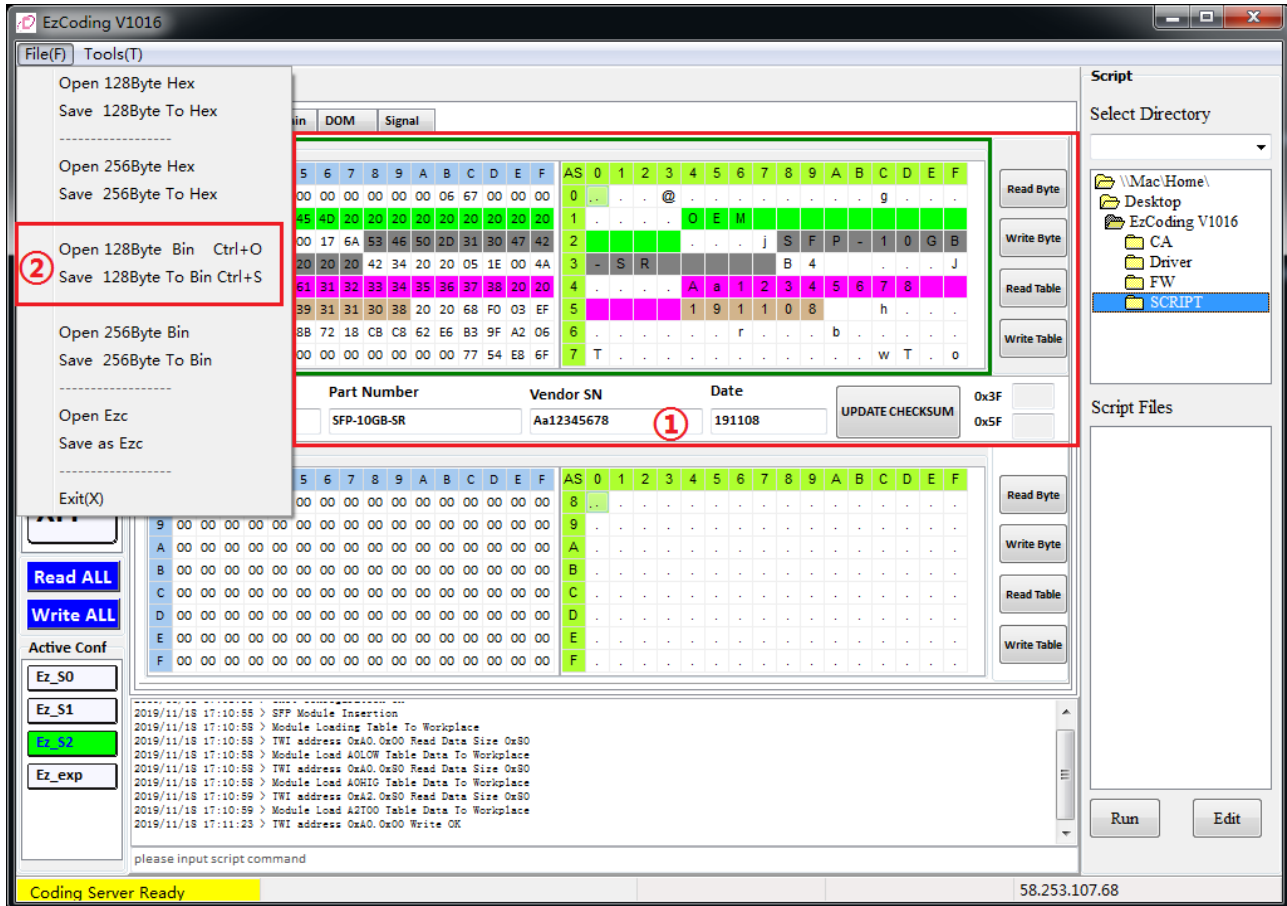


Fig 8: 128 byte Bin file

- (1) Before you save or open 128-byte table data, please select the workplace area, it will be in a green box after you selected.
- (2) Select the operation you want for the bin file, open or save.

2.3.2 Open and save 128 bytes Hex file

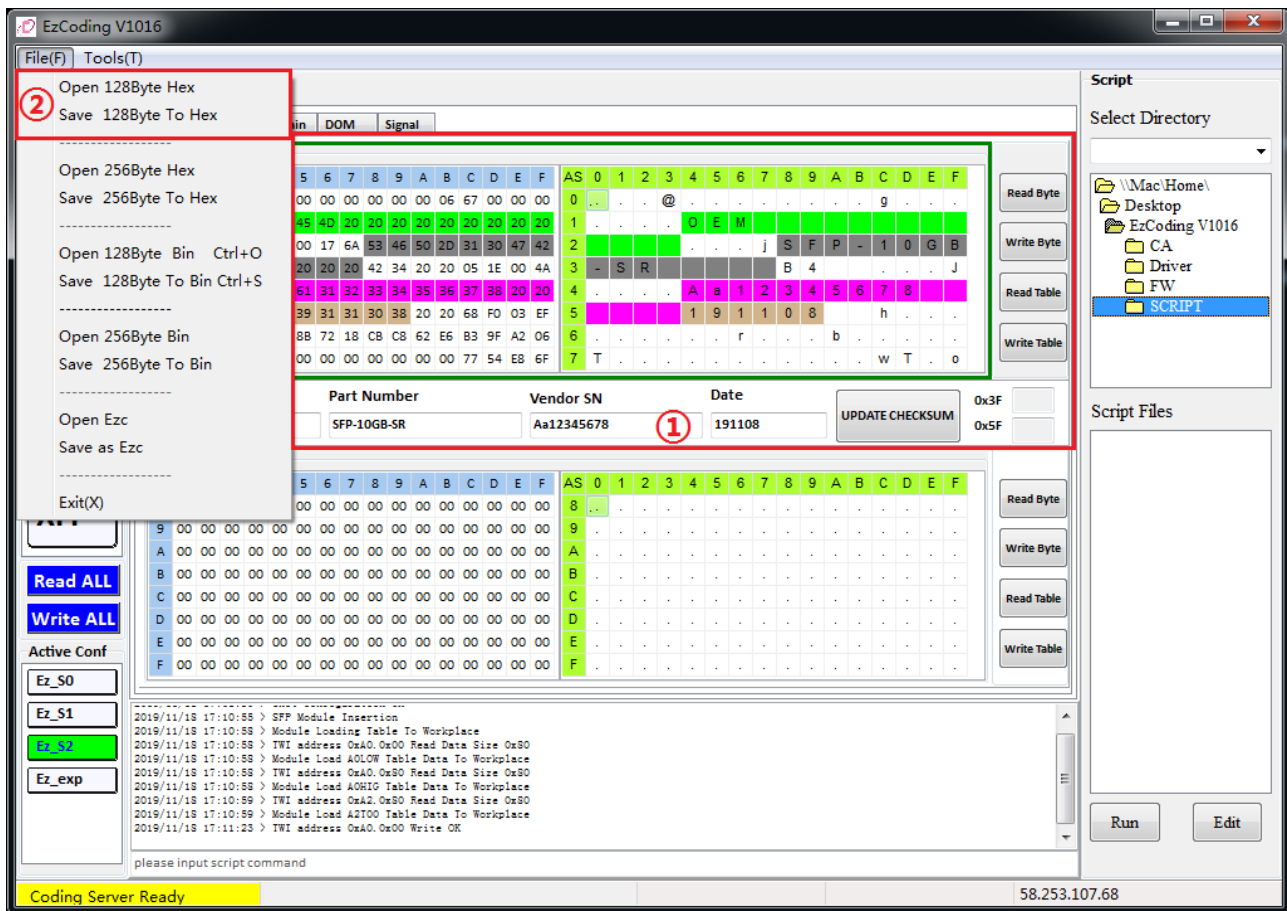


Fig 9: Hex file 128 byte

- (1) Before you save or open 128-byte table data, please select the workplace area, it will be in a green box after you selected.
- (2) Select the operation you want for the hex file, open or save.

2.3.3 Open and save 256 bytes Bin file

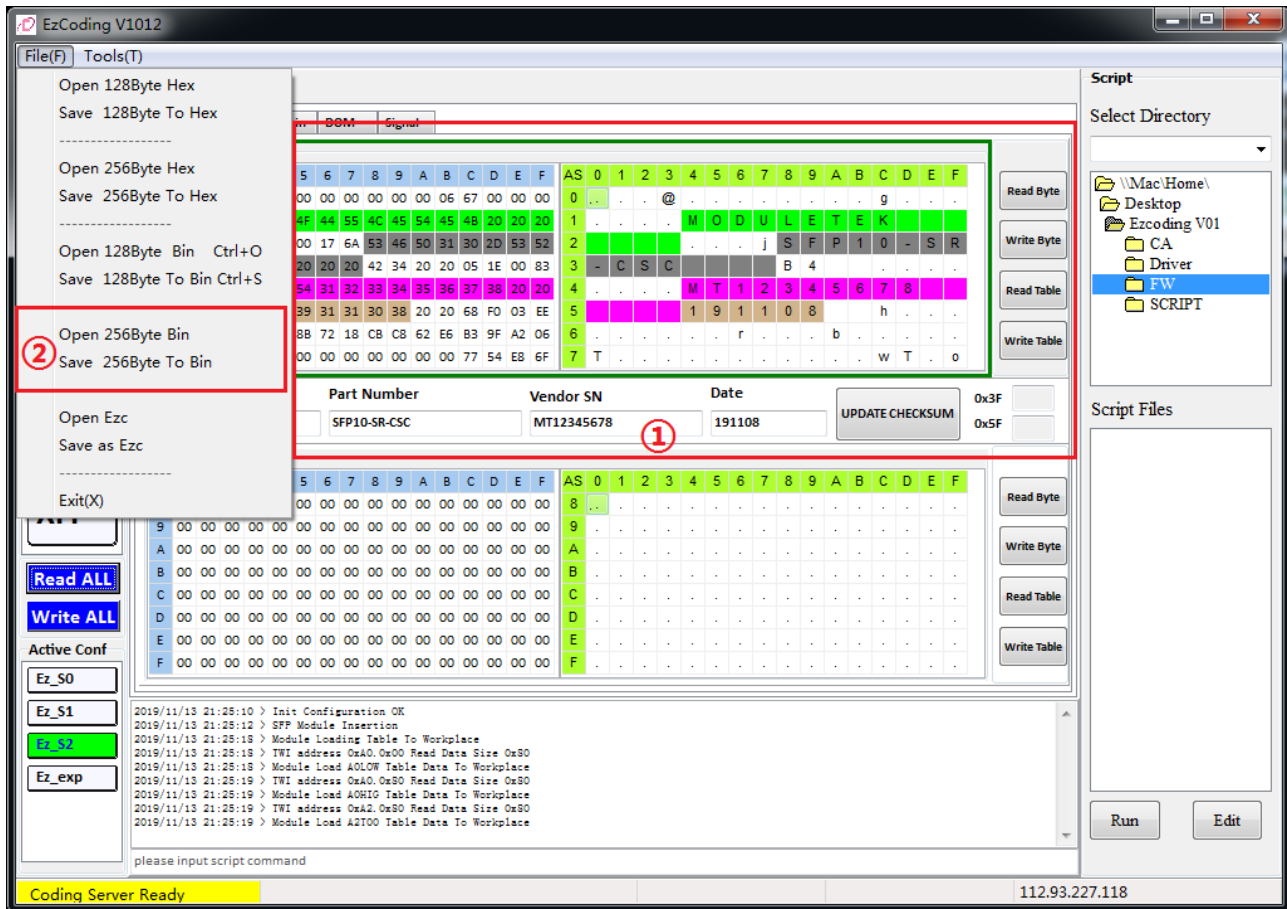


Fig 10: Bin file 128 byte

- (1) The 256-byte data file is saved as two data tables, A0 or A2. And the save option is also suitable for data saving in professional mode.
- (2) Select the operation you want for the bin file, open or save.

2.3.4 Open and save 256 bytes Hex file

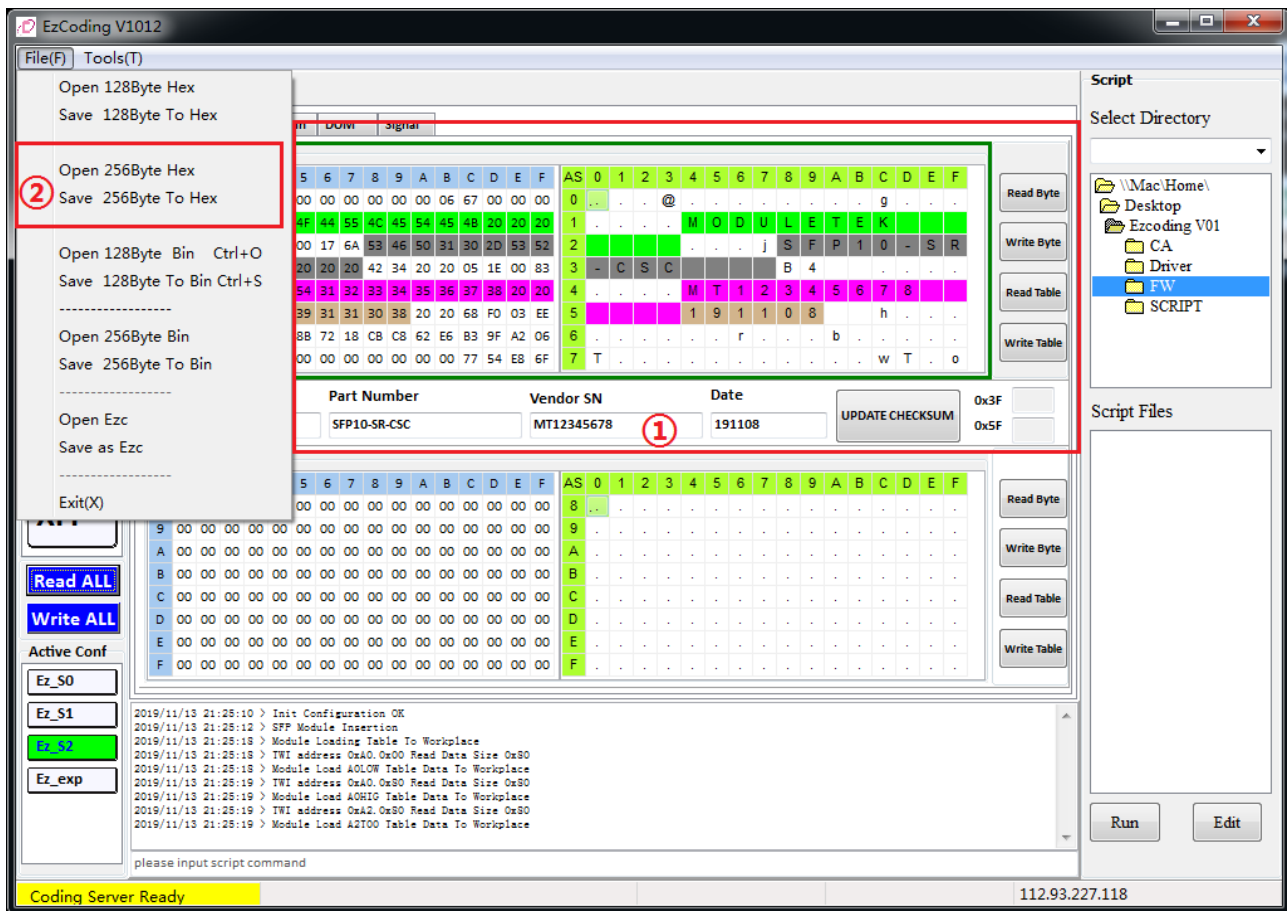


Fig 11: Hex file 256 byte

- (1) The 256-byte data file is saved as two data tables, A0 or A2. And the save option is also suitable for data saving in professional mode.
- (2) Select the operation you want for the hex file, open or save.

2.3.5 Open and save ezc file

If you want to open/save ezc file, please click "Tools"→"Options" to configure its properties. (Data table: displayed by the table, 128 bytes)

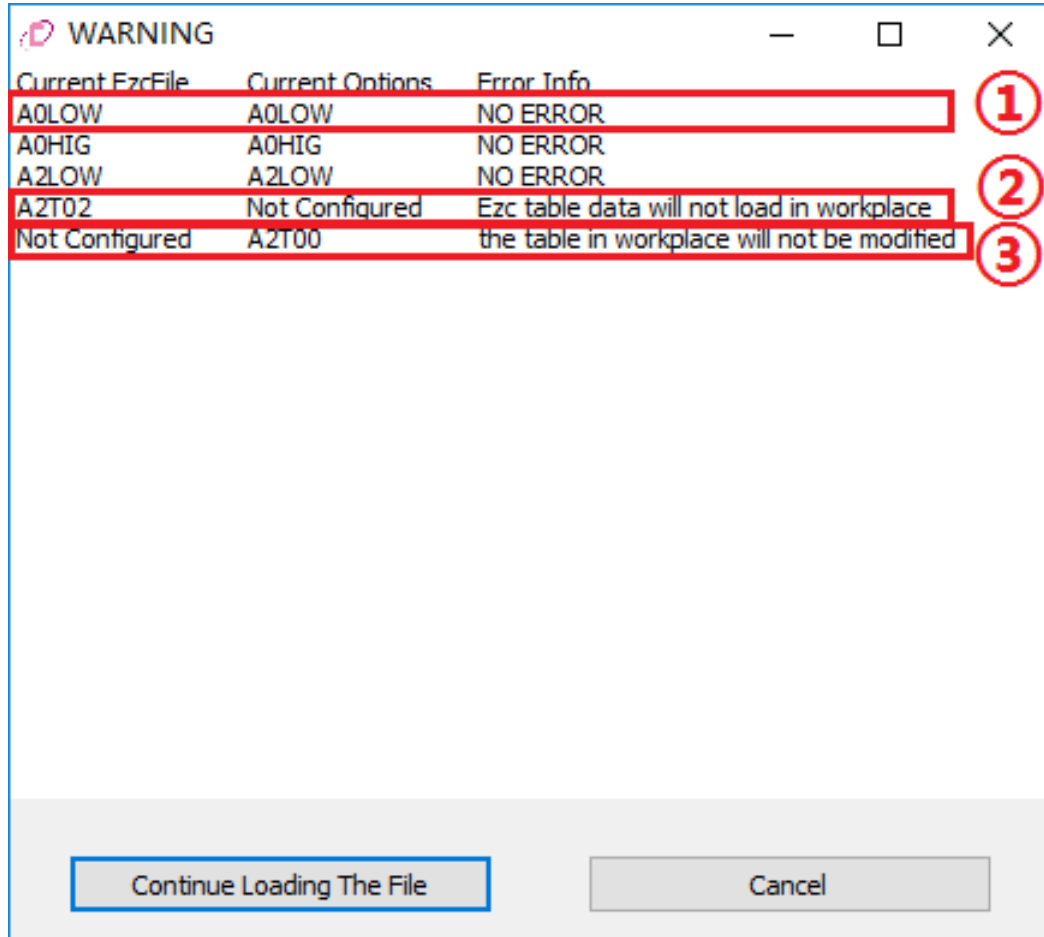


Fig 12: error message when the configuration is inconsistent with the table selection.

- (1) Select save or open ezc file from the menu.
- (2) The configuration file will check if the number of configured data tables and the name of table are the same as the table existing in the file. Ezc file can be loaded into Workplace when the table configured as "NO ERROR"
- (3) When manually modify the name of the ezc data table, please set the length of the table name to 5 characters, and let it is the same as table name in the configuration file.

```
[[common]
version = 1.0.0
copyright = sfpcodingbox.com
module_type = SFP
```

[AOLOW]

```
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, 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, FF, FF, FF, FF, FF, FF, FF, FF
FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF
```

[AOHIG]

```
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, 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, FF, FF, FF, FF, FF, FF, FF, FF
FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF, FF
```

Fig 13: Ezc data file content

2.4 Configuration file

Click "Tools"→"Options" to bring up following dialog. It is used to configure modules' password, continuous write mode, display mode, automatic read, ezc file data table open/save and data table configuration, etc.

2.4.1 Profile basic function

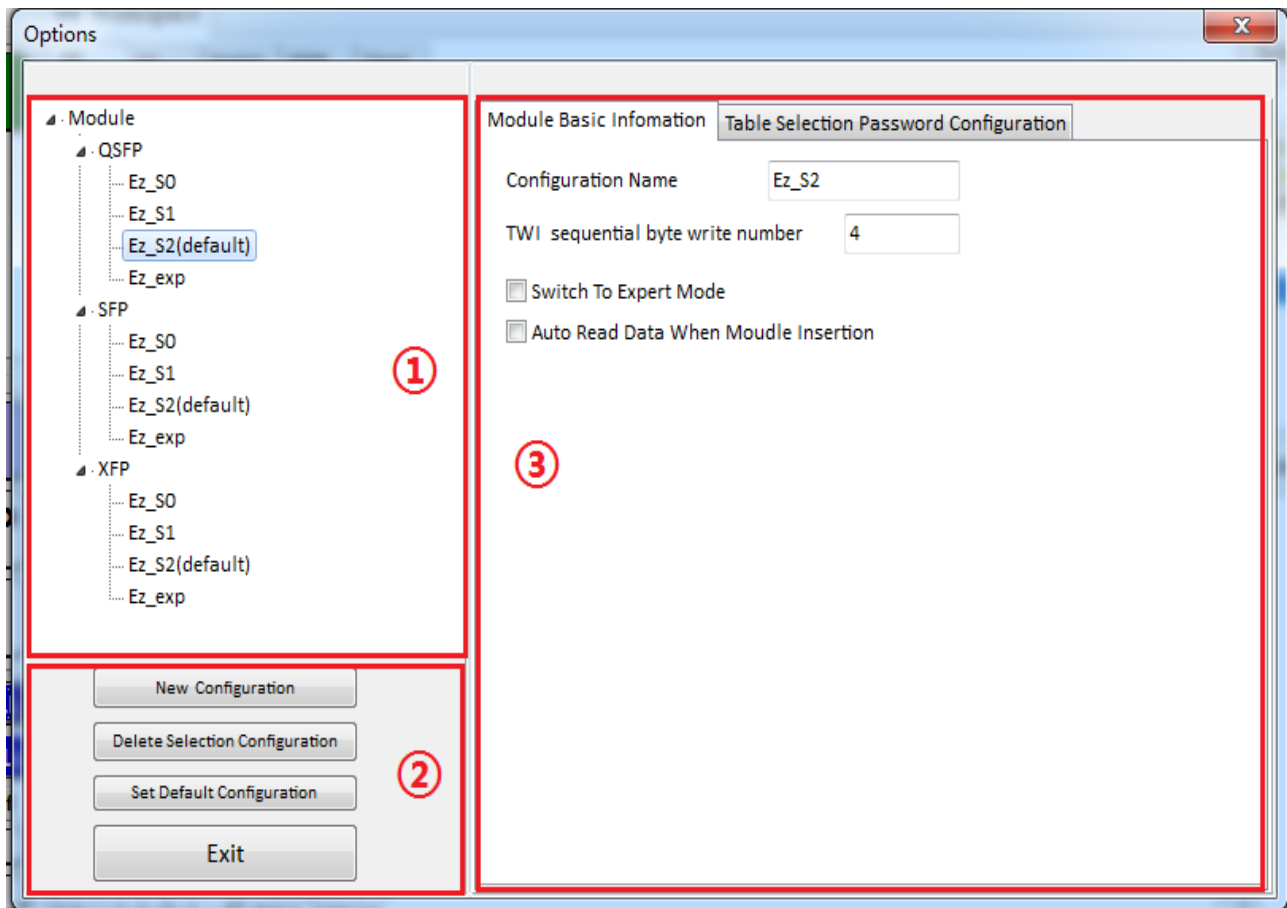


Fig 14: Basic area of the option

- (1) List of configuration file, displays the current configuration file status. (default) indicates that the current configuration file is the default. And the current configuration will be automatically loaded when the main interface be switched.
- (2) When you want to add, delete and set defaults for configuration files.
- (3) The basic information of the currently selected configuration file includes the name of configuration file, how many bytes are be written in a single write when "Wirte All", switch between professional module and

normal mode, and read module's data automatically when the module is inserted.

2.4.2 Modify setting

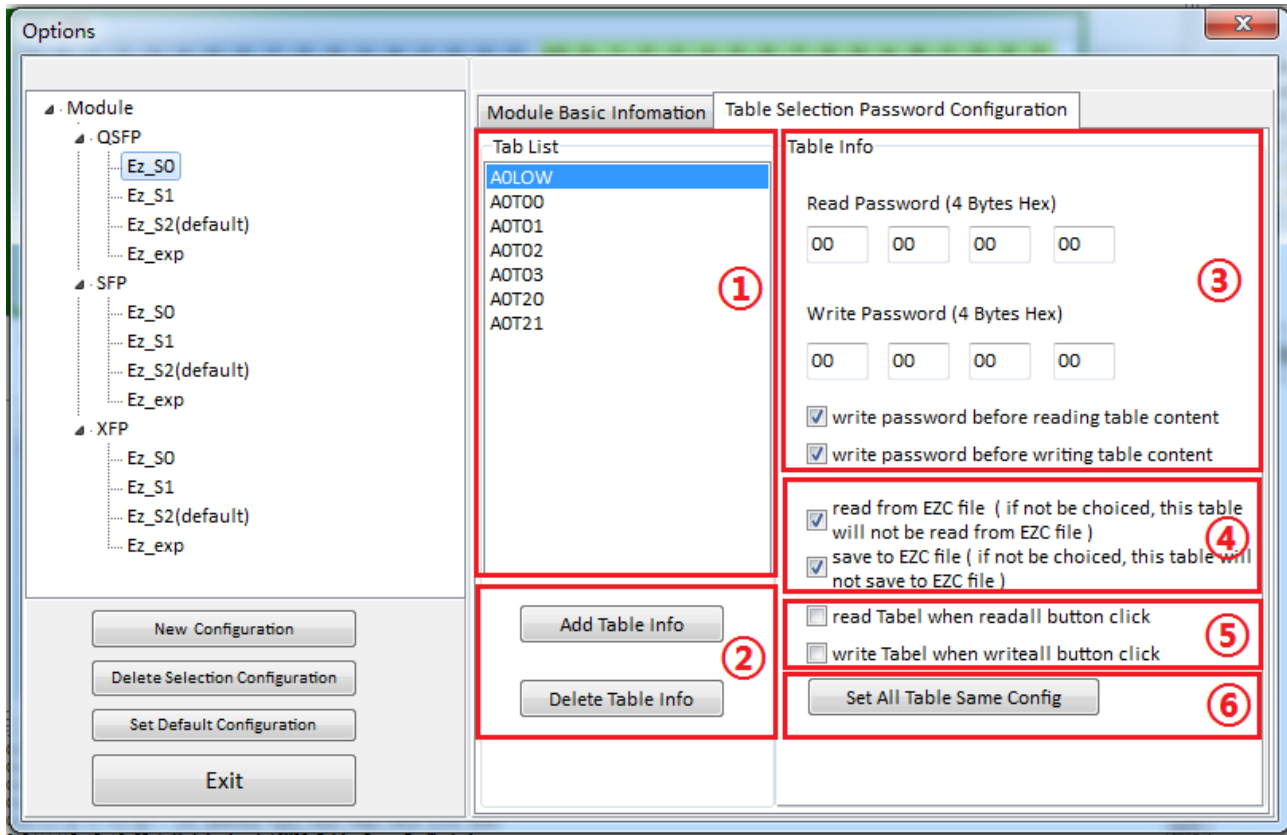


Fig 15: Password interface in option area

- (1) Area for configuring data table, the configuration entry consists of two parts: address and table selection. The length is limited to 5 bits, first 2 bits represent the address, and the last 2 bits represent the table. The number of data tables is not recommended to exceed 10.
- (2) Area for adding and deleting data table, "TWI_Table_address" can be added and deleted manually, from "T00" to "TFF"

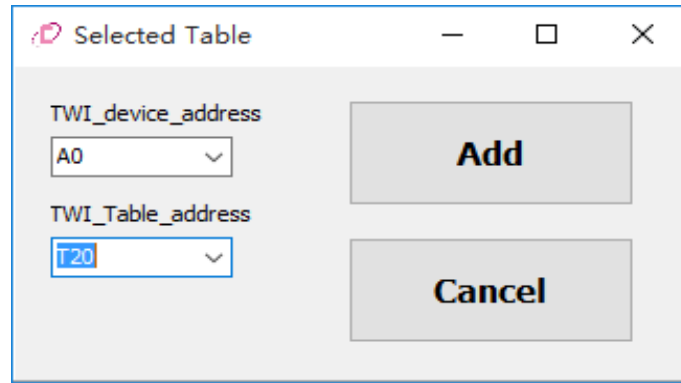


Fig 16: Add the table interface

- (3) Write password in modules when we do read/write operation in main interface.
- (4) Configure the data table to save and open the ezc file.
- (5) Configure which data tables will be read/written when you click "Read All" or "Write All" buttons in the main interface. A0Low and A2Low are not recommended to check.
- (6) Set all other data tables properties are the same as current configuration table.

2.4.3 Select configuration

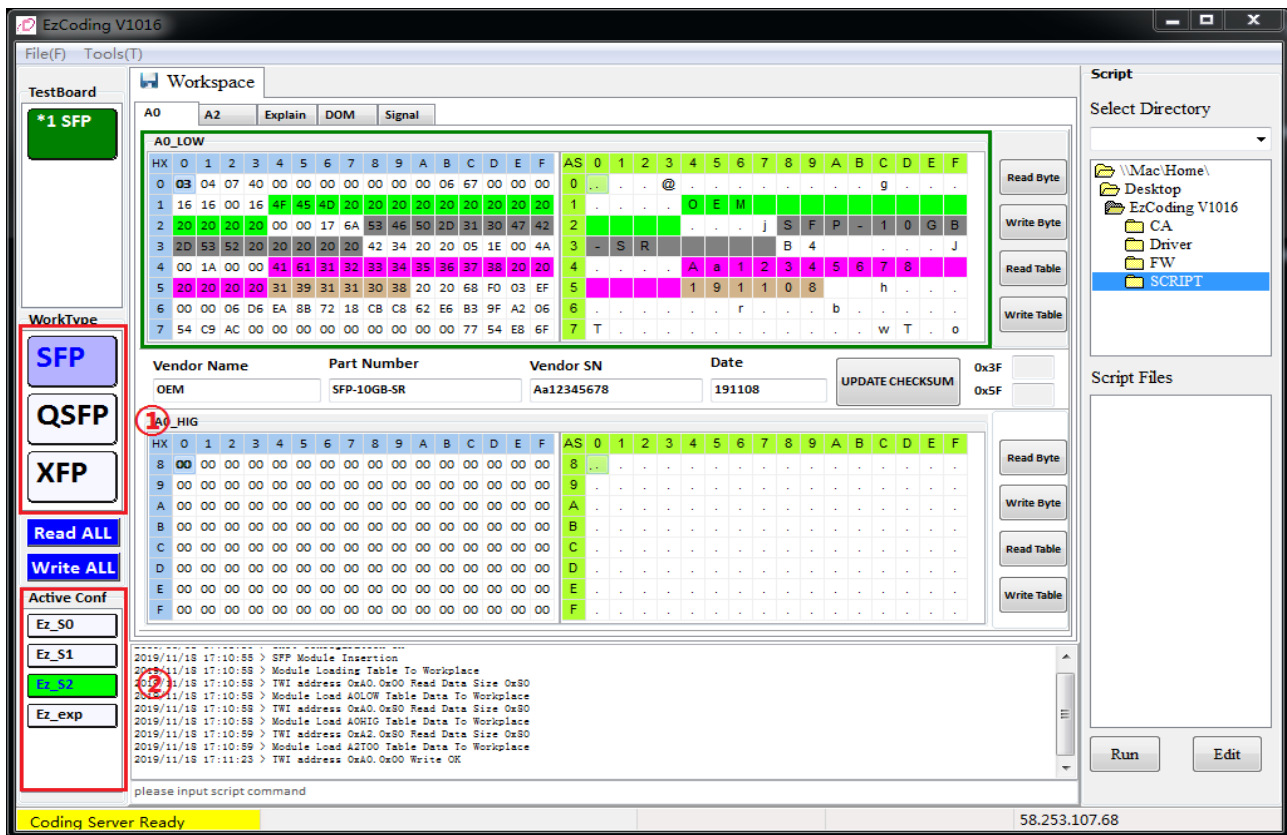


Fig 17: Select configuration interface

- (1) Module's type selection (manually), each module type corresponds to a different workspace.
- (2) The configuration file selection (manually). After the configuration is selected, the corresponding password and read/write configuration are activated to the interface, and the interface data will not be refreshed. But when normal mode switch to professional mode, the interface will be switched.

2.5 Professional mode

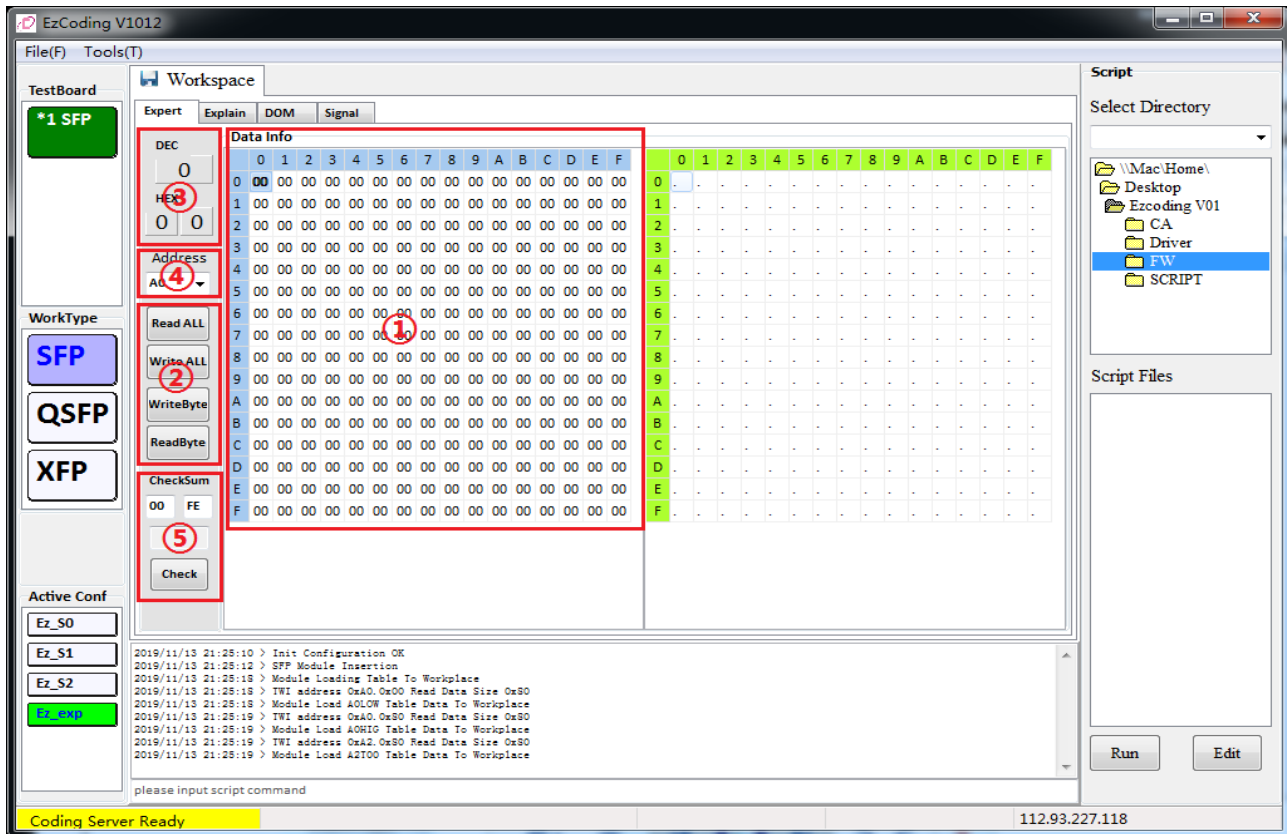


Fig 18: Professional mode interface

- (1) Area for editing basic data, 256 byte, represents the data range of the TWI readable and writable device address.
- (2) Area for read/write function, to read/write single-byte or full-table function. Before you use "Write All", please make sure whether the contents of the entire table (256 bytes) can be modified. For example, the low-128-bytes (on top) of the QSFP module contains DOM information, and programming in normal mode will not change its data. When you "Write All" in professional mode, the module DOM information will be changed and the module will be failed.
- (3) Area for selecting cell, to display the current data location you are editing or selecting. When a single byte is written/read, the TWI will write/read in according to the current value.
- (4) Area for selecting internal memory address, defined by module's manufacturer, Only the commonly addresses are listed in the drop-down list, and can be filled in manually (00-FF).
- (5) Checksum calculation tool, use to calculate checksum (Hexadecimal format).

2.6 Script function

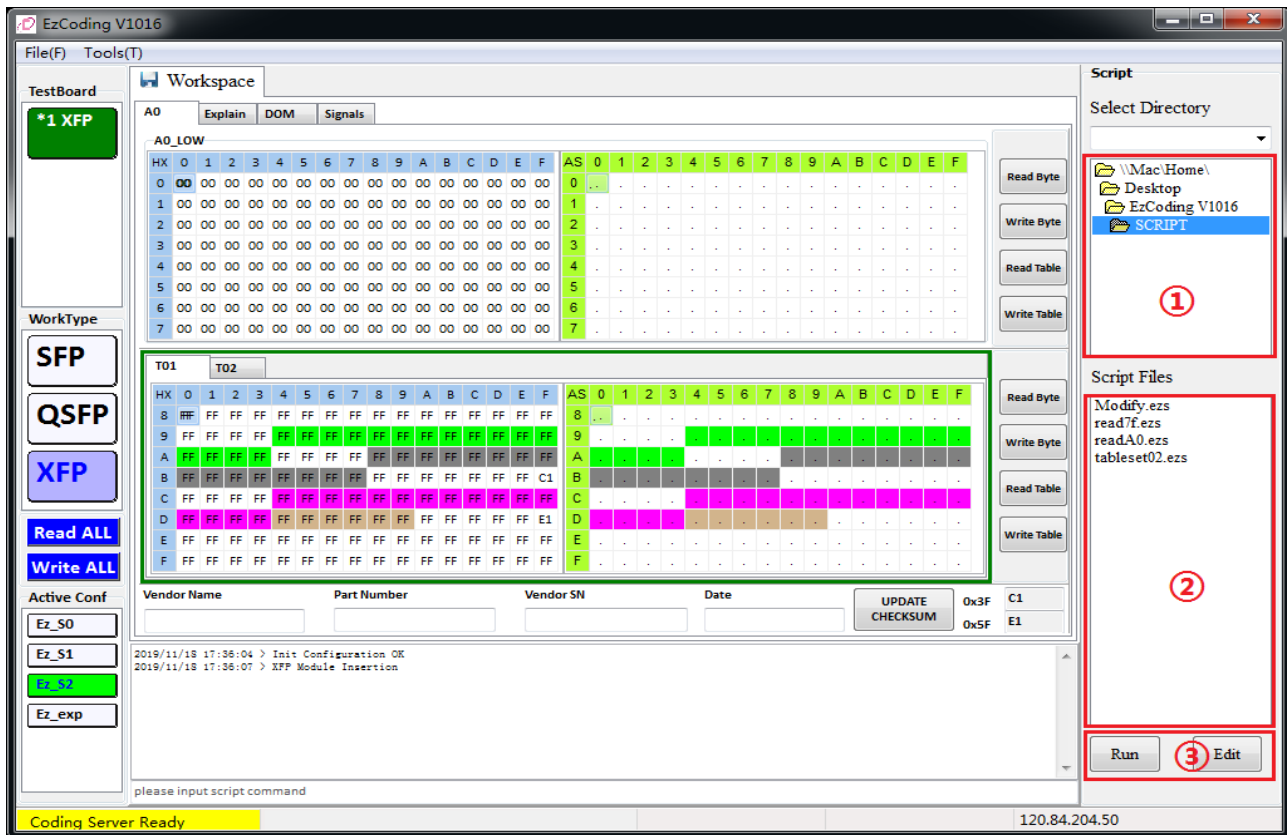


Fig 19: Script area

- (1) Script directory, default scripts are under the directory.
- (2) The file of script is .ezs.
- (3) Edit and execute scripts, script file is a text file, please save as ANSI file.

2.7 Digital diagnostic function

The software will display DOM information when the type of Workspace we select and the type of module we insert are the same.

2.7.1 The necessary conditions of enable digital diagnostics

- (1) CodingBox is connected to the PC
- (2) The module has been inserted in the CodingBox and the type of Workspace is correct.

2.7.2 SFP module digital diagnosis

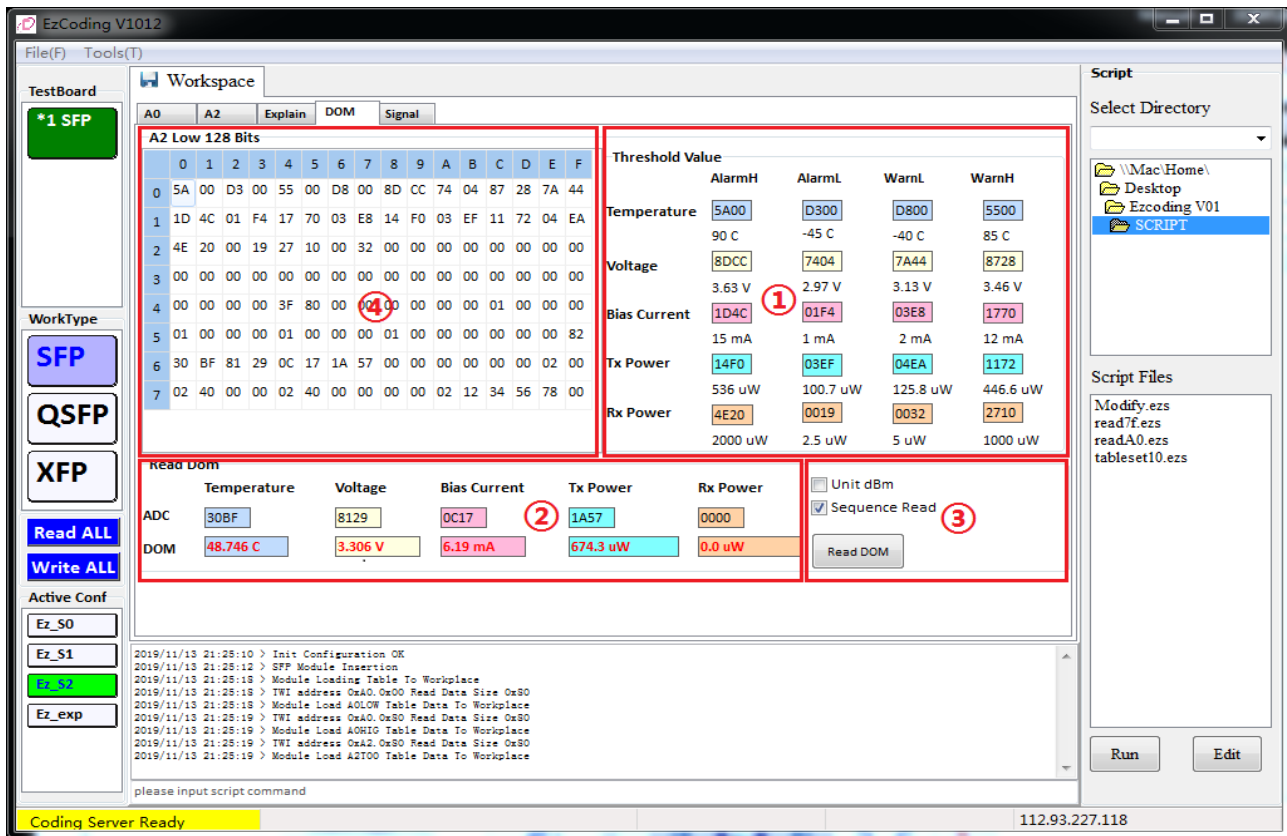


Fig 20: SFP digital diagnostic interface

- (1) Display threshold, including temperature, voltage, bias current, Tx power and Rx power.
- (2) Real-time digital diagnostic information , shows the values sampled from module.
- (3) Control area, unit conversion, continuous reading, and single reading. When click "ReadDom", the module switches to single reading mode.

(4) These data are from A2 Low table.

2.7.3 QSFP module digital diagnosis

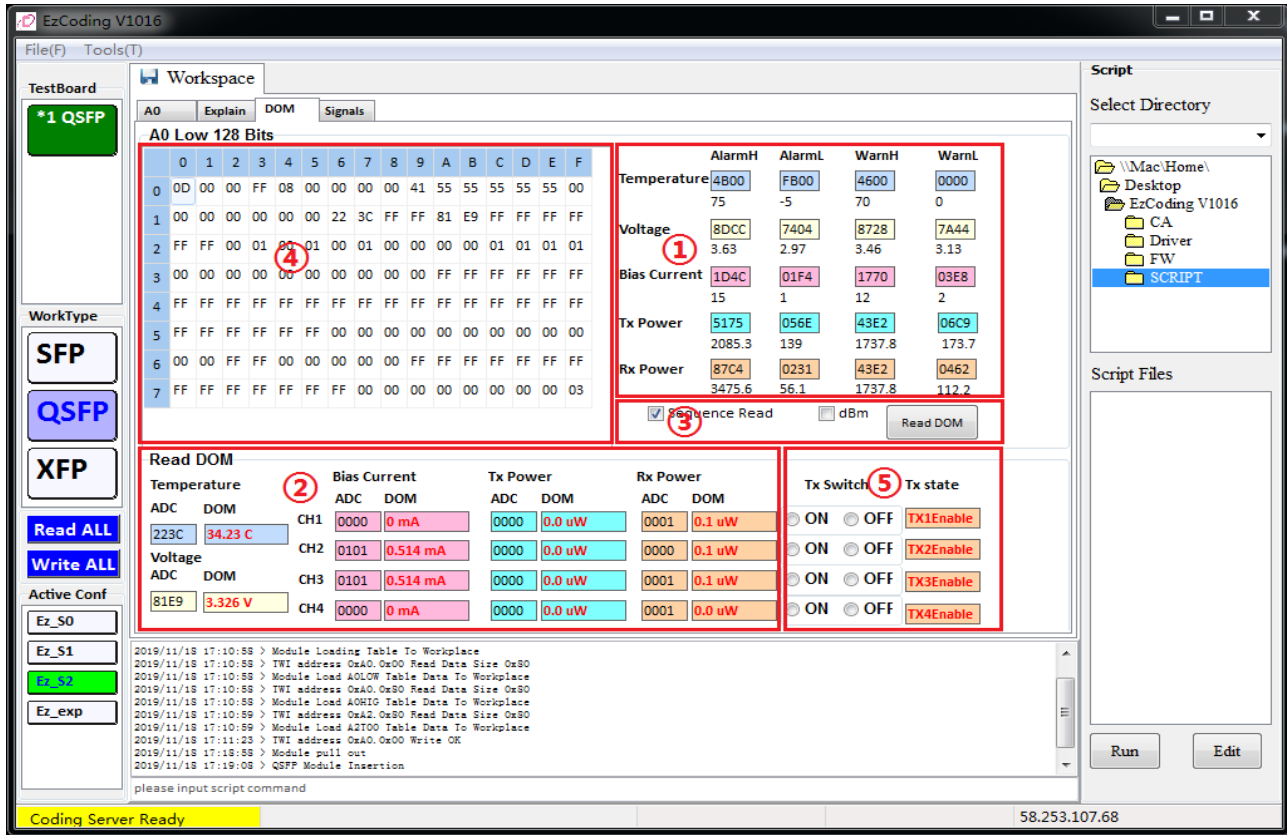


Fig 21: QSFP digital diagnostic interface

- (1) Display threshold, including temperature, voltage, bias current, Tx power and Rx power.
- (2) Real-time digital diagnostic information, shows the values sampled from module.
- (3) Control area, unit conversion, continuous reading, and single reading. When click "ReadDom", the module switches to single reading.
- (4) These data are from A2 Low table.
- (5) Turn on or turn off to detect Tx power, 0x56h bytes in A0 Low use to achieve the function of turning on or turning off to detect Tx power.

2.7.4 XFP module digital diagnosis

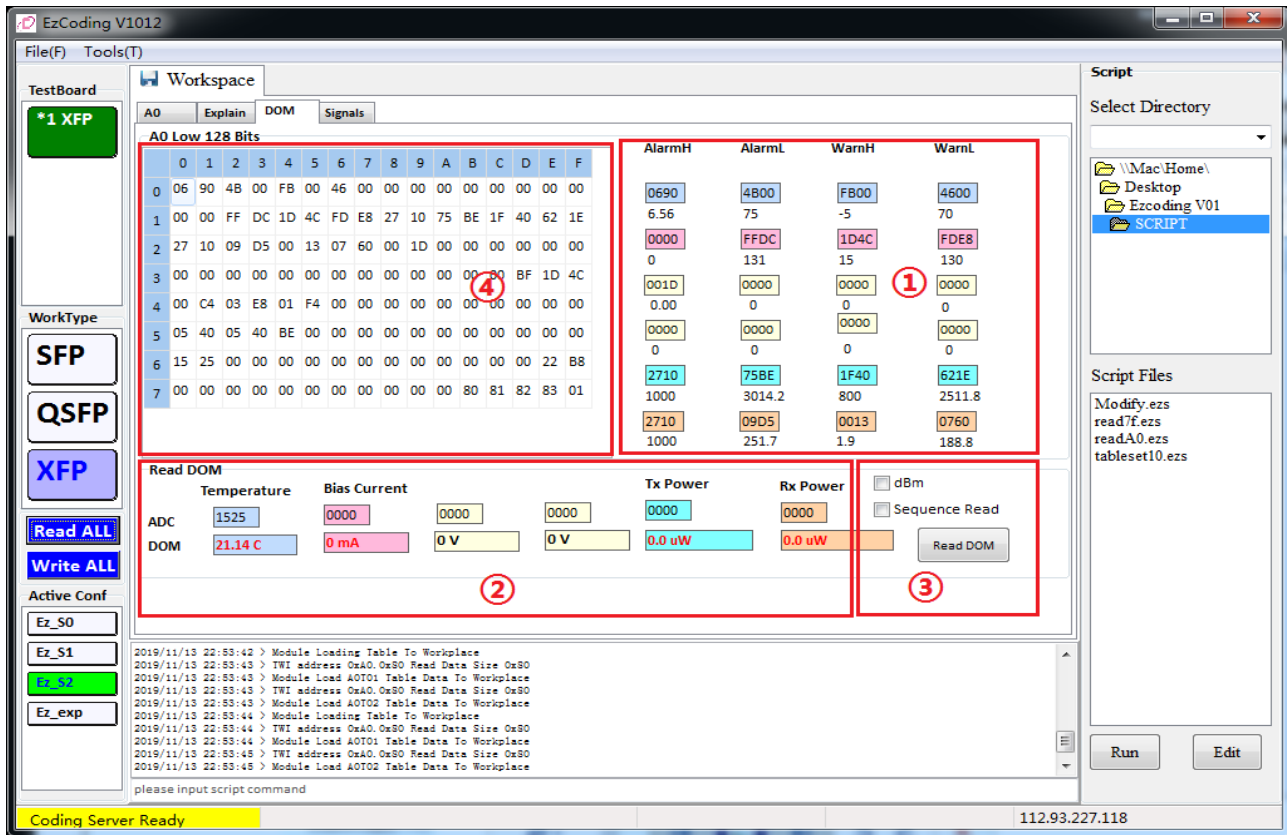


Fig 22: XFP digital diagnostic interface

- (1) Display threshold, including temperature, voltage, bias current, Tx power and Rx power.
- (2) Real-time digital diagnostic information, shows the values sampled from module.
- (3) Control area, unit conversion, continuous reading, and single reading. When click "ReadDom", the module switches to single reading.
- (4) These data are from A2 Low table.

2.8 Low-speed signal function

The low-speed signal is used to control the low-speed pin of the module, and realizes the control function of Tx power, LOS and other hosts function to module.

2.8.1 Low speed signal function for SFP module

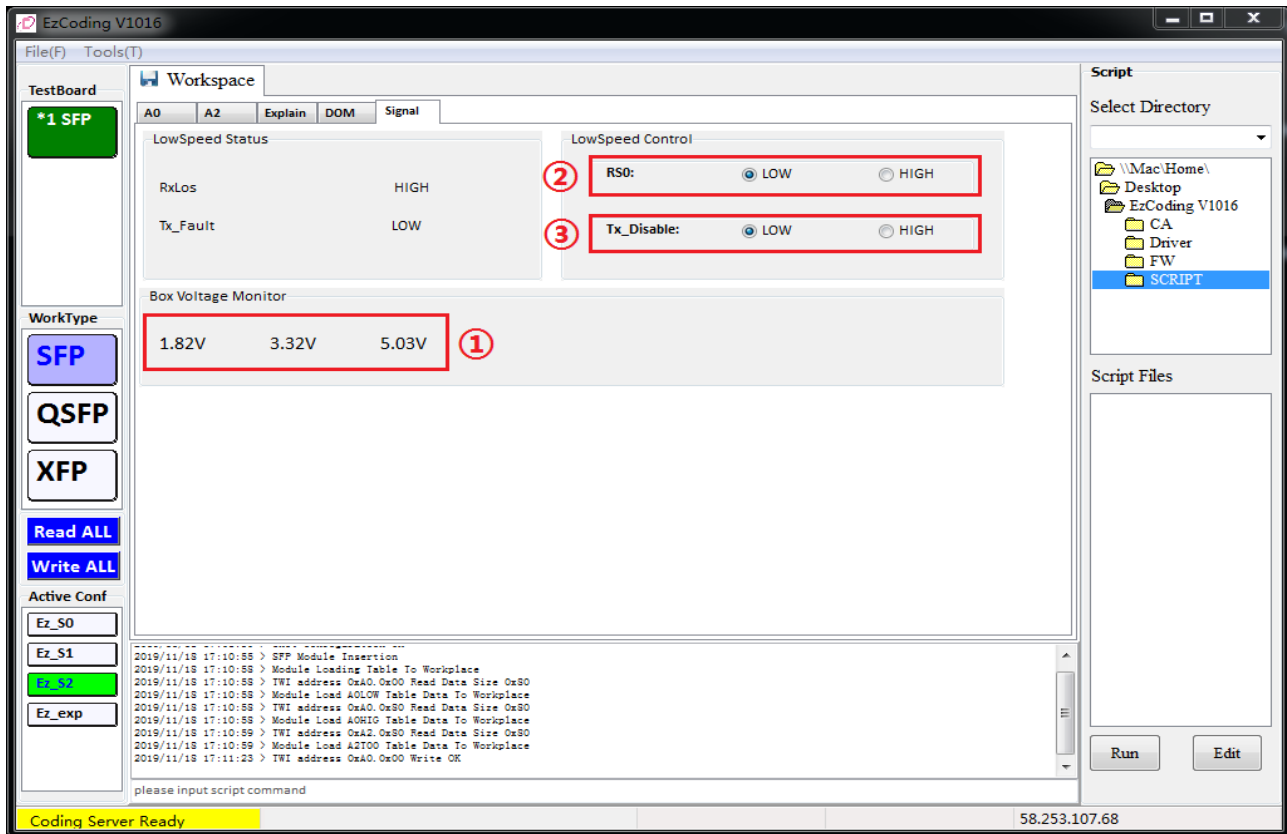


Fig 23: SFP low speed signal interface

- (1) The test board provides three power supply voltages.
- (2) Pin for SFP rate selection.
- (3) Pin for host control module's Tx power.

2.8.2 Low-speed signal function for QSFP module

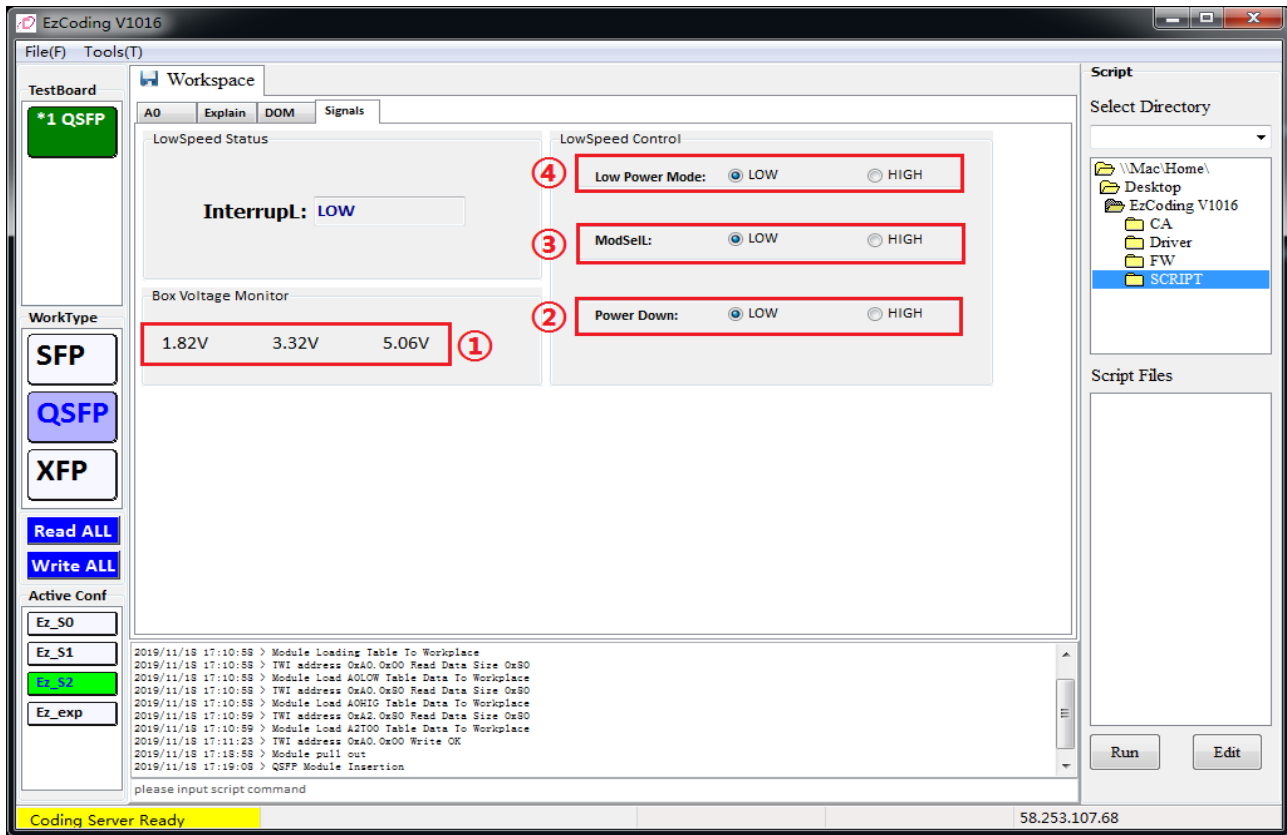


Fig 24: QSFP low speed signal interface

- (1) The test board provides three power supply voltages.
- (2) The QSFP module power control switch, requires to implement this function.
- (3) QSFP module mode selection.
- (4) QSFP module low-power mode.

2.8.3 Low-speed signal function for XFP module

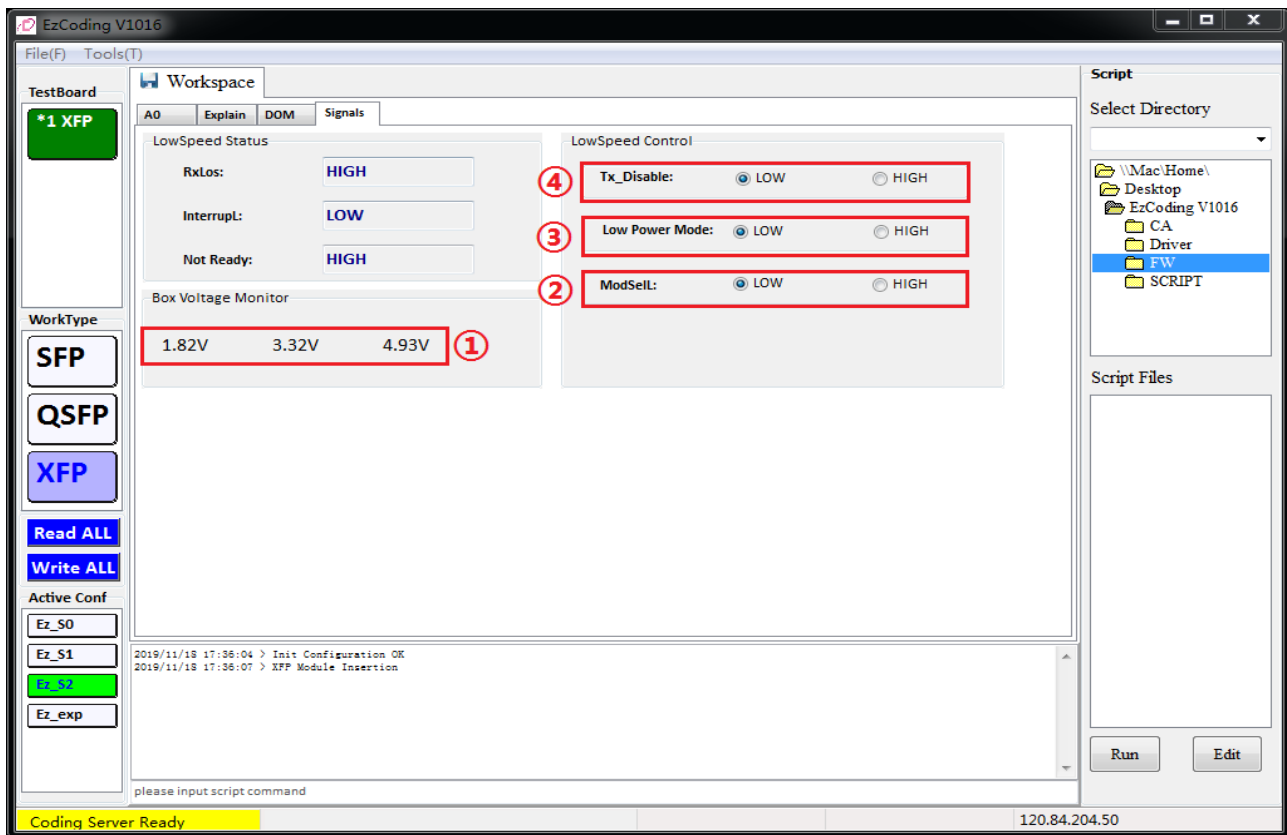


Fig 25: XFP low speed signal interface

- (1) The test board provides three power supply voltages.
- (2) The XFP module power control switch, requires to implement this function.
- (3) XFP module mode selection.
- (4) XFP module low power mode.

3 FAQ

(1).Software can not detect the test board

- 1) Please make sure that there is a CodingBox device in the device manager, as shown in Figure 5.
- 2) Make sure that the USB cable and CodingBox are connect stable. And you also can try disabling USB power management, some laptops may turn off the connection of the codingbox in power saving mode.

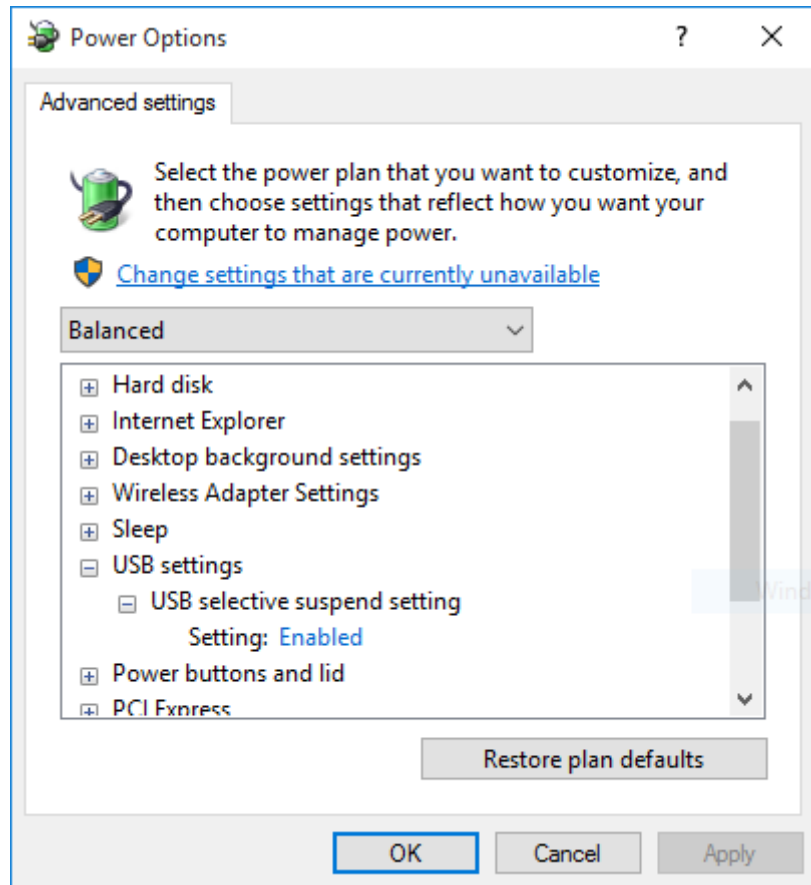


Fig 26: USB power management settings

- 3) Check if the test board shows "0" after power-on. If shows "8", please upgrade the firmware.
- 4) For Windows and below system, please install the driver, open the "driver" in driver folder and than install.
- 5) For Windows 10 systems, when using the same PID and VID in different devices, please delete the PID and VID data in the registry.

(2).After we save configuration file , data is lost after reopening

- 1) The configuration file data is saved in EzCode.db file. If the user authority is insufficient, the data will not be saved in the file.
- 2) Move the software folder to desktop or non-C directory.