

# Coding Box Software Operation Guide

Date : 2024-03-26

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# 1 Introduction

## 1.1 Introduction

### Software:

**1 Software Name:** Coding Box Software

**2 Operating Environment:** Windows XP\7\8\8.1\10 32\64bit

**3 Software Description:** Write EEPROM code to Module, view and export the EEPROM code file, and read DDM

### Hardware:

**1 Name:** Coding Box

**2 Size:** 90mm\*80mm\*25mm

**3 Weight:** 135g

**4 nterface Type:** USB Type C (USB power supply)

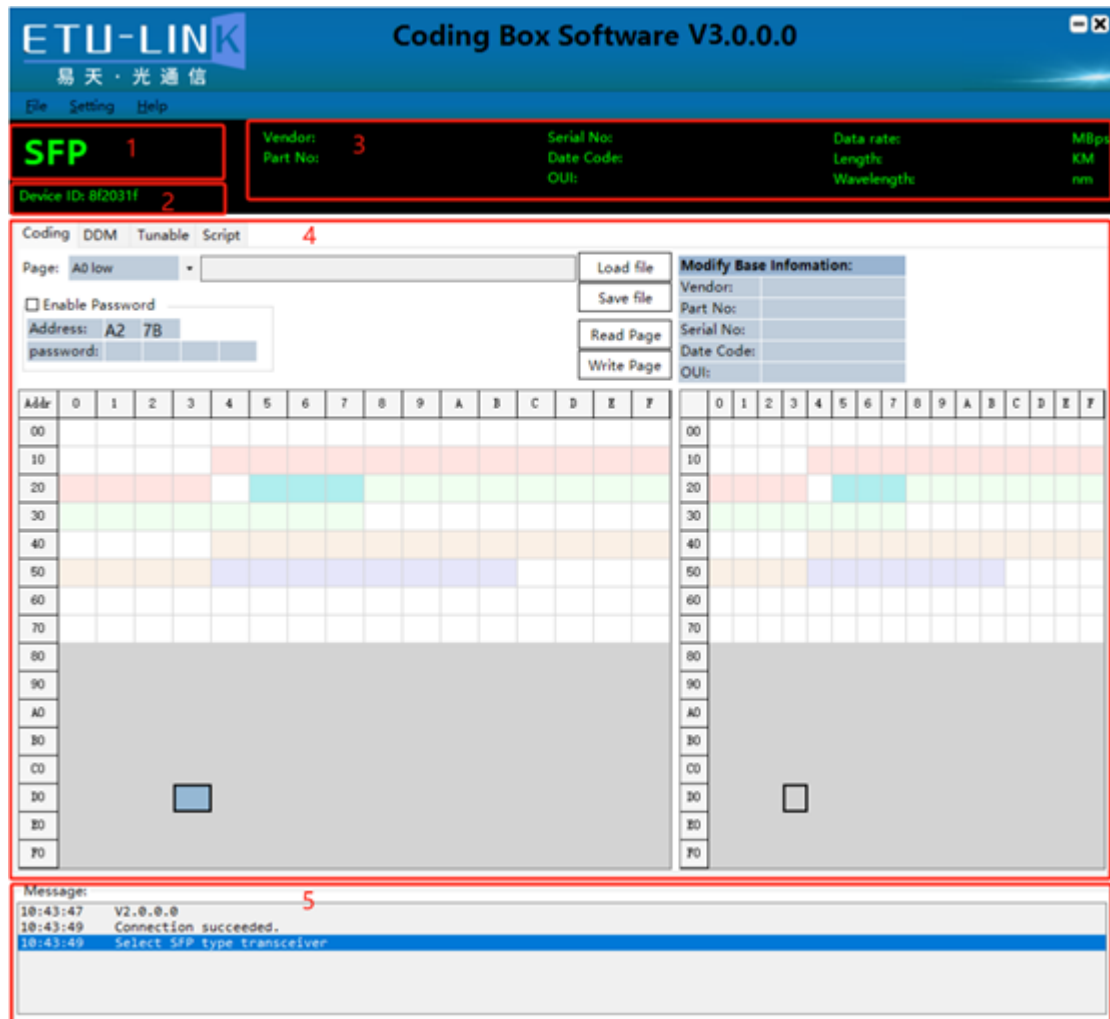
**5 Work Voltage:** +5V

**6 Maximum Power:** 3.5W

**7 Support Module Type:** SFP, SFP+, SFP28, SFP56, XFP, QSFP+, QSFP28, QSFP DD

The CodingBox connects to a PC through a USB port to implement functions such as write code and DDM for SFP type, XFP type, QSFP type, and QSFP-DD type optical modules.

## 1.2 EEPROM Coding Tool



- (1) Coding Box detection area, showing the number of Coding Box we connected and the connection status.
- (2) Module type detection area, showing the type of inserted module, you can manually select the module type on the menu "Setting" -> "Module Type".
- (3) Display basic information of plugged-in modules.
- (4) Write code and DDM functional area.
- (5) log display output area.

Take inserting an SFP type module as an example:

The screenshot displays the ETU-LINK Coding Box Software V3.0.0.0 interface. The top bar includes the logo and title. Below it, a menu bar shows 'File', 'Setting', and 'Help'. The main area is divided into several sections:

- SFP Information:** Vendor: Dell, Part No: X66PC, Serial No: TEST01, Date Code: 220907, OUI: 3C18A0, Data rate: 25500 Mbps, Length: 0 KM, Wavelength: 1287 nm. Device ID: 8f2031f.
- Navigation:** Coding, DDM, Tunable, Script tabs. Page: A0 low.
- Configuration:** 'Enable Password' checkbox, Address: A2 7B, and password field.
- Actions:** Load file, Save file, Read Page, Write Page buttons.
- Modify Base Information:** Fields for Vendor, Part No, Serial No, Date Code, and OUI.
- Memory Mapping:** Two hex grids showing address ranges (00-FF) with colored blocks representing different memory regions.
- Message Log:**

```

10:43:47 V2.0.0.0
10:43:49 Connection succeeded.
10:43:49 Select SFP type transceiver
10:45:41 Found SFP type transceiver
10:45:42 Reading ModuleBaseInfor from SFP
10:45:42 Reading Success.

```

## 1.3 Remarks

The current version uses USB power supply. Due to power supply restrictions, QSFP28, and QSFP-DD modules do not support the high power consumption mode.

Do not remove or insert an optical module during the write coding.

No need to install drivers.

# 2 Write Code of Optical Modules

## 2.1 Read Modules Base Information

When the module is inserted into the Coding Box, the software will automatically identify the module type and read the basic information of the current module. Such as SFP Type Modules.

The screenshot displays the ETU-LINK Coding Box Software V3.0.0.0 interface. The top bar shows the software name and version. Below it, the menu includes File, Setting, and Help. The main area displays SFP module information:

Vendor:	Dell	Serial No:	TEST01	Data rate:	25500	MBps
Part No:	X66PC	Date Code:	220907	Length:	0	KM
		OUI:	3C18A0	Wavelength:	1287	nm

Device ID: 8f2031f

The interface also features a 'Coding' tab with sub-tabs for DDM, Tunable, and Script. The 'Page' dropdown is set to 'A0 low'. There are buttons for 'Load file', 'Save file', 'Read Page', and 'Write Page'. A 'Modify Base Information' section includes fields for Vendor, Part No, Serial No, Date Code, and OUI.

Below the information is a memory map table with two columns of addresses (0-15) and rows (00-10, 20-30, 40-50, 60-70, 80-90, A0-10, B0-10, C0-10, D0-10, E0-10, F0-10). The map shows various colored blocks representing data or code segments.

At the bottom, a 'Message' window shows the following log:

```
10:43:47 V2.0.0.0
10:43:49 Connection succeeded.
10:43:49 Select SFP type transceiver
10:45:41 Found SFP type transceiver
10:45:42 Reading ModuleBaseInfor from SFP
10:45:42 Reading Success.
```

When the module is pulled out the Coding Box, the basic information of the module will be automatically cleared.

The screenshot shows the ETU-LINK Coding Box Software V3.0.0.0 interface. The top bar includes the logo and title. Below it, a menu bar has 'File', 'Setting', and 'Help'. The main area is divided into several sections:

- SFP Section:** Displays 'SFP' in green and 'Device ID: 8f2031f'. A red box highlights the following information:
 

Vendor:	Serial No:	Data rate:	MBps
Part No:	Date Code:	Length:	KM
OUI:	Wavelength:		nm
- Functional Area:** Includes tabs for 'Coding', 'DDM', 'Tunable', and 'Script'. The 'Coding' tab is active, showing 'Page: A0 low'. There are buttons for 'Load file', 'Save file', 'Read Page', and 'Write Page'. A 'Modify Base Information' section contains fields for 'Vendor:', 'Part No:', 'Serial No:', 'Date Code:', and 'OUI:'. There is also an 'Enable Password' checkbox and an 'Address' field with 'A2 7B' and a 'password' field.
- Memory Grid:** Two 16x16 grids are shown. The left grid has columns labeled 0-9, A-F and rows labeled 00-FO. The right grid has columns labeled 0-9, A-F and rows labeled 00-FO. Both grids show colored blocks representing data, with a blue square in the 'D0' row of both.
- Message Log:** A text area at the bottom shows the following log:
 

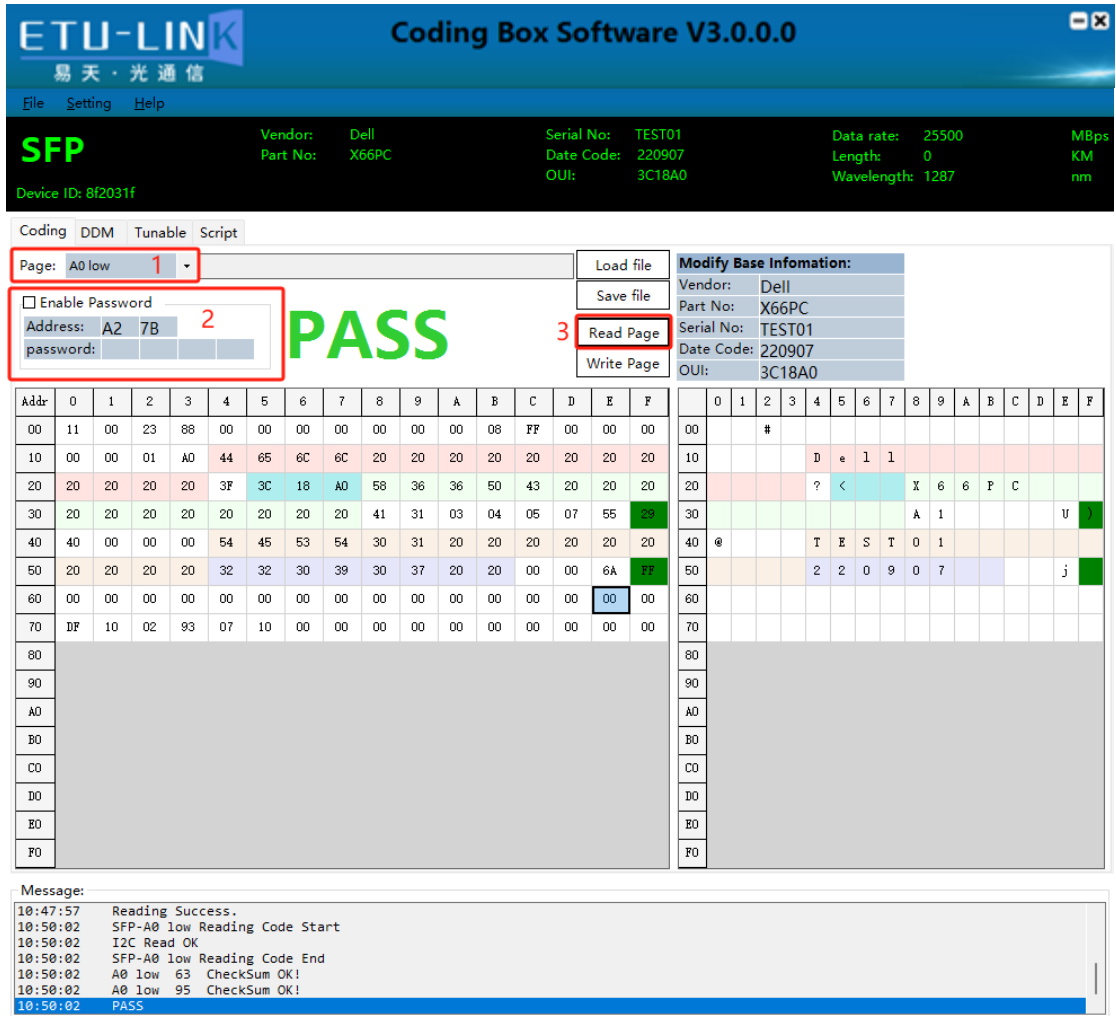
```

10:43:47 V2.0.0.0
10:43:49 Connection succeeded.
10:43:49 Select SFP type transceiver
10:45:41 Found SFP type transceiver
10:45:42 Reading ModuleBaseInfor from SFP
10:45:42 Reading Success.
10:47:20 Module Missing!
      
```

## 2.2 Read Page

When the module is inserted into the Coding Box, the software will automatically identify the module type and read the basic information of the current module. Select Coding in the functional area.

- (1) Select the desired page, such as A0 Low.
- (2) Check the Password Enable box and enter the password. Note: If the password enable box is not checked, it means that the read process does not use a password.
- (3) Click the read page button.



## 2.3 Write Page

When the module is inserted into the Coding Box, the software will automatically identify the module type and read the basic information of the current module. Select Coding in the functional area.

- (1) Select the desired page, such as A0 Low.
- (2) Check the Password Enable box and enter the password. Note: If the password enable box is not checked, it means that the read process does not use a password.
- (3) The user can click the read page button first and after reading the information to the table, modify the data to be modified in the table. Or the user clicks the Load File button to import the information that needs to be written. such as Load File.
- (4) Click the Write page button.



**ETU-LINK** Coding Box Software V3.0.0.0  
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File Setting Help

**SFP** Vendor: Dell Serial No: TEST01 Data rate: 25500 Mbps  
Part No: X66PC Date Code: 220907 Length: 0 KM  
OUI: 3C18A0 Wavelength: 1287 nm  
Device ID: 8f2031f

Coding DDM Tunable Script

Page: A0 low 1 SFP-A0 low TEST02.bin Load file 3

Enable Password 2

Address: A2 7B  
password: 65 74 6c 6b 4

Save file  
Read Page  
Write Page

**Modify Base Infomation:**  
Vendor: ETU Link  
Part No: X66PC  
Serial No: TEST02  
Date Code: 220907  
OUI: 3C18A0

Addr	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	11	00	23	88	00	00	00	00	00	00	08	FF	00	00	00	
10	00	00	01	A0	45	54	55	20	4C	69	6E	6B	20	20	20	
20	20	20	20	20	3F	3C	18	A0	58	36	36	50	43	20	20	
30	20	20	20	20	20	20	20	20	41	31	03	04	05	07	55	C4
40	40	00	00	00	54	45	53	54	30	32	20	20	20	20	20	
50	20	20	20	20	32	32	30	39	30	37	20	20	00	00	6A	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
70	0F	10	02	93	07	10	00	00	00	00	00	00	00	00	00	
80																
90																
A0																
B0																
C0																
D0																
E0																
F0																

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00			#													
10					E	T	U			L	i	n	k			
20				?	<			X	6	6	P	C				
30										A	1				U	
40	@				T	E	S	T	0	2						
50					2	2	0	9	0	7					j	
60																
70																
80																
90																
A0																
B0																
C0																
D0																
E0																
F0																

Message:

```

10:50:02 A0 low 63 CheckSum OK!
10:50:02 A0 low 95 CheckSum OK!
10:50:02 PASS
10:51:40 Load File D:\work\software\project\EEPROM BOX(ETU 新界面 带ETU商标)\EEPROM BOX\bin\Debug\Code\SFP-A0 low TEST02.bin
10:51:40 A0 low 63 CheckSum OK!
10:51:40 A0 low 95 CheckSum OK!
10:51:40 Load File Success!

```

Write Pass:

**ETU-LINK** Coding Box Software V3.0.0.0  
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File Setting Help

**SFP** Vendor: ETU Link Serial No: TEST02 Data rate: 25500 Mbps  
Part No: X66PC Date Code: 220907 Length: 0 KM  
OUI: 3C18A0 Wavelength: 1287 nm  
Device ID: 8f2031f

Coding DDM Tunable Script

Page: A0 low SFP-A0 low TEST02.bin Load file  
Save file  
Read Page  
Write Page

Enable Password  
Address: A2 7B  
password: 65 74 6c 6b **PASS**

**Modify Base Information:**  
Vendor: ETU Link  
Part No: X66PC  
Serial No: TEST02  
Date Code: 220907  
OUI: 3C18A0

Addr	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	11	00	23	88	00	00	00	00	00	00	00	08	FF	00	00	00
10	00	00	01	A0	45	54	55	20	4C	69	6E	68	20	20	20	20
20	20	20	20	20	3F	3C	18	A0	58	36	36	50	43	20	20	20
30	20	20	20	20	20	20	20	20	41	31	03	04	05	07	55	04
40	40	00	00	00	54	45	53	54	30	32	20	20	20	20	20	20
50	20	20	20	20	32	32	30	39	30	37	20	20	00	00	6A	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	DF	10	02	93	07	10	00	00	00	00	00	00	00	00	00	00
80																
90																
A0																
B0																
C0																
D0																
E0																
F0																

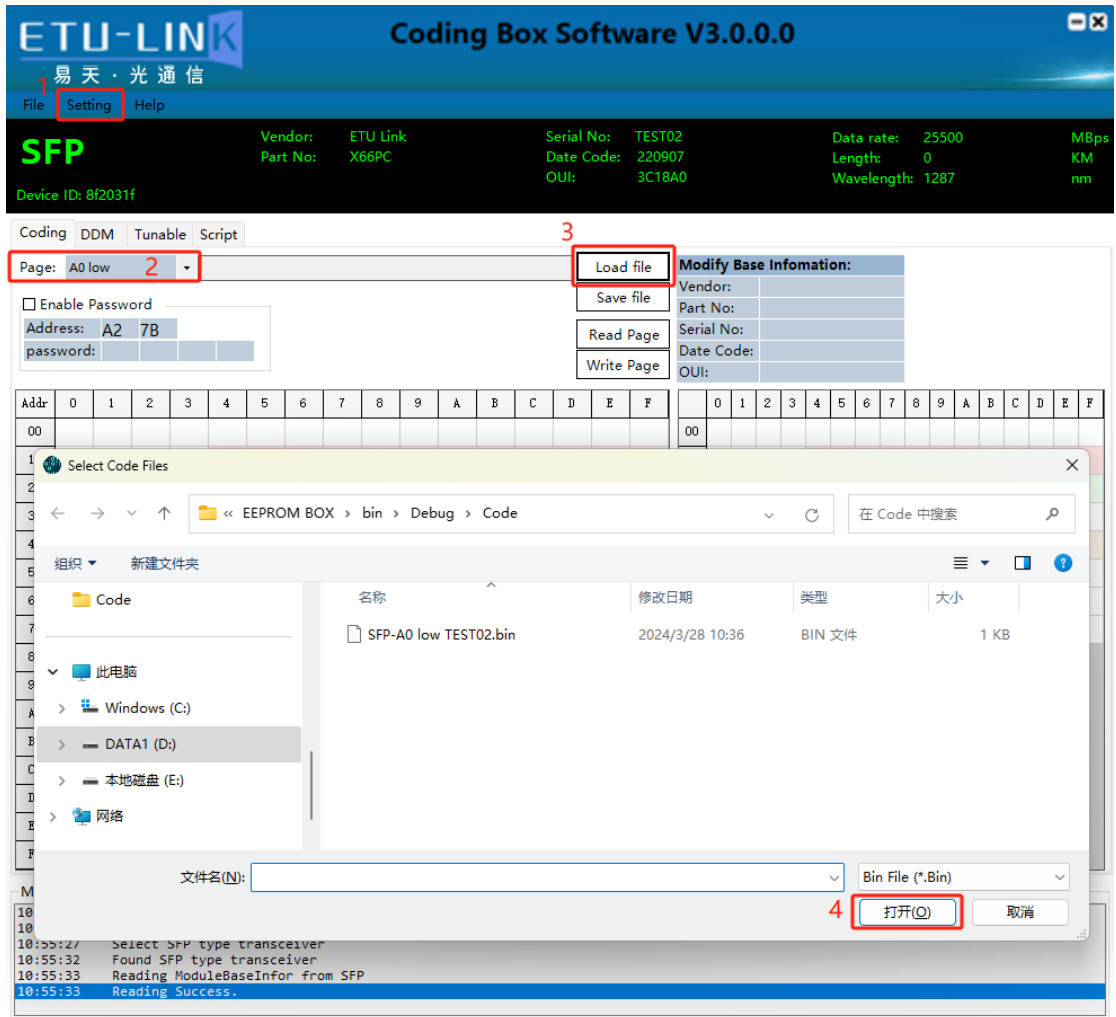
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00			#													
10					E	T	U		L	i	n	k				
20				?	<		X	6	6	P	C					
30									A	1					U	
40	@				T	E	S	T	0	2						
50					2	2	0	9	0	7					j	
60																
70																
80																
90																
A0																
B0																
C0																
D0																
E0																
F0																

Message:  
10:53:00 Start Reboot Module.  
10:53:01 Reboot Successfully.  
10:53:01 Password Input OK  
10:53:01 I2C Read OK  
10:53:01 Verify Code Successfully  
10:53:01 SFP-A0 low Writing Code End  
10:53:01 PASS

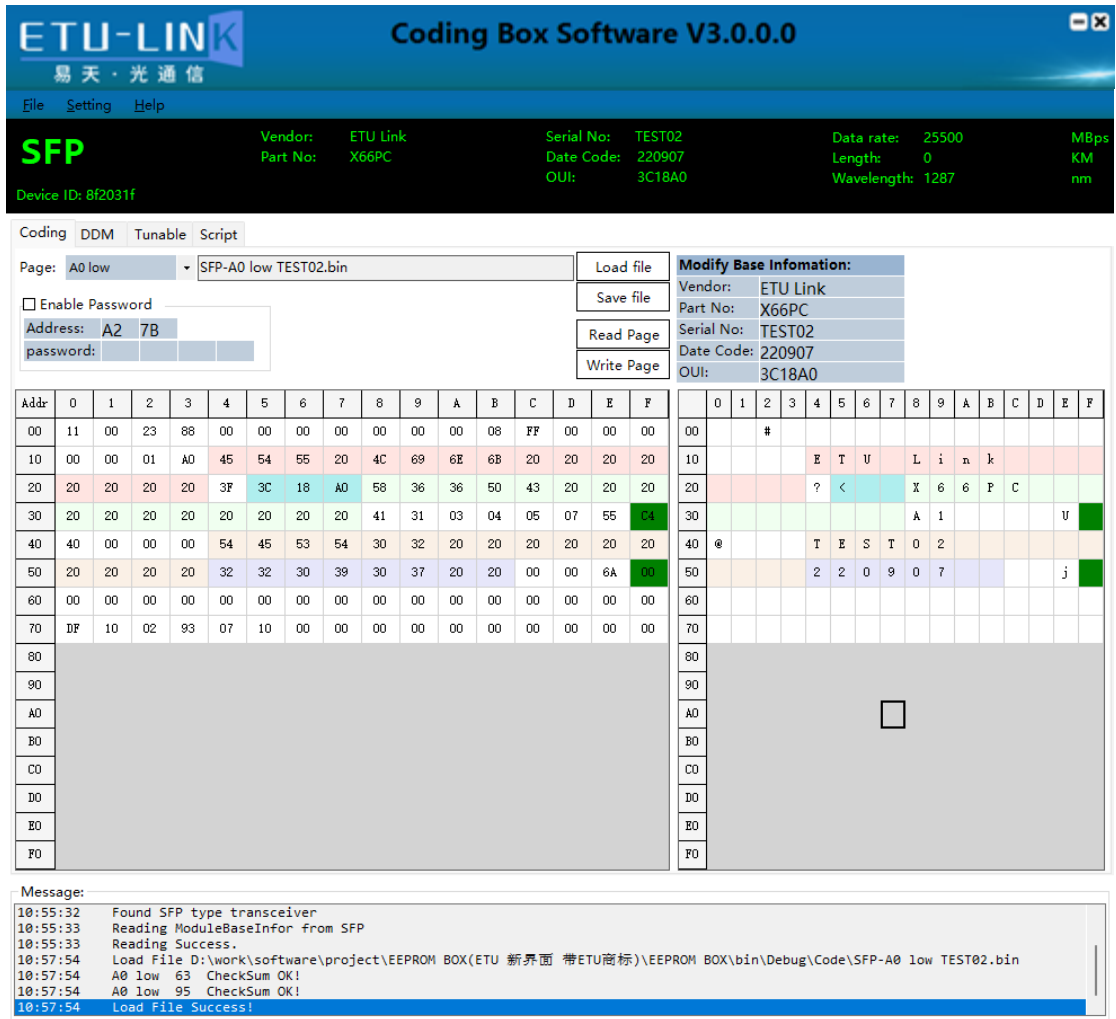
## 2.4 Load File

When the module is inserted into the Coding Box, the software will automatically identify the module type and read the basic information of the current module. Select Coding in the functional area.

- (1) Insert Module into Coding Box or Select Module Type in the menu, such as "SFP".
- (2) Select the desired page, such as A0 Low.
- (2) Click the Load File button.
- (3) Select the corresponding bin file



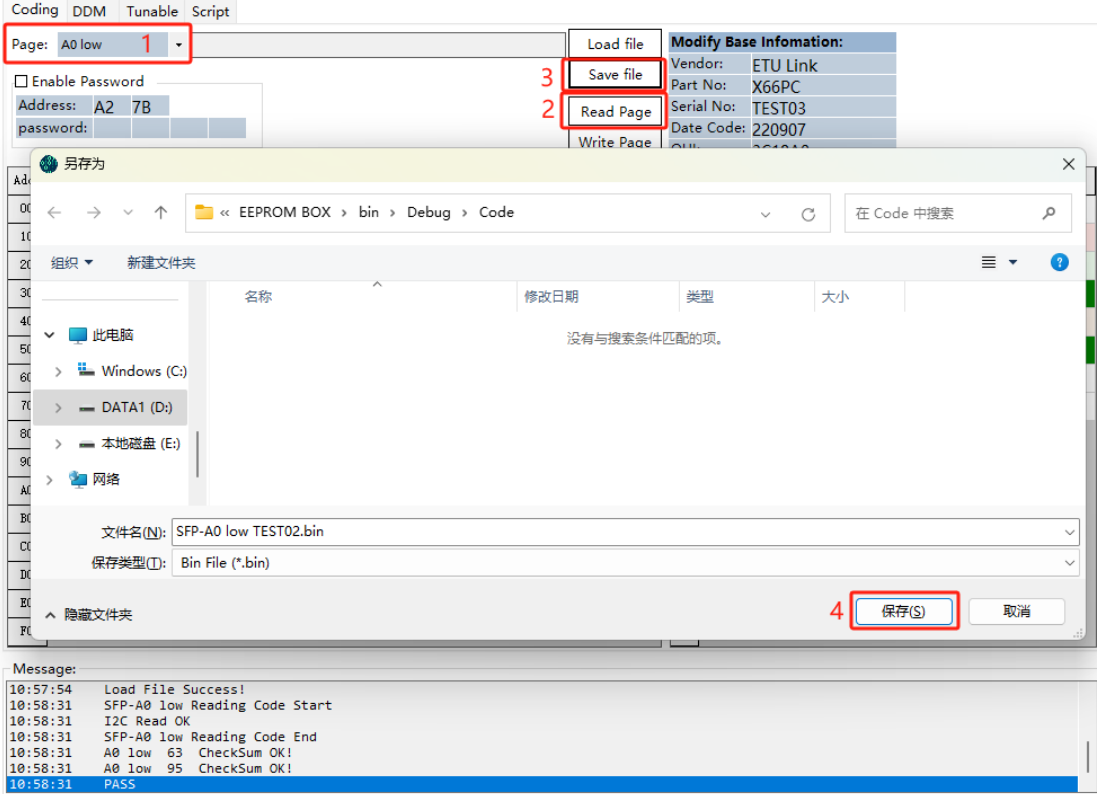
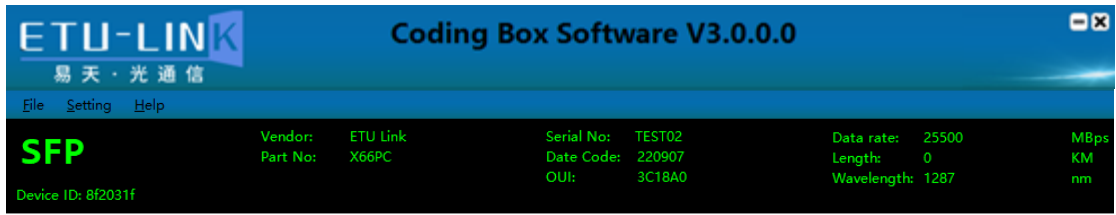
Load OK:



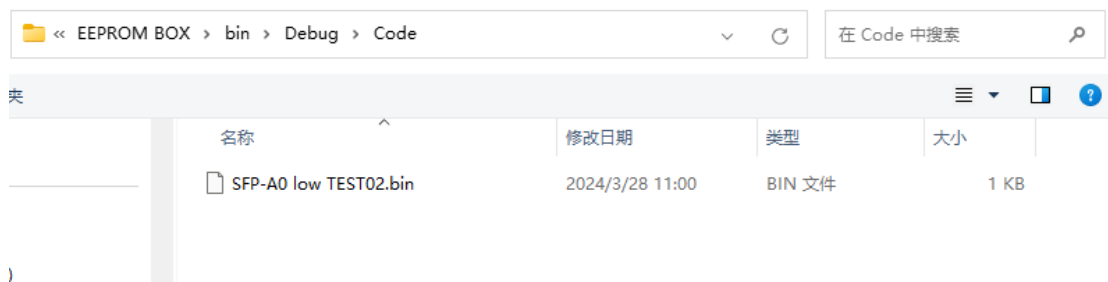
## 2.5 Save File

When the module is inserted into the Coding Box, the software will automatically identify the module type and read the basic information of the current module. Select Coding in the functional area.

- (1) Select the desired page, such as A0 Low.
- (2) Check the Password Enable box and enter the password. Note: If the password enable box is not checked, it means that the read process does not use a password.
- (3) The user can click the read page button first and after reading the information to the table, modify the data to be modified in the table. Or the user clicks the Load File button to import the information that needs to be written.
- (4) Click the Save File button. (File name can be modified)



Save OK:



# 3 DDM of Optical Modules

## 3.1 DDM Display

When the module is inserted into the Coding Box, the software will automatically identify the module type and read the basic information of the current module. Select DDM in the functional area. Such as SFP+ Modules.

- (1) DDM box module is checked by default, DDM real-time update display.
- (2) Hard Txdis box module is checked by default, Module default txdis. The Txdisable and Hard Txdis box is used to control the module Txdis function.

Note: Due to insufficient power supply, QSFP28 and QSFP-DD type modules have low power consumption by default and do not support modification.

The screenshot shows a software interface with a menu bar containing 'Coding', 'DDM', 'Tunable', and 'Script'. The main window is titled 'DDM Data & Status' and contains a table with the following data:

Item	ActValue	ActADC	High Alarm	Low Alarm	High Warning	Low Warning
Temp (°C)	34.80	8908	100.00	-45.00	85.00	-40.00
Voltage (V)	3.12	31164	3.540	3.050	3.480	3.140
Bias (mA)	0.00	0	125.00	30.00	115.00	40.00
TxPower (dBm)	-40.00	1	6.00	-2.00	5.00	-1.00
RxPower (dBm)	-40.00	1	-6.00	-24.95	-7.00	-23.98

Below the table, there are checkboxes for 'TxDisable' (unchecked), 'Hard TxDis' (checked), and 'Real DDM' (checked). A 'Modify Data' button is also present.

The message log at the bottom shows the following entries:

```
18:11:17 Select SFP type transceiver
18:11:18 Reading ModuleBaseInfor from SFP
18:11:18 Reading Success.
18:11:32 Module Missing!
18:11:35 Found SFP type transceiver
18:11:35 Reading ModuleBaseInfor from SFP
18:11:36 Reading Success.
```

Coding DDM Tunable Script

DDM Data & Status

Item	ActValue	ActADC	High Alarm	Low Alarm	High Warning	Low Warning
Temp (°C)	36.79	9417	100.00	-45.00	85.00	-40.00
Voltage (V)	3.07	30749	3.540	3.050	3.480	3.140
Bias (mA)	55.21	27606	125.00	30.00	115.00	40.00
TxPower (dBm)	1.92	15577	6.00	-2.00	5.00	-1.00
RxPower (dBm)	-40.00	1	-6.00	-24.95	-7.00	-23.98

TxDisable     Hard TxDis     Real DDM   

Message:

```

18:11:17 Select SFP type transceiver
18:11:18 Reading ModuleBaseInfor from SFP
18:11:18 Reading Success.
18:11:32 Module Missing!
18:11:35 Found SFP type transceiver
18:11:35 Reading ModuleBaseInfor from SFP
18:11:36 Reading Success.





















```

## 3.1 Threshold Modification

When the module is inserted into the Coding Box, the software will automatically identify the module type and read the basic information of the current module. Select DDM in the functional area. Such as SFP+ Modules.

- (1) DDM box module is checked by default, DDM real-time update display.
- (2) Uncheck the Real DDM box.
- (3) Check the Password Enable box and enter the password. Note: If the password enable box is not checked, it means that the read process does not use a password.
- (4) You can modify the threshold corresponding to the crazy modification threshold, and the modified threshold will be marked in red.
- (5) Click the Modify Data button to write the threshold to the module.

DDM Data & Status

Item	ActValue	ActADC	High Alarm	Low Alarm	High Warning	Low Warning
Temp(°C)	30.40	7782	2  100	 -45.00	 85.00	 -40.00
Voltage(V)	3.11	31140	 3.54	 3.050	 3.480	 L 3.140
Bias(mA)	0.00	0	 125.00	 30.00	 115.00	 L 40.00
TxFPower(dBm)	-40.00	1	 6.00	 -2.00	 5.00	 L -1.00
RxFPower(dBm)	-40.00	1	 -6.00	 -24.95	 -7.00	 L -23.98

TxDisable 
  Hard TxDis 
 1  Real DDM 
 3

Message:

```

17:32:50 Start Reboot Module.
17:32:51 Reboot Successfully.
17:32:51 Password Input OK
17:32:51 I2C Read OK
17:32:51 Verify Code Successfully
17:32:51 SFP-A0 low Writing Code End
17:32:51 PASS
    
```