



孕龍科技股份有限公司
Zeroplus Technology Co., Ltd.

SPECIFICATION

MODEL: B10008-LAP-SHT11-M

PART NO: _____

VERSION: V1.00

Approver		Check	Design
GM	PM		

Customer Confirm

*Please fax the file to Zeroplus Technology after signing.

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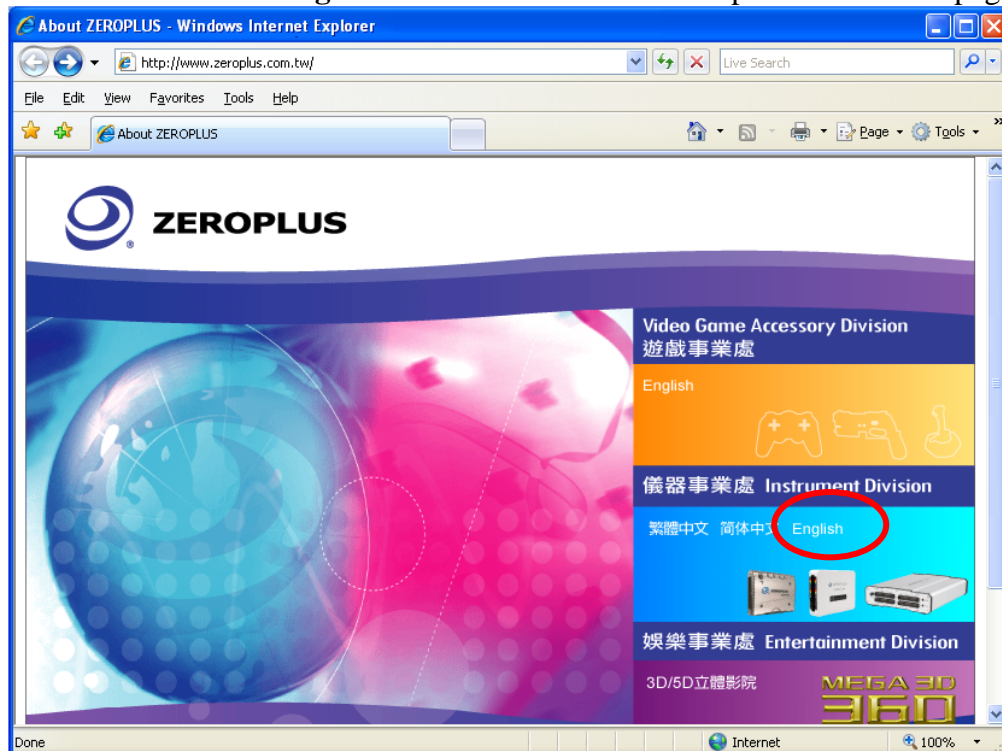
1 Software Download

Please download the software as the following steps:

Remark: We won't have additional notice for you, when there is any modification of the module specification. If there is some unconformity caused by the module version upgrade, users should take the module software as the standard.

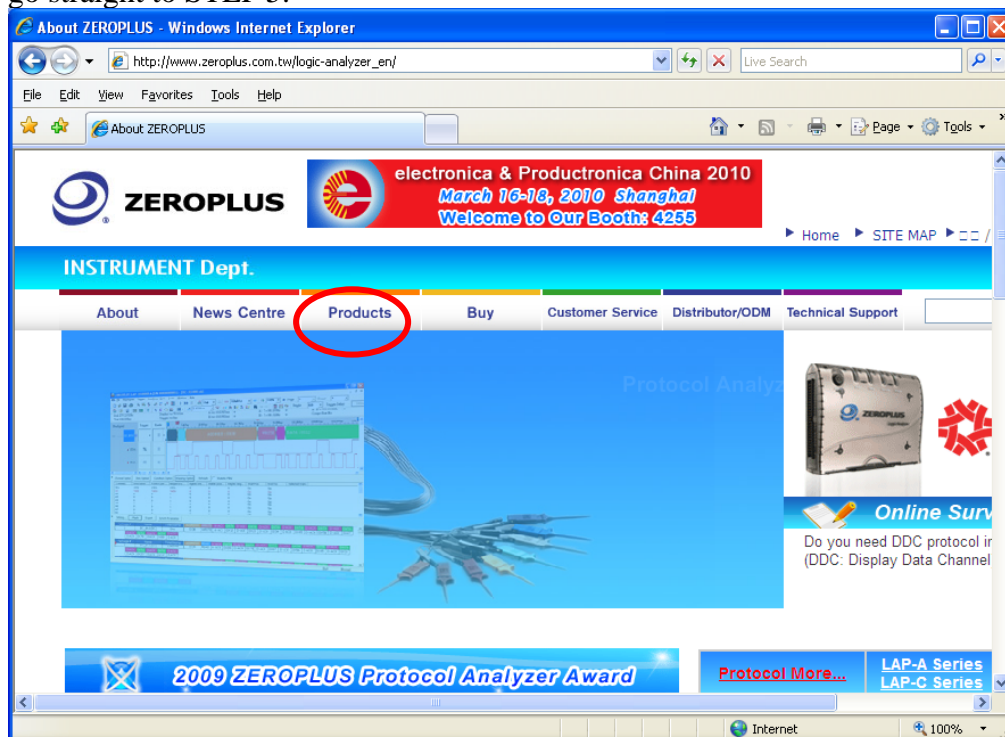
STEP 1. Visit the website of ZeroPlus: <http://www.zeroplus.com.tw>.

STEP 2. Click **English** in the Instrument Division part on the Homepage.

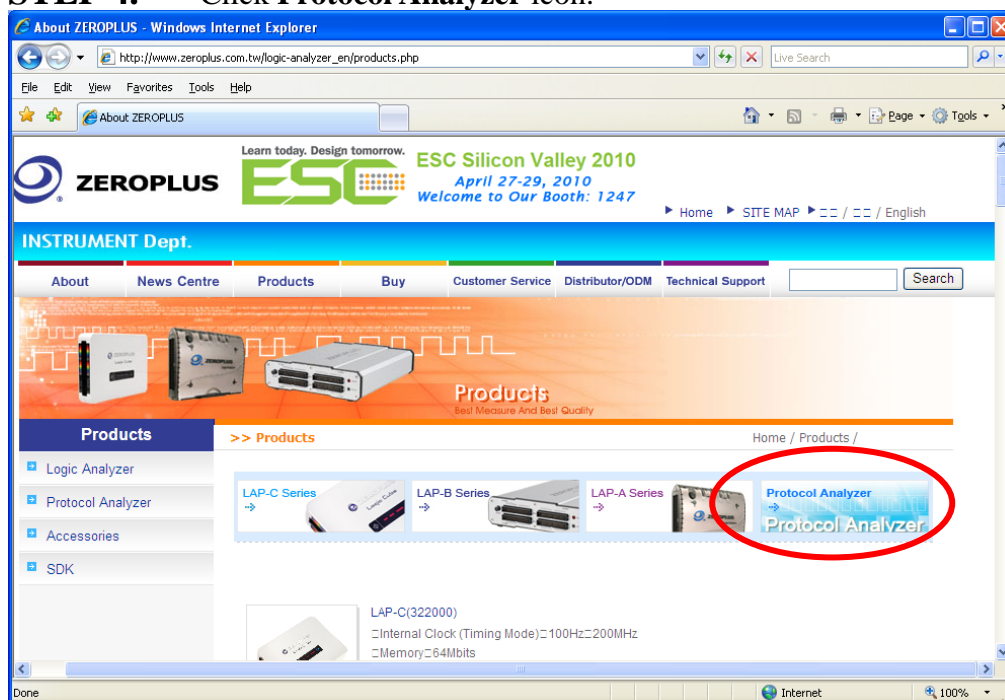




STEP 3. Click **Products** menu or select **Protocol Analyzer** item from its pull-down menu to go straight to STEP 5.

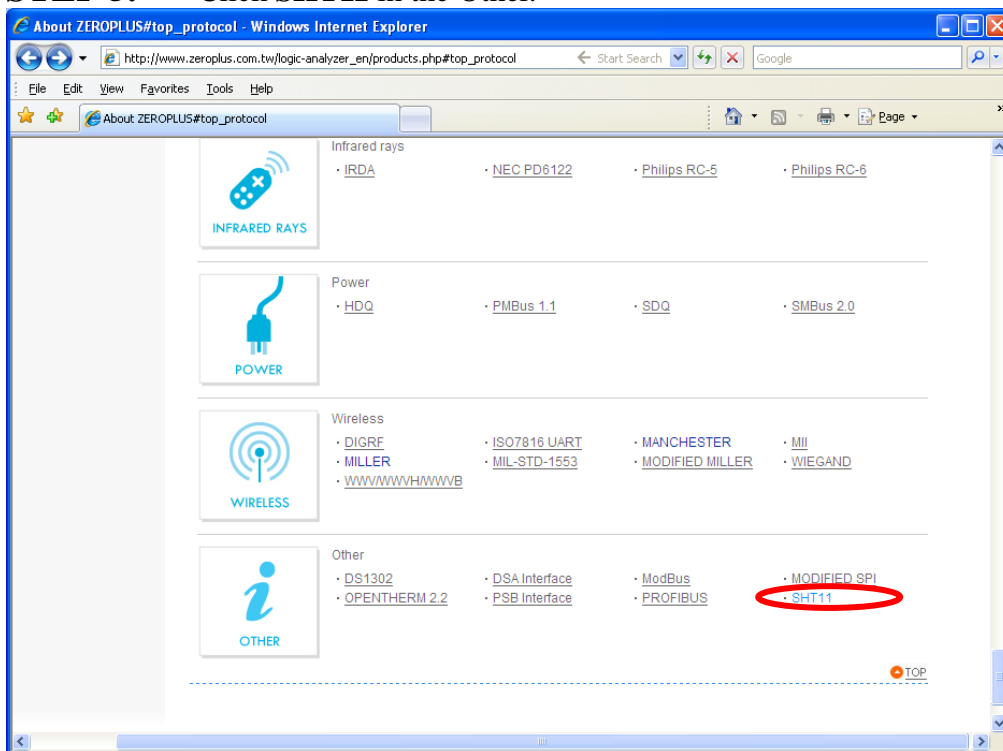


STEP 4. Click **Protocol Analyzer** icon.

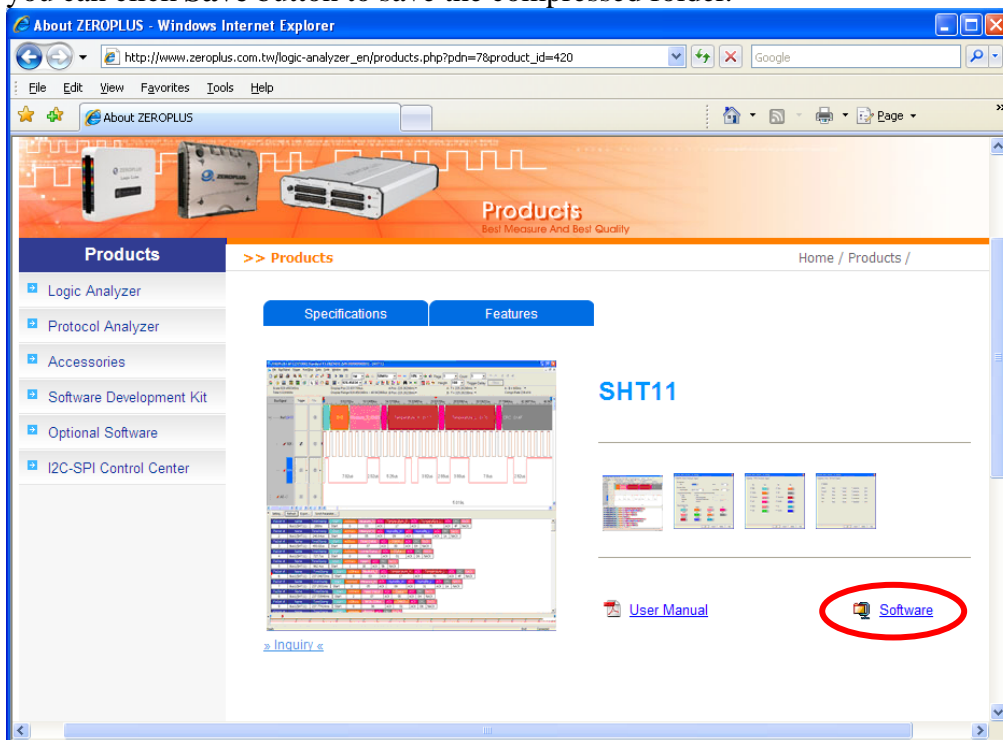




STEP 5. Click **SHT11** in the Other.



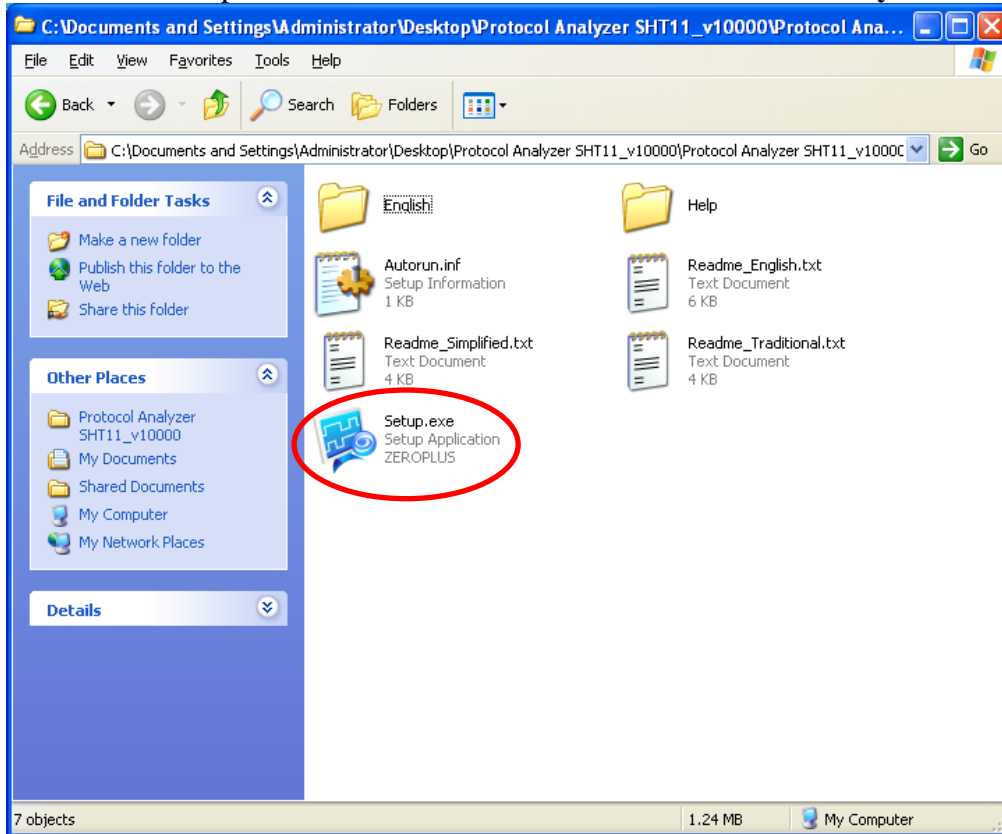
STEP 6. Click **Software** in the Products page. When the File Download dialog box appears, you can click **Save** button to save the compressed folder.



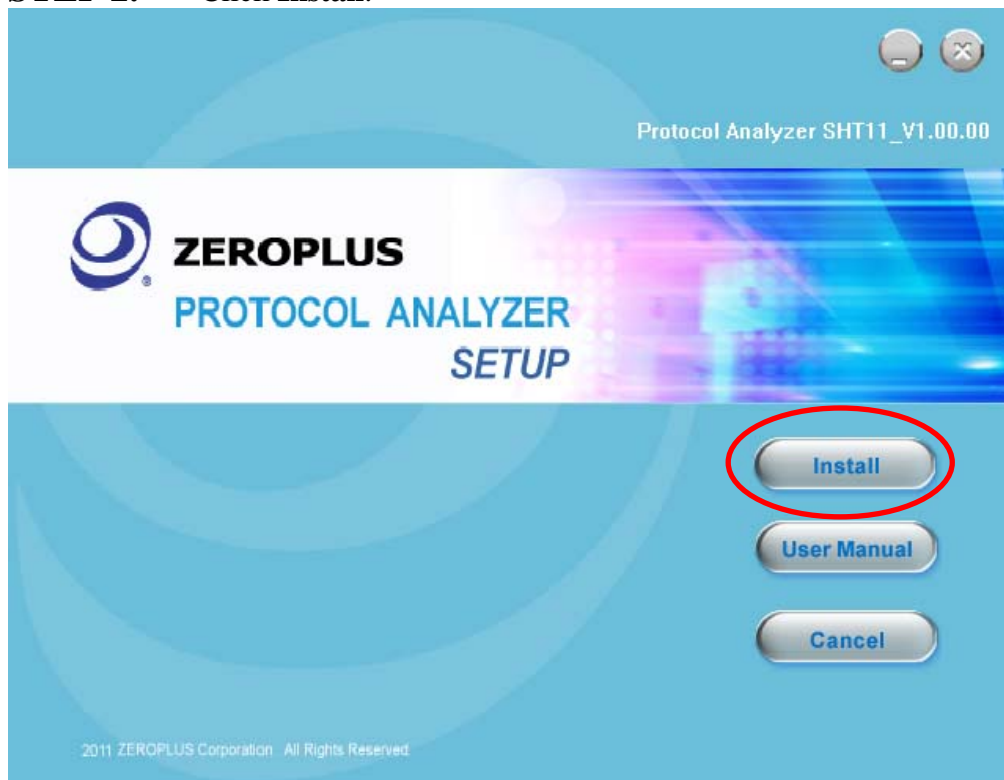


2 Software Installation

STEP 1. Open the downloaded folder to install **Protocol Analyzer SHT11**.

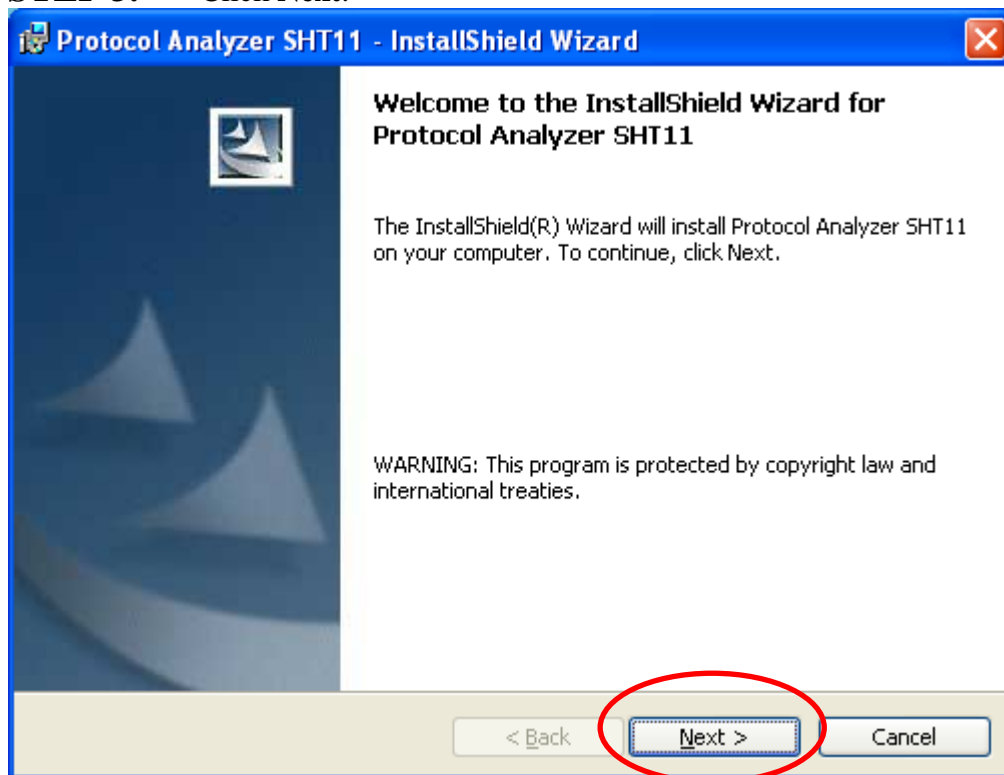


STEP 2. Click **Install**.

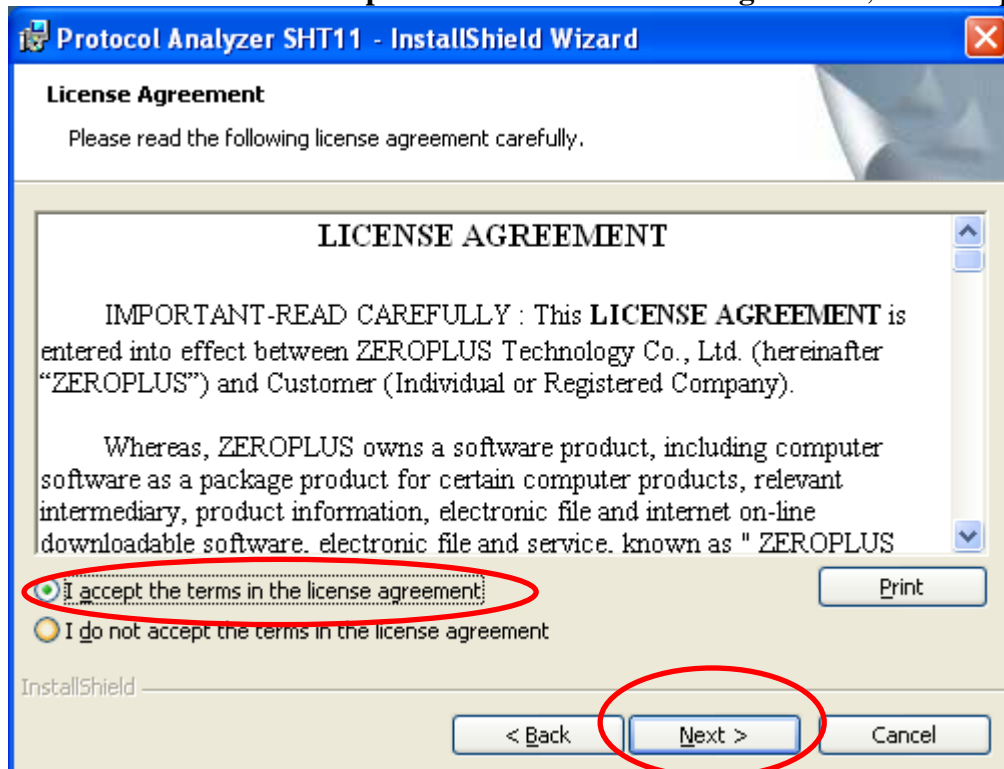




STEP 3. Click Next.



STEP 4. Select **I accept the terms in the license agreement**, and then press **Next**.





STEP 5. Fill in users' information in the below dialog box and click **Next**.

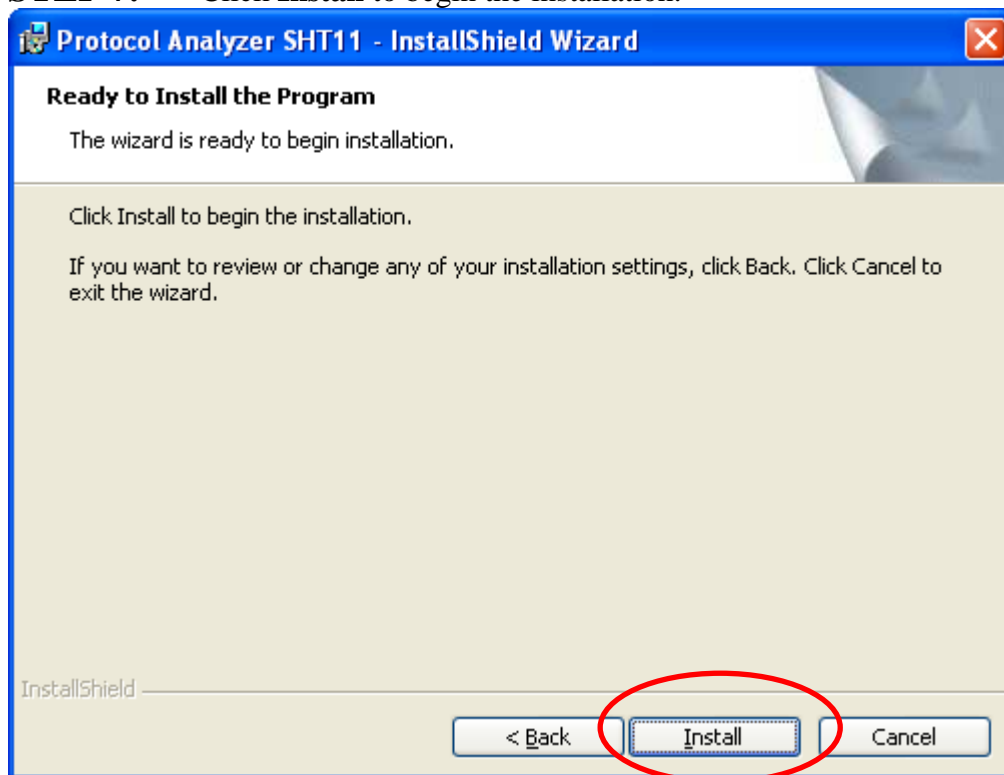
The dialog box is titled "Protocol Analyzer SHT11 - InstallShield Wizard". It has a blue header bar with a close button (X) on the right. The main area is titled "Customer Information" and contains the text "Please enter your information." Below this, there are two text input fields: "User Name:" with "Microsoft" entered, and "Organization:" with "User" entered. Below the fields, there is a section titled "Install this application for:" with two radio button options: "Anyone who uses this computer (all users)" (which is selected) and "Only for me (Microsoft)". At the bottom, there is a status bar with the "InstallShield" logo. To the right of the status bar are three buttons: "< Back", "Next >" (which is circled in red), and "Cancel".

STEP 6. First, select **Complete** and then click **Next**.

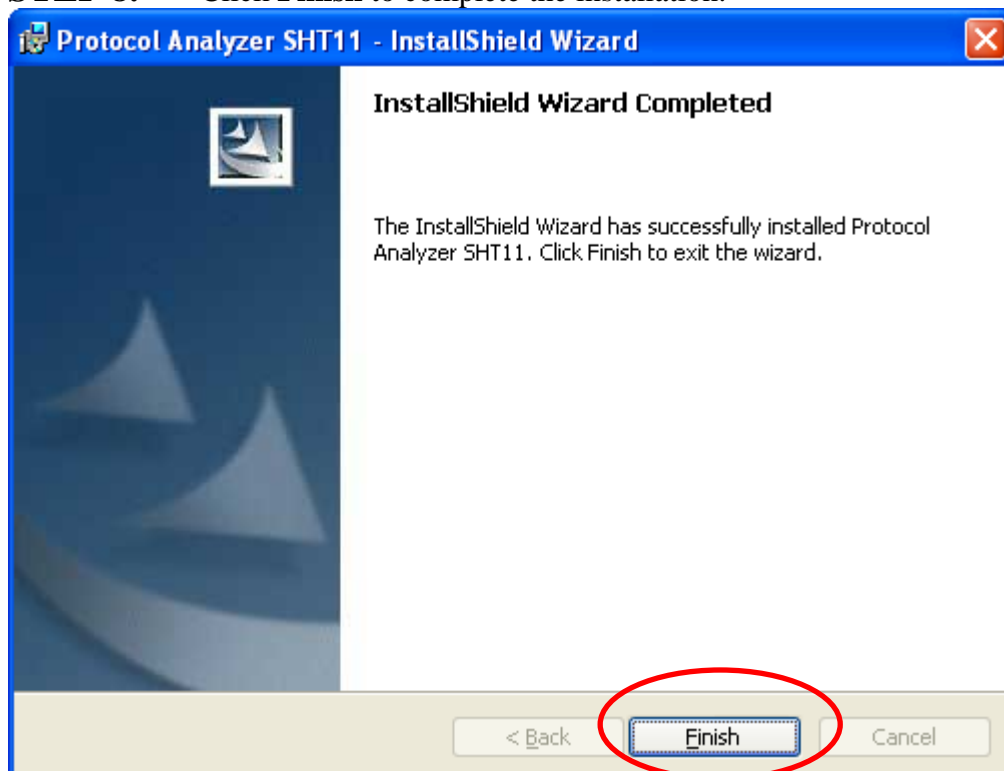
The dialog box is titled "Protocol Analyzer SHT11 - InstallShield Wizard". It has a blue header bar with a close button (X) on the right. The main area is titled "Setup Type" and contains the text "Choose the setup type that best suits your needs." Below this, there is a section titled "Please select a setup type." with two radio button options: "Complete" (which is selected) and "Custom". Each option has a small icon of a computer with a red X and a description: "All program features will be installed. (Requires the most disk space.)" for Complete, and "Choose which program features you want installed and where they will be installed. Recommended for advanced users." for Custom. At the bottom, there is a status bar with the "InstallShield" logo. To the right of the status bar are three buttons: "< Back", "Next >" (which is circled in red), and "Cancel".



STEP 7. Click **Install** to begin the installation.



STEP 8. Click **Finish** to complete the installation.





3 User Interface

In the configuration, please refer to below images to select options of SHT11 module.

SHT11 Configuration Dialog Box

Item	Color	Data Format
Start		Default
Address		Default
Command		Default
ACK		Default
NACK		Default
Data		Default
Status		Default
CRC		Default
Temperture		Default
Humidity		Default
Dp		Default

Pin Assignment

SHT11 needs two channels to decode signals.

SCK: It is the Clock channel.

DATA: It is the Data channel.

Protocol Analyzer Property

Default Resolution: The Default Resolution can be set as 12bit Rh/14bit T or 8bit Rh/12bit T, and the default is 12bit Rh/14bit T.

Voltage: The Voltage should be selected as the best Working Voltage that can be selected from the options, 2.5, 3, 3.5, 4 and 5; and the default is 5.

Temperature: The Decoding Mode can be selected as Value, Celsius, Fahrenheit and Kelvin, and the default is Value.

Humidity/Dewpoint: The Decoding Mode can be selected as Value, Linear Compensation, Temperature Compensation and Dewpoint, and the default is Value.

Default Temperature: The Temperature which is used to calculate all Temperature Compensation and the Dewpoint can be entered as the users' requirements or can be Auto according to the decoding. The entered value should be in the range from -50.00 to 150.00, and the default is 25.



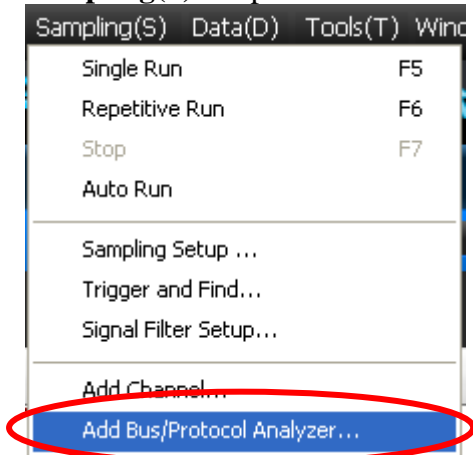
Protocol Analyzer Format

The Color of each Item can be varied as the users' requirements. The Items (Address, Command, Data, Status and CRC) can be set as Binary, Decimal, Hexadecimal, ASCII or Default. And the Data Formats of these Items (Address, Command, Data, Status and CRC) in the Waveform Display Area and Packet List are controlled by the Protocol Analyzer. The default Data Formats are controlled by the main program and the Data Formats of these items (Address, Command, Data, Status and CRC) are the Default. Users can vary the colors of the decoded packet.

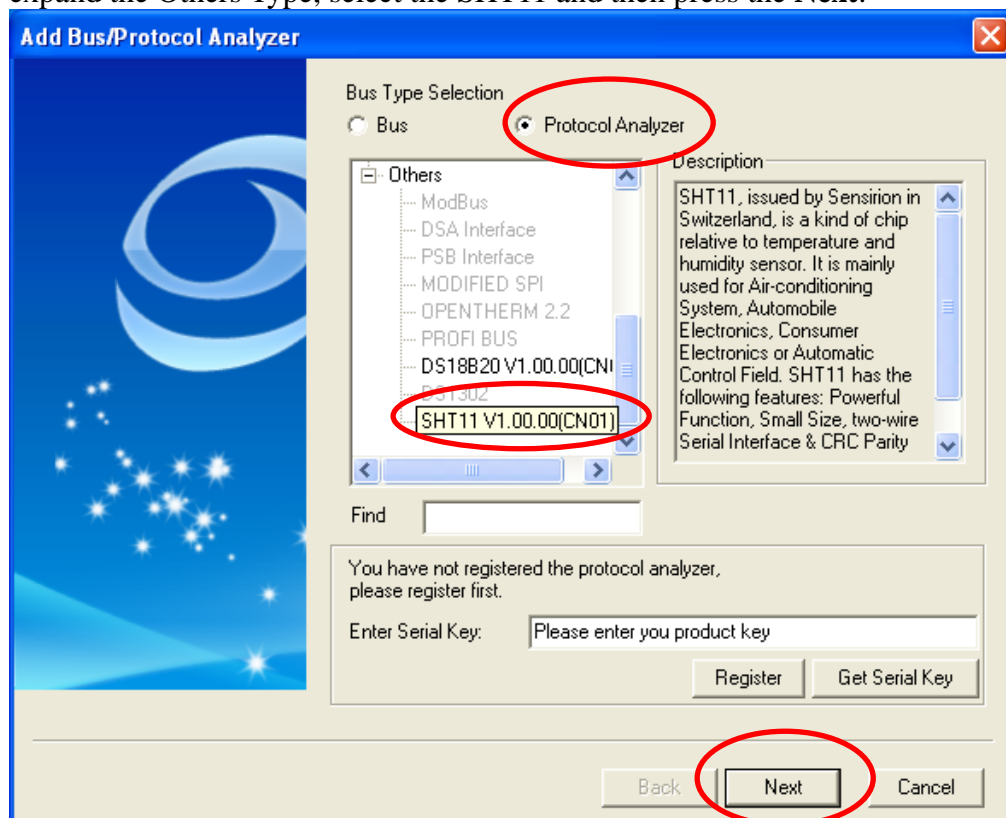


4 Operating Instructions

STEP 1. Select the **Add Bus/Protocol Analyzer** item on the pull-down menu of the **Sampling(S)** to open the **Add Bus/Protocol Analyzer** dialog box.

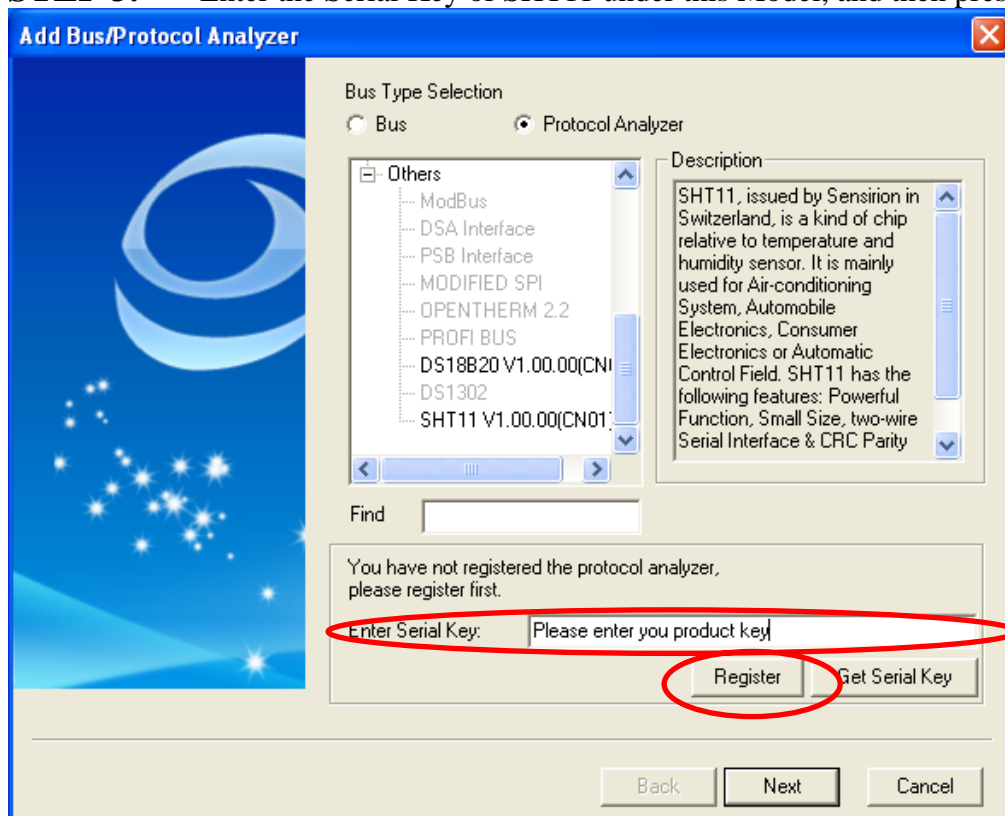


STEP 2. Select the Protocol Analyzer item in the Add Bus/Protocol Analyzer dialog box, expand the Others Type, select the SHT11 and then press the **Next**.

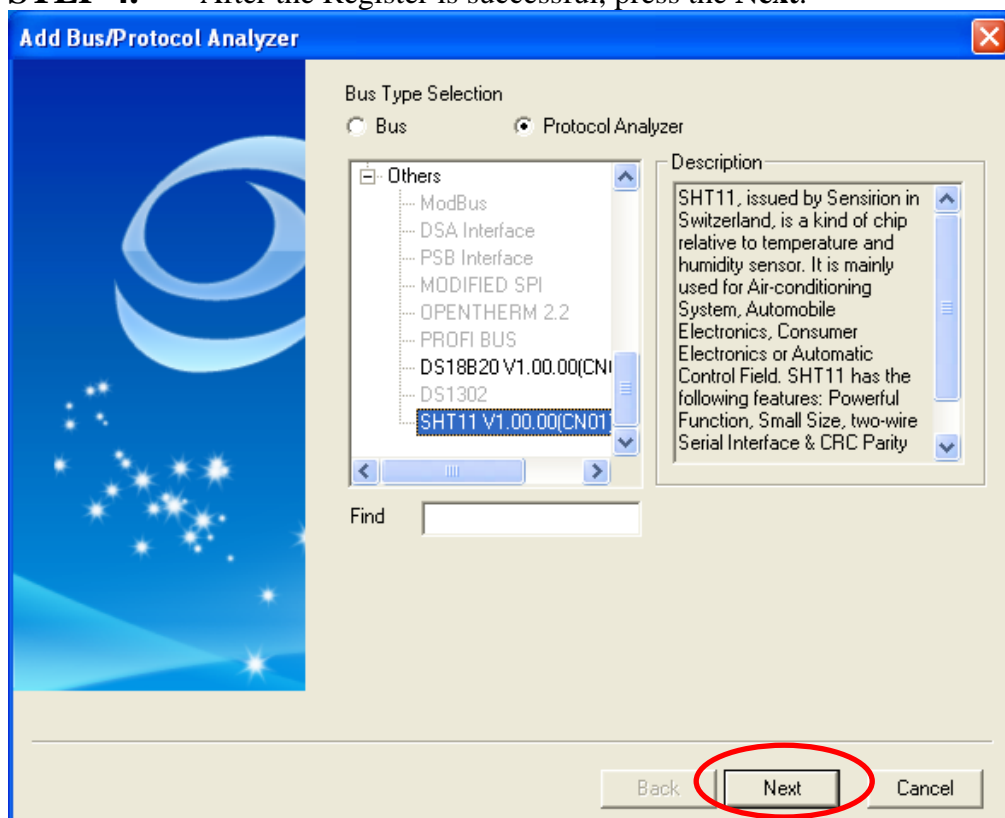




STEP 3. Enter the Serial Key of SHT11 under this Model, and then press the **Register**.



STEP 4. After the Register is successful, press the **Next**.





STEP 5. Open the PROTOCOL ANALYZER SHT11 dialog box, and set the channels for the SCK and the DATA in the Pin Assignment.

PROTOCOL ANALYZER SHT11

Pin Assignment
SCK: A0 DATA: A1

Protocol Analyzer Property
Default Resolution: 12bit Rh/14bit T Humidity/Dewpoint: Value
Voltage: 5 V Default Temperature: 25.00 °C ☒ Auto
Temperature: Value (Min:-50,Max:150)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Start		Default	Status		Default
Address		Default	CRC		Default
Command		Default	Temperture		Default
ACK		Default	Humidity		Default
NACK		Default	Dp		Default
Data		Default			

Default Back Next Cancel

STEP 6. Select the Default Resolution from the pull-down menu.

PROTOCOL ANALYZER SHT11

Pin Assignment
SCK: A0 DATA: A1

Protocol Analyzer Property
Default Resolution: 12bit Rh/14bit T Humidity/Dewpoint: Value
Voltage: 5 V Default Temperature: 25.00 °C ☒ Auto
Temperature: Value (Min:-50,Max:150)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Start		Default	Status		Default
Address		Default	CRC		Default
Command		Default	Temperture		Default
ACK		Default	Humidity		Default
NACK		Default	Dp		Default
Data		Default			

Default Back Next Cancel



STEP 7. Select the Voltage from the pull-down menu.

The screenshot shows the 'PROTOCOL ANALYZER SHT11' window. In the 'Protocol Analyzer Property' section, the 'Voltage' dropdown menu is highlighted with a red circle and set to '5'. Other settings include 'SCK: A0', 'DATA: A1', 'Default Resolution: 12bit Rh/14bit T', 'Humidity/Dewpoint: Value', 'Default Temperature: 25.00 °C', and 'Temperature: Value'. The 'Protocol Analyzer Format' section shows various data items with color and format settings. At the bottom are buttons for 'Default', 'Back', 'Next', and 'Cancel'.

STEP 8. Set the Temperature Mode from the pull-down menu.

The screenshot shows the 'PROTOCOL ANALYZER SHT11' window. In the 'Protocol Analyzer Property' section, the 'Temperature' dropdown menu is highlighted with a red circle and set to 'Value'. Other settings are the same as in Step 7. The 'Protocol Analyzer Format' section and bottom buttons are also visible.



STEP 9. Set the Humidity/Dewpoint. When the Temperature Compensation or the Dewpoint is selected, the Default Temperature can be set.

PROTOCOL ANALYZER SHT11

Pin Assignment
SCK: A0 DATA: A1

Protocol Analyzer Property
Default Resolution: 12bit Rh/14bit T Humidity/Dewpoint: Value
Voltage: 5 V Default Temperature: 25.00 °C ☒ Auto
Temperature: Value (Min:-50,Max:150)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Start		Default	Status		Default
Address		Default	CRC		Default
Command		Default	Temperture		Default
ACK		Default	Humidity		Default
NACK		Default	Dp		Default
Data		Default			

Default Back Next Cancel

STEP 10. Set the Color of each Item and the Data Format of the Items (Address, Command, Data, Status and CRC).

PROTOCOL ANALYZER SHT11

Pin Assignment
SCK: A0 DATA: A1

Protocol Analyzer Property
Default Resolution: 12bit Rh/14bit T Humidity/Dewpoint: Value
Voltage: 5 V Default Temperature: 25.00 °C ☒ Auto
Temperature: Value (Min:-50,Max:150)

Protocol Analyzer Format

Item	Color	Data Format	Item	Color	Data Format
Start		Default	Status		Default
Address		Default	CRC		Default
Command		Default	Temperture		Default
ACK		Default	Humidity		Default
NACK		Default	Dp		Default
Data		Default			

Default Back Next Cancel



STEP 11. Press the **Next** to finish all settings.

The screenshot shows the 'PROTOCOL ANALYZER SHT11' dialog box. It has three main sections: 'Pin Assignment', 'Protocol Analyzer Property', and 'Protocol Analyzer Format'. The 'Pin Assignment' section has 'SCK' set to 'A0' and 'DATA' set to 'A1'. The 'Protocol Analyzer Property' section has 'Default Resolution' set to '12bit Rh/14bit T', 'Humidity/Dewpoint' set to 'Value', 'Voltage' set to '5 V', 'Default Temperature' set to '25.00 °C', and 'Temperature' set to 'Value'. The 'Protocol Analyzer Format' section has two columns of items with color and data format settings. The 'Next' button at the bottom right is circled in red.

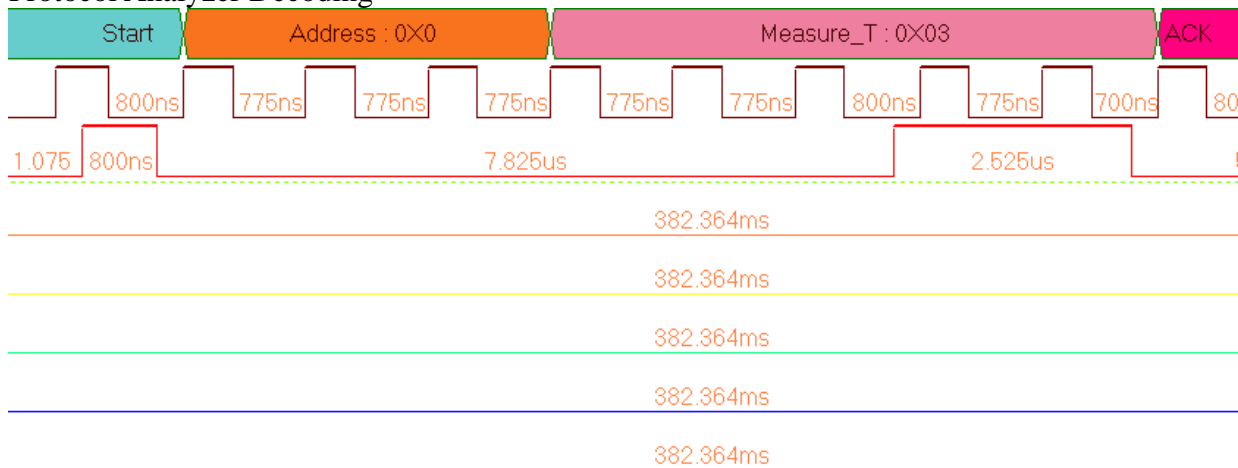
STEP 12. Please enter the Bus Name, select **Yes, please delete** or **No, please reserve** and then press **Finish**.

The screenshot shows the 'Add Bus/Protocol Analyzer' dialog box. It has a blue header and a light beige body. The 'Please input the Bus name' text box contains 'BUS'. Below it, the question 'Do you want to delete the other Buses and channels in the software?' is followed by two radio buttons: 'Yes, please delete' and 'No, please reserve'. The 'No, please reserve' radio button is selected and circled in red. The 'Finish' button at the bottom right is also circled in red.



STEP 13. Following pictures show the completion of the protocol analyzer decoding and packet list. The Compression is activated. And the memory depth is 128K; the sampling frequency is 80MHz (the sampling frequency should be more than eight times higher than the signal to be tested).

Protocol Analyzer Decoding



Packet List

Navigator													Packet List	Statistics		Memory Analyzer			
Setting...		Refresh		Export...		Synch. Parameter...													
Packet #	Name	TimeStamp	Start	Address	Measure_T	ACK	Temperature_H	ACK	Temperature_L	ACK	CRC	NACK							
1	Bus1(SHT11)	0.00027ms	Start	0	03	ACK	17	ACK	70	ACK	4F	NACK							
Packet #	Name	TimeStamp	Start	Address	Measure_H	ACK	Humidity_H	ACK	Humidity_L	ACK	CRC	NACK							
2	Bus1(SHT11)	0.24652ms	Start	0	05	ACK	09	ACK	31	ACK	1A	NACK							
Packet #	Name	TimeStamp	Start	Address	Read Status	ACK	Status	ACK	CRC	NACK									
3	Bus1(SHT11)	0.49276ms	Start	2	07	ACK	00	ACK	E4	NACK									
Packet #	Name	TimeStamp	Start	Address	Write Status	ACK	Status	ACK	CRC	NACK									
4	Bus1(SHT11)	0.72733ms	Start	0	06	ACK	01	ACK	D6	NACK									
Packet #	Name	TimeStamp	Start	Address	Reset	ACK	CRC	NACK											
5	Bus1(SHT11)	0.9619ms	Start	1	1E	ACK	5B	NACK											