



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

SPECIFICATION

MODEL: B09007-LAP-MODIFIED SPI-M

PART NO : _____

VERSION : V1.01

Approver		Check	Design
GM	PM		

Customer Confirm

* Please fax the file to
Zeroplus Technology after
signing.

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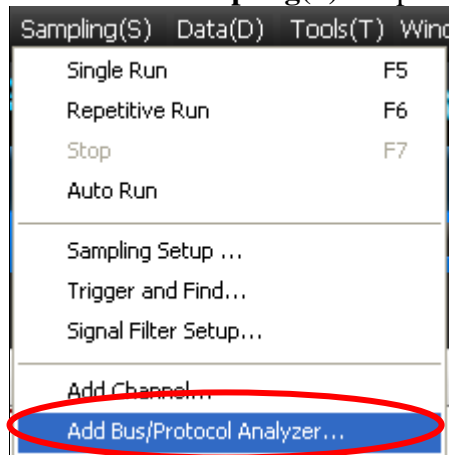
1 Software Register

Please register the software as the following steps:

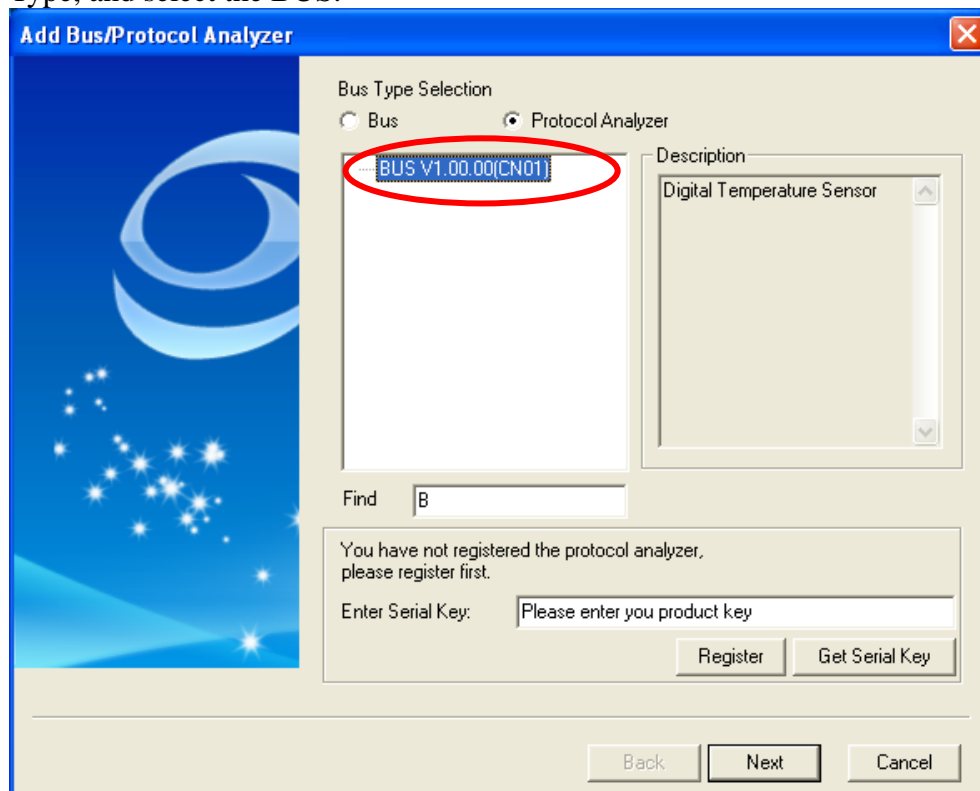
※ Remark1: The registration steps for all protocol analyzers are the same; you can complete the registration by following procedures. Following is an example on how to register the Protocol Analyzer BUS.

※ Remark2: 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. Open the Logic Analyzer and 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.

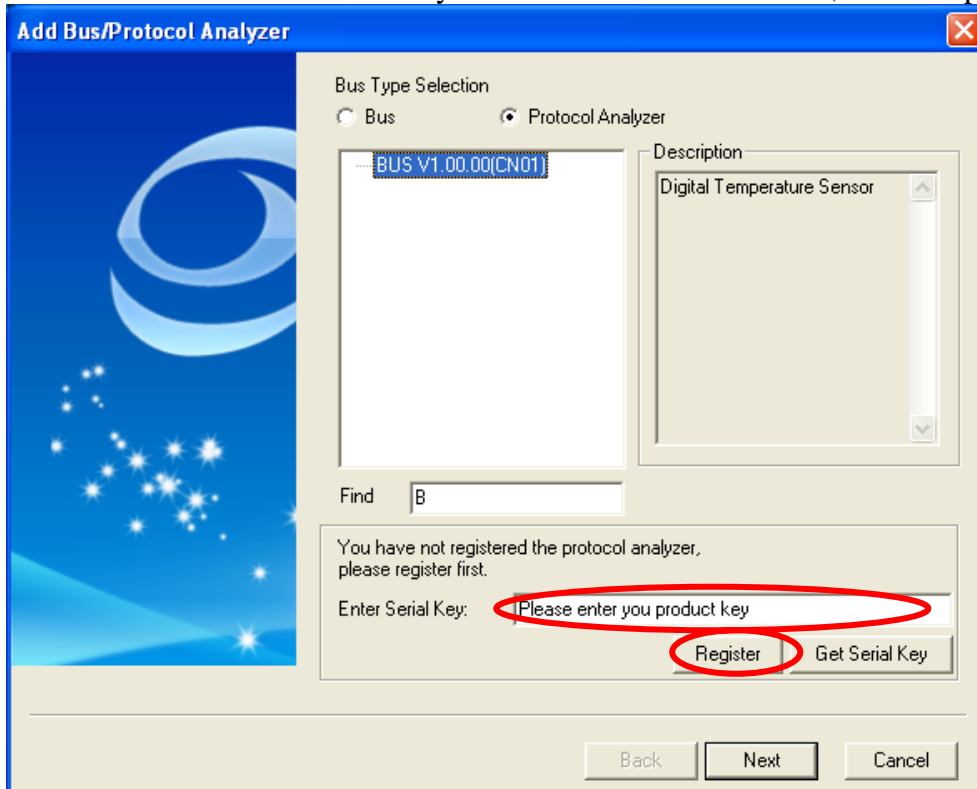


STEP 2. Select the Protocol Analyzer item in the Add Bus/Protocol Analyzer dialog box, expand the Other Type, and select the BUS.

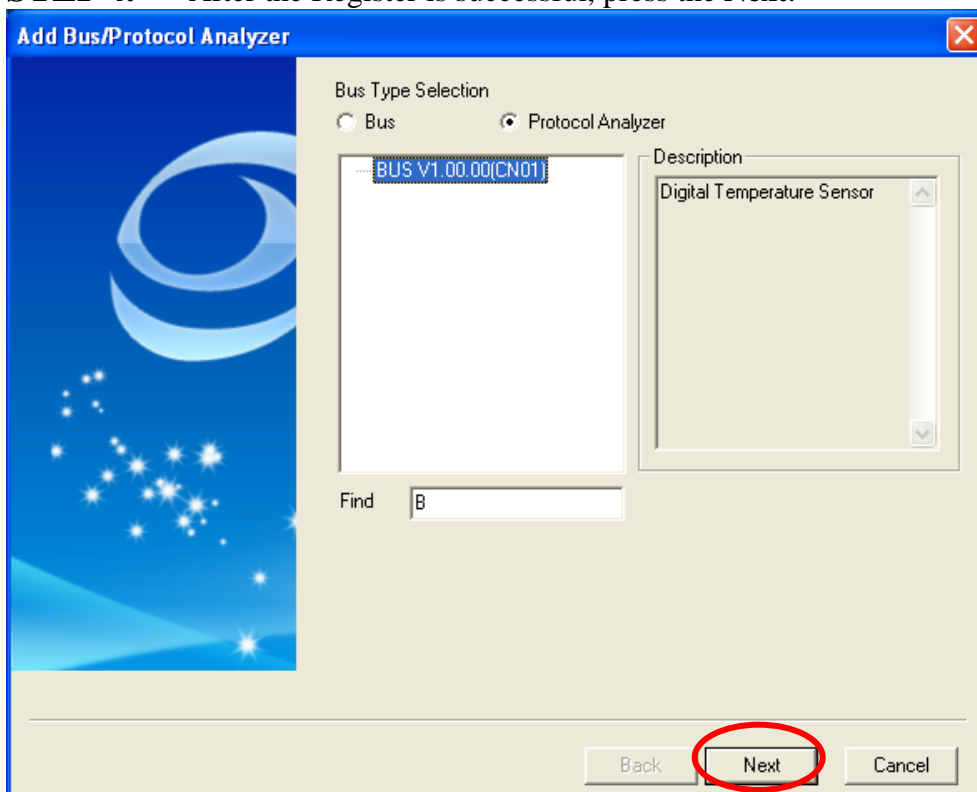




STEP 3. Enter the Serial Key of the BUS under this Model, and then press the **Register**.

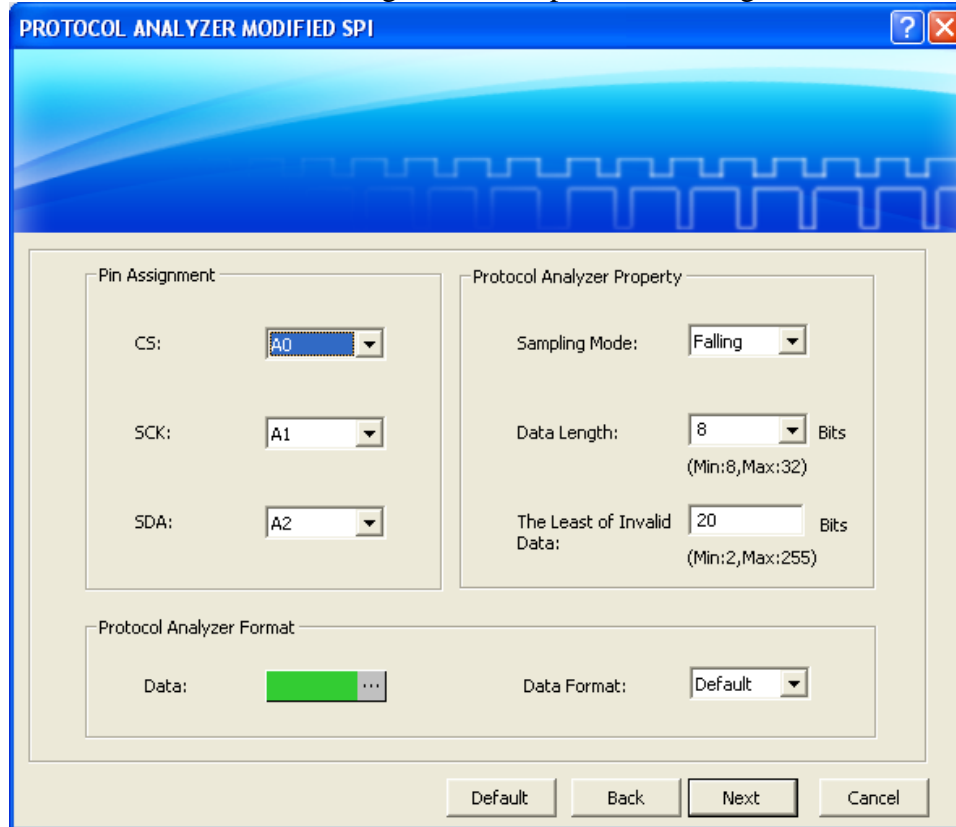


STEP 4. After the Register is successful, press the **Next**.



2 User Interface

Please refer to the below image to select options of setting MODIFIED SPI Module.



Pin Assignment:

CS: It is the Chip Select channel, the default is A0.

SCK: It is the Clock Signal channel, the default is A1.

SDA: It is the Data Signal channel, the default is A2.

Protocol Analyzer Property:

Sampling Mode: There are two options, Rising Edge and Falling Edge, and the default is Falling Edge.

Data Length: Users can set the length of one Data; the value (8, 16, 24, 32) can be selected from the pull-down menu. Meanwhile, users can set the value as their requirements; the range is from 8 to 32.

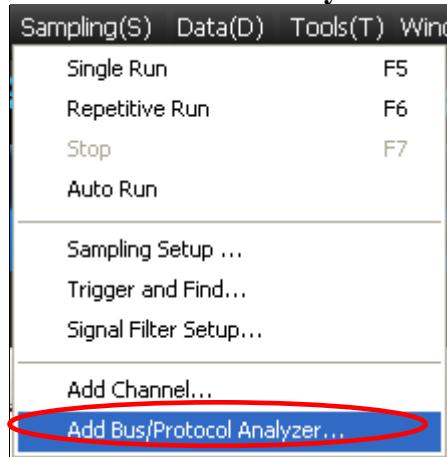
The Least of Invalid Data: It can set a lot of continuous Sampling Value which follows one DATA as "0" which can compose the min. value of the invalid data, and the default is 20Bits. The range of **The Least of Invalid Data** is an integer from 2 to 255.

Protocol Analyzer Format: The color of packets can be varied by users. The Item (Data) can be set as Binary, Decimal, Hexadecimal, ASCII or Default. And the Data Format of the Item (Data) in the Waveform Display Area and Packet List is controlled by the Protocol Analyzer. The default Data Format is controlled by the main program and the Data Format of the Item is the Default.

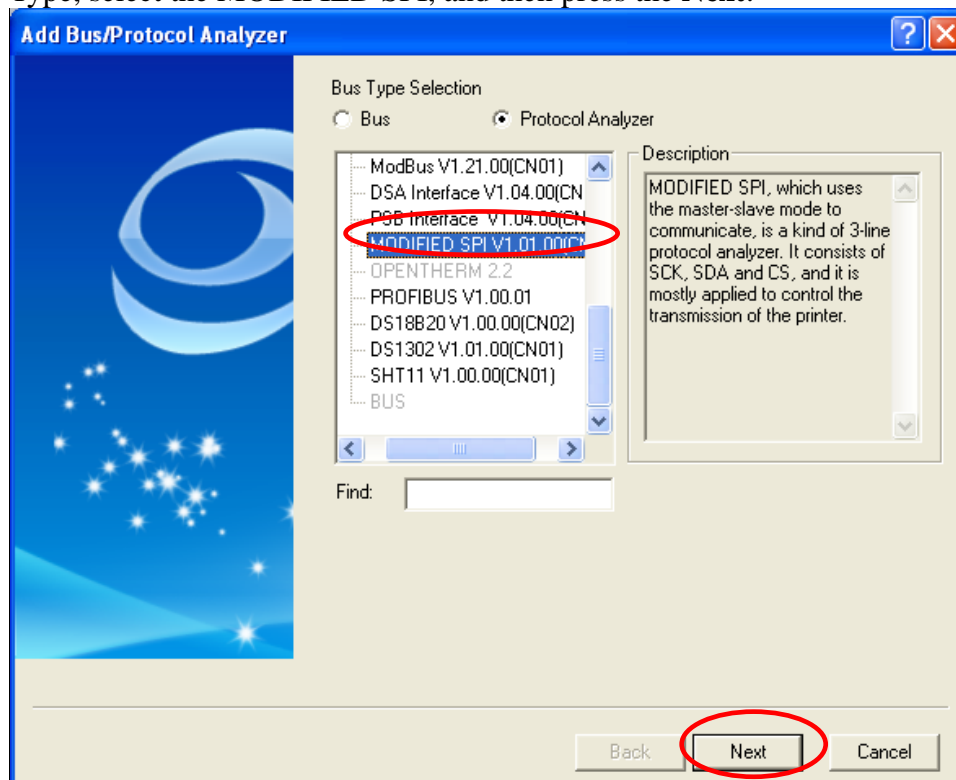


3. Operating Instructions

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 MODIFIED SPI, and then press the **Next**.





STEP 3. Set the Pin Assignment.

PROTOCOL ANALYZER MODIFIED SPI

Pin Assignment

CS: A0

SCK: A1

SDA: A2

Protocol Analyzer Property

Sampling Mode: Falling

Data Length: 8 Bits
(Min:8,Max:32)

The Least of Invalid Data: 20 Bits
(Min:2,Max:255)

Protocol Analyzer Format

Data: [Green Bar] ...

Data Format: Default

Default Back Next Cancel

STEP 4. Set the Protocol Analyzer Property.

PROTOCOL ANALYZER MODIFIED SPI

Pin Assignment

CS: A0

SCK: A1

SDA: A2

Protocol Analyzer Property

Sampling Mode: Falling

Data Length: 8 Bits
(Min:8,Max:32)

The Least of Invalid Data: 20 Bits
(Min:2,Max:255)

Protocol Analyzer Format

Data: [Green Bar] ...

Data Format: Default

Default Back Next Cancel



STEP 5. Set the Protocol Analyzer Format.

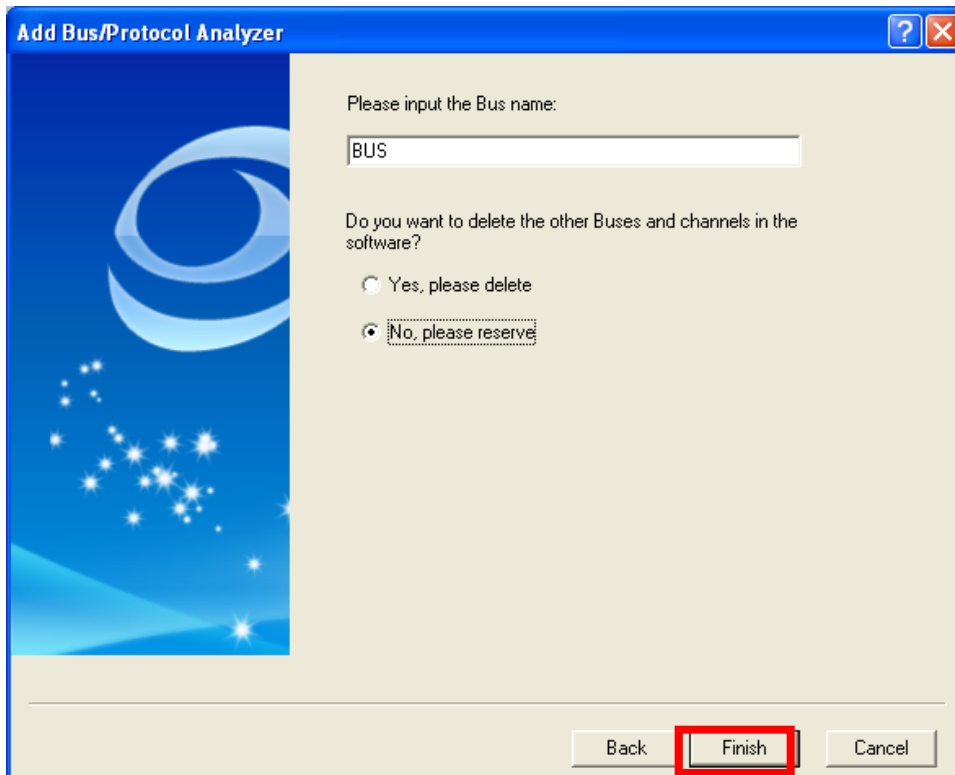
The screenshot shows the 'PROTOCOL ANALYZER MODIFIED SPI' dialog box. It has a blue header bar with a question mark and a close button. The main area is divided into three sections: 'Pin Assignment', 'Protocol Analyzer Property', and 'Protocol Analyzer Format'. The 'Pin Assignment' section has three dropdown menus: CS (A0), SCK (A1), and SDA (A2). The 'Protocol Analyzer Property' section has three dropdown menus: Sampling Mode (Falling), Data Length (8 Bits, with a range of Min:8, Max:32), and The Least of Invalid Data (20 Bits, with a range of Min:2, Max:255). The 'Protocol Analyzer Format' section has a 'Data' field (a green bar with a dropdown arrow) and a 'Data Format' dropdown menu (Default). The 'Data' field and the 'Data Format' dropdown menu are highlighted with a red rectangle. At the bottom, there are four buttons: Default, Back, Next, and Cancel.

STEP 6. Press the **Next** to finish all settings.

The screenshot shows the same 'PROTOCOL ANALYZER MODIFIED SPI' dialog box as in Step 5. The 'Data' field and 'Data Format' dropdown menu are still highlighted with a red rectangle. The 'Next' button at the bottom is now highlighted with a red rectangle, indicating it should be pressed to finish all settings.

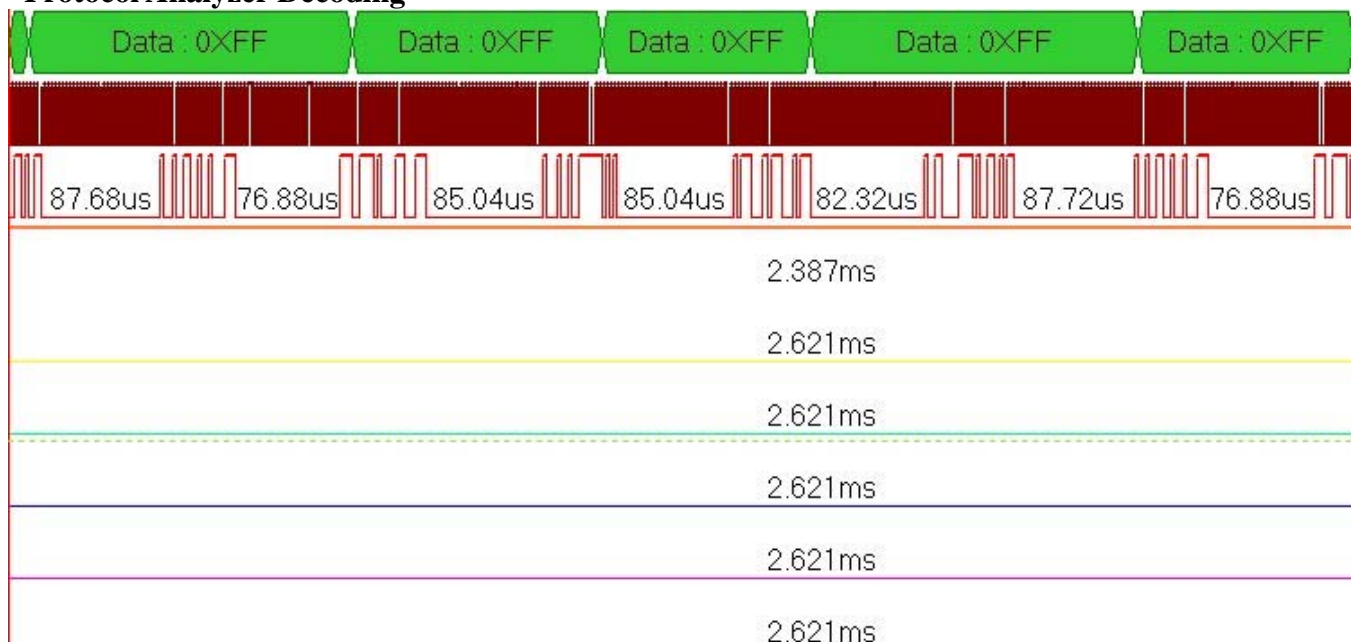


STEP 7. Please enter the Bus Name, select **Yes, please delete** or **No, please reserve** and then press **Finish**.



STEP 8. Following pictures show the completion of the protocol analyzer decoding and packet list. The memory depth is 128K; the sampling frequency is 25MHz. (the sampling frequency should be more than 8 times higher than the signal to be tested.)

Protocol Analyzer Decoding





Packet List

Navigator	Packet List	Statistics	Memory Analyzer
Packet #	Name	TimeStamp	Data
1	Bus1(MODIFIED SPI)	0.002ms	FF
Packet #	Name	TimeStamp	Data
2	Bus1(MODIFIED SPI)	0.16336ms	FF
Packet #	Name	TimeStamp	Data
3	Bus1(MODIFIED SPI)	0.39872ms	FF
Packet #	Name	TimeStamp	Data
4	Bus1(MODIFIED SPI)	0.58192ms	FF
Packet #	Name	TimeStamp	Data
-	-	-	-