



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

SPECIFICATION

MODEL: B09013-LAP-SPI PLUS-M

PART NO : _____

VERSION : V1.01

Approver		Check	Design
GM	PM		

Customer Confirm

* Please fax the file to
Zeroplus Technology after
signing.

2F, NO.123, Jian Ba Rd,
Chung Ho City, Taipei Hsian, R.O.C.

Tel:+886-2-66202225
Fax:+886-2-22234362



Content

1	Software Register.....	3
2	User Interface.....	5
3	Operating Instructions.....	6

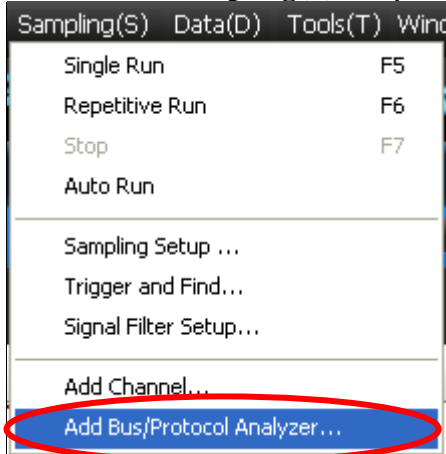
1 Software Register

Please register the software as the following steps:

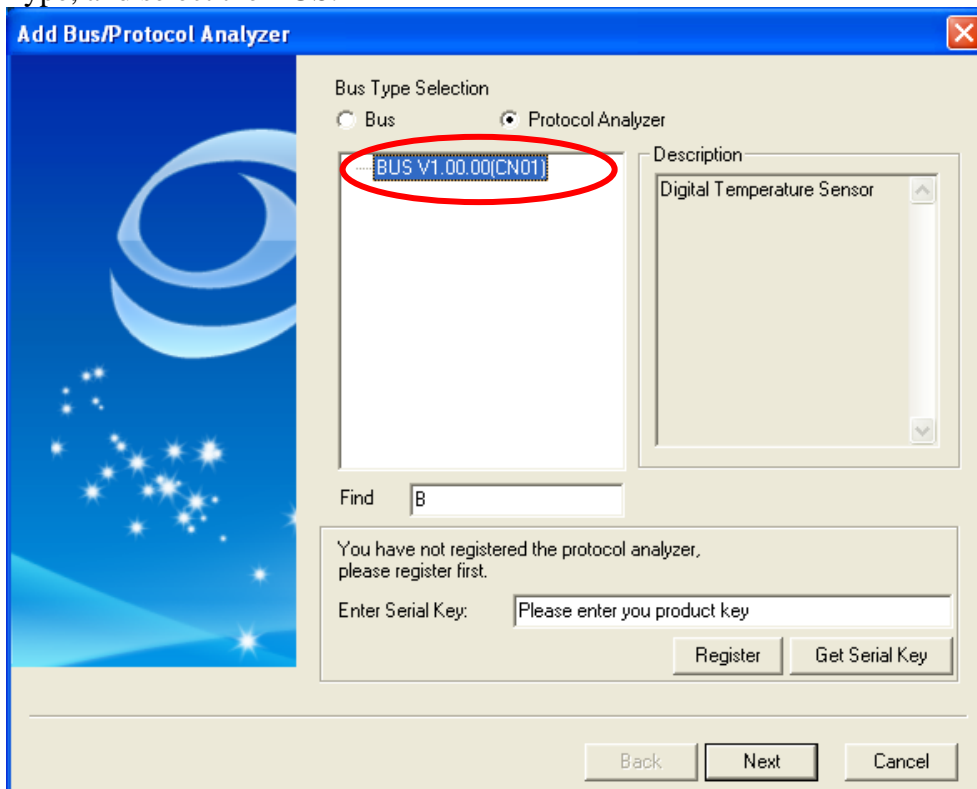
※ Remark1: The registration steps for all protocol analyzers are the same; you can complete the registration by following procedures. Following is an example on how to register the Protocol Analyzer BUS.

※ 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 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**.

Bus Type Selection
☐ Bus ☒ Protocol Analyzer

--- BUS V1.00.00(CN01) ---

Description
Digital Temperature Sensor

Find B

You have not registered the protocol analyzer,
please register first.

Enter Serial Key: Please enter you product key

Register Get Serial Key

Back Next Cancel

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

Bus Type Selection
☐ Bus ☒ Protocol Analyzer

--- BUS V1.00.00(CN01) ---

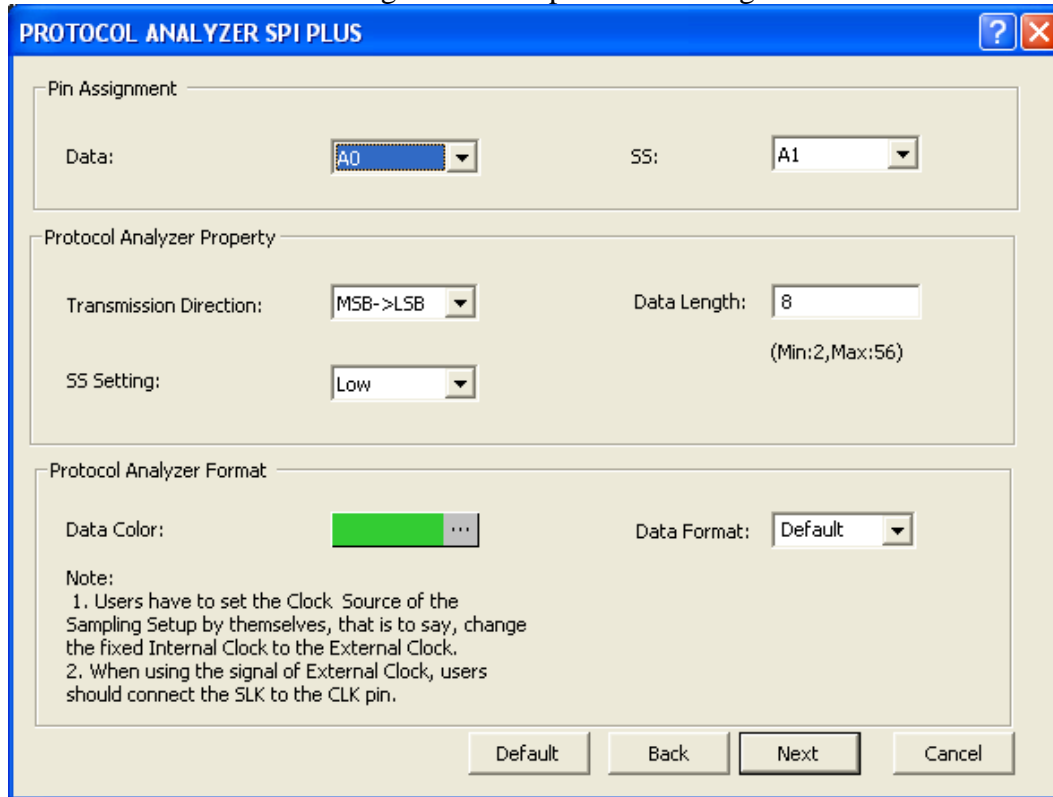
Description
Digital Temperature Sensor

Find B

Back Next Cancel

2 User Interface

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



PROTOCOL ANALYZER SPI PLUS

Pin Assignment

Data: SS:

Protocol Analyzer Property

Transmission Direction: Data Length:
(Min:2,Max:56)

SS Setting:

Protocol Analyzer Format

Data Color: Data Format:

Note:
1. Users have to set the Clock Source of the Sampling Setup by themselves, that is to say, change the fixed Internal Clock to the External Clock.
2. When using the signal of External Clock, users should connect the SLK to the CLK pin.

Default Back Next Cancel

Pin Assignment:

SPI: There are 4 signal channels for SPI, but SPI PLUS only needs 2 channels to decode, here only shows the signal channel's name and selection mark.

Protocol Analyzer Property:

Transmission Direction: Users can choose MSB->LSB or LSB->MSB as the Transmission Direction.

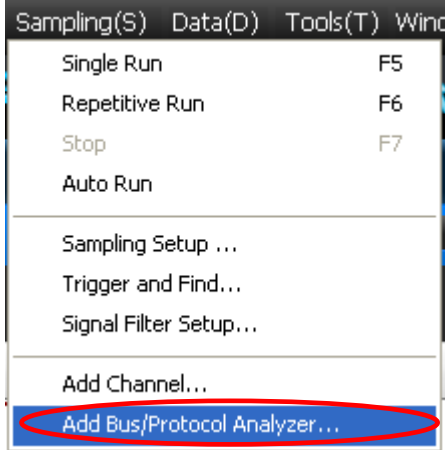
SS Setting: The default is that the decoding is valid in low level.

Data Length: Users can key in the number from 2 to 56, the default is 8.

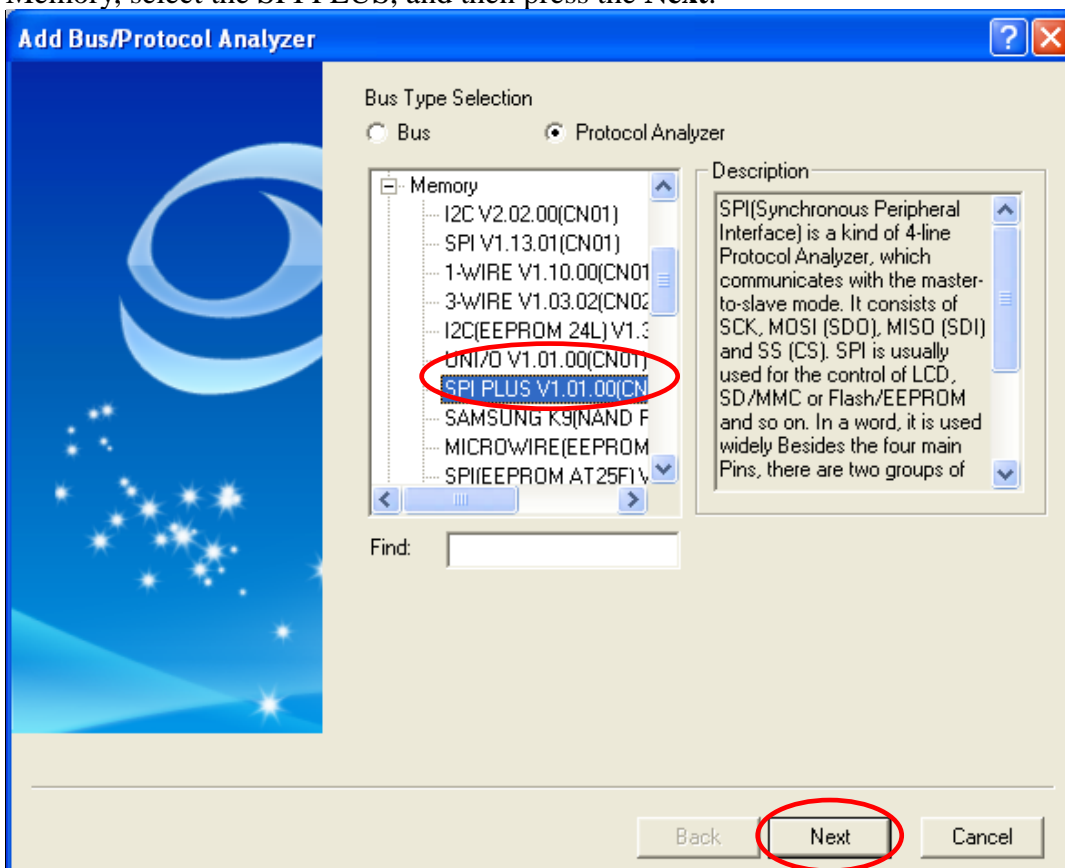
Protocol Analyzer Format: Users can set the color of the packet as their requirements. The Item (Data) can be set as Binary, Decimal, Hexadecimal, ASCII or Default. And the Data Format of the Item (Data) in the Waveform Display Area and Packet List is controlled by the Protocol Analyzer. The default 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 pulldown 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 Memory, select the SPI PLUS, and then press the **Next**.





STEP 3. Set the Pin Assignment.

PROTOCOL ANALYZER SPI PLUS

Pin Assignment

Data: SS:

Protocol Analyzer Property

Transmission Direction: Data Length:
(Min:2,Max:56)

SS Setting:

Protocol Analyzer Format

Data Color: Data Format:

Note:

1. Users have to set the Clock Source of the Sampling Setup by themselves, that is to say, change the fixed Internal Clock to the External Clock.
2. When using the signal of External Clock, users should connect the SLK to the CLK pin.

Default Back Next Cancel

STEP 4. Set the Protocol Analyzer Property.

PROTOCOL ANALYZER SPI PLUS

Pin Assignment

Data: SS:

Protocol Analyzer Property

Transmission Direction: Data Length:
(Min:2,Max:56)

SS Setting:

Protocol Analyzer Format

Data Color: Data Format:

Note:

1. Users have to set the Clock Source of the Sampling Setup by themselves, that is to say, change the fixed Internal Clock to the External Clock.
2. When using the signal of External Clock, users should connect the SLK to the CLK pin.

Default Back Next Cancel



STEP 5. Set the Protocol Analyzer Format

PROTOCOL ANALYZER SPI PLUS

Pin Assignment

Data: SS:

Protocol Analyzer Property

Transmission Direction: Data Length:
(Min:2,Max:56)

SS Setting:

Protocol Analyzer Format

Data Color: Data Format:

Note:

1. Users have to set the Clock Source of the Sampling Setup by themselves, that is to say, change the fixed Internal Clock to the External Clock.
2. When using the signal of External Clock, users should connect the SLK to the CLK pin.

Default Back Next Cancel

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

PROTOCOL ANALYZER SPI PLUS

Pin Assignment

Data: SS:

Protocol Analyzer Property

Transmission Direction: Data Length:
(Min:2,Max:56)

SS Setting:

Protocol Analyzer Format

Data Color: Data Format:

Note:

1. Users have to set the Clock Source of the Sampling Setup by themselves, that is to say, change the fixed Internal Clock to the External Clock.
2. When using the signal of External Clock, users should connect the SLK to the CLK pin.

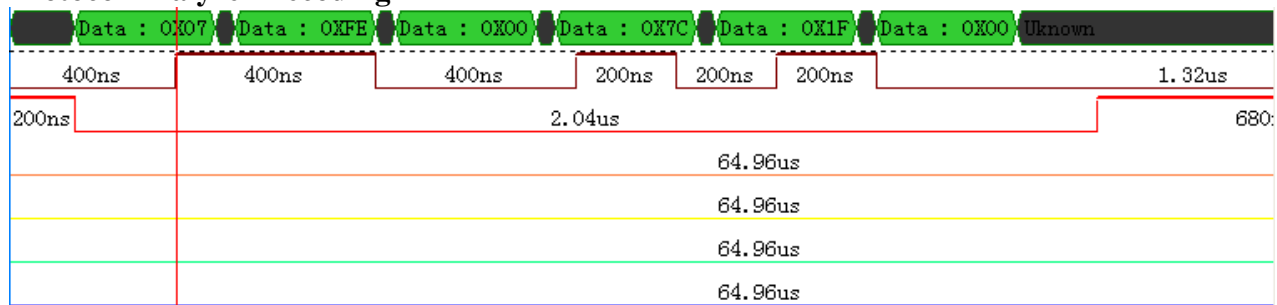
Default Back **Next** Cancel



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 trigger condition is set as Rising Edge; the memory depth is 16K; the external sampling frequency is 25MHz.

Protocol Analyzer Decoding



Packet List

Packet #	Name	TimeStamp	Data
1	Bus1(SPI PLUS)	-200ns	07
2	Bus1(SPI PLUS)	120ns	FE
3	Bus1(SPI PLUS)	440ns	00
4	Bus1(SPI PLUS)	760ns	7C
5	Bus1(SPI PLUS)	1.08us	1F