WIZSPE-T1L

Getting Started

Version 1.0.0

https://www.wiznet.io

Table of Contents

List of table

List of figures

1 Unpacking the WIZSPE-T1L

1.1 What's in the Box?

The WIZSPE-T1L evaluation board package contains the following parts.

- WIZSPE-T1L Module

1.2 Device Layout

TBD

1.3 Parts

- Ethernet MCU W7500 based on ARM Cortex-M0 with an integrated Hardwired TCP/IP core
- PHY (10Base T1L Ethernet Transceiver) capable of communication up to 1.2 km over 2 wires (1 pair)
- Pluggable Terminal Block for easy wiring
- Pin to switch from App mode to Boot mode
- Pin to switch from App mode to AT command mode
- SWD(JTAG) used as hardware debug port
- Pin for ISP mode/debug log monitoring
- Reset Button
- Reset IC
- DC-DC converter supporting wide input voltage (5VDC – 36VDC)
- 2pi DC-JACK
- Power supply through data line available (PoDL module sold separately)

1.4 Interfaces and Ports

- Data port (UART): PIN Header
- Network port: Terminal block
- User optional port: 1x6 2.54mm Pin header (Debug(ISP Port))

2 Prerequisites for Setup

2.1 Software

- Configuration Tool program (v1.5.7.2 or higher) (Download)
- TCP server / TCP client / UDP terminal program
- Serial terminal program

2.2 Hardware

- WIZSPE-T1L Module
- Power supply for operation
  - 5V – 36V DC adapter
  - With optional WIZPoDL module, can be powered from PoDL PSE

3 Connect Your WIZSPE-T1L

3.1 WIZSPE-T1L Factory Settings

Table 1 WIZSPE-T1L Ethernet Settings

Network Settings	Device	IP Address	192.168.11.2	-
:::	:::	Gateway	192.168.11.1	-
:::	:::	Subnet mask	255.255.255.0	-
:::	:::	DNS Server	8.8.8.8	Google Public DNS
:::	:::	Port	5000	-
:::	Remote	IP Address	192.168.11.3	-
:::	:::	Port	5000	-

Table 2 WIZSPE-T1L UART Settings

Serial Port Settings	Data UART	115200-8-N-1 / Flow Control: None	-
	Debug UART	115200-8-N-1 / Flow Control: None	Fixed

- Default operation mode: TCP Server Mode
- Debug messages: Enabled
- Serial command mode switching: Enabled
- Serial command mode switch code: +++ (3-byte hex code, [2B][2B][2B])
- Data packing option – Time: Disabled
- Data packing option – Size: Disabled
- Data packing option – Char: Disabled

- Inactivity timer: Disabled
- Reconnection interval: 3 seconds
- Keep-Alive packet transmission: Enabled, initial delay 7s, interval 5s

3.2 PC Settings

The PC or laptop used for configuring WIZSPE-T1L must be on the same Ethernet network segment for communication.

Example PC settings when WIZSPE-T1L is in factory default state:

Table 3 PC Network Setting (Example)

Network Settings	PC	IP Address	192.168.11.3	-
:::	:::	Gateway 주소	192.168.11.1	-
:::	:::	Subnet mask	255.255.255.0	-
:::	:::	Port 번호	5000	-

- For testing TCP client and mixed TCP server/client mode, it is recommended to match the WIZSPE-T1L's Remote host settings with the PC (or laptop).
- When using DHCP (automatic IP allocation), both the WIZSPE-T1L and the PC must receive IP addresses from the same router.

3.3 Connecting Steps

The WIZSPE-T1L is designed to connect with serial devices via UART. For initial testing with a PC, you will need a UART to USB converter so that the module can communicate with the PC via serial interface.

3.3.1 Step 1: Plug in

After assembling the WIZSPE-T1L module with the evaluation board, connect as follows:

- 10BASE-T1L Ethernet Cable
  - Connect the P and N of 10Base-T1L to the terminal block of the WIZSPE-T1L module. (Since polarity is detected and corrected, it does not matter if P and N are connected in reverse.)
  - It is recommended to use twisted cables such as UTP cable or RS485 cable. Depending on the type of cable used, the maximum communication distance may vary (700 m – 1200 m).
- Serial Cable
  - Connect the J11 (UART port) of the WIZSPE-T1L module to the PC using a UART-to-USB module. The UART-to-USB module can be purchased from commercially available products.

3.3.2 Step 2: Power on

Connect a 5V ~ 36V adapter or WIZPoDL (optional) to the PSE.

- When powered correctly, the power LED (red) on the module and board will light up.

3.3.3 Step 3: Search

Run the Configuration Tool on the PC and click the Search button. If the board is powered and connected to the same network, the tool will display the WIZSPE-T1L module's MAC address and configuration values.

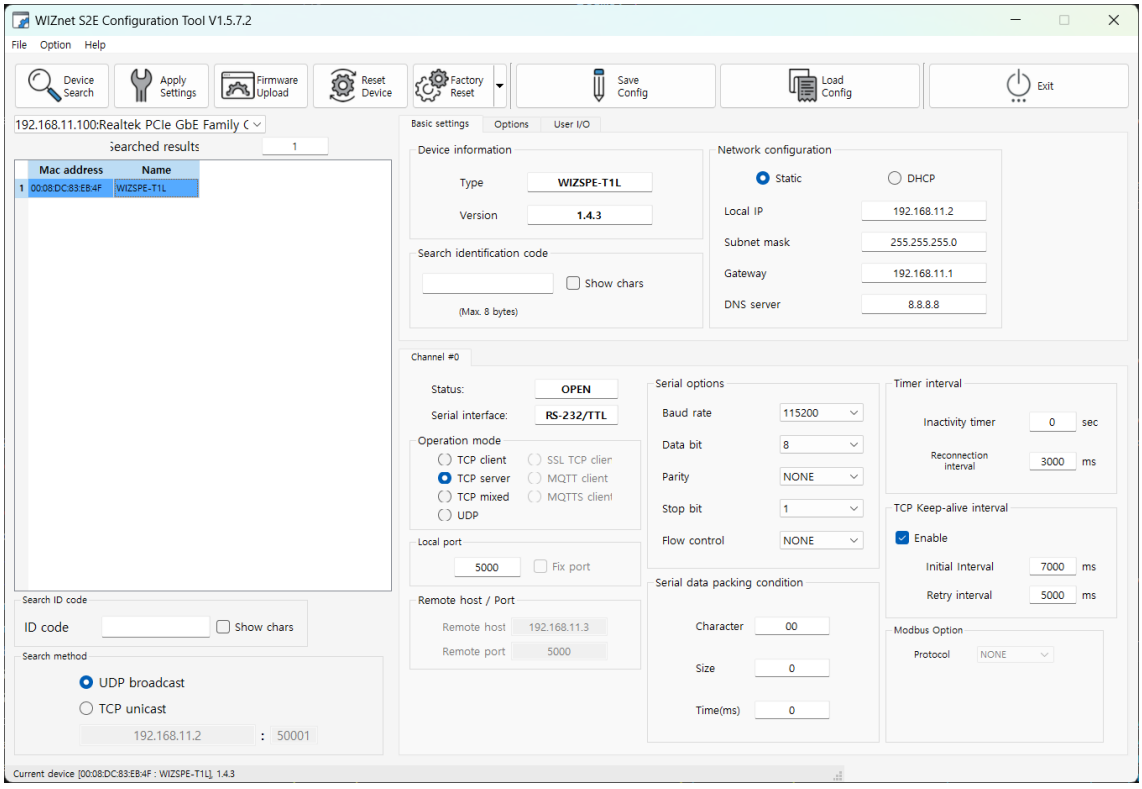

Figure 1 WIZnet Configuration Tool

3.3.4 Step 4: Set up your WIZSPE-T1L

Adjust the device settings according to your environment. For this step, initial testing is based on factory default values.

After changing the settings in the Configuration Tool, you must click the Setting button to apply the changes.

3.3.5 Step 5: Connect

Use the PC as a serial device and TCP client to perform data communication testing. For this, a serial terminal program and a TCP client terminal program must be running on the PC. Based on the factory default settings, connect the PC and the device after configuring each program as follows.

- Serial terminal program: 115200-8-N-1, Flow control: None
- TCP client program: 192.168.11.2:5000 (IP address and port of WIZSPE-T1L)

The COM port for connecting the serial terminal program can be checked in the Windows Control Panel > Device Manager.

- Control Panel > System > Device Manager

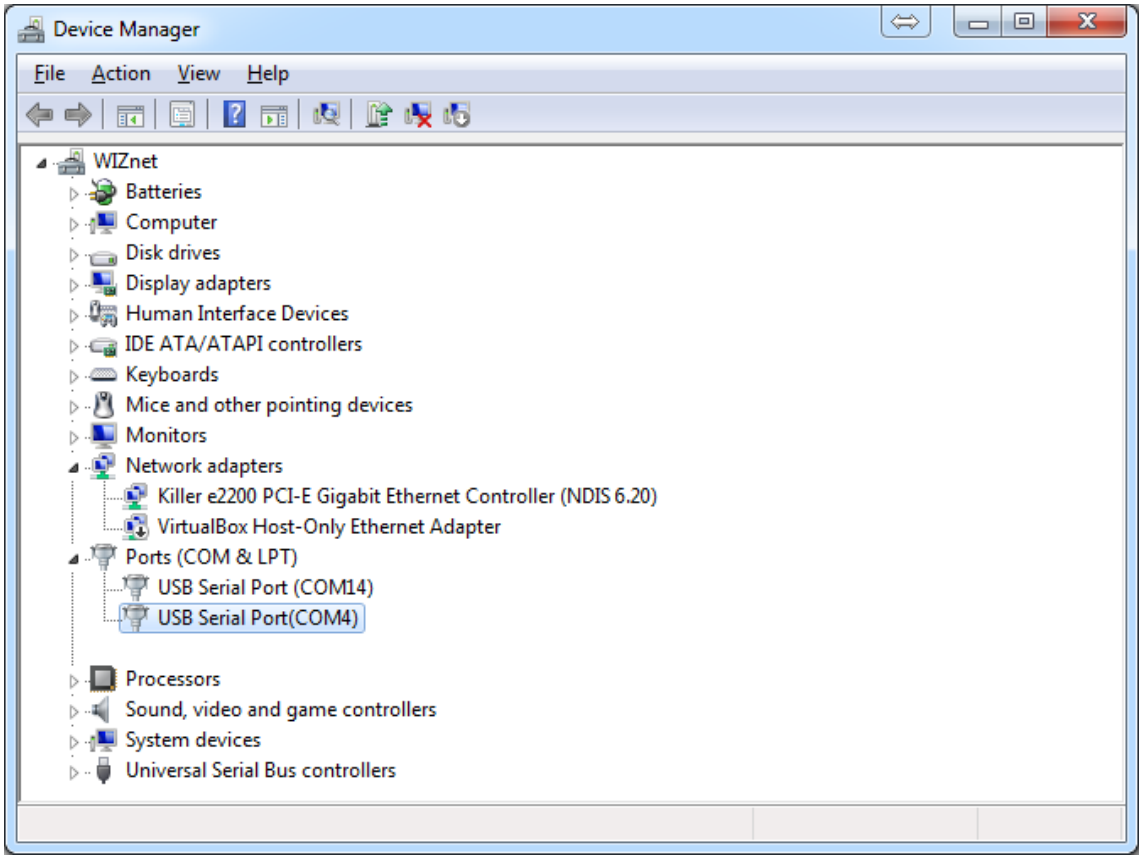

Figure 2 Device Manager

3.3.6 Step 6: Verify

If the following data communication works correctly, the basic data transmission function of WIZSPE-T1L is verified:

- Serial to Ethernet: Transmission verification
  - Enter a string in the serial terminal. The same string should appear on the TCP client terminal.
- Ethernet to Serial: Transmission verification

- Enter a string in the TCP client terminal. The same string should appear on the serial terminal.

3.3.7 Step 7: Done

Now you are ready to use the WIZSPE-T1L!

- This section describes the process of testing the operation of the WIZSPE-T1L product, assuming the PC is used as a serial device and a remote network device.
- Afterward, the user can connect the WIZSPE-T1L module to the serial device where networking functions will be added, and control or monitor the device through data transmission and reception from a remote PC or server (remote network device).

Document History Information

Version	Date	Descriptions
Ver. 1.0.0	19SEP2025	Initial Release