



WT99-DK Development Board Datasheet

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About this document

This document will help you get started quickly with the WT99-DK development board and provide detailed information about this development board.

WT99-DK is a generic board that can adapt to any module mentioned in the document.

Revision History

Please go to the Document Revisions page to view the revision history.

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Illustrate

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Revision History

No.	Version	Changes	Descriptions of the changes (+/-).	Author	Date
1	V1.0.0	C	Create a document	Guo	May 20,2022
2	V1.0.1	A	ADD 2.5	Guo	June,16,2022

*Changes: C——create, A——add, M——modify, D——delete

The document consists of the following major sections:

- Getting Started: An overview of the development board and hardware setup instructions to get started.
- Hardware Reference: More detailed information about the development board’ s hardware.



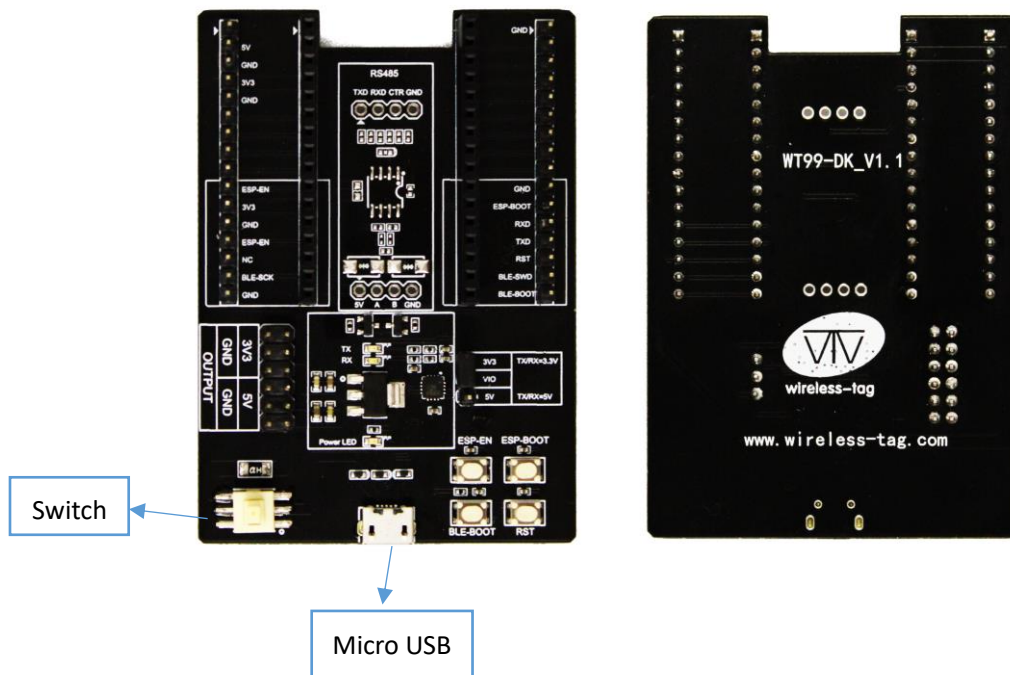
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1. Getting Started

This section provides a brief introduction of WT99-DK, and instructions on how to flash firmware onto this general purpose development board and how to do the relevant preparations.

1.1 WT99-DK Physical Drawing



1.2 Pin Description

The following table provides the Name, Type, and Function of the pins on both sides of the board, and the pin names are shown in the physical drawing of WT99-DK:

Name	Type	Function
GND	G	Ground
5V	P	5v power supply
3V3	P	3.3v power supply
ESP-EN	I	Espressif module's enable pin



		High level: enables the chip; Low level: the chip powers off;
BLE-SWD	I/O	Bluetooth module's SWD data pin
BLE-SCK	I/O	Bluetooth module's SCK clock pin
ESP-RX	I/O	Espressif module's UART0-RX
ESP-TX	I/O	Espressif module's UART0-TX
ESP-RST	I	ESP8266 series of modules' external reset signal (Active Low)
BLE-BOOT	I/O	The BOOT pin of the Linkedsemi Bluetooth module is pulled up to enter the download mode.

1.3 Key Description

EN: Espressif module's enable pin. When the button is pressed, the module is in the reset state.

ESP-BOOT: Espressif module's BOOT pin. Press the button to manually enter the download mode.

BLE-BOOT: Linkedsemi Bluetooth module's BOOT pin. Presses the button and pull up the TM pin to enter the download mode.

RST: ESP8266 series of modules' reset pin. When the button is pressed, the module is in the reset state.

1.4 Component Description

Key Components	Description
Module interface and reserved pin	Interconnects with modules via backplane-connected adapter boards.



interface	
Power supply header	The power supply output pinout can provide 3.3V or 5V voltage.
Power switch	5V power switch.
Micro USB Female socket	The USB interface is used for power supply to the board, for flashing firmware to the chip, and for communication with the chip using USB protocols.
TX RX Level jumper port	Control the I/O port level of TX/RX, you can select 3.3V or 5V, default 3.3v.
USB-to-UART Bridge	A single chip USB to UART bridge, baud rates: 50bps-6Mbps.
UART to RS485 circuit	Reserved UART to RS485 communication interface.
Power LED	The board is connected to a USB power supply, and when the power switch is pressed, the indicator light is lit.

Start Application Development

Before powering up your board, please make sure that it is in good condition with no obvious signs of damage.

1.5 Required Hardware

- WT99-DK
- USB 2.0 data cable (Standard-A to Micro-B)
- Computer running Windows, Linux or macOS

Note

Make sure you use an appropriate USB cable. Some cables can only be used for charging, not for data transfer and programming.

Hardware Setup

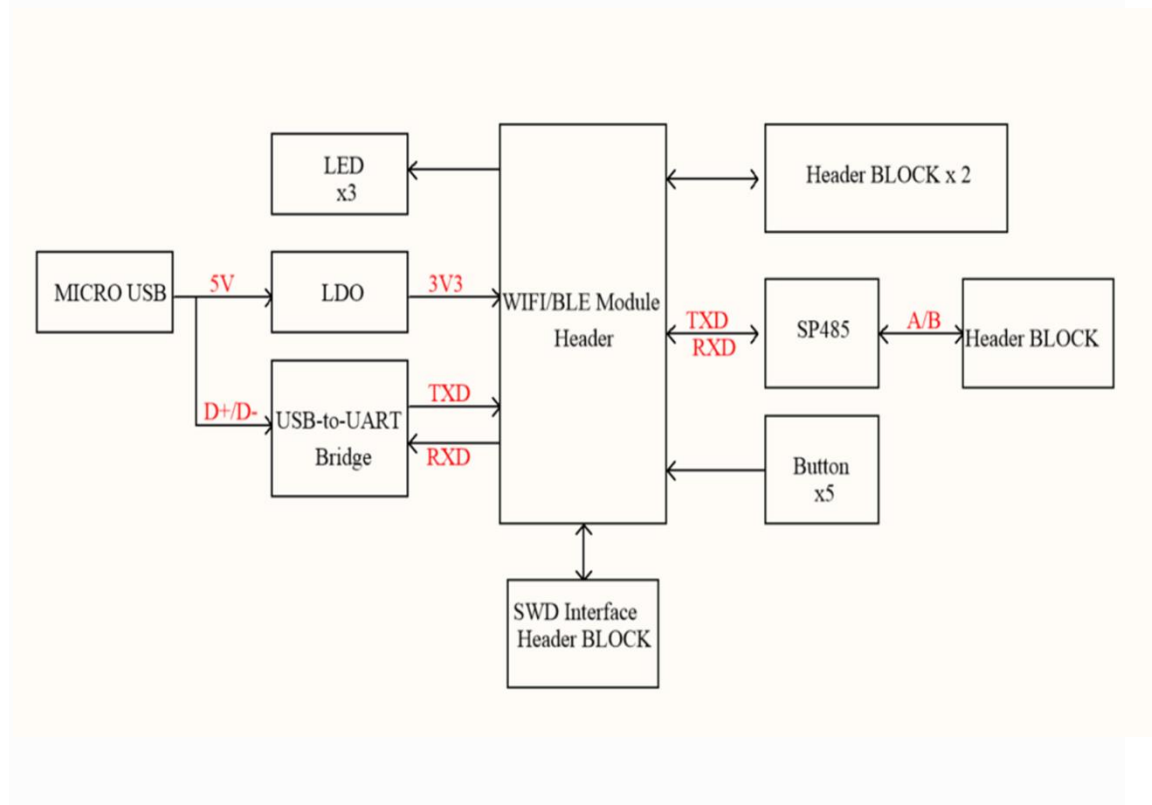


Connect the development board with the computer using the USB port and select the corresponding COM port of the computer.

2. Hardware Reference

2.1 Functional Block Diagram

The key components and interfaces of WT99-DK are shown in the following figure.



2.2 Power Supply Options

There are three mutually exclusive ways to provide power to the board:

- USB port power supply (default)
- 5V / GND header pins
- 3V3 / GND header pins



2.3 What is WT99-DK Suitable for

Module P/N	
WiFi& Bluetooth series	WT32C3-S1、WT32C3-S2、WT32C3-S5、WT32C3-S6、 WT32-S3-WROVER、WT32-S3-WROVER-I、 WT018684-S1、WT018684-S2、WT018684-S5、 WT018684-S6、 WT018684-S1U、WT018684-S5U、WT018684-S6U、 WT8266-S1、WT8266-S2、WT8266-S3、WT8266-S5、 WT8266-S6、WT32-S1
Nordic Bluetooth series	WT51822-S2、WT51822-S4AT、WT52810-S1、 WT52832-S2、WT52840-S1
Linkdsemi Bluetooth series	WT5010-S1、WT5010-S2、WT5110-S1、WT5110-S2、 WT5110-S3、WT5110-S5、WT5120-S1
ESP32 series	ESP32-WROOM-32E/UE、ESP32-WROVER-E/U、 ESP32-WROOM-32D 、 ESP32-WROOM-32E 、 ESP32-SOLO-1 、 ESP32-WROOM-32 、 ESP32-WROVER-B/IB 、 ESP32-WROVER 、 ESP32-WROVER-I
ESP32-C3 series	ESP32-C3-WROOM-02 、 ESP32-C3-WROOM-02U 、 ESP8685-WROOM-03 、 ESP8685-WROOM-05 、 ESP8685-WROOM-06
ESP32-S2 series	ESP32-S2-SOLO、ESP32-S2-SOLO-U、 ESP32-S2-WROVER、 ESP32-S2-WROVER-I、ESP32-S2-WROOM、 ESP32-S2-WROOM-I
ESP32-S3 series	ESP32-S3-WROOM-1、ESP32-S3-WROOM-1U、 ESP32-S3-WROOM-2

2.4 Adapter board

Regarding the adapter board, the above modules can be applied to our development base plate WT99-DK, between the two to be connected to the adapter board, the pins on the adapter board have been led out to the two sides of the needle, according to the actual needs of developers, easily connect a variety of peripherals through the line.



2.5 The module corresponds to the adapter board

Module model of the adapter board for the module	The name of the adapter board
WT8266-S1、 WT8266-S2	WT99-DK-01
WT32C3-S1、 WT32C3-S2、 WT018684-S1	WT99-DK-02
WT32C3-S5、 WT32C3-S6、 WT018684-S5、 WT018684-S6	WT99-DK-03
WT8266-S3、 WT8266-S5、 WT8266-S6	WT99-DK-05
WT32-S3-WROVER	WT99-DK-06
WT5010-S1、 WT5010-S2、 WT5110-S2、 WT5110-S3、 WT055120-S1	WT99-DK-07
WT5110-S1、 WT05511A-S6	WT99-DK-08
WT05511A-S5	WT99-DK-09
WT51822-S2	WT99-DK-10
WT51822-S4AT	WT99-DK-11
WT52810-S1	WT99-DK-12
WT52832-S2	WT99-DK-13
WT52840-S1	WT99-DK-15
WT32-S1	WT99-DK-16

3. Product Trial

·Sales mailbox: sales@wireless-tag.com

·Technical Support Mailbox: technical@wireless-tag.com