

# XILINX JTAG SMT DIGILENT USB

Xilinx Download Line Xilinx Platform Cable USB Downloader CPLD/FPGA Emulator



## Features:

### \* High speed and stability, complete functions .

JTAG download rate up to 30M , improve work efficiency and save waiting time;

Support Vivado, ISE, SDK, IMPACT, Chipscope, EDK , etc.

( ISE12.1+, Vivado12.1+ Cable plug-in support ) It is recommended that ISE use version 14.1 or higher (with its own driver).

### \* Support updated and upgraded devices

Support all FPGA chips

>Zynq-7000 series

>Kintex UltraScale+

>Virtex UltraScale+

>Artix-7

>Kintex-7

>Virtex-7

>Virtex-6

>Spartan-6

+ CoolRunner/CoolRunner-II CPLD series

+ Xilinx Platform Flash ISP configuration PROM series

+ **Third party SPI PROMs**

+ **Third party SPI BPI PROMs**

9500/9500XL CPLD and 1700 and 18V00 ISP PROM devices **are not supported** .

**\* The following operating systems are supported :**

—Microsoft Windows 7\Windows 8\Windows 10

—Microsoft Windows XP Professional —Windows 2000 —Red

Hat Enterprise Linux

—SUSE Linux Enterprise

**\* Automatically judge and adapt to the target I/O voltage**

**\* Compatible with the indicated device voltage range:**

5V (TTL), 3.3V (LVCMOS), 2.5V, 1.8V and 1.5V; the reference voltage is consistent with the official one, and it has the function of preventing wrong insertion or high voltage damage to the downloader and board.

**Shipping list:**

**High configuration:**

1. One Xilinx SMT2 high - speed USB downloader
2. One USB printing cable
3. One multi-function adapter board
4. One 14-pin 20cm long cable spacing 2.0mm
5. One 14-pin 20cm long cable spacing 2.54mm
6. 10-needle 20cm long line spacing 2.54mm One piece of
- 7, 7 core hole 20cm long Dupont line spacing 2.54mm One piece of

8, 7 core hole 20cm Dupont line spacing 2.54mm (with signal logo) One piece

9. Data network disk:

## **Standard configuration:**

1. One Xilinx SMT high-speed USB downloader
2. One USB2.0 data cable
3. One 2.54mm-14P cable
4. Data network disk

# XILINX JTAG DIGILENT USB

特性：

- > 适用Xilinx的多功能JTAG\SPI编程器
- > JTAG / SPI频率可由用户配置
- > 下载最高速度高达30Mbit/sec
- > 兼容所有Xilinx工具特别是Vivado,iMPACT, Chipscope和EDK,SDK (ISE 13.2+,Vivado 2012.1+)
- > 自动适应目标信号线电平范围：1.8-5V
- > 使用SPI编程解决方案（支持模式0和2）
- > 完全支持Adept SDK，允许自定义JTAG / SPI应用
- > 支持Windows XP / 7 / 8 / 10以及Linux操作系统
- > 双色LED指示状态
- > 驱动直接包含在xilinx软件中，选择安装即可。（也可单独提供）

1. All Xilinx FPGAs。
2. Xilinx Zynq-7000
3. Xilinx CoolRunner™/CoolRunner-II CPLDs
4. Xilinx Platform Flash ISP configuration PROMs
5. Select third-party SPI PROMs
6. Select third-party BPI PROMs



## Support ALL FPGA Device (future new devices)

☆Spartan-7Spartan-6Artix-7Zynq-7000

☆Kintex-7Virtex-7Kintex UltraScale

☆Virtex UltraScale Kintex UltraScale+

☆Virtex UltraScale+

☆Virtex-5 FX, Virtex-5 LX, Virtex-5 SX

☆Virtex-4, Virtex-II Pro

☆Virtex-II, Virtex-E

☆Virtex, Spartan-5

☆Spartan-3A, Spartan-3A DSP

☆Spartan-3AN, Spartan-3E

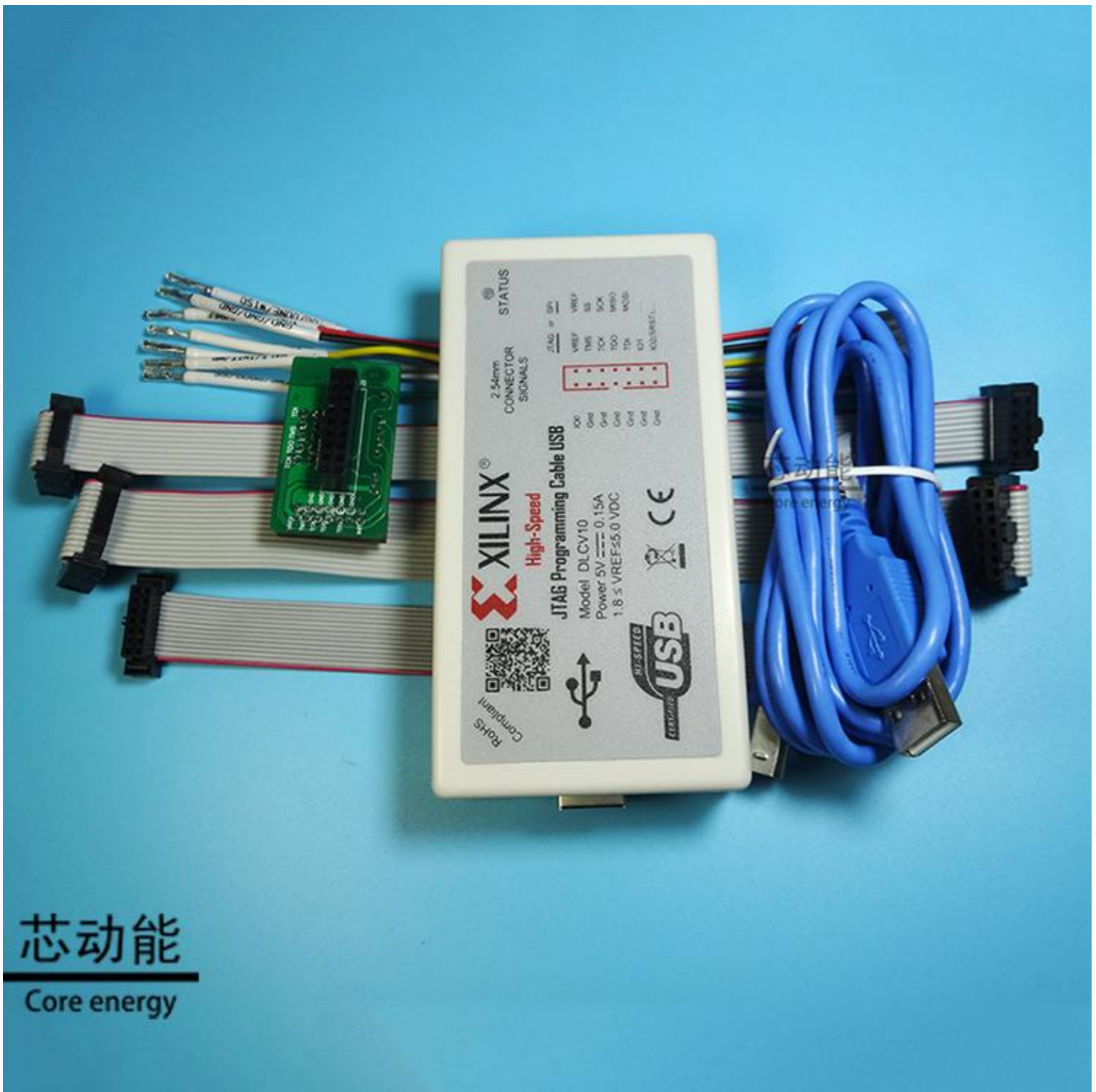
☆Spartan-3, Spartan-II

☆Spartan-II E, Spartan

☆.....

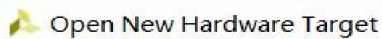


1. Ordered List Item Xilinx 9500/9500XL CPLDs
2. Xilinx 1700 and 18V00 ISP configuration PROMs
3. Xilinx FPGA eFUSE programming



**The actual maximum download speed is determined for the following reasons:**

- (1) Set the required download speed in the xilinx software: the default configuration of the software is generally 10MHz; you can try to increase it. When the speed is not applicable to the target device, please slow down the software; as shown below:



### Select Hardware Target

Select a hardware target from the list of available targets, then set the appropriate JTAG clock (TCK) frequency. If you do not see the expected devices, decrease the

Type	Name	JTAG Clock Frequency
xilinx_tcf	Digilent/210251A08870	10000000 Hz
		3000000 Hz
		3750000 Hz
		5000000 Hz
		6000000 Hz
		7500000 Hz
		10000000 Hz

Hardware Devices (for unknown device)	30000000 Hz	▼ Ion Register (IR) length)
---------------------------------------	-------------	-----------------------------

Name	ID Code	IR Length
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```
Hardware server: localhost:3121
```



## Communication Mode

- ☐ Parallel Cable III      ☐ Platform Cable USB/II  
☐ Parallel Cable IV      ☒ Digilent USB JTAG Cable  
☐ HW Server

## Advanced USB Cable Setup

Port:

JtagHs1/210249981878

TCK Speed/Baud Rate:

10 MHz<sub>x</sub>

30 MHz

15 MHz

10 MHz

7.5 MHz  
6 MHz

3 75 MHz

3 MHz

 $2 \text{ MH}_x$ 1 MHz  
500 Hz

500	KHz
250	KHz

250 MHz

Cable Location

- ☒ Local
- ☐ Remote

Host Name:

## Cable Plug-in

☐ Open Cable Plug-in. Select

```
xilinx_platformusb PORT=USB21 FREQUENCY=6000000
```

OK

Cancel

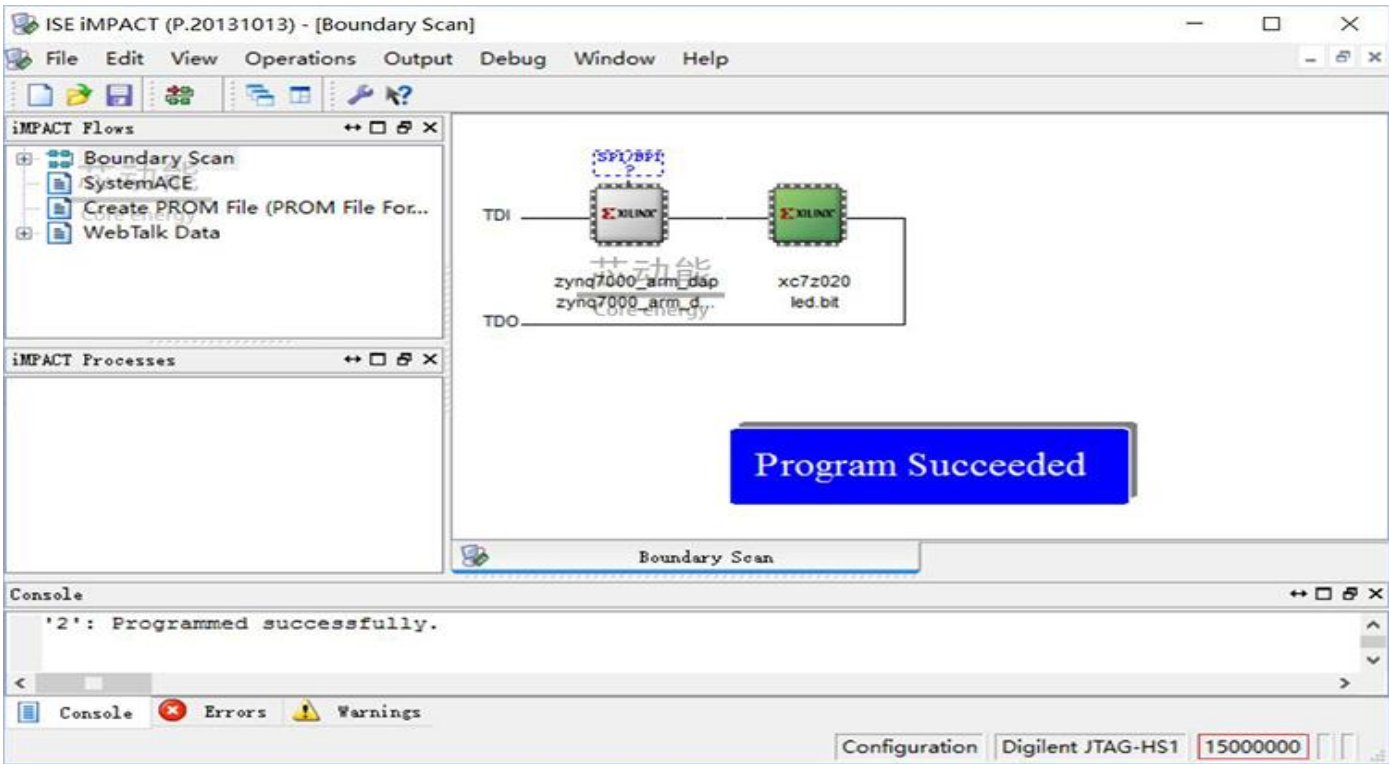
Help



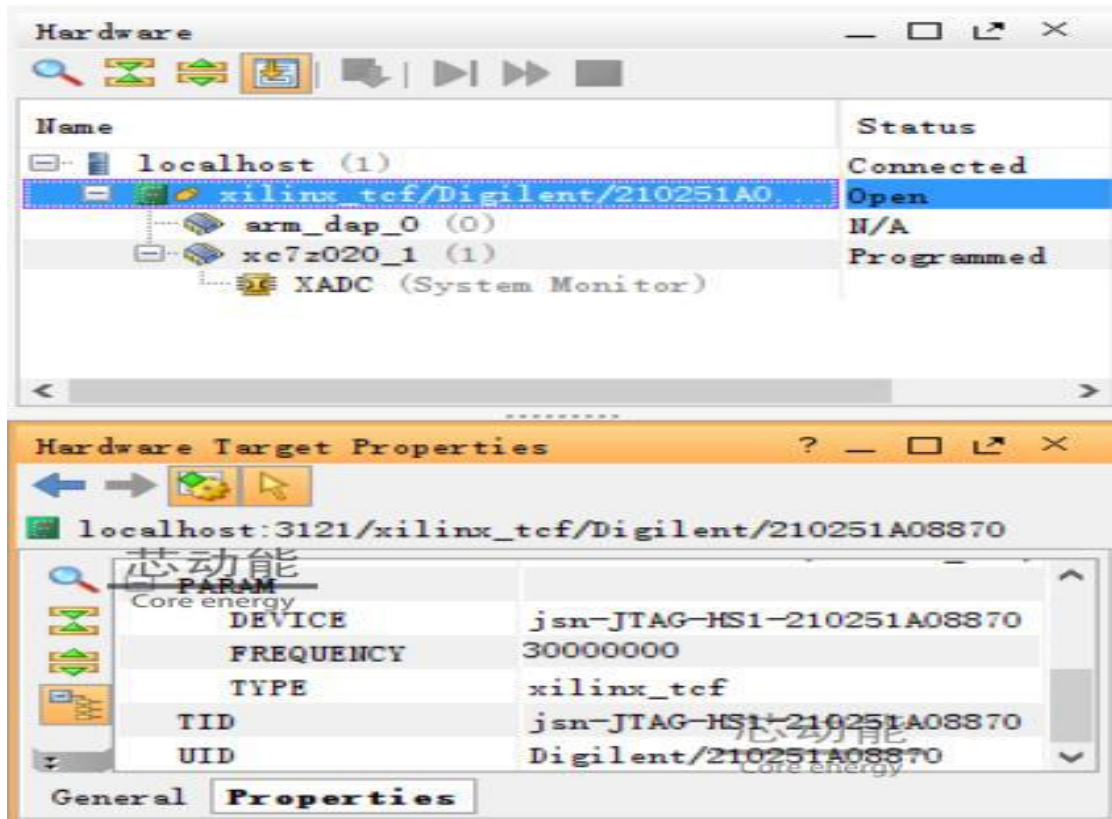
(2) The signal integrity on the link of the target device itself needs to support the selected rate;

Speed measured results:

**impact: 15MHZ**



**Vivado: 30MHZ**



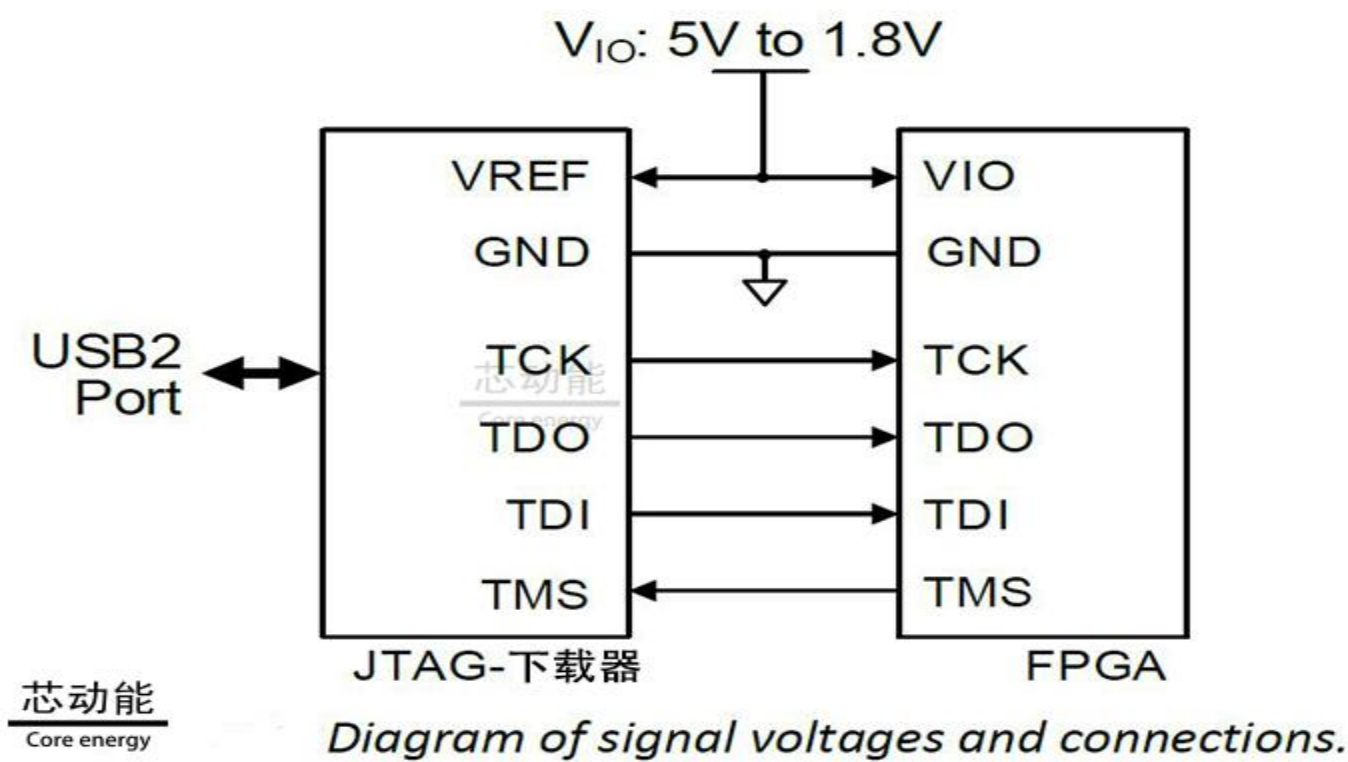


Selection guide:

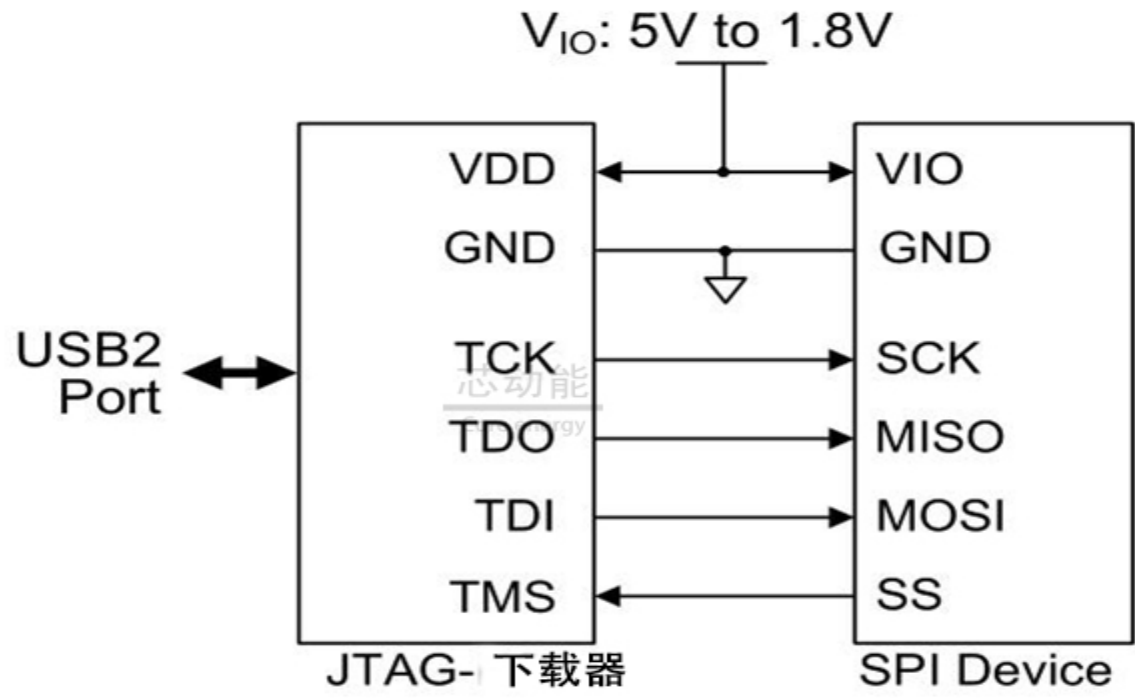
选择指南 (Selection Guide)	MT2	HS3	HS2	HS1
最大速度 (Max Speed)	30 Mhz	30 Mhz	30 Mhz	30 Mhz
电压范围 (Voltage Range)	1.8 - 5 V	1.8 - 5 V	1.8 - 5 V	1.8 - 5 V
Xilinx原生支持 (Xilinx Native Support)	ISE 14.1+ Vivado 2013.1+	ISE 14.1+ Vivado 2013.1+	ISE 13.2+ Vivado 2012.1+	ISE 13.2+ Vivado 2012.1+
Xilinx插件支持 (Xilinx Plug-in Support)	ISE 13.1+	ISE 12.1+	ISE 12.1+	ISE 12.1+
电脑接口 (PC Interface)	USB	USB	USB	USB
Digilent Adept支持 (Digilent Adept Support)	OK	OK	OK	OK
4线JTAG (4-Wire JTAG)	OK	OK	OK	OK
2线JTAG (2-Wire JTAG)	OK	NO	OK	NO
ZYNQ-7000 PS SRST Support (ZYNQ-7000 PS SRST支持)	OK	OK	NO	NO
SPI支持 (SPI Support)	OK	NO	OK	OK

The Xilinx JTAG Downloader is connected to the target board:

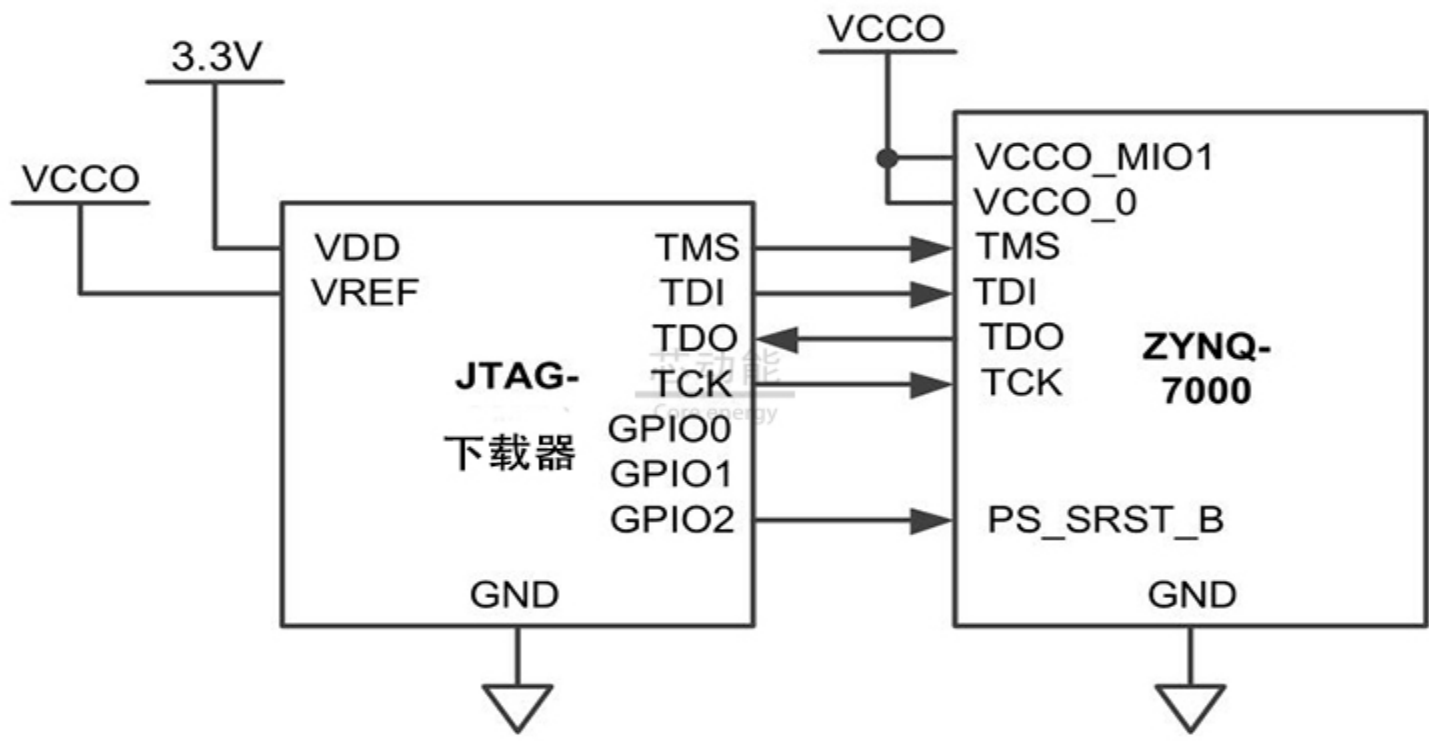
1. JTAG connection.



2. SPI connection.



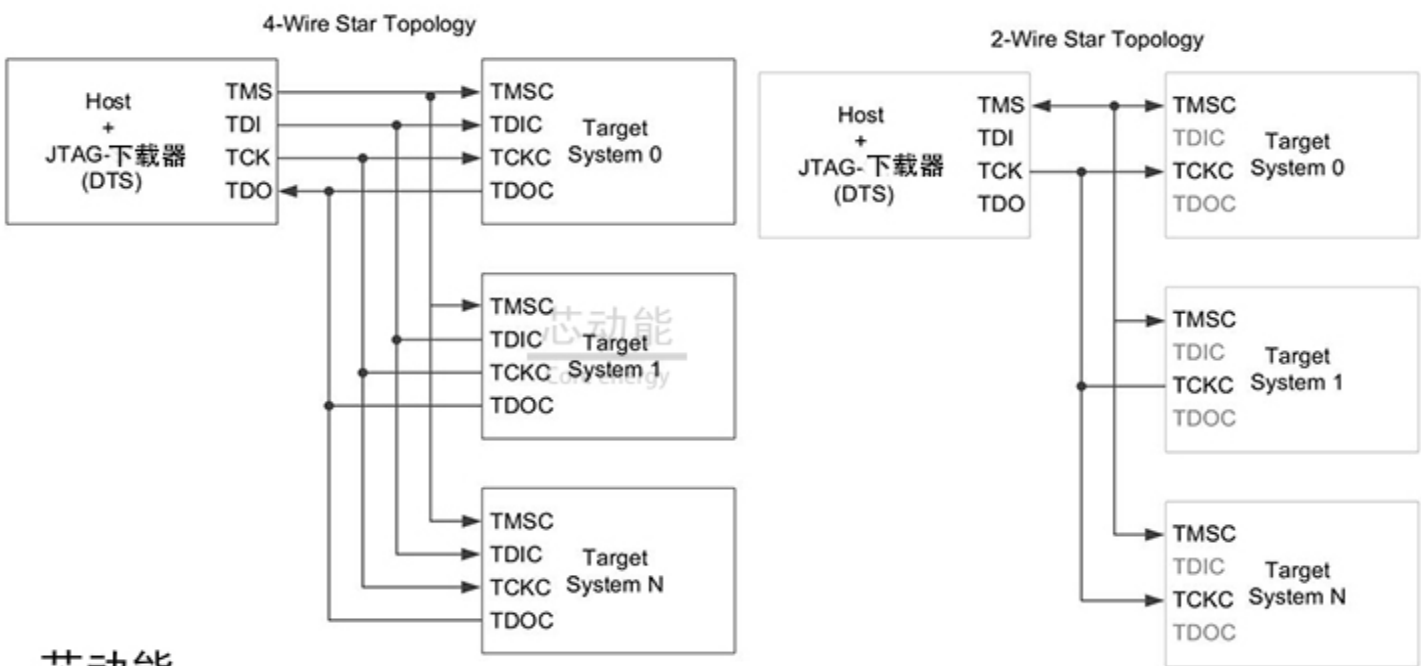
3. Xilinx's Zynq-7000 PS\_SRST\_B connection.



芯动能  
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Connecting the JTAG-下载器MT2 to Xilinx's Zynq-7000.

4-Wire and 2-Wire star topology.



芯动能  
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4-Wire and 2-Wire star topology.

**Shipping list:**

- Standard version
- Xilinx JTAG Downloader 1 piece
- USB2.0 line 1 piece
- 2.54mm 14P cable 1 piece

**Set version :**

- Xilinx JTAG Downloader 1 piece
- USB2.0 line 1 piece
- Adapter plate 1 piece
- 2.0mm 14P cable 1 piece
- 2.54mm 10P cable 1 piece
  
- Color cable 1 piece