

仿真器/调试器

J-Link 调试仿真器/调试器以其出色的性能、稳健性和易用性成为当今市场领先的调试仿真器/调试器。J-Trace PRO 凭借其流式跟踪功能为指令跟踪设定了基准，该功能可在全时钟速度下实现无限跟踪。

J-Link 仿真器

SEGGER J-Link是当今使用最广泛的调试仿真器系列，10多年以来的市场领导者。十多年来，它们为嵌入式开发提供了可靠的价值。无与伦比的性能、广泛的功能集、许多受支持的CPU以及与流行环境的兼容性都使的J-Link 成为无与伦比的选择。

J-Link 仿真器特点

- 可进行MCM测试
- 闪存中的无限断点
- 用于扩展调试信息的实时传输技术
- 支持所有流行的设备(ARM、8051、PIC32、RX)
- 支持所有流行的调试器
- 跨平台支持(Windows、Linux、Mac)
- 免费更新



J-Link PRO



J-Link ULTRA+



J-Link WiFi



J-Link PLUS



J-Link PLUS Compact



J-Link BASE



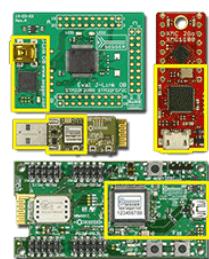
J-Link BASE
Compact



J-Link EDU



J-Link EDU Mini



J-Link OB

J-Link - 硬件特点

以太网接口、USB 全速/高速接口等硬件功能是 J-Link 型号的特定功能，无法通过软件更新进行更新或更改。硬件功能描述是指相应型号的当前硬件版本。

Feature	J-Link EDU	J-Link EDU Mini	J-Link BASE	J-Link BASE Compact	J-Link PLUS	J-Link PLUS Compact	J-Link WiFi	J-Link ULTRA+	J-Link PRO	J-Trace PRO Cortex-M	J-Trace PRO Cortex
Download speed into RAM ¹	1.0MiB/s	200KiB/s	1.0MiB/s	1.0MiB/s	1.0MiB/s	1.0MiB/s	1.0MiB/s	3.0MiB/s	3.0MiB/s	3.0MiB/s	3.0MiB/s
Max. target interface speed	15MHz	4MHz	15MHz	15MHz	15MHz	15MHz	15MHz	50MHz	50MHz	50MHz	50MHz
Max. SPI interface speed	12MHz	4MHz	12MHz	12MHz	12MHz	12MHz	12MHz	50MHz	50MHz	50MHz	50MHz
Max. SWO speed	30MHz	4MHz	30MHz	30MHz	30MHz	30MHz	30MHz	100MHz	100MHz	100MHz	100MHz
High Speed Sampling Bandwidth	1 kHz ⁵	1 kHz ⁵	1 kHz ⁵	1 kHz ⁵	1 kHz ⁵	1 kHz ⁵	1 kHz ⁵	Unlimited ⁶	Unlimited ⁶	Unlimited ⁶	Unlimited ⁶
Supported target voltage	1.2V - 5V	3.3V	1.2V - 5V	1.2V - 5V	1.2V - 5V	1.2V - 5V	1.2V - 5V	1.2V - 5V	1.2V - 5V	1.2V - 5V	1.2V - 5V
USB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ethernet	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓
WiFi	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗
JTAG interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
cJTAG interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SWD interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SWO interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Microchip ICSP® interface	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗
Renesas FINE interface	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗
ETM Trace	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓
ETB/MTB Trace	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Unlimited Streaming Trace + Live Analysis ⁴	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓

J-Link - 软件特点

软件功能是主要在主机上的软件中实现的功能。软件功能可以随 J-Link 一起提供，也可以在以后使用 Segger 的许可证字符串添加。

Feature	J-Link EDU	J-Link EDU Mini	J-Link BASE	J-Link PLUS	J-Link WiFi	J-Link ULTRA+	J-Link PRO	J-Trace PRO Cortex-M	J-Trace PRO Cortex
GDB Server	✓	✓	✓	✓	✓	✓	✓	✓	✓
Flash Download ²	✓	✓	✓	✓	✓	✓	✓	✓	✓
Real-Time Transfer (RTT)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Unlimited Flash Breakpoints ³	✓	✓	✗	✓	✓	✓	✓	✓	✓
J-Flash / J-Flash SPI	✗	✗	✗	✓	✓	✓	✓	✓	✓
Ozone	✓	✓	✗	✓	✓	✓	✓	✓	✓
RDI	✗	✗	✗	✓	✓	✓	✓	✓	✓
RDDI	✗	✗	✗	✓	✓	✓	✓	✓	✓

J-Link - 支持内核

在现有 J-Link 硬件允许的情况下，可以使用新固件版本向现有 J-Link 型号添加对额外/新内核的支持。



Core	J-Link EDU	J-Link EDU Mini	J-Link BASE	J-Link PLUS	J-Link WiFi	J-Link ULTRA+	J-Link PRO	J-Trace PRO Cortex-M	J-Trace PRO Cortex
ARM legacy cores									
ARM7	✓	✗	✓	✓	✓	✓	✓	✗	✗
ARM9	✓	✗	✓	✓	✓	✓	✓	✗	✗
ARM11	✓	✗	✓	✓	✓	✓	✓	✗	✗
ARM Cortex cores									
Cortex-A5	✓	✓	✓	✓	✓	✓	✓	✗	✓
Cortex-A7	✓	✓	✓	✓	✓	✓	✓	✗	✓
Cortex-A8	✓	✓	✓	✓	✓	✓	✓	✗	✓
Cortex-A9	✓	✓	✓	✓	✓	✓	✓	✗	✓
Cortex-A12	✓	✓	✓	✓	✓	✓	✓	✗	✓
Cortex-A15	✓	✓	✓	✓	✓	✓	✓	✗	✓
Cortex-A17	✓	✓	✓	✓	✓	✓	✓	✗	✓
Cortex-A53	✓	✓	✓	✓	✓	✓	✓	✗	✗
Cortex-A72	✓	✓	✓	✓	✓	✓	✓	✗	✗
Cortex-M0	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cortex-M0+	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cortex-M1	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cortex-M3	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cortex-M4	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cortex-M7	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cortex-M23	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cortex-M33	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cortex-R4	✓	✓	✓	✓	✓	✓	✓	✗	✓
Cortex-R5	✓	✓	✓	✓	✓	✓	✓	✗	✓
Cortex-R8	✓	✓	✓	✓	✓	✓	✓	✗	✓
Sc000 (M0 secure)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sc300 (M3 secure)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Microchip PIC32									
Microchip PIC32MX	✓	✗	✓	✓	✓	✓	✓	✗	✗
Microchip PIC32MZ	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas RX									
Renesas Rx110	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas Rx111	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas Rx210	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas RX21A	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas Rx220	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas Rx610	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas Rx621	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas RX62G	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas RX62N	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas RX62T	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas Rx630	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas Rx631	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas RX63N	✓	✗	✓	✓	✓	✓	✓	✗	✗
Renesas RX63T	✓	✗	✓	✓	✓	✓	✓	✗	✗
RISC-V									
Rv32	✓	✓	✓	✓	✓	✓	✓	✗	✗
Rv64	✓	✓	✓	✓	✓	✓	✓	✗	✗
SiLabs 8051									
Rv32	✓	✗	✓	✓	✓	✓	✓	✗	✗

J-Trace PRO 仿真器

J-Trace PRO是一种高级调试仿真器/调试器，支持Arm对Arm Cortex内核的高级跟踪功能。它可以在无限时间内捕获完整的指令跟踪，从而能够记录不常见的、难以重现错误。

J-Trace PRO 仿真器特点

- 支持流式跟踪（跟踪数据实时流式传输到PC/调试器，无限跟踪缓冲区）
- 具有所有J-Link 功能
- 千兆以太网接口
- 超高速USB3.0接口(1.2 GBit/s)
- JTAG速度:50 MHz
- 适用于所有当前可用的Cortex-M设备，最高可达150 MHz ETM跟踪时钟(300 MHz CPU时钟)
- 支持跟踪Cortex-M/R/A目标
- 免费软件更新
- 用于传统一次性跟踪模式的64 MiB板载跟踪缓冲区



J-Trace PRO：模型比较

J-Link 调试仿真器/调试器以其出色的性能、稳健性和易用性成为当今市场领先的调试仿真器/调试器。J-Trace PRO 凭借其流式跟踪功能为指令跟踪设定了基准，该功能可在全时钟速度下实现无限跟踪。

Feature	J-Trace PRO Cortex-M	J-Trace PRO Cortex
USB	3.0 (SuperSpeed)	3.0 (SuperSpeed)
10/100/1000 Ethernet	✓	✓
JTAG interface	✓	✓
SWD interface	✓	✓
SWO interface	✓	✓
Unlimited Streaming Trace + Live Analysis	✓	✓
Cortex-M ETM Trace	✓	✓
Cortex-A ETM Trace	✗	✓
Cortex-A PTM Trace	✗	✓
Cortex-R ETM Trace	✗	✓
Max. CPU frequency	∞	∞
Max. TPIU frequency	300 MHZ	300 MHZ
Max. trace clock frequency	150 MHZ	150 MHZ

