

PALMiCE3 JTAG emulator

PALMiCE3 CM3



PALMiCE3 CM3 is a JTAG emulator specifically for Cortex-M3 core. To the target system, it is to be connected with 20-pin 1.27mm pitch connector. It supports SWD (Serial Wire Debug), SWV (Serial Wire Viewer), and ETM (Embedded Trace Macrocells). SWD implements Go/Break of the user program by 2 strings of signal lines. With this, the number of signal lines can be reduced than with the traditional JTAG interface. Not to mention JTAG interface support. SWV allows variable value and exception information referencing without break during execution by 1 string of signal line. Furthermore, with time stamp feature, it implements measurement of relative time between informations. ETM allows to capture

instruction execution trace data just by connecting 2 strings of signal lines. PALMiCE3 supports USB2.0 (High-speed) as the host interface. Yet, the Vbus, which requires no power supply, is also supported as the feature was well received in PALMiCE2. PALMiCE3 has a palm-sized, light and compact body, providing excellent portability to support you with debugging. As for the debugger, it surely incorporates CSIDE, which provides a user-friendly debugging environment. CSIDE supports not only high-level language debugging of a range of C languages but also fully prepared for the debugging of a range of RTOSs with optional debug libraries.

- Supports SWD and SWV
- Supports ETM (between the widths 1bit - 4bit)
- Supports USB2.0(High-speed), allowing high-speed processing
- A palm-sized, compact body
- Wide range voltage support (1.65V - 5.5V automatic adaptation) and voltage measurement feature
- Requires no power supply with VBus support
- Instruction execution break and access break features
- Supports on-chip/external flash memory debugging
- Supports Sleep mode
- Supports debugging of a range of RTOSs (Optional)

Main specifications

		ETM200 model	JTAG200 model
Supported CPUs *1		STM32xxx6, STM32xxx8, STM32xxxB, STM32xxxE*2 TMPM330FDFG LM3S800 Series	
Target interface	Voltage	1.65V~5.5V (Automatically follows target)	1.0V~5.5V (Automatically follows target)
	Current consumption	50µA or lower	
	Voltage measurement	Measures by sampling and shows the results. Accuracy: 50mV and precision showing 2 decimal places.	
	Connector	20-pin connector (Half-pitch 1.27mm, approx. 47 cm-long cable)	20-pin MIL connector, 20cm cable
JTAG clock		Can be set freely within a range between 1KHz and 40MHz.	
Register, memory operation		Allows referencing/editing of memory whether while in break or execution. Allows referencing/editing of register and downloading to memory only while in break.	
Flash memory support		In addition to downloading, it also supports software break settings and ordinary memory rewriting feature. Furthermore, new device can be supported by adding definition file format to external flash memory or by adding the CPU to on-chip flash memory.	
Software break feature		Supports up to 256 points with instruction replacement method.	
CPU break feature		Before instruction execution break: 6points Data access break: 4 points (1 of which can be specified even by access data)	
Execution time measurement		Measures execution time of the user program (64-bit counter, measurement unit=1mS) Real-time data watch: 4 points CPU cycle measurement (Instruction cycle, PC, exception cycle, etc.) Execution time measurement between the specified data access addresses Simple profiler feature that shows by-function execution rate. Easy Printf debugging (Allows easy output of string from the user program to the debugger.) Exception information transition viewing functionality Relative time measurement between SWV information outputs (Allows measurement of gap between Printf executions, etc.)	
ETM feature	Tracing memory	512K frame	
	Size of port	1-bit, 2-bit, 4-bit(Capturing can be implemented by connecting signal lines for the port size and trace clock signal.)	
	Clock	Max50MHz (Equivalent to 100MHz if capturing at dual edges)	
	Time stamp	32 bit (Clock: 1us or 50nS to choose from)	
Debugger included as standard		CSIDE for PALMiCE3 ARM-E	

*1 : For the CPUs that are not listed in this table, please contact us.

*2 : The digits at the end of CPU name corresponds to the capacity of on-chip flash memory of STM32 family CPUs (xxx6 = 32KB, xxx8 = 64KB, xxxB = 128KB, xxxE = 512KB).

Main specifications

		ETM200 model	JTAG200 model	
General specifications	Power specification	DC5V ±5%, Approx. 350mA max. (USB VBus support)		
	Outside dimensions	95mm(W) ×70mm (D) ×21mm (H) (Exclusive of connector)		
	Host I/F	USB mini-B connector		
	Operating environment	Host computer	The computers running on the supported OSs	
		CD drive	Required at the time of installation	
USB		USB2.0		
	OS	Windows 2000 (Service Pack 4 onward) / Windows XP 32-bit version (Service Pack 1 onward) / Windows Vista 32-bit version / Windows 7 32-bit version, 64-bit version		
Product composition contents		PALMiCE3 ETM200 model main unit set / 2m USB cable / dedicated debugger (CD-ROM)	PALMiCE3 JTAG200 model main unit set / 2m USB cable / dedicated debugger (CD-ROM)	
Support System		Yes		

Supported languages and supported RTOSs

Supported C compiler	ARM MDK / RVCT, IAR EW
Supported RTOSs(Optional)	uC3, TOPPERS

*: For details on respective versions, please contact us.

Optional software

Product name	Contents
uITRON-DBGLIB-ARM/P3	Debug library specifically for uITRON. It allows to display Status Window, Task Trace Window, etc.
TOPPERS-DBGLIB-ARM/P3	Debug library specifically for TOPPERS. It allows to display Status Window, Task Trace Window, etc.

*: For details on supported RTOSs and supported Linux, please contact us.

Optional hardware

Product name	Contents
ADP-SWJ-HP20-MIL20-E	Adapter for PALMiCE3 CM3 connection to 20-pin MIL connector on the target.
EXTPRB1	Cable for CPU break by input of external signal of your choice.
SWJ-PRB-MIL20-20HP-E	Probe with SWJ-DP *1 by CoreSight. It allows connection to 20-pin (half-pitch 1.27mm) connector on the target.
SWJ-PRB-MIL20-10HP-E	Probe with SWJ-DP *1 by CoreSight. It allows connection to 10-pin (half-pitch 1.27mm) connector on the target.

*1: Serial Wire JTAG Debug Port



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