

UDE MCDS Support

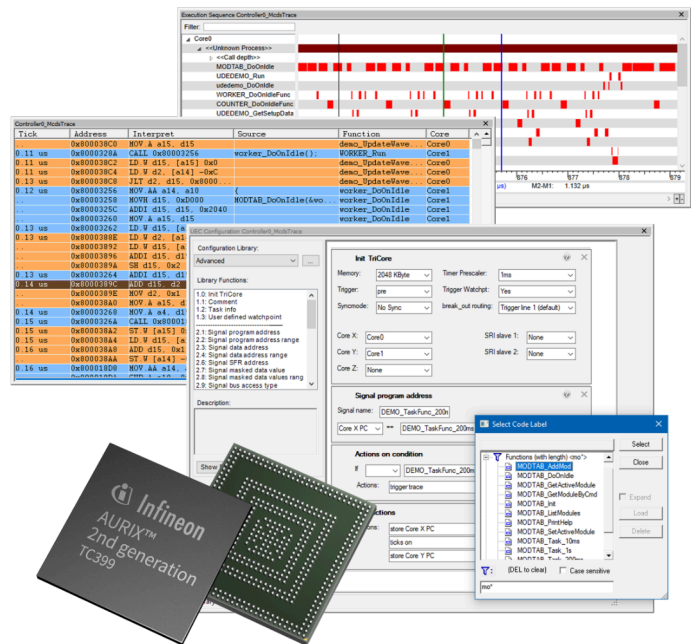
Multi-Core Trace for Infineon AURIX™ and TriCore™ Devices

Multi-Core-Debug-Solution (MCDS) adds powerful trace and logic analyzer capabilities to AURIX™ and TriCore™ micro-controllers from Infineon. The full-featured MCDS is available on Emulation Devices (ED) and adds additional on-chip trace memory, a powerful filter and trigger logic and an optional Aurora Gigabit Trace (AGBT) to the standard production devices without changing the run-time behavior or the pin-out. The on-chip trace memory allows the trace to be recorded and then transferred to the UDE using the JTAG/DAP interface.

UDE MCDS Support

The **UDE MCDS Support** enables the user to use the trace functions offered by MCDS for trace-based debugging, trace-based system analysis and trace-based measurement.

- Universal Emulation Configurator (UEC) – a powerful, easy-to-use graphical trace configurator enables access to the complete feature set of MCDS's filter and trigger logic
- Feature-rich trace data analysis functions including profiling, call graph analysis, code coverage
- Visualization of captured traces: execution sequence chart (gantt) chart, trace list with additional information (e.g. data transfers, events, performance counters, and lot more



miniMCDS – Lightweight Trace for Production Devices

Some AURIX™ devices are equipped with miniMCDS, which offers limited functionality for trace based debugging even for production devices.

- 8 KB on-chip trace memory
- No performance counters
- Program and data trace for one selectable core
- No option for Aurora Gigabit Trace (AGBT)

MCDS support for XC2000ED

In addition to the series chip functionality, the XC2000ED emulation device contains also an MCDS-based on-chip emulator providing functions for trace based debugging and system analysis. The internal emulator logic enables a detailed, non-intrusive observation of all relevant system processes on the chip. For recording the program and data flow, a 4 Kbyte on-chip trace memory is available.

For the MCDS of XC2000ED UDE provides the same powerful, easy-to-use graphical trace configurator (UEC) as for the AURIX™ and TriCore™ devices.

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Feature Comparison of MCDS, MCDSlight and miniMCDS of AURIX™/TriCore™ and XC2000ED

Features	MCDS					MCDSlight	miniMCDS	MCDS for XC2000ED
Supported devices	TC4x	TC37xEXT TC39xED	TC23xED TC24xED TC26xED TC27xED TC29xED	TC1798ED TC1797ED TC1793ED TC1784ED TC1767ED TC172xED	TC1796ED TC1766ED	TC33xED TC35x	TC29x TC37x TC38x	XC2080ED XC2090ED
Program trace	■	■	■	■	■	■	□	■
Compact Function Trace (CFT)	■	■	■			■	■ ¹	
Data trace	■	■	■	■	■	■	□	■
DMA trace	■	■	■	■	■			
BUS trace	■	■	■	■	■			
Watchpoint (event) trace	■	■	■	■	■	■	■ ¹	■
Performance counter trace	■	■	■	■				
Exact timestamping based on ticks	■	■	■	■	■	■	□	■
Multi-core trace (trace multiple cores in parallel)	■	■	■	■	■	■		
GTM trace	■	■	■					
Trace of peripherals	■	■	■					
OCDS L1 trigger condition	■	■	■	■	■	■	■ ¹	■
Sequential trigger condition	■	■	■	■	■	■	■ ¹	■
Ref. clock based time stamps	■	■	■	■	■	■	■ ¹	■
Time based trigger condition	■	■	■	■	■	■	■ ¹	■
Breaking cores on trigger condition	■	■	■	■	■	■	■ ¹	■
Emitting signal on external trigger pin	■	■	■		■	■	■ ¹	■
PPU program trace	■							
Size of on-chip trace memory	Depending on trace mode	Up to 2 MB ²	Up to 1 MB ²	Up to 768 KB ²	Up to 256 KB ²	Up to 2 MB ²	8 KB	4 KB
Aurora Gigabit Trace (AGBT)		■ ³	■ ³					
Serial Gigabit Trace (SGBT)	■ ³							
Supported target interfaces / connectors	Standard DAP or JTAG, SGBT ³	Standard DAP or JTAG, AGBT ³	Standard DAP or JTAG, AGBT ³	Standard DAP or JTAG	Standard DAP or JTAG	Standard DAP or JTAG	Standard DAP or JTAG	Standard DAP or JTAG
Required UDE licenses	UDE-LIC-TC4xx and UDE-TC UEC	UDE-LIC-TC-MCA and UDE-TC UEC	UDE-LIC-TC-MCA and UDE-TC UEC	UDE-LIC-TC and UDE-TC UEC	UDE-LIC-TC and UDE-TC UEC	UDE-LIC-TC-MCA and UDE-TC UEC	UDE-LIC-TC-MCA, optional UDE-TC UEC ¹	UDE-LIC-XC2000 and UDE-XC2000 UEC

■ Additional UEC license required.

□ Included in UDE-TC-MCA base license.

¹ Extended features of UEC for miniMCDS not covered by UDE base license. Additional UEC license required.

² The actual size of the on-chip trace memory depends on the specific device.

³ Option for specific devices.

If you have any questions about our products, please feel free to contact us:

PLS Programmierbare Logik & Systeme GmbH
Technologiepark Lauta
D-02991 Lauta
Germany
Phone: + 49 35722 384 - 0

PLS Development Tools
10080 N. Wolfe Rd., Suite SW3-200
Cupertino, CA 95014
USA
Phone: +1-949-863-0327
Toll Free: +1-877-77-DEBUG

Your local partner:

www.pls-mc.com
info@pls-mc.com