






Microprocessor Off-Chip Trace Solutions Overview

	PowerTrace System				
					
	PowerTrace Serial 2	PowerTrace III	PowerTrace II Lite	CombiProbe 2	µTrace
Application	High-performance serial tracing	High-performance parallel tracing	Parallel tracing	Advanced debugging and system trace	All-in-one debug and trace solution
Memory Size	4 GB or 8 GB	4 GB or 8 GB	1 GB	512 MB	256 MB
Maximum Bandwidth	80 Gbit/s	19.2 Gbit/s	10.8 Gbit/s	3.2 Gbit/s	1.6 Gbit/s
Streaming Performance	400 Mbyte/s	400 Mbyte/s	100 Mbyte/s	140 Mbyte/s	140 Mbyte/s
Parallel trace¹	—	Up to 36 signals 600+ Mbit/s per signal for 17 signals 350 Mbit/s per signal for 36 signals	Up to 36 signals 450 Mbit/s per signal for 17 signals 225 Mbit/s per signal for 36 signals	Two ports with up to 4 signals each. 400 Mbit/s per signal (for all signals)	One ports with up to 4 signals. 400 Mbit/s per signal (for all signals)
Serial trace²	Up to 8 lanes with 12.5 Gbit/s per lane Up to 4 lanes with 22.5 Gbit/s per lane ⁴	Up to 4 lanes ³ 6.25 Gbit/s per lane for 3 lanes 5.00 Gbit/s per lane for 4 lanes	Up to 4 lanes ¹³ 6.25 Gbit/s per lane for 2 lanes 4.50 Gbit/s per lane for 3 lanes 3.38 Gbit/s per lane for 4 lanes	—	—
Serial trace via PCIe	PCIe2 / PCIe3: Up to 8 lanes PCIe4 ⁵ : Up to 4 lanes	—	—	—	—
Supported Trace Protocols	ETM, PTM, TWP, MCDS, Nexus, HSDP, AGBT, Aurora	ETM, PTM, TWP, SWV, MCDS, Nexus, STP	ETM, PTM, TWP, SWV, MCDS, Nexus, STP	ETM, TWP, SWV, MCDS, Nexus ⁶ , STP	ETM, TWP, SWV
Optional Analog/Digital Probe	Mixed Signal Probe (12 digital, 6 voltage, 2 current channels)	Mixed Signal Probe (12 digital, 6 voltage, 2 current channels)	—	Mixed Signal Probe ⁷ (12 digital, 6 voltage, 2 current channels)	Mixed Signal Probe (12 digital, 6 voltage, 2 current channels)
Supported CPU Architectures	More than 150 CPU architectures and sub-architectures				Arm [®] Cortex [®] -M / RISC-V 32-bit
Required Base Module	PowerDebug X50			PowerDebug E40 or PowerDebug X50	—
Link	view more	view more	view more	view more	view more

¹ Requires trace preprocessor. Pin-count and recording-speed depends on used preprocessor and trace protocol.

² We specify here the speed of the serial link. The maximum speed for the transferred payload is usually smaller due to line encoding, e.g. 80 % with 8b/10b encoding.

³ Requires serial preprocessor. For serial tracing we recommend PowerTrace Serial.

⁴ Requires preprocessor.

⁵ Requires preprocessor (available in Q2/23).

⁶ Nexus with CombiProbe only for RISC-V.

⁷ Instead of 2nd trace port.