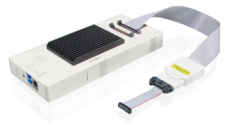
Microprocessor Off-Chip Trace Solutions Overview

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 Trace[1]	–	Up to 36 signals 600+ Mbit/s per signal for 17 signals 350 Mbit/s per signal for 36 signals	Up to 36 signals 600+ Mbit/s per signal for 9 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 Trace[2]	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 lanes1[3] 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[4]: 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[5], 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[6] (12 digital, 6 voltage, 2 current channels)	Mixed Signal Probe (12 digital, 6 voltage, 2 current channels)
Supported CPU Architectures	More then 150 CPU architectures and sub-architectures				Arm® Cortex®-M / RISC-V 32-bit
Required Base Module	PowerDebug X51			PowerDebug E40 or PowerDebug X51	–
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] Nexus with CombiProbe only for RISC-V.

[6] Instead of 2nd trace port.

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