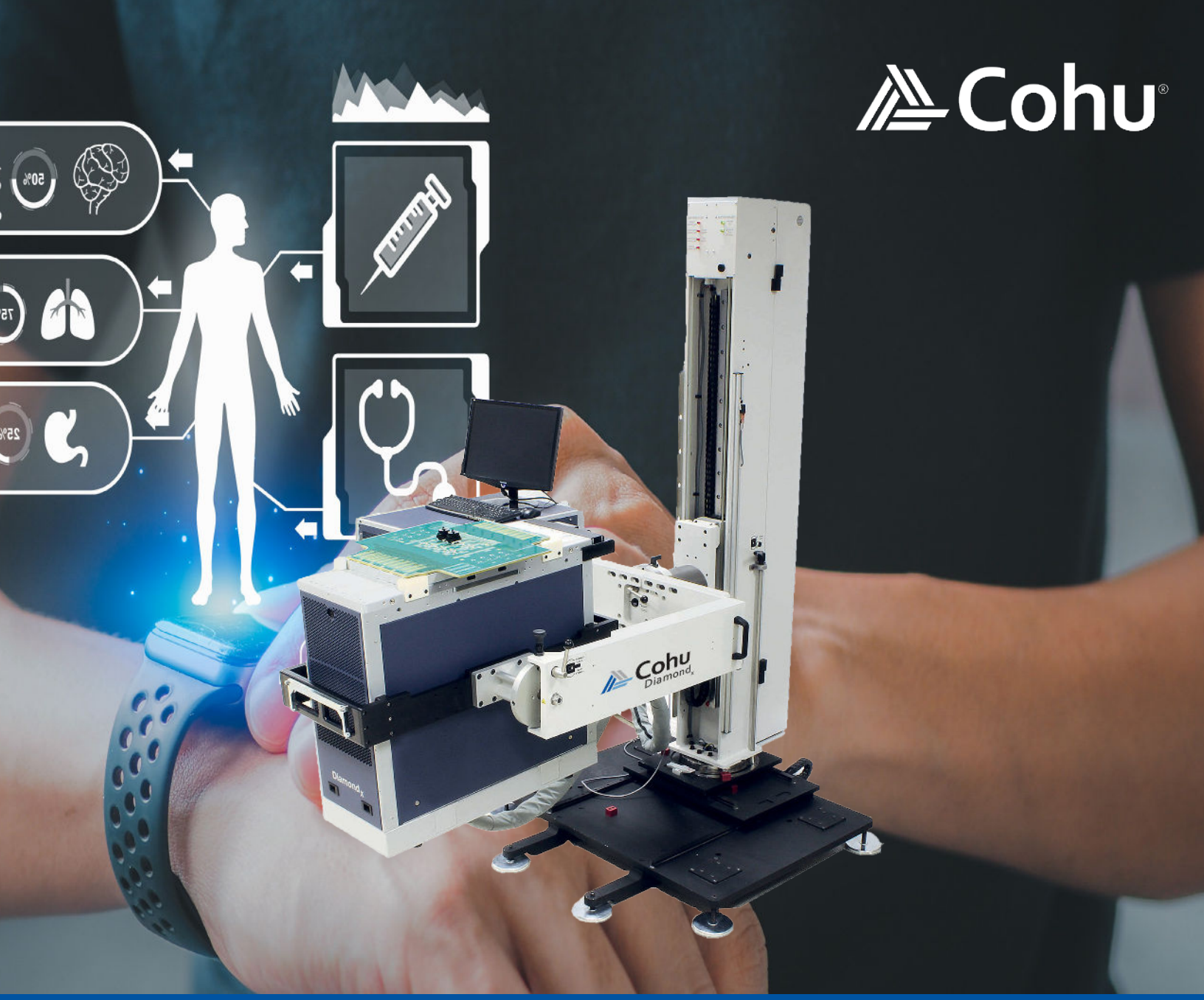

Diamond$_x$ HSI3$_x$
High Speed Multisite Solution for SerDes / LVDS / MIPI

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High Speed Multisite Solution for SerDes / LVDS / MIPI

Optimized for Testing Clock Embedded and Clock-Forward Serial Interfaces

End Product Markets

Automotive | Consumer | Flat Panel Display | Industrial & Medical | MCU | Mobility

Ensures Robust Performance where Bandwidth, Power, and Signal Integrity Matter Most

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Key Features

- **Multi-Protocol Throughput.** Validates serial interfaces to 12.5 Gbps, covering HDMI, MIPI, JESD204, PCI Express, SATA, EDP, Vby1 and USB3.
- **Configurable Topology.** Supports 64 single-ended connections with ease of combining adjacent channels into precise differential transmission pairs.
- **Extensive Pattern Storage.** Provides large, deep source memory capacity for complex stimulus generation and long, repeatable test sequences.
- **On-Board Accuracy Tuning.** Enables TDR-based calibration directly at the load board for improved signal integrity and measurement confidence.
- **Controlled Timing Stress.** Applies precisely calibrated jitter injection across every lane to stress devices under realistic conditions.
- **Adaptive Signal Conditioning.** Allows fine adjustment of pre-emphasis.
- **Channel-Level Protection.** Integrates ±40 V isolation relays per channel to safeguard instrumentation and eliminates interferences on DUTs.
- **Tri-State Waveform Control.** Generates single ended pattern engine for C-PHY with built-in three level driver per channel tailored for advanced mobile interfaces.
- **Balanced Mode Generation.** Features a differential pattern engine for D-PHY/eDP for high-performance display and camera applications.
- **Integrated Verification Workflows.** Combines protocol awareness with mixed-signal testing using deep send pattern memory for comprehensive validation.
- **Future-Ready Expansion.** Employs a modular design that scales effortlessly to meet evolving test coverage requirements.

Seamless Connectivity Across Critical System Components

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DATA RATE	
Data rate range	406.25 Mbps to 12.5 Gbps
Frequency resolution	10 KHz

TRANSMITTER SPECIFICATIONS	
Number of single ended TX channels	64
Number of differential TX channels	32
AC output differential impedance	100 Ω
AC output single ended impedance	50 Ω
Differential voltage swing	0 V to 1 V
Single ended output voltage	Min. 0 V, Max. 500 mV (terminated)
Single ended voltage accuracy	5% +/- 20 mV
Pre-emphasis range	+/- 200 mV (typical)
DC common mode range	0 V to 1.2 V
Jitter frequency range	100 Hz to 50 MHz
Maximum injected deterministic jitter, peak-peak	16 UI based on program data rate
Maximum peak-peak random jitter injection	1 UI

PATTERN SPECIFICATIONS	
Pattern segment size	64 bits to <no upper limit>
Total memory space	64 Gbits per module (16-ch)
Sequence control	Loop infinite, Loop on count, Play to end
Maximum loop count per sequence slot	2**16 - 1
Triggering	Internal

PMU SPECIFICATIONS	
Current ratings	4 uA, 40 uA, 400 uA, 25 mA
Measure voltage range	-1 V to +3.5 V

All specifications are subject to change without notification and are for reference only. For detailed performance specifications, please contact Cohu.

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www.cohu.com/diamondx
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