



### **Point2 Announces Industry's Lowest Power 112G Mixed-Signal SoC for 800G Active Electrical Cables**

*AECs Built with the New Point2 Purpose-Built SoC Consume 40% Less Power and 40% Less Cable Volume to Accelerate the Era of Energy Efficient and Sustainable Datacenters*

**San Jose, March 7, 2023 – OFC 2023 – [Point2 Technology](#)**, a leading provider of high-performance, low-power interconnect SoC solutions for cloud datacenter and 5G infrastructure, today introduced its next-generation P1B120 mixed-signal SoC solution. The new P1B120 SoC targets top of rack (ToR) switch to ToR switch, ToR switch to Smart NIC, and distributed disaggregated chassis (DDC) interconnects in hyperscale, cloud and enterprise datacenters. Meet us at OFC Conference 2023 in San Diego March 7-9, 2023. [Contact us today.](#)

Designed with Point 2 Technology's proven low-power, mixed-signal architecture in a leading CMOS process, the second-generation P1B120 SoC enables 800G active electrical cables (AECs) at 5W per paddle card while featuring adaptive line compensation to enable multiple cable lengths. AECs built with the P1B120 consume 40 percent less power than existing industry solutions, providing a leap forward in datacenter energy efficiency.

"Point2's cloud-optimized SoC will enable Molex to deliver significant power savings while featuring adaptive line compensation, allowing us to drive multiple solutions with the same paddle card and SoC," said Jairo Guerrero, VP/GM Copper Solutions Business, Molex. "With this solution, we can address a wider range of use cases and improve power efficiency and airflow, enabling cloud datacenters and 5G infrastructure to reach new and needed levels of efficiency."

AECs based on Point2's mixed-signal SoCs are thinner, lighter and more flexible than other AECs because they can use lower gauge copper wiring, which in turn reduces overall cable volume by up to 40 percent. With 32-port racks, a dozen racks per cabinet and a dozen cabinets in a room, cable volume reduction with Point2-based AECs greatly reduces congested cabinet space, resulting in a dramatic increase in airflow to cool the installed equipment. With about 40 percent of datacenter energy consumption dedicated to powering the cooling and ventilation systems, the P1B120 SoC's lower power consumption, combined with significantly better airflow in data center installations, will enable hyperscalers and enterprises to scale their installation performance while improving energy efficiency and sustainability.

"The introduction of our new P1B120 SoC comes at a critical time when datacenters are struggling to balance between scaling computing performance with energy efficiency and sustainability," said Sean Park, CEO of Point2 Technology. "Our second-generation P1B120 mixed-signal SoC solution underscores our innovation and leadership in mixed-signal SoCs that are clearing the path to terabit datacenter interconnects by reducing cost, power and cable space. Point2 has become a trusted partner for module/cable ecosystem leaders, offering a complete P1B120 reference development platform to accelerate customer product time to market."



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The P1B120 mixed-signal SoC integrates eight-unidirectional serial data channels with clock data recovery (CDR)/re-timer functions that support 112G (PAM4) or 56G (NRZ) data rates. The advanced mixed-signal architecture with BER-aware signal processing produces pre-FEC BER that is one order of magnitude better than other AEC IC solutions, leading to improved mean time before failure (MTBF) for deployed devices. The on-chip intelligent engine provides self-diagnostic capabilities during AEC development and field servicing. Combined with improved MTBF, the P1B120 delivers AECs with best-in-class network quality of service for deployed devices. The P1B120 is an ideal cloud-connect solution for DDCs data centers, enterprise networks and edge cloud use cases.

### **800G C-Tube™ AEC Reference Design**

To accelerate AEC development and time to market, Point2 offers a production-ready reference design platform optimized for the P1B120 mixed-signal SoC. The PC0800 C-Tube™ 800G AEC reference design enables cable manufacturers to evaluate the P1B120 and develop high-performance AEC products with superior signal quality, lower power and better cost structures. The reference design includes a hot-pluggable AEC that's fully compliant with the QSFP-DD800 MSA cable specification and the CMIS 5.0 specification for cable management. The PC0800 offers intelligent diagnostic hardware and software features for continuous monitoring and access during operation, an essential capability for mission-critical data centers interconnects.

### **P1B120 SoC Key Features**

- Designed for 400G/800G/1600G AECs
- 8x uni-directional data channels with 112 Gbps PAM4 per channel
- Cloud-optimized SoC solution with programmable low-power and high-performance modes
- Low power consumption at 2.0W
- Superior signal quality at 10<sup>-8</sup> BER (pre-FEC)
- Intelligent diagnostics to ensure network reliability, availability and serviceability
- Serializer (TX) with programmable FIR filter and pre-emphasis
- De-serializer (RX) with programmable continuous time linear equalizer (CTLE) and decision-feedback equalizer (DFE) to mitigate Rx channel loss
- Low sensitivity and adjustable data sampler threshold levels
- Programmable TX output swing
- Industrial temperature range: -40 °C to 120 °C
- Available in a 256-FCCSP, 7 mm x 7 mm, 0.4 mm ball pitch package

### **Availability and Demo Showcase at OFC 2023**

Customer samples of the P1B120 mixed-signal SoC are planned for Q2 2023, with production ramp scheduled for 2H 2023. The PC0800 C-Tube reference design is available now to accelerate development of 800G AEC applications. Point2 will be showcasing the P1B120 and all of its leading solutions at the Optical Fiber Communication (OFC) 2023 exhibition in San Diego, California from March 7th to 9th. [Contact us today](#) to arrange a meeting.

### **About Point2 Technology**

Point2 Technology, headquartered in San Jose, Calif., designs and manufactures low-power, high-speed, point-to-point interconnect and range enhancement SoC solutions designed to meet the bandwidth requirements of cloud-based datacenters and 5G infrastructure. Founded by an accomplished team from Marvell, Finisar and Samsung, Point2 is a leading innovator that



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is reimagining datacenter and 5G cloud infrastructure interconnects in the multi-terabit era.  
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