SiTime Continues to Advance Precision Timing with an Integrated Clock Chip for AI Datacenters

Chorus Family of Clock Generators Deliver 10X Higher Performance in Half of the Size

SANTA CLARA, Calif.--(BUSINESS WIRE)--Apr. 17, 2024-- SiTime Corporation (NASDAQ: SITM), the precision timing company, today introduced its Chorus™ family of clock generators for AI datacenter applications. This new MEMS-based clock-system-on-a-chip (ClkSoC) family offers 10X higher performance in half the size, compared to standalone oscillators and clocks. Chorus' new approach includes clock, oscillator and resonator technologies in an integrated chip, simplifying system clock architecture and accelerating design time by up to six weeks. Chorus, combined with recently acquired timing products from Aura Semiconductor, builds on our strategy to offer a complete portfolio of highly differentiated solutions.

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20240417031024/en/

New MEMS-based clock-system-on-a-chip (ClkSoC) family offers 10X higher performance in half the size, compared to standalone oscillators and clocks. (Graphic: Business Wire)

According to a recent Bloomberg Intelligence report*, "the AI datacenter hardware market is surging by an estimated 33% annually and projected to reach approximately $200 billion by 2027." Rapid upgrade cycles for AI hardware will be essential to running data and compute-intensive AI workloads.

"AI is driving tremendous needs for higher data throughput in datacenters and lower power consumption, and SiTime is uniquely positioned to help address these issues," said Piyush Sevalia, executive vice president of marketing at SiTime. "Before Chorus, hardware designers had to use discrete product types, such as clocks, oscillators and resonators, which resulted in performance compromises. Chorus delivers integrated clock generators to solve these problems and is yet another example of how we are transforming the timing market with our unique approach."

Chorus, with its integrated MEMS resonator, addresses the limitations of legacy clock generators, eliminating problems such as noise and matching the resonator's impedance with the clock. Also, Chorus can reduce the board area for timing by up to 50% by replacing up to four standalone oscillators. Datacenter equipment such as servers, switches, acceleration cards and smart network interface cards (NICs) are ideal applications for Chorus.

"SiTime continues to solve the electronics industry's toughest timing challenges with advances in silicon MEMS timing technology," said Dave Altavilla, co-founder, president and principal analyst at HotTech Vision & Analysis.

"SiTime's new MEMS-based family of clock generators represents a significant leap forward, offering enhanced performance, reliability and integration essential for the evolving needs of big iron AI datacenters."

**Bloomberg Intelligence Report, June 2023, "Generative AI to Become a $1.3 Trillion Market by 2032."*

Key Features of SiTime's Chorus SiT91211 and SiT91213 Clock Generator

- **Higher Performance:** Delivers up to 10X better resilience with integrated MEMS resonator.
- **Design Simplicity:** Integrated MEMS technology speeds the design process and eliminates common issues such as noise and impedance matching with integrated MEMS resonator.
- **Smaller Footprint:** up to half the size in a 4 mm x 4 mm QFN.
- **Low RMS Phase Jitter:** 70 femtoseconds typical (12 kHz to 20 MHz).
- **Flexible Frequency:** Programmable frequency from 1 MHz to 700 MHz.
- **Flexible Output Types:** Up to four differential (LVPECL, LVDS, LPHCSL) or eight LVCMOS outputs.
- **Flexible Supply Voltage:** Programmable, 1.8V, 2.5V, or 3.3V.
- **Reduced Power and Simplified Circuitry**: FlexSwing™ output reduces power consumption and eliminates termination resistors.
- **Excellent Frequency Stability:** ±20 ppm and ±50 ppm from -40°C to 105°C.
- **EMI Reduction:** Configurable spread-spectrum clock generation.
- **Compliant with the Latest PCIe Standard:** Generation 1 to 6.
- **Enhanced System Robustness:** Clock fault monitors (Lock Loss).

Availability

SiTime's Chorus family of clock generators is sampling to strategic customers now, with general sampling availability in 2H 2024.

Additional Resources

- Blog
- SiT91211 and SiT91213 clock generator product page
- Learn more about MEMS precision timing

About SiTime

SiTime is the precision timing company. Our semiconductor MEMS programmable solutions offer a rich feature set that enables customers to differentiate their products with higher performance, smaller size, lower power and better reliability. With more than 3 billion devices shipped, SiTime is changing the timing industry. For more information, visit www.sitime.com.

Forward-Looking Statements

This press release may contain forward-looking statements regarding future events. These forward-looking statements are intended to qualify for the safe harbor from liability established by the Private Securities Litigation Reform Act of 1995. Readers are cautioned that these forward-looking statements involve risks and uncertainties that could cause our actual results and the timing of events to differ materially from those anticipated in such forward-looking statements, including, but not limited to our ability to introduce and ship new products in volume; and other risks and uncertainties described more fully in our documents filed with or furnished to the Securities and Exchange Commission. More information about these and other risks that may impact our business is set forth in our more recent Form 10-K filed with the Securities and Exchange Commission. All forward-looking statements in this press release are based on information available to us as of the date hereof and qualified in their entirety by this cautionary statement, and we assume no obligation to revise or update these forward-looking statements.

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