

Socionext Introduces Next-Generation viewphii 64-LSI for Wireless Ultrasound Probes

[Yokohama, Japan. July 12, 2022]--- Socionext Inc. today introduced the viewphii 64-LSI, equipped with two dedicated state-of-the art LSIs, as the technology solution for wireless ultrasound probes for the next generation ultrasound diagnostic systems. Socionext is also developing prototypes of new wireless ultrasound probes equipped with these LSIs.

Socionext will feature the viewphii 64-LSI in a presentation titled “Prototypes of New Wireless Ultrasound Probe” at the [ECR 2022](#) at the Austria Center in Wien from July 13-17, 2022.

Socionext has many years of experience in the development of signal processing and image processing semiconductors. The viewphii series was developed as the technology platform for enabling the realization of ultra-compact, low power consumption, cableless medical devices.

Launched in January 2020, the viewphii-US, powered by Socionext’s LSIs, is one of the very first handheld ultrasound diagnostic system featuring a compact design that’s both light-weight and low power to ensure continuous operation over an extended period of time.

Other features include excellent image quality and functionality with the easy-to-use wireless probe. Such features make the viewphii-US suitable for many clinical applications.

With two dedicated LSIs, the viewphii 64-system significantly surpasses the performance and functionality of the viewphii-US wireless handheld ultrasound diagnostic system currently available on the market.

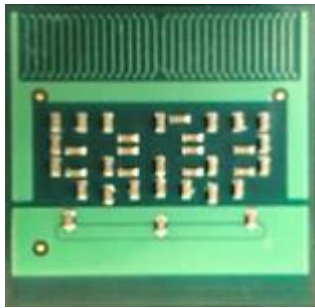
A new type of LSI called “pulser LSI” is used to simultaneously drives the 64 elements in the ultrasound transducer and incorporates an analog switch function for transmitting the received signals from the sensors to the LSI. Another type is the “ultrasound imaging LSI” which amplifies the received input signals from the pulser LSI and performs A/D conversion, beamforming (delay-and-sum), and generate ultrasound image while handling the overall system control. This ability to implement 64-channel wireless ultrasound probe system using just two types of LSIs allows for further device miniaturization while maintaining very low power consumption. Enhanced features such as harmonic imaging and spatial compound imaging delivers high-resolution images combined with improved base performance.

Samples of the viewphii 64-LSI are scheduled for August 2022, with mass production and shipment beginning in December.

By leveraging these new LSIs, Socionext aims to spread its wireless ultrasound probe systems to a wider range of clinical applications. The company aims to expand its business in Japan and overseas, not only to commercialize medical devices, but to offer its technical expertise and to strengthen its provision and licensing of technology.

Characteristics of Ultrasound System Using viewphii 64-LSI Chipset:

- Configuration: Ultrasound system can be configured using only two types of LSIs (three chips)
- No. of Tx channels: Up to 96 (up to 192 channels when using two pulser LSIs)
- No. of Rx channels: 64
- High-voltage pulser: +/-15V to +/-40V (three levels)
- Imaging modes: B mode, M mode, color Doppler, power Doppler, pulse Doppler, harmonic imaging (PI or filter)
- Image processing: Spatial compound, trapezoidal scanning
- Power consumption: 1W (typical, using B mode)
- Supported transducers: Linear, convex, sector



Pulser LSI
(24mm × 24mm)



Ultrasound Imaging LSI
(23mm × 23mm)



Prototypes of New Wireless Ultrasound Probe (Under Development)

For more information, visit: <https://viewphii.com/en/>

About Socionext Inc.

Socionext Inc. is a global SoC (System-on-Chip) supplier and a pioneer of a unique “Solution SoC” business model through decades of industry experience and expertise. Socionext contributes to global innovation in advanced technologies including automotive, data center, networking, and smart devices. As a trusted silicon partner, Socionext delivers superior features, performance, and quality that differentiate its customers’ products and services from their competition.

Socionext Inc. is headquartered in Yokohama, and has offices in Japan, Asia, United States and Europe to lead its development and sales activities. For more information, visit <https://www.socionext.com/en/>.

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