

Nordic Semiconductor unveils nRF54LV10A - a breakthrough low-voltage Bluetooth LE SoC for next-gen healthcare wearables

Available for development, extends nRF54L Series with ultra-compact design, exceptional power efficiency for wearable biosensors & continuous glucose monitors

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/EINPresswire.com/ -- [Nordic Semiconductor](#),

a global leader in low-power wireless connectivity solutions, today launches the nRF54LV10A SoC, setting a new benchmark for integration, performance, and battery life in the smallest medical devices.

Engineered specifically for space-constrained, low-voltage Bluetooth® LE applications, the nRF54LV10A can be powered directly by a single silver

oxide coin cell making it ideal for wearable biosensors, continuous glucose monitors (CGMs), and other healthcare applications.



Nordic nRF54LV10A press image

Meeting demand for connected healthcare

Consumer demand for connected healthcare wearables has never been greater. According to Grand View Research, the global wearable medical devices market was estimated at \$42.74 billion in 2024 and is projected to reach \$168.29 billion by 2030 due to a major increase in remote patient monitoring and home healthcare. This unprecedented growth requires developers to constantly address and improve the unique design challenges that body-worn sensors and discreet healthcare devices present.

“The new nRF54LV10A reflects a clear trend in the healthcare segment, engineered to solve some of the key design challenges for next-generation medical devices,” says Oyvind Strom, EVP Short-Range at Nordic Semiconductor. “Better power efficiency and smaller size are becoming key requirements for CGMs and wearable biosensors. The nRF54LV10 SoC delivers both – setting a

new high standard for integration, optimized performance, and extended battery life in the smallest medical devices.”

nRF54LV10A SoC expands possibilities
The nRF54LV10A is the fifth addition to Nordic Semiconductor’s next generation nRF54L Series of wireless SoCs, providing a fit-for-purpose feature set for applications demanding ultra-low power consumption and reliable connectivity in the most compact form factor possible. This includes support for 1.2-1.7 V supply voltage range, a sub-50 nA system hibernation mode for shipping and storage, and an ultra-compact 1.9 by 2.3 mm chip-scale package, the smallest available in the nRF54L Series.



Øyvind Strøm_Executive Vice President, Short-Range
BU_Nordic Semiconductor

As with other nRF54L Series SoCs, the nRF54LV10A also integrates a 2.4 GHz radio, a 128 MHz Arm® Cortex®-M33 processor and RISC-V coprocessor, as well as essential peripherals. It provides 1 MB of non-volatile memory (NVM) and 192 KB of RAM. Power consumption is 30 to 50 percent

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lower in common Bluetooth LE use cases, compared to its nRF52 Series predecessor. Importantly for healthcare applications where patient and data privacy is paramount, the nRF54LV10A SoC is designed with advanced security features such as secure boot, secure firmware update, secure storage and a trusted execution environment enabled by Arm TrustZone®. Integrated tamper sensors can detect attacks and take protective action, while the cryptographic accelerator is hardened against side-channel attacks.

First to combine low voltage with Bluetooth Channel Sounding

Uniquely, the nRF54LV10A is also the world’s first Bluetooth LE SoC to combine low voltage with Bluetooth Channel Sounding support. Bluetooth Channel Sounding provides developers with the ability to add accurate distance measurement, indoor positioning, or presence detection to their device, for example in healthcare applications where tracking a patient’s location via their

biosensor device could be critical for the individual's safety.

Extending the nRF54L Series of multiprotocol SoCs

With the introduction of the nRF54LV10A, the nRF54L Series now offers developers an even broader range of both fit-for-purpose and versatile, general-purpose SoCs. In addition to the nRF54LV10A model for low voltage designs, the expanded line-up includes high-performance general-purpose multiprotocol SoCs including the nRF54LM20A for high memory applications, the nRF54L15, nRF54L10, and nRF54L05 variants.

This approach gives developers unmatched flexibility to optimize for size, power, and functionality, staying true to Nordic's developer-first philosophy.



Ready for development

The nRF54LV10A SoC is ready for development now and is supported in the [nRF Connect SDK](#). Production is expected to start in Q2, 2026. Contact Nordic sales to join the [early access program](#) for development kits and samples.

For more information on the wider nRF54 Series of wireless SoCs visit Bluetooth LE - [nordicsemi.com](#)

About Nordic Semiconductor

Nordic Semiconductor is a global leader in low-power wireless connectivity solutions for smart, connected products. From hardware to cloud, Nordic enables brands to build high-performance, ultra-low-power consumption devices in consumer electronics, healthcare, and industrial automation. [www.nordicsemi.com](#)

Sarah Claridge

Napier Partnership

+44 1243 531123

sarahc@napierb2b.com

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