

News release

trinamiX presents Consumer Spectroscopy solution in Snapdragon® 8 Gen 3 smartphone reference design at MWC in Barcelona

- Miniaturized near-infrared spectrometer for integration into smartphones and mobile devices
- First applications in the field of beauty and skin health
- Collaboration with industry partners for sector-specific applications

Ludwigshafen, 26. February 2024 – **trinamiX GmbH, a pioneer in the miniaturization of NIR spectroscopy modules, is presenting its latest Consumer Spectroscopy solution at the Mobile World Congress in Barcelona. The world's first NIR spectrometer integrated in a smartphone reference design, covering the wavelength range from 1 to 3 micrometer, runs on Qualcomm's latest Snapdragon® 8 Gen 3 reference design and was presented for the first time at the Qualcomm Technologies Snapdragon® Summit 2023. Visitors to the MWC can now experience live at booth #6E68 how they can use mobile devices to visualize previously "invisible" health and beauty indicators.**

trinamiX Consumer Spectroscopy utilizes the power of the NIR spectroscopy analysis method to enable non-invasive biomarker measurements on the skin. Integration into mobile devices such as smartphones, wearables or IoT devices opens up previously unimagined possibilities for consumers, such as the measurement of individual health and beauty data. The miniaturized spectrometer measures in the wavelength range from 1 to 3 micrometer and is particularly user-friendly thanks to its integrated self-calibration. The hardware is complemented by intelligent algorithms and a convenient app.

Collaboration in the field of skin care

In order to offer the widest possible range of sector-specific applications, trinamiX combines its innovative technology as well as its spectroscopy and chemometrics expertise with the application knowledge of industry-leading partners. The first application is being developed in collaboration with Revea from the USA. Revea offers high-quality skin care products that are individualized based on scientific analysis. trinamiX and Revea are working together on a product development to analyze skin health through molecular biomarker measurement. Here, the moisture content of the skin plays a central role.

“At Revea, we care deeply about helping our customers find the right skincare products for their individual needs”, says Troels Marstrand, Founder and CTO of [Revea](#). “trinamiX’s technology can be a game changer for the industry. By measuring the moisture level of a person’s skin, this technology adds additional insights to Revea’s visual skin analysis. This will further improve skincare recommendations helping users to find the right treatment for their skin type and keep tabs on their hydration levels – all with a simple scan.”

"trinamiX Consumer Spectroscopy promises to revolutionize the way we understand and evaluate our health or personal care, and more," says Wilfried Hermes, Director Consumer Electronics North America

and Europe, trinamiX GmbH. "Think of this technology as a camera in your smartphone that sees what is invisible to the human eye. This allows you to check selected biomarkers anytime, anywhere - based on real molecular measurements. With this information, smart apps will be able to give you well-founded, personalized recommendations for your health or beauty care."

Top-class development partners on board with Lumileds and Viavi

trinamiX developed the miniaturized spectroscopy module, which can be integrated into a smartphone, together with top-class partners. In its search for the optimal light source, trinamiX found the ideal partner in LUMILEDS, a leading manufacturer of LED light sources. The LED developed by LUMILEDS emits broadband light in the long-wave near-infrared range and meets the demanding requirements of smartphone manufacturers in terms of size, energy consumption, lifetime and stability. VIAVI, a global leader in the fields of optical filters, light-shaping optics, and handheld industrial spectrometers, is another strong partner. Their filters enable the precise determination of relevant wavelengths to extract meaningful information from the spectrum. The exceptionally high quality and precision of its filters make the company a reliable link in the entire value chain: from prototyping to mass production.

The detector and the read-out electronics were specially developed by trinamiX for modules in smartphone-compatible size. The highly sensitive infrared detectors are particularly small due to patented encapsulation but are robust and durable. trinamiX also contributed spectroscopy and chemometrics know-how and initiated the integration of Consumer Spectroscopy into smartphones.

Wilfried Hermes says: "The trinamiX solution offers a wealth of innovation opportunities for a wide range of sectors and industries. The hardware can be integrated into smartphones as well as other mobile devices such as wearables or IoT devices. Thanks to an open programming interface, the so-called API, companies and developers can develop their own applications that use the analysis data from trinamiX Consumer Spectroscopy. This has the potential to fundamentally change the individual use of mobile devices."

Long-standing cooperation with Qualcomm

The trinamiX Consumer Spectroscopy solution runs on the latest Snapdragon® 8 Gen 3 reference design from Qualcomm. "Our longstanding collaboration with trinamiX aligns strongly with our company's commitment to delivering top-notch technology and innovative user experiences for our customers," says Judd Heape, Vice President of Product Management, Qualcomm Technologies, Inc. "We're thrilled to work with trinamiX to help deliver this never-before-seen innovation. The potential applications of this technology are significant, and we're excited to be on the forefront of this new age of innovation in mobile computing."

The solution ties in with the concept of the Qualcomm® Trusted Execution Environment (TEE) designed to enable the secure collection and processing of user's data. The Qualcomm TEE provides enhanced protection for personal data to help prevent unauthorized access or tampering.

How trinamiX Consumer Spectroscopy works

trinamiX Consumer Spectroscopy uses near-infrared (NIR) spectroscopy, a method for analyzing organic materials. Infrared radiation with a wavelength of 1 to 3 micrometer is used to obtain information about

the chemical composition of a sample. The light is absorbed, scattered, and reflected as it passes through the sample. This produces a characteristic spectrum that provides information about the chemical composition. This spectrum is then compared with reference spectra to draw conclusions about the concentrations or presence of certain components in the sample, for example the moisture content of the skin. NIR spectroscopy enables rapid analysis of organic molecules and offers a wide range of applications.

Learn more about the solutions of trinamiX at the MWC 2024:

<https://trinamixsensing.com/mwc-2024>

trinamiX @ MWC 2024

26 to 29 February 2024

Booth #6E68, hall 6

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About trinamiX GmbH

trinamiX GmbH develops cutting-edge biometric and mobile NIR spectroscopy solutions, which are used in both consumer electronics and industrial designs. The company's products enable humans and machines to better capture data with the goal of understanding the world around us. This results in improved decision making as well as stronger biometric security. trinamiX, based in Ludwigshafen (Germany), was founded in 2015 as a wholly owned subsidiary of BASF SE. The company employs over 240 people worldwide and holds more than 600 patents and patent applications.

Learn more at www.trinamiXsensing.com

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