

MedWand Solutions

Opening the Doors to Virtual Medical Care with Maxim Sensors and Processors



The MedWand medical device can be used to take temperatures and measure an array of other vital signs.



Doctors can remotely perform inner ear exams using the MedWand device.

What do you get when you pair a leading national provider of direct primary care services (MedLion Management) with a world-renowned physician who wants to advance healthcare with technology? [MedWand Solutions](#). Through its MedWand medical device, which measures an array of vital signs and allows clinicians to examine patients remotely, the company aims to transform healthcare.

Challenge

- Integrate multiple medical sensors
- Low power and cost
- Small form factor
- Scalability

Solution

- Maxim sensors, processors, and power management and audio ICs

Benefits

- Ability to exceed performance and reduce power requirements
- Great ongoing support

“We are creating a doorway into the world of virtual medical care,” said MedWand creator Dr. Samir Qamar, also founder and CEO of both MedWand Solutions and MedLion Management. “What we’ve done with MedWand is take advantage of current technology and apply it in a manner that really turns the practice of medicine upside on its head. We remove the need for patients to be seen in person by physicians in order to be examined. That’s probably the biggest thing that gets me excited about MedWand—it has the potential to affect big change.”

He added, “My vision is to have patients one day be seen, be examined, be tested, and have treatment be delivered to them wherever they are.”

CUSTOMER SUCCESS STORY: MEDWAND SOLUTIONS

Design Challenges

The MedWand device, about the size of a large computer mouse, is equipped with a pulse oximeter, heart-rate monitor, a non-contact thermometer, a digital stethoscope, an EKG, an ophthalmoscope for retinal imaging, and an otoscope high-definition (HD) video camera for inner ear examinations with attachments to allow views of the eyes, throat, nose, and skin. There's also a provision to support optional third-party Bluetooth wireless devices, such as glucose meters and blood pressure monitors.

When evaluating ICs for the MedWand solution, the engineering team needed technology that could integrate multiple medical sensors, consume very little power, be low cost, and support scaling and a small form factor. Having good ongoing support was also important for the young company, which was founded in 2014.

Solution

The MedWand team opted for [Maxim processors, sensors, and power management and audio processing ICs](#). "We chose Maxim because, overall, the solutions we wanted to put into MedWand could all come from the same supplier. In the processors, we get fantastic computing and communications performance. The sensors are helping us exceed the performance levels we were seeking. We've also had a reduction in power requirements," Qamar explained. In addition, the team has dedicated Maxim engineers who meet with them regularly, performing technology reviews and other assessments.

"Maxim should be applauded for its technology. We were looking to disrupt one of the biggest industries of the world—healthcare—and we're doing it with Maxim sensors and processors," Qamar said. "Maxim itself was impressed enough with our engineering of MedWand that Maxim Ventures invested in our company. That's a testament to us and also Maxim's own perception of how its components work."

Future Plans

Qamar sees MedWand as a start to a revolution in healthcare. Other companies will be able to build on the system and bring new ways to perform diagnostics and deliver care. "MedWand opens up this vast opportunity for virtual care," Qamar noted. "If this is our starting product, you can only imagine where we're going from here. We're always going to be looking for more efficiency, and faster, possibly additional, diagnostics based on market feedback."

He also offers a bit of sound advice to other companies that are starting out. "Many great engineering companies have the ability to create great medical technology. Where they stumble is not knowing where and how to place that technology in the complex medical environment," he said. "Most tech companies create solutions, then find the problem it solves for, when it should be the other way around. Find the problems first, then create the solutions for the problem. If you can do that, you will always have a market."



The MedWand team won the 2015 Health 2.0 Launch! Award in Silicon Valley.



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- Dr. Samir Qamar, Founder and CEO, MedWand Solutions

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