

Smart Home Alarm Meets Strict Standards with Z-Wave



The Challenge

To develop a user-friendly smart home alarm system that provides robust security features, without requiring professional installation.

The Solution

Using Silicon Lab's smart home solutions and the Z-Wave 700 Series to design a state-of-the-art alarm system that consumers can install themselves and monitor through a mobile app.

The Result

Boundary created an alarm system that delivers a user-friendly experience, while adhering to the demanding requirements of the European Standard for Intruder Alarm Systems

Z-Wave 700 Series Modules

Specifically designed to meet the demands of smart homes, now and in the future

- Optimal for Long-Range, Low-Power Applications
- Support for all Z-Wave Sub-GHz Frequency Bands
- 10 Years of Operation on a Single Coin Cell Battery

While Robin Knox was on his honeymoon, his mind was back home. Specifically, he was thinking about how useless his home security system would be in the event of a break-in while he was abroad. Instead of being able to take any meaningful action, his only real involvement would be watching the events unfold on the screen of his smartphone. Immediately upon his return, Robin went shopping for a home security system. To his



disappointment, not many do-it-yourself options existed. Robin and his friend Paul Walton decided to take things into their own hands and founded Boundary as a way to fill this market need.

Robin and Paul had some very specific goals in mind. First, they wanted something that looked great. If it was going to be a device that people would welcome into their homes, they knew it needed to be aesthetically pleasing. Second, it had to be easy to use. One interesting aspect of the home security market in the UK is that device manufacturers are required to adhere to a complicated set of British and European standards. For homeowners, this means alarm systems need to be professionally installed. Finally, the pair wanted their device to deliver great functionality while being a cost-effective solution for DIY consumers.

With a focus on creating an irresistible user experience, Boundary was born, and the company's first product, an IoT alarm system, is expected to launch in late 2020. One of the key features that sets Boundary apart from its competitors is its EN50131 European Standard for Intruder Alarm Systems compliance certification, a rigorous set of requirements that validates quality, performance, and component design. The certification is currently undergoing and is hoped to be completed in Q1 2021.

In addition to adhering to the strict regulatory standards, Robin and Paul wanted to develop a product that was easy for the customer to set up, provided the range required for a medium-to-large sized house, and maintained a connection for all devices on the network. The Boundary features a motion sensor with always-on detection that can be used for home automation routines, such as powering down smart lighting and regulating heating when a room is not in use. With a door/window sensor, any unauthorized entry will immediately set off the alarm. Users can also see the status of a window or door from the app at any time.

Z-Wave emerged as the wireless standard that could meet these challenges, and the Z-Wave 700 series of modules became the basis for the design. These modules are designed to meet the demands of the smart home, where increasing needs for more and more sensors and extremely efficient battery-operated devices require long-range and low power. The Boundary IoT alarm system delivers on its mission to be user-friendly, requiring only for the customer to scan a QR code to pair the device. The result is an alarm that is easy to use, reliable, and exceeds the highest regulatory standards.

