

## Quality Care and Bluetooth Technology, Putting Patients First



Is wired equipment a guarantee of security and privacy in healthcare environments? What about wireless devices, especially wireless devices that transmit sensitive patient data? Some have raised concerns about data security and the collision of signals between devices, particularly Bluetooth® devices.

Could the volume of signals created by wireless devices delay or interrupt data transmission and adversely affect the quality of patient care? The advances in Bluetooth technology, the advantages to mobility, and the meticulous design of electronics for the healthcare market mitigate these concerns.

James V. Brummett, Director of Technical Services at El Camino Hospital in Mountain View, California, confirms the increased usage of Bluetooth devices in hospitals, but not to the extent that all devices will eventually be wireless. According to Brummett, there are benefits to integrating both wired and wireless technology into healthcare workflows, though wireless is necessary for applications requiring mobility.

In addition to providing mobility, Bluetooth devices eliminate the cleanliness concerns of corded equipment. Based on location, the cord often accumulates dust and debris; and may become a safety concern for patients or a trip hazard for clinicians.

Brummett confirms one of El Camino's main concerns when implementing Bluetooth devices like Code's CR2600 barcode readers is how it may affect their Wi-Fi network. After reviewing numerous test reports and doing their own research and testing, he reports there are no adverse effects whatsoever.

Bluetooth devices, like Code's CR2600, operate in the 2.4 to 2.485 GHz section of the industrial, scientific, and medical

(ISM) radio band. They are designed to efficiently utilize the frequency band by leveraging technology like adaptive frequency hopping (AFH) to avoid collisions with other devices. Bluetooth has an additional advantage of consuming very little power for transmission, helping maximize the battery life of wireless devices.

The CR2600 is a Class II device that communicates wirelessly up to 33 feet (10 meters). In most healthcare environments, the CR2600 is connected to a mobile computing workstation, or a laptop in patient rooms. Since the device is transmitting small data packets (i.e. barcode data) over a short-range, the risk of collision with other wireless signals is minimal, and features like AFH virtually eliminate lost packets.

Code's Bluetooth readers and modems also contain an encryption feature that can be easily enabled if needed. Code purposefully designs readers that will protect the accuracy and integrity of the data that is scanned and transmitted.

Cerner, a leading provider in health information technologies has the ability to pair its Point of Care solutions with Bluetooth technology to increase efficiency, quality of care, and user experience.





“Wireless Bluetooth technology in barcode readers minimizes multiple challenges in quality patient care. Wireless readers mitigate potential cross contamination of bodily fluids and/or infection that often arise when using corded/tethered equipment. Patients can also be mobile and a wireless reader allows for easy scanning of patient wristband regardless of where the patient is located within their rooms or the hospital. Lastly, wireless barcode reading technology reduces the risk of potential harm associated with cords,” states Patty Lewis, Sales Alignment Director at Cerner.

Cerner has been at the forefront of wireless technology usage. Advanced technology and safety do not need to be mutually exclusive in healthcare environments. Lewis states, “Cerner clients have been using Bluetooth barcode reading technology in all healthcare venues, including the ICU, since 2007.”

Bluetooth as a wireless communication medium also has the advantage of being ubiquitous. It does not require custom receiving devices and gives users the flexibility of connecting to laptops, tablets, mobile phones, printers, and many other devices without incurring unnecessary development or integration costs.

Code combines years of wireless experience with advanced wireless technology to deliver products that keep sensitive and critical data secure and intact, helping healthcare professionals be safe and efficient while delivering the highest quality patient care. Learn more about the CR2600 and other Code products at [www.codecorp.com](http://www.codecorp.com).

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