AvaSure™ Selects Tiny Ventev TerraWave Antenna to Ensure Reliable Patient Monitoring and Safety

Executive Summary

Client:

AvaSure, a leading developer of technology and services to improve patient safety

Client Challenge:

Ensure seamless Wi-Fi for patient observation and communication mobile carts

Product Solution:

Mini MIMO Omnidirectional Antenna
TESSCO No. 546030

Ventev's TerraWave 2.4/5 GHz 3/4 dBi omni antenna ensures seamless Wi-Fi for patient observation and communication mobile carts.

- Low profile 2.9" x 5.4" x 1.0" antenna sits almost flush with the surface of the cart to minimize damage
- Provides connection from the cart to multiple access points simultaneously.
- Enables seamless Wi-Fi as the cart is moved or when access points become overloaded

AvaSure is the largest provider of remote video monitoring solutions to healthcare organizations in the world. AvaSure's AvaSys® TeleSitter® Solution is an advanced patient observation and communications platform that dramatically improves patient safety by allowing continuous visual and audio monitoring of patients. It enables a single caregiver to monitor as many as 16 patients who are at risk of falling or other injuries from a central observation station.

The AvaSys TeleSitter consists of a high-resolution camera capable of night vision, a microphone and a speaker, and a Wi-Fi module on a mobile cart. The monitor cart is placed in the patient's room, and a continuous wireless video link is sent back to the monitor station where trained observers can watch patients and respond to them as needed. The AvaSys TeleSitter Solution is in use in hundreds of hospitals, including five of the top six of the U.S. News and World Report Honor Roll Hospitals for 2017-18. These organizations use AvaSys to prevent patient harm, protect staff from violent patients and visitors, stop elopements, make the best use of nursing resources, improve patient care throughout and reduce costs. Where AvaSys is effectively deployed, adverse events and disruptions such as falls are nearly eliminated.

Challenge
When AvaSure's engineers were searching for a reliable MIMO Wi-Fi antenna to replace the outdated dipole antenna they were using on the AvaSys TeleSitter, they turned to Ventev. The dipole antennas were simple and low-cost, however they could not support the 2x2 MIMO configuration that the company's new Wi-Fi chipset had. In addition, the old antenna kept breaking off the unit when the cart was being moved or undergoing cleaning or maintenance. A more permanent, low profile solution was required to prevent the antennas from being damaged or removed.

Solution
Initially, AvaSure chose a Ventev antenna that fit the required technical specifications and that was available off-the-shelf with a short lead-time. However, after Ventev learned more about the installation, their engineers customized an antenna solution to fit their needs better. "Working with Ventev, we were able to customize the antenna design to remove a cable adaptor, lower the overall product cost, and make the unit easier to assemble," said an AvaSure engineer.

The resulting antenna solution, the Mini MIMO Omnidirectional Antenna, mounts on the mobile cart and ensures that the AvaSys has a permanent 2x2 MIMO connection to multiple access points simultaneously. The connection redundancy provides seamless Wi-Fi as the unit is moved, or when access points become overloaded. The Mini MIMO Omni Antenna measures less than 3 inches wide by 5.4 inches long and, at just an inch high, sits almost flush with the surface of the cart ensuring it is protected from damage.

AvaSure is very pleased with the new antenna solution and is using it in hospitals across the U.S. "It's robust and easy for most operators, and requires no maintenance," said an AvaSure engineer. "We were able to completely eliminate a major fail mode for products in the field, as well as increase the wireless performance and lower assembly costs. In addition, the Mini MIMO antenna's configuration enables seamless changeover in Wi-Fi connections, allowing for continuous patient monitoring with fewer interruptions due to network issues, and enhancing device efficacy and increasing patient safety."