

Rail repeater gives commuter trains better coverage

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Cellular Specialties Inc. has designed a “rail repeater” that is designed to attach to trains and subways to better enable wireless communications for travelers on those vehicles. The company said its solution is being deployed by a top carrier but couldn’t reveal any details about the deployment.

The rail repeater features GPS and digital filtering to provide commuters with voice and data services while traveling at fast speeds. RF signals often have a difficult time penetrating earth, steel and concrete, noted Scott Goodrich, president of CSI’s product division. Traditionally, wireless carriers have put in-building solutions in the subway’s tunnel. This device, works in tunnels but also works in rural areas, where there may be less cellular coverage. Some commuter trains offer Wi-Fi service, but often those connections are not secure.

“One of the most attractive aspects of rail travel is the ability to work virtually without losing a step. Seamless wireless connectivity is critical to fulfilling passengers’ expectations of voice and data capabilities while traveling. CSI’s Wireless Engine digital rail repeater system enables the desired Wireless Service Provider’s (WSP) signal by instantaneously switching filter configurations based upon GPS coordinates and spectrum holdings,” CSI said.

“Staying connected to cellular voice and data services is expected regardless of where you are,” Goodrich said. “Trains present a unique set of challenges, such as the ‘on the fly’ filter changes coupled with space and weight constraints that older analog systems cannot address. The CSI solution utilizes software-defined filters which provide superior performance and flexibility without the traditional oversized and heavy hardware.”

CSI said its solution offers benefits over traditional rail repeaters, such as complete remote monitoring and control. Fleet operators no longer need to revisit installations to swap repeaters or to reconfigure the required passbands.