

Freescale demonstrates industry's first combined Bluetooth, UWB wireless functionality

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Combining two of the most promising wireless technologies available today, Freescale Semiconductor is hosting the industry's first demonstration of high data rate Ultra-Wideband (UWB) silicon operating under existing Bluetooth software stacks. The demonstration, held at WiCon Americas this week, leverages partners Open Interface and Frontline Test Equipment to stream UWB signals using Bluetooth protocols and track the protocols via an analyzer.

The combined functionality allows Freescale's direct sequence-UWB (DS-UWB) to meet the higher-speed demands of streaming high quality video applications and usage scenarios where large data files must be transferred instantly. It also takes advantage of the strong ecosystem created by the 250 million consumers that use Bluetooth wireless technology in a variety of mobile applications today.

"In May of this year, Freescale committed to marrying our commercial UWB silicon solutions to the Bluetooth protocols to enable a high rate path for Bluetooth users," said Martin Rofheart, director of the Ultra-Wideband Operation at Freescale. "This demonstration is the first step toward combining the strengths of Bluetooth and UWB and provides a proven design reference for our early adopter customers. We are on track with our technology development milestones for Bluetooth and UWB and remain committed to providing an integrated silicon solution."

The demonstration offers attendees a "first look" at this unique wireless pairing and features two laptops, each enabled with a UWB module and Bluetooth dongle. Attendees first will see a pure Bluetooth-to-Bluetooth demonstration with a file transfer between laptops. While easy to do, it operates at a maximum rate of 1 Mbps and takes several minutes. Next, the UWB radios will use Open Interface's BLUETusk software solution to leverage the software stack of Bluetooth while operating the Freescale UWB radio. Achieving up to 110 Mbps, the file transfer happens almost instantaneously with Freescale's XS110 DS-UWB radio operating under the Bluetooth software stacks.

"Bluetooth's core strengths are ad-hoc connectivity and its portfolio of profiles. Put these together the right way with UWB's high data-rate capabilities and you've got an unbeatable high-speed data-exchange system for wireless consumer products," said Greg Burns, CTO for Open Interface North America, Inc. "We were pleased to note that no modifications to our profiles or applications were required in order to support the integration of UWB and the higher data-rates."

Additionally, in the demonstration, Frontline's protocol analyzer is used to monitor both Bluetooth and UWB signals to validate the performance of each. Frontline's FTS4BT Bluetooth sniffer has been extended to incorporate Freescale's DS-UWB and tracks the performance of the Freescale radios operating under the Bluetooth protocols, enabling test, debug and verification.

"I believe our customers will be able to expand their design options and leverage the high data rate of UWB while working with existing Bluetooth protocols," said Eric Kaplan, founder of Frontline. "Our FTS4BT Bluetooth sniffer will get them through the design and qualification cycle quickly enabling a new class of applications that can take advantage of the extensive Bluetooth ecosystem."

Source: Freescale Semiconductor

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