Silicon Labs is now Bluetooth Core Specification Version 6.0 certified

When Bluetooth Core Specification Version 6 was announced in September, one of the exciting enhancements included greater accuracy for distance measurement, Bluetooth Channel Sounding. This improvement in the specification has been particularly exciting for wireless IoT device makers because of the opportunities it unlocks to better utilize localization and proximity awareness.

Silicon Labs has been closely following the development of Bluetooth Channel Sounding, and we're excited to announce that our xG24 SoCs and xGM240 modules are now Bluetooth 6.0 certified. Our customers now have a range of solutions available for their development needs to streamline qualification.

Bluetooth for Precision Location Services

Bluetooth Channel Sounding represents a substantial upgrade over currently available RSSI-based approaches to Bluetooth LE distance measurement in both distance estimation accuracy and security.

As defined in the latest version of the Bluetooth specification, Channel Sounding enables two connected Bluetooth Low Energy (LE) devices to measure the relative distance between each other. Channel Sounding's two-way, connection-oriented ranging offers precise distance measurements using round trip time, phase-based ranging, or both. When used in a system running an advanced distance estimation algorithm, Channel Sounding is robust against noisy environments with common interference sources. Additionally, as this feature is now standardized, Channel Sounding promises to be interoperable across different devices and phones in the near future. Applications ranging from passive entry and passive start automotive designs to smart locks, indoor navigation, geofencing, and asset tracking are all going to benefit from this new feature.

Silicon Labs and Bluetooth 6: Bringing Distance Ranging to a World of Developers

With the xG24 SoCs and xGM240 modules, Silicon Labs is one of the first silicon providers to deliver a solution qualified and listed by the Bluetooth SIG. The small form factor of the EFR32MG24 makes it possible to deploy Bluetooth Channel Sounding in small devices like key fobs.

For example, in keyless entry, Bluetooth Channel Sounding is used for zonal detection to securely authenticate the person approaching the vehicle or the smart lock. In asset management, Bluetooth Channel Sounding can be used to track the position of mobile assets through zones and boundaries maintained by an arrangement of statically positioned locator devices.