Technical White Paper

SimpleLink CC2640 Wireless MCU Is the First Device in Mass Production Designed to Support Bluetooth Low Energy 2016 Updates

TEXAS INSTRUMENTS

Espen Wium

Today, the Bluetooth SIG announced its 2016 technology road map to include enhancements for the standard that is focused on increasing functionality with the Internet of Things (IoT). Key updates include longer range, higher speeds and mesh networking. These updates will not only enhance existing Bluetooth low energy use cases but will allow the creation of innovative new products using Bluetooth low energy.

Our new and highly flexible SimpleLink™ ultra-low power CC2640 wireless microcontroller (MCU), released in February 2015 to mass production , was designed with the *Bluetooth*® low energy 2016 standard enhancements in mind. The radio core is in itself a flexible multi-core system of MCUs that run firmware implementations of the various standards supported. As a result, updates to the RF protocol are supported by a simple firmware update. As the Bluetooth core spec is updated in 2016, TI will introduce CC2640 product updates that allow these new PHYs to be used to their full potential integrated into a Bluetooth low energy software stack. Customers who would like to pursue this path can already start developing on the CC2640 wireless MCU today.

So what are these new capabilities?

1. **Longer range** will enable point-to-point and star networks to provide reliable, whole-house coverage for smart home applications such as security systems, lighting, smoke detectors and door locks. TI's SimpleLink ultra-low power wireless MCUs provide industry leading RF performance to enable longer range and more robust connectivity today, and will introduce up to four times longer range with the Bluetooth low energy 2016 roadmap.
2. **Higher speeds** will enable quicker data transfers from medical, sports and fitness applications while consuming less power and providing faster response time and better user experience.
3. **Mesh networks** will provide robust networks with multiple nodes and will enable large building automation and industrial applications such as process control sensor networks, lighting and security systems. TI's SimpleLink ultra-low power wireless MCU platform enables lower power mesh networks, without a single point of failure.

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Product demonstrations and SDKs supporting the new Bluetooth low energy standard will be available based on the Bluetooth SIG's schedule in 2016.

To start developing your Bluetooth low energy application today, visit the TI's SimpleLink Bluetooth low energy CC2640 wireless MCU product folder and order a SensorTag kit that can connect your application to the cloud in less than three minutes. Use the Bluetooth Developer Studio to quickly develop your Bluetooth low energy application using TI's BLE-Stack SDK.

Have additional questions? Ask our engineer experts on the E2E Bluetooth low energy forum.

Order the new SimpleLink CC2650 LaunchPad™ development kit now to quickly kick start development!

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