Bluetooth Low Energy SoC Targets Smart Tags and Accessories

Nordic Semiconductor launched the µBlue nRF8002 single chip solution for Bluetooth Smart tags and accessories. Adding this SoC to a product design demands no specialist understanding of Bluetooth low energy wireless technology or any embedded firmware development, according to the company. Using a Nordic nRFgo-compatible nRF8002 Development Kit, developers can design Bluetooth Smart tags and accessories using a simple graphical user interface that allows them to go no deeper than configuring the built-in application layer and mapping inputs and outputs to external components such as buttons, LEDs, and buzzers. The nRF8002 is supplied in a compact 5-mm x 5-mm QFN package and includes a fully qualified Bluetooth v4.0 low energy protocol stack, a highly configurable application layer, and built-in support for a range of Bluetooth v4.0 profiles including: Find Me, Proximity, Alert Notifications, and Battery Status. This – combined with desirable power consumption – makes the nRF8002 an appropriate for low cost, miniaturized coin cell battery-powered applications.

The Find Me profile allows users to pair small – but commonly misplaced – everyday objects with their Bluetooth v4.0 smartphone in order to locate either from the other. In a similar way to how people often phone their misplaced cell phones to make them ring and easy to find, a small nRF8002-based Bluetooth Smart tag attached to a keychain, for example, can feature an audible alarm that can be activated if the keys are misplaced by a pressing a button on a smartphone. Alternatively a misplaced smartphone could be made to ring or alarm by pressing a button on the tag.

The Proximity profile adds further out-of-range functionality to the Find Me profile to allow users to pair valuable everyday Bluetooth v4.0 objects (e.g. smartphones and computers) with, for example, a wireless tag so that it alarms or securely locks the

valued item if the user and item are separated by more than a specified distance (e.g. due to the user leaving the office, potentially leaving the item behind at a public place, or the item being stolen). Alternatively, the Proximity profile can also be used to automatically activate (unlock) a smartphone or computer when the user is within a specified distance (so saving the hassle and security risk of having to enter unlock passcodes manually).

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