Tap That Device

Melissa Fassbender, Associate Editor, PD&D

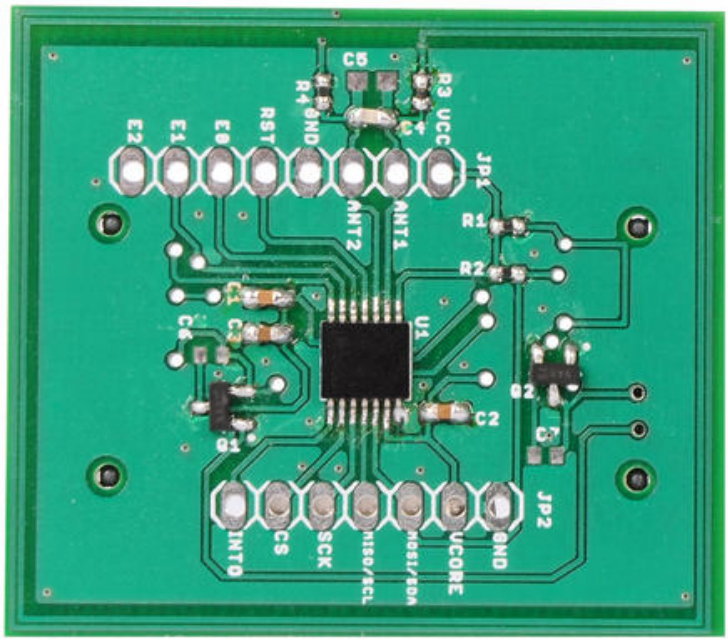
New interface allows users to physically tap CE products to connect them

If you look around the average home there are typically a few cell phones, maybe a tablet, and other electronic devices, like a DVD player or a smart TV, and these devices often have the capability to connect to each other. Designed to simplify this connectivity, Near Field Communications (NFC) technology makes the process easier and more convenient for consumers.

“TI brings a differentiated product to the market with their low cost, secure, low power, NFC transponder. It is unique in that it is specifically designed to hand over the connectivity to blue-tooth or Wi-Fi,” explains Diwakar Bansal, product manager, safety and security microcontrollers at Texas Instruments.

The new Dynamic NFC Transponder Interface RF430CL330H simplifies the pairing process for *Bluetooth* and Wi-Fi connections to a variety of products, including printers, speakers, switches and sensors. It is the only dynamic NFC tag device designed specifically for NFC connection handover and service interface functions, including host diagnostics and software upgrades.

Features include:



- Integration of a SPI/I2C serial communication interface, allowing reading and writing of NFC data exchange format (NDEF) messages stored in integrated SRAM.
- Support of data rates up to 848 KBs per second for RF data transfer (over-the-air firmware updates).
- An incorporation of an ISO 14443B-compliant RF interface, allowing wireless access of NDEF messages.

“Our goal is to eliminate the complexity behind wireless setup of various electronic devices and to bring NFC everywhere, and to everything,” says Bansal. With 285 million NFC-Enabled Devices projected to be shipped by the end of 2013, and this number estimated to more than double in 2014, this transponder is likely to be in high demand.

Simplifying Connectivity

Direct pairing allows the user to pass set-up parameters and setup BT-WIFi

connections between two devices. “With this technology, if you wanted to connect your smart phone with your speakers in your home, you just tap the two devices together, and to disconnect them, you tap them together again,” explains Bansal.

In an indirect pairing, the NFC enabled device (e.g. a mobile phone or tablet) acts as a transportation bridge. For example, the user could tap the NFC enabled smart phone on a router, then to a printer, and the printer would then be connected to the router.

After the NFC pairing process is complete, the Bluetooth or WIFI connection take overs and the application proceeds, whether it be a transfer of audio, video, data, etc.

Developing Wireless Solutions

TI has also introduced the NFC*Link* software firmware library in partnership with Stollman E+V GmbH and Kronegger GmbH.

NFC*Link* provides an NCI standard-based interface to Android, Linux, and Windows 7/8 operating systems which simplifies and streamlines the development of all NFC operation modes across TI’s entire embedded processing portfolio of MSP430 microcontrollers, Tiva C Series ARM MCUs, and OMAP processors. “As an engineer, I am excited to see the NFC link software which is going to ease the development of NFC and wireless connectively solutions,” says Bansal.

Check out this week’s Top 5 Design Tools *[1]* for more information about the various development tools available from Texas Instruments, including the Dynamic NFC Transponder Evaluation Kit [1].

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[1] http://www.pddnet.com/articles/2013/06/top-5-design-tools-week-1