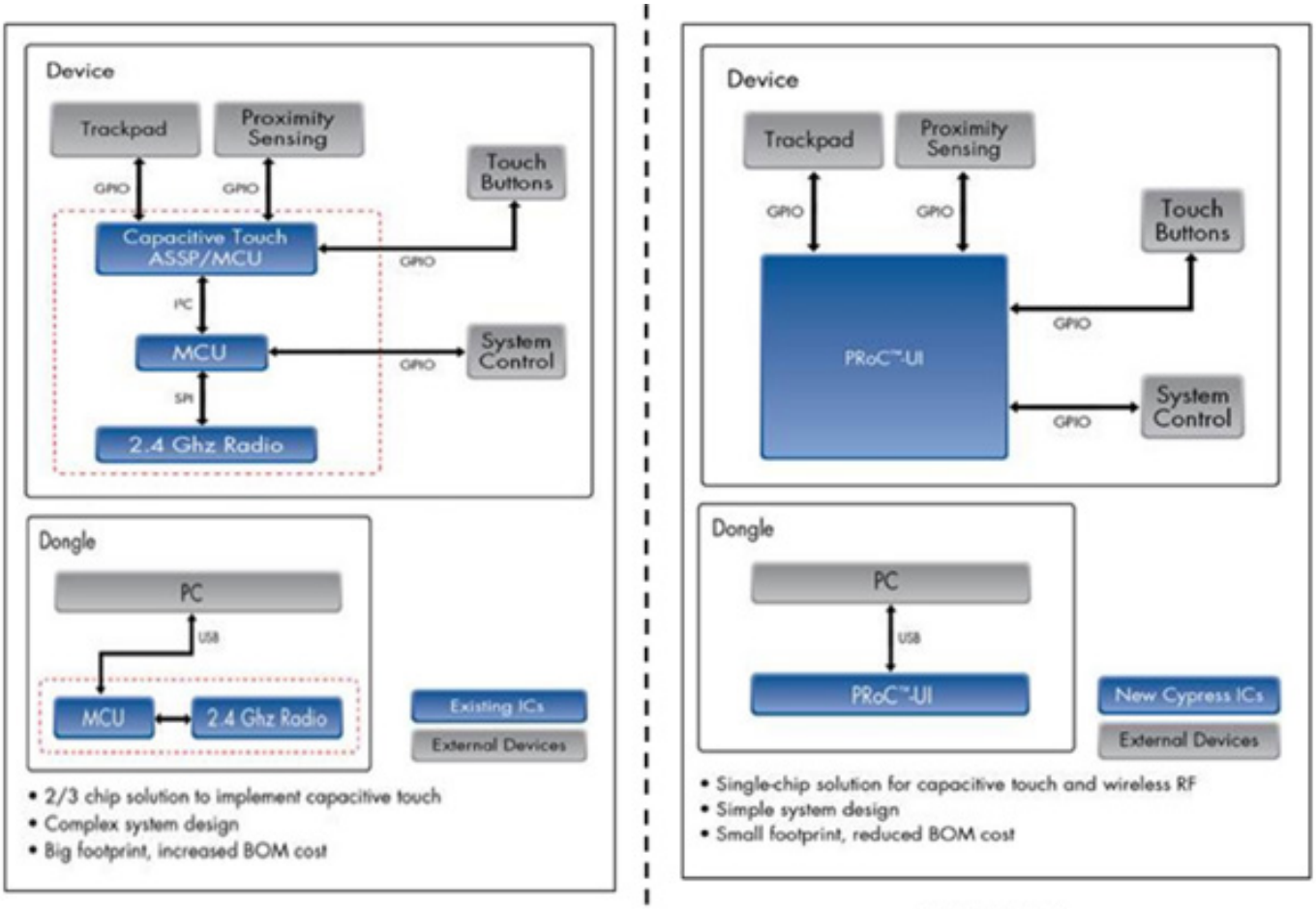
One-chip solution combines a 2.4-GHz, low-power wireless radio and capacitive touch

Cypress Semiconductor introduced a single-chip solution that integrates a wireless radio with touch-sensing circuitry for wireless mice, trackpads, remote controls, presenter tools, and other Human Interface Devices (HIDs). The new PRoC-UI (Programmable Radio-on-a-Chip–User Interface) solution combines 2.4-GHz proprietary WirelessUSB-NL Radio with Cypress's CapSense and TrueTouchcapacitive touch technologies. This combination enables user interface functionality in wireless devices, including gestures supported by the upcoming Windows 8 applications.



Without PRoC-UI

With PRoC-UI

The one-chip solution also offers standard HID microcontroller functionality, effectively combining three chips into one to save BOM cost, board space, and power, while increasing reliability compared with multi-chip implementations. More information on the new device is available at www.cypress.com/go/PRoC-UI [1].

Cypress's CapSense technology has replaced over 4 billion mechanical buttons

worldwide, making Cypress the industry's leading capacitive touch supplier. CapSense offers stylish interfaces, and superior reliability compared to mechanical buttons. PRoC-UI is also available with Cypress's leading TrueTouch touchscreen technology, enabling multiple new HID use cases with multi-finger gesture recognition, including new Windows 8 gestures. The TrueTouch variant also supports customized gestures. Both CapSense and TrueTouch variants include advanced features such as proximity sensing (which allows a device to "wake up" as a hand approaches) and haptics (to give tactile user feedback).

PRoC-UI boasts an impressive -87 dBm receive sensitivity at 1 Mbps. This enhanced sensitivity enables longer range (up to 30 meters) operation and allows for lower-power transmit signals. The device features low active and standby currents, which enable longer battery life. It also offers superior performance in the presence of 2.4-GHz interference from common sources such as WiFi, Bluetooth, cordless phones, and microwaves.

"We are seeing an emerging class of applications and use cases that combine touch with wireless functionality. Cypress has integrated its market-leading user interface and wireless technologies to respond to this need," said Jayant Somani, senior director of worldwide marketing for Cypress's Data Communication Division. "The PRoC-UI solution delivers cost savings through integration, shorter design times, lower power, and smaller form factor. Perhaps more importantly, it allows our customers to differentiate their products in a highly competitive space."

PRoC-UI supports Cypress's AgileHID protocol that allows existing WirelessUSB-NL customers to get started quickly on their designs without any additional effort. Customers who have existing designs with WirelessUSB-NL can reuse the same dongles for new PRoC-UI based touch products. PRoC-UI comes with free software to enable end-product customization.

www.cypress.com [2]

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Links:
[1] http://www.cypress.com/go/PRoC-UI
[2] http://www.cypress.com/