CC31xx Provisioning Smart Config

Overview and application details

What is SmartConfig?

A first step in utilizing CC31xx in a Wi-Fi enabled application is to configure CC3100 to a user's Wi-Fi network. This requires information on the AP, or SSID name, and the security passcode when WEP/WPA/WPA2 is enabled. Considering that embedded Wi-Fi applications will generally lack user interfaces such as keypads or touchscreens, this process can be complex without the use of advanced I/O.

To create a great user experience, TI has created SmartConfig technology - a one-step and one-time process to connect a CC31xx-enabled device to the home wireless network. This greatly stands apart from other Wi-Fi suppliers who require multiple steps to configure a device onto the network.

SmartConfig leverages the standard mechanisms present in Wi-Fi to configure a CC31xx's association information on the fly, regardless of whether the user-interface is available. In this process a Wi-Fi enabled device such as a smartphone, tablet or a laptop is used to send the association information to the CC31xx.

Addtionally, SmartConfig does not depend on the host microcontroller's I/O capabilities, thereby usable by deeply embedded applications. It can be used to associate multiple devices to the same AP simultaneously. The Configuration process is secured with AES-128 encryption, and the SSID and KEY length are supported up to 32 bytes.

And furthermore, the device used to configure (smartphone, tablet, or PC) stays connected to the user's home network during the configuration process (as opposed to other methods that require disconnection).

Usage

- Build and run the appplication.

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    The application configures the device in SmartConfig mode. The
device will then wait for the SmartConfig application to provision it
to a Wi-Fi network.
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Limitations/Known Issues

None

Article Sources and Contributors

CC31xx Provisioning Smart Config *Source*: http://ap-fpdsp-swapps.dal.design.ti.com/index.php?oldid=188866 *Contributors*: A0131814, Giansway