

# CC32xx Provisioning Smart Config

## Overview and application details

What is SmartConfig?

A first step in utilizing CC32xx in a Wi-Fi enabled application is to configure CC3200 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 CC32xx-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 CC32xx'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 CC32xx.

Additionally, 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).

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## Application details

The application performs the following steps:

- Initializes the device networking layers.
- Delete all the profiles to ensure that CC32xx device doesn't connect to any other AP
- Sets the Connection Policy to Automatic. This ensures that device connects to this AP automatically once Smart configuration is complete
- Wait for the AP Configuration from TI Smart Config Application
- Wait for the Connection to the AP

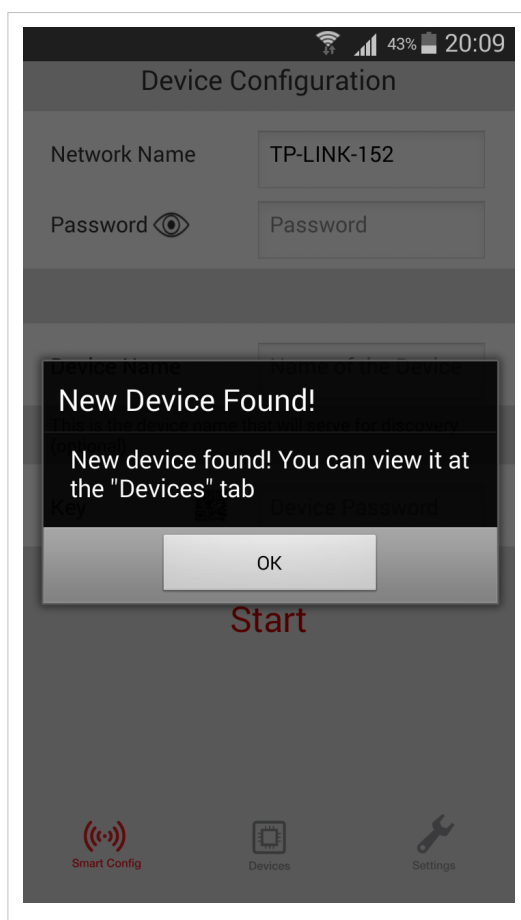
## Source Files briefly explained

- **main** - Device Initialization, Profile deletion, Connection Policy change, Trigger Smart Configuration, Wait for Device Events
- **gpio\_if.c** - GPIO interface file to handle all LED blinking task.

## Usage

1. Choose an AP that you want to configure on CC32xx Device
2. Install TI SmartConfig<sup>[1]</sup> Application on your Smartphone.
3. Run the reference application (Flashing the bin/IAR/CCS)
  - Open the Project as mentioned in '<cc3200-sdk>\docs\CC3200-Getting Started Guide.pdf'
  - Build and download the application to the board

4. The application configures the device in SmartConfig mode. The device waits for a Configuration Using TI SmartConfig Application
5. Connect your Smartphone to the selected AP
6. Launch TI SmartConfig Application
7. The name of the network will automatically show up in **Network Name** field. Enter **Password** of the network. For open network leave the 'Password' field blank.
8. Enter a **Device Name**. This will be used to identify your device.
9. Press 'Start' button.
10. Once the smartconfig process is completed, a pop-up windows shows up to indicate that the new device is connected to the network.
11. Also On CC3200 Device, Red LED will glow up when device successfully connects to AP.



**Note:** If device is already added in the list the pop-up window won't show up. Restart the smartphone application to clear the list.

## Limitations/Known Issues

None.

## References

- [1] <http://www.ti.com/tool/wifistarter>

# Article Sources and Contributors

**CC32xx Provisioning Smart Config** *Source:* <http://processors.wiki.ti.com/index.php?oldid=178341> *Contributors:* A0221015, Codycooke, Jitgupta, Kaushal, Malokyle

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