CC31xx P2P Application

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Overview

This is a sample application demonstrating how CC3100 can be connected to a P2P device. This application starts a TCP server on port 5001 and waits for P2P device to connect and send data on it.

Different P2P roles supported by CC3100 are:



- SL_P2P_ROLE_GROUP_OWNER: CC3100 will be configured in 'Group-Owner' mode
- SL_P2P_ROLE_CLIENT: CC3100 will be configured in 'Client' mode
- SL_P2P_ROLE_NEGOTIATE: CC3100 will negotiate with remote device for 'Client/Group-Owner' role.

CC3100 can be configure in below modes to initiate negotiation:

- SL_P2P_NEG_INITIATOR_ACTIVE: CC3100 will perform discovery Once the remote device is found, it sends the negotiation request immediately
- SL_P2P_NEG_INITIATOR_PASSIVE: CC3100 will perform discovery Once the remote device is found, CC3100 waits for it to start negotiation
- SL_P2P_NEG_INITIATOR_RAND_BACKOFF: CC3100 will perform discovery Once the remote device is found, it triggers a random timer (1-7 seconds) and waits for the remote device to negotiate. On timer expiry, CC3100 starts negotiation itself

Supported security types used during P2P negotiation are:

- SL_SEC_TYPE_P2P_PBC
- SL_SEC_TYPE_P2P_PIN_DISPLAY
- SL_SEC_TYPE_P2P_PIN_KEYPAD

CC3100 can be configured in **any_p2p** mode as well - When configured, CC3100 will perform discovery and connect to the first found device using security type **SL_SEC_TYPE_P2P_PBC**

Note: This wiki page is only applicable for CC3100-SDK v0.5.2 and upward releases. For documentation on older SDKs' examples, refer corresponding file in <cc3100-sdk-installation-location>\cc3100-sdk\docs\examples\

Application details

This application configures the device with following settings:

- P2P role negotiate (SL P2P ROLE NEGOTIATE)
- P2P negotiation initiation active (SL_P2P_NEG_INITIATOR_ACTIVE)
- P2P device listens on channel 11 and P2P device's operation channel is set to 6
- P2P connect security type 'PBC'

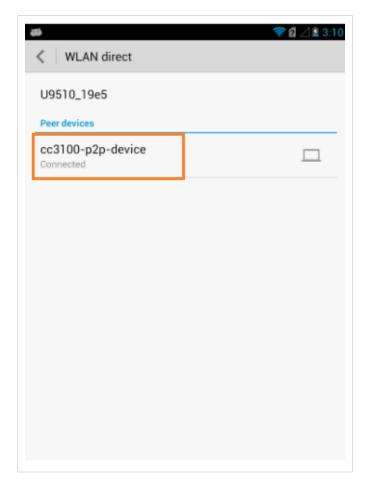
CC31xx P2P Application 2

Usage

- Connect the board to PC and configure the terminal-program for seeing the logs [l CC31xx_&_CC32xx_Terminal_Setting_Wiki ^[1]] has detailed instructions for configuring the terminal-program
- Build and run the application
- Start remote P2P device

 ${\tt CC3100 \ will \ be \ visible \ as \ P2P_DEVICE_NAME \ (which \ is \ set \ in \ the \ sample \ application) \ to \ the \ remote \ P2P \ device}$

 Connect to CC3100. On successful connection, CC3100's IP address will be displayed on the terminal-program's console



• Open an 'Ipef' client on the remote P2P device and connect on 'PORT_NUM'

```
Iperf.exe -c <DEST_IP_ADDR> -p <PORT_NUM> -i 1
```

• See the self explanatory logs on the terminal-program's console. On success, below message will be displayed on the terminal

CC31xx P2P Application 3

Note: : User needs to reconfigure the device in 'Station-Mode' for executing other sample applications. Refer function configureSimpleLinkToDefaultState in this example's main.c for configuring the device in 'Station-Mode'.

Limitations/Known Issues

None

References

[1] http://processors.wiki.ti.com/index.php/CC31xx_&_CC32xx_Terminal_Setting

Article Sources and Contributors

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