

CC31xx Transceiver Mode Application

Overview and application details

This example code demonstrates CC31xx's transceiver mode of operation. This is the ability of a device to send data directly over the WLAN MAC layer without being connected to a WLAN AP.

Two use-cases that are shown in the example code are:

- **TX Continuous:** In this mode, the SimpleLink device is able to communicate directly over the Wi-Fi PHY layer, .i.e. bypass the Network Stack, Wi-Fi driver and MAC layer. In this mode, the user is given with a full flexibility in building the transmitted packet.



Note:: User is fully responsible for building the transmitted packet. If it is desired to build a proprietary protocol on top of Wi-Fi PHY layer, then the user should be familiar with Wi-Fi MAC layer specifications and build the packet appropriately.

- **RX Statistics:** Main purpose is to provide major medium statistics.

Statistics provided by CC3100 are:

- **Received Packets:** The number of packets sampled.
- **Received FCS:** The number of packets received that had frame check sequence errors.
- **Received PLCP:** The number of packets received that had physical layer convergence protocol errors.
- **Average RSSI for Management/Other Packets:** The average signal strength of the management packets or data packets.
- **RSSI Histogram:** A histogram showing the signal strength of the different packets during the collection period.
- **Rate Histogram:** A histogram of the transmission rate of the different packets.
The rates corresponding to the numbers can be found in the `RateIndex_e` enum in the `wlan.h` header file.
- **Sample Time:** The amount of time spent gathering samples.

Limitations/Known Issues

- TX continuous mode works in WiFi disconnected mode only
- The user needs to make sure the connection policy is not set to auto/fast mode
- Complete RX statistics can be obtained in disconnected mode only, however this feature can be used to get the RSSI of the AP the device is connected to.
- When `sl_rcv()` API is invoked in transceiver mode, the SimpleLink device remains in RX mode and doesn't go to low power mode

Article Sources and Contributors

CC31xx Transceiver Mode Application *Source:* <http://ap-fpdsp-swapps.dal.design.ti.com/index.php?oldid=189178> *Contributors:* A0131814, Beatrice, Giansway

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