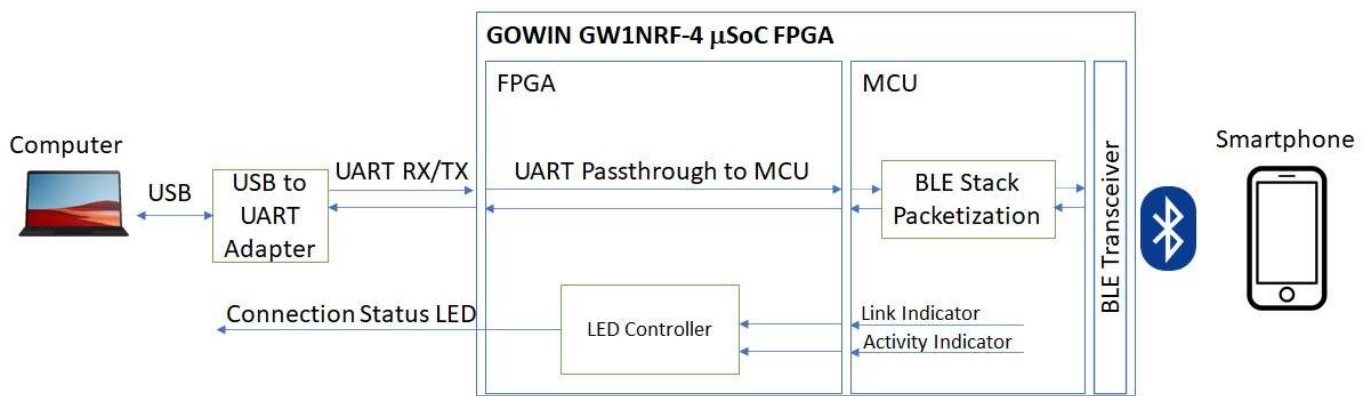# GW1NRF-4 UART to BLE Reference Design

Reference Design Description

This example show how to communicate and pass traffic through the MCU to and from the BLE transceiver in the GOWIN GW1NRF-4 Device. It can be a useful starting point to provide connectivity between the GW1NRF-4 and a Bluetooth enabled device as well as communication between the FPGA and MCU.

Reference Design Block Diagram:

Example Setup

The MCU project deployment:

- Open SDK
- In Project Explorer select 'sw/projects' folder
- Call a context menu and select 'Import...'
- Select 'General->File system' import wizard
- Browse the 'uart_ble/mcu/uart_ble_custom_serial'
- Select the 'uart_ble_custom_serial' on left panel
- Confirm the 'Into folder' field contains path 'sw/projects'
- Check 'Create top-level folder' checkbox
- 'Finish'
- Open 'sw/projects/CMakeLists.txt' file
- Add a line 'ADD_SUBDIRECTORY(uart_ble_custom_serial)' to the file
- You can delete or comment other ADD_SUBDIRECTORY lines to decrease build time
- Save the file
- Rebuild the workspace

Smartphone App Information:

https://play.google.com/store/apps/details?id=de.kai_morich.serial_bluetooth_terminal&hl=en

App Source: https://github.com/kai-morich/SimpleBluetoothLeTerminal

Hardware Setup between USB to UART adapter and DK_BLE_INIT_RevB Development Kit: