UART_VCOM_1
for KIT_AURIX_TC397_TFT
UART communication between PC and device

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Scope of work

UART communication via ASCLIN is used to send "Hello World!" from the device to the computer.

The string "Hello World!" is sent from the device to the PC via UART. The string is then visualized in a serial monitor.
The Asynchronous/Synchronous Interface (ASCLIN) module enables asynchronous/synchronous serial communication with external devices. For this training, asynchronous reception/transmission (UART) is used for the communication between a PC and an AURIX™ device.
Hardware setup

This code example has been developed for the board KIT_A2G_TC397_5V_TFT.

The board should be connected to the PC through the USB port (1).
Implementación

Configura el ASCLIN

Configuración del módulo ASCLIN para comunicación UART se realiza en la fase de configuración inicializando una instancia de la estructura `IfxAsclin_Asc_Config` con valores predeterminados a través de la función `IfxAsclin_Asc_initModuleConfig()`. Los siguientes parámetros son modificados:

- **baudrate** – estructura para establecer la velocidad real de comunicación en bit/s
- **interrupt** – estructura para establecer:
  - prioridad de interrupción de transmisión (`txPriority`)
  - **typeOfService** – define a quien es responsabilidad del servicio para manejar la interrupción, que puede ser cualquier uno de los disponibles CPUs, o el DMA
- **pins** – estructura para establecer los GPIO puerto pin para la comunicación
- **txBuffer, txBufferSize** – para configurar el buffer que alberga los datos de salida

Finalmente, la configuración se aplica a través de la función `IfxAsclin_Asc_initModule()`. Todas las funciones mencionadas se encuentran en la cabecera de iLLD `IfxAsclin_Asc.h`.

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Implementation

The UART send function:

› Sending the string “Hello World!” is implemented inside the function `send_UART_message()` which is called once after initialization of the ASCLIN module
› This function calls `IfxAsclin_Asc_write()` which is provided by the iLLD header `IfxAsclin_Asc.h`
Run and Test

For this training, a serial monitor is required for visualizing the values. The monitor can be opened inside the AURIX™ Development Studio using the following icon:

The serial monitor must be configured with the following parameters to enable the communication between the board and the PC:
- Speed (baud): 115200
- Data bits: 8
- Stop bit: 1
Run and Test

After code compilation and flashing the device, perform the following steps:
› The board must be connected to PC via the USB cable
› Open a serial monitor with the above configuration and connect.
› The board has to be reset using the PORST button
› The string can be observed on the serial monitor
References

› AURIX™ Development Studio is available online:
  › [https://www.infineon.com/aurixdevelopmentstudio](https://www.infineon.com/aurixdevelopmentstudio)
  › Use the „Import...“ function to get access to more code examples.

› More code examples can be found on the GIT repository:
  › [https://github.com/Infineon/AURIX_code_examples](https://github.com/Infineon/AURIX_code_examples)

› For additional trainings, visit our webpage:
  › [https://www.infineon.com/aurix-expert-training](https://www.infineon.com/aurix-expert-training)

› For questions and support, use the AURIX™ Forum:
# Revision history

<table>
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<tr>
<th>Revision</th>
<th>Description of change</th>
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<tr>
<td>V1.0.2</td>
<td>Update of version to be in line with the code example’s version</td>
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<tr>
<td>V1.0.1</td>
<td>Update of version to be in line with the code example’s version</td>
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<tr>
<td>V1.0.0</td>
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